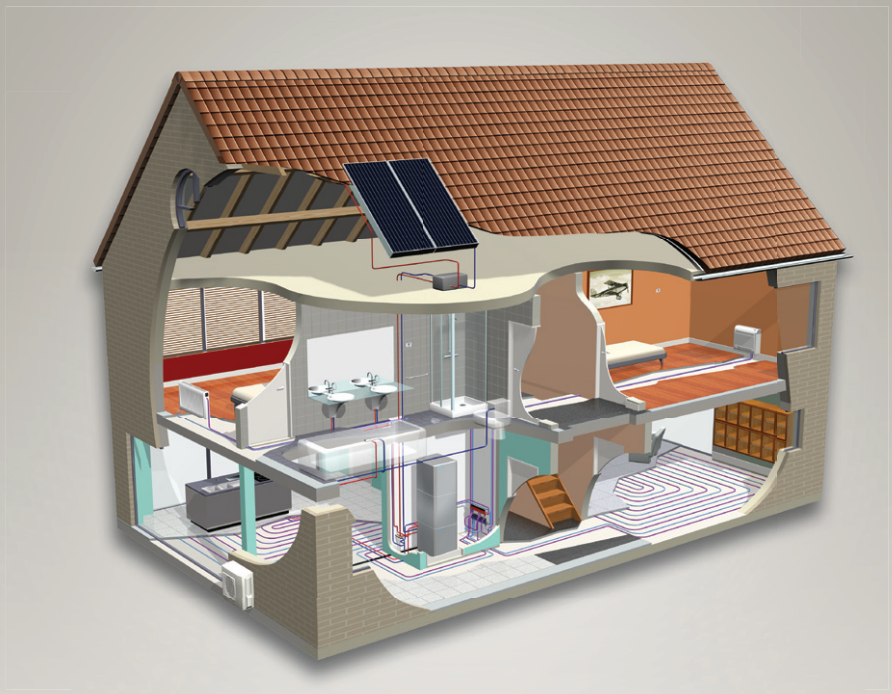
DAIKIN

altherma

Heating

Technical Data

Daikin Altherma Low Temperature



www.daikinaltherma.eu

EEDEN11-725

Daikin Altherma Low Temperature

I Daikin Altherma low temperature split

Wall mounted indoor unit ..... 1 EKHBH008-016BB 7 1

2 EKHBX008-016BB 25 2

Floor standing indoor unit..... 3 EKHVH008-016BB 49 3

4 EKHVX008-016BB 67 4

Outdoor unit with bottom plate heater .. 5 ERLQ006-008BBV3 ..... 85 5

6 ERLQ011-016CV3 ..... 101 6

7 ERLQ011-016CW1 ..... 121 7

Outdoor unit without bottom plate heater . 8 ERHQ006-008BBV3 ..... 141 8

9 ERHQ011-016BV3 ..... 157 9

10 ERHQ011-016BW1 ..... 179 10

Daikin Altherma Low Temperature

II Daikin Altherma low temperature monobloc

Monobloc with bottom plate heater...

11 EDLQ-BB6V3 ..... 199 11

12 EDLQ-BB6W1 ..... 221 12

13 EBLQ-BB6V3 ..... 243 13

14 EBLQ-BB6W1 ..... 267 14

Monobloc without bottom plate heater.

15 EDHQ-BB6V3 ..... 291 15

16 EDHQ-BB6W1 ..... 313 16

17 EBHQ-BB6V3 ..... 335 17

18 EBHQ-BB6W1 ..... 359 18

19a EBHQ006-008BV3 ..... 383 19a

19b EKCBH008BB 407 19b

19c EKCBX008BB 413 19c

Daikin Altherma Low Temperature

III Extra comfort

Heat pump convector ..... 20 FWXV-A 419 20

Domestic hot water tank..... 21 EKHWS-B 431 21

22 EKHWE-A 437 22

23 EKHTS-AC 443 23

Solar collector..... 24 EKSV-P - EKSH-P 453 24

Solar kit ..... 25 EKSOLHW 463 25

26 EKSOLHT 471 26

Pump station & controller ..... 27 EKSRDS1A - EKSR3PA 477 27

Room thermostat..... 28 EKRTR 483 28

29 EKRTW 489 29

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1 Features

- Large capacity indoor unit
- Small capacity indoor unit
- Wall mounted installation facilitates cleaning beneath the unit where dust tends to accumulate



2 Specifications

2-1 Technical Specifications					EKHBH008BB3V3	EKHBH008BB6V3	EKHBH008BB6WN	EKHBH008BB9WN	EKHBH008BB6T1	EKHBH008BB9T1
Power input	Nom.			kW	0.23					
Casing	Colour				RAL9010					
	Material				Epoxy polyester painted galvanised steel					
Dimensions	Unit	Height		mm	922					
		Width		mm	502					
		Depth		mm	361					
	Packed unit	Height		mm	1,225					
		Width		mm	660					
		Depth		mm	610					
Weight	Unit			kg	46					
	Packed unit			kg	59					
Packing	Material				EPS, Wood, Carton, PP (Straps)					
	Weight			kg	13					
Pump	Type				Water cooled					
	Nr of speeds				3					
	Power input			W	130					
Expansion vessel	Volume			l	10					
	Max. water pressure			bar	3					
	Pre pressure			bar	1					
Operation range	Heating	Ambient	Min.	ºC	-20					
			Max.	ºC	25					
		Water side	Min.	ºC	15 (6)					
			Max.	ºC	50 (6)					
Water side Heat exchanger	Type				Brazed plate					
	Quantity				1					
	Water volume			l	0.67					
	Water flow rate	Min.		l/min	12					
		Heating	Max.	l/min	41.7					
		Cooling	Max.	l/min	41.7					
	Insulation material				Polyurethane foam					
	Cooling	Plates	Quantity		-					
Refrigerant circuit	Gas side diameter			mm	15.9					
	Liquid side diameter			mm	6.35					
Sound power level	Medium speed	0 ESP		dBA	42 (9)					
Sound pressure level	Medium speed	0 ESP		dBA	28					
Water filter	Diameter perforations			mm	1					
	Material				Brass					
Water circuit	Piping connections diameter			inch	G 1" (male)					
	Safety valve			bar	3					
	Manometer				Yes					
	Drain valve / fill valve				Yes					
	Shut off valve				Yes					
	Air purge valve				Yes					
	Total water volume			l	5.5 (7)					
PED	Category				Art3§3					

2-1 Technical Specifications					EKHBH016BB3V3	EKHBH016BB6V3	EKHBH016BB6WN	EKHBH016BB9WN	EKHBH016BB6T1	EKHBH016BB9T1
Power input	Nom.			kW	0.23					
Casing	Colour				RAL9010					
	Material				Epoxy polyester painted galvanised steel					
Dimensions	Unit	Height		mm	922					
		Width		mm	502					
		Depth		mm	361					
	Packed unit	Height		mm	1,225					
		Width		mm	660					
		Depth		mm	610					
Weight	Unit			kg	48					
	Packed unit			kg	61					

2 Specifications

2-1 Technical Specifications					EKHBH016BB3V3	EKHBH016BB6V3	EKHBH016BB6WN	EKHBH016BB9WN	EKHBH016BB6T1	EKHBH016BB9T1
Packing	Material				EPS, Wood, Carton, PP (Straps)					
	Weight			kg	13					
Pump	Type				Water cooled					
	Nr of speeds				3					
	Power input			W	210					
Expansion vessel	Volume			l	10					
	Max. water pressure			bar	3					
	Pre pressure			bar	1					
Operation range	Heating	Ambient	Min.	ºC	-20 (1), -25 (2)					
			Max.	ºC	35					
		Water side	Min.	ºC	15 (8)					
			Max.	ºC	55 (8)					
Water side Heat exchanger	Type				Brazed plate					
	Quantity				1					
	Water volume			l	1.01					
	Water flow rate	Min.		l/min	16					
		Heating	Max.	l/min	58					
		Cooling	Max.	l/min	58					
	Insulation material				Polyurethane foam					
	Cooling	Plates	Quantity		-					
Refrigerant circuit	Gas side diameter			mm	15.9					
	Liquid side diameter			mm	9.52					
Sound power level	Medium speed	0 ESP		dBA	46					
Sound pressure level	Medium speed	0 ESP		dBA	28					
Water filter	Diameter perforations			mm	1					
	Material				Brass					
Water circuit	Piping connections diameter			inch	G 1"1/4 (male)					
	Safety valve			bar	3					
	Manometer				Yes					
	Drain valve / fill valve				Yes					
	Shut off valve				Yes					
	Air purge valve				Yes					
	Total water volume			l	5.5 (9)					
PED	Category				Art3§3					

2 Specifications

2-2 Electrical Specifications					EKHBH008BB3V3	EKHBH008BB6V3	EKHBH008BB6WN	EKHBH008BB9WN	EKHBH008BB6T1	EKHBH008BB9T1
Electric heater	Power supply	Phase			1~		3~			
		Frequency		Hz	50					
		Voltage		V	230		400		230	
	Current back-up heater	Running current		A	13	26	8.7	13	15.1	22.6
		Zmax	Text		-	0.29	-			
		Minimum Ssc value			-	Equipment complying with EN/IEC 61000-3-12 **	-			Equipment complying with EN/IEC 61000-3-12 **
	Current back-up heater + booster heater (EKHW* models)	Running current	*V3	A	26 (13+13)	39 (26+13)	21.7 (8.7+13)	26 (13+13)	28.1 (15.1+13)	35.6 (22.6+13)
			*Z2	A	-		16.2 (8.7+7.5)	20.5 (13+7.5)	-	
		Zmax	Text		0.29	0.17	-			
		Minimum Ssc value	*V3		Equipment complying with EN/IEC 61000-3-12 **					
			*Z2		-		Equipment complying with EN/ IEC 61000-3-12 **		-	
	Voltage range	Min.		%	-10					
		Max.		%	10					
Wiring connections	For power supply back-up heater	Quantity			3G		4G			
		Remark			Select diameter & type according to national & local regulations					
	For power supply connection to optional *KHW* model + Q2L	Quantity			3G					
		Remark			Select diameter and type according to national and local regulations, For more details of the voltage range and current refer to installation manual					
	For connection with R5T	Quantity			Wire included in option *KHW*					
		Remark			Wire included in option *KHW*					
	For connection with A3P	Quantity			Depends on thermostat type, cf.installation manual					
		Remark			Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M2S	Quantity			3G					
		Remark			Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M3S	Quantity			3G or 4G					
		Remark			Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with bottom plate heater	Quantity			2					
		Remark			Select diameter and type according to national and local regulations					

2-2 Electrical Specifications					EKHBH016BB3V3	EKHBH016BB6V3	EKHBH016BB6WN	EKHBH016BB9WN	EKHBH016BB6T1	EKHBH016BB9T1
Electric heater	Power supply	Phase			1~		3~			
		Frequency		Hz	50					
		Voltage		V	230		400		230	
	Current	Minimum Ssc value			-	Equipment complying with EN/IEC 61000-3-12	-			Equipment complying with EN/IEC 61000-3-12
	Current back-up heater	Running current		A	13	26	8.7	13	15.1	22.6
		Zmax	Text		-	0.29	-			
	Current back-up heater + booster heater (EKHW* models)	Running current	*V3	A	26 (13+13)	39 (26+13)	21.7 (8.7+13)	26 (13+13)	28.1 (15.1+13)	35.6 (22.6+13)
			*Z2	A	-		16.2 (8.7+7.5)	20.5 (13+7.5)	-	
		Zmax	Text		0.29	0.17	-			
		Minimum Ssc value	*V3		Equipment complying with EN/IEC 61000-3-12 **					
			*Z2		-		Equipment complying with EN/ IEC 61000-3-12 **		-	
	Voltage range	Min.		%	-10					
		Max.		%	10					

2 Specifications

2-2 Electrical Specifications			EKHBH016BB3V3	EKHBH016BB6V3	EKHBH016BB6WN	EKHBH016BB9WN	EKHBH016BB6T1	EKHBH016BB9T1
Wiring connections	For power supply back-up heater	Quantity	3G		4G			
		Remark	Select diameter & type according to national & local regulations					
	For power supply connection to optional *KHW* model + Q2L	Quantity	3G					
		Remark	Select diameter and type according to national and local regulations, For more details of the voltage range and current refer to installation manual					
	For connection with R5T	Quantity	Wire included in option *KHW*					
		Remark	Wire included in option *KHW*					
	For connection with A3P	Quantity	Depends on thermostat type, cf.installation manual					
		Remark	Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M2S	Quantity	3G					
		Remark	Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M3S	Quantity	3G or 4G					
		Remark	Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with bottom plate heater	Quantity	2					
		Remark	Select diameter and type according to national and local regulations					

Notes

(1)In combination with ERHQ single phase outdoor unit

(2)In combination with ERHQ three phase or ERLQ outdoor unit

(3)With option kit EKHBDP installed: Height = 936mm

(4)Water flow rate cooling: Tamb 35ºC - LWE 7ºC (Dt=5ºC) at high speed

(5)Water flow rate heating: DB/WB 7ºC/6ºC - LWC 35ºC (Dt=5ºC) at high speed

(6)The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment.

(7)The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow

(8)15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(9)Including piping + PHE + back-up heater; excluding expansion vessel

(10)See operation range drawing for difference between single & three phase units

(11)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

(12)Optional electric heater has 2 capacity steps except for the 3V3 model which has only 1 capacity step.

(13)In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(14)Equipment complying with EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

(15)EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(16)PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC

3 Options

3 - 1 Options

EKHBH008-016BB

Factory mounted optional equipment for *KHB(H/X)008BB* and *KHB(H/X)016BB*

Reference	Description	#										
	Heating only model *KHBH*	3V3		6V3		6WN		6T1		9WN		9T1
#	Reversible model *KHBX*		3V3		6V3		6WN		6T1		9WN	
2V2	Back up heater 3kW 1~230V	o	o	-	-	-	-	-	-	-	-	-
6V3	Back up heater 6kW 1~230V	-	-	o	o	-	-	-	-	-	-	-
6WN	Back up heater 6kW 3~400V	-	-	-	-	o	o	-	-	-	-	-
6T1	Back up heater 6kW 3~230V	-	-	-	-	-	-	o	o	-	-	-
9WN	Back up heater 9kW 3~400V	-	-	-	-	-	-	-	-	o	o	-
9T1	Back up heater 9kW 3~230V	-	-	-	-	-	-	-	-	-	-	o

Outdoor combination table for *KHB(H/X)008BB* and *KHB(H/X)016BB*

		*RHQ006B*V3*	*RHQ007B*V3*	*RHQ008B*V3*	*RLQ006B*V3*	*RLQ007B*V3*	*RLQ008B*V3*	*RHQ011B*(V3/W1)	*RHQ014B*(V3/W1)	*RHQ016B*(V3/W1)	*RLQ011B*(V3/W1)	*RLQ014B*(V3/W1)	*RLQ016B*(V3/W1)
KHBH008BB	Heating only indoor unit	o	o	o	o	o	o	-	-	-	-	-	-
KHBX008BB	Reversible indoor unit	o	o	o	o	o	o	-	-	-	-	-	-
KHBH016BB	Heating only indoor unit	-	-	-	-	-	-	o	o	o	o	o	o
KHBX016BB	Reversible indoor unit	-	-	-	-	-	-	o	o	o	o	o	o

Kit availability for outdoor units

		*RHQ006B*V3*	*RHQ007B*V3*	*RHQ008B*V3*	*RLQ006B*V3*	*RLQ007B*V3*	*RLQ008B*V3*	*RHQ011B*(V3/W1)	*RHQ014B*(V3/W1)	*RHQ016B*(V3/W1)	*RLQ011B*(V3/W1)	*RLQ014B*(V3/W1)	*RLQ016B*(V3/W1)
KBPHT08B	Bottom plate heater (1)(3)(5)	o	o	o	- (9)	- (9)	- (9)	-	-	-	-	-	-
*KDK02	Drain plug kit (3)	o	o	o	-	-	-	-	-	-	-	-	-
*KDK03	Drain stop kit (3)	o	o	o	-	-	-	-	-	-	-	-	-
*KDK04	Drain plug kit (3)	-	-	-	-	-	-	o	o	o	-	-	-
*KBPHTH16A	Bottom plate heater (1)(3)(5)	-	-	-	-	-	-	o	o	o	- (8)	- (8)	- (8)

Kit availability

Reference	Description	#										
	Heating only model *KHBH*	3V3		6V3		6WN		6T1		9WN		9T1
	Reversible model *KHBX*		3V3		6V3		6WN		6T1		9WN	
*KHWS150*3V3	Domestic hot water tank 150l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWS200*3V3	Domestic hot water tank 200l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWS300*3V3	Domestic hot water tank 300l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWS200*3Z2	Domestic hot water tank 200l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHWS300*3Z2	Domestic hot water tank 300l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHWSU150*3V3	Domestic hot water tank 150l 1~230V (only for UK)	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWSU200*3V3	Domestic hot water tank 200l 1~230V (only for UK)	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWSU300*3V3	Domestic hot water tank 300l 1~230V (only for UK)	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
KHTS200	Domestic hot water tank 200l (without booster heater)(6)	o	o	o	o	o	o	o	o	o	o	o
KHTS260	Domestic hot water tank 260l (without booster heater)(6)	o	o	o	o	o	o	o	o	o	o	o
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHBDP	Option kit for condensate free cooling operation	-	o	-	o	-	o	-	o	-	o	-
*KRP1HBB	Digital I/O PCB (2)	o	o	o	o	o	o	o	o	o	o	o
*KRTW	Wired room thermostat option kit	o	o	o	o	o	o	o	o	o	o	o
*KRTR	Wireless room thermostat option kit (incl. receiver)	o	o	o	o	o	o	o	o	o	o	o
*KRTETS	External temperatue sensor option kit (4)	o	o	o	o	o	o	o	o	o	o	o

REMARKS

- Other combinations than mentioned in this option TW are prohibited.
- (*) if neutral line is available.
(1) Heater tape that can be fixed on the bottom plate to prevent excessive ice formation.
(2) Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRPAHB is already included.
(3) It is not allowed to combine bottom plate heater and drain plug/stop kit.
(4) *KRTETS can only be used in combination with *KRTR.
(5) Bottom plate heaters *KBPHT08B* and *KBPHTH16A* can only be used with indoor unit *KHB*BA* or higher.
(6) In case *KHTS200~260* is used, option kit *KFMALTA is needed.
(7) Combination possibility depends on available power supply type.
(8) Bottom plate heater is factory mounted and controlled by outdoor unit.
(9) Bottom plate heater is factory mounted and controlled by indoor unit. (*KHB*BA or higher)

3TW60349-1

EKHBH008-016BB

Kit availability for *KHW*

Reference	Description	#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU150~300*3V3	-	-	-	-	-	-	o	o	o	o	o	o
*KUHWB	Option kit 1 for UK *KHWSU150~300*3V3 (4)	-	-	-	-	-	-	o (2)	o (2)	o (2)	o	o	o
*KUHW2WB	Option kit 2 for UK *KHWSU150~300*3V3 (4)	-	-	-	-	-	-	o (2)	o (2)	o (2)	o (3)	o (3)	o (3)
*KSOLHWAV1	Solarkit (1)	o	o	o	o	o	o	o	o	o	o	o	o
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	-	-	-	o	-	-	o	-	-	o	-	-

REMARKS

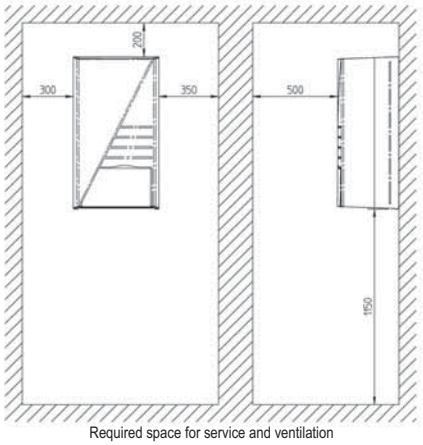
- Other combinations are not guaranteed
(1) Kit to be mounted on domestic hot water tank that provides connection to solar penels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories

3TW60349-1

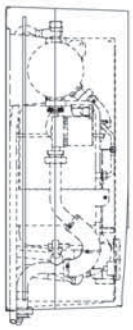
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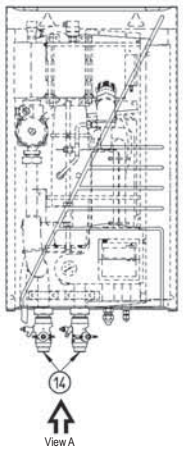
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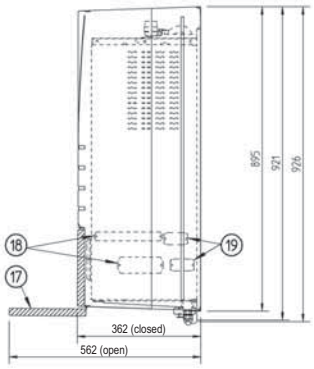
EKHBH008BB

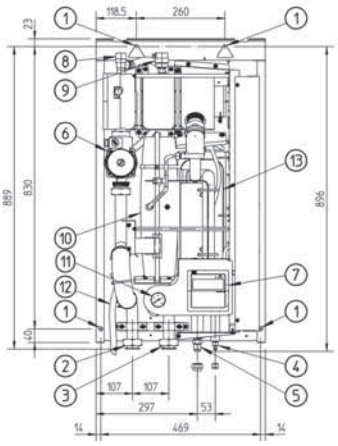


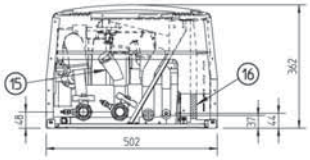
Required space for service and ventilation

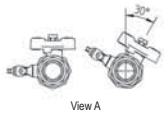








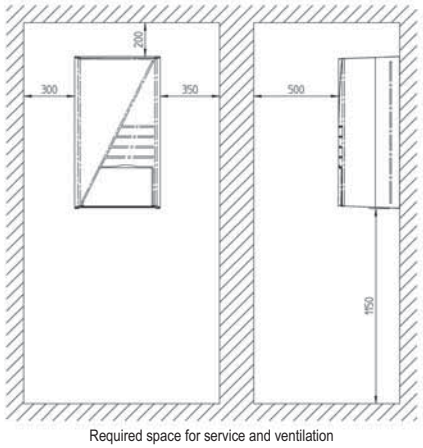




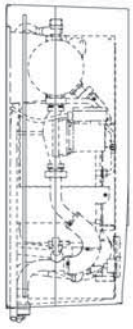
① Holes (Ø12) for fixation to the wall
② Water out connection (1-1/2" F BSP)
③ Water in connection (1-1/2" F BSP)
④ Refrigerant liquid connection Ø6.35 (Flare)
⑤ Refrigerant suction connection Ø15.9 (Flare)
⑥ Pump (including switch for speed setting)
⑦ User interface
⑧ Safety valve (pressure)
⑨ Air purge
⑩ Expansion vessel
⑪ Pressure gauge
⑫ Drain hose from safety valve (Ø20)
⑬ Heat exchanger (refrigerant / water)
⑭ Shut off valve with drain / fill valve (1" M BSP) (Included accessory)
⑮ Water filter
⑯ Power supply / communication wire entrance
⑰ Service door
⑱ Switchbox terminals
⑲ Switchbox terminals for domestic hot water tank (option)

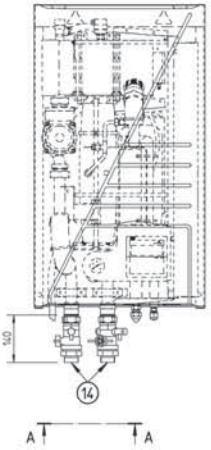
3TW59214-1A

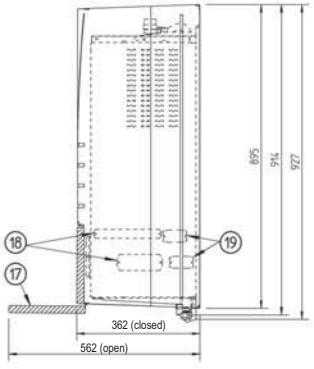
EKHBH016BB

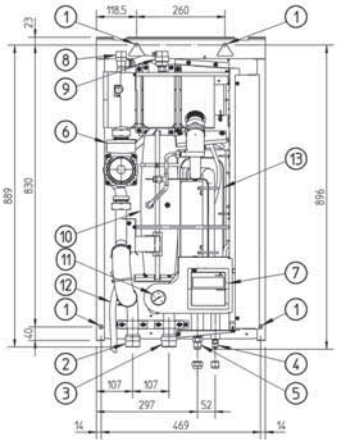


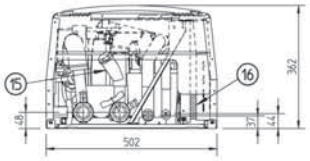
Required space for service and ventilation

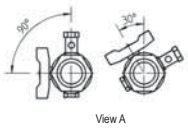












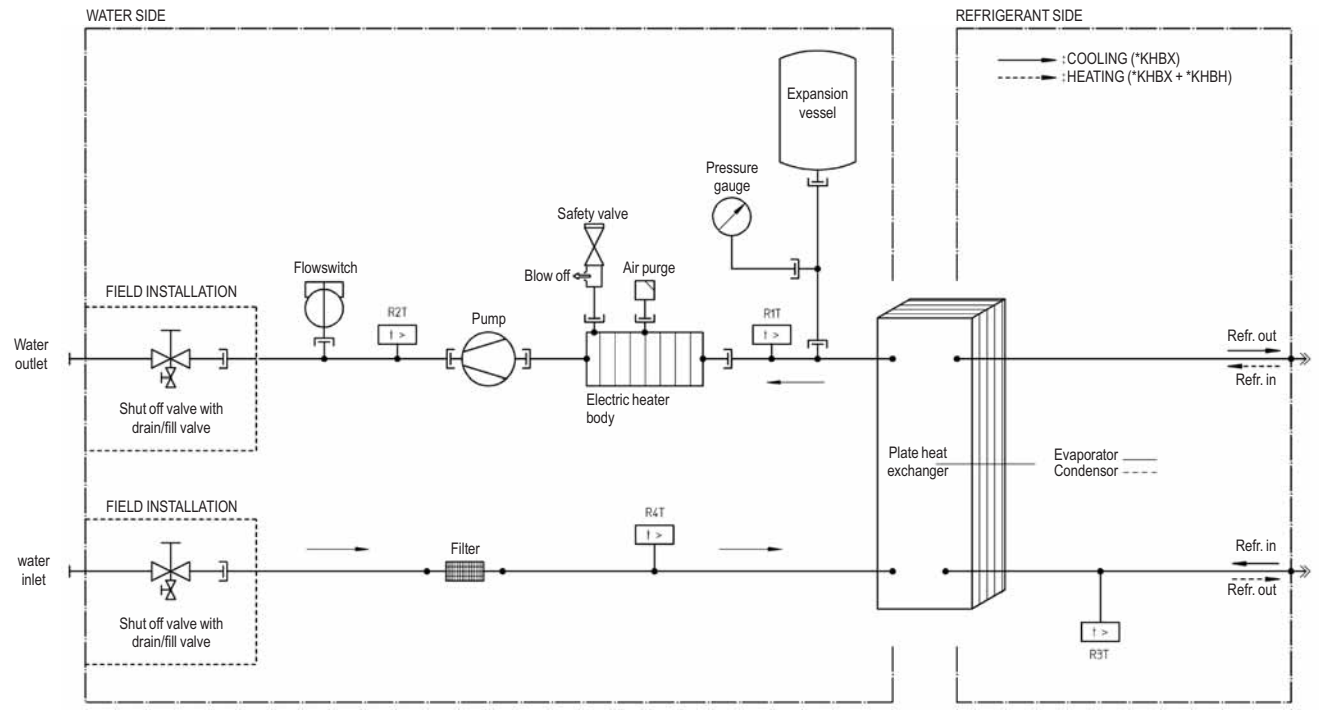
① Holes (Ø12) for fixation to the wall
② Water out connection (1-1/4" M BSP)
③ Water in connection (1-1/4" M BSP)
④ Refrigerant liquid connection Ø9.52 (Flare)
⑤ Refrigerant suction connection Ø15.9 (Flare)
⑥ Pump (including switch for speed setting)
⑦ User interface
⑧ Safety valve (pressure)
⑨ Air purge
⑩ Expansion vessel
⑪ Pressure gauge
⑫ Drain hose from safety valve (Ø20)
⑬ Heat exchanger (refrigerant / water)
⑭ Shut off valve with drain / fill valve (1-1/4" M BSP) (Included accessory)
⑮ Water filter
⑯ Power supply / communication wire entrance
⑰ Service door
⑱ Switchbox terminals
⑲ Switchbox terminals for domestic hot water tank (option)

3TW59234-1

5 Piping diagrams

5 - 1 Piping Diagrams

EKHBH008-016BB



Check valve	
Flare conn.	
Screw conn.	
Flange conn.	
Pinched pipe	
Spinned pipe	

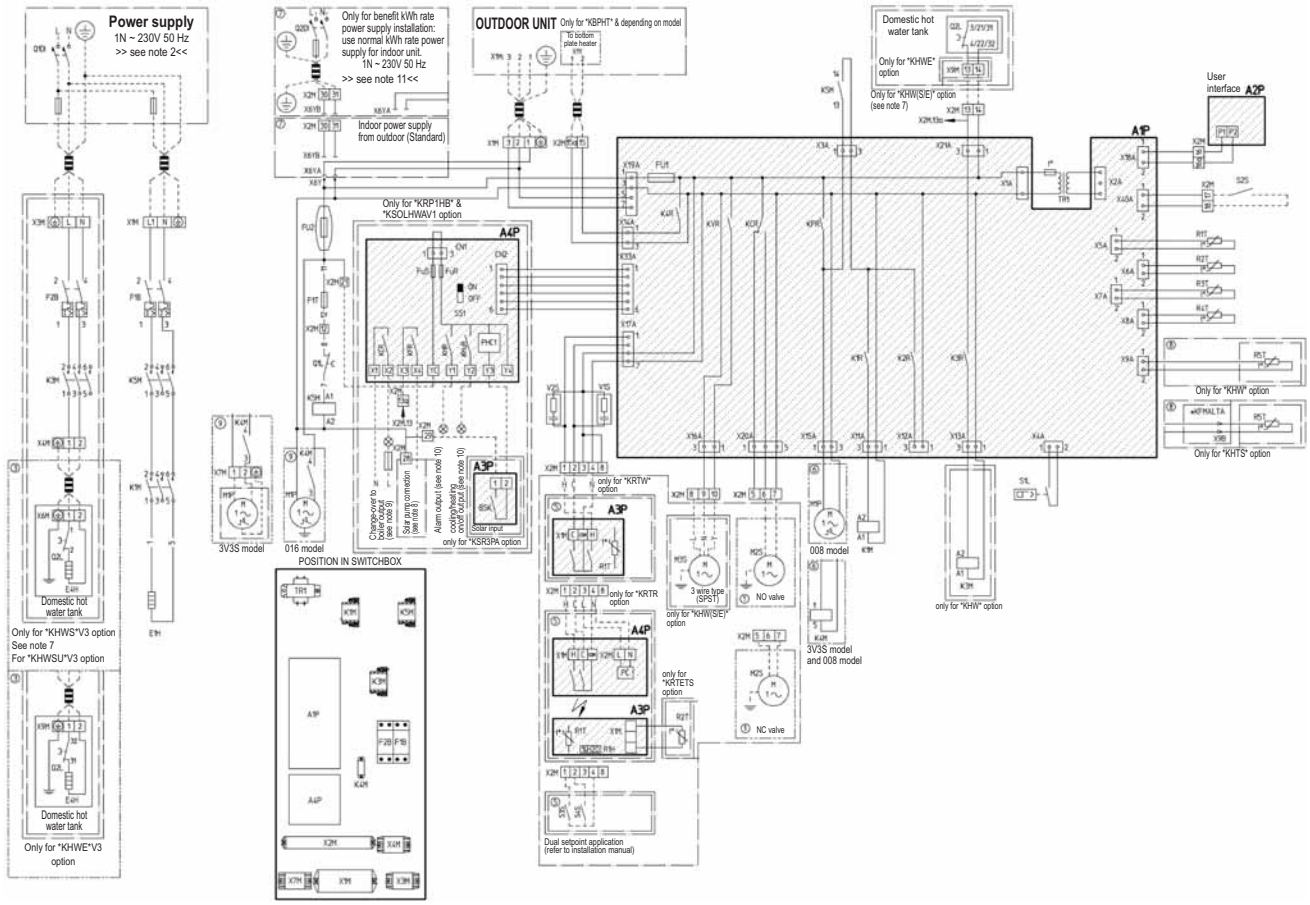
Thermistor	Description
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R2T	Outlet water backup heater thermistor
R1T	Outlet water heat-exchanger thermistor

3TW59215-1A

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHBH008-016BB3V3



A1P	main PCB	K1M	contactor backup heater step	R2T (*KRTETS)	external sensor (floor or ambient)
A2P	user interface PCB	K3M	contactor booster heater	R3T	refrigerant liquid side thermistor
A3P (*KRTW/R*)	thermostat (PC = power circuit)	K4M	pump relay	R4T	inlet water thermistor
A3P (*KSR3PA)	solar pumpstation PCB	K5M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A4P (*KRP1HB*)	digital I/O PCB	M1P	pump (for 3V3S models: field supply)	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate supply contact
BSK (*KSR3PA)	solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	dual setpoint 2 contact
E1H	backup heater element	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
E4H	booster heater (3kW)	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
F1B	fuse backup heater	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1T	thermal fuse backup heater	Q2L	thermal protector booster heater	V1S, V2S	spark suppression 1, 2
F2B	fuse booster heater	R1H(*KRTR)	humidity sensor	X1M~X9M	terminal strips
FU1	fuse 3.15A T 250V for PCB	R1T	outlet water heat exchanger thermistor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R1T (*KRTW*)	ambient sensor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T	outlet water backup heater thermistor		

2TW60346-1A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : field wiring - NO/NC: Normal Open / Normal Closed - SPST: Single Pole Single Throw
4. : Terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK = Black RED = Red BLU = Blue WHT = White PNK = Pink YLW = Yellow
   BRN = Brown GRY = Grey GRN = Green ORG = Orange VIO = Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation refer to installation manual.

Wiring dependent on model
Option
Field wiring
Field wiring
PCB
Wire colour

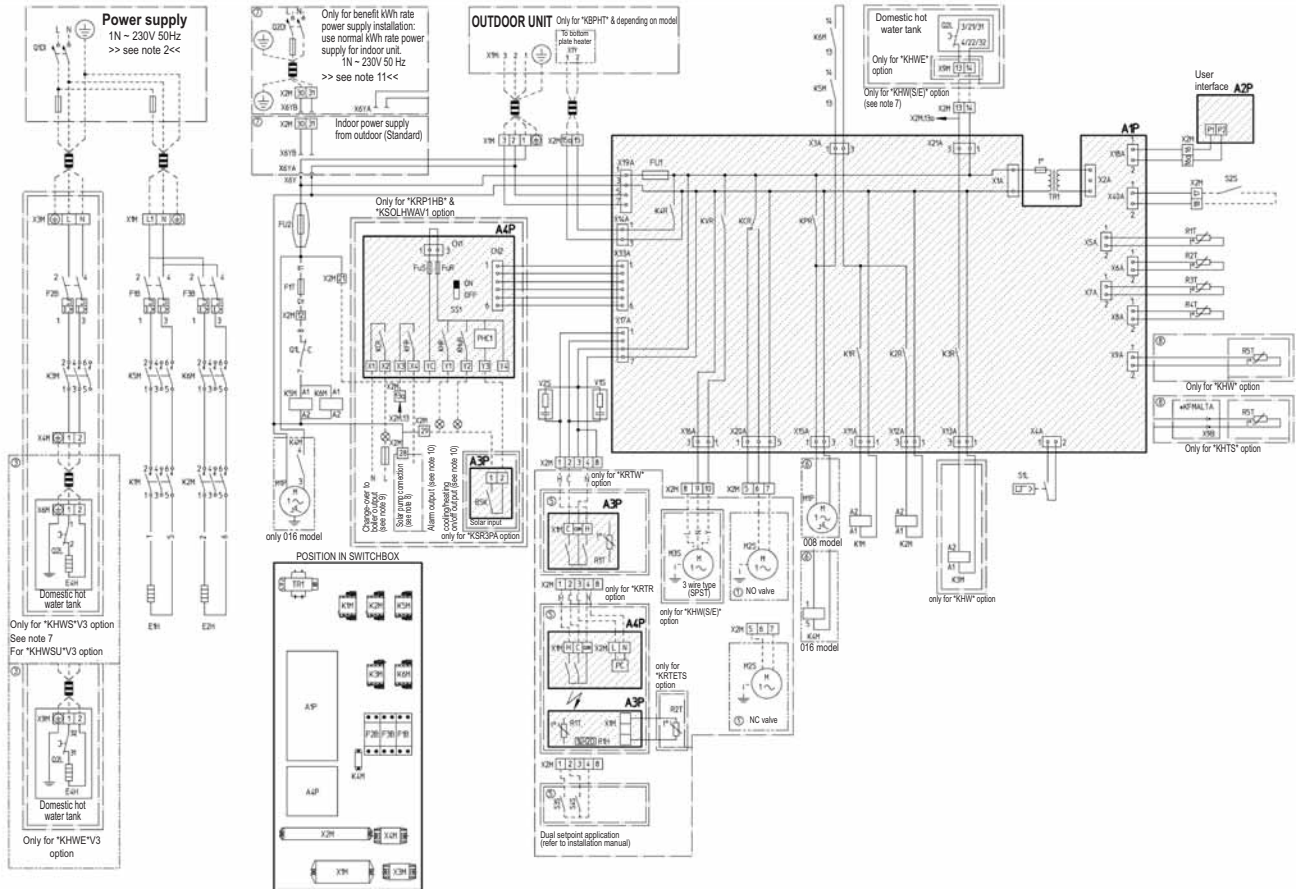
electric heater fuse		
F1B	20A	

KHW kit fuse	
F2B	20A

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHBH008-016BB6V3



A1P	main PCB	K1M, K2M	contactor backup heater step	R2T (*KRTETS)	external sensor (floor or ambient)
A2P	user interface PCB	K3M	contactor booster heater	R3T	refrigerant liquid side thermistor
A3P (*KRTW/R*)	thermostat (PC = power circuit)	K4M	pump relay	R4T	inlet water thermistor
A3P (*KSR3PA)	solar pumpstation PCB	K5M, K6M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A4P (*KRP1HB*)	digital I/O PCB	M1P	pump	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate supply contact
BSK (*KSR3PA)	solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	dual setpoint 2 contact
E1H-E2H	backup heater element	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
E4H	booster heater (3kW)	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
F1B, F3B	fuse backup heater	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1T	thermal fuse backup heater	Q2L	thermal protector booster heater	V1S, V2S	spark suppression 1, 2
F2B	fuse booster heater	R1H(*KRTR)	humidity sensor	X1M~X9M	terminal strips
FU1	fuse 3.15A T 250V for PCB	R1T	outlet water heat exchanger thermistor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R1T (*KRTW*)	ambient sensor		
FuS, FuR	fuse 5A T 250V for digital I/O PCB	R2T	outlet water backup heater thermistor		

2TW60346-2A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : field wiring - NO/NC: Normal Open / Normal Closed - SPST: Single Pole Single Throw
4. : Terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK = Black RED = Red BLU = Blue WHT = White PNK = Pink YLW = Yellow
   BRN = Brown GRY = Grey GRN = Green ORG = Orange VIO = Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation refer to installation manual.

Wiring dependent on model
Option
Field wiring
Field wiring
PCB
Wire colour

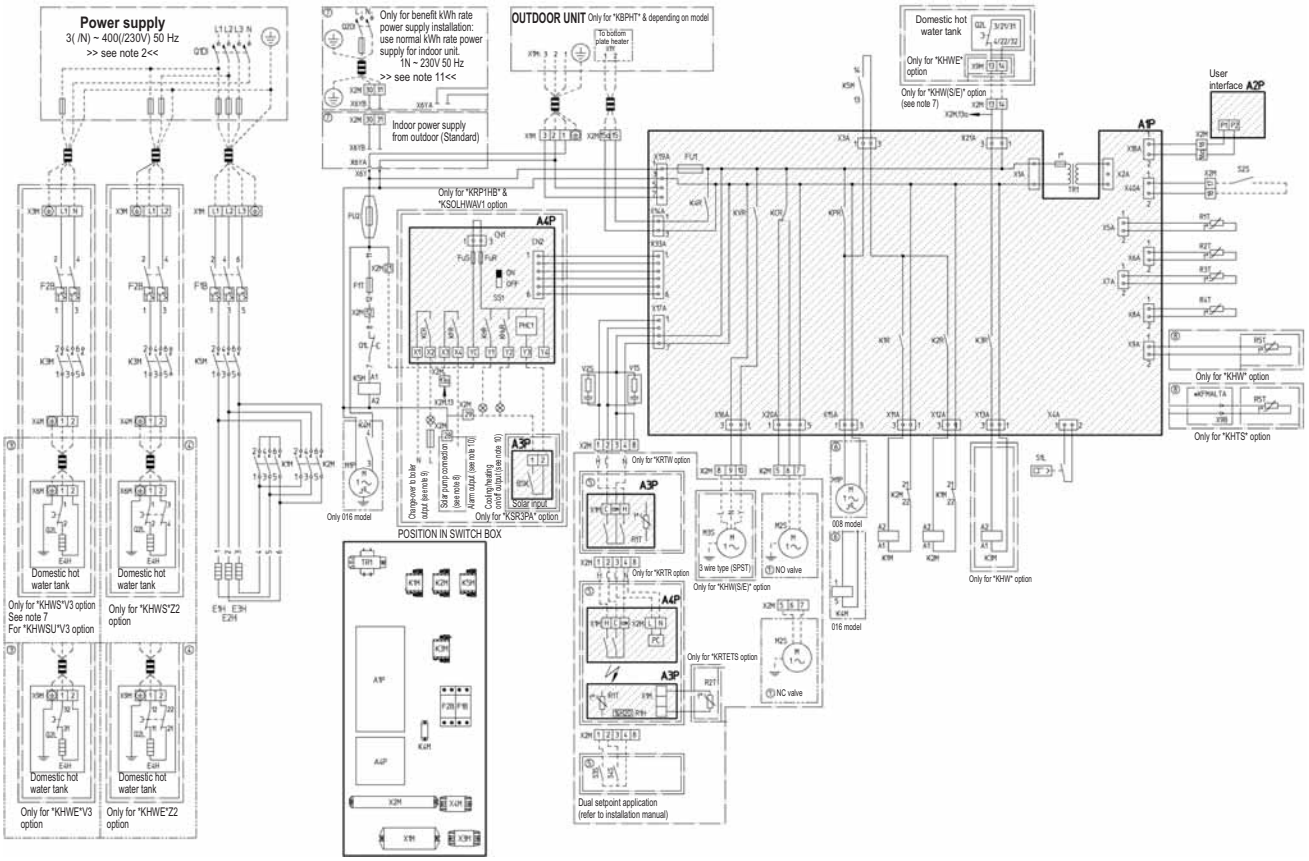
electric heater fuse		
F1B	20A	
F3B	20A	

KHW kit fuse	
F2B	20A

6 Wiring diagrams

6 - 2 Wiring Diagrams - Three Phase

EKHBH008-016BB6/9WN



A1P	Main PCB	K1M/K2M	Contactor backup heater step 1/2	R2T (*KRTETS)	External sensor (floor or ambient)
A2P	User interface PCB	K3M	Contactor booster heater	R3T	Refrigerant liquid side thermistor
A3P(*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R4T	Inlet water thermistor
A3P(*KSR3PA*)	Solar pumpstation PCB	K5M	Contactor for backup heater all pole disconnection	R5T	Domestic hot water thermistor
A4P(*KRP1HB*)	Digital I/0 PCB	M1P	Pump	S1L	Flowswitch
A4P(*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S2S	Benefit kWh rate power supply contact
BSK (*KSR3PA)	Solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	Dual setpoint 2 contact
E1H - E3H	Backup heater elements	PHC1	Optocoupler input circuit	S4S	Dual setpoint 1 contact
E4H	Booster heater (3kW)	Q1DI, Q2DI	Earth leakage circuit breaker	SS1	Dip switch
F1B	Fuse backup heater	Q1L	Thermal protector backup heater	TR1	Transformer 24V for PCB
F1T	Thermal fuse backup heater	Q2L	Thermal protector booster heater	V1S, V2S	Spark suppression 1, 2
F2B	Fuse booster heater	R1H (*KRTR)	Humidity sensor	X1M-X9M	Terminal strips
FU1	Fuse 3.15A T 250V for PCB	R1T	Outlet water heat exchanger thermistor	X6Y, X9B	Connector
FU2	Fuse 5A T 250V	R1T (*KRTW*)	Ambient sensor		
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	R2T	Outlet water backup heater thermistor		

2TW60346-3A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circtuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : Field wiring NO/NC: normal open/normal closed SPST: Single pole single throw
4. : Terminal strip : Connector : Terminal : Protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK=Black Red=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow
   BRN=Brown GRY= Grey GRN=Green ORG=Orange VIO=Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

Wiring dependent on model
Option
PCB
Field wiring
Field wiring
BRN
Wire colour

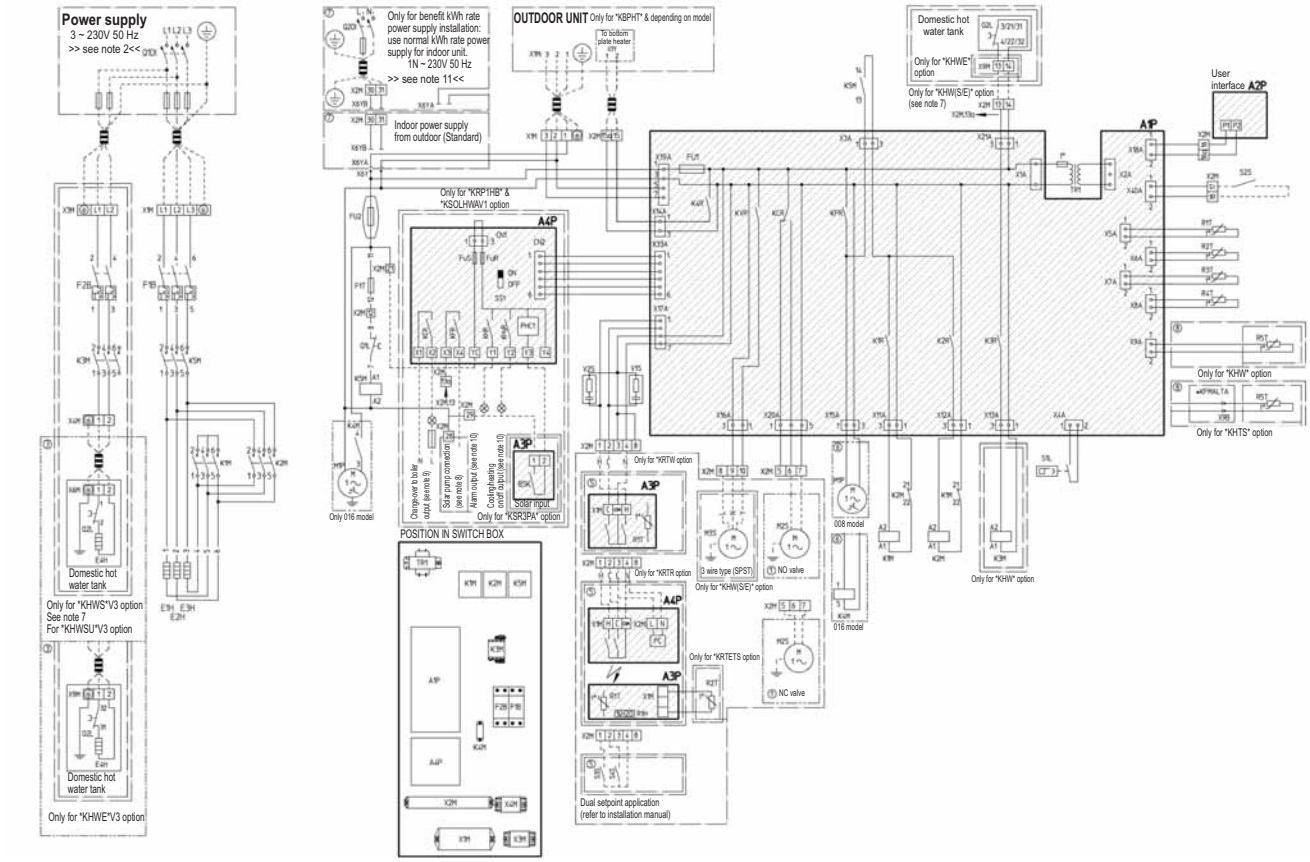
Electric heater fuse		
Model	6WN	9WN
F1B	16A	20A

KWH kit fuse	
F2B	20A

6 Wiring diagrams

6 - 2 Wiring Diagrams - Three Phase

EKHBH008-016BB6/9T1

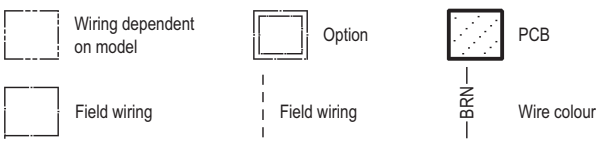


A1P	Main PCB	K1M/K2M	Contactor backup heater step 1/2	R2T (*KRTETS)	External sensor (floor or ambient)
A2P	User interface PCB	K3M	Contactor booster heater	R3T	Refrigerant liquid side thermistor
A3P(*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R4T	Inlet water thermistor
A3P(*KSR3PA*)	Solar pumpstation PCB	K5M	Contactor for backup heater all pole disconnection	R5T	Domestic hot water thermistor
A4P(*KRP1HB*)	Digital I/0 PCB	M1P	Pump	S1L	Flowswitch
A4P(*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S2S	Benefit kWh rate power supply contact
BSK (*KSR3PA)	Solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	Dual setpoint 2 contact
E1H - E3H	Backup heater elements	PHC1	Optocoupler input circuit	S4S	Dual setpoint 1 contact
E4H	Booster heater (3kW)	Q1DI, Q2DI	Earth leakage circuit breaker	SS1	Dip switch
F1B	Fuse backup heater	Q1L	Thermal protector backup heater	TR1	Transformer 24V for PCB
F1T	Thermal fuse backup heater	Q2L	Thermal protector booster heater	V1S, V2S	Spark suppression 1, 2
F2B	Fuse booster heater	R1H (*KRTR)	Humidity sensor	X1M-X9M	Terminal strips
FU1	Fuse 3.15A T 250V for PCB	R1T	Outlet water heat exchanger thermistor	X6Y, X9B	Connector
FU2	Fuse 5A T 250V	R1T (*KRTW*)	Ambient sensor		
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	R2T	Outlet water backup heater thermistor		

2TW60346-4A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circtuit for the backup heater and booster heater. Never use a power circuit shared by other appliance.
3. : Field wiring NO/NC: normal open/normal closed SPST: Single pole single throw
4. : Terminal strip : connector : terminal : Protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK=Black Red=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY= Grey GRN=Green ORG=Orange VIO=Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual



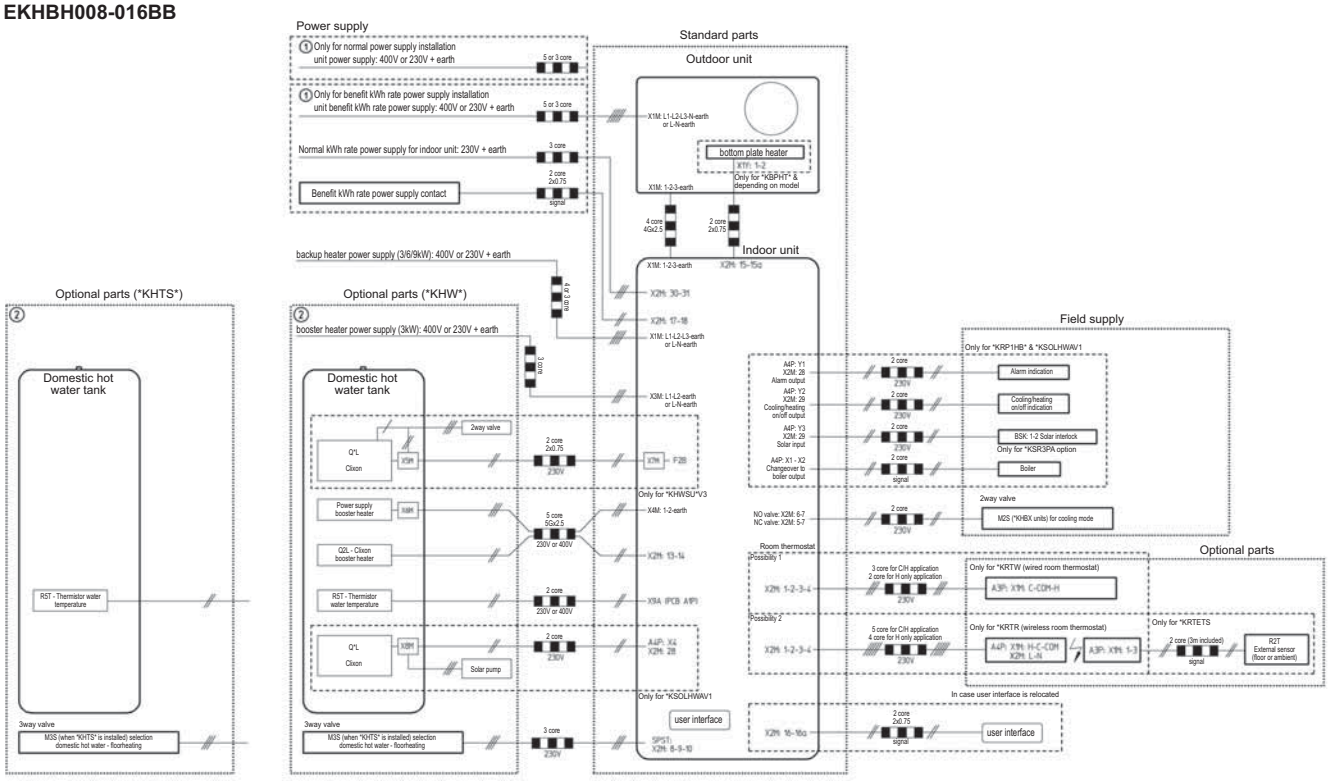
Electric heater fuse		
F1B	6T1: 20A	9T1: 32A

KWH kit fuse	
F2B	20A

7 External connection diagrams

7 - 1 External Connection Diagrams

EKHBH008-016BB



2TW60346-5

NOTES

1 In case of signal cable: keep minimum distance to power cables > 5cm.
2 Available heaters depending on model. See combination table.

8 Installation

8 - 1 Installation Method

EKHBH008-016BB

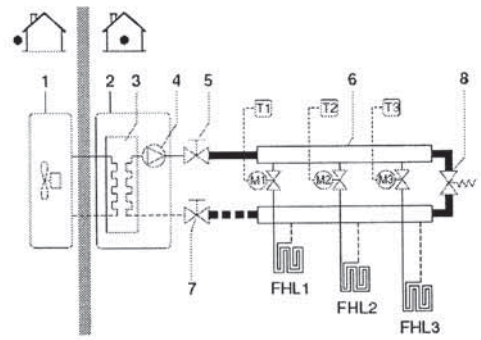
Installation guidelines / precautions Daikin Altherma

Hydrobox unit

Minimum water volume

Assure that the total water volume within the installation, excluding the internal water volume of the indoor unit, is enough:
- minimum 10 litre for GBS (*RYQ005~007 & *RHQ006~008)
- minimum 20 litre for GQI (*RHQ011~016)

Example



1 Outdoor unit
2 Indoor unit
3 Heat exchanger
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Shut-off valve
8 By-pass valve (field supply)
FHL1..3 Floor heating loop (field supply)
T1..3 Individual room thermostat (field supply)
M1..3 Individual motorised valve to control loop FHL

Field piping diameters

- Select the field piping diameters in relation to the required water flow and available ESP of the indoor unit pump (See “Hydraulic performance”)

Installation location

- During normal operation the hydrobox unit will produce sound which could be observed as noise. The sound origin can be water pump operation and/or contactor activation.
  Therefore is it advisable to install the hydrobox unit on a firm wall and not in nor close to a sound sensitive environment (example bedroom).
- The unit is to be wall mounted in an indoor location that meets the following requirements:
  - The installation location is frost-free.
  - The space around the unit is adequate for servicing. (See “Dimensional drawing”)
  - The space around the unit allows for sufficient air circulation.
  - There is a provision for condensate drain (only for EKHBX models with drain pan kit EKHBDP) and pressure relief valve blow-off.
  - The installation surface is a flat and vertical non-combustible wall, capable of supporting the operation weight of the unit (See “Technical specifications”).
  - There is no danger of fire due to leakage of inflammable gas.
  - All piping lengths and distances have been taken into consideration (See “Technical specifications”).
  - Do not install the unit in places with high humidity (e.g. bathroom).

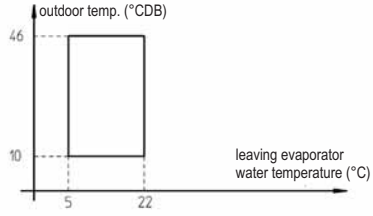
4TW59109-2

9 Operation range

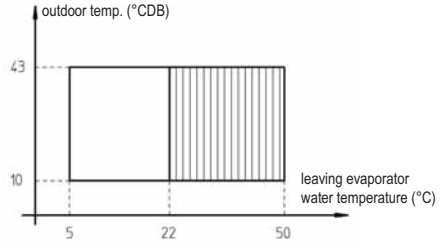
9 - 1 Operation Range

EKHBH008-016BB

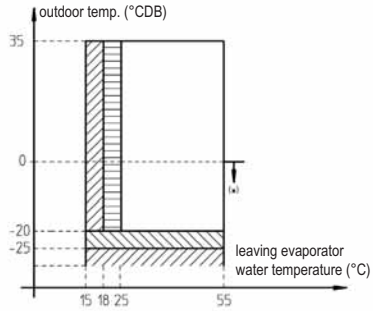
1 PHASE + 3 PHASE 11~16kW - CLASS **COOLING MODE**



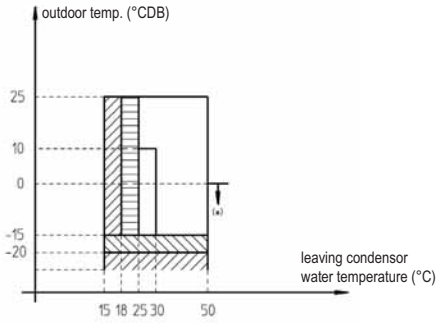
1 PHASE 6~8kW - CLASS **COOLING MODE**



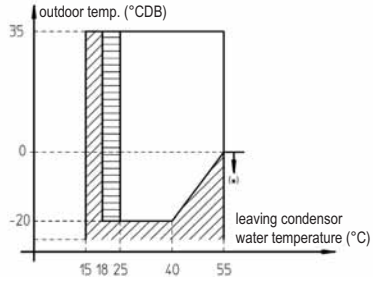
1 PHASE + 3 PHASE C-SERIES 3 PHASE B-SERIES 11~16kW - CLASS **HEATING MODE**



1 PHASE 6~8kW - CLASS **HEATING MODE**



1 PHASE B-SERIES 11~16kW - CLASS **HEATING MODE**



LEGEND

: Only backup heater operation (no outdoor unit operation)

: Outdoor unit operation if setpoint 25°C ≥

: Operation of outdoor unit possible, but no guarantee of capacity. (If outdoor temperature < -20°C or <-25°C outdoor unit will stop) (Indoor unit and backup heater operation will continue)

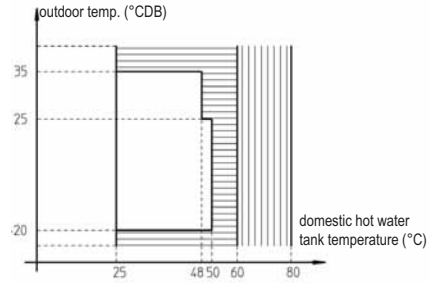
: Pull down area

(*) *RLQ units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur toghether with high humidity, conditions. In such conditions the *RHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the *RLQ must be installed instead. These models may contain countermeasures (insulation, heater sheet,...) to prevent freeze up.

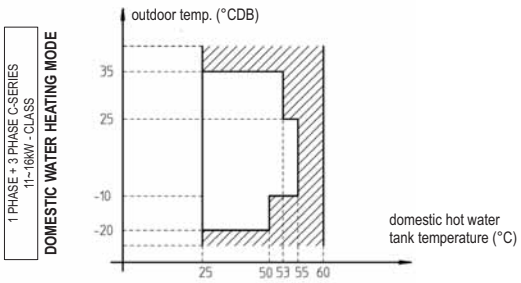
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EKHBH008-016BB

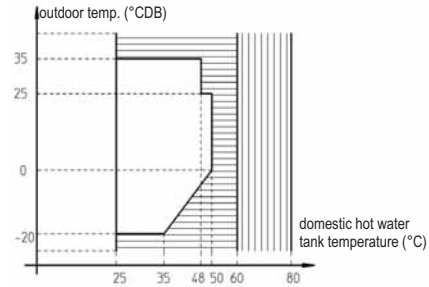
3 PHASE B-SERIES 11~16kW - CLASS **DOMESTIC WATER HEATING MODE**



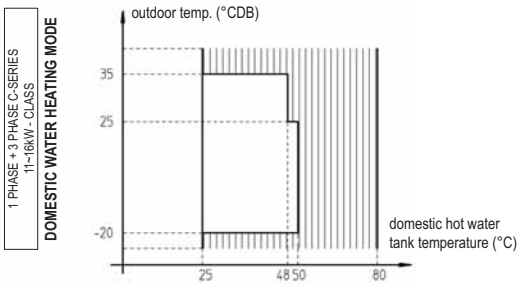
1 PHASE + 3 PHASE C-SERIES 11~16kW - CLASS **DOMESTIC WATER HEATING MODE**



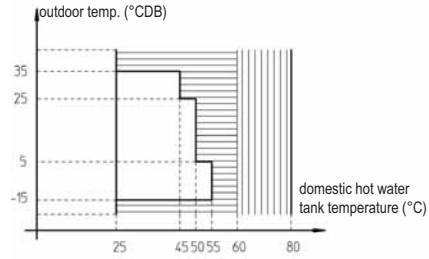
1 PHASE B-SERIES 11~16kW - CLASS **DOMESTIC WATER HEATING MODE**



1 PHASE + 3 PHASE C-SERIES 11~16kW - CLASS **DOMESTIC WATER HEATING MODE**



1 PHASE B-SERIES 6~8kW - CLASS **DOMESTIC WATER HEATING MODE**



LEGEND

: only booster heater operation (EKHW* only)

: only backup heater operation (EKHTS* only)

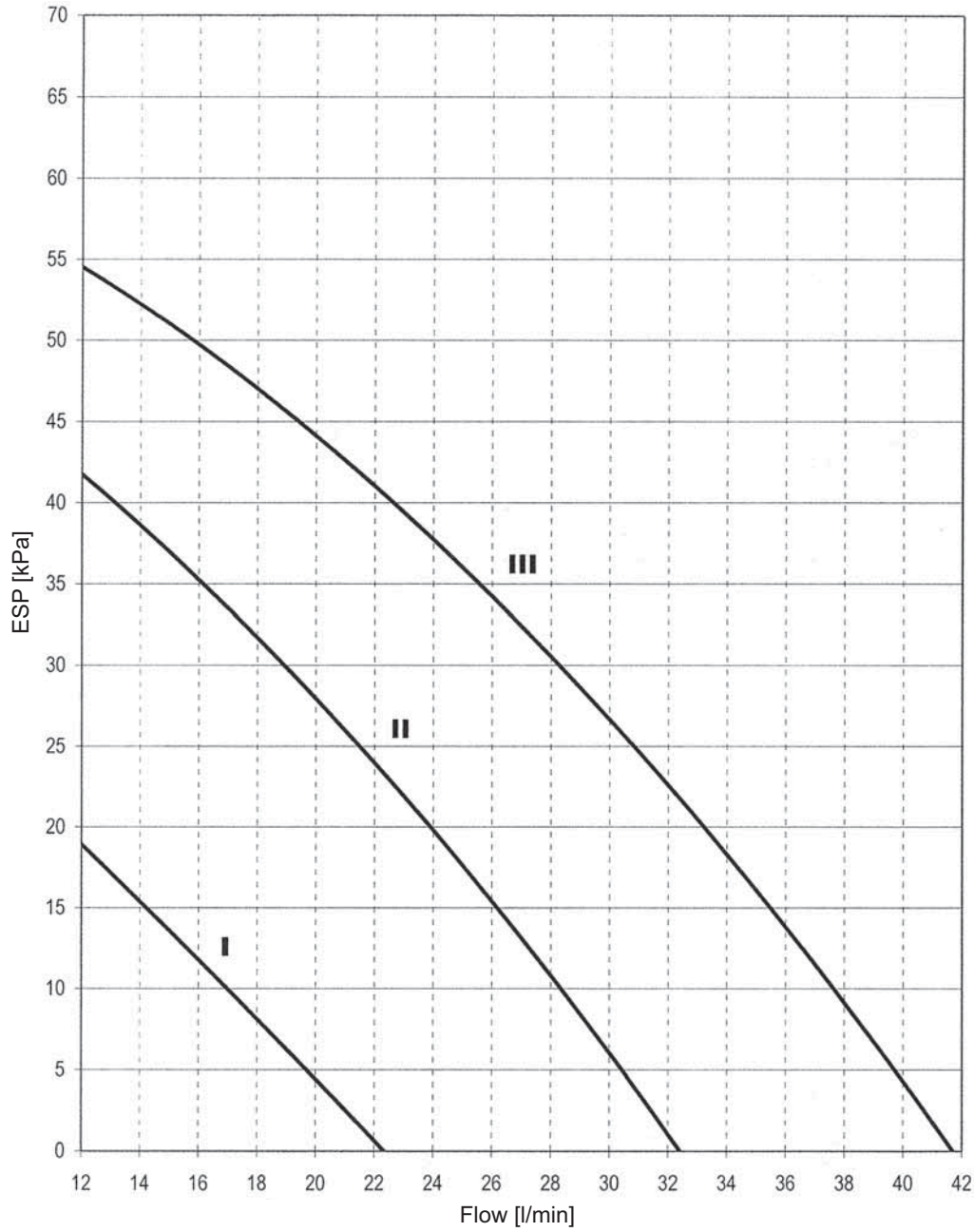
: only booster heater operation (EKHW* only) only backup heater operation (EKHTS* only)

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10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EKHBH008BB



III	high speed
II	medium speed
I	low speed
ESP	external static pressure
Flow	waterflow through the unit

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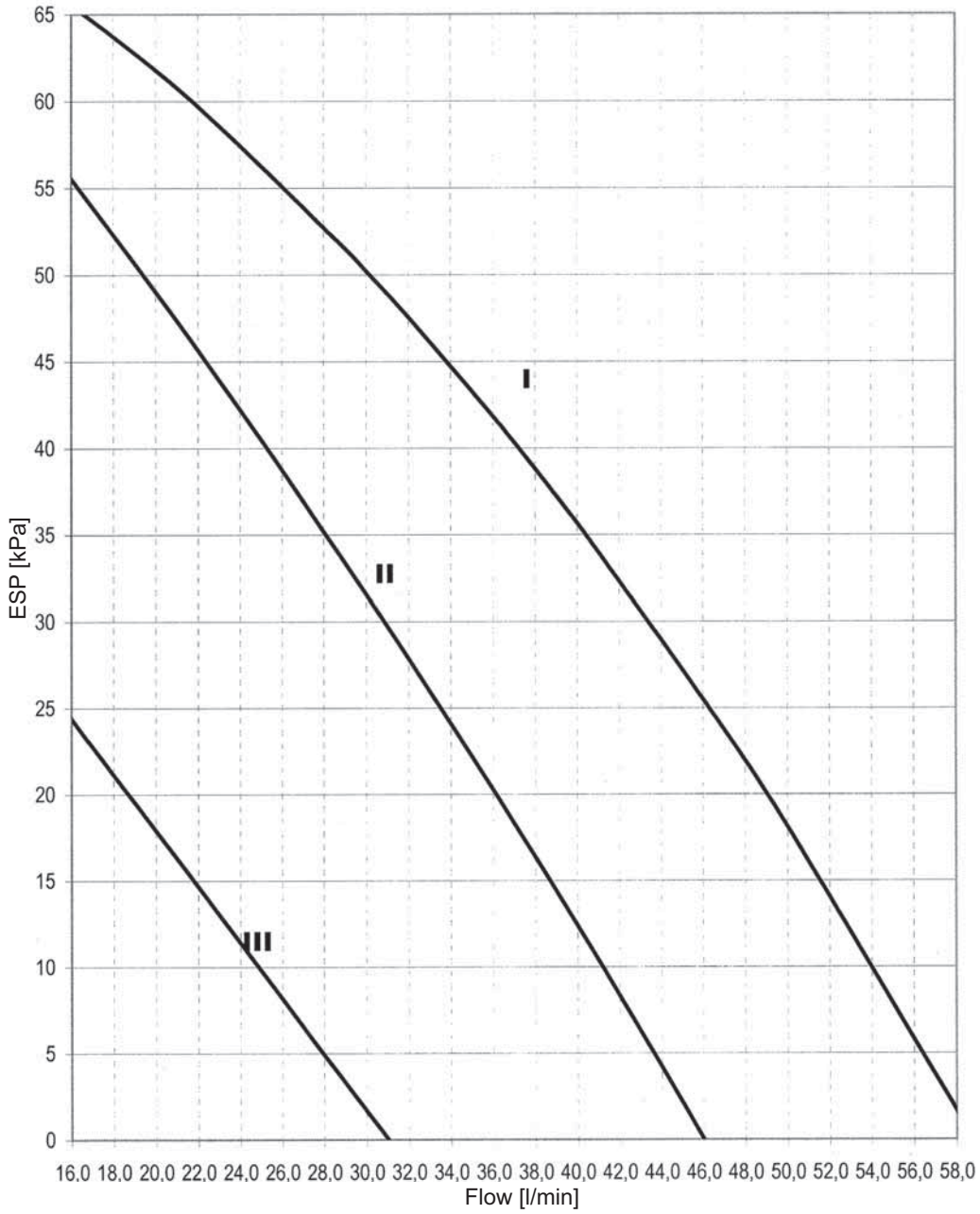
WARNING

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed waterflow range in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EKHBH016BB



I	high speed
II	medium speed
III	low speed
ESP	external static pressure
Flow	waterflow through the unit

4TW59109-1

WARNING

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed waterflow range in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

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1 Features

- Large capacity indoor unit
- Small capacity indoor unit
- Wall mounted installation facilitates cleaning beneath the unit where dust tends to accumulate



2 Specifications

2-1 Technical Specifications					EKHBX008BB3V3	EKHBX008BB6V3	EKHBX008BB6WN	EKHBX008BB9WN	EKHBX008BB6T1	EKHBX008BB3V3S
Power input	Nom.			kW	0.23					
Casing	Colour				RAL9010					
	Material				Epoxy polyester painted galvanised steel					
Dimensions	Unit	Height		mm	922					
		Width		mm	502					
		Depth		mm	361					
	Packed unit	Height		mm	1,225					
		Width		mm	660					
		Depth		mm	610					
Weight	Unit			kg	46					
	Packed unit			kg	59					
Packing	Material				EPS, Wood, Carton, PP (Straps)					
	Weight			kg	13					
Pump	Type				Water cooled					-
	Nr of speeds				3					-
	Power input			W	130					-
Expansion vessel	Volume			l	10					
	Max. water pressure			bar	3					
	Pre pressure			bar	1					
Operation range	Heating	Ambient	Min.	ºC	-20					
			Max.	ºC	25					
		Water side	Min.	ºC	15 (6)					
			Max.	ºC	50 (6)					
	Cooling	Ambient	Min.	ºCDB	10 (0.000)					
			Max.	ºCDB	43 (0.000)					
		Water side	Min.	ºC	5					
			Max.	ºC	22					
Water side Heat exchanger	Type				Brazed plate					
	Quantity				1					
	Water volume			l	0.67					
	Water flow rate	Min.		l/min	12					
		Heating	Max.	l/min	41.7					-
		Cooling	Max.	l/min	41.7					-
	Insulation material				Polyurethane foam					
	Cooling	Plates	Quantity		-					
Refrigerant circuit	Gas side diameter			mm	15.9					
	Liquid side diameter			mm	6.35					
Sound power level	Medium speed	0 ESP		dBA	42 (9)					-
Sound pressure level	Medium speed	0 ESP		dBA	28					-
Water filter	Diameter perforations			mm	1					
	Material				Brass					
Water circuit	Piping connections diameter			inch	G 1" (male)					
	Safety valve			bar	3					
	Manometer				Yes					
	Drain valve / fill valve				Yes					
	Shut off valve				Yes					
	Air purge valve				Yes					
	Total water volume			l	5.5 (7)					
PED	Category				Art3§3					

2 Specifications

2-1 Technical Specifications					EKHBX016BB3V3	EKHBX016BB6V3	EKHBX016BB6WN	EKHBX016BB9WN	EKHBX016BB6T1	EKHBX016BB3V3S
Power input	Nom.			kW	0.23					
Casing	Colour				RAL9010					
	Material				Epoxy polyester painted galvanised steel					
Dimensions	Unit	Height		mm	922					
		Width		mm	502					
		Depth		mm	361					
	Packed unit	Height		mm	1,225					
		Width		mm	660					
		Depth		mm	610					
Weight	Unit			kg	48					
	Packed unit			kg	61					
Packing	Material				EPS, Wood, Carton, PP (Straps)					
	Weight			kg	13					
Pump	Type				Water cooled					-
	Nr of speeds				3					-
	Power input			W	210					-
Expansion vessel	Volume			l	10					
	Max. water pressure			bar	3					
	Pre pressure			bar	1					
Operation range	Heating	Ambient	Min.	ºC	-20 (1), -25 (2)					
			Max.	ºC	35					
		Water side	Min.	ºC	15 (8)					
			Max.	ºC	55 (8)					
	Cooling	Ambient	Min.	ºCDB	10 (0.000)					
			Max.	ºCDB	46 (0.000)					
		Water side	Min.	ºC	5					
			Max.	ºC	22					
Water side Heat exchanger	Type				Brazed plate					
	Quantity				1					
	Water volume			l	1.01					
	Water flow rate	Min.		l/min	16					
		Heating	Max.	l/min	58					-
		Cooling	Max.	l/min	58					-
	Insulation material				Polyurethane foam					
	Cooling	Plates	Quantity		-					
Refrigerant circuit	Gas side diameter			mm	15.9					
	Liquid side diameter			mm	9.52					
Sound power level	Medium speed	0 ESP		dBA	46					-
Sound pressure level	Medium speed	0 ESP		dBA	28					-
Water filter	Diameter perforations			mm	1					
	Material				Brass					
Water circuit	Piping connections diameter			inch	G 1"1/4 (male)					
	Safety valve			bar	3					
	Manometer				Yes					
	Drain valve / fill valve				Yes					
	Shut off valve				Yes					
	Air purge valve				Yes					
	Total water volume			l	5.5 (9)					
PED	Category				Art3§3					

2 Specifications

2-2 Electrical Specifications					EKHBX008BB3V3	EKHBX008BB6V3	EKHBX008BB6WN	EKHBX008BB9WN	EKHBX008BB6T1	EKHBX008BB3V3S
Electric heater	Power supply	Phase			1~		3~			1~
		Frequency		Hz	50					
		Voltage		V	230		400		230	
	Current back-up heater	Running current		A	13	26	8.7	13	15.1	13
		Zmax	Text		-	0.29	-			
		Minimum Ssc value			-	Equipment complying with EN/IEC 61000-3-12 **	-			
	Current back-up heater + booster heater (EKHW* models)	Running current	*V3	A	26 (13+13)	39 (26+13)	21.7 (8.7+13)	26 (13+13)	28.1 (15.1+13)	26 (13+13)
			*Z2	A	-		16.2 (8.7+7.5)	20.5 (13+7.5)	-	
		Zmax	Text		0.29	0.17	-			0.29
		Minimum Ssc value	*V3		Equipment complying with EN/IEC 61000-3-12 **					
			*Z2		-		Equipment complying with EN/ IEC 61000-3-12 **		-	
	Voltage range	Min.		%	-10					
		Max.		%	10					
Wiring connections	For power supply back-up heater	Quantity			3G		4G			3G
		Remark			Select diameter & type according to national & local regulations					
	For power supply connection to optional *KHW* model + Q2L	Quantity			3G					
		Remark			Select diameter and type according to national and local regulations, For more details of the voltage range and current refer to installation manual					
	For connection with R5T	Quantity			Wire included in option *KHW*					
		Remark			Wire included in option *KHW*					
	For connection with A3P	Quantity			Depends on thermostat type, cf.installation manual					
		Remark			Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M2S	Quantity			3G					
		Remark			Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M3S	Quantity			3G or 4G					
		Remark			Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with bottom plate heater	Quantity			2					
		Remark			Select diameter and type according to national and local regulations					

2-2 Electrical Specifications					EKHBX016BB3V3	EKHBX016BB6V3	EKHBX016BB6WN	EKHBX016BB9WN	EKHBX016BB6T1	EKHBX016BB3V3S
Electric heater	Power supply	Phase			1~		3~			1~
		Frequency		Hz	50					
		Voltage		V	230		400		230	
	Current	Minimum Ssc value			-	Equipment complying with EN/IEC 61000-3-12	-			
	Current back-up heater	Running current		A	13	26	8.7	13	15.1	13
		Zmax	Text		-	0.29	-			
	Current back-up heater + booster heater (EKHW* models)	Running current	*V3	A	26 (13+13)	39 (26+13)	21.7 (8.7+13)	26 (13+13)	28.1 (15.1+13)	26 (13+13)
			*Z2	A	-		16.2 (8.7+7.5)	20.5 (13+7.5)	-	
		Zmax	Text		0.29	0.17	-			0.29
		Minimum Ssc value	*V3		Equipment complying with EN/IEC 61000-3-12 **					
			*Z2		-		Equipment complying with EN/ IEC 61000-3-12 **		-	
	Voltage range	Min.		%	-10					
		Max.		%	10					

2 Specifications

2-2 Electrical Specifications			EKHBX016BB3V3	EKHBX016BB6V3	EKHBX016BB6WN	EKHBX016BB9WN	EKHBX016BB6T1	EKHBX016BB3V3S
Wiring connections	For power supply back-up heater	Quantity	3G		4G			3G
		Remark	Select diameter & type according to national & local regulations					
	For power supply connection to optional *KHW* model + Q2L	Quantity	3G					
		Remark	Select diameter and type according to national and local regulations, For more details of the voltage range and current refer to installation manual					
	For connection with R5T	Quantity	Wire included in option *KHW*					
		Remark	Wire included in option *KHW*					
	For connection with A3P	Quantity	Depends on thermostat type, cf.installation manual					
		Remark	Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M2S	Quantity	3G					
		Remark	Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with M3S	Quantity	3G or 4G					
		Remark	Select diameter & type according to national & local regulations, Voltage: 230V / Max.current: 100mA / Min. 0.75mm²					
	For connection with bottom plate heater	Quantity	2					
		Remark	Select diameter and type according to national and local regulations					

(1)In combination with ERHQ single phase outdoor unit

(2)In combination with ERHQ three phase or ERLQ outdoor unit

(3)With option kit EKHBDP installed: Height = 936mm

(4)Water flow rate cooling: Tamb 35ºC - LWE 7ºC (Dt=5ºC) at high speed

(5)Water flow rate heating: DB/WB 7ºC/6ºC - LWC 35ºC (Dt=5ºC) at high speed

(6)The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment.

(7)The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow

(8)15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(9)Including piping + PHE + back-up heater; excluding expansion vessel

(10)See operation range drawing for difference between single & three phase units

(11)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

(12)Optional electric heater has 2 capacity steps except for the 3V3 model which has only 1 capacity step.

(13)In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(14)Equipment complying with EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

(15)EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(16)PED unit category: Art3§3: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC

3 Options

3 - 1 Options

EKHBX008-016BB

Factory mounted optional equipment for *KHB(H/X)008BB* and *KHB(H/X)016BB*

Reference	Description	#										
	Heating only model *KHBH*	3V3		6V3		6WN		6T1		9WN		9T1
#	Reversible model *KHBX*		3V3		6V3		6WN		6T1		9WN	
2V2	Back up heater 3kW 1~230V	o	o	-	-	-	-	-	-	-	-	-
6V3	Back up heater 6kW 1~230V	-	-	o	o	-	-	-	-	-	-	-
6WN	Back up heater 6kW 3~400V	-	-	-	-	o	o	-	-	-	-	-
6T1	Back up heater 6kW 3~230V	-	-	-	-	-	-	o	o	-	-	-
9WN	Back up heater 9kW 3~400V	-	-	-	-	-	-	-	-	o	o	-
9T1	Back up heater 9kW 3~230V	-	-	-	-	-	-	-	-	-	-	o

Outdoor combination table for *KHB(H/X)008BB* and *KHB(H/X)016BB*

		*RHQ006B*V3*	*RHQ007B*V3*	*RHQ008B*V3*	*RLQ006B*V3*	*RLQ007B*V3*	*RLQ008B*V3*	*RHQ011B*(V3/W1)	*RHQ014B*(V3/W1)	*RHQ016B*(V3/W1)	*RLQ011B*(V3/W1)	*RLQ014B*(V3/W1)	*RLQ016B*(V3/W1)
KHBH008BB	Heating only indoor unit	o	o	o	o	o	o	-	-	-	-	-	-
KHBX008BB	Reversible indoor unit	o	o	o	o	o	o	-	-	-	-	-	-
KHBH016BB	Heating only indoor unit	-	-	-	-	-	-	o	o	o	o	o	o
KHBX016BB	Reversible indoor unit	-	-	-	-	-	-	o	o	o	o	o	o

Kit availability for outdoor units

		*RHQ006B*V3*	*RHQ007B*V3*	*RHQ008B*V3*	*RLQ006B*V3*	*RLQ007B*V3*	*RLQ008B*V3*	*RHQ011B*(V3/W1)	*RHQ014B*(V3/W1)	*RHQ016B*(V3/W1)	*RLQ011B*(V3/W1)	*RLQ014B*(V3/W1)	*RLQ016B*(V3/W1)
KBPHT08B	Bottom plate heater (1)(3)(5)	o	o	o	- (9)	- (9)	- (9)	-	-	-	-	-	-
*KDK02	Drain plug kit (3)	o	o	o	-	-	-	-	-	-	-	-	-
*KDK03	Drain stop kit (3)	o	o	o	-	-	-	-	-	-	-	-	-
*KDK04	Drain plug kit (3)	-	-	-	-	-	-	o	o	o	-	-	-
*KBPHTH16A	Bottom plate heater (1)(3)(5)	-	-	-	-	-	-	o	o	o	- (8)	- (8)	- (8)

Kit availability

Reference	Description	#										
	Heating only model *KHBH*	3V3		6V3		6WN		6T1		9WN		9T1
	Reversible model *KHBX*		3V3		6V3		6WN		6T1		9WN	
*KHWS150*3V3	Domestic hot water tank 150l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWS200*3V3	Domestic hot water tank 200l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWS300*3V3	Domestic hot water tank 300l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWS200*3Z2	Domestic hot water tank 200l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHWS300*3Z2	Domestic hot water tank 300l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHWSU150*3V3	Domestic hot water tank 150l 1~230V (only for UK)	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWSU200*3V3	Domestic hot water tank 200l 1~230V (only for UK)	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWSU300*3V3	Domestic hot water tank 300l 1~230V (only for UK)	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
KHTS200	Domestic hot water tank 200l (without booster heater)(6)	o	o	o	o	o	o	o	o	o	o	o
KHTS260	Domestic hot water tank 260l (without booster heater)(6)	o	o	o	o	o	o	o	o	o	o	o
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	o	o	o	o	o (*)	o (*)	o	o	o (*)	o (*)	o
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V (7)	o	o	-	-	o	o	-	-	o	o	-
*KHBDP	Option kit for condensate free cooling operation	-	o	-	o	-	o	-	o	-	o	-
*KRP1HBB	Digital I/O PCB (2)	o	o	o	o	o	o	o	o	o	o	o
*KRTW	Wired room thermostat option kit	o	o	o	o	o	o	o	o	o	o	o
*KRTR	Wireless room thermostat option kit (incl. receiver)	o	o	o	o	o	o	o	o	o	o	o
*KRTETS	External temperatue sensor option kit (4)	o	o	o	o	o	o	o	o	o	o	o

REMARKS

- Other combinations than mentioned in this option TW are prohibited.
- (*) if neutral line is available.
(1) Heater tape that can be fixed on the bottom plate to prevent excessive ice formation.
(2) Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRPAHB is already included.
(3) It is not allowed to combine bottom plate heater and drain plug/stop kit.
(4) *KRTETS can only be used in combination with *KRTR.
(5) Bottom plate heaters *KBPHT08B* and *KBPHTH16A* can only be used with indoor unit *KHB*BA* or higher.
(6) In case *KHTS200~260* is used, option kit *KFMALTA is needed.
(7) Combination possibility depends on available power supply type.
(8) Bottom plate heater is factory mounted and controlled by outdoor unit.
(9) Bottom plate heater is factory mounted and controlled by indoor unit. (*KHB*BA or higher)

3TW60349-1

EKHBX008-016BB

Kit availability for *KHW*

Reference	Description	#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU150~300*3V3	-	-	-	-	-	-	o	o	o	o	o	o
*KUHWB	Option kit 1 for UK *KHWSU150~300*3V3 (4)	-	-	-	-	-	-	o (2)	o (2)	o (2)	o	o	o
*KUHW2WB	Option kit 2 for UK *KHWSU150~300*3V3 (4)	-	-	-	-	-	-	o (2)	o (2)	o (2)	o (3)	o (3)	o (3)
*KSOLHWAV1	Solarkit (1)	o	o	o	o	o	o	o	o	o	o	o	o
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	-	-	-	o	-	-	o	-	-	o	-	-

REMARKS

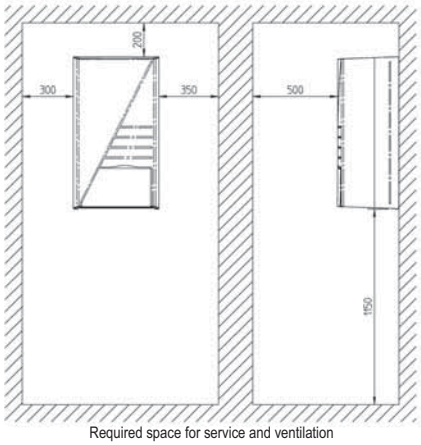
- Other combinations are not guaranteed
(1) Kit to be mounted on domestic hot water tank that provides connection to solar penels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories

3TW60349-1

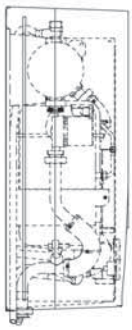
4 Dimensional drawings

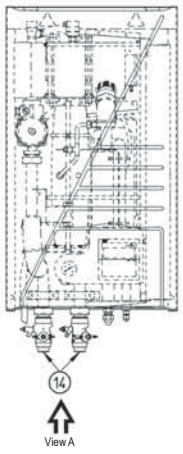
4 - 1 Dimensional Drawings

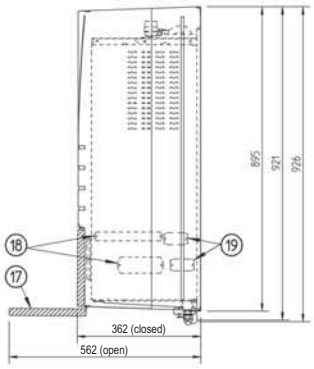
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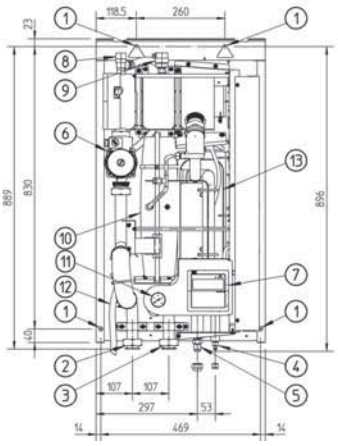


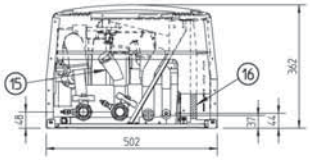
Required space for service and ventilation

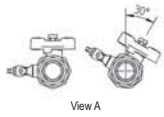








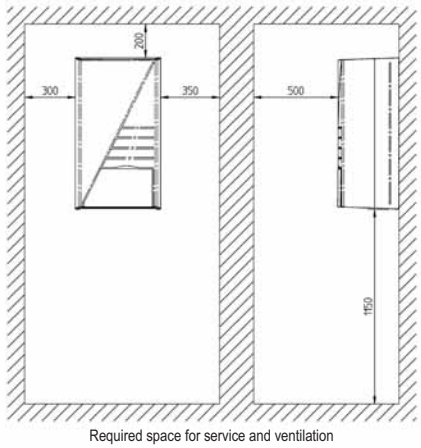




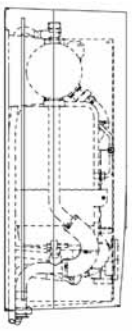
① Holes (Ø12) for fixation to the wall
② Water out connection (1-1/2" F BSP)
③ Water in connection (1-1/2" F BSP)
④ Refrigerant liquid connection Ø6.35 (Flare)
⑤ Refrigerant suction connection Ø15.9 (Flare)
⑥ Pump (including switch for speed setting)
⑦ User interface
⑧ Safety valve (pressure)
⑨ Air purge
⑩ Expansion vessel
⑪ Pressure gauge
⑫ Drain hose from safety valve (Ø20)
⑬ Heat exchanger (refrigerant / water)
⑭ Shut off valve with drain / fill valve (1" M BSP) (Included accessory)
⑮ Water filter
⑯ Power supply / communication wire entrance
⑰ Service door
⑱ Switchbox terminals
⑲ Switchbox terminals for domestic hot water tank (option)

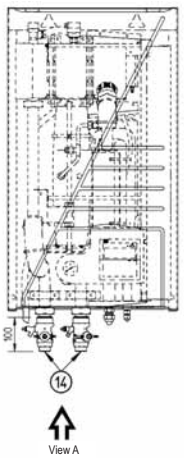
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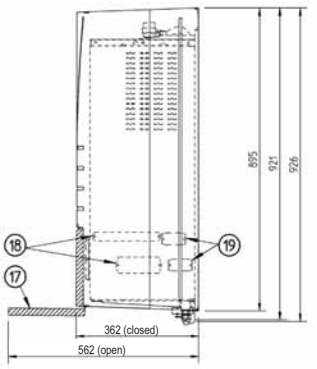
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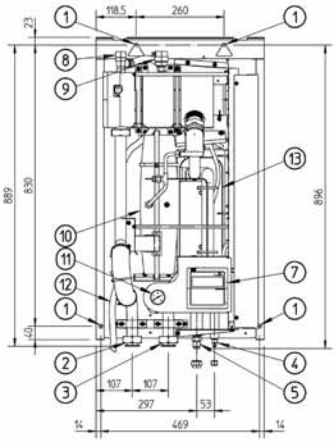


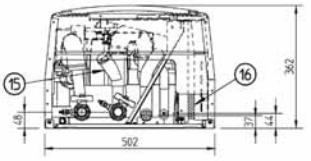
Required space for service and ventilation

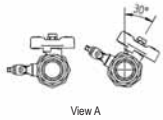












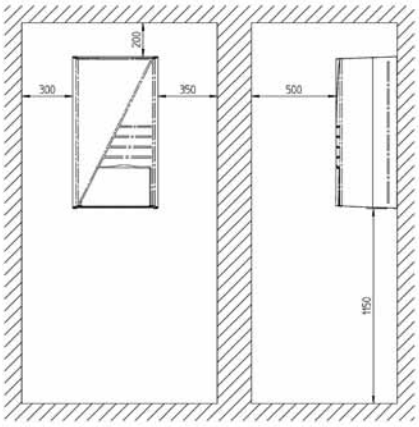
① Holes (Ø12) for fixation to the wall
② Water out connection (1-1/2" F BSP)
③ Water in connection (1-1/2" F BSP)
④ Refrigerant liquid connection Ø6.35 (Flare)
⑤ Refrigerant suction connection Ø15.9 (Flare)
⑦ User interface
⑧ Safety valve (pressure)
⑨ Air purge
⑩ Expansion vessel
⑪ Pressure gauge
⑫ Drain hose from safety valve (Ø20)
⑬ Heat exchanger (refrigerant / water)
⑭ Shut off valve with drain / fill valve (1" M BSP) (Included accessory)
⑮ Water filter
⑯ Power supply / communication wire entrance
⑰ Service door
⑱ Switchbox terminals
⑲ Switchbox terminals for domestic hot water tank (option)

3TW60354-1

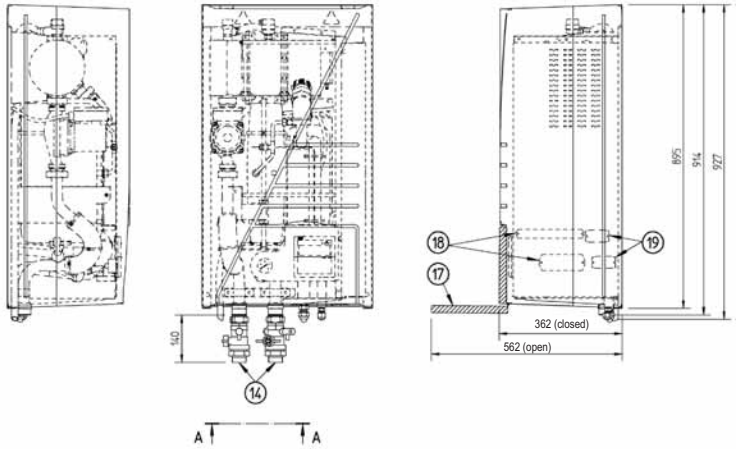
4 Dimensional drawings

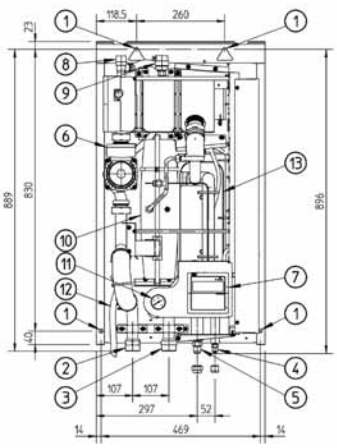
4 - 1 Dimensional Drawings

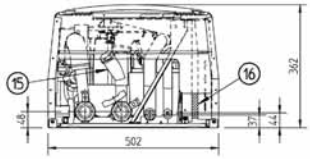
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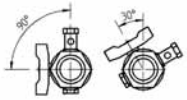


Required space for service and ventilation







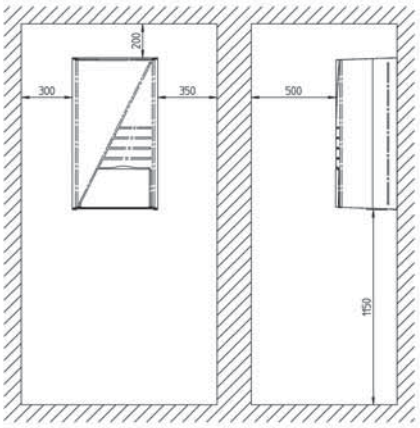


View A-A

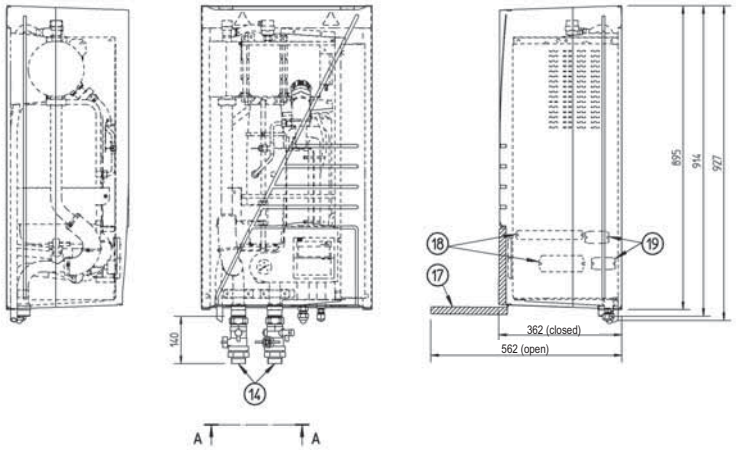
① Holes (Ø12) for fixation to the wall
② Water out connection (1-1/4" M BSP)
③ Water in connection (1-1/4" M BSP)
④ Refrigerant liquid connection Ø9.52 (Flare)
⑤ Refrigerant suction connection Ø15.9 (Flare)
⑥ Pump (including switch for speed setting)
⑦ User interface
⑧ Safety valve (pressure)
⑨ Air purge
⑩ Expansion vessel
⑪ Pressure gauge
⑫ Drain hose from safety valve (Ø20)
⑬ Heat exchanger (refrigerant / water)
⑭ Shut off valve with drain / fill valve (1-1/4" M BSP) (Included accessory)
⑮ Water filter
⑯ Power supply / communication wire entrance
⑰ Service door
⑱ Switchbox terminals
⑲ Switchbox terminals for domestic hot water tank (option)

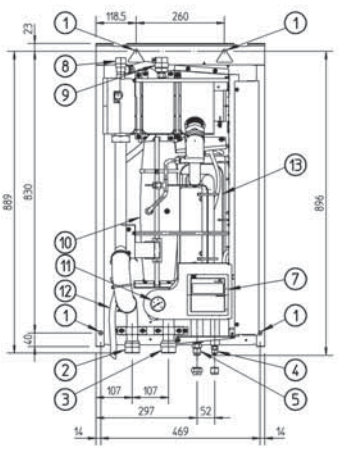
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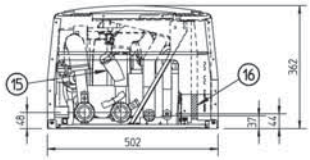
EKHBX016BB3V3S

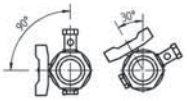


Required space for service and ventilation









View A

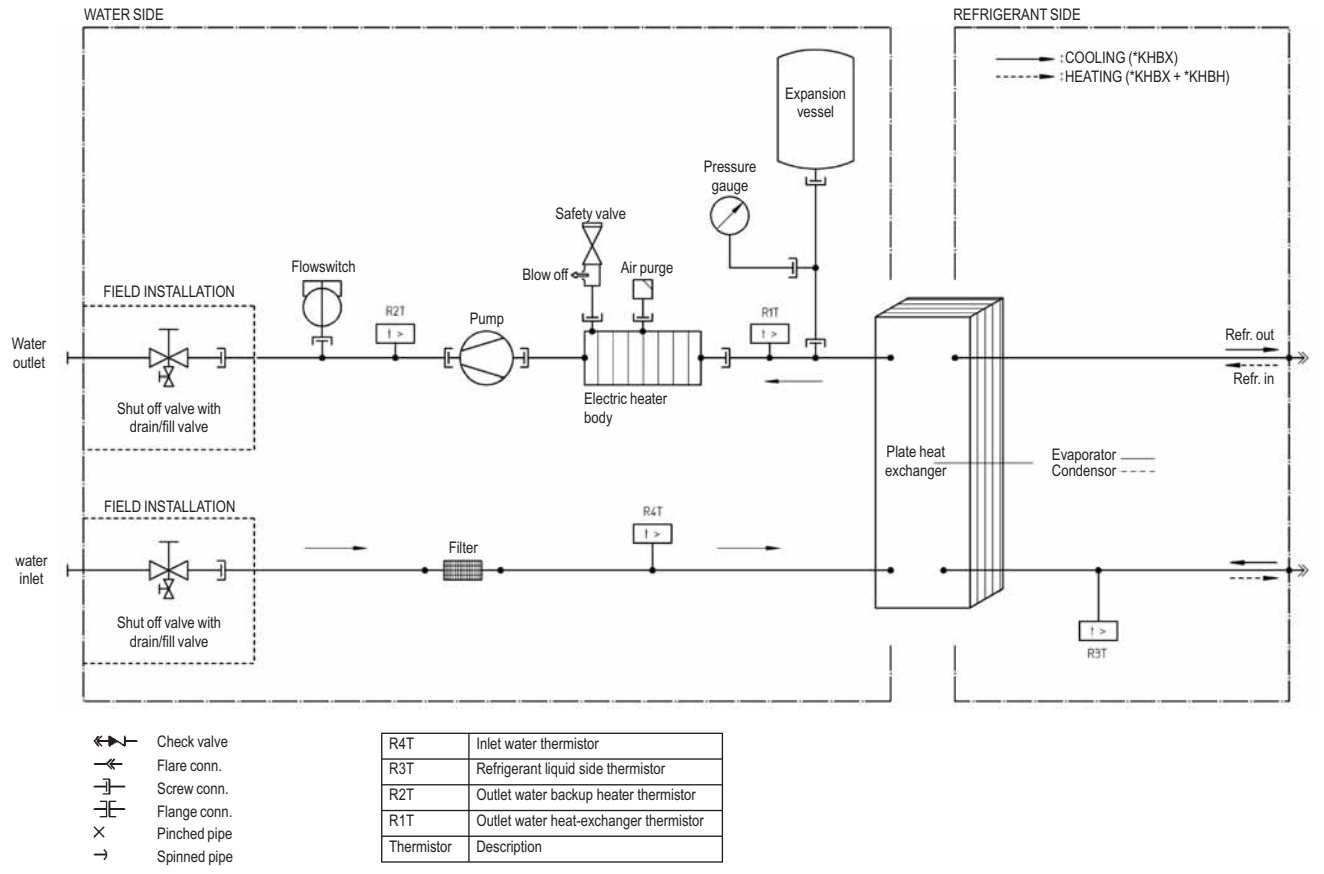
① Holes (Ø12) for fixation to the wall
② Water out connection (1-1/4" M BSP)
③ Water in connection (1-1/4" M BSP)
④ Refrigerant liquid connection Ø9.52 (Flare)
⑤ Refrigerant suction connection Ø15.9 (Flare)
⑦ User interface
⑧ Safety valve (pressure)
⑨ Air purge
⑩ Expansion vessel
⑪ Pressure gauge
⑫ Drain hose from safety valve (Ø20)
⑬ Heat exchanger (refrigerant / water)
⑭ Shut off valve with drain / fill valve (1-1/4" M BSP) (Included accessory)
⑮ Water filter
⑯ Power supply / communication wire entrance
⑰ Service door
⑱ Switchbox terminals
⑲ Switchbox terminals for domestic hot water tank (option)

3TW60354-2

5 Piping diagrams

5 - 1 Piping Diagrams

EKHBX008-016BB

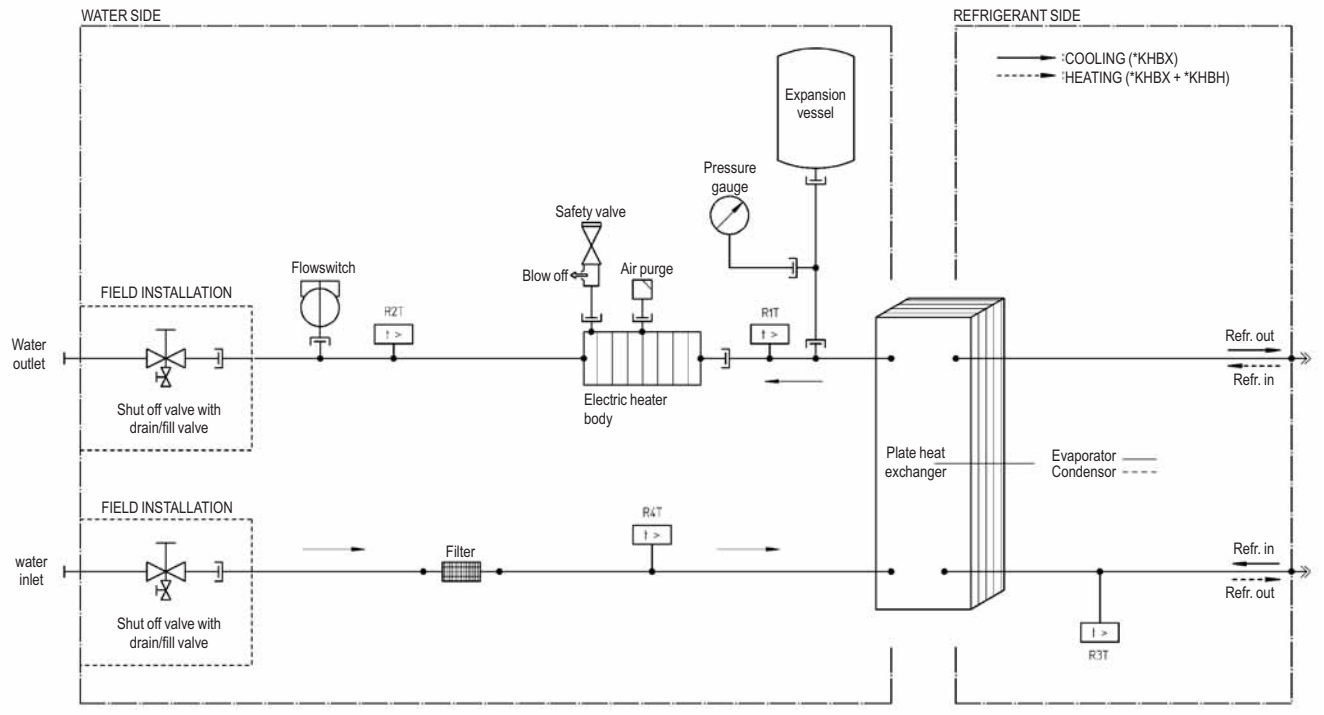


Check valve
Flare conn.
Screw conn.
Flange conn.
Pinched pipe
Spinned pipe

R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R2T	Outlet water backup heater thermistor
R1T	Outlet water heat-exchanger thermistor
Thermistor	Description

3TW59215-1A

EKHBX008BB3V3S

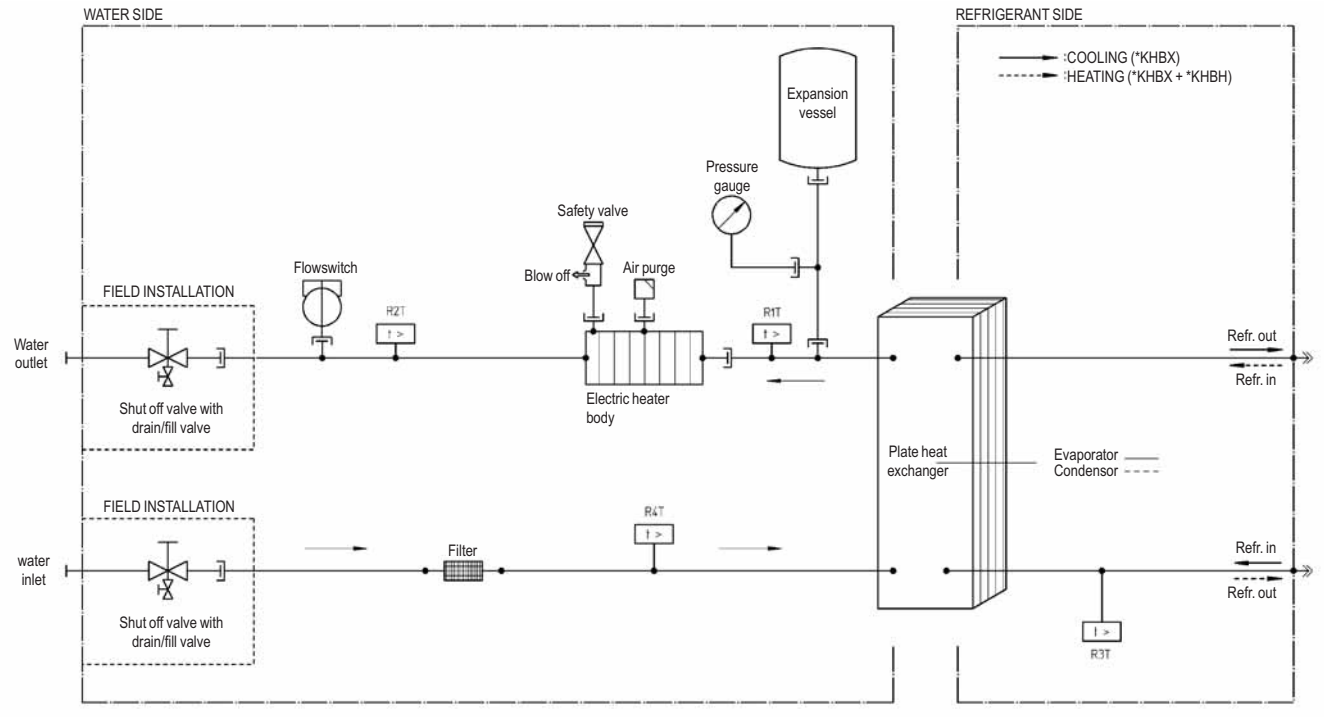


3TW60355-1

5 Piping diagrams

5 - 1 Piping Diagrams

EKHBX016BB3V3S



Check valve
Flare conn.
Screw conn.
Flange conn.
Pinched pipe
Spinned pipe

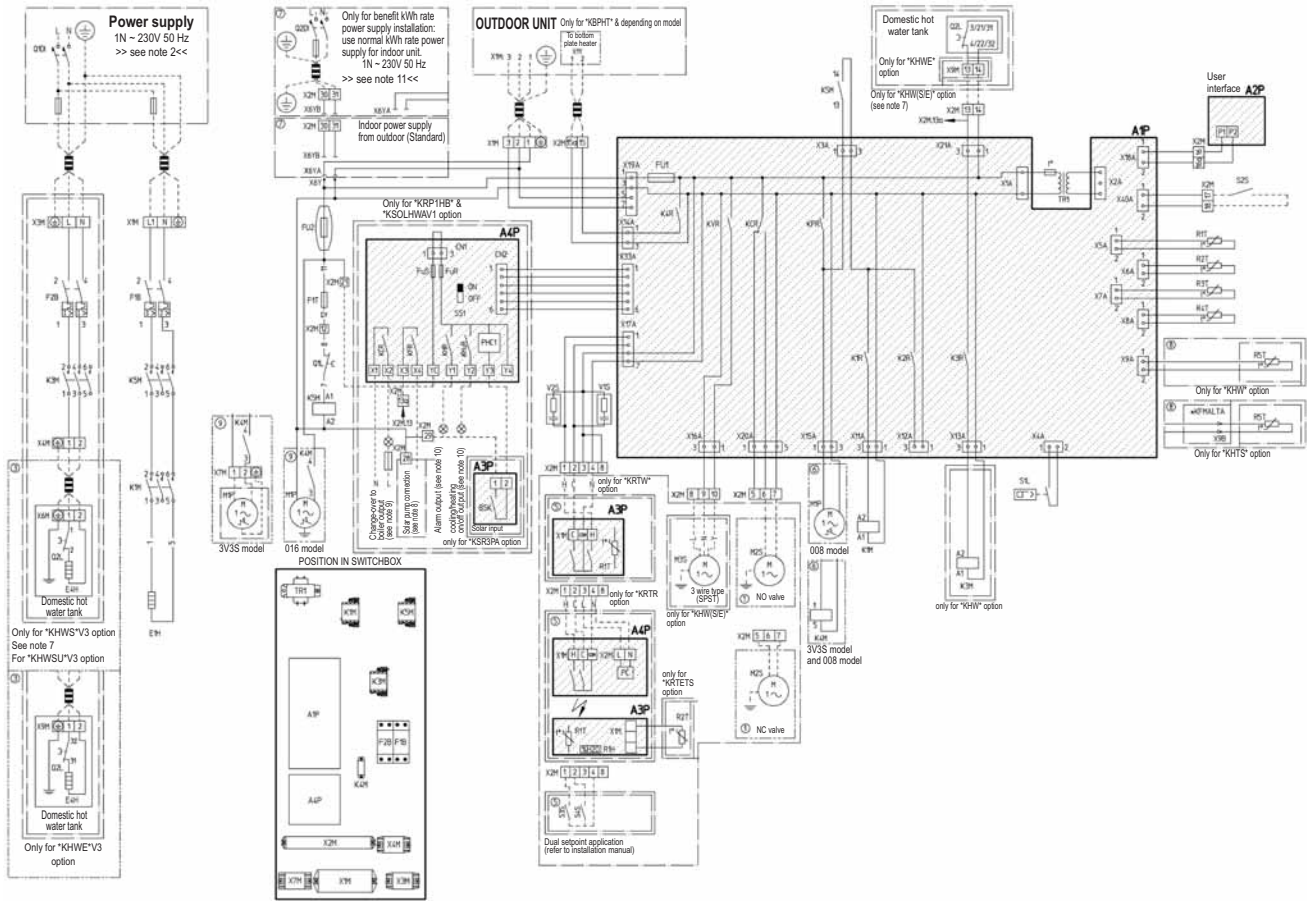
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R2T	Outlet water backup heater thermistor
R1T	Outlet water heat-exchanger thermistor
Thermistor	Description

3TW60355-1

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHBX008-016BB3V3



A1P	main PCB	K1M	contactor backup heater step	R2T (*KRTETS)	external sensor (floor or ambient)
A2P	user interface PCB	K3M	contactor booster heater	R3T	refrigerant liquid side thermistor
A3P (*KRTW/R*)	thermostat (PC = power circuit)	K4M	pump relay	R4T	inlet water thermistor
A3P (*KSR3PA)	solar pumpstation PCB	K5M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A4P (*KRP1HB*)	digital I/O PCB	M1P	pump (for 3V3S models: field supply)	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate supply contact
BSK (*KSR3PA)	solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	dual setpoint 2 contact
E1H	backup heater element	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
E4H	booster heater (3kW)	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
F1B	fuse backup heater	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1T	thermal fuse backup heater	Q2L	thermal protector booster heater	V1S, V2S	spark suppression 1, 2
F2B	fuse booster heater	R1H(*KRTR)	humidity sensor	X1M~X9M	terminal strips
FU1	fuse 3.15A T 250V for PCB	R1T	outlet water heat exchanger thermistor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R1T (*KRTW*)	ambient sensor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T	outlet water backup heater thermistor		

2TW60346-1A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : field wiring - NO/NC: Normal Open / Normal Closed - SPST: Single Pole Single Throw
4. : Terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK = Black RED = Red BLU = Blue WHT = White PNK = Pink YLW = Yellow
   BRN = Brown GRY = Grey GRN = Green ORG = Orange VIO = Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation refer to installation manual.

Wiring dependent on model
Option
Field wiring
Field wiring
PCB
Wire colour

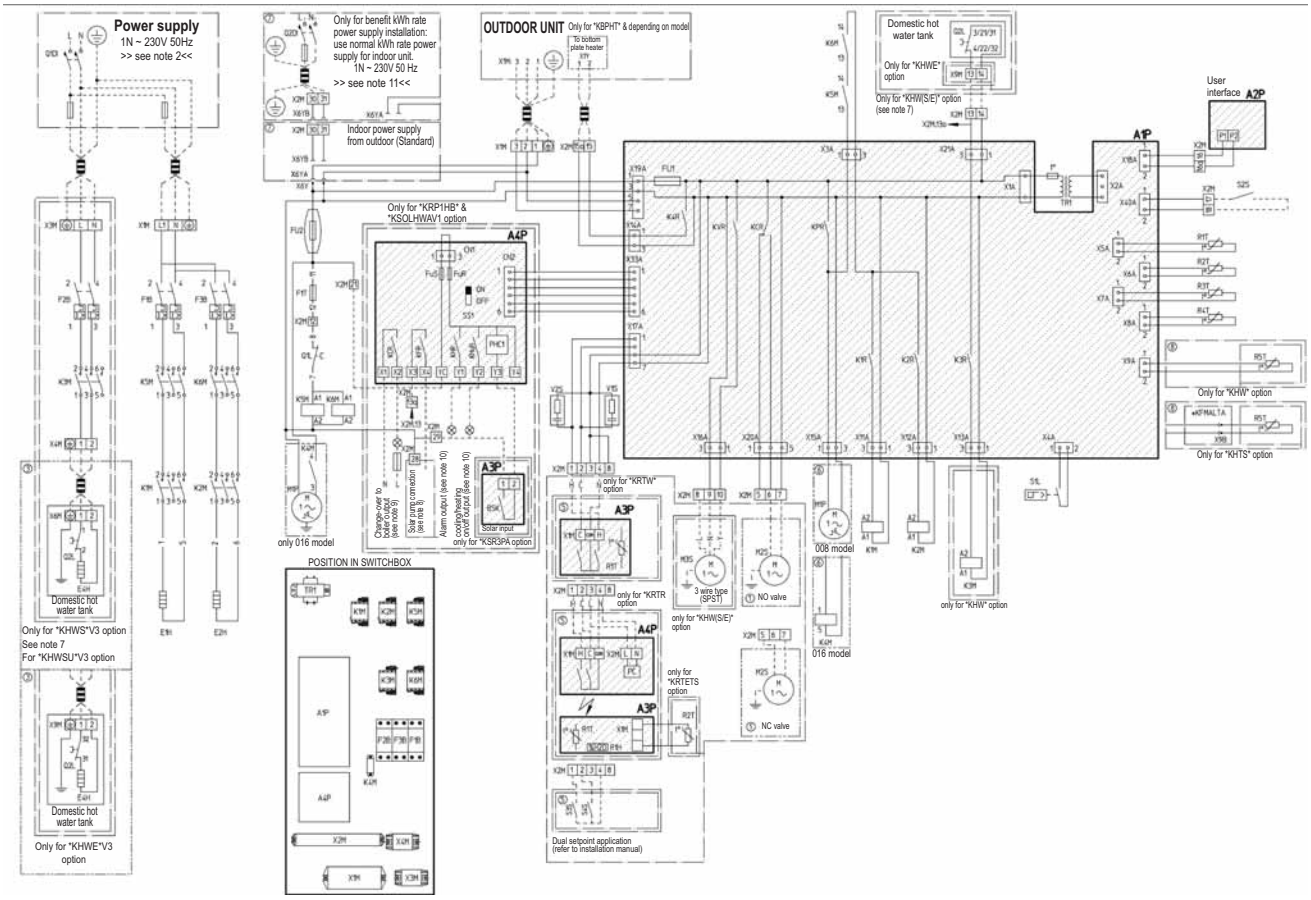
electric heater fuse		
F1B	20A	

KHW kit fuse	
F2B	20A

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHBX008-016BB6V3



A1P	main PCB	K1M, K2M	contactor backup heater step	R2T (*KRTETS)	external sensor (floor or ambient)
A2P	user interface PCB	K3M	contactor booster heater	R3T	refrigerant liquid side thermistor
A3P (*KRTW/R*)	thermostat (PC = power circuit)	K4M	pump relay	R4T	inlet water thermistor
A3P (*KSR3PA)	solar pumpstation PCB	K5M, K6M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A4P (*KRP1HB*)	digital I/O PCB	M1P	pump	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate supply contact
BSK (*KSR3PA)	solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	dual setpoint 2 contact
E1H-E2H	backup heater element	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
E4H	booster heater (3kW)	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
F1B, F3B	fuse backup heater	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1T	thermal fuse backup heater	Q2L	thermal protector booster heater	V1S, V2S	spark suppression 1, 2
F2B	fuse booster heater	R1H(*KRTR)	humidity sensor	X1M~X9M	terminal strips
FU1	fuse 3.15A T 250V for PCB	R1T	outlet water heat exchanger thermistor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R1T (*KRTW*)	ambient sensor		
FuS, FuR	fuse 5A T 250V for digital I/O PCB	R2T	outlet water backup heater thermistor		

2TW60346-2A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : field wiring - NO/NC: Normal Open / Normal Closed - SPST: Single Pole Single Throw
4. : Terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK = Black RED = Red BLU = Blue WHT = White PNK = Pink YLW = Yellow
   BRN = Brown GRY = Grey GRN = Green ORG = Orange VIO = Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation refer to installation manual.

Wiring dependent on model
Option
Field wiring
Field wiring
PCB
Wire colour

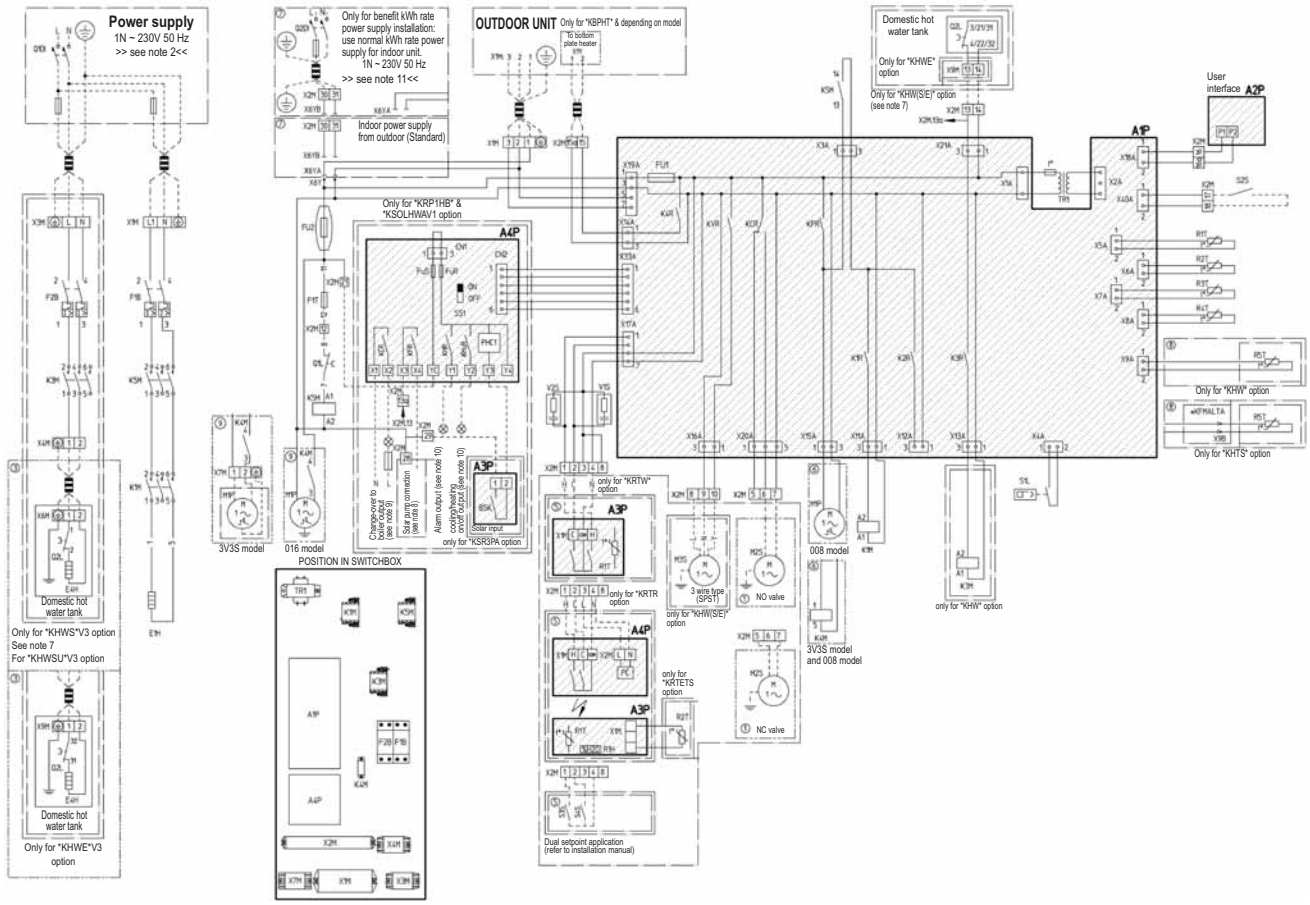
electric heater fuse		
F1B	20A	
F3B	20A	

KHW kit fuse	
F2B	20A

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHBX008BB3V3S



A1P	main PCB	K1M	contactor backup heater step	R2T (*KRTETS)	external sensor (floor or ambient)
A2P	user interface PCB	K3M	contactor booster heater	R3T	refrigerant liquid side thermistor
A3P (*KRTW/R*)	thermostat (PC = power circuit)	K4M	pump relay	R4T	inlet water thermistor
A3P (*KSR3PA)	solar pumpstation PCB	K5M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A4P (*KRP1HB*)	digital I/O PCB	M1P	pump (for 3V3S models: field supply)	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate supply contact
BSK (*KSR3PA)	solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	dual setpoint 2 contact
E1H	backup heater element	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
E4H	booster heater (3kW)	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
F1B	fuse backup heater	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1T	thermal fuse backup heater	Q2L	thermal protector booster heater	V1S, V2S	spark suppression 1, 2
F2B	fuse booster heater	R1H(*KRTR)	humidity sensor	X1M~X9M	terminal strips
FU1	fuse 3.15A T 250V for PCB	R1T	outlet water heat exchanger thermistor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R1T (*KRTW*)	ambient sensor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T	outlet water backup heater thermistor		

2TW60346-1A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : field wiring - NO/NC: Normal Open / Normal Closed - SPST: Single Pole Single Throw
4. : Terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK = Black RED = Red BLU = Blue WHT = White PNK = Pink YLW = Yellow
   BRN = Brown GRY = Grey GRN = Green ORG = Orange VIO = Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation refer to installation manual.

Wiring dependent on model
Option
Field wiring
Field wiring
PCB
Wire colour

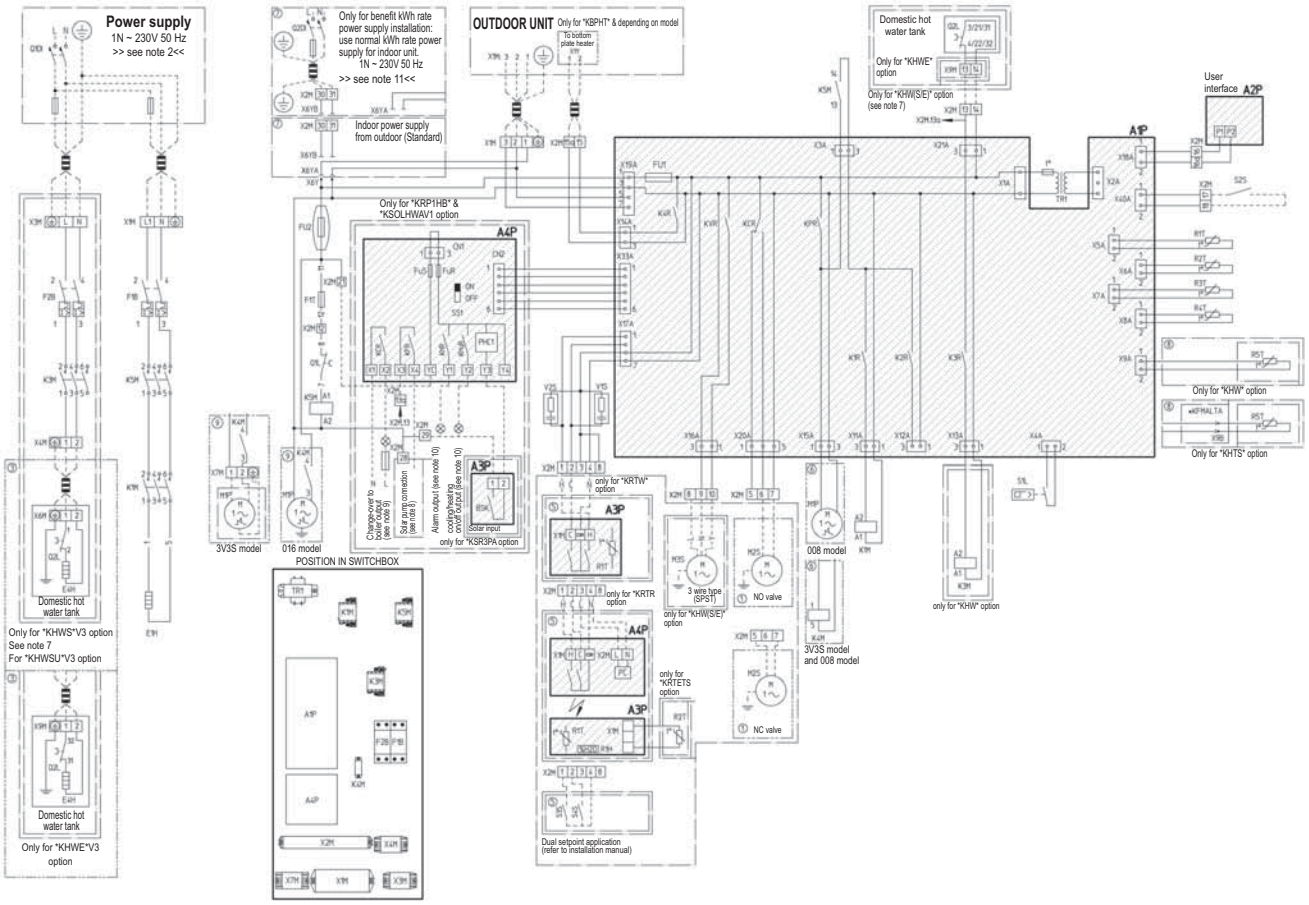
electric heater fuse		
F1B	20A	

KHW kit fuse	
F2B	20A

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHBX016BB3V3S



A1P	main PCB	K1M	contactor backup heater step	R2T (*KRTETS)	external sensor (floor or ambient)
A2P	user interface PCB	K3M	contactor booster heater	R3T	refrigerant liquid side thermistor
A3P (*KRTW/R*)	thermostat (PC = power circuit)	K4M	pump relay	R4T	inlet water thermistor
A3P (*KSR3PA)	solar pumpstation PCB	K5M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A4P (*KRP1HB*)	digital I/O PCB	M1P	pump (for 3V3S models: field supply)	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate supply contact
BSK (*KSR3PA)	solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	dual setpoint 2 contact
E1H	backup heater element	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
E4H	booster heater (3kW)	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
F1B	fuse backup heater	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1T	thermal fuse backup heater	Q2L	thermal protector booster heater	V1S, V2S	spark suppression 1, 2
F2B	fuse booster heater	R1H(*KRTR)	humidity sensor	X1M~X9M	terminal strips
FU1	fuse 3.15A T 250V for PCB	R1T	outlet water heat exchanger thermistor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R1T (*KRTW*)	ambient sensor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T	outlet water backup heater thermistor		

2TW60346-1A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater and booster heater.
   Never use a power circuit shared by other appliance.
3. : field wiring - NO/NC: Normal Open / Normal Closed - SPST: Single Pole Single Throw
4. : Terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK = Black RED = Red BLU = Blue WHT = White PNK = Pink YLW = Yellow
   BRN = Brown GRY = Grey GRN = Green ORG = Orange VIO = Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation refer to installation manual.

Wiring dependent on model
Option
Field wiring
Field wiring
PCB
Wire colour

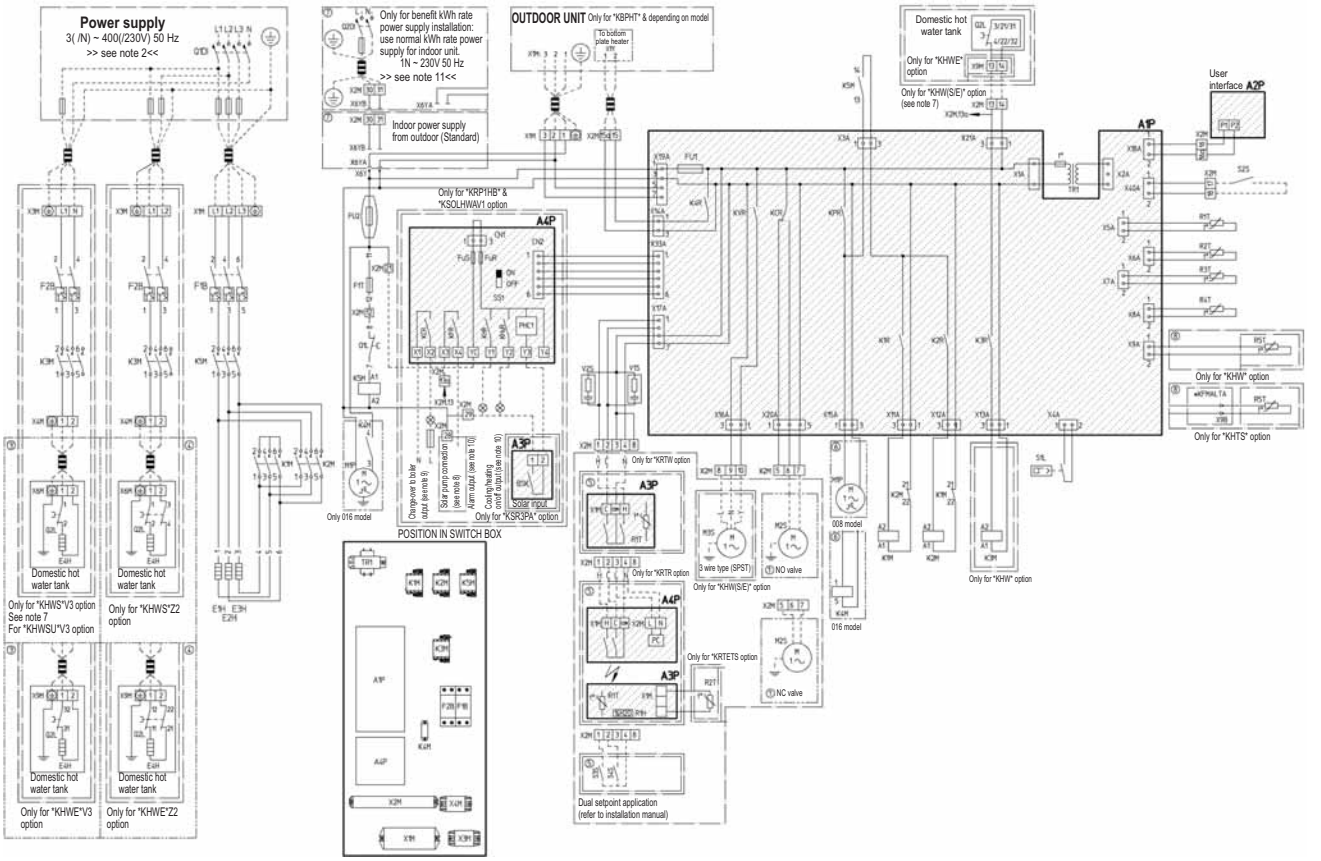
electric heater fuse		
F1B	20A	

KHW kit fuse	
F2B	20A

6 Wiring diagrams

6 - 2 Wiring Diagrams - Three Phase

EKHBX008-016BB6/9WN



A1P	Main PCB	K1M/K2M	Contactor backup heater step 1/2	R2T (*KRTETS)	External sensor (floor or ambient)
A2P	User interface PCB	K3M	Contactor booster heater	R3T	Refrigerant liquid side thermistor
A3P(*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R4T	Inlet water thermistor
A3P(*KSR3PA*)	Solar pumpstation PCB	K5M	Contactor for backup heater all pole disconnection	R5T	Domestic hot water thermistor
A4P(*KRP1HB*)	Digital I/0 PCB	M1P	Pump	S1L	Flowswitch
A4P(*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S2S	Benefit kWh rate power supply contact
BSK (*KSR3PA)	Solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	Dual setpoint 2 contact
E1H - E3H	Backup heater elements	PHC1	Optocoupler input circuit	S4S	Dual setpoint 1 contact
E4H	Booster heater (3kW)	Q1DI, Q2DI	Earth leakage circuit breaker	SS1	Dip switch
F1B	Fuse backup heater	Q1L	Thermal protector backup heater	TR1	Transformer 24V for PCB
F1T	Thermal fuse backup heater	Q2L	Thermal protector booster heater	V1S, V2S	Spark suppression 1, 2
F2B	Fuse booster heater	R1H (*KRTR)	Humidity sensor	X1M-X9M	Terminal strips
FU1	Fuse 3.15A T 250V for PCB	R1T	Outlet water heat exchanger thermistor	X6Y, X9B	Connector
FU2	Fuse 5A T 250V	R1T (*KRTW*)	Ambient sensor		
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	R2T	Outlet water backup heater thermistor		

2TW60346-3A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circtuit for the backup heater and booster heater. Never use a power circuit shared by other appliance.
3. : Field wiring NO/NC: normal open/normal closed SPST: Single pole single throw
4. : Terminal strip : Connector : Terminal : Protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK=Black Red=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY= Grey GRN=Green ORG=Orange VIO=Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

Wiring dependent on model
Option
PCB
Field wiring
Field wiring
BRN
Wire colour

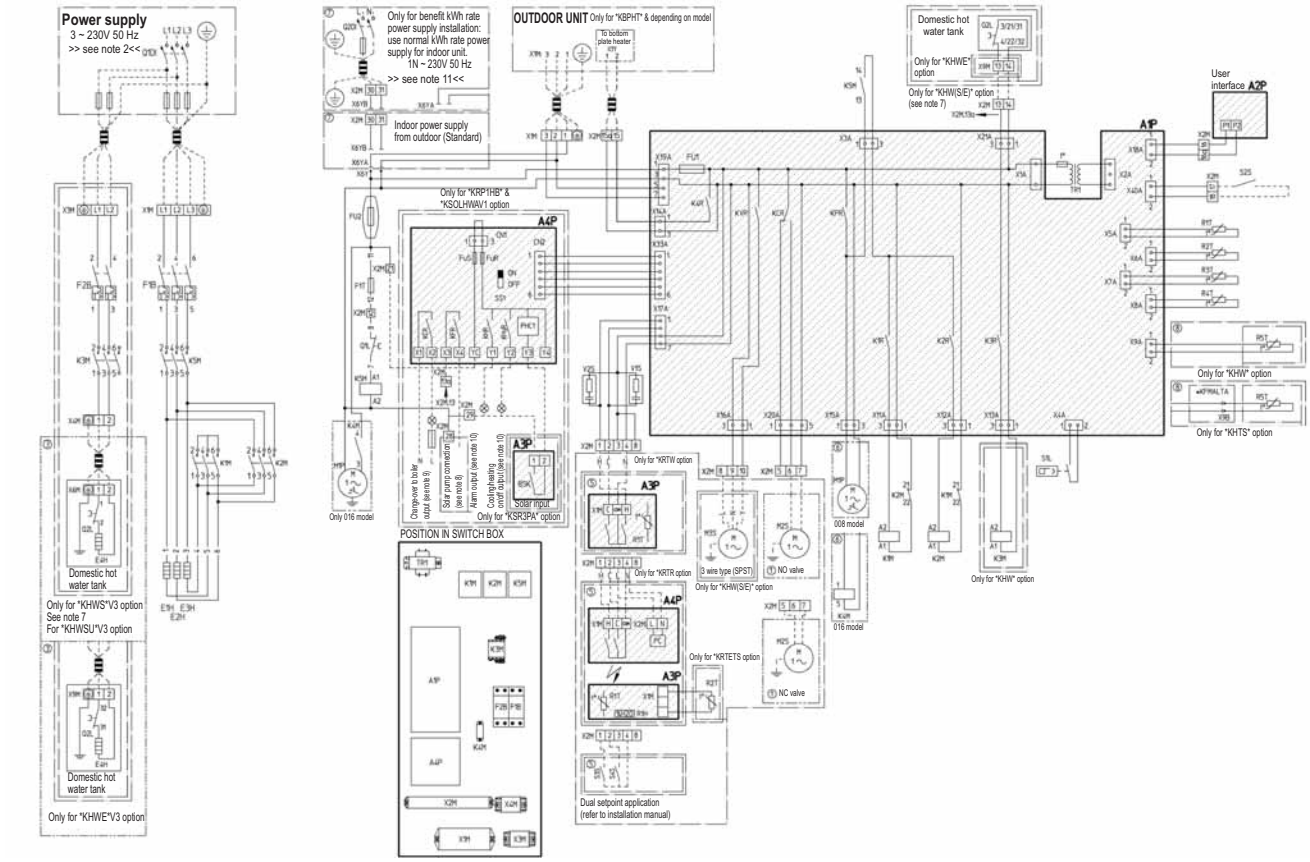
Electric heater fuse		
Model	6WN	9WN
F1B	16A	20A

KWH kit fuse	
F2B	20A

6 Wiring diagrams

6 - 2 Wiring Diagrams - Three Phase

EKHBX008-016BB6T1



A1P	Main PCB	K1M/K2M	Contactor backup heater step 1/2	R2T (*KRTETS)	External sensor (floor or ambient)
A2P	User interface PCB	K3M	Contactor booster heater	R3T	Refrigerant liquid side thermistor
A3P(*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R4T	Inlet water thermistor
A3P(*KSR3PA*)	Solar pumpstation PCB	K5M	Contactor for backup heater all pole disconnection	R5T	Domestic hot water thermistor
A4P(*KRP1HB*)	Digital I/0 PCB	M1P	Pump	S1L	Flowswitch
A4P(*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S2S	Benefit kWh rate power supply contact
BSK (*KSR3PA)	Solar pumpstation relay	M3S	3way valve: floorheating/domestic hot water	S3S	Dual setpoint 2 contact
E1H - E3H	Backup heater elements	PHC1	Optocoupler input circuit	S4S	Dual setpoint 1 contact
E4H	Booster heater (3kW)	Q1DI, Q2DI	Earth leakage circuit breaker	SS1	Dip switch
F1B	Fuse backup heater	Q1L	Thermal protector backup heater	TR1	Transformer 24V for PCB
F1T	Thermal fuse backup heater	Q2L	Thermal protector booster heater	V1S, V2S	Spark suppression 1, 2
F2B	Fuse booster heater	R1H (*KRTR)	Humidity sensor	X1M-X9M	Terminal strips
FU1	Fuse 3.15A T 250V for PCB	R1T	Outlet water heat exchanger thermistor	X6Y, X9B	Connector
FU2	Fuse 5A T 250V	R1T (*KRTW*)	Ambient sensor		
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	R2T	Outlet water backup heater thermistor		

2TW60346-4A

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circtuit for the backup heater and booster heater. Never use a power circuit shared by other appliance.
3. : Field wiring NO/NC: normal open/normal closed SPST: Single pole single throw
4. : Terminal strip : connector : terminal : Protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK=Black Red=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY= Grey GRN=Green ORG=Orange VIO=Violet
7. For *KHWSU*V3, refer to option manual.
8. For *KSOLHWAV1, refer to option manual.
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

Wiring dependent on model
Option
PCB
Field wiring
Field wiring
BRN
Wire colour

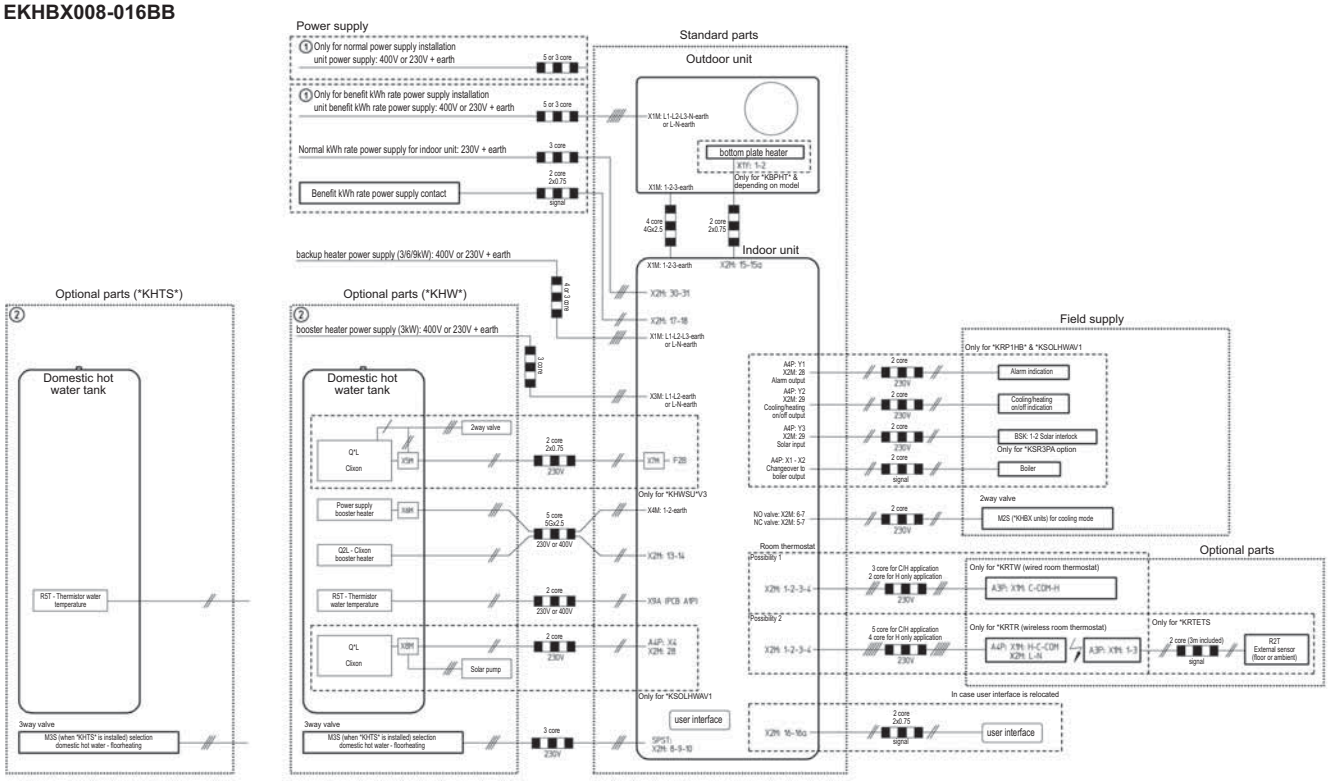
Electric heater fuse		
F1B	6T1: 20A	9T1: 32A

KWH kit fuse	
F2B	20A

7 External connection diagrams

7 - 1 External Connection Diagrams

EKHBX008-016BB

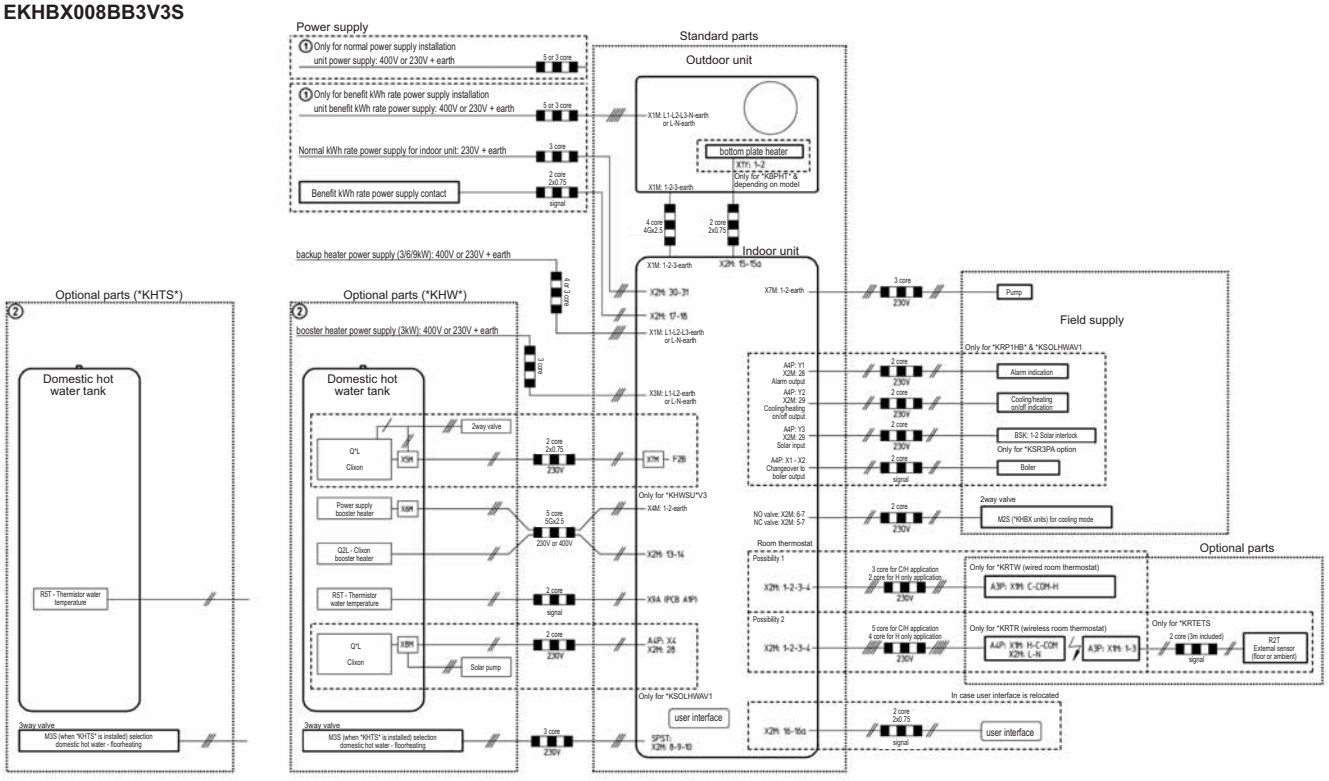


2TW60346-5

NOTES

1 In case of signal cable: keep minimum distance to power cables > 5cm.
2 Available heaters depending on model. See combination table.

EKHBX008BB3V3S



2TW60356-5

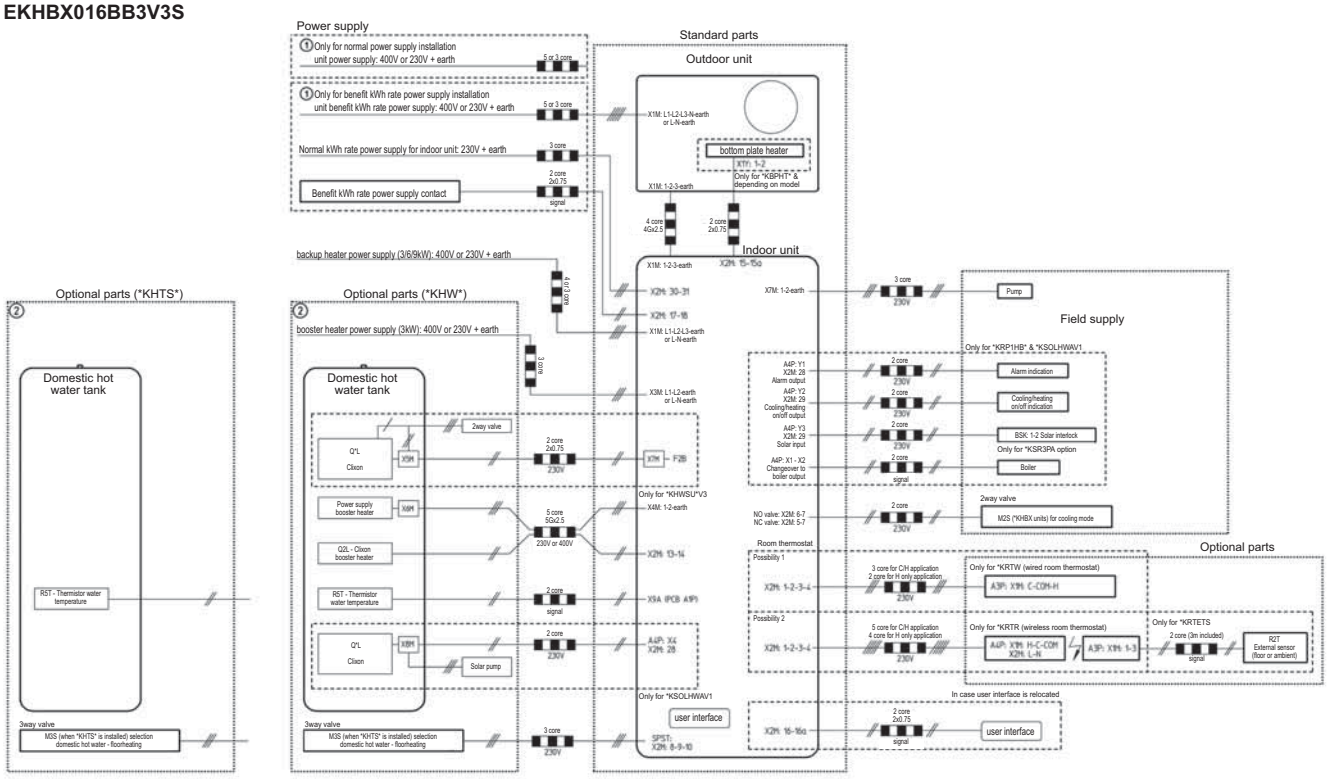
NOTES

1 In case of signal cable: keep minimum distance to power cables > 5cm.
2 Available heaters depending on model. See combination table.

7 External connection diagrams

7 - 1 External Connection Diagrams

EKHBX016BB3V3S



2TW60356-5

NOTES

1 In case of signal cable: keep minimum distance to power cables > 5cm.
2 Available heaters depending on model. See combination table.

8 Installation

8 - 1 Installation Method

EKHBX008-016BB

Installation guidelines / precautions Daikin Altherma

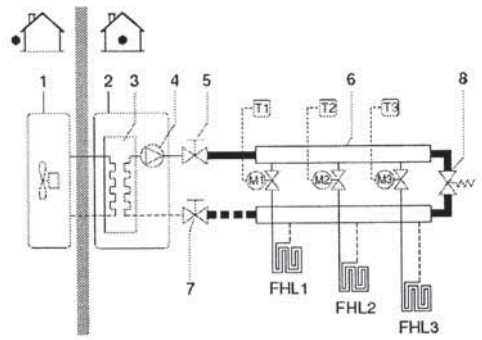
Hydrobox unit

Minimum water volume

Assure that the total water volume within the installation, excluding the internal water volume of the indoor unit, is enough:
- minimum 10 litre for GBS (*RYQ005~007 & *RHQ006~008)
- minimum 20 litre for GQI (*RHQ011~016)

2
8

Example



1 Outdoor unit
2 Indoor unit
3 Heat exchanger
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Shut-off valve
8 By-pass valve (field supply)
FHL1..3 Floor heating loop (field supply)
T1..3 Individual room thermostat (field supply)
M1..3 Individual motorised valve to control loop FHL

Field piping diameters

- Select the field piping diameters in relation to the required water flow and available ESP of the indoor unit pump (See “Hydraulic performance”)

Installation location

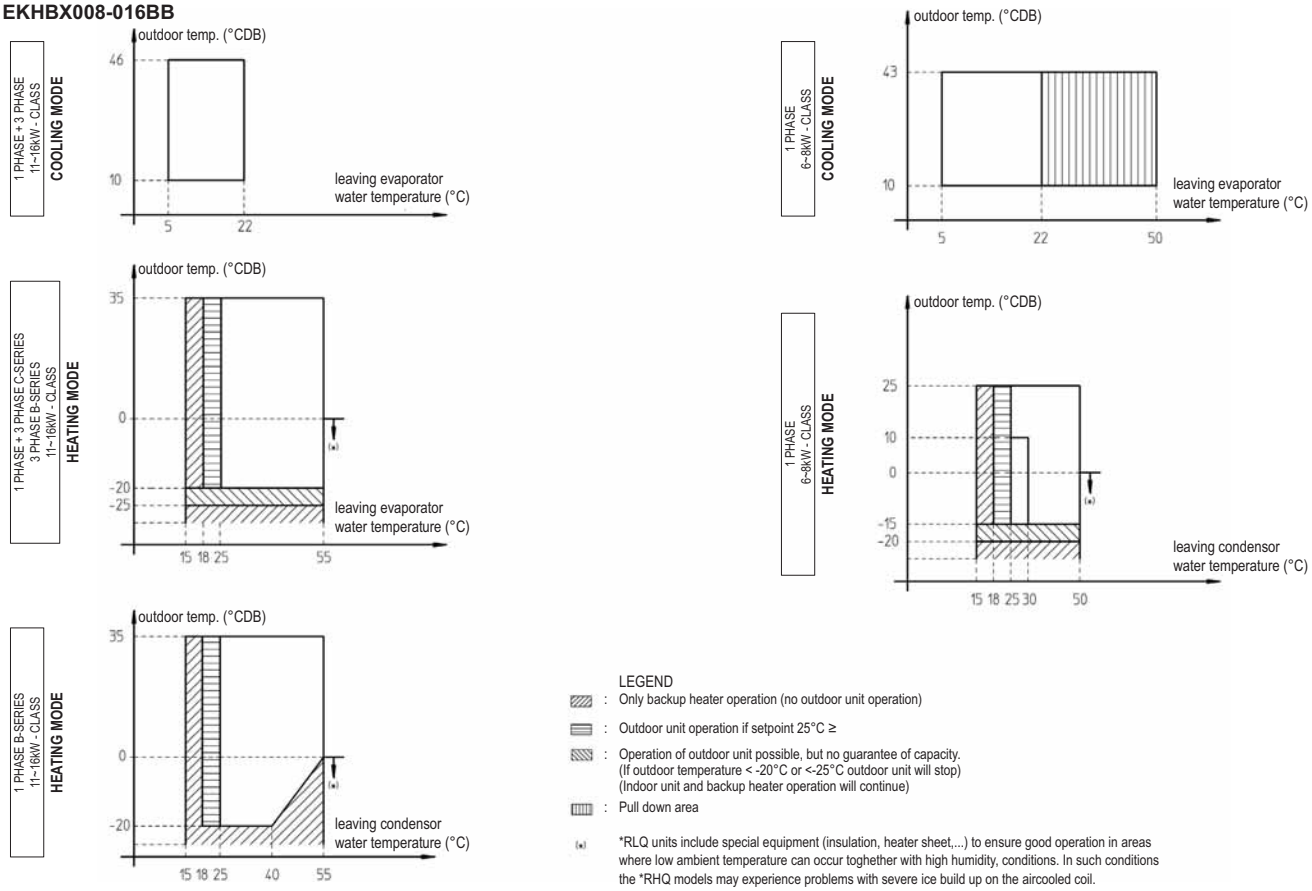
- During normal operation the hydrobox unit will produce sound which could be observed as noise. The sound origin can be water pump operation and/or contactor activation.
  Therefore is it advisable to install the hydrobox unit on a firm wall and not in nor close to a sound sensitive environment (example bedroom).
- The unit is to be wall mounted in an indoor location that meets the following requirements:
  - The installation location is frost-free.
  - The space around the unit is adequate for servicing. (See “Dimensional drawing”)
  - The space around the unit allows for sufficient air circulation.
  - There is a provision for condensate drain (only for EKHBX models with drain pan kit EKHBDP) and pressure relief valve blow-off.
  - The installation surface is a flat and vertical non-combustible wall, capable of supporting the operation weight of the unit (See “Technical specifications”).
  - There is no danger of fire due to leakage of inflammable gas.
  - All piping lengths and distances have been taken into consideration (See “Technical specifications”).
  - Do not install the unit in places with high humidity (e.g. bathroom).

4TW59109-2

9 Operation range

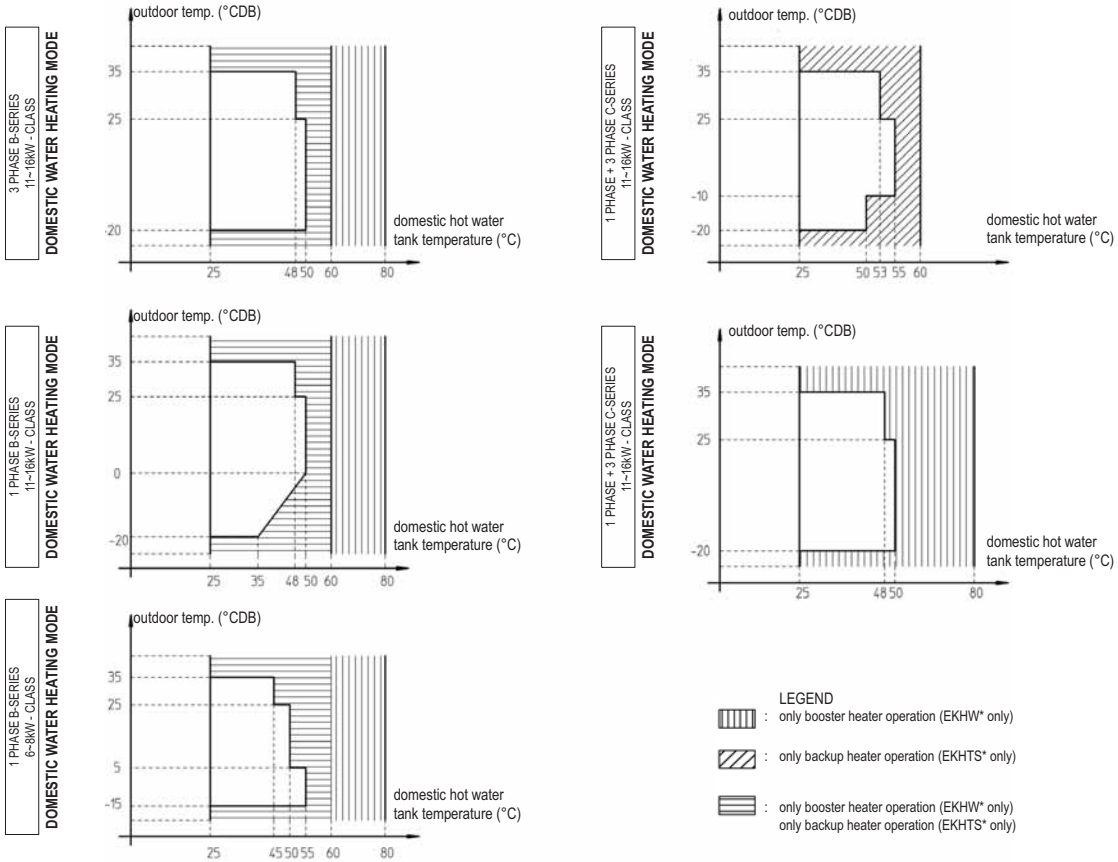
9 - 1 Operation Range

EKHBX008-016BB



3TW60343-1

EKHBX008-016BB

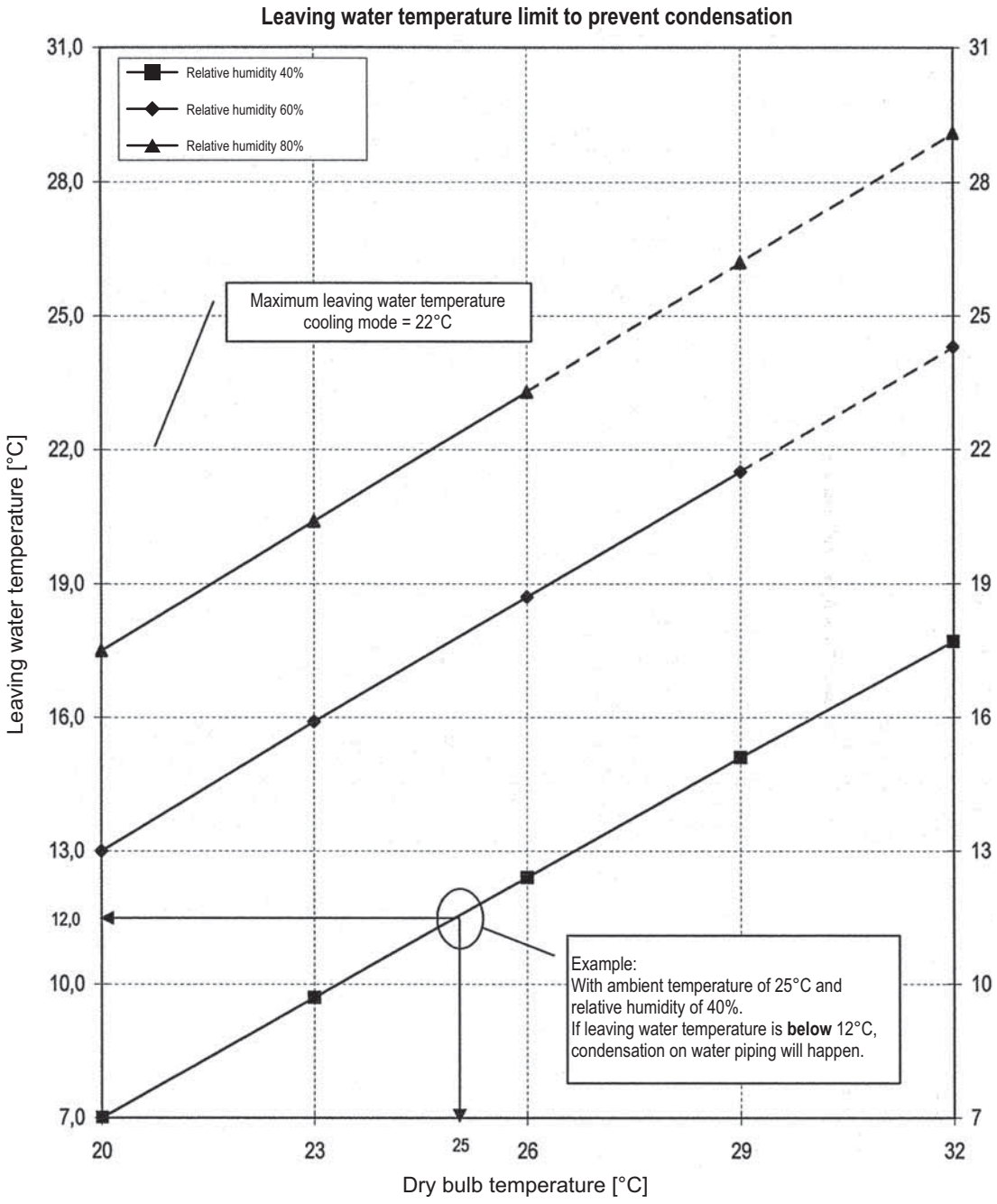


3TW60343-2

10 Hydraulic performance

10 - 1 Water Pressure Drop Curve Condenser

EKHBX008-016BB



4TW57759-3

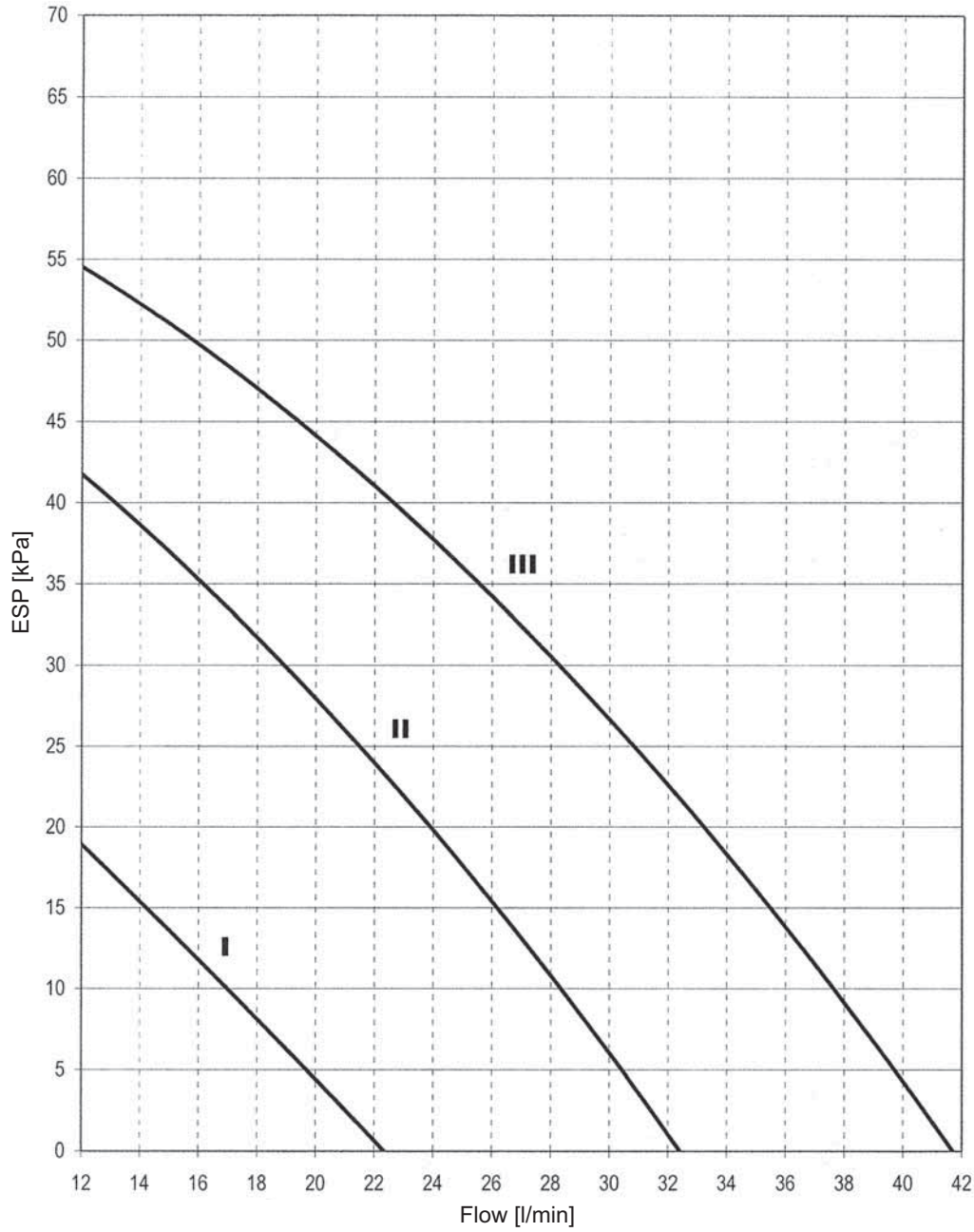
NOTES

1 Refer to psychometric chart for more information.
2 If condensation is expected, installation of EKHBDP - drainpan kit must be considered.

10 Hydraulic performance

10 - 2 Static Pressure Drop Unit

EKHBX008BB



III	high speed
II	medium speed
I	low speed
ESP	external static pressure
Flow	waterflow through the unit

4TW57789-1

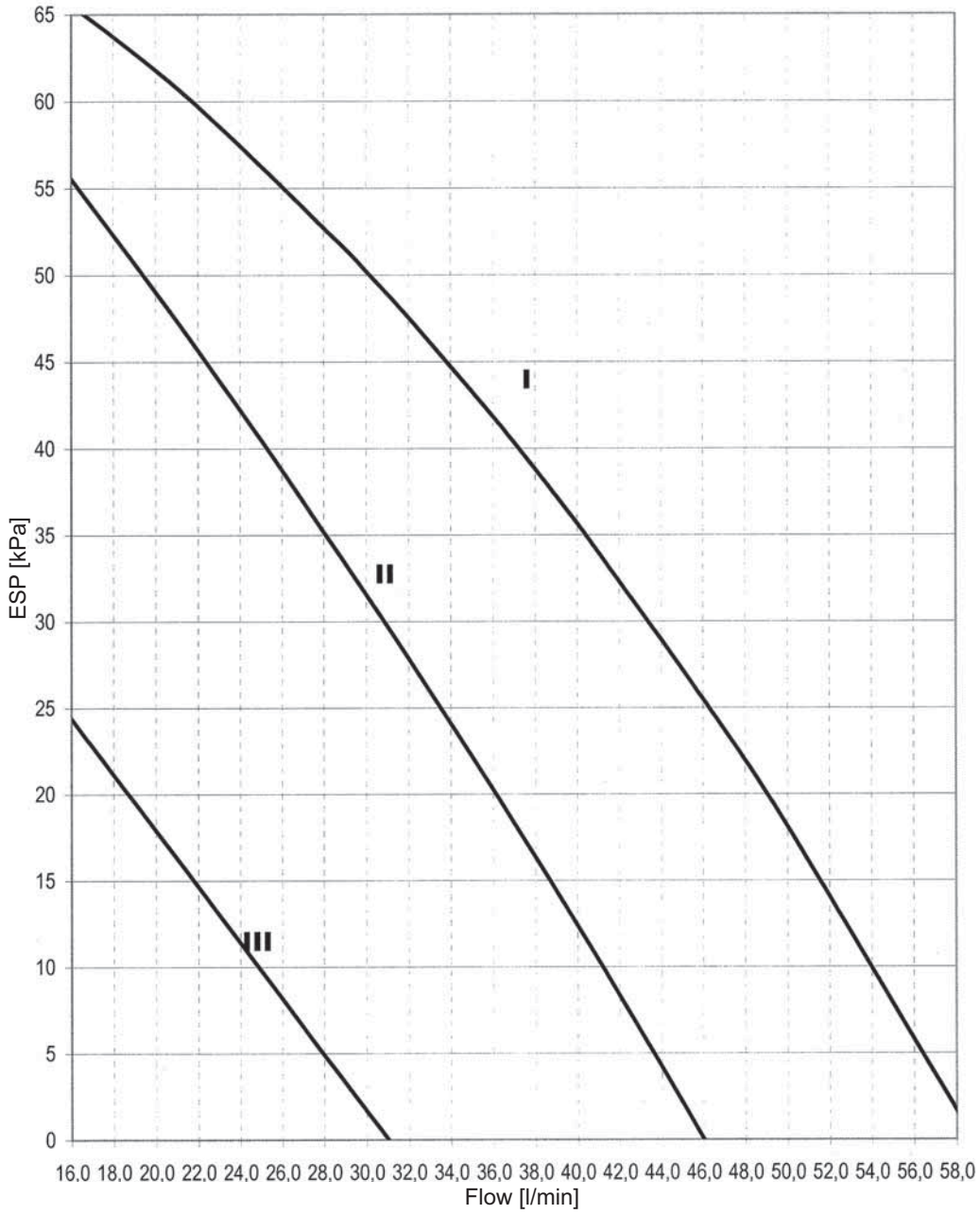
WARNING

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed waterflow range in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

10 Hydraulic performance

10 - 2 Static Pressure Drop Unit

EKHBX016BB



I	high speed
II	medium speed
III	low speed
ESP	external static pressure
Flow	waterflow through the unit

4TW59109-1

WARNING

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed waterflow range in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

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1 Features

- Small capacity indoor unit
- Thep indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available



2 Specifications

2-1 Technical Specifications					EKHVH008BB6V3	EKHVH008BB6WN	EKHVH008BB9WN
Power input	Nom.			kW	0.23		
Casing	Colour				Metallic grey		
	Material				Precoated sheet metal		
Dimensions	Unit	Height		mm	705		
		Width		mm	600		
		Depth		mm	695		
	Packed unit	Height		mm	860		
		Width		mm	680		
		Depth		mm	800		
Weight	Unit			kg	65		
	Packed unit			kg	74		
Packing	Material				EPS \ Cardboard \ MDF \ Wood (pallet) \ Metal		
	Weight			kg	8.75		
Pump	Type				Water cooled		
	Nr of speeds				3		
	Nominal ESP unit	Heating		kPa	49 (1) \ 49 (2) \ 45 (3) \ 45 (4) \ 38 (5) \ 38 (6)		
	Power input			W	130		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1		
Operation range	Heating	Ambient	Min.	°C	-20		
			Max.	°C	35		
		Water side	Min.	°C	15 (11)		
			Max.	°C	50 (11)		
	Domestic hot water	Water side	Min.	°C	25		
			Max.	°C	60		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	0.67		
	Water flow rate	Min.		l/min	12		
		Heating	Nom.	l/min	16.5 (1) \ 16.5 (2) \ 19.6 (3) \ 19.6 (4) \ 24.1 (5) \ 24.1 (6)		
	Insulation material				Polyurethane foam		
	Cooling	Plates	Quantity		-		
Refrigerant circuit	Gas side diameter			mm	15.9		
	Liquid side diameter			mm	9.52		
Sound power level	Medium speed	0 ESP		dBA	42		
Sound pressure level	Medium speed	0 ESP		dBA	28 (9)		
		Nominal flow		dBA	30 (1) \ 30 (2) \ 29 (3) \ 29 (4) \ 29 (5) \ 29 (6)		
	High speed	Nominal flow		dBA	32 (1) \ 32 (2) \ 32 (3) \ 32 (4) \ 31 (5) \ 31 (6)		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 1"1/4 (female)		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (12)		

2 Specifications

2-2 Electrical Specifications				EKHVH008BB6V3	EKHVH008BB6WN	EKHVH008BB9WN
Electric heater	Power supply	Phase		1~	3~	
		Frequency	Hz	50		
		Voltage	V	230	400	
	Current back-up heater	Running current	A	26 (18)	8.7 (19)	13 (20)
		Zmax	Text	0.29	-	
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12 **	-	
	Voltage range	Min.	%	-10		
		Max.	%	10		
Wiring connections	Benefit kWh rate power supply installations	Quantity		2		
		Type of wires		Cable section minimum 0.75mm², max. length 50m		
	For power supply back-up heater	Quantity		3G	4G	
		Remark		Select diameter & type according to national & local regulations		
	For connection with R5T	Quantity		Wire included in option *KHTS*		
		Remark		Wire included in option *KHTS*		
	For connection with A3P	Quantity		Depends on thermostat type, cf.installation manual on *KHV(H/X)016BB*		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M2S	Quantity		3G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M3S	Quantity		4G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with bottom plate heater	Quantity		2		
		Remark		Select diameter and type according to national and local regulations		
	For connection with user interface	Quantity		2		
		Remark		Cable section minimum 0,75mm², maximum length 500m		

Notes

(1) In combination with ERHQ006BAV3

(2) In combination with ERLQ006BAV3

(3) In combination with ERHQ007BAV3

(4) In combination with ERLQ007BAV3

(5) In combination with ERHQ008BAV3

(6) In combination with ERLQ008BAV3

(7) Tamb 35ºC - LWE 7ºC (Dt=5ºC) at high speed

(8) DB/WB 7ºC/6ºC - LWC 35ºC (Dt=5ºC) at high speed

(9) The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment.

(10) The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow

(11) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(12) Including piping + PHE + back-up heater; excluding expansion vessel

(13) See separate drawing for operation range

(14) Operation range: only with optional *KHTS* tank. Water temperatures higher than 50ºC are with BUH only. More details, see operation range drawnig

(15) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit.

(16) Electric heater has 2 capacity steps

(17) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(18) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

(19) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

(20) The installer can reduce the capacity of the heater from 9 to 3kW. The current is then reduced from 13 to 7.5A. Please refer to the installation manual for instructions.

(21) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(22) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

2 Specifications

2-3 Technical Specifications					EKHVH016BB6V3	EKHVH016BB6WN	EKHVH016BB9WN
Power input	Nom.			kW	0.23		
Casing	Colour				Metallic grey		
	Material				Precoated sheet metal		
Dimensions	Unit	Height		mm	705		
		Width		mm	600		
		Depth		mm	695		
	Packed unit	Height		mm	860		
		Width		mm	680		
		Depth		mm	800		
Weight	Unit			kg	67		
	Packed unit			kg	76		
Packing	Material				EPS \ Cardboard \ MDF \ Wood (pallet) \ Metal		
	Weight			kg	8		
Pump	Type				Water cooled		
	Nr of speeds				3		
	Nominal ESP unit	Heating		kPa	47.5 (1) \ 47.5 (2) \ 47.1 (3) \ 47.1 (4) \ 36.1 (5) \ 36.1 (6) \ 33.7 (7) \ 33.7 (8) \ 26.6 (9) \ 26.6 (10) \ 26.4 (11) \ 26.4 (12)		
	Power input			W	165		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1		
Operation range	Heating	Ambient	Min.	ºC	-20 (1) \ -20 (2) \ -25 (3) \ -25 (4) \ -20 (5) \ -20 (6) \ -25 (7) \ -25 (8) \ -20 (9) \ -20 (10) \ -25 (11) \ -25 (12)		
			Max.	ºC	35		
		Water side	Min.	ºC	15 (17)		
			Max.	ºC	55 (17)		
	Domestic hot water	Ambient	Min.	ºCDB	25		
			Max.	ºCDB	60		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Min.		l/min	16		
		Max.		l/min	58		
		Heating	Nom.	l/min	32.1 (1) \ 32.1 (2) \ 32.4 (3) \ 32.4 (4) \ 40.1 (5) \ 40.1 (6) \ 41.6 (7) \ 41.6 (8) \ 45.9 (9) \ 45.9 (10) \ 46.0 (11) \ 46.0 (12)		
	Insulation material				Polyurethane foam		
	Cooling	Plates	Quantity		-		
Refrigerant circuit	Gas side diameter			mm	15.9		
	Liquid side diameter			mm	9.52		
Sound power level	Medium speed	0 ESP		dBA	46		
Sound pressure level	Medium speed	0 ESP		dBA	28 (15)		
		Nominal flow		dBA	31 (1) \ 31 (2) \ 31 (3) \ 31 (4) \ 29 (5) \ 29 (6) \ 29 (7) \ 29 (8) \ 28 (9) \ 28 (10) \ 28 (11) \ 28 (12)		
	High speed	Nominal flow		dBA	33 (1) \ 33 (2) \ 33 (3) \ 33 (4) \ 33 (5) \ 33 (6) \ 33 (7) \ 33 (8) \ 32 (9) \ 32 (10) \ 32 (11) \ 32 (12)		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 1"1/4 (female)		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (18)		

2 Specifications

2-4 Electrical Specifications				EKHVH016BB6V3	EKHVH016BB6WN	EKHVH016BB9WN
Electric heater	Power supply	Phase		1~	3~	
		Voltage	V	230	400	
	Current back-up heater	Running current	A	26 (24)	8.7 (25)	13 (26)
		Zmax	Text	0.29	-	
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12 **	-	
	Voltage range	Min.	%	-10		
		Max.	%	10		
Wiring connections	Benefit kWh rate power supply installations	Quantity		2		
		Type of wires		Cable section minimum 0.75mm², max. length 50m		
	For power supply back-up heater	Quantity		3G	4G	
		Remark		Select diameter & type according to national & local regulations		
	For connection with R5T	Quantity		Wire included in option *KHTS*		
		Remark		Wire included in option *KHTS*		
	For connection with A3P	Quantity		Depends on thermostat type, cf.installation manual on *KHV(H/X)016BB*		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M2S	Quantity		3G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M3S	Quantity		4G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with bottom plate heater	Quantity		2		
		Remark		Select diameter and type according to national and local regulations		
	For connection with user interface	Quantity		2		
		Remark		Cable section minimum 0,75mm², maximum length 500m		

Notes

(1) In combination with ERHQ011BAV3

(2) In combination with ERLQ011BAV3

(3) In combination with ERHQ011BAW1

(4) In combination with ERLQ011BAW1

(5) In combination with ERHQ014BAV3

(6) In combination with ERLQ014BAV3

(7) In combination with ERHQ014BAW1

(8) In combination with ERLQ014BAW1

(9) In combination with ERHQ016BAV3

(10) In combination with ERLQ016BAV3

(11) In combination with ERHQ016BAW1

(12) In combination with ERLQ016BAW1

(13) Tamb 35ºC - LWE 7ºC (Dt=5ºC) at high speed

(14) DB/WB 7ºC/6ºC - LWC 35ºC (Dt=5ºC) at high speed

(15) The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment.

(16) The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow

(17) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(18) Including piping + PHE + back-up heater; excluding expansion vessel

(19) See operation range drawing for difference between single & three phase units

(20) Operation range: only with optional *KHTS* tank. Water temperatures higher than 55ºC are with BUH only. More details, see operation range drawnig

(21) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit.

(22) Optional electric heater has 2 capacity steps except for the 3V3 model which has only 1 capacity step.

(23) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(24) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

(25) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

(26) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 13 to 7.5A. Please refer to the installation manual for instructions.

(27) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(28) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

3 Options

3 - 1 Options

EKHVH(X)008-016B

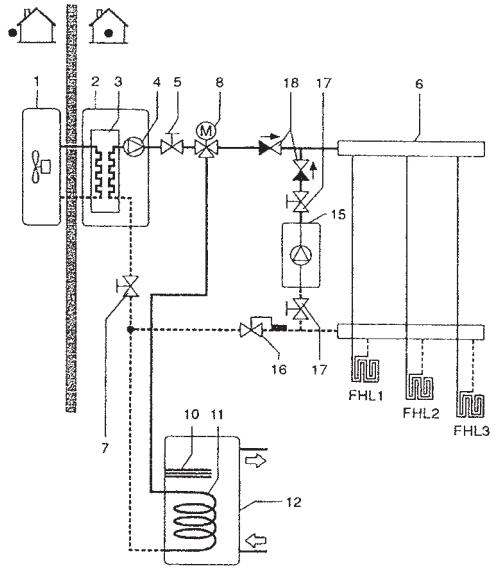
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin Altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the EKHHB* indoor unit or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

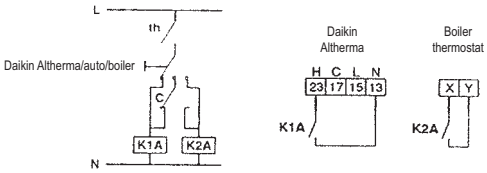
Sanitary warm water in such an application is always provided by the sanitary water tank which is connected to the indoor unit, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



1	Outdoor unit
2	Indoor unit
3	Heat exchanger
4	Pump
5	Shut-off valve
6	Collector (field supply)
7	Shut-off valve
8	Motorised 3-way valve (field supply)
10	Booster heater
11	Heat exchanger coil
12	Sanitary water tank
15	Boiler (field supply)
16	Aquastat valve (field supply)
17	Shut-off valve (field supply)
18	Non-return valve (field supply)
FHLT...3	Floor heating loop (field supply)

Field wiring



Boiler thermostat	Boiler thermostat
C	Auxiliary contact (normal closed)
th	Heating only room thermostat
K1A	Auxiliary relay for activation of EKHB* unit (field supply)
K2A	Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the EKHB* unit or the boiler starts operating, depending on the position of the auxiliary contact (C).

NOTES

- Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the EKHB* unit and the boiler.
  If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun.
  Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the EKHB* unit, the Daikin Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface.
  When weather dependent operation is active, the water temperature is determined automatically depending on the oudoor temperature.
  During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller.
  Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin Altherma unit.

CAUTION

- Make sure to configure the DIP switch SS2-3 on the PCB of the EKHB* switch box correctly.
  Refer to "Room thermostat installation configuration" in the installation manual supplied with the unit.
- Make sure that return water to the EKHB* heat exchanger never exceeds 55°C.
  For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat (*) valve in the return water flow of the EKHB* unit.
  Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*) The aquastat valve must be set for 55°C and must operate to close the return water flow to the EKHB* unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the EKHB* unit again.

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3 Options

3 - 1 Options

EKHVH(X)008-016B

Factory mounted optional equipment for *KHV(H/X)008-016BB

Reference	Description	#					
	Heating only model *KHVH008-016BB#	6V3		6WN		9WN	
	Heating only model *KHVX008-016BB#		6V3		6WN		9WN
#							
6V3	Back up heater 6kW 1~230V	○	○	-	-	-	-
6WN	Back up heater 6kW 3~400V	-	-	○	○	-	-
9WN	Back up heater 9kW 3~400V	-	-	-	-	○	○

Outdoor combination table for *KHV(H/X)008-016B

		*R(H/L)Q006B*V3	*R(H/L)Q007B*V3	*R(H/L)Q008B*V3
*KHVH008BB#	Heating only indoor unit	○	○	○
*KHVX008BB#	Reversible indoor unit	○	○	○

		R(H/L)Q011B(V3/W1)	*R(H/L)Q014B*(V3/W1)	*R(H/L)Q016B*(V3/W1)
*KHVH016BB#	Heating only indoor unit	○	○	○
*KHVX016BB#	Reversible indoor unit	○	○	○

Kit availability for *KHV(H/X)008-016BB

Reference	Description	#					
	Heating only model *KHVH008-016BB#	6V3		6WN		9WN	
	Heating only model *KHVX008-016BB#		6V3		6WN		9WN
EKHTS200... (6)	Stainless domestic hot water tank 200 l	○	○	○	○	○	○
EKHTS260... (6)	Stainless domestic hot water tank 260 l	○	○	○	○	○	○
EKHTSU200... (6)	Stainless domestic hot water tank 200 l - UK version	○	○	○	○	○	○
EKHTSU260... (6)	Stainless domestic hot water tank 260 l - UK version	○	○	○	○	○	○
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○

Kits connected to the domestic hot water tank

Reference	Description	EKHTS...	EKHTSU...
EKUHWHTA	Option kit for UK EKHTSU...	-	○
EKFMAHTB (5)	Option kit for standalone tank	○	○
EKSOLHTBV3	Solar kit	○	○
EKUHW2WB	Solenoid valve kit for EKSOL*	-	○

Remark: Other combinations are not guaranteed

(1) Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHTBV3, the same digital I/O PCB as for *KRP1HB is already included.

(3) *KRTETS can only be used in combination with *KRTR

(5) Only required if tank is **NOT** mounted on top of indoor unit

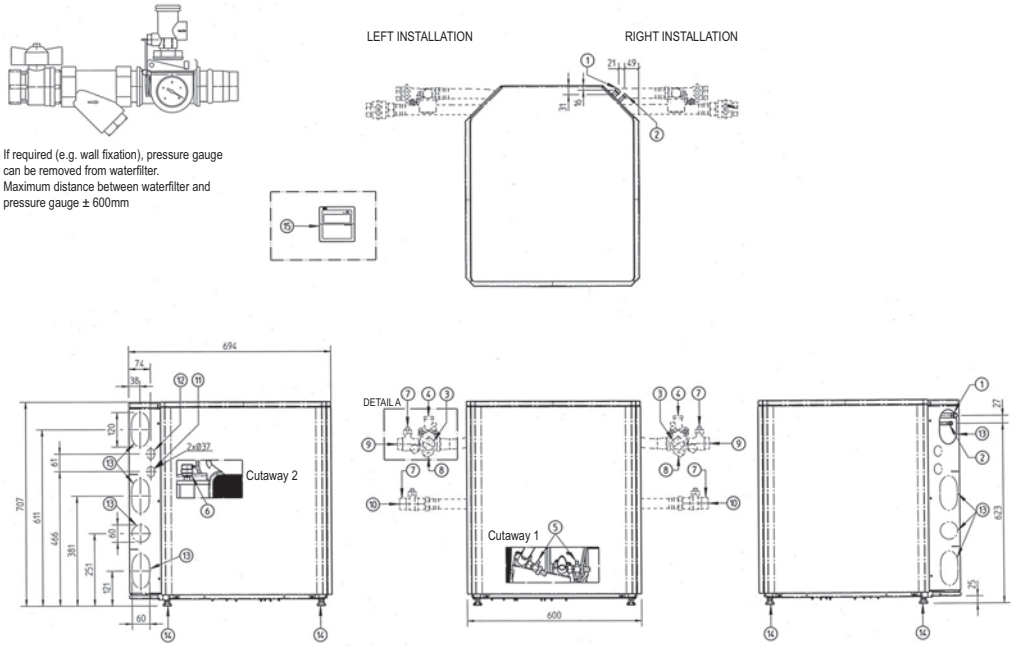
(6) Units only compatible from AC version onwards

3TW60439-3

4 Dimensional drawings

4 - 1 Dimensional Drawings

EKHVH(X)008-016B

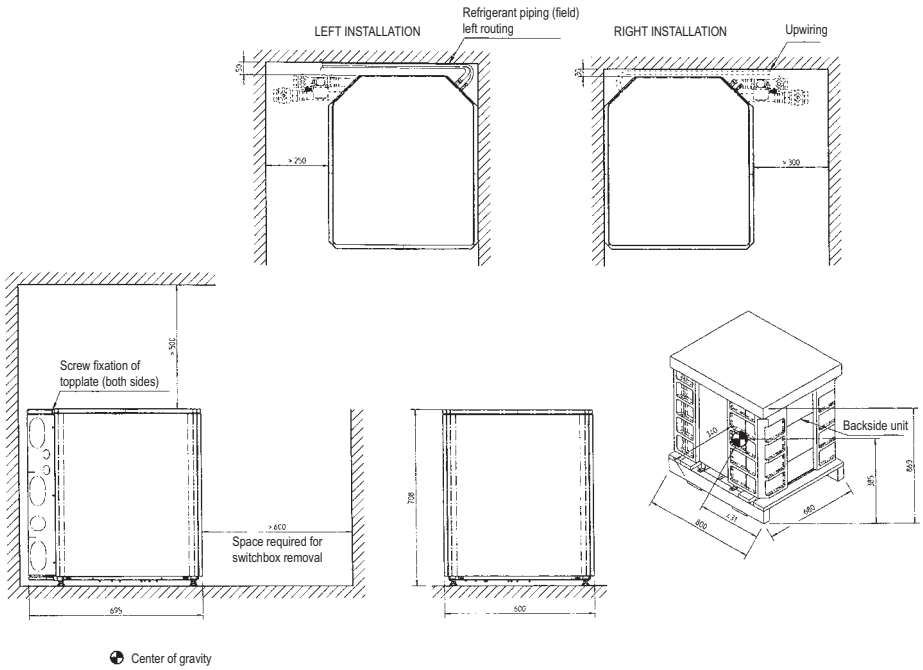


1	Gas pipe connection Ø15.9 solder (R410a)
2	Liquid pipe connection Ø9.5 solder (R410a)
3	Pressure gauge
4	Blow off valve
5	Drain/fill valve water circuit
6	Air purge
7	Shut-off valves
8	Water filter

9	Water in connection G 1-¼" (female)
10	Water out connection G 1-¼" (female)
11	Control wiring intake (knock-out hole Ø37)
12	Power supply wiring intake (knock-out hole Ø37)
13	Knock-out holes for refrigerant piping and water piping
14	Levelling feet
15	Remote control (delivered as accessory). Installation location is outside the unit

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EKHVH(X)008-016B

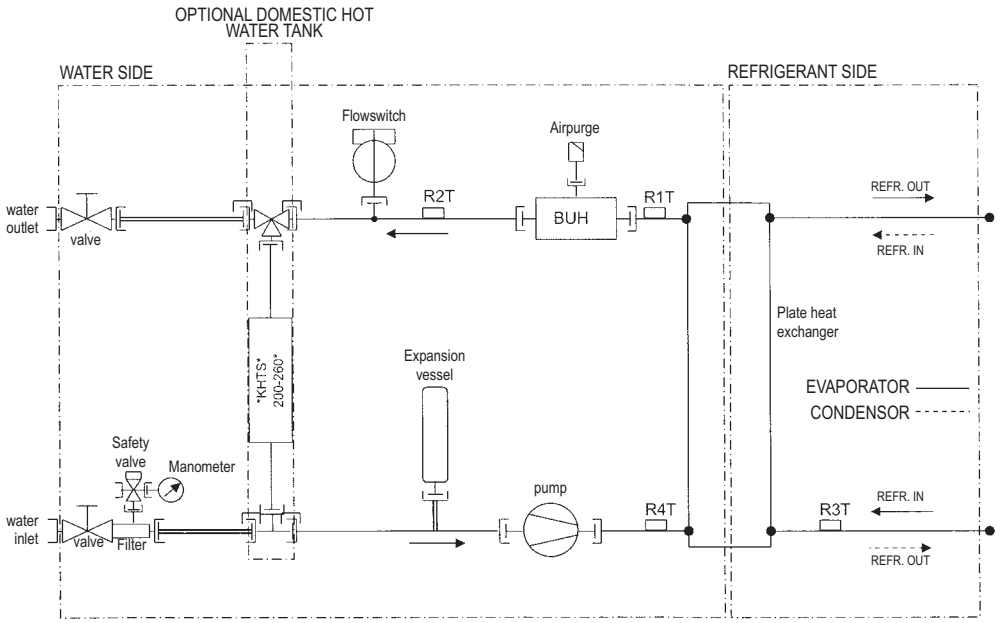


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5 Piping diagrams

5 - 1 Piping Diagrams

EKHVH(X)008-016B



Thermistor	Description
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R2T	Outlet water backup heater thermistor
R1T	Outlet water heat exchanger thermistor

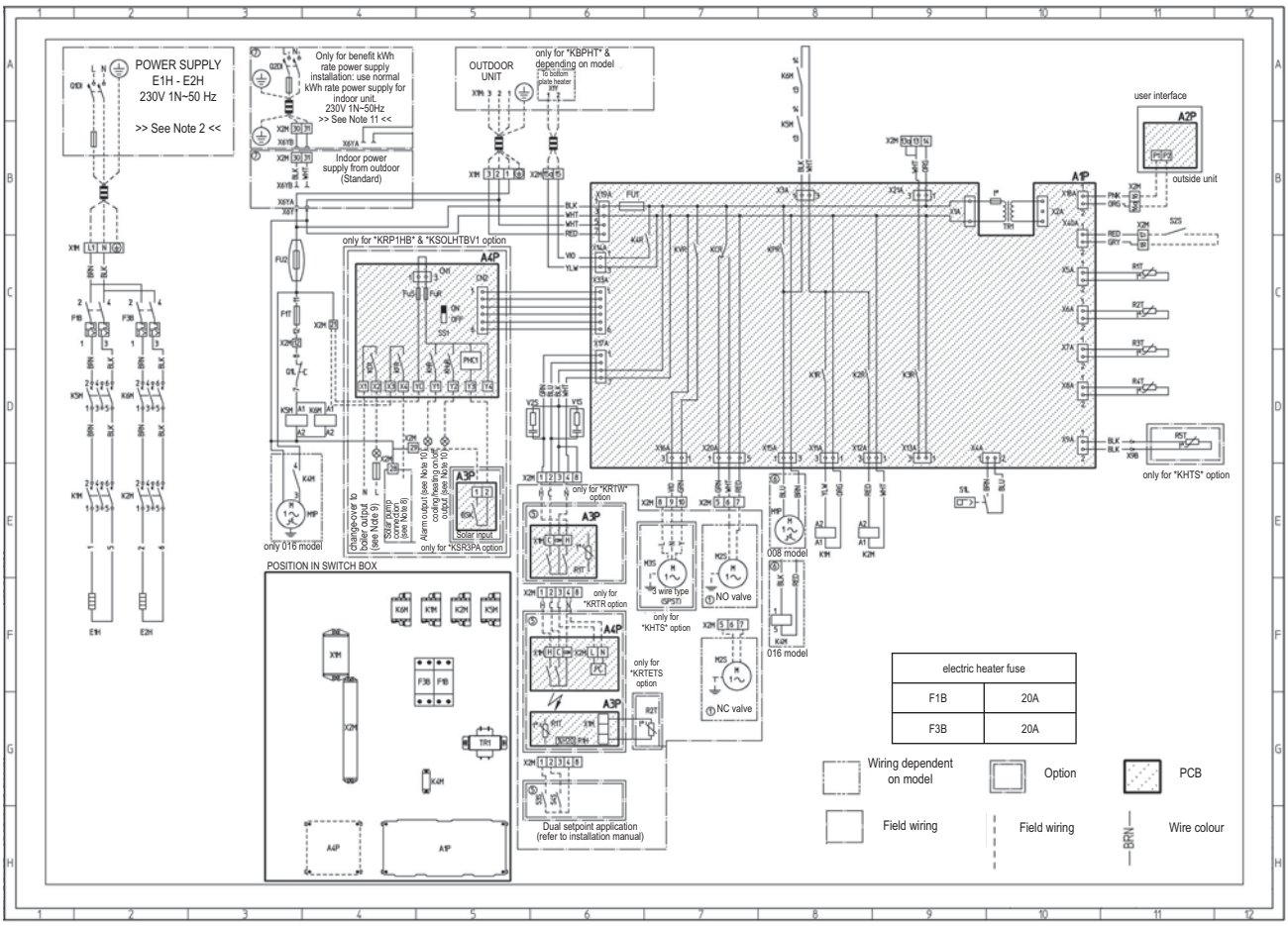
—●	Brazed connection	⊣⊢	Screw connection
⊣⊢	Quick coupling	⊣⊢	Flange connection
⇐▶	Check valve	✕	Pinched pipe
—⋘	Flare connection	→	Spinned pipe

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6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHVH(X)008-016B



*KHV(H/X)*008/016*6V3		K1M, K2M	contactor backup heater step	R3T	refrigerant liquid side thermistor
A1P	main PCB	K4M	pump relay	R4T	inlet water thermistor
A2P	user interface PCB	K5M, K6M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A3P (*KRTW/R*)	thermostat (PC=power ciruit)	M1P	pump	S1L	flowswitch
A3P (*KSR3PA)	solar pumpstation PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate power supply contact
A4P (*KRP1HB*)	digital I/O PCB	M3S	3way valve: space C/H / domestic hot water	S3S	dual setpoint 2 contact
A4P (*KRTR)	receiver PCB	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
BSK (*KSR3PA)	solar pumpstation relay	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
E1H, E2H	backup heater elements	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1B, F3B	fuse backup heater	R1H (*KRTR)	humidity sensor	V1S, V2S	spark suppression 1, 2
F1T	thermal fuse backup heater	R1T	outlet water heat exchanger thermistor	X1M, X2M	terminal strips
FU1	fuse 3,15A T 250V for PCB	R1T (*KRTW*)	ambient sensor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R2T	outlet water backup heater thermistor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T (*KRTETS)	external sensor (floor or ambient)		

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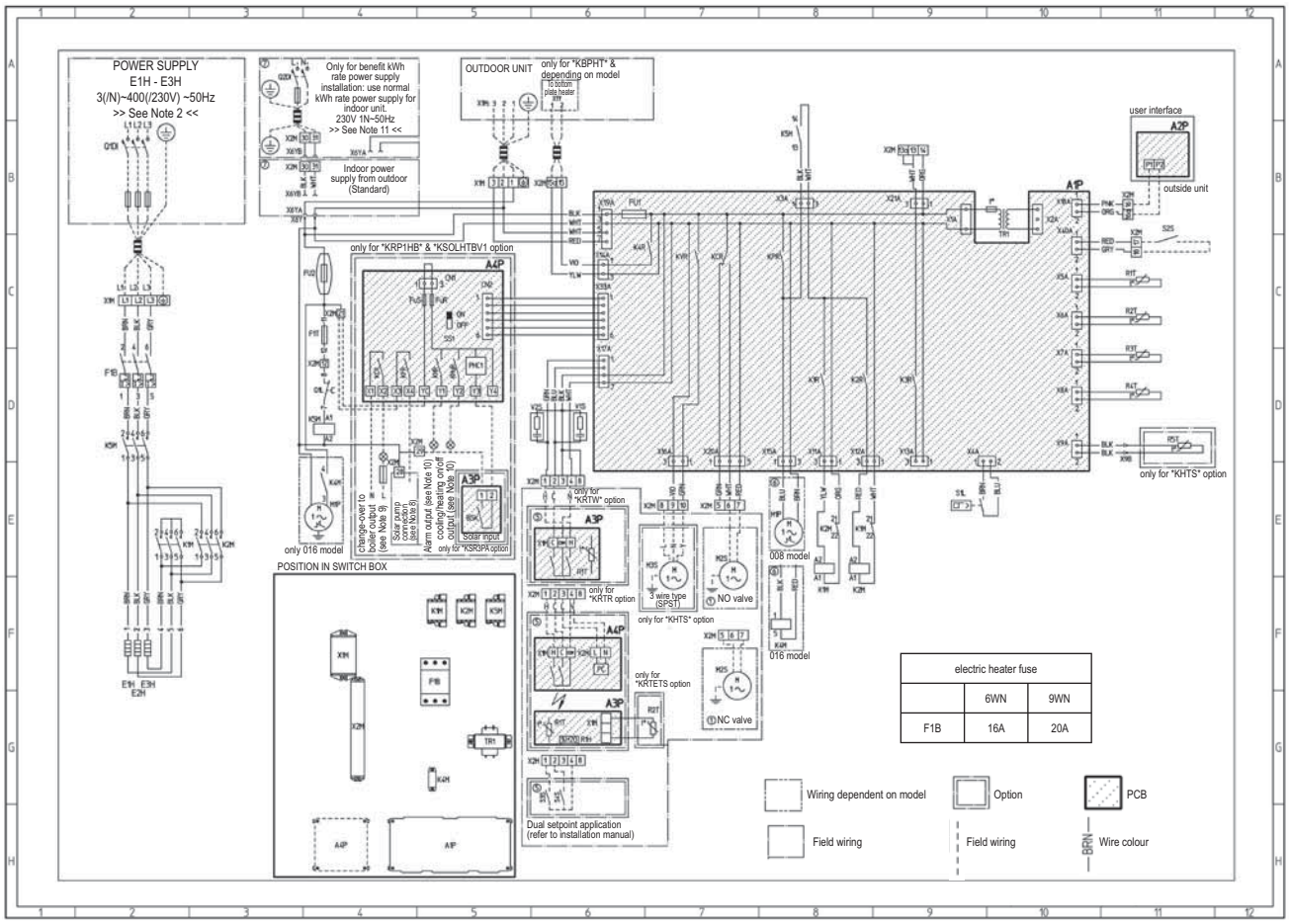
NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater. Never use a power circuit shared by other applience.
3. : field wiring NO/NC : normal open / normal closed SPST: single pole single throw
4. : terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK = black RED = red BLU = blue WHT = white PNK = pink YLW = yellow
   BRN = brown GRY = grey GRN = green ORG = orange VIO = violet
8. For *KSOLHTBV1, refer to option manual
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

6 Wiring diagrams

6 - 2 Wiring Diagrams - Three Phase

EKHVH(X)008-016B



*KHV(H/X)*008/016*(6/9)WN		K1M/K2M	contactor backup heater step 1/2	R3T	refrigerant liquid side thermistor
A1P	main PCB	K4M	pump relay	R4T	inlet water thermistor
A2P	user interface PCB	K5M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A3P (*KRTW/R*)	thermostat (PC=power ciruit)	M1P	pump	S1L	flowswitch
A3P (*KSR3PA)	solar pumpstation PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate power supply contact
A4P (*KRP1HB*)	digital I/O PCB	M3S	3way valve: space C/H / domestic hot water	S3S	dual setpoint 2 contact
A4P (*KRTR)	receiver PCB	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
BSK (*KSR3PA)	solar pumpstation relay	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
E1H, E2H, E3H	backup heater elements	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1B	fuse backup heater	R1H (*KRTR)	humidity sensor	V1S, V2S	spark suppression 1, 2
F1T	thermal fuse backup heater	R1T	outlet water heat exchanger thermistor	X1M, X2M	terminal strips
FU1	fuse 3,15A T 250V for PCB	R1T (*KRTW*)	ambient sensor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R2T	outlet water backup heater thermistor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T (*KRTETS)	external sensor (floor or ambient)		

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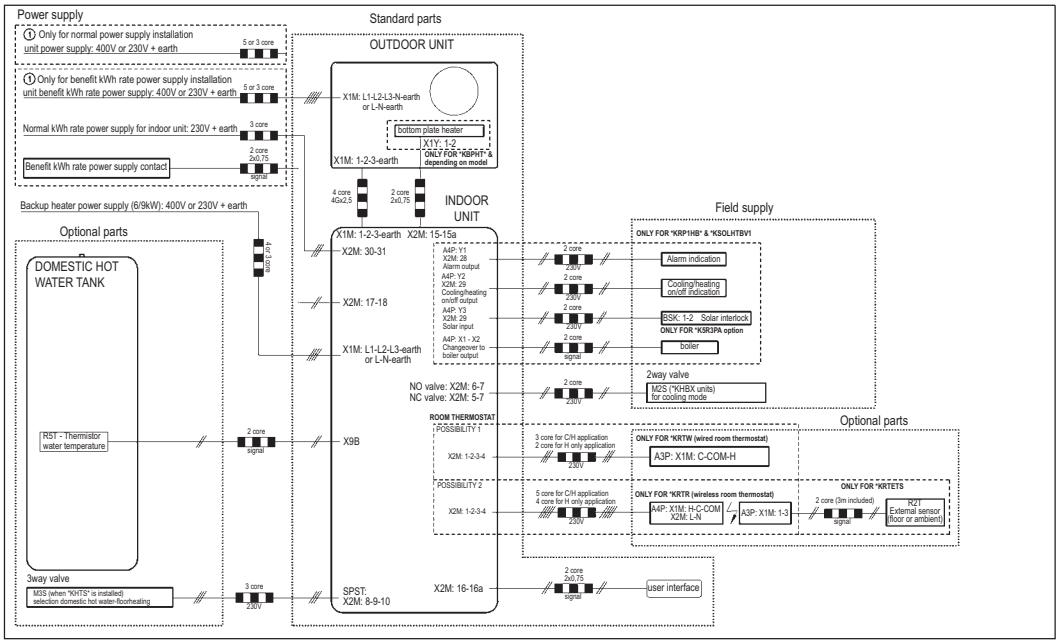
NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater. Never use a power circuit shared by other applience.
3. : field wiring NO/NC : normal open / normal closed SPST: single pole single throw
4. : terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK = black RED = red BLU = blue WHT = white PNK = pink YLW = yellow
   BRN = brown GRY = grey GRN = green ORG = orange VIO = violet
8. For *KSOLHTBV1, refer to option manual
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

7 External connection diagrams

7 - 1 External Connection Diagrams

EKHVH(X)008-016B



NOTE

In case of signal cable keep minimum distance to power cables > 5cm

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8 Installation

8 - 1 Installation Method

EKHVH(X)008-016B

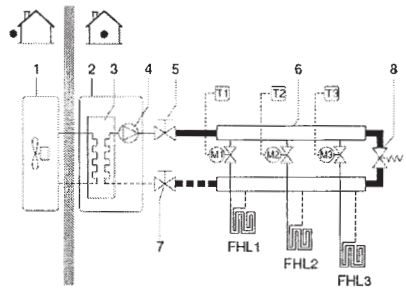
Hydrobox unit

Minimum water volume

Assure that the total water volume within the installation, excluding the internal water volume of the indoor unit, is enough:

- minimum 10 litre for GBS (*RYQ005-007 & *RHQ006-008)
- minimum 20 litre for GQI (*RHQ011-016)

Example



1	Outdoor unit
2	Indoor unit
3	Heat exchanger
4	Pump
5	Shut-off valve
6	Collector (field supply)
7	Shut-off valve
8	By-pass valve (field supply)
FHL1...3	Floor heating loop (field supply)
T1...3	Individual room thermostat (field supply)
M1...3	Individual motorised valve to control loop FHL1

Field piping diameters

Select the field piping diameters in relation to the required water flow and available ESP of the indoor unit pump (See “Hydraulic performance”).

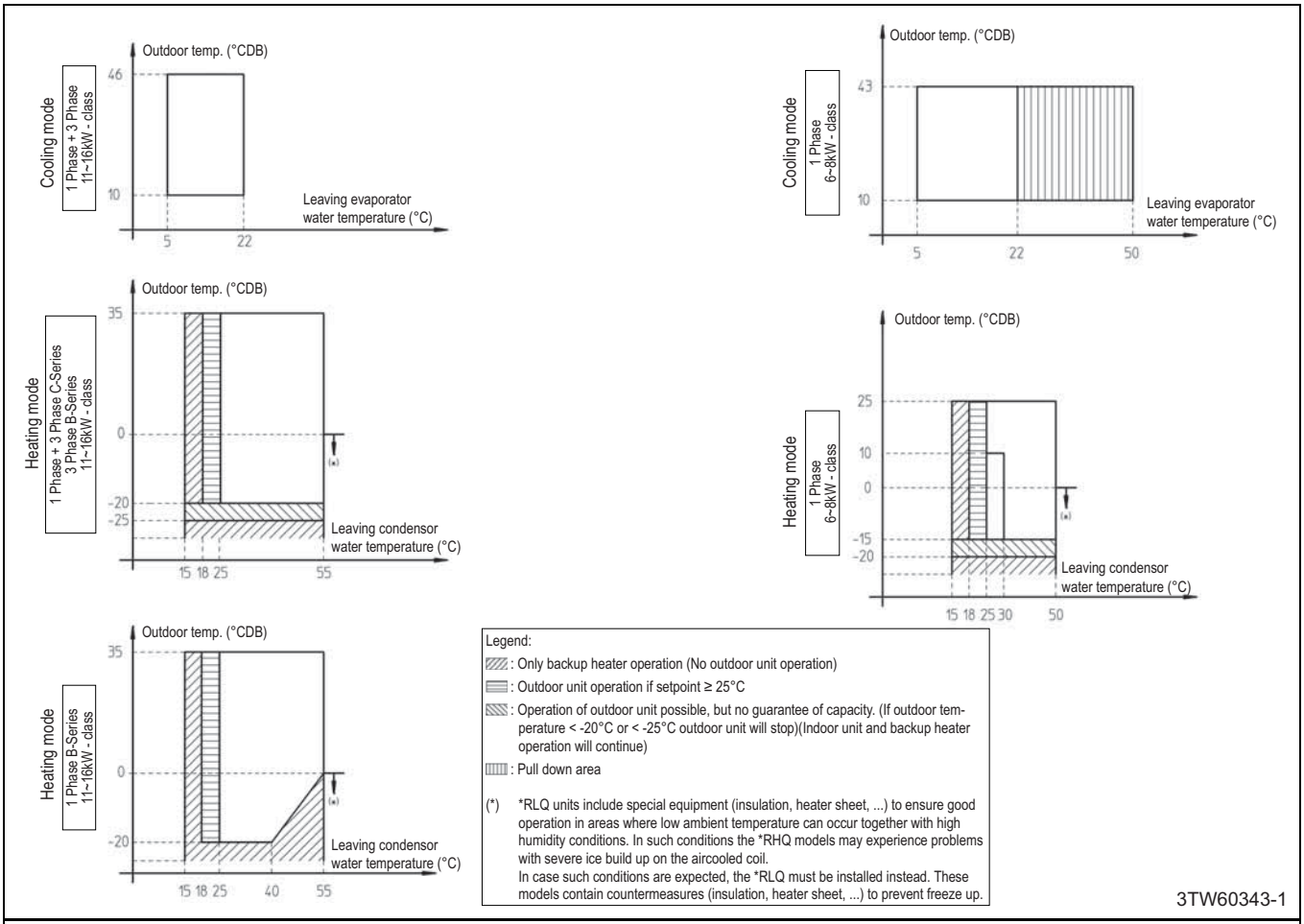
Installation location

- During normal operation the hydrobox unit will produce sound which could be observed as noise. The sound origin can be water pump operation and/or contactor activation. Therefore it is advisable to install the hydrobox unit on a firm wall and not in nor close to a sound sensitive environment (example bedroom).
- The unit is to be wall mounted in an indoor location that meets the following requirements:
- The installation location is frost-free
- The space around the unit is adequate for servicing. (See “Dimensional drawing”)
- The space around the unit allows for sufficient air circulation.
- There is a provision for condensate drain (only for EKHBX models with drain pan kit EKHBDP) and pressure relief valve blow-off.
- The installation surface is a flat and vertical non-combustible wall, capable of supporting the operation weight of the unit (See “Technical specifications”).
- There is no danger of fire due to leakage of inflammable gas.
- All piping lengths and distances have been taken into consideration (See “Technical specifications”).
- Do not install the unit in places with high humidity (e.g. bathroom).

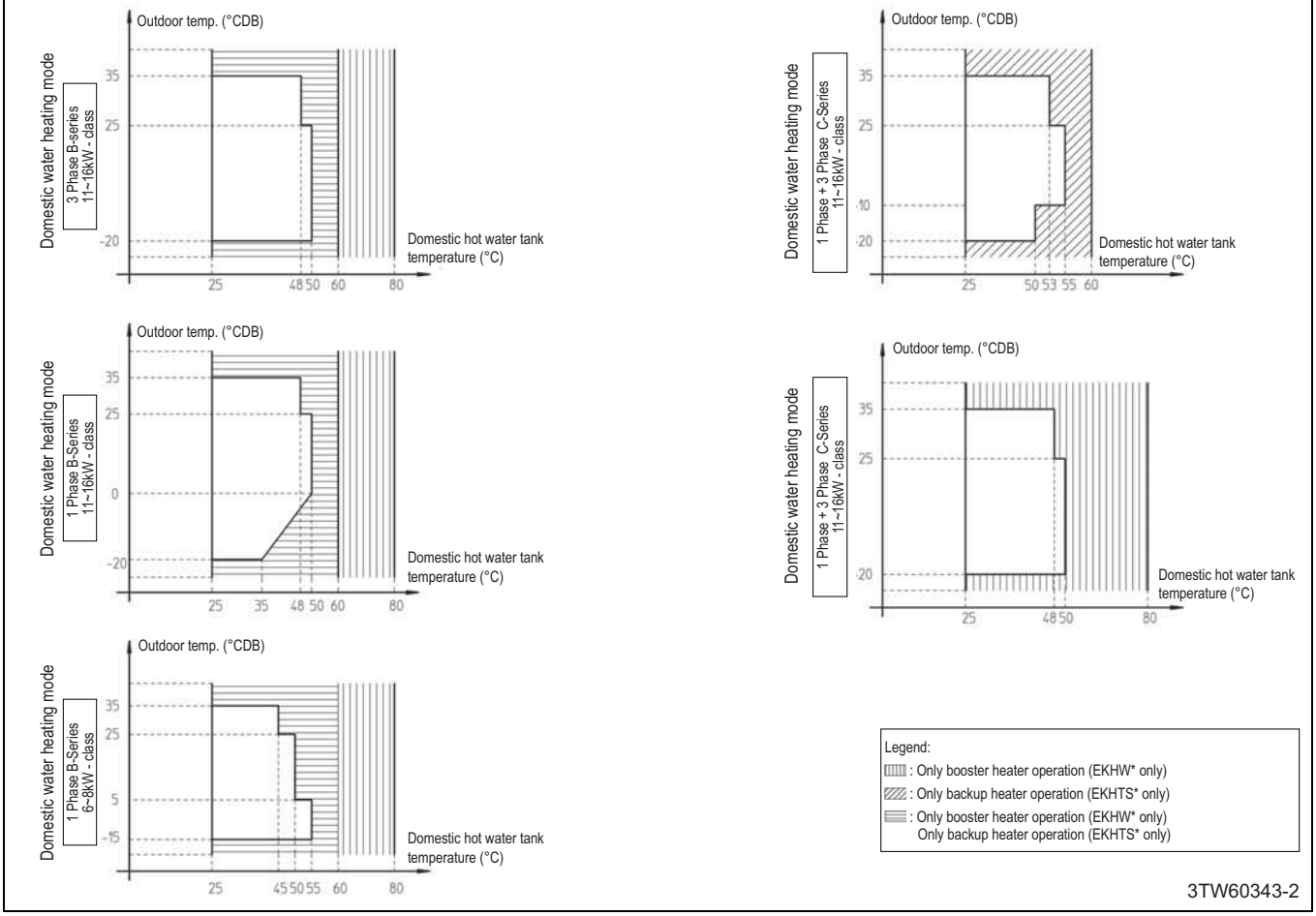
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9 Operation range

9 - 1 Operation Range



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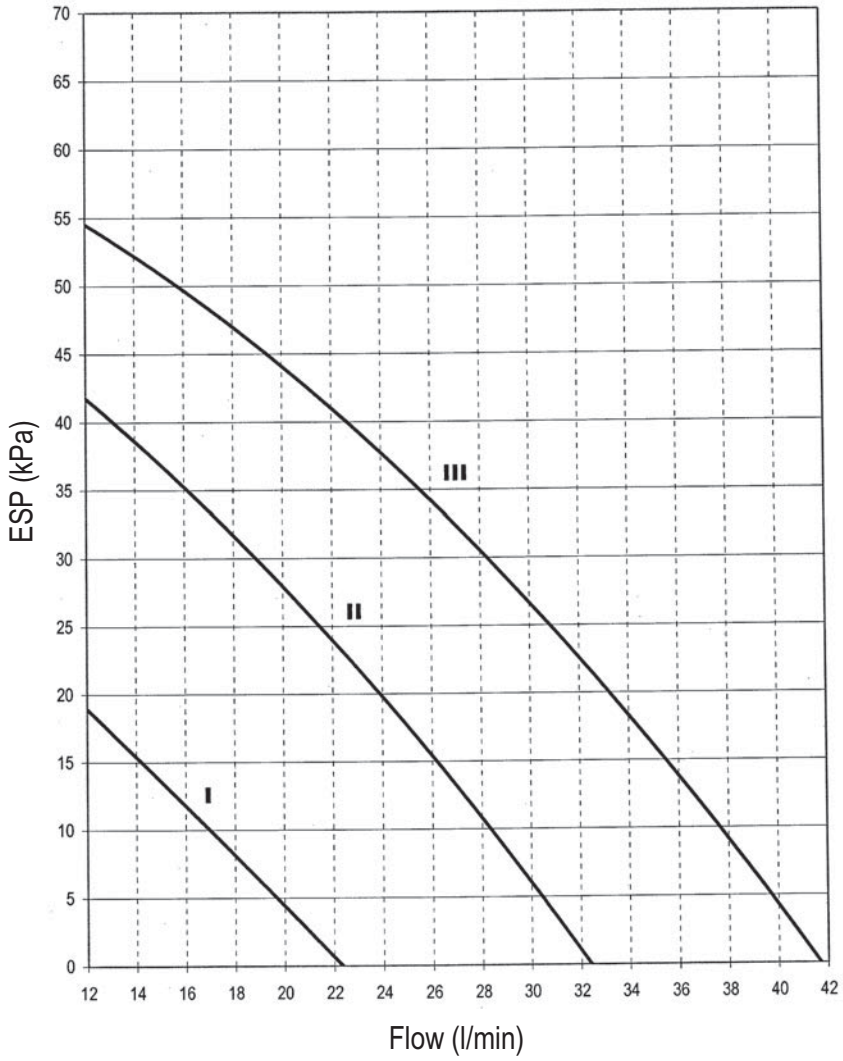


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10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EKHVH(X)008B



III high speed
II medium speed
I low speed
ESP: external static pressure
Flow: waterflow through the unit

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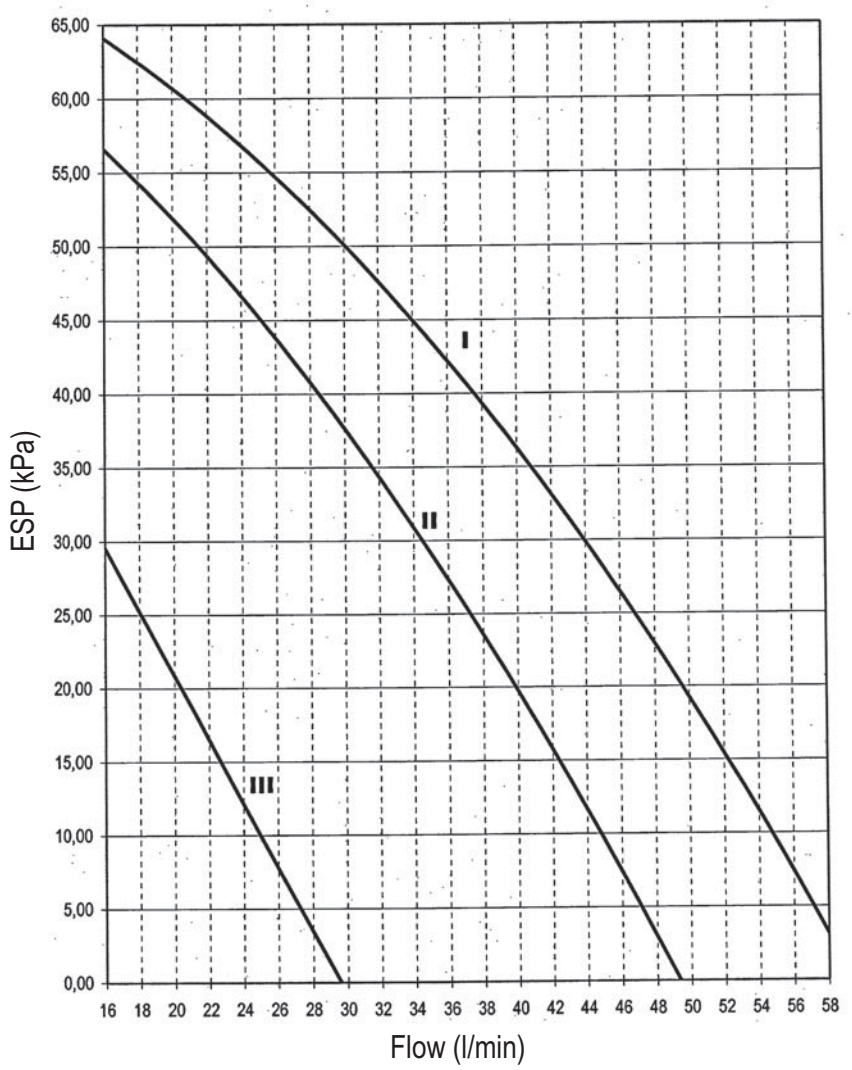
WARNINGS

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EKHVH(X)016B



I high speed
II medium speed
III low speed
ESP: external static pressure
Flow: waterflow through the unit

4TW60439-2

WARNINGS

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

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1 Features

- Small capacity indoor unit
- The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available



2 Specifications

2-1 Technical Specifications					EKHVX008BB6V3	EKHVX008BB6WN	EKHVX008BB9WN
Power input	Nom.			kW	0.23		
Casing	Colour				Metallic grey		
	Material				Precoated sheet metal		
Dimensions	Unit	Height		mm	705		
		Width		mm	600		
		Depth		mm	695		
	Packed unit	Height		mm	860		
		Width		mm	680		
		Depth		mm	800		
Weight	Unit			kg	65		
	Packed unit			kg	74		
Packing	Material				EPS \ Cardboard \ Wood (pallet) \ Metal		
	Weight			kg	8		
Pump	Type				Water cooled		
	Nr of speeds				3		
	Nominal ESP unit	Heating		kPa	49 (1) \ 49 (2) \ 45 (3) \ 45 (4) \ 38 (5) \ 38 (6)		
		Cooling		kPa	51 (1) \ 51 (2) \ 49 (3) \ 49 (4) \ 48 (5) \ 48 (6)		
	Power input			W	130		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1		
Operation range	Heating	Ambient	Min.	ºC	-20		
			Max.	ºC	35		
		Water side	Min.	ºC	15 (11)		
			Max.	ºC	50 (11)		
	Cooling	Ambient	Min.	ºCDB	10 (0.000)		
			Max.	ºCDB	46 (0.000)		
		Water side	Min.	ºC	5		
			Max.	ºC	22		
	Domestic hot water	Water side	Min.	ºC	25		
			Max.	ºC	60		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	0.67		
	Water flow rate	Min.		l/min	12		
		Heating	Nom.	l/min	16.5 (1) \ 16.5 (2) \ 19.6 (3) \ 19.6 (4) \ 24.1 (5) \ 24.1 (6)		
		Cooling	Nom.	l/min	14.7 (1) \ 14.7 (2) \ 16.8 (3) \ 16.8 (4) \ 17.4 (5) \ 17.4 (6)		
	Insulation material				Polyurethane foam		
	Cooling	Plates	Quantity		-		
Refrigerant circuit	Gas side diameter			mm	15.9		
	Liquid side diameter			mm	9.52		
Sound power level	Medium speed	0 ESP		dBA	42		
Sound pressure level	Medium speed	0 ESP		dBA	28 (9)		
		Nominal flow		dBA	30 (1) \ 30 (2) \ 29 (3) \ 29 (4) \ 29 (5) \ 29 (6)		
	High speed	Nominal flow		dBA	32 (1) \ 32 (2) \ 32 (3) \ 32 (4) \ 31 (5) \ 31 (6)		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 1"1/4 (female)		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (12)		

2 Specifications

2-2 Electrical Specifications				EKHVX008BB6V3	EKHVX008BB6WN	EKHVX008BB9WN
Electric heater	Power supply	Phase		1~	3~	
		Frequency	Hz	50		
		Voltage	V	230	400	
	Current back-up heater	Running current	A	26 (18)	8.7 (19)	13 (20)
		Zmax	Text	0.29	-	
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12 **	-	
	Voltage range	Min.	%	-10		
		Max.	%	10		
Wiring connections	Benefit kWh rate power supply installations	Quantity		2		
		Type of wires		Cable section minimum 0.75mm², max. length 50m		
	For power supply back-up heater	Quantity		3G	4G	
		Remark		Select diameter & type according to national & local regulations		
	For connection with R5T	Quantity		Wire included in option *KHTS*		
		Remark		Wire included in option *KHTS*		
	For connection with A3P	Quantity		Depends on thermostat type, cf.installation manual on *KHV(H/X)016BB*		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M2S	Quantity		3G		
		Remark		Voltage: 230V / Max.current: 100mA / Min. 0.75mm² \ Select diameter & type according to national & local regulations		
	For connection with M3S	Quantity		4G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with bottom plate heater	Quantity		2		
		Remark		Select diameter and type according to national and local regulations		
	For connection with user interface	Quantity		2		
		Remark		Cable section minimum 0,75mm², maximum length 500m		

Notes

(1) In combination with ERHQ006BAV3

(2) In combination with ERLQ006BAV3

(3) In combination with ERHQ007BAV3

(4) In combination with ERLQ007BAV3

(5) In combination with ERHQ008BAV3

(6) In combination with ERLQ008BAV3

(7) Tamb 35ºC - LWE 7ºC (Dt=5ºC) at high speed

(8) DB/WB 7ºC/6ºC - LWC 35ºC (Dt=5ºC) at high speed

(9) The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment.

(10) The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow

(11) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(12) Including piping + PHE + back-up heater; excluding expansion vessel

(13) See separate drawing for operation range

(14) Operation range: only with optional *KHTS* tank. Water temperatures higher than 50ºC are with BUH only. More details, see operation range drawnig

(15) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit.

(16) Electric heater has 2 capacity steps

(17) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(18) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

(19) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

(20) The installer can reduce the capacity of the heater from 9 to 3kW. The current is then reduced from 13 to 7.5A. Please refer to the installation manual for instructions.

(21) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(22) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

2 Specifications

2-3 Technical Specifications					EKHVX016BB6V3	EKHVX016BB6WN	EKHVX016BB9WN
Power input	Nom.			kW	0.23		
Casing	Colour				Metallic grey		
	Material				Precoated sheet metal		
Dimensions	Unit	Height		mm	705		
		Width		mm	600		
		Depth		mm	695		
	Packed unit	Height		mm	860		
		Width		mm	680		
		Depth		mm	800		
Weight	Unit			kg	67		
	Packed unit			kg	76		
Packing	Material				EPS \ Cardboard \ MDF \ Wood (pallet) \ Metal		
	Weight			kg	8		
Pump	Type				Water cooled		
	Nr of speeds				3		
	Nominal ESP unit	Heating		kPa	47.5 (1) \ 47.5 (2) \ 47.1 (3) \ 47.1 (4) \ 36.1 (5) \ 36.1 (6) \ 33.7 (7) \ 33.7 (8) \ 26.6 (9) \ 26.6 (10) \ 26.4 (11) \ 26.4 (12)		
		Cooling		kPa	51.7 (1) \ 51.7 (2) \ 45.5 (3) \ 45.5 (4) \ 42.4 (5) \ 42.4 (6) \ 42.2 (7) \ 42.2 (8) \ 39.9 (9) \ 39.9 (10) \ 39.9 (11) \ 39.9 (12)		
	Power input			W	165		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1		
Operation range	Heating	Ambient	Min.	ºC	-20 (1) \ -20 (2) \ -25 (3) \ -25 (4) \ -20 (5) \ -20 (6) \ -25 (7) \ -25 (8) \ -20 (9) \ -20 (10) \ -25 (11) \ -25 (12)		
			Max.	ºC	35		
		Water side	Min.	ºC	15 (17)		
			Max.	ºC	55 (17)		
	Cooling	Ambient	Min.	ºCDB	10 (0.000)		
			Max.	ºCDB	46 (0.000)		
		Water side	Min.	ºC	5		
			Max.	ºC	22		
	Domestic hot water	Ambient	Min.	ºCDB	25		
			Max.	ºCDB	60		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Min.		l/min	16		
		Max.		l/min	58		
		Heating	Nom.	l/min	32.1 (1) \ 32.1 (2) \ 32.4 (3) \ 32.4 (4) \ 40.1 (5) \ 40.1 (6) \ 41.6 (7) \ 41.6 (8) \ 45.9 (9) \ 45.9 (10) \ 46.0 (11) \ 46.0 (12)		
		Cooling	Nom.	l/min	28.7 (1) \ 28.7 (2) \ 33.6 (3) \ 33.6 (4) \ 35.8 (5) \ 35.8 (6) \ 36.0 (7) \ 36.0 (8) \ 37.6 (9) \ 37.6 (10) \ 37.6 (11) \ 37.6 (12)		
	Insulation material				Polyurethane foam		
	Cooling	Plates	Quantity		-		
Refrigerant circuit	Gas side diameter			mm	15.9		
	Liquid side diameter			mm	9.52		
Sound power level	Medium speed	0 ESP		dBA	46		
Sound pressure level	Medium speed	0 ESP		dBA	28 (15)		
		Nominal flow		dBA	31 (1) \ 31 (2) \ 31 (3) \ 31 (4) \ 29 (5) \ 29 (6) \ 29 (7) \ 29 (8) \ 28 (9) \ 28 (10) \ 28 (11) \ 28 (12)		
	High speed	Nominal flow		dBA	33 (1) \ 33 (2) \ 33 (3) \ 33 (4) \ 33 (5) \ 33 (6) \ 33 (7) \ 33 (8) \ 32 (9) \ 32 (10) \ 32 (11) \ 32 (12)		
Water filter	Diameter perforations			mm	1		
	Material				Brass		

2 Specifications

2-3 Technical Specifications			EKHVX016BB6V3	EKHVX016BB6WN	EKHVX016BB9WN
Water circuit	Piping connections diameter	inch	G 1"1/4 (female)		
	Safety valve	bar	3		
	Manometer		Yes		
	Drain valve / fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume	l	5.5 (18)		

2-4 Electrical Specifications				EKHVX016BB6V3	EKHVX016BB6WN	EKHVX016BB9WN
Electric heater	Power supply	Phase		1~	3~	
		Voltage	V	230	400	
	Current back-up heater	Running current	A	26 (24)	8.7 (25)	13 (26)
		Zmax	Text	0.29	-	
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12 **	-	
	Voltage range	Min.	%	-10		
		Max.	%	10		
Wiring connections	Benefit kWh rate power supply installations	Quantity		2		
		Type of wires		Cable section minimum 0.75mm², max. length 50m		
	For power supply back-up heater	Quantity		3G	4G	
		Remark		Select diameter & type according to national & local regulations		
	For connection with R5T	Quantity		Wire included in option *KHTS*		
		Remark		Wire included in option *KHTS*		
	For connection with A3P	Quantity		Depends on thermostat type, cf.installation manual on *KHV(H/X)016BB*		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M2S	Quantity		3G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with M3S	Quantity		4G		
		Remark		Select diameter & type according to national & local regulations \ Voltage: 230V / Max.current: 100mA / Min. 0.75mm²		
	For connection with bottom plate heater	Quantity		2		
		Remark		Select diameter and type according to national and local regulations		
	For connection with user interface	Quantity		2		
		Remark		Cable section minimum 0,75mm², maximum length 500m		

Notes

(1) In combination with ERHQ011BAV3

(2) In combination with ERLQ011BAV3

(3) In combination with ERHQ011BAW1

(4) In combination with ERLQ011BAW1

(5) In combination with ERHQ014BAV3

(6) In combination with ERLQ014BAV3

(7) In combination with ERHQ014BAW1

(8) In combination with ERLQ014BAW1

(9) In combination with ERHQ016BAV3

(10) In combination with ERLQ016BAV3

(11) In combination with ERHQ016BAW1

(12) In combination with ERLQ016BAW1

(13) Tamb 35ºC - LWE 7ºC (Dt=5ºC) at high speed

(14) DB/WB 7ºC/6ºC - LWC 35ºC (Dt=5ºC) at high speed

(15) The sound pressure level is measured via a microphone at a 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment.

(16) The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow

(17) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(18) Including piping + PHE + back-up heater; excluding expansion vessel

(19) See operation range drawing for difference between single & three phase units

2 Specifications

(20) Operation range: only with optional *KHTS* tank. Water temperatures higher than 55ºC are with BUH only. More details, see operation range drawnig

(21) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit.

(22) Optional electric heater has 2 capacity steps except for the 3V3 model which has only 1 capacity step.

(23) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(24) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

(25) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

(26) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 13 to 7.5A. Please refer to the installation manual for instructions.

(27) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(28) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

3 Options

3 - 1 Options

EKHVH(X)008-016B

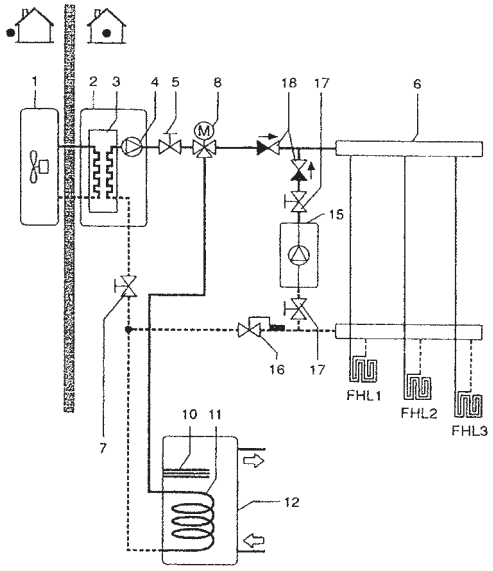
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin Altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the EKHHB* indoor unit or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

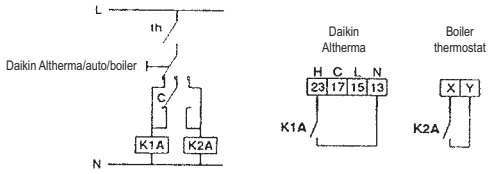
Sanitary warm water in such an application is always provided by the sanitary water tank which is connected to the indoor unit, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



1	Outdoor unit
2	Indoor unit
3	Heat exchanger
4	Pump
5	Shut-off valve
6	Collector (field supply)
7	Shut-off valve
8	Motorised 3-way valve (field supply)
10	Booster heater
11	Heat exchanger coil
12	Sanitary water tank
15	Boiler (field supply)
16	Aquastat valve (field supply)
17	Shut-off valve (field supply)
18	Non-return valve (field supply)
FHLT...3	Floor heating loop (field supply)

Field wiring



Boiler thermostat	Boiler thermostat
C	Auxiliary contact (normal closed)
th	Heating only room thermostat
K1A	Auxiliary relay for activation of EKHB* unit (field supply)
K2A	Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the EKHB* unit or the boiler starts operating, depending on the position of the auxiliary contact (C).

NOTES

- Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the EKHB* unit and the boiler.
  If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun.
  Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the EKHB* unit, the Daikin Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface.
  When weather dependent operation is active, the water temperature is determined automatically depending on the oudoor temperature.
  During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller.
  Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin Altherma unit.

CAUTION

- Make sure to configure the DIP switch SS2-3 on the PCB of the EKHB* switch box correctly.
  Refer to “Room thermostat installation configuration” in the installation manual supplied with the unit.
- Make sure that return water to the EKHB* heat exchanger never exceeds 55°C.
  For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat (*) valve in the return water flow of the EKHB* unit.
  Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*) The aquastat valve must be set for 55°C and must operate to close the return water flow to the EKHB* unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the EKHB* unit again.

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3 Options

3 - 1 Options

EKHVH(X)008-016B

Factory mounted optional equipment for *KHV(H/X)008-016BB

Reference	Description	#					
	Heating only model *KHVH008-016BB#	6V3		6WN		9WN	
	Heating only model *KHVX008-016BB#		6V3		6WN		9WN
#							
6V3	Back up heater 6kW 1~230V	○	○	-	-	-	-
6WN	Back up heater 6kW 3~400V	-	-	○	○	-	-
9WN	Back up heater 9kW 3~400V	-	-	-	-	○	○

Outdoor combination table for *KHV(H/X)008-016B

		*R(H/L)Q006B*V3	*R(H/L)Q007B*V3	*R(H/L)Q008B*V3
*KHVH008BB#	Heating only indoor unit	○	○	○
*KHVX008BB#	Reversible indoor unit	○	○	○

		R(H/L)Q011B(V3/W1)	*R(H/L)Q014B*(V3/W1)	*R(H/L)Q016B*(V3/W1)
*KHVH016BB#	Heating only indoor unit	○	○	○
*KHVX016BB#	Reversible indoor unit	○	○	○

Kit availability for *KHV(H/X)008-016BB

Reference	Description	#					
	Heating only model *KHVH008-016BB#	6V3		6WN		9WN	
	Heating only model *KHVX008-016BB#		6V3		6WN		9WN
EKHTS200... (6)	Stainless domestic hot water tank 200 l	○	○	○	○	○	○
EKHTS260... (6)	Stainless domestic hot water tank 260 l	○	○	○	○	○	○
EKHTSU200... (6)	Stainless domestic hot water tank 200 l - UK version	○	○	○	○	○	○
EKHTSU260... (6)	Stainless domestic hot water tank 260 l - UK version	○	○	○	○	○	○
***KRP1HBB**	Digital I/O PCB (1)	○	○	○	○	○	○
***KRTW**	Wired room thermostat option kit	○	○	○	○	○	○
***KRTR**	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○
***KRTETS**	External temperature sensor option kit (3)	○	○	○	○	○	○

Kits connected to the domestic hot water tank

Reference	Description	EKHTS...	EKHTSU...
EKUHWHTA	Option kit for UK EKHTSU...	-	○
EKFMAHTB (5)	Option kit for standalone tank	○	○
EKSOLHTBV3	Solar kit	○	○
EKUHW2WB	Solenoid valve kit for EKSOL*	-	○

Remark: Other combinations are not guaranteed

(1) Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHTBV3, the same digital I/O PCB as for *KRP1HB is already included.

(3) *KRTETS can only be used in combination with *KRTR

(5) Only required if tank is **NOT** mounted on top of indoor unit

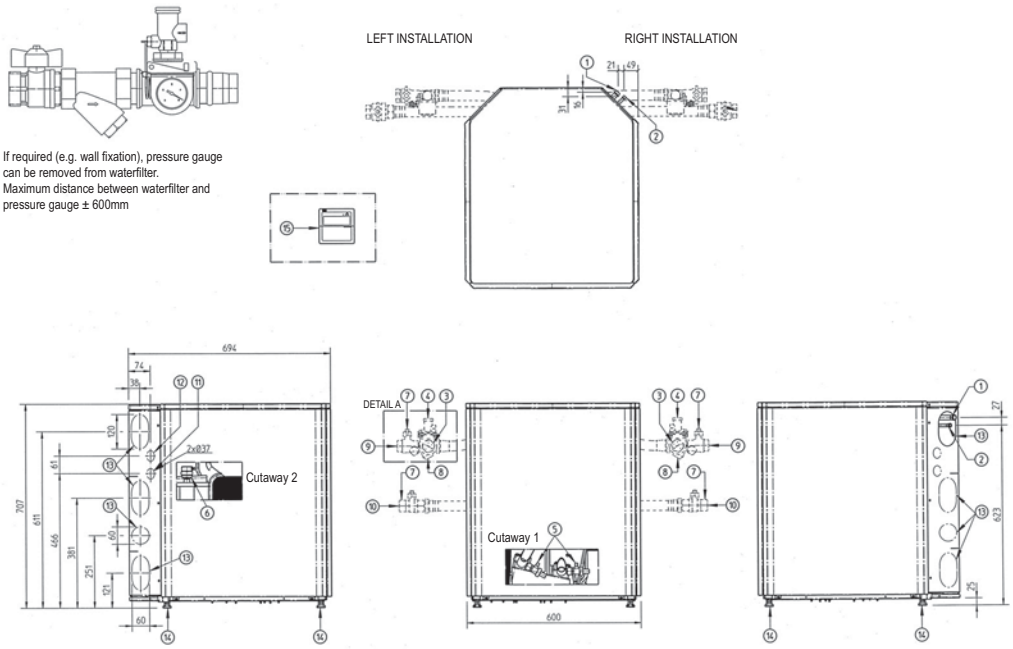
(6) Units only compatible from AC version onwards

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4 Dimensional drawings

4 - 1 Dimensional Drawings

EKHVH(X)008-016B

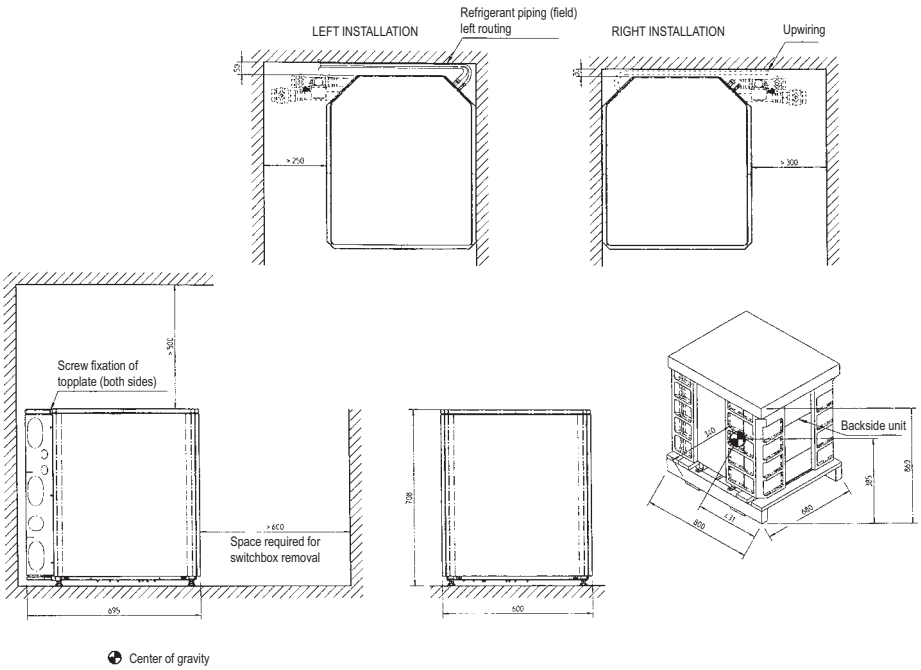


1	Gas pipe connection Ø15.9 solder (R410a)
2	Liquid pipe connection Ø9.5 solder (R410a)
3	Pressure gauge
4	Blow off valve
5	Drain/fill valve water circuit
6	Air purge
7	Shut-off valves
8	Water filter

9	Water in connection G 1-¼" (female)
10	Water out connection G 1-¼" (female)
11	Control wiring intake (knock-out hole Ø37)
12	Power supply wiring intake (knock-out hole Ø37)
13	Knock-out holes for refrigerant piping and water piping
14	Levelling feet
15	Remote control (delivered as accessory). Installation location is outside the unit

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EKHVH(X)008-016B

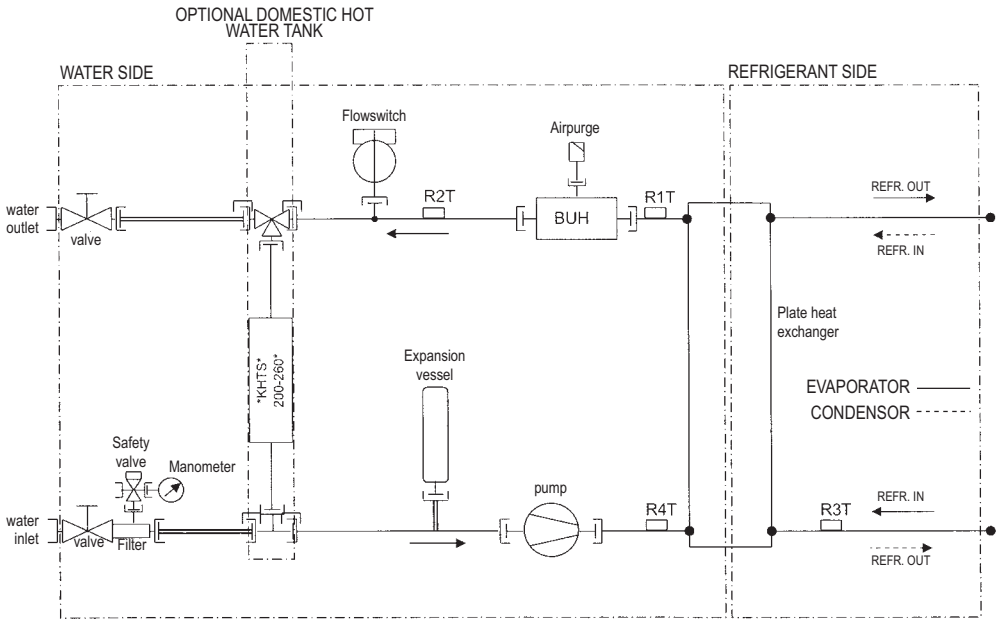


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5 Piping diagrams

5 - 1 Piping Diagrams

EKHVH(X)008-016B



Thermistor	Description
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R2T	Outlet water backup heater thermistor
R1T	Outlet water heat exchanger thermistor

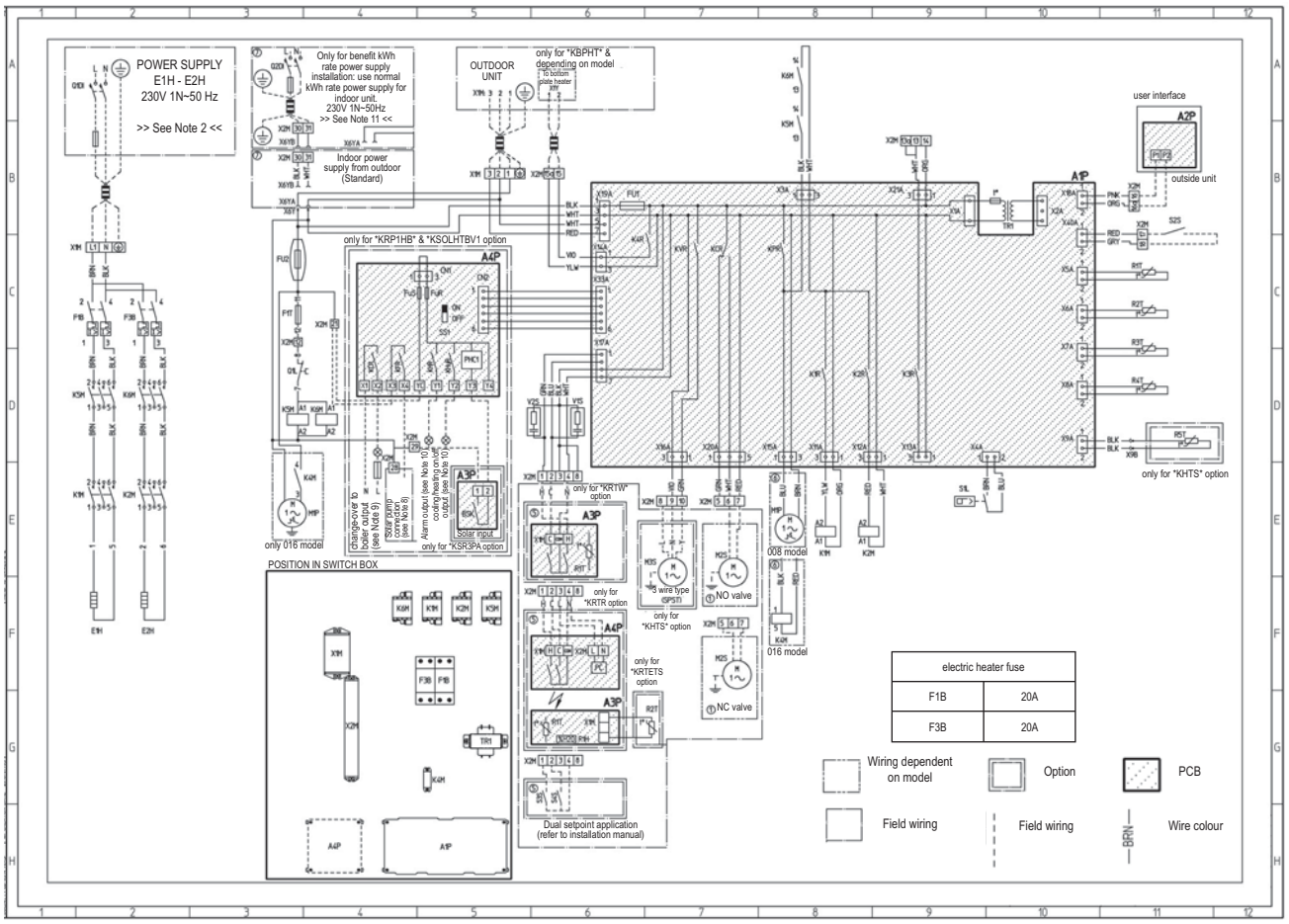
—●	Brazed connection	⊣⊢	Screw connection
⊣⊢	Quick coupling	⊣⊢	Flange connection
⋘▶|	Check valve	⨯	Pinched pipe
⋘	Flare connection	→	Spinned pipe

3TW60435-1A

6 Wiring diagrams

6 - 1 Wiring Diagrams - Single Phase

EKHVH(X)008-016B



*KHV(H/X)*008/016*6V3		K1M, K2M	contactor backup heater step	R3T	refrigerant liquid side thermistor
A1P	main PCB	K4M	pump relay	R4T	inlet water thermistor
A2P	user interface PCB	K5M, K6M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A3P (*KRTW/R*)	thermostat (PC=power ciruit)	M1P	pump	S1L	flowswitch
A3P (*KSR3PA)	solar pumpstation PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate power supply contact
A4P (*KRP1HB*)	digital I/O PCB	M3S	3way valve: space C/H / domestic hot water	S3S	dual setpoint 2 contact
A4P (*KRTR)	receiver PCB	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
BSK (*KSR3PA)	solar pumpstation relay	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
E1H, E2H	backup heater elements	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1B, F3B	fuse backup heater	R1H (*KRTR)	humidity sensor	V1S, V2S	spark suppression 1, 2
F1T	thermal fuse backup heater	R1T	outlet water heat exchanger thermistor	X1M, X2M	terminal strips
FU1	fuse 3,15A T 250V for PCB	R1T (*KRTW*)	ambient sensor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R2T	outlet water backup heater thermistor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T (*KRTETS)	external sensor (floor or ambient)		

2TW60436-1A

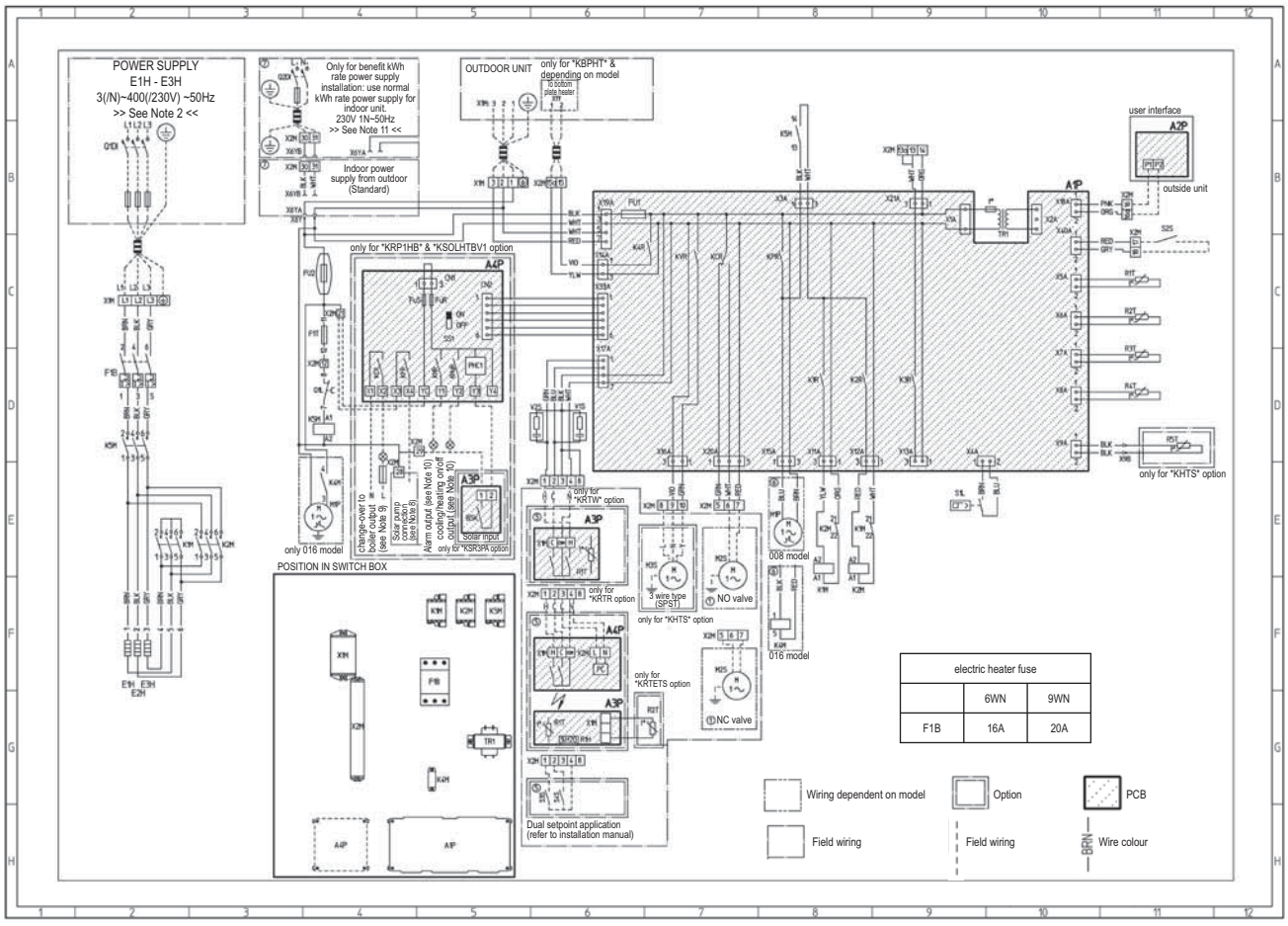
NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater. Never use a power circuit shared by other applience.
3. : field wiring NO/NC : normal open / normal closed SPST: single pole single throw
4. : terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK = black RED = red BLU = blue WHT = white PNK = pink YLW = yellow
   BRN = brown GRY = grey GRN = green ORG = orange VIO = violet
8. For *KSOLHTBV1, refer to option manual
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

6 Wiring diagrams

6 - 2 Wiring Diagrams - Three Phase

EKHVH(X)008-016B



*KHV(H/X)*008/016*(6/9)WN		K1M/K2M	contactor backup heater step 1/2	R3T	refrigerant liquid side thermistor
A1P	main PCB	K4M	pump relay	R4T	inlet water thermistor
A2P	user interface PCB	K5M	contactor for backup heater all pole disconnection	R5T	domestic hot water thermistor
A3P (*KRTW/R*)	thermostat (PC=power ciruit)	M1P	pump	S1L	flowswitch
A3P (*KSR3PA)	solar pumpstation PCB	M2S	2way valve for cooling mode	S2S	benefit kWh rate power supply contact
A4P (*KRP1HB*)	digital I/O PCB	M3S	3way valve: space C/H / domestic hot water	S3S	dual setpoint 2 contact
A4P (*KRTR)	receiver PCB	PHC1	optocoupler input circuit	S4S	dual setpoint 1 contact
BSK (*KSR3PA)	solar pumpstation relay	Q1DI, Q2DI	earth leakage circuit breaker	SS1	dip switch
E1H, E2H, E3H	backup heater elements	Q1L	thermal protector backup heater	TR1	transformer 24V for PCB
F1B	fuse backup heater	R1H (*KRTR)	humidity sensor	V1S, V2S	spark suppression 1, 2
F1T	thermal fuse backup heater	R1T	outlet water heat exchanger thermistor	X1M, X2M	terminal strips
FU1	fuse 3,15A T 250V for PCB	R1T (*KRTW*)	ambient sensor	X6Y, X9B	connector
FU2	fuse 5A T 250V	R2T	outlet water backup heater thermistor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R2T (*KRTETS)	external sensor (floor or ambient)		

2TW60436-2A

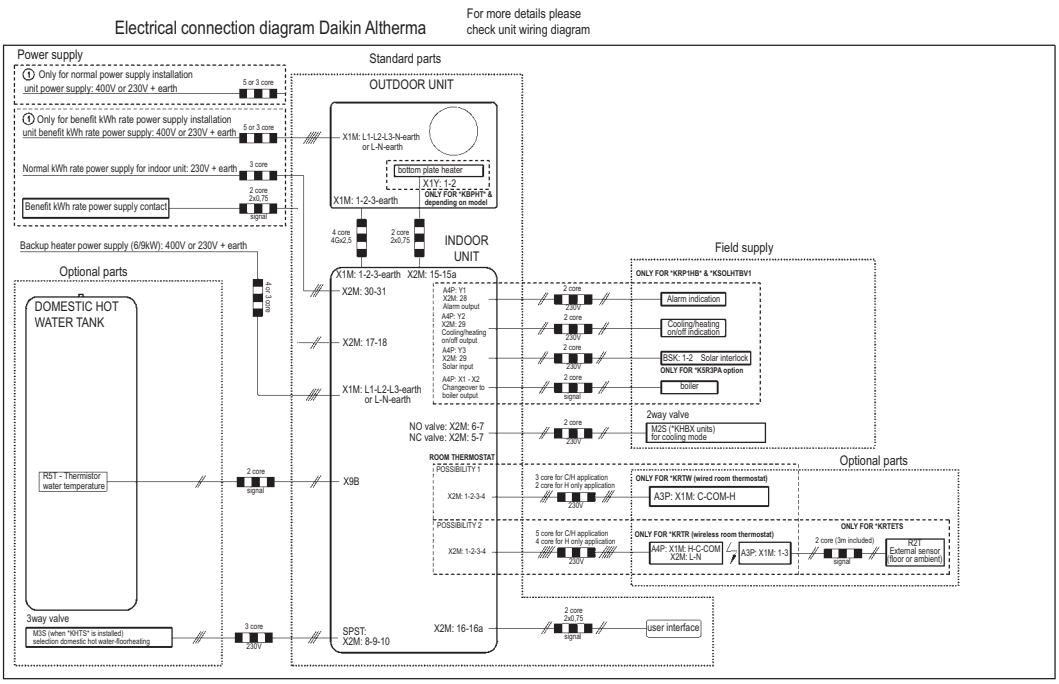
NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the backup heater. Never use a power circuit shared by other applience.
3. : field wiring NO/NC : normal open / normal closed SPST: single pole single throw
4. : terminal strip : connector : terminal : protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK = black RED = red BLU = blue WHT = white PNK = pink YLW = yellow
   BRN = brown GRY = grey GRN = green ORG = orange VIO = violet
8. For *KSOLHTBV1, refer to option manual
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. For benefit kWh rate power supply installation: refer to installation manual

7 External connection diagrams

7 - 1 External Connection Diagrams

EKHVH(X)008-016B



NOTE

In case of signal cable keep minimum distance to power cables > 5cm

3TW60436-5

8 Installation

8 - 1 Installation Method

EKHVH(X)008-016B

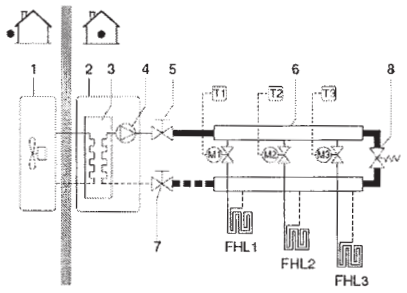
Hydrobox unit

Minimum water volume

Assure that the total water volume within the installation, excluding the internal water volume of the indoor unit, is enough:

- minimum 10 litre for GBS (*RYQ005-007 & *RHQ006-008)
- minimum 20 litre for GQI (*RHQ011-016)

Example



1	Outdoor unit
2	Indoor unit
3	Heat exchanger
4	Pump
5	Shut-off valve
6	Collector (field supply)
7	Shut-off valve
8	By-pass valve (field supply)
FHL1...3	Floor heating loop (field supply)
T1...3	Individual room thermostat (field supply)
M1...3	Individual motorised valve to control loop FHL1

Field piping diameters

Select the field piping diameters in relation to the required water flow and available ESP of the indoor unit pump (See “Hydraulic performance”).

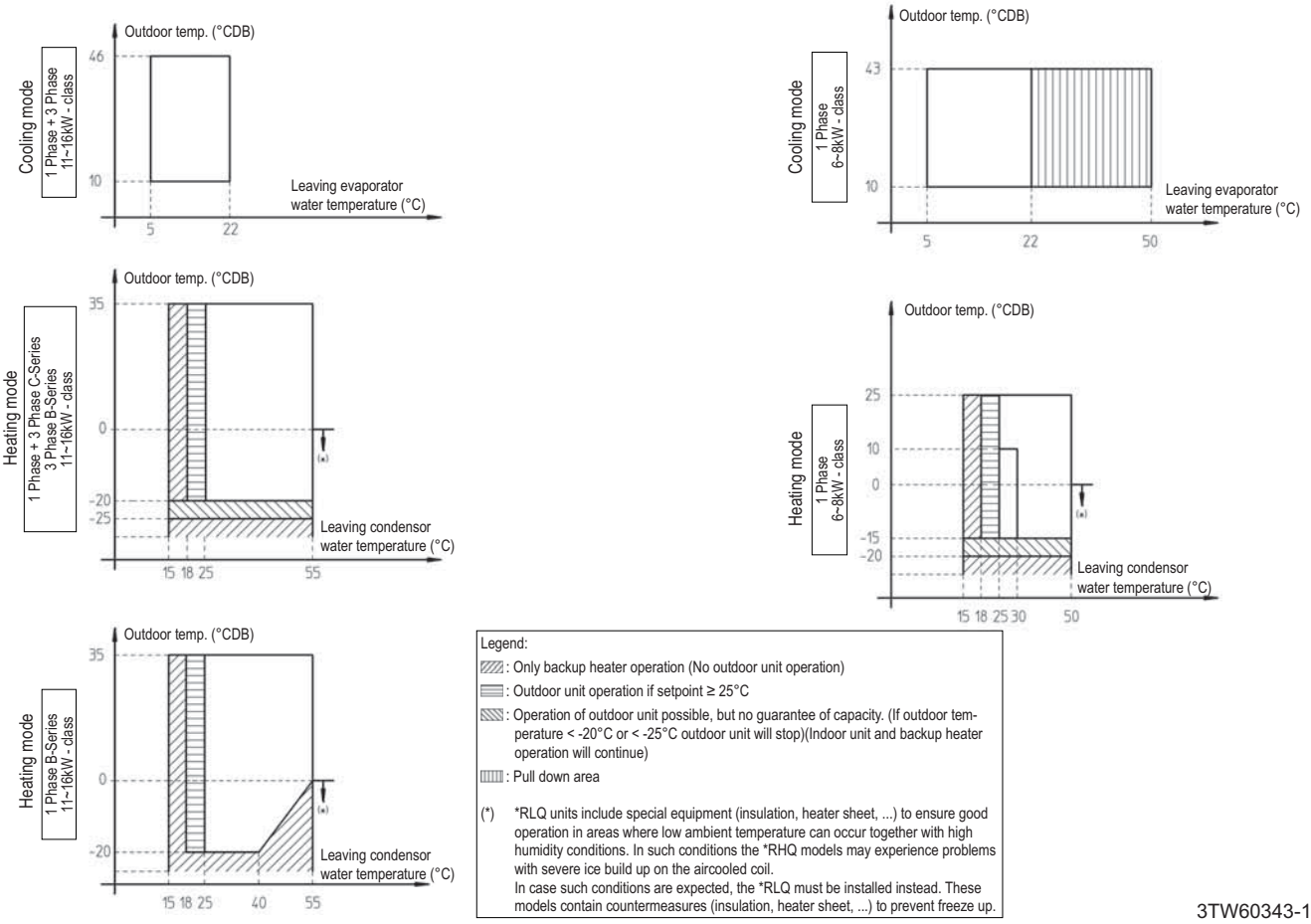
Installation location

- During normal operation the hydrobox unit will produce sound which could be observed as noise. The sound origin can be water pump operation and/or contactor activation. Therefore it is advisable to install the hydrobox unit on a firm wall and not in nor close to a sound sensitive environment (example bedroom).
- The unit is to be wall mounted in an indoor location that meets the following requirements:
- The installation location is frost-free
- The space around the unit is adequate for servicing. (See “Dimensional drawing”)
- The space around the unit allows for sufficient air circulation.
- There is a provision for condensate drain (only for EKHBX models with drain pan kit EKHBDP) and pressure relief valve blow-off.
- The installation surface is a flat and vertical non-combustible wall, capable of supporting the operation weight of the unit (See “Technical specifications”).
- There is no danger of fire due to leakage of inflammable gas.
- All piping lengths and distances have been taken into consideration (See “Technical specifications”).
- Do not install the unit in places with high humidity (e.g. bathroom).

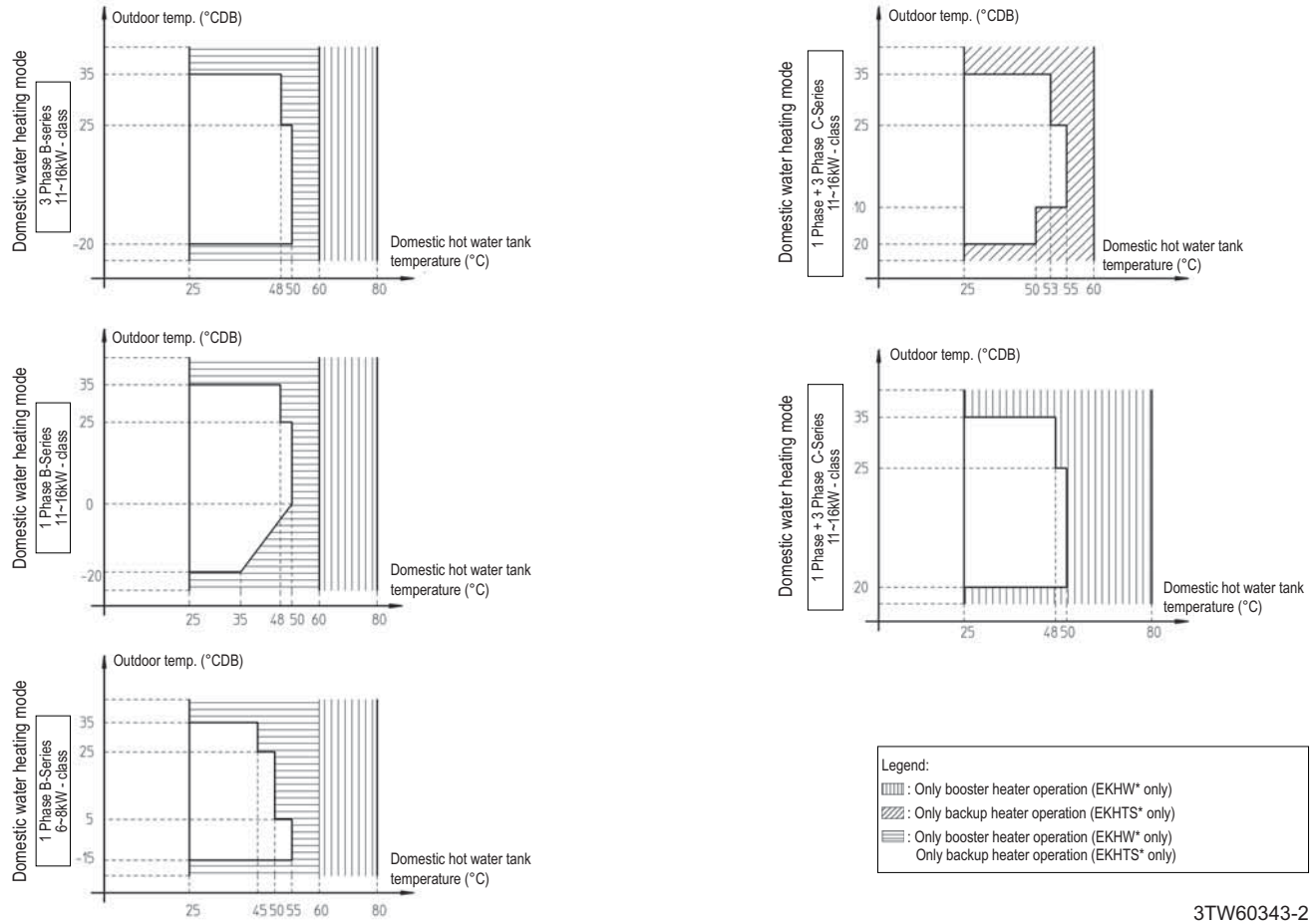
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9 Operation range

9 - 1 Operation Range



3TW60343-1

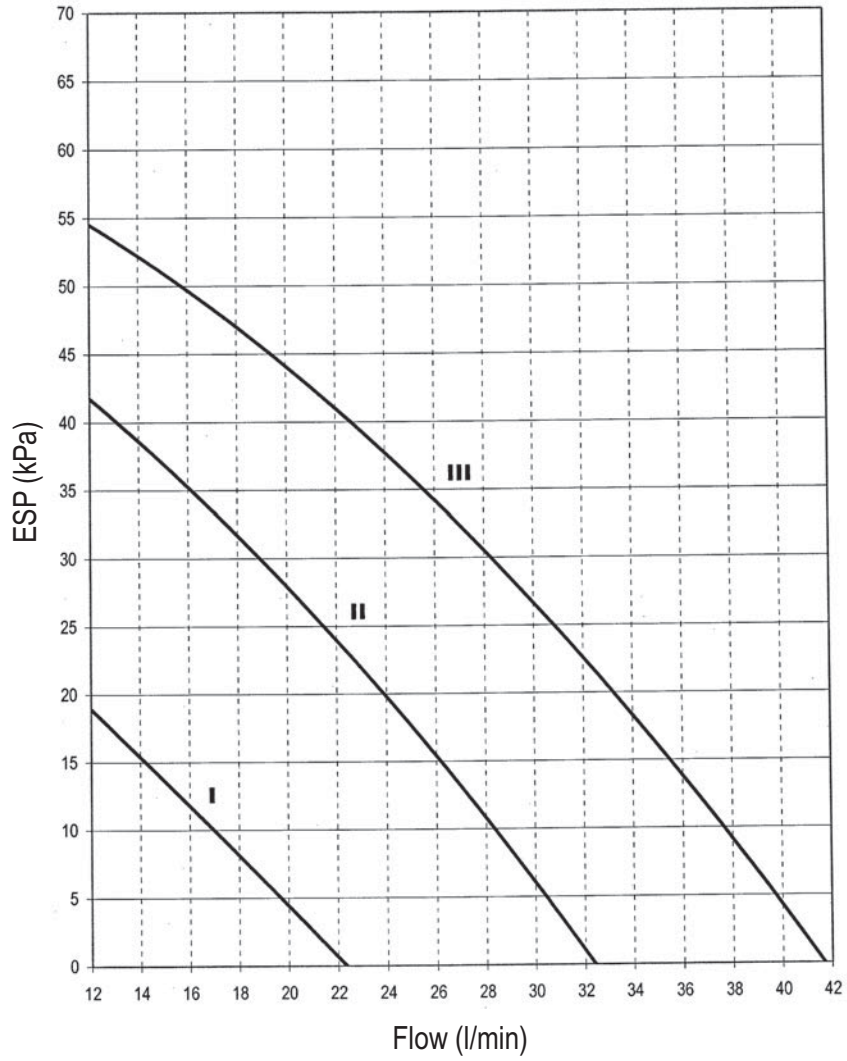


3TW60343-2

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EKHVH(X)008B



III high speed
II medium speed
I low speed
ESP: external static pressure
Flow: waterflow through the unit

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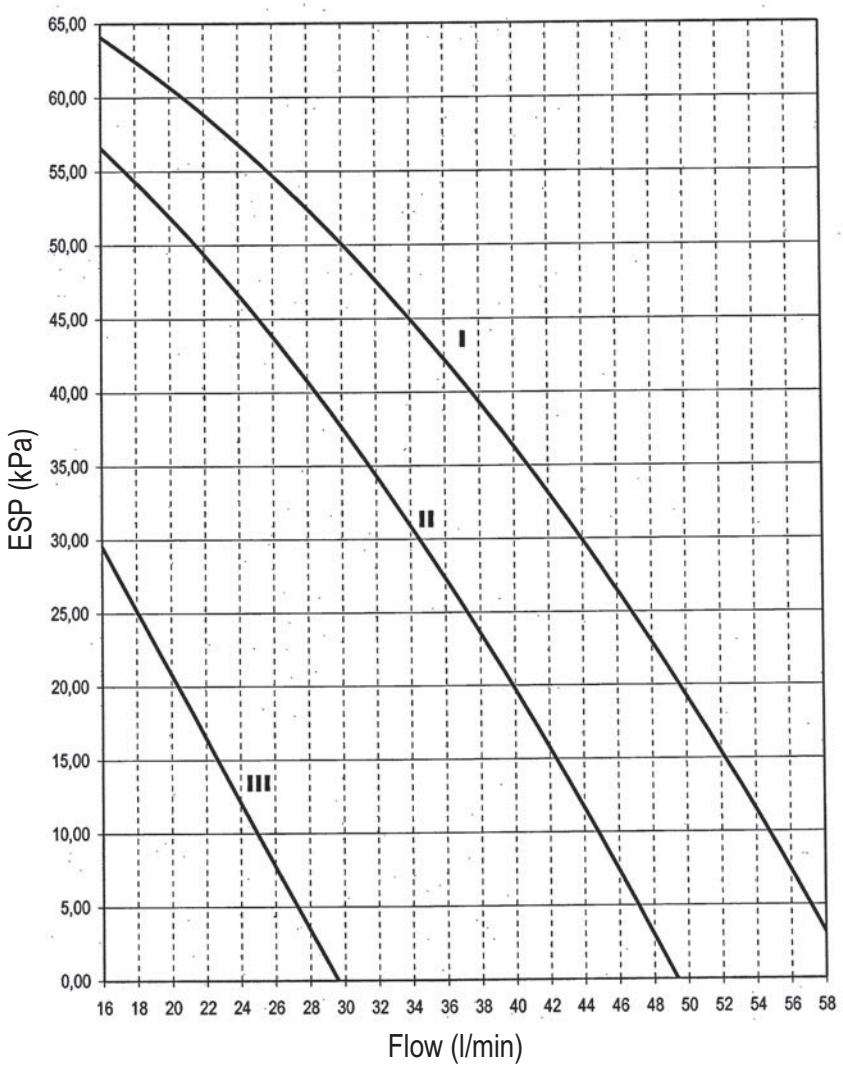
WARNINGS

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EKHVH(X)016B



I high speed
II medium speed
III low speed
ESP: external static pressure
Flow: waterflow through the unit

4TW60439-2

WARNINGS

1 Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC.

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1 Features



2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVH008 BB6V3 / ERLQ006 BBV3	EKHVH008 BB6V3 / ERLQ007 BBV3	EKHVH008 BB6V3 / ERLQ008 BBV3	EKHVH008 BB6WN / ERLQ006 BBV3	EKHVH008 BB6WN / ERLQ007 BBV3	EKHVH008 BB6WN / ERLQ008 BBV3	EKHVH008 BB9WN / ERLQ006 BBV3	EKHVH008 BB9WN / ERLQ007 BBV3	EKHVH008 BB9WN / ERLQ008 BBV3
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVX008 BB6V3 / ERLQ006 BBV3	EKHVX008 BB6V3 / ERLQ007 BBV3	EKHVX008 BB6V3 / ERLQ008 BBV3	EKHVX008 BB6WN / ERLQ006 BBV3	EKHVX008 BB6WN / ERLQ007 BBV3	EKHVX008 BB6WN / ERLQ008 BBV3	EKHVX008 BB9WN / ERLQ006 BBV3	EKHVX008 BB9WN / ERLQ007 BBV3	EKHVX008 BB9WN / ERLQ008 BBV3
Cooling capacity	Min.		kW	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)
	Nom.		kW	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)
	Max.		kW	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)
	Cooling	Nom.	kW	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)
EER				3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBX008 BB3V3 / ERLQ006 BBV3	EKHBX008 BB3V3 / ERLQ007 BBV3	EKHBX008 BB3V3 / ERLQ008 BBV3	EKHBX008 BB3V3S / ERLQ006 BBV3	EKHBX008 BB3V3S / ERLQ007 BBV3	EKHBX008 BB3V3S / ERLQ008 BBV3	EKHBX008 BB6V3 / ERLQ006 BBV3	EKHBX008 BB6V3 / ERLQ007 BBV3	EKHBX008 BB6V3 / ERLQ008 BBV3	EKHBX008 BB6WN / ERLQ006 BBV3
Cooling capacity	Min.		kW	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)
	Nom.		kW	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)
	Max.		kW	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)

2 Specifications

CONNECTABLE INDOOR UNITS													
2-1 Nominal Capacity And Nominal Input				EKHBX008 BB3V3 / ERLQ006 BBV3	EKHBX008 BB3V3 / ERLQ007 BBV3	EKHBX008 BB3V3 / ERLQ008 BBV3	EKHBX008 BB3V3S / ERLQ006 BBV3	EKHBX008 BB3V3S / ERLQ007 BBV3	EKHBX008 BB3V3S / ERLQ008 BBV3	EKHBX008 BB6V3 / ERLQ006 BBV3	EKHBX008 BB6V3 / ERLQ007 BBV3	EKHBX008 BB6V3 / ERLQ008 BBV3	EKHBX008 BB6WN / ERLQ006 BBV3
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)
	Cooling	Nom.	kW	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)
EER				3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS													
2-1 Nominal Capacity And Nominal Input				EKHBX008 BB6WN / ERLQ007 BBV3	EKHBX008 BB6WN / ERLQ008 BBV3	EKHBX008 BB6T1 / ERLQ006 BBV3	EKHBX008 BB6T1 / ERLQ007 BBV3	EKHBX008 BB6T1 / ERLQ008 BBV3	EKHBX008 BB9WN / ERLQ006 BBV3	EKHBX008 BB9WN / ERLQ007 BBV3	EKHBX008 BB9WN / ERLQ008 BBV3		
Cooling capacity	Min.		kW	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)		
	Nom.		kW	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)		
	Max.		kW	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)		
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)		
	Nom.		kW	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)		
	Max.		kW	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)		
Power input	Heating	Nom.	kW	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)		
	Cooling	Nom.	kW	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)		
EER				2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)		
COP				4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS													
2-1 Nominal Capacity And Nominal Input				EKHBH008 BB3V3 / ERLQ006 BBV3	EKHBH008 BB3V3 / ERLQ007 BBV3	EKHBH008 BB3V3 / ERLQ008 BBV3	EKHBH008 BB6V3 / ERLQ006 BBV3	EKHBH008 BB6V3 / ERLQ007 BBV3	EKHBH008 BB6V3 / ERLQ008 BBV3	EKHBH008 BB6WN / ERLQ006 BBV3	EKHBH008 BB6WN / ERLQ007 BBV3	EKHBH008 BB6WN / ERLQ008 BBV3	EKHBH008 BB6T1 / ERLQ006 BBV3
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

2 Specifications

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHBH008 BB6T1 / ERLQ007 BBV3	EKHBH008 BB6T1 / ERLQ008 BBV3	EKHBH008 BB9WN / ERLQ006 BBV3	EKHBH008 BB9WN / ERLQ007 BBV3	EKHBH008 BB9WN / ERLQ008 BBV3	EKHBH008 BB9T1 / ERLQ006 BBV3	EKHBH008 BB9T1 / ERLQ007 BBV3	EKHBH008 BB9T1 / ERLQ008 BBV3
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)
	Max.		kW	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)
Power input	Heating	Nom.	kW	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)
COP				4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS						
2-2 Technical Specifications				ERLQ006BBV3	ERLQ007BBV3	ERLQ008BBV3
Capacity control	Method			Inverter controlled		
Casing	Colour			Ivory white		
	Material			Polyester painted galvanised steel plate		
Dimensions	Unit	Height	mm	735		
		Width	mm	825		
		Depth	mm	300		
	Packed unit	Height	mm	797		
		Width	mm	960		
		Depth	mm	390		
Weight	Unit		kg	57		
	Packed unit		kg	62		
Packing	Material			EPS / Carton		
	Weight		kg	5		
Heat exchanger	Length		mm	845		
	Rows	Quantity		2		
	Fin pitch		mm	1.8		
	Stages	Quantity		32		
	Tube type			ø8 Hi-XA		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Fan	Type			Propeller fan		
	Quantity			1		
	Discharge direction			Horizontal		
Fan motor	Quantity			1		
	Output		W	53		
Sound power level	Heating	Nom.	dBA	61		62
	Cooling	Nom.	dBA	63		
Sound pressure level	Heating	Nom.	dBA	48		49
	Cooling	Nom.	dBA	48		50
Compressor	Quantity			1		
	Model			2YC63BXD#C		
	Type			Hermetically sealed swing compressor		
	Output		W	1,920		
Operation range	Heating	Min.	ºCWB	-15		
		Max.	ºCWB	25		
	Cooling	Min.	ºCDB	10		
		Max.	ºCDB	43		
	Domestic hot water	Min.	ºCDB	-15		
		Max.	ºCDB	35		

2 Specifications

CONNECTABLE INDOOR UNITS							
2-2 Technical Specifications					ERLQ006BBV3	ERLQ007BBV3	ERLQ008BBV3
Refrigerant	Type				R-410A		
	Charge			kg	1.7		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				FVC50K		
	Charged volume			l	0.75		
Piping connections	Liquid	Type			Flare connection		
		OD		mm	6.35		
	Gas	Type			Flare connection		
		OD		mm	15.9		
	Drain	Quantity			4		
		Type			Hole		
		OD		mm	20		
	Drain 2	Quantity			1		
		Type			Hole		
		OD		mm	18		
	Piping length	Min.	OU - IU	m	3		
		OU - IU	Max.	m	30		
	Level difference	IU - OU	Max.	m	20		
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		

CONNECTABLE INDOOR UNITS							
2-3 Electrical Specifications					ERLQ006BBV3	ERLQ007BBV3	ERLQ008BBV3
Power supply	Name				V3		
	Phase				1~		
	Frequency			Hz	50		
	Voltage			V	230		
	Voltage range	Min.		%	-10		
		Max.		%	10		
Current	Zmax	Text			0.42		
	Starting current	Heating		A	11		
		Cooling		A	11		
	Maximum running current	Heating		A	18		
		Cooling		A	16.25		
	Recommended fuses			A	20		
Wiring connections	For power supply	Quantity			3		
	For connection with indoor	Quantity			4		
		Remark			Earth wire included		

Notes

(1) See separate drawing for operation range

(2) Operation range heating (outdoor unit): range increase by support back-up heater

(3) Operation range domestic hot water (outdoor unit): range increase by support booster heater

(4) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(5) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(6) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(7) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(8) PED unit category: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC

3 Capacity tables

3 - 1 Cooling/Heating Capacity Tables

ERLQ006-008BBV3

Cooling

Model	Tamb (°C	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
006	7	6.01	1.56	5.73	1.75	5.43	1.95	5.12	2.16	4.80	2.39	4.59	2.53
	11	6.81	1.57	6.50	1.77	6.17	1.98	5.83	2.21	5.30	2.32	4.98	2.38
	13	7.23	1.57	6.90	1.78	6.56	2.00	6.20	2.23	5.56	2.28	5.18	2.30
	16	7.88	1.56	7.54	1.78	7.17	2.01	6.79	2.26	5.95	2.22	5.46	2.18
	20	8.80	1.55	8.42	1.79	8.03	2.03	7.63	2.29	6.48	2.13	5.82	1.99
007	7	7.15	2.05	6.84	2.28	6.50	2.52	6.13	2.77	5.35	2.68	4.89	2.59
	11	8.09	2.09	7.73	2.34	7.34	2.59	6.94	2.87	5.84	2.62	5.21	2.43
	13	8.57	2.11	8.20	2.36	7.79	2.63	7.36	2.91	6.09	2.59	5.36	2.34
	16	9.33	2.13	8.92	2.40	8.49	2.68	8.03	2.97	6.46	2.53	5.57	2.20
	20	10.4	2.16	9.9	2.44	9.48	2.73	8.99	3.04	6.96	2.44	5.82	1.99
008	7	8.24	2.43	7.90	2.68	7.52	2.94	7.10	3.23	5.68	2.86	4.87	2.59
	11	9.26	2.49	8.87	2.76	8.45	3.05	7.79	3.31	6.12	2.80	5.18	2.43
	13	9.79	2.52	9.38	2.80	8.93	3.10	8.14	3.36	6.34	2.77	5.33	2.35
	16	10.6	2.57	10.17	2.86	9.69	3.17	8.68	3.41	6.67	2.71	5.55	2.20
	20	11.7	2.63	11.3	2.94	10.75	3.26	9.39	3.48	7.09	2.61	5.80	1.99

Heating (Peak values)

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.93	1.48	3.67	1.59	3.47	1.71	3.33	1.84	3.25	1.99
	-10	4.65	1.52	4.32	1.65	4.07	1.79	3.89	1.94	3.78	2.10
	-7	5.14	1.54	4.77	1.68	4.49	1.83	4.28	1.99	4.15	2.16
	-2	6.06	1.57	5.62	1.72	5.28	1.88	5.03	2.06	4.87	2.25
	2	6.89	1.57	6.38	1.74	6.00	1.91	5.72	2.11	5.53	2.31
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.87	1.82	4.62	1.94	4.43	2.08	4.30	2.23	4.24	2.40
	-10	5.67	1.88	5.34	2.02	5.09	2.18	4.92	2.36	4.82	2.55
	-7	6.21	1.91	5.83	2.07	5.55	2.24	5.35	2.42	5.23	2.63
	-2	7.23	1.95	6.77	2.13	6.42	2.32	6.17	2.52	6.02	2.75
	2	8.14	1.97	7.61	2.16	7.21	2.37	6.92	2.59	6.74	2.83
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	5.42	2.06	5.16	2.19	4.97	2.34	4.86	2.51	4.80	2.70
	-10	6.27	2.13	5.93	2.29	5.68	2.46	5.51	2.65	5.42	2.86
	-7	6.84	2.17	6.46	2.34	6.17	2.53	5.97	2.73	5.86	2.95
	-2	7.92	2.22	7.45	2.41	7.10	2.62	6.85	2.85	6.70	3.10
	2	8.9	2.26	8.35	2.46	7.93	2.69	7.65	2.93	7.47	3.20
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

Heating (Integrated values[4])

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.50	1.40	3.27	1.51	3.09	1.62	2.97	1.75	2.89	1.89
	-10	4.14	1.45	3.85	1.56	3.62	1.70	3.46	1.84	3.36	2.00
	-7	4.52	1.45	4.20	1.58	3.95	1.72	3.77	1.87	3.65	2.03
	-2	5.27	1.46	4.89	1.60	4.59	1.75	4.38	1.92	4.24	2.10
	2	5.92	1.45	5.49	1.60	5.16	1.76	4.92	1.94	4.76	2.13
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.34	1.73	4.11	1.85	3.94	1.98	3.83	2.12	3.77	2.28
	-10	5.04	1.79	4.75	1.92	4.53	2.07	4.38	2.24	4.29	2.42
	-7	5.46	1.80	5.13	1.94	4.88	2.10	4.71	2.28	4.60	2.47
	-2	6.29	1.81	5.89	1.98	5.59	2.15	5.37	2.35	5.23	2.56
	2	7.00	1.81	6.55	1.99	6.20	2.18	5.96	2.38	5.80	2.61
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	4.82	1.96	4.59	2.08	4.43	2.23	4.32	2.39	4.27	2.56
	-10	5.58	2.03	5.28	2.17	5.06	2.34	4.91	2.52	4.82	2.72
	-7	6.02	2.04	5.69	2.20	5.43	2.37	5.26	2.57	5.15	2.78
	-2	6.89	2.07	6.48	2.25	6.17	2.44	5.96	2.65	5.83	2.88
	2	7.6	2.08	7.18	2.27	6.82	2.47	6.58	2.70	6.43	2.94
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

SYMBOLS

CC: Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC: Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI: Power input (kW)
LWE: Leaving Water Evaporator temperature (°C)
LWC: Leaving Water Condensor temperature (°C)
Tamb: Ambient temperature (°C) RH=85%

NOTES

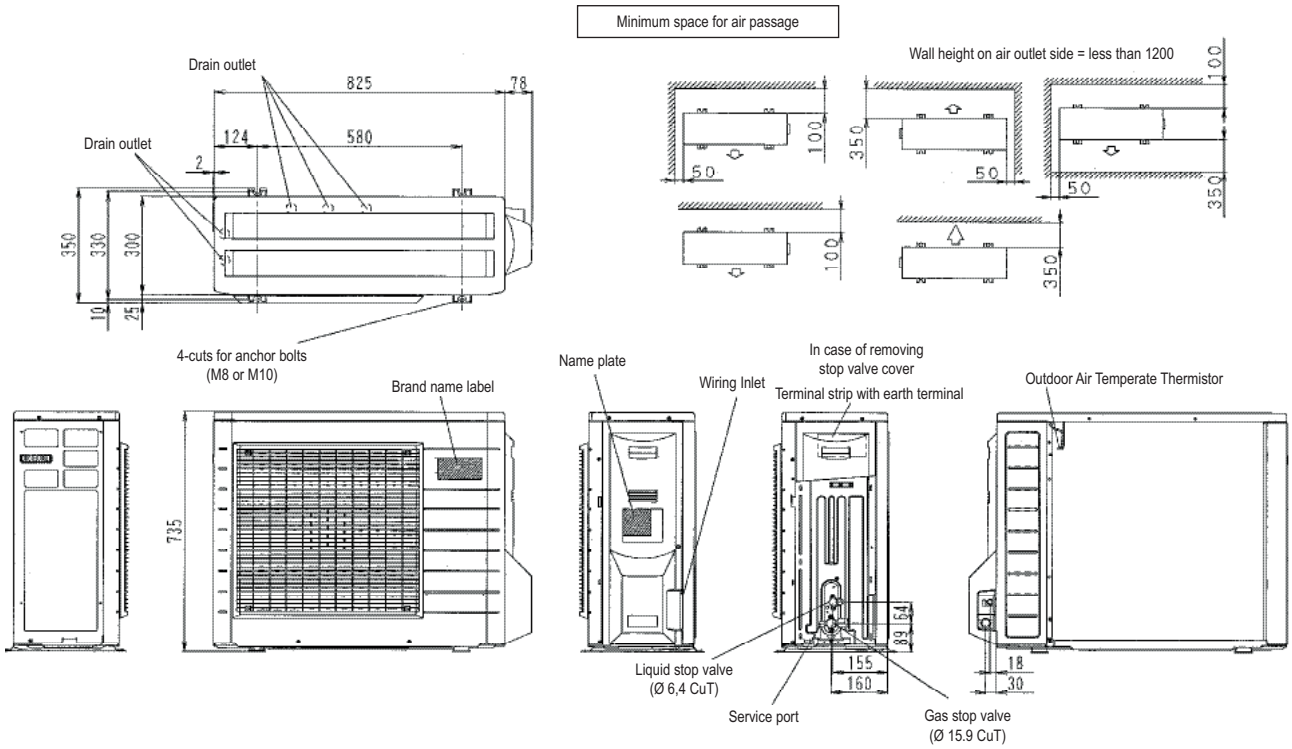
1. **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~ 8°C
2. **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~ 8°C
3. **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006. Pump power input to be added = 60 W (according EN14511).
4. The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle (from end of defrost till end of the next defrost).
5. For the ERLQ*V3-model with heatertap when ambient temperature becomes lower than [F-02] : Add power input of 60W
6. For the with heatertap when ambient temperature becomes lower than [F-02] : Add ERLQ*V39-model power input of 125W
7. [F-02] = BPH ON em for more details see installation manual indoor unit.

3TW57782-1D

4 Dimensional drawings

4 - 1 Dimensional Drawings

ERLQ006-008BBV3

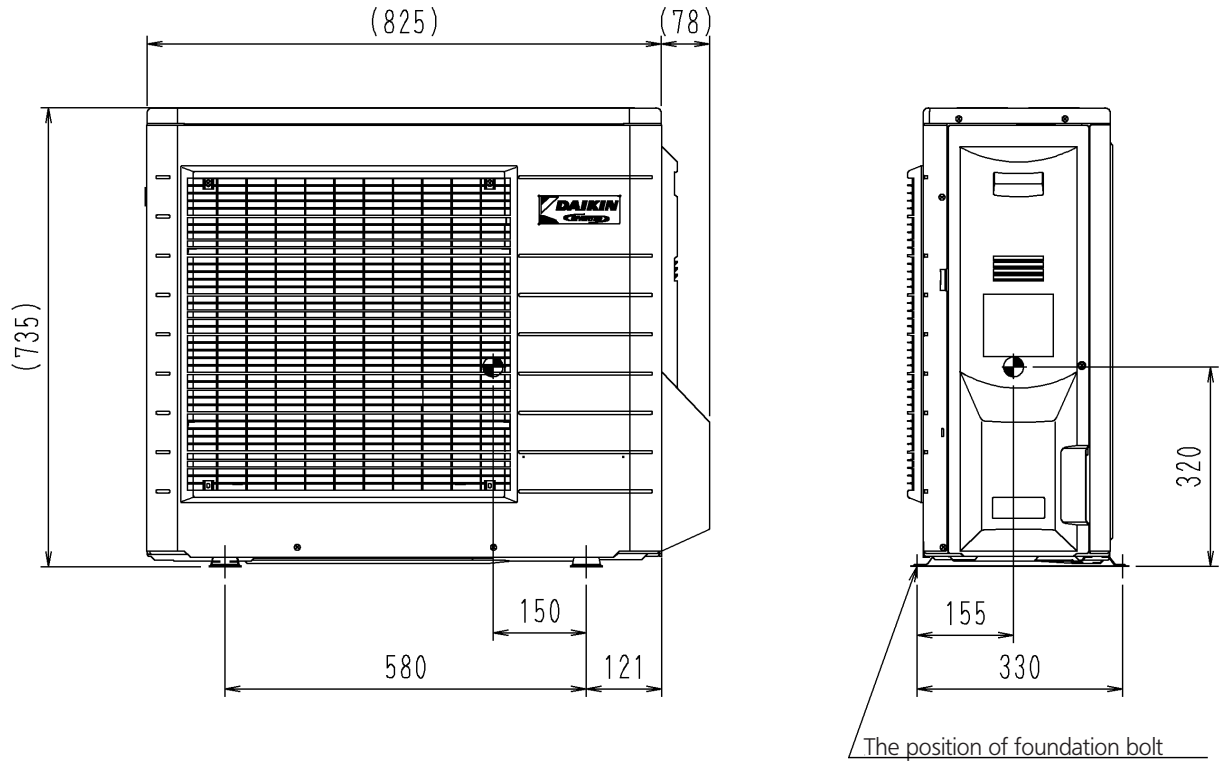


3TW60384-1A

5 Centre of gravity

5 - 1 Centre of Gravity

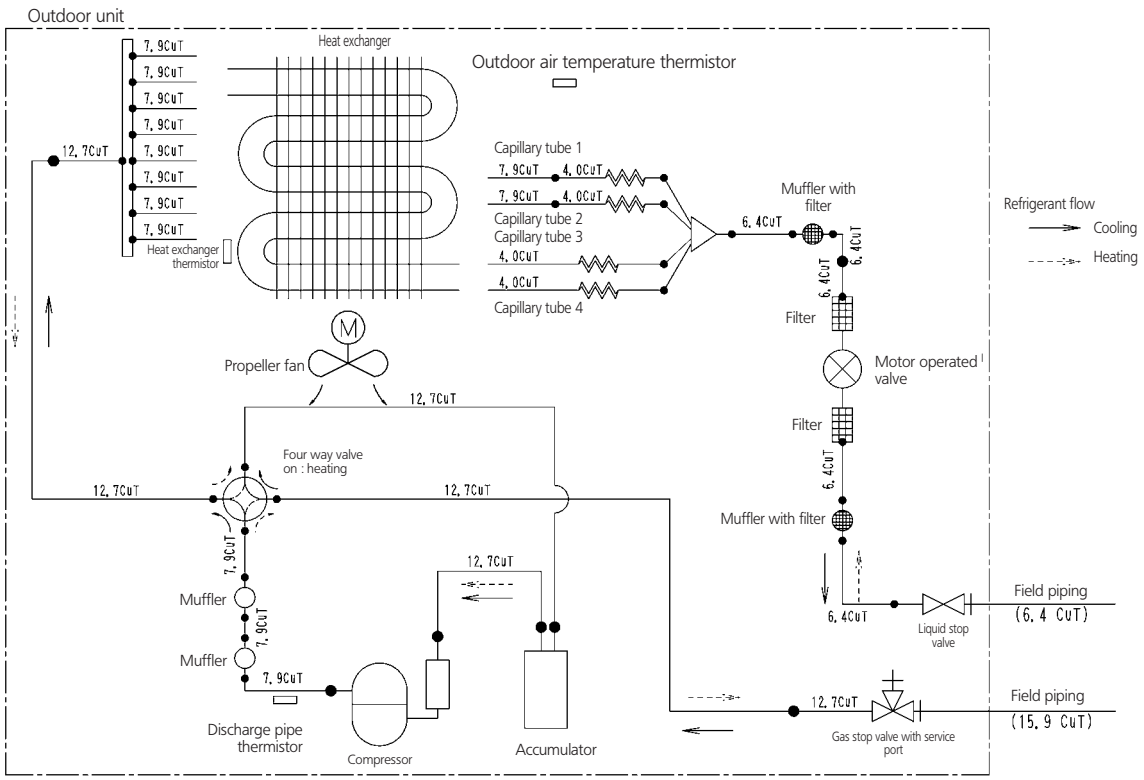
ERLQ006-008BBV3



6 Piping diagrams

6 - 1 Piping Diagrams

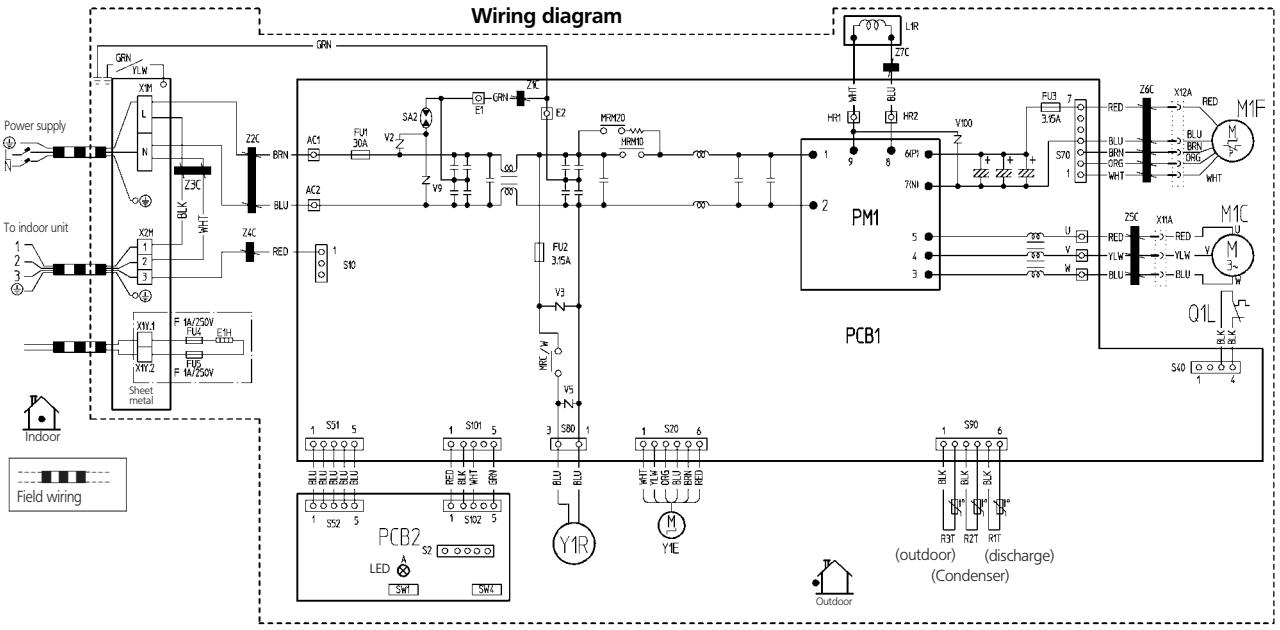
ERLQ006-008BBV3



7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

ERLQ006-008BBV3

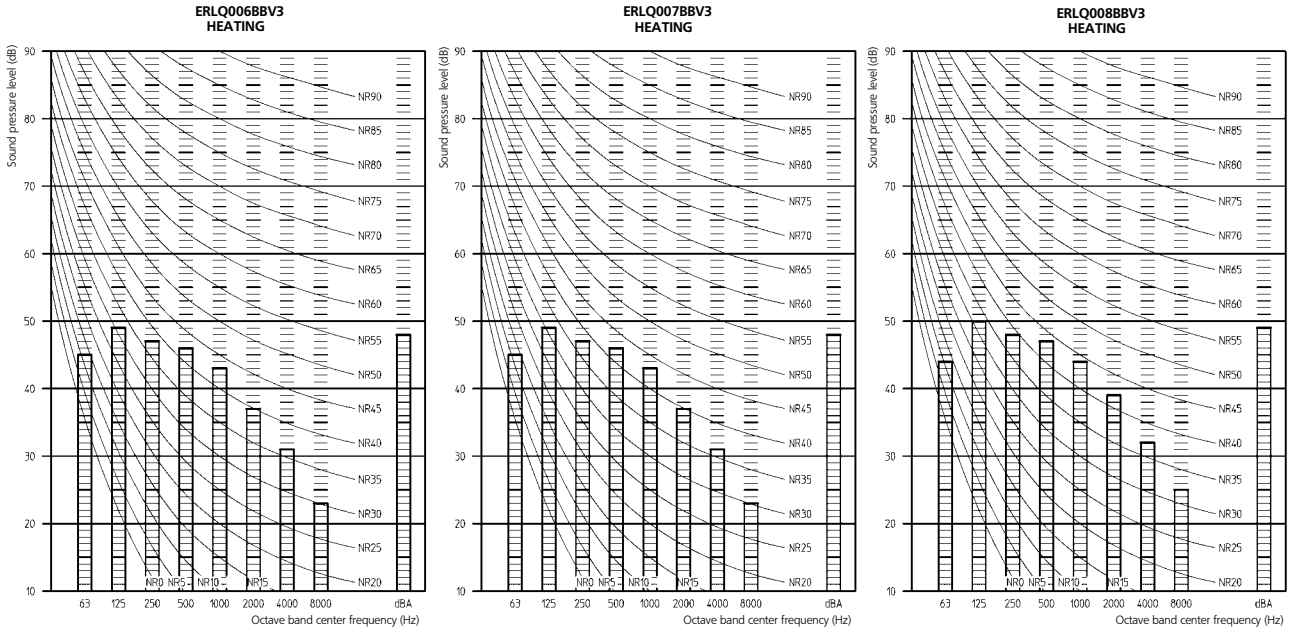


Z1C–Z7C	: Ferrite core	MRM10, MRM20		Q1L	: Overload protector	Notes:	
X1M, X2M	: Terminal strip	MRC/W	: Magnetic relay	PM1	: Power module	1. Refer to purchasing specification AS303002, unless otherwise specified.	
Y1E	: Electronic expansion valve coil	R1T–R3T	: Thermistor	PCB1,2	: Printed circuit board	2. This drawing was drawn on CAD system.	
V2, V3, V5, V9, V100	: Varistor	S2–S102	: Connector	Y1R	: Reversing solenoide valve coil	3. The electric wiring diagram label is 3PW56901-1	
SA2	: Surge arrester	LEDA	: Pilot lamp	Sheet metal	: Terminal strip fixed plate		
FU1, FU2, FU3, FU4, FU5:	: Fuse	L	: Live				
AC1, AC2		N	: Neutral				
U, V, W, X11A, X12A		SW1	: Forced operation on/off switch (SW1)				
E1, E2		SW4	: Local setting SW (SW4)				
HR1, HR2	: Connector	M1C	: Compressor motors				
E1H	: Bottomplate heater	M1F	: Fan motor				
X1Y	: Connector	L1R	: Reactor				

3TW57786-8

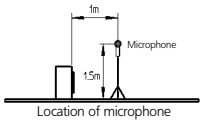
8 Sound data

8 - 1 Sound Pressure Spectrum - Heating



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

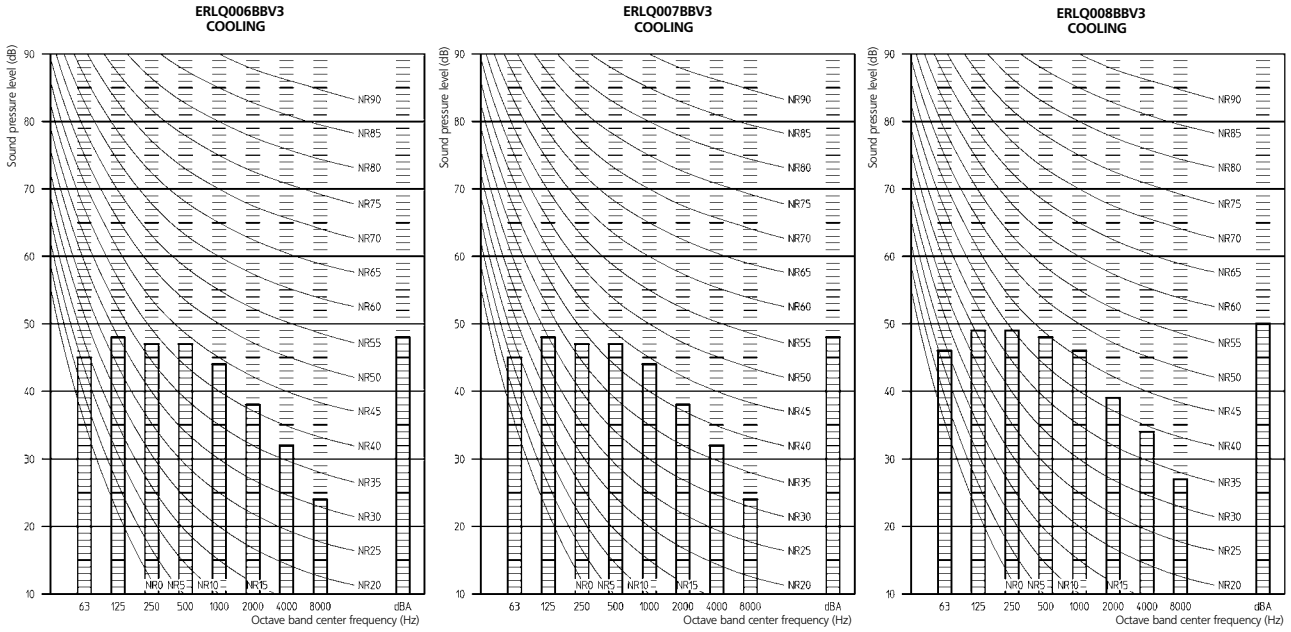


3TW57557-4

5
8

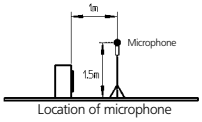
8 Sound data

8 - 2 Sound Pressure Spectrum - Cooling



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

3TW57557-3

9 Installation

9 - 1 Installation Method

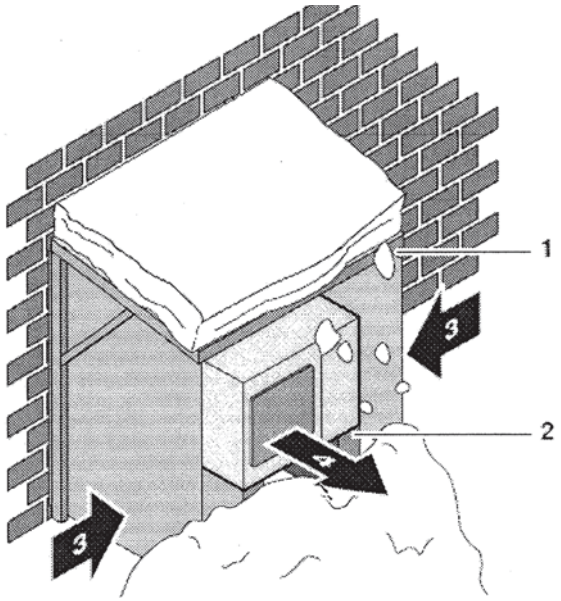
ERLQ-BBV3

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit wicht must be kept away from moisture.

Installation location (in cold climates)
- To precent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit shoud be installed in a way that a minimum of 1 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow ill not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure 1)



1. Construct a large canopy
2. Construct a pedestal
   Install the unit high enough off the ground to prevent burying in snow
3. Strong wind
4. Discharge air

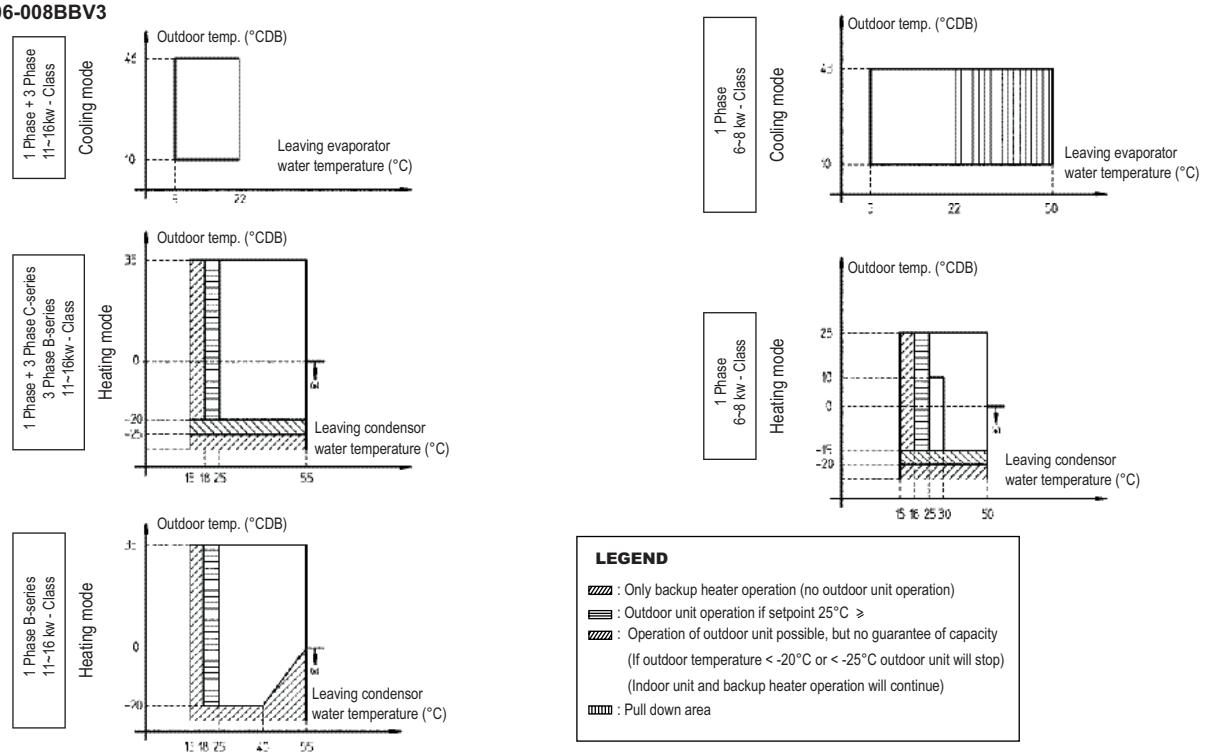
Figure 1: construction of canopy and pedestal

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10 Operation range

10 - 1 Operation Range

ERLQ006-008BBV3

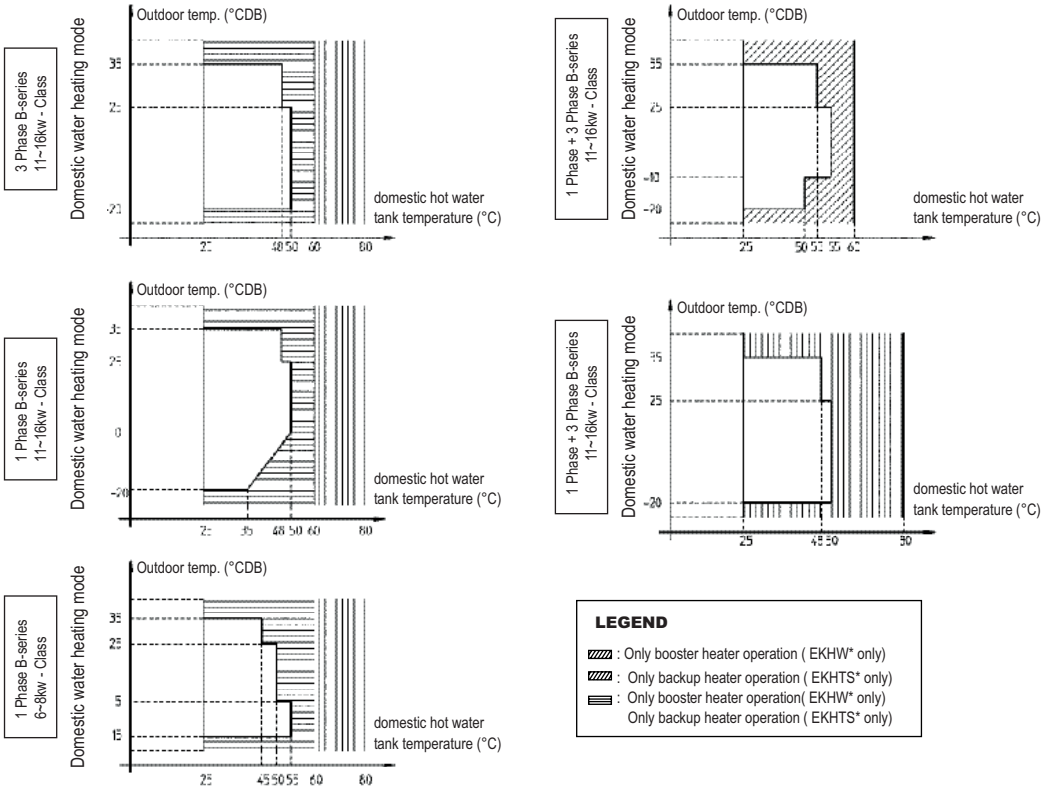


NOTES

- For restricted power supply condition mode outdoor unit, booster heater and back-up heater can only operate seperately.
- (*) RLQ units include special equipement (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur Together with humidity conditions.
  In such conditions the * RHQ models may experience problems with severe ice build up on the aircooled coil.
  In case such conditions are expected, the * RLQ must be installed instead. These models contain countermeasures (insulation, heater, sheet ...) to prevent freeze up.

3TW60343-1A

ERLQ006-008BBV3



NOTES

- For restricted power supply condition mode (EKHW* (only) outdoor unit, booster heater and back-up heater can only operate sperately.

3TW60343-2A

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1 Features

- Single phase outdoor unit with bottom plate heater
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBH016BB3V3 / ERLQ011CAV3	EKHBH016BB3V3 / ERLQ014CAV3	EKHBH016BB3V3 / ERLQ016CAV3	EKHBH016BB6V3 / ERLQ011CAV3	EKHBH016BB6V3 / ERLQ014CAV3	EKHBH016BB6V3 / ERLQ016CAV3	EKHBH016BB6WN / ERLQ011CAV3	EKHBH016BB6WN / ERLQ014CAV3	EKHBH016BB6WN / ERLQ016CAV3	EKHBH016BB6T1 / ERLQ011CAV3
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)
COP				4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)
Notes				Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC									

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS										
2-1 Nominal Capacity And Nominal Input				EKHBH016BB6T1 / ERLQ014CAV3	EKHBH016BB6T1 / ERLQ016CAV3	EKHBH016BB9WN / ERLQ011CAV3	EKHBH016BB9WN / ERLQ014CAV3	EKHBH016BB9WN / ERLQ016CAV3	EKHBH016BB9T1 / ERLQ011CAV3	EKHBH016BB9T1 / ERLQ014CAV3	EKHBH016BB9T1 / ERLQ016CAV3
Heating capacity	Nom.		kW	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Power input	Heating	Nom.	kW	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
COP				4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
Notes				Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC							

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBX016BB3V3 / ERLQ011CAV3	EKHBX016BB3V3 / ERLQ014CAV3	EKHBX016BB3V3 / ERLQ016CAV3	EKHBX016BB3V3S / ERLQ011CAV3	EKHBX016BB3V3S / ERLQ014CAV3	EKHBX016BB3V3S / ERLQ016CAV3	EKHBX016BB6V3 / ERLQ011CAV3	EKHBX016BB6V3 / ERLQ014CAV3	EKHBX016BB6V3 / ERLQ016CAV3	EKHBX016BB6WN / ERLQ011CAV3
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)
Cooling capacity	Nom.		kW	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)
	Cooling	Nom.	kW	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)

2 Specifications

2-1 Nominal Capacity And Nominal Input	EKHBX016 BB3V3 / ERLQ011C AV3	EKHBX016 BB3V3 / ERLQ014C AV3	EKHBX016 BB3V3 / ERLQ016C AV3	EKHBX016 BB3V3S / ERLQ011C AV3	EKHBX016 BB3V3S / ERLQ014C AV3	EKHBX016 BB3V3S / ERLQ016C AV3	EKHBX016 BB6V3 / ERLQ011C AV3	EKHBX016 BB6V3 / ERLQ014C AV3	EKHBX016 BB6V3 / ERLQ016C AV3	EKHBX016 BB6WN / ERLQ011C AV3
COP	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)
EER	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)
Notes	Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC									

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS										
2-1 Nominal Capacity And Nominal Input				EKHBX016BB6 WN / ERLQ014CAV3	EKHBX016BB6 WN / ERLQ016CAV3	EKHBX016BB6 T1 / ERLQ011CAV3	EKHBX016BB6 T1 / ERLQ014CAV3	EKHBX016BB6 T1 / ERLQ016CAV3	EKHBX016BB9 WN / ERLQ011CAV3	EKHBX016BB9 WN / ERLQ014CAV3	EKHBX016BB9 WN / ERLQ016CAV3
Heating capacity	Nom.		kW	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Cooling capacity	Nom.		kW	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)
Power input	Heating	Nom.	kW	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
	Cooling	Nom.	kW	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)
COP				4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
EER				3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Notes	Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC										

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHVH016 BB6V3 / ERLQ011C AV3	EKHVH016 BB6V3 / ERLQ014C AV3	EKHVH016 BB6V3 / ERLQ016C AV3	EKHVH016 BB6WN / ERLQ011C AV3	EKHVH016 BB6WN / ERLQ014C AV3	EKHVH016 BB6WN / ERLQ016C AV3	EKHVH016 BB9WN / ERLQ011C AV3	EKHVH016 BB9WN / ERLQ014C AV3	EKHVH016 BB9WN / ERLQ016C AV3
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
COP				4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
Notes	Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC											

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVX016B B6V3 / ERLQ011C AV3	EKHVX016B B6V3 / ERLQ014C AV3	EKHVX016B B6V3 / ERLQ016C AV3	EKHVX016B B6WN / ERLQ011C AV3	EKHVX016B B6WN / ERLQ014C AV3	EKHVX016B B6WN / ERLQ016C AV3	EKHVX016B B9WN / ERLQ011C AV3	EKHVX016B B9WN / ERLQ014C AV3	EKHVX016B B9WN / ERLQ016C AV3
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Cooling capacity	Nom.		kW	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
	Cooling	Nom.	kW	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)
COP				4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
EER				3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Notes				Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

2-2 Technical Specifications				ERLQ011CV3	ERLQ014CV3	ERLQ016CV3
Capacity control	Method			Inverter controlled		
Casing	Colour			Ivory white		
	Material			Painted galvanized steel plate		
Dimensions	Unit	Height	mm	1,345		
		Width	mm	900		
		Depth	mm	320		
	Packed unit	Height	mm	1,524		
		Width	mm	980		
		Depth	mm	420		
Weight	Unit		kg	113		
	Packed unit		kg	128		
Packing	Material			Wood / EPS / Carton / PE (Straps)		
	Weight		kg	15		
Heat exchanger	Length		mm	857		
	Rows	Quantity		2		
	Fin pitch		mm	1.4		
	Passes	Quantity		7		
	Face area		m²	1.131		
	Stages	Quantity		60		
	Empty tubeplate hole	Quantity		0		
	Tube type			ø8 Hi-XSS		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Fan	Type			Propeller fan		
	Quantity			2		
	Discharge direction			Horizontal		

2 Specifications

2-2 Technical Specifications					ERLQ011CV3	ERLQ014CV3	ERLQ016CV3
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Output			W	70		
	Drive				Direct drive		
	Speed	Steps			8		
		Heating	Nom.	rpm	740	750	760
		Cooling	Nom.	rpm	780		
Compressor	Quantity				1		
	Model				JT100G-VD (B2)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Min.		ºCWB	-25		
		Max.		ºCWB	35		
	Cooling	Min.		ºCDB	10.0		
		Max.		ºCDB	46.0		
	Domestic hot water	Min.		ºCDB	-20		
		Max.		ºCDB	35		
Refrigerant	Type				R-410A		
	Charge			kg	3.4		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.5		
Piping connections	Liquid	Quantity			1		
		Type			Flare connection		
		OD		mm	9.52		
	Gas	Quantity			1		
		Type			Flare connection		
		OD		mm	15.9		
	Drain	Quantity			3		
		Type			Hole		
		OD		mm	26		
	Drain 2	Quantity			1		
		Type			Hole		
		OD		mm	18		
	Piping length	Min.	OU - IU	m	3		
		OU - IU	Max.	m	50		
		System	Equivalent	m	70		
			Chargeless	m	10		
	Additional refrigerant charge			kg/m	See installation manual		
	Level difference	IU - OU	Max.	m	30		
	Heat insulation				Both liquid and gas pipes		
Sound power level	Heating	Nom.		dBA	64		66
	Cooling	Nom.		dBA	64	66	69
Sound pressure level	Heating	Nom.		dBA	51		52
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Pressure equalising		
Defrost control					Sensor for outdoor heat exchanger temperature		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2 Specifications

2-3 Electrical Specifications				ERLQ011CV3	ERLQ014CV3	ERLQ016CV3
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current	Zmax	Text		0.22		
	Minimum Ssc value		kVa	525		
	Maximum running current	Heating	A	34.2		
		Cooling	A	34.2		
	Recommended fuses		A	40		
Wiring connections	For power supply	Remark		See installation manual outdoor unit		
	For connection with indoor	Remark		See installation manual outdoor unit		
Power supply intake				Outdoor unit only		

Notes

(1) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(3) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(4) Operation range domestic hot water (outdoor unit): range increase by support booster heater

(5) Operation range heating (outdoor unit): range increase by support back-up heater

(6) See separate drawing for operation range

(7) In accordance with EN/IEC 61000-3-11, respectively EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

(8) Minimum Ssc (=Short-circuit power) value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16A and ≤ 75A per phase

3 Options

3 - 1 Options

ERLQ011-016C

Outdoor combination table for *KHB(H/X)016B*

		RLQ011C(V3/W1)	*RLQ014C*(V3/W1)	*RLQ016C*(V3/W1)
KHBH016AA/BA	Heating only indoor unit	●(1)	●(1)	●(1)
KHBX016AA/BA	Reversible indoor unit	●(1)	●(1)	●(1)
KHBH016BB	Heating only indoor unit	●	●	●
KHBX016BB	Reversible only indoor unit	●	●	●

Kit availability for *RLQ011-016C*

		*RLQ011C*V3	*RLQ014C*V3	*RLQ016CC*V3	*RLQ011C*W1	*RLQ014C*W1	*RLQ016CC*W1
*K016SNC (2)	Snow cover	●	●	●	●	●	●
KRP58M51 (3)	Demand PCB	●	●	●	–	–	–
KRP58M51 (3)	Demand PCB	–	–	–	●	●	●

NOTES

1 Combination is possible and allowed. Not all functionalities of ERLQ011~016C* will be available (increased DHW operation range)
2 It is very important to select an installation site when the snow will not affect the unit.
If lateral snowfall is possible, snow cover is recommended or make sure that the heat exchanger coil is not affected by the snow.
(See “Installation service space” and “Installation guideline/precaution outdoor”)
3 This demand PCB option is only applicable for the “Setting of demand running”

3TW60339-4

4 Capacity tables

4 - 1 Heating Capacity Tables

ERLQ011-016C

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	8.64	3.78	8.61	4.13	8.61	4.55	7.99	4.80				
	-15	10.37	4.03	10.24	4.40	10.03	4.80	9.19	4.80	8.13	4.80		
	-7	10.79	3.24	10.41	3.53	10.04	3.88	9.83	4.19	9.45	4.71	8.39	4.80
	-2	11.80	3.06	11.31	3.35	10.83	3.69	10.70	4.05	10.48	4.47	9.68	4.80
	2	11.91	2.74	11.33	3.01	10.75	3.33	10.69	3.62	10.32	3.96	9.72	4.40
	7	11.92	2.29	11.38	2.55	11.18	2.83	11.00	3.16	10.65	3.52	9.99	3.93
	12	12.93	22	12.31	2.47	12.20	2.76	12.02	3.09	11.69	3.46	11.01	3.87
	15	13.99	2.20	13.34	2.45	13.24	2.74	13.07	3.08	12.74	3.45	12.02	3.86
	20	15.90	2.14	15.20	2.40	15.13	2.70	14.98	3.04	14.22	3.42	13.46	3.84
R(H/L)Q014	-20	10.54	5.08	10.49	5.43	10.37	5.80	8.45	5.80				
	-15	12.46	5.18	12.29	5.57	11.70	5.80	10.46	5.80	9.68	5.80		
	-7	14.01	4.64	13.69	5.07	13.40	5.55	12.88	5.80	11.51	5.80	10.26	5.80
	-2	14.59	4.16	14.19	4.55	13.79	5.00	13.59	5.43	12.84	5.80	11.21	5.80
	2	14.78	3.70	14.30	4.04	13.81	4.44	13.39	4.79	12.90	5.20	12.38	5.75
	7	15.11	3.07	14.55	3.34	13.90	3.72	13.59	4.13	13.35	4.56	12.73	5.05
	12	15.99	2.97	15.36	3.27	14.74	3.62	14.40	4.01	14.18	4.44	13.54	4.92
	15	17.33	2.96	16.66	3.26	16.00	3.61	15.64	4.01	15.41	4.45	14.72	4.93
	20	19.77	2.93	19.04	3.24	18.30	3.59	17.92	4.00	17.17	4.44	16.41	4.93
R(H/L)Q016	-20	11.52	5.76	11.64	6.17	11.56	6.50	9.26	6.49				
	-15	12.89	6.02	12.88	6.48	11.95	6.50	11.55	6.50	10.64	6.50		
	-7	15.23	5.18	14.89	5.62	14.54	6.10	13.74	6.50	12.42	6.50	11.12	6.50
	-2	15.83	4.75	15.41	5.19	15.01	5.68	14.89	6.22	13.64	6.50	12.18	6.50
	2	16.09	4.21	15.62	4.59	15.16	5.05	14.97	5.46	14.43	6.09	13.46	6.50
	7	16.63	3.46	16.10	3.74	15.47	4.17	15.22	4.62	14.51	5.08	13.92	5.62
	12	17.34	3.36	16.74	3.69	16.13	4.06	15.76	4.49	15.13	4.96	14.51	5.49
	15	18.81	3.36	18.16	3.69	17.51	4.07	17.10	4.49	16.43	4.97	15.75	5.50
	20	21.49	3.34	20.77	3.68	20.04	4.06	19.59	4.50	18.83	4.98	18.07	5.52

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	7.31	3.70	7.29	4.05	7.29	4.46	6.76	4.70				
	-15	8.78	3.90	8.67	4.27	8.49	4.66	7.78	4.67	6.88	4.69		
	-7	9.14	3.14	8.81	3.43	8.50	3.76	8.16	4.05	8.00	4.60	7.10	4.68
	-2	9.56	2.91	9.16	3.18	8.77	3.50	8.56	3.81	8.59	4.29	7.84	4.60
	2	9.53	2.57	9.06	2.83	8.60	3.13	8.87	3.44	8.36	3.78	7.58	4.18
	7	11.92	2.29	11.38	2.55	11.18	2.83	11.00	3.16	10.65	3.52	9.99	3.93
	12	12.93	2.22	12.31	2.47	12.20	2.76	12.02	3.09	11.69	3.46	11.01	3.87
	15	13.99	2.20	13.34	2.45	13.24	2.74	13.07	3.08	12.74	3.45	12.02	3.86
	20	15.90	2.14	15.20	2.40	15.13	2.70	14.98	3.04	14.22	3.42	13.46	3.84
R(H/L)Q014	-20	8.96	4.92	8.92	5.26	8.82	5.62	7.19	5.62				
	-15	10.34	4.97	10.20	5.34	9.71	5.56	8.90	5.57	8.24	5.60		
	-7	11.91	4.45	11.65	4.86	11.39	5.33	10.96	5.57	9.79	5.59	8.73	5.59
	-2	11.38	3.72	11.07	4.07	10.76	4.47	10.46	4.83	10.20	5.24	8.92	5.24
	2	11.24	3.25	10.87	3.56	10.50	3.91	10.65	4.34	10.26	4.68	9.84	5.18
	7	15.11	3.07	14.55	3.34	13.90	3.72	13.59	4.13	13.35	4.56	12.73	5.05
	12	15.99	2.97	15.36	3.27	14.74	3.62	14.40	4.01	14.18	4.44	13.54	4.92
	15	17.33	2.96	16.66	3.26	16.00	3.61	15.64	4.01	15.41	4.45	14.72	4.93
	20	19.77	2.93	19.04	3.24	18.30	3.59	17.92	4.00	17.17	4.44	16.41	4.93
R(H/L)Q016	-20	9.56	5.58	9.66	5.98	9.59	6.31	7.69	6.29				
	-15	10.57	5.75	10.56	6.19	9.86	6.21	9.55	6.25	8.79	6.29		
	-7	12.59	4.98	12.30	5.40	12.02	5.86	11.35	6.25	10.26	6.28	9.18	6.28
	-2	12.11	4.23	11.79	4.62	11.48	5.06	11.39	5.54	10.44	5.77	9.32	5.77
	2	11.74	3.66	11.40	4.00	11.07	4.39	11.37	4.75	11.04	5.42	10.29	5.79
	7	16.63	3.46	16.10	3.74	15.47	4.17	15.22	4.62	14.51	5.08	13.92	5.62
	12	17.34	3.36	16.74	3.69	16.13	4.06	15.76	4.49	15.13	4.96	14.51	5.49
	15	18.81	3.36	18.16	3.69	17.51	4.07	17.10	4.49	16.43	4.97	15.75	5.50
	20	21.49	3.34	20.77	3.68	20.04	4.06	19.59	4.50	18.83	4.98	18.07	5.52

3TW60332-1

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006

PI : Power input, measured acc. Eurovent 6/C/003-2006

LWE : Leaving Water Evaporator temperature

LWC : Leaving Water Condensor temperature

Tamb : Ambient temperature; RH (heating) = 85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C

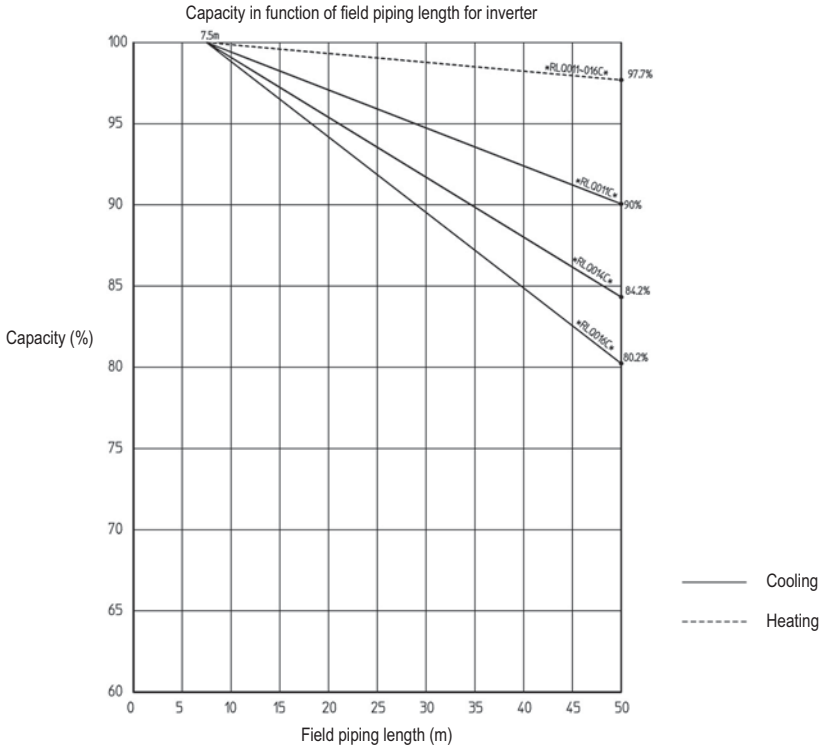
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

Notes:
- The bottom plate heater is controlled by outdoor unit (linked at defrost operation) and power input is included
- The capacity and power inputs is valid for V3-models at 230V or W1-models at 400V
- The capacity and power input for Ta ≦ 7°C is at maximum operation and power input 100%
- The capacity and power input for Ta > 7°C is at nominal operation (nominal = maximum)

4 Capacity tables

4 - 1 Heating Capacity Tables

ERLQ011-016C



NOTE

Capacity drop is at nominal capacity

3TW60332-5A

6
4

4 Capacity tables

4 - 2 Cooling Capacity Tables

ERLQ011-016C

Maximum Cooling Capacity

	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
R(H/L)Q011	7	12.99	3.17	12.88	3.48	12.44	3.83	11.72	4.22	10.74	4.65	9.54	5.13
	10	13.79	3.20	13.67	3.52	13.20	3.88	12.44	4.28	11.40	4.72	10.14	5.21
	13	15.16	3.24	15.02	3.56	14.51	3.93	13.67	4.34	12.54	4.79	11.00	5.45
	15	16.10	3.26	15.95	3.59	15.41	3.96	14.52	4.38	13.33	4.83	11.40	5.32
	18	17.77	3.29	17.18	3.63	16.26	4.02	15.05	4.44	13.61	4.90	11.54	4.91
	22	19.82	3.34	19.17	3.69	18.16	4.09	16.83	4.52	15.23	4.99	12.10	4.38
R(H/L)Q014	7	13.92	3.79	13.81	4.14	13.34	4.54	12.55	5.00	11.13	4.79	9.85	5.28
	10	14.98	3.85	14.85	4.21	14.34	4.62	13.49	5.09	11.97	4.87	10.61	5.37
	13	16.45	3.92	16.30	4.29	15.74	4.70	14.81	5.18	13.15	4.96	11.00	5.45
	15	17.46	3.96	17.30	4.34	16.71	4.76	15.73	5.24	13.97	5.02	11.40	5.32
	18	19.00	4.03	18.36	4.41	17.37	4.85	16.06	5.33	14.05	5.10	11.54	4.91
	22	21.16	4.12	20.45	4.52	19.36	4.97	17.93	5.46	15.71	5.22	12.10	4.38
R(H/L)Q016	7	14.55	4.30	14.46	4.70	13.98	5.15	13.12	5.65	11.59	5.39	9.85	5.28
	10	15.67	4.39	15.56	4.80	15.02	5.25	14.09	5.76	12.45	5.49	10.61	5.37
	13	17.22	4.48	17.08	4.90	16.48	5.36	15.47	5.87	13.67	5.59	11.00	5.45
	15	18.29	4.54	18.13	4.97	17.49	5.43	16.42	5.95	14.52	5.66	11.40	5.32
	18	19.91	4.64	19.23	5.07	18.17	5.54	16.76	6.06	14.60	5.76	11.54	4.91
	22	22.18	4.77	21.42	5.21	20.25	5.70	18.69	6.22	16.31	5.90	12.10	4.38

3TW60332-1

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006
PI : Power input, measured acc. Eurovent 6/C/003-2006
LWE : Leaving Water Evaporator temperature
LWC : Leaving Water Condensor temperature
Tamb : Ambient temperature; RH (heating) = 85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

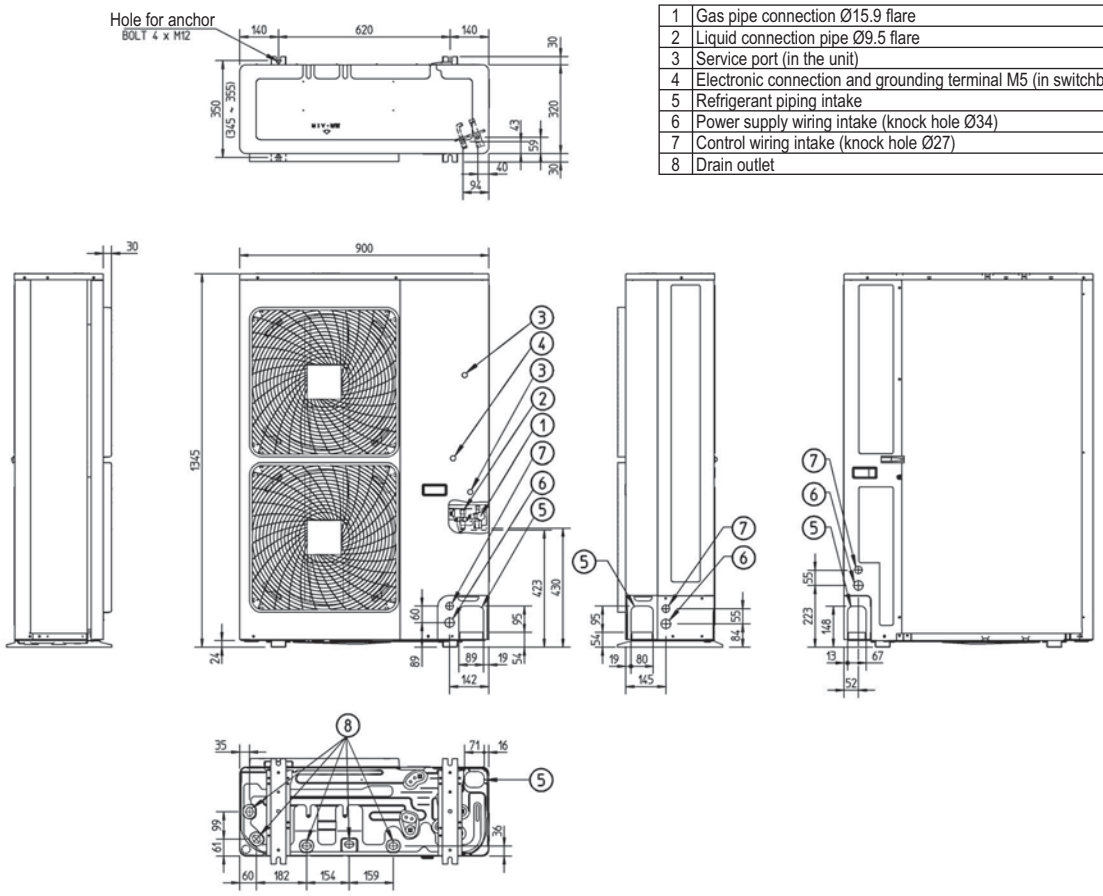
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

Notes:
- The bottom plate heater is controlled by outdoor unit (linked at defrost operation) and power input is included
- The capacity and power inputs is valid for V3-models at 230V or W1-models at 400V
- The capacity and power input for Ta ≦ 7°C is at maximum operation and power input 100%
- The capacity and power input for Ta > 7°C is at nominal operation (nominal = maximum)

5 Dimensional drawings

5 - 1 Dimensional Drawings

ERLQ011-016CV3



1	Gas pipe connection Ø15.9 flare
2	Liquid connection pipe Ø9.5 flare
3	Service port (in the unit)
4	Electronic connection and grounding terminal M5 (in switchbox)
5	Refrigerant piping intake
6	Power supply wiring intake (knock hole Ø34)
7	Control wiring intake (knock hole Ø27)
8	Drain outlet

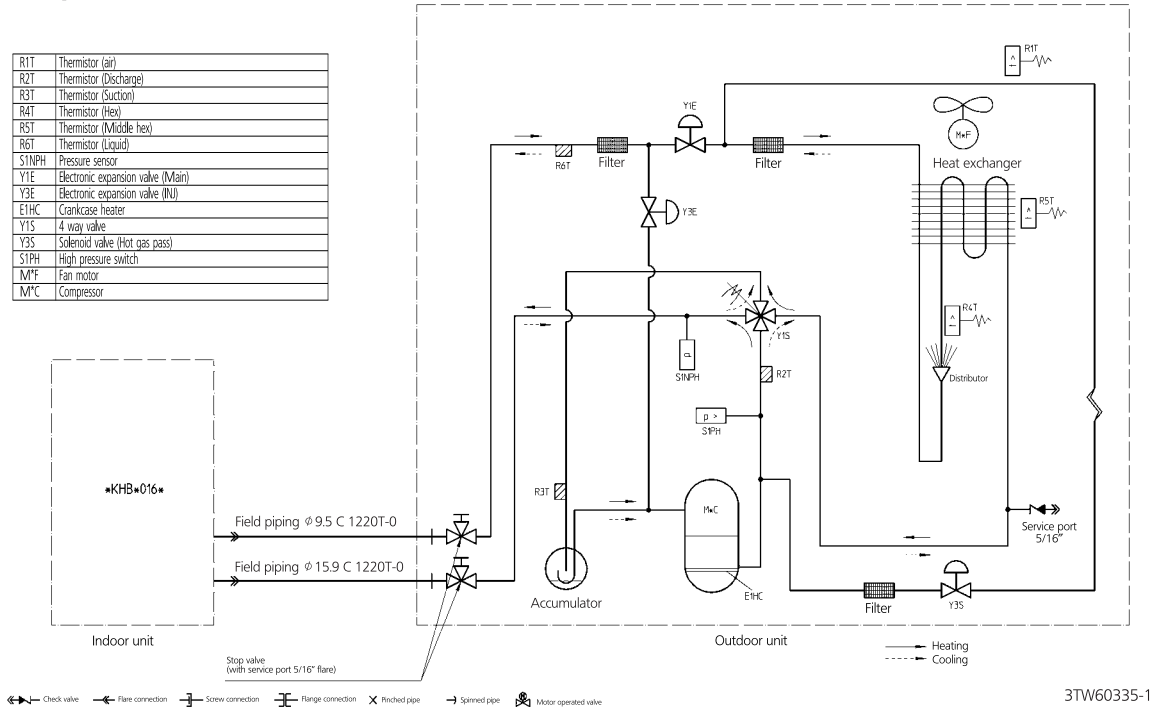
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6 Piping diagrams

6 - 1 Piping Diagrams

ERLQ011-016C

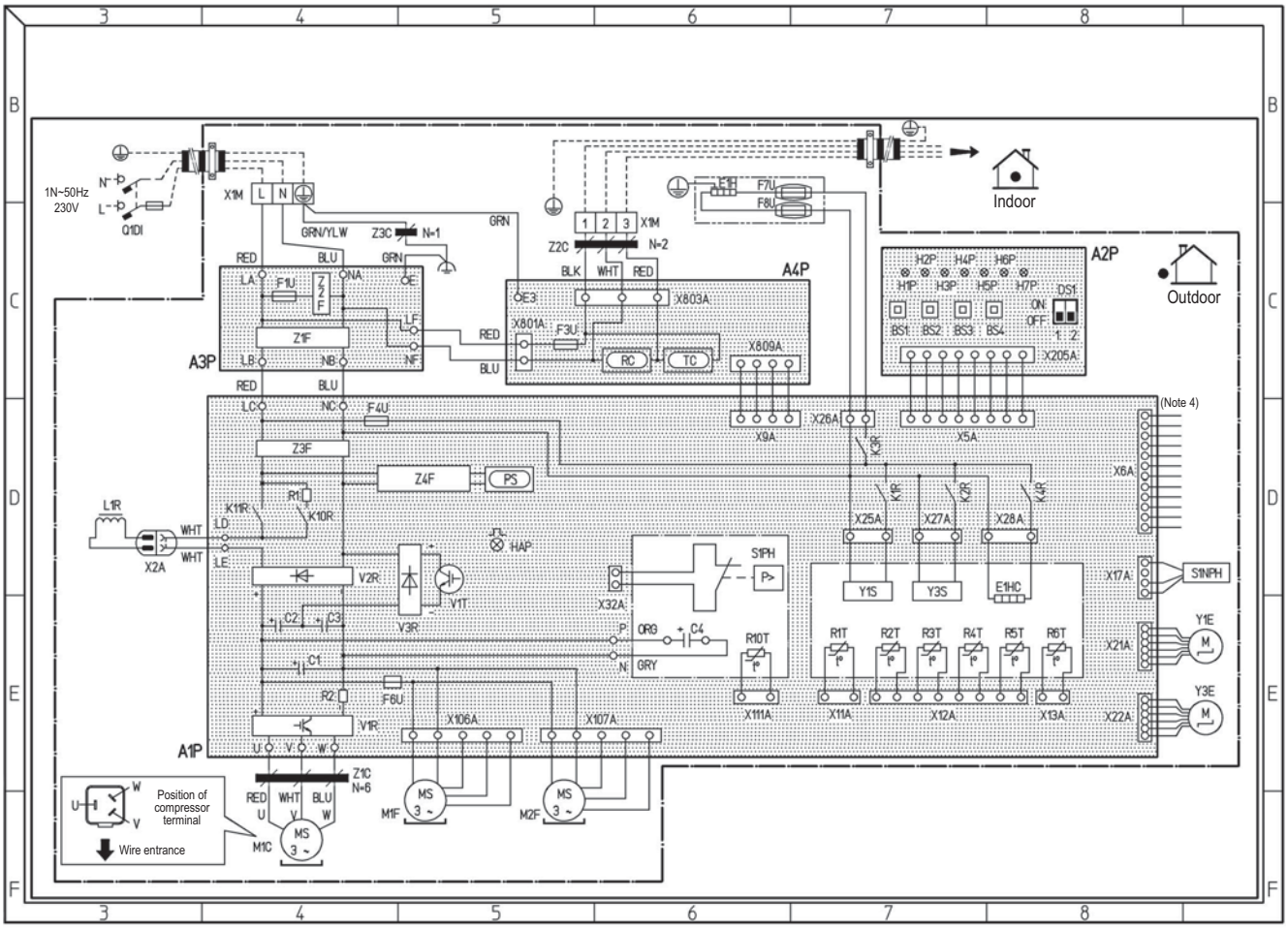
R1T	Thermistor (air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Hex)
R5T	Thermistor (Middle hex)
R6T	Thermistor (Liquid)
S1NPH	Pressure sensor
Y1E	Electronic expansion valve (Main)
Y3E	Electronic expansion valve (INJ)
E1HC	Crankcase heater
Y1S	4 way valve
Y3S	Solenoid valve (Hot gas pass)
S1PH	High pressure switch
M*F	Fan motor
M*C	Compressor



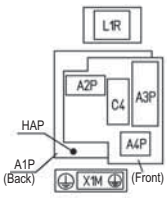
7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

ERLQ011-016CV3



El. compo. assy. (position of elements)



A1P	Printed circuit board (main)	K2R	Magnetic relay (Y3S)	R5T	Thermistor (heat exchanger middle)
A2P	Printed circuit board (service)	K3R	Magnetic relay (E1H)	R6T	Thermistor (liquid)
A3P	Printed circuit board (noise filter)	K4R	Magnetic relay (E1HC)	RC	Signal receiver circuit
A4P	Printed circuit board (communication)	K10R	Magnetic relay (upload)	R10T	Thermistor (fin)
BS1~BS4	Push button switch	K11R	Magnetic relay (main)	S1NPH	Pressure sensor
C1~C4	Capacitor	L1R	Reactor	S1PH	Pressure switch (high)
DS1	Dip switch	M1C	Motor (compressor)	TC	Signal transmission circuit
E1H	Bottomplate heater	M1F	Motor (fan) (upper)	V1R	Power module
E1HC	Crankcase heater	M2F	Motor (fan) (lower)	V2R,V3R	Diode module
F1U,F3U,F4U	Fuse (T 3.6A / 250V)	PS	Swtiching power supply	V1T	IGBT
F6U	Fuse (T 5.0A / 250V)	Q1DI	Earth leakage circuit breaker	X1M	Terminal strip (power supply)
F7U,F8U	Fuse (F 1.0A / 250V)	R1	Resistor	Y1E	Electronic expansion valve (main)
H1P~7P (A2P)	Light emit. diode (serv. monitor-orange) [H2P] Pepare, test ..... flickering Malfunction detection..... light up	R2	Resistor	Y3E	Electronic expansion valve (inj)
		R1T	Thermistor (air)	Y1S	Solenoid valve (4 way valve)
		R2T	Thermistor (discharge)	Y3S	Solenoid valve (hot gas pass)
HAP (A1P)	Light emitting diode (Service monitor green)	R3T	Thermistor (suction)	Z1C~Z3C	Noise filter (ferrity core)
		R4T	Thermistor (heat exchanger)	Z1F~Z4F	Noise filter
K1R	Magnetic relay (Y1S)				

2TW60336-2

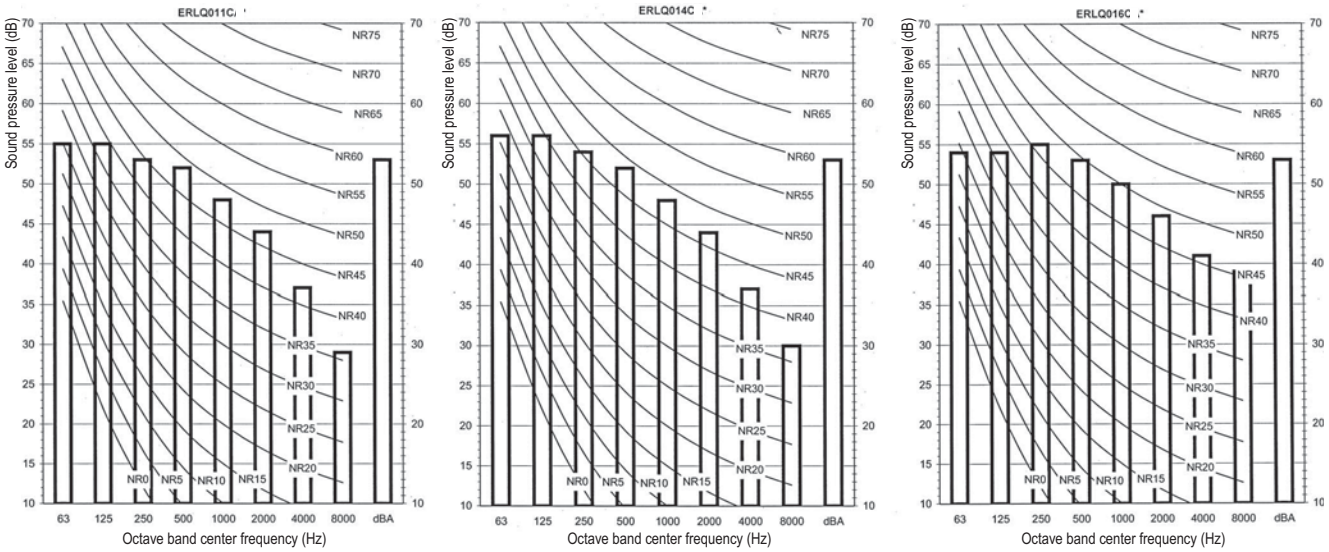
NOTES

1. This wiring diagram only applies to the outdoor unit
2. L: live, N: neutral, ▭: field wiring
3. ▭▭▭: terminal strip, ▭▭: connector, —●—: connection, ⏚: protective earth (screw), —▰—: connector, ⏚: noiseless earth, —○—: terminal
4. Refer to the option manual, for connecting wiring to X6A.
5. Refer to the 'wiring diagram sticker' (on back of front plate) on how to use BS1~BS4 and DS1 switch
6. Do not operate the unit by short-circuiting protection device S1PH
7. Colors: BLU= blue, BRN= brown, GRN= green, RED= red, WHT= white, YLW= yellow, ORG= orange, BLK= black
8. Confirm the method of setting the selector switches (DS1) by service manual; Factory setting of all switches: "off"
9. ▭: option, ⬚: wiring dependent on model

8 Sound data

8 - 1 Sound Pressure Spectrum - Heating

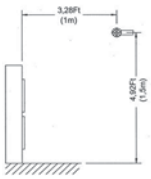
Heating



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at nominal capacity

Measuring location (discharge side):

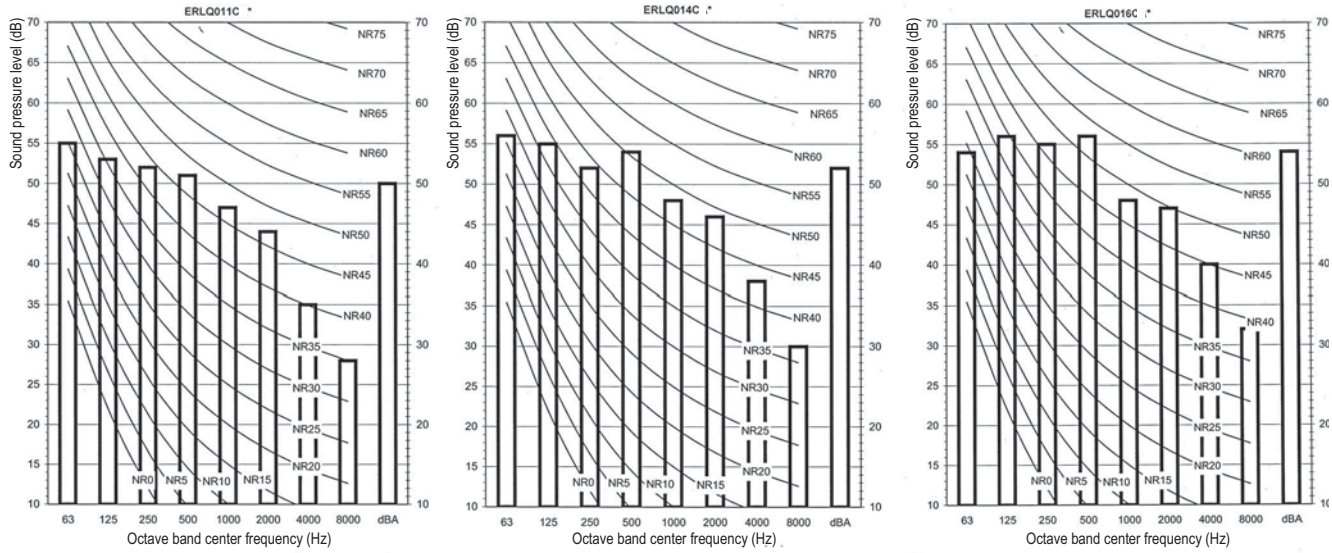


3TW60337-2

8 Sound data

8 - 2 Sound Pressure Spectrum - Cooling

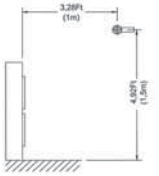
Cooling



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at nominal capacity

Measuring location (discharge side):



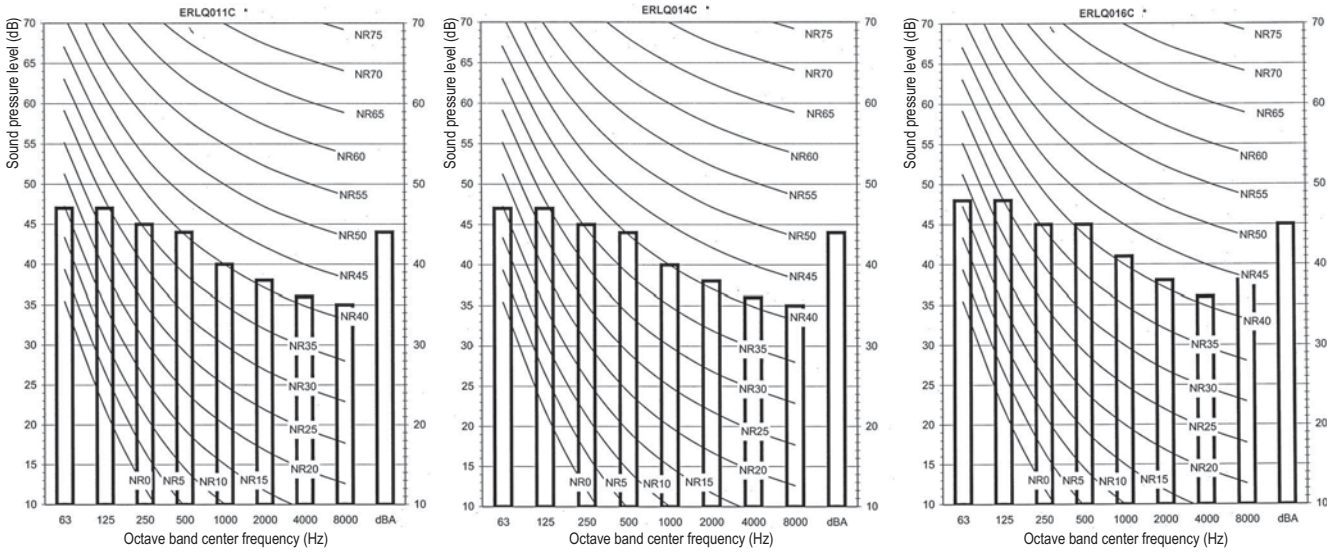
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8 Sound data

8 - 3 Sound Pressure Spectrum Quiet Mode

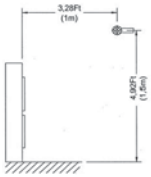
Heating



NOTES

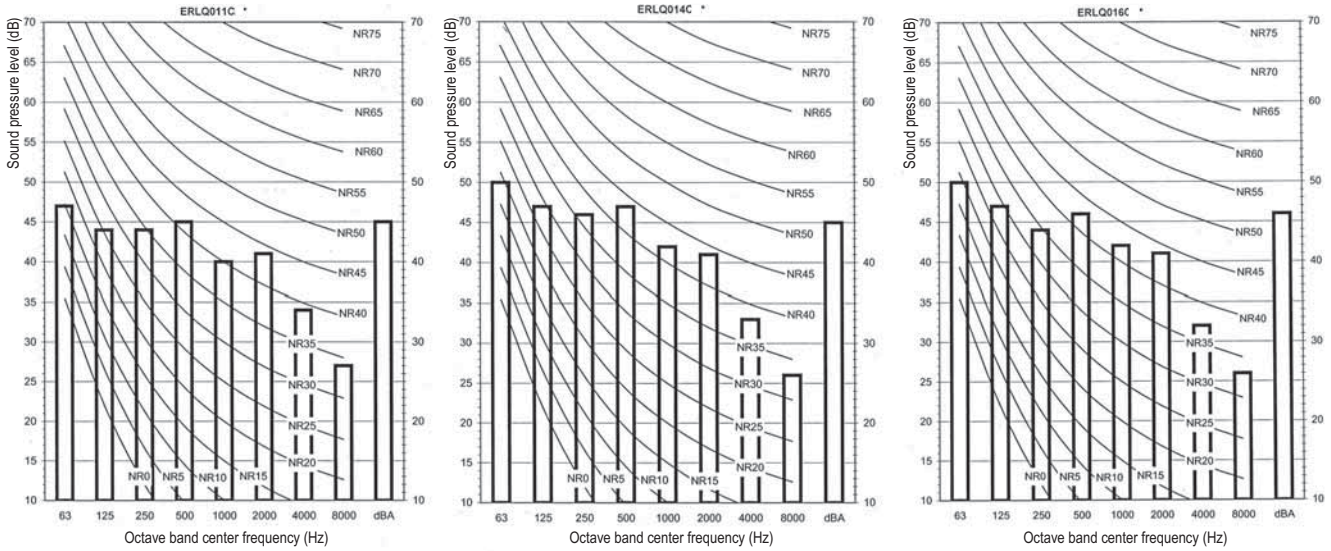
1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at night quiet mode level 2

Measuring location (discharge side):



3TW60337-4

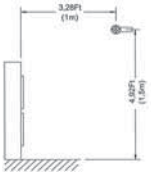
Cooling



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at night quiet mode level 2

Measuring location (discharge side):



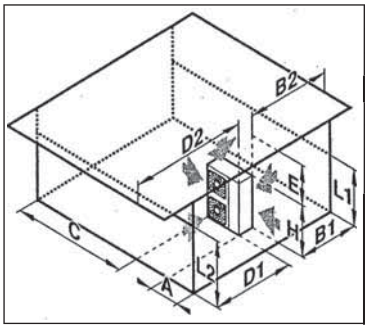
3TW60337-3

9 Installation

9 - 1 Installation Method

ERLQ011-016C

Installation servicing space



↙	↗	↘	↖	↓			A	B1	B2	C	D1	D2	E	L1/L2	
✓								≥200							
✓		✓	✓				≥200	≥200		≥200					
✓				✓				≥200				≥500	≥1000		
✓		✓	✓	✓			≥300	≥300		≥300		≥500	≥1000		1
	✓										≥500				
	✓			✓					≥500		≥500		≥1000		
✓	✓				L1<L2			≥200			≥500				
					L2<L1			≥200			≥500				
✓	✓			✓	L1<L2	L1≤H		≥350	≥500		≥750		≥1000	0<L1≤1/2H	2
											≥1000			0<L1≤1/2H	
						H<L1	L1≤H								
					L2<L1	L2≤H		≥200			≥1000	≥500	≥1000	0<L2≤1/2H	
								≥300						1/2H<L2≤H	
						H<L2	L2≤H								

NOTES

Legend (Unit: mm)

- ↙ Suction side obstacle
- ↗ Discharge side obstacle
- ↘ Left side obstacle
- ↖ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present
- ⊘ This situation is not allowed

1 Recommended installation set-up for the ERLQ011~016*
(to prevent exposure to wind or that the heat exchanger coil is affected by snow)

2 In these cases, close bottom of the installation frame to prevent discharged air from being bypassed

3TW60339-1

9 Installation

9 - 1 Installation Method

ERLQ011-016C

Installation guidelines / precautions Daikin Altherma

Outdoor unit

Installation location (general)

Select an installation site that meets the following requirements:

- The foundation must be strong enough to support the weight of the unit. The floor is flat to prevent vibrations and noise generation and to have sufficient stability.
- The space around the unit is adequate for maintenance/servicing and allows for sufficient air circulation.(Refer to “Installation and service space” information sheet}
- There is no danger of fire due to leakage of inflammable gas.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Select the location of the unit in such a way that the sound and discharged cold/hot air generated by the unit does not disturb anyone, and the location is selected according the applicable legislation.
- All piping lengths and distances have been taken into consideration (refer to “Technical specification” information sheet).
- Take care that in the event of a water leak, water cannot cause any damage to the installation space and surroundings.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.

Do not install in the following locations:

- Locations where sulphurous acids and other corrosive gases may be present in the atmosphere.
- Locations where a mineral oil mist, spray or vapour may be present in the atmosphere.
- Locations where flammable gases may leak, where thinner, gasoline and other volatile substances are handled, or where carbon dust and other incendiary substances are found in the atmosphere.
- In areas where the air contains high levels of salt such as that near the ocean.
- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side (left and back) may be exposed directly to wind, snow. (See “Installation and Service space” information sheet and figure 1)

Installation location (in cold climates)

- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit should be installed in a way that a minimum of 10 cm free space is assured below the unit’s bottom plate at all conditions (prevent burying in snow), e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. Make sure that the heat exchanger coil (left and back side) is not affected by the snow (if necessary construct a lateral canopy and baffle plate on the air side).
- Recommended installation set-up. (See “Installation and Service space” information sheet and figure 2)

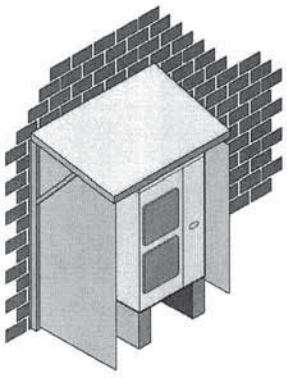


Figure 1: construction to prevent exposure to wind and snow

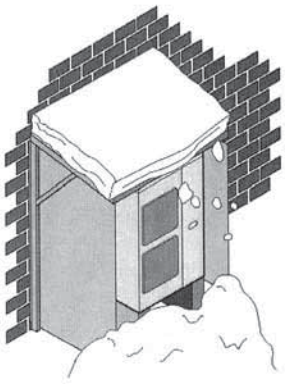


Figure 2: construction to prevent affect of snow to the unit

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10 Operation range

10 - 1 Operation Range

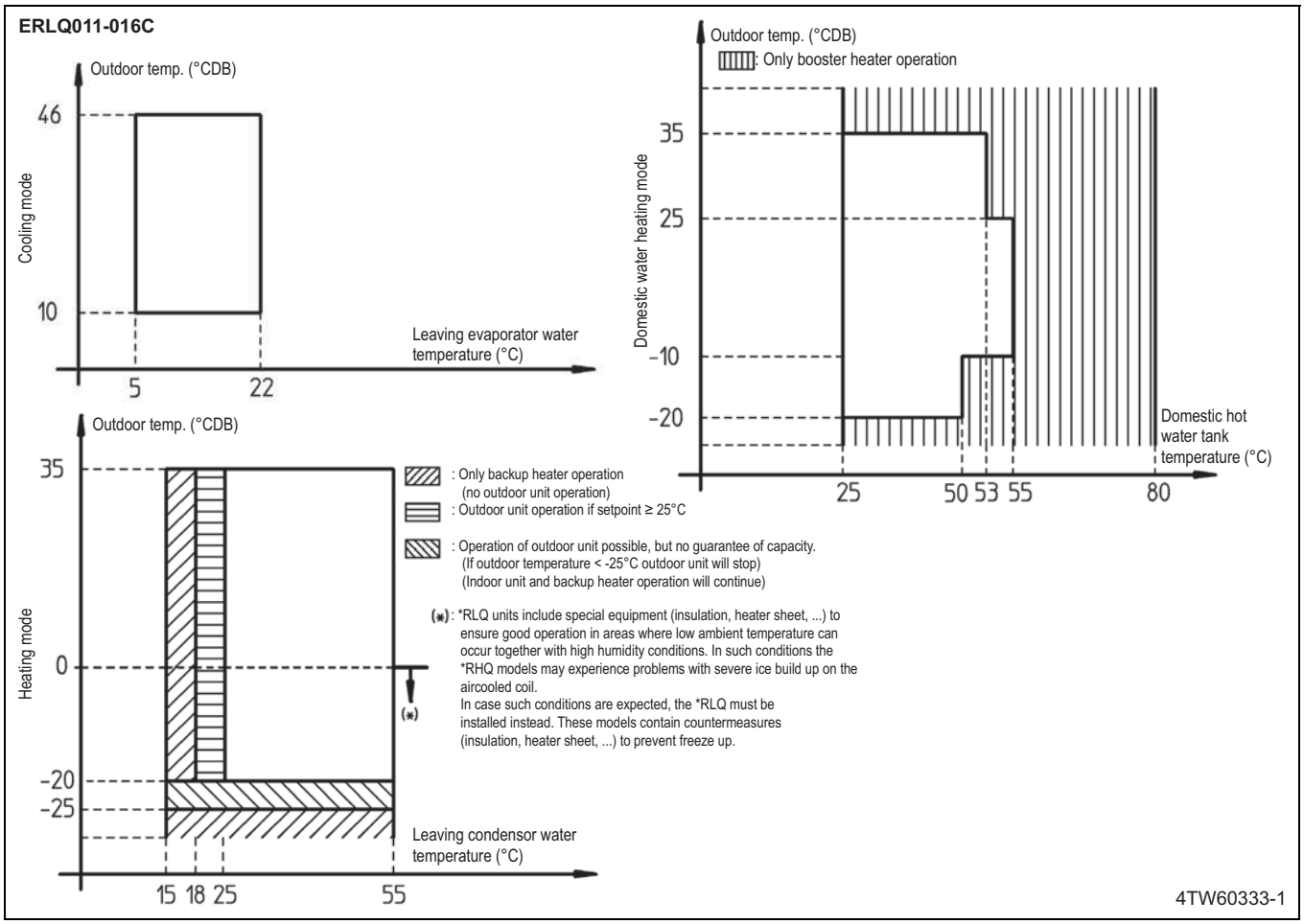


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1 Features

- Three phase large capacity outdoor unit with bottom plate heater
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBH016 6BB3V3 / ERLQ011 CAW1	EKHBH016 6BB3V3 / ERLQ014 CAW1	EKHBH016 6BB3V3 / ERLQ016 CAW1	EKHBH016 6BB6V3 / ERLQ011 CAW1	EKHBH016 6BB6V3 / ERLQ014 CAW1	EKHBH016 6BB6V3 / ERLQ016 CAW1	EKHBH016 6BB6WN / ERLQ011 CAW1	EKHBH016 6BB6WN / ERLQ014 CAW1	EKHBH016 6BB6WN / ERLQ016 CAW1	EKHBH016 6BB6T1 / ERLQ011 CAW1
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)
COP				4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)
Notes				Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC									

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBH016BB 6T1 / ERLQ014CA W1	EKHBH016BB 6T1 / ERLQ016CA W1	EKHBH016BB 9WN / ERLQ011CA W1	EKHBH016BB 9WN / ERLQ014CA W1	EKHBH016BB 9WN / ERLQ016CA W1	EKHBH016BB 9T1 / ERLQ011CA W1	EKHBH016BB 9T1 / ERLQ014CA W1	EKHBH016BB 9T1 / ERLQ016CA W1		
Heating capacity	Nom.		kW	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)		
	Max.		kW	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)		
Power input	Heating	Nom.	kW	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)		
COP				4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)		
Notes				Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC									

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBX016 6BB3V3 / ERLQ011 CAW1	EKHBX016 6BB3V3 / ERLQ014 CAW1	EKHBX016 6BB3V3 / ERLQ016 CAW1	EKHBX016 6BB3V3S / ERLQ011 CAW1	EKHBX016 6BB3V3S / ERLQ014 CAW1	EKHBX016 6BB3V3S / ERLQ016 CAW1	EKHBX016 6BB6V3 / ERLQ011 CAW1	EKHBX016 6BB6V3 / ERLQ014 CAW1	EKHBX016 6BB6V3 / ERLQ016 CAW1	EKHBX016 6BB6WN / ERLQ011 CAW1
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)
Cooling capacity	Nom.		kW	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)
	Cooling	Nom.	kW	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)

2 Specifications

2-1 Nominal Capacity And Nominal Input	EKHBX016 6BB3V3 / ERLQ011 CAW1	EKHBX016 6BB3V3 / ERLQ014 CAW1	EKHBX016 6BB3V3 / ERLQ016 CAW1	EKHBX016 6BB3V3S / ERLQ011 CAW1	EKHBX016 6BB3V3S / ERLQ014 CAW1	EKHBX016 6BB3V3S / ERLQ016 CAW1	EKHBX016 6BB6V3 / ERLQ011 CAW1	EKHBX016 6BB6V3 / ERLQ014 CAW1	EKHBX016 6BB6V3 / ERLQ016 CAW1	EKHBX016 6BB6WN / ERLQ011 CAW1
COP	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)
EER	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)
Notes	Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC									

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS										
2-1 Nominal Capacity And Nominal Input				EKHBX016BB 6WN / ERLQ014CA W1	EKHBX016BB 6WN / ERLQ016CA W1	EKHBX016BB 6T1 / ERLQ011CA W1	EKHBX016BB 6T1 / ERLQ014CA W1	EKHBX016BB 6T1 / ERLQ016CA W1	EKHBX016BB 9WN / ERLQ011CA W1	EKHBX016BB 9WN / ERLQ014CA W1	EKHBX016BB 9WN / ERLQ016CA W1
Heating capacity	Nom.		kW	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Cooling capacity	Nom.		kW	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)
Power input	Heating	Nom.	kW	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
	Cooling	Nom.	kW	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)
COP				4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
EER				3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Notes	Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC										

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHVH016 BB6V3 / ERLQ011C AW1	EKHVH016 BB6V3 / ERLQ014C AW1	EKHVH016 BB6V3 / ERLQ016C AW1	EKHVH016 BB6WN / ERLQ011C AW1	EKHVH016 BB6WN / ERLQ014C AW1	EKHVH016 BB6WN / ERLQ016C AW1	EKHVH016 BB9WN / ERLQ011C AW1	EKHVH016 BB9WN / ERLQ014C AW1	EKHVH016 BB9WN / ERLQ016C AW1
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
COP				4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
Notes	Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC											

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

2 Specifications

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVX016 BB6V3 / ERLQ011C AW1	EKHVX016 BB6V3 / ERLQ014C AW1	EKHVX016 BB6V3 / ERLQ016C AW1	EKHVX016 BB6WN / ERLQ011C AW1	EKHVX016 BB6WN / ERLQ014C AW1	EKHVX016 BB6WN / ERLQ016C AW1	EKHVX016 BB9WN / ERLQ011C AW1	EKHVX016 BB9WN / ERLQ014C AW1	EKHVX016 BB9WN / ERLQ016C AW1
Heating capacity	Nom.		kW	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)	11.20 (1) / 10.98 (2)	14.00 (1) / 13.57 (2)	16.00 (1) / 15.20 (2)
	Max.		kW	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)
Cooling capacity	Nom.		kW	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)
Power input	Heating	Nom.	kW	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)	2.41 (1) / 3.15 (2)	3.14 (1) / 4.12 (2)	3.72 (1) / 4.60 (2)
	Cooling	Nom.	kW	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)
COP				4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)	4.66 (1) / 3.48 (2) / 2.57 (3) / 2.01 (4)	4.46 (1) / 3.29 (2) / 2.40 (3) / 1.97 (4)	4.30 (1) / 3.29 (2) / 2.28 (3) / 1.82 (4)
EER				3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Notes				Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) Condition 3: heating Ta DB -7ºC (RH85%) - LWC 35ºC

(4) Condition 4: heating Ta DB -7ºC (RH85%) - LWC 45ºC

2-2 Technical Specifications				ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Capacity control	Method			Inverter controlled		
Casing	Colour			Ivory white		
	Material			Painted galvanized steel plate		
Dimensions	Unit	Height	mm	1,345		
		Width	mm	900		
		Depth	mm	320		
	Packed unit	Height	mm	1,524		
		Width	mm	980		
		Depth	mm	420		
Weight	Unit		kg	114		
	Packed unit		kg	129		
Packing	Material			Wood / Carton / EPS / PE (Straps)		
	Weight		kg	15		
Heat exchanger	Length		mm	857		
	Rows	Quantity		2		
	Fin pitch		mm	1.4		
	Passes	Quantity		7		
	Face area		m^2	1.131		
	Stages	Quantity		60		
	Empty tubeplate hole	Quantity		0		
	Tube type			ø8 Hi-XSS		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Fan	Type			Propeller fan		
	Quantity			2		
	Discharge direction			Horizontal		

2 Specifications

2-2 Technical Specifications					ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Output			W	70		
	Drive				Direct drive		
	Speed	Steps			8		
		Heating	Nom.	rpm	740	750	760
		Cooling	Nom.	rpm	780		
Compressor	Quantity				1		
	Model				JT1G-VDYR (B2)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Min.		ºCWB	-25		
		Max.		ºCWB	35		
	Cooling	Min.		ºCDB	10		
		Max.		ºCDB	46		
	Domestic hot water	Min.		ºCDB	-20		
		Max.		ºCDB	35		
Refrigerant	Type				R-410A		
	Charge			kg	3.4		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.5		
Piping connections	Liquid	Quantity			1		
		Type			Flare connection		
		OD		mm	9.52		
	Gas	Quantity			1		
		Type			Flare connection		
		OD		mm	15.9		
	Drain	Quantity			3		
		Type			Hole		
		OD		mm	26		
	Drain 2	Quantity			1		
		Type			Hole		
		OD		mm	18		
	Piping length	Min.	OU - IU	m	3		
		OU - IU	Max.	m	50		
		System	Equivalent	m	70		
			Chargeless	m	10		
	Additional refrigerant charge			kg/m	See installation manual		
	Level difference	IU - OU	Max.	m	30		
	Heat insulation				Both liquid and gas pipes		
Sound power level	Heating	Nom.		dBA	64		66
	Cooling	Nom.		dBA	64	66	69
Sound pressure level	Heating	Nom.		dBA	51		52
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Pressure equalising		
Defrost control					Sensor for outdoor heat exchanger temperature		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2 Specifications

2-3 Electrical Specifications				ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Power supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50		
	Voltage		V	400		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current	Maximum running current	Heating	A	16.3		
		Cooling	A	16.3		
	Recommended fuses		A	20		
Wiring connections	For power supply	Remark		See installation manual outdoor unit		
	For connection with indoor	Remark		See installation manual outdoor unit		
Power supply intake				Outdoor unit only		

Notes

(1) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(3) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(4) Operation range domestic hot water (outdoor unit): range increase by support booster heater

(5) Operation range heating (outdoor unit): range increase by support back-up heater

(6) See separate drawing for operation range

(7) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16A and <= 75A per phase

3 Options

3 - 1 Options

ERLQ011-016C

Outdoor combination table for *KHB(H/X)016B*

		RLQ011C(V3/W1)	*RLQ014C*(V3/W1)	*RLQ016C*(V3/W1)
KHBH016AA/BA	Heating only indoor unit	●(1)	●(1)	●(1)
KHBX016AA/BA	Reversible indoor unit	●(1)	●(1)	●(1)
KHBH016BB	Heating only indoor unit	●	●	●
KHBX016BB	Reversible only indoor unit	●	●	●

Kit availability for *RLQ011-016C*

		*RLQ011C*V3	*RLQ014C*V3	*RLQ016CC*V3	*RLQ011C*W1	*RLQ014C*W1	*RLQ016CC*W1
*K016SNC (2)	Snow cover	●	●	●	●	●	●
KRP58M51 (3)	Demand PCB	●	●	●	–	–	–
KRP58M51 (3)	Demand PCB	–	–	–	●	●	●

NOTES

1 Combination is possible and allowed. Not all functionalities of ERLQ011~016C* will be available (increased DHW operation range)
2 It is very important to select an installation site when the snow will not affect the unit.
If lateral snowfall is possible, snow cover is recommended or make sure that the heat exchanger coil is not affected by the snow.
(See “Installation service space” and “Installation guideline/precaution outdoor”)
3 This demand PCB option is only applicable for the “Setting of demand running”

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4 Capacity tables

4 - 1 Heating Capacity Tables

ERLQ011-016C

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	8.64	3.78	8.61	4.13	8.61	4.55	7.99	4.80				
	-15	10.37	4.03	10.24	4.40	10.03	4.80	9.19	4.80	8.13	4.80		
	-7	10.79	3.24	10.41	3.53	10.04	3.88	9.83	4.19	9.45	4.71	8.39	4.80
	-2	11.80	3.06	11.31	3.35	10.83	3.69	10.70	4.05	10.48	4.47	9.68	4.80
	2	11.91	2.74	11.33	3.01	10.75	3.33	10.69	3.62	10.32	3.96	9.72	4.40
	7	11.92	2.29	11.38	2.55	11.18	2.83	11.00	3.16	10.65	3.52	9.99	3.93
	12	12.93	22	12.31	2.47	12.20	2.76	12.02	3.09	11.69	3.46	11.01	3.87
	15	13.99	2.20	13.34	2.45	13.24	2.74	13.07	3.08	12.74	3.45	12.02	3.86
	20	15.90	2.14	15.20	2.40	15.13	2.70	14.98	3.04	14.22	3.42	13.46	3.84
R(H/L)Q014	-20	10.54	5.08	10.49	5.43	10.37	5.80	8.45	5.80				
	-15	12.46	5.18	12.29	5.57	11.70	5.80	10.46	5.80	9.68	5.80		
	-7	14.01	4.64	13.69	5.07	13.40	5.55	12.88	5.80	11.51	5.80	10.26	5.80
	-2	14.59	4.16	14.19	4.55	13.79	5.00	13.59	5.43	12.84	5.80	11.21	5.80
	2	14.78	3.70	14.30	4.04	13.81	4.44	13.39	4.79	12.90	5.20	12.38	5.75
	7	15.11	3.07	14.55	3.34	13.90	3.72	13.59	4.13	13.35	4.56	12.73	5.05
	12	15.99	2.97	15.36	3.27	14.74	3.62	14.40	4.01	14.18	4.44	13.54	4.92
	15	17.33	2.96	16.66	3.26	16.00	3.61	15.64	4.01	15.41	4.45	14.72	4.93
	20	19.77	2.93	19.04	3.24	18.30	3.59	17.92	4.00	17.17	4.44	16.41	4.93
R(H/L)Q016	-20	11.52	5.76	11.64	6.17	11.56	6.50	9.26	6.49				
	-15	12.89	6.02	12.88	6.48	11.95	6.50	11.55	6.50	10.64	6.50		
	-7	15.23	5.18	14.89	5.62	14.54	6.10	13.74	6.50	12.42	6.50	11.12	6.50
	-2	15.83	4.75	15.41	5.19	15.01	5.68	14.89	6.22	13.64	6.50	12.18	6.50
	2	16.09	4.21	15.62	4.59	15.16	5.05	14.97	5.46	14.43	6.09	13.46	6.50
	7	16.63	3.46	16.10	3.74	15.47	4.17	15.22	4.62	14.51	5.08	13.92	5.62
	12	17.34	3.36	16.74	3.69	16.13	4.06	15.76	4.49	15.13	4.96	14.51	5.49
	15	18.81	3.36	18.16	3.69	17.51	4.07	17.10	4.49	16.43	4.97	15.75	5.50
	20	21.49	3.34	20.77	3.68	20.04	4.06	19.59	4.50	18.83	4.98	18.07	5.52

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	7.31	3.70	7.29	4.05	7.29	4.46	6.76	4.70				
	-15	8.78	3.90	8.67	4.27	8.49	4.66	7.78	4.67	6.88	4.69		
	-7	9.14	3.14	8.81	3.43	8.50	3.76	8.16	4.05	8.00	4.60	7.10	4.68
	-2	9.56	2.91	9.16	3.18	8.77	3.50	8.56	3.81	8.59	4.29	7.84	4.60
	2	9.53	2.57	9.06	2.83	8.60	3.13	8.87	3.44	8.36	3.78	7.58	4.18
	7	11.92	2.29	11.38	2.55	11.18	2.83	11.00	3.16	10.65	3.52	9.99	3.93
	12	12.93	2.22	12.31	2.47	12.20	2.76	12.02	3.09	11.69	3.46	11.01	3.87
	15	13.99	2.20	13.34	2.45	13.24	2.74	13.07	3.08	12.74	3.45	12.02	3.86
	20	15.90	2.14	15.20	2.40	15.13	2.70	14.98	3.04	14.22	3.42	13.46	3.84
R(H/L)Q014	-20	8.96	4.92	8.92	5.26	8.82	5.62	7.19	5.62				
	-15	10.34	4.97	10.20	5.34	9.71	5.56	8.90	5.57	8.24	5.60		
	-7	11.91	4.45	11.65	4.86	11.39	5.33	10.96	5.57	9.79	5.59	8.73	5.59
	-2	11.38	3.72	11.07	4.07	10.76	4.47	10.46	4.83	10.20	5.24	8.92	5.24
	2	11.24	3.25	10.87	3.56	10.50	3.91	10.65	4.34	10.26	4.68	9.84	5.18
	7	15.11	3.07	14.55	3.34	13.90	3.72	13.59	4.13	13.35	4.56	12.73	5.05
	12	15.99	2.97	15.36	3.27	14.74	3.62	14.40	4.01	14.18	4.44	13.54	4.92
	15	17.33	2.96	16.66	3.26	16.00	3.61	15.64	4.01	15.41	4.45	14.72	4.93
	20	19.77	2.93	19.04	3.24	18.30	3.59	17.92	4.00	17.17	4.44	16.41	4.93
R(H/L)Q016	-20	9.56	5.58	9.66	5.98	9.59	6.31	7.69	6.29				
	-15	10.57	5.75	10.56	6.19	9.86	6.21	9.55	6.25	8.79	6.29		
	-7	12.59	4.98	12.30	5.40	12.02	5.86	11.35	6.25	10.26	6.28	9.18	6.28
	-2	12.11	4.23	11.79	4.62	11.48	5.06	11.39	5.54	10.44	5.77	9.32	5.77
	2	11.74	3.66	11.40	4.00	11.07	4.39	11.37	4.75	11.04	5.42	10.29	5.79
	7	16.63	3.46	16.10	3.74	15.47	4.17	15.22	4.62	14.51	5.08	13.92	5.62
	12	17.34	3.36	16.74	3.69	16.13	4.06	15.76	4.49	15.13	4.96	14.51	5.49
	15	18.81	3.36	18.16	3.69	17.51	4.07	17.10	4.49	16.43	4.97	15.75	5.50
	20	21.49	3.34	20.77	3.68	20.04	4.06	19.59	4.50	18.83	4.98	18.07	5.52

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SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006

PI : Power input, measured acc. Eurovent 6/C/003-2006

LWE : Leaving Water Evaporator temperature

LWC : Leaving Water Condensor temperature

Tamb : Ambient temperature; RH (heating) = 85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C

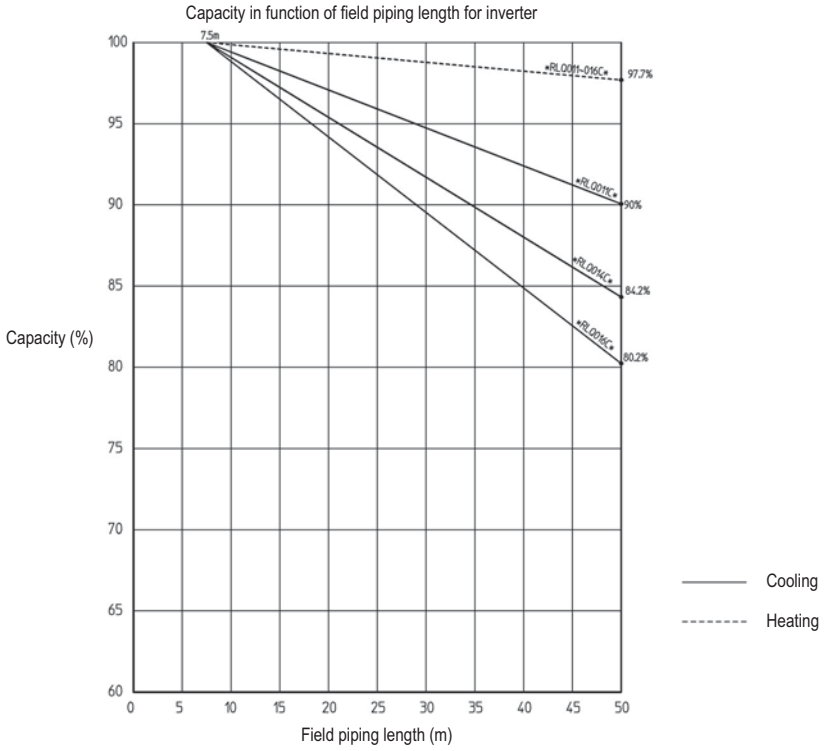
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

Notes:
- The bottom plate heater is controlled by outdoor unit (linked at defrost operation) and power input is included
- The capacity and power inputs is valid for V3-models at 230V or W1-models at 400V
- The capacity and power input for Ta ≦ 7°C is at maximum operation and power input 100%
- The capacity and power input for Ta > 7°C is at nominal operation (nominal = maximum)

4 Capacity tables

4 - 1 Heating Capacity Tables

ERLQ011-016C



NOTE

Capacity drop is at nominal capacity

3TW60332-5A

4 Capacity tables

4 - 2 Cooling Capacity Tables

ERLQ011-016C

Maximum Cooling Capacity

	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
R(H/L)Q011	7	12.99	3.17	12.88	3.48	12.44	3.83	11.72	4.22	10.74	4.65	9.54	5.13
	10	13.79	3.20	13.67	3.52	13.20	3.88	12.44	4.28	11.40	4.72	10.14	5.21
	13	15.16	3.24	15.02	3.56	14.51	3.93	13.67	4.34	12.54	4.79	11.00	5.45
	15	16.10	3.26	15.95	3.59	15.41	3.96	14.52	4.38	13.33	4.83	11.40	5.32
	18	17.77	3.29	17.18	3.63	16.26	4.02	15.05	4.44	13.61	4.90	11.54	4.91
	22	19.82	3.34	19.17	3.69	18.16	4.09	16.83	4.52	15.23	4.99	12.10	4.38
R(H/L)Q014	7	13.92	3.79	13.81	4.14	13.34	4.54	12.55	5.00	11.13	4.79	9.85	5.28
	10	14.98	3.85	14.85	4.21	14.34	4.62	13.49	5.09	11.97	4.87	10.61	5.37
	13	16.45	3.92	16.30	4.29	15.74	4.70	14.81	5.18	13.15	4.96	11.00	5.45
	15	17.46	3.96	17.30	4.34	16.71	4.76	15.73	5.24	13.97	5.02	11.40	5.32
	18	19.00	4.03	18.36	4.41	17.37	4.85	16.06	5.33	14.05	5.10	11.54	4.91
	22	21.16	4.12	20.45	4.52	19.36	4.97	17.93	5.46	15.71	5.22	12.10	4.38
R(H/L)Q016	7	14.55	4.30	14.46	4.70	13.98	5.15	13.12	5.65	11.59	5.39	9.85	5.28
	10	15.67	4.39	15.56	4.80	15.02	5.25	14.09	5.76	12.45	5.49	10.61	5.37
	13	17.22	4.48	17.08	4.90	16.48	5.36	15.47	5.87	13.67	5.59	11.00	5.45
	15	18.29	4.54	18.13	4.97	17.49	5.43	16.42	5.95	14.52	5.66	11.40	5.32
	18	19.91	4.64	19.23	5.07	18.17	5.54	16.76	6.06	14.60	5.76	11.54	4.91
	22	22.18	4.77	21.42	5.21	20.25	5.70	18.69	6.22	16.31	5.90	12.10	4.38

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SYMBOLS

CC	:	Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006
HC	:	Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006
PI	:	Power input, measured acc. Eurovent 6/C/003-2006
LWE	:	Leaving Water Evaporator temperature
LWC	:	Leaving Water Condensor temperature
Tamb	:	Ambient temperature; RH (heating) = 85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C

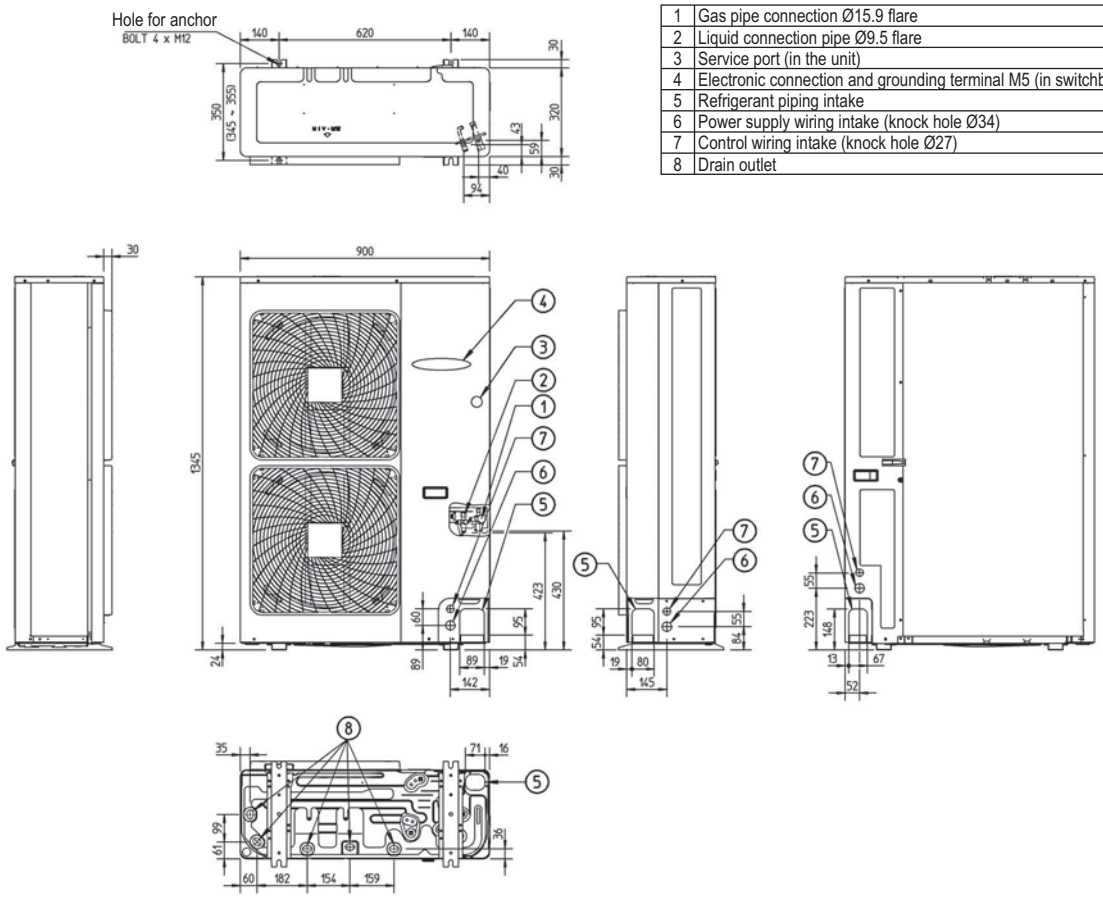
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

Notes:
- The bottom plate heater is controlled by outdoor unit (linked at defrost operation) and power input is included
- The capacity and power inputs is valid for V3-models at 230V or W1-models at 400V
- The capacity and power input for Ta ≦ 7°C is at maximum operation and power input 100%
- The capacity and power input for Ta > 7°C is at nominal operation (nominal = maximum)

5 Dimensional drawings

5 - 1 Dimensional Drawings

ERLQ011-016CW1



1	Gas pipe connection Ø15.9 flare
2	Liquid connection pipe Ø9.5 flare
3	Service port (in the unit)
4	Electronic connection and grounding terminal M5 (in switchbox)
5	Refrigerant piping intake
6	Power supply wiring intake (knock hole Ø34)
7	Control wiring intake (knock hole Ø27)
8	Drain outlet

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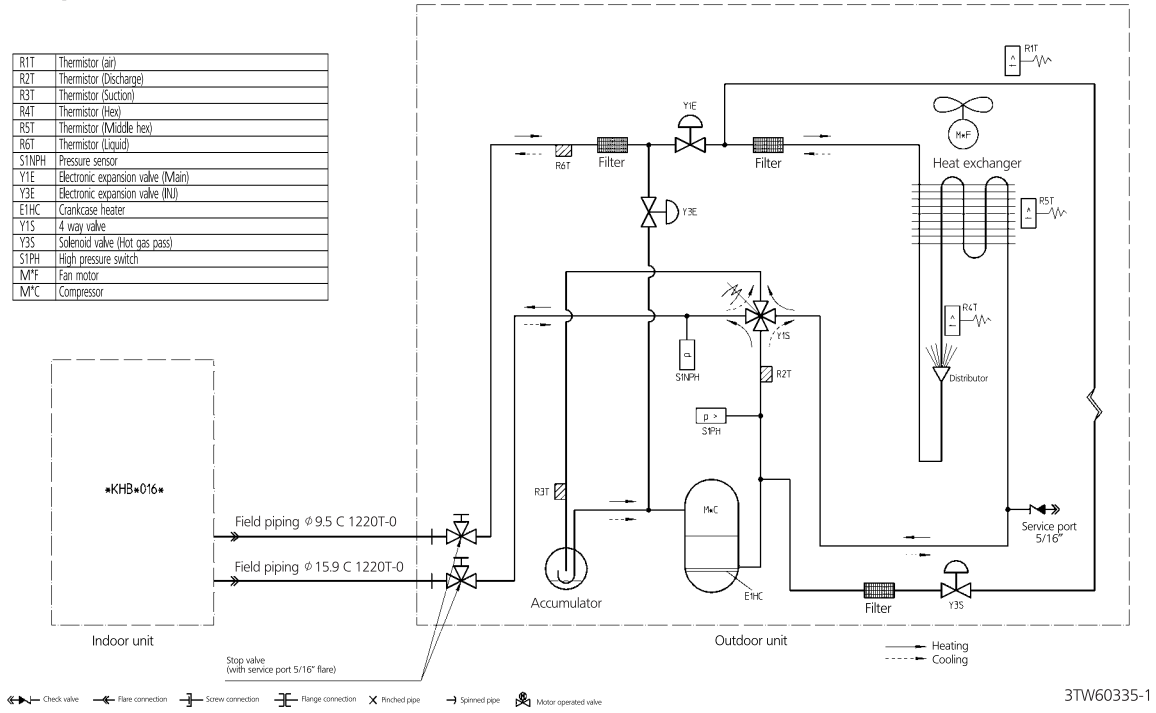
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6 Piping diagrams

6 - 1 Piping Diagrams

ERLQ011-016C

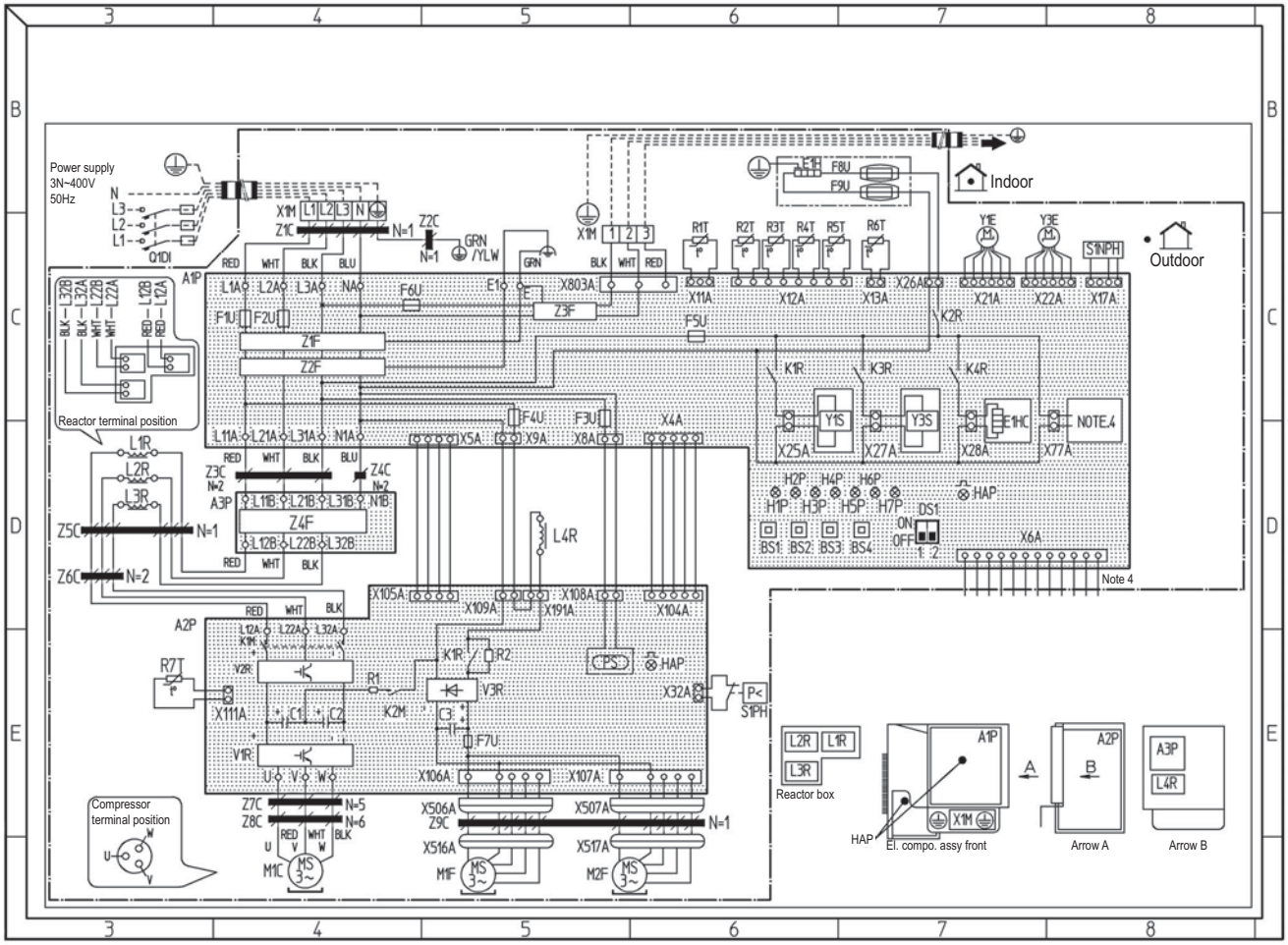
R1T	Thermistor (air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Hex)
R5T	Thermistor (Middle hex)
R6T	Thermistor (Liquid)
S1NPH	Pressure sensor
Y1E	Electronic expansion valve (Main)
Y3E	Electronic expansion valve (INJ)
E1HC	Crankcase heater
Y1S	4 way valve
Y3S	Solenoid valve (Hot gas pass)
S1PH	High pressure switch
M1F	Fan motor
M1C	Compressor



7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

ERLQ011-016CW1



A1P	Printed circuit board (control)	H1P~7P (A1P)	Pilot lamp (service monitor-orange)	R5T	Thermistor (heat exchanger middle)
A2P	Printed circuit board (inv)	K1M-K2M	Magnetic contactor (main - upload)	R6T	Thermistor (liquid)
A3P	Printed circuit board (noise filter)	K1R (A1P)	Magnetic relay (Y1S)	R7T	Thermistor (fin)
BS1~BS4	Push button switch	K1R (A2P)	Magnetic relay (upload)	S1NPH	Pressure sensor
C1~C4	Capacitor	K2R (A1P)	Magnetic relay (E1H)	SPH	Pressure switch (high)
DS1	Dip switch	K3R (A1P)	Magnetic relay (Y3S)	V1R,V2R	Power module
E1HC	Crankcase heater	K4R (A1P)	Magnetic relay (E1HC)	V3R	Diode module
E1H	Bottomplate heater	L1R~L3R	Reactor	X1M	Terminal strip
F1U	Fuse (31.5A 500V)	L4R	Reactor (for outdoor fan motor)	Y1E	Electronic expansion valve (main)
F2U	Fuse (31.5A 500V)	M1C	Motor (compressor)	Y3E	Electronic expansion valve (inj)
F3U	Fuse (T 6.3A / 250V)	M1F	Motor (fan) (upper)	Y1S	Solenoid valve (4 way valve)
F4U	Fuse (T 6.3A / 250V)	M2F	Motor (fan) (lower)	Y3S	Solenoid valve (hot gas pass)
F5U	Fuse (T 6.3A / 250V)	PS	Swtiching power supply	Z1C~Z3C	Noise filter
F6U	Fuse (T 6.3A / 250V)	R1~R4	Resistor	Z1F~Z4F	Noise filter
F7U	Fuse (T 5.0A / 250V)	R1T	Thermistor (air)	Q1DI	Earth leakage circuit breaker
F8U,F9U	Fuse (F 1.0A / 250V)	R2T	Thermistor (discharge)	Optional connector	
HAP (A1P)	Pilot lamp (service monitor-green)	R3T	Thermistor (suction)	X6A	Connector
HAP (A2P)	Pilot lamp (service monitor-green)	R4T	Thermistor (heat exchanger)	X77A	Connector

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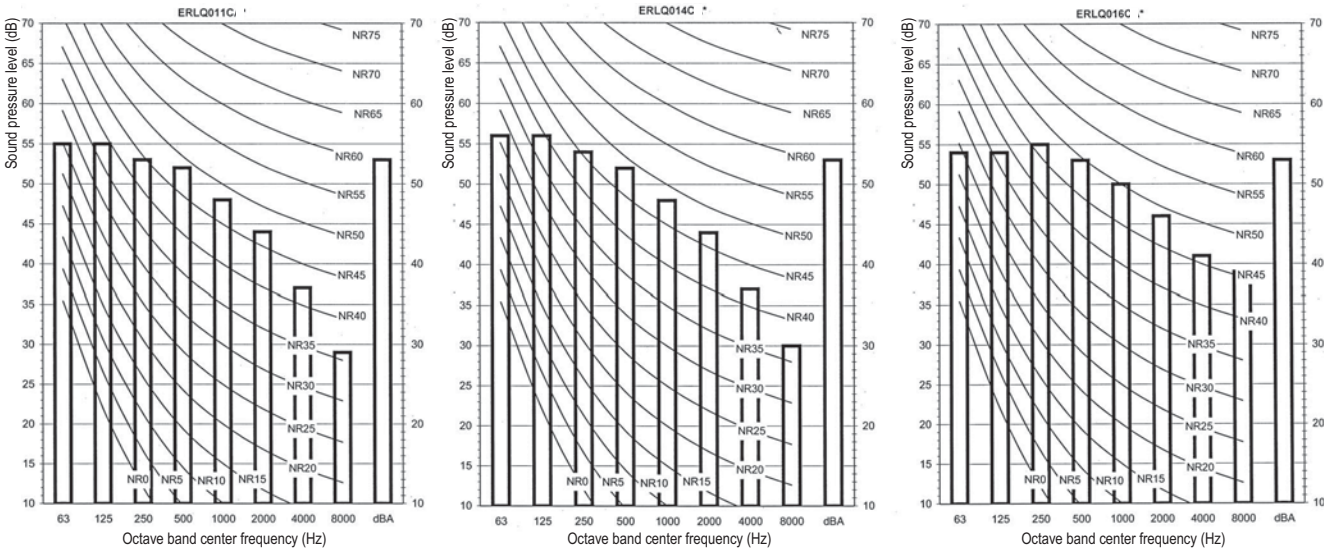
NOTES

1. This wiring diagram only applies to the outdoor unit
2. L: live, N: neutral, ▭: field wiring
3. ▭▭▭: terminal strip, ▭: connector, —●—: connection, ⏚: protective earth (screw), —▮—: connector, ⏚: noiseless earth, —○—: terminal
4. Refer to the option manual, for connecting wiring to X6A and X77A.
5. Refer to the 'wiring diagram sticker' (on back of front plate) on how to use BS1~BS4 and DS1 switch
6. Do not operate the unit by short-circuiting protection device S1PH
7. Colors: BLU= blue, BRN= brown, GRN= green, RED= red, WHT= white, YLW= yellow, ORG= orange, BLK= black
8. Confirm the method of setting the selector switches (DS1) by service manual; Factory setting of all switches: "off"
9. ▭: option, ⬚: wiring dependent on model

8 Sound data

8 - 1 Sound Pressure Spectrum - Heating

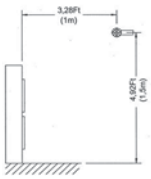
Heating



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at nominal capacity

Measuring location (discharge side):



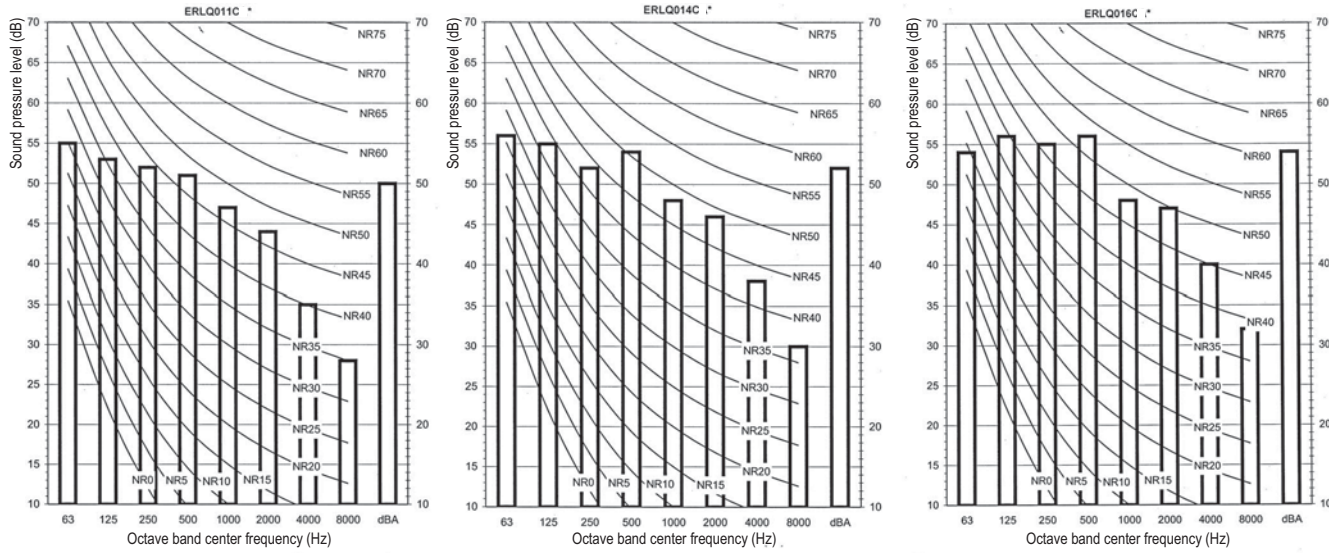
3TW60337-2

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8 Sound data

8 - 2 Sound Pressure Spectrum - Cooling

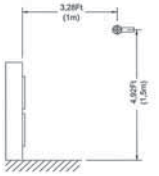
Cooling



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at nominal capacity

Measuring location (discharge side):



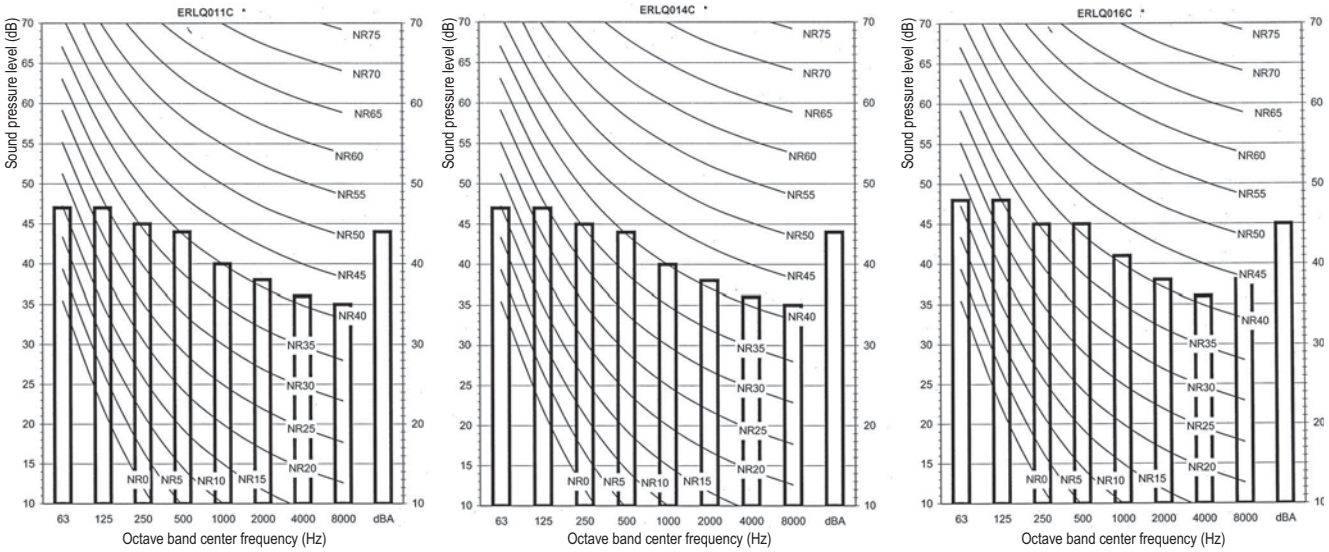
3TW60337-1

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8 Sound data

8 - 3 Sound Pressure Spectrum Quiet Mode

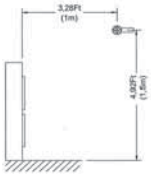
Heating



NOTES

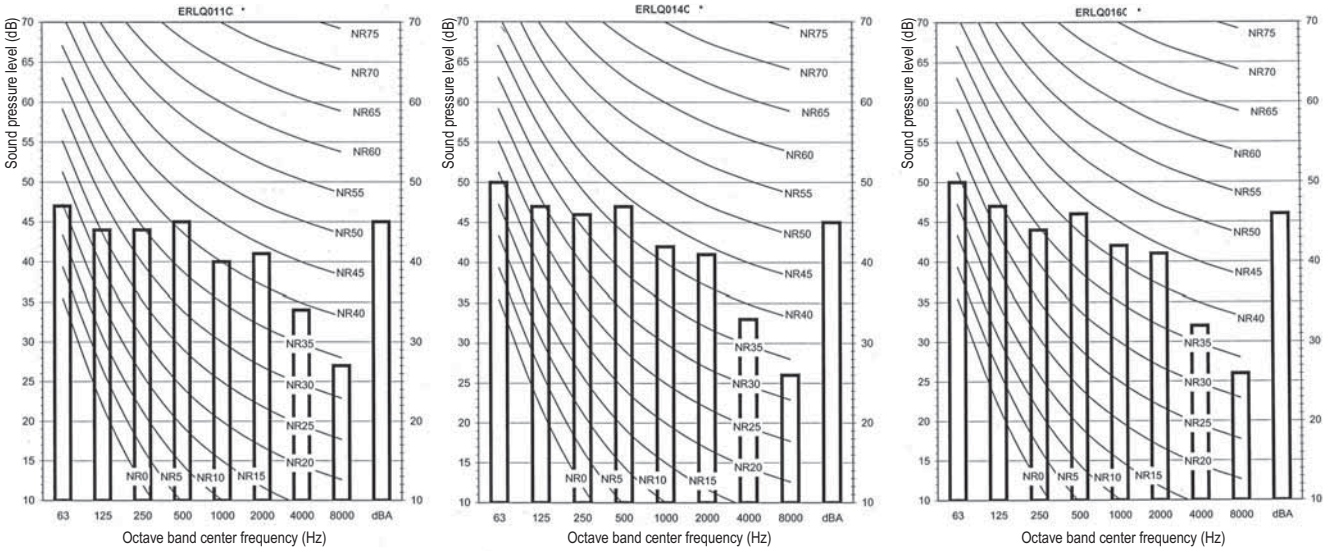
1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at night quiet mode level 2

Measuring location (discharge side):



3TW60337-4

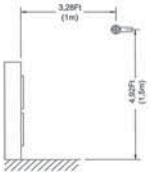
Cooling



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room).
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa.
4 If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.
5 Data is valid at night quiet mode level 2

Measuring location (discharge side):



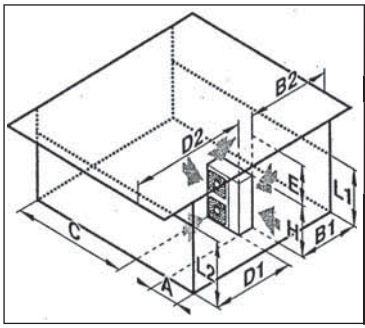
3TW60337-3

9 Installation

9 - 1 Installation Method

ERLQ011-016C

Installation servicing space



↙	↗	↘	↖	↓			A	B1	B2	C	D1	D2	E	L1/L2	
✓			✓					≥200							
✓		✓	✓				≥200	≥200		≥200					
✓				✓				≥200				≥500	≥1000		
✓		✓	✓	✓			≥300	≥300		≥300		≥500	≥1000		1
	✓										≥500				
	✓			✓					≥500		≥500		≥1000		
✓	✓				L1<L2			≥200			≥500				
					L2<L1			≥200			≥500				
✓	✓			✓	L1<L2	L1≤H		≥350	≥500		≥750		≥1000	0<L1≤1/2H	2
											≥1000			0<L1≤1/2H	
						H<L1	L1≤H								
					L2<L1	L2≤H		≥200			≥1000	≥500	≥1000	0<L2≤1/2H	
								≥300						1/2H<L2≤H	
						H<L2	L2≤H								

NOTES

Legend (Unit: mm)

- ↙ Suction side obstacle
- ↗ Discharge side obstacle
- ↘ Left side obstacle
- ↖ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present
- ⊘ This situation is not allowed

1 Recommended installation set-up for the ERLQ011~016*
(to prevent exposure to wind or that the heat exchanger coil is affected by snow)

2 In these cases, close bottom of the installation frame to prevent discharged air from being bypassed

3TW60339-1

9 Installation

9 - 1 Installation Method

ERLQ011-016C

Installation guidelines / precautions Daikin Altherma

Outdoor unit

Installation location (general)

Select an installation site that meets the following requirements:

- The foundation must be strong enough to support the weight of the unit. The floor is flat to prevent vibrations and noise generation and to have sufficient stability.
- The space around the unit is adequate for maintenance/servicing and allows for sufficient air circulation.(Refer to “Installation and service space” information sheet}
- There is no danger of fire due to leakage of inflammable gas.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Select the location of the unit in such a way that the sound and discharged cold/hot air generated by the unit does not disturb anyone, and the location is selected according the applicable legislation.
- All piping lengths and distances have been taken into consideration (refer to “Technical specification” information sheet).
- Take care that in the event of a water leak, water cannot cause any damage to the installation space and surroundings.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.

Do not install in the following locations:

- Locations where sulphurous acids and other corrosive gases may be present in the atmosphere.
- Locations where a mineral oil mist, spray or vapour may be present in the atmosphere.
- Locations where flammable gases may leak, where thinner, gasoline and other volatile substances are handled, or where carbon dust and other incendiary substances are found in the atmosphere.
- In areas where the air contains high levels of salt such as that near the ocean.
- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side (left and back) may be exposed directly to wind, snow. (See “Installation and Service space” information sheet and figure 1)

Installation location (in cold climates)

- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit should be installed in a way that a minimum of 10 cm free space is assured below the unit’s bottom plate at all conditions (prevent burying in snow), e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. Make sure that the heat exchanger coil (left and back side) is not affected by the snow (if necessary construct a lateral canopy and baffle plate on the air side).
- Recommended installation set-up. (See “Installation and Service space” information sheet and figure 2)

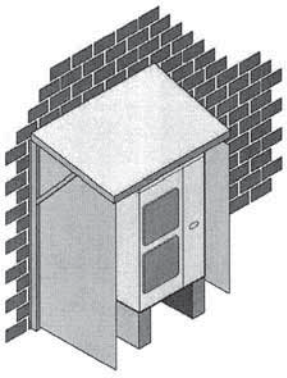


Figure 1: construction to prevent exposure to wind and snow

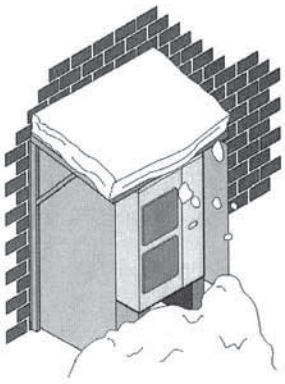


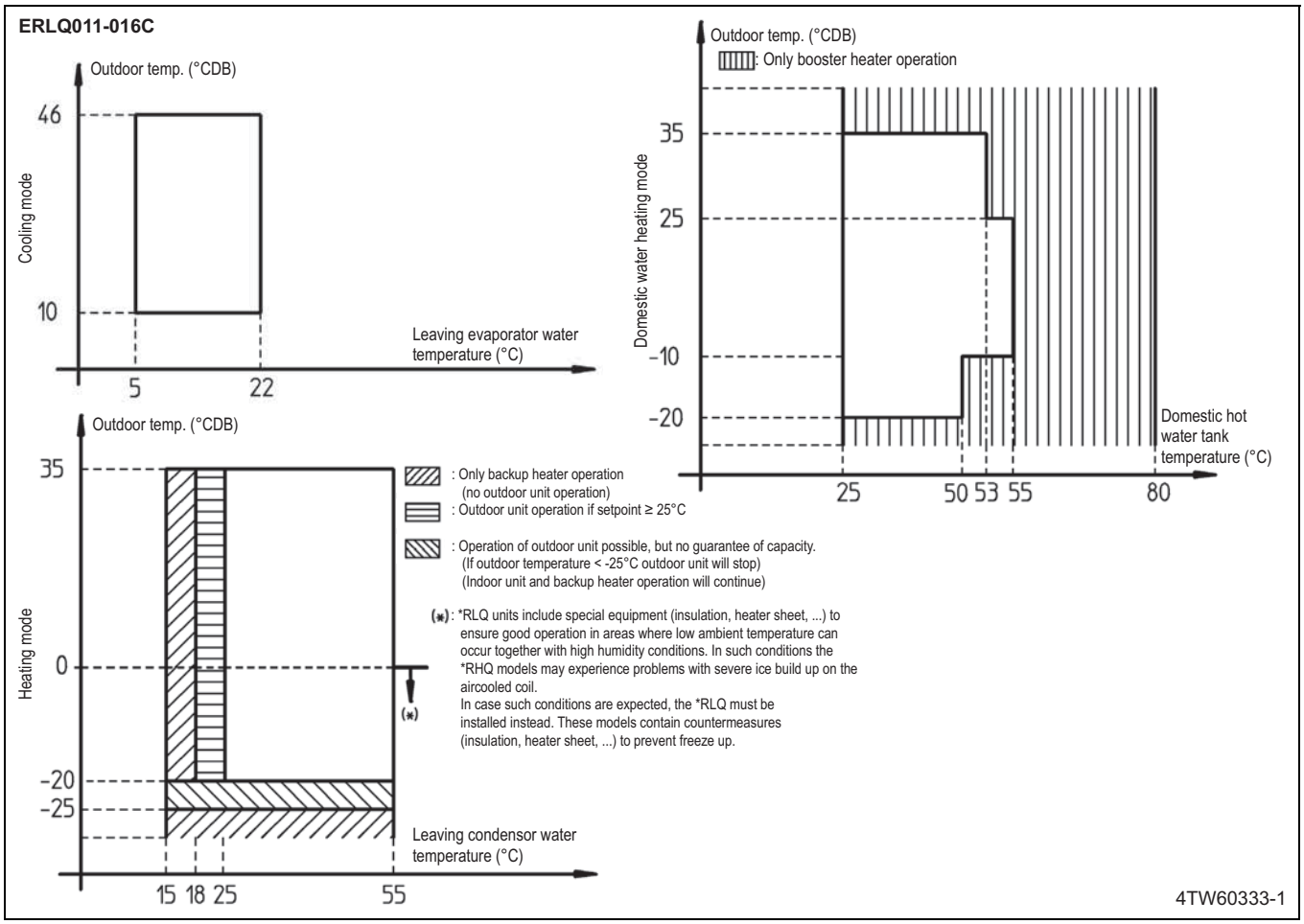
Figure 2: construction to prevent affect of snow to the unit

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10 Operation range

10 - 1 Operation Range

ERLQ011-016C



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1 Features



2 Specifications

CONNECTABLE INDOOR UNITS													
2-1 Nominal Capacity And Nominal Input				EKHBH008 BB3V3 / ERHQ006 BBV3	EKHBH008 BB3V3 / ERHQ007 BBV3	EKHBH008 BB3V3 / ERHQ008 BBV3	EKHBH008 BB6V3 / ERHQ006 BBV3	EKHBH008 BB6V3 / ERHQ007 BBV3	EKHBH008 BB6V3 / ERHQ008 BBV3	EKHBH008 BB6WN / ERHQ006 BBV3	EKHBH008 BB6WN / ERHQ007 BBV3	EKHBH008 BB6WN / ERHQ008 BBV3	EKHBH008 BB6T1 / ERHQ006 BBV3
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)
(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS													
2-1 Nominal Capacity And Nominal Input				EKHBH008 BB6T1 / ERHQ007 BBV3	EKHBH008 BB6T1 / ERHQ008 BBV3	EKHBH008 BB9WN / ERHQ006 BBV3	EKHBH008 BB9WN / ERHQ007 BBV3	EKHBH008 BB9WN / ERHQ008 BBV3	EKHBH008 BB9T1 / ERHQ006 BBV3	EKHBH008 BB9T1 / ERHQ007 BBV3	EKHBH008 BB9T1 / ERHQ008 BBV3		
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)		
	Nom.		kW	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)		
	Max.		kW	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)		
Power input	Heating	Nom.	kW	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)		
COP				4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)		

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)
(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS													
2-1 Nominal Capacity And Nominal Input				EKHBX008 BB3V3 / ERHQ006 BBV3	EKHBX008 BB3V3 / ERHQ007 BBV3	EKHBX008 BB3V3 / ERHQ008 BBV3	EKHBX008 BB3V3S / ERHQ006 BBV3	EKHBX008 BB3V3S / ERHQ007 BBV3	EKHBX008 BB3V3S / ERHQ008 BBV3	EKHBX008 BB6V3 / ERHQ006 BBV3	EKHBX008 BB6V3 / ERHQ007 BBV3	EKHBX008 BB6V3 / ERHQ008 BBV3	EKHBX008 BB6WN / ERHQ006 BBV3
Cooling capacity	Min.		kW	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)
	Nom.		kW	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)
	Max.		kW	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)
	Cooling	Nom.	kW	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)
EER				3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)
(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBX008 BB6WN / ERHQ007 BBV3	EKHBX008 BB6WN / ERHQ008 BBV3	EKHBX008 BB6T1 / ERHQ006 BBV3	EKHBX008 BB6T1 / ERHQ007 BBV3	EKHBX008 BB6T1 / ERHQ008 BBV3	EKHBX008 BB9WN / ERHQ006 BBV3	EKHBX008 BB9WN / ERHQ007 BBV3	EKHBX008 BB9WN / ERHQ008 BBV3
Cooling capacity	Min.		kW	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)
	Nom.		kW	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)
	Max.		kW	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)
	Max.		kW	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)
Power input	Heating	Nom.	kW	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)
	Cooling	Nom.	kW	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)
EER				2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)
COP				4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVH008 BB6V3 / ERHQ006 BBV3	EKHVH008 BB6V3 / ERHQ007 BBV3	EKHVH008 BB6V3 / ERHQ008 BBV3	EKHVH008 BB6WN / ERHQ006 BBV3	EKHVH008 BB6WN / ERHQ007 BBV3	EKHVH008 BB6WN / ERHQ008 BBV3	EKHVH008 BB9WN / ERHQ006 BBV3	EKHVH008 BB9WN / ERHQ007 BBV3	EKHVH008 BB9WN / ERHQ008 BBV3
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVX008 BB6V3 / ERHQ006 BBV3	EKHVX008 BB6V3 / ERHQ007 BBV3	EKHVX008 BB6V3 / ERHQ008 BBV3	EKHVX008 BB6WN / ERHQ006 BBV3	EKHVX008 BB6WN / ERHQ007 BBV3	EKHVX008 BB6WN / ERHQ008 BBV3	EKHVX008 BB9WN / ERHQ006 BBV3	EKHVX008 BB9WN / ERHQ007 BBV3	EKHVX008 BB9WN / ERHQ008 BBV3
Cooling capacity	Min.		kW	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)	4.82 (1) / 3.67 (2)
	Nom.		kW	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)	7.20 (1) / 5.12 (2)	8.16 (1) / 5.86 (2)	8.37 (1) / 6.08 (2)
	Max.		kW	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)	7.20 (1) / 5.12 (2)	8.50 (1) / 6.13 (2)	8.91 (1) / 7.10 (2)
Heating capacity	Min.		kW	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)	4.36 (1) / 3.87 (2)
	Nom.		kW	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)	5.75 (1) / 5.03 (2)	6.84 (1) / 6.10 (2)	8.43 (1) / 7.64 (2)
	Max.		kW	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)	7.45 (1) / 6.68 (2)	8.79 (1) / 7.98 (2)	9.58 (1) / 8.76 (2)

2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHVX008 BB6V3 / ERHQ006 BBV3	EKHVX008 BB6V3 / ERHQ007 BBV3	EKHVX008 BB6V3 / ERHQ008 BBV3	EKHVX008 BB6WN / ERHQ006 BBV3	EKHVX008 BB6WN / ERHQ007 BBV3	EKHVX008 BB6WN / ERHQ008 BBV3	EKHVX008 BB9WN / ERHQ006 BBV3	EKHVX008 BB9WN / ERHQ007 BBV3	EKHVX008 BB9WN / ERHQ008 BBV3
Power input	Heating	Nom.	kW	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)	1.26 (1) / 1.58 (2)	1.58 (1) / 1.95 (2)	2.08 (1) / 2.54 (2)
	Cooling	Nom.	kW	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)	2.27 (1) / 2.16 (2)	2.78 (1) / 2.59 (2)	2.97 (1) / 2.75 (2)
EER				3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)	3.17 (1) / 2.37 (2)	2.94 (1) / 2.26 (2)	2.82 (1) / 2.21 (2)
COP				4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)	4.56 (1) / 3.18 (2)	4.34 (1) / 3.13 (2)	4.05 (1) / 3.00 (2)

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

2-2 Technical Specifications				ERHQ006BBV3	ERHQ007BBV3	ERHQ008BBV3
Capacity control	Method			Inverter controlled		
Casing	Colour			Ivory white		
	Material			Polyester painted galvanised steel plate		
Dimensions	Unit	Height	mm	735		
		Width	mm	825		
		Depth	mm	300		
	Packed unit	Height	mm	797		
		Width	mm	960		
		Depth	mm	390		
Weight	Unit		kg	56		
	Packed unit		kg	61		
Packing	Material			EPS / Carton		
	Weight		kg	5		
Heat exchanger	Length		mm	845		
	Rows	Quantity		2		
	Fin pitch		mm	1.8		
	Stages	Quantity		32		
	Tube type			ø8 Hi-XA		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Fan	Type			Propeller fan		
	Quantity			1		
	Discharge direction			Horizontal		
Fan motor	Quantity			1		
	Output		W	53		
Sound power level	Heating	Nom.	dBA	61		62
	Cooling	Nom.	dBA	63		
Sound pressure level	Heating	Nom.	dBA	48		49
	Cooling	Nom.	dBA	48		50
Compressor	Quantity			1		
	Model			2YC63BXD#C		
	Type			Hermetically sealed swing compressor		
	Output		W	1,920		
Operation range	Heating	Min.	ºCWB	-15		
		Max.	ºCWB	25		
	Cooling	Min.	ºCDB	10		
		Max.	ºCDB	43		
	Domestic hot water	Min.	ºCDB	-15		
		Max.	ºCDB	35		

2 Specifications

2-2 Technical Specifications					ERHQ006BBV3	ERHQ007BBV3	ERHQ008BBV3
Refrigerant	Type				R-410A		
	Charge			kg	1.7		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				FVC50K		
	Charged volume			l	0.75		
Piping connections	Liquid	Type			Flare connection		
		OD		mm	6.35		
	Gas	Type			Flare connection		
		OD		mm	15.9		
	Drain	Quantity			4		
		Type			Hole		
		OD		mm	20		
	Drain 2	Quantity			1		
		Type			Hole		
		OD		mm	18		
	Piping length	Min.	OU - IU	m	3		
		OU - IU	Max.	m	30		
	Level difference	IU - OU	Max.	m	20		
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		

2-3 Electrical Specifications				ERHQ006BBV3	ERHQ007BBV3	ERHQ008BBV3
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current	Zmax	Text		0.42		
	Starting current	Heating	A	11		
		Cooling	A	11		
	Maximum running current	Heating	A	18		
		Cooling	A	16.25		
	Recommended fuses		A	20		
Wiring connections	For power supply	Quantity		3		
	For connection with indoor	Quantity		4		
		Remark		Earth wire included		

Notes

(1) See separate drawing for operation range

(2) Operation range heating (outdoor unit): range increase by support back-up heater

(3) Operation range domestic hot water (outdoor unit): range increase by support booster heater

(4) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(5) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(6) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(7) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(8) PED unit category: excluded from scope of PED due to article 1, item 3.6 of 97/23/EC

3 Capacity tables

3 - 1 Cooling/Heating Capacity Tables

ERHQ006-008BBV3

Cooling

Model	Tamb (°C	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
006	7	6.01	1.56	5.73	1.75	5.43	1.95	5.12	2.16	4.80	2.39	4.59	2.53
	11	6.81	1.57	6.50	1.77	6.17	1.98	5.83	2.21	5.30	2.32	4.98	2.38
	13	7.23	1.57	6.90	1.78	6.56	2.00	6.20	2.23	5.56	2.28	5.18	2.30
	16	7.88	1.56	7.54	1.78	7.17	2.01	6.79	2.26	5.95	2.22	5.46	2.18
	20	8.80	1.55	8.42	1.79	8.03	2.03	7.63	2.29	6.48	2.13	5.82	1.99
007	7	7.15	2.05	6.84	2.28	6.50	2.52	6.13	2.77	5.35	2.68	4.89	2.59
	11	8.09	2.09	7.73	2.34	7.34	2.59	6.94	2.87	5.84	2.62	5.21	2.43
	13	8.57	2.11	8.20	2.36	7.79	2.63	7.36	2.91	6.09	2.59	5.36	2.34
	16	9.33	2.13	8.92	2.40	8.49	2.68	8.03	2.97	6.46	2.53	5.57	2.20
	20	10.4	2.16	9.9	2.44	9.48	2.73	8.99	3.04	6.96	2.44	5.82	1.99
008	7	8.24	2.43	7.90	2.68	7.52	2.94	7.10	3.23	5.68	2.86	4.87	2.59
	11	9.26	2.49	8.87	2.76	8.45	3.05	7.79	3.31	6.12	2.80	5.18	2.43
	13	9.79	2.52	9.38	2.80	8.93	3.10	8.14	3.36	6.34	2.77	5.33	2.35
	16	10.6	2.57	10.17	2.86	9.69	3.17	8.68	3.41	6.67	2.71	5.55	2.20
	20	11.7	2.63	11.3	2.94	10.75	3.26	9.39	3.48	7.09	2.61	5.80	1.99

Heating (Peak values)

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.93	1.48	3.67	1.59	3.47	1.71	3.33	1.84	3.25	1.99
	-10	4.65	1.52	4.32	1.65	4.07	1.79	3.89	1.94	3.78	2.10
	-7	5.14	1.54	4.77	1.68	4.49	1.83	4.28	1.99	4.15	2.16
	-2	6.06	1.57	5.62	1.72	5.28	1.88	5.03	2.06	4.87	2.25
	2	6.89	1.57	6.38	1.74	6.00	1.91	5.72	2.11	5.53	2.31
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.87	1.82	4.62	1.94	4.43	2.08	4.30	2.23	4.24	2.40
	-10	5.67	1.88	5.34	2.02	5.09	2.18	4.92	2.36	4.82	2.55
	-7	6.21	1.91	5.83	2.07	5.55	2.24	5.35	2.42	5.23	2.63
	-2	7.23	1.95	6.77	2.13	6.42	2.32	6.17	2.52	6.02	2.75
	2	8.14	1.97	7.61	2.16	7.21	2.37	6.92	2.59	6.74	2.83
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	5.42	2.06	5.16	2.19	4.97	2.34	4.86	2.51	4.80	2.70
	-10	6.27	2.13	5.93	2.29	5.68	2.46	5.51	2.65	5.42	2.86
	-7	6.84	2.17	6.46	2.34	6.17	2.53	5.97	2.73	5.86	2.95
	-2	7.92	2.22	7.45	2.41	7.10	2.62	6.85	2.85	6.70	3.10
	2	8.9	2.26	8.35	2.46	7.93	2.69	7.65	2.93	7.47	3.20
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

Heating (Integrated values[4])

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.50	1.40	3.27	1.51	3.09	1.62	2.97	1.75	2.89	1.89
	-10	4.14	1.45	3.85	1.56	3.62	1.70	3.46	1.84	3.36	2.00
	-7	4.52	1.45	4.20	1.58	3.95	1.72	3.77	1.87	3.65	2.03
	-2	5.27	1.46	4.89	1.60	4.59	1.75	4.38	1.92	4.24	2.10
	2	5.92	1.45	5.49	1.60	5.16	1.76	4.92	1.94	4.76	2.13
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.34	1.73	4.11	1.85	3.94	1.98	3.83	2.12	3.77	2.28
	-10	5.04	1.79	4.75	1.92	4.53	2.07	4.38	2.24	4.29	2.42
	-7	5.46	1.80	5.13	1.94	4.88	2.10	4.71	2.28	4.60	2.47
	-2	6.29	1.81	5.89	1.98	5.59	2.15	5.37	2.35	5.23	2.56
	2	7.00	1.81	6.55	1.99	6.20	2.18	5.96	2.38	5.80	2.61
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	4.82	1.96	4.59	2.08	4.43	2.23	4.32	2.39	4.27	2.56
	-10	5.58	2.03	5.28	2.17	5.06	2.34	4.91	2.52	4.82	2.72
	-7	6.02	2.04	5.69	2.20	5.43	2.37	5.26	2.57	5.15	2.78
	-2	6.89	2.07	6.48	2.25	6.17	2.44	5.96	2.65	5.83	2.88
	2	7.6	2.08	7.18	2.27	6.82	2.47	6.58	2.70	6.43	2.94
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

SYMBOLS

CC: Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC: Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI: Power input (kW)
LWE: Leaving Water Evaporator temperature (°C)
LWC: Leaving Water Condensor temperature (°C)
Tamb: Ambient temperature (°C) RH=85%

NOTES

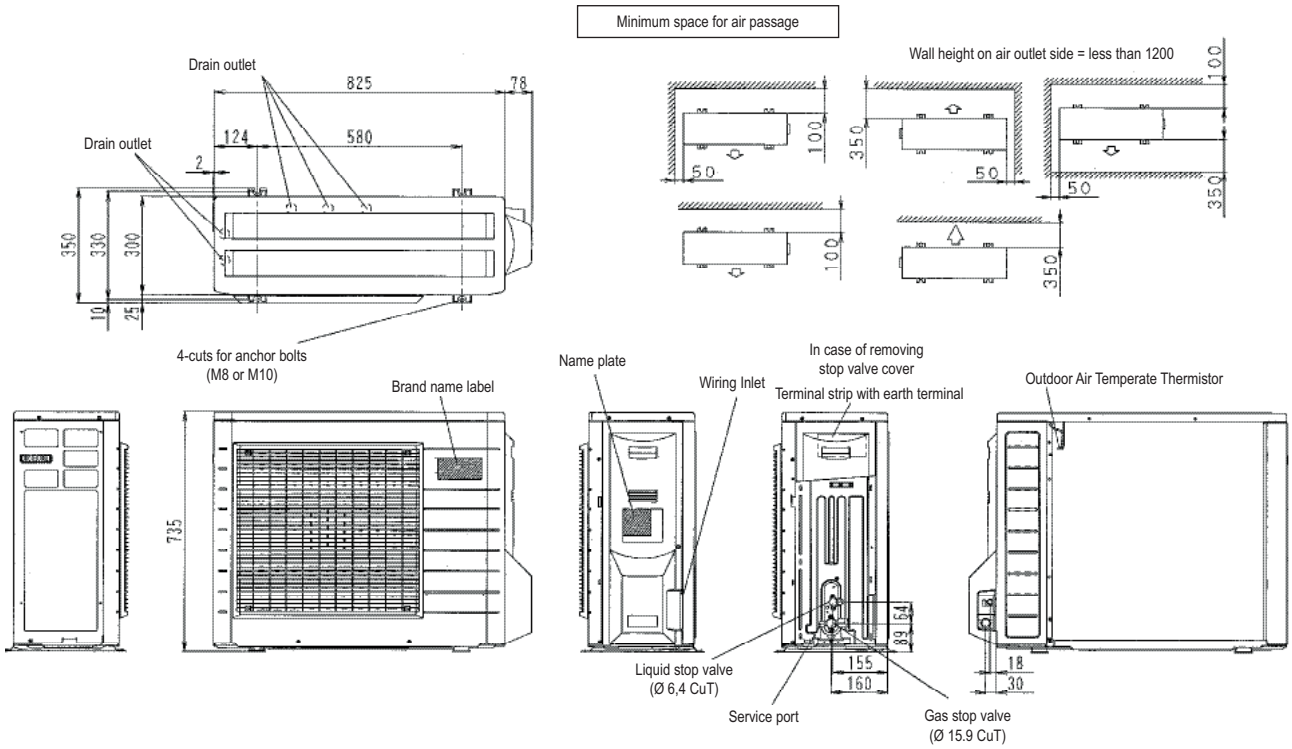
1. **Cooling capacity**
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~ 8°C
2. **Heating capacity**
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~ 8°C
3. **Power input**
   Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
   Pump power input to be added = 60 W (according EN14511).
4. The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle (from end of defrost till end of the next defrost).

3TW57782-1D

4 Dimensional drawings

4 - 1 Dimensional Drawings

ERHQ006-008BBV3



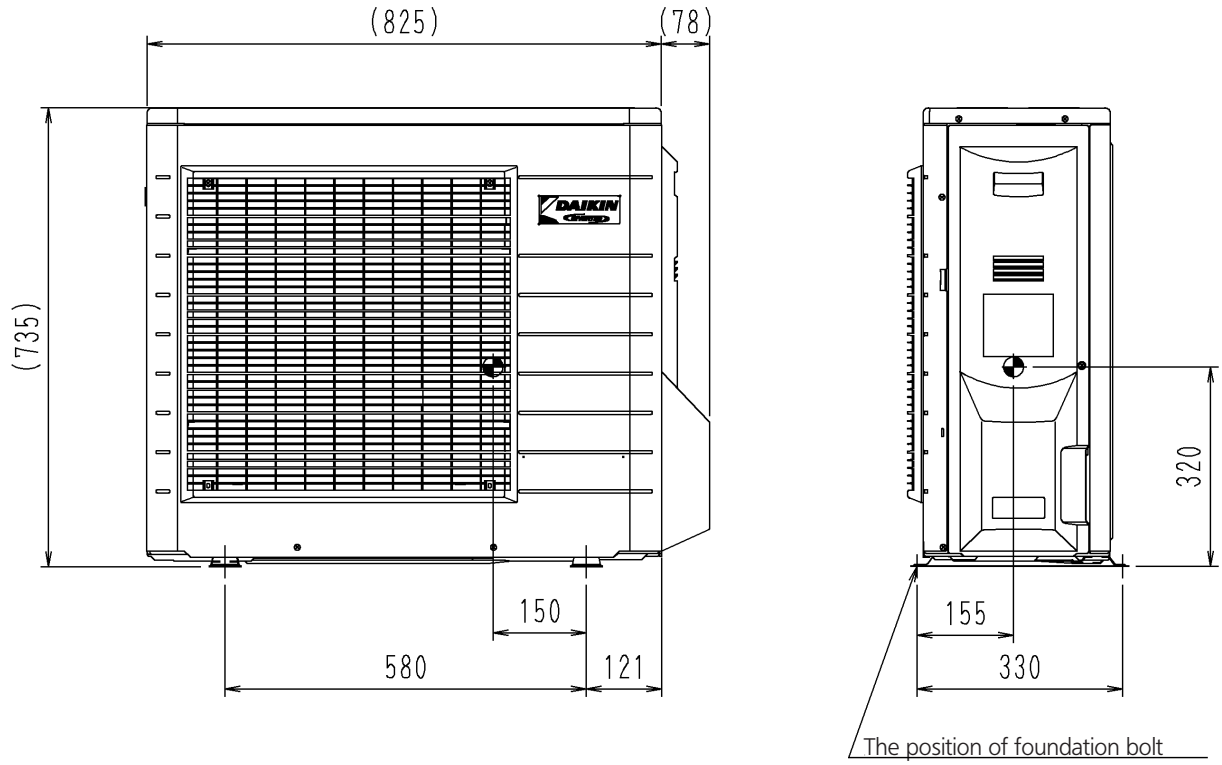
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4

5 Centre of gravity

5 - 1 Centre of Gravity

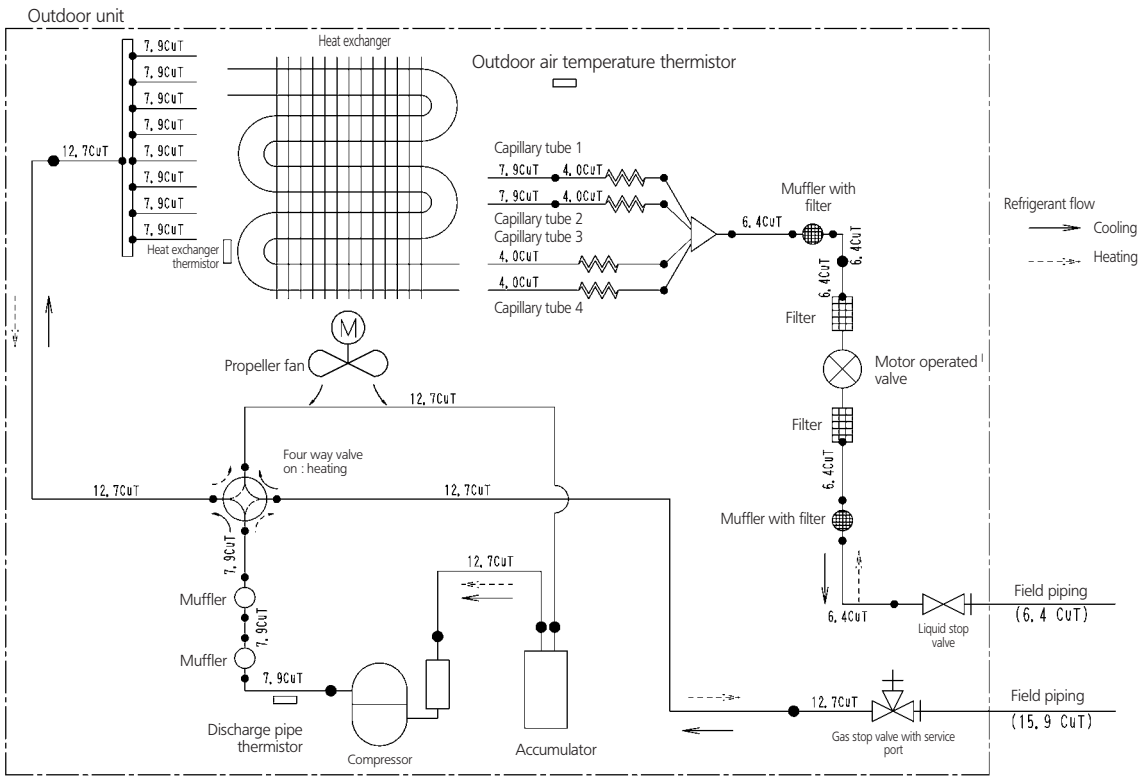
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6 Piping diagrams

6 - 1 Piping Diagrams

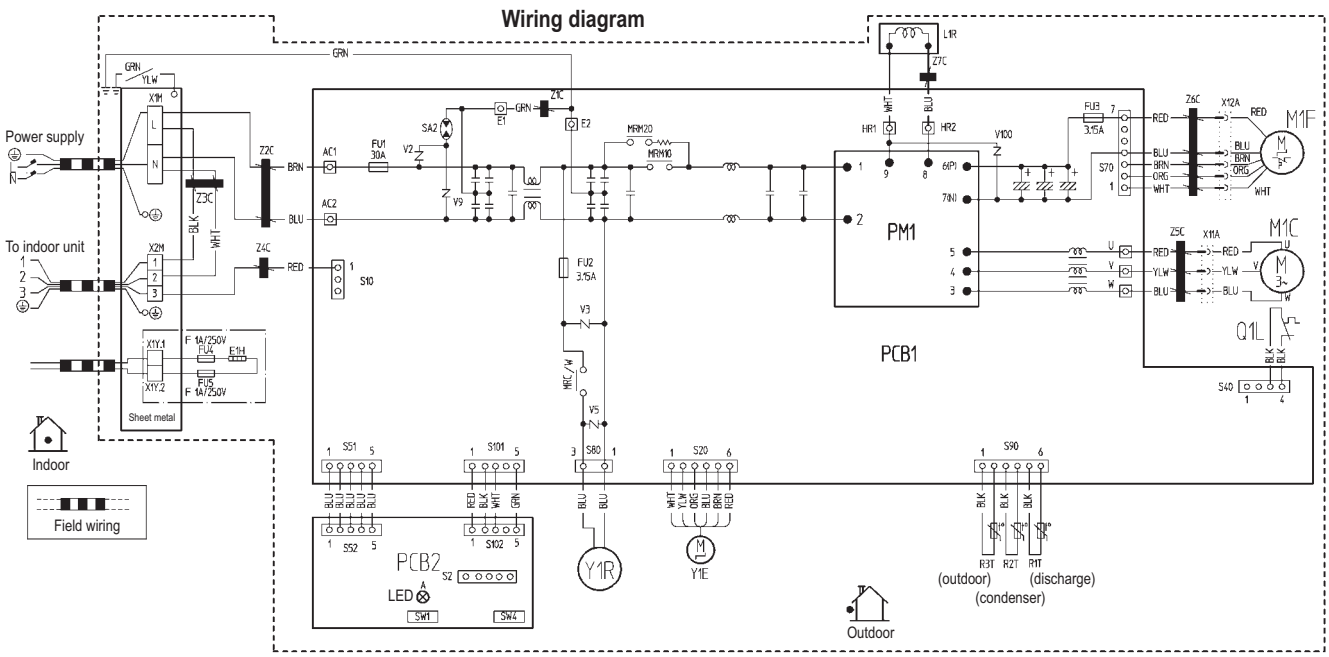
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7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

ERHQ006-008BBV3



Z1C~Z7C	Ferrite core	L	Live
X1M, X2M	Terminal strip	N	Neutral
Y1E	Electronic expansion valve coil	SW1	Forced operation on/off switch SW (SW1)
V2, V3, V5, V9, V100	Varistor	SW4	Local setting SW (SW4)
SA2	Surge arrester	M1C	Compressor motors
FU1, FU2, FU3, FU4, FU5	Fuse	M1F	Fan motor
AC1, AC2, U, V, W, X11A, X12A, E1, E2, HR1, HR2	Connector	L1R	Reactor
		Q1L	Overload protector
E1H	Bottomplate heater	PM1	Power module
X1Y	Connector	PCB1,2	Printed circuit board
MRM10, MRM20, MRC/W	Magnetic relay	Y1R	Reversing solenoide valve coil
R1T~R3T	Thermistor	Sheet metal	Terminal strip fixed plate
S2-S102	Connector		
LED A	Pilot lamp		

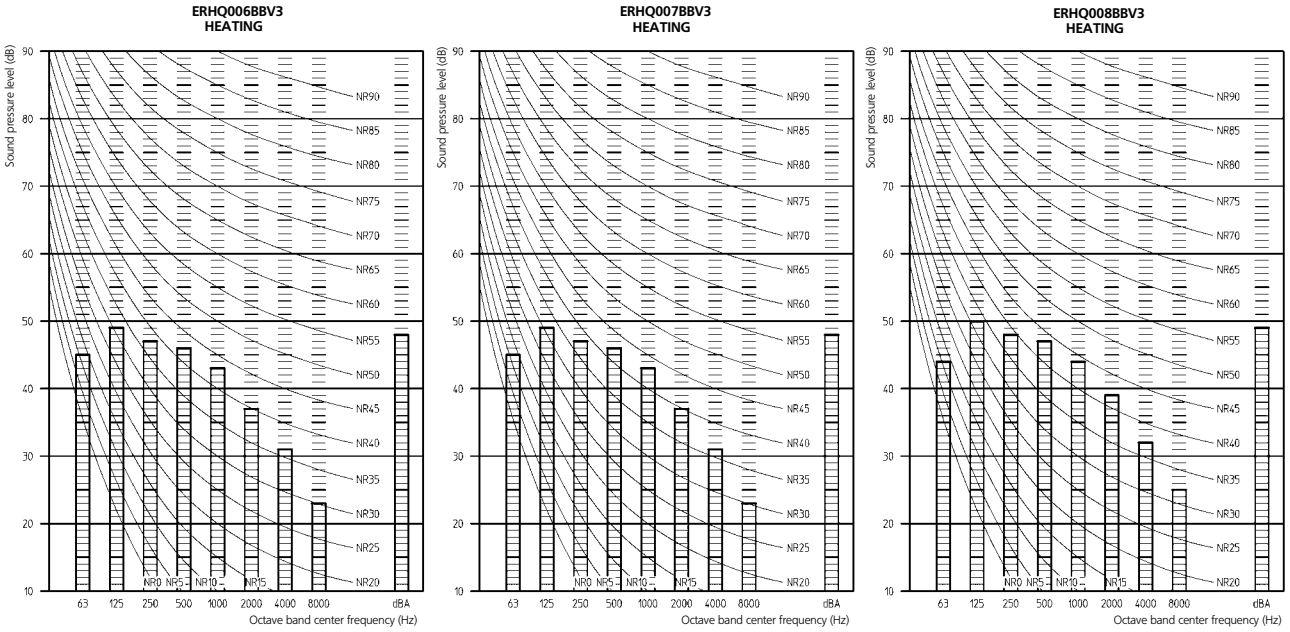
3TW57786-8

NOTES

1. Refer to purchasing specification AS303002, unless otherwise specified.
2. This drawing was drawn on CAD system.
3. The electric wiring diagram label is 3PW56901-1

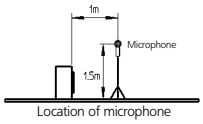
8 Sound data

8 - 1 Sound Pressure Spectrum - Heating



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

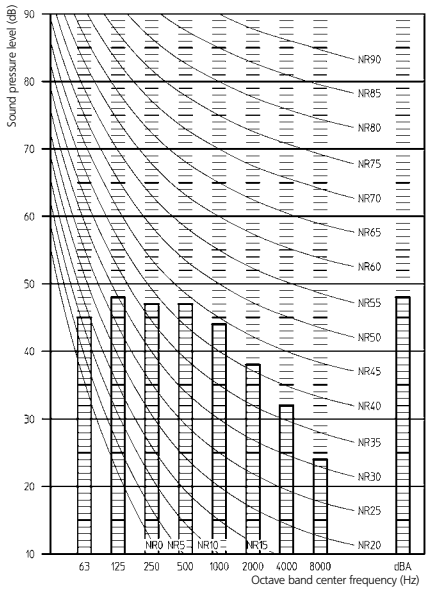


3TW57557-4

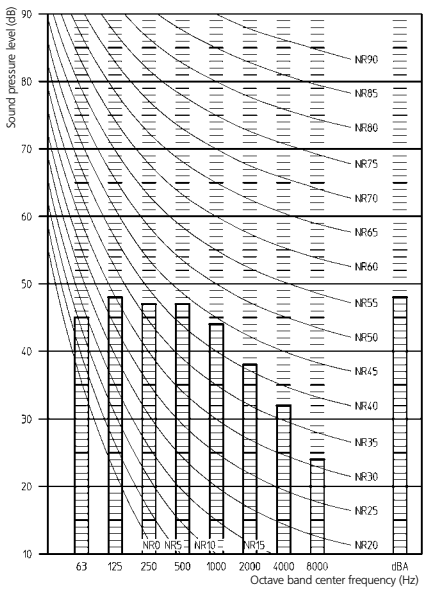
8 Sound data

8 - 2 Sound Pressure Spectrum - Cooling

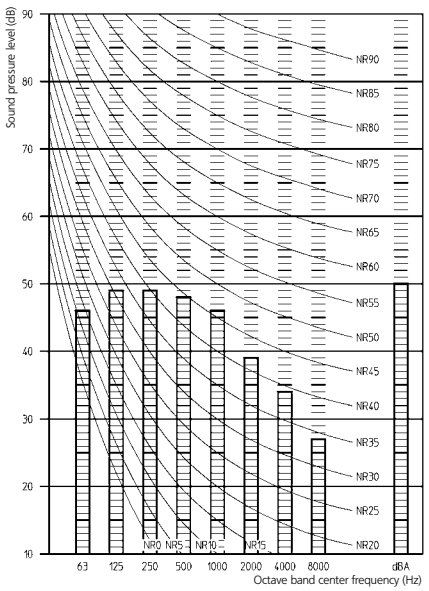
ERHQ006BBV3
COOLING



ERHQ007BBV3
COOLING

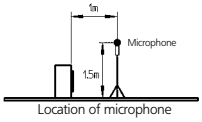


ERHQ008BBV3
COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Location of microphone

3TW57557-3

9 Installation

9 - 1 Installation method

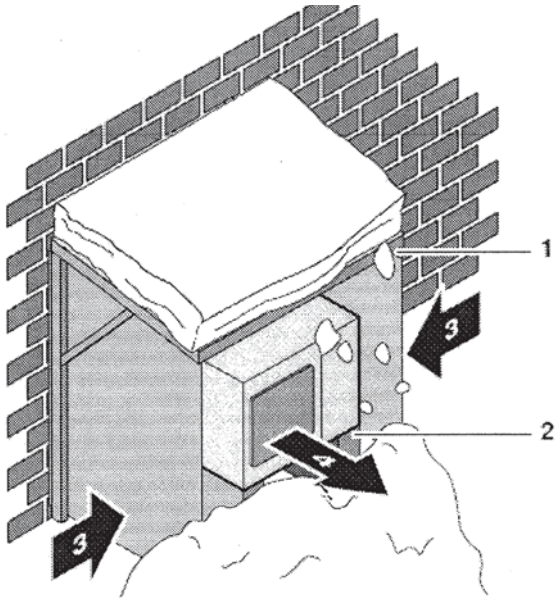
ERLQ-BBV39

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit wicht must be kept away from moisture.

Installation location (in cold climates)
- To precent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit shoud be installed in a way that a minimum of 1 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow ill not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure 1)



1. Construct a large canopy
2. Construct a pedestal
   Install the unit high enough off the ground to prevent burying in snow
3. Strong wind
4. Discharge air

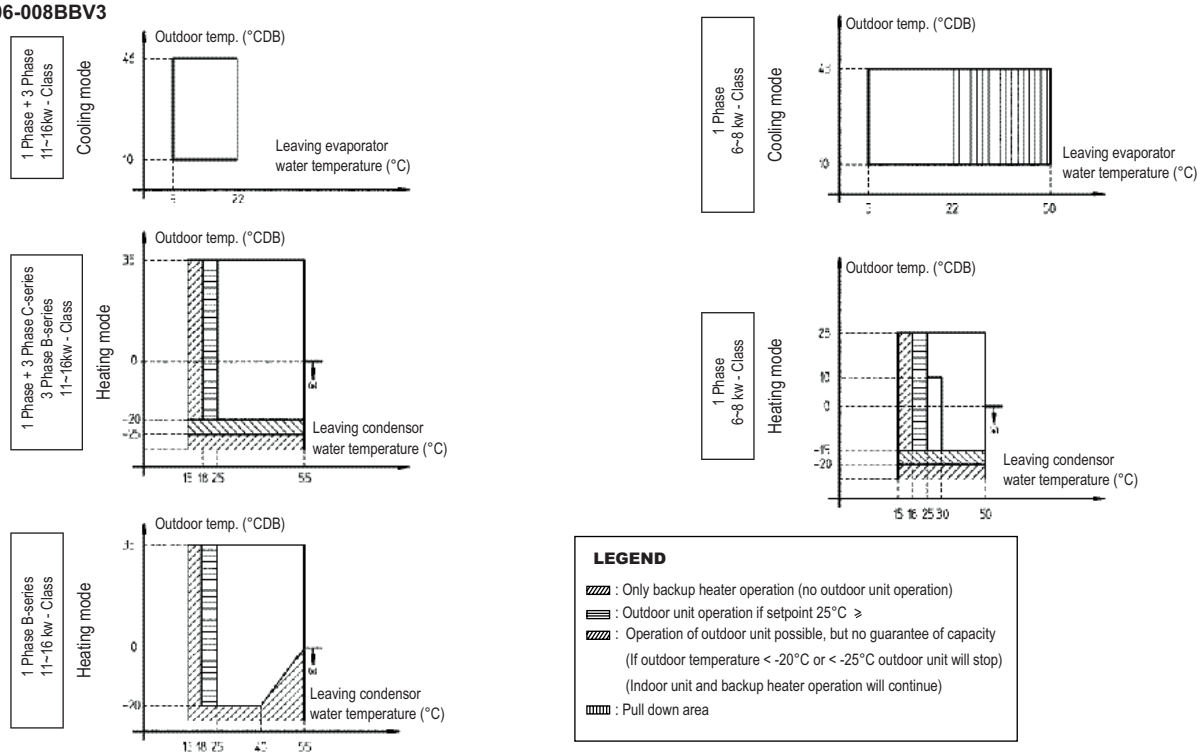
Figure 1: construction of canopy and pedestal

4TW57919-7A

10 Operation range

10 - 1 Operation Range

ERHQ006-008BBV3



LEGEND

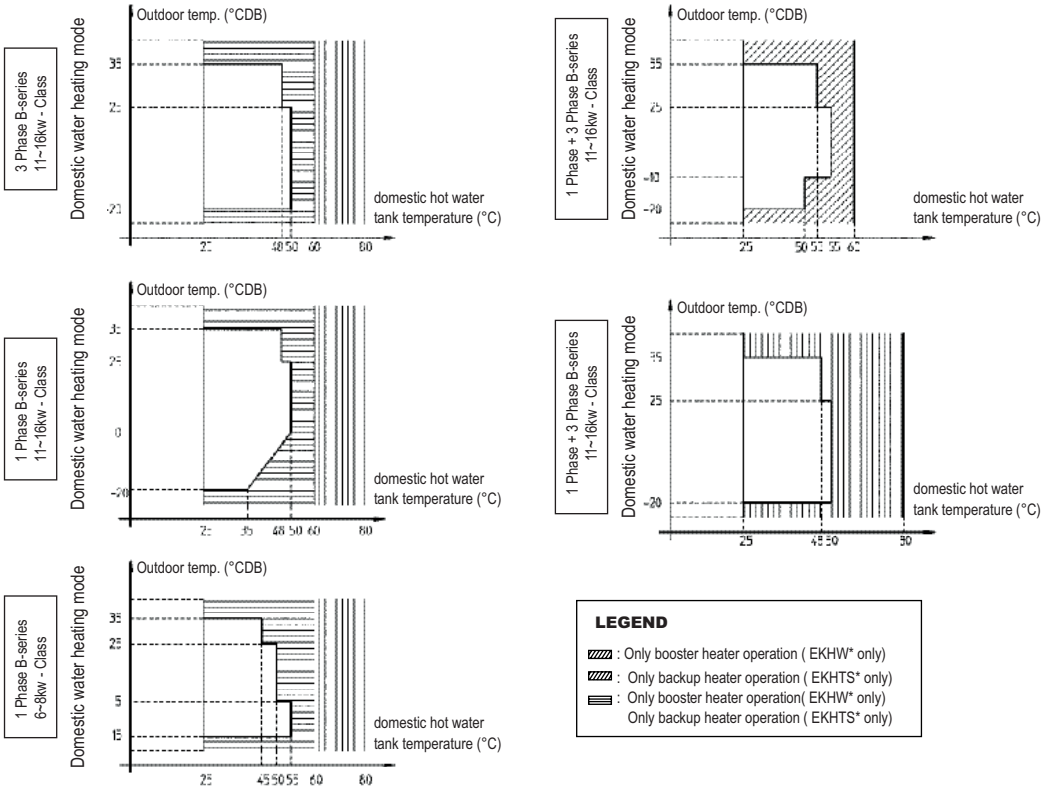
- ▨ : Only backup heater operation (no outdoor unit operation)
- ▤ : Outdoor unit operation if setpoint 25°C ⩾
- ▨ : Operation of outdoor unit possible, but no guarantee of capacity
  (If outdoor temperature < -20°C or < -25°C outdoor unit will stop)
  (Indoor unit and backup heater operation will continue)
- ▥ : Pull down area

NOTES

- For restricted power supply condition mode outdoor unit, booster heater and back-up heater can only operate seperately.
- (*) RLQ units include special equipement (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur Together with humidity conditions.
  In such conditions the * RHQ models may experience problems with severe ice build up on the aircooled coil.
  In case such conditions are expected, the * RLQ must be installed instead. These models contain countermeasures (insulation, heater, sheet ...) to prevent freeze up.

3TW60343-1A

ERHQ006-008BBV3



LEGEND

- ▨ : Only booster heater operation (EKHW* only)
- ▨ : Only backup heater operation (EKHTS* only)
- ▤ : Only booster heater operation(EKHW* only)
  Only backup heater operation (EKHTS* only)

NOTES

- For restricted power supply condition mode (EKHW* (only) outdoor unit, booster heater and back-up heater can only operate sperately.

3TW60343-2A

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1 Features

- Single phase outdoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



9
1

INVERTER

2 Specifications

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHBH016 BB3V3 / ERHQ011B AV3	EKHBH016 BB3V3 / ERHQ014B AV3	EKHBH016 BB3V3 / ERHQ016B AV3	EKHBH016 BB6V3 / ERHQ011B AV3	EKHBH016 BB6V3 / ERHQ014B AV3	EKHBH016 BB6V3 / ERHQ016B AV3	EKHBH016 BB6WN / ERHQ011B AV3	EKHBH016 BB6WN / ERHQ014B AV3	EKHBH016 BB6WN / ERHQ016B AV3
Heating capacity	Min.		kW	-								
	Nom.		kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)
	Max.		kW	-								
Power input	Heating	Nom.	kW	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)
COP				4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)
Notes				Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)								

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHBH016 BB6T1 / ERHQ011B AV3	EKHBH016 BB6T1 / ERHQ014B AV3	EKHBH016 BB6T1 / ERHQ016B AV3	EKHBH016 BB9WN / ERHQ011B AV3	EKHBH016 BB9WN / ERHQ014B AV3	EKHBH016 BB9WN / ERHQ016B AV3	EKHBH016 BB9T1 / ERHQ011B AV3	EKHBH016 BB9T1 / ERHQ014B AV3	EKHBH016 BB9T1 / ERHQ016B AV3
Heating capacity	Min.		kW	-								
	Nom.		kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)
	Max.		kW	-								
Power input	Heating	Nom.	kW	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)
COP				4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)
Notes				Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)								

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHBX016 BB3V3 / ERHQ011B AV3	EKHBX016 BB3V3 / ERHQ014B AV3	EKHBX016 BB3V3 / ERHQ016B AV3	EKHBX016 BB3V3S / ERHQ011B AV3	EKHBX016 BB3V3S / ERHQ014B AV3	EKHBX016 BB3V3S / ERHQ016B AV3	EKHBX016 BB6V3 / ERHQ011B AV3	EKHBX016 BB6V3 / ERHQ014B AV3	EKHBX016 BB6V3 / ERHQ016B AV3
Heating capacity	Min.		kW	-								
	Nom.		kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)
	Max.		kW	-								
Cooling capacity	Min.		kW	-								
	Nom.		kW	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)
	Max.		kW	-								
Power input	Heating	Nom.	kW	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)
	Cooling	Nom.	kW	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)
COP				4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)
EER				3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

2 Specifications

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHBX016 BB6WN / ERHQ011B AV3	EKHBX016 BB6WN / ERHQ014B AV3	EKHBX016 BB6WN / ERHQ016B AV3	EKHBX016 BB6T1 / ERHQ011B AV3	EKHBX016 BB6T1 / ERHQ014B AV3	EKHBX016 BB6T1 / ERHQ016B AV3	EKHBX016 BB9WN / ERHQ011B AV3	EKHBX016 BB9WN / ERHQ014B AV3	EKHBX016 BB9WN / ERHQ016B AV3
Heating capacity	Min.		kW	-								
	Nom.		kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)
	Max.		kW	-								
Cooling capacity	Min.		kW	-								
	Nom.		kW	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)
	Max.		kW	-								
Power input	Heating	Nom.	kW	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)
	Cooling	Nom.	kW	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)
COP				4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)
EER				3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHVH016 BB6V3 / ERHQ011B AV3	EKHVH016 BB6V3 / ERHQ014B AV3	EKHVH016 BB6V3 / ERHQ016B AV3	EKHVH016 BB6WN / ERHQ011B AV3	EKHVH016 BB6WN / ERHQ014B AV3	EKHVH016 BB6WN / ERHQ016B AV3	EKHVH016 BB9WN / ERHQ011B AV3	EKHVH016 BB9WN / ERHQ014B AV3	EKHVH016 BB9WN / ERHQ016B AV3
Heating capacity	Min.		kW	-								
	Nom.		kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)
	Max.		kW	-								
Power input	Heating	Nom.	kW	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)
COP				4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHVX016B B6V3 / ERHQ011B AV3	EKHVX016B B6V3 / ERHQ014B AV3	EKHVX016B B6V3 / ERHQ016B AV3	EKHVX016B B6WN / ERHQ011B AV3	EKHVX016B B6WN / ERHQ014B AV3	EKHVX016B B6WN / ERHQ016B AV3	EKHVX016B B9WN / ERHQ011B AV3	EKHVX016B B9WN / ERHQ014B AV3	EKHVX016B B9WN / ERHQ016B AV3
Heating capacity	Min.		kW	-								
	Nom.		kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)
	Max.		kW	-								
Cooling capacity	Min.		kW	-								
	Nom.		kW	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)
	Max.		kW	-								
Power input	Heating	Nom.	kW	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)	2.46 (1) / 3.06 (2)	3.17 (1) / 3.88 (2)	3.83 (1) / 4.66 (2)
	Cooling	Nom.	kW	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)	3.79 (1) / 3.60 (2)	5.78 (1) / 5.29 (2)	6.77 (1) / 5.95 (2)

2 Specifications

2-1 Nominal Capacity And Nominal Input	EKHVX016B B6V3 / ERHQ011B AV3	EKHVX016B B6V3 / ERHQ014B AV3	EKHVX016B B6V3 / ERHQ016B AV3	EKHVX016B B6WN / ERHQ011B AV3	EKHVX016B B6WN / ERHQ014B AV3	EKHVX016B B6WN / ERHQ016B AV3	EKHVX016B B9WN / ERHQ011B AV3	EKHVX016B B9WN / ERHQ014B AV3	EKHVX016B B9WN / ERHQ016B AV3
COP	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)	4.55 (1) / 3.37 (2)	4.42 (1) / 3.38 (2)	4.18 (1) / 3.26 (2)
EER	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)	3.67 (1) / 2.78 (2)	2.99 (1) / 2.36 (2)	2.63 (1) / 2.20 (2)
Notes	Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

2-2 Technical Specifications					ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Capacity control	Method				Inverter controlled		
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,170		
		Width		mm	900		
		Depth		mm	320		
	Packed unit	Height		mm	1,349		
		Width		mm	980		
		Depth		mm	420		
Weight	Unit			kg	103		
	Packed unit			kg	114		
Packing	Material				Wood / EPS / Carton / PE (Straps)		
	Weight			kg	11		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			6		
	Face area			m²	0.98		
	Stages	Quantity			52		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Fan	Type				Propeller		
	Quantity				2		
	Air flow rate	Heating	High	m³/min	90		
		Cooling	High	m³/min	96	100	97
	Discharge direction				Horizontal		
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Output			W	70.00		
	Drive				Direct drive		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
Compressor	Quantity				1		
	Model				JT100G-VD		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Min.		ºCWB	-20		
		Max.		ºCWB	35		
	Cooling	Min.		ºCDB	-		
		Max.		ºCDB	-		
	Domestic hot water	Min.		ºCDB	-20		
		Max.		ºCDB	43		

2 Specifications

2-2 Technical Specifications					ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Refrigerant	Type				R-410A		
	Charge			kg	3.7		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Piping connections	Liquid	Quantity			1		
		Type			Flare connection		
		OD		mm	9.52		
	Gas	Quantity			1		
		Type			Flare connection		
		OD		mm	15.9		
	Drain	Quantity			3		
		Type			Hole		
		OD		mm	26		
	Piping length	Min.	OU - IU	m	5 (1)		
		OU - IU	Max.	m	75		
		System	Equivalent	m	95		
			Chargeless	m	30		
	Additional refrigerant charge			kg/m	See installation manual outdoor unit 4PW37976-1B		
	Level difference	IU - OU	Max.	m	30		
		IU - IU	Max.	m	-		
	Heat insulation				Both liquid and gas pipes		
Sound power level	Heating	Nom.		dBA	-		
	Cooling	Nom.		dBA	-		
Sound pressure level	Heating	Nom.		dBA	49	51	53
	Cooling	Nom.		dBA	-		
	Night quiet mode	Heating		dBA	42		43
Defrost method					Pressure equalising		
Defrost control					Sensor for outdoor heat exchanger temperature		
Safety devices	Item	01			High pressure switch		
		02			Fuse		
		03			Fan motor thermal protection		

2-3 Electrical Specifications				ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current	Starting current	Heating	A	-		
		Cooling	A	-		
	Maximum running current	Heating	A	-		
		Cooling	A	-		
	Recommended fuses		A	32		
Wiring connections	For power supply	Quantity		-		
		Remark		See installation manual outdoor unit 4PW37976-1B		
	For connection with indoor	Quantity		-		
		Remark		See installation manual outdoor unit 4PW37976-1B		
Power supply intake				Outdoor unit only		

Notes

(1) See separate drawing for operation range

(2) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(3) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(4) Down to 3m with recharging of the outdoor unit. Please refer to the installation manual of the outdoor unit.

3 Capacity tables

3 - 1 Heating Capacity Tables

ERHQ011-016BAV3

Maximum Heating Capacity (Peak values)

Model	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5.66	2.17	5.48	2.37	5.44	2.61						
	-15	6.48	2.21	6.25	2.42	6.17	2.67						
	-7	8.04	2.24	7.74	2.46	7.63	2.72	7.50	3.02				
	-2	9.18	2.24	8.84	2.47	8.71	2.74	8.57	3.05	8.18	3.36		
	2	10.2	2.23	9.81	2.47	9.68	2.74	9.52	3.06	9.10	3.38	8.72	3.77
	7	11.6	2.21	11.2	2.46	10.8	2.74	10.3	3.06	9.94	3.42	9.53	3.82
	12	13.1	2.18	12.7	2.43	12.2	2.72	11.8	3.04	11.3	3.41	10.9	3.81
	15	14.1	2.15	13.6	2.41	13.2	2.70	12.7	3.03	12.2	3.40	11.7	3.81
	20	15.9	2.10	15.4	2.36	14.9	2.65	14.4	2.99	13.8	3.37	13.3	3.78
R(H/L)Q014	-20	7.24	2.72	7.14	2.97	7.05	3.26						
	-15	8.19	2.78	8.01	3.04	7.85	3.34						
	-7	10.1	2.84	9.78	3.11	9.51	3.43	9.25	3.79				
	-2	11.5	2.87	11.1	3.14	11.1	3.47	10.7	3.74	10.4	4.14		
	2	12.7	2.87	12.3	3.16	12.2	3.49	11.8	3.76	11.4	4.17	11.1	4.62
	7	14.4	2.88	14.0	3.17	13.5	3.50	13.1	3.88	12.7	4.30	12.3	4.77
	12	16.3	2.86	15.9	3.16	15.4	3.50	14.9	3.89	14.4	4.32	13.9	4.79
	15	17.6	2.85	17.1	3.15	16.5	3.50	16.0	3.89	15.5	4.32	15.0	4.80
	20	19.9	2.82	19.3	3.13	18.7	3.48	18.1	3.87	17.5	4.31	17.0	4.80
R(H/L)Q016	-20	8.35	3.25	8.31	3.54	8.27	3.89						
	-15	9.38	3.33	9.33	3.63	9.28	3.98						
	-7	11.5	3.42	11.3	3.73	11.1	4.10	10.9	4.52				
	-2	13.0	3.46	12.7	3.78	12.5	4.15	12.2	4.58	12.0	5.06		
	2	14.4	3.48	14.1	3.81	13.8	4.19	13.5	4.62	13.1	5.11	11.9	5.35
	7	16.3	3.50	16.0	3.83	15.6	4.22	15.2	4.66	14.8	5.15	13.4	5.40
	12	18.5	3.51	18.1	3.85	17.6	4.24	17.2	4.69	16.7	5.18	15.1	5.44
	15	20.0	3.51	19.5	3.86	19.0	4.25	18.5	4.69	18.0	5.20	16.6	5.75
	20	22.5	3.50	22.0	3.85	21.4	4.25	20.8	4.70	20.3	5.21	18.7	5.77

Maximum Heating Capacity (integrated values)

Model	LWC	30		35		40		45		50		55	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5.04	2.17	4.88	2.37	4.84	2.61						
	-15	5.77	2.21	5.56	2.42	5.49	2.67						
	-7	6.89	2.24	6.63	2.46	6.54	2.72	6.43	3.02				
	-2	7.43	2.11	7.16	2.33	7.06	2.58	6.94	2.87	6.63	3.17		
	2	8.16	2.16	7.86	2.39	7.75	2.65	7.63	2.96	7.29	3.26	6.99	3.64
	7	11.6	2.21	11.2	2.46	10.8	2.74	10.3	3.06	9.94	3.42	9.53	3.82
	12	13.1	2.18	12.7	2.43	12.2	2.72	11.8	3.04	11.3	3.41	10.9	3.81
	15	14.1	2.15	13.6	2.41	13.2	2.70	12.7	3.03	12.2	3.40	11.7	3.81
	20	15.9	2.10	15.4	2.36	14.9	2.65	14.4	2.99	13.8	3.37	13.3	3.78
R(H/L)Q014	-20	6.45	2.72	6.35	2.97	6.28	3.26						
	-15	7.29	2.78	7.13	3.04	6.99	3.34						
	-7	8.06	2.84	7.84	3.11	7.62	3.43	7.42	3.79				
	-2	9.27	2.70	9.00	2.96	8.95	3.26	8.65	3.52	8.38	3.90		
	2	10.0	2.78	9.71	3.05	9.65	3.37	9.32	3.64	9.02	4.03	8.73	4.47
	7	14.4	2.88	14.0	3.17	13.5	3.50	13.1	3.88	12.7	4.30	12.3	4.77
	12	16.3	2.86	15.9	3.16	15.4	3.50	14.9	3.89	14.4	4.32	13.9	4.79
	15	17.6	2.85	17.1	3.15	16.5	3.50	16.0	3.89	15.5	4.32	15.0	4.80
	20	19.9	2.82	19.3	3.13	18.7	3.48	18.1	3.87	17.5	4.31	17.0	4.80
R(H/L)Q016	-20	7.44	3.25	7.39	3.54	7.36	3.89						
	-15	8.35	3.33	8.30	3.63	8.26	3.98						
	-7	8.91	3.34	8.77	3.64	8.63	4.00	8.49	4.41				
	-2	10.5	3.26	10.3	3.56	10.1	3.91	9.91	4.31	9.71	4.77		
	2	11.1	3.15	10.9	3.45	10.6	3.79	10.4	4.18	10.2	4.62	9.19	4.84
	7	16.3	3.50	16.0	3.83	15.6	4.22	15.2	4.66	14.8	5.15	13.4	5.40
	12	18.5	3.51	18.1	3.85	17.6	4.24	17.2	4.69	16.7	5.18	15.1	5.44
	15	20.0	3.51	19.5	3.86	19.0	4.25	18.5	4.69	18.0	5.20	16.6	5.75
	20	22.5	3.50	22.0	3.85	21.4	4.25	20.8	4.70	20.3	5.21	18.7	5.77

3TW57752-1D

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature (°C) RH(heating)=85%

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total input of indoor and outdoor unit, except the circulation pump; according to eurovent rating standard 6/C/003-2006
Pump power input to be added = 90 W (according EN14511).

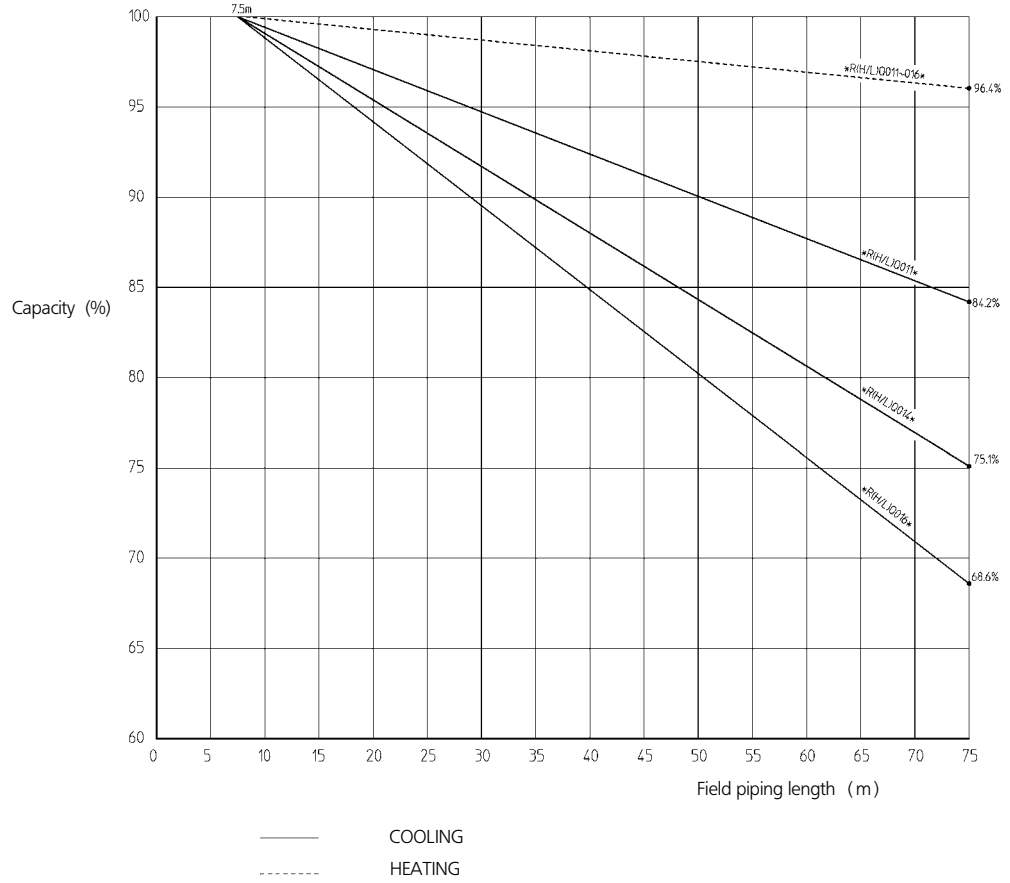
Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 1 Heating Capacity Tables

ERHQ011-016BV3

Capacity in function of field piping length for inverter



3TW59492-1A

9
3

3 Capacity tables

3 - 2 Cooling Capacity Tables

ERHQ011-016BAV3

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
R(H/L)Q011 *R(H/L)Q014* *R(H/L)Q016*	7	11.7	2.56	11.2	2.86	10.6	3.21	10.0	3.60	9.39	4.03	8.75	4.50
	10	12.9	2.58	12.3	2.89	11.6	3.25	11.0	3.65	10.3	4.09	9.65	4.58
	13	14.1	2.59	13.4	2.92	12.8	3.29	12.1	3.70	11.3	4.15	10.6	4.65
	15	14.9	2.60	14.2	2.93	13.5	3.31	12.8	3.73	12.0	4.20	11.3	4.70
	18	16.2	2.61	15.5	2.96	14.7	3.35	13.9	3.79	13.1	4.26	12.3	4.78
	22	18.0	2.62	17.2	2.99	16.4	3.40	15.5	3.86	14.7	4.35	13.3	3.93
	7	14.5	3.85	13.9	4.27	13.2	4.75	12.5	5.29	11.7	5.90	11.1	5.92
	10	16.0	3.94	15.3	4.37	14.6	4.86	13.7	5.42	12.9	6.04	11.2	5.46
	13	17.6	4.02	16.8	4.47	15.9	4.98	15.0	5.55	14.1	6.18	11.9	5.04
	15	18.6	4.08	17.8	4.54	16.9	5.06	15.9	5.64	14.9	6.28	12.2	4.79
	18	20.2	4.17	19.3	4.65	18.4	5.18	17.3	5.78	16.2	6.44	12.9	4.42
	22	22.5	4.29	21.5	4.80	20.4	5.36	19.3	5.98	17.0	5.33	13.3	3.93
	7	15.3	4.37	14.7	4.84	13.9	5.37	13.1	5.95	12.2	6.59	11.1	5.92
	10	16.9	4.48	16.2	4.97	15.3	5.51	14.4	6.11	13.3	6.75	11.2	5.46
	13	18.5	4.60	17.7	5.10	16.7	5.66	15.7	6.27	14.6	6.93	11.9	5.04
	15	19.6	4.68	18.7	5.19	17.7	5.76	16.6	6.38	15.4	7.04	12.2	4.79
	18	21.0	4.97	20.0	5.52	18.9	6.12	17.8	6.77	16.4	6.69	12.9	4.42
	22	23.3	5.21	22.2	5.79	21.0	6.42	19.7	7.10	17.0	5.33	13.3	3.93

3TW57752-1D

SYMBOLS

CC	:	Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC	:	Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI	:	Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE	:	Leaving Water Evaporator temperature (°C)
LWC	:	Leaving Water Condensor temperature (°C)
Tamb	:	Ambient temperature (°C) RH(heating)=85%

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

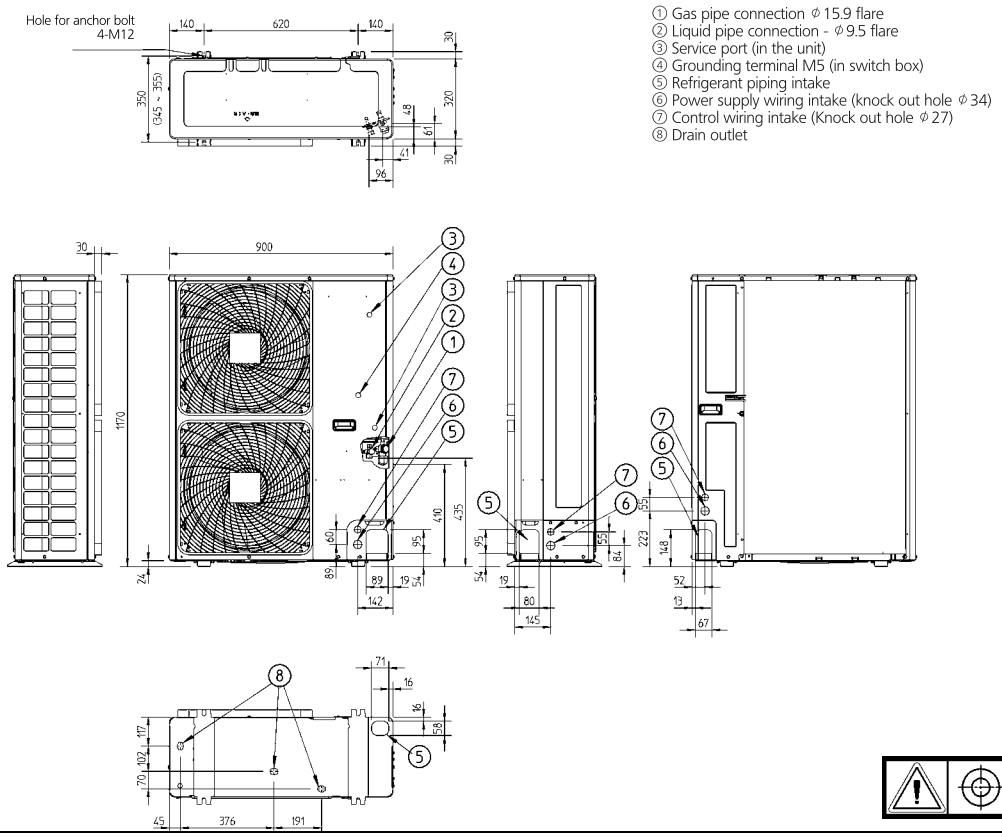
3 **Power input**
Power input is total input of indoor and outdoor unit, except the circulation pump; according to eurovent rating standard 6/C/003-2006
Pump power input to be added = 90 W (according EN14511).

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

4 Dimensional drawings

4 - 1 Dimensional Drawings

ERHQ011-016BAV3



5 Centre of gravity

5 - 1 Centre of Gravity

ERHQ011-016BV3

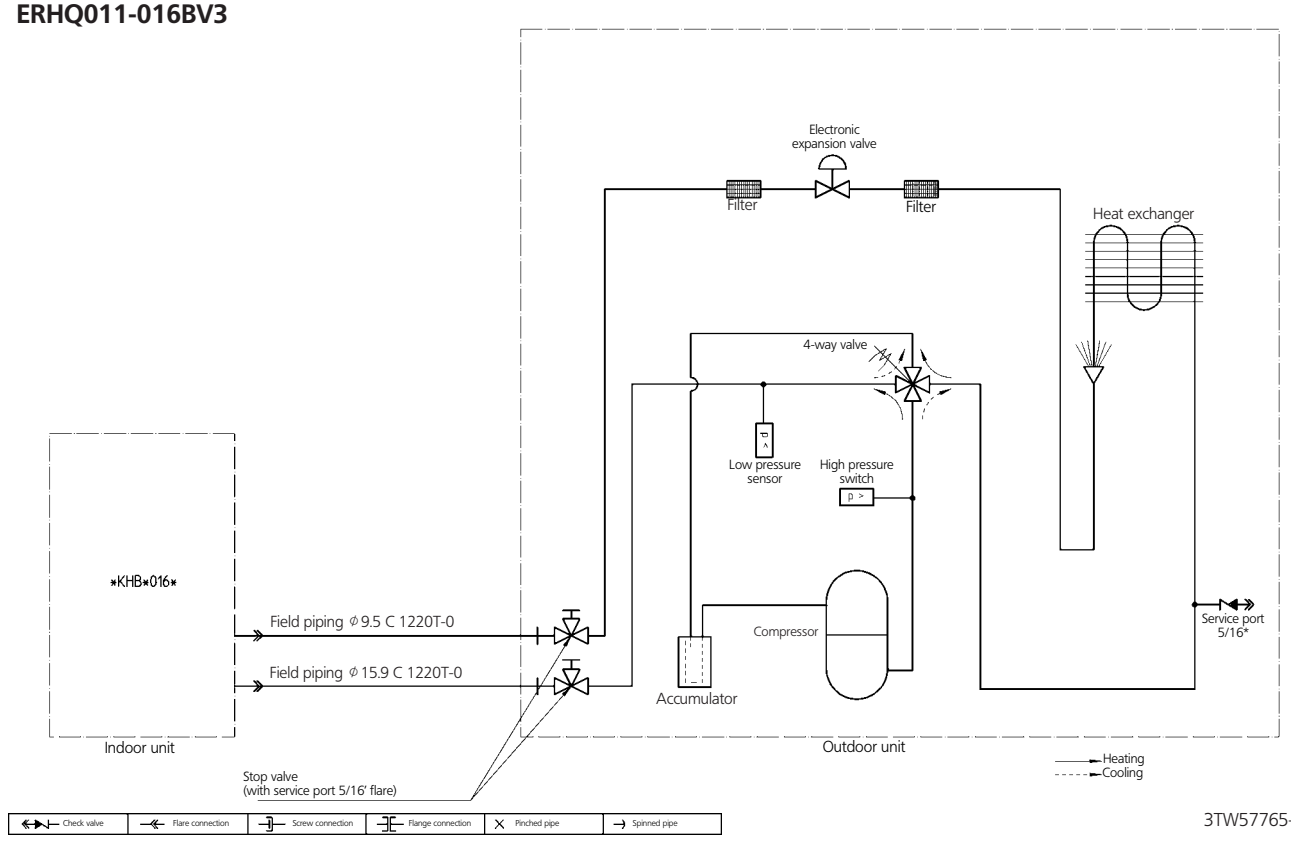


4TW29169-4A

6 Piping diagrams

6 - 1 Piping Diagrams

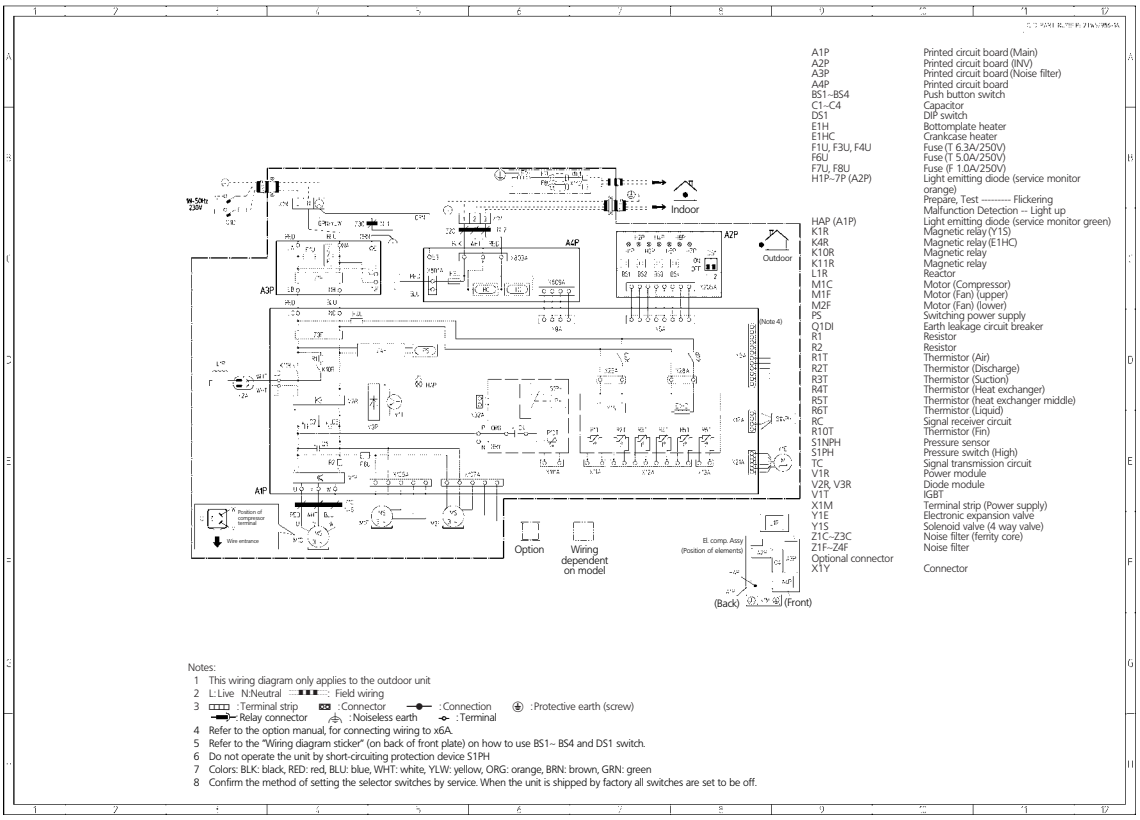
ERHQ011-016BV3



7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

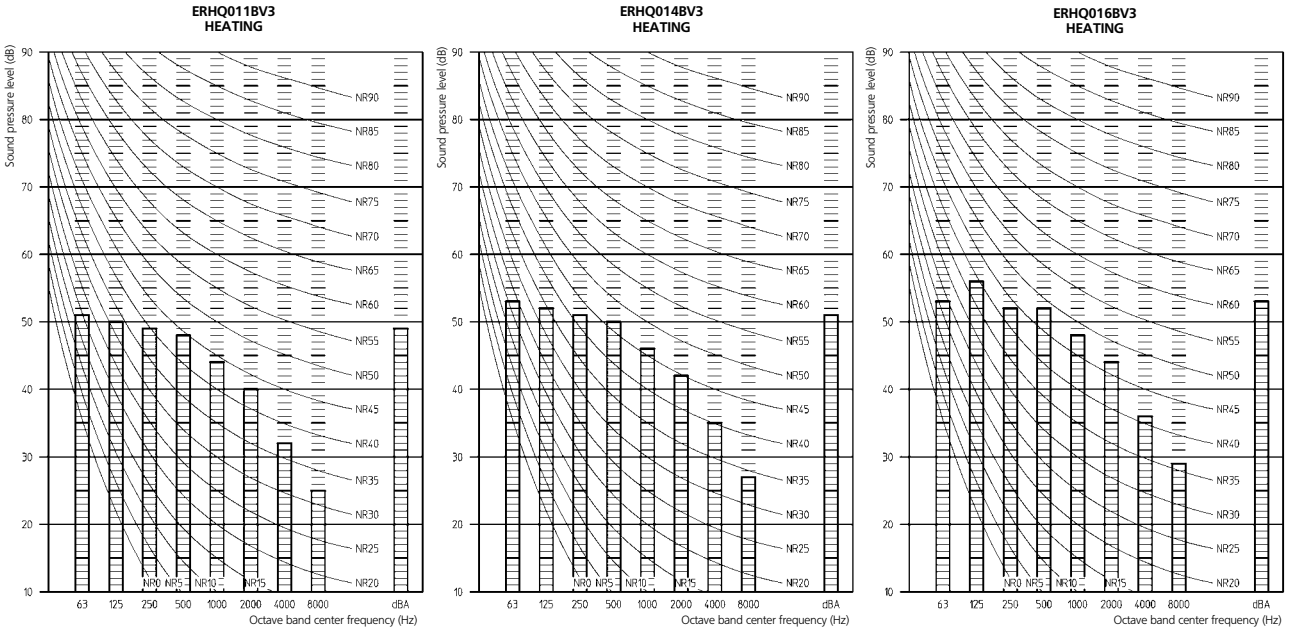
ERHQ011-016BV3



2TW59556-1A

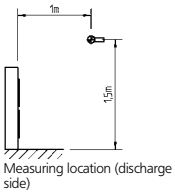
8 Sound data

8 - 1 Sound Pressure Spectrum - Heating



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

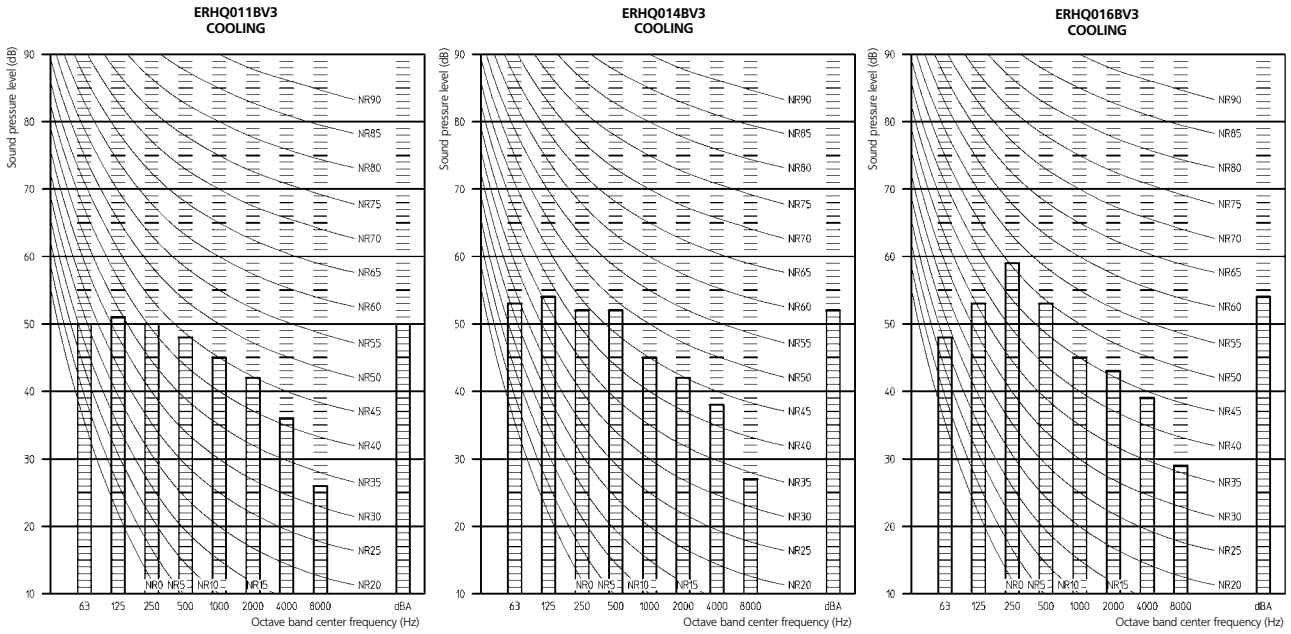


Measuring location (discharge side)

3TW57767-2B

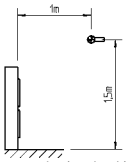
8 Sound data

8 - 2 Sound Pressure Spectrum - Cooling



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



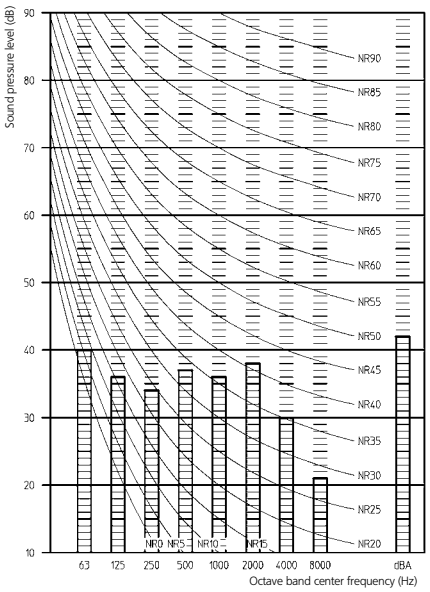
Measuring location (discharge side)

3TW57767-1B

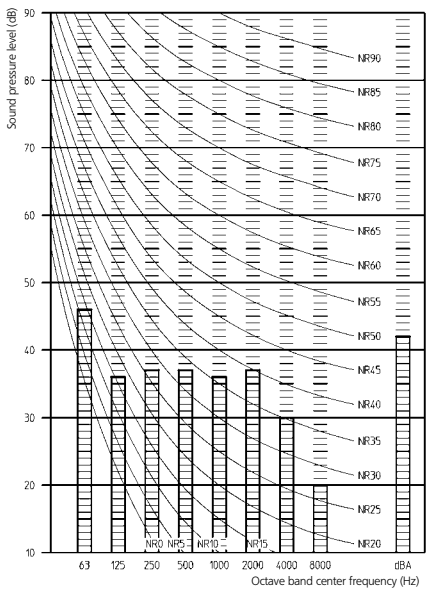
8 Sound data

8 - 3 Sound Pressure Spectrum Quiet Mode

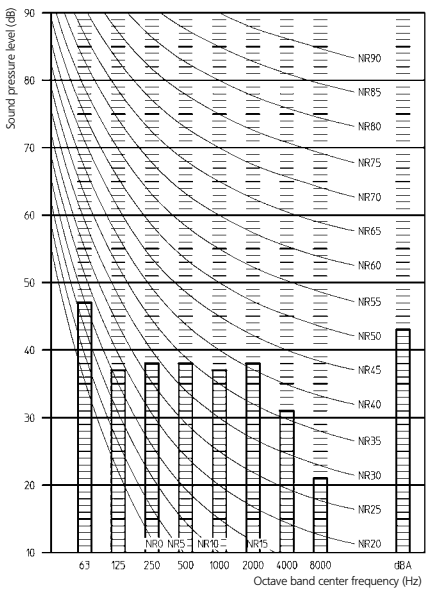
ERHQ011BV3 HEATING



ERHQ014BV3 HEATING

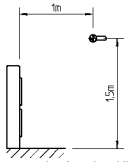


ERHQ016BV3 HEATING



Notes:

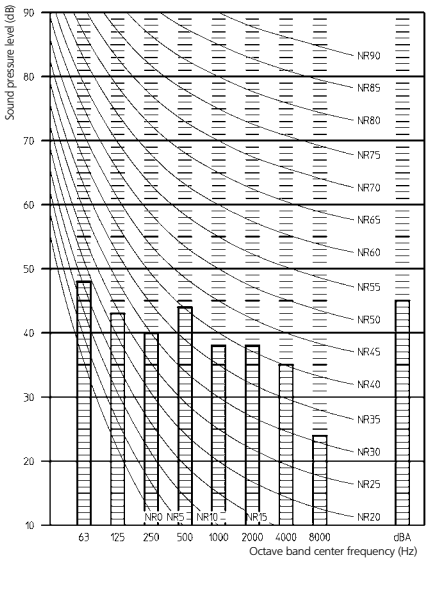
1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



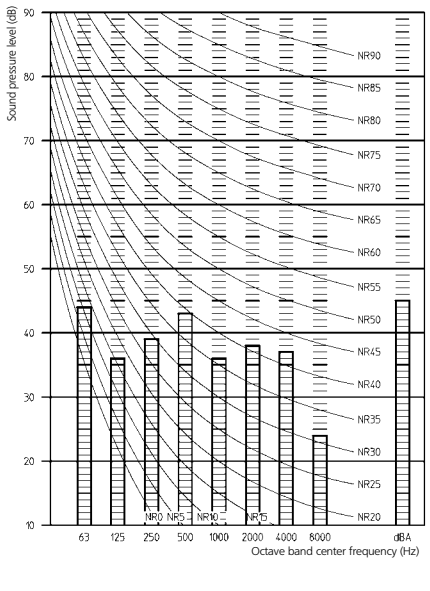
Measuring location (discharge side)

3TW57767-4A

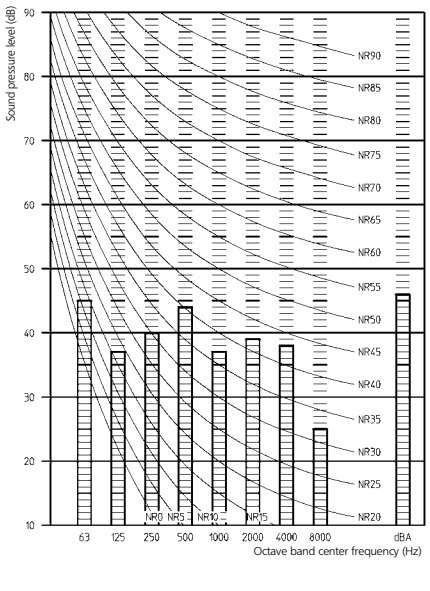
ERHQ011BV3 COOLING



ERHQ014BV3 COOLING

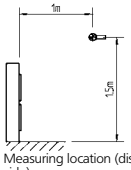


ERHQ016BV3 COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

3TW57767-3A

9 Installation

9 - 1 Installation Method

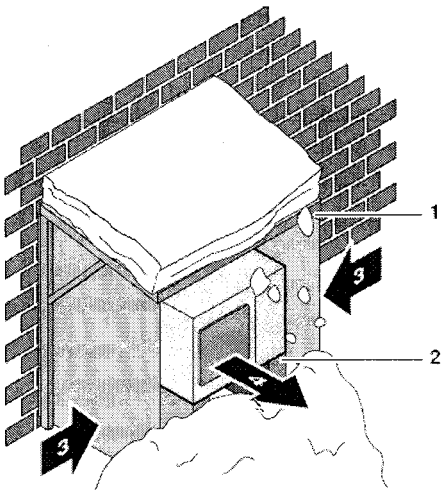
ERHQ-BAV3

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit wicht must be kept away from moisture.

Installation location (in cold climates)
- To precent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit shoud be installed in a way that a minimum of 15 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure1)



1 Construct a large canopy.
2 Construct a pedestal.
Install the unit high enough off the ground to prevent burying in snow.
3 Strong wind
4 Discharge air

Figure 1: construction of canopy and pedestal

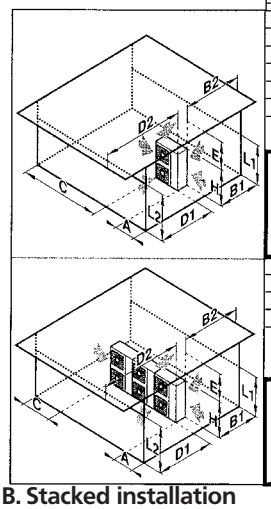
4TW57919-7A

9 Installation

9 - 1 Installation Method

ERHQ011-016BV3

A. Non stacked installation



Legend unit (mm)

- ↙ Suction side obstacle
- ↗ Discharge side obstacle
- ↘ Left side obstacle
- ↖ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present
- This situation is not allowed.

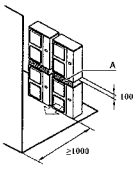
↙	↗	↘	↖	↓			A	B1	B2	C	D1	D2	E	L1/L2	
✓								≥100							
✓		✓	✓				≥100	≥100		≥100					
✓				✓				≥100				≤500	≥1000		
✓		✓	✓	✓			≥150	≥150		≥150		≤500	≥1000		
	✓										≥500				
	✓			✓					≤500		≥500		≥1000		
✓	✓				L1<L2			≥100			≥500				
					L2<L1			≥100			≥500				
✓	✓			✓	L1<L2	L1≤H		≥250	≤500		≥750		≥1000	0<L1≤1/2H	
											≥1000			0<L1≤1/2H	
						H<L1					L1≤H				1
					L2<L1	L2≤H		≥100			≥1000	≥500	≥1000	0<L2≤1/2H	
								≥200						1/2H<L2≤H	
						H<L2					L2≤H				
✓		✓	✓				≥200	≥300		≥1000					
✓		✓	✓	✓			≥200	≥300		≥1000		≤500	≥1000		
	✓										≥1000				
	✓			✓					≤500		≥1000		≥1000		
✓	✓				L1<L2			≥300			≥1000				
					L2<L1			≥250			≥1500			0<L2≤1/2H	
								≥300						1/2H<L2≤H	
✓	✓			✓	L1<L2	L1≤H		≥300	≤500		≥1000		≥1000	0<L1≤1/2H	
											≥1250			1/2H<L1≤H	1
						H<L1					L1≤H				
					L2<L1	L2≤H		≥250			≥1500	≤500	≥1000	0<L2≤1/2H	
								≥300						1/2H<L2≤H	2
						H<L2					L2≤H				

1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

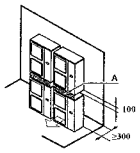
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



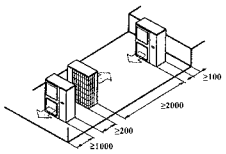
2. Obstacles exist in front of the air inlet



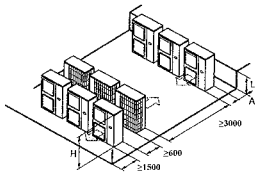
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

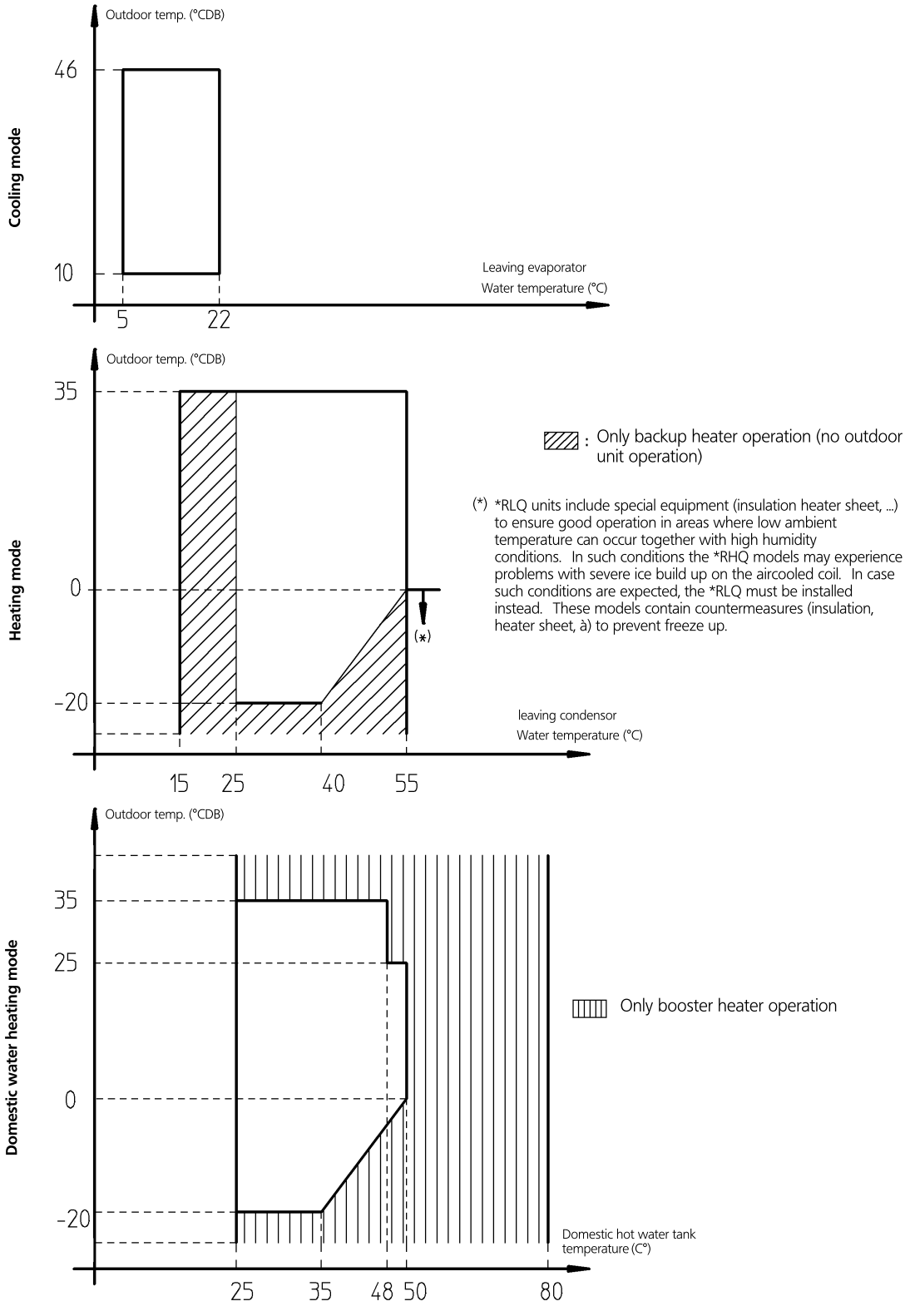
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW26739-4

10 Operation range

10 - 1 Operation Range

ERHQ011-016BAV3



4TW57753-1D

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1 Features

- Three phase large capacity outdoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



10
1

INVERTER

2 Specifications

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBH016 6BB3V3 / ERHQ011 BAW1	EKHBH016 6BB3V3 / ERHQ014 BAW1	EKHBH016 6BB3V3 / ERHQ016 BAW1	EKHBH016 6BB6V3 / ERHQ011 BAW1	EKHBH016 6BB6V3 / ERHQ014 BAW1	EKHBH016 6BB6V3 / ERHQ016 BAW1	EKHBH016 6BB6WN / ERHQ011 BAW1	EKHBH016 6BB6WN / ERHQ014 BAW1	EKHBH016 6BB6WN / ERHQ016 BAW1	EKHBH016 6BB6T1 / ERHQ011 BAW1
Heating capacity	Nom.		kW	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)
Power input	Heating	Nom.	kW	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)
COP				4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)
Notes				Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)									

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBH016BB 6T1 / ERHQ014BA W1	EKHBH016BB 6T1 / ERHQ016BA W1	EKHBH016BB 9WN / ERHQ011BA W1	EKHBH016BB 9WN / ERHQ014BA W1	EKHBH016BB 9WN / ERHQ016BA W1	EKHBH016BB 9T1 / ERHQ011BA W1	EKHBH016BB 9T1 / ERHQ014BA W1	EKHBH016BB 9T1 / ERHQ016BA W1	
Heating capacity	Nom.		kW	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	
Power input	Heating	Nom.	kW	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	
COP				4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	
Notes				Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)								

Notes

(1) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

CONNECTABLE INDOOR UNITS												
2-1 Nominal Capacity And Nominal Input				EKHBX016 6BB3V3 / ERHQ011 BAW1	EKHBX016 6BB3V3 / ERHQ014 BAW1	EKHBX016 6BB3V3 / ERHQ016 BAW1	EKHBX016 6BB3V3S / ERHQ011 BAW1	EKHBX016 6BB3V3S / ERHQ014 BAW1	EKHBX016 6BB3V3S / ERHQ016 BAW1	EKHBX016 6BB6V3 / ERHQ011 BAW1	EKHBX016 6BB6V3 / ERHQ014 BAW1	EKHBX016 6BB6V3 / ERHQ016 BAW1	EKHBX016 6BB6WN / ERHQ011 BAW1
Heating capacity	Nom.		kW	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)
Cooling capacity	Nom.		kW	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)
Power input	Heating	Nom.	kW	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)
	Cooling	Nom.	kW	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)
COP				4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)
EER				3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)									

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS									
2-1 Nominal Capacity And Nominal Input			EKHBX016BB6 WN / ERHQ014BAW1	EKHBX016BB6 WN / ERHQ016BAW1	EKHBX016BB6 T1 / ERHQ011BAW1	EKHBX016BB6 T1 / ERHQ014BAW1	EKHBX016BB6 T1 / ERHQ016BAW1	EKHBX016BB9 WN / ERHQ011BAW1	EKHBX016BB9 WN / ERHQ014BAW1	EKHBX016BB9 WN / ERHQ016BAW1
Heating capacity	Nom.	kW	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)
Cooling capacity	Nom.	kW	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)

2 Specifications

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHBX016BB6WN / ERHQ014BAW1	EKHBX016BB6WN / ERHQ016BAW1	EKHBX016BB6T1 / ERHQ011BAW1	EKHBX016BB6T1 / ERHQ014BAW1	EKHBX016BB6T1 / ERHQ016BAW1	EKHBX016BB9WN / ERHQ011BAW1	EKHBX016BB9WN / ERHQ014BAW1	EKHBX016BB9WN / ERHQ016BAW1
Power input	Heating	Nom.	kW	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)
	Cooling	Nom.	kW	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)
COP				4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
EER				3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)							

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS										
2-1 Nominal Capacity And Nominal Input				EKHVH016BB6V3 / ERHQ011BAW1	EKHVH016BB6V3 / ERHQ014BAW1	EKHVH016BB6V3 / ERHQ016BAW1	EKHVH016BB6WN / ERHQ011BAW1	EKHVH016BB6WN / ERHQ014BAW1	EKHVH016BB6WN / ERHQ016BAW1	EKHVH016BB9WN / ERHQ011BAW1	EKHVH016BB9WN / ERHQ014BAW1	EKHVH016BB9WN / ERHQ016BAW1
Heating capacity	Nom.		kW	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)
Power input	Heating	Nom.	kW	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)
COP				4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

CONNECTABLE INDOOR UNITS											
2-1 Nominal Capacity And Nominal Input				EKHVX016BB6V3 / ERHQ011BAW1	EKHVX016BB6V3 / ERHQ014BAW1	EKHVX016BB6V3 / ERHQ016BAW1	EKHVX016BB6WN / ERHQ011BAW1	EKHVX016BB6WN / ERHQ014BAW1	EKHVX016BB6WN / ERHQ016BAW1	EKHVX016BB9WN / ERHQ011BAW1	EKHVX016BB9WN / ERHQ014BAW1	EKHVX016BB9WN / ERHQ016BAW1
Heating capacity	Nom.		kW	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)
Cooling capacity	Nom.		kW	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)
Power input	Heating	Nom.	kW	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)	2.54 (1) / 3.15 (2)	3.33 (1) / 4.12 (2)	3.73 (1) / 4.60 (2)
	Cooling	Nom.	kW	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)	4.44 (1) / 4.22 (2)	5.33 (1) / 5.00 (2)	6.06 (1) / 5.65 (2)
COP				4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)	4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
EER				3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)	3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Notes				Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)								

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

2-2 Technical Specifications		ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
Capacity control	Method	Inverter controlled		
Casing	Colour	Ivory white		
	Material	Painted galvanized steel plate		

2 Specifications

2-2 Technical Specifications					ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
Dimensions	Unit	Height		mm	1,345		
		Width		mm	900		
		Depth		mm	320		
	Packed unit	Height		mm	1,524		
		Width		mm	980		
		Depth		mm	420		
Weight	Unit			kg	108		
	Packed unit			kg	120		
Packing	Material				Wood / Carton / EPS / PE (Straps)		
	Weight			kg	12		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m^2	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Output			W	70.00		
	Drive				Direct drive		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
		Cooling	Nom.	rpm	780		
Compressor	Quantity				1		
	Model				JT1G-VDYR (S)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Min.		ºCWB	-20		
		Max.		ºCWB	35		
	Cooling	Min.		ºCDB	10		
		Max.		ºCDB	46		
	Domestic hot water	Min.		ºCDB	-20		
		Max.		ºCDB	43		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		

2 Specifications

2-2 Technical Specifications					ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
Piping connections	Liquid	Quantity			1		
		Type			Flare connection		
		OD		mm	9.52		
	Gas	Quantity			1		
		Type			Flare connection		
		OD		mm	15.9		
	Drain	Quantity			3		
		Type			Hole		
		OD		mm	26		
	Drain 2	Quantity			1		
		Type			Hole		
		OD		mm	18		
	Piping length	Min.	OU - IU	m	5 (2)		
		OU - IU	Max.	m	75		
		System	Equivalent	m	95		
			Chargeless	m	10		
	Additional refrigerant charge			kg/m	See installation manual outdoor unit 4PW42025-1		
	Level difference	IU - OU	Max.	m	30		
	Heat insulation				Both liquid and gas pipes		
Sound power level	Heating	Nom.		dBA	64		66
	Cooling	Nom.		dBA	64	66	69
Sound pressure level	Heating	Nom.		dBA	51		52
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Pressure equalising		
Defrost control					Sensor for outdoor heat exchanger temperature		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-3 Electrical Specifications				ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
Power supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50		
	Voltage		V	400		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current	Nominal running current (RLA)	Heating	A	5.8 (3)		
	Maximum running current	Heating	A	13.5		
		Cooling	A	13.5		
	Recommended fuses		A	20		
Wiring connections	For power supply	Remark		See installation manual outdoor unit 4PW42025-1		
	For connection with indoor	Remark		See installation manual outdoor unit 4PW42025-1		
Power supply intake				Outdoor unit only		

Notes

(1) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(2) Down to 3m with recharging of the outdoor unit. Please refer to the installation manual of the outdoor unit.

(3) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(4) Cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); Heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

3 Capacity tables

3 - 1 Heating Capacity Tables

ERHQ011-016BAW1

Maximum Heating Capacity (Peak values)

Model	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	5.92	2.24	5.57	2.44	5.45	2.69	5.31	2.98				
	-15	6.70	2.28	6.30	2.49	6.15	2.74	5.98	3.04	5.74	3.38		
	-7	8.22	2.31	7.74	2.54	7.59	2.80	7.39	3.11	7.11	3.46	6.60	3.85
	-2	9.38	2.32	8.86	2.55	8.70	2.82	8.50	3.14	8.19	3.49	7.63	3.89
	2	10.43	2.31	9.88	2.55	9.72	2.83	9.52	3.15	9.20	3.51	8.60	3.91
	7	11.92	2.29	11.32	2.54	11.18	2.83	10.98	3.15	10.65	3.52	9.99	3.93
	12	12.93	2.22	12.31	2.47	12.20	2.76	12.02	3.09	11.69	3.46	11.01	3.87
	15	13.99	2.20	13.34	2.45	13.24	2.74	13.07	3.08	12.74	3.45	12.02	3.86
	20	15.90	2.14	15.20	2.40	15.13	2.70	14.98	3.04	14.22	3.42	13.46	3.84
R(H/L)Q014	-20	7.69	2.89	7.46	3.15	7.25	3.45	5.69	3.80				
	-15	8.59	2.95	8.28	3.22	7.99	3.53	7.87	3.89	7.83	4.30		
	-7	10.43	3.02	10.02	3.30	9.61	3.63	9.40	4.01	9.27	4.43	8.87	4.89
	-2	11.87	3.05	11.39	3.34	10.91	3.68	10.65	4.06	10.49	4.49	10.02	4.96
	2	13.20	3.06	12.66	3.36	12.13	3.70	11.84	4.09	11.65	4.52	11.12	5.01
	7	15.11	3.07	14.50	3.39	13.90	3.72	13.57	4.12	13.35	4.56	12.73	5.05
	12	15.99	2.97	15.36	3.27	14.74	3.62	14.40	4.01	14.18	4.44	13.54	4.92
	15	17.33	2.96	16.66	3.26	16.00	3.61	15.64	4.01	15.41	4.45	14.72	4.93
	20	19.77	2.93	19.04	3.24	18.30	3.59	17.92	4.00	17.17	4.44	16.41	4.93
R(H/L)Q016	-20	8.50	3.21	8.36	3.50	8.24	3.84	6.52	4.22				
	-15	9.46	3.28	9.24	3.58	9.02	3.93	8.94	4.32	8.73	4.77		
	-7	11.47	3.37	11.11	3.68	10.76	4.04	10.57	4.45	10.21	4.92	9.86	5.43
	-2	13.05	3.41	12.62	3.73	12.18	4.10	11.92	4.52	11.49	4.99	11.05	5.51
	2	14.52	3.44	14.02	3.76	13.52	4.13	13.22	4.56	12.71	5.04	12.20	5.56
	7	16.63	3.46	16.05	3.73	15.47	4.17	15.11	4.60	14.51	5.08	13.92	5.62
	12	17.34	3.36	16.74	3.69	16.13	4.06	15.76	4.49	15.13	4.96	14.51	5.49
	15	18.81	3.36	18.16	3.69	17.51	4.07	17.10	4.49	16.43	4.97	15.75	5.50
	20	21.49	3.34	20.77	3.68	20.04	4.06	19.59	4.50	18.83	4.98	18.07	5.52

Maximum Heating Capacity (integrated values)

Model	LWC	30		35		40		45		50		55	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5.02	2.19	4.72	2.39	4.62	2.63	4.49	2.91				
	-15	5.67	2.23	5.33	2.44	5.21	2.69	5.07	2.98	4.86	3.30		
	-7	6.96	2.26	6.56	2.49	6.43	2.75	6.26	3.05	6.02	3.39	5.59	3.77
	-2	7.78	2.22	7.35	2.45	7.22	2.71	7.06	3.01	6.80	3.35	6.33	3.73
	2	8.66	2.22	8.20	2.45	8.07	2.72	7.90	3.02	7.64	3.37	7.14	3.75
	7	11.92	2.29	11.32	2.54	11.18	2.83	10.98	3.15	10.65	3.52	9.99	3.93
	12	12.93	2.22	12.31	2.47	12.20	2.76	12.02	3.09	11.69	3.46	11.01	3.87
	15	13.99	2.20	13.34	2.45	13.24	2.74	13.07	3.08	12.74	3.45	12.02	3.86
	20	15.90	2.14	15.20	2.40	15.13	2.70	14.98	3.04	14.22	3.42	13.46	3.84
R(H/L)Q014	-20	6.54	2.80	6.35	3.05	6.17	3.34	4.84	3.68				
	-15	7.30	2.86	7.05	3.12	6.80	3.42	6.69	3.77	6.66	4.16		
	-7	8.87	2.93	8.52	3.20	8.17	3.52	7.99	3.88	7.89	4.29	7.55	4.74
	-2	9.44	2.76	9.05	3.02	8.68	3.33	8.47	3.67	8.34	4.06	7.96	4.49
	2	10.50	2.77	10.07	3.04	9.65	3.35	9.41	3.70	9.26	4.09	8.84	4.53
	7	15.11	3.07	14.50	3.33	13.90	3.72	13.57	4.12	13.35	4.56	12.73	5.05
	12	15.99	2.97	15.36	3.27	14.74	3.62	14.40	4.01	14.18	4.44	13.54	4.92
	15	17.33	2.96	16.66	3.26	16.00	3.61	15.64	4.01	15.41	4.45	14.72	4.93
	20	19.77	2.93	19.04	3.24	18.30	3.59	17.92	4.00	17.17	4.44	16.41	4.93
R(H/L)Q016	-20	7.02	3.12	6.91	3.39	6.81	3.72	5.39	4.10				
	-15	7.82	3.19	7.63	3.47	7.45	3.81	7.39	4.20	7.21	4.63		
	-7	9.48	3.27	9.18	3.57	8.89	3.92	8.73	4.32	8.44	4.77	8.14	5.27
	-2	9.99	3.04	9.65	3.32	9.32	3.65	9.12	4.02	8.79	4.44	8.45	4.90
	2	11.11	3.06	10.73	3.35	10.34	3.68	10.11	4.06	9.72	4.48	9.33	4.95
	7	16.63	3.46	16.05	3.73	15.47	4.17	15.11	4.60	14.51	5.08	13.92	5.62
	12	17.34	3.36	16.74	3.69	16.13	4.06	15.76	4.49	15.13	4.96	14.51	5.49
	15	18.81	3.36	18.16	3.69	17.51	4.07	17.10	4.49	16.43	4.97	15.75	5.50
	20	21.49	3.34	20.77	3.68	20.04	4.06	19.59	4.50	18.83	4.98	18.07	5.52

3TW57912-1C

SYMBOLS

CC	:	Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC	:	Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI	:	Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE	:	Leaving Water Evaporator temperature (°C)
LWC	:	Leaving Water Condensor temperature (°C)
Tamb	:	Ambient temperature (°C) RH(heating)=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total input of indoor and outdoor unit, except the circulation pump; according to eurovent rating standard 6/C/003-2006
Pump power input to be added = 90 W (according EN14511).

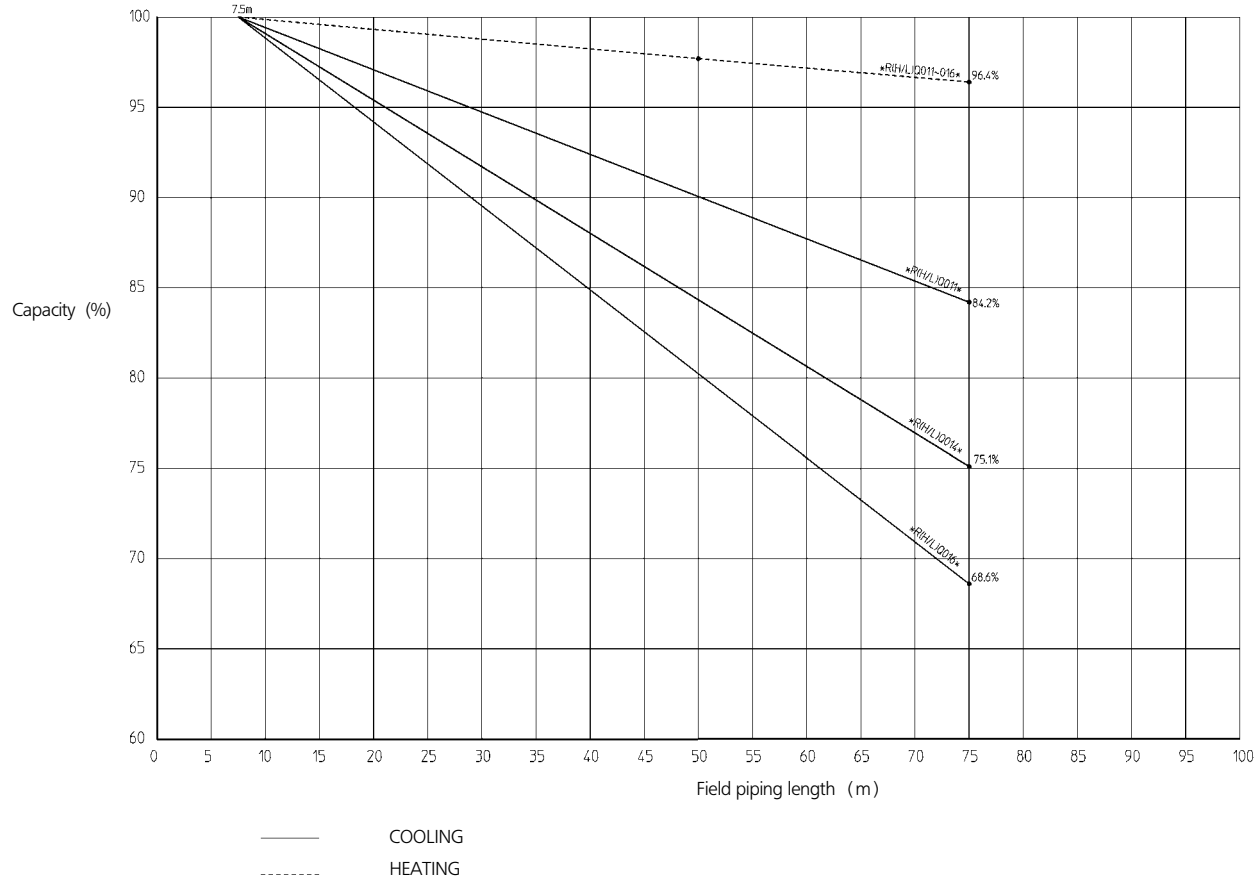
Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 1 Heating Capacity Tables

ERHQ011-016BW1

Capacity in function of field piping length for inverter



3TW57912-3A

10
3

3 Capacity tables

3 - 2 Cooling Capacity Tables

ERHQ011-016BAW1

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
R(H/L)Q011	7	12.99	3.17	12.88	3.48	12.44	3.83	11.72	4.22	10.74	4.65	9.54	5.13
	10	13.79	3.20	13.67	3.52	13.20	3.88	12.44	4.28	11.40	4.72	10.14	5.21
	13	15.16	3.24	15.02	3.56	14.51	3.93	13.67	4.34	12.54	4.79	11.00	5.45
	15	16.10	3.26	15.95	3.59	15.41	3.96	14.52	4.38	13.33	4.83	11.40	5.32
	18	17.77	3.29	17.18	3.63	16.26	4.02	15.05	4.44	13.61	4.90	11.54	4.91
	22	19.82	3.34	19.17	3.69	18.16	4.09	16.83	4.52	15.23	4.99	12.10	4.38
R(H/L)Q014	7	13.92	3.79	13.81	4.14	13.34	4.54	12.55	5.00	11.13	4.79	9.85	5.28
	10	14.98	3.85	14.85	4.21	14.34	4.62	13.49	5.09	11.97	4.87	10.61	5.37
	13	16.45	3.92	16.30	4.29	15.74	4.70	14.81	5.18	13.15	4.96	11.00	5.45
	15	17.46	3.96	17.30	4.34	16.71	4.76	15.73	5.24	13.97	5.02	11.40	5.32
	18	19.00	4.03	18.36	4.41	17.37	4.85	16.06	5.33	14.05	5.10	11.54	4.91
	22	21.16	4.12	20.45	4.52	19.36	4.97	17.93	5.46	15.71	5.22	12.10	4.38
R(H/L)Q016	7	14.55	4.30	14.46	4.70	13.98	5.15	13.12	5.65	11.59	5.39	9.85	5.28
	10	15.67	4.39	15.56	4.80	15.02	5.25	14.09	5.76	12.45	5.49	10.61	5.37
	13	17.22	4.48	17.08	4.90	16.48	5.36	15.47	5.87	13.67	5.59	11.00	5.45
	15	18.29	4.54	18.13	4.97	17.49	5.43	16.42	5.95	14.52	5.66	11.40	5.32
	18	19.91	4.64	19.23	5.07	18.17	5.54	16.76	6.06	14.60	5.76	11.54	4.91
	22	22.18	4.77	21.42	5.21	20.25	5.70	18.69	6.22	16.31	5.90	12.10	4.38

3TW57912-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH(heating)=85%

NOTES

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

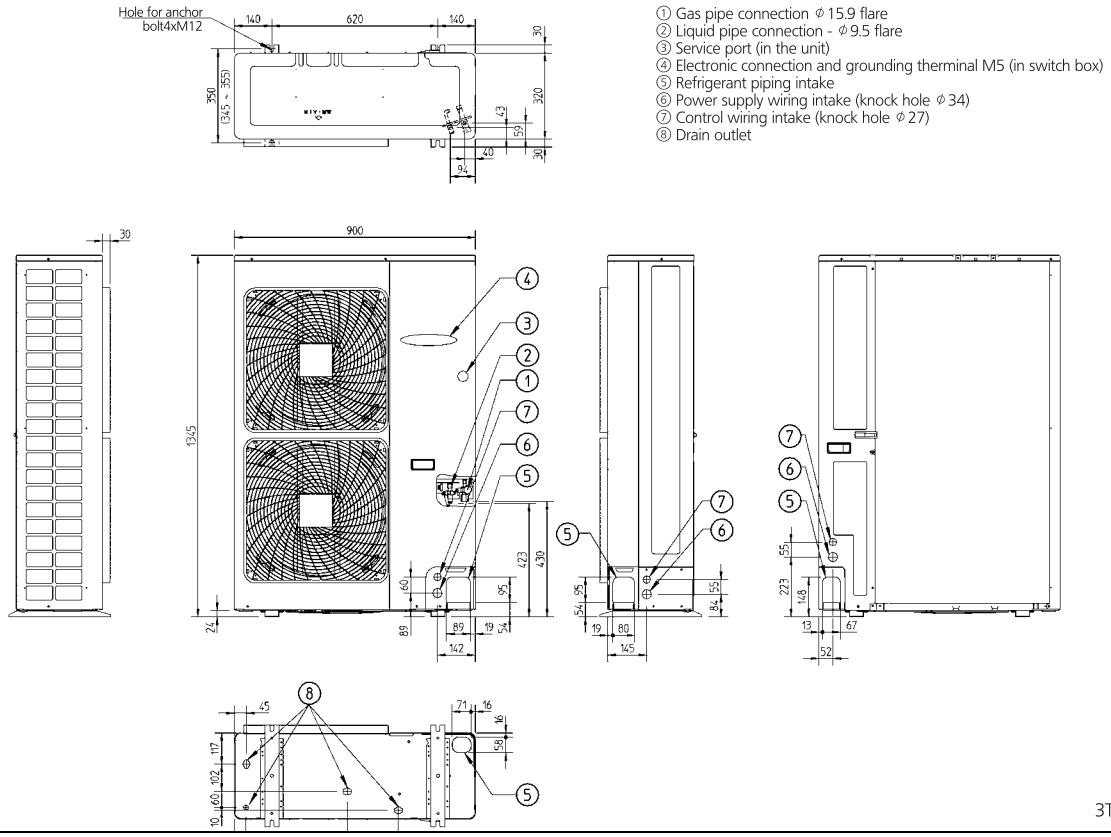
3 **Power input**
Power input is total input of indoor and outdoor unit, except the circulation pump; according to eurovent rating standard 6/C/003-2006
Pump power input to be added = 90 W (according EN14511).

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

4 Dimensional drawings

4 - 1 Dimensional Drawings

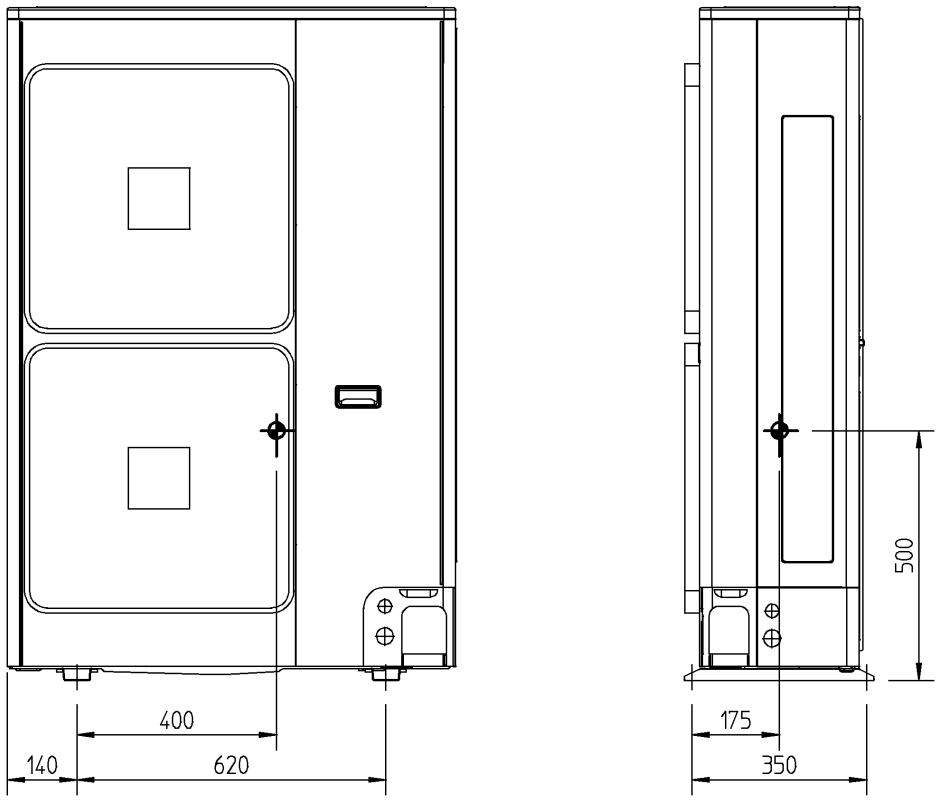
ERHQ011-016BAW1



5 Centre of gravity

5 - 1 Centre of Gravity

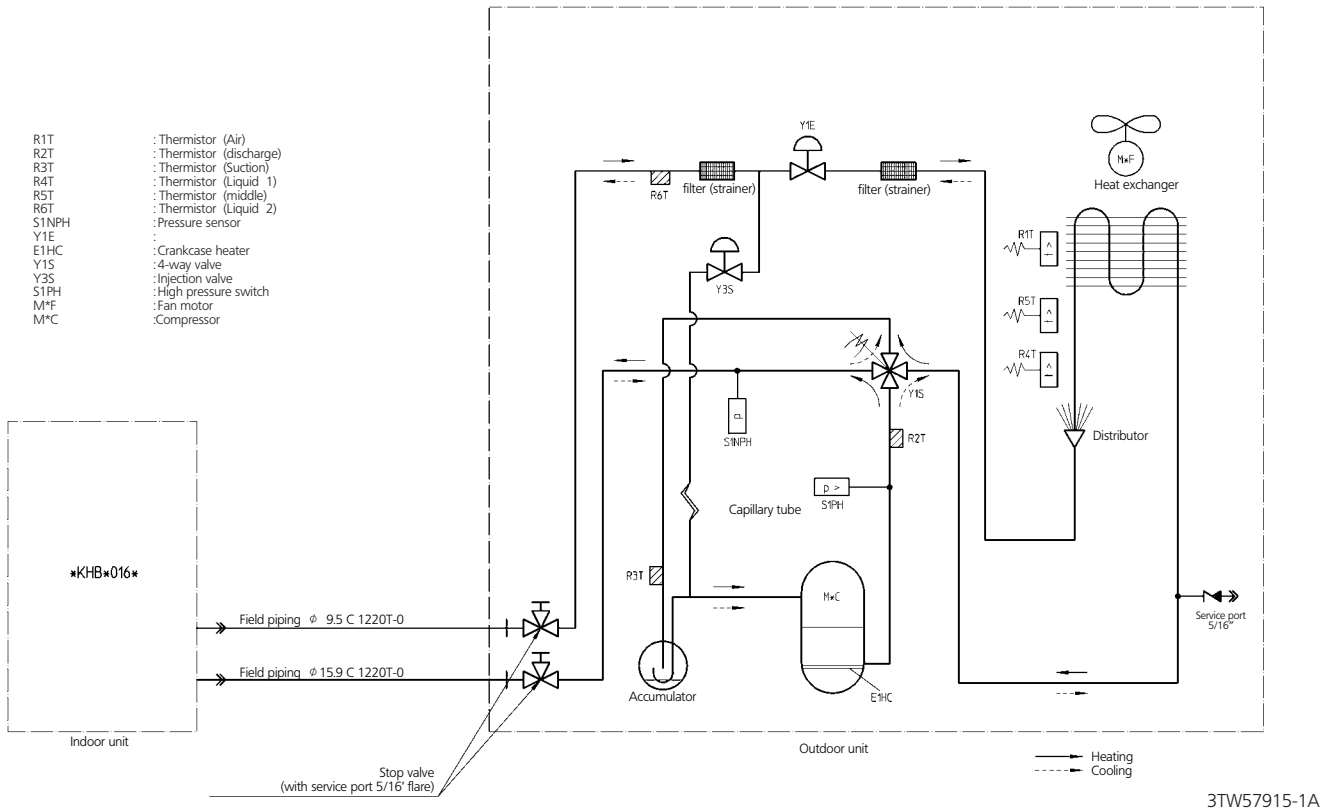
ERHQ011-016BW1



6 Piping diagrams

6 - 1 Piping Diagrams

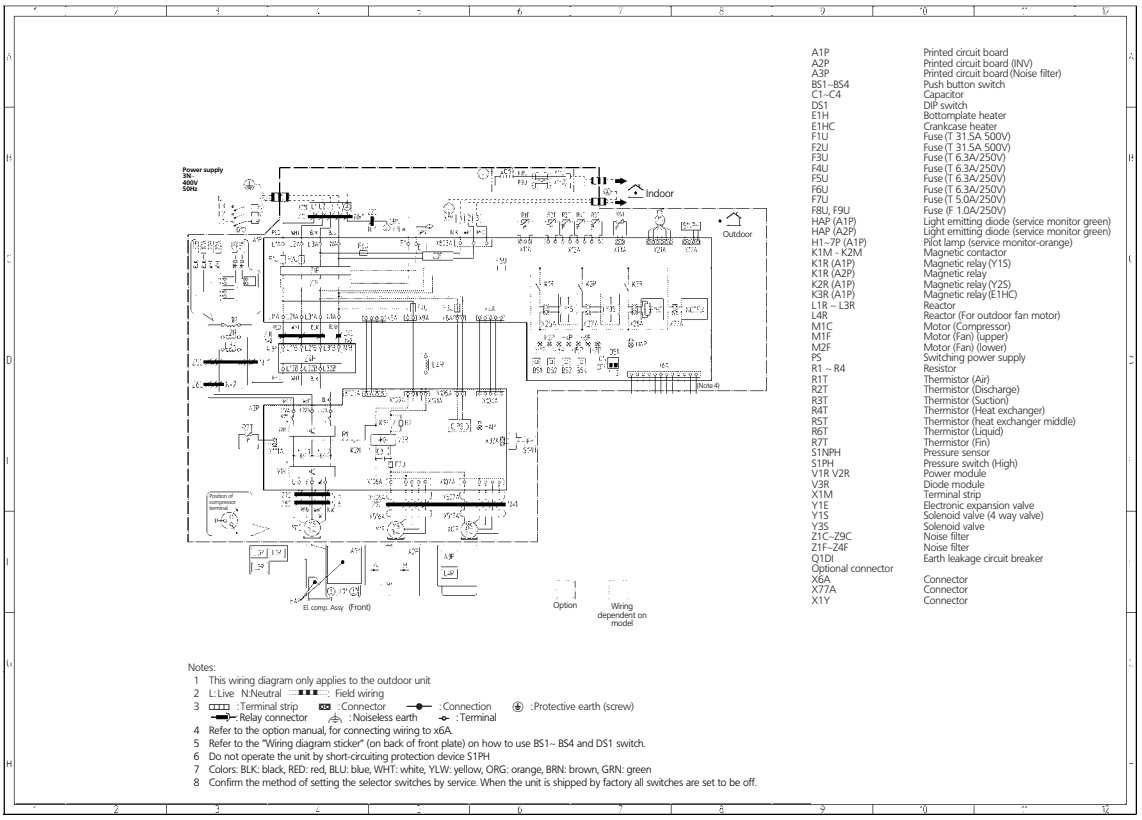
ERHQ011-016BW1



7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

ERHQ011-016BW1



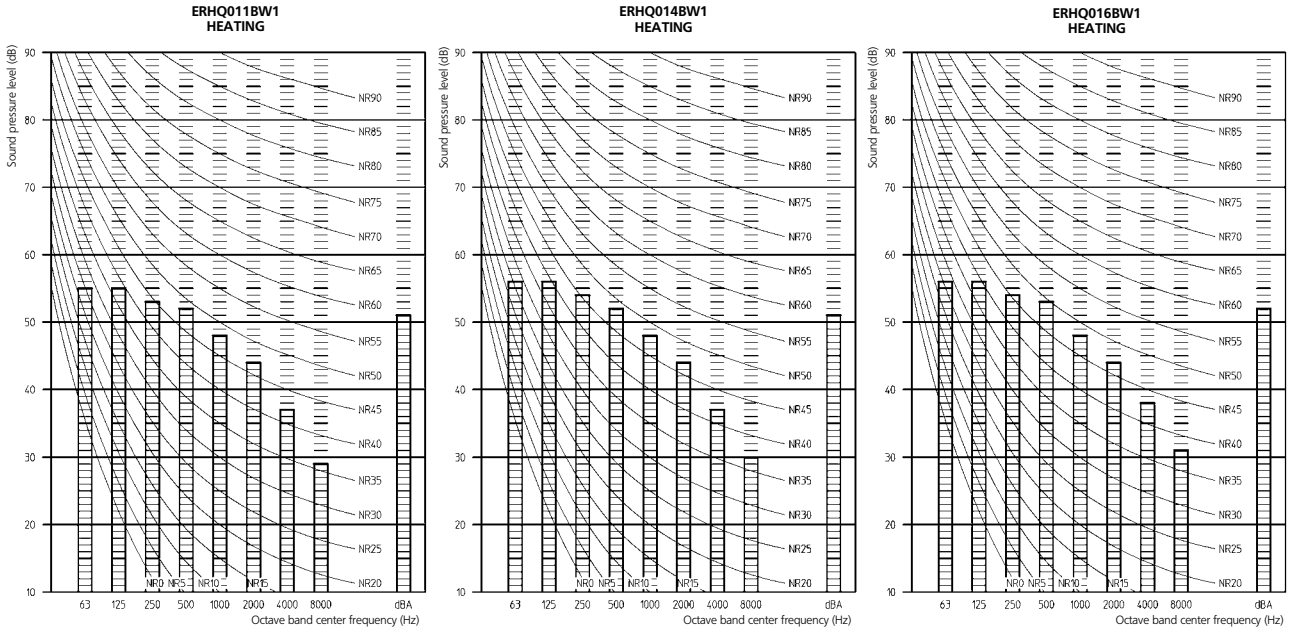
A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
BS1~BS4	Push button switch
C1~C4	Capacitor
DS1	DIP switch
E1H	Bottomplate heater
E1HC	Crankcase heater
F1U	Fuse (T 31.5A 500V)
F2U	Fuse (T 31.5A 500V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
F8U, F9U	Fuse (F 1.0A/250V)
HAP (A1P)	Light emitting diode (service monitor green)
HAP (A2P)	Light emitting diode (service monitor green)
H1~7P (A1P)	Pilot lamp (service monitor-orange)
K1M ~ K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R ~ L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1 ~ R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (High)
V1R V2R	Power module
V3R	Diode module
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Y3S	Solenoid valve
Z1C~Z9C	Noise filter
Z1F~Z4F	Noise filter
Q1DI	Earth leakage circuit breaker
Optional connector	
X6A	Connector
X77A	Connector
X1Y	Connector

Notes:
1 This wiring diagram only applies to the outdoor unit
2 L: Live N:Neutral : Field wiring
3 :Terminal strip :Connector : Connection :Protective earth (screw)
Relay connector : Noiseless earth : Terminal
4 Refer to the option manual, for connecting wiring to x6A.
5 Refer to the "Wiring diagram sticker" (on back of front plate) on how to use BS1~ BS4 and DS1 switch.
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
8 Confirm the method of setting the selector switches by service. When the unit is shipped by factory all switches are set to be off.

2TW59586-1A

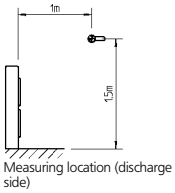
8 Sound data

8 - 1 Sound Pressure Spectrum - Heating



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

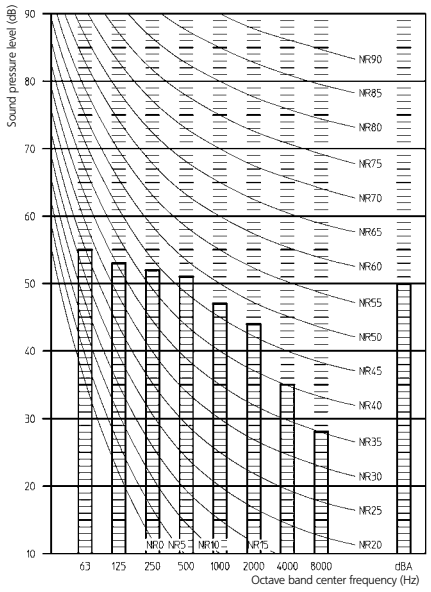
3TW57919-2A

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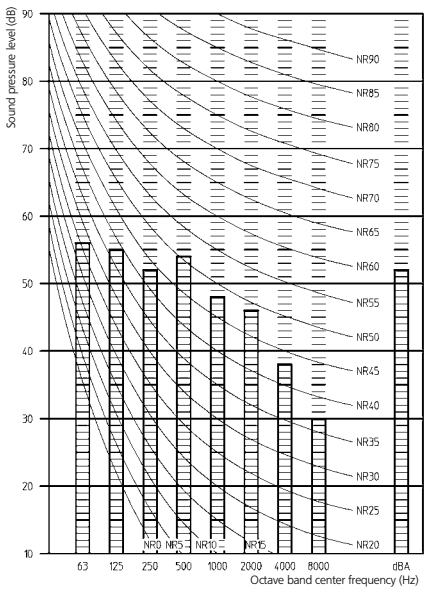
8 Sound data

8 - 2 Sound Pressure Spectrum - Cooling

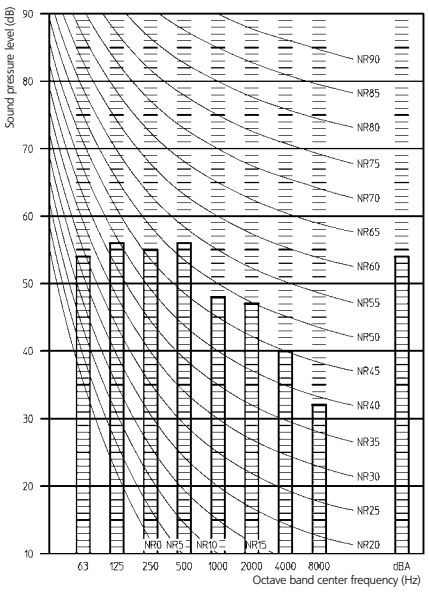
ERHQ011BW1
COOLING



ERHQ014BW1
COOLING

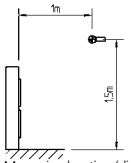


ERHQ016BW1
COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

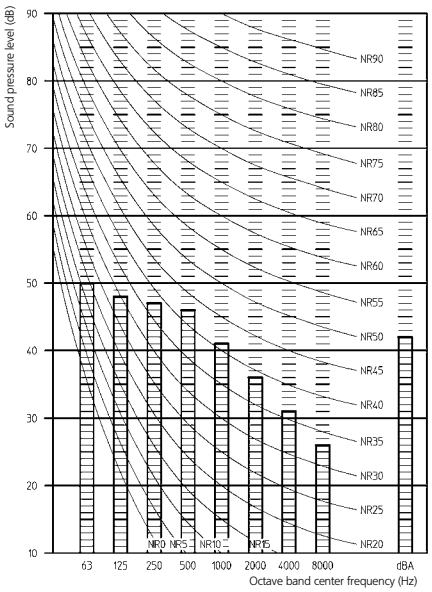
3TW57919-1A

10
8

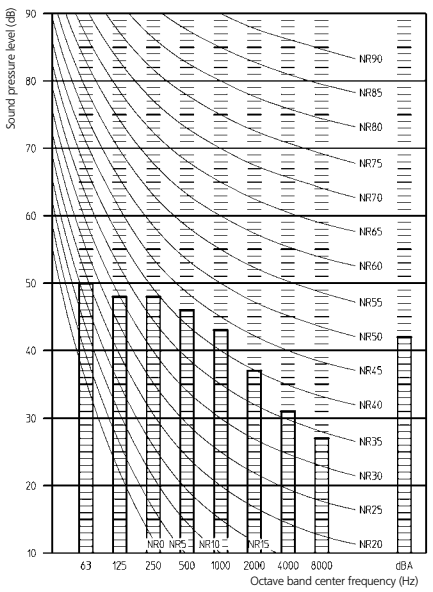
8 Sound data

8 - 3 Sound Pressure Spectrum Quiet Mode

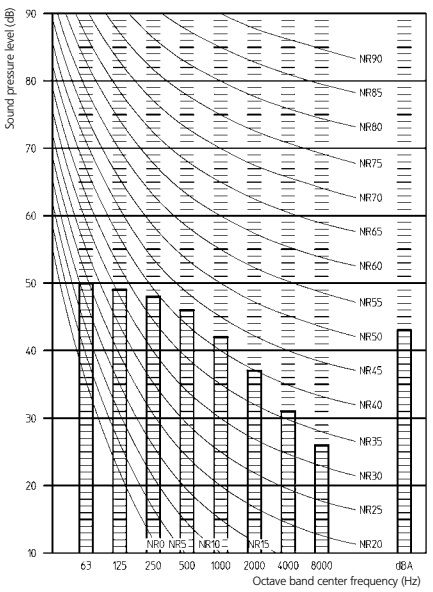
ERHQ011BW1 HEATING



ERHQ014BW1 HEATING

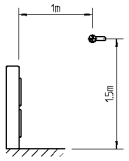


ERHQ016BW1 HEATING



Notes:

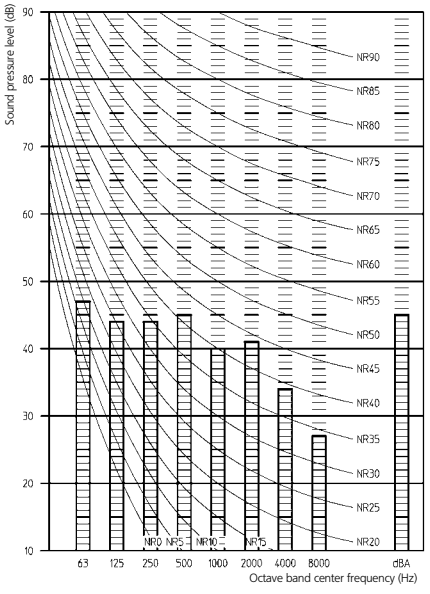
1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



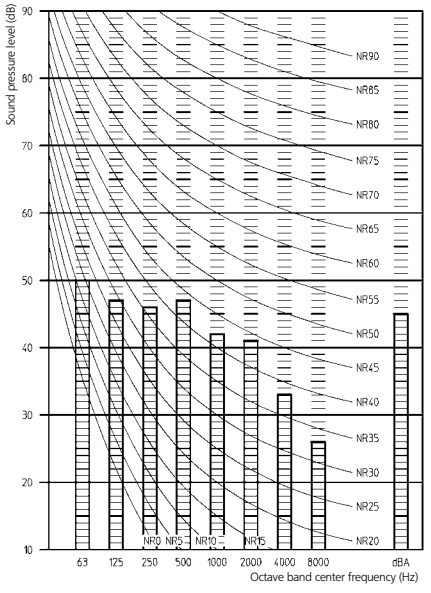
Measuring location (discharge side)

3TW57919-4A

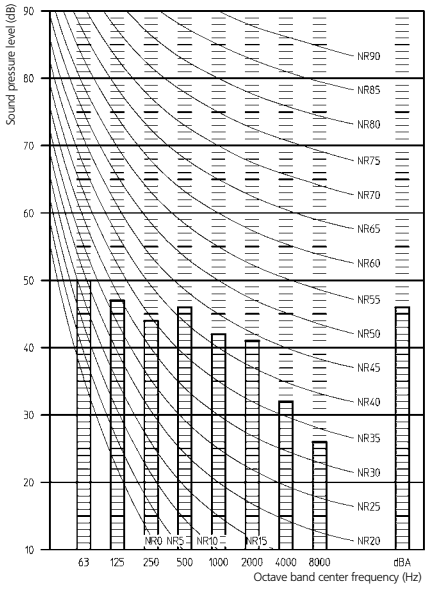
ERHQ011BW1 COOLING



ERHQ014BW1 COOLING

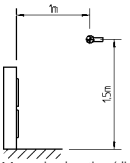


ERHQ016BW1 COOLING



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

3TW57919-3A

10
8

9 Installation

9 - 1 Installation Method

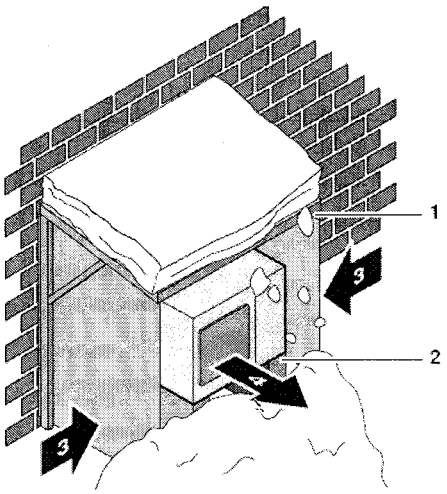
ERHQ-BAW1

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit wicht must be kept away from moisture.

Installation location (in cold climates)
- To precent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit shoud be installed in a way that a minimum of 15 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure1)



1 Construct a large canopy..
2 Construct a pedestal..
Install the unit high enough off the ground to prevent burying in snow
3 Strong wind
4 Discharge air

Figure 1: construction of canopy and pedestal

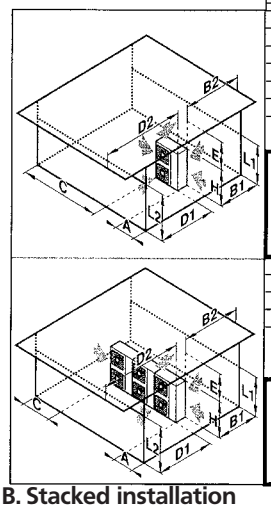
4TW57919-7A

9 Installation

9 - 1 Installation Method

ERHQ011-016BW1

A. Non stacked installation



↙	↗	↘	↖	↓			A	B1	B2	C	D1	D2	E	L1/L2	
✓								≥100							
✓		✓	✓				≥100	≥100		≥100					
✓				✓				≥100				≤500	≥1000		
✓		✓	✓	✓			≥150	≥150		≥150		≤500	≥1000		
	✓										≥500				
	✓			✓					≤500		≥500		≥1000		
✓	✓				L1<L2			≥100			≥500				
					L2<L1			≥100			≥500				
✓	✓			✓	L1<L2	L1≤H		≥250	≤500		≥750		≥1000	0<L1≤1/2H	
											≥1000			0<L1≤1/2H	
						H<L1					L1≤H				
					L2<L1	L2≤H		≥100			≥1000	≥500	≥1000	0<L2≤1/2H	1
								≥200						1/2H<L2≤H	
						H<L2					L2≤H				
✓		✓	✓				≥200	≥300		≥1000					
✓		✓	✓	✓			≥200	≥300		≥1000		≤500	≥1000		
	✓										≥1000				
	✓			✓					≤500		≥1000		≥1000		
✓	✓				L1<L2			≥300			≥1000				
					L2<L1			≥250			≥1500			0<L2≤1/2H	
								≥300						1/2H<L2≤H	
✓	✓			✓	L1<L2	L1≤H		≥300	≤500		≥1000		≥1000	0<L1≤1/2H	
											≥1250			1/2H<L1≤H	1
						H<L1					L1≤H				
					L2<L1	L2≤H		≥250			≥1500	≤500	≥1000	0<L2≤1/2H	
								≥300						1/2H<L2≤H	2
						H<L2					L2≤H				

Legend unit (mm)

- ↙ Suction side obstacle
- ↗ Discharge side obstacle
- ↘ Left side obstacle
- ↖ Right side obstacle
- ↓ Top side obstacle

✓ Obstacle is present

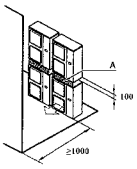
This situation is not allowed.

1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

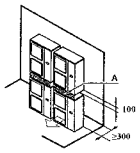
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



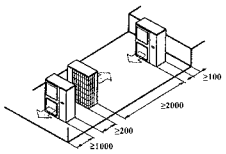
2. Obstacles exist in front of the air inlet



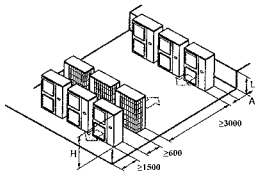
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

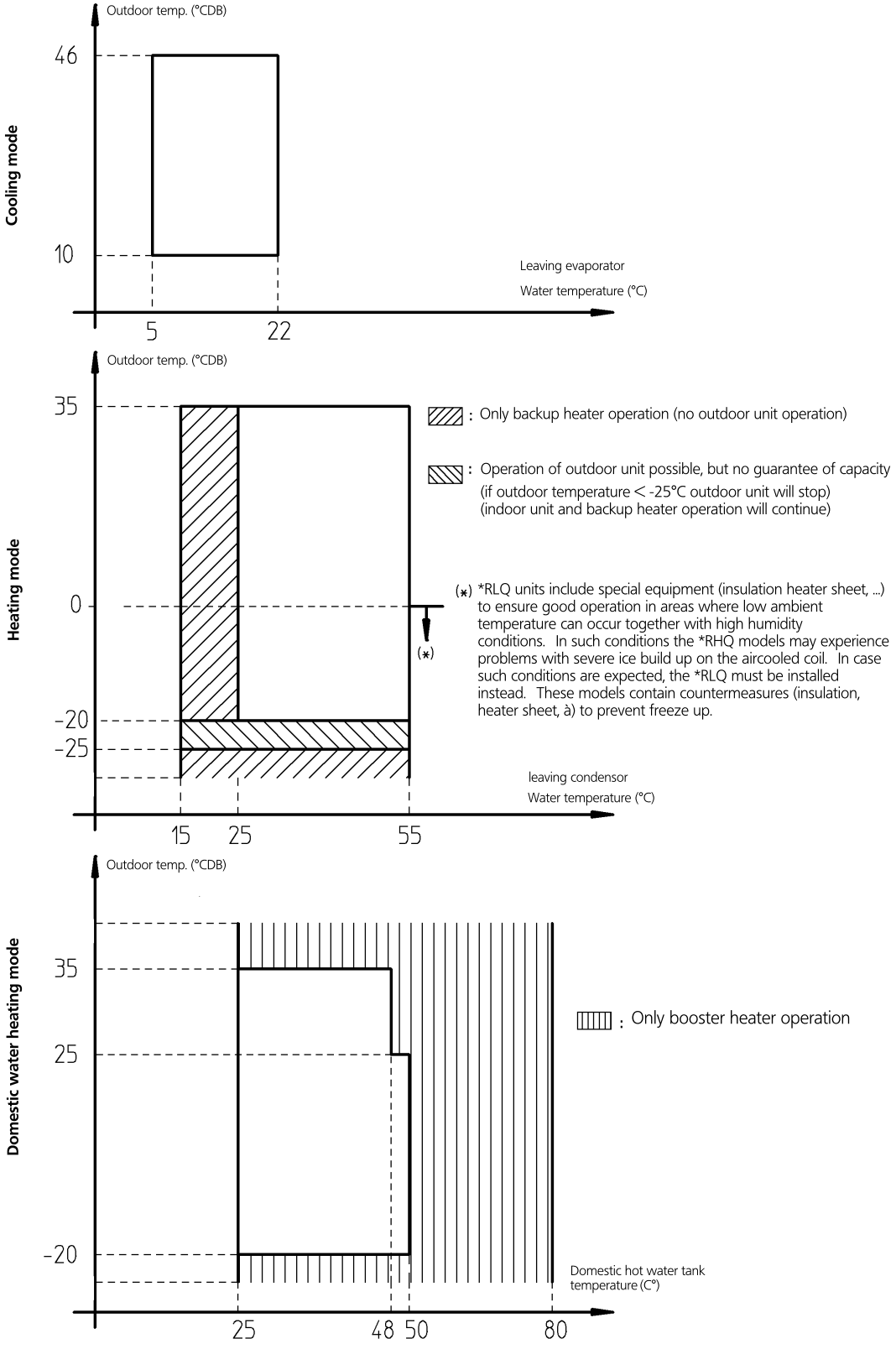
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW59559-1

10 Operation Range

10 - 1 Operation Range

ERHQ011-016BAW1



4TW57913-1C

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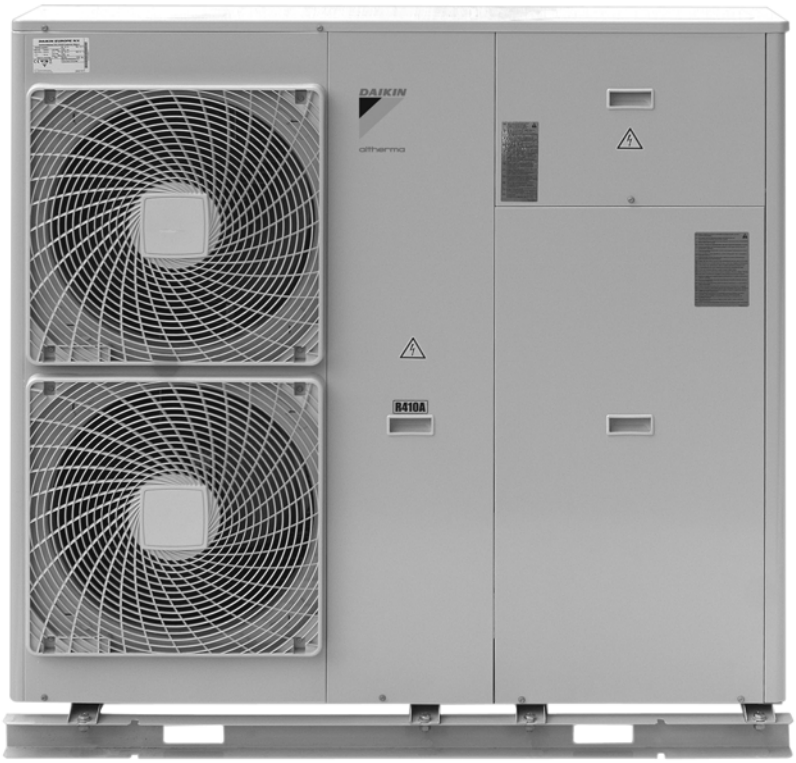
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1 Features

- Heating only monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EDLQ011BB6V3	EDLQ014BB6V3	EDLQ016BB6V3
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Capacity control	Method				Inverter controlled		
Power input	Heating	Nom.		kW	2.47 (1) / 3.22 (2)	3.20 (1) / 3.91 (2)	3.79 (1) / 4.62 (2)
COP					4.54 (1) / 3.37 (2)	4.37 (1) / 3.35 (2)	4.22 (1) / 3.26 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m^2	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (14) / 55.7 (9)	43.3 (14) / 47.1 (9)	34.0 (14) / 38.5 (9)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
	Air flow rate	Heating	High	m^3/min	90		
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT100G-VD		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Ambient	Min.	°CWB	-20		
			Max.	°CWB	35		
		Water side	Min.	°C	15 (6)		
			Max.	°C	55 (6)		
	Domestic hot water	Ambient	Min.	°CDB	-20		
			Max.	°CDB	43		
		Water side	Min.	°C	25		
			Max.	°C	80		

2 Specifications

2-1 Technical Specifications					EDLQ011BB6V3	EDLQ014BB6V3	EDLQ016BB6V3
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
Sound pressure level	Heating	Nom.		dBA	51		52
	Night quiet mode	Heating		dBA	42		43
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (8.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications					EDLQ011BB6V3	EDLQ014BB6V3	EDLQ016BB6V3
Optional domestic hot water tank + Q2L	Wiring connections	Quantity			3G		
		Type of wires			For more details on voltage range and current refer to installation manual / Select diameter and type according to national and local regulations		
Hydraulic component	Back-up heater current	Type			6V3		
		Power supply	Phase		1~		
			Frequency	Hz	50		
			Voltage	V	230		
		Running current	Back-up heater	A	26		
			Back-up heater + booster heater *V3	A	39 (26+13)		
		Zmax	Back-up heater	Ω	0.29		
			Back-up heater + booster heater	Ω	0.17		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations		

2 Specifications

2-2 Electrical Specifications					EDLQ011BB6V3	EDLQ014BB6V3	EDLQ016BB6V3
Compressor component	Main power supply	Name			V3		
		Phase			1~		
		Frequency		Hz	50		
		Voltage		V	230		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Maximum running current	Heating	A	26.5		
		Recommended fuses		A	32		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(9) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(10) Power supply compressor compartment is for compressor, fan, pump and controller

(11) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(12) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(13) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

3 Options

3 - 1 Options

EDLQ011-016BB6V3

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

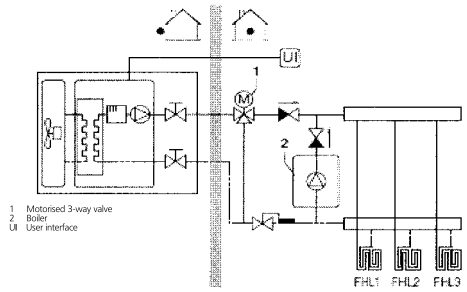
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

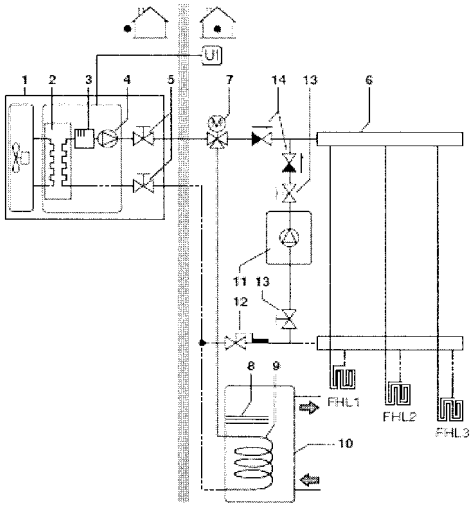
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



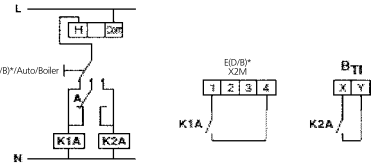
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



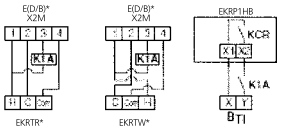
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxiliary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxiliary relay for activation of E(D/B)* unit (Field supply)
K2A Auxiliary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxiliary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxiliary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxiliary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxiliary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EDLQ011-016BB6V3

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EDLQ011-016BB6V3

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

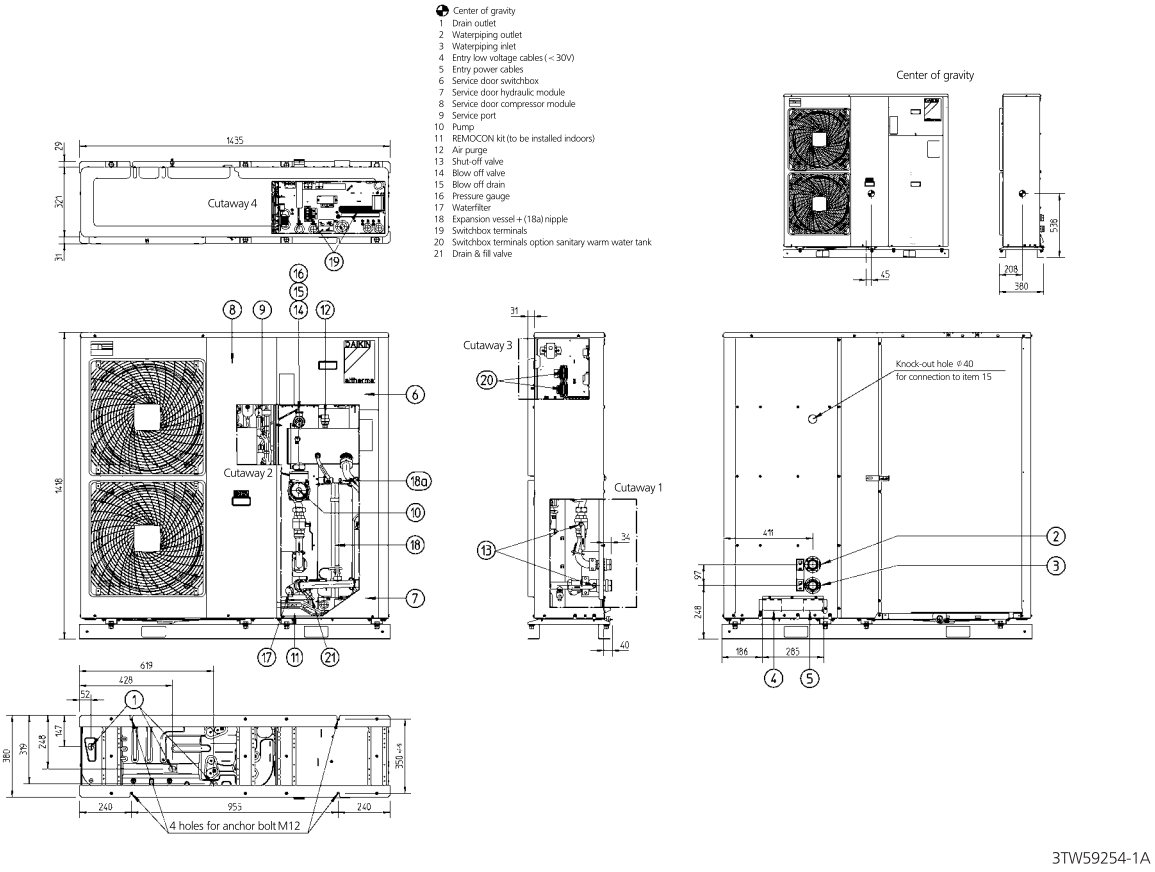
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

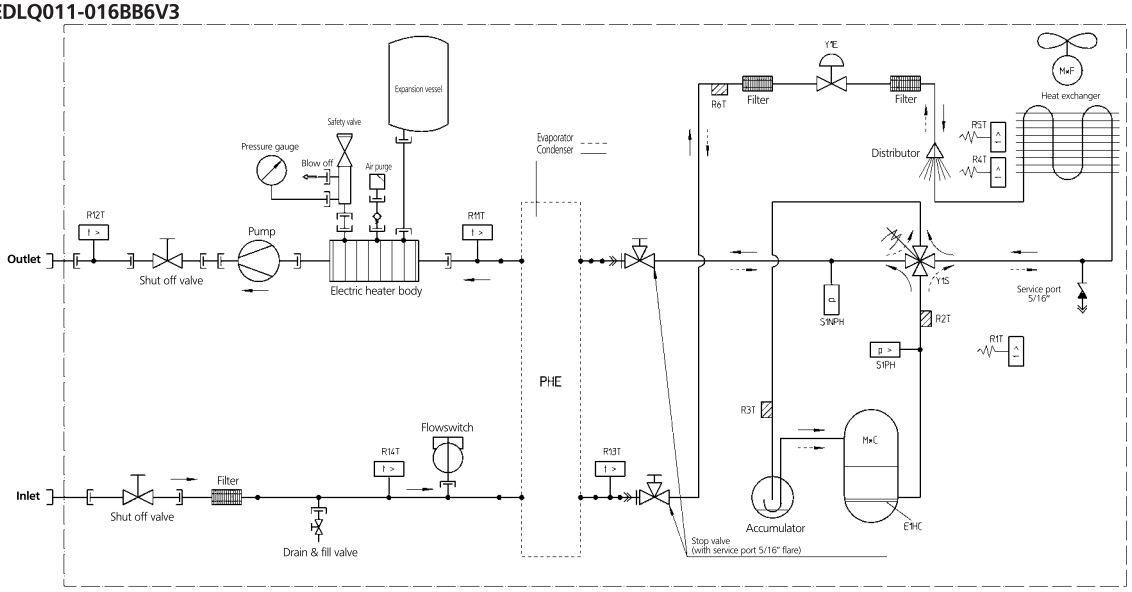
EDLQ011-016BB6V3



6 Piping diagrams

6 - 1 Piping Diagrams

EDLQ011-016BB6V3



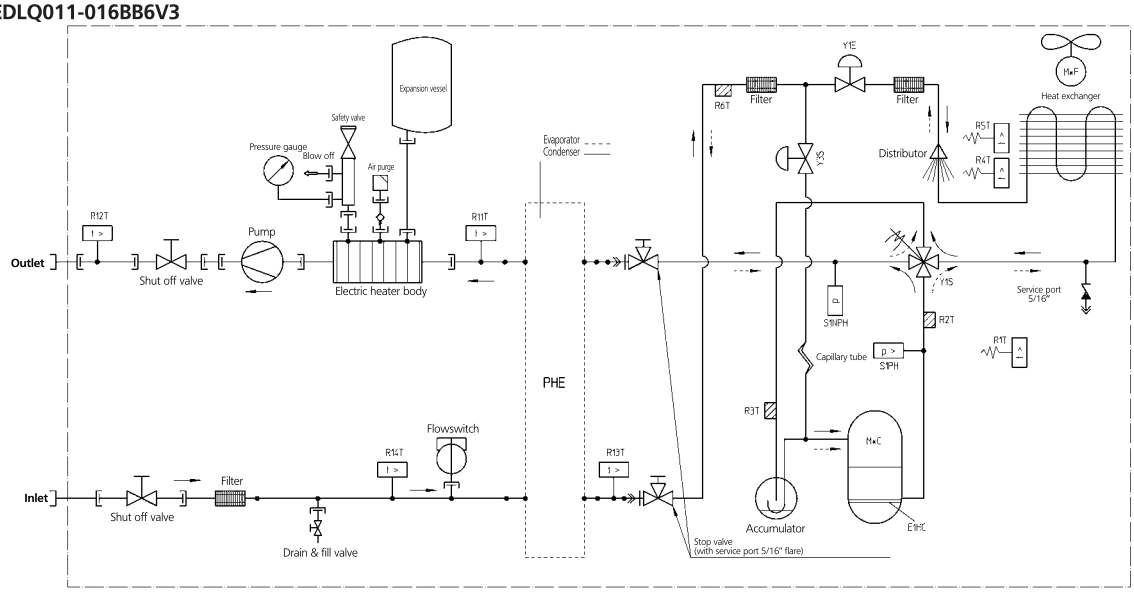
R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59255-1

EDLQ011-016BB6V3



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

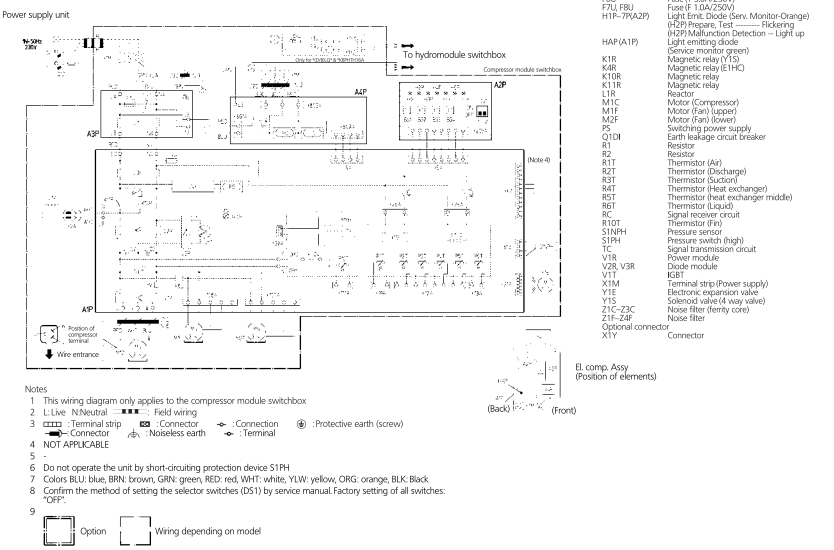
Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EDLQ011-016BB6V3



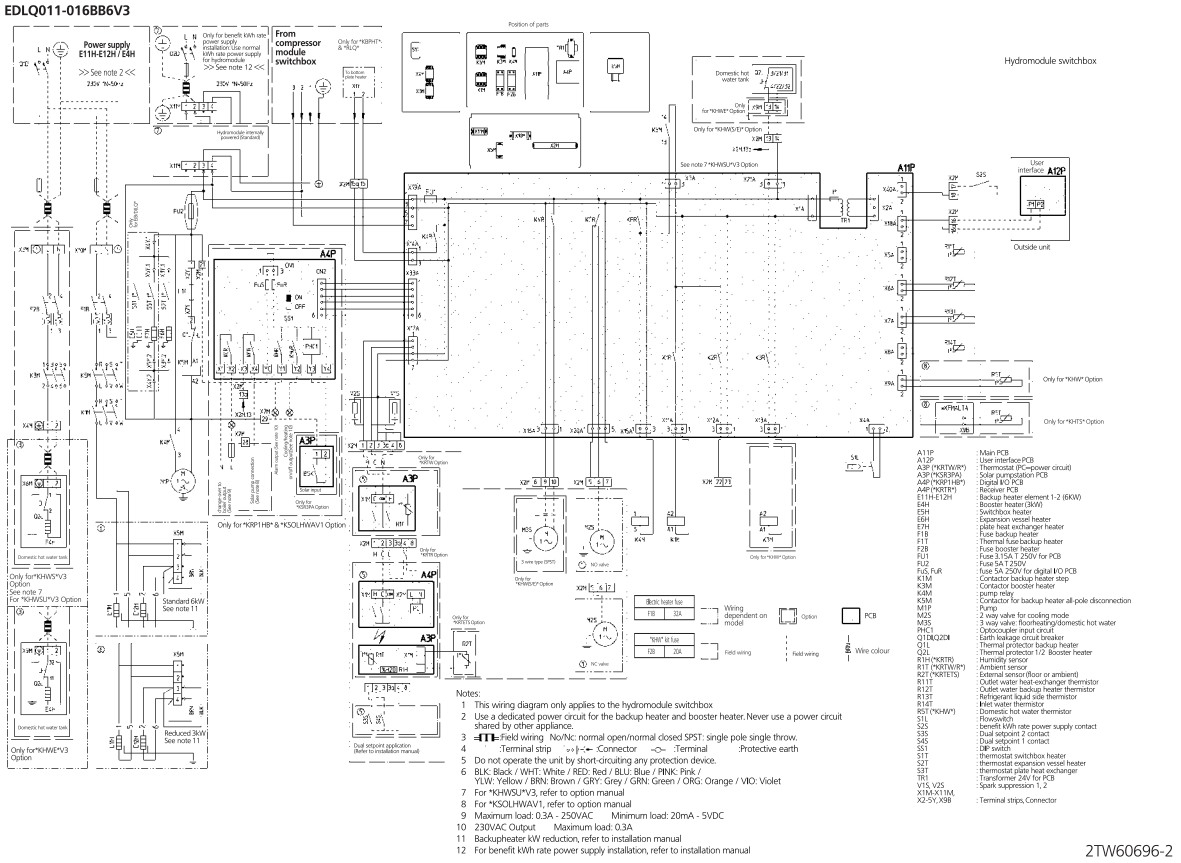
A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1–BS4	Push button switch
C1–C4	Capacitor
DS1	DIP switch
E1H	Bottomplate heater
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
F7U, F8U	Fuse (F 1.0A/250V)
H1P–7P(A2P)	Light Emit. Diode (Serv. Monitor-Orange) (H2P) Prepare, Test ---------- Flickering (H2P) Malfunction Detection -- Light up
HAP (A1P)	Light emitting diode (Service monitor green)
K1R	Magnetic relay (Y1S)
K4R	Magnetic relay (E1HC)
K10R	Magnetic relay
K11R	Magnetic relay
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
Q1DI	Earth leakage circuit breaker
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Signal receiver circuit
R10T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
TC	Signal transmission circuit
V1R	Power module
V2R, V3R	Diode module
V1T	IGBT
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Z1C–Z3C	Noise filter (ferrity core)
Z1F–Z4F	Noise filter
Optional connector	
X1Y	Connector

Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L: Live N:Neutral ---■■■--: Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw)
: Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors BLU: blue, BRN: brown, GRN: green, RED: red, WHT: white, YLW: yellow, ORG: orange, BLK: Black
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
9
Option
Wiring depending on model

2TW59256-1

7 Wiring diagrams

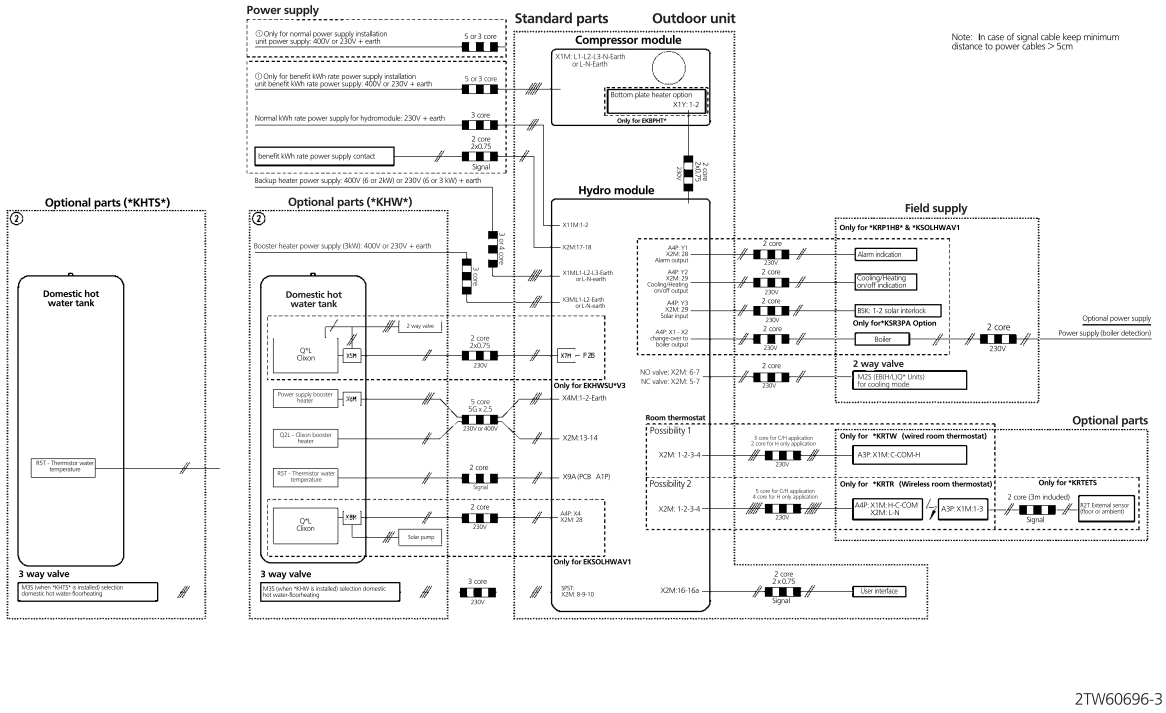
7 - 1 Wiring Diagrams - Single Phase



8 External connection diagrams

8 - 1 External Connection Diagrams

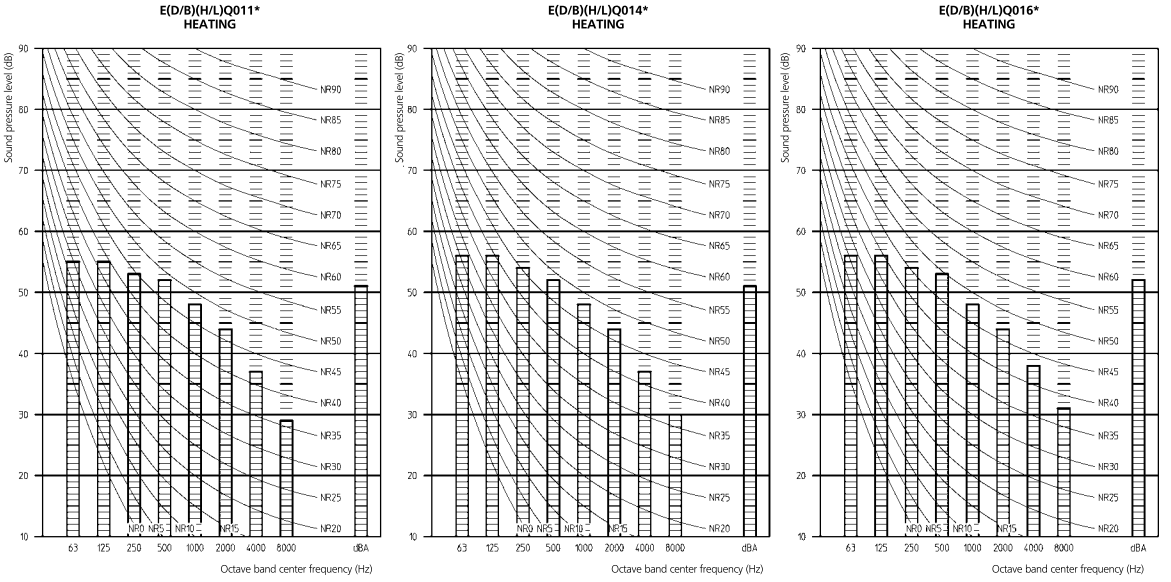
EDLQ011-016BB6V3 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

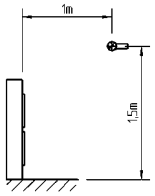
9 - 1 Sound Pressure Spectrum - Heating

EDLQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



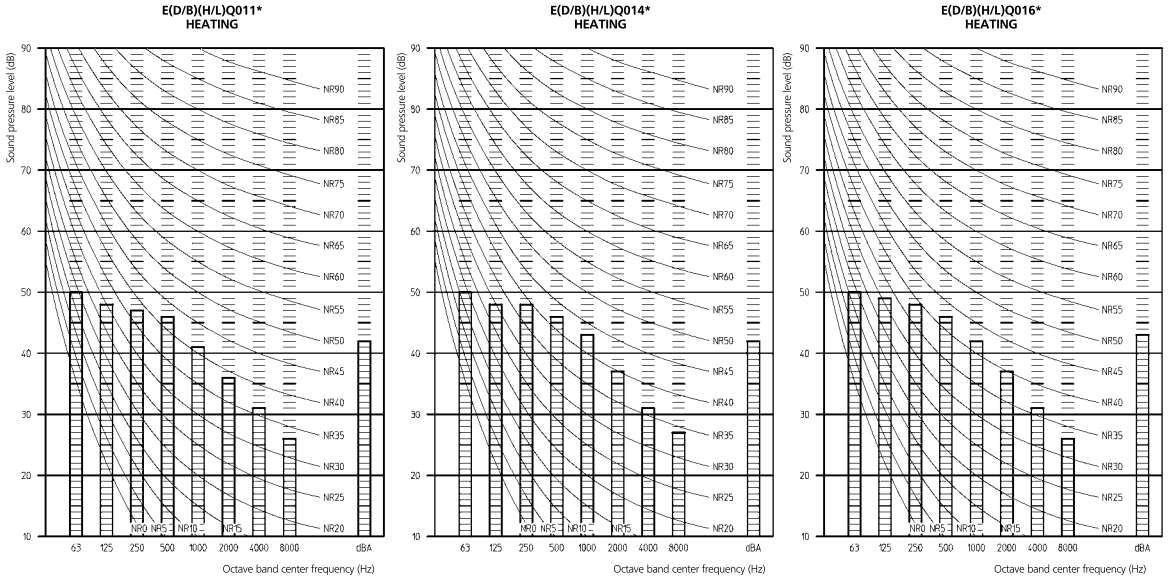
Measuring location (discharge side)

3TW58017-2

9 Sound data

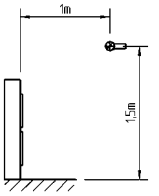
9 - 2 Sound Pressure Spectrum Quiet Mode

EDLQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

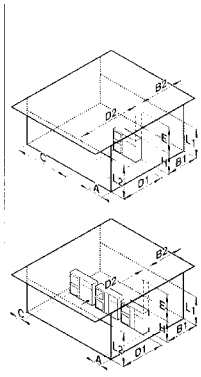
3TW58017-4

10 Installation

10 - 1 Installation Method

EDLQ011-016BB6V3

A. Non stacked installation



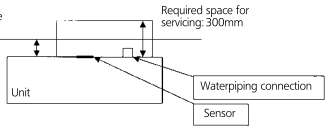
				A	B1	B2	C	D1	D2	E	L1/L2
✓					≥100						
✓		✓		≥100	≥100		≥100				
✓			✓		≥100				≤500	≥1000	
✓		✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓							≥500			
	✓		✓			≤500		≥500		≥1000	
✓	✓			L1<L2		≥100		≥500			
				L2<L1		≥100		≥500			
✓	✓		✓	L1<L2	L1≤H	≥150	≤500	≥750 / ≥1000		≥1000	0<L1≤1/2H / 0<L1≤1/2H
					H<L1			L1≤H			
				L2<L1	L2≤H	≥50 / ≥100		≥500	≥500	≥1000	0<L2≤1/2H / 1/2H<L2≤H
					H<L2			L2≤H			
		✓	✓		≥200	≥300		≥1000			
		✓	✓	✓	≥200	≥300		≥1000	≤500	≥1000	
	✓							≥1000			
	✓		✓			≤500		≥1000		≥1000	
✓	✓			L1<L2		≥300		≥1000			
				L2<L1		≥250 / ≥300		≥1500			0<L2≤1/2H / 1/2H<L2≤H
✓	✓		✓	L1<L2	L1≤H	≥200	≤500	≥1000 / ≥1250		≥1000	0<L1≤1/2H / 1/2H<L1≤H
					H<L1			L1≤H			
				L2<L1	L2≤H	≥50 / ≥100		≥500	≥500	≥1000	0<L2≤1/2H / 1/2H<L2≤H
					H<L2			L2≤H			

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

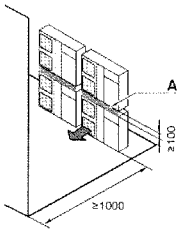


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

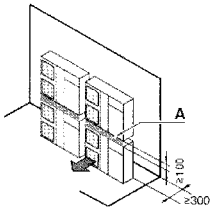
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



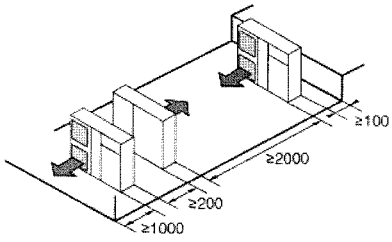
2. Obstacles exist in front of the air inlet



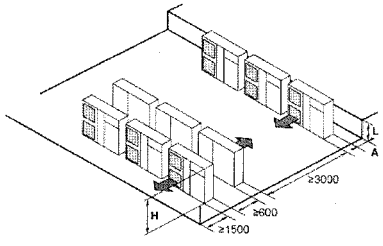
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

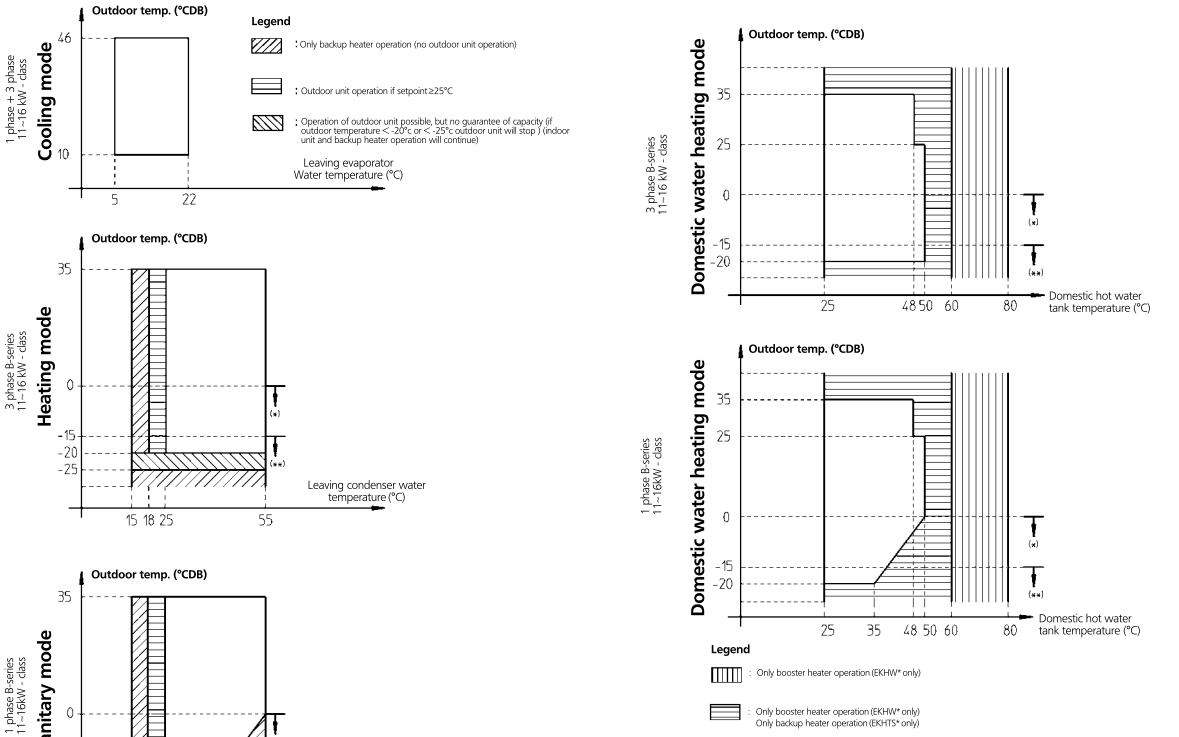
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EDLQ011-016BB6V3



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, . . .) to prevent freeze up.

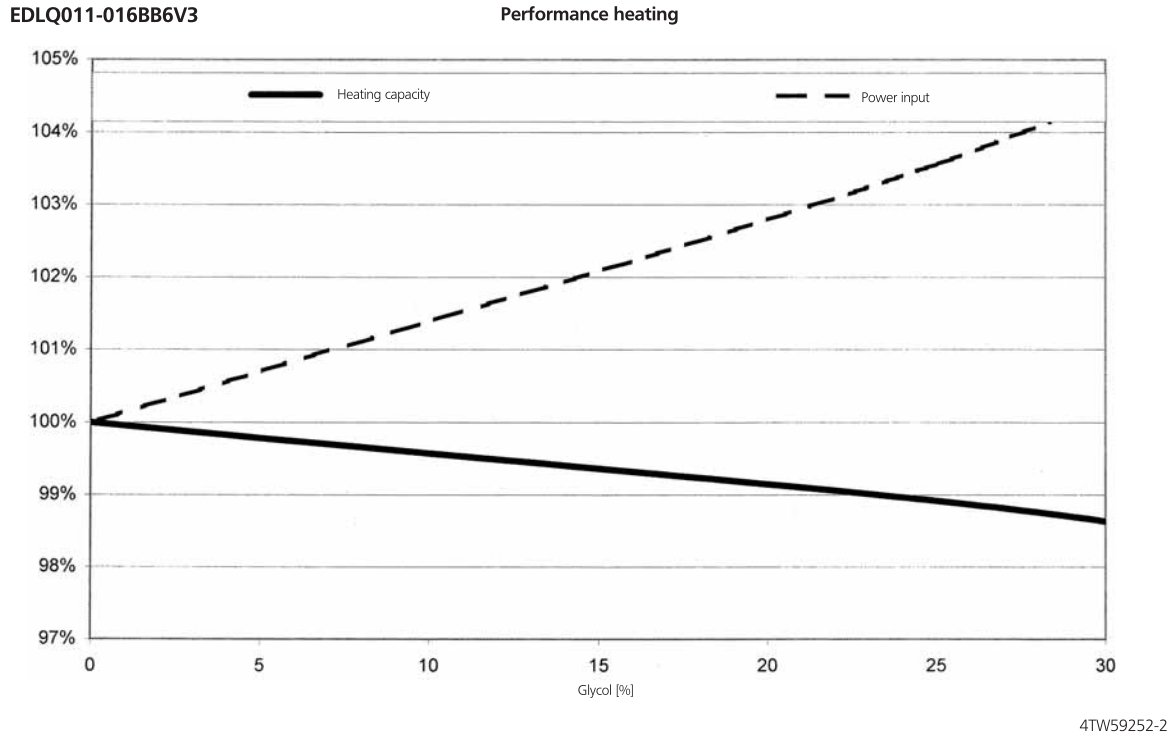
Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

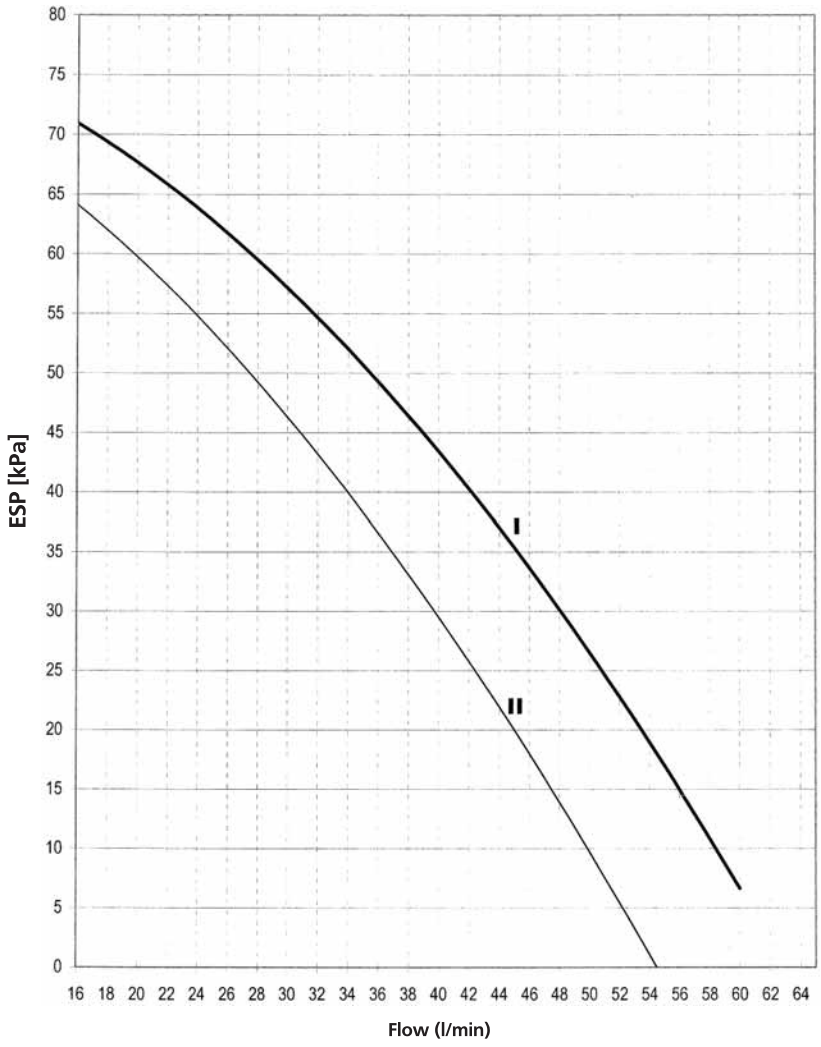
11 - 2 Correction Factors



12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDLQ011-016BB6V3



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

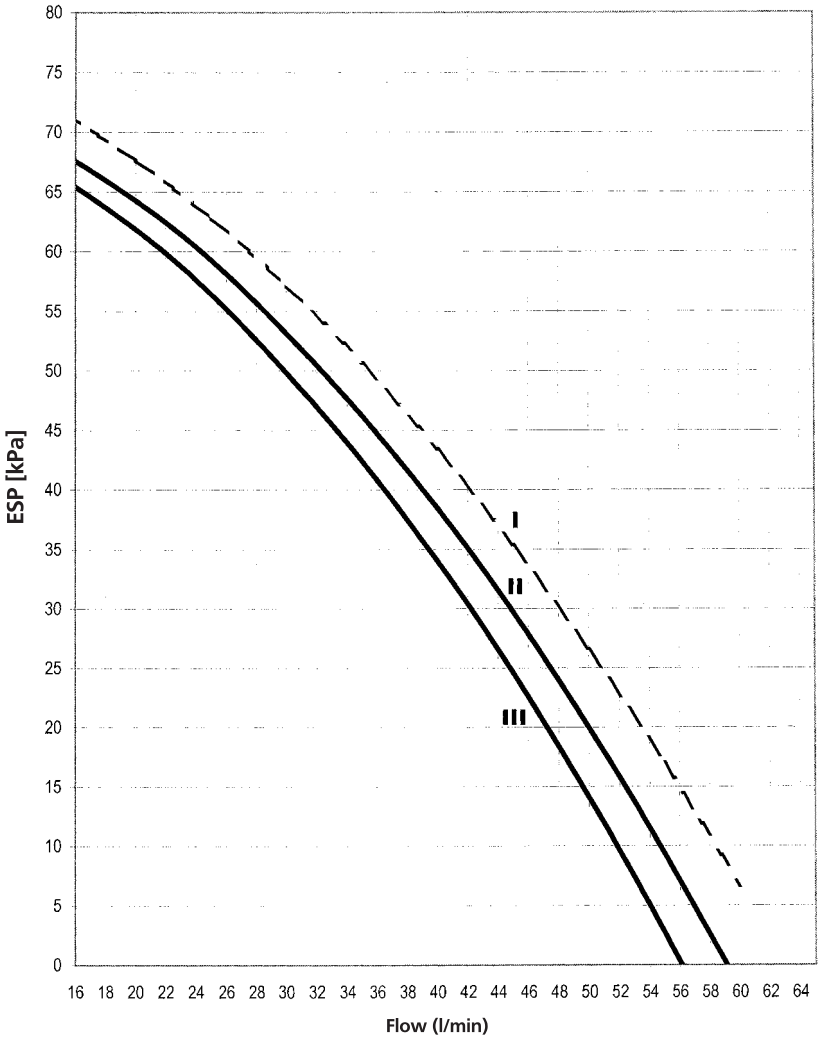
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDLQ011-016BB6V3



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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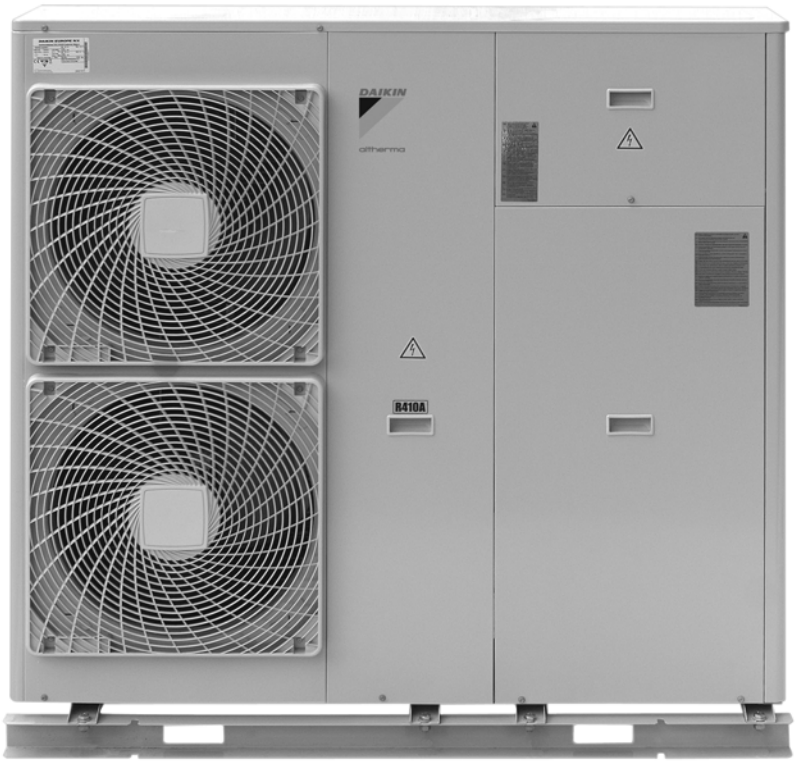
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1 Features

- Heating only monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EDLQ011BB6W1	EDLQ014BB6W1	EDLQ016BB6W1
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Capacity control	Method				Inverter controlled		
Power input	Heating	Nom.		kW	2.51 (1) / 3.12 (2)	3.22 (1) / 3.98 (2)	3.72 (1) / 4.58 (2)
COP					4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m^2	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (4) / 55.7 (10)	43.3 (4) / 47.1 (10)	34.0 (4) / 38.5 (10)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT1G-VDYR (S)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Ambient	Min.	ºCWB	-25		
			Max.	ºCWB	35		
		Water side	Min.	ºC	15 (6)		
			Max.	ºC	55 (6)		
	Domestic hot water	Ambient	Min.	ºCDB	-25		
			Max.	ºCDB	43		
		Water side	Min.	ºC	25		
			Max.	ºC	80		

2 Specifications

2-1 Technical Specifications					EDLQ011BB6W1	EDLQ014BB6W1	EDLQ016BB6W1
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
Sound pressure level	Heating	Nom.		dBA	49	51	53
	Night quiet mode	Heating		dBA	42		43
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (9.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications					EDLQ011BB6W1	EDLQ014BB6W1	EDLQ016BB6W1
Optional domestic hot water tank + Q2L	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / For more details on voltage range and current refer to installation manual		
Hydraulic component	Back-up heater current	Type			6W1		
		Power supply	Phase		3~		
			Frequency	Hz	50		
			Voltage	V	400		
		Running current	Back-up heater	A	8.7		
			Back-up heater + booster heater *V3	A	21.7 (8.7+13)		
			Back-up heater + booster heater *Z2	A	16.2 (8.7+7.5)		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			4G		
		Type of wires			Select diameter and type according to national and local regulations		

2 Specifications

2-2 Electrical Specifications					EDLQ011BB6W1	EDLQ014BB6W1	EDLQ016BB6W1
Compressor component	Main power supply	Name			W1		
		Phase			3N~		
		Frequency		Hz	50		
		Voltage		V	400		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Nominal running current (RLA)	Heating	A	5.8 (4)		
		Maximum running current	Heating	A	14		
		Recommended fuses		A	20		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) ED/BLQ*W1 models have capacity guarantee down to -20ºC

(9) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(10) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(11) Power supply compressor compartment is for compressor, fan, pump and controller

(12) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(13) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

3 Options

3 - 1 Options

EDLQ011-016BB6W1

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

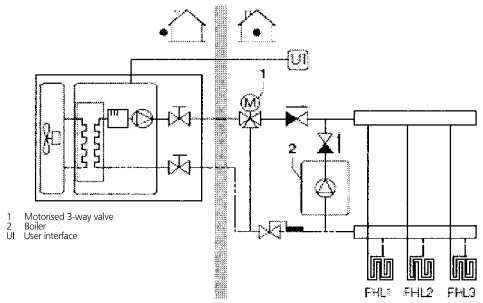
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

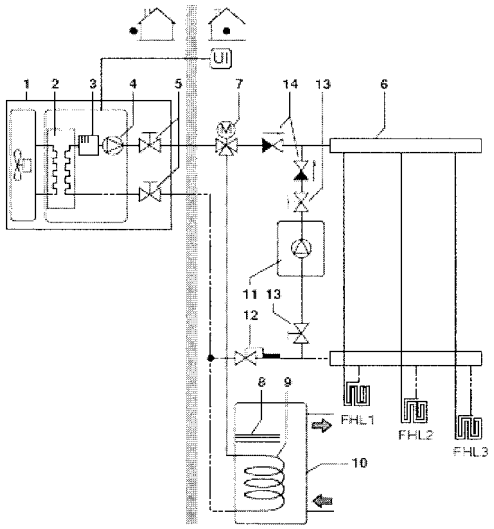
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



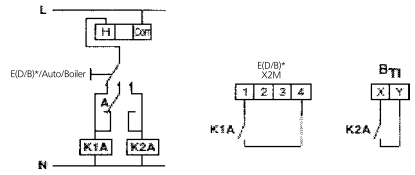
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



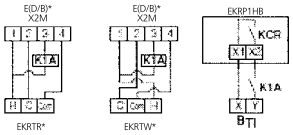
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxillary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
K2A Auxillary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxillary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxillary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxillary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EDLQ011-016BB6W1

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EDLQ011-016BB6W1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,67	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

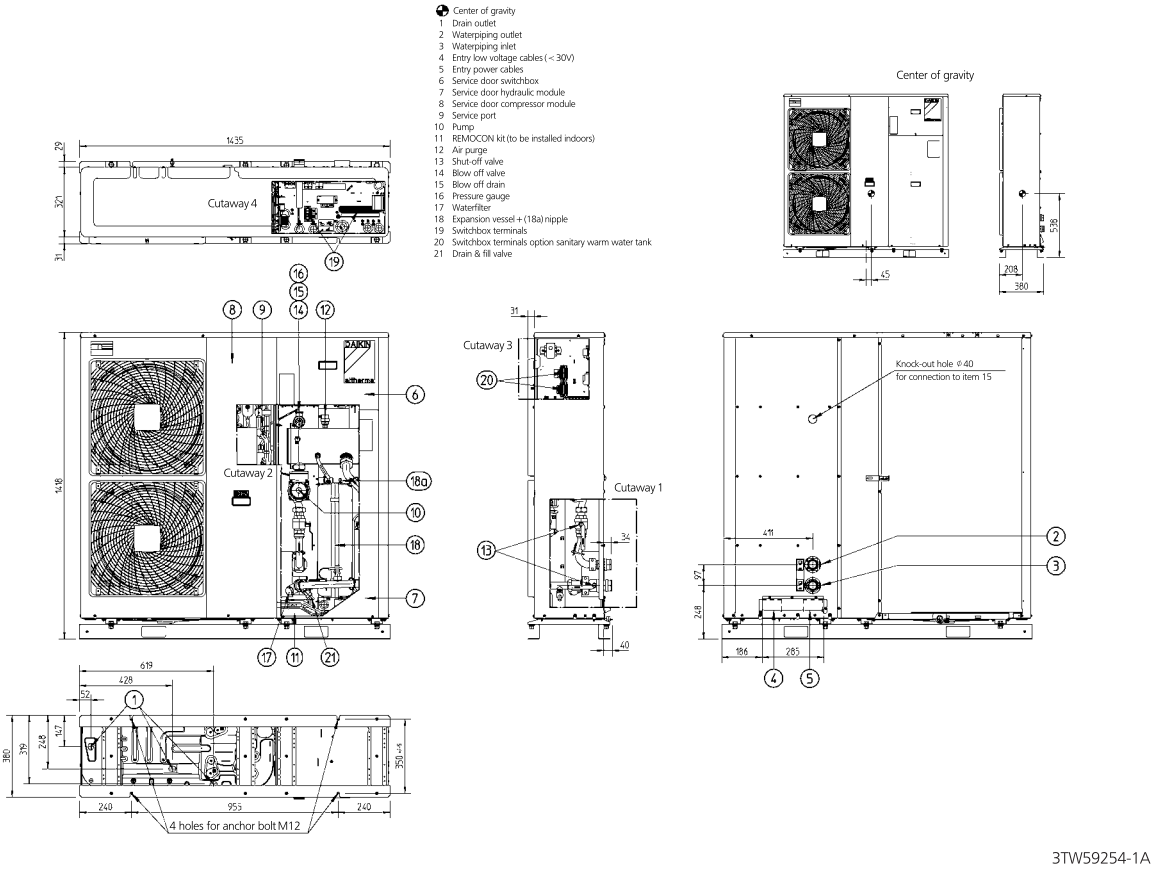
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D;V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

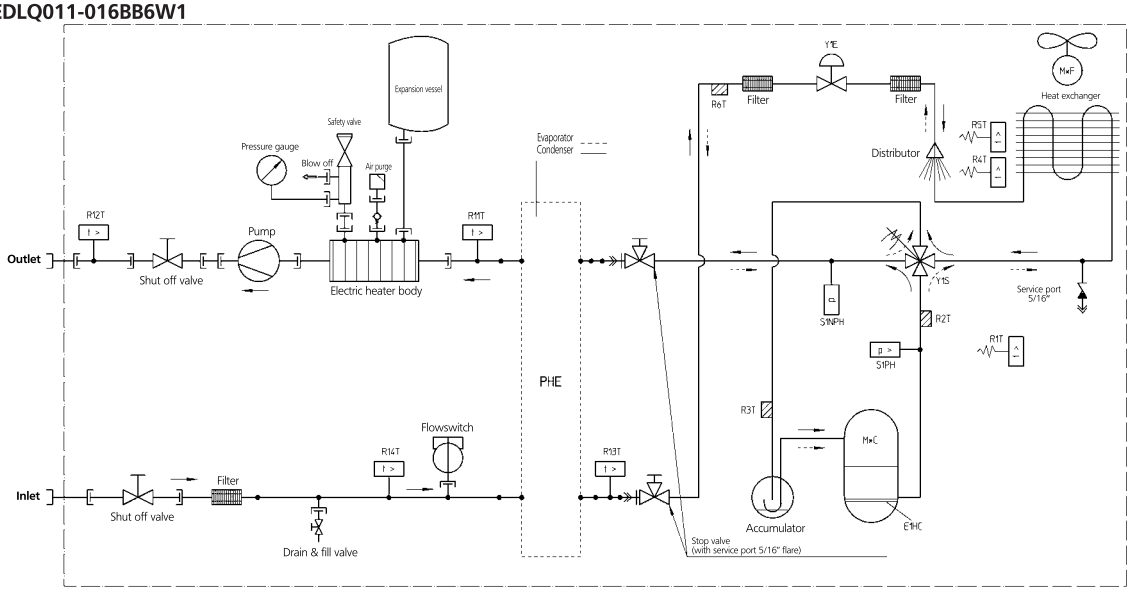
EDLQ011-016BB6W1



6 Piping diagrams

6 - 1 Piping Diagrams

EDLQ011-016BB6W1



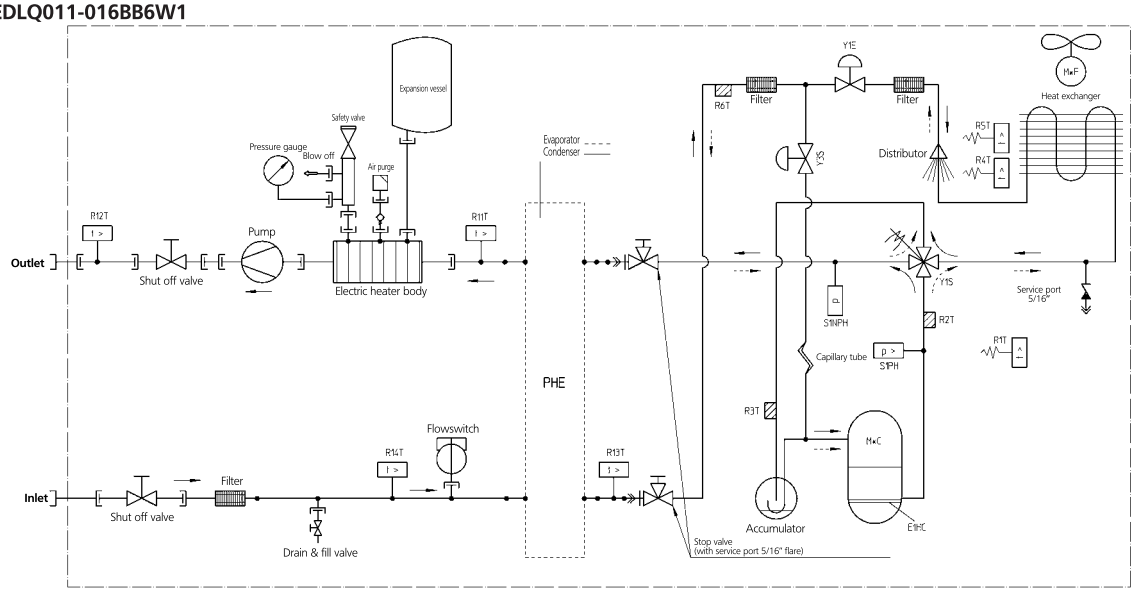
R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

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EDLQ011-016BB6W1



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

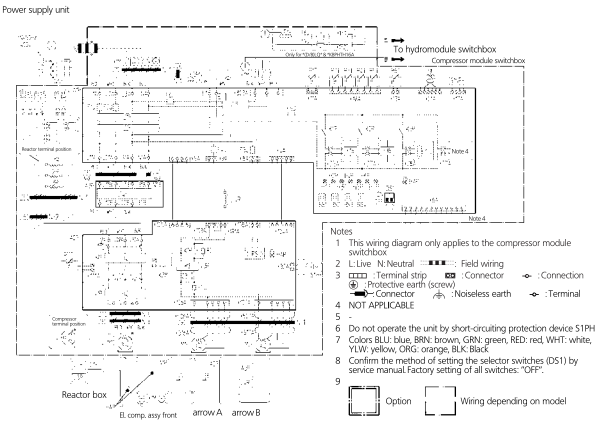
Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

EDLQ011-016BB6W1

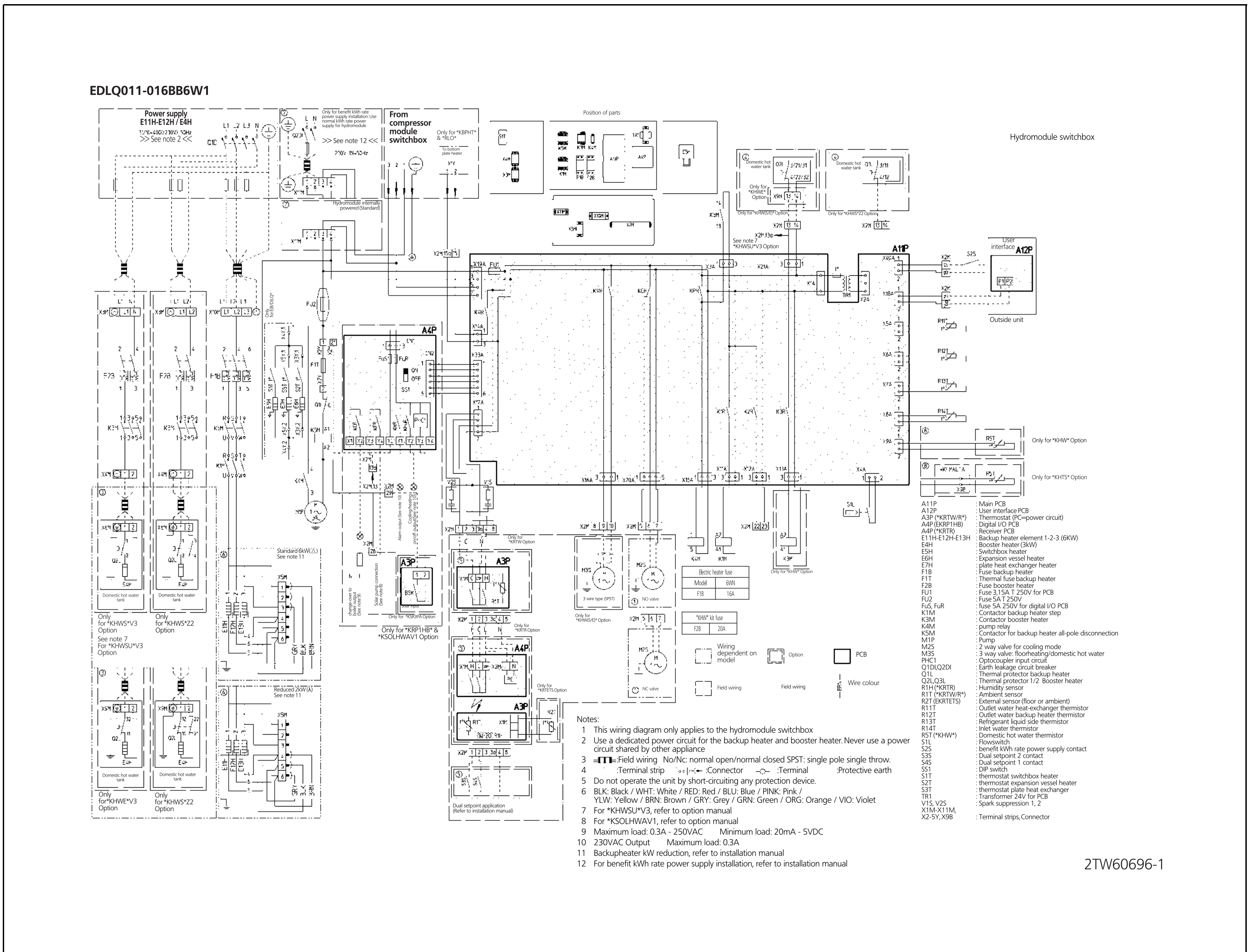


A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
B51~B54	Push button switch
C1~C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
E1H	Bottomplate heater
F1U	Fuse (31.5A 250V)
F2U	Fuse (31.5A 250V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
F8U, F9U	Fuse (F 1.0A/250V)
HAP (A1P)	Pilot lamp (Service monitor-green)
HAP (A2P)	Pilot lamp (Service monitor-green)
H1P~7P (A1P)	Pilot lamp (service monitor-orange)
K1M, K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R~L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1~R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
V1R~V2R	Power module
V3R	Diode module
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Y3S	Solenoid valve
Z1C~Z9C	Noise filter
Z1F~Z4F	Noise filter
Q1DI	Earth leakage circuit breaker
Optional connector	
X6A	Connector
X77A	Connector
X1Y	Connector

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7 Wiring diagrams

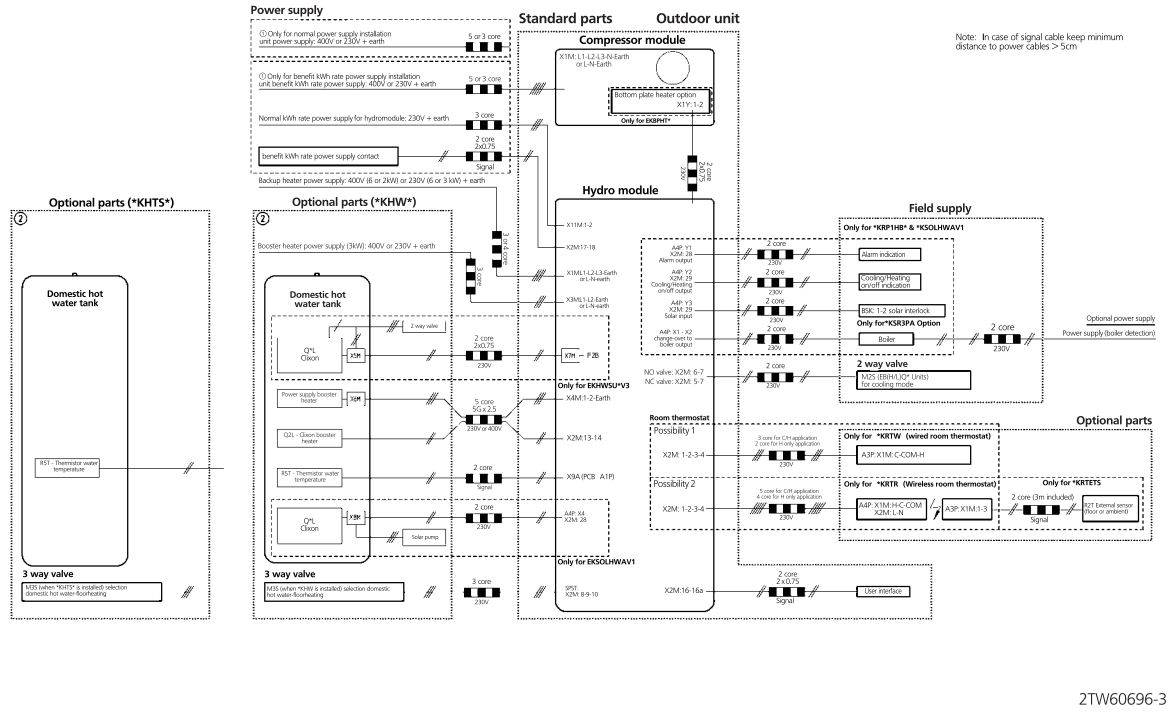
7 - 1 Wiring Diagrams - Three Phase



8 External connection diagrams

8 - 1 External Connection Diagrams

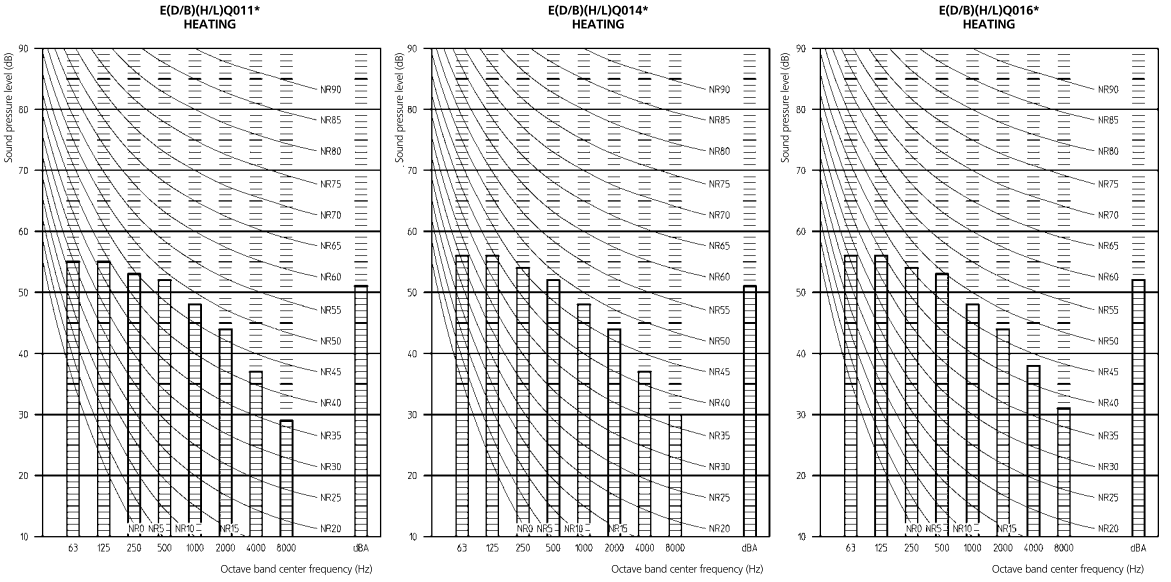
EDLQ011-016BB6W1 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

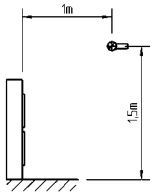
9 - 1 Sound Pressure Spectrum - Heating

EDLQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

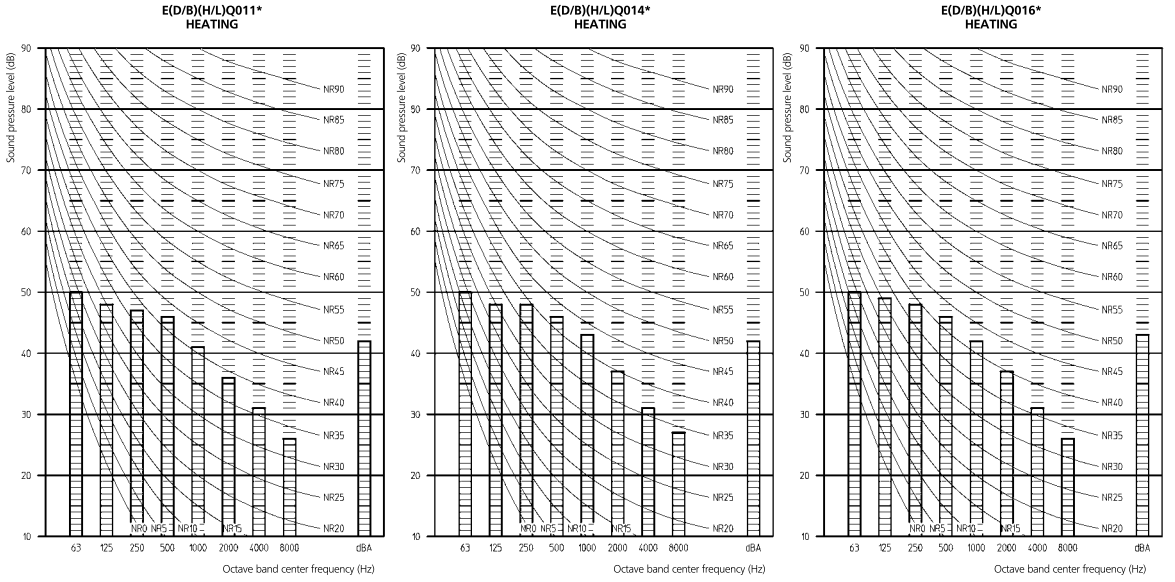


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9 Sound data

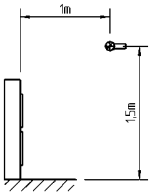
9 - 2 Sound Pressure Spectrum Quiet Mode

EDLQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

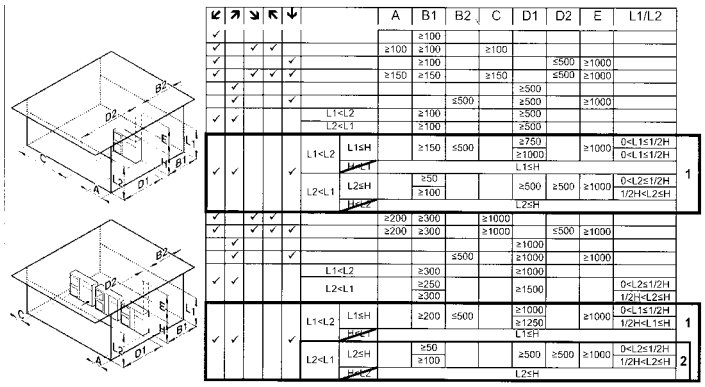
3TW58017-4

10 Installation

10 - 1 Installation Method

EDLQ011-016BB6W1

A. Non stacked installation



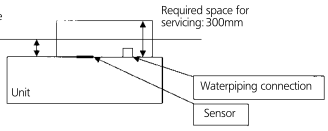
			A	B1	B2	C	D1	D2	E	L1/L2	
✓				≥100							
✓	✓		≥100	≥100		≥100					
✓		✓		≥100				≤500	≥1000		
✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓					≤500		≥500		≥1000	
✓	✓				≥100			≥500			
			L1<L2		≥100			≥500			
			L2<L1		≥100			≥500			
✓	✓			L1≤H	≥150	≤500		≥750		≥1000	0<L1≤1/2H
				H<L1				≥1000			0<L1≤1/2H
		✓						L1≤H			
			L1<L2								1
			L2<L1	L2≤H	≥50			≥500	≥500	≥1000	0<L2≤1/2H
					≥100						1/2H<L2≤H
				H<L2				L2≤H			
✓	✓			≥200	≥300		≥1000		≤500	≥1000	
✓	✓	✓	✓	≥200	≥300		≥1000				
	✓					≤500		≥1000		≥1000	
	✓		✓					≥1000			
			L1<L2		≥300			≥1000			
✓	✓				≥250						0<L2≤1/2H
			L2<L1		≥300			≥1500			1/2H<L2≤H
				L1≤H	≥200	≤500		≥1000		≥1000	0<L1≤1/2H
				H<L1				≥1250			1/2H<L1≤H
		✓						L1≤H			
			L1<L2								1
			L2<L1	L2≤H	≥50			≥500	≥500	≥1000	0<L2≤1/2H
					≥100						1/2H<L2≤H
				H<L2				L2≤H			2

Legend Unit: mm

Suction side obstacle
Discharge side obstacle
Left side obstacle
Right side obstacle
Top side obstacle
✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

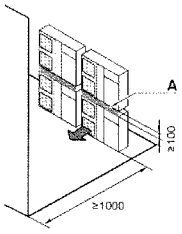


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

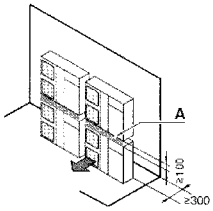
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



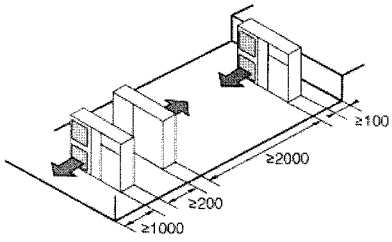
2. Obstacles exist in front of the air inlet



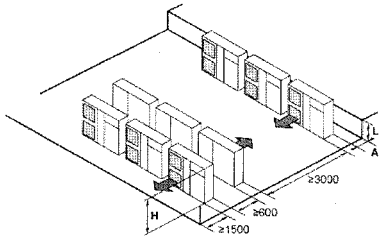
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

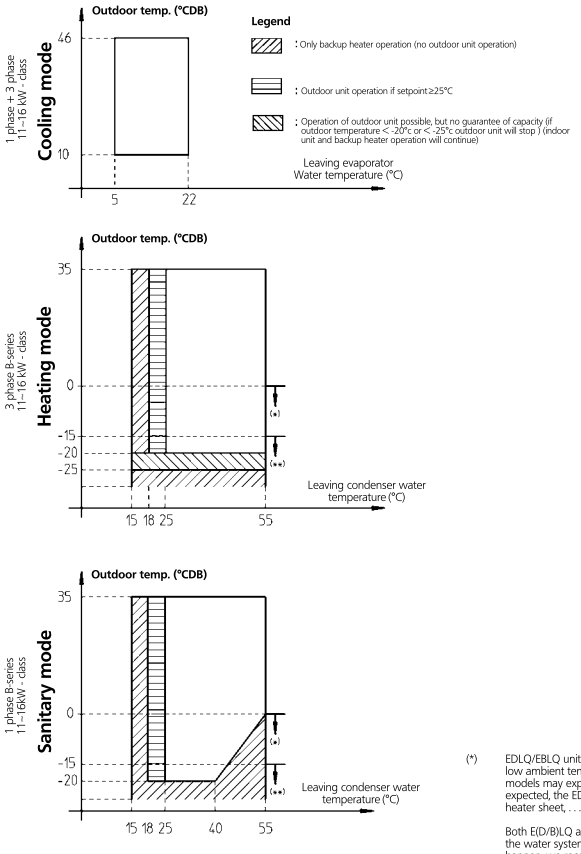
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EDLQ011-016BB6W1



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, . . .) to prevent freeze up.

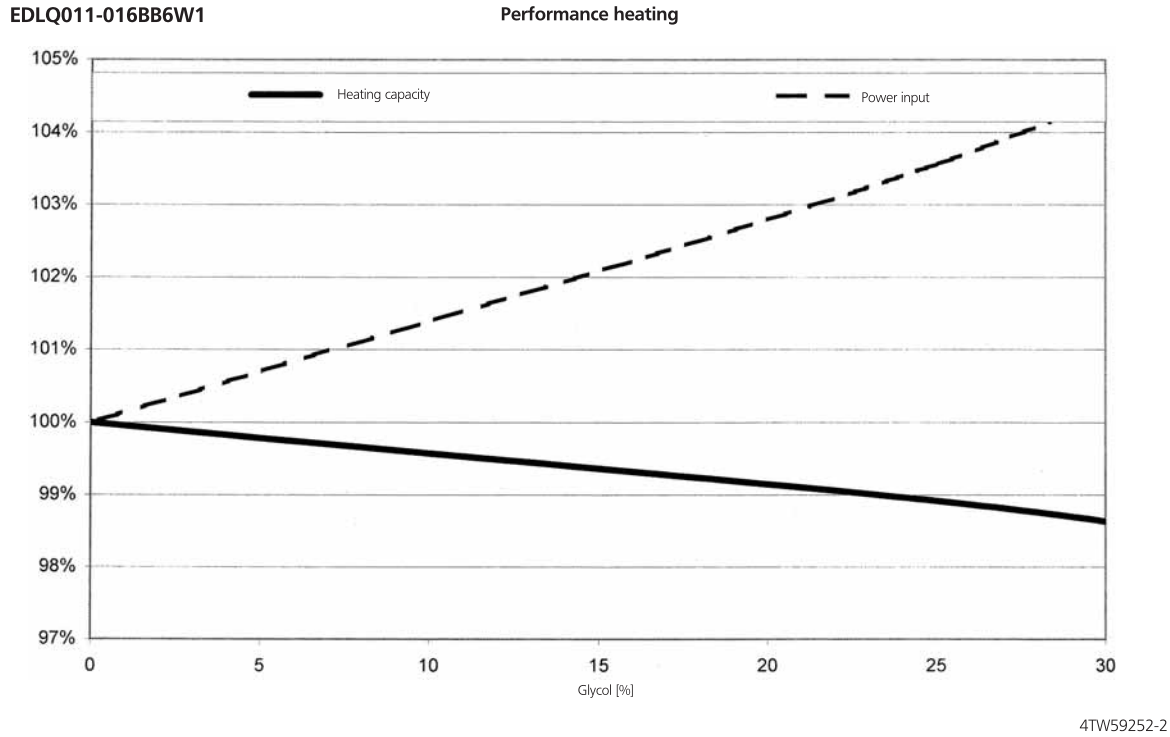
Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

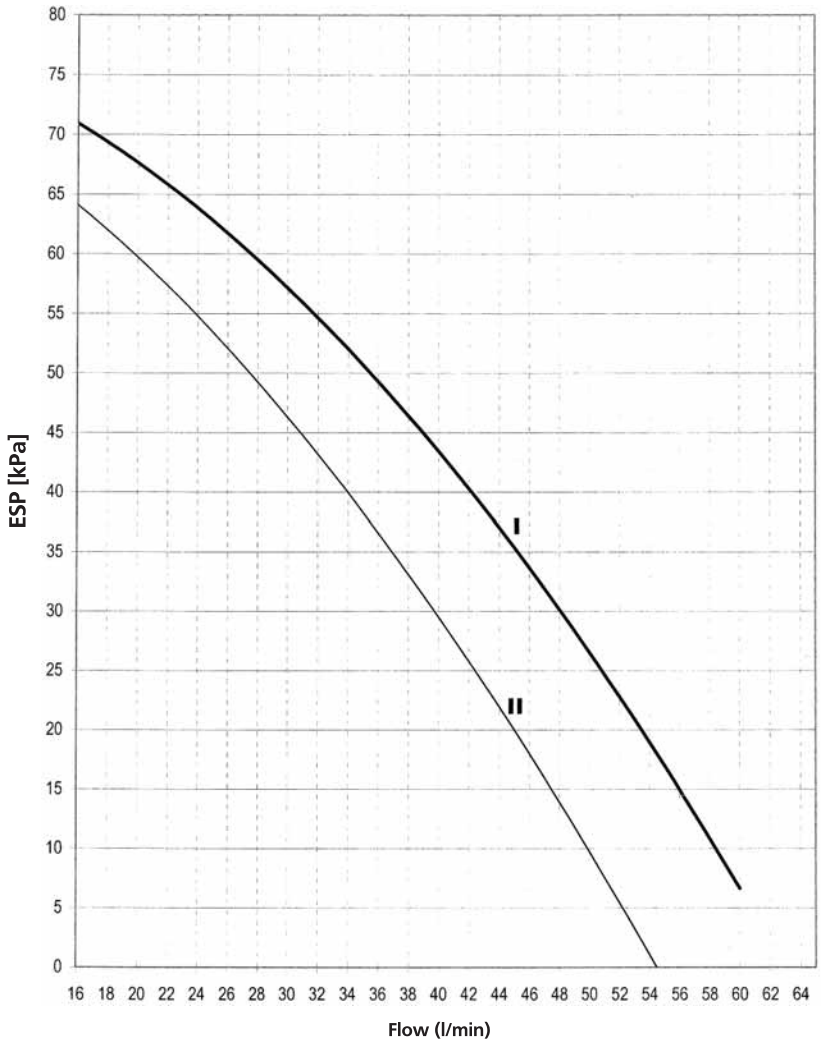
11 - 2 Correction Factors



12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDLQ011-016BB6W1



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

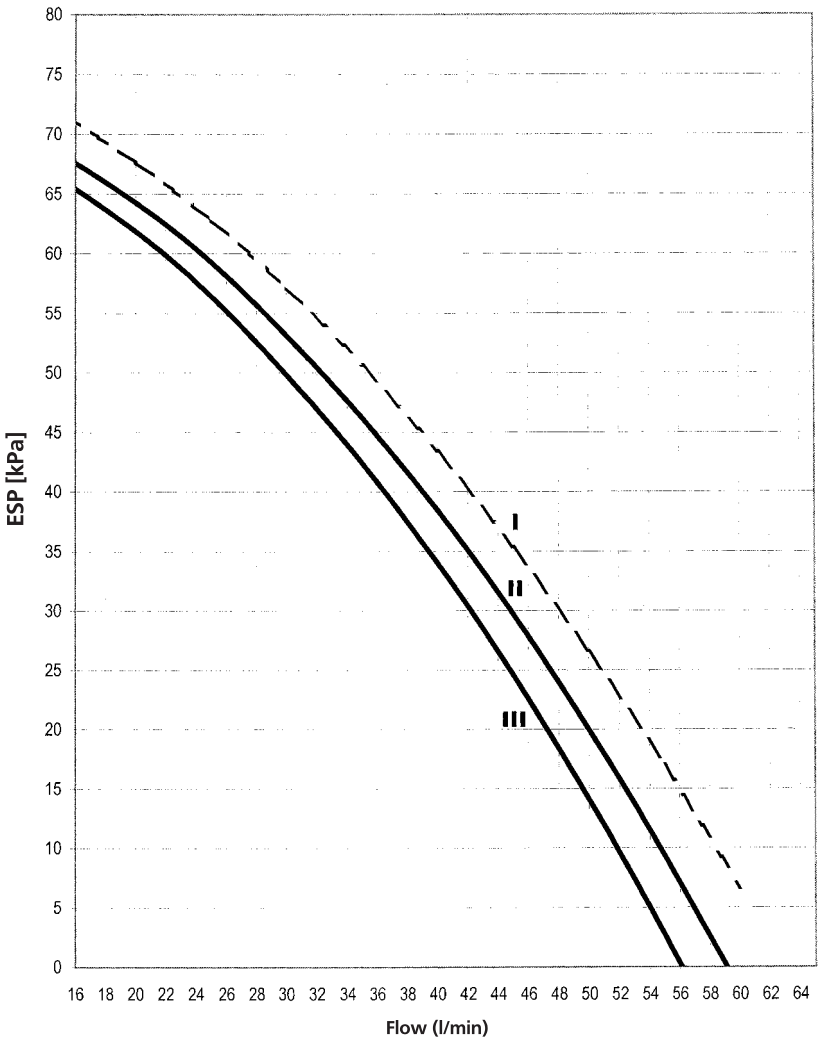
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDLQ011-016BB6W1



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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Sound Pressure Spectrum - Cooling 252
Sound Pressure Spectrum Quiet Mode 253

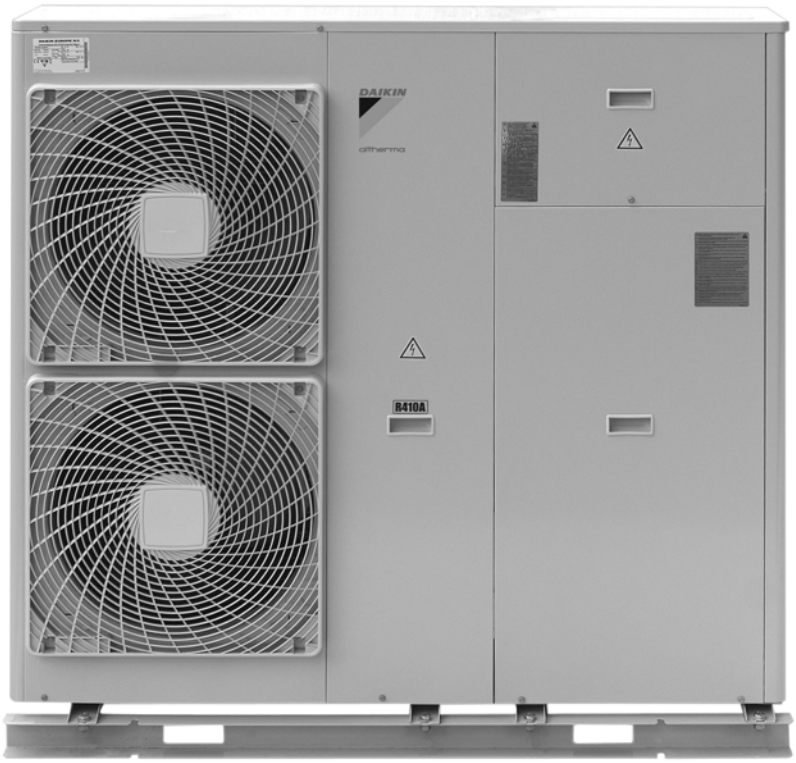
10 Installation 255
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1 Features

- Reversible monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EBLQ011BB6V3	EBLQ014BB6V3	EBLQ016BB6V3
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Cooling capacity	Nom.			kW	12.85 (1) / 10.00 (2)	15.99 (1) / 12.50 (2)	16.73 (1) / 13.10 (2)
Capacity control	Method				Inverter controlled		
Power input	Cooling	Nom.		kW	3.78 (1) / 3.60 (2)	5.65 (1) / 5.30 (2)	6.28 (1) / 5.85 (2)
	Heating	Nom.		kW	2.47 (1) / 3.22 (2)	3.20 (1) / 3.91 (2)	3.79 (1) / 4.62 (2)
COP					4.54 (1) / 3.37 (2)	4.37 (1) / 3.35 (2)	4.22 (1) / 3.26 (2)
EER					3.39 (1) / 2.78 (2)	2.83 (1) / 2.36 (2)	2.66 (1) / 2.24 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m²	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (14) / 55.7 (9)	43.3 (14) / 47.1 (9)	34.0 (14) / 38.5 (9)
		Cooling		kPa	58.7 (16)	49.6 (16)	47.1 (16)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
	Air flow rate	Heating	High	m³/min	90		
		Cooling	High	m³/min	96	100	97
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
		Cooling	Nom.	rpm	780		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT100G-VD		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		

2 Specifications

2-1 Technical Specifications					EBLQ011BB6V3	EBLQ014BB6V3	EBLQ016BB6V3
Operation range	Heating	Ambient	Min.	ºCWB	-20		
			Max.	ºCWB	35		
		Water side	Min.	ºC	15 (6)		
			Max.	ºC	55 (6)		
	Cooling	Ambient	Min.	ºCDB	10		
			Max.	ºCDB	46		
		Water side	Min.	ºC	5		
			Max.	ºC	22		
	Domestic hot water	Ambient	Min.	ºCDB	-20		
			Max.	ºCDB	43		
		Water side	Min.	ºC	25		
			Max.	ºC	80		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Cooling	Nom.	l/min	28.7 (5)	35.8 (5)	37.6 (5)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Electronic expansion valve		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
	Cooling	Nom.		dBA	65	66	69
Sound pressure level	Heating	Nom.		dBA	51		52
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (8.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications			EBLQ011BB6V3	EBLQ014BB6V3	EBLQ016BB6V3
Optional domestic hot water tank + Q2L	Wiring connections	Quantity	3G		
		Type of wires	For more details on voltage range and current refer to installation manual / Select diameter and type according to national and local regulations		

2 Specifications

2-2 Electrical Specifications					EBLQ011BB6V3	EBLQ014BB6V3	EBLQ016BB6V3
Hydraulic component	Back-up heater current	Type			6V3		
		Power supply	Phase		1~		
			Frequency	Hz	50		
			Voltage	V	230		
		Running current	Back-up heater	A	26		
			Back-up heater + booster heater *V3	A	39 (26+13)		
		Zmax	Back-up heater	Ω	0.29		
			Back-up heater + booster heater	Ω	0.17		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations		
Compressor component	Main power supply	Name			V3		
		Phase			1~		
		Frequency		Hz	50		
		Voltage		V	230		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Maximum running current	Heating	A	26.5		
			Cooling	A	26.5		
		Recommended fuses		A	32		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(9) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(10) Power supply compressor compartment is for compressor, fan, pump and controller

(11) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(12) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(13) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

(16) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

3 Options

3 - 1 Options

EBLQ011-016BB6V3

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

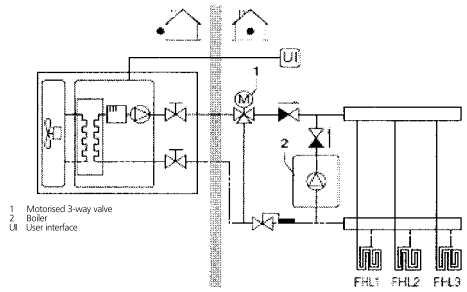
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

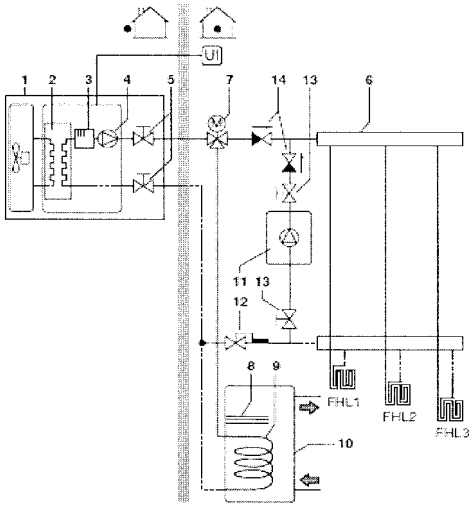
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



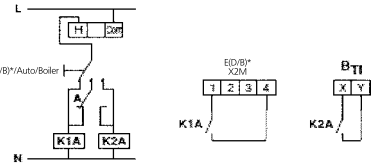
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



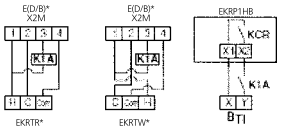
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxiliary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxiliary relay for activation of E(D/B)* unit (Field supply)
K2A Auxiliary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxiliary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxiliary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxiliary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxiliary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EBLQ011-016BB6V3

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EBLQ011-016BB6V3

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

4 Capacity tables

4 - 2 Cooling Capacity Tables

EBLQ011-016BB6V3

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6V3	7	11,08	2,70	10,99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6V3	7	13,87	4,02	13,75	4,39	13,29	4,81	12,50	5,30	11,08	5,08	9,81	5,60
	10	14,92	4,08	14,79	4,46	14,28	4,90	13,43	5,39	11,92	5,17	10,56	5,70
	13	16,38	4,15	16,23	4,54	15,68	4,99	14,75	5,49	13,09	5,26	10,95	5,78
	15	17,39	4,20	17,23	4,60	16,64	5,05	15,66	5,55	13,91	5,32	11,35	5,64
	18	18,92	4,27	18,28	4,68	17,29	5,14	15,99	5,65	13,99	5,41	11,49	5,20
	22	21,07	4,37	20,37	4,79	19,28	5,27	17,85	5,79	15,65	5,54	12,05	4,64
EB(H/L)Q016*6V3	7	14,52	4,45	14,44	4,87	13,95	5,33	13,10	5,85	11,57	5,58	9,84	5,47
	10	15,65	4,54	15,53	4,97	14,99	5,44	14,07	5,96	12,43	5,68	10,59	5,56
	13	17,19	4,64	17,05	5,07	16,45	5,55	15,44	6,08	13,64	5,79	10,98	5,65
	15	18,26	4,71	18,09	5,14	17,46	5,63	16,39	6,16	14,49	5,86	11,38	5,51
	18	19,87	4,81	19,20	5,25	18,14	5,74	16,73	6,28	14,57	5,97	11,52	5,08
	22	22,14	4,95	21,39	5,40	20,21	5,90	18,66	6,44	16,28	6,12	12,08	4,53

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature (°C) RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

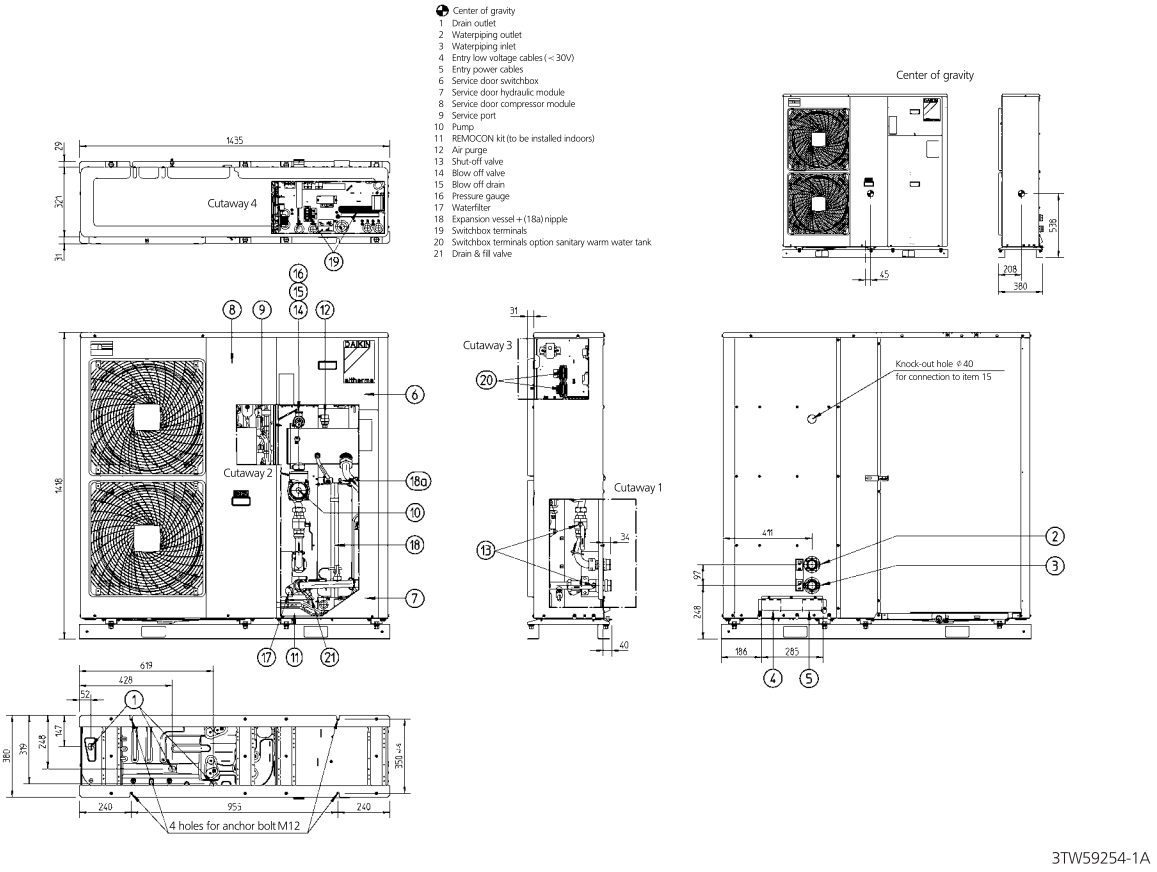
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

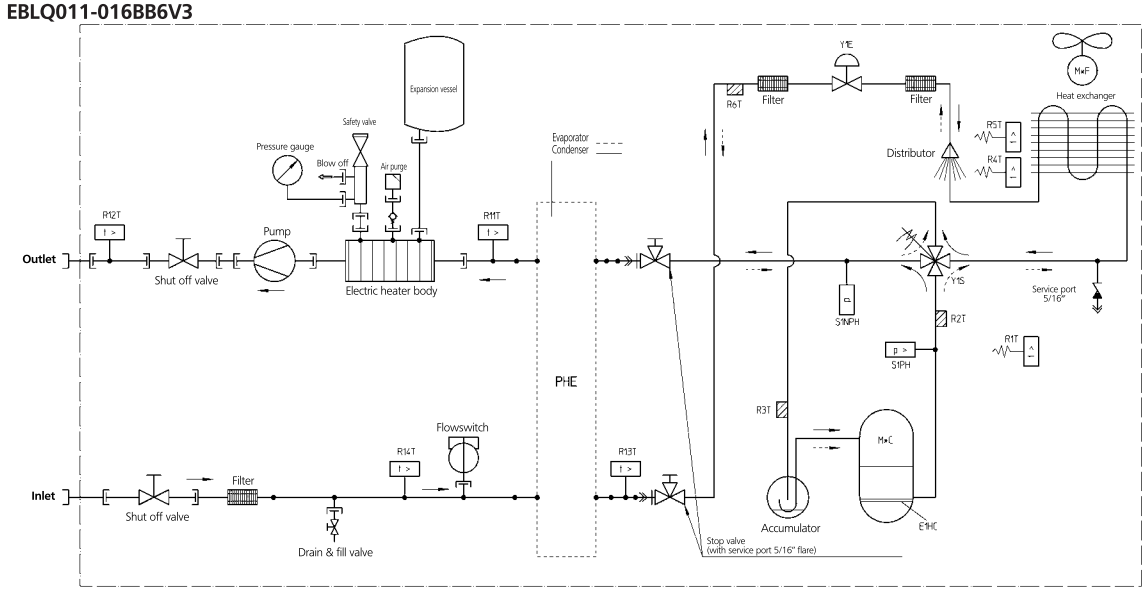
EBLQ011-016BB6V3



6 Piping diagrams

6 - 1 Piping Diagrams

EBLQ011-016BB6V3

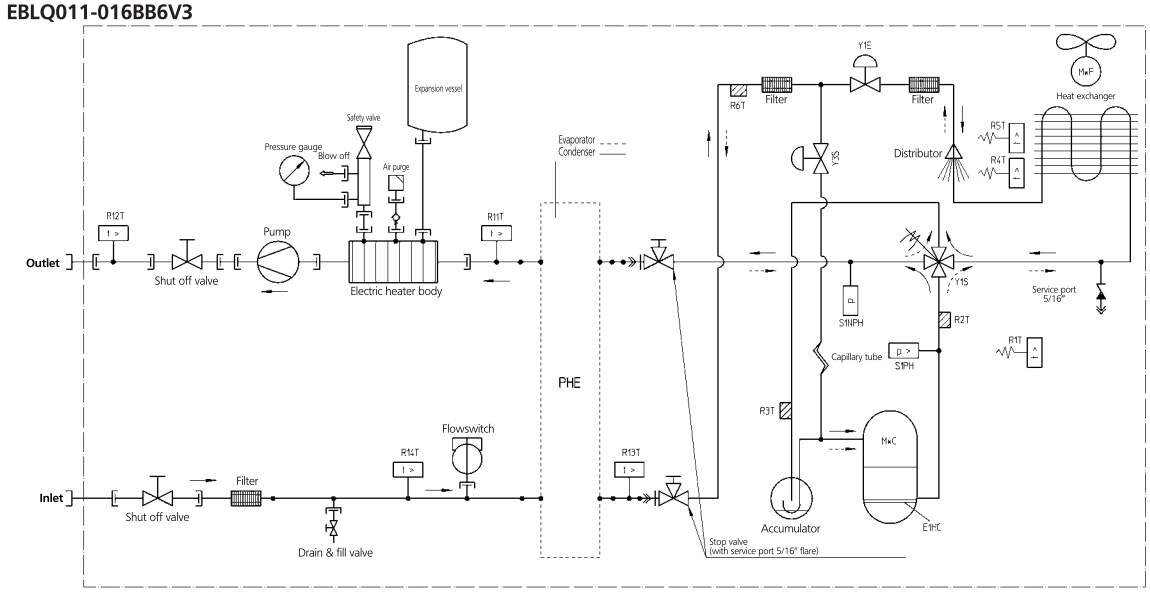


R1T	: Thermistor (Air)	Y1S	: 4-way valve		Heating
R2T	: Thermistor (discharge)	Y3S	: Injection valve		Cooling
R3T	: Thermistor (Suction)	S1PH	: High pressure switch		
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor		
R5T	: Thermistor (middle)	M*C	: Compressor		
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor		
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor		
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor		
E1HC	: Crankcase heater	R14T	: Inlet water thermistor		

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

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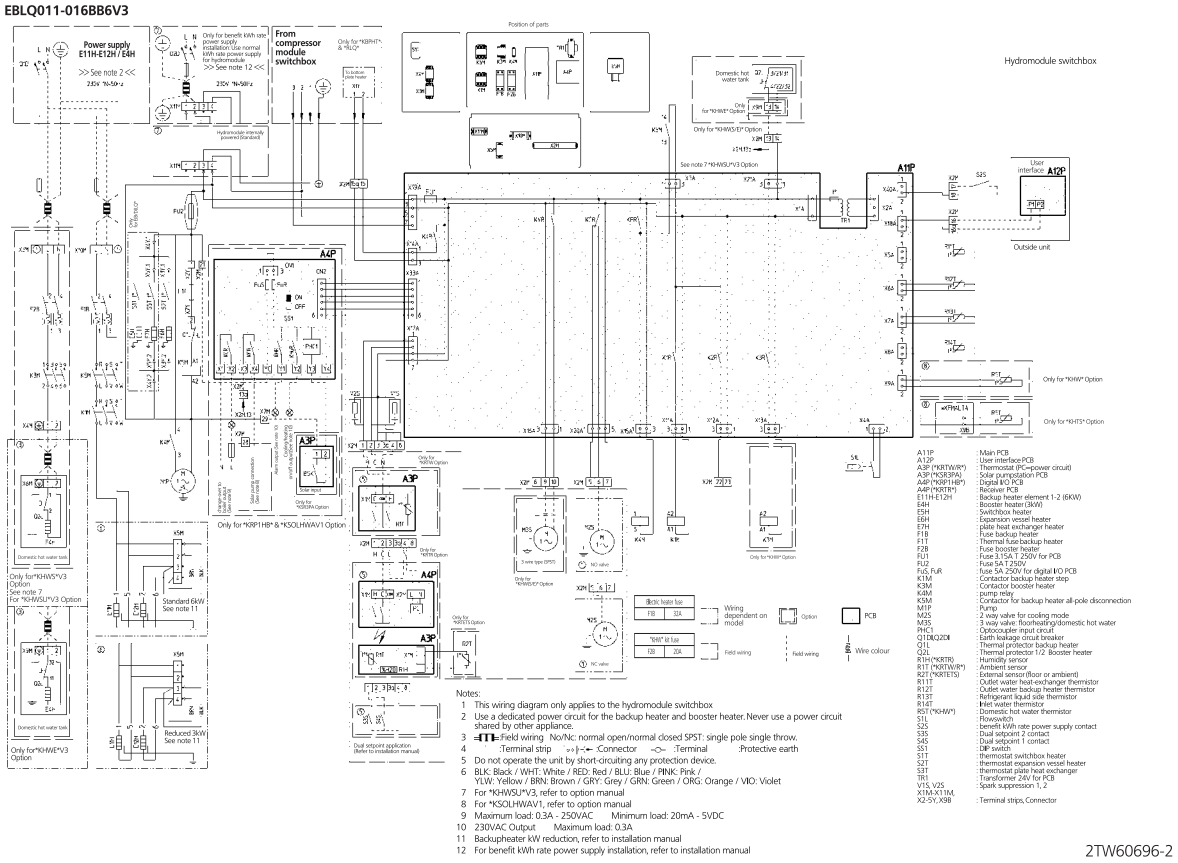
R1T	: Thermistor (Air)	Y1S	: 4-way valve		Heating
R2T	: Thermistor (discharge)	Y3S	: Injection valve		Cooling
R3T	: Thermistor (Suction)	S1PH	: High pressure switch		
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor		
R5T	: Thermistor (middle)	M*C	: Compressor		
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor		
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor		
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor		
E1HC	: Crankcase heater	R14T	: Inlet water thermistor		

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

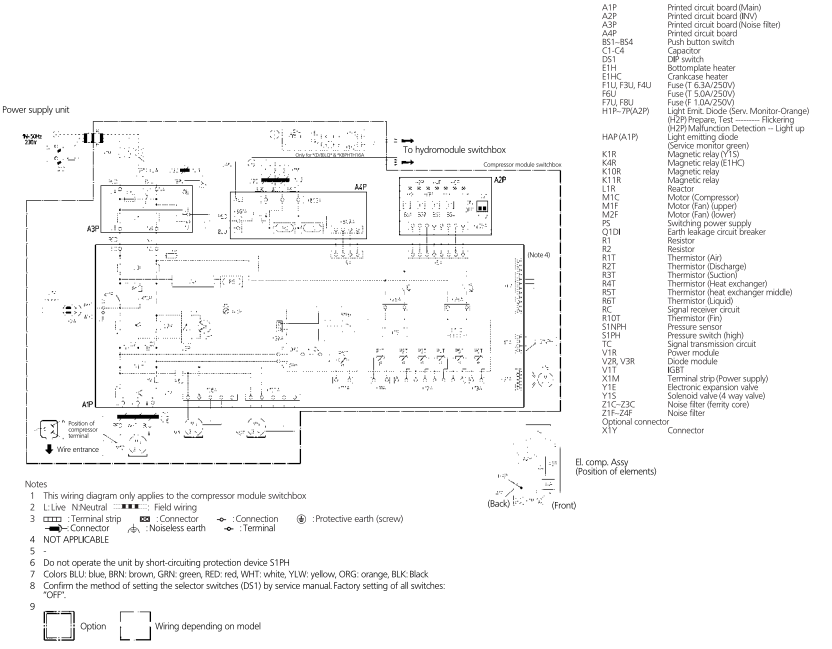
7 - 1 Wiring Diagrams - Single Phase



7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EBLQ011-016BB6V3



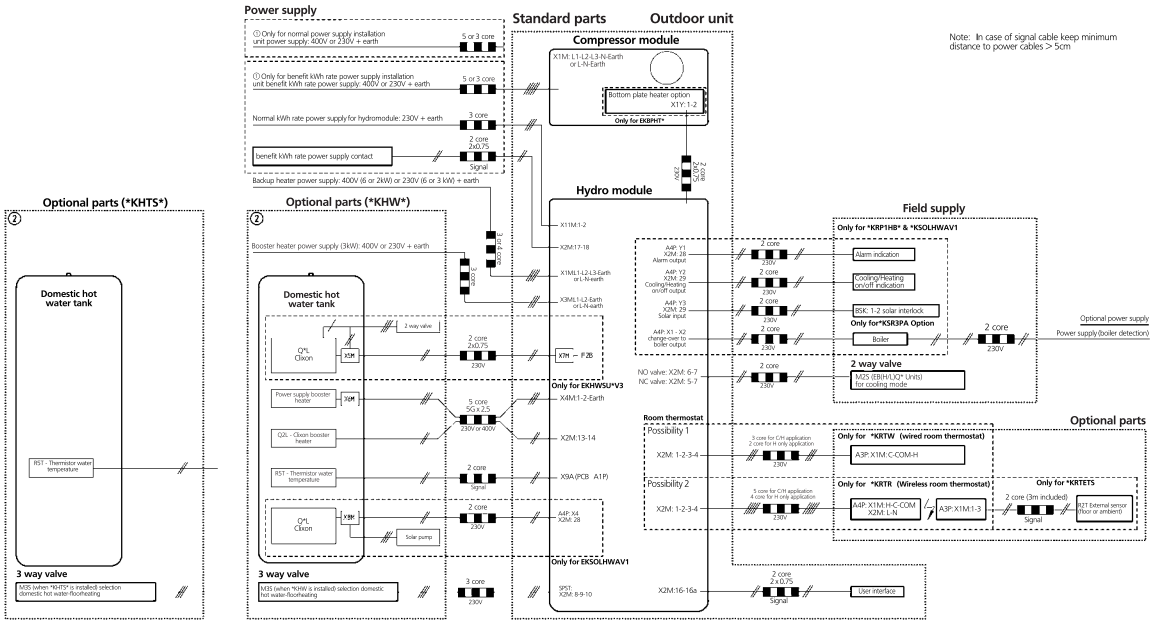
A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1~BS4	Push button switch
C1~C4	Capacitor
DS1	DIP switch
E1H	Bottomplate heater
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
F7U, F8U	Fuse (F 1.0A/250V)
H1P~7P(A2P)	Light Emit. Diode (Serv. Monitor-Orange) (H2P) Prepare, Test ---------- Flickering (H2P) Malfunction Detection -- Light up
HAP (A1P)	Light emitting diode (Service monitor green)
K1R	Magnetic relay (Y1S)
K4R	Magnetic relay (E1HC)
K10R	Magnetic relay
K11R	Magnetic relay
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
Q1DI	Earth leakage circuit breaker
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Signal receiver circuit
R10T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
TC	Signal transmission circuit
V1R	Power module
V2R, V3R	Diode module
V1T	IGBT
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Z1C~Z3C	Noise filter (ferrity core)
Z1F~Z4F	Noise filter
Optional connector	
X1Y	Connector

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8 External connection diagrams

8 - 1 External Connection Diagrams

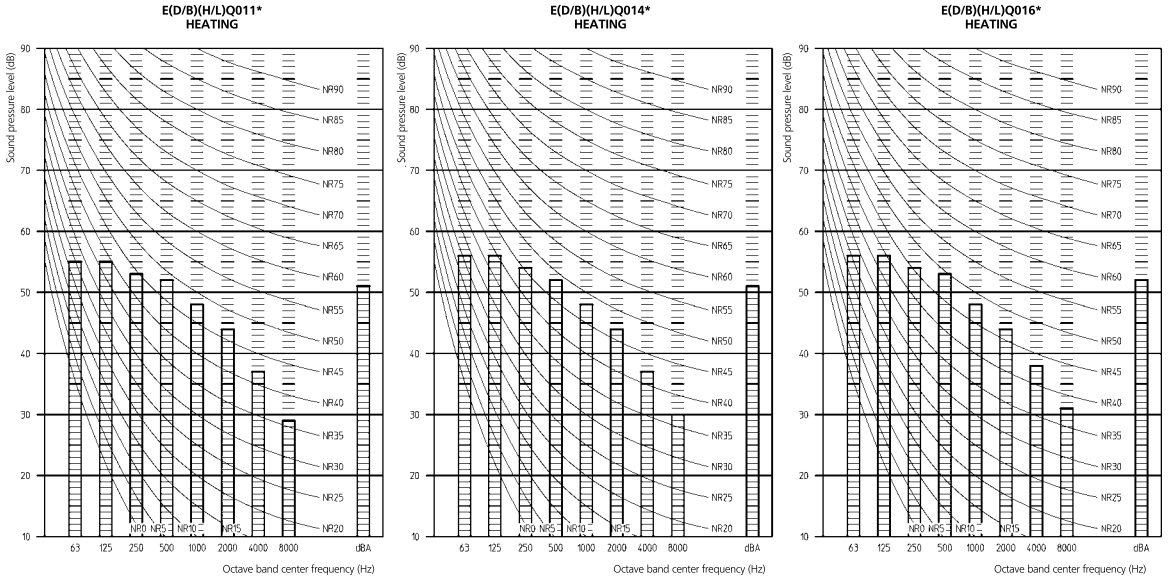
EBLQ011-016BB6V3 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

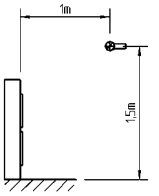
9 - 1 Sound Pressure Spectrum - Heating

EBLQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



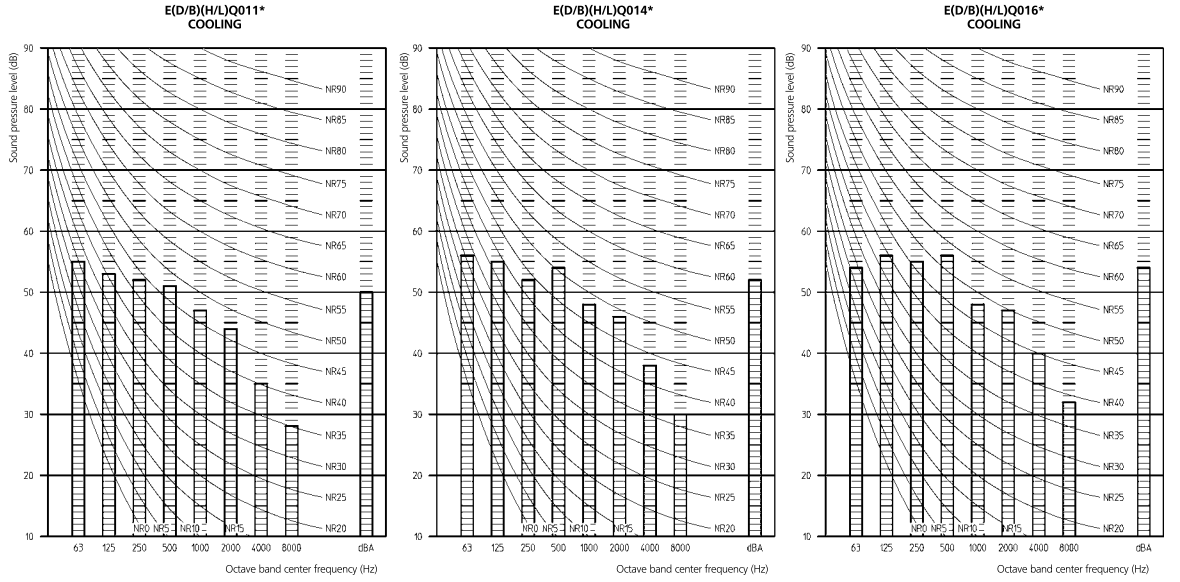
Measuring location (discharge side)

3TW58017-2

9 Sound data

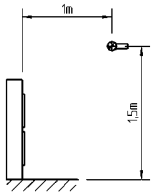
9 - 2 Sound Pressure Spectrum - Cooling

EBLQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

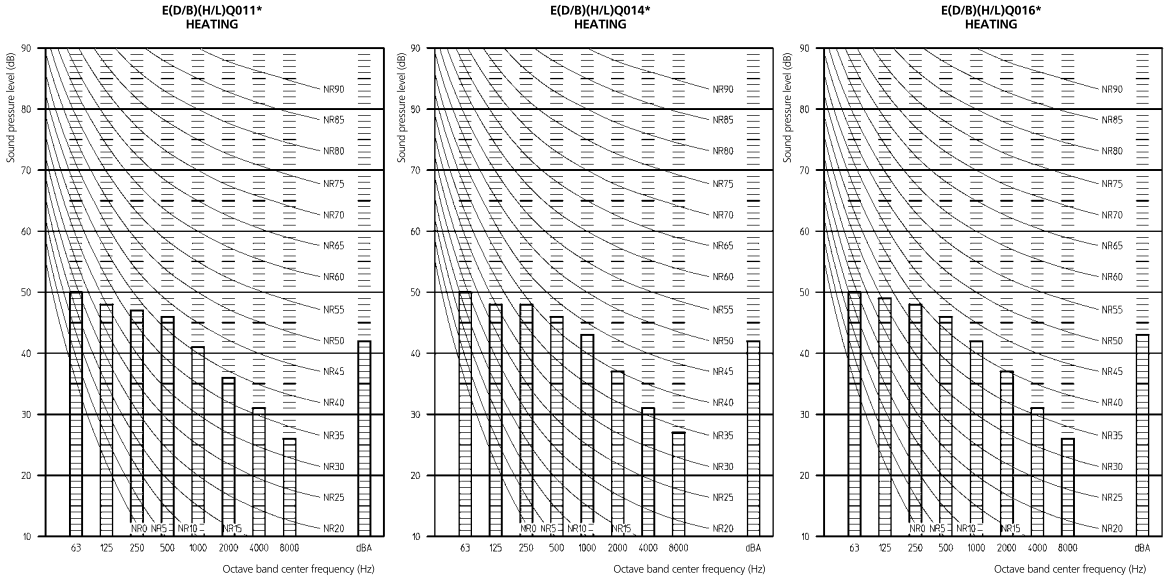


3TW58017-1

9 Sound data

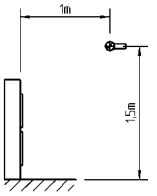
9 - 3 Sound Pressure Spectrum Quiet Mode

EBLQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



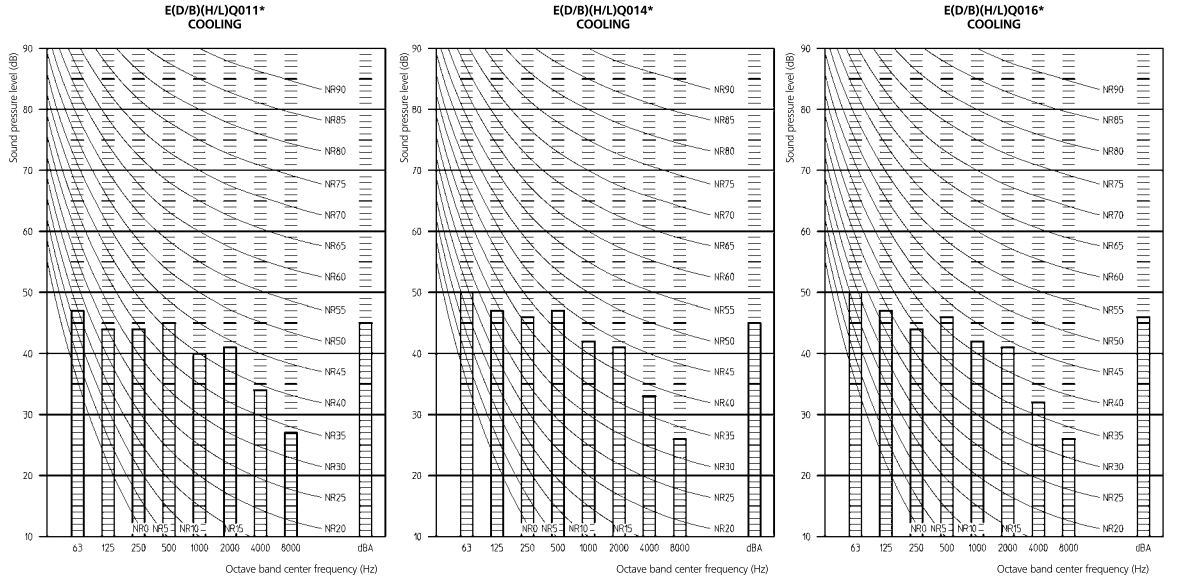
Measuring location (discharge side)

3TW58017-4

9 Sound data

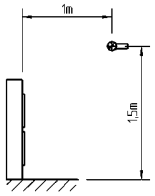
9 - 3 Sound Pressure Spectrum Quiet Mode

EBLQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

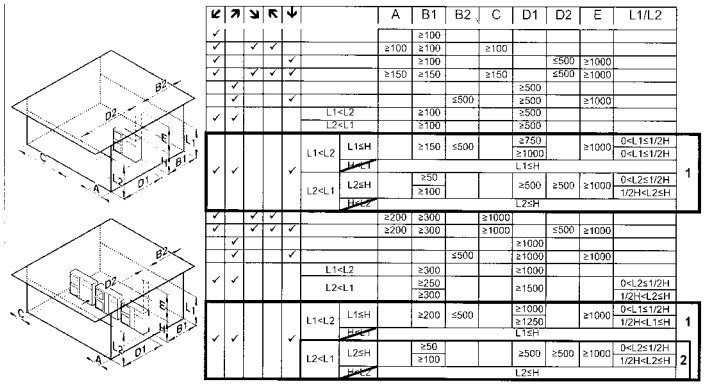
3TW58017-3

10 Installation

10 - 1 Installation Method

EBLQ011-016BB6V3

A. Non stacked installation



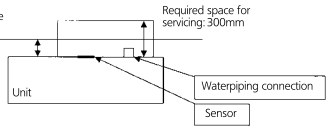
			A	B1	B2	C	D1	D2	E	L1/L2	
✓			≥100	≥100							
✓	✓		≥100	≥100		≥100					
✓		✓		≥100				≤500	≥1000		
✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓							≥500			
	✓		✓		≤500			≥500		≥1000	
✓	✓			L1<L2		≥100		≥500			
				L2<L1		≥100		≥500			
✓	✓		✓	L1<L2	L1≤H	≥150	≤500	≥750		≥1000	0<L1≤1/2H
					H<L1			≥1000			0<L1≤1/2H
				L2<L1	L2≤H	≥50			≥500	≥1000	0<L2≤1/2H
					H<L2	≥100					1/2H<L2≤H
✓		✓	✓	≥200	≥300		≥1000				
✓		✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓					≤500		≥1000			
	✓		✓					≥1000		≥1000	
✓	✓			L1<L2		≥300		≥1000			
				L2<L1		≥250		≥1500			0<L2≤1/2H
						≥300					1/2H<L2≤H
✓	✓		✓	L1<L2	L1≤H	≥200	≤500	≥1000		≥1000	0<L1≤1/2H
					H<L1			≥1250			1/2H<L1≤H
				L2<L1	L2≤H	≥50			≥500	≥1000	0<L2≤1/2H
					H<L2	≥100					1/2H<L2≤H

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

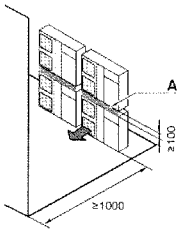


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

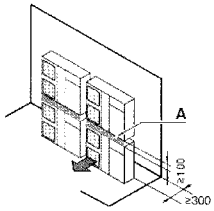
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



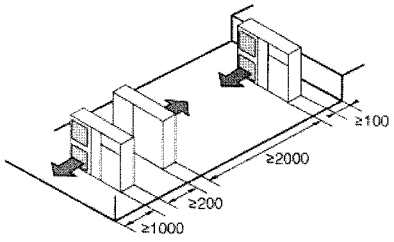
2. Obstacles exist in front of the air inlet



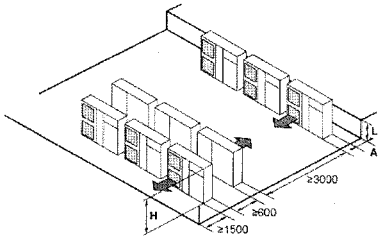
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

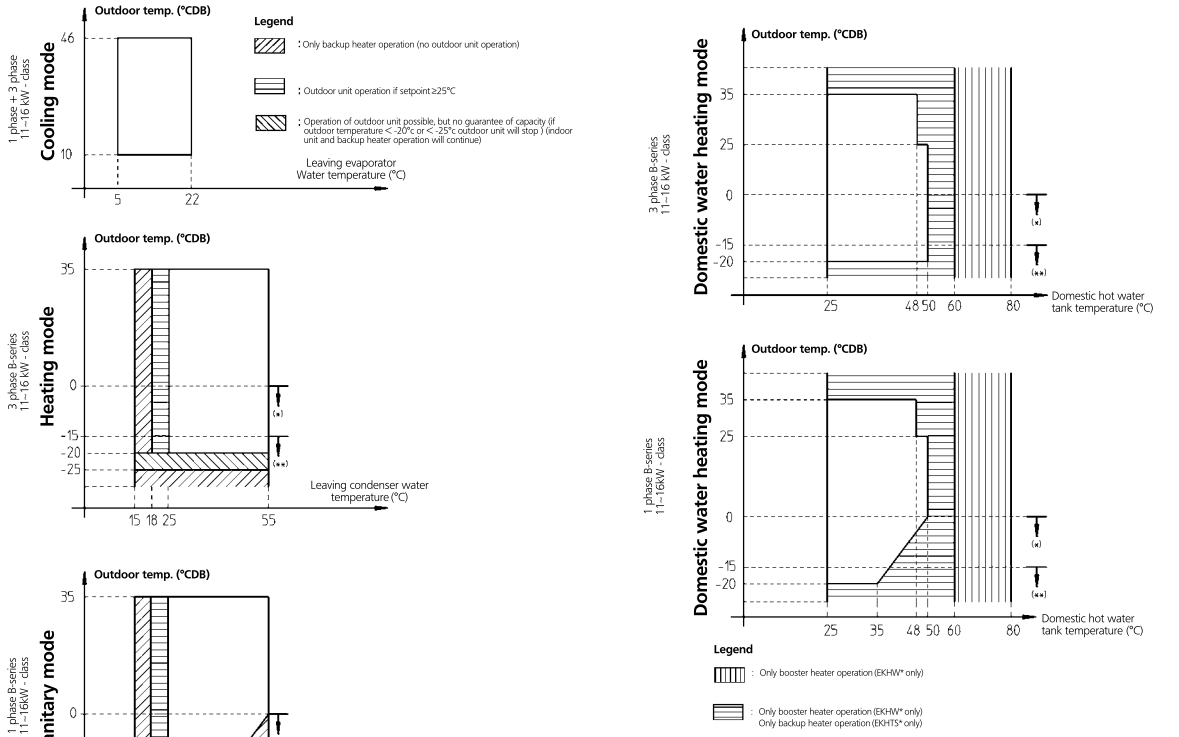
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EBLQ011-016BB6V3



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, ...) to prevent freeze up.

Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

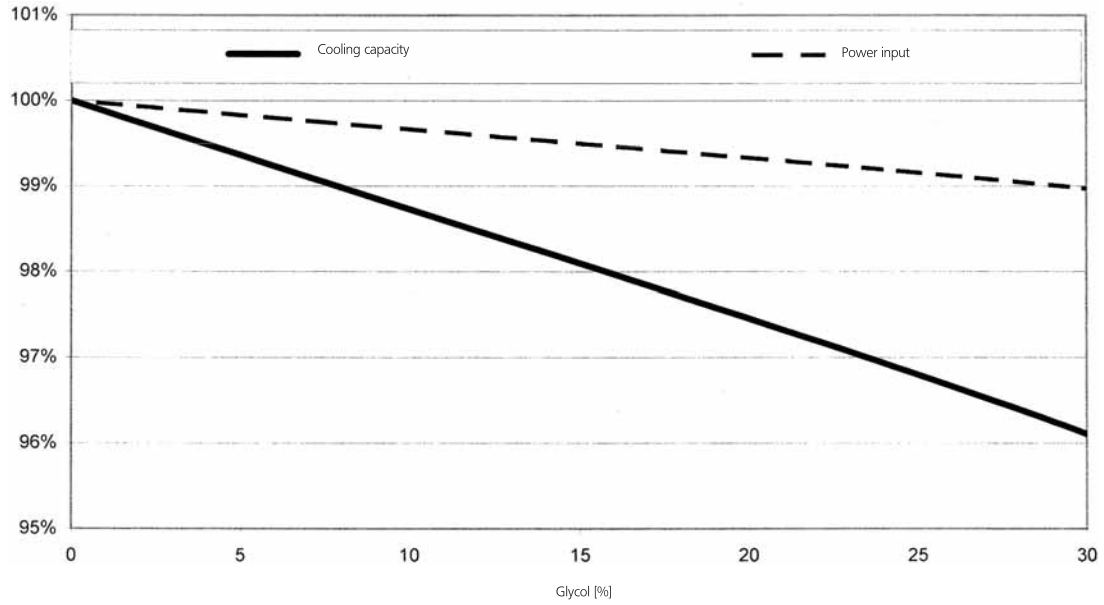
(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

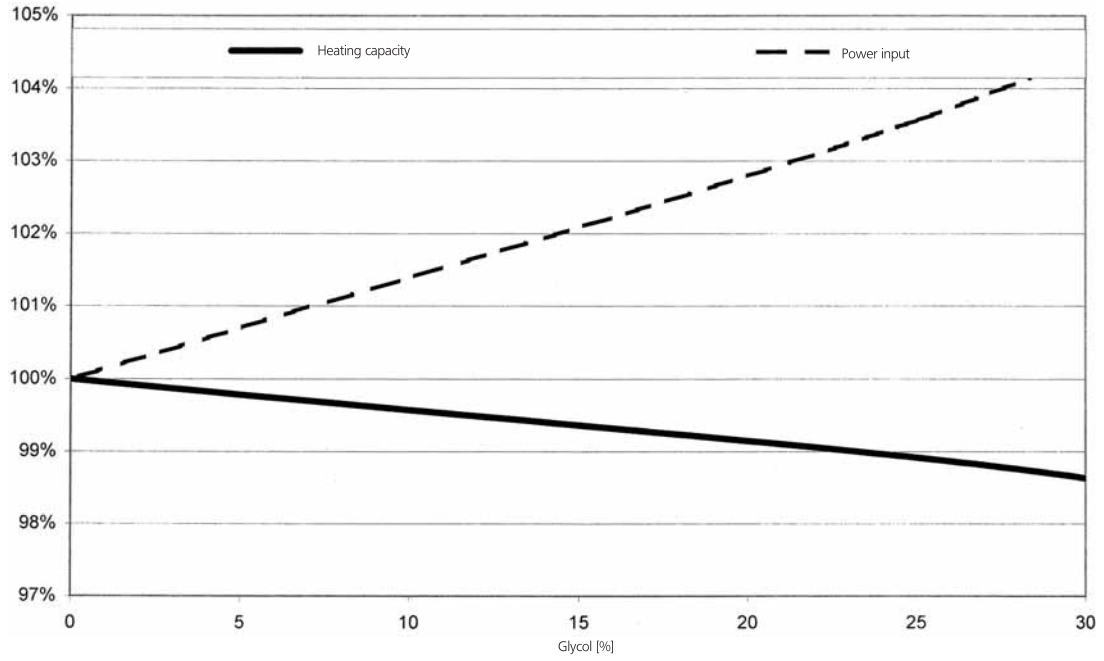
11 - 2 Correction Factors

EBLQ011-016BB6V3 **Performance cooling**



4TW59252-2

EBLQ011-016BB6V3 **Performance heating**

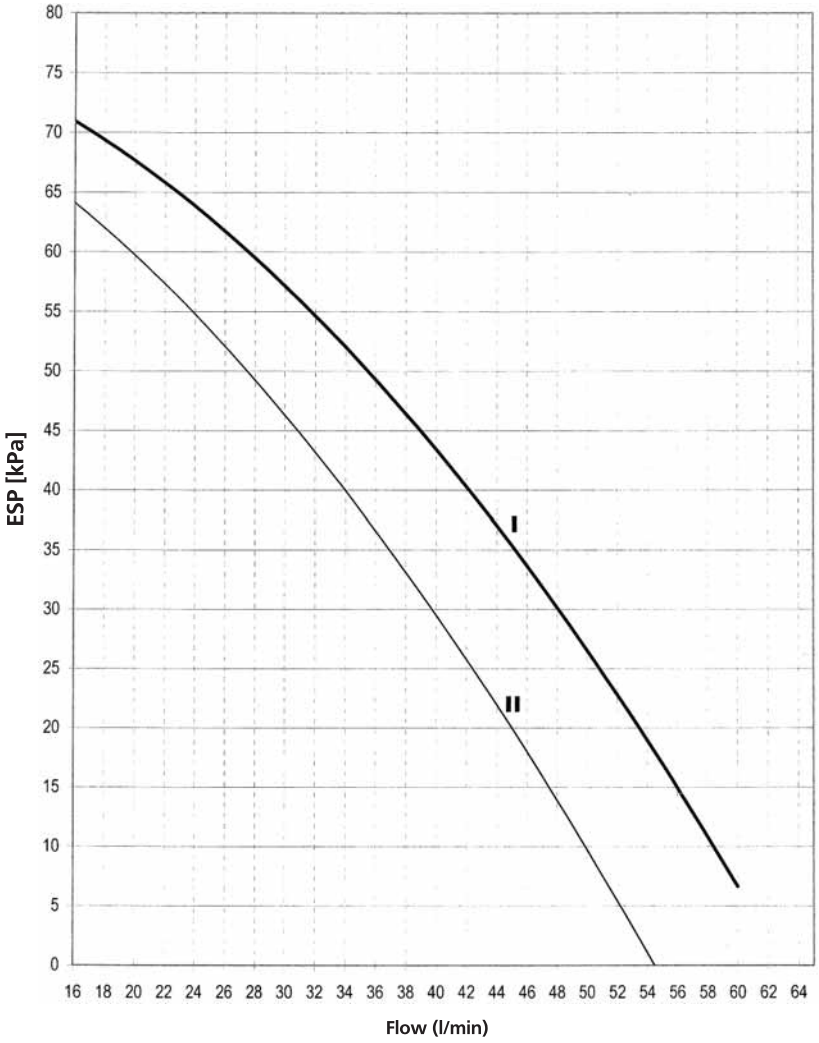


4TW59252-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBLQ011-016BB6V3



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

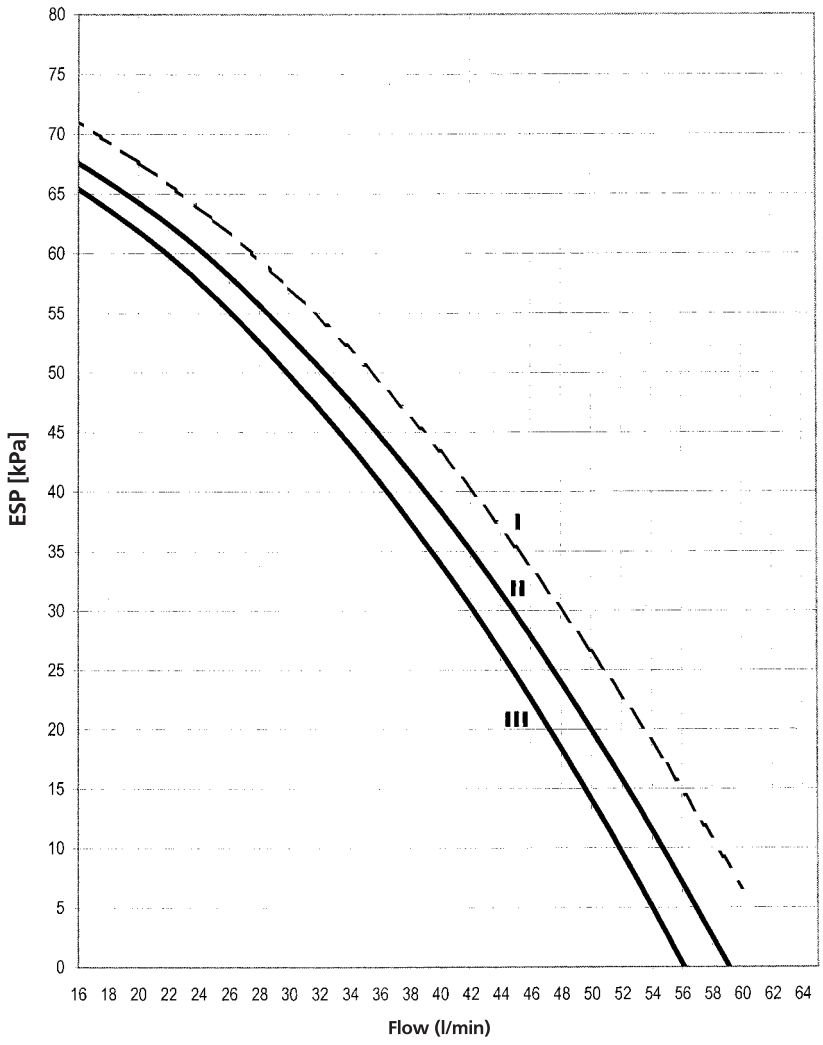
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBLQ011-016BB6V3



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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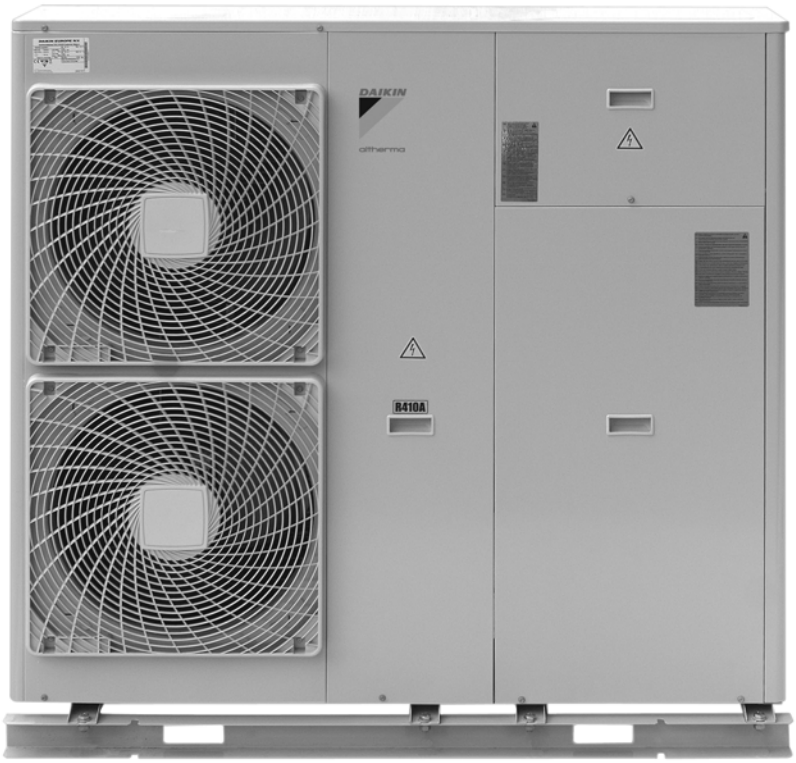
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1 Features

- Reversible monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EBLQ011BB6W1	EBLQ014BB6W1	EBLQ016BB6W1
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Cooling capacity	Nom.			kW	12.85 (1) / 10.00 (2)	15.99 (1) / 12.50 (2)	16.73 (1) / 13.10 (2)
Capacity control	Method				Inverter controlled		
Power input	Cooling	Nom.		kW	3.78 (1) / 3.60 (2)	5.32 (1) / 4.98 (2)	6.06 (1) / 5.65 (2)
	Heating	Nom.		kW	2.51 (1) / 3.12 (2)	3.22 (1) / 3.98 (2)	3.72 (1) / 4.58 (2)
COP					4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
EER					3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m²	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (4) / 55.7 (10)	43.3 (4) / 47.1 (10)	34.0 (4) / 38.5 (10)
		Cooling		kPa	58.7 (5)	49.6 (5)	47.1 (5)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
	Air flow rate	Heating	High	m³/min	90		
		Cooling	High	m³/min	96	100	97
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
		Cooling	Nom.	rpm	780		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT1G-VDYR (S)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		

2 Specifications

2-1 Technical Specifications					EBLQ011BB6W1	EBLQ014BB6W1	EBLQ016BB6W1
Operation range	Heating	Ambient	Min.	ºCWB	-25		
			Max.	ºCWB	35		
		Water side	Min.	ºC	15 (6)		
			Max.	ºC	55 (6)		
	Cooling	Ambient	Min.	ºCDB	10		
			Max.	ºCDB	46		
		Water side	Min.	ºC	5		
			Max.	ºC	22		
	Domestic hot water	Ambient	Min.	ºCDB	-25		
			Max.	ºCDB	43		
		Water side	Min.	ºC	25		
			Max.	ºC	80		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Cooling	Nom.	l/min	28.7 (5)	35.8 (5)	37.6 (5)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Electronic expansion valve		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
	Cooling	Nom.		dBA	65	66	69
Sound pressure level	Heating	Nom.		dBA	49	51	53
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (9.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications			EBLQ011BB6W1	EBLQ014BB6W1	EBLQ016BB6W1
Optional domestic hot water tank + Q2L	Wiring connections	Quantity	3G		
		Type of wires	Select diameter and type according to national and local regulations / For more details on voltage range and current refer to installation manual		

2 Specifications

2-2 Electrical Specifications					EBLQ011BB6W1	EBLQ014BB6W1	EBLQ016BB6W1
Hydraulic component	Back-up heater current	Type			6W1		
		Power supply	Phase		3~		
			Frequency	Hz	50		
			Voltage	V	400		
		Running current	Back-up heater	A	8.7		
			Back-up heater + booster heater *V3	A	21.7 (8.7+13)		
			Back-up heater + booster heater *Z2	A	16.2 (8.7+7.5)		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			4G		
		Type of wires			Select diameter and type according to national and local regulations		
Compressor component	Main power supply	Name			W1		
		Phase			3N~		
		Frequency		Hz	50		
		Voltage		V	400		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Nominal running current (RLA)	Heating	A	5.8 (4)		
		Maximum running current	Heating	A	14		
		Recommended fuses		A	20		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) ED/BLQ*W1 models have capacity guarantee down to -20ºC

(9) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(10) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(11) Power supply compressor compartment is for compressor, fan, pump and controller

(12) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(13) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

3 Options

3 - 1 Options

EBLQ011-016BB6W1

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

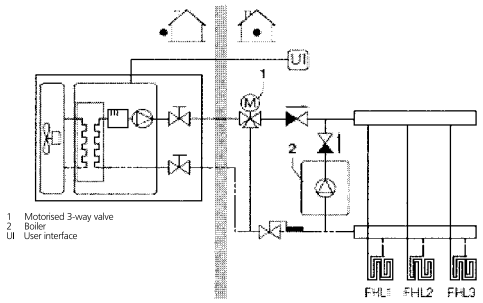
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

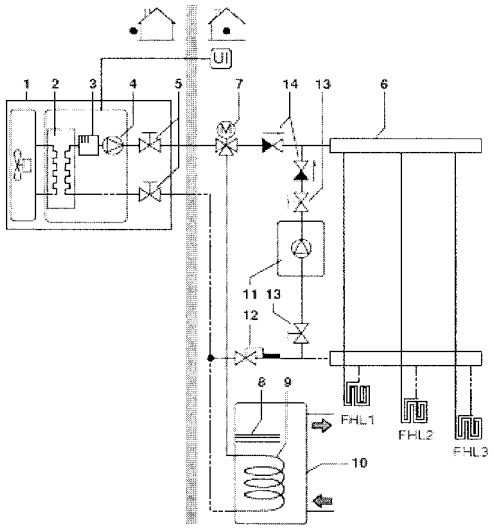
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



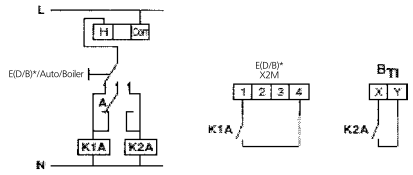
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



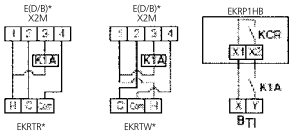
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxillary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
K2A Auxillary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxillary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxillary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxillary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EBLQ011-016BB6W1

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EBLQ011-016BB6W1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,67	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D;V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

4 Capacity tables

4 - 2 Cooling Capacity Tables

EBLQ011-016BB6W1

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6W1	**7**	11,08	2,70	10,99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6W1	**7**	13,87	3,78	13,75	4,12	13,29	4,52	12,50	4,98	11,08	4,78	9,81	5,27
	10	14,92	3,84	14,79	4,20	14,28	4,61	13,43	5,07	11,92	4,86	10,56	5,35
	13	16,38	3,90	16,23	4,27	15,68	4,69	14,75	5,16	13,09	4,94	10,95	5,43
	15	17,39	3,95	17,23	4,32	16,64	4,75	15,66	5,22	13,91	5,00	11,35	5,30
	18	18,92	4,02	18,28	4,40	17,29	4,83	15,99	5,32	13,99	5,09	11,49	4,89
	22	21,07	4,11	20,37	4,51	19,28	4,95	17,85	5,44	15,65	5,21	12,05	4,36
EB(H/L)Q016*6W1	**7**	14,52	4,30	14,44	4,70	13,95	5,15	13,10	5,65	11,57	5,39	9,84	5,28
	10	15,65	4,39	15,53	4,80	14,99	5,26	14,07	5,76	12,43	5,49	10,59	5,37
	13	17,19	4,48	17,05	4,90	16,45	5,36	15,44	5,87	13,64	5,59	10,98	5,45
	15	18,26	4,54	18,09	4,97	17,46	5,43	16,39	5,95	14,49	5,66	11,38	5,32
	18	19,87	4,64	19,20	5,07	18,14	5,54	16,73	6,06	14,57	5,76	11,52	4,91
	22	22,14	4,77	21,39	5,21	20,21	5,70	18,66	6,22	16,28	5,91	12,08	4,38

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
LWE : Leaving Water Evaporator temperature (°C)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

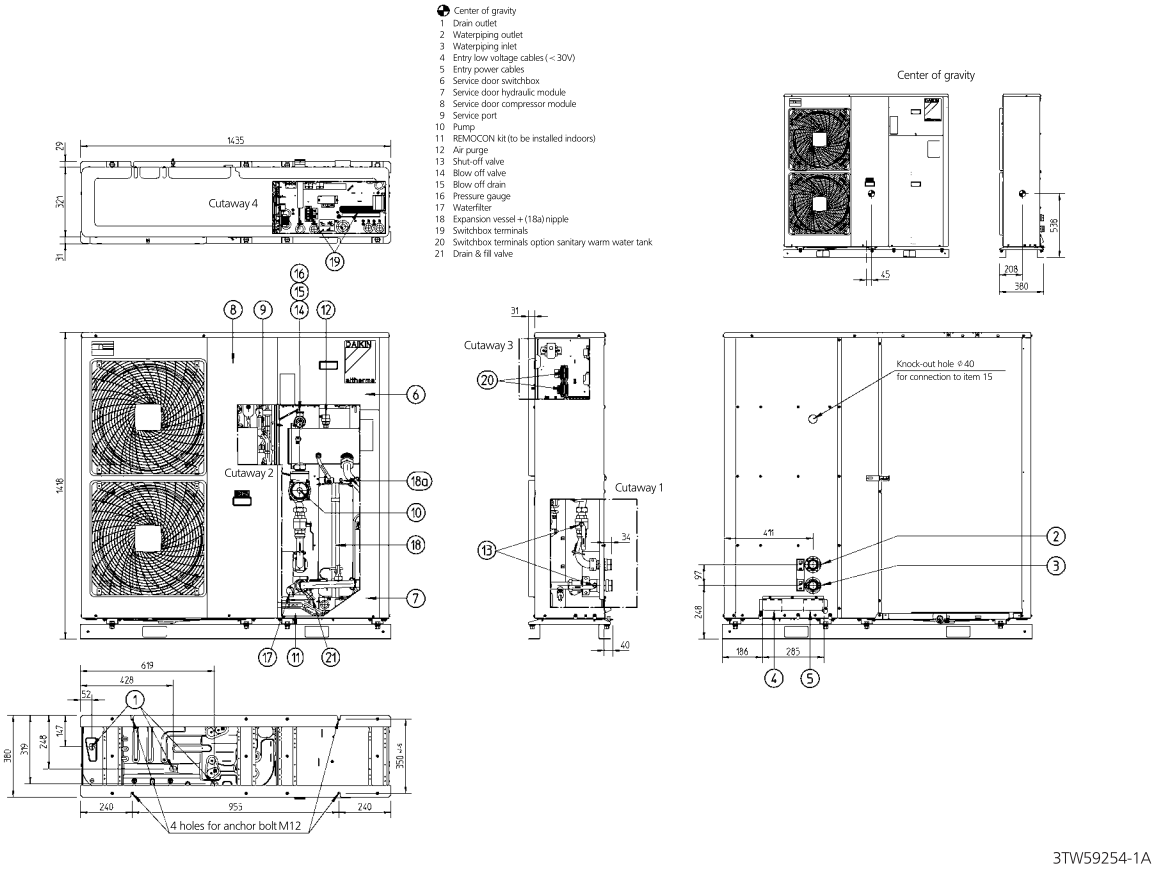
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

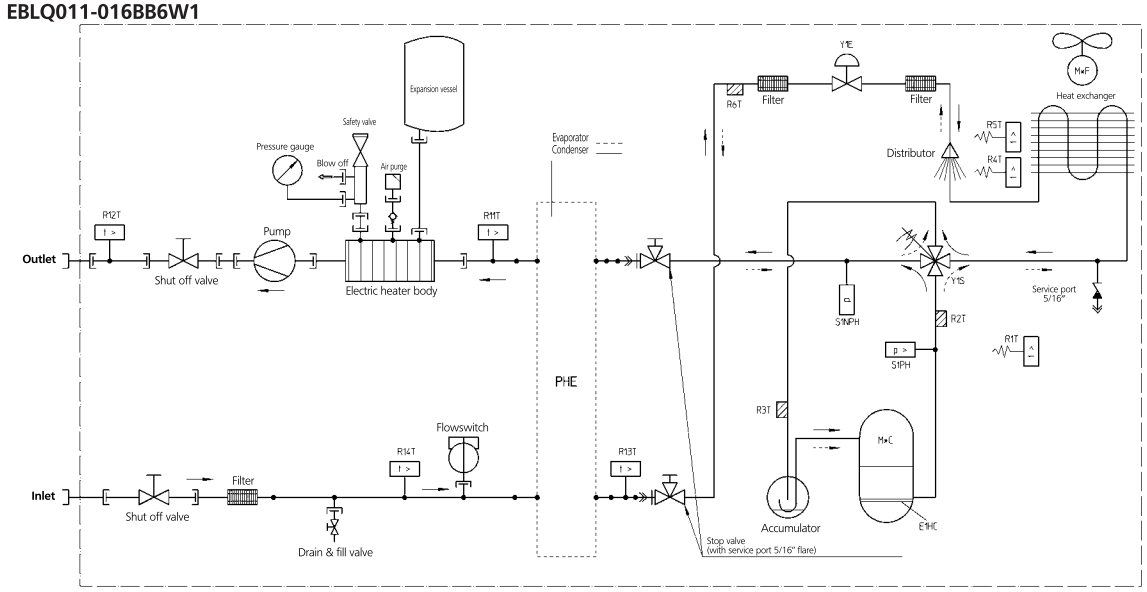
EBLQ011-016BB6W1



6 Piping diagrams

6 - 1 Piping Diagrams

EBLQ011-016BB6W1



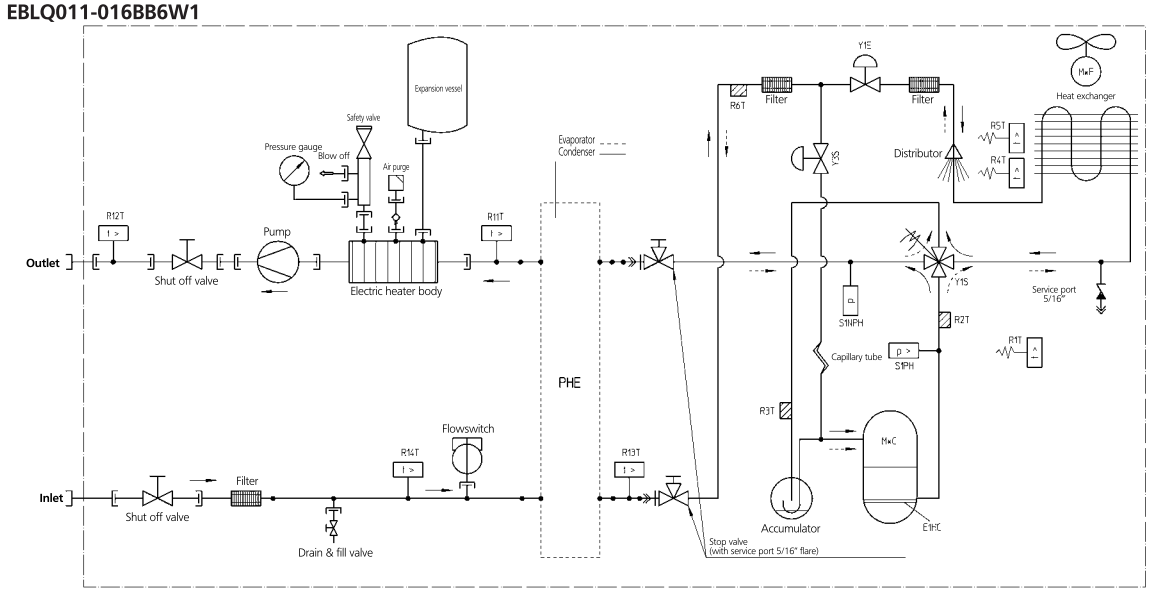
R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59255-1

EBLQ011-016BB6W1



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

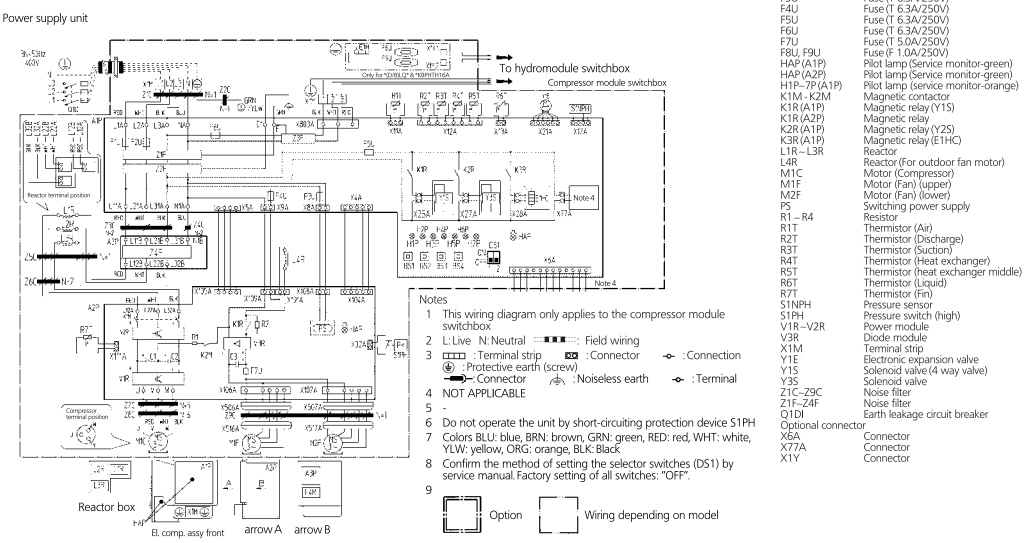
Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

EBLQ011-016BB6W1



Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L: Live N: Neutral : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw) : Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors BLU: blue, BRN: brown, GRN: green, RED: red, WHT: white, YLW: yellow, ORG: orange, BLK: Black
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
9 Option Wiring depending on model

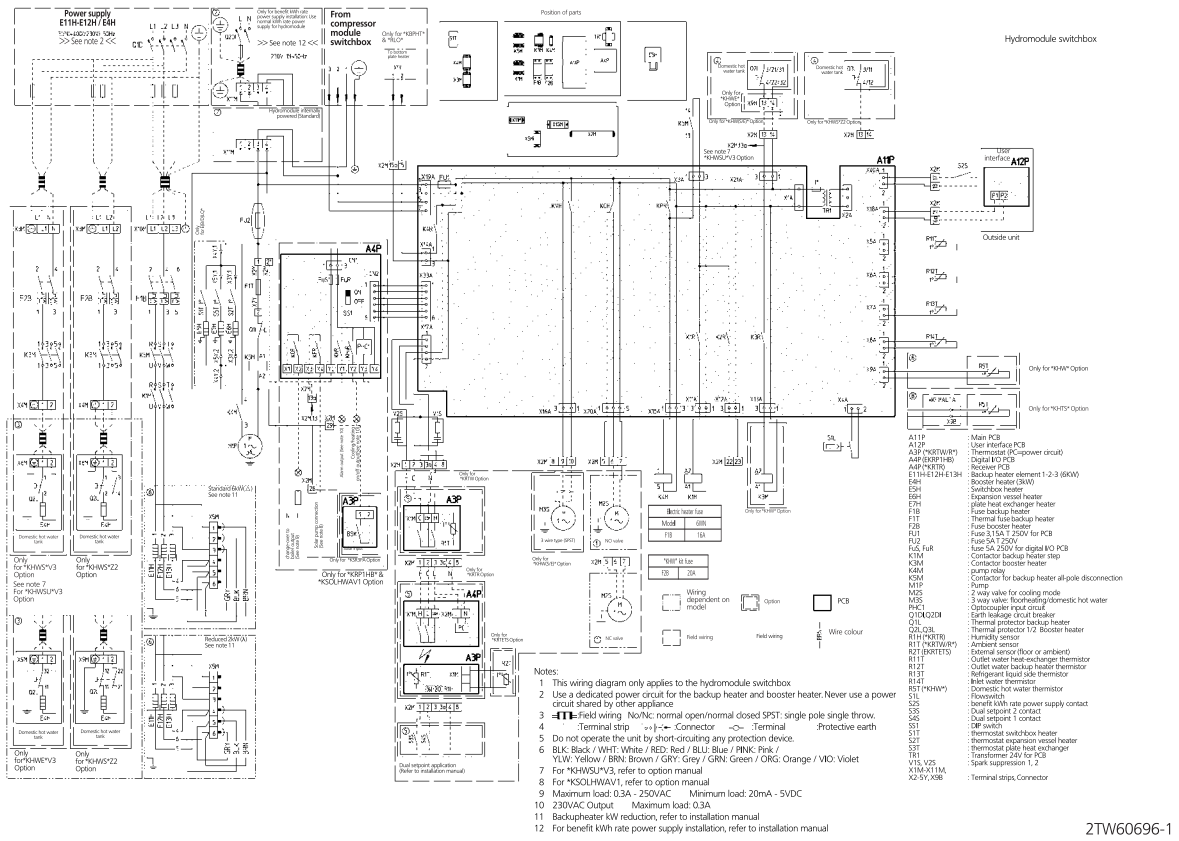
A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
BS1–BS4	Push button switch
C1–C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
E1H	Bottomplate heater
F1U	Fuse (31.5A 250V)
F2U	Fuse (31.5A 250V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
F8U, F9U	Fuse (F 1.0A/250V)
HAP (A1P)	Pilot lamp (Service monitor-green)
HAP (A2P)	Pilot lamp (Service monitor-green)
H1P–7P (A1P)	Pilot lamp (service monitor-orange)
K1M - K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R – L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1 – R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
V1R–V2R	Power module
V3R	Diode module
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Y3S	Solenoid valve
Z1C–Z9C	Noise filter
Z1F–Z4F	Noise filter
Q1DI	Earth leakage circuit breaker
Optional connector	
X6A	Connector
X77A	Connector
X1Y	Connector

2TW59376-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

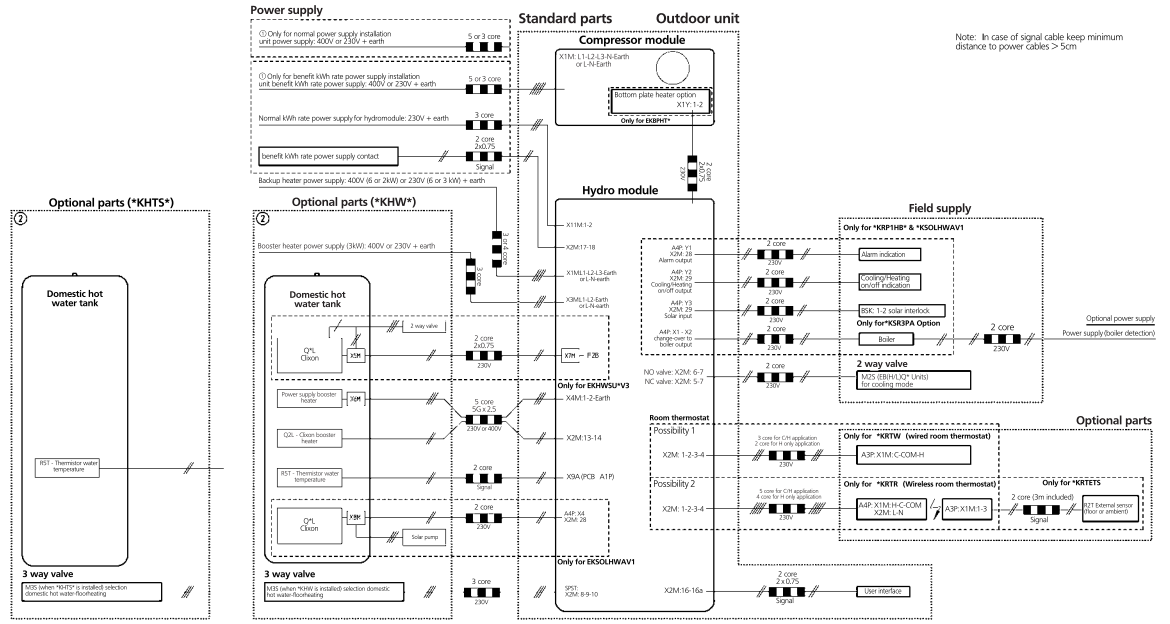
EBLQ011-016BB6W1



8 External connection diagrams

8 - 1 External Connection Diagrams

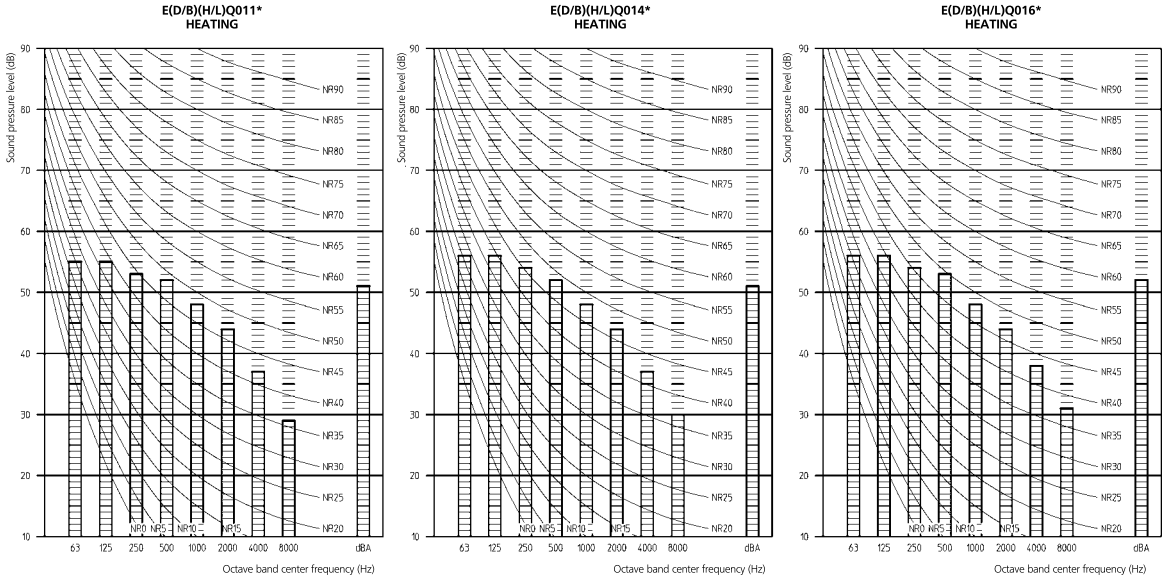
EBLQ011-016BB6W1 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

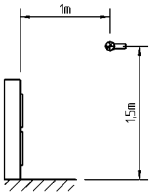
9 - 1 Sound Pressure Spectrum - Heating

EBLQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



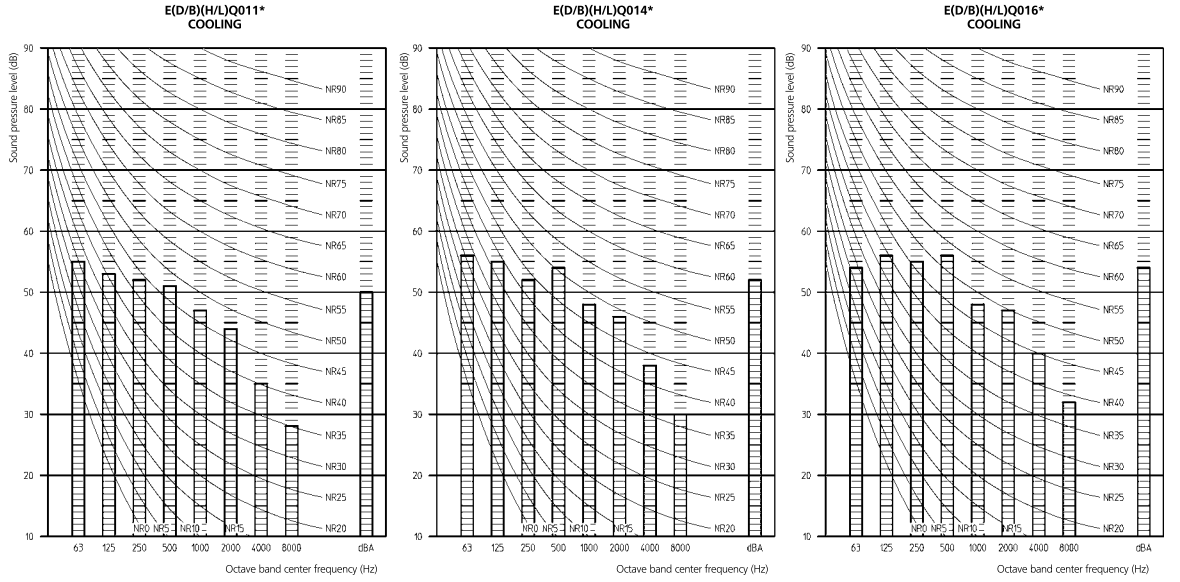
Measuring location (discharge side)

3TW58017-2

9 Sound data

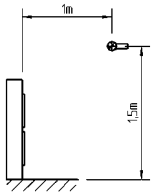
9 - 2 Sound Pressure Spectrum - Cooling

EBLQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

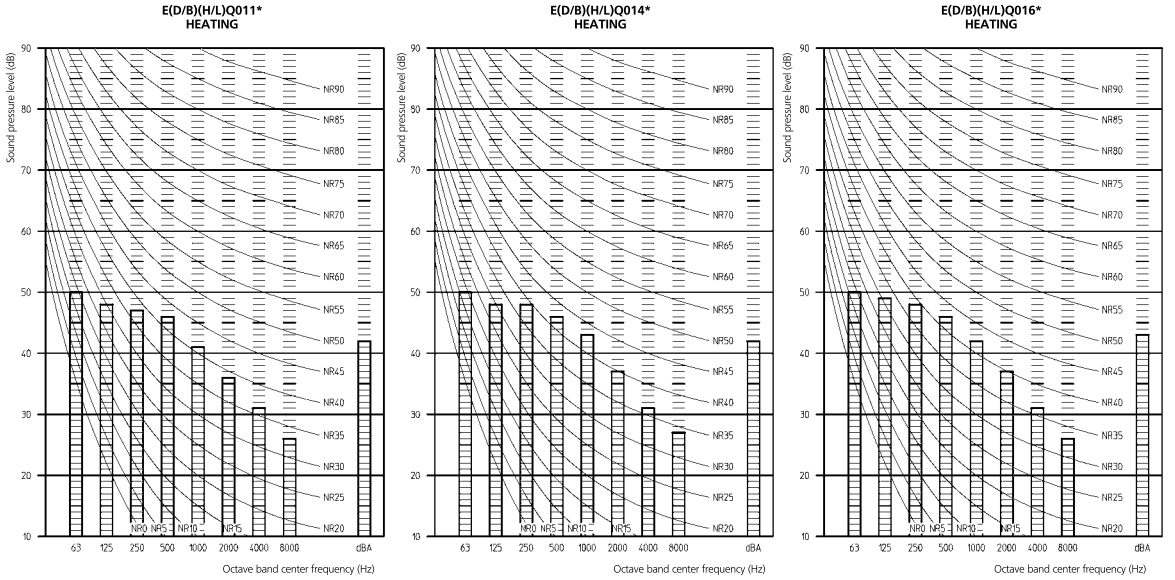


3TW58017-1

9 Sound data

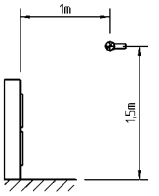
9 - 3 Sound Pressure Spectrum Quiet Mode

EBLQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



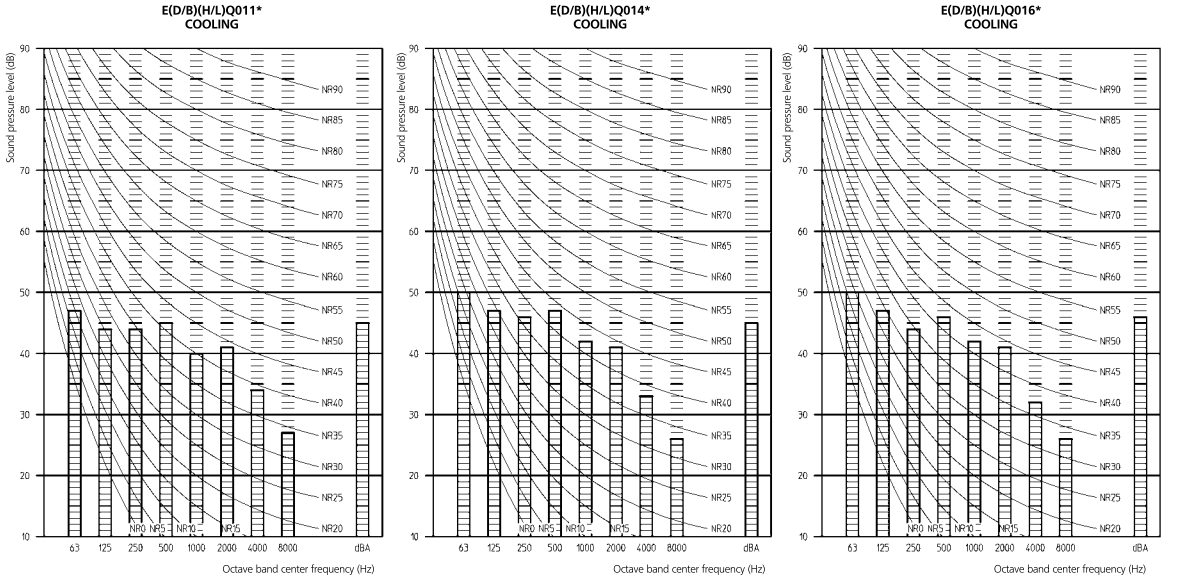
Measuring location (discharge side)

3TW58017-4

9 Sound data

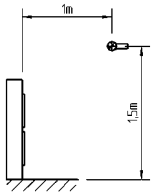
9 - 3 Sound Pressure Spectrum Quiet Mode

EBLQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

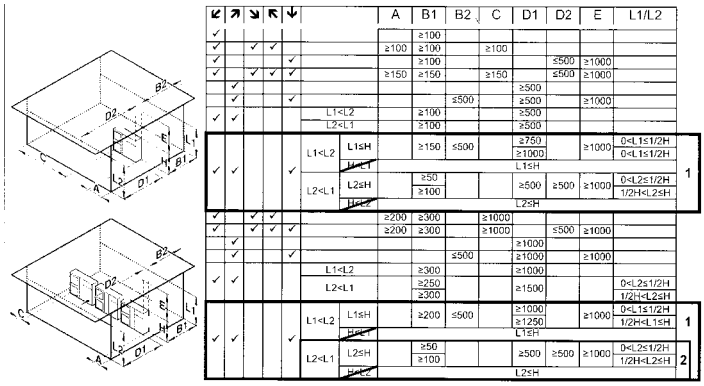
3TW58017-3

10 Installation

10 - 1 Installation Method

EBLQ011-016BB6W1

A. Non stacked installation



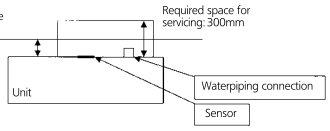
			A	B1	B2	C	D1	D2	E	L1/L2	
✓				≥100							
✓	✓		≥100	≥100		≥100					
✓		✓		≥100				≤500	≥1000		
✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓						≥500				
	✓		✓			≤500		≥500		≥1000	
✓	✓							≥500			
			L1<L2		≥100						
			L2<L1		≥100			≥500			
✓	✓			L1<L2	L1≤H		≥150	≤500		≥750	≥1000	0<L1≤1/2H	
					H<L1					≥1000		0<L1≤1/2H	
		✓					L1≤H						
				L2<L1	L2≤H		≥50			≥500	≥500	≥1000	0<L2≤1/2H	1
					H<L2		≥100						1/2H<L2≤H	
							L2≤H							
✓		✓	✓	≥200	≥300		≥1000							
✓		✓	✓	≥200	≥300		≥1000		≤500	≥1000				
	✓							≥1000						
	✓		✓			≤500		≥1000		≥1000				
✓	✓			L1<L2			≥300		≥1000					
				L2<L1			≥250		≥1500				0<L2≤1/2H	
							≥300						1/2H<L2≤H	
				L1<L2	L1≤H		≥200	≤500		≥1000		≥1000	0<L1≤1/2H	
					H<L1					≥1250			1/2H<L1≤H	1
		✓					L1≤H							
				L2<L1	L2≤H		≥50			≥500	≥500	≥1000	0<L2≤1/2H	
					H<L2		≥100						1/2H<L2≤H	2
							L2≤H							

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

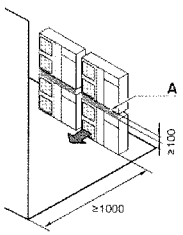


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

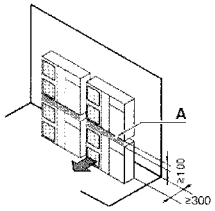
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



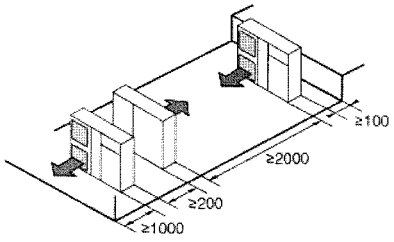
2. Obstacles exist in front of the air inlet



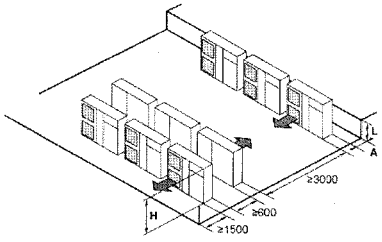
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

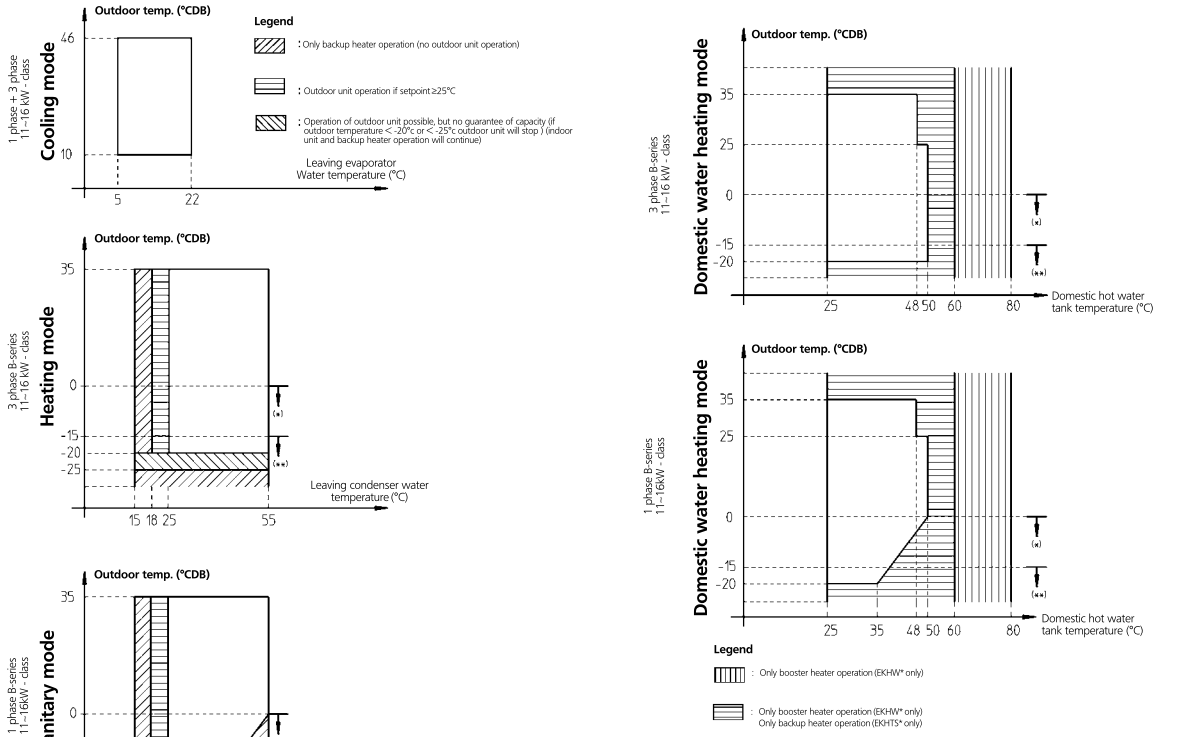
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EBLQ011-016BB6W1



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, ...) to prevent freeze up.

Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

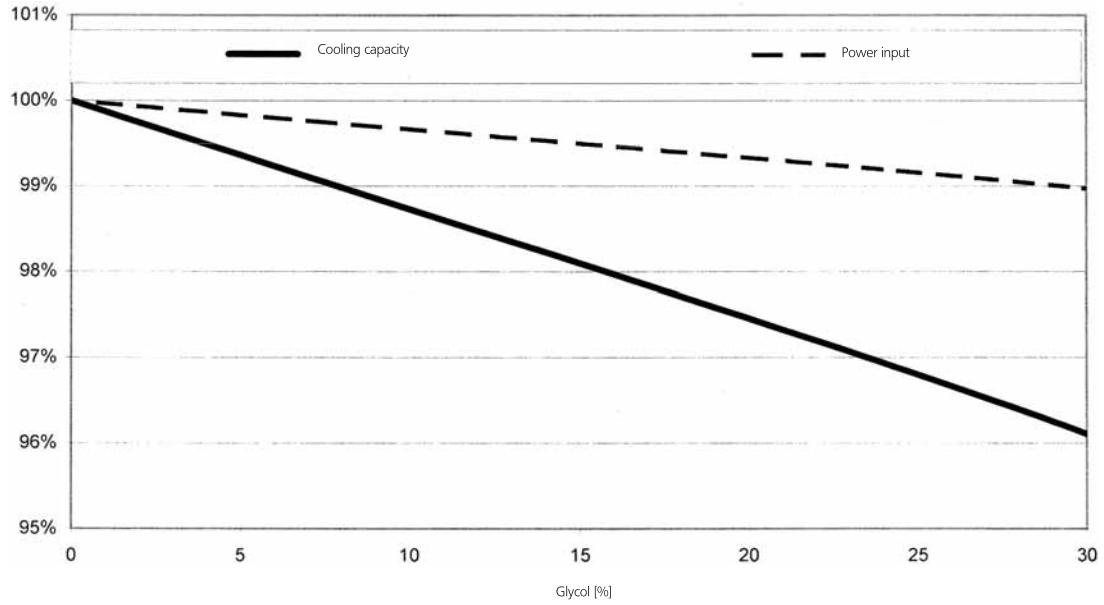
(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

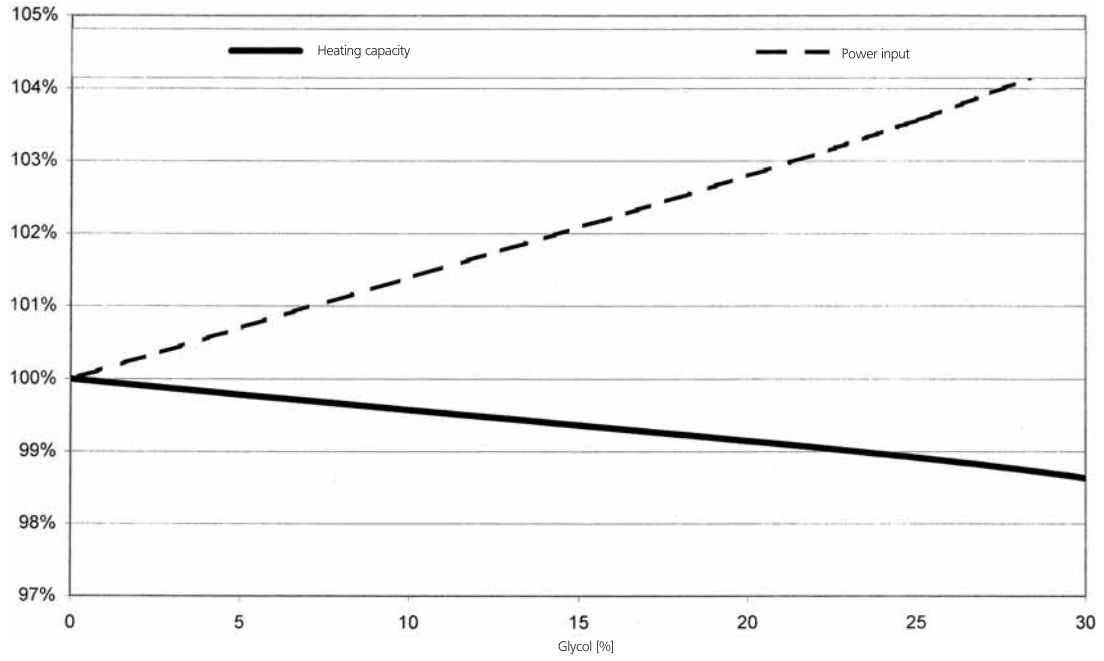
11 - 2 Correction Factors

EBLQ011-016BB6W1 **Performance cooling**



4TW59252-2

EBLQ011-016BB6W1 **Performance heating**

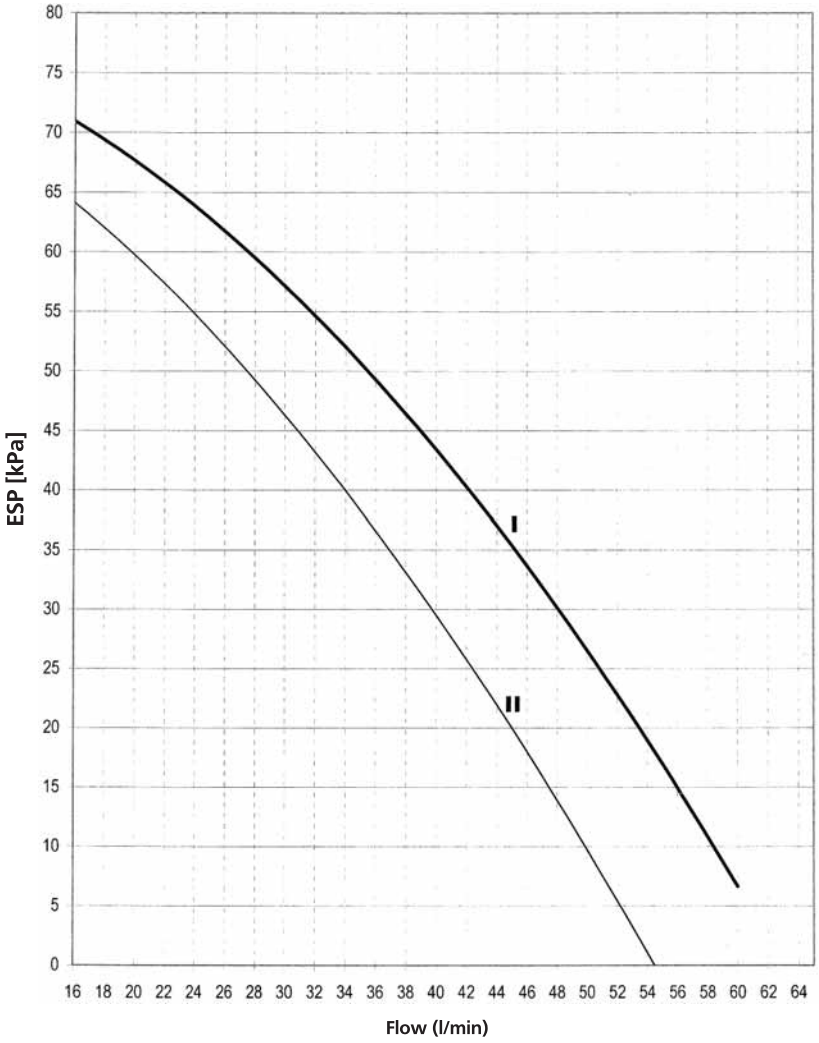


4TW59252-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBLQ011-016BB6W1



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

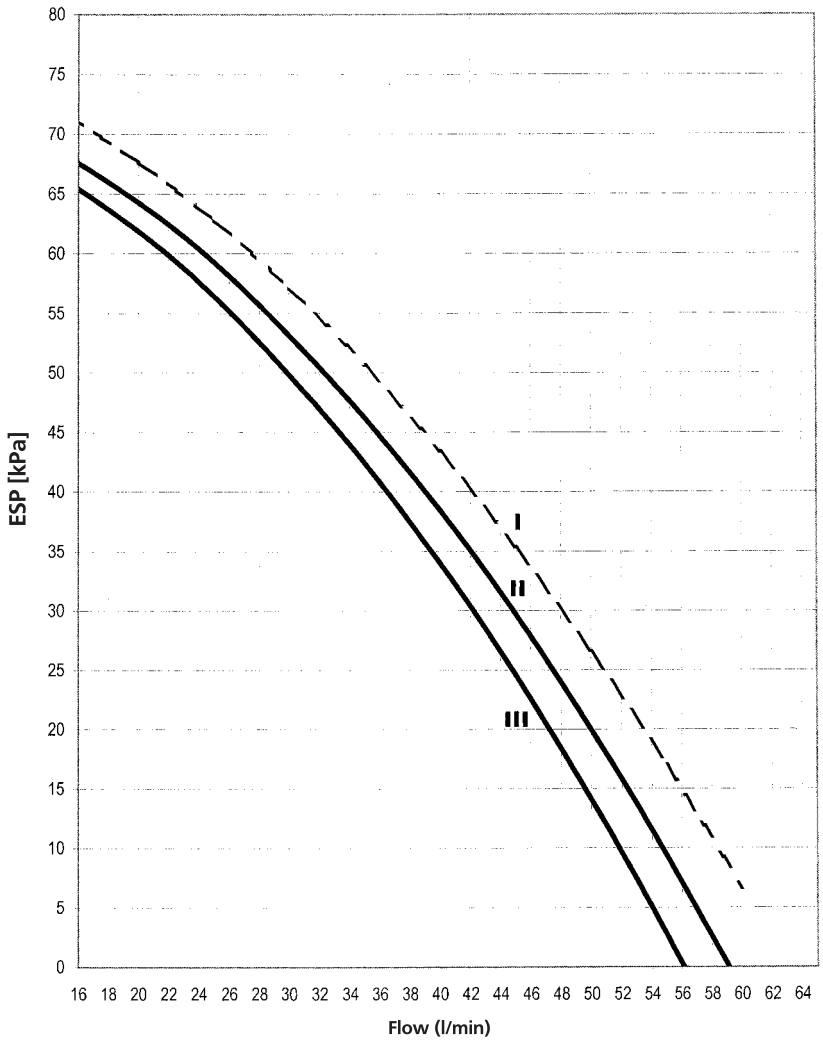
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBLQ011-016BB6W1



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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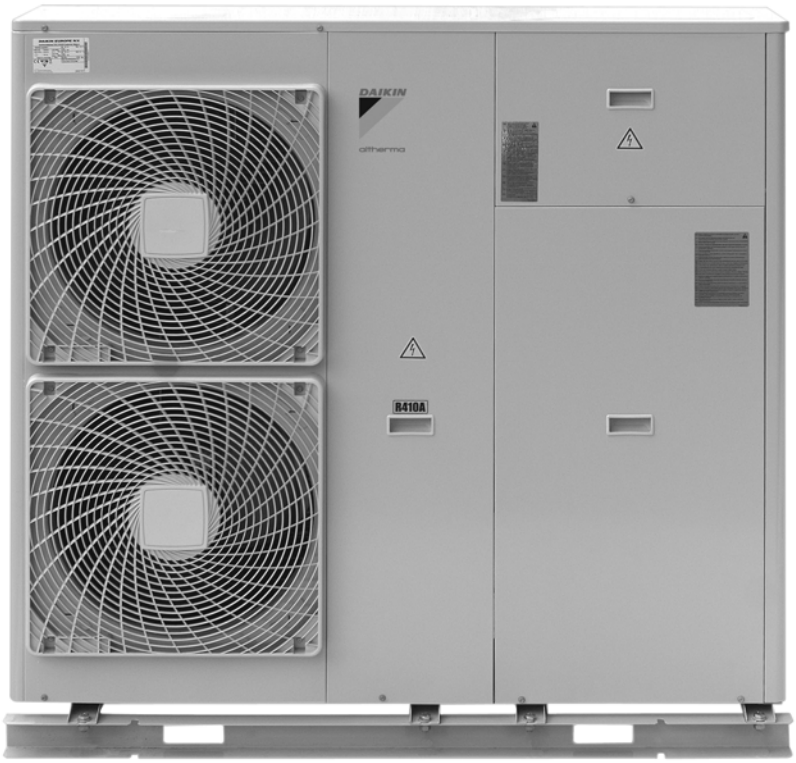
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1 Features

- Heating only monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EDHQ011BB6V3	EDHQ014BB6V3	EDHQ016BB6V3
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Capacity control	Method				Inverter controlled		
Power input	Heating	Nom.		kW	2.47 (1) / 3.22 (2)	3.20 (1) / 3.91 (2)	3.79 (1) / 4.62 (2)
COP					4.54 (1) / 3.37 (2)	4.37 (1) / 3.35 (2)	4.22 (1) / 3.26 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m^2	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (14) / 55.7 (9)	43.3 (14) / 47.1 (9)	34.0 (14) / 38.5 (9)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
	Air flow rate	Heating	High	m^3/min	90		
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT100G-VD		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Ambient	Min.	ºCWB	-15		
			Max.	ºCWB	35		
		Water side	Min.	ºC	15 (6)		
			Max.	ºC	55 (6)		
	Domestic hot water	Ambient	Min.	ºCDB	-15		
			Max.	ºCDB	43		
		Water side	Min.	ºC	25		
			Max.	ºC	80		

2 Specifications

2-1 Technical Specifications					EDHQ011BB6V3	EDHQ014BB6V3	EDHQ016BB6V3
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
Sound pressure level	Heating	Nom.		dBA	51		52
	Night quiet mode	Heating		dBA	42		43
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (8.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications					EDHQ011BB6V3	EDHQ014BB6V3	EDHQ016BB6V3
Optional domestic hot water tank + Q2L	Wiring connections	Quantity			3G		
		Type of wires			For more details on voltage range and current refer to installation manual / Select diameter and type according to national and local regulations		
Hydraulic component	Back-up heater current	Type			6V3		
		Power supply	Phase		1~		
			Frequency	Hz	50		
			Voltage	V	230		
		Running current	Back-up heater	A	26		
			Back-up heater + booster heater *V3	A	39 (26+13)		
		Zmax	Back-up heater	Ω	0.29		
			Back-up heater + booster heater	Ω	0.17		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations		

2 Specifications

2-2 Electrical Specifications					EDHQ011BB6V3	EDHQ014BB6V3	EDHQ016BB6V3
Compressor component	Main power supply	Name			V3		
		Phase			1~		
		Frequency		Hz	50		
		Voltage		V	230		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Maximum running current	Heating	A	26.5		
		Recommended fuses		A	32		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(9) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(10) Power supply compressor compartment is for compressor, fan, pump and controller

(11) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(12) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(13) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

3 Options

3 - 1 Options

EDHQ011-016BB6V3

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

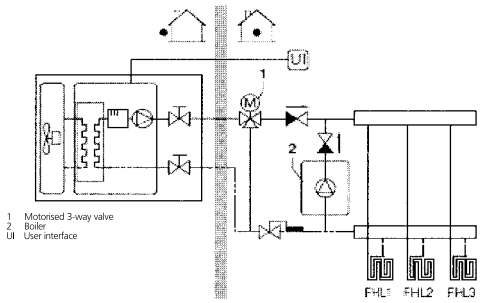
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

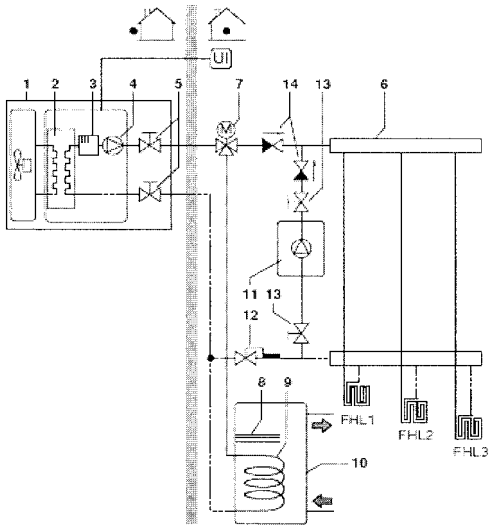
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



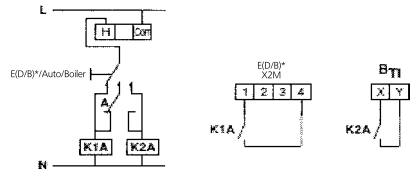
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



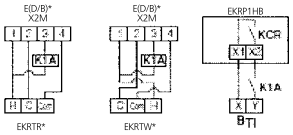
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxillary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
K2A Auxillary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxillary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxillary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxillary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EDHQ011-016BB6V3

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EDHQ011-016BB6V3

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

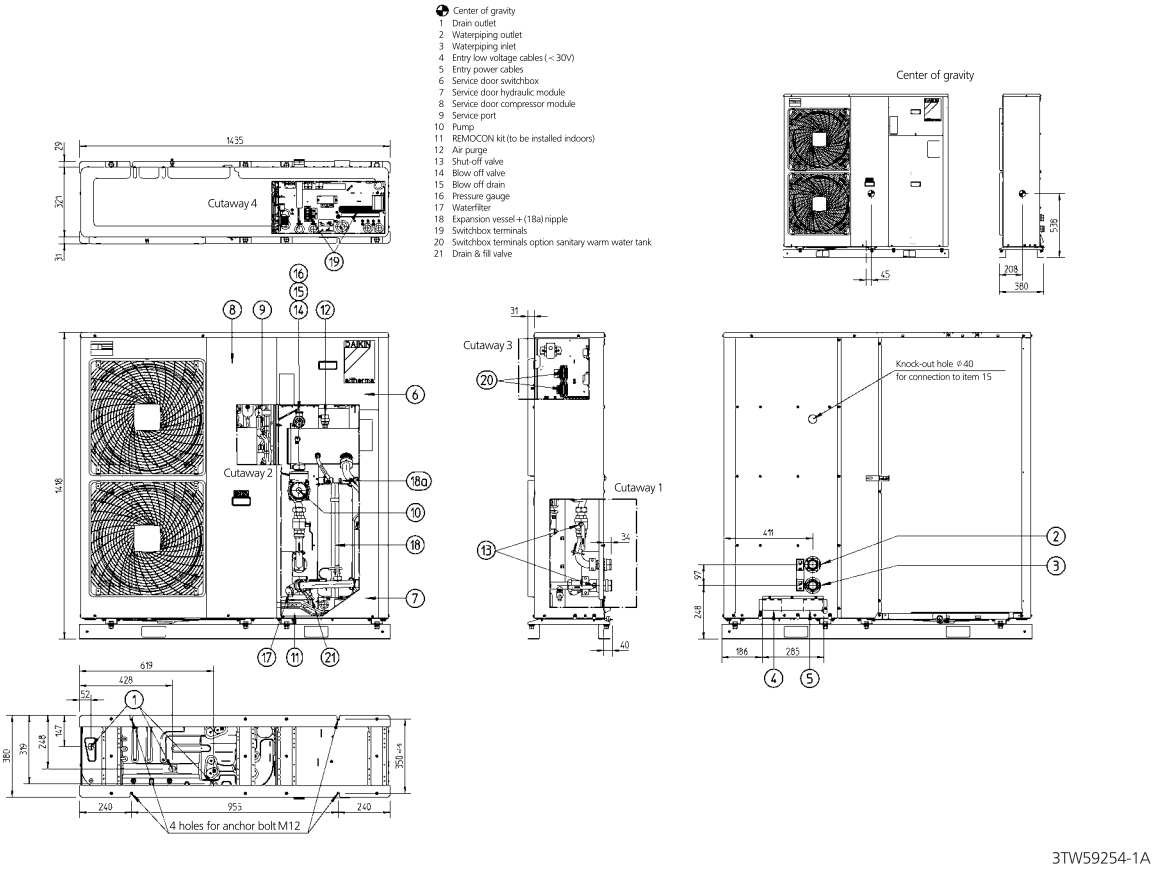
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

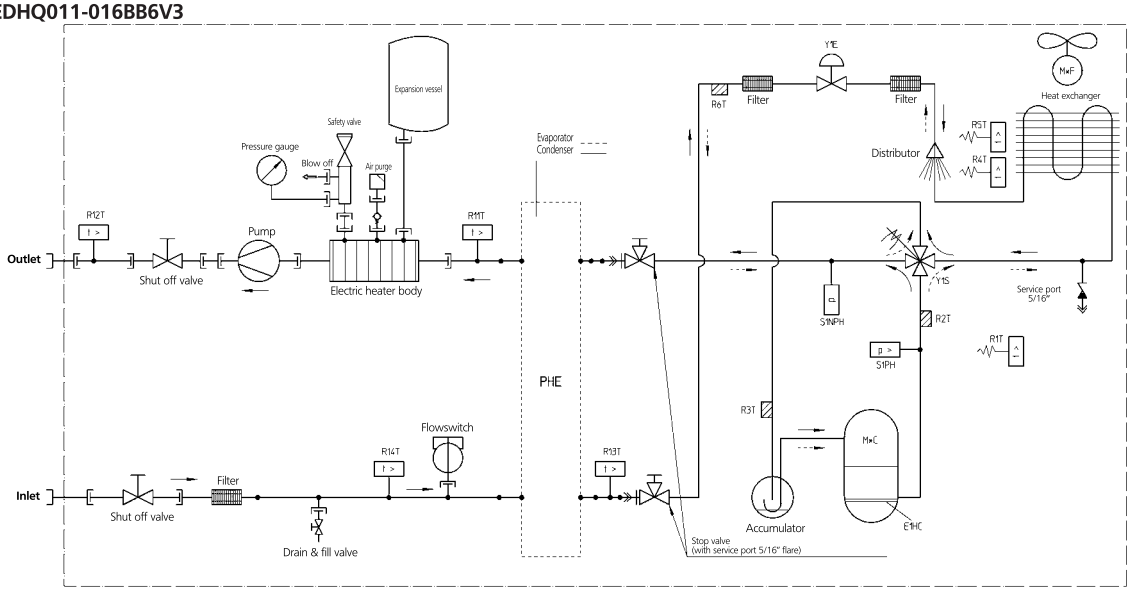
EDHQ011-016BB6V3



6 Piping diagrams

6 - 1 Piping Diagrams

EDHQ011-016BB6V3



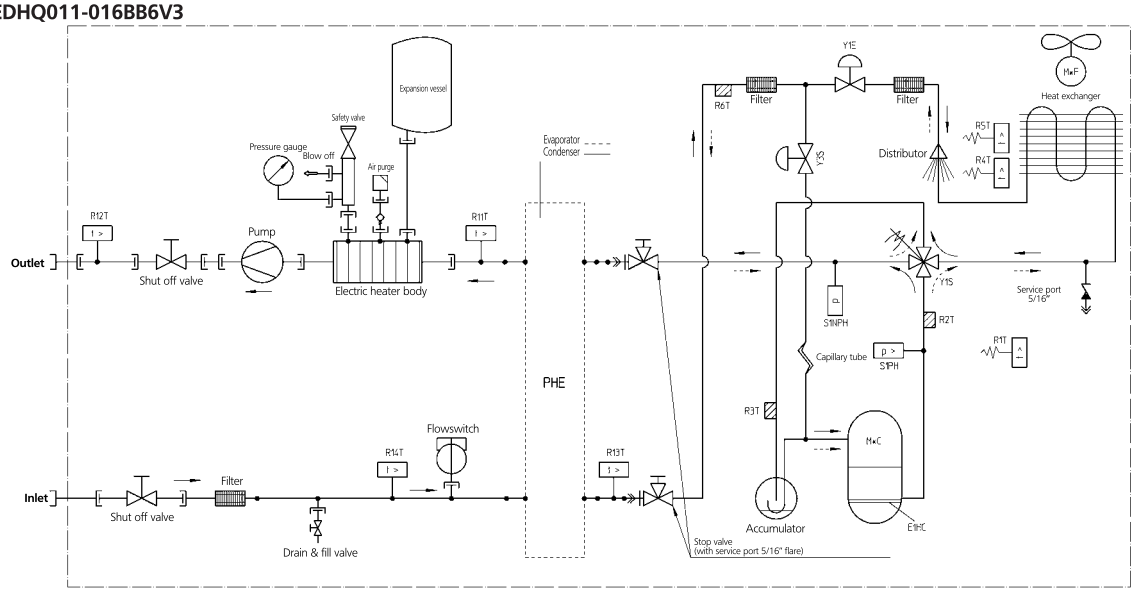
R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59255-1

EDHQ011-016BB6V3



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

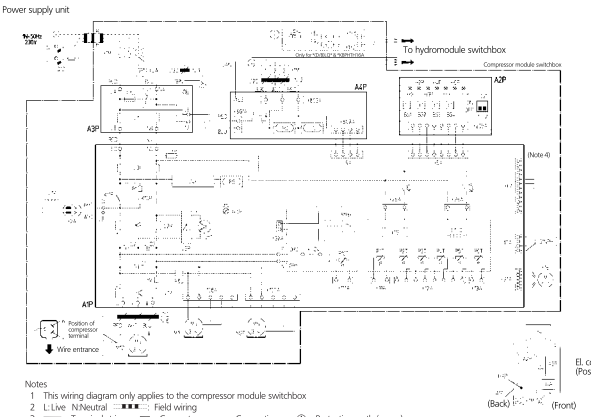
Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EDHQ011-016BB6V3



A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1~BS4	Push button switch
C1~C4	Capacitor
DS1	DIP switch
E1H	Bottomplate heater
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
F7U, F8U	Fuse (F 1.0A/250V)
H1P~7P(A2P)	Light Emit. Diode (Serv. Monitor-Orange) (H2P) Prepare, Test ---------- Flickering (H2P) Malfunction Detection -- Light up
HAP (A1P)	Light emitting diode (Service monitor green)
K1R	Magnetic relay (Y1S)
K4R	Magnetic relay (E1HC)
K10R	Magnetic relay
K11R	Magnetic relay
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
Q1DI	Earth leakage circuit breaker
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Signal receiver circuit
R10T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
TC	Signal transmission circuit
V1R	Power module
V2R, V3R	Diode module
V1T	IGBT
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Z1C~Z3C	Noise filter (ferrity core)
Z1F~Z4F	Noise filter
Optional connector	
X1Y	Connector

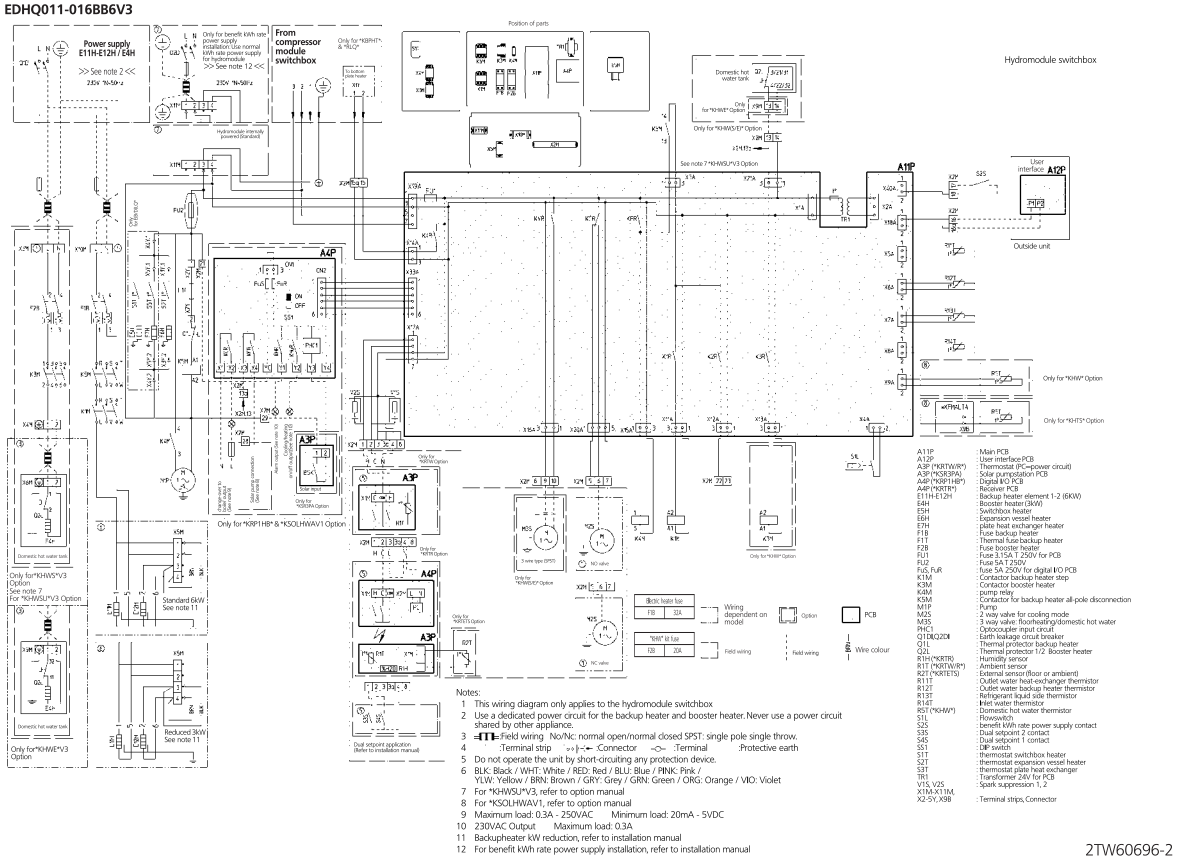
Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L:Live N:Neutral ---■■■--- : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw)
: Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors BLU: blue, BRN: brown, GRN: green, RED: red, WHT: white, YLW: yellow, ORG: orange, BLK: Black
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
9
Option
Wiring depending on model

2TW59256-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EDHQ011-016BB6V3



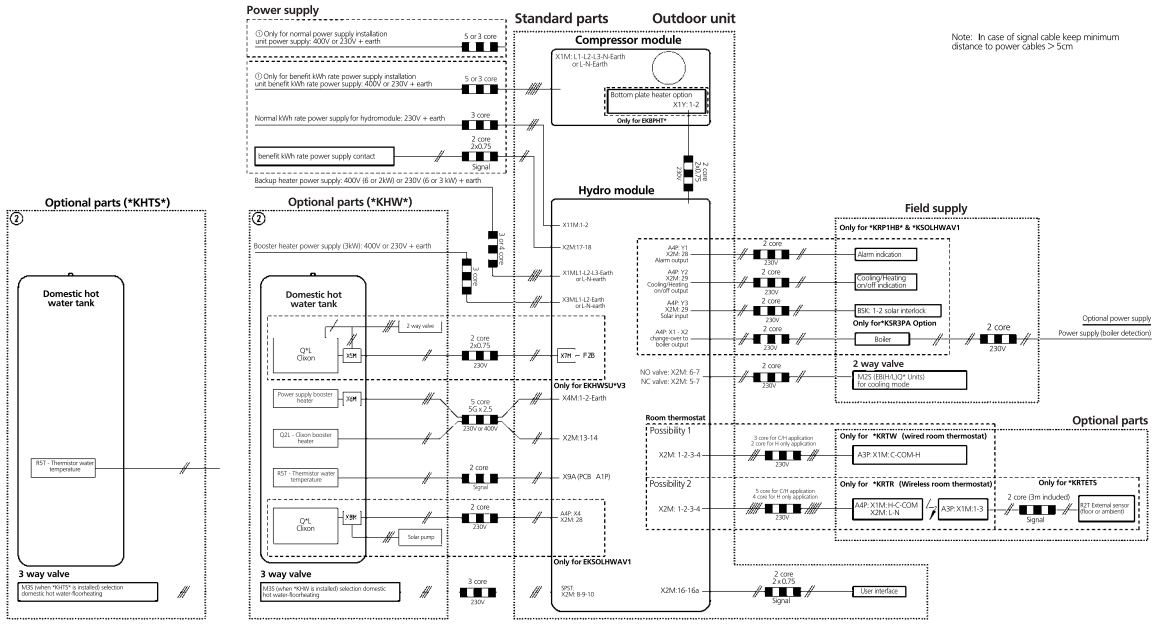
Notes:
1 This wiring diagram only applies to the hydromodule switchbox
2 Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by other appliance.
3 Field wiring No/Nc: normal open/normal closed SPST: single pole single throw.
4 :Terminal strip :Connector :Terminal :Protective earth
5 Do not operate the unit by short-circuiting any protection device.
6 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow / BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
7 For *KHWSU*V3, refer to option manual
8 For *KSOLHWAV1, refer to option manual
9 Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10 230VAC Output Maximum load: 0.3A
11 Backupheater kW reduction, refer to installation manual
12 For benefit kWh rate power supply installation, refer to installation manual

2TW60696-2

8 External connection diagrams

8 - 1 External Connection Diagrams

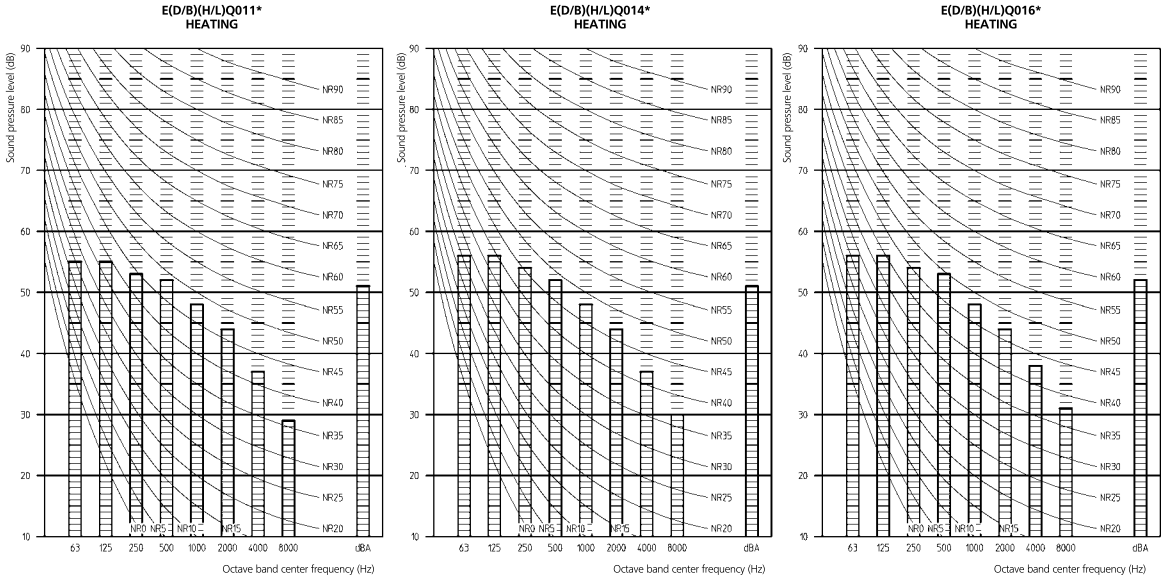
EDHQ011-016BB6V3 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

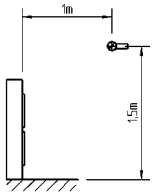
9 - 1 Sound Pressure Spectrum - Heating

EDHQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

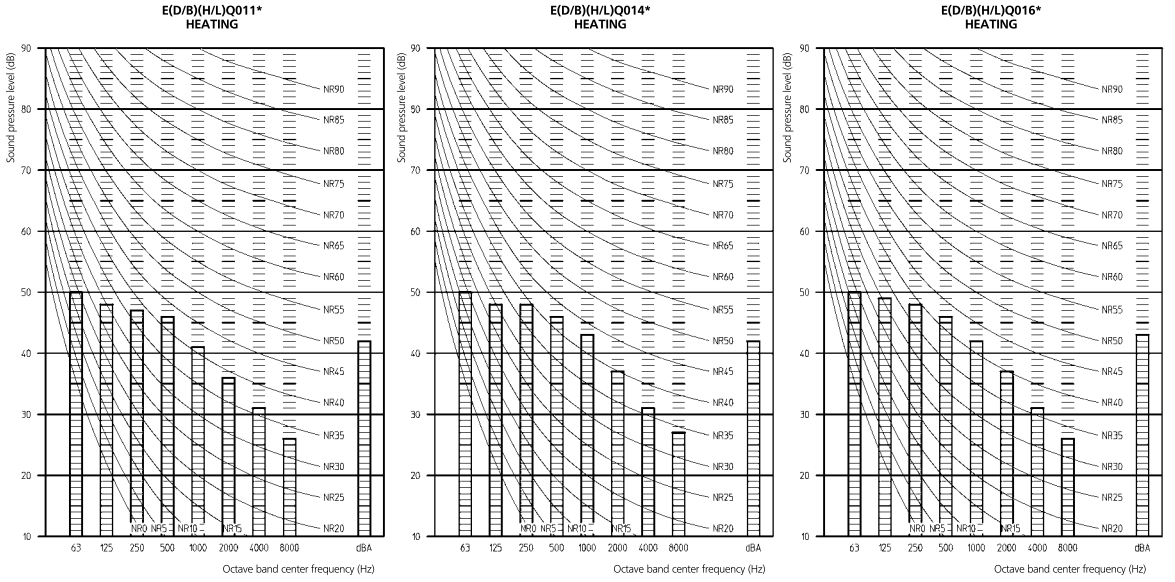


3TW58017-2

9 Sound data

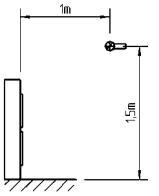
9 - 2 Sound Pressure Spectrum Quiet Mode

EDHQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

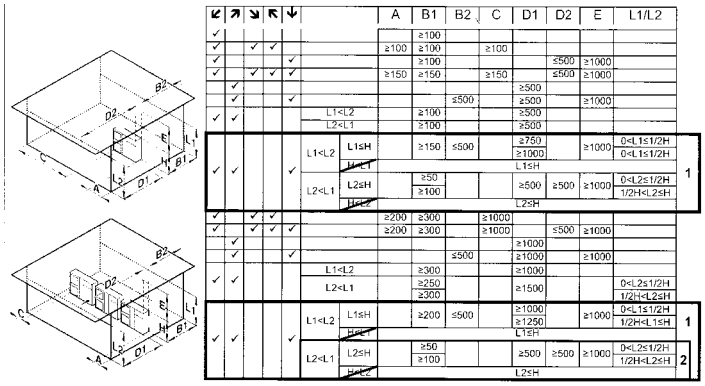
3TW58017-4

10 Installation

10 - 1 Installation Method

EDHQ011-016BB6V3

A. Non stacked installation



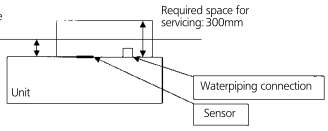
			A	B1	B2	C	D1	D2	E	L1/L2	
✓				≥100							
✓	✓		≥100	≥100		≥100					
✓		✓		≥100				≤500	≥1000		
✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓					≤500		≥500		≥1000	
✓	✓				≥100			≥500			
			L1<L2		≥100			≥500			
			L2<L1		≥100			≥500			
✓	✓			L1≤H	≥150	≤500		≥750		≥1000	0<L1≤1/2H
				H<L1				≥1000			0<L1≤1/2H
			L1<L2					L1≤H			1
		✓	L2<L1	L2≤H	≥50			≥500	≥500	≥1000	0<L2≤1/2H
					≥100						1/2H<L2≤H
				H<L2				L2≤H			
✓		✓			≥200	≥300		≥1000			
✓	✓	✓	✓		≥200	≥300		≥1000	≤500	≥1000	
	✓					≤500		≥1000		≥1000	
	✓							≥1000			
			L1<L2		≥300			≥1000			
✓	✓		L2<L1		≥250			≥1500			0<L2≤1/2H
					≥300						1/2H<L2≤H
			L1<L2	L1≤H	≥200	≤500		≥1000		≥1000	0<L1≤1/2H
				H<L1				≥1250			1/2H<L1≤H
✓	✓							L1≤H			1
		✓	L2<L1	L2≤H	≥50			≥500	≥500	≥1000	0<L2≤1/2H
					≥100						1/2H<L2≤H
				H<L2				L2≤H			2

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

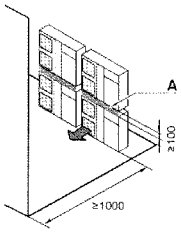


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

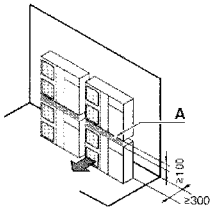
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



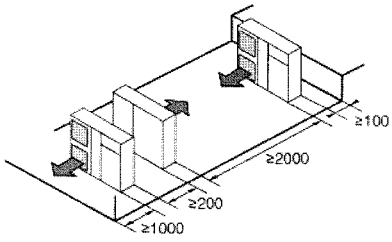
2. Obstacles exist in front of the air inlet



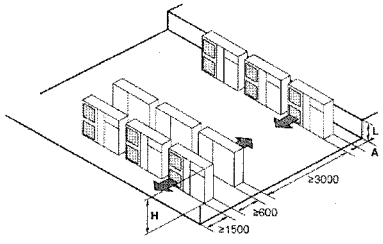
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

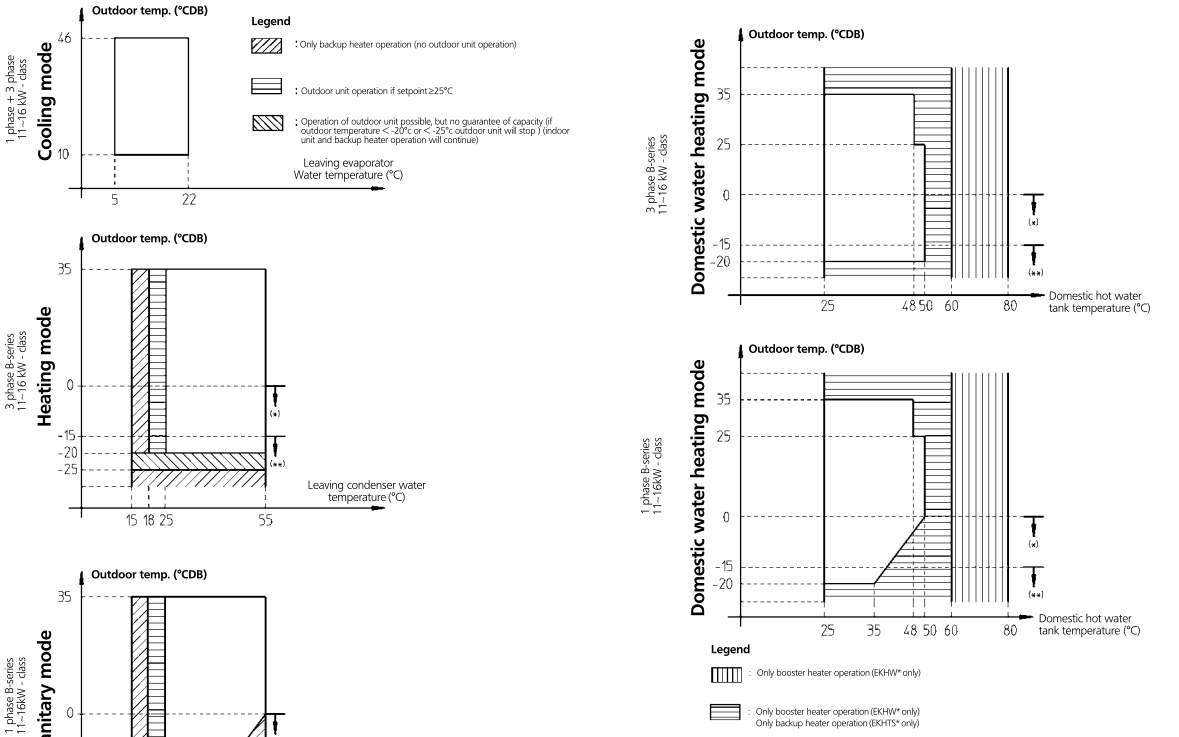
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EDHQ011-016BB6V3



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, . . .) to prevent freeze up.

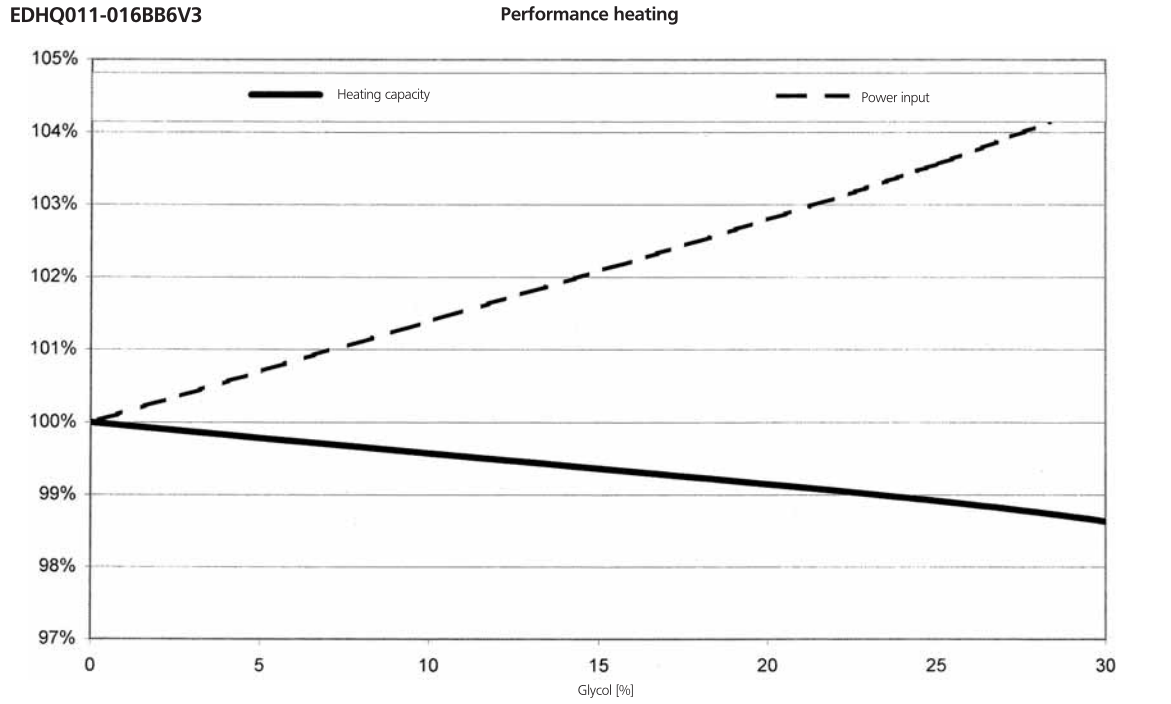
Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

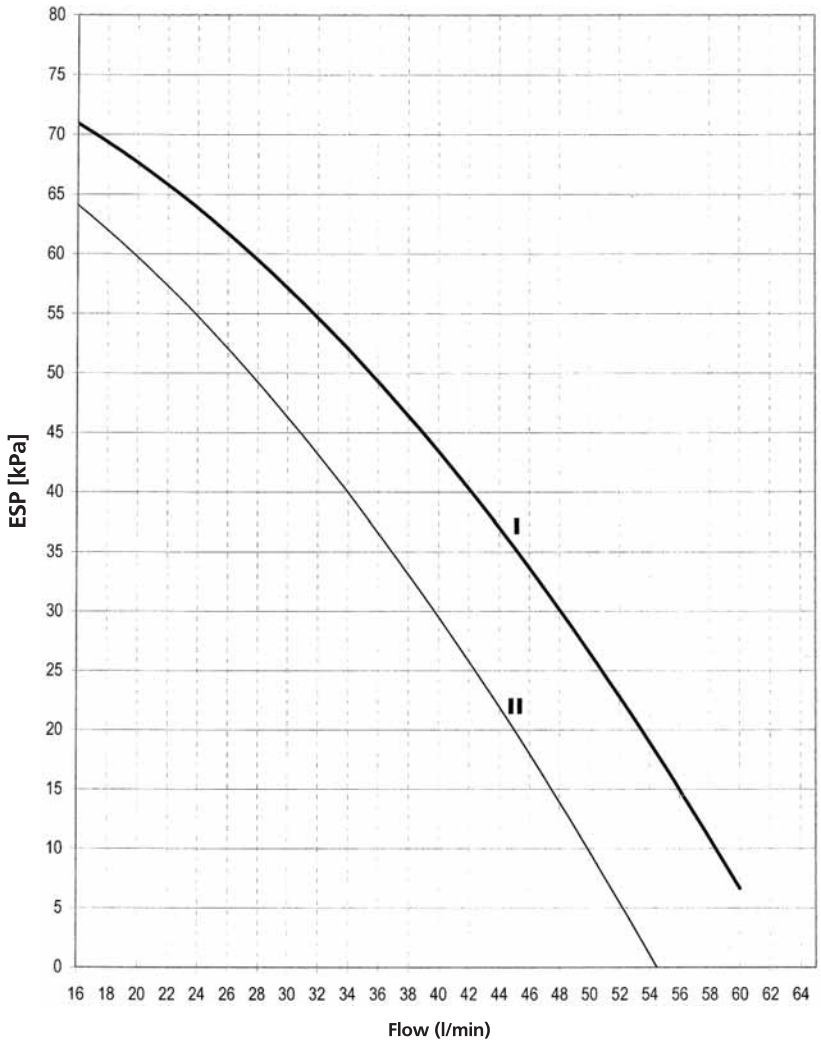
11 - 2 Correction Factors



12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDHQ011-016BB6V3



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

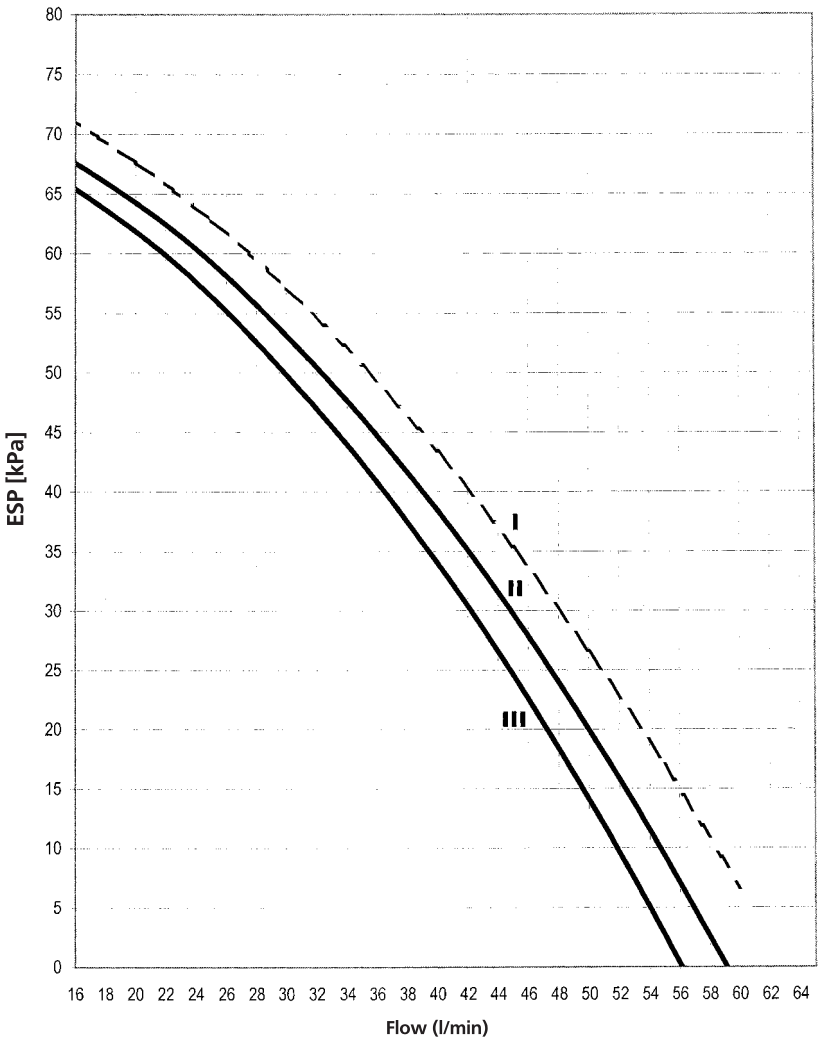
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDHQ011-016BB6V3



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

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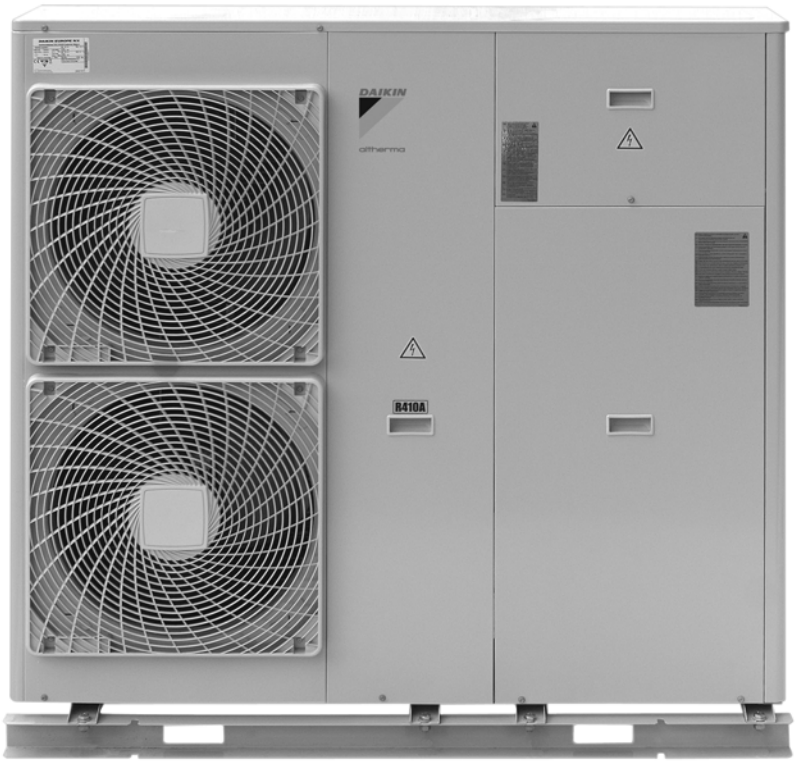
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1 Features

- Heating only monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EDHQ011BB6W1	EDHQ014BB6W1	EDHQ016BB6W1
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Capacity control	Method				Inverter controlled		
Power input	Heating	Nom.		kW	2.51 (1) / 3.12 (2)	3.22 (1) / 3.98 (2)	3.72 (1) / 4.58 (2)
COP					4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m^2	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (4) / 55.7 (10)	43.3 (4) / 47.1 (10)	34.0 (4) / 38.5 (10)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT1G-VDYR (S)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		
Operation range	Heating	Ambient	Min.	°CWB	-15		
			Max.	°CWB	35		
		Water side	Min.	°C	15 (6)		
			Max.	°C	55 (6)		
	Domestic hot water	Ambient	Min.	°CDB	-15		
			Max.	°CDB	43		
		Water side	Min.	°C	25		
			Max.	°C	80		

2 Specifications

2-1 Technical Specifications					EDHQ011BB6W1	EDHQ014BB6W1	EDHQ016BB6W1
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Expansion valve (electronic type)		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
Sound pressure level	Heating	Nom.		dBA	49	51	53
	Night quiet mode	Heating		dBA	42		43
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (9.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications					EDHQ011BB6W1	EDHQ014BB6W1	EDHQ016BB6W1
Optional domestic hot water tank + Q2L	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / For more details on voltage range and current refer to installation manual		
Hydraulic component	Back-up heater current	Type			6W1		
		Power supply	Phase		3~		
			Frequency	Hz	50		
			Voltage	V	400		
		Running current	Back-up heater	A	8.7		
			Back-up heater + booster heater *V3	A	21.7 (8.7+13)		
			Back-up heater + booster heater *Z2	A	16.2 (8.7+7.5)		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			4G		
		Type of wires			Select diameter and type according to national and local regulations		

2 Specifications

2-2 Electrical Specifications					EDHQ011BB6W1	EDHQ014BB6W1	EDHQ016BB6W1
Compressor component	Main power supply	Name			W1		
		Phase			3N~		
		Frequency		Hz	50		
		Voltage		V	400		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Nominal running current (RLA)	Heating	A	5.8 (4)		
		Maximum running current	Heating	A	14		
		Recommended fuses		A	20		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) Capacity guarantee down to -20ºC

(9) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(10) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(11) Power supply compressor compartment is for compressor, fan, pump and controller

(12) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(13) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

3 Options

3 - 1 Options

EDHQ011-016BB6W1

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

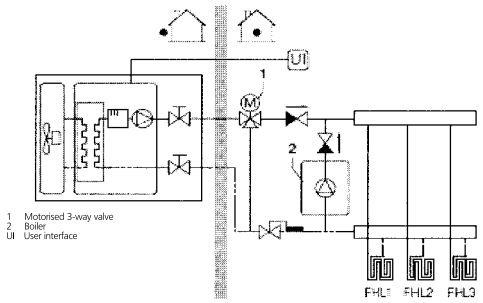
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

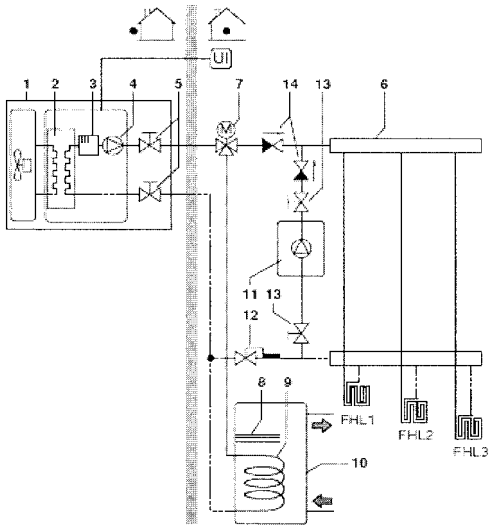
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



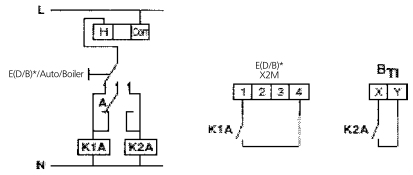
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



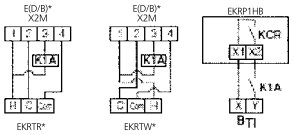
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxillary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
K2A Auxillary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxillary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxillary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxillary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EDHQ011-016BB6W1

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EDHQ011-016BB6W1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,67	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

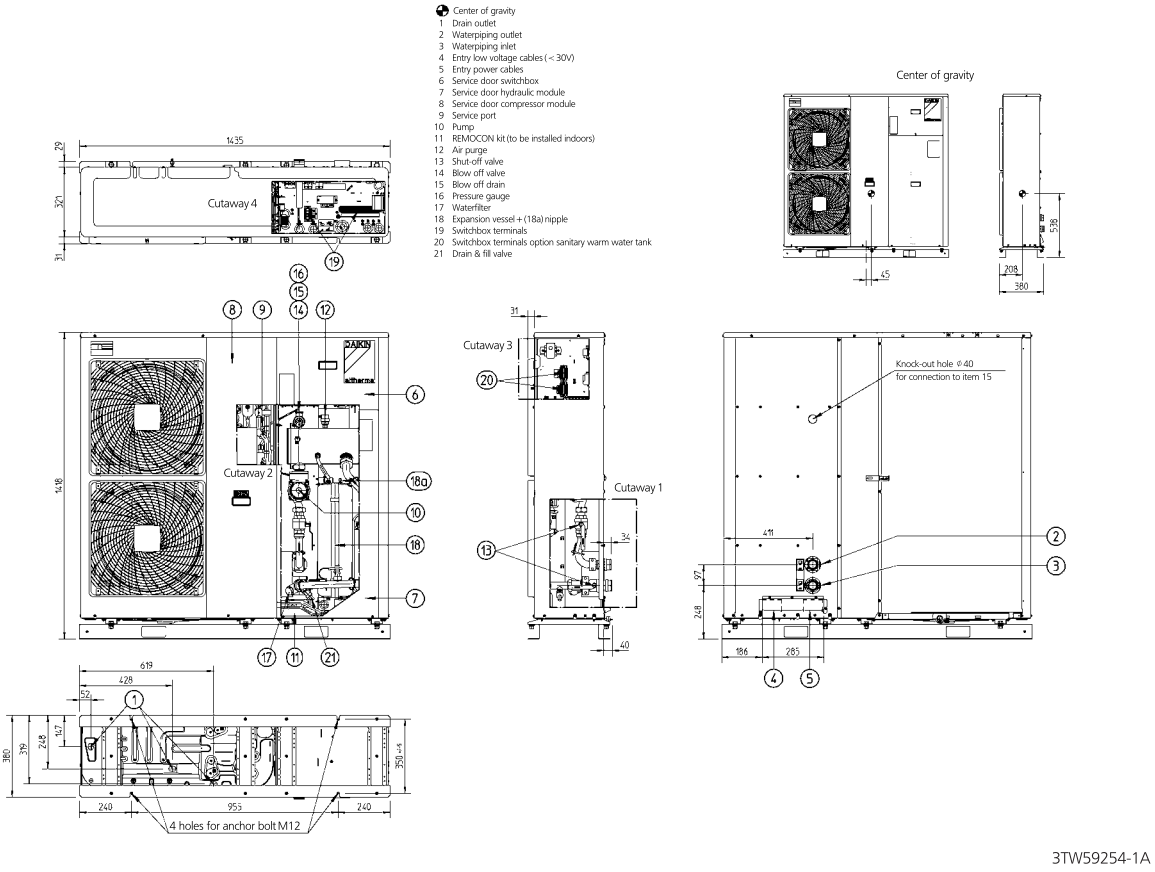
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D;V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

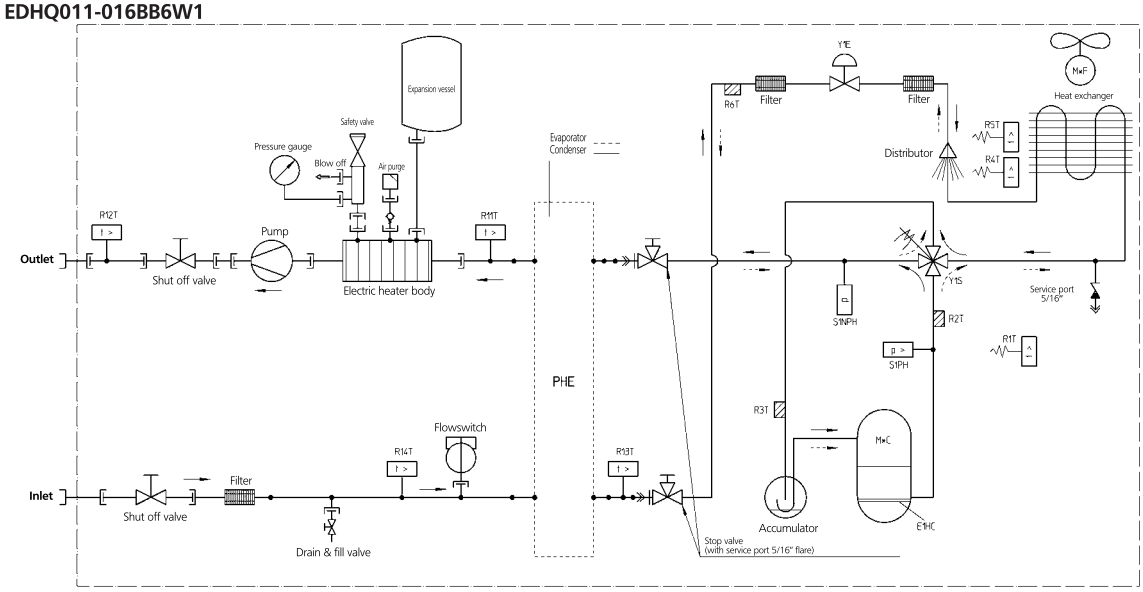
EDHQ011-016BB6W1



6 Piping diagrams

6 - 1 Piping Diagrams

EDHQ011-016BB6W1



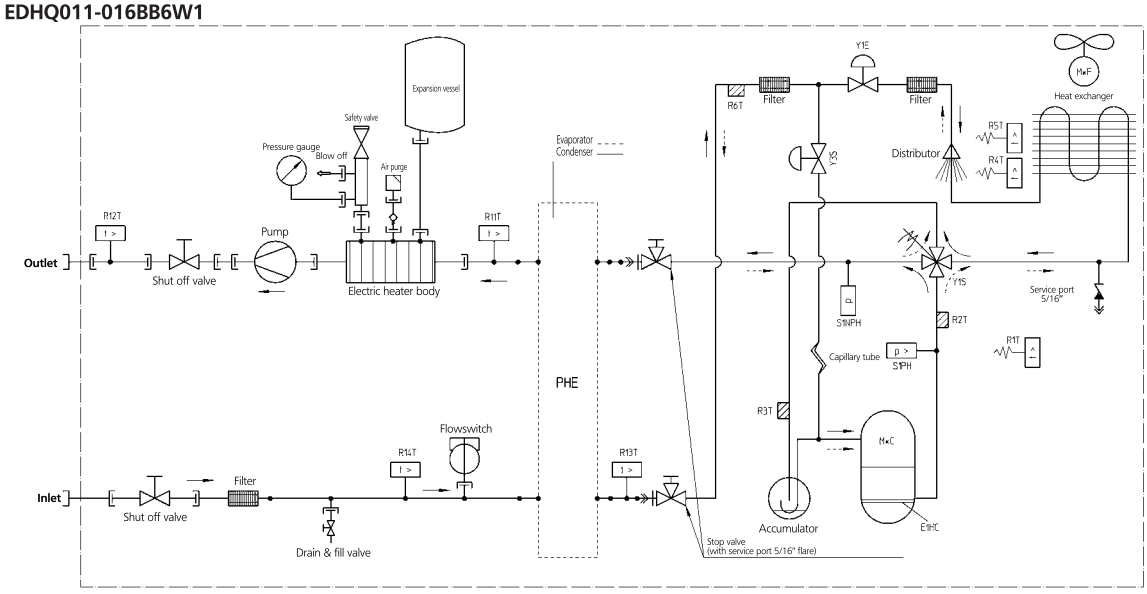
R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

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EDHQ011-016BB6W1



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

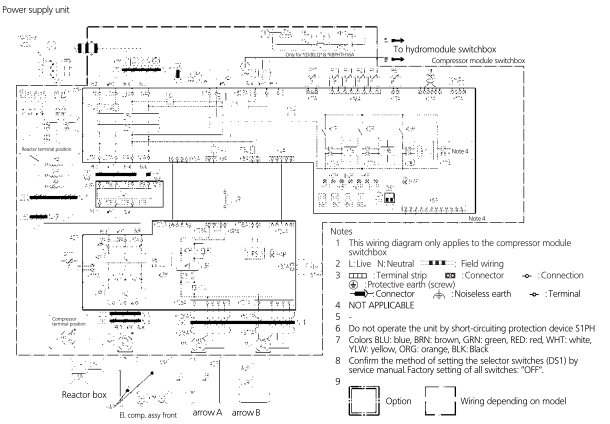
Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

EDHQ011-016BB6W1

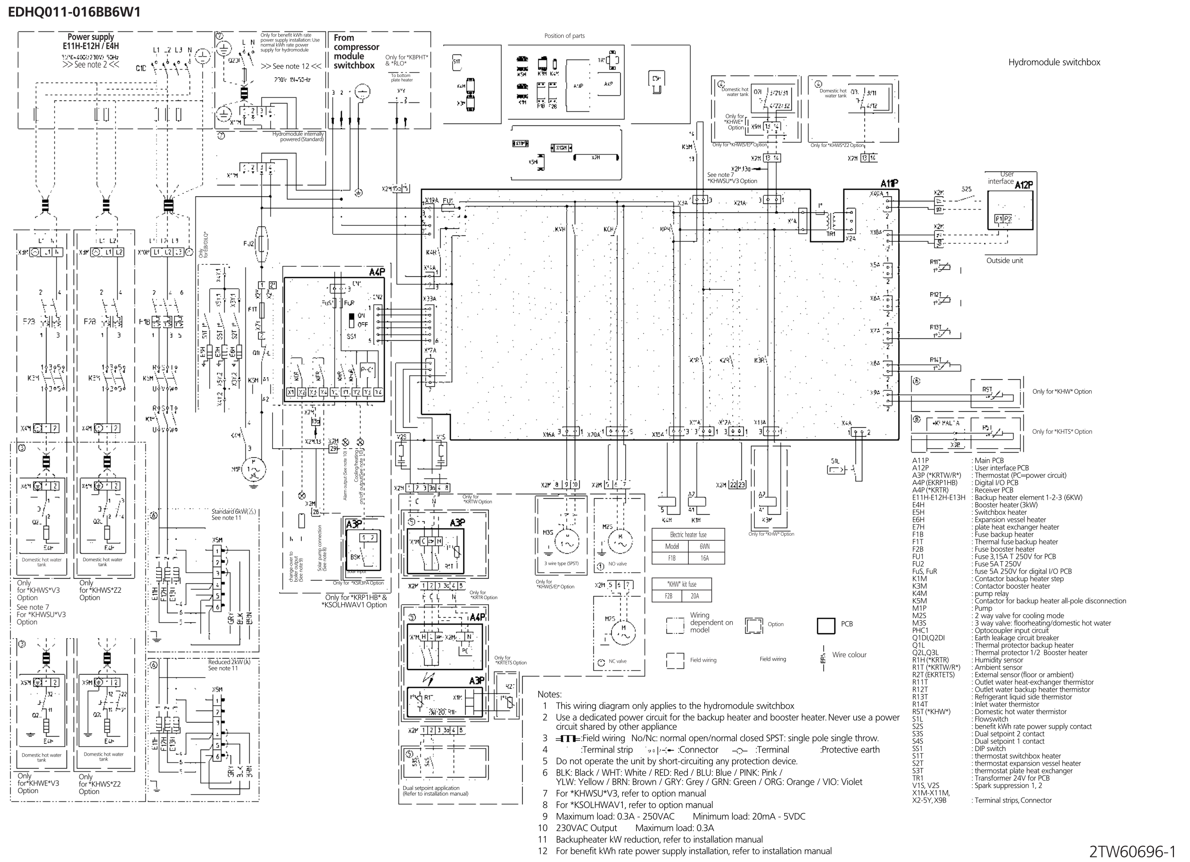


A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
B51~B54	Push button switch
C1~C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
E1H	Bottomplate heater
F1U	Fuse (31.5A 250V)
F2U	Fuse (31.5A 250V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
F8U, F9U	Fuse (F 1.0A/250V)
HAP (A1P)	Pilot lamp (Service monitor-green)
HAP (A2P)	Pilot lamp (Service monitor-green)
H1P~7P (A1P)	Pilot lamp (service monitor-orange)
K1M, K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R~L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1~R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
V1R~V2R	Power module
V3R	Diode module
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Y3S	Solenoid valve
Z1C~Z9C	Noise filter
Z1F~Z4F	Noise filter
Q1DI	Earth leakage circuit breaker
Optional connector	
X6A	Connector
X77A	Connector
X1Y	Connector

2TW59376-1

7 Wiring diagrams

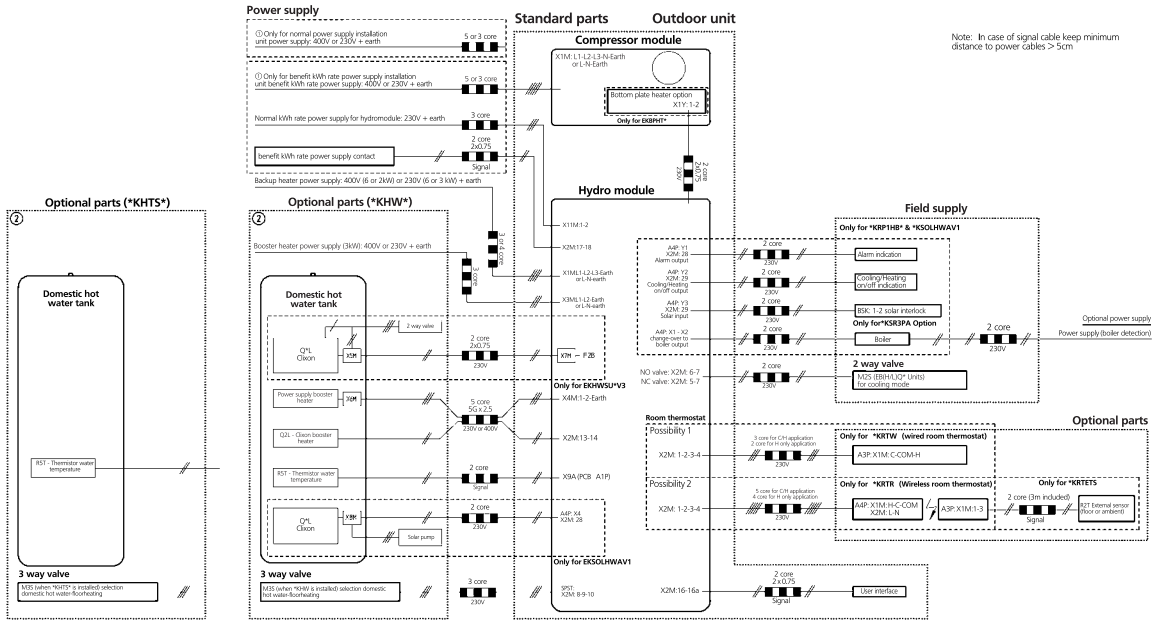
7 - 1 Wiring Diagrams - Three Phase



8 External connection diagrams

8 - 1 External Connection Diagrams

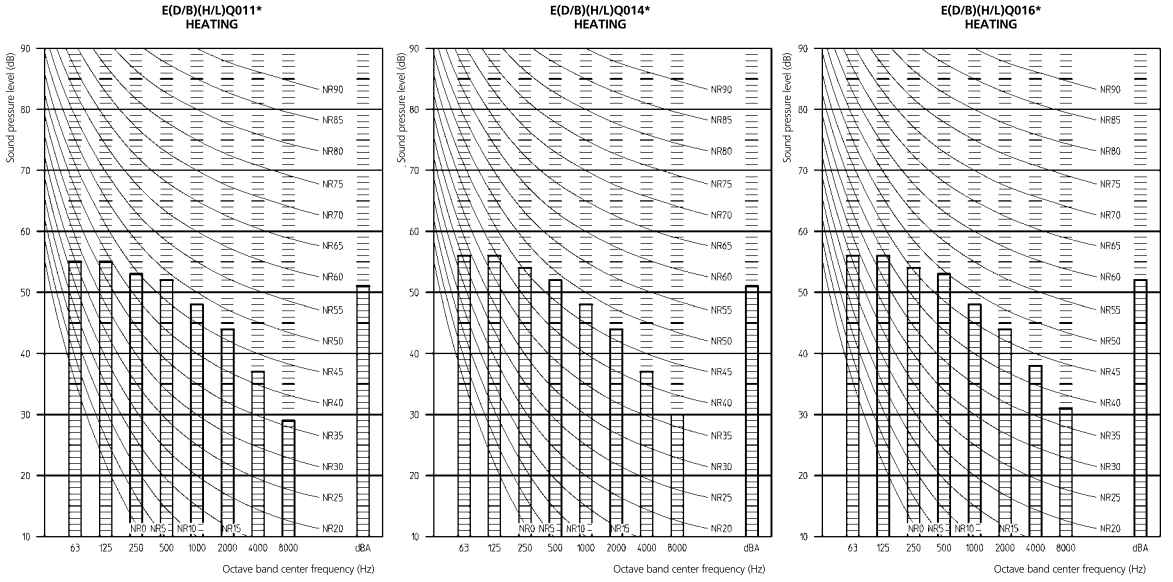
EDHQ011-016BB6W1 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

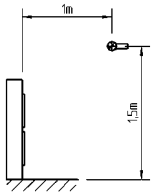
9 - 1 Sound Pressure Spectrum - Heating

EDHQ011-016BB6W1



Notes:

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound power level (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



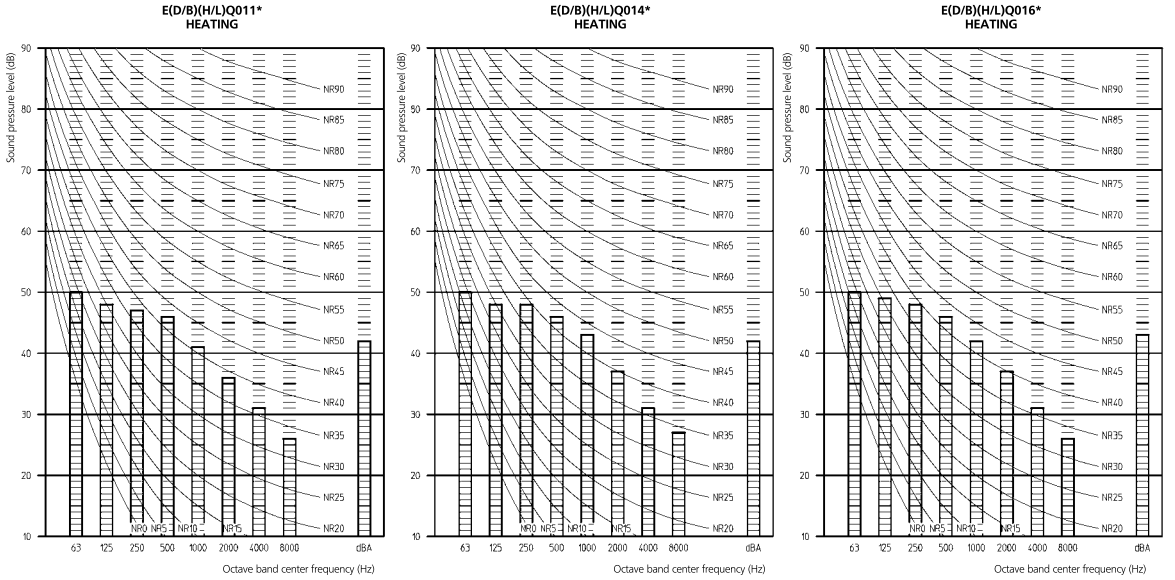
3TW58017-2

16
9

9 Sound data

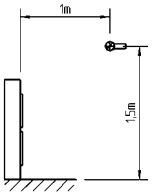
9 - 2 Sound Pressure Spectrum Quiet Mode

EDHQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

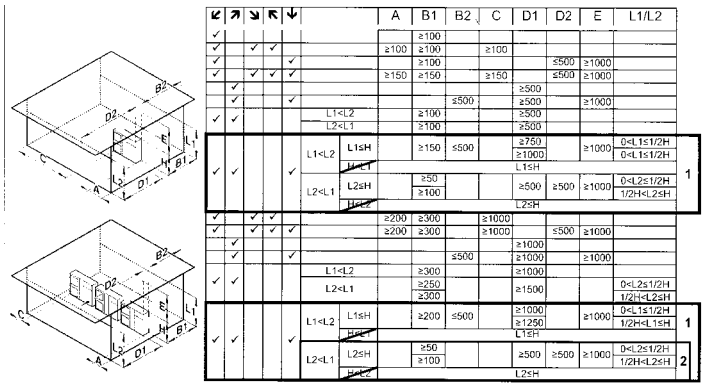
3TW58017-4

10 Installation

10 - 1 Installation Method

EDHQ011-016BB6W1

A. Non stacked installation



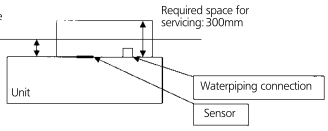
			A	B1	B2	C	D1	D2	E	L1/L2	
✓			≥100	≥100		≥100					
✓	✓			≥100				≤500	≥1000		
✓		✓	≥150	≥150		≥150		≤500	≥1000		
✓	✓	✓			≤500		≥500		≥1000		
✓	✓			≥100			≥500				
				≥100			≥500				
✓	✓	✓	L1<L2	L1≤H	≥150	≤500	≥750 / ≥1000		≥1000	0<L1≤1/2H / 0<L1≤1/2H	
				H<L1			L1≤H				1
			L2<L1	L2≤H	≥50 / ≥100		≥500	≥500	≥1000	0<L2≤1/2H / 1/2H<L2≤H	
				H<L2			L2≤H				
✓	✓			≥200	≥300		≥1000				
✓	✓	✓		≥200	≥300		≥1000	≤500	≥1000		
	✓				≤500		≥1000		≥1000		
	✓	✓					≥1000				
✓	✓		L1<L2		≥300		≥1500			0<L2≤1/2H / 1/2H<L2≤H	
			L2<L1		≥250 / ≥300						
✓	✓	✓	L1<L2	L1≤H	≥200	≤500	≥1000 / ≥1250		≥1000	0<L1≤1/2H / 1/2H<L1≤H	
				H<L1			L1≤H				1
			L2<L1	L2≤H	≥50 / ≥100		≥500	≥500	≥1000	0<L2≤1/2H / 1/2H<L2≤H	
				H<L2			L2≤H				2

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

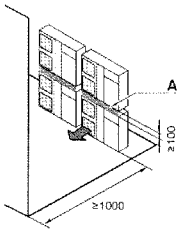


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

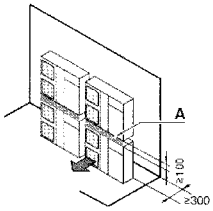
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



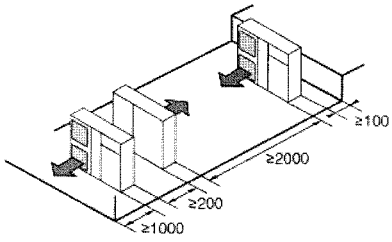
2. Obstacles exist in front of the air inlet



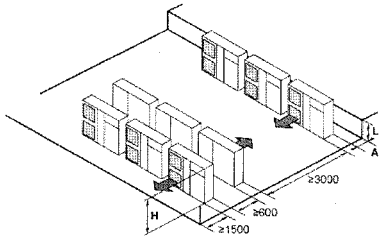
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

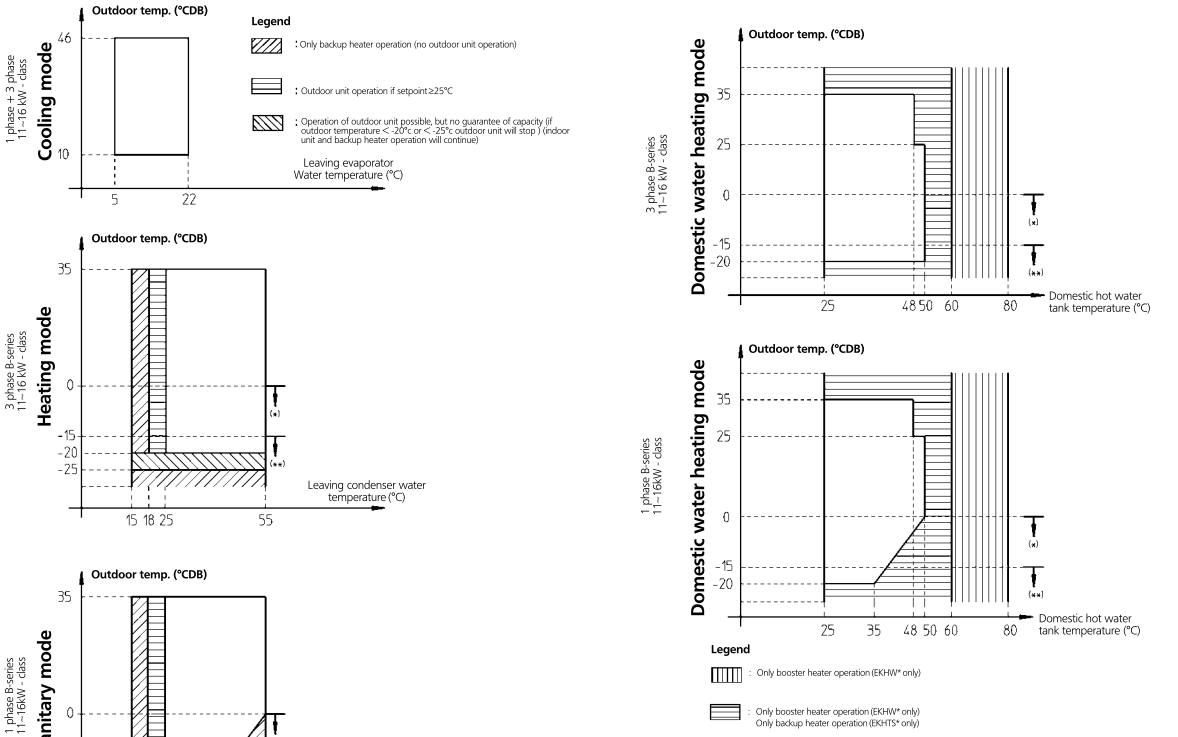
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EDHQ011-016BB6W1



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, . . .) to prevent freeze up.

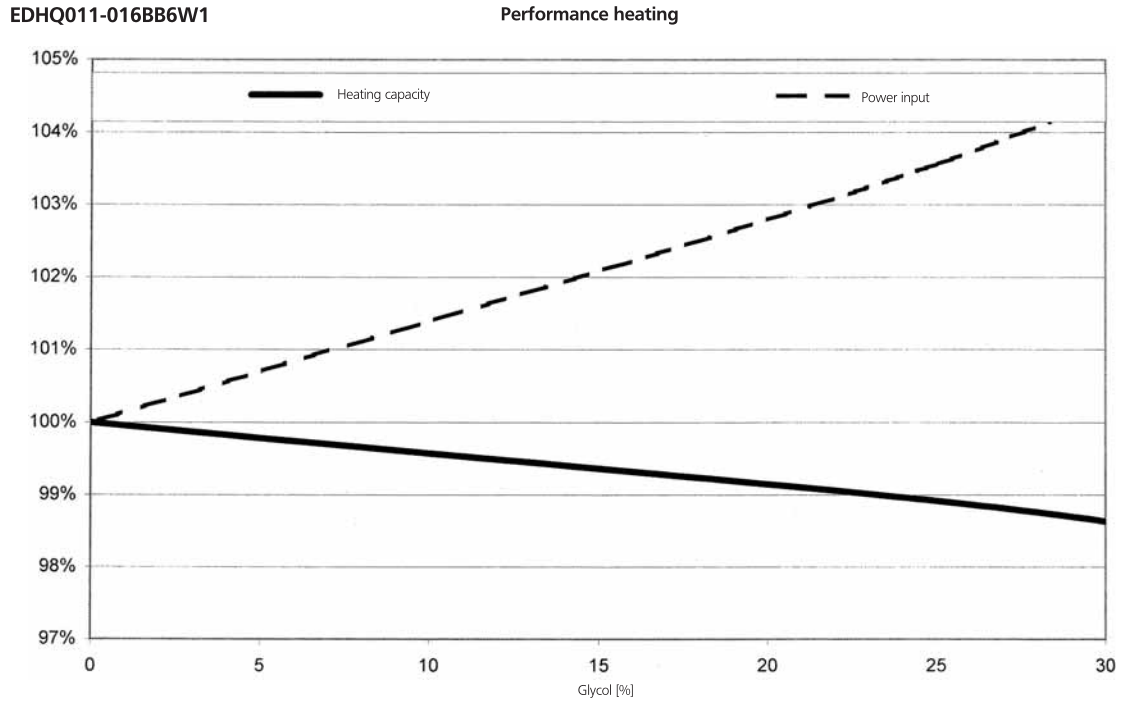
Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

11 - 2 Correction Factors

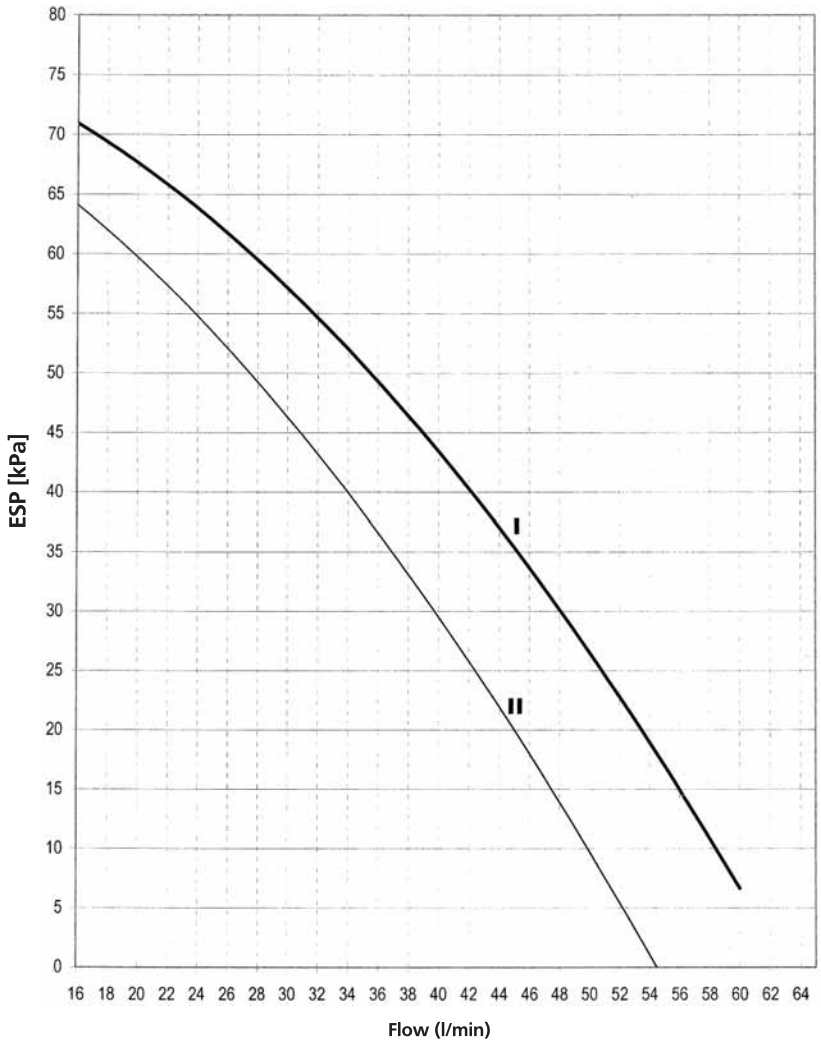


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11

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDHQ011-016BB6W1



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

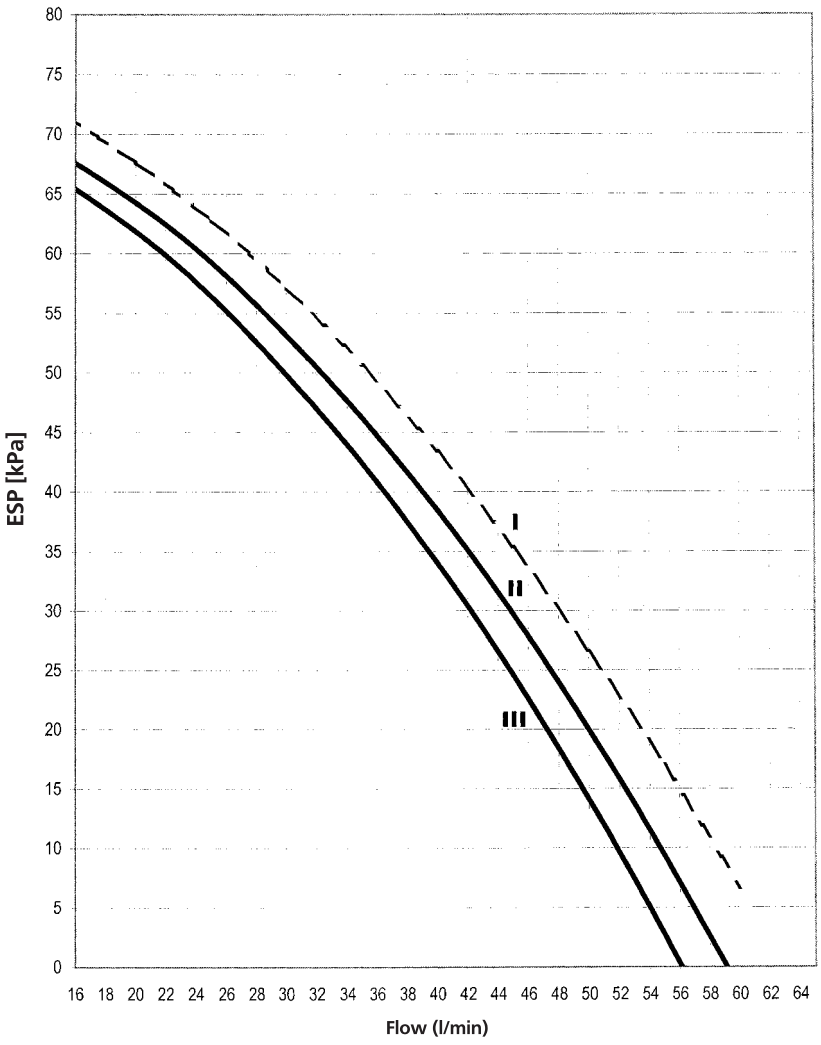
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EDHQ011-016BB6W1



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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EBHQ-BB6V3

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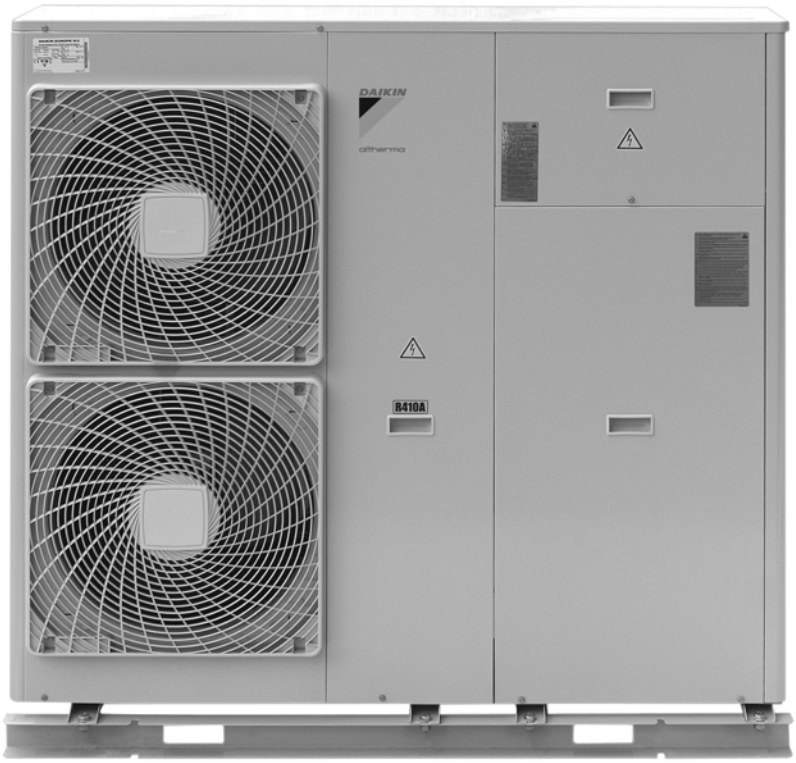
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1 Features

- Reversible monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EBHQ011BB6V3	EBHQ014BB6V3	EBHQ016BB6V3
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Cooling capacity	Nom.			kW	12.85 (1) / 10.00 (2)	15.99 (1) / 12.50 (2)	16.73 (1) / 13.10 (2)
Capacity control	Method				Inverter controlled		
Power input	Cooling	Nom.		kW	3.78 (1) / 3.60 (2)	5.65 (1) / 5.30 (2)	6.28 (1) / 5.85 (2)
	Heating	Nom.		kW	2.47 (1) / 3.22 (2)	3.20 (1) / 3.91 (2)	3.79 (1) / 4.62 (2)
COP					4.54 (1) / 3.37 (2)	4.37 (1) / 3.35 (2)	4.22 (1) / 3.26 (2)
EER					3.39 (1) / 2.78 (2)	2.83 (1) / 2.36 (2)	2.66 (1) / 2.24 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil	Wood / Carton / Plastic foil	Wood / Carton / Plastic foil
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m²	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (14) / 55.7 (9)	43.3 (14) / 47.1 (9)	34.0 (14) / 38.5 (9)
		Cooling		kPa	58.7 (16)	49.6 (16)	47.1 (16)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
	Air flow rate	Heating	High	m³/min	90		
		Cooling	High	m³/min	96	100	97
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
		Cooling	Nom.	rpm	780		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT100G-VD		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		

2 Specifications

2-1 Technical Specifications					EBHQ011BB6V3	EBHQ014BB6V3	EBHQ016BB6V3
Operation range	Heating	Ambient	Min.	ºCWB	-15		
			Max.	ºCWB	35		
		Water side	Min.	ºC	15 (6)		
			Max.	ºC	55 (6)		
	Cooling	Ambient	Min.	ºCDB	10		
			Max.	ºCDB	46		
		Water side	Min.	ºC	5		
			Max.	ºC	22		
	Domestic hot water	Ambient	Min.	ºCDB	-15		
			Max.	ºCDB	43		
		Water side	Min.	ºC	25		
			Max.	ºC	80		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Cooling	Nom.	l/min	28.7 (5)	35.8 (5)	37.6 (5)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Electronic expansion valve		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
	Cooling	Nom.		dBA	65	66	69
Sound pressure level	Heating	Nom.		dBA	51		52
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (8.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications			EBHQ011BB6V3	EBHQ014BB6V3	EBHQ016BB6V3
Optional domestic hot water tank + Q2L	Wiring connections	Quantity	3G		
		Type of wires	For more details on voltage range and current refer to installation manual / Select diameter and type according to national and local regulations		

2 Specifications

2-2 Electrical Specifications					EBHQ011BB6V3	EBHQ014BB6V3	EBHQ016BB6V3
Hydraulic component	Back-up heater current	Type			6V3		
		Power supply	Phase		1~		
			Frequency	Hz	50		
			Voltage	V	230		
		Running current	Back-up heater	A	26		
			Back-up heater + booster heater *V3	A	39 (26+13)		
		Zmax	Back-up heater	Ω	0.29		
			Back-up heater + booster heater	Ω	0.17		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations		
Compressor component	Main power supply	Name			V3		
		Phase			1~		
		Frequency		Hz	50		
		Voltage		V	230		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Maximum running current	Heating	A	26.5		
			Cooling	A	26.5		
		Recommended fuses		A	32		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(9) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(10) Power supply compressor compartment is for compressor, fan, pump and controller

(11) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(12) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(13) Minimum Ssc value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(14) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(15) The installer can reduce the capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Please refer to the installation manual for instructions.

(16) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

3 Options

3 - 1 Options

EBHQ011-016BB6V3

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

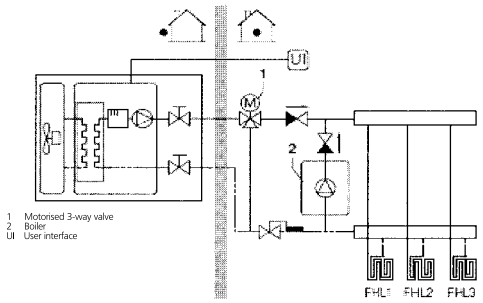
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

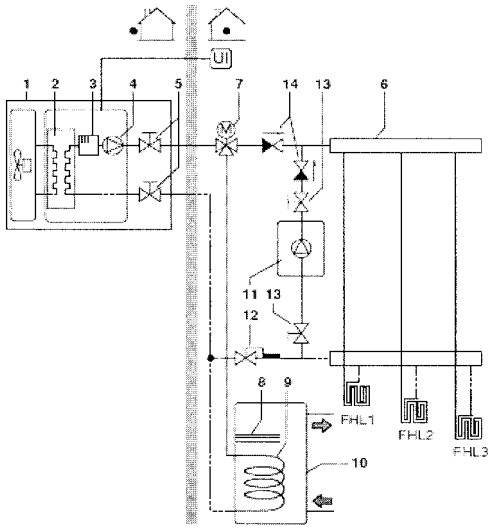
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



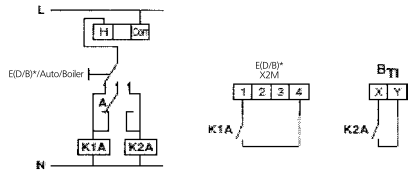
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



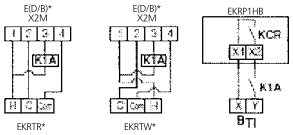
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxillary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
K2A Auxillary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxillary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxillary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxillary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EBHQ011-016BB6V3

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EBHQ011-016BB6V3

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

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4

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

4 Capacity tables

4 - 2 Cooling Capacity Tables

EBHQ011-016BB6V3

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6V3	7	11,08	2,70	10,99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6V3	7	13,87	4,02	13,75	4,39	13,29	4,81	12,50	5,30	11,08	5,08	9,81	5,60
	10	14,92	4,08	14,79	4,46	14,28	4,90	13,43	5,39	11,92	5,17	10,56	5,70
	13	16,38	4,15	16,23	4,54	15,68	4,99	14,75	5,49	13,09	5,26	10,95	5,78
	15	17,39	4,20	17,23	4,60	16,64	5,05	15,66	5,55	13,91	5,32	11,35	5,64
	18	18,92	4,27	18,28	4,68	17,29	5,14	15,99	5,65	13,99	5,41	11,49	5,20
	22	21,07	4,37	20,37	4,79	19,28	5,27	17,85	5,79	15,65	5,54	12,05	4,64
EB(H/L)Q016*6V3	7	14,52	4,45	14,44	4,87	13,95	5,33	13,10	5,85	11,57	5,58	9,84	5,47
	10	15,65	4,54	15,53	4,97	14,99	5,44	14,07	5,96	12,43	5,68	10,59	5,56
	13	17,19	4,64	17,05	5,07	16,45	5,55	15,44	6,08	13,64	5,79	10,98	5,65
	15	18,26	4,71	18,09	5,14	17,46	5,63	16,39	6,16	14,49	5,86	11,38	5,51
	18	19,87	4,81	19,20	5,25	18,14	5,74	16,73	6,28	14,57	5,97	11,52	5,08
	22	22,14	4,95	21,39	5,40	20,21	5,90	18,66	6,44	16,28	6,12	12,08	4,53

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature (°C) RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

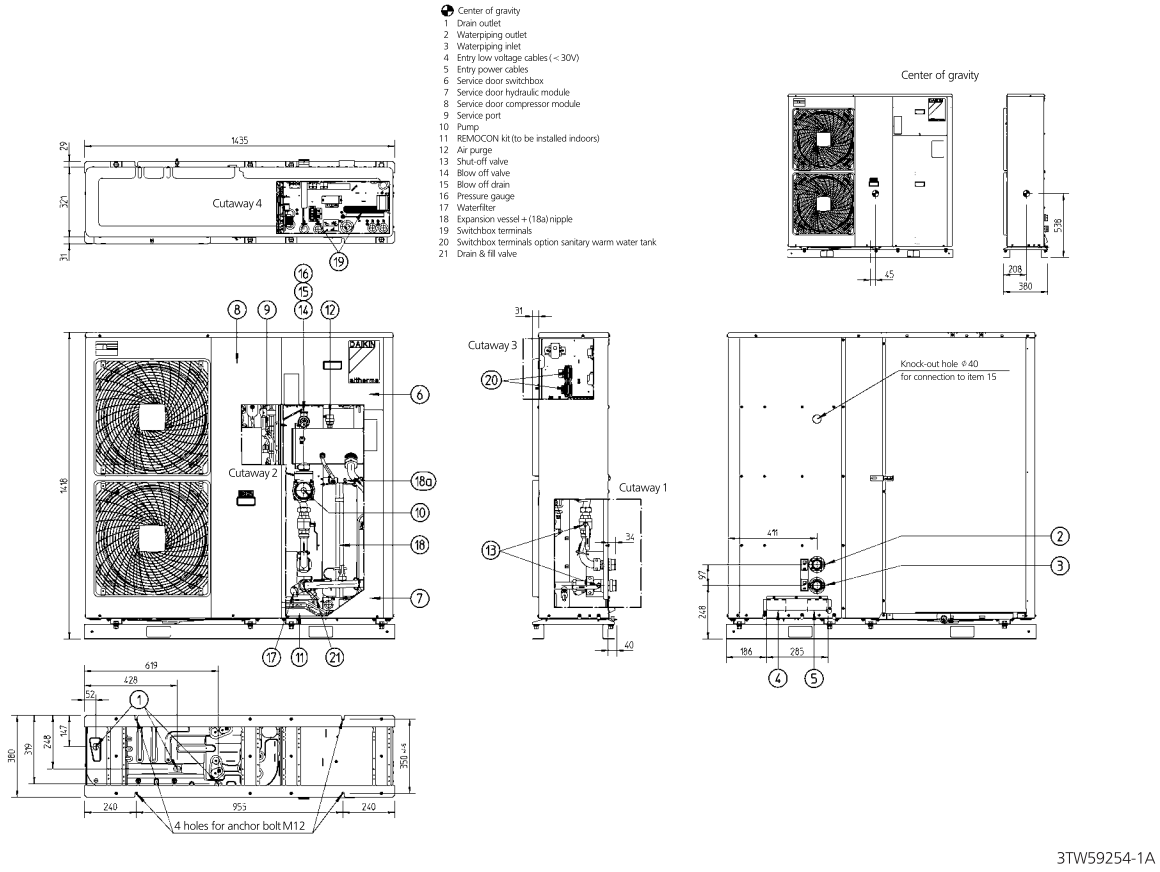
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

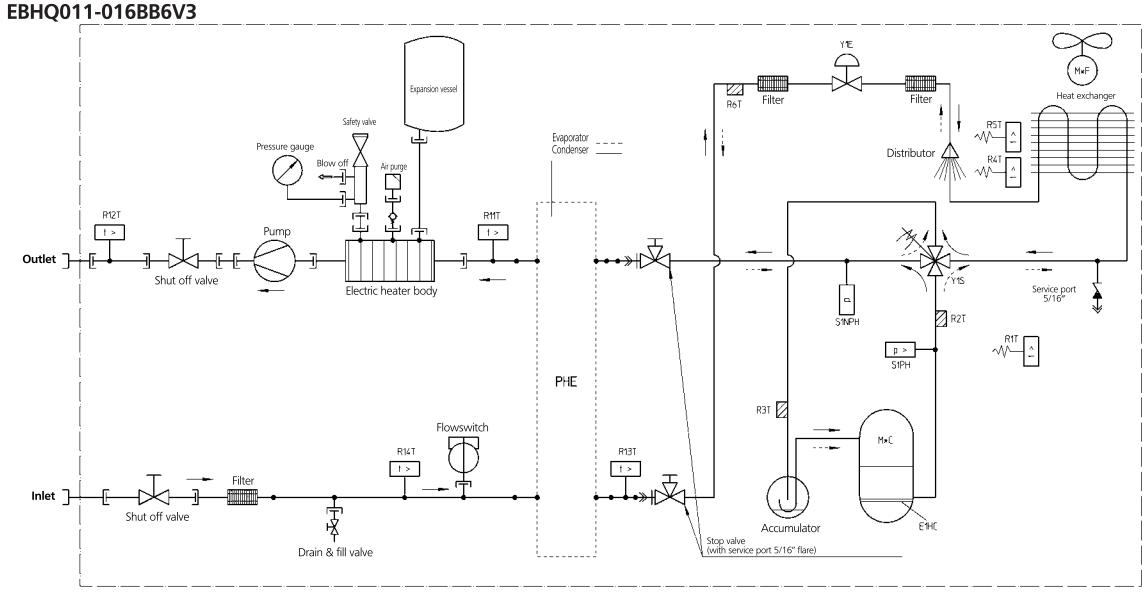
EBHQ011-016BB6V3



6 Piping diagrams

6 - 1 Piping Diagrams

EBHQ011-016BB6V3



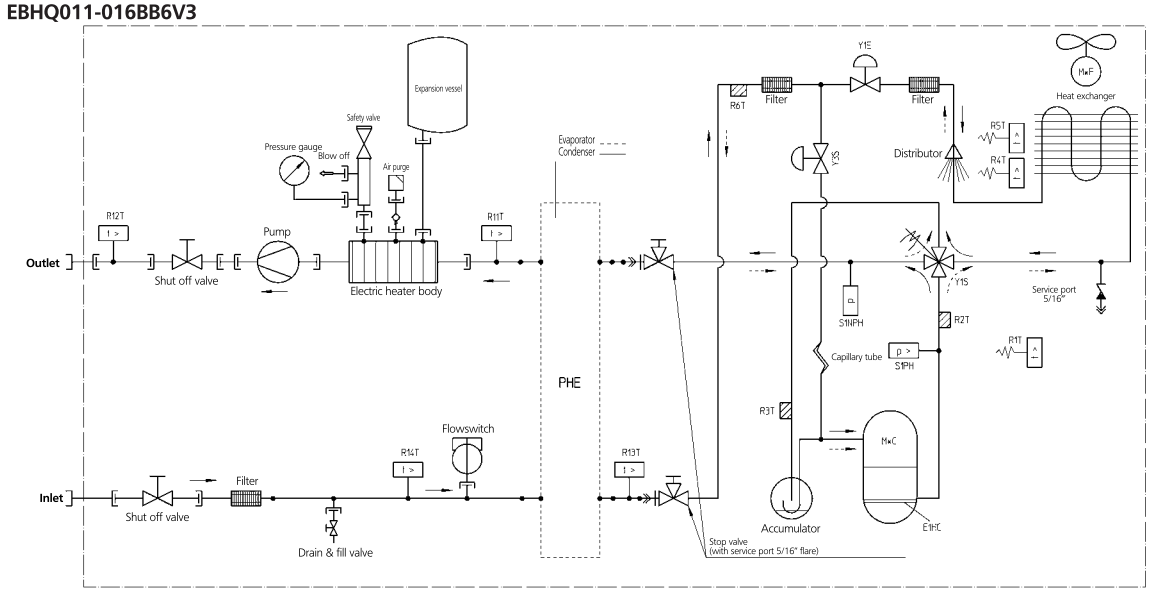
R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

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R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor
E1HC	: Crankcase heater	R14T	: Inlet water thermistor

Heating
Cooling

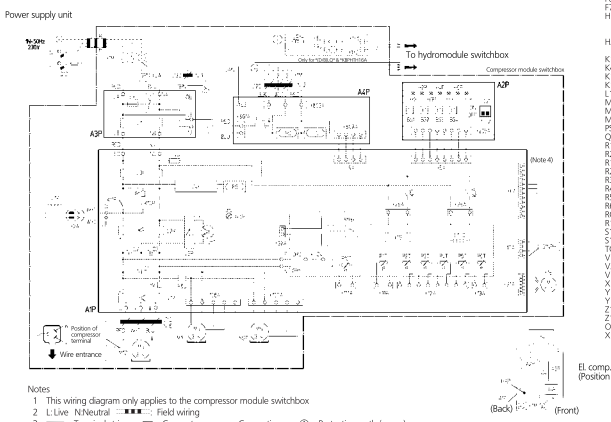
Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59375-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EBHQ011-016BB6V3



A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1–BS4	Push button switch
C1-C4	Capacitor
DS1	DIP switch
E1H	Bottomplate heater
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
F7U, F8U	Fuse (F 1.0A/250V)
H1P–7P(A2P)	Light Emit. Diode (Serv. Monitor-Orange) (H2P) Prepare, Test ---------- Flickering (H2P) Malfunction Detection -- Light up
HAP (A1P)	Light emitting diode (Service monitor green)
K1R	Magnetic relay (Y1S)
K4R	Magnetic relay (E1HC)
K10R	Magnetic relay
K11R	Magnetic relay
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
Q1DI	Earth leakage circuit breaker
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Signal receiver circuit
R10T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
TC	Signal transmission circuit
V1R	Power module
V2R, V3R	Diode module
V1T	IGBT
X1M	Terminal strip (Power supply)
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Z1C–Z3C	Noise filter (ferrity core)
Z1F–Z4F	Noise filter
Optional connector	
X1Y	Connector

Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L: Live N:Neutral : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw)
: Connector : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors BLU: blue, BRN: brown, GRN: green, RED: red, WHT: white, YLW: yellow, ORG: orange, BLK: Black
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
9 Option Wiring depending on model

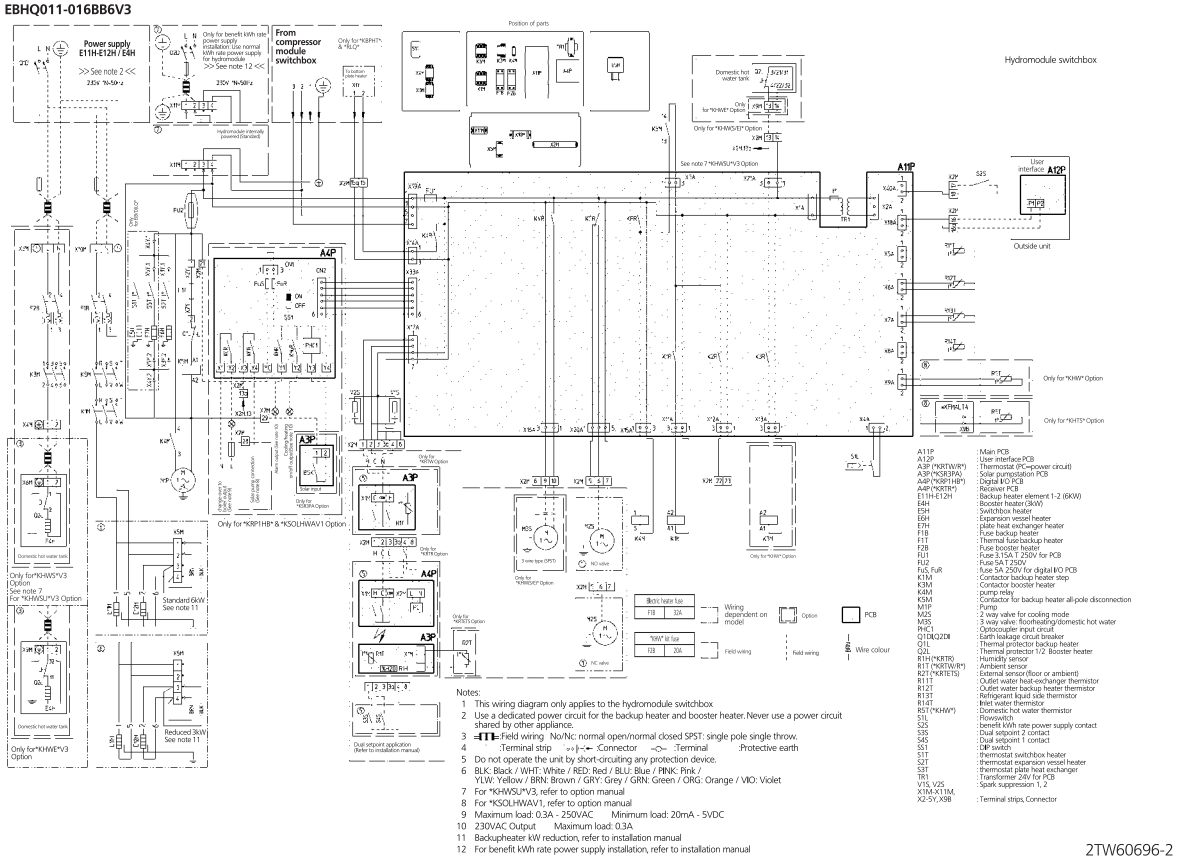
2TW59256-1

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7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

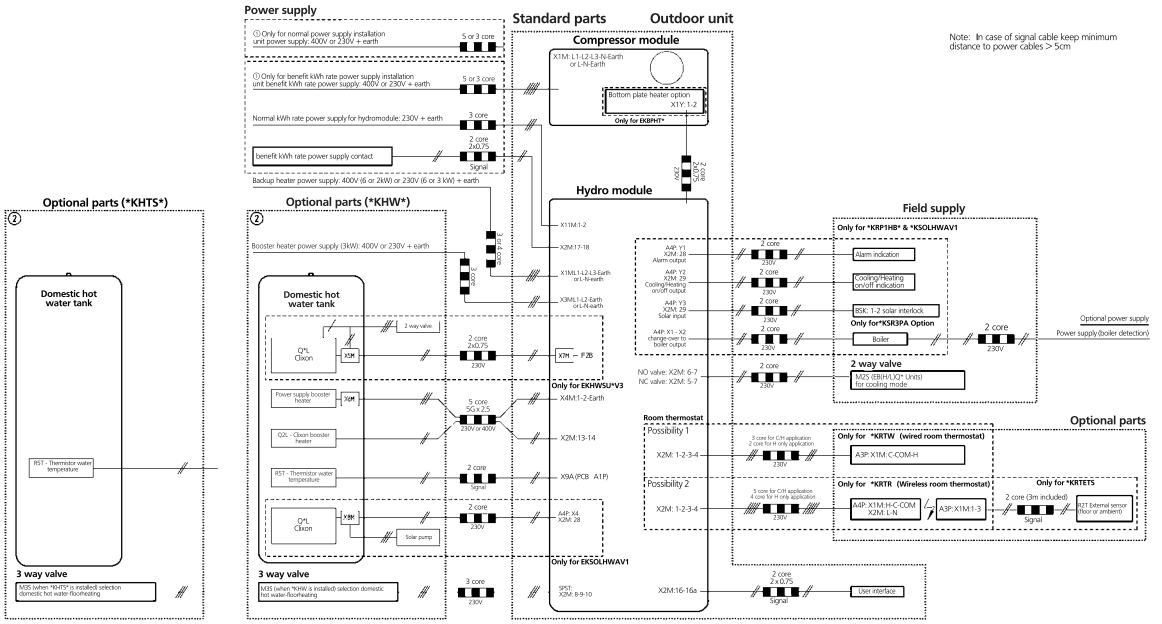
EBHQ011-016BB6V3



8 External connection diagrams

8 - 1 External Connection Diagrams

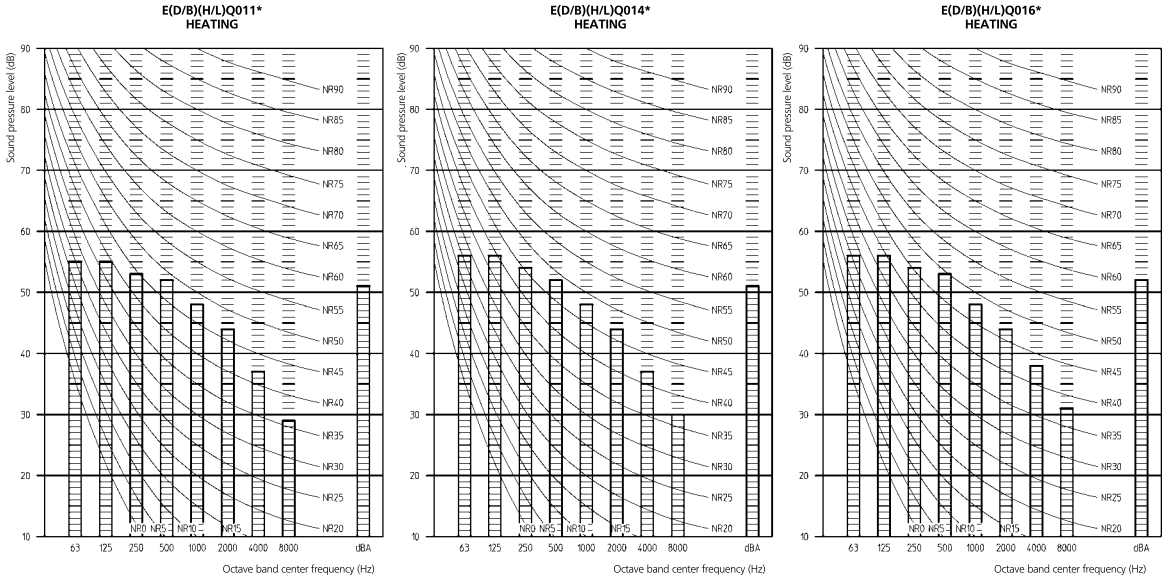
EBHQ011-016BB6V3 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

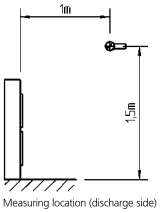
9 - 1 Sound Pressure Spectrum - Heating

EBHQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



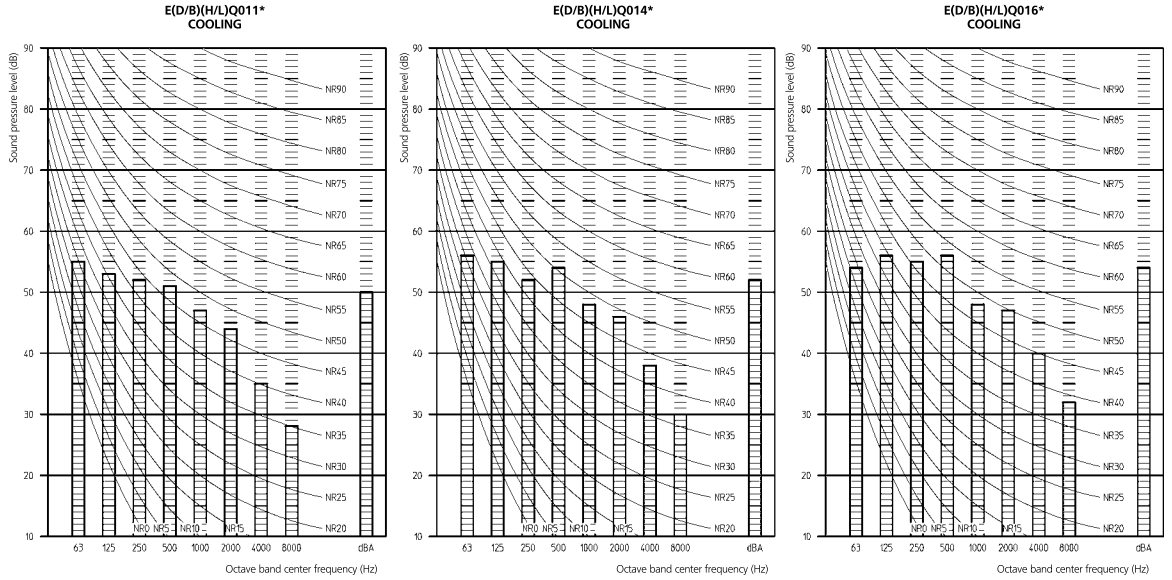
Measuring location (discharge side)

3TW58017-2

9 Sound data

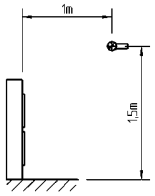
9 - 2 Sound Pressure Spectrum - Cooling

EBHQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

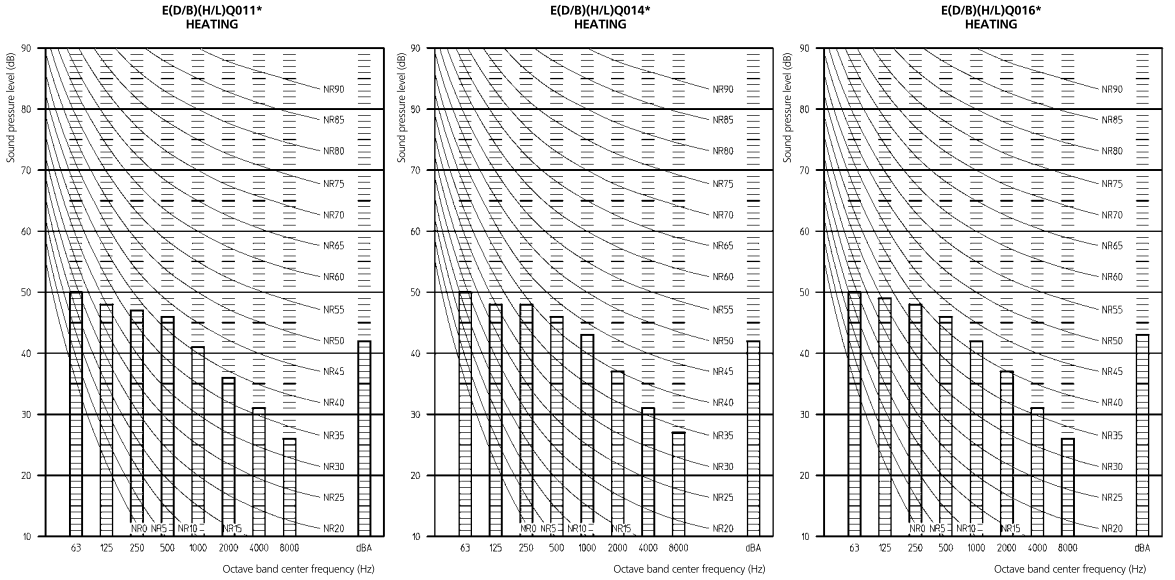
3TW58017-1

17
9

9 Sound data

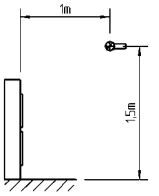
9 - 3 Sound Pressure Spectrum Quiet Mode

EBHQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



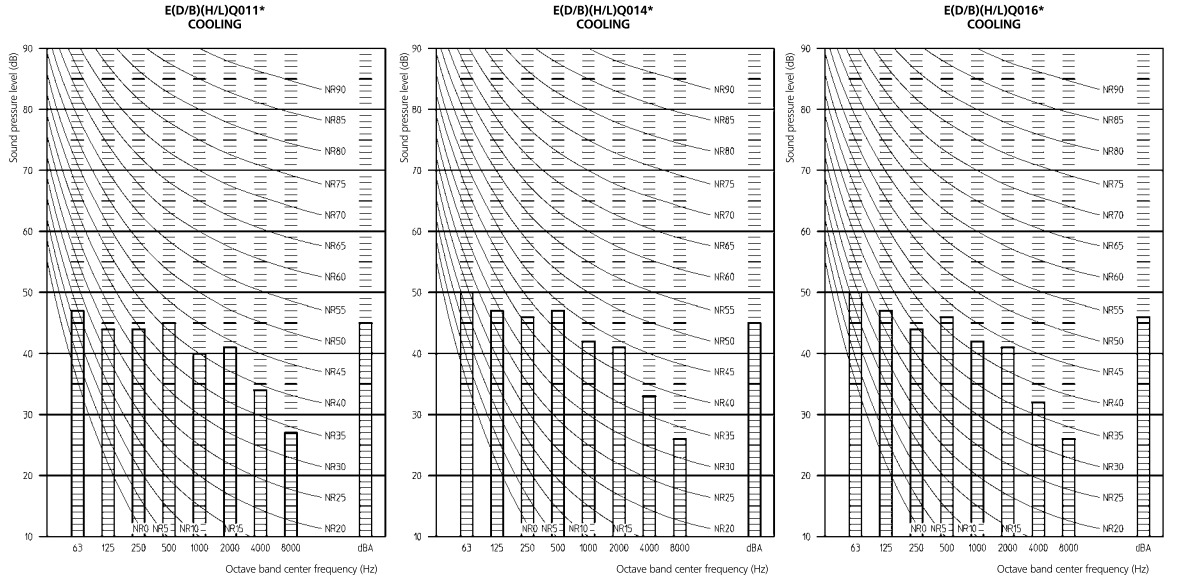
Measuring location (discharge side)

3TW58017-4

9 Sound data

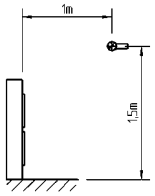
9 - 3 Sound Pressure Spectrum Quiet Mode

EBHQ011-016BB6V3



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

3TW58017-3

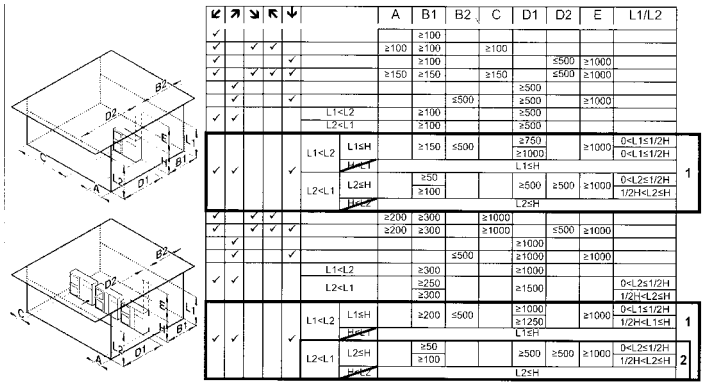
17
9

10 Installation

10 - 1 Installation Method

EBHQ011-016BB6V3

A. Non stacked installation



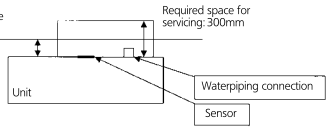
			A	B1	B2	C	D1	D2	E	L1/L2	
✓				≥100							
✓	✓		≥100	≥100		≥100					
✓		✓		≥100				≤500	≥1000		
✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓							≥500			
	✓		✓		≤500			≥500		≥1000	
✓	✓			L1<L2		≥100		≥500			
				L2<L1		≥100		≥500			
✓	✓		✓	L1<L2	L1≤H	≥150	≤500	≥750		≥1000	0<L1≤1/2H
					H<L1			≥1000			0<L1≤1/2H
								L1≤H			
				L2<L1	L2≤H	≥50		≥500	≥500	≥1000	0<L2≤1/2H
					H<L2	≥100					1/2H<L2≤H
								L2≤H			
✓		✓	✓	≥200	≥300		≥1000				
✓		✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓							≥1000			
	✓		✓		≤500			≥1000		≥1000	
✓	✓			L1<L2		≥300		≥1000			
				L2<L1		≥250		≥1500			0<L2≤1/2H
						≥300					1/2H<L2≤H
✓	✓		✓	L1<L2	L1≤H	≥200	≤500	≥1000		≥1000	0<L1≤1/2H
					H<L1			≥1250			1/2H<L1≤H
								L1≤H			
				L2<L1	L2≤H	≥50		≥500	≥500	≥1000	0<L2≤1/2H
					H<L2	≥100					1/2H<L2≤H
								L2≤H			

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

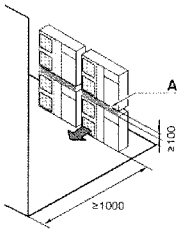


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

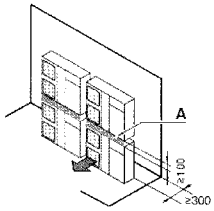
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



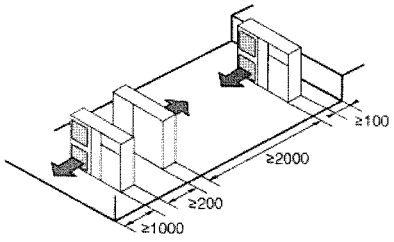
2. Obstacles exist in front of the air inlet



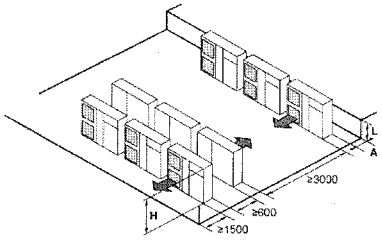
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

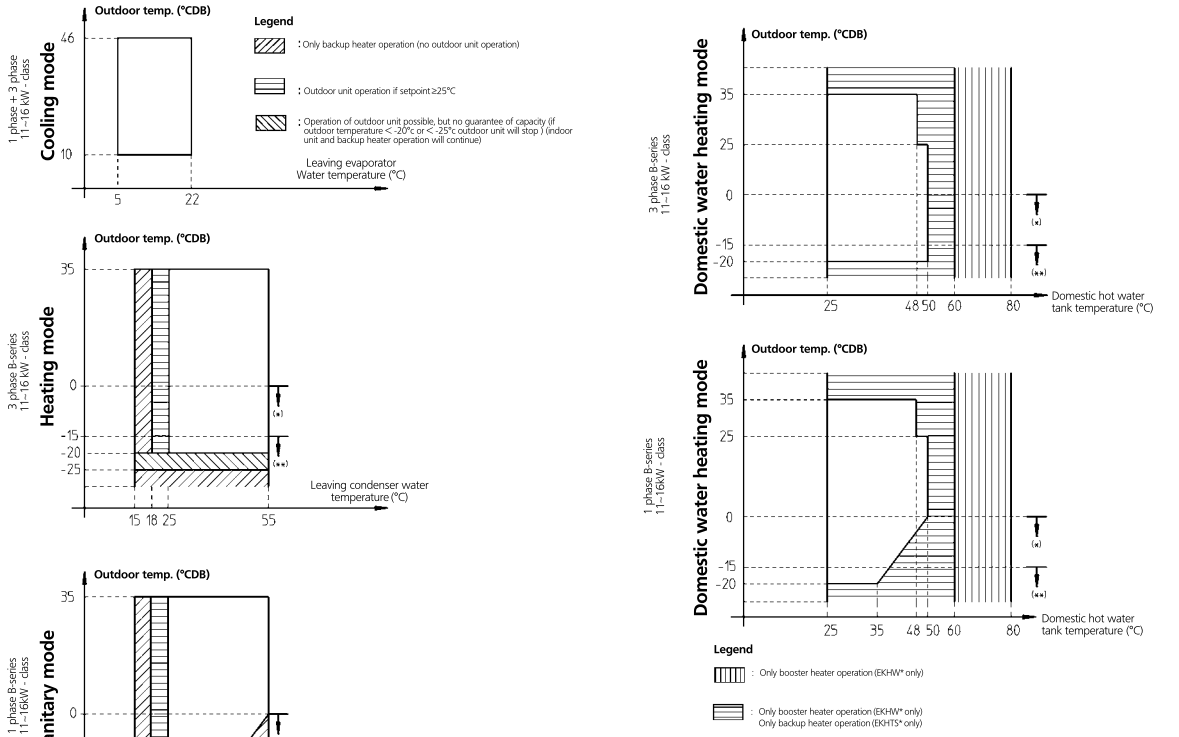
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EBHQ011-016BB6V3



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, ...) to prevent freeze up.

Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

(**) Only EDLQ/EBLQ models allowed.

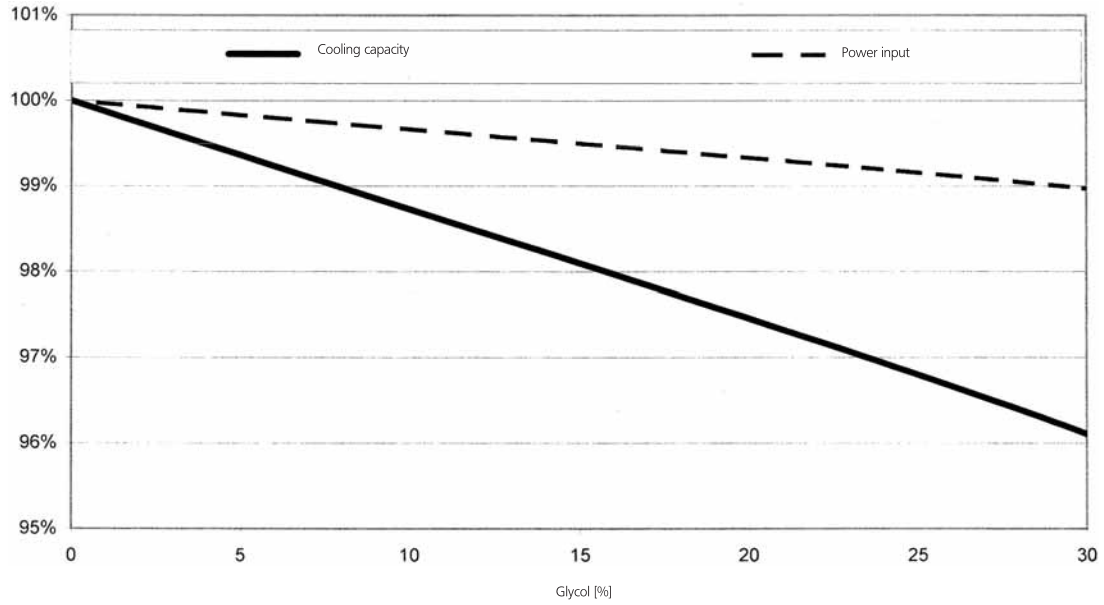
3TW60693-1

17
11

11 Operation range

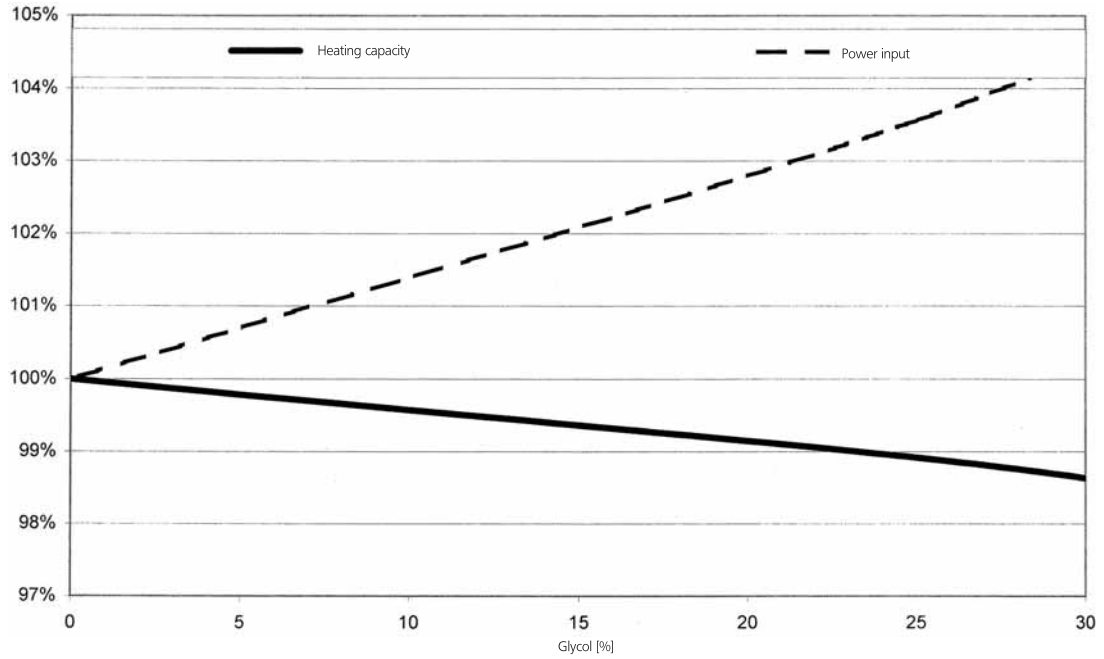
11 - 2 Correction Factors

EBHQ011-016BB6V3 **Performance cooling**



4TW59252-2

EBHQ011-016BB6V3 **Performance heating**

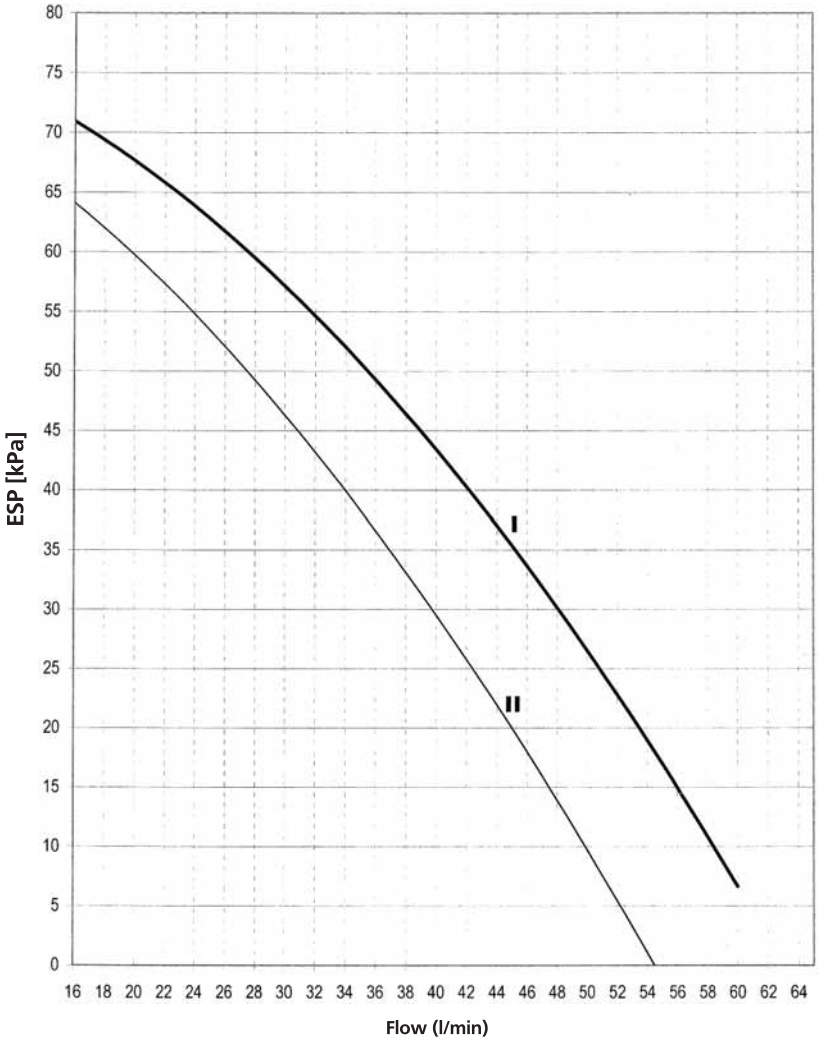


4TW59252-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBHQ011-016BB6V3



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

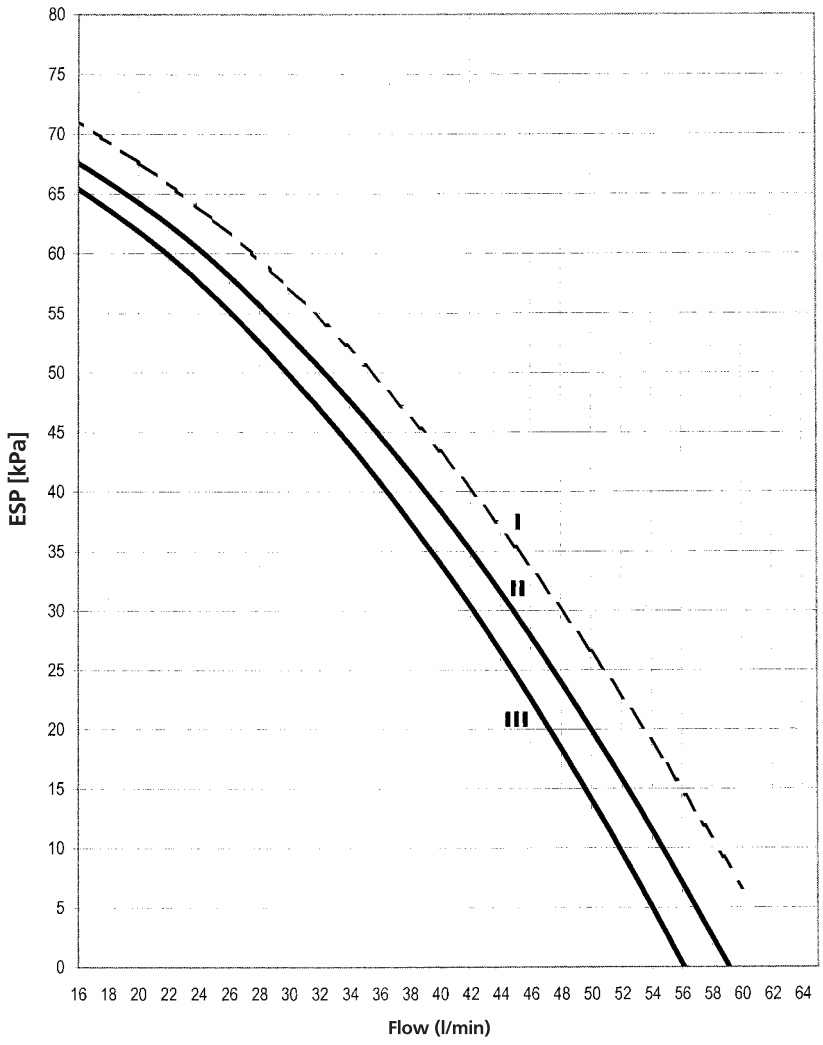
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBHQ011-016BB6V3



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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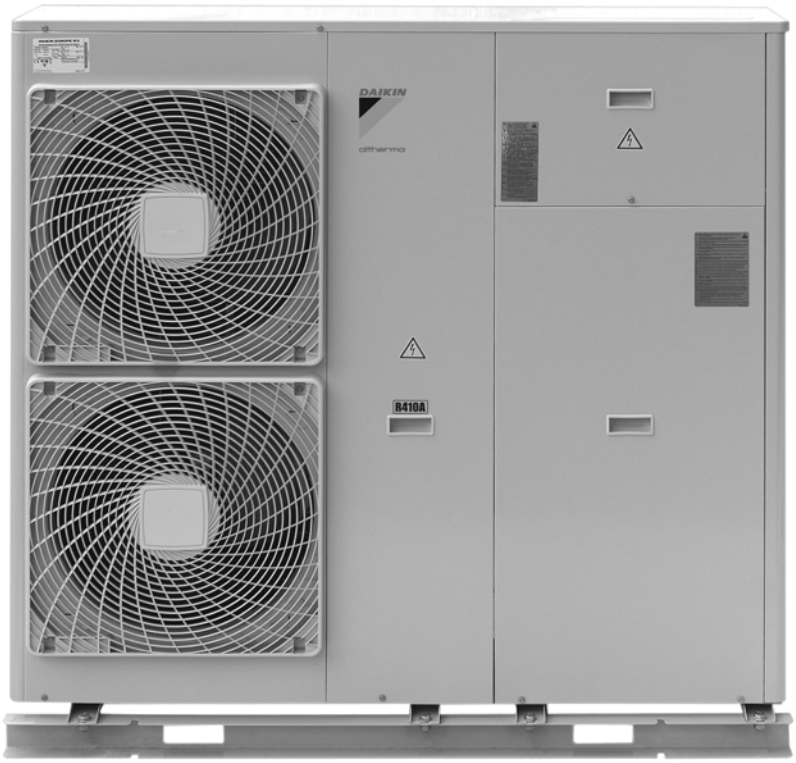
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1 Features

- Reversible monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications					EBHQ011BB6W1	EBHQ014BB6W1	EBHQ016BB6W1
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Cooling capacity	Nom.			kW	12.85 (1) / 10.00 (2)	15.99 (1) / 12.50 (2)	16.73 (1) / 13.10 (2)
Capacity control	Method				Inverter controlled		
Power input	Cooling	Nom.		kW	3.78 (1) / 3.60 (2)	5.32 (1) / 4.98 (2)	6.06 (1) / 5.65 (2)
	Heating	Nom.		kW	2.51 (1) / 3.12 (2)	3.22 (1) / 3.98 (2)	3.72 (1) / 4.58 (2)
COP					4.46 (1) / 3.48 (2)	4.35 (1) / 3.29 (2)	4.30 (1) / 3.29 (2)
EER					3.39 (1) / 2.78 (2)	3.01 (1) / 2.51 (2)	2.76 (1) / 2.32 (2)
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height		mm	1,418		
		Width		mm	1,435		
		Depth		mm	382		
	Packed unit	Height		mm	1,557		
		Width		mm	1,500		
		Depth		mm	430		
Weight	Unit			kg	180		
	Packed unit			kg	200		
Packing	Material				Wood / Carton / Plastic foil		
	Weight			kg	20		
Heat exchanger	Length			mm	857		
	Rows	Quantity			2		
	Fin pitch			mm	1.4		
	Passes	Quantity			5		
	Face area			m^2	1.131		
	Stages	Quantity			60		
	Empty tubeplate hole	Quantity			0		
	Tube type				ø8 Hi-XSS		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Type				Water cooled		
	Nr of speeds				2		
	Nominal ESP unit	Heating		kPa	54.5 (4) / 55.7 (10)	43.3 (4) / 47.1 (10)	34.0 (4) / 38.5 (10)
		Cooling		kPa	58.7 (5)	49.6 (5)	47.1 (5)
	Power input			W	210		
Expansion vessel	Volume			l	10		
	Max. water pressure			bar	3		
	Pre pressure			bar	1.0		
Fan	Type				Propeller fan		
	Quantity				2		
	Discharge direction				Horizontal		
	Air flow rate	Heating	High	m^3/min	90		
		Cooling	High	m^3/min	96	100	97
Fan motor	Quantity				2		
	Model				Brushless DC motor		
	Speed	Steps			8		
		Heating	Nom.	rpm	760		
		Cooling	Nom.	rpm	780		
	Output			W	70		
	Drive				Direct drive		
Compressor	Quantity				1		
	Model				JT1G-VDYR (S)		
	Type				Hermetically sealed scroll compressor		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor	Crankcase heater	Output	W	33		

2 Specifications

2-1 Technical Specifications					EBHQ011BB6W1	EBHQ014BB6W1	EBHQ016BB6W1
Operation range	Heating	Ambient	Min.	ºCWB	-15		
			Max.	ºCWB	35		
		Water side	Min.	ºC	15 (6)		
			Max.	ºC	55 (6)		
	Cooling	Ambient	Min.	ºCDB	10		
			Max.	ºCDB	46		
		Water side	Min.	ºC	5		
			Max.	ºC	22		
	Domestic hot water	Ambient	Min.	ºCDB	-15		
			Max.	ºCDB	43		
		Water side	Min.	ºC	25		
			Max.	ºC	80		
Water side Heat exchanger	Type				Brazed plate		
	Quantity				1		
	Water volume			l	1.01		
	Water flow rate	Heating	Nom.	l/min	32.1 (4) / 31.1 (10)	40.1 (4) / 37.6 (10)	45.9 (4) / 43.2 (10)
		Cooling	Nom.	l/min	28.7 (5)	35.8 (5)	37.6 (5)
		Min.		l/min	16		
		Max.		l/min	58		
	Insulation material				Foamed polyurethane		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Electronic expansion valve		
	Circuits	Quantity			1		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Sound power level	Heating	Nom.		dBA	64	65	66
	Cooling	Nom.		dBA	65	66	69
Sound pressure level	Heating	Nom.		dBA	49	51	53
	Cooling	Nom.		dBA	50	52	54
	Night quiet mode	Heating		dBA	42		43
		Cooling		dBA	45		46
Defrost method					Reversed cycle		
Defrost control					Sensor for outdoor heat exchanger temperature		
Water filter	Diameter perforations			mm	1		
	Material				Brass		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Air purge valve				Yes		
	Total water volume			l	5.5 (7)		
	Minimum water volume in the system			l	20 (9.0)		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications			EBHQ011BB6W1	EBHQ014BB6W1	EBHQ016BB6W1
Optional domestic hot water tank + Q2L	Wiring connections	Quantity	3G		
		Type of wires	Select diameter and type according to national and local regulations / For more details on voltage range and current refer to installation manual		

2 Specifications

2-2 Electrical Specifications					EBHQ011BB6W1	EBHQ014BB6W1	EBHQ016BB6W1
Hydraulic component	Back-up heater current	Type			6W1		
		Power supply	Phase		3~		
			Frequency	Hz	50		
			Voltage	V	400		
		Running current	Back-up heater	A	8.7		
			Back-up heater + booster heater *V3	A	21.7 (8.7+13)		
			Back-up heater + booster heater *Z2	A	16.2 (8.7+7.5)		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Wiring connections	Quantity			4G		
		Type of wires			Select diameter and type according to national and local regulations		
Compressor component	Main power supply	Name			W1		
		Phase			3N~		
		Frequency		Hz	50		
		Voltage		V	400		
	Voltage range	Min.		%	-10		
		Max.		%	10		
	Current	Nominal running current (RLA)	Heating	A	5.8 (4)		
		Maximum running current	Heating	A	14		
		Recommended fuses		A	20		
	Wiring connections	For power supply			See installation manual		
A3P	Wiring connections	Quantity			Depends on thermostat type, refer to installation manual		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M2S	Wiring connections	Quantity			3G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
M3S	Wiring connections	Quantity			3G or 4G		
		Type of wires			Select diameter and type according to national and local regulations / Voltage 230V / Maximum current: 100mA / Minimum: 0.75mm²		
R5T	Wiring connections	Quantity			Wire included in option EKHWS*/EKHTS*		
		Type of wires			Wire included in option EKHWS*/EKHTS*		
Notes					The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.		

Notes

(1) Condition 1: cooling Ta 35ºC - LWE 18ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(2) Condition 2: cooling Ta 35ºC - LWE 7ºC (DT = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (DT = 5ºC)

(3) The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4) Sound levels in heating are measured at: Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(5) Sound levels in cooling are measured at: Ta 35ºC - LWE 7ºC (Dt = 5ºC)

(6) 15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7) Including piping + PHE + back-up heater; excluding expansion vessel

(8) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(9) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(10) Power supply compressor compartment is for compressor, fan, pump and controller

(11) Power supply hydraulic compartment is for the electric heater. The optional domestic hot water tank has a separate power supply.

(12) In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(13) Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(14) The installer can reduce the capacity of the heater from 6 to 2kW. The current is then reduced from 8.7 to 5A. Please refer to the installation manual for instructions.

3 Options

3 - 1 Options

EBHQ011-016BB6W1

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin indoor unit or by an auxiliary boiler connected in the system. The decision whether either the E(D/B)* unit or the boiler will operate can be achieved by an auxiliary contact or an E(D/B)* indoor controlled contact.

This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

The E(D/B)* unit controlled contact (also called 'permission signal for the auxiliary boiler') is determined by the outdoor temperature (thermistor located at the unit).

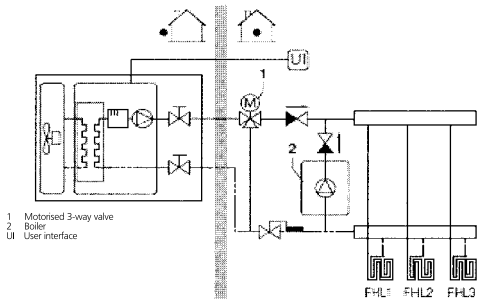
Bivalent operation is only possible for space heating operation, not for domestic water heating operation.

Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.

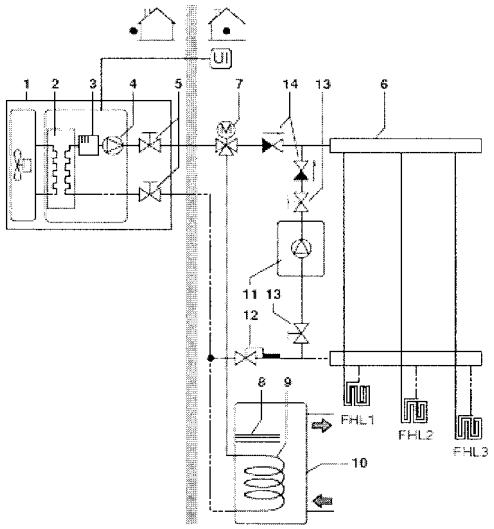
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with the applicable legislation.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



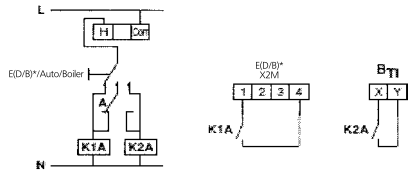
1 Motorised 3-way valve
2 Boiler
UI User interface

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



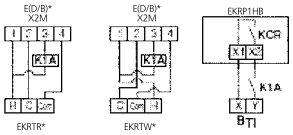
1 Unit
2 Heat exchanger
3 Backup heater [1]
4 Pump
5 Shut-off valve
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
8 Booster heater [2]
9 Heat exchanger coil
10 Domestic hot water tank (optional)
11 Boiler (field supply)
12 Aquastat valve (field supply)
13 Shut-off valve (field supply)
14 Non-return valve (field supply)
FHL1,3 Floor heating loop (field supply)
UI User interface

Field wiring configuration A



BTI Boiler thermostat input
A Auxillary contact (normal closed)
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
E(D/B)* Unit
auto Automatic
boiler Boiler
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
K2A Auxillary relay for activation of boiler (Field supply)

Field wiring configuration B



BTI Boiler thermostat input
C Cooling demand room thermostat
H Heating demand room thermostat (Optional)
Com Common room thermostat (Optional)
K1A Auxillary relay for activation of E(D/B)* unit (Field supply)
KCR Permission signal for the auxillary boiler
E(D/B)* Unit

Operation

- **Configuration A**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the position of the auxillary contact (A).
- **Configuration B**
  When the room thermostat requests heating, either the E(D/B)* unit or the boiler starts operating, depending on the outdoor temperature (status of 'permission signal for auxillary boiler').
  When the permission is given towards the boiler, the space heating operation by the E(D/B)* unit will be automatically switched off.
  For more details see field setting [C-02-C-04]

Notice

- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or tuned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis [C-04] has sufficient differential to avoid frequent changeover between the E(D/B)* unit and the boiler. As the outdoor temperature is measured via the unit's air thermistor, make sure to install the unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the E(D/B)* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

Notice

Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)* switch box correctly.
For configuration B: Make sure to configure the field setting [C-02, C-03 and C-04] correctly.

Notice

Make sure return water to the E(D/B)* heat exchanger never exceeds 55°C.
For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the E(D/B)* unit.
Make sure that the non-return valves (field supply) are correctly installed in the system.
Make sure that the room thermostat EKRTR or EKRTW are not frequently turned ON/OFF.
Daikin shall not be held liable fo any damage resulting from failure to observe this rule.

a The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to E(D/B)* unit again.

Information

Manual permission towards the E(D/B)* unit on the boiler. In case only the E(D/B)* unit should operate in space heating mode, disable the bivalent operation via setting [C-02].
In case only the boiler should operate in space heating mode, increase the bivalent ON temperature [C-03] to 25°C.

3TW60699

3 Options

3 - 1 Options

EBHQ011-016BB6W1

Kit availability

		Altherma Monoblock / Low temperature											
		1-Phase						3-Phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BB6V3			EDHQ***BB6V3			EDLQ***BB6W1			EDHQ***BB6W1		
		EBLQ***BB6V3			EBHQ***BB6V3			EBLQ***BB6W1			EBHQ***BB6W		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
KRP1HB	Digital I/O PCB (1)	0	0	0	0	0	0	0	0	0	0	0	0
*KBPHTH16A	Bottom plate heater	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2)
*KDK04	drain plug kit	-	-	-	O(2)	O(2)	O(2)	-	-	-	O(2)	O(2)	O(2
*KHWS150*3V3	Stainless domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3V3	Stainless domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3V3	Stainless domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU150*3V3	Stainless domestic hot water tank 150L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU200*3V3	Stainless domestic hot water tank 200L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWSU300*3V3	Stainless domestic hot water tank 300L 1~230V (only for UK)	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS200*3Z2	Stainless domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWS300*3Z2	Stainless domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE150*3V3	Enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3V3	Enamel domestic hot water tank 200L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3V3	Enamel domestic hot water tank 300L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2~400V	0	0	0	0	0	0	0	0	0	0	0	0
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150L 1~230V	0	0	0	0	0	0	0	0	0	0	0	0
KHTS200AC	Stainless steel domestic hot water tank 200L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTS260AC	Stainless steel domestic hot water tank 260L	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU200AC	Stainless steel domestic hot water tank 200L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KHTSU260AC	Stainless steel domestic hot water tank 260L (only for UK)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)	O(4)
KRTW	Wired room thermostat option kit	0	0	0	0	0	0	0	0	0	0	0	0
KRTR	Wireless room thermostat option kit (incl. receiver)	0	0	0	0	0	0	0	0	0	0	0	0
*KRTETS	External temperature sensor option kit (3)	0	0	0	0	0	0	0	0	0	0	0	0

Remark: Other combinations are not guaranteed

(1) Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included
(2) It is not allowed to combine bottom plate heater and drain plug kit.
(3) *KRTETS can only be used in combination with *KRTR.
(4) A connection kit *KFMALTA is required.

Note:
E(B/D)L units include special equipment (insulation, heater sheet, . . .) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the E(B/D)L must be installed instead.

Kit availability for *KHW*

Reference	Description												
		#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU 150~300*3V3	-	-	-	-	-	-	0	0	0	0	0	0
*KUHWB	Option kit 1 for UK *KHWSU 150~300*3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	0	0	0
*KUHW2WB	Option kit 2 for UK *KHWSU 150~300 3V3 (4)	-	-	-	-	-	-	O(2)	O(2)	O(2)	O(3)	O(3)	O(3)
*KSOLHWAV1	Solarkit (1)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSR3PA	Control panel	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KSRDS1A	Pump station	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)	O(5)
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	0	-	-	0	-	-	0	-	-

Remark: Other combinations are not guaranteed

(1) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
(2) If installation on tank A version both kits are required
(3) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
(4) *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
*KUHW2WB = 2 way valve and 2 way valve accessories
(5) A digital I/O PCB wich is required when connecting the solar kit, is supplied with the solar kit

Kit availability for *KHTS*

Reference	Description				
		#			
	EKHTS*	200	260		
	EKHTSU*			200	260
*KFMALTA	Option kit for *KHTS*200~260 (1)	0	0	0	0
*KUHWHTA	Option kit for *KHTSU200~260	-	-	0	0

(1) This option kit is necessary to connect *KHTS* to *(B/D)(H/L)Q*BB*

3TW59259-1A

4 Capacity tables

4 - 1 Heating Capacity Tables

EBHQ011-016BB6W1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
	T_{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
	20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,67	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
	20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
	20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D;V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

4 Capacity tables

4 - 2 Cooling Capacity Tables

EBHQ011-016BB6W1

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6W1	**7**	11,08	2,70	10,99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6W1	**7**	13,87	3,78	13,75	4,12	13,29	4,52	12,50	4,98	11,08	4,78	9,81	5,27
	10	14,92	3,84	14,79	4,20	14,28	4,61	13,43	5,07	11,92	4,86	10,56	5,35
	13	16,38	3,90	16,23	4,27	15,68	4,69	14,75	5,16	13,09	4,94	10,95	5,43
	15	17,39	3,95	17,23	4,32	16,64	4,75	15,66	5,22	13,91	5,00	11,35	5,30
	18	18,92	4,02	18,28	4,40	17,29	4,83	15,99	5,32	13,99	5,09	11,49	4,89
	22	21,07	4,11	20,37	4,51	19,28	4,95	17,85	5,44	15,65	5,21	12,05	4,36
EB(H/L)Q016*6W1	**7**	14,52	4,30	14,44	4,70	13,95	5,15	13,10	5,65	11,57	5,39	9,84	5,28
	10	15,65	4,39	15,53	4,80	14,99	5,26	14,07	5,76	12,43	5,49	10,59	5,37
	13	17,19	4,48	17,05	4,90	16,45	5,36	15,44	5,87	13,64	5,59	10,98	5,45
	15	18,26	4,54	18,09	4,97	17,46	5,43	16,39	5,95	14,49	5,66	11,38	5,32
	18	19,87	4,64	19,20	5,07	18,14	5,54	16,73	6,06	14,57	5,76	11,52	4,91
	22	22,14	4,77	21,39	5,21	20,21	5,70	18,66	6,22	16,28	5,91	12,08	4,38

3TW58012-1C

SYMBOLS

CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)

PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)

LWE : Leaving Water Evaporator temperature (°C)

LWC : Leaving Water Condensor temperature (°C)

Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Conditions

1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C
Capacity values may not be extrapolated below 7°C leaving water temperature

2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8°C

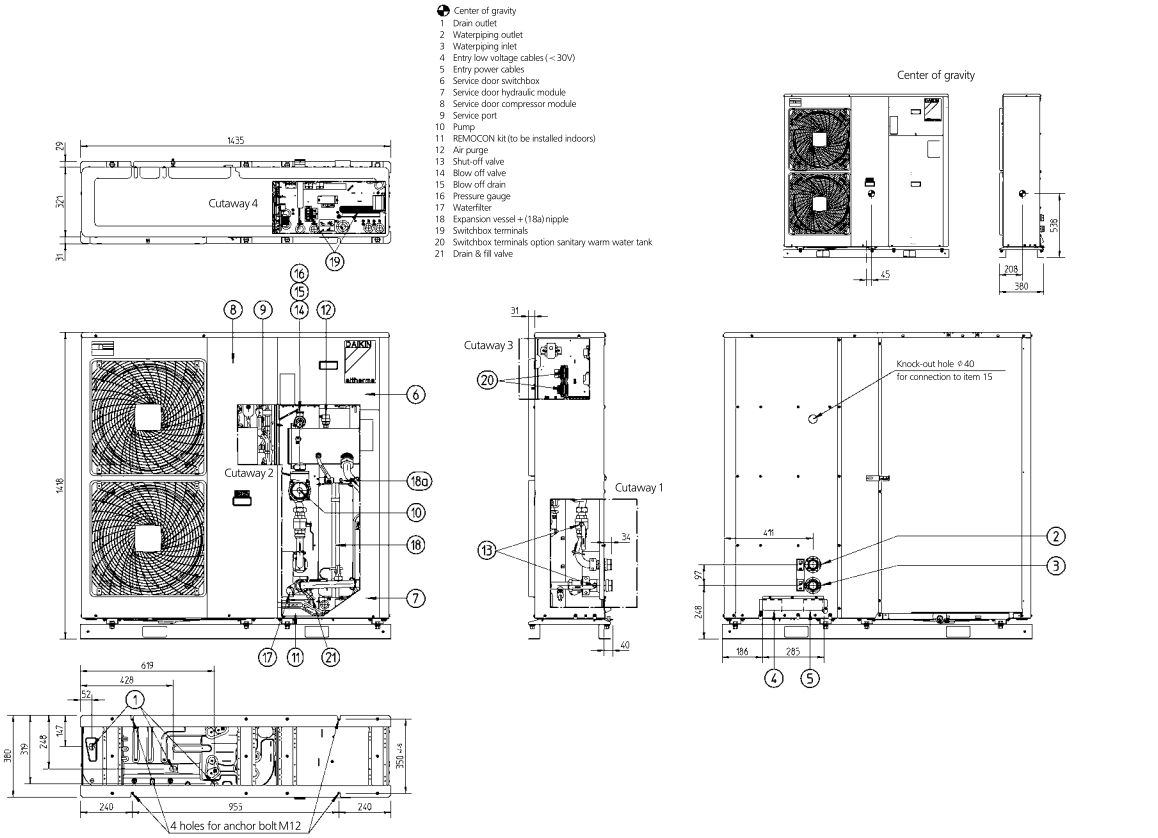
3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp (default = 3°C): for more details see installationmanual of indoor unit.

5 Dimensional drawings and Center of gravity

5 - 1 Dimensional Drawings

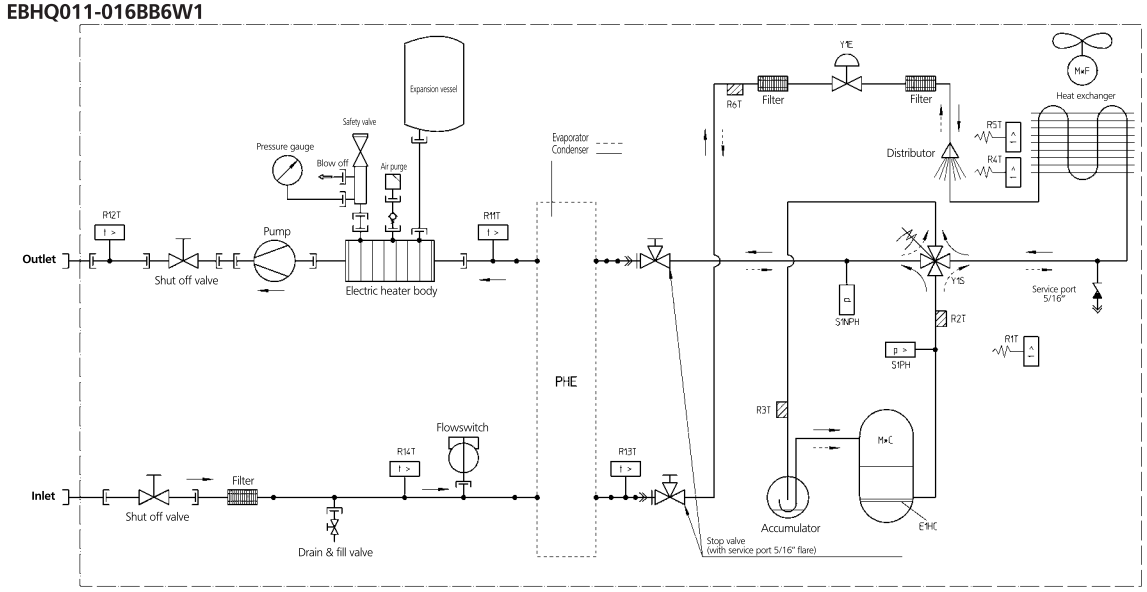
EBHQ011-016BB6W1



6 Piping diagrams

6 - 1 Piping Diagrams

EBHQ011-016BB6W1

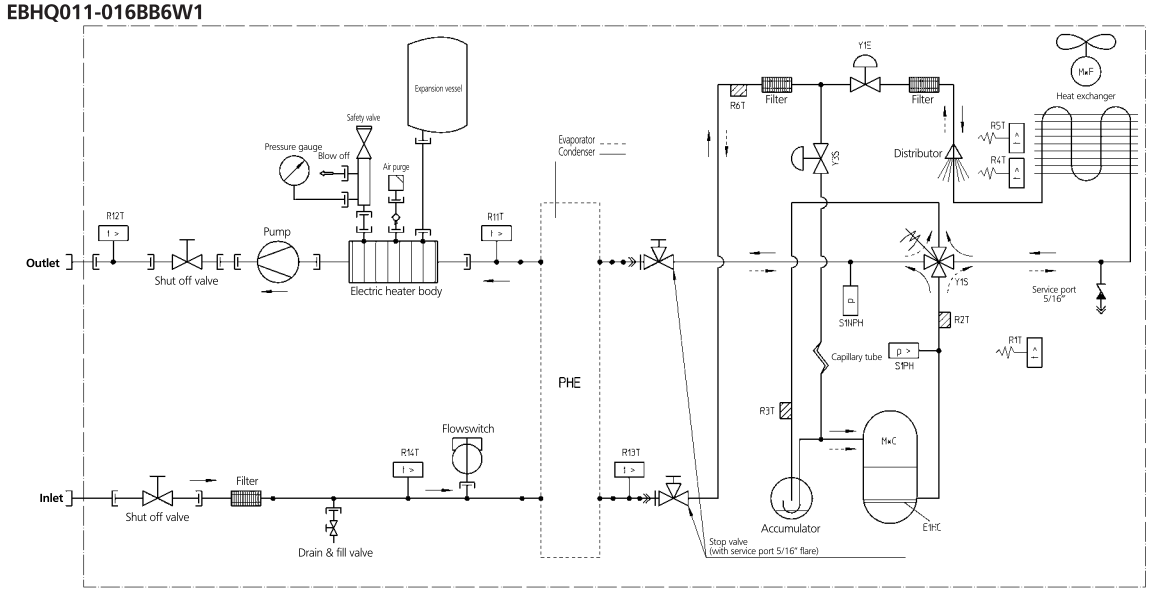


R1T	: Thermistor (Air)	Y1S	: 4-way valve		Heating
R2T	: Thermistor (discharge)	Y3S	: Injection valve		Cooling
R3T	: Thermistor (Suction)	S1PH	: High pressure switch		
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor		
R5T	: Thermistor (middle)	M*C	: Compressor		
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor		
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor		
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor		
E1HC	: Crankcase heater	R14T	: Inlet water thermistor		

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

3TW59255-1

EBHQ011-016BB6W1



R1T	: Thermistor (Air)	Y1S	: 4-way valve		Heating
R2T	: Thermistor (discharge)	Y3S	: Injection valve		Cooling
R3T	: Thermistor (Suction)	S1PH	: High pressure switch		
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor		
R5T	: Thermistor (middle)	M*C	: Compressor		
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor		
S1NPH	: Pressure sensor	R12T	: Outlet water backup heater thermistor		
Y1E	: Electronic expansion valve	R13T	: Refrigerant liquid side thermistor		
E1HC	: Crankcase heater	R14T	: Inlet water thermistor		

Check valve | Flare connection | Screw connection | Flange connection | Pinched pipe | Spinned pipe

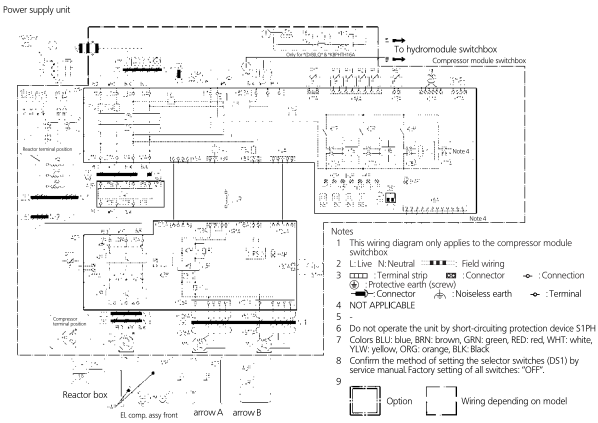
3TW59375-1

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6

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

EBHQ011-016BB6W1



Notes
1 This wiring diagram only applies to the compressor module switchbox
2 L: Live N: Neutral : Field wiring
3 : Terminal strip : Connector : Connection : Protective earth (screw) : Noiseless earth : Terminal
4 NOT APPLICABLE
5 -
6 Do not operate the unit by short-circuiting protection device S1PH
7 Colors BLU: blue, BRN: brown, GRN: green, RED: red, WHT: white, YLW: yellow, ORG: orange, BLK: Black
8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
9 Option Wiring depending on model

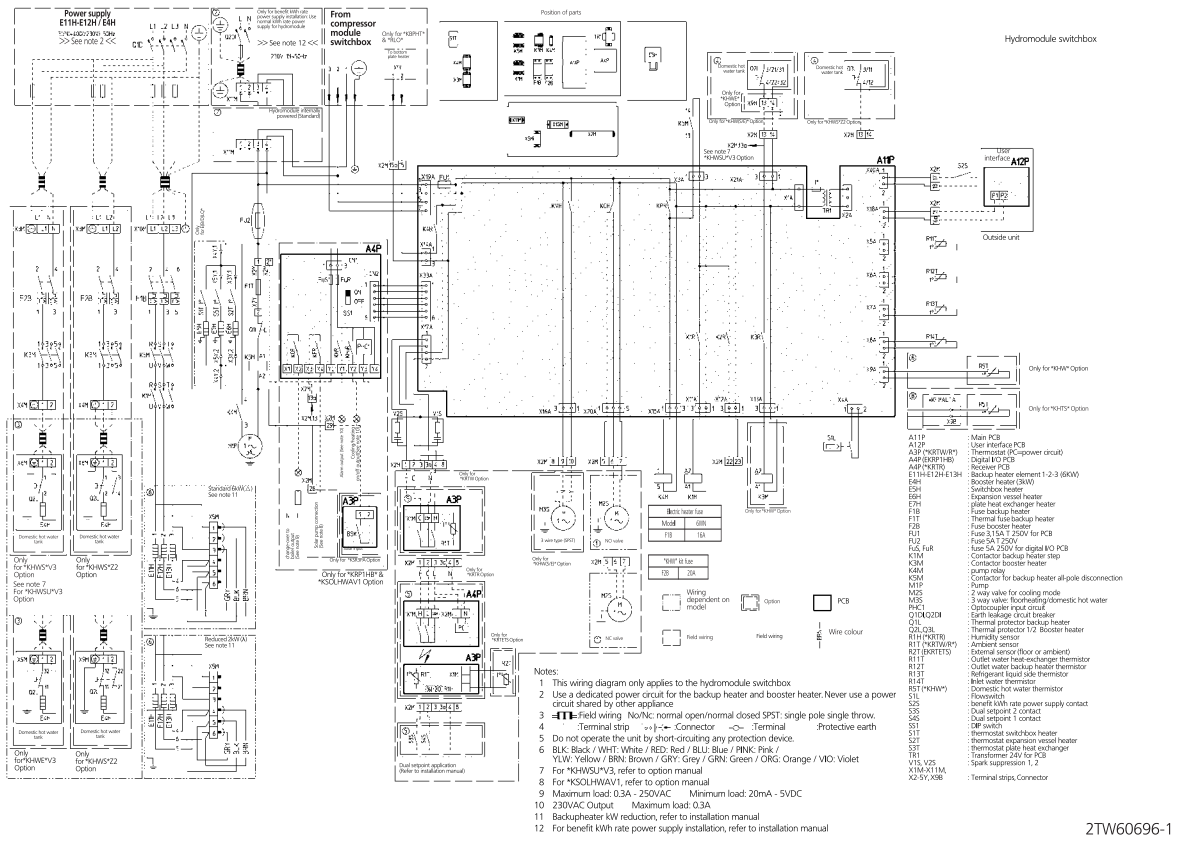
A1P	Printed circuit board
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
BS1–BS4	Push button switch
C1-C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
E1H	Bottomplate heater
F1U	Fuse (31.5A 250V)
F2U	Fuse (31.5A 250V)
F3U	Fuse (T 6.3A/250V)
F4U	Fuse (T 6.3A/250V)
F5U	Fuse (T 6.3A/250V)
F6U	Fuse (T 6.3A/250V)
F7U	Fuse (T 5.0A/250V)
FB2, F9U	Fuse (F 1.0A/250V)
HAP (A1P)	Pilot lamp (Service monitor-green)
HAP (A2P)	Pilot lamp (Service monitor-green)
H1P–7P (A1P)	Pilot lamp (service monitor-orange)
K1M - K2M	Magnetic contactor
K1R (A1P)	Magnetic relay (Y1S)
K1R (A2P)	Magnetic relay
K2R (A1P)	Magnetic relay (Y2S)
K3R (A1P)	Magnetic relay (E1HC)
L1R – L3R	Reactor
L4R	Reactor (For outdoor fan motor)
M1C	Motor (Compressor)
M1F	Motor (Fan) (upper)
M2F	Motor (Fan) (lower)
PS	Switching power supply
R1 – R4	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
R7T	Thermistor (Fin)
S1NPH	Pressure sensor
S1PH	Pressure switch (high)
V1R–V2R	Power module
V3R	Diode module
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4 way valve)
Y3S	Solenoid valve
Z1C–Z9C	Noise filter
Z1F–Z4F	Noise filter
Q1DI	Earth leakage circuit breaker
Optional connector	
X6A	Connector
X77A	Connector
X1Y	Connector

2TW59376-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

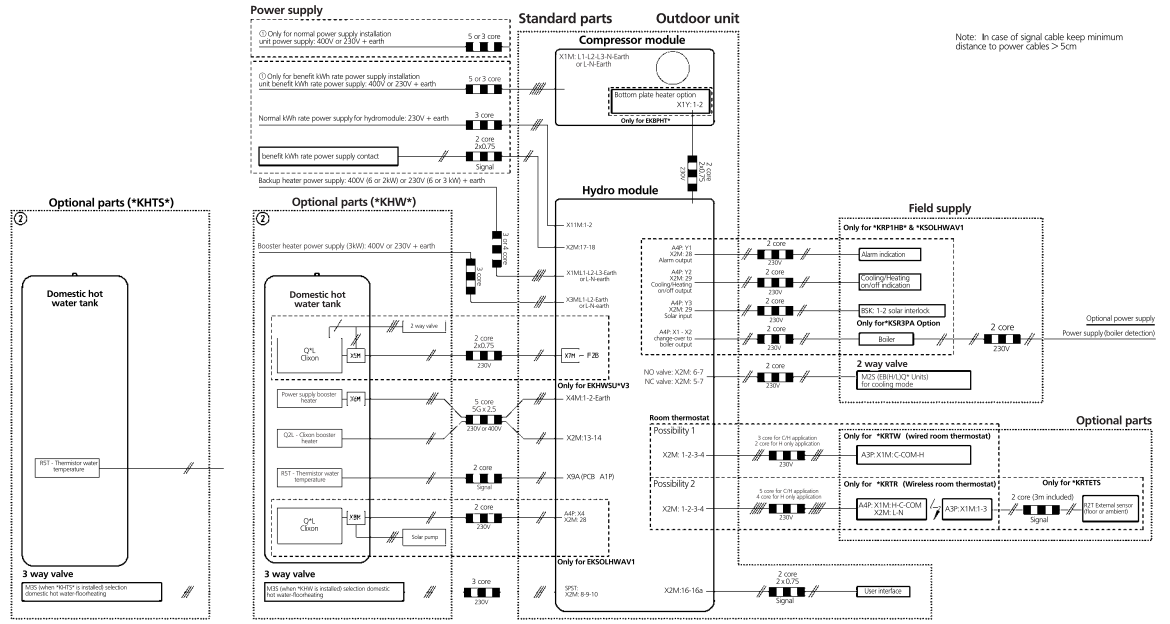
EBHQ011-016BB6W1



8 External connection diagrams

8 - 1 External Connection Diagrams

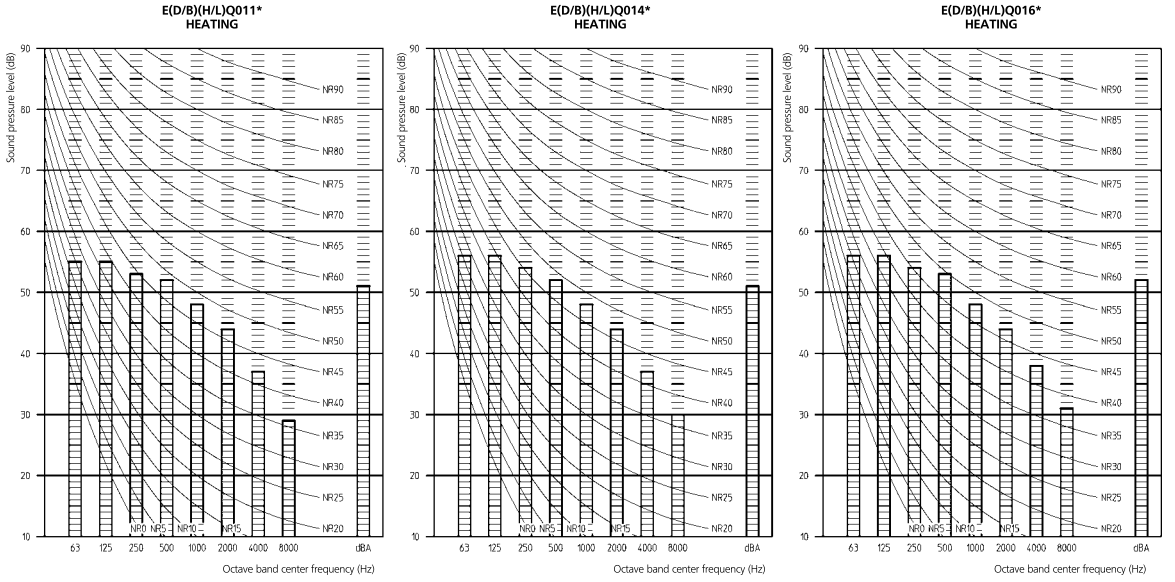
EBHQ011-016BB6W1 **Electrical connection diagram Altherma** For more details please check unit wiring diagram



9 Sound data

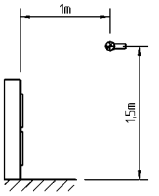
9 - 1 Sound Pressure Spectrum - Heating

EBHQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



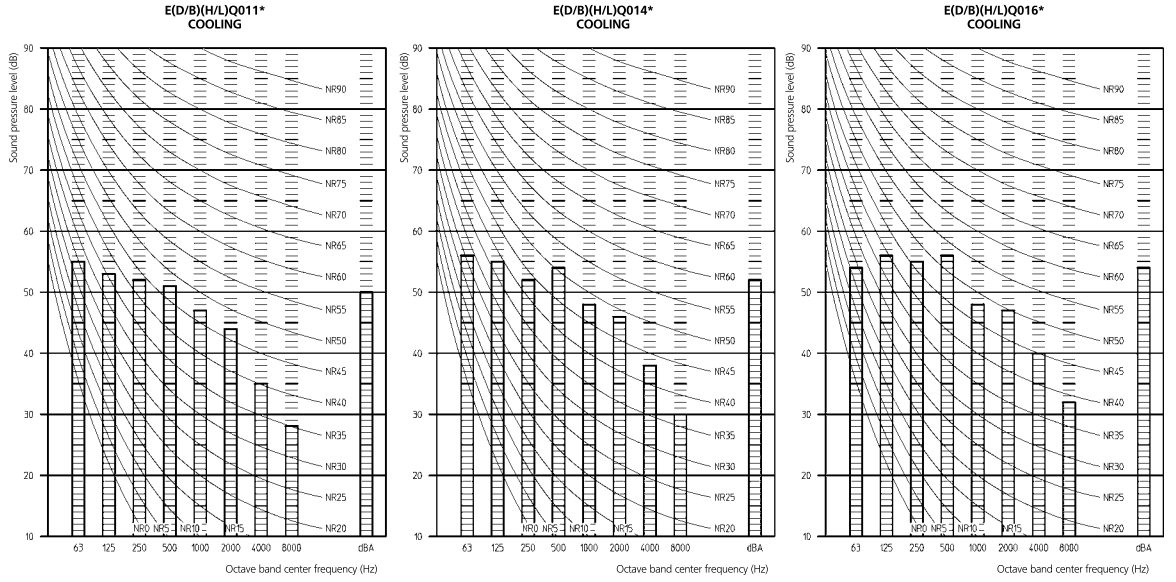
Measuring location (discharge side)

3TW58017-2

9 Sound data

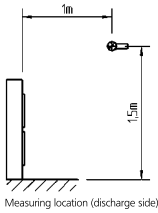
9 - 2 Sound Pressure Spectrum - Cooling

EBHQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



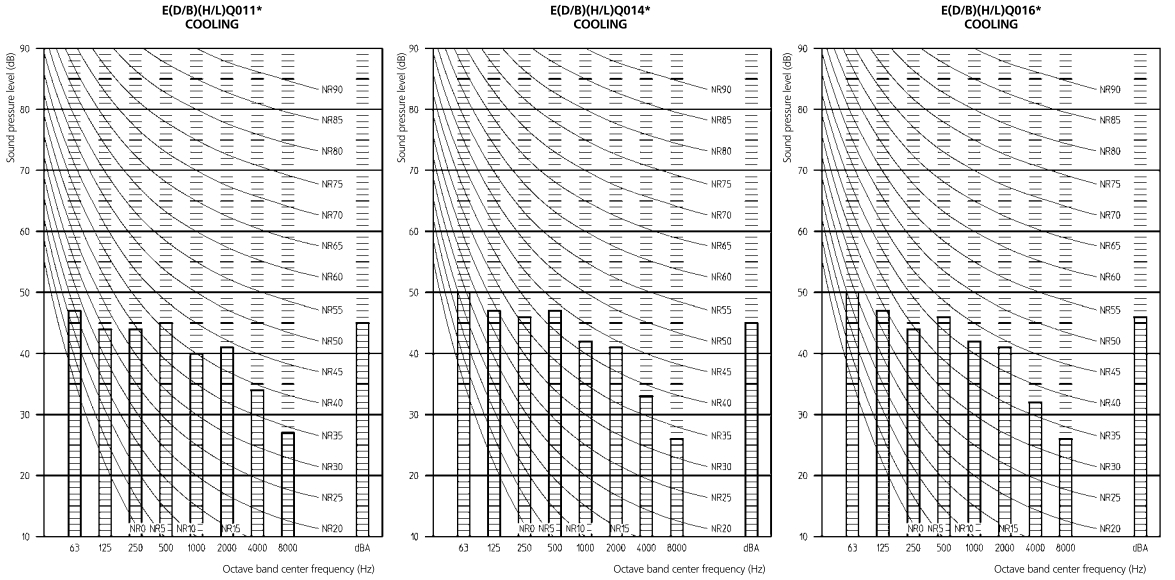
3TW58017-1

18
9

9 Sound data

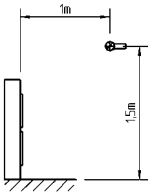
9 - 3 Sound Pressure Spectrum Quiet Mode

EBHQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20μPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



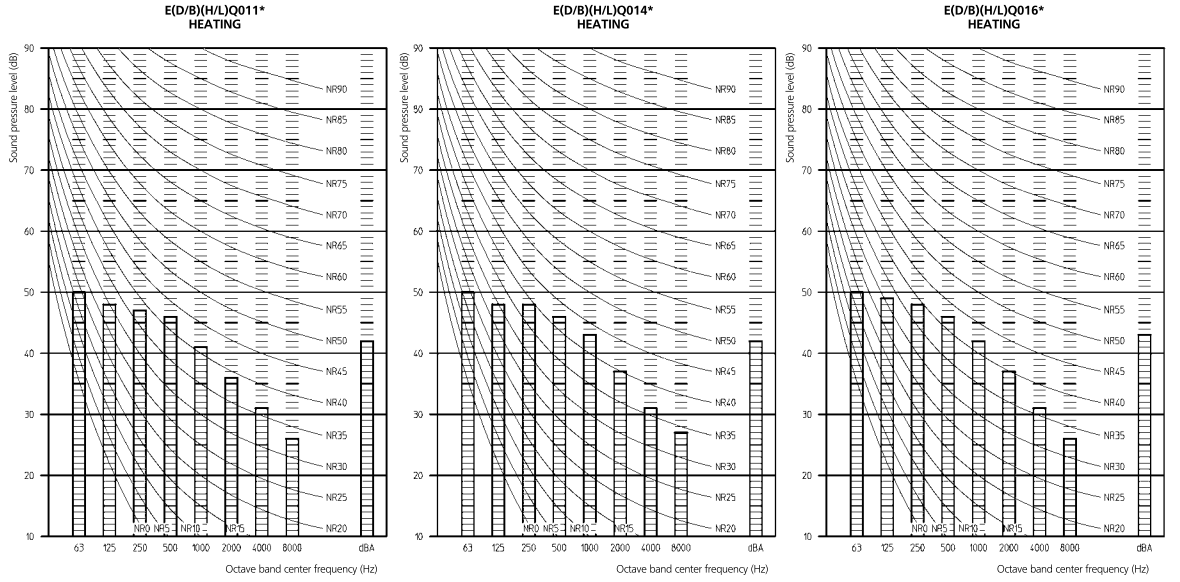
Measuring location (discharge side)

3TW58017-3

9 Sound data

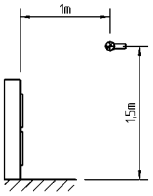
9 - 3 Sound Pressure Spectrum Quiet Mode

EBHQ011-016BB6W1



Notes:

1. Data is valid at free field condition (measured in a semi-anachoic room)
2. dBA = A-weighted sound power level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20µPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



Measuring location (discharge side)

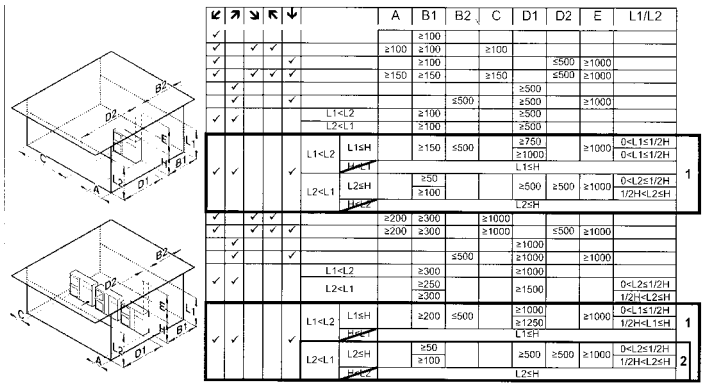
3TW58017-4

10 Installation

10 - 1 Installation Method

EBHQ011-016BB6W1

A. Non stacked installation



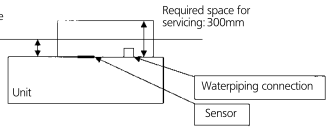
			A	B1	B2	C	D1	D2	E	L1/L2	
✓			≥100	≥100							
✓	✓		≥100	≥100		≥100					
✓		✓	≥100	≥100				≤500	≥1000		
✓	✓	✓	≥150	≥150		≥150		≤500	≥1000		
	✓						≥500				
	✓	✓			≤500		≥500		≥1000		
✓	✓			≥100			≥500				
		L1<L2		≥100			≥500				
		L2<L1		≥100			≥500				
✓	✓	L1<L2 L1≤H		≥150	≤500		≥750 ≥1000		≥1000	0<L1≤1/2H 0<L1≤1/2H	
		L1<L2 H<L1					L1≤H				
	✓	L2<L1 L2≤H		≥50 ≥100			≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2≤H	1
		L2<L1 H<L2					L2≤H				
✓			≥200	≥300		≥1000					
✓	✓		≥200	≥300		≥1000		≤500	≥1000		
	✓				≤500		≥1000				
	✓						≥1000		≥1000		
✓	✓	L1<L2		≥300			≥1000				
		L2<L1		≥250 ≥300			≥1500			0<L2≤1/2H 1/2H<L2≤H	
		L1<L2 L1≤H		≥200	≤500		≥1000 ≥1250		≥1000	0<L1≤1/2H 1/2H<L1≤H	1
✓	✓	L1<L2 H<L1					L1≤H				
	✓	L2<L1 L2≤H		≥50 ≥100			≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2≤H	2
		L2<L1 H<L2					L2≤H				

Legend Unit: mm

- Suction side obstacle
- Discharge side obstacle
- Left side obstacle
- Right side obstacle
- Top side obstacle
- ✓ Obstacle is present

This situation is not allowed.

Note:
100mm is min. space required for correct operation

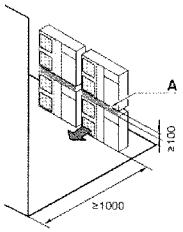


1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

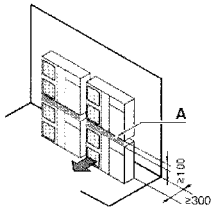
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



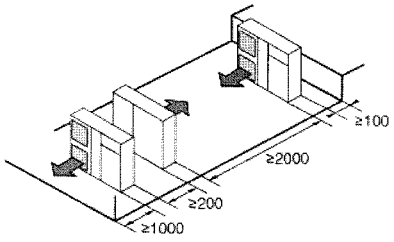
2. Obstacles exist in front of the air inlet



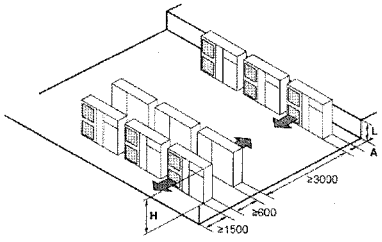
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

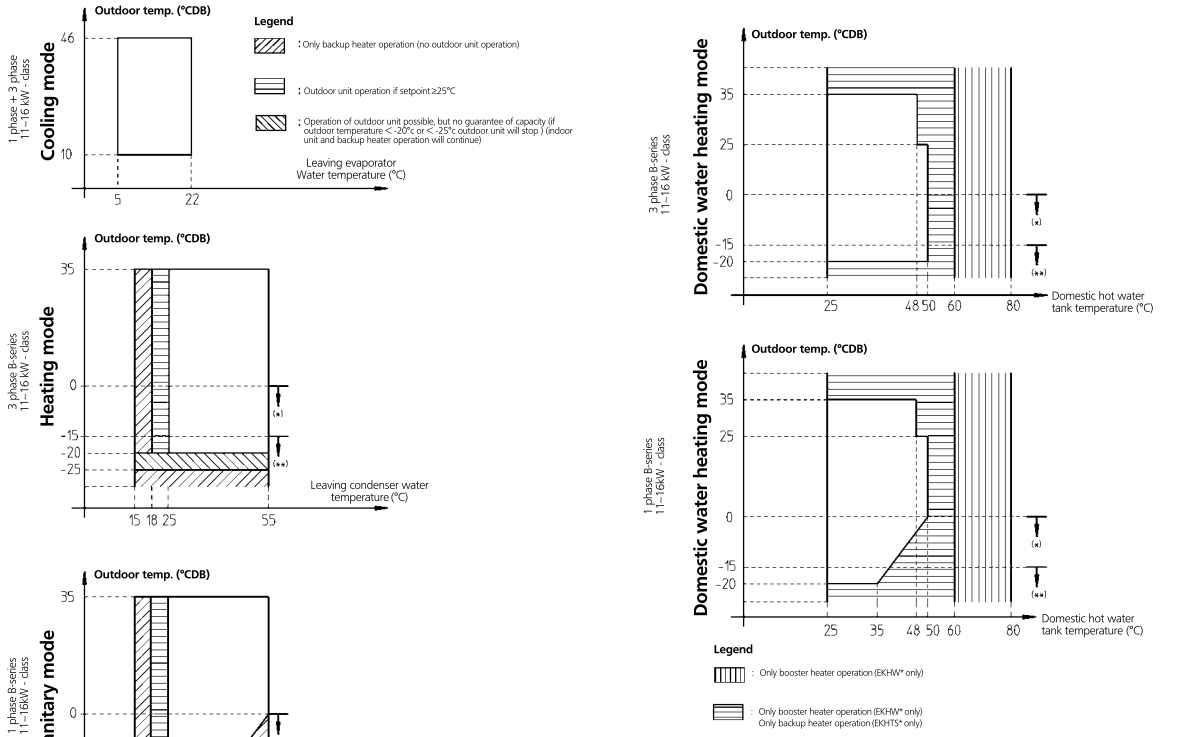
	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW58019-6B

11 Operation range

11 - 1 Operation Range

EBHQ011-016BB6W1



(*) EDLQ/EBLQ units include special equipment (insulation, heater, sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the EDHQ/EBHQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the EDLQ/EBLQ models must be installed instead. These models contain countermeasures (insulation, heater sheet, ...) to prevent freeze up.

Both E(D/B)LQ and E(D/B)HQ units have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

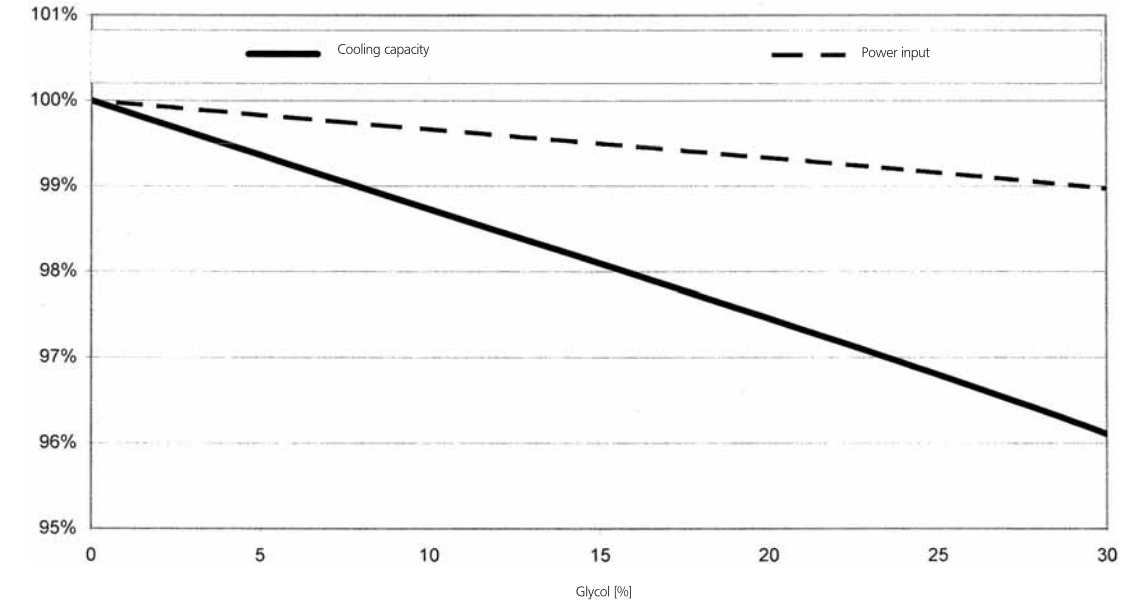
(**) Only EDLQ/EBLQ models allowed.

3TW60693-1

11 Operation range

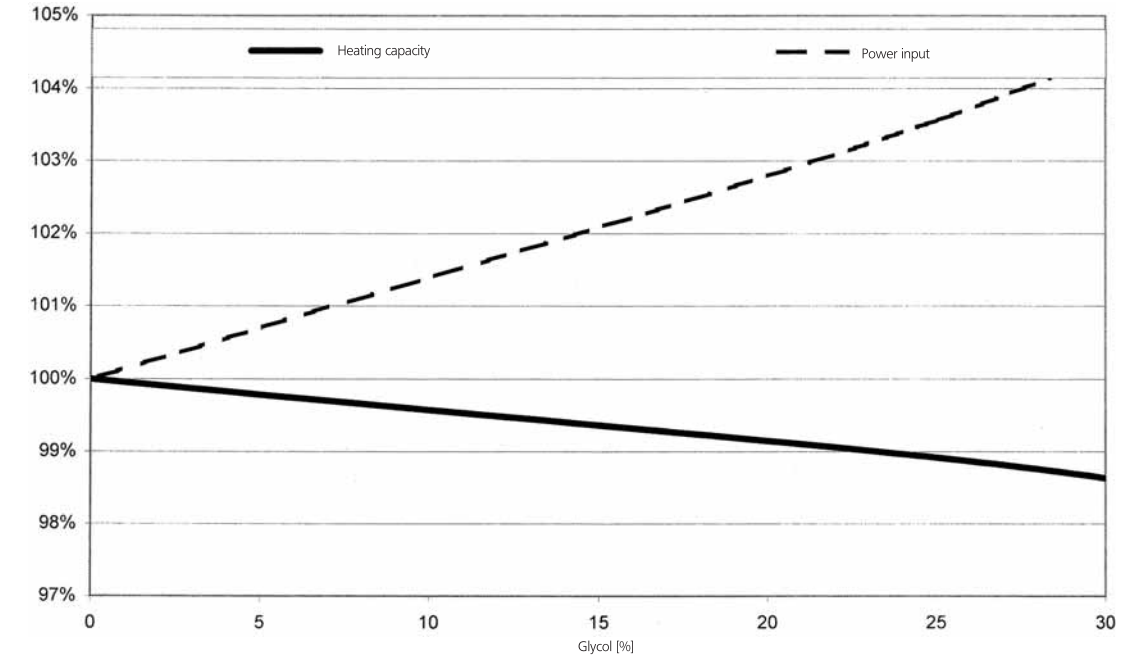
11 - 2 Correction Factors

EBHQ011-016BB6W1 **Performance cooling**



4TW59252-2

EBHQ011-016BB6W1 **Performance heating**

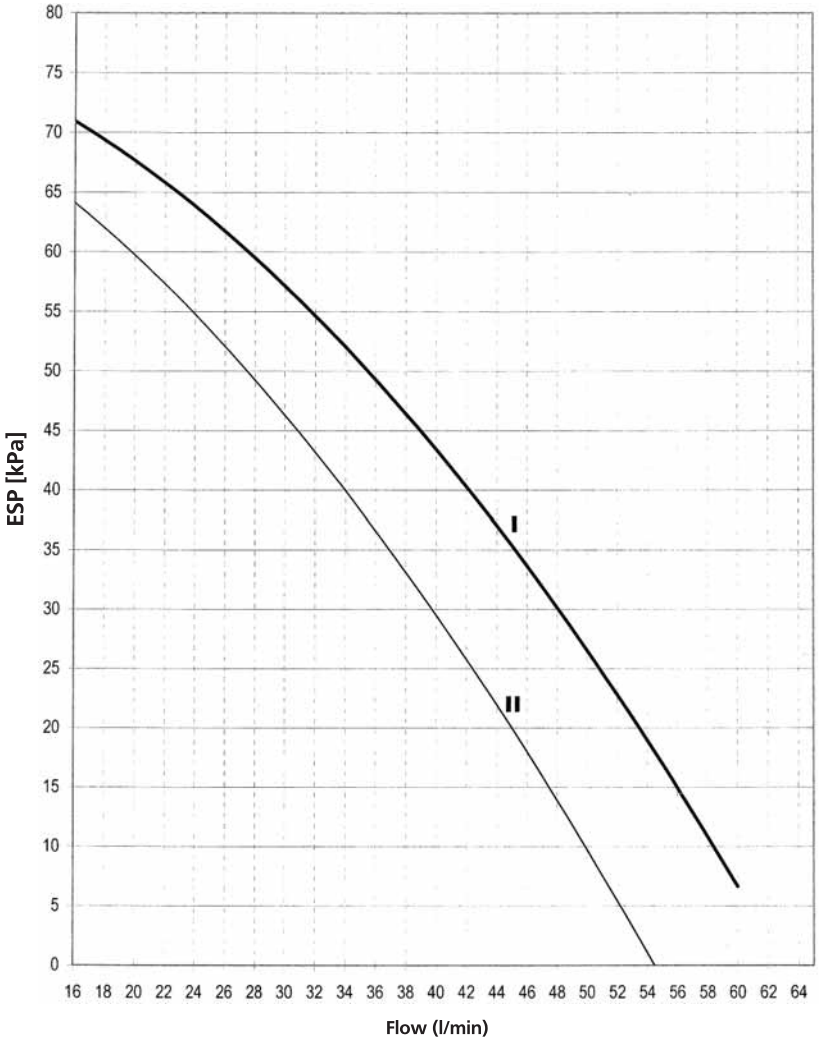


4TW59252-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBHQ011-016BB6W1



I: High speed
II: medium speed

ESP: External static pressure
Flow: waterflow through the unit

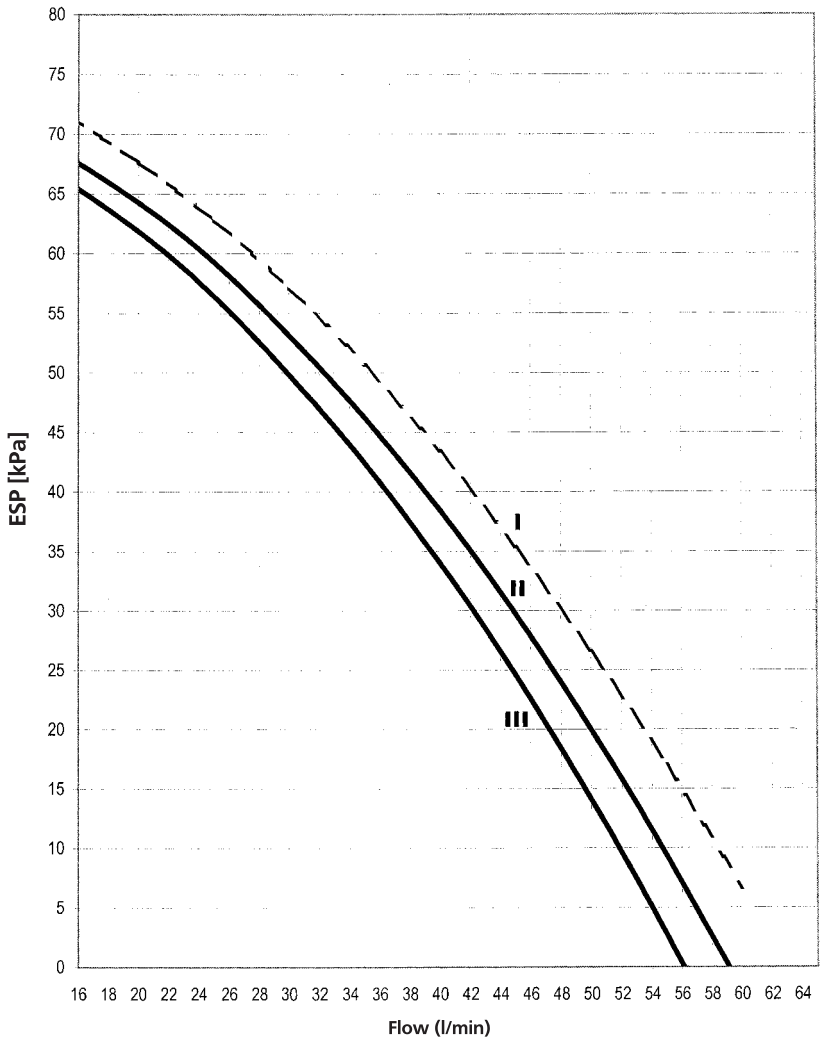
Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EBHQ011-016BB6W1



Values only valid for high speed setting

I: Water
II: Water / Propylene glycol (25%) at20°C
III: Water / Propylene glycol (25%) at 5°C

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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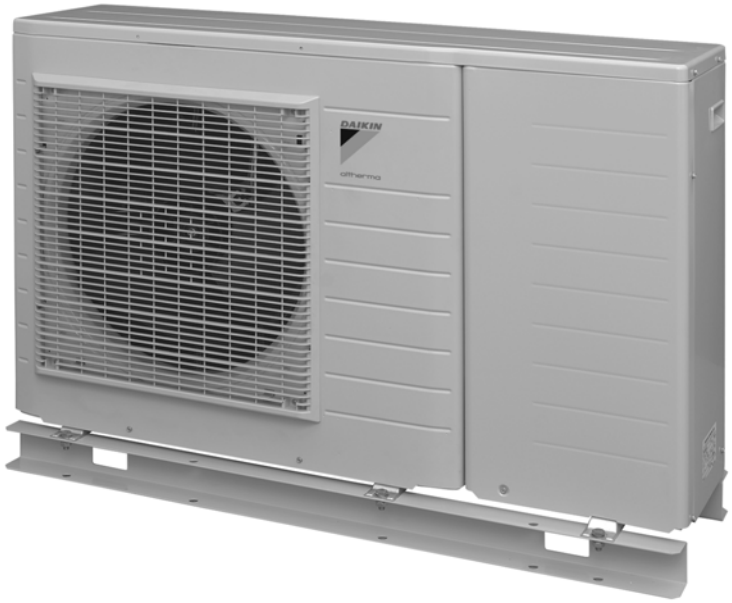
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1 Features

- Reversible monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



INVERTER

2 Specifications

2-1 Technical Specifications				EBHQ006BAV3	EBHQ008BAV3
Heating capacity	Min.		kW	4.36 (1) 3.87 (2)	4.36 (1) 3.87 (2)
	Nom.		kW	6.00 (1) 5.58 (2)	8.85 (1) 8.15 (2)
	Max.		kW	7.45 (1) 6.68 (2)	9.58 (1) 8.76 (2)
Cooling capacity	Min.		kW	4.82 (1) 3.67 (2)	4.82 (1) 3.67 (2)
	Nom.		kW	7.00 (1) 5.12 (2)	8.37 (1) 6.08 (2)
	Max.		kW	7.20 (1) 5.12 (2)	8.91 (1) 7.10 (2)
Capacity control	Method			Inverter controlled	
Power input	Cooling	Nom.	kW	2.20 (1) 2.16 (2)	2.97 (1) 2.75 (2)
	Heating	Nom.	kW	1.41 (1) 1.79 (2)	2.21 (1) 2.72 (2)
COP				4.26 (1) 3.11 (2)	4.00 (1) 3.00 (2)
EER				3.18 (1) 2.37 (2)	2.82 (1) 2.21 (2)
Casing	Colour			Ivory white	
	Material			Painted galvanized steel plate	
Dimensions	Unit	Height	mm	805	
		Width	mm	1,190	
		Depth	mm	360	
	Packed unit	Height	mm	915	
		Width	mm	1,265	
		Depth	mm	442	
Weight	Unit		kg	95	
	Packed unit		kg	104	
	Operation weight		kg	99	
Packing	Material			Wood Carton EPS	
	Weight		kg	8	
Heat exchanger	Length		mm	845	
	Rows	Quantity		2	
	Fin pitch		mm	1.8	
	Stages	Quantity		32	
	Tube type			ø8 Hi-XA	
	Fin	Type		WF fin	
		Treatment		Anti-corrosion treatment (PE)	
Pump	Type			Water cooled	
	Quantity			1	
	Model			RS 25/7 3 PL 130 3	
	Nr of speeds			3	
	Nominal ESP unit	Heating	kPa	46.1 (4)	31.5 (4)
		Cooling	kPa	49.7 (5)	45.8 (5)
	Power input		W	130	
Expansion vessel	Volume		l	6	
	Max. water pressure		bar	3	
	Pre pressure		bar	1.0	
	Heater		W	50	
Fan	Type			Propeller	
	Quantity			1	
	Discharge direction			Horizontal	
Fan motor	Quantity			1	
	Output		W	53	
Compressor	Quantity			1	
	Model			2YC63BXD#C	
	Type			Hermetically sealed swing compressor	
	Output		W	1,920	
	Starting method			Inverter driven	

2 Specifications

2-1 Technical Specifications					EBHQ006BAV3	EBHQ008BAV3
Operation range	Heating	Ambient	Min.	ºCWB	-15	
			Max.	ºCWB	25	
		Water side	Min.	ºC	15 (6)	
			Max.	ºC	50 (6)	
	Cooling	Ambient	Min.	ºCDB	10	
			Max.	ºCDB	43	
		Water side	Min.	ºC	5	
			Max.	ºC	22	
	Domestic hot water	Ambient	Min.	ºCDB	-15	
			Max.	ºCDB	35	
		Water side	Min.	ºC	25	
			Max.	ºC	80	
Water side Heat exchanger	Type				Brazed plate	
	Quantity				1	
	Water volume			l	0.67	
	Water flow rate	Heating	Nom.	l/min	17.2 (4)	25.4 (4)
		Cooling	Nom.	l/min	14.7 (5)	17.4 (5)
		Min.		l/min	12	
	Insulation material				Polyurethane foam	
Refrigerant	Type				R-410A	
	Charge			kg	1.7	
	Control				Expansion valve (electronic type)	
	Circuits	Quantity			1	
Refrigerant oil	Type				FVC50K	
	Charged volume			l	0.75	
Sound power level	Heating	Nom.		dBA	61	62
	Cooling	Nom.		dBA	63	
Sound pressure level	Heating	Nom.		dBA	48	49
	Cooling	Nom.		dBA	48	50
Defrost method					Reversed cycle	
Defrost control					Sensor for outdoor heat exchanger temperature	
Water filter	Diameter perforations			mm	1	
	Material				Brass	
Water circuit	Piping connections diameter			inch	G 1" (male)	
	Piping			inch	5/4"	
	Piping length	Max.	OU -Tank	m	10	
	Level difference	Max.		m	5	
	Safety valve			bar	3	
	Manometer				Yes	
	Drain Valve / filler				Yes	
	Stopvalve				Yes	
	Air purge valve				Yes	
	Total water volume			l	5.5 (7)	
	Minimum Water volume in the system			l	10 (8.0)	
Safety devices	Part	01			Fan motor thermal protector	
		02			Fuse	
		03			Safety valve	
		04			Flow Contactor	
		05			Clixon Expansion vessel-heating	

2 Specifications

2-1 Technical Specifications					EKCBH008BAV3
Casing	Colour				Metallic grey
	Material				Painted galvanized steel plate
Dimensions	Unit	Height		mm	390
		Width		mm	412
		Depth		mm	100
	Packed unit	Height		mm	435
		Width		mm	460
		Depth		mm	136
Weight	Unit			kg	6
	Packed unit			kg	6.5
Packing	Material				Carton EPS
	Weight			kg	0.5
Operation range	Cooling	Ambient	Min.	ºCDB	4
			Max.	ºCDB	35

2-1 Technical Specifications					EKCBX008BAV3
Casing	Colour				Metallic grey
	Material				Painted galvanized steel plate
Dimensions	Unit	Height		mm	390
		Width		mm	412
		Depth		mm	100
	Packed unit	Height		mm	435
		Width		mm	460
		Depth		mm	136
Weight	Unit			kg	6
	Packed unit			kg	6.5
Packing	Material				Carton EPS
	Weight			kg	0.5
Operation range	Cooling	Ambient	Min.	ºCDB	4
			Max.	ºCDB	35

2-1 Technical Specifications					EKMBUHBA6V3
Casing	Colour				Metallic grey
	Material				Painted galvanized steel plate
Dimensions	Unit	Height		mm	575
		Width		mm	375
	Packed unit	Height		mm	630
		Width		mm	480
		Depth		mm	255
Weight	Unit			kg	12
	Packed unit			kg	14.5
Packing	Material				Carton EPS
	Weight			kg	2.5
Operation range	Cooling	Ambient	Min.	ºCDB	4
			Max.	ºCDB	35
Water circuit	Piping connections diameter			inch	G 1"1/4 (male)
Safety devices	Item	01			Automatic overcurrent fuse
		02			Thermal cut out
		03			Thermal fuse

2 Specifications

2-2 Electrical Specifications					EBHQ006BAV3	EBHQ008BAV3
Compressor component	Main power supply	Name			V3	
		Phase			1	
		Frequency		Hz	50	
		Voltage		V	230	
	Voltage range	Min.		%	-10	
		Max.		%	10	
	Current	Maximum running current	Heating	A	18	
			Cooling	A	16.25	
		Starting current	Heating	A	11	
			Cooling	A	11	
		Recommended fuses		A	20	

Notes

(1)EN14511: cooling Ta 35ºC - LWE 18ºC (Dt = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 35ºC (Dt = 5ºC)

(2)EN14511: cooling Ta 35ºC - LWE 7ºC (Dt = 5ºC); heating Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt = 5ºC)

(3)The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.

(4)Condition: Ta DB/WB 7ºC/6ºC - LWC 35ºC (DT = 5ºC)

(5)Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(6)15ºC-25ºC: BUH only, no heat pump operation = during commisioning

(7)Including piping + PHE; excluding expansion vessel

(8)Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(9)See separate drawing for operation range

(10)The 3-way valve should be mounted as close as possible to the outdoor unit

(11)Minimum Ssc (=Short-circuit power) value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(12)Wiring connections: cf. connection diagram for full wiring overview; Select diameter and type according to local regulations; For more details on voltage range and current cf. EBHQ installation manual

(13)Power supply compressor compartment is for compressor, fan, pump and controller

(14)In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(15)EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

19a

2

2-2 Electrical Specifications			EKCBH008BAV3
R5T	Wiring connections	Quantity	2
		Type of wires	Wire included in option EKHWS*

Notes

(1)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

(2)Depending on the backup heater priority setting, the EKMBUH* backup heater kit and booster heater can or cannot operate simultaneously.

(3)For details, refer to the EBHQ* installation manual; for backup heater kit specifications, refer to EKMBUH* specifications

(4)Wiring connections: select diameter and type according to local regulations. For more details on voltage range & current, refer to the EBHQ* installation manual

(5)Power supply refers to combination with EKHW*V3 and EKHW*Z2 respectively.

2 Specifications

2-2 Electrical Specifications			EKCBX008BAV3
R5T	Wiring connections	Quantity	2
		Type of wires	Wire included in option EKHWS*

Notes

(1)Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

(2)Depending on the backup heater priority setting, the EKMBUH* backup heater kit and booster heater can or cannot operate simultaneously.

(3)For details, refer to the EBHQ* installation manual; for backup heater kit specifications, refer to EKMBUH* specifications

(4)Wiring connections: select diameter and type according to local regulations. For more details on voltage range & current, refer to the EBHQ* installation manual

(5)Power supply refers to combination with EKHW*V3 and EKHW*Z2 respectively.

2-2 Electrical Specifications			EKMBUHBA6V3
Power supply	Phase		1~
	Frequency	Hz	50
	Voltage	V	230

Notes

(1)Heater can be installed as 2 step 6kW heater or single step 3kW heater. For single step 3kW heater, max. running current is reduced from 26 to 13A. For more details, refer to the EKMBUH* installation manual

(2)In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) ≤ Zmax

(3)EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(4)Minimum Ssc (=Short-circuit power) value: Equipment complying with EN/IEC 61000-3-12: European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current \>16A and ≤ 75A per phase

(5)Wiring connections: select diameter and type according to local regulations. For more details on voltage range & current, refer to the EKMBUH* installation manual

3 Options

3 - 1 Options

EBHQ006-008BV3
EKMBUH
EKCBH/X008

Factory mounted optional equipment for EKMBUHB*6V3

Reference	Description	EKMBUHB*6V3
6V3	Back-up heater 6kW1~230V	●

Combination table for *KCB(H/X)008B*V3

		EKCBH008BAV3	EKCBX008BAV3	EKCBH008BBV3	EKCBX008BBV3
EBHQ006B*V3	Heating only indoor unit	●(1)	●(1)	●(1)	●(1)
EBHQ008B*V3	Reversible indoor unit	●(1)	●(1)	●(1)	●(1)
EKMBUHB*6V3	Back-up heater kit	●(1)	●(1)	●	●

Kit availability for *BHQ006-008B*

		EBHQ006B*V3*	EBHQ008B*V3*
EKBPHT08BA	Bottom plate heater (2)	●(1)	●(1)

Kit availability for *KCB(H/X)008B*

Reference	Description	#	
	Heating only model *KCBH008B*#	V3	
	Reversible model *KCBX008B*#		V3
EKHWS150*3V3	Stainless steel domestic hot water tank 150l 1~230V	●	●
EKHWS200*3V3	Stainless steel domestic hot water tank 200l 1~230V	●	●
EKHWS300*3V3	Stainless steel domestic hot water tank 300l 1~230V	●	●
EKHWS200*3Z2	Stainless steel domestic hot water tank 200l 2~400V	●	●
EKHWS300*3Z2	Stainless steel domestic hot water tank 300l 2~400V	●	●
EKHWSU150*3V3	Stainless steel domestic hot water tank for UK 150l 1~230V	●	●
EKHWSU200*3V3	Stainless steel domestic hot water tank for UK 200l 1~230V	●	●
EKHWSU300*3V3	Stainless steel domestic hot water tank for UK 300l 1~230V	●	●
EKHWE150*3V3	Enameled steel domestic hot water tank 150l 1~230V	●	●
EKHWET150*3V3	Wallmounted enameled steel domestic hot water tank 150l 1~230V	●	●
EKHWE200*3V3	Enemaled steel domestic hot water tank 200l 1~230V	●	●
EKHWE300*3V3	Enemaled steel domestic hot water tank 300l 1~230V	●	●
EKHWE200*3Z2	Enemaled domestic hot water tank 200l 2~400V	●	●
EKHWE300*3Z2	Enemaled domestic hot water tank 300l 2~400V	●	●
EKRP1HBA	Digital I/O PCB (3)	●	●
EKRTWA	Wired room thermostat option kit	●	●
EKRTR1	Wireless room thermostat option kit (incl. receiver)	●	●
EKRTETS	External temperature sensor option kit	●	●
EKSOLHWAV1	Solar kit - Connection kit between solar panel, monobloc & tank	●	●
EKSR3PA	Solar kit - Control panel	●	●

Remark: Other combinations than mantioned in this option TW are not guaranteed.

NOTES

1. Obligatory combination
2. Heater tape that can be fixed on the bottom plate to prevent excessive ice formation.
3. Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included.
4. EKRTETS can only be used in combination withe EKRTR1
5. For further options on tanks (wall mounting bracket, valve kits, ...) see combination table of tanks.

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EBHQ006-008BV3
EKMBUH
EKCBH/X008

Kit availability for *KHW*

Reference	Description	#											
	*KHWE(T)#3(V3/Z2)	150A	200A	300A									
	*KHWS#3(V3/Z2)				150(A/B)	200(A/B)	300(A/B)						
	*KHWSU#3V3							150A	200A	300A	150B	200B	300B
*KUHWA	Option kit for UK *KHWSU150~300*3V3	-	-	-	-	-	-	●	●	●	●	●	●
*KUHWB	Option kit 1 for UK *KHWSU150~300-3V3 (4)	-	-	-	-	-	-	●(2)	●(2)	●(2)	●	●	●
*KUHW2WB	Option kit 2 for UK *KHWSU150~300-3V3 (4)	-	-	-	-	-	-	●(2)	●(2)	●(2)	●(3)	●(3)	●(3)
*KSOLHWAV1	Solarkit (1)	●	●	●	●	●	●	●	●	●	●	●	●
*KWBSWW150	Wall bracket for *KHWS(U)150*)3V3 or *KSWW150V3*	-	-	-	●	-	-	●	-	-	●	-	-

Remark: Other combinations are not guaranteed.

NOTES

1. Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating
2. If installation on tank A version both kits are required
3. Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHWSU(150/200/300)B3V3)
4. *KUHWB = *KUHWA - (2 way valve and 2 way valve accessories)
   *KUHW2WB = 2 way valve and 2 way valve accessories

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3

3 Options

3 - 1 Options

EBHQ006-008BV3
EKMBUH
EKCBH/X008

Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the Daikin unit or by an auxiliary boiler connected in the system. The decision whether either the EBHQ unit or the boiler will operate can be achieved by an auxiliary contact or an EKCB * indoor controlled contact.*

The auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc. See "Field wiring configuration A".

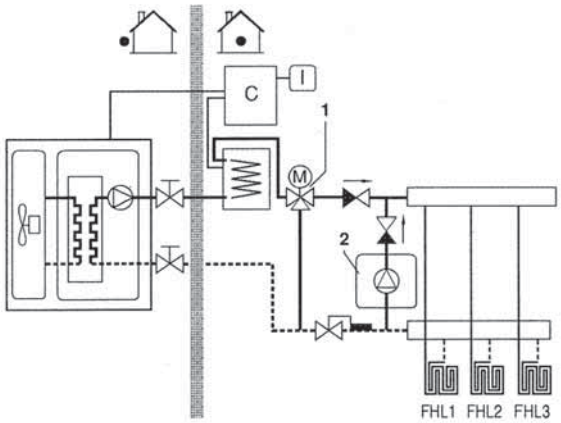
The EKCB unit controlled contact (also called 'permission signal for the auxiliary boiler") is determined by the outdoor temperature (thermistor located at the outdoor unit). See "Field wiring configuration B".*

Bivalent operation is only possible for space heating operation, not for the domestic water heating operation. Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the Daikin unit.

The auxiliary boiler must be integrated in the piping work and in the field wiring according to the illustrations below.

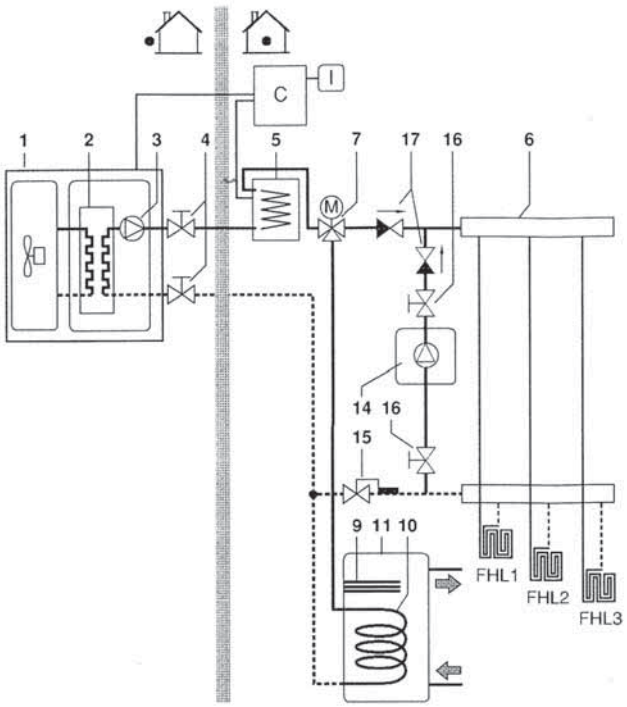
CAUTION

- Be sure that the boiler and the integration of the boiler in the system is in accordance with relevant local laws and regulations.
- Always install a 3-way valve, even if no domestic hot water tank is installed. This to ensure that the freeze protection function can operate when the boiler is active.



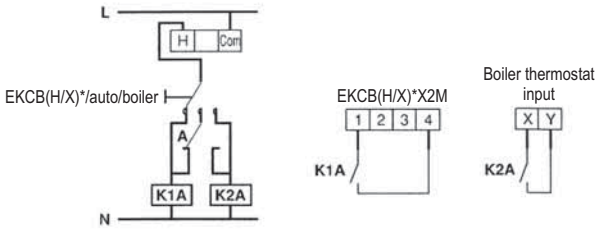
1 Motorised 3-way valve
2 Boiler

- Daikin can not be put responsible for incorrect or unsafe situations in the boiler system.



1 Outdoor unit
2 Heat exchanger
3 Pump
4 Shut-off valve
5 Heater kit
6 Collector (field supply)
7 Motorised 3-way valve (delivered with the domestic hot water tank)
9 Booster heater
10 Heat exchanger coil
11 Domestic hot water tank (optional)
14 Boiler (field supply)
15 Aquastat valve (field supply)
16 Shut-off valve (field supply)
17 Non-return valve (field supply)
FHL 1 ... 3 Floor heating loop (field supply)
C Control box
I User interface

Field wiring configuration A



A Auxiliary contact (normal closed)
H Heating demand room thermostat (optional)
K1A Auxiliary relay for activation of EBHQ* unit (field supply)
K2A Auxiliary relay for activation of boiler (field supply)

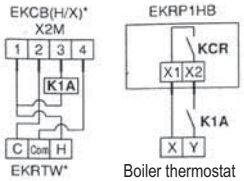
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3 Options

3 - 1 Options

EBHQ006-008BV3
EKMBUH
EKCBH/X008

Field wiring configuration B



C	Cooling demand room thermostat (optional)
H	Heating demand room thermostat (optional)
Com	Common room thermostat (optional)
K1A	Auxiliary relay for activation of boiler unit (field supply)
KCR	Permission signal for the auxiliary boiler

Operation

- **Configuration A**

  When the room thermostat requests heating, either the EBHQ* unit or the boiler starts operating, depending on the position of the auxiliary contact (A).

- **Configuration B**

  When the room thermostat requests heating, either the EBHQ* unit or the boiler starts operating, depending on the outdoor temperature (status of "permission signal for the auxiliary boiler").

  When the permission is given towards the boiler, the space heating operation by the EBHQ* unit will be automatically switched off.

CAUTION

- Make sure that return water to the EBHQ* heat exchanger never exceeds 55°C.
- For this reason, never put the target leaving water temperature set point on the boiler controller above 55°C and install an aquastat[a] valve in the return water flow of the EBHQ* unit.
- Make sure that the non-return valves (field supply) are correctly installed in the system.
- Make sure that the room thermostat (th) is not frequently turned ON/OFF.
- Daikin shall not be held liable for any damage resulting from failure to observe this rule.

NOTES

- Make sure to configure the DIP switch SS2-3 on the PCB of the EKCB(H/X)* switch box correctly.
- For configuration B: Make sure to configure the field settings correctly.
- **Configuration A**
  Make sure that auxiliary contact (A) has sufficient differential or time delay so as to avoid frequent changeover between the EBHQ* unit and the boiler. If the auxiliary contact (A) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun.
  Configuration B
  Make sure that the bivalent hysteresis has sufficient differential to avoid frequent changeover between the EBHQ* unit and the boiler. As the outdoor temperature is measured via the outdoor unit air thermistor, make sure to install the outdoor unit in the shade, so that it is not influenced by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.
- During heating operation of the EBHQ* unit, the unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.
  During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller.
  Never set the target leaving water temperature set point on the boiler controller above 55°C.
- Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Daikin unit.

[a] The aquastat valve must be set for 55°C and must operate to close the return water flow to the unit when the measured temperature exceeds 55°C. When the temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the EBHQ" unit again.

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4 Capacity tables

4 - 1 Heating/Cooling Capacity Tables

EBHQ006-008BV3
EKCBH/X008

Cooling

Model	Tamb [°C]	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EBHQ006BAV3 - EKCBX006BAV3	7	6.01	1.56	5.73	1.75	5.43	1.95	5.12	2.16	4.80	2.39	4.59	2.53
	11	6.81	1.57	6.50	1.77	6.17	1.98	5.83	2.21	5.30	2.32	4.98	2.38
	13	7.23	1.57	6.90	1.78	6.56	2.00	6.20	2.23	5.56	2.28	5.18	2.30
	16	7.88	1.56	7.54	1.78	7.17	2.01	6.79	2.26	5.95	2.22	5.46	2.18
	20	8.80	1.55	8.42	1.79	8.03	2.03	7.63	2.29	6.48	2.13	5.82	1.99
EBHQ008BAV3 - EKCBX008BAV3	7	8.24	2.43	7.90	2.68	7.52	2.94	7.10	3.23	5.68	2.86	4.87	2.59
	11	9.26	2.49	8.87	2.76	8.45	3.05	7.79	3.31	6.12	2.80	5.18	2.43
	13	9.79	2.52	9.38	2.80	8.93	3.10	8.14	3.36	6.34	2.77	5.33	2.35
	16	10.6	2.57	10.17	2.86	9.69	3.17	8.68	3.41	6.67	2.71	5.55	2.20
	20	11.7	2.63	11.3	2.94	10.75	3.26	9.39	3.48	7.09	2.61	5.80	1.99

Heating (Peak values)

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EBHQ006BAV3 - EKCB(H/X)008BAV3	-15	3.93	1.48	3.67	1.59	3.47	1.71	3.33	1.84	3.25	1.99
	-10	4.65	1.52	4.32	1.65	4.07	1.79	3.89	1.94	3.78	2.10
	-7	5.14	1.54	4.77	1.68	4.49	1.83	4.28	1.99	4.15	2.16
	-2	6.06	1.57	5.62	1.72	5.28	1.88	5.03	2.06	4.87	2.25
	2	6.89	1.57	6.38	1.74	6.00	1.91	5.72	2.11	5.53	2.31
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
EBHQ008BAV3 - EKCB(H/X)008BAV3	-15	5.42	2.06	5.16	2.19	4.97	2.34	4.86	2.51	4.80	2.70
	-10	6.27	2.13	5.93	2.29	5.68	2.46	5.51	2.65	5.42	2.86
	-7	6.84	2.17	6.46	2.34	6.17	2.53	5.97	2.73	5.86	2.95
	-2	7.92	2.22	7.45	2.41	7.10	2.62	6.85	2.85	6.70	3.10
	2	8.9	2.26	8.35	2.46	7.93	2.69	7.65	2.93	7.47	3.20
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

Note: values in the tables can be interpolated but shall NOT be extrapolated

Heating (integrated values*)

Model	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EBHQ006BAV3 - EKCB(H/X)008BAV3	-15	3.50	1.40	3.27	1.51	3.09	1.62	2.97	1.75	2.89	1.89
	-10	4.14	1.45	3.85	1.56	3.62	1.70	3.46	1.84	3.36	2.00
	-7	4.52	1.45	4.20	1.58	3.95	1.72	3.77	1.87	3.65	2.03
	-2	5.27	1.46	4.89	1.60	4.59	1.75	4.38	1.92	4.24	2.10
	2	5.92	1.45	5.49	1.60	5.16	1.76	4.92	1.94	4.76	2.13
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
EBHQ008BAV3 EKCB(H/X)008BAV3	-15	4.82	1.96	4.59	2.08	4.43	2.23	4.32	2.39	4.27	2.56
	-10	5.58	2.03	5.28	2.17	5.06	2.34	4.91	2.52	4.82	2.72
	-7	6.02	2.04	5.69	2.20	5.43	2.37	5.26	2.57	5.15	2.78
	-2	6.89	2.07	6.48	2.25	6.17	2.44	5.96	2.65	5.83	2.88
	2	7.6	2.08	7.18	2.27	6.82	2.47	6.58	2.70	6.43	2.94
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

* The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle. (from end of defrost until end of the next defrost)

SYMBOLS

CC Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 [kW]
HC Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 [kW]
PI Power input [kW]
LWE Leaving Water Evaporator temperature [°C]
LWC Leaving Water Condensor temperature [°C]
Tamb Ambient temperature [°C] RH = 85%

CONDITIONS

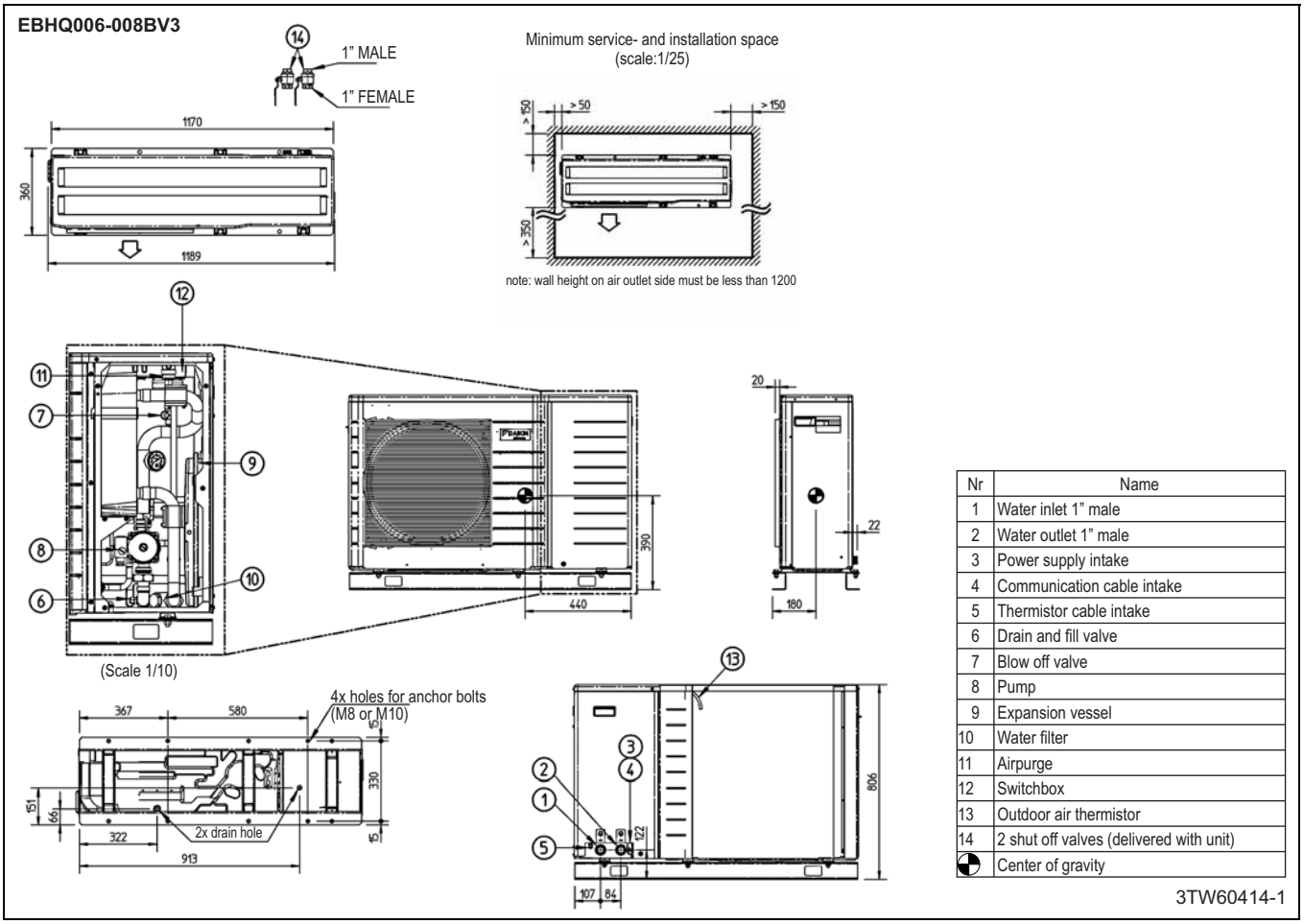
1. Cooling capacity
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8 °C
2. Heating capacity
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3~8 °C
3. Power input
   Power input is total input of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006
   Pump power input to be added: 60W (according to EN14511)
   Note: Outdoor unit contains an expansion vessel heater: when ambient temperature becomes lower than 4°C: add power input of 50W

3TW60412-1

5 Dimensional drawings

5 - 1 Dimensional Drawings

EBHQ006-008BV3



Nr	Name
1	Water inlet 1" male
2	Water outlet 1" male
3	Power supply intake
4	Communication cable intake
5	Thermistor cable intake
6	Drain and fill valve
7	Blow off valve
8	Pump
9	Expansion vessel
10	Water filter
11	Airpurge
12	Switchbox
13	Outdoor air thermistor
14	2 shut off valves (delivered with unit)
◓	Center of gravity

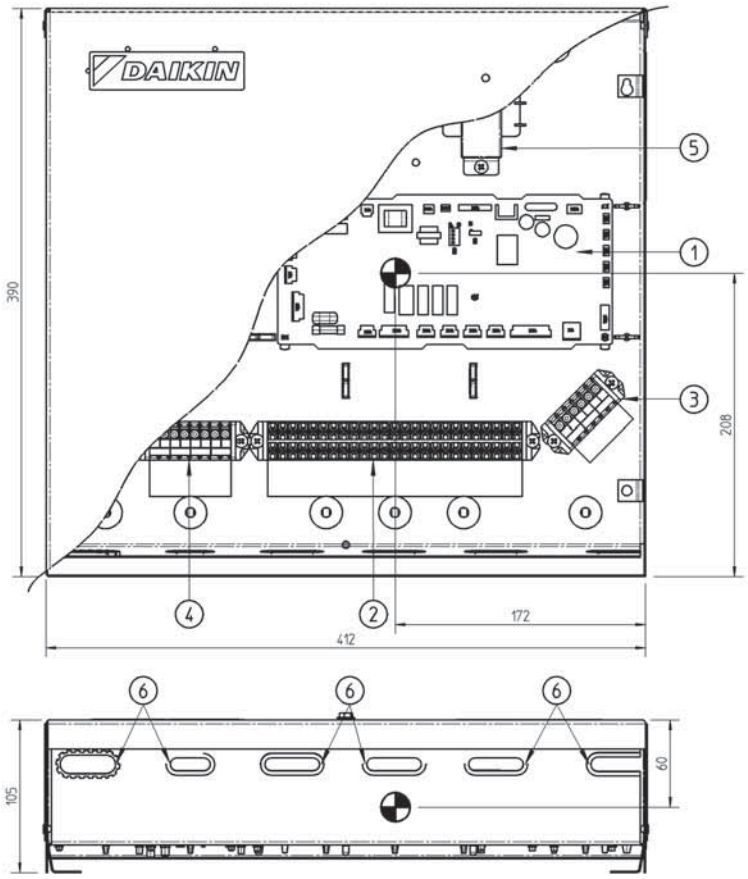
3TW60414-1

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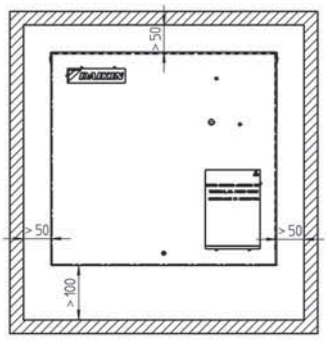
5 Dimensional drawings

5 - 1 Dimensional Drawings

EKCBH/X008



Minimum installation- and service space



Nr	Name
1	Main PCB
2	Main terminal
3	Communication terminal heaterkit
4	Communication terminal outdoor unit
5	Transformator
6	Wire cable entrance
⊕	Center of gravity

3TW60424-1

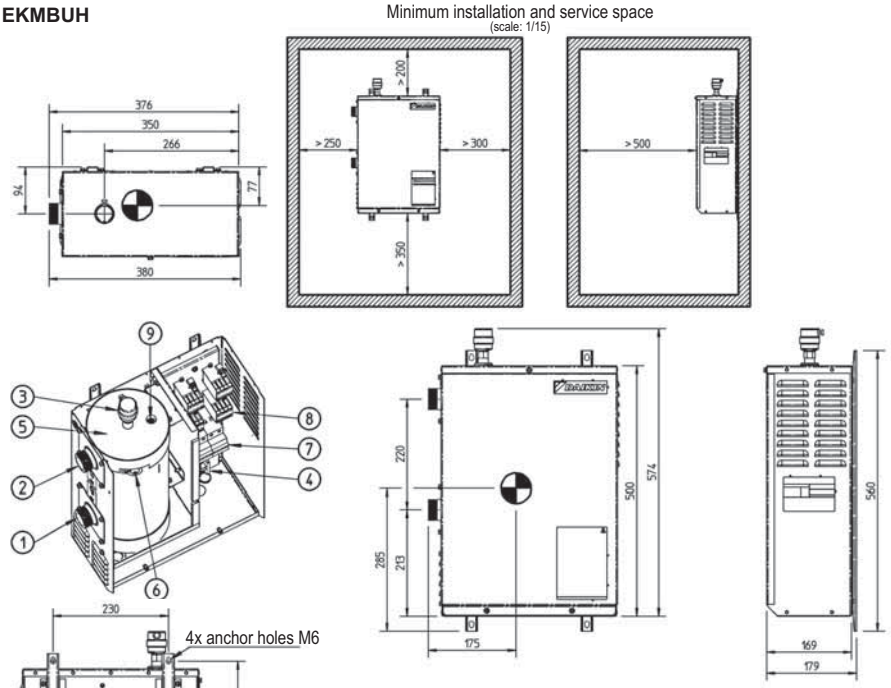
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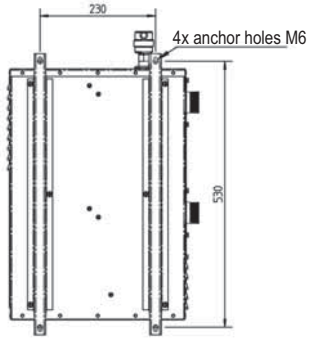
5 Dimensional drawings

5 - 1 Dimensional Drawings

EKMBUH

Minimum installation and service space
(scale: 1/15)





Nr	Name
1	Water inlet 1-1/4" male
2	Water outlet 1-1/4" male
3	Airpurge
4	Electrical connections
5	Heater
6	Thermal protector (manual reset)
7	Overcurrent fuse
8	Contactors
9	Thermal fuse
⊕	Center of gravity

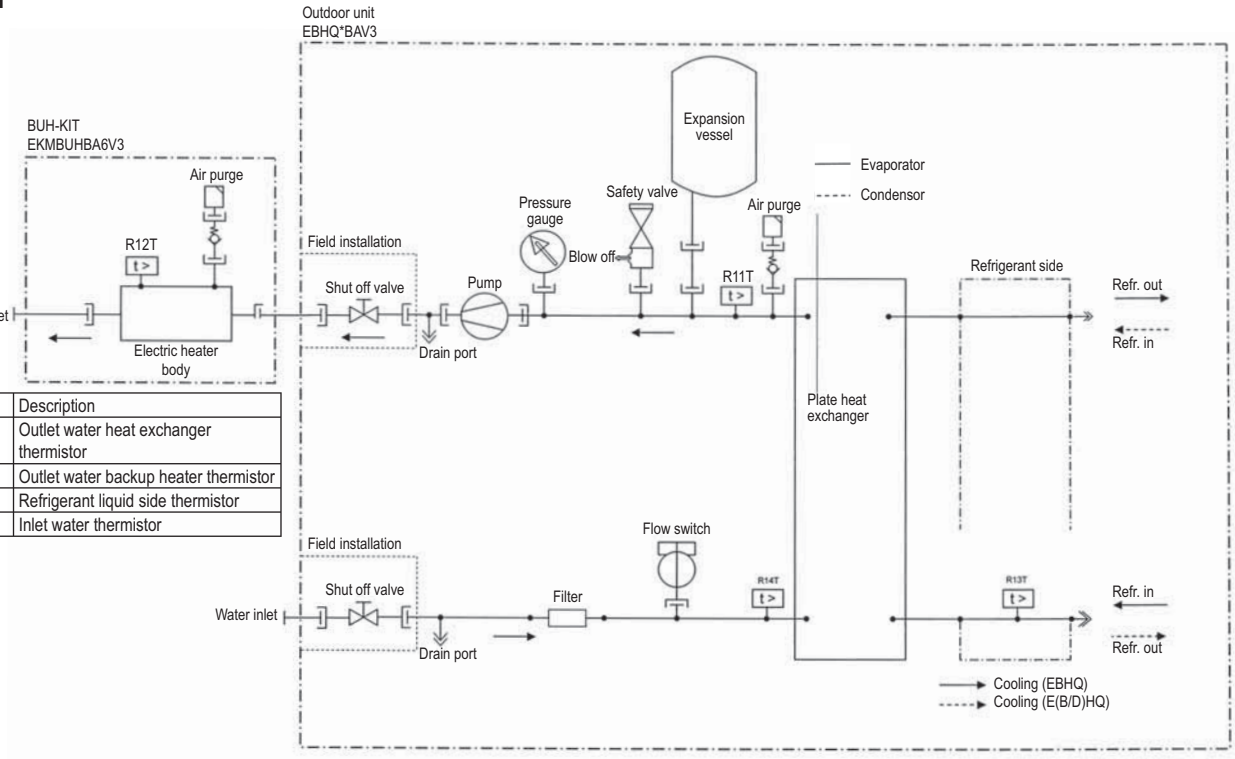
3TW60404-1

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5

6 Piping diagrams

6 - 1 Piping Diagrams

EBHQ006-008BV3
EKMBUH



Thermistor	Description
R11T	Outlet water heat exchanger thermistor
R12T	Outlet water backup heater thermistor
R13T	Refrigerant liquid side thermistor
R14T	Inlet water thermistor

NOTES

: Check valve, : Flare connection, : Screw connection, : Flange connection, : Pinched pipe, : Spinned pipe

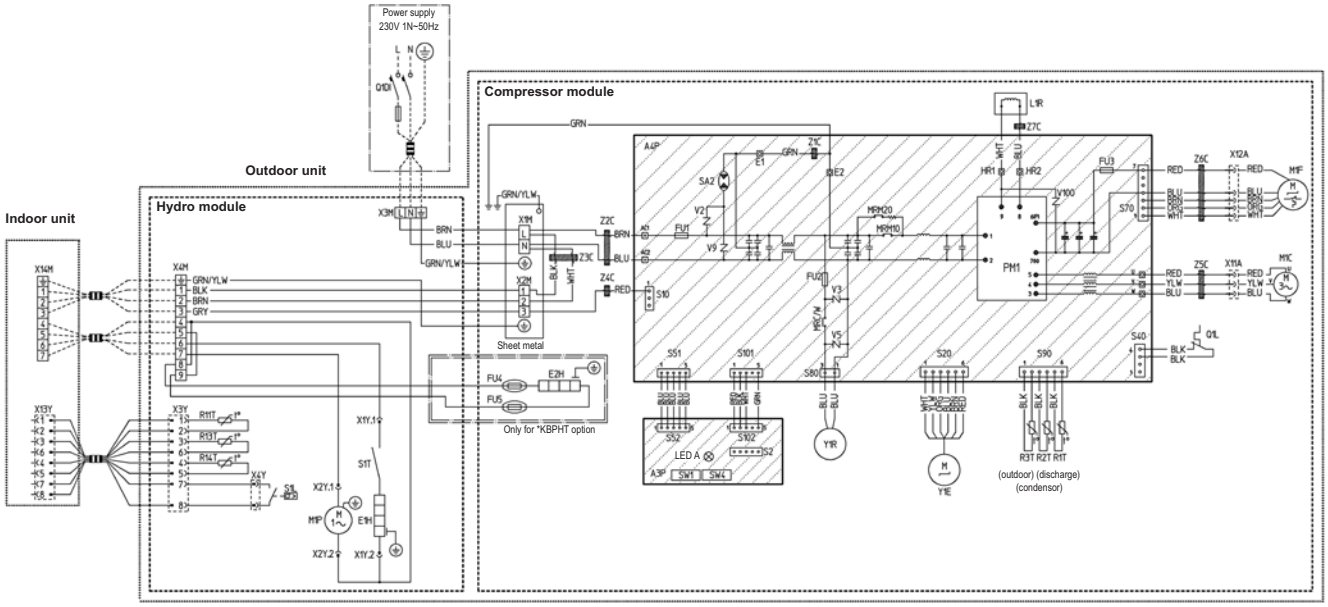
3TW60415-1A

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6

7 Wiring Diagrams

7 - 1 Wiring Diagrams

EBHQ006-008BV3



S1L	Flowswitch	SA2	Surge arrester	L	Live
M1P	Pump	FU1	Fuse (30A/250V)	N	Neutral
E1H	Expansion vessel heater	FU2, FU3	Fuse (F 3.15A / 250V)	SW1	Forced operation On/Off SW (SW1)
S1T	Thermostat expansion vessel heater	FU4, FU5	Fuse (F 1.0A / 250V)	SW4	Local setting SW (SW4)
R11T	Outlet water heat exchanger thermistor	U, V, W, X11A, X12A	Connector	M1C	Compressor motor
R13T	Refrigerant liquid side thermistor	E1, E2	Connector	M1F	Fan motor
R14T	Inlet water heat exchanger thermistor	HR1, HR2	Connector	L1R	Reactor
X1Y, X2Y,X3Y,X4Y,X13Y	Connector	MRM10, MRM20	Magnetic relay	Q1L	Overload protector
X3M, X4M, X14M	Terminalstrip	MRC/W	Magnetic relay	PM1	Power module
Z1C~Z7C	Ferrite core	R1T~R3T	Thermistor	A3P, A4P	Printed Circuit Board
X1M, X2M	Terminal strip	S2~S102	Connector	Y1R	Reversing solenoid valve coil
Y1E	Electronic expansion valve coil	LED A	Pilot lamp	Sheet metal	Terminal strip fixed plate
V2,V3,V5,V9,V100	Varistor	E2H	Bottom plate heater (option)		

2TW60416-1

NOTES

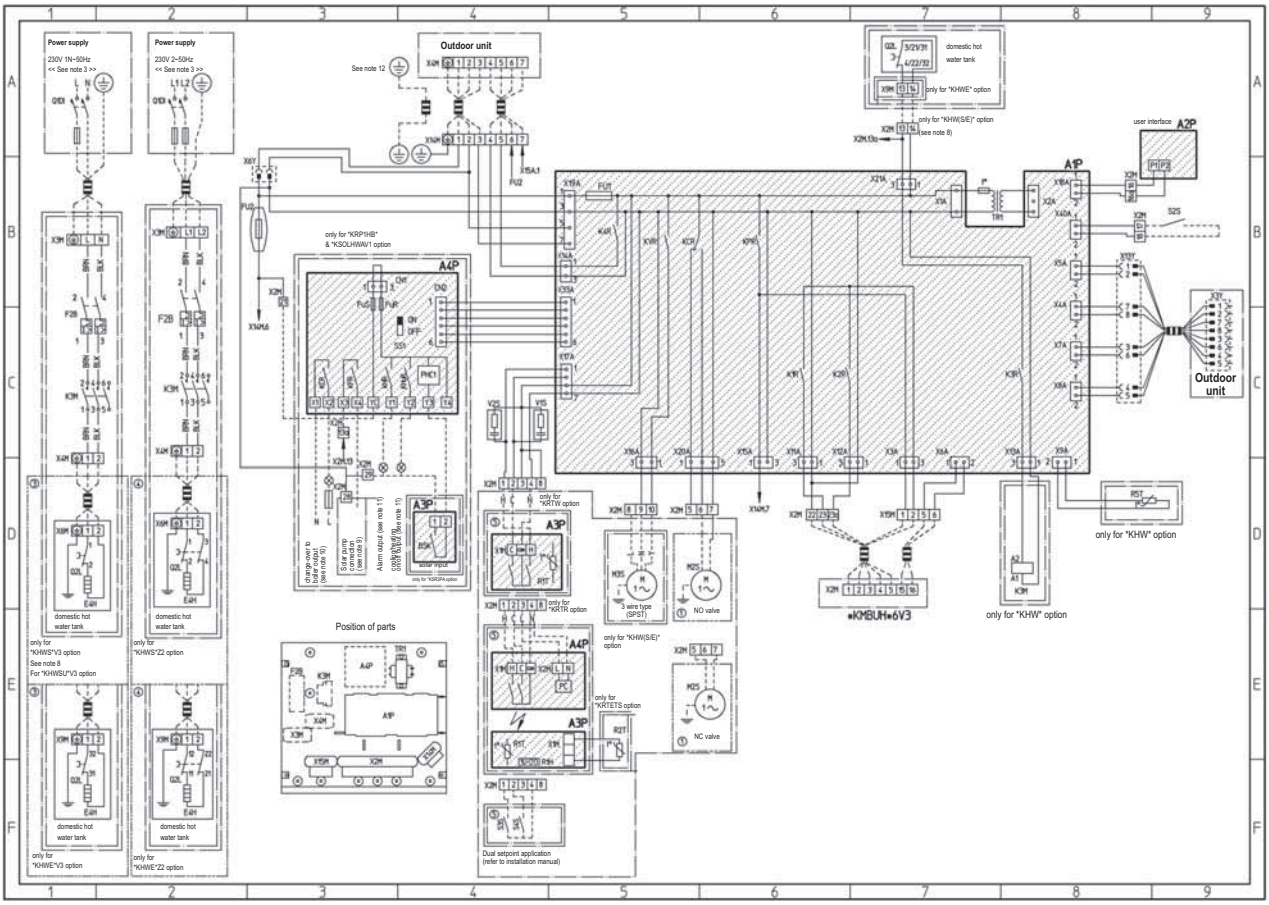
1. : Option, : Field wiring, : PCB, ––– : Field supply, —=– : Wiring colour
2. This wiring diagram only applies to the outdoor unit
3. : Field wiring
4. :Terminal strip, :Connector, :Terminal, :Protective earth
5. Do not operate the unit by short-circuiting any protection device
6. BLK=Black, RED=Red, BLU=Blue, WHT=White, PNK=Pink, YLW=Yellow
   BRN=Brown, GRY=Grey, GRN=Green, ORG=Orange, VIO=Violet

19a
7

7 Wiring Diagrams

7 - 1 Wiring Diagrams

EKCBH/X008



A1P	Main PCB	PHC1	Optocoupler input circuit
A2P	User interface PCB	Q1DI	Earth leakage circuit breaker
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	Q2L	Thermal protector booster heater
A3P (*KSR3PA)	Solar pumpstation PCB	R1H (*KRTR)	Humidity sensor
A4P (*KRP1HB*)	Digital I/0 PCB	R1T (*KRTW*)	Ambient sensor
A4P (*KRTR)	Receiver PCB	R2T (*KRTETS)	External sensor (floor or ambient)
BSK (*KSR3PA)	Solar pumpstation relya	R5T	Domestic hot water thermistor
E4H	Booster heater	S2S	Benefit kWh rate power supply contact
F2B	Fuse booster heater	S3S	Dual setpoint 2 contact
FU1	Fuse 3.15A T 250V for PCB	S4S	Dual setpoint 1 contact
FU2	Fuse 5A T 250V	SS1	Dip switch
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	TR1	Transformer 24V for PCB
K3M	Booster heater contactor	V1S, V2S	Spark suppression 1, 2
M2S	2 way valve for cooling mode	X1M-X15M	Terminal strips
M3S	3 way valve: floorheating/domestic hot water	X3Y, X6Y, X13Y	Connector

2TW60426-1A

NOTES

1. : Wiring depending on model, : Option, : Field wiring, : PCB, ––– : Field supply, –=– : Wiring colour
2. This wiring diagram only applies to the indoor unit
3. Use a dedicated power circuit for the booster heater.
   Never use a power circuit shared by other appliance.
4. : Field wiring, NO/NC: normal open/normal closed, spst: single pole single throw
5. :Terminal strip, :Connector, :Terminal, :Protective earth
6. Do not operate the unit by short-circuiting any protection device
7. BLK=Black, RED=Red, BLU=Blue, WHT=White, PNK=Pink, YLW=Yellow
   BRN=Brown, GRY=Grey, GRN=Green, ORG=Orange, VIO=Violet
8. For *KHSU*V3, refer to option manual
9. For *KSOLHWAV1, refer to option manual
10. Maximum load: 0.3A - 250 VAC
    Minimum load: 20mA - 5VDC
11. 230VAC Output
    Maxium load: 0.3A
12. In case no *KHW* option with booster heater is installed, connect an extra earth

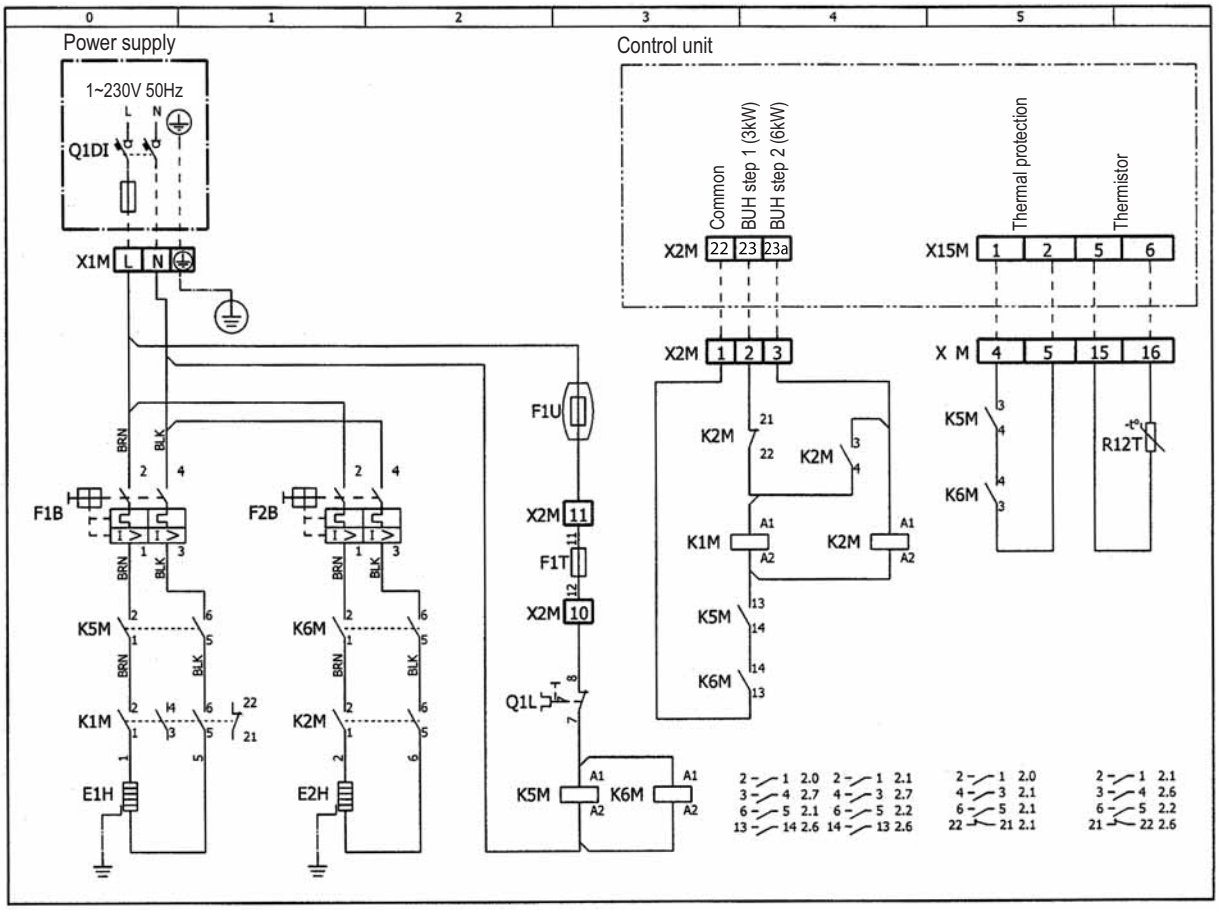
⊗ Several wiring possibilities

KHW kit fuse	
F2B	20A

7 Wiring Diagrams

7 - 1 Wiring Diagrams

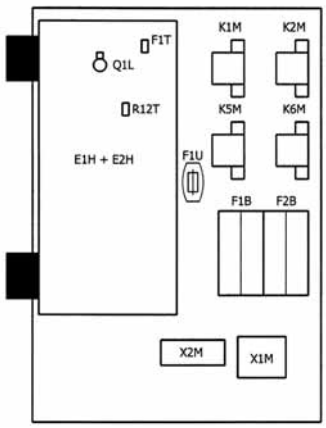
EKMBUH



Part number		Description
E1H, E2H		Backup heater elements
F1B, F2B		Fuse backup heater (20A 400V)
F1U		Fuse (5A T 250V)
F1T		Thermal fuse backup heater
K1M,K2M		Contactor backup heater step
K5M,K6M		Contactor for backup heater (all pole disconnection)
Q1DI	#	Earth leakage protector
Q1L		Thermal protector backup heater (manual reset)
R12T		Backup heater outlet thermistor
X1M,X2M,X15M		Terminal strip

*: optional
#: field supplied

Switchbox layout



4TW60406-1A

NOTES

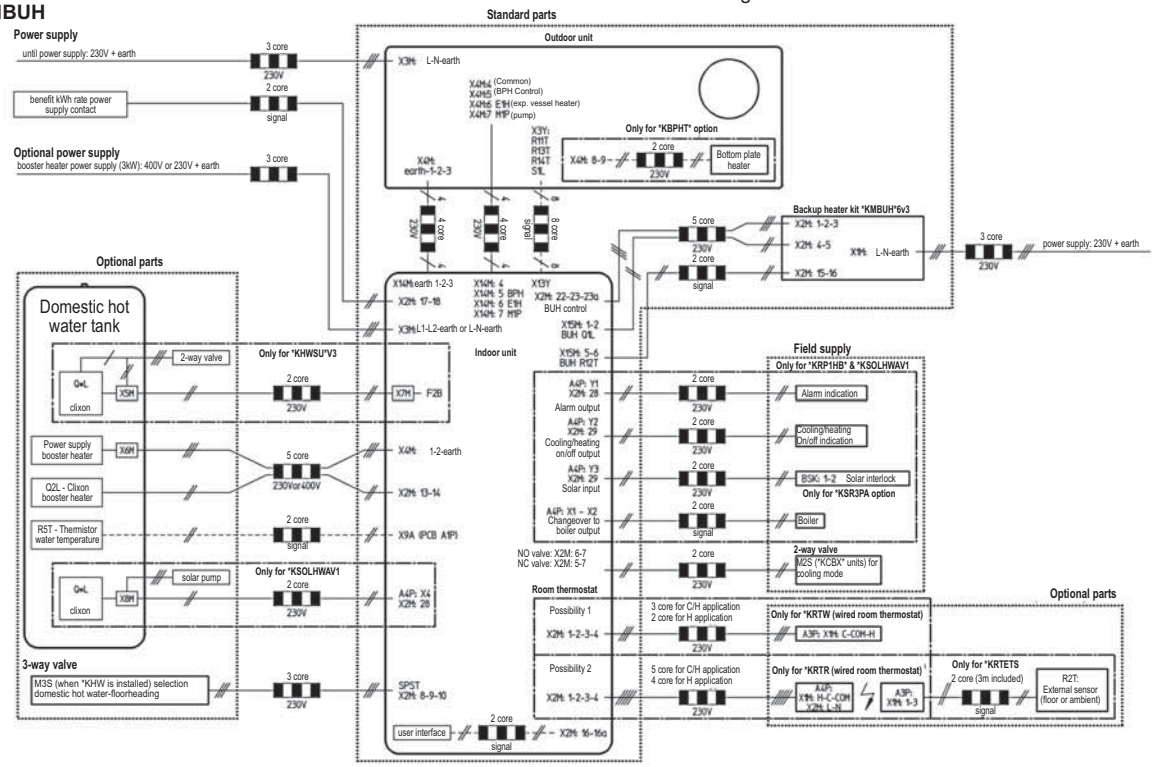
1. X1M : Main terminal, X2M: Field wiring terminal, —·— : Earth wiring, – – – : Field supply, —**/12.2 : Connection** continues on page 12 column 2,
   ⓘ: Several wiring possibilities, ▭ : Option, ▭ : Not mounted in switchbox, ▭ : Wiring depending on model, ▭ : PCB

7 Wiring Diagrams

7 - 2 Electrical Connection Diagram

EBHQ006-008BV3
EKMBUH

Electrical connection diagram



3TW60416-2

NOTES

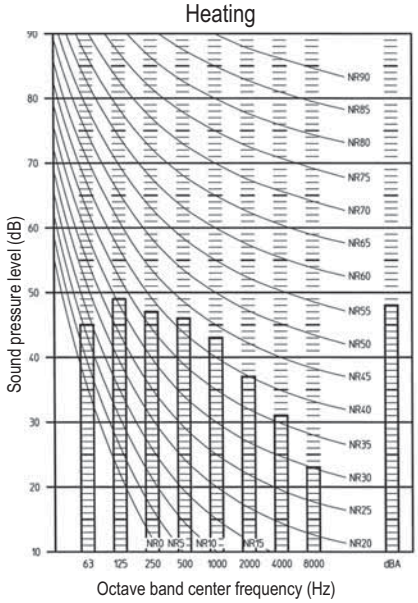
1. Keep mimimum distance between signal cable and power cable >5cm
2. For more details, please check unit wiring diagram
3. Field wiring:
   —▮▮▮—: Field supply, ----▮▮▮----: Delivered with unit / option

8 Sound Data

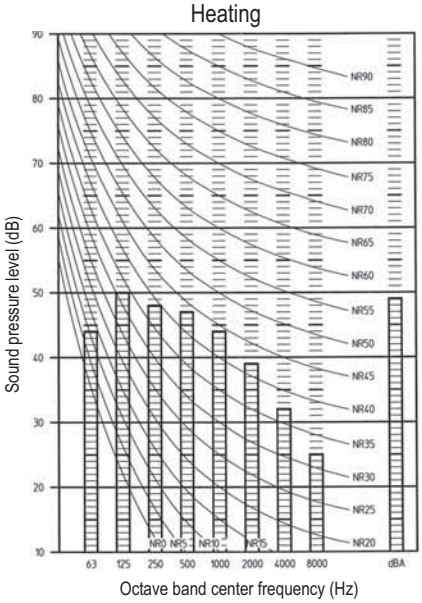
8 - 1 Sound Pressure Spectrum - Heating

EBHQ006-008BV3

EBHQ006 *
Heating

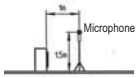


EBHQ008*
Heating



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20 µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections



Location of microphone

3TW60417-1

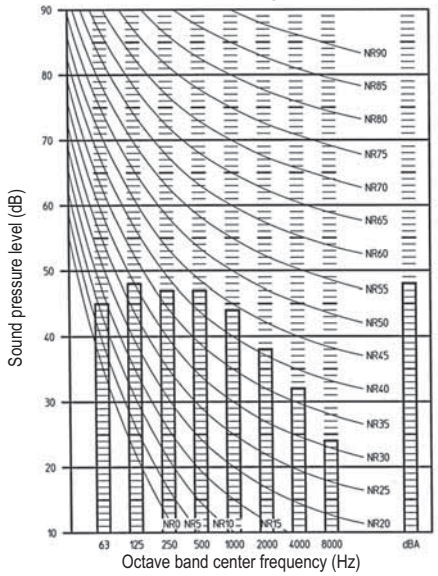
19a
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8 Sound Data

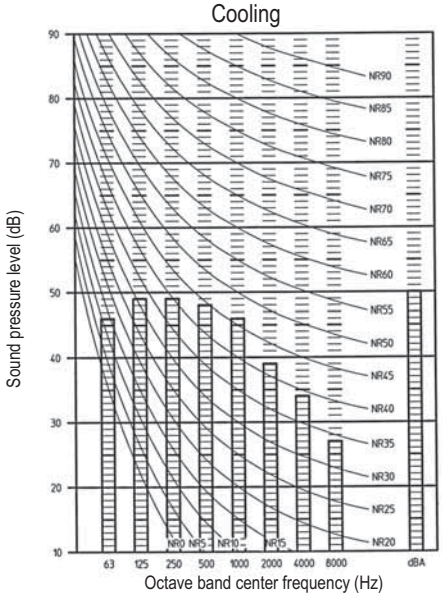
8 - 2 Sound Pressure Spectrum - Cooling

EBHQ006-008BV3

EBHQ006 *
Cooling

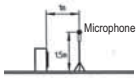


EBHQ008*
Cooling



NOTES

1 Data is valid at free field condition (measured in a semi-anachoic room)
2 dBA = A-weighted sound pressure level. (A-scale according to IEC)
3 Reference acoustic pressure 0dB = 20 µPa
4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections



Location of microphone

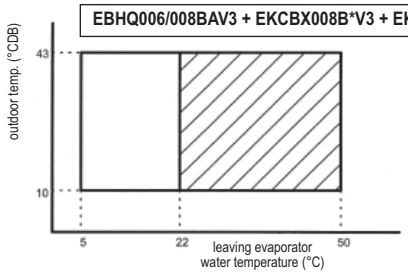
3TW60417-1

9 Operation Range

9 - 1 Operation Range

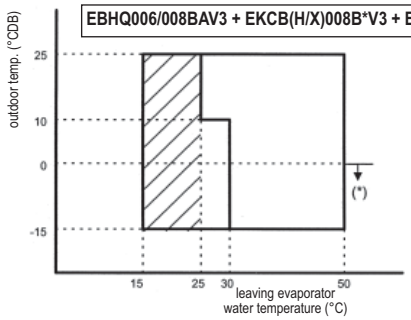
EBHQ-BV3

EBHQ006/008BAV3 + EKCBX008B*V3 + EKMBUHBA6V3



PULL DOWN AREA

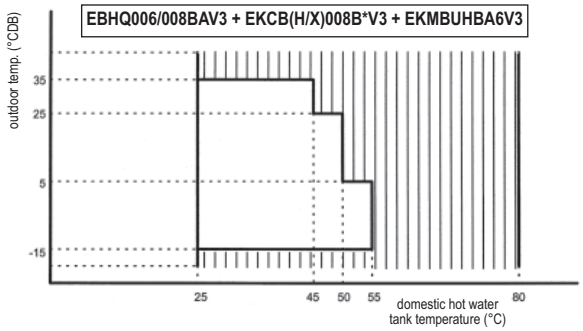
EBHQ006/008BAV3 + EKCB(H/X)008B*V3 + EKMBUHBA6V3



ONLY BACKUP HEATER OPERATION (NO OUTDOOR UNIT OPERATION)

(*) EBHQ...BA + EKCB...B* + EKMBUHBA:
Models have a freeze prevention function using the pump and backup heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen, we recommend to use glycol.

EBHQ006/008BAV3 + EKCB(H/X)008B*V3 + EKMBUHBA6V3



ONLY BOOSTER HEATER OPERATION

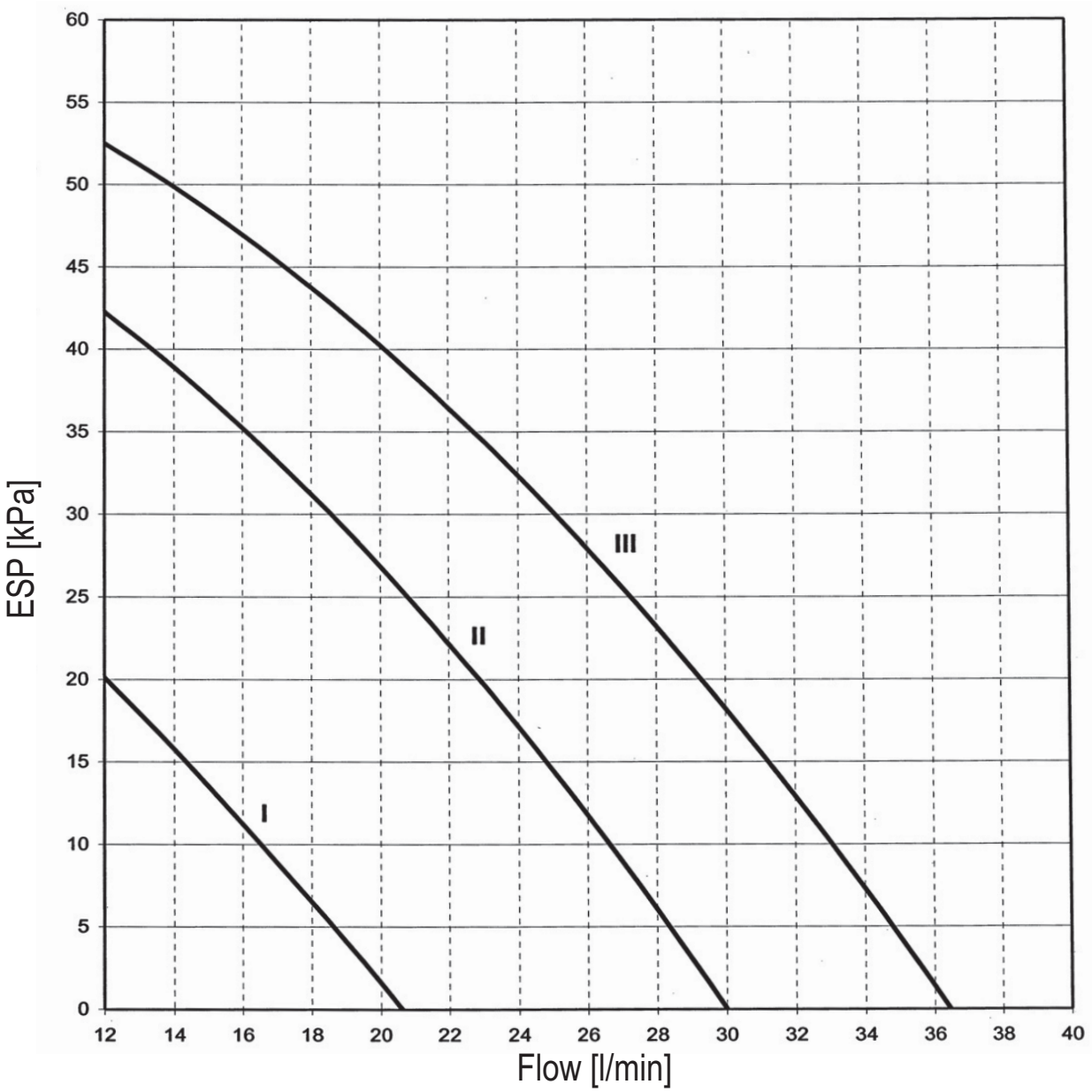
4TW60413-1A

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10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EBHQ006-008BV3



III high speed
II medium speed
I low speed

ESP: external static pressure
Flow: waterflow through the unit

NOTES

1 Selecting a flow outside the curves can cause damage to or malfunctioning of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2 Water quality must be according to EN directive EC 98/83 EC

4TW60419-1

TABLE OF CONTENTS

EKCBH-BBV3

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Dimensional Drawings 399

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Wiring Diagrams - Single Phase 400

1 Specifications

1-1 Technical Specifications					EKCBH008BBV3
Casing	Colour				Metallic grey
	Material				Painted galvanized steel plate
Dimensions	Unit	Height		mm	390
		Width		mm	412
		Depth		mm	100
		Depth with remocon mounted on front plate		mm	120
	Packed unit	Height		mm	435
		Width		mm	460
		Depth		mm	136
Weight	Unit			kg	6
	Packed unit			kg	6.5
Packing	Material				Carton EPS
	Weight			kg	0.5
Operation range	Indoor installation	Ambient	Min.	ºCDB	4
			Max.	ºCDB	35

1-2 Electrical Specifications				EKCBH008BBV3
Booster heater	Power supply	Phase		1~ 3~
		Frequency	Hz	50
		Voltage	V	230 400
	Voltage range	Min.	%	-10.000
		Max.	%	10.000
	Current	Maximum running current	A	13 7.5
Wiring connections	For power supply compressor component	Remark		Refer to connection diagram for full wiring overview
R5T	Wiring connections	Quantity		2
		Type of wires		Wire included in option EKHWS*
Notes				Power supply refers to combination with EKHW*V3 and EKHW*Z2 respectively.
R11T	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB
R13T	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB
R14T	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB
S1L	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB

Notes

(1) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

(2) Depending on the backup heater priority setting, the EKMBUH* backup heater kit and booster heater can or cannot operate simultaneously.

(3) For details, refer to the EBHQ* installation manual; for backup heater kit specifications, refer to EKMBUH* specifications

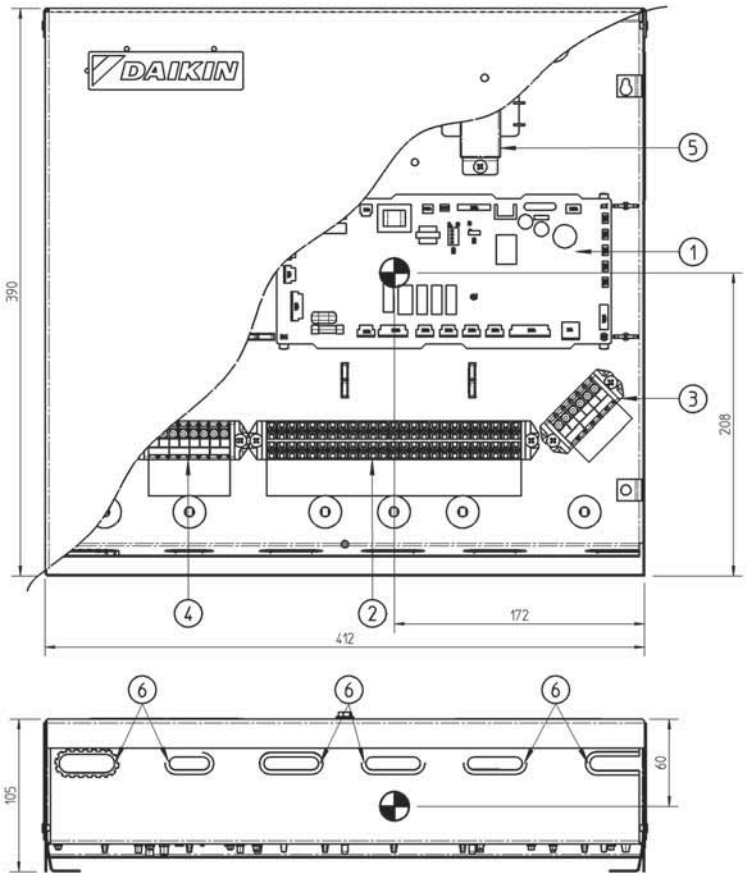
(4) Wiring connections: select diameter and type according to local regulations. For more details on voltage range & current, refer to the EBHQ* installation manual

(5) Power supply refers to combination with EKHW*V3 and EKHW*Z2 respectively.

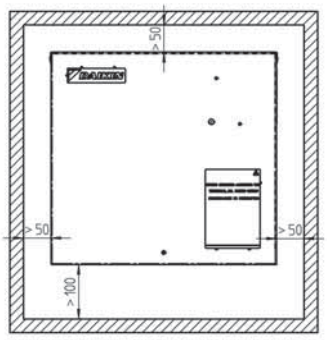
2 Dimensional drawings

2 - 1 Dimensional Drawings

EKCBH/X008



Minimum installation- and service space



Nr	Name
1	Main PCB
2	Main terminal
3	Communication terminal heaterkit
4	Communication terminal outdoor unit
5	Transformator
6	Wire cable entrance
⊕	Center of gravity

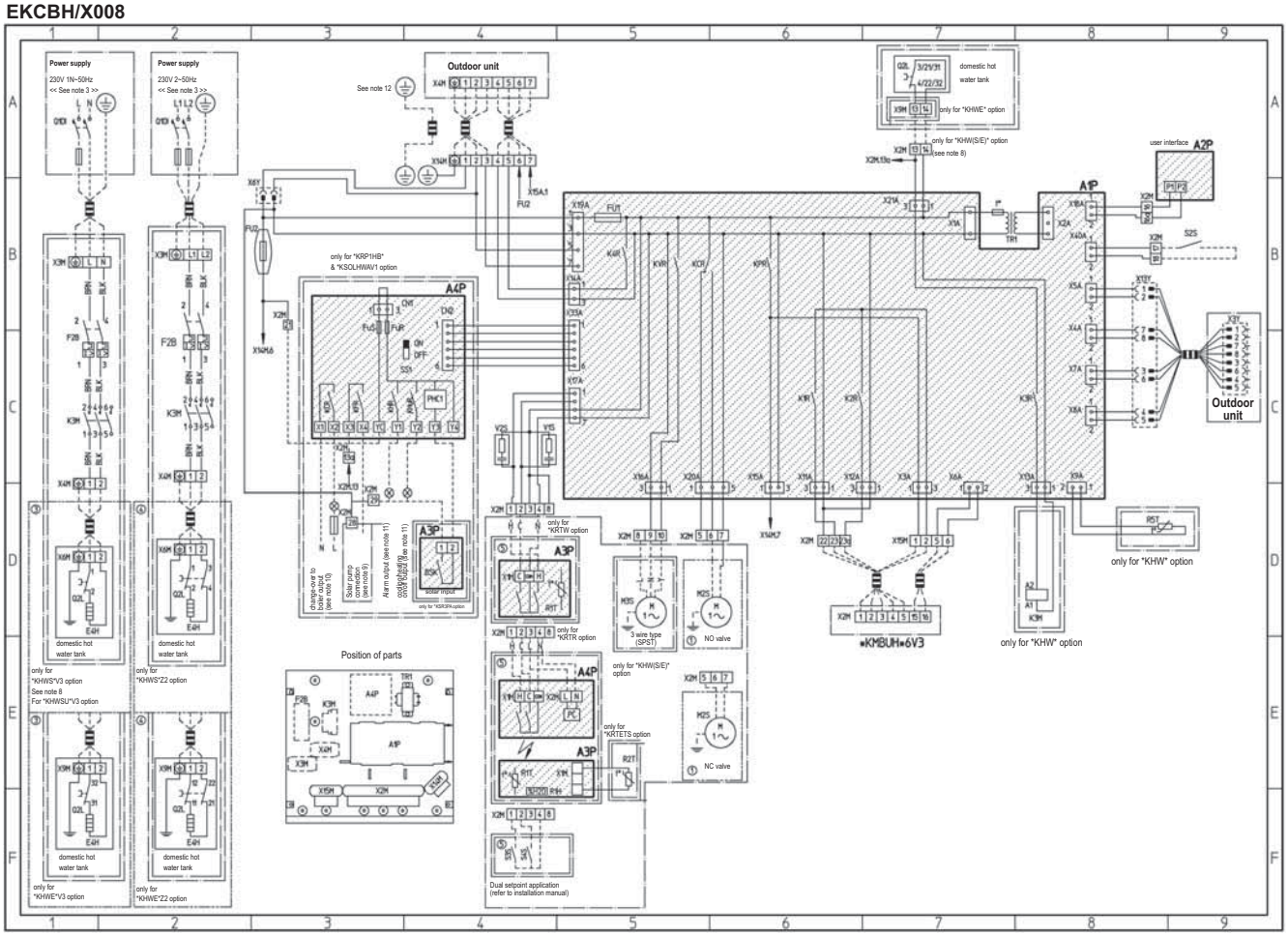
3TW60424-1

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2

3 Wiring diagrams

3 - 1 Wiring Diagrams - Single Phase

EKCBH/X008



A1P	Main PCB	PHC1	Optocoupler input circuit
A2P	User interface PCB	Q1DI	Earth leakage circuit breaker
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	Q2L	Thermal protector booster heater
A3P (*KSR3PA)	Solar pumpstation PCB	R1H (*KRTR)	Humidity sensor
A4P (*KRP1HB*)	Digital I/0 PCB	R1T (*KRTW*)	Ambient sensor
A4P (*KRTR)	Receiver PCB	R2T (*KRTETS)	External sensor (floor or ambient)
BSK (*KSR3PA)	Solar pumpstation relya	R5T	Domestic hot water thermistor
E4H	Booster heater	S2S	Benefit kWh rate power supply contact
F2B	Fuse booster heater	S3S	Dual setpoint 2 contact
FU1	Fuse 3.15A T 250V for PCB	S4S	Dual setpoint 1 contact
FU2	Fuse 5A T 250V	SS1	Dip switch
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	TR1	Transformer 24V for PCB
K3M	Booster heater contactor	V1S, V2S	Spark suppression 1, 2
M2S	2 way valve for cooling mode	X1M-X15M	Terminal strips
M3S	3 way valve: floorheating/domestic hot water	X3Y, X6Y, X13Y	Connector

2TW60426-1A

NOTES

1. ⬚ : Wiring depending on model, ⬚ : Option, ⬚ : Field wiring, ▨ : PCB, ––– : Field supply, –═– : Wiring colour
2. This wiring diagram only applies to the indoor unit
3. Use a dedicated power circuit for the booster heater.
   Never use a power circuit shared by other appliance.

KHW kit fuse	
F2B	20A

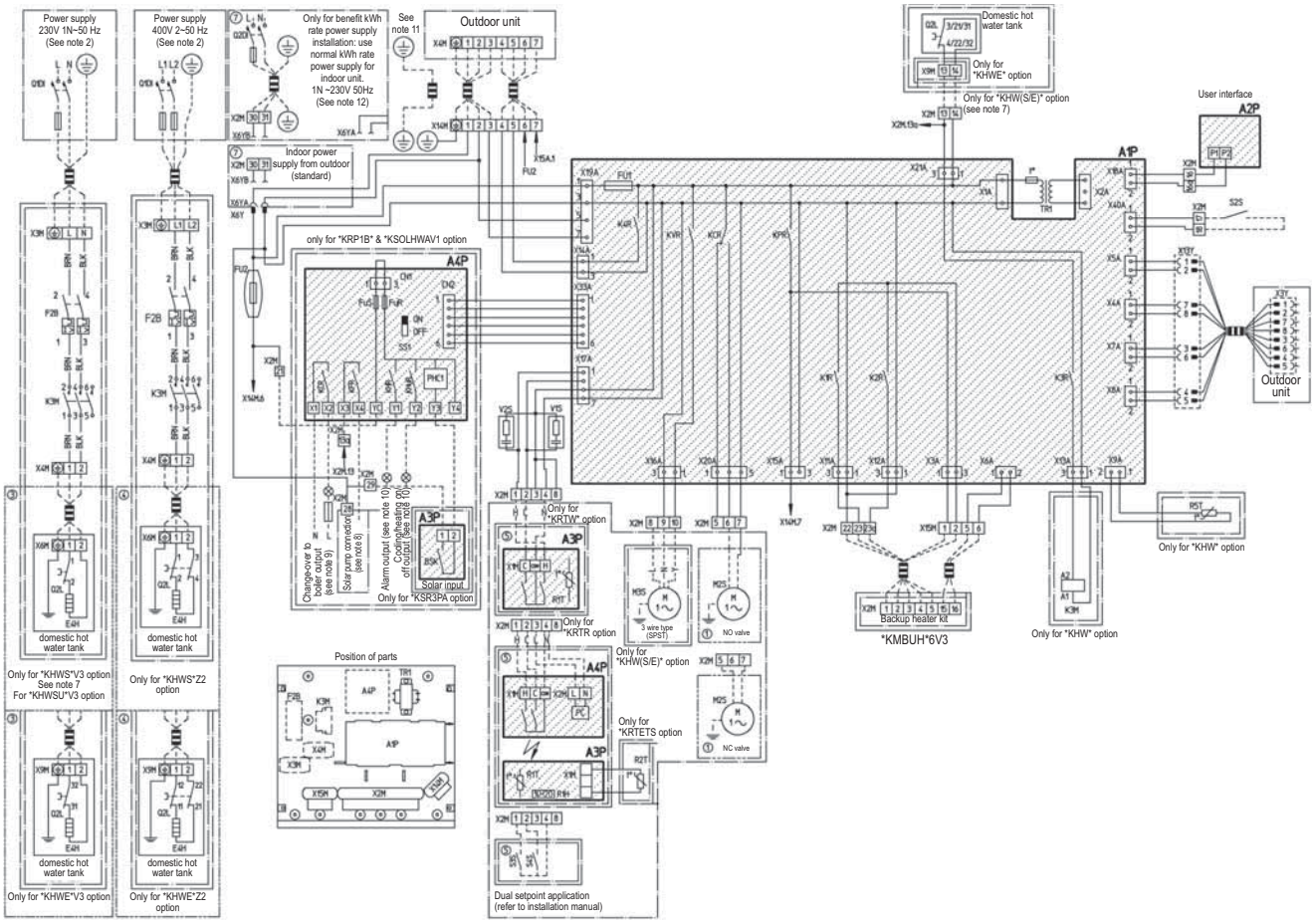
4. ⊣▮▮▮⊢ : Field wiring, NO/NC: normal open/normal closed, spst: single pole single throw
5. ⬚⬚⬚:Terminal strip, –⊂⊢ ⬭⬭:Connector, –○–:Terminal, ⏚:Protective earth
6. Do not operate the unit by short-circuiting any protection device
7. BLK=Black, RED=Red, BLU=Blue, WHT=White, PNK=Pink, YLW=Yellow
   BRN=Brown, GRY=Grey, GRN=Green, ORG=Orange, VIO=Violet
8. For *KHSU*V3, refer to option manual
9. For *KSOLHWAV1, refer to option manual
10. Maximum load: 0.3A - 250 VAC
    Minimum load: 20mA - 5VDC
11. 230VAC Output
    Maxium load: 0.3A
12. In case no *KHW* option with booster heater is installed, connect an extra earth

ⓧ Several wiring possibilities

3 Wiring diagrams

3 - 1 Wiring Diagrams - Single Phase

EKCBHX008BBV3



A1P	Main PCB	PHC1	Optocoupler input circuit
A2P	User interface PCB	Q1DI, Q2DI	Earth leakage circuit breaker
A3P (*KRTW/R*)	Thermostat (PC= Power Circuit)	Q2L	Thermal protector booster heater
A3P (*KSR3PA)	Solar pumpstation PCB	R1H (*KRTR)	Humidity sensor
A4P (*KRP1HB*)	digital I/O PCB	R1T (*KRTW*)	Ambient sensor
A4P (*KRTR)	Receiver PCB	R2T (*KRTETS*)	External sensor (floor or ambient)
BSK (*KSR3PA)	Solar pumpstation relay	R5T	Domestic hot water thermistor
E4H	Booster heater	S2S	Benefit kWh rate power supply contact
F2B	Fuse booster heater	S3S	Dual setpoint 2 contact
FU1	Fuse 3.15A T250V for PCB	S4S	Dual setpoint 1 contact
FU2	Fuse 5A T 250V	SS1	Dip switch
FuS, FuR	Fuse 5A 250V for digital I/O PCB	TR1	Transformer 24V for PCB
K3M	Booster heater contactor	V1S, V2S	Spark suppression 1, 2
M2S	2way valve for cooling mode	X1M, X15M	Terminal strips
M3S	3way valve: floorheating/domestic hot water	X3Y, X6Y, X13Y	Connector

2TW60676-1

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the booster heater. Never use a power circuit shared by other appliance
3. : Field wiring; NO/NC: Normal open/Normal closed; SPST: Single pole single throw
4. : Terminal strip; , : Connector; : Terminal; : Protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK= black; RED= red; BLU= blue; WHT= white; PNK= pink; YLW= yellow; BRN= brown; GRY= grey; GRN= green; ORG= orange; VIO= violet
7. For *KHWSU*V3, refer to option manual
8. For *KSOLHWAV1, refer to option manual
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. In case no *KHW* option with booster heater is installed, connect an extra earth
12. For benefit kWh rate power supply installation: refer to installation manual

(X) Several wiring possibilities

KHW kit fuse	
F2B	20A

Wiring dependent on model — Field wiring — BRN — Wire colour

Option — PCB — Field supply

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1 Specifications

1-1 Technical Specifications					EKCBX008BBV3
Casing	Colour				Metallic grey
	Material				Painted galvanized steel plate
Dimensions	Unit	Height		mm	390
		Width		mm	412
		Depth		mm	100
		Depth with remocon mounted on front plate		mm	120
	Packed unit	Height		mm	435
		Width		mm	460
		Depth		mm	136
Weight	Unit			kg	6
	Packed unit			kg	6.5
Packing	Material				Carton EPS
	Weight			kg	0.5
Operation range	Indoor installation	Ambient	Min.	ºCDB	4
			Max.	ºCDB	35

1-2 Electrical Specifications				EKCBX008BBV3
Booster heater	Power supply	Phase		1~ 3~
		Frequency	Hz	50
		Voltage	V	230 400
	Voltage range	Min.	%	-10.000
		Max.	%	10.000
	Current	Maximum running current	A	13 7.5
Wiring connections	For power supply compressor component	Remark		Refer to connection diagram for full wiring overview
R5T	Wiring connections	Quantity		2
		Type of wires		Wire included in option EKHWS*
Notes				Power supply refers to combination with EKHW*V3 and EKHW*Z2 respectively.
R11T	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB
R13T	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB
R14T	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB
S1L	Wiring connections	Quantity		8
		Type of wires		Wire included with EKCB

Notes

(1) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

(2) Depending on the backup heater priority setting, the EKMBUH* backup heater kit and booster heater can or cannot operate simultaneously.

(3) For details, refer to the EBHQ* installation manual; for backup heater kit specifications, refer to EKMBUH* specifications

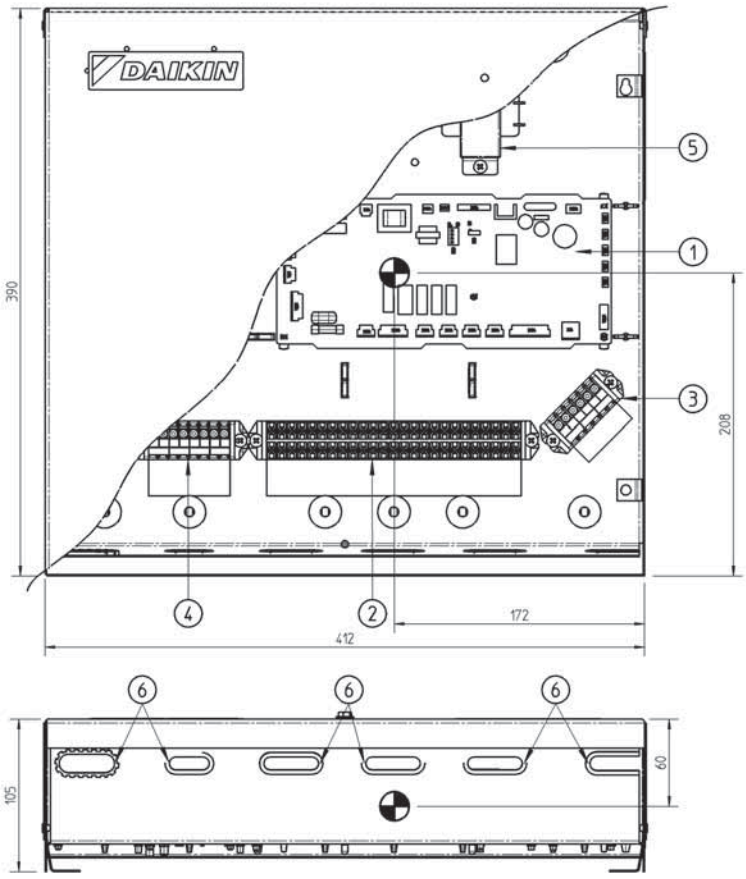
(4) Wiring connections: select diameter and type according to local regulations. For more details on voltage range & current, refer to the EBHQ* installation manual

(5) Power supply refers to combination with EKHW*V3 and EKHW*Z2 respectively.

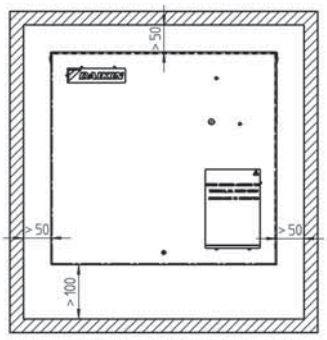
2 Dimensional drawings

2 - 1 Dimensional Drawings

EKCBH/X008



Minimum installation- and service space



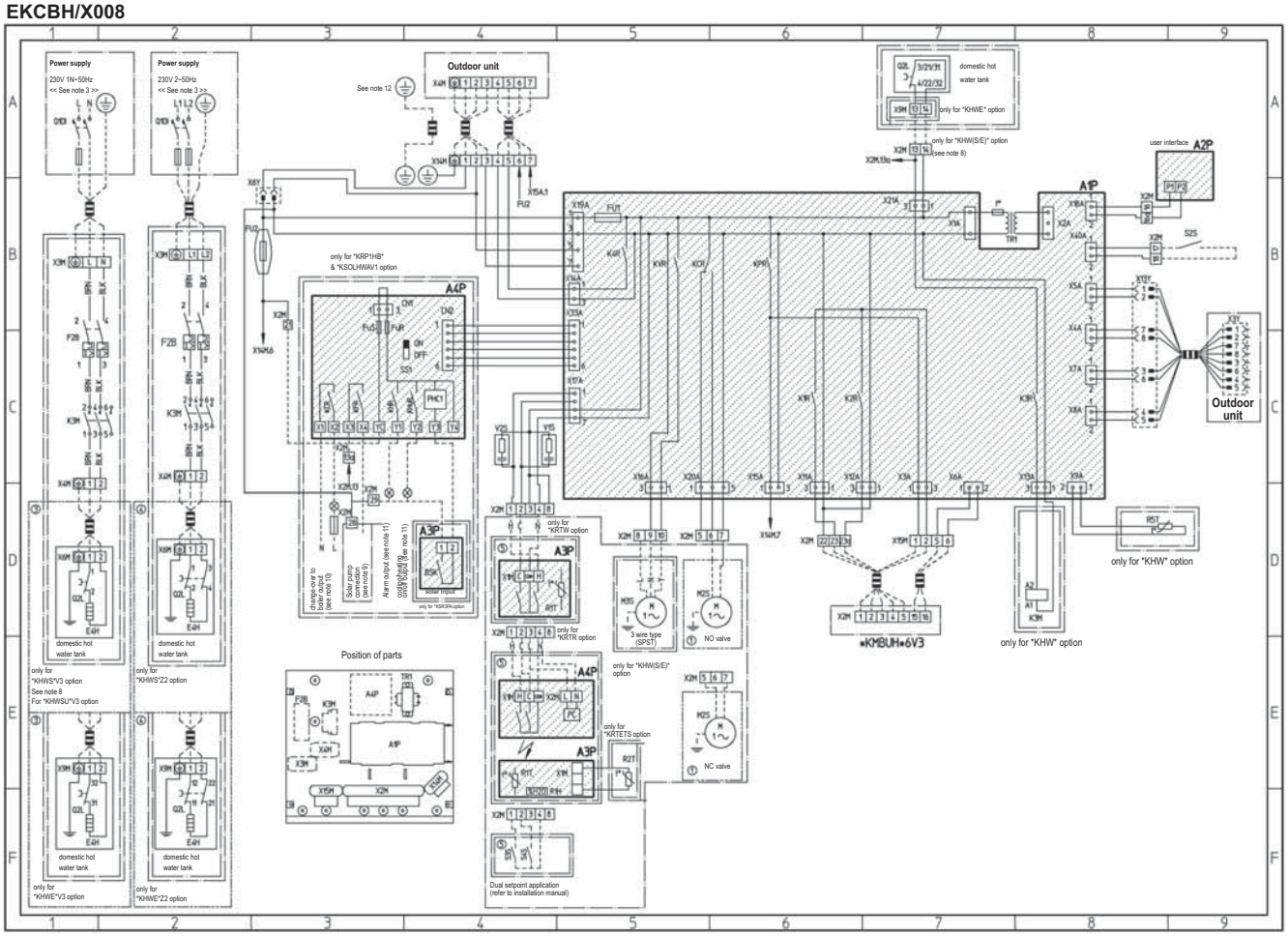
Nr	Name
1	Main PCB
2	Main terminal
3	Communication terminal heaterkit
4	Communication terminal outdoor unit
5	Transformator
6	Wire cable entrance
◓	Center of gravity

3TW60424-1

3 Wiring diagrams

3 - 1 Wiring Diagrams - Single Phase

EKCBH/X008



A1P	Main PCB	PHC1	Optocoupler input circuit
A2P	User interface PCB	Q1DI	Earth leakage circuit breaker
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	Q2L	Thermal protector booster heater
A3P (*KSR3PA)	Solar pumpstation PCB	R1H (*KRTR)	Humidity sensor
A4P (*KRP1HB*)	Digital I/0 PCB	R1T (*KRTW*)	Ambient sensor
A4P (*KRTR)	Receiver PCB	R2T (*KRTETS)	External sensor (floor or ambient)
BSK (*KSR3PA)	Solar pumpstation relya	R5T	Domestic hot water thermistor
E4H	Booster heater	S2S	Benefit kWh rate power supply contact
F2B	Fuse booster heater	S3S	Dual setpoint 2 contact
FU1	Fuse 3.15A T 250V for PCB	S4S	Dual setpoint 1 contact
FU2	Fuse 5A T 250V	SS1	Dip switch
FuS, FuR	Fuse 5A 250V for digital I/0 PCB	TR1	Transformer 24V for PCB
K3M	Booster heater contactor	V1S, V2S	Spark suppression 1, 2
M2S	2 way valve for cooling mode	X1M-X15M	Terminal strips
M3S	3 way valve: floorheating/domestic hot water	X3Y, X6Y, X13Y	Connector

2TW60426-1A

NOTES

1. ⬚ : Wiring depending on model, ⬚ .: Option, ⬚ : Field wiring, ▨ : PCB, – – – : Field supply, —▭— : Wiring colour
2. This wiring diagram only applies to the indoor unit
3. Use a dedicated power circuit for the booster heater.
   Never use a power circuit shared by other appliance.

KHW kit fuse	
F2B	20A

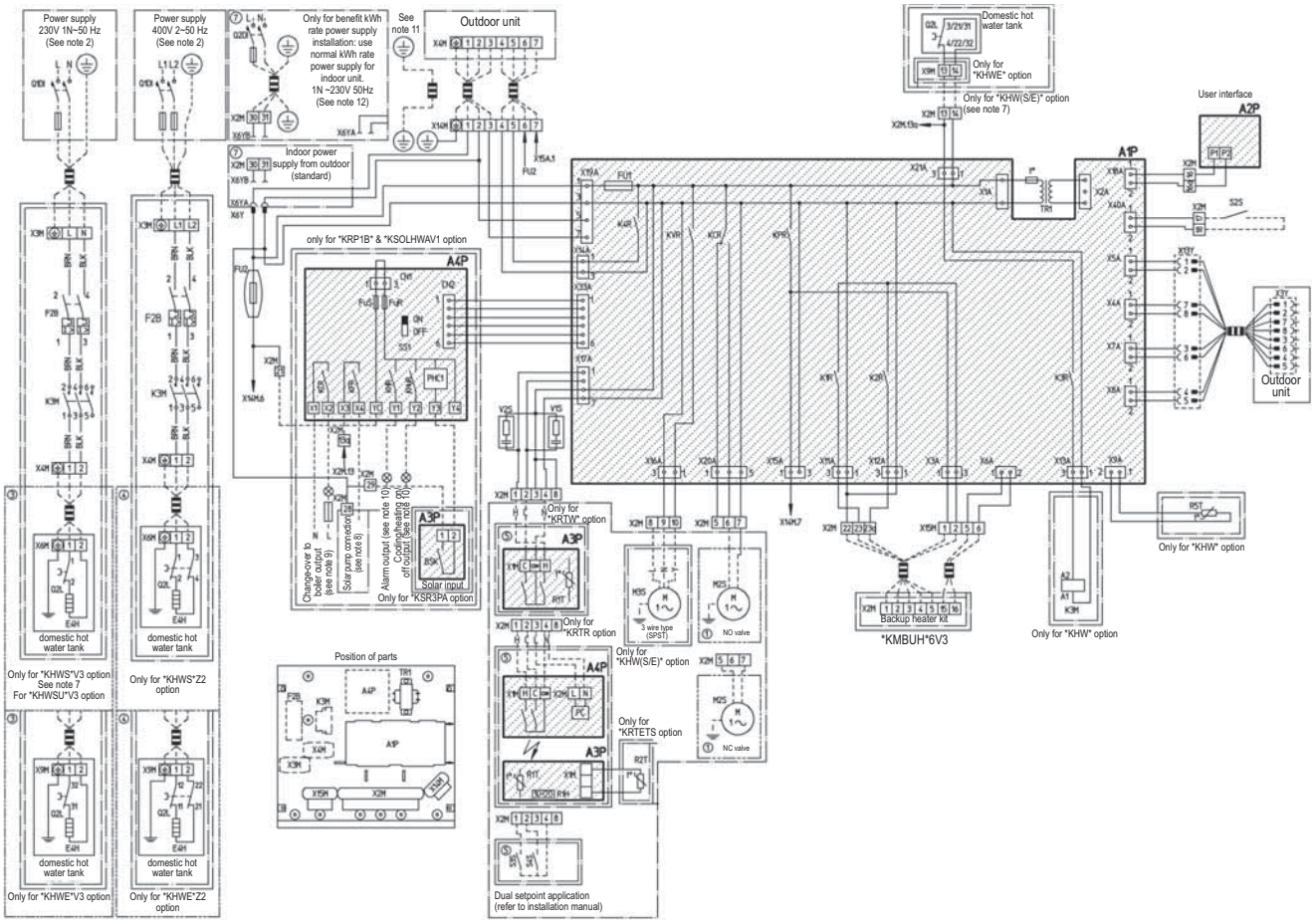
4. ⊣▮▮⊢ : Field wiring, NO/NC: normal open/normal closed, spst: single pole single throw
5. ⬚⬚⬚:Terminal strip, —(•⊢ ⊙⊙:Connector, —○—:Terminal, ⏚:Protective earth
6. Do not operate the unit by short-circuiting any protection device
7. BLK=Black, RED=Red, BLU=Blue, WHT=White, PNK=Pink, YLW=Yellow
   BRN=Brown, GRY=Grey, GRN=Green, ORG=Orange, VIO=Violet
8. For *KHSU*V3, refer to option manual
9. For *KSOLHWAV1, refer to option manual
10. Maximum load: 0.3A - 250 VAC
    Minimum load: 20mA - 5VDC
11. 230VAC Output
    Maxium load: 0.3A
12. In case no *KHW* option with booster heater is installed, connect an extra earth

ⓧ Several wiring possibilities

3 Wiring diagrams

3 - 1 Wiring Diagrams - Single Phase

EKCBHX008BBV3



A1P	Main PCB	PHC1	Optocoupler input circuit
A2P	User interface PCB	Q1DI, Q2DI	Earth leakage circuit breaker
A3P (*KRTW/R*)	Thermostat (PC= Power Circuit)	Q2L	Thermal protector booster heater
A3P (*KSR3PA)	Solar pumpstation PCB	R1H (*KRTR)	Humidity sensor
A4P (*KRP1HB*)	digital I/O PCB	R1T (*KRTW*)	Ambient sensor
A4P (*KRTR)	Receiver PCB	R2T (*KRTETS*)	External sensor (floor or ambient)
BSK (*KSR3PA)	Solar pumpstation relay	R5T	Domestic hot water thermistor
E4H	Booster heater	S2S	Benefit kWh rate power supply contact
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FU2	Fuse 5A T 250V	SS1	Dip switch
FuS, FuR	Fuse 5A 250V for digital I/O PCB	TR1	Transformer 24V for PCB
K3M	Booster heater contactor	V1S, V2S	Spark suppression 1, 2
M2S	2way valve for cooling mode	X1M, X15M	Terminal strips
M3S	3way valve: floorheating/domestic hot water	X3Y, X6Y, X13Y	Connector

2TW60676-1

NOTES

1. This wiring diagram only applies to the indoor unit
2. Use a dedicated power circuit for the booster heater. Never use a power circuit shared by other appliance
3. : Field wiring; NO/NC: Normal open/Normal closed; SPST: Single pole single throw
4. : Terminal strip; , : Connector; : Terminal; : Protective earth
5. Do not operate the unit by short-circuiting any protection device.
6. BLK= black; RED= red; BLU= blue; WHT= white; PNK= pink; YLW= yellow; BRN= brown; GRY= grey; GRN= green; ORG= orange; VIO= violet
7. For *KHWSU*V3, refer to option manual
8. For *KSOLHWAV1, refer to option manual
9. Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
10. 230VAC output Maximum load: 0.3A
11. In case no *KHW* option with booster heater is installed, connect an extra earth
12. For benefit kWh rate power supply installation: refer to installation manual

(X) Several wiring possibilities

KHW kit fuse	
F2B	20A

Wiring dependent on model — Field wiring — BRN — Wire colour

Option — PCB — Field supply

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1 Features

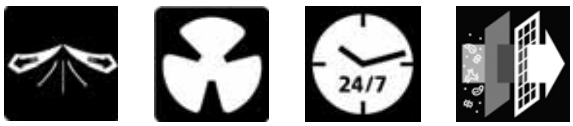
- Optimal energy efficiency when connected to a Daikin Altherma system, thanks to the interlink function
- Stylish design
- Flat front panel: its stylish appearance blends easily within any interior décor and is more easy to clean.
- Titanium apatite photocatalytic air purification filter
- Can be installed against a wall or recessed
- Lightweight but sturdy design





5 steps

standard



2 Specifications

2-1 For indoor units only				FWXV15AVEB	FWXV20AVEB
Nominal input (Indoor only)	Cooling		kW	0.013	0.015
	Heating		kW	0.013	0.015
Heating capacity	Total capacity	Nom.	kW	1.5	2.0
	Water volume	Nom.	m^3/hr	0.26	0.34
			l/min	4.3	5.7
	Water pressure drop	Nom.	kPa	13	22
Cooling capacity	Total capacity	Nom.	kW	1.2	1.7
	Sensible capacity	Nom.	kW	0.98	1.4
	Water volume	Nom.	m^3/hr	0.20	0.29
			l/min	3.4	4.9
	Water pressure drop	Nom.	kPa	10	17

2-2 Technical Specifications				FWXV15AVEB	FWXV20AVEB
Casing	Colour			White	
Dimensions	Packing	Height	mm	696	696
		Width	mm	786	786
		Depth	mm	286	286
	Unit	Height	mm	600	600
		Width	mm	700	700
		Depth	mm	210	210
Weight	Unit		kg	15	15
	Packed Unit		kg	19	19
Heat Exchanger	Dimensions	Length	mm	510	510
		Nr of Rows		2	2
		Fin Pitch	mm	1.2	1.2
		Nr of Stages		22	22
	Tube type			ø6.35 Smooth tube	
	Fin	Type		Multi slit fin	
Fan	Type			Turbo fan	
Air Flow Rate	Heating	High	m³/h	318	474
		Medium	m³/h	228	354
		Low	m³/h	150	240
		Silent Operation	m³/h	126	198
	Cooling	High	m³/h	318	474
		Medium	m³/h	228	354
		Low	m³/h	150	240
		Silent Operation	m³/h	126	198
Fan	Motor	Model		D48D-28	
		Number of steps		5 steps, silent and auto	
Motor	Speed (heating)	High	rpm	400	560
		Medium	rpm	310	440
		Low	rpm	230	320
		Silent Operation	rpm	210	280
	Speed (cooling)	High	rpm	400	560
		Medium	rpm	310	440
		Low	rpm	230	320
		Silent Operation	rpm	210	280
Heating	Sound Power	Medium	dBA	35	45
	Sound Pressure	Medium	dBA	19	29
Cooling	Sound Power	Medium	dBA	35	45
	Sound Pressure	Medium	dBA	19	29
Piping connections	Liquid ID/OD	Diameter	inch	G1/2 / G1/2	G1/2 / G1/2
	Gas ID/OD	Diameter	inch	G1/2 / G1/2	G1/2 / G1/2
	Drain	Diameter	mm	18	
	Heat Insulation			Both inlet and outlet pipes	
Air Filter				Removable/washable/Mildew proof	
Air direction control				Right, Left, Horizontal, Downward	
Temperature control				Microcomputer control	

2 Specifications

2-2 Technical Specifications		FWXV15AVEB	FWXV20AVEB
Standard Accessories	Item	Installation manual	
	Quantity	1	1
	Item	Operation manual	
	Quantity	1	1
	Item	Wireless remote control	
	Quantity	1	1
	Item	Batteries	
	Quantity	2	2
	Item	Remote control holder	
	Quantity	1	1
	Item	Drain hose	
	Quantity	1	1
	Item	Photocatalytic filter (apatite)	
	Quantity	2	2
	Item	Thermal insulation tape	
	Quantity	2	2
	Item	Thermal insulation tube	
	Quantity	2	2
	Item	Connection pipe	
	Quantity	2	2
	Item	Binding band	
	Quantity	1	1
	Item	O Ring	
	Quantity	4	4
Notes		Cooling: indoor temp. 27°CDB, 19°CWB; entering water temp. 7°C, water temperature rise 5K.	
		Heating: indoor temp. 20°CDB; entering water temp. 45°C, water temperature drop 5K.	
		The range of usable water temperature is 6°C (min.) to 60°C (max.)	
		Maximum allowable water pressure is 1.18 MPa	
		Comply with drinking water directive 98/93/EC for chilled water, hot water and make up water.	
		The amount of water circulation should be 3l/min to 15l/min (0.18m³/hr to 0.9m³/hr)	
		Allowable model of hydrobox interlinking is BA-series	

2-3 Electrical Specifications				FWXV15AVEB	FWXV20AVEB
Power Supply	Name			VE	
	Phase			1	1
	Frequency		Hz	50/60	50/60
	Voltage		V	220-240 / 220	
Current	Nominal running current (RLA)	Heating	A	0.08	0.10
		Cooling	A	0.08	0.10

3 Capacity tables

3 - 1 Heating capacity tables

FWXV15-20A

Heating capacity tables

Air temperature (°C)		20°C														
Water temperature (Entering °C - leaving °C)		35°C-30°C			45°C-40°C			50°C-45°C			55°C-45°C			60°C-50°C		
Model	Fan	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop
		kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa
FWXV15AVEB	H	1.12	3.2	7	2.00	5.7	22	2.43	7.0	32	2.85	4.1	12	3.27	4.7	15
	M	0.83	2.4	4	1.50	4.3	13	1.82	5.2	19	2.13	3.1	7	2.44	3.5	9
	L	0.50	1.4	2	1.00	2.9	6	1.35	3.9	10	1.43	2.0	3	1.64	2.4	4
FWXV20AVEB	H	1.65	4.7	15	3.00	8.6	49	3.67	10.5	71	4.33	6.2	26	4.99	7.2	34
	M	1.12	3.2	7	2.00	5.7	22	2.43	7.0	32	2.86	4.1	12	3.29	4.7	15
	L	0.83	2.4	4	1.50	4.3	13	1.82	5.2	19	2.13	3.1	7	2.44	3.5	9

Air temperature (°CDB-°CWB)		22°CDB														
Water temperature (Entering °C - leaving °C)		35°C-30°C			45°C-40°C			50°C-45°C			55°C-45°C			60°C-50°C		
Model	Fan	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop
		kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa
FWXV15AVEB	H	1.01	2.9	6	1.84	5.3	19	2.27	6.5	28	2.69	3.9	10	3.11	4.5	14
	M	0.75	2.2	3	1.38	4.0	11	1.70	4.9	16	2.01	2.9	6	2.31	3.3	8
	L	0.45	1.3	1	0.92	2.6	5	1.26	3.6	9	1.35	1.9	3	1.55	2.2	4
FWXV20AVEB	H	1.48	4.2	13	2.76	7.9	41	3.42	9.8	62	4.08	5.8	23	4.74	6.8	31
	M	1.00	2.9	6	1.84	5.3	19	2.27	6.5	28	2.70	3.9	10	3.12	4.5	14
	L	0.75	2.2	3	1.38	4.0	11	1.70	4.9	16	2.01	2.9	6	2.31	3.3	8

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3 Capacity tables

3 - 2 Cooling capacity tables

FWXV15-20A

Cooling capacity tables

Air temperature (°CDB-°CWB)		27°CDB-19°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	1.77	1.44	5.1	20	1.70	1.39	4.9	19	1.55	1.31	4.4	16	1.41	1.25	4.0	13
	M	1.25	1.00	3.6	10	1.20	0.98	3.4	10	1.09	0.92	3.1	8	1.00	0.88	2.9	7
	L	0.83	0.67	2.4	5	0.80	0.66	2.3	4	0.73	0.62	2.1	4	0.66	0.59	1.9	3
FWXV20AVEB	H	2.60	2.13	7.5	42	2.50	2.05	7.2	39	2.28	1.93	6.5	33	2.08	1.95	6.0	27
	M	1.77	1.46	5.1	20	1.70	1.40	4.9	19	1.55	1.32	4.4	16	1.41	1.26	4.0	13
	L	1.25	1.03	3.6	10	1.20	0.99	3.4	10	1.09	0.93	3.1	8	1.00	0.89	2.9	7

Air temperature (°CDB-°CWB)		22°CDB-16°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	1.31	1.09	3.8	11	1.19	1.03	3.4	9	1.05	0.99	3.0	7	0.93	0.93	2.7	6
	M	0.93	0.76	2.7	6	0.84	0.74	2.4	5	0.74	0.72	2.1	4	0.66	0.66	1.9	3
	L	0.61	0.51	1.7	3	0.56	0.50	1.6	2	0.50	0.49	1.4	2	0.44	0.44	1.3	1
FWXV20AVEB	H	1.92	1.62	5.5	23	1.75	1.52	5.0	20	1.55	1.41	4.4	16	1.37	1.37	3.9	12
	M	1.31	1.11	3.8	11	1.19	1.05	3.4	9	1.04	1.03	3.0	7	0.93	0.93	2.7	6
	L	0.93	0.78	2.7	6	0.84	0.75	2.4	5	0.74	0.73	2.1	4	0.66	0.66	1.9	3

Air temperature (°CDB-°CWB)		25°CDB-18°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	1.58	1.28	4.5	16	1.51	1.24	4.3	15	1.35	1.15	3.9	12	1.24	1.11	3.6	10
	M	1.11	0.90	3.2	8	1.07	0.87	3.1	8	0.95	0.81	2.7	6	0.88	0.78	2.5	5
	L	0.74	0.60	2.1	4	0.71	0.58	2.0	3	0.64	0.55	1.8	3	0.58	0.53	1.7	2
FWXV20AVEB	H	2.31	1.90	6.6	33	2.23	1.82	6.4	31	1.98	1.70	5.7	25	1.83	1.65	5.2	21
	M	1.58	1.31	4.5	16	1.51	1.25	4.3	15	1.35	1.16	3.9	12	1.24	1.12	3.6	10
	L	1.11	0.93	3.2	8	1.07	0.88	3.1	8	0.95	0.82	2.7	6	0.88	0.79	2.5	5

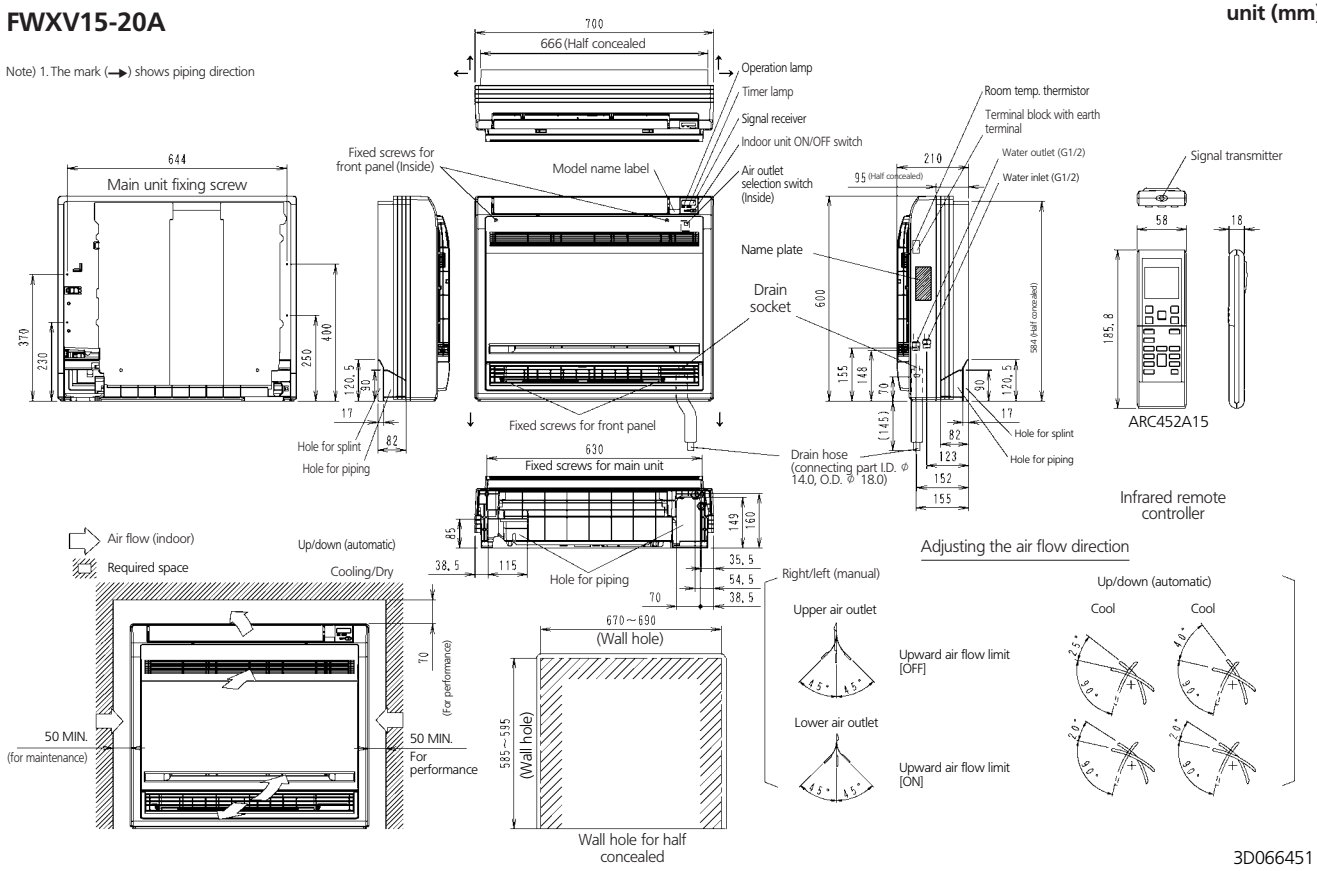
Air temperature (°CDB-°CWB)		30°CDB-22°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	2.32	1.57	6.7	34	2.23	1.50	6.4	31	2.00	1.40	5.7	25	1.80	1.33	5.2	21
	M	1.64	1.09	4.7	17	1.57	1.06	4.5	16	1.41	0.98	4.0	13	1.28	0.93	3.7	11
	L	1.09	0.73	3.1	8	1.05	0.71	3.0	7	0.94	0.66	2.7	6	0.84	0.63	2.4	5
FWXV20AVEB	H	3.41	2.32	9.8	70	3.28	2.21	9.4	65	2.94	2.07	8.4	53	2.66	1.96	7.6	44
	M	2.32	1.59	6.7	34	2.23	1.51	6.4	31	2.00	1.41	5.7	25	1.80	1.34	5.2	21
	L	1.64	1.12	4.7	17	1.57	1.07	4.5	16	1.41	1.00	4.0	13	1.28	0.94	3.7	11

3D066679

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

FWXV15-20A unit (mm)

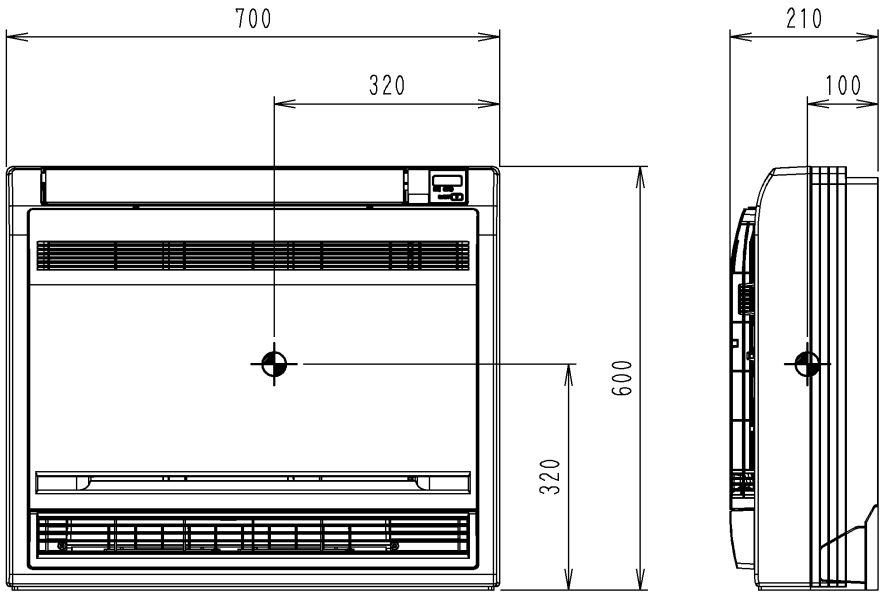


3D066451

4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity

FWXV15-20A

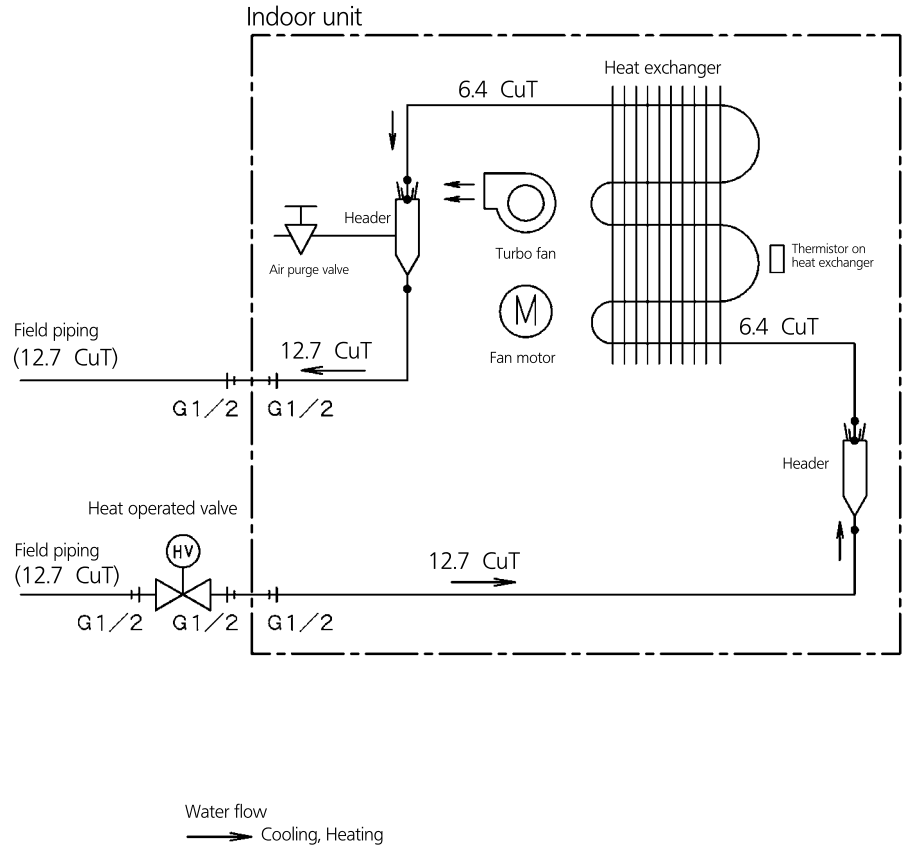


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5 Piping diagram

5 - 1 Piping diagram

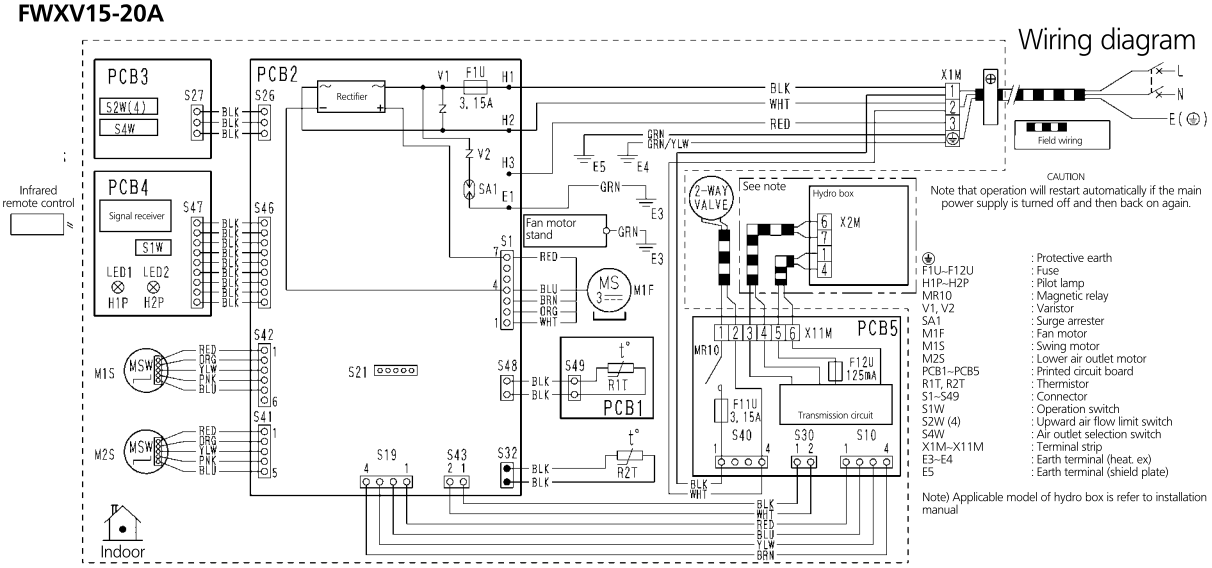
FWXV15-20A



6 Wiring diagram

6 - 1 Wiring diagram

FWXV15-20A



NOTES:
1 Size: Length 70 X Width 155
2 Refer to purchasing specification AS303002, unless otherwise specified.
3 This drawing was drawn on CAD system.

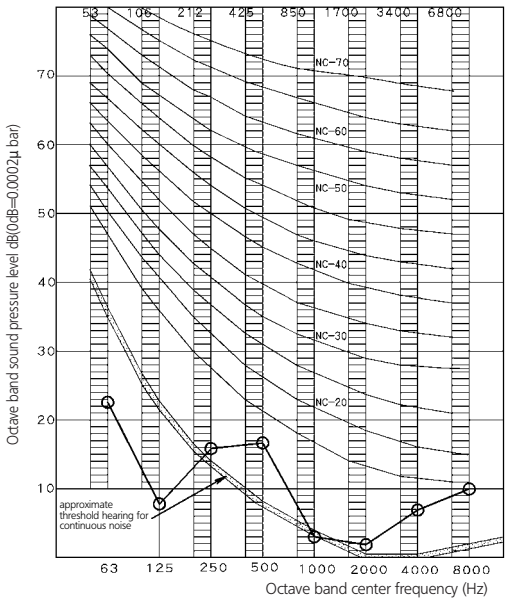
3D066232A

7 Sound data

7 - 1 Sound pressure spectrum

FWXV15A

Cooling, Heating



Overall (dB)

Scale A	19

(B,G,N is already rectified)

Measuring place
Measure in anechoic room

Note: Operation noise differs with operation and ambient conditions.

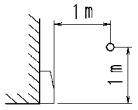
Operating conditions

Power source 220-240V 50Hz, 220V 60Hz

Cooling, Heating

Location of microphone

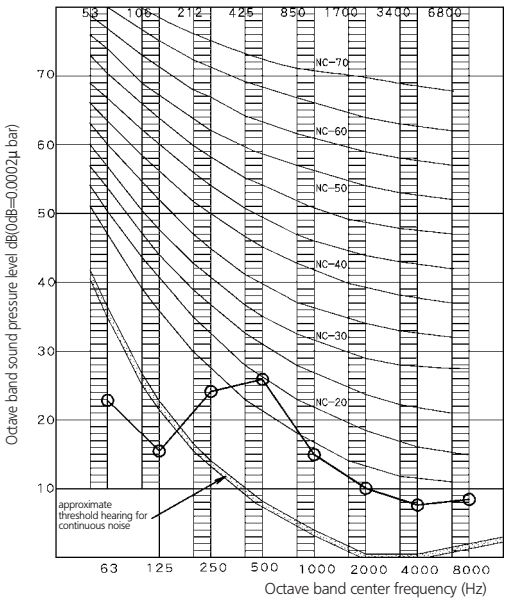
The operation sound measuring method is in accordance with JISC9612.



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FWXV20A

Cooling, Heating



Overall (dB)

Scale A	29

(B,G,N is already rectified)

Measuring place
Measure in anechoic room

Note: Operation noise differs with operation and ambient conditions.

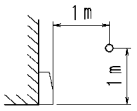
Operating conditions

Power source 220-240V 50Hz, 220V 60Hz

Cooling, Heating

Location of microphone

The operation sound measuring method is in accordance with JISC9612.

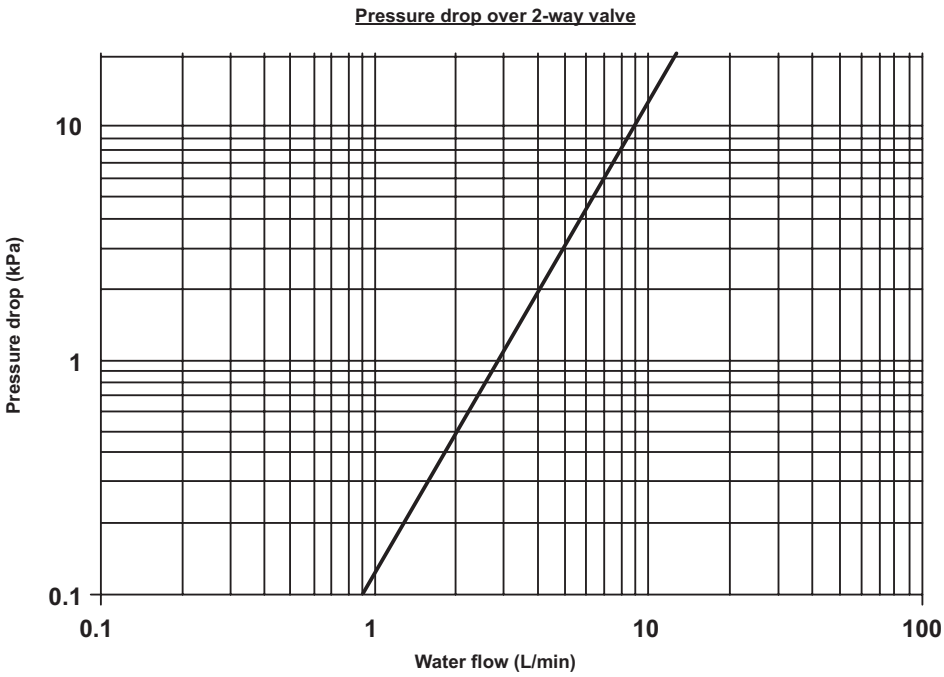


3D066681

8 Hydraulic performance

8 - 1 Static pressure drop unit

FWXV-A



4TW32891-1

NOTE

1. This graph can be used to calculate the pressure drop over the 2-way valve.
   The pressure drop over the Heat Pump Convector is not included.

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1 Features

- Stainless steel domestic hot water tank
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 Technical Specifications				EKHWS150 B3V3	EKHWS200 B3V3	EKHWS300 B3V3	EKHWS200 B3Z2	EKHWS300 B3Z2	EKHWSU150 B3V3	EKHWSU200 B3V3	EKHWSU300 B3V3
Casing	Colour			Neutral white							
	Material			Epoxy-coated mild steel							
Dimensions	Packing	Height	mm	950	1,200	1,650	1,200	1,650	1,040	1,280	1,735
		Width	mm	600	600	600	600	600	600	600	600
		Depth	mm	600	600	600	600	600	600	600	600
	Unit	Height	mm	900	1,150	1,600	1,150	1,600	1,015	1,265	1,715
		Width	mm	580	580	580	580	580	580	580	580
		Depth	mm	580	580	580	580	580	580	580	580
Weight	Unit		kg	37	45	59	45	59	38	46	60
	Packed Unit		kg	42	51	66	51	66	43	52	67
Packing	Material			EPS							
				Carton							
	Weight		kg	3	4	5	4	5	3	4	5
Main components	Tank	Water volume	l	150	200	300	200	300	150	200	285
		Material		Stainless steel (DIN 1.4521)							
		Max. temperature	°C	85	85	85	85	85	85	85	85
		Max. water pressure	bar	10	10	10	10	10	10	10	10
Tank	Insulation	Material		Polyurethane foam							
		Min. thickness	mm	40	40	40	40	40	40	40	40
Main components	Heat exchanger	Quantity		1	1	1	1	1	1	1	1
		Material		Duplex steel LDX 2101							
	Booster heater	Quantity		1	1	1	1	1	1	1	1
		Capacity	kW	3	3	3	3	3	3	3	3
	3-Way Valve	Coefficient of flow (kV)	m	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		Inlet	inch	Rp1							
		Outlet	inch	2xRp1							
Temperature sensor	Cable length		m	12	12	12	12	12	12	12	12
Piping connections	Water inlet H/E Diameter		inch	G 3/4 (female)							
	Water outlet H/E Diameter		inch	G 3/4 (female)							
	Cold water in Diameter		inch	G 3/4 (female)							
	Hot water out Diameter		inch	G 3/4 (female)							
	Recirculation connection		inch	G 3/4 (female)							

2-2 Electrical Specifications				EKHWS150 B3V3	EKHWS200 B3V3	EKHWS300 B3V3	EKHWS200 B3Z2	EKHWS300 B3Z2	EKHWSU150 B3V3	EKHWSU200 B3V3	EKHWSU300 B3V3
Unit	Power Supply	Phase		1~	1~	1~	2~	2~	1~	1~	1~
		Frequency	Hz	50	50	50	50	50	50	50	50
		Voltage	V	230	230	230	400	400	230	230	230
	Nominal running current		A	13	13	13	7.5	7.5	13	13	13
	Fuse	Size	A	20	20	20	20	20	20	20	20
		Phase		1~	1~	1~	2~	2~	1~	1~	1~

3 Capacity tables

3 - 1 Cooling capacity tables

The DAIKIN ALTHERMA heat pump in combination with the optional domestic hot water tank provide hot water for household usage.
The below mentioned date allow a proper selection of the domestic hot water tank size for maximum comfort and efficiency.

(1) Domestic hot water volume:

The available volume of hot water for household usage depends on the physical volume of the tank, on the domestic hot water setpoint temperature and on the temperature spreading in the tank.
Therefore we define the equivalent hot water volume (EHWV).

Definition:
EHWV = the volume of hot water available for domestic usage at a temperature of 40°C.
40°C is considered a comfortable domestic hot water temperature.

Tank	Setpoint temp. (°C)	EHWV (l)	Usage pattern		
			Modest	Medium	High
150L	55	110	-	-	-
	65	150	+	-	-
	75	175	++	+	-
200L	55	160	+	-	-
	65	200	++	+	-
	75	240	++	++	-
300L	55	295	++	++	-
	65	385	++	++	+
	75	435	++	++	++

Grade ++ Excessive availability of domestic hot water.
\+ Sufficient availability of domestic hot water.
\- Temporary shortage of domestic hot water can occur.

Usage pattern **Modest** Daily demand up tp 220 l -> typcial 2-persons usage pattern.
Medium Daily demand up to 325 l -> typical 3 to 4 persons usage pattern.
High Daily demand up to 550 l -> 4 to 6 persons usage pattern.

(2) Heat-up time:

Definition:
Heat-up time The time required to reheat the domestic hot water tank to 55°C after tapping a certain volume of hot water at 40°C.
note: changing the field settings (see installation manual) can influence the heat-up time.

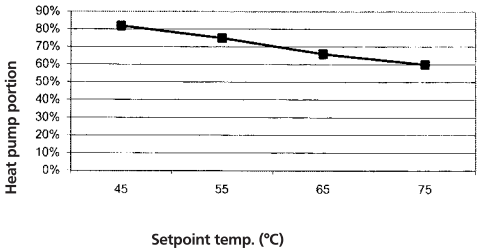
Tank	Setpoint temp. (°C)	Heat-up time for 150 L (bath) <min>	Heat-up time for 50 L (shower) <min>
150L	55	60	45
200L	55	60	40
300L	55	50	30

Conditions for testing: Ta = 7°CDB / 6°CWB, Troom = 20°C, Tstart = 10°C, outdoor unit type: ERHQ008

(3) Efficiency of domestic hot water production:

In the Daikin Altherma system both the heat pump and the electric booster heater supply the energy to produce domestic hot water.
The higher the portion of energy supplied by the heat pump, the more energy efficient the system is.
Lowering the setpoint temperature increases the portion of energy supplied by the heat pump and thus the efficiency of the system.

Definition:
Heat pump portion Percentage of energy supplied by the heat pump in the total energy need for domestic hot water.



Conditions:

Real life condition	Simulation of a daily usage based upon 'medium' usage pattern.
Outdoor temperature	7°CDB / 6°CWB
Room temperature	20°CDB
Outdoor unit type	ERHQ008
Tank type	200l
Field settings	Default field settings (see installation manual).

(4) Heat losses of domestic hot water tank:

Tank EKHWS	Heat losses*
150l	2.39
200l	2.42
300L	2.83

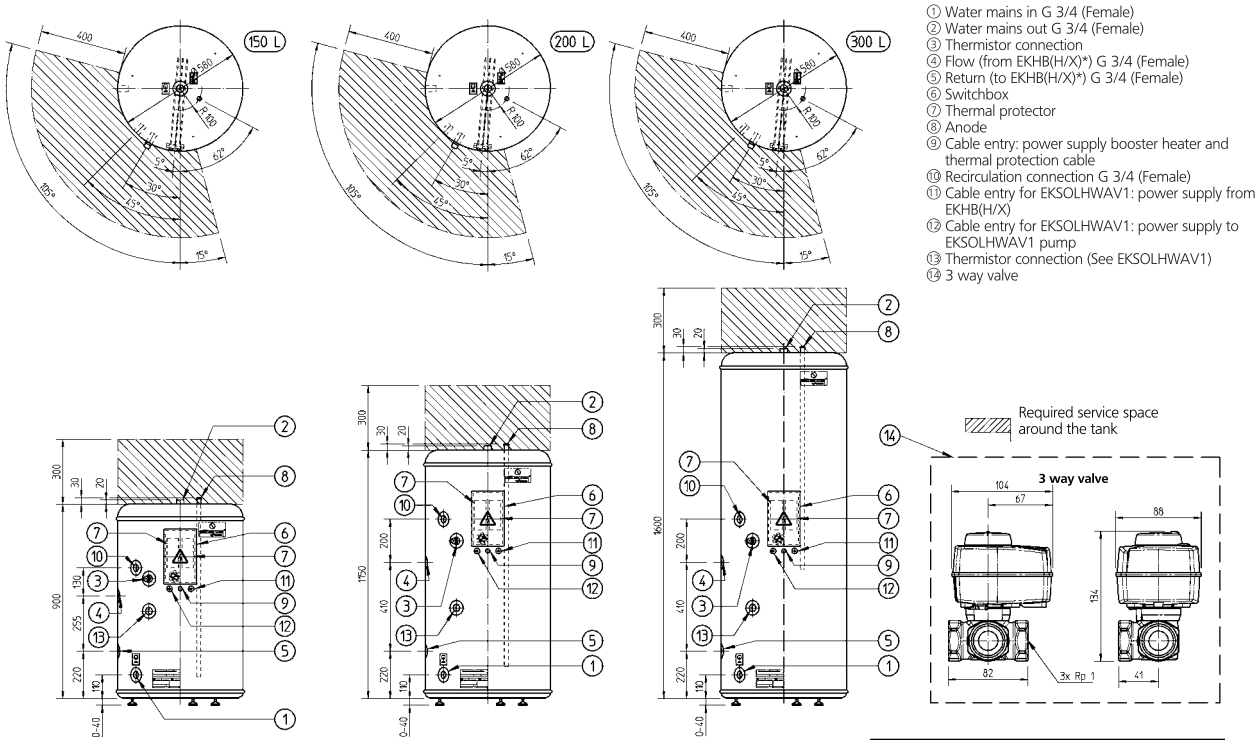
* Heat loses at △T=45°C between hot water tank and surrounding air

4TW57949-1A

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKHWS-B

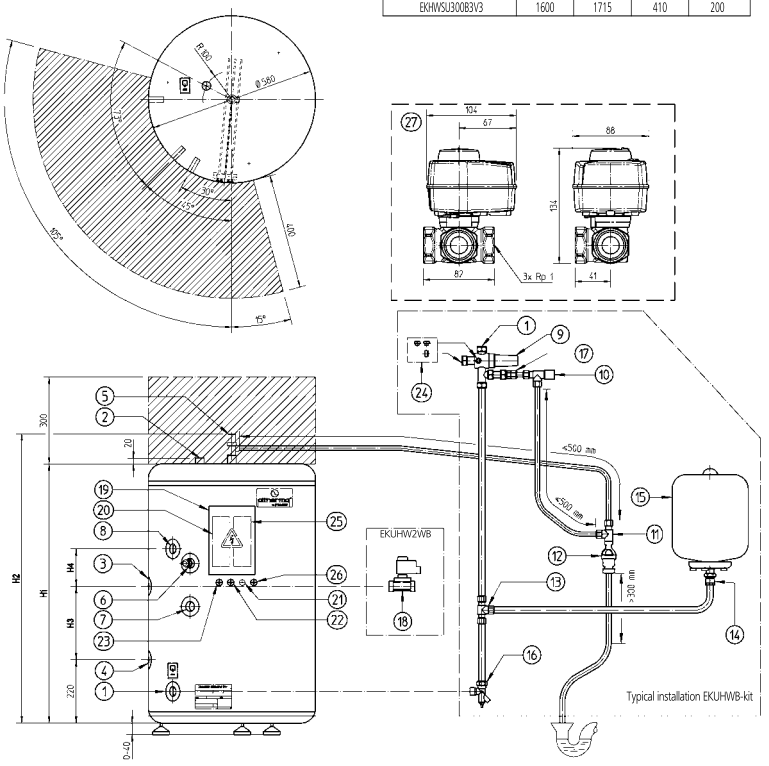


① Water mains in G 3/4 (Female)
② Water mains out G 3/4 (Female)
③ Thermistor connection
④ Flow (from EKHB(H/X)*) G 3/4 (Female)
⑤ Return (to EKHB(H/X)*) G 3/4 (Female)
⑥ Switchbox
⑦ Thermal protector
⑧ Anode
⑨ Cable entry: power supply booster heater and thermal protection cable
⑩ Recirculation connection G 3/4 (Female)
⑪ Cable entry for EKSOLHWAV1: power supply from EKHB(H/X)
⑫ Cable entry for EKSOLHWAV1: power supply to EKSOLHWAV1 pump
⑬ Thermistor connection (See EKSOLHWAV1)
⑭ 3 way valve

3TW57944-1A

EKHWS-B

Model	H1	H2	H3	H4
EKHWSU150B3V3	900	1015	255	130
EKHWSU200B3V3	1150	1265	410	200
EKHWSU300B3V3	1600	1715	410	200



Water connections

①	Water IN (cold)	22MM
②	Water OUT (hot)	G 3/4 (Female)
③	Flow from EKHB(H/X)*	G 3/4 (Female)
④	Return to EKHB(H/X)*	G 3/4 (Female)
⑤	Temperature relief valve	15MM
⑥	Thermistor connection	
⑦	Thermistor connection (See EKSOLHWAV1)	G 1/2 (Female)
⑧	Re-circulation hole	G 3/4 (Female)

Water connections kit

⑨	Pressure reducing valve	22MM-22MM
⑩	Expansion relief valve	15MM-15MM
⑪	T-piece (to tundish)	15MM-15MM-G 1/2 (Female)
⑫	Tundish	22MM-15MM
⑬	T-piece (to expansion vessel)	22MM-22MM-22MM
⑭	Adapter (expansion vessel)	22MM-G 3/4 (Female)
⑮	Expansion vessel	G 3/4 (Male)
⑯	Drain valve	22MM-G 3/4 (Female)
⑰	Reducing coupler	22MM-15MM

Other

⑱ EKUHW2WB kit: solenoid valve (only with EKSOLHWAV1) Rp 3/4" - Rp 3/4"
⑲ Switchbox
⑳ Thermal protector 1+Thermostat
㉑ Cable entry: power supply booster heater and thermal protector cable
㉒ Cable entry for EKUHW2WB: power supply to solenoid valve
㉓ Cable entry for EKSOLHWAV1 & EKUHW2WB: power supply from EKHB(H/X)
㉔ Blind stop + 2 plastic screw-on closing caps for pressure reducing valve
㉕ Thermal protector 2+Thermostat
㉖ Cable entry for EKSOLHWAV1: power supply to EKSOLHWAV1 pump
㉗ 3 way valve 3x Rp1

Required service space

3TW57944-2B

5 Piping diagram

5 - 1 Piping diagram

EKHWSU-B

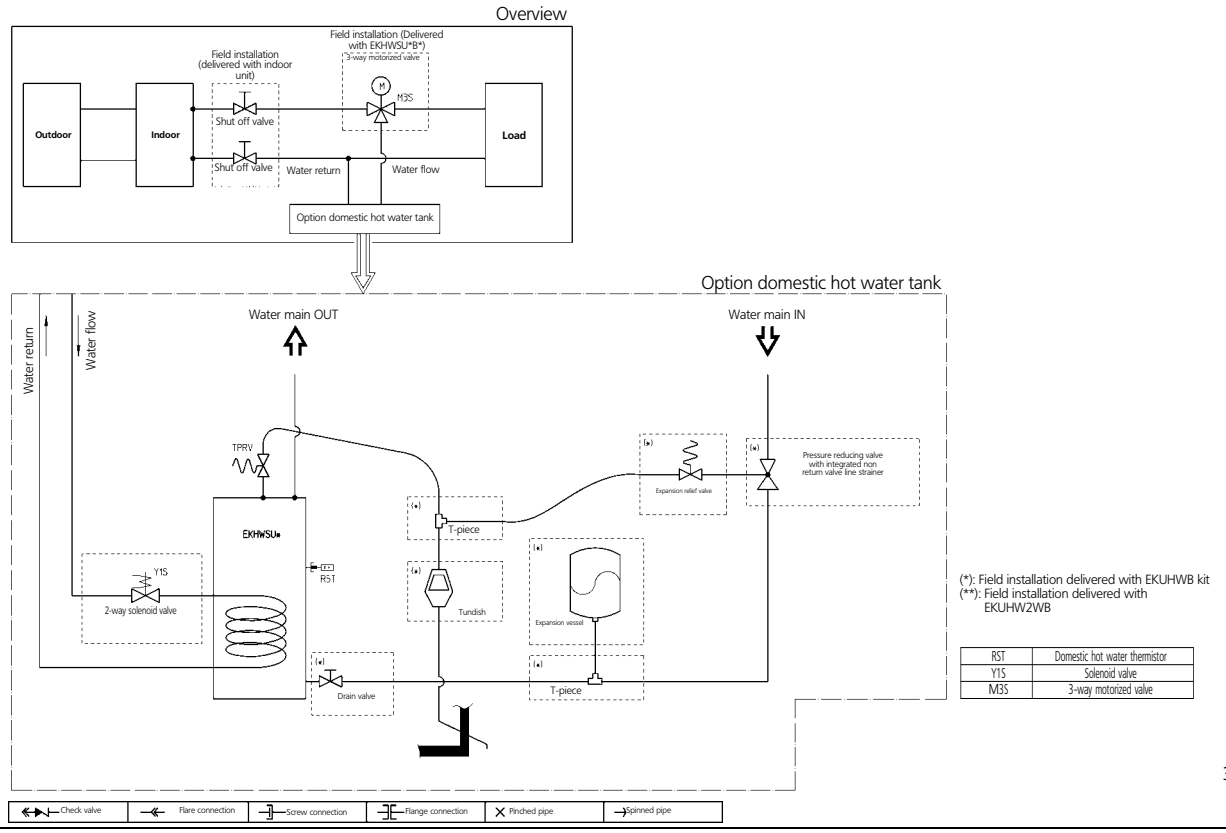


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1 Features

- Enameled domestic hot water tank
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2	EKHWET150A3V3
Mounting				Floor	Floor	Floor	Floor	Floor	Wall
Casing	Colour			RAL9010					
	Material			Epoxy coated steel					
Dimensions	Packing	Height	mm	1,460	1,835	1,830	1,835	1,830	1,460
		Width	mm	615	615	720	615	720	615
		Depth	mm	625	625	730	625	730	625
	Unit	Height	mm	1,205	1,580	1,572	1,580	1,572	1,205
		Diameter	mm	545	545	660	545	660	545
Weight	Unit		kg	80	104	140	104	140	82
	Packed Unit		kg	92	117	158	117	158	94
Packing	Material			Carton					
				Wood					
				EPS					
	Weight		kg	13	13	18	13	18	12
Main components	Tank	Water volume	l	150	200	300	200	300	150
		Material		Enamel coated steel acc. DIN4753TL2					
		Max. temperature	°C	75	75	75	75	75	75
		Max. water pressure	bar	10	10	10	10	10	10
Tank	Insulation	Material		HFC-free Polyurethane foam					
		Min. thickness	mm	47.5	47.5	50	47.5	50	47.5
Main components	Heat exchanger	Quantity		1	1	1	1	1	1
		Material		Enamel coated steel acc. DIN4753TL2					
		Surface	m²	0.5	0.8	1.06	0.8	1.06	0.5
	Booster heater	Quantity		1.0	1.0	1.0	1.0	1.0	1.0
		Capacity	kW	3.0	3.0	3.0	3.0	3.0	3.0
	3-Way Valve	Coefficient of flow (kV)	m	12.0	12.0	12.0	12.0	12.0	12.0
		Inlet	inch	RP 1"					
		Outlet	inch	2 x RP 1"					
Temperature sensor	Cable length		m	12.0	12.0	12.0	12.0	12.0	12.0
Piping connections	Water inlet H/E Diameter		inch	Rp 3/4"					
	Water outlet H/E Diameter		inch	Rp 3/4"					
	Cold water in Diameter		inch	G 3/4"					
	Hot water out Diameter		inch	G 3/4"					
	Recirculation connection		inch	G3/4"					

2-2 ELECTRICAL SPECIFICATIONS				EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2	EKHWET150A3V3
Unit	Power Supply	Phase		1~	1~	1~	2~	2~	1~
		Frequency	Hz	50	50	50	50	50	50
		Voltage	V	230	230	230	400	400	230
	Nominal running current		A	13	13	13	7.5	7.5	13
	Fuse	Size	A	20	20	20	20	20	20
		Pole		2	2	2	2	2	2

3 Capacity tables

3 - 1 Cooling capacity tables

The ALTHERMA by Daikin heat pump in combination with the optional domestic hot water tank provide hot water for household usage.
The below mentioned date allow a proper selection of the domestic hot water tank size for maximum comfort and efficiency.

(1) Domestic hot water volume:

The volume of hot water available for domestic usage depends on the physical volume of the tank, on the domestic water setpoint temperature and on the temperature spreading in the tank.
Therefore we define the equivalent hot water volume (EHWV).

Definition:
EHWV = the volume of hot water available for domestic usage at a temperature of 40°C.
40°C is considered a comfortable domestic hot water temperature.

Tank	Setpoint temp. (°C)	EHWV (l)	Usage pattern		
			Modest	Medium	High
150L	55	125	-	-	-
	65	165	+	-	-
	75	185	++	+	-
200L	55	200	+	-	-
	65	230	++	+	-
	75	260	++	++	-
300L	55	320	++	++	-
	65	400	++	++	+
	75	435	++	++	++

Grade ++ Excessive availability of domestic hot water.
\+ Sufficient availability of domestic hot water.
\- Temporary shortage of domestic hot water can occur.

Usage pattern **Modest** Daily demand up tp 220 l -> typcial 2-persons usage pattern.
Medium Daily demand up to 325 l -> typical 3 to 4 persons usage pattern.
High Daily demand up to 550 l -> 4 to 6 persons usage pattern.

(2) Heat-up time:

Definition:
Heat-up time The time required to reheat the domestic hot water tank to 55°C after tapping a certain volume of hot water at 40°C.
note: changing the field settings (see installation manual) can influence the heat-up time.

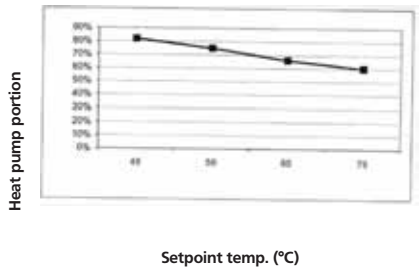
Tank	Setpoint temp. (°C)	**Heat-up time for 150 L (bath) <min>**	**Heat-up time for 50 L (shower) <min>**
150L	55	60	45
200L	55	60	40
300L	55	50	30

Conditions for testing: Ta = 7°CDB / 6°CWB, Troom = 20°C, Tstart = 10°C, outdoor unit type: ERHQ011

(3) Efficiency of domestic hot water production:

In the ALTHERMA by Daikin system both the heat pump and the electric booster heater supply the energy to produce domestic hot water.
The higher the portion of energy supplied by the heat pump, the more energy efficient the system is.
Lowering the setpoint temperature increases the portion of energy supplied by the heat pump and thus the efficiency of the system.

Definition:
Heat pump portion Percentage of energy supplied by the heat pump in the total energy need for domestic hot water.



Conditions:

Real life condition	Simulation of a daily usage based upon 'medium' usage pattern.
Outdoor temperature	7°CDB / 6°CWB
Room temperature	20°CDB
Outdoor unit type	ERHQ011
Tank type	200l
Field settings	Default field settings (see installation manual).

(4) Heat losses of domestic hot water tank:

Tank EKHWE	Heat losses* [kWh/24h]
150L	1.7
200L	1.9
300L	2,5

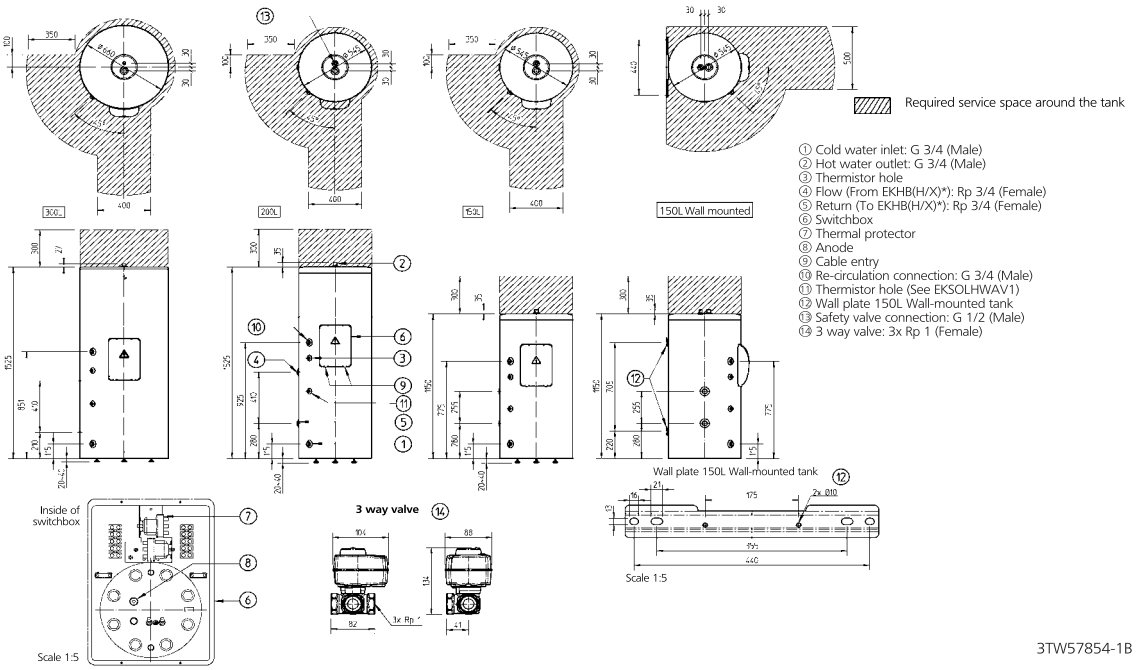
* Heat losses at △45°C between hot water in tank and surrounding air.

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4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

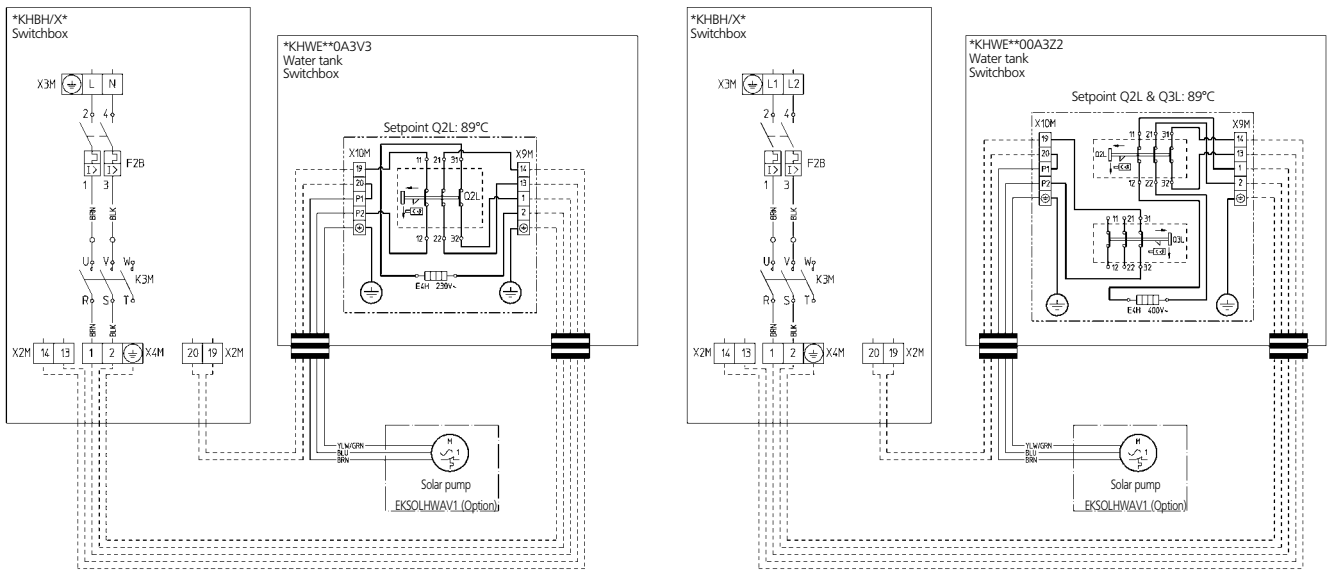
EKHWE



5 Wiring diagram

5 - 1 Wiring diagram

EKHWE



E4H	: Booster heater
F2B	: Fuse booster heater
K3M	: Contactor booster heater
L	: Line
N	: Neutral
Q2L	: Thermal protector Booster heater
Q3L	: Thermal protector 2 Hot water tank
X2M–X4M	: Terminal block
X9M–X10M	: Terminal block

Notes:

1 : Field wiring
: Field wiring
—BLK— : Wire colour
: Terminal strip
: Protective earth

2 BLK=Black RED=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY=Grey GNR=Green ORG=Orange VIO=Violet

3 Please refer to the *KHWE* manual for more installation details

3TW57856-1A

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1 Features

- High temperature application: up to 80°C without electric heater
- Stainless steel domestic hot water tank
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 Technical Specifications					EKHTS200AC	EKHTS260AC
Casing	Colour				Metallic grey	
	Material				Galvanised steel (precoated sheet metal)	
Dimensions	Unit	Height	Tank	mm	1,335	1,610
			Integrated on indoor unit	mm	2,010	2,285
		Width		mm	600	
		Depth		mm	695	
	Packed unit	Height		mm	1,470	1,745
		Width		mm	680	
		Depth		mm	800	
Weight	Unit	Empty		kg	70	78
	Packed unit	Empty		kg	81	89
Packing	Material				EPSWood + Carton	
	Weight			kg	11	
Tank	Water volume			l	200	260
	Material				Stainless steel (EN 1.4521)	
	Maximum water temperature			×C	75	
	Maximum water pressure			bar	10	
	Insulation	Material			EPS	
		Heat loss		kWh/24h	1.2	1.5
Heat exchanger	Quantity				1	
	Tube material				Duplex steel (EN 1.4162)	
	Face area			m²	1.56	
	Internal coil volume			l	7.5	
3-way valve	Coefficient of flow (kV)	Space heating		m³/h	13	
		Domestic hot water tank		m³/h	8	
	Inlet			mm	Male quick coupling ø28.7	
	Outlet	Space heating		mm	Female quick coupling ø28.8	
		Domestic hot water tank		mm	Female quick coupling ø28.8	
Temperature sensor	Cable length			m	11.5	
Piping connections	Water inlet heat exchanger diameter			inch	G 3/4" F (if kit EKFMAHTB is used - stand alone tank)	
				mm	Female Quick coupling ø25	
	Water outlet heat exchanger diameter			inch	G 3/4" F (if kit EKFMAHTB is used - stand alone tank)	
				mm	Female Quick coupling ø25	
	Cold water in	Diameter		inch	G 3/4" (female)	
	Hot water out	Diameter		inch	G 3/4" (female)	
	Recirculation connection			inch	G 1/2" (male)	
Safety devices					Thermal cutout (on indoor unit): 90-95°C	

3 Capacity tables

3 - 1 Heating Capacity Tables

Daikin Altherma HT-TW Domestic hot water tank

The DAIKIN ALTHERMA heat pump in combination with the optional domestic hot water tank provide hot water for household usage.
The below mentioned date allow a proper selection of the domestic hot water tank size for maximum comfort and efficiency.

(1) Capacity:

	EKHTS*200	EKHTS*260
Total capacity (L)	210	258
Actual capacity (L)	193,5	250,5

Total capacity = internal volume of tank(= effective water volume+ coil volume)
Actual capacity=effective water volume inside the tank

(2) Maximum volume of usable hot water:
The volume of hot water available for domestic usage depends on the physical volume of the tank, on the domestic water setpoint temperature and on the temperature spreading in the tank.

Definition:
Maximum volume of usable hot water = the volume of hot water available for domestic usage at a temperature of 40°C.
40°C is considered a comfortable domestic hot water temperature. (cold water inlet temp = 10°C)

Tank	Setpoint temp.	Maximum volume of usable hot water	Tapping pattern*			
			Small	Medium	High	very high
EKHTS*200	40	190	+++	+	-	-
	50	255	+++	++	-	-
	60	320	+++	+++	-	-
	70	385	+++	+++	+	-
EKHTS*260	40	250	+++	++	-	-
	50	330	+++	+++	-	-
	60	415	+++	+++	++	-
	70	500	+++	+++	++	+

Grade +++ more than excessive availability of sanitary hot water (more than 40% of EHWV is still available after tapping pattern)
++ Excessive availability of sanitary hot water. (10%< EHWV still available after tapping pattern<40%)
+ Sufficient availability of sanitary hot water. (EHWV still available after tapping pattern <10%)
- Temporary shortage of sanitary hot water can occur.

Tapping pattern** **Small** Daily demand up to 90l -> typical 1-person daily usage pattern
Medium Daily demand up to 190l -> typical 2-persons daily usage pattern
High Daily demand up to 370l -> typical 3 to 4 persons daily usage pattern
very high Daily demand up to 500l -> 5 to 6 persons daily usage pattern

* based upon heat up to tank once / 24 hours
** Heat losses (over 24 hrs) are included in the tapping patterns

(3) Standing Heat loss:

Tank	Heat losses [kWh/24h]
EKHTS*200	1.2
EKHTS*260	1.5

* heat loss of tank at △T = 45K

(4) Heat-up time:

Definition:
Heat-up time = The time is required to heat up the domestic hot water tank from 15°C to 60°C (minutes)

Tank	Heat-up time <min>		
	EKHBRD11	EKHBRD14	EKHBRD16
EKHTS*200	60	50	40
EKHTS*260	70	60	50

conditions for testing: Ta = 7°CDB / 6°CWB, TStart = 15°C

(5) Reheat time:

Definition:
Reheat time = The time required to reheat the deomestic hot water tank back to 60°C after tapping 70% of the actual volume.

Tank	Reheat time <min>		
	EKHBRD11	EKHBRD14	EKHBRD16
EKHTS*200	50	40	30
EKHTS*260	60	50	40

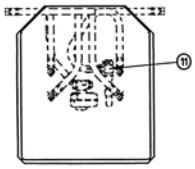
Starting condition before tapping 70% of volume: tank at 60°C
conditions for testing: Ta = 7°CDB / 6°CWB, TCold = 15°C

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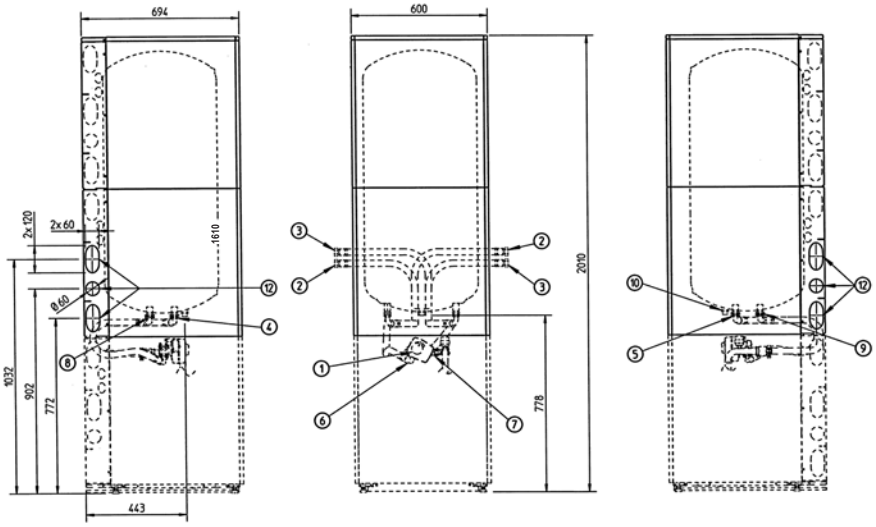
4 Dimensional drawings

4 - 1 Dimensional Drawings

EKHTS200AC + EKHBRD-AB
EKHTS200AC + EKHVMR/YD-A



1	3-way valve
2	Hot water out connection G 3/4" (female)
3	Cold water in connection G 3/4" (female)
4	Hot water out (quick coupling) at bottom tank
5	Cold water in (quick coupling) at bottom tank
6	Tank connection from indoor unit (quick coupling)
7	Tank connection to indoor unit (quick coupling)
8	Tank connection from indoor unit (quick coupling) at bottom tank
9	Tank connection to indoor unit (quick coupling) at bottom tank
10	Recirculation connection G 1/2" (male)
11	T-joint (in case of EKHBRD*)
12	Knock-out holes for water piping



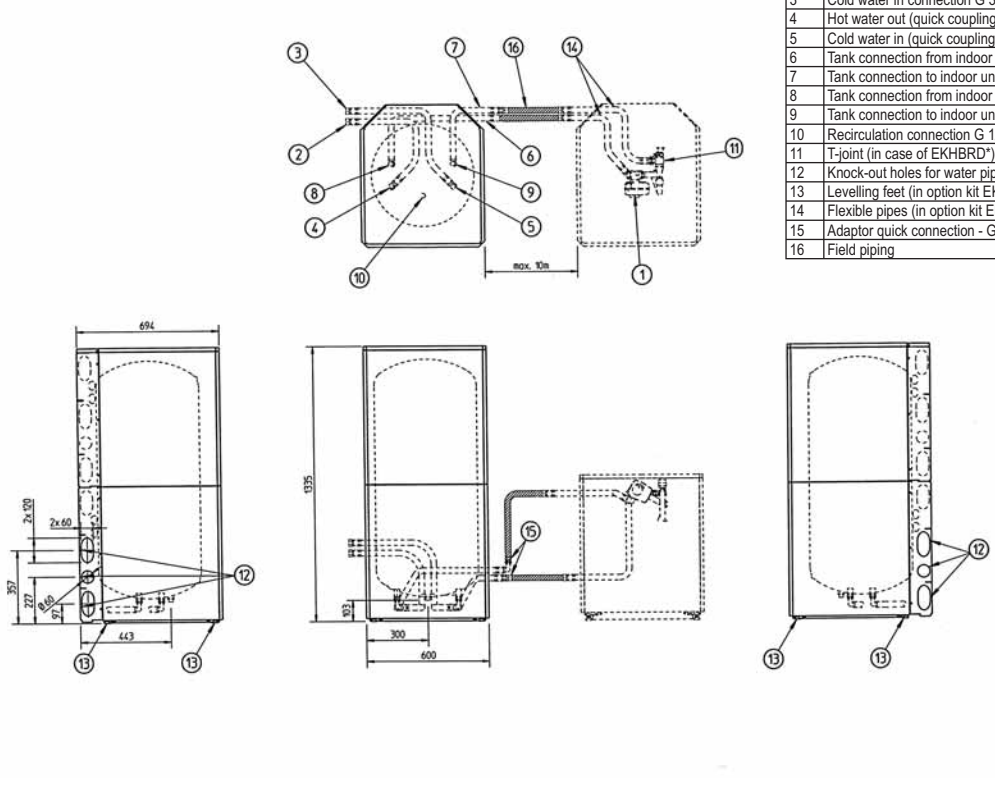
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NOTE

For indoor unit details refer to 3TW59854-1 (EKHBRD*) or 3TW59914-1 (EKHVM*)

EKHTS200AC + EKHBRD-AB
EKHTS200AC + EKHVMR/YD-AA

1	3-way valve
2	Hot water out connection G 3/4" (female)
3	Cold water in connection G 3/4" (female)
4	Hot water out (quick coupling) at bottom tank
5	Cold water in (quick coupling) at bottom tank
6	Tank connection from indoor unit (quick coupling)
7	Tank connection to indoor unit (quick coupling)
8	Tank connection from indoor unit (quick coupling) at bottom tank
9	Tank connection to indoor unit (quick coupling) at bottom tank
10	Recirculation connection G 1/2" (male)
11	T-joint (in case of EKHBRD*)
12	Knock-out holes for water piping
13	Levelling feet (in option kit EKFMAHTB)
14	Flexible pipes (in option kit EKFMAHTB)
15	Adaptor quick connection - G 3/4" (in option kit EKFMAHTB)
16	Field piping



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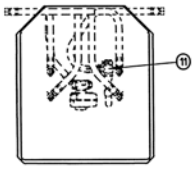
NOTE

For indoor unit details refer to 3TW59854-1 (EKHBRD*) or 3TW59914-1 (EKHVM*)

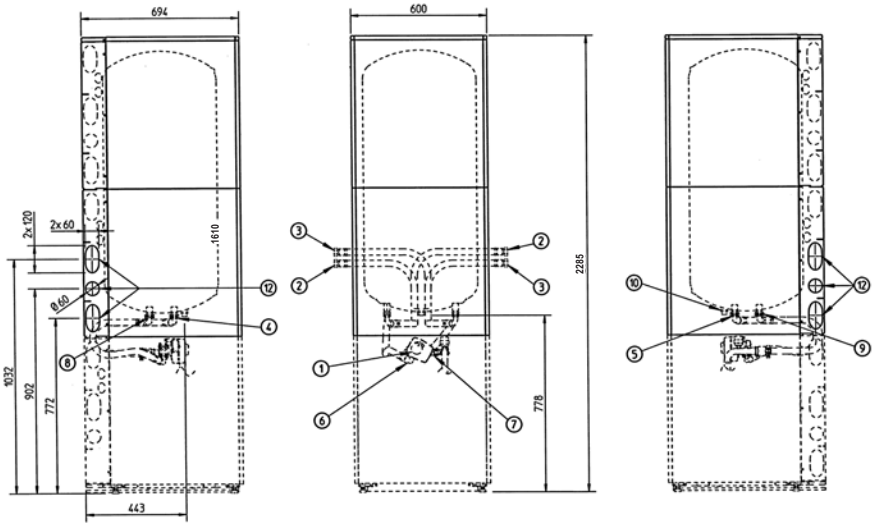
4 Dimensional drawings

4 - 1 Dimensional Drawings

EKHTS260AC + EKHBRD-AB
EKHTS260AC + EKHVMR/YD-A



1	3-way valve
2	Hot water out connection G 3/4" (female)
3	Cold water in connection G 3/4" (female)
4	Hot water out (quick coupling) at bottom tank
5	Cold water in (quick coupling) at bottom tank
6	Tank connection from indoor unit (quick coupling)
7	Tank connection to indoor unit (quick coupling)
8	Tank connection from indoor unit (quick coupling) at bottom tank
9	Tank connection to indoor unit (quick coupling) at bottom tank
10	Recirculation connection G 1/2" (male)
11	T-joint (in case of EKHBRD*)
12	Knock-out holes for water piping

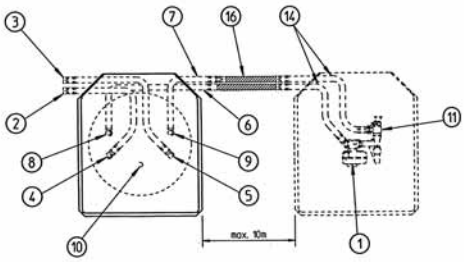


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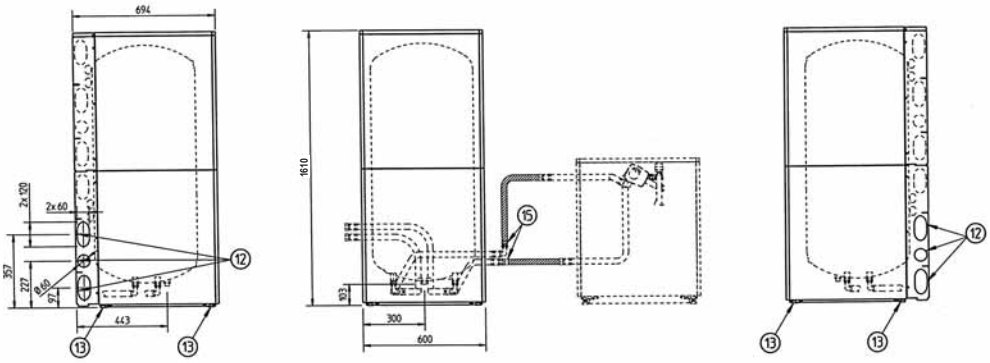
NOTE

For indoor unit details refer to 3TW59854-1 (EKHBRD*) or 3TW59914-1 (EKHVM*)

EKHTS260AC + EKHBRD-AB
EKHTS260AC + EKHVMR/YD-AA



1	3-way valve
2	Hot water out connection G 3/4" (female)
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4	Hot water out (quick coupling) at bottom tank
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14	Flexible pipes (in option kit EKFMAHTB)
15	Adaptor quick connection - G 3/4" (in option kit EKFMAHTB)
16	Field piping



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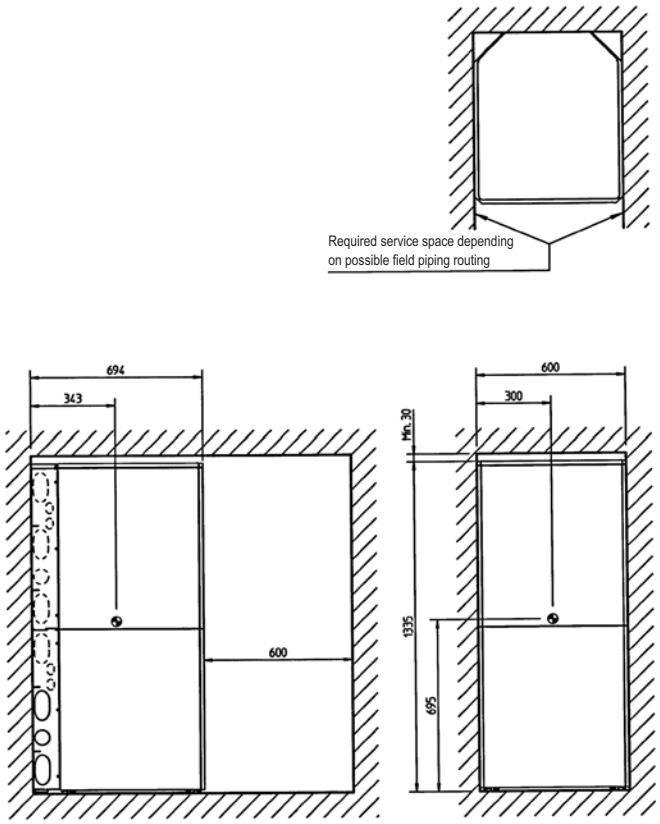
NOTE

For indoor unit details refer to 3TW59854-1 (EKHBRD*) or 3TW59914-1 (EKHVM*)

5 Centre of gravity

5 - 1 Centre of Gravity

EKHTS200AC

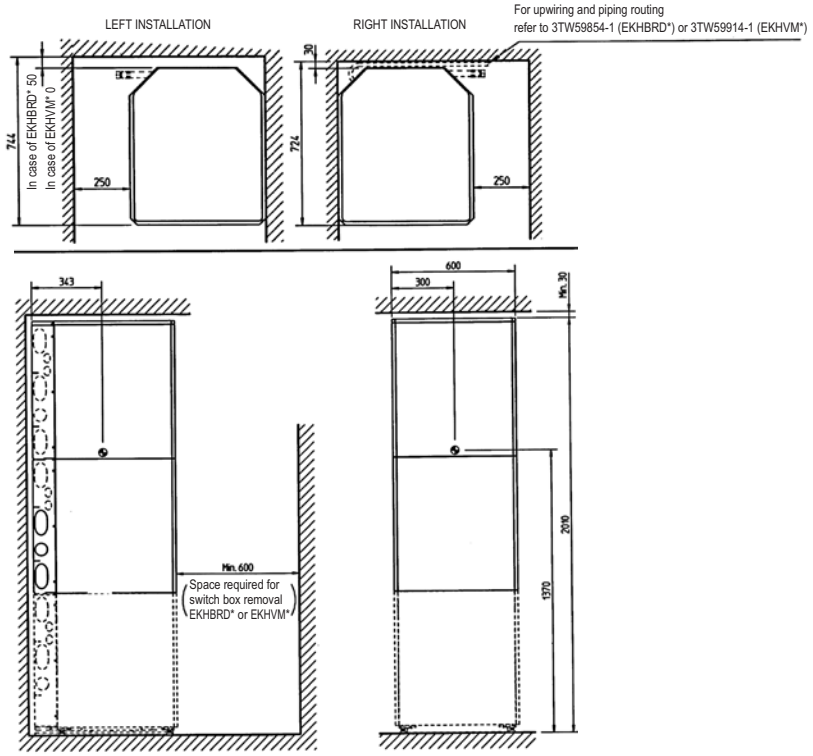


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NOTE

For indoor unit details refer to 3TW59854-1 (EKHBRD*) or 3TW59914-1 (EKHVM*)

EKHTS200AC + EKHBRD-AB
EKHTS200AC + EKHVMR/YD-A



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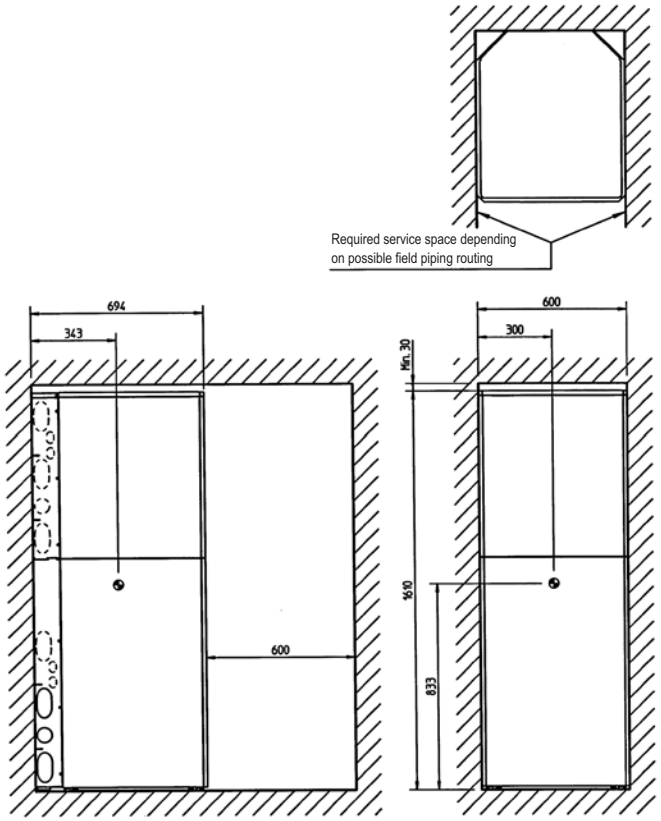
NOTE

Center of gravity only for EKHTS*AC

5 Centre of gravity

5 - 1 Centre of Gravity

EKHTS260AC

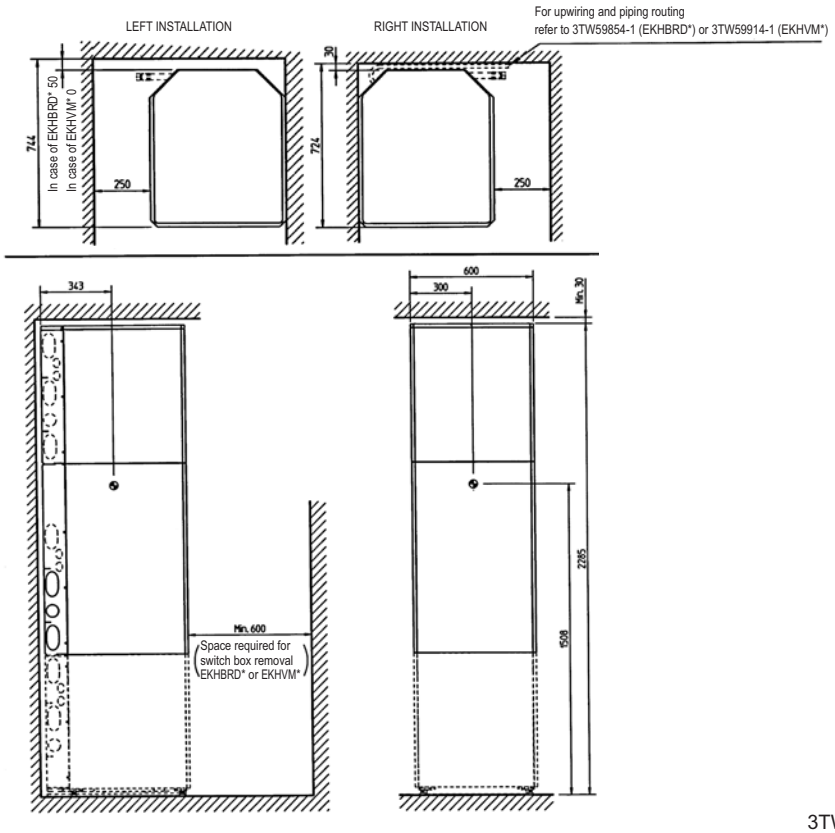


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NOTE

For indoor unit details refer to 3TW59854-1 (EKHBRD*) or 3TW59914-1 (EKHVM*)

EKHTS260AC + EKHBRD-AB
EKHTS260AC + EKHVMR/YD-A



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NOTE

Center of gravity only for EKHTS*AC

6 Piping diagrams

6 - 1 Piping Diagrams

EKHTS

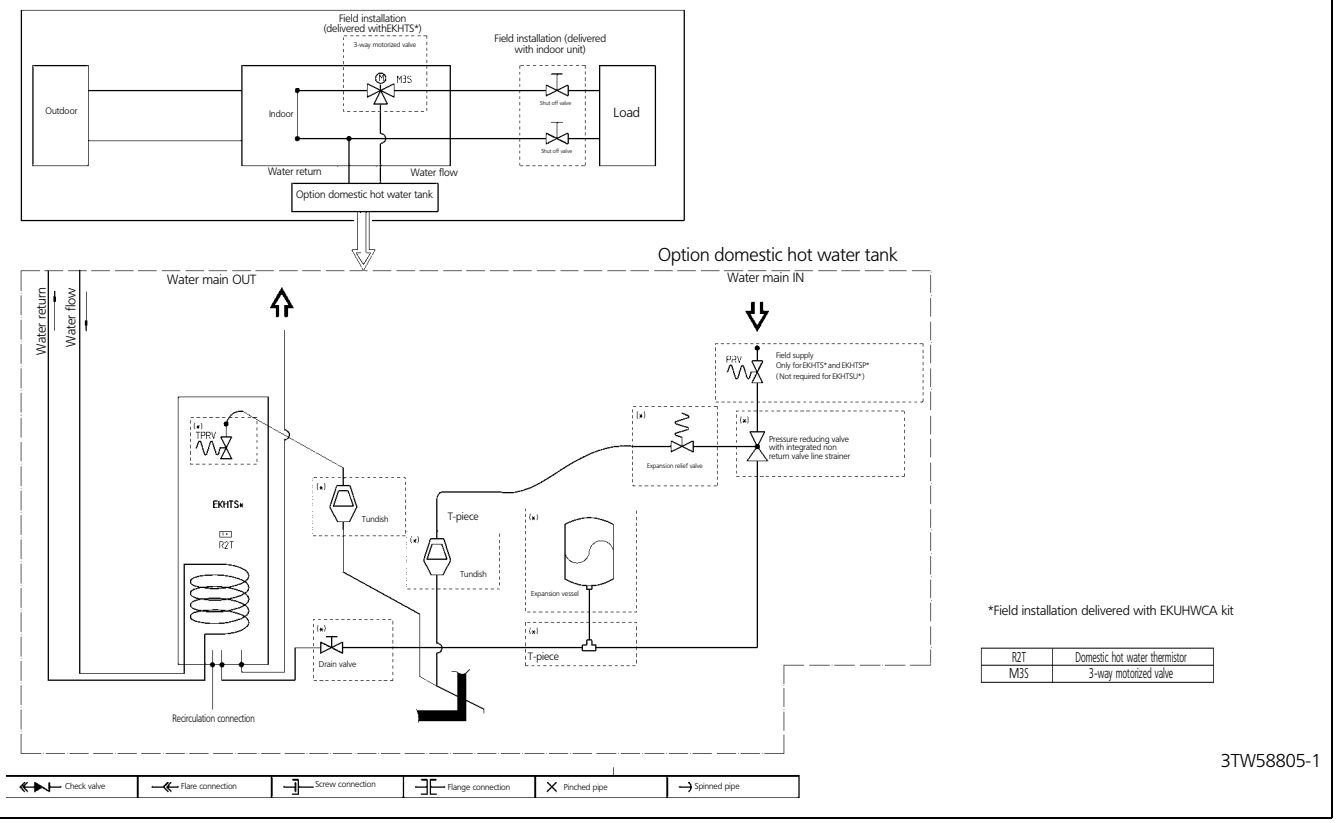


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1 Features

- Solar collector for domestic hot water production
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKSV26P	EKSH26P
Dimensions	Unit	Height	mm	2,000	1,300
		Width	mm	1,300	2,000
		Depth	mm	85	85
Weight	Unit		kg	43	43
Volume			l	1.7	2.1
Surface	Outer		m²	2.60	2.60
	Absorber		m²	2.36	2.36
Coating				Micro-therm (absorption max. 96%, Emission ca. 5% +/-2%)	
Absorber			m²	Harp-shaped copper pip register with laser-welded highly selective coated aluminium plate	
Glazing				Single pane safety glass, transmission +/- 92%	
Insulation material				Mineral wool 50mm	
Allowed roof angle	Minimum		°C	15	15
	Maximum		°C	80	80
Heat Exchanger	Maximum pressure drop at 100l/h	Solar side	mBar	3	0.5
Operating pressure	Maximum		bar	6	6
Stand still temperature	Maximum		°C	200	200
Notes				The collectors are standstill resistant over a long period and are tested for thermal shock. Minimum collector yield over 525kWh/m² at 40% covering proportion; Location Würzburg, Germany.	

3 Options

EKS(H-V)P-A

MATERIAL LIST FOR SOLAR SYSTEM WITH EKHBR* (Drain back system): ON ROOF MOUNTED

			Nr. of solar panels				
Required items	**Reference**	**Description**	**1**	**2**	**3**	**4**	**5**
SOLAR PANEL	EKSV26P EKSH26P	Solar panel, vertical Solar panel, horizontal	1	2	3	4	5
TANK	EKHWP300A EKHWP500A	Domestic hot water tank, 300l Domestic hot water tank, 500l	1				
PUMP STATION	EKSRPS3	Solar pump & control station	1				
SUPPORT HOOK KIT	EKSFIXAD EKSFIXADP EKSFIXADS AKSFIXWD EKSFIXBD	4 support hooks for low tiles 4 support hooks for high tiles 4 support hooks for flattiles (slate) 4 support hooks for low curved roofings 4 support hooks for sheet metal roofs	1	2	3	4	5
MOUNTING RAIL	EKSFIXMP130 EKSFIXMP200	Mounting rail set for EKSV26P Mounting rail set for EKSH26P	1	2	3	4	5
CONNECTION KIT	EKSRCAP EKSRCRP	Connection kit, including red roof tile Connection kit, including antracit roof tile	1				
COUPLING KIT	EKSFIXVBP	Set to couple 2 Solar panels	Nr. of panels - Nr. of rows Example: 4 panels, 2 rows => 4-2=2, 2 connection sets; 4 panels, 1 row => 4-1=3, 3 connection sets				
CONNECTION PIPING	EKSCON15 EKSCON20	Connection piping, 15m Connection piping, 20m	1				

Optional items	**Reference**	**Description**	
GRAVITY BREAKS	EKSGB	Set of gravity breaks	Avoids thermal heat loss from tank due to thermo-siphon effect. Adviced if piping from heat exchanger is not making a down ward bend at the tank. 3xEKSGB 2xEKSGB 0xEKSGB
ELONGATION PIPES	EKSCONX25 EKSCONX50 EKSCONX100	Elongation pipe with couplings, 2.5m Elongation pipe with couplings, 5.0m Elongation pipe with couplings, 10.0m	Depending on required elongation
INLET ELONATION PIPE	EKSCONXV80	Elongation pipe with couplings for inlet, 8.0m	Only required if rooftransit of outlet pipe collector can not be located next to outlet connection of solar collector. EKSCONXV80
CONNECTION BETWEEN ROWS	EKSCONRVP	Connection pipe between solar panel rows	Nr. of rows -1
SOLAR PRIORITY PCB SOLAR PRIORITY CABLE	EKHRP1HBAA EKS164110	PCB kit to disable DHW heating by H/P during solar DHW heating Connection cable to disable heatpump	To be ordered together { 1 1

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EKS(H-V)P-A

MATERIAL LIST FOR SOLAR SYSTEM WITH EKHBH* and EKHBX* (pressurized system): ON ROOF MOUNTED

			Nr. of solar panels		
Required items	**Reference**	**Description**	**1**	**2**	**3**
SOLAR PANEL	EKSV26P EKSH26P	Solar panel, vertical Solar panel, horizontal	1 1	2 2	3 3
TANK	EKHWS* EKHWE*	DHW tank, stainless steel DHW tank, enamel coated	1		
SOLAR KIT	EKSOLHWAV1	Solar heat exchanger kit	1		
PUMP STATION	EKSRDS1A	Pump station	1		
SOLAR CONTROL	EKSR3PA	Solar controller	1		
SUPPORT HOOK KIT	EKSFIXAD EKSFIXADP EKSFIXADS EKSFIXWD EKSFIXDB	4 support hooks for low tiles 4 support hooks for high tiles 4 support hooks for flat tiles (slate) 4 support hooks for curved roofings 4 support hooks for sheet metal roofs	1	2	3
MOUNTING RAIL	EKSFIXMP130 EKSFIXMP200	Mounting rail for EKSV26P Mounting rail for EKSH26P	1	2	3
CONNECTION KIT	EKSRCP	Connection kit	1		
COUPLING KIT	EKSFIXVBP	Kit to couple 2 Solar panels	Nr. of panels - Nr. of rows Example: 3 panels, 1 row => 3-1=2 2 connection sets		
SOLAR FLUID	EKSGFL	20l Ready to use glycol Tmin= -28°C	Dapending on system volume. Refer to technical data solar panels for volume of solar panels.		

Required items	**Reference**	**Description**			
CONNECTION BETWEEN ROWS	EKSCONLCP	Connection pipe between solar panel rows	Nr. of rows -1		
FLOW SENSOR	EKSFLP12A	Flow sensor for energy metering	1		

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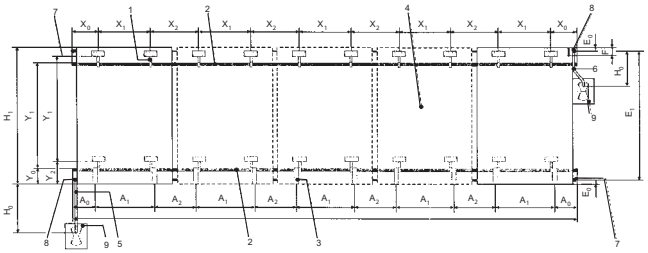
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKS(H-V)P-A

OVERALL DIMENSIONS FOR ON ROOF INSTALLATION

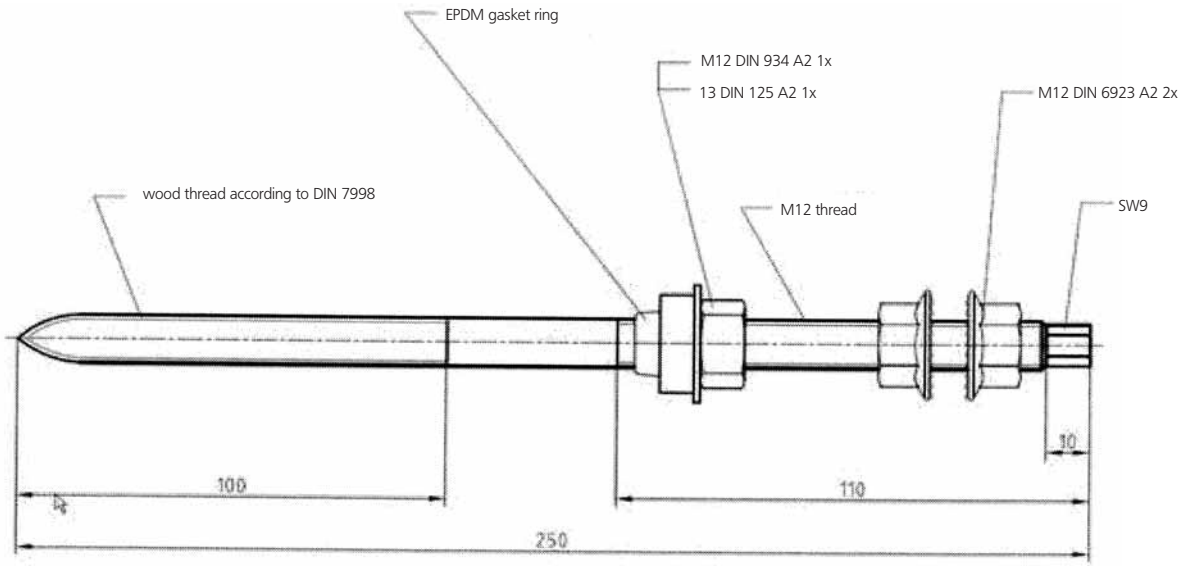
		EKSV26P					EKSH26P				
Nr. of solar panels		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Width of collector array	B	1332	2664	3996	5328	6660	2032	4064	6096	8128	10160
Distance from roof breakthrough	H_0	300 to 700									
Height of collector array	Y_0	2000					1300				
Distance from bottom edge of solar panel to lower mounting profile rail	Y_1	200									
Spacing of the mounting rails	Y_1	1400 to 1600					800 to 1000				
Distance from lower collector edge to lower edge of the perforated plate of roof mounting bracket	Y_2	235 to 270									
Max. distance from edge of solar panel to the first roof mounting bracket.	X_0	400									
Spacing of the roof mounting brackets of a flat solar panel	X_0	500 to 1100					1000 to 1800				
Spacing of solat panel mounting brackets between two flat solar panels	X_0	230 to 630									
Distance between solar panel and the first collector securing clip	A_0	120 to 220									
Spacing of the roof mounting brackets of a flat solar panel	A_1	900 to 1100					1600 to 1800				
Spacing of solar panel mounting brackets between two flat solar panels	A_2	240 to 440									
Distance of edge of solar panel to hydraulic connection	E_0	ca. 73									
Centre-to-centre distance of the solar panel couplings	E_1	1854					1154				
Distance from top edge of solar panel to connection of solar panel sensor	F	172									



1. Roof moounting bracket	4. Solar panel	7. Collector sealing plug
2. Mounting rail	5. Return flow connection	8. Solar panel connection elbow
3. Collector securing clip	6. Flow connection	9. Universal roof penetration

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EKSFIXWD

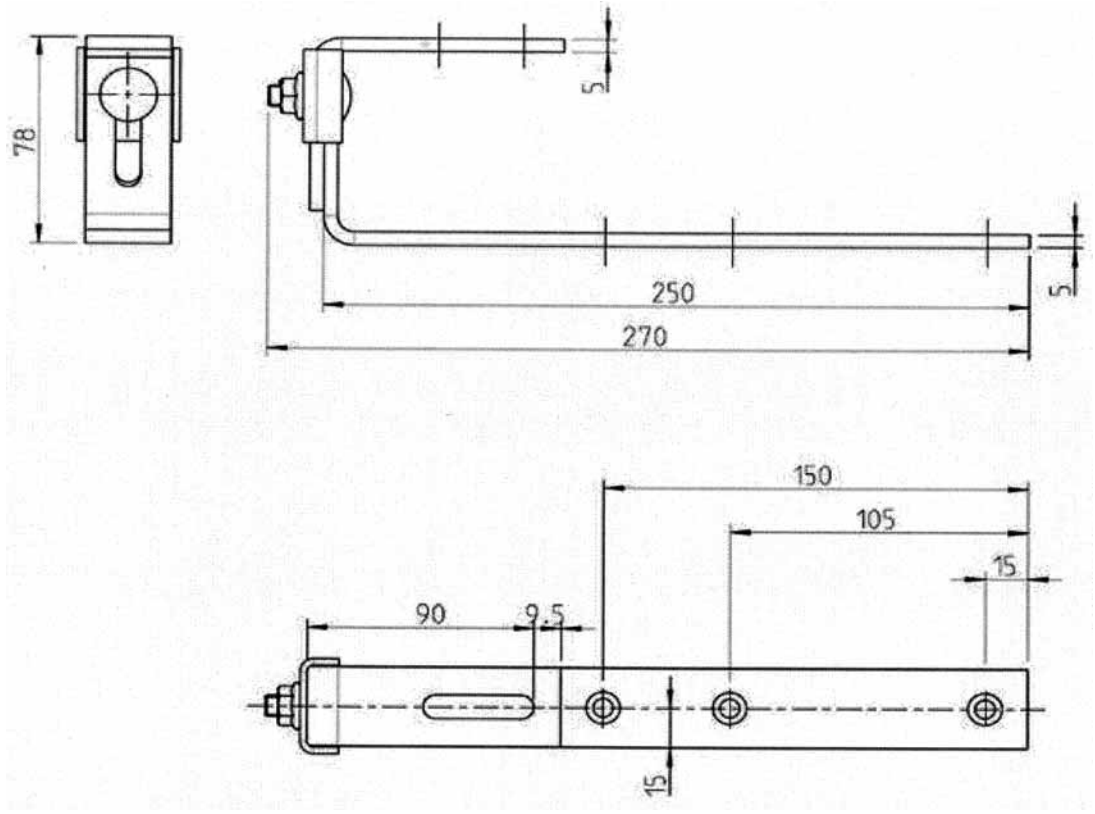


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4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

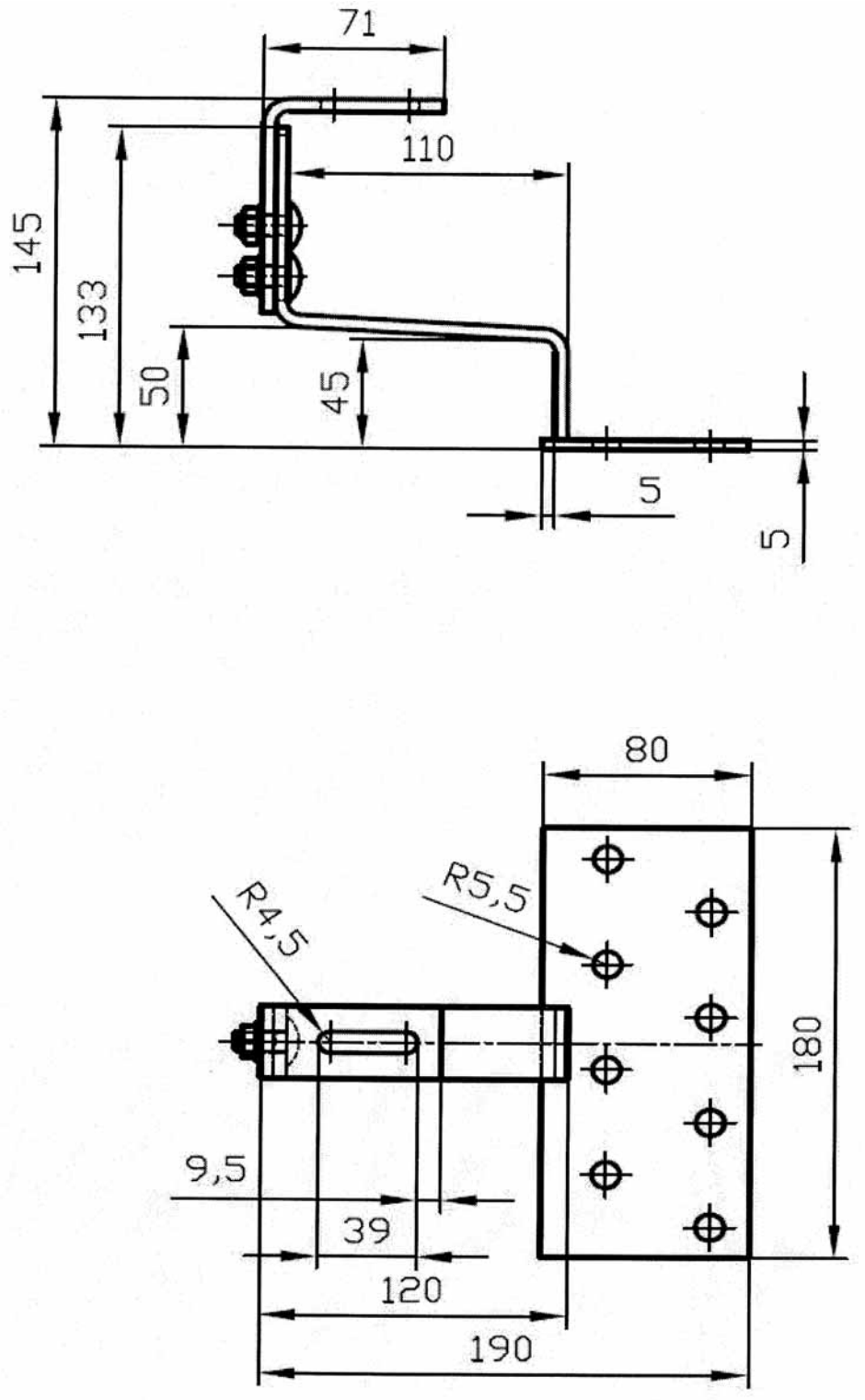
EKSFIXADS



4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKSFIXAD

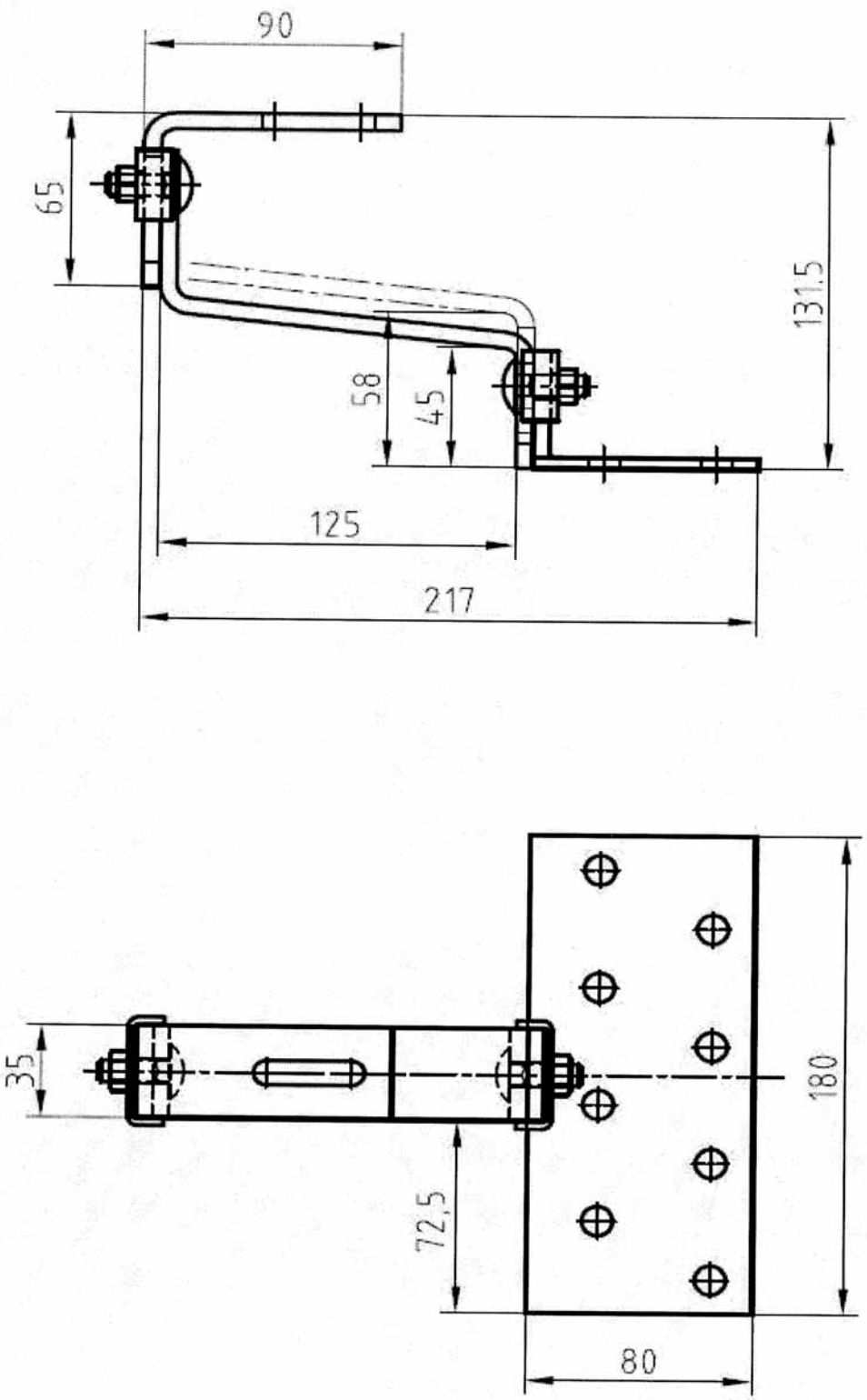


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4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKSFIXADP

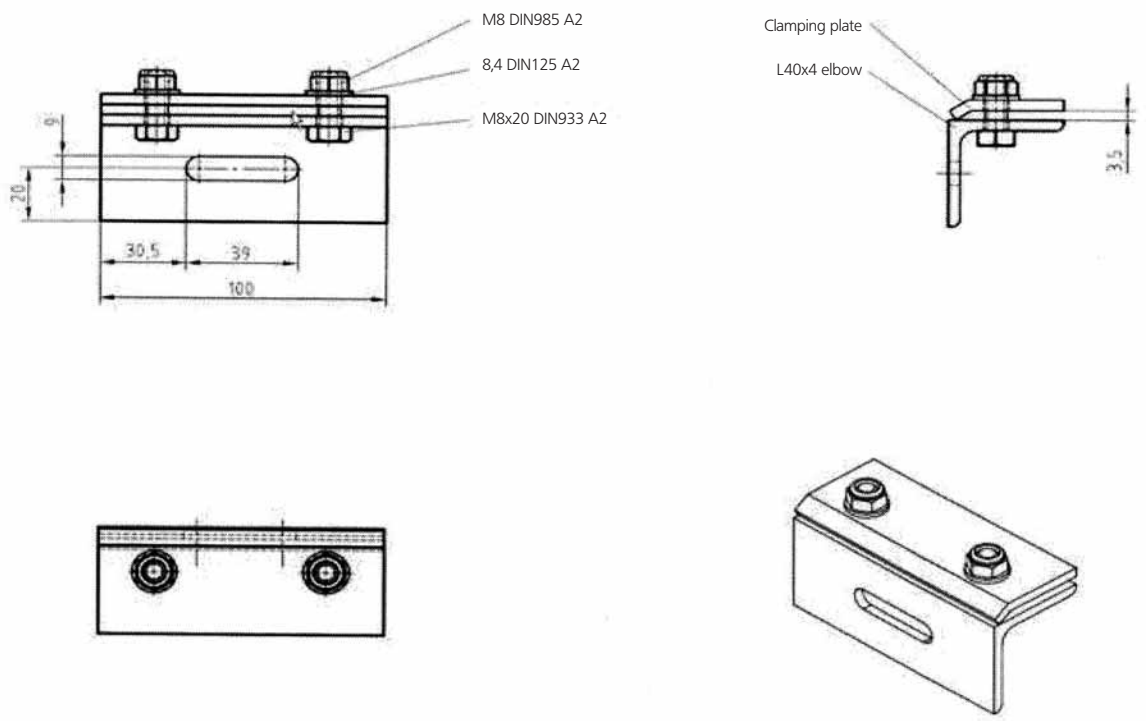


4TW59644-2

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKSFIXBD



4TW59644-2

5 Installation

5 - 1 Installation method

EKS(H-V)P
Allowed wind loads

Subdivisions into windzones

Windzone	Area	Windspeed [km/h] at building height ≤ 10m	building height ≤ 18m	building height ≤ 25m
1	inland	102	116	125
2	inland	116	129	137
	coast	133	144	151
3	inland	129	140	151
	coast	148	158	164
4	inland	140	154	164
	coast	161	170	179

Allowed building height according to windzone

		Windzone 1&2	Windzone 3		Windzone 4	
Nr. of roof hooks per collector		4	4	6	4	6
		max. allowed building height for collector installation				
Location	**inland**	25m	25m	25m	18m	25m
	coast	25m	10m	25m	Not allowed	10m

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5

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Wiring diagram 469

1 Features

- Connectable to solar collectors
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

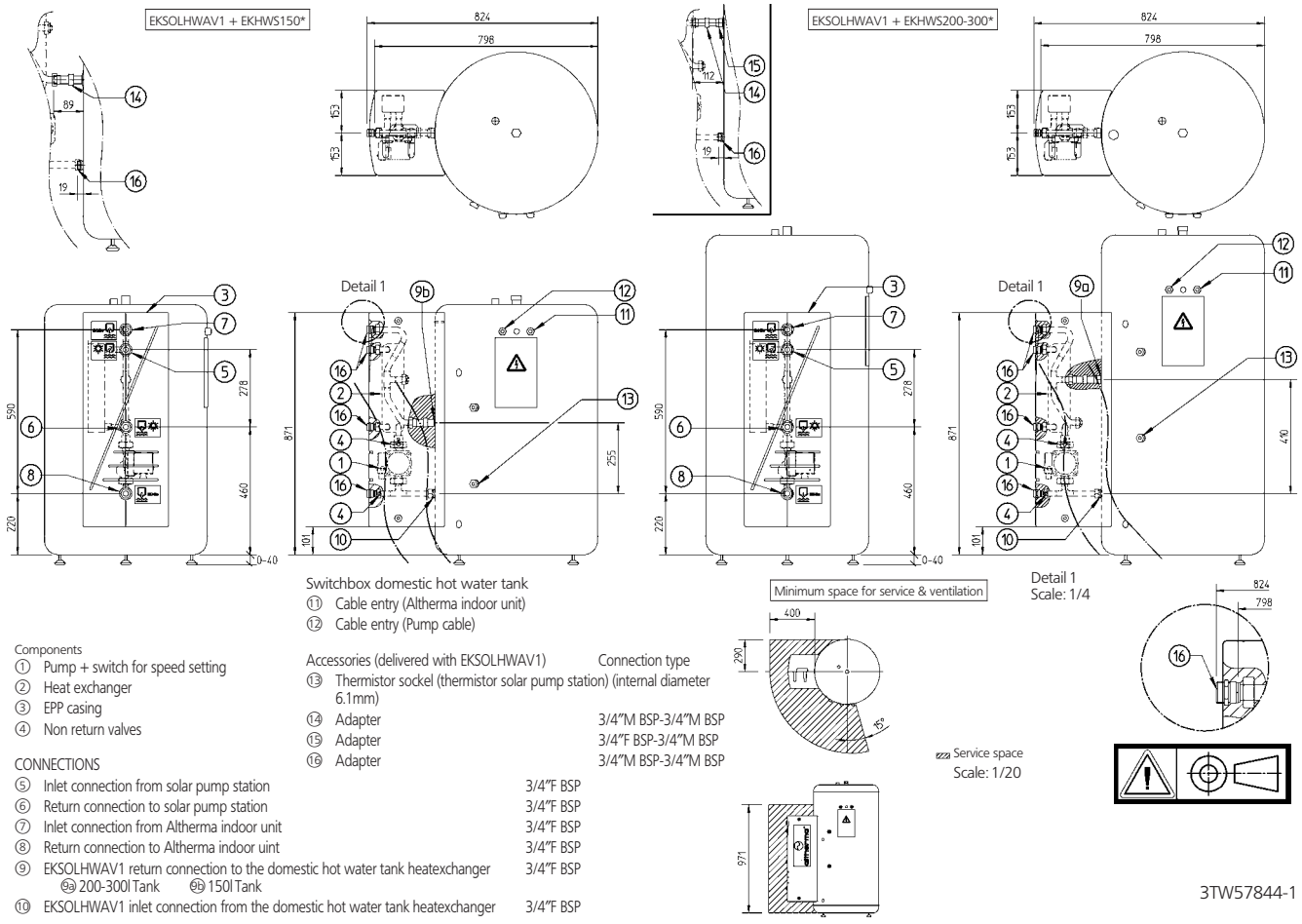
2-1 TECHNICAL SPECIFICATIONS				EKSOLHWAV1
Dimensions	Packing	Height	mm	795
		Width	mm	340
		Depth	mm	295
	Unit	Height	mm	770
		Width	mm	305
		Depth	mm	270
Weight	Unit		kg	8
	Packed Unit		kg	9
Packing	Material			Carton
	Weight		kg	1
Heat Exchanger	Type			Brazed plate
	Pressure drop	Solar side	kPa	21.5
	Maximum inlet temperature	Solar side	°C	110
	Capacity		W/K	1,400
	Logarithmic mean temperature difference (LMTD)		K	5
Pump	Type			water cooled
	Number of speeds			3
	Power input		W	46
Sound	Sound Pressure		dBA	27
Water circuit	Piping connections diameter		inch	3/4" FBSP
Insulation material				EPP
Ambient temperature	Maximum		°C	35
	Minimum		°C	1

2-2 ELECTRICAL SPECIFICATIONS				EKSOLHWAV1
Unit	Power Supply	Phase		1~
		Frequency	Hz	50
		Voltage	V	220-240
Voltage range	Minimum			-10%
	Maximum			+10%
Power Supply Intake				indoor unit

3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKSOLHWAV1+EKHWS



Switchbox domestic hot water tank
⑪ Cable entry (Altherma indoor unit)
⑫ Cable entry (Pump cable)

Components
① Pump + switch for speed setting
② Heat exchanger
③ EPP casing
④ Non return valves

Accessories (delivered with EKSOLHWAV1)	Connection type
⑬ Thermistor sockel (thermistor solar pump station) (internal diameter 6.1mm)	
⑭ Adapter	3/4"M BSP-3/4"M BSP
⑮ Adapter	3/4"F BSP-3/4"M BSP
⑯ Adapter	3/4"M BSP-3/4"M BSP

CONNECTIONS

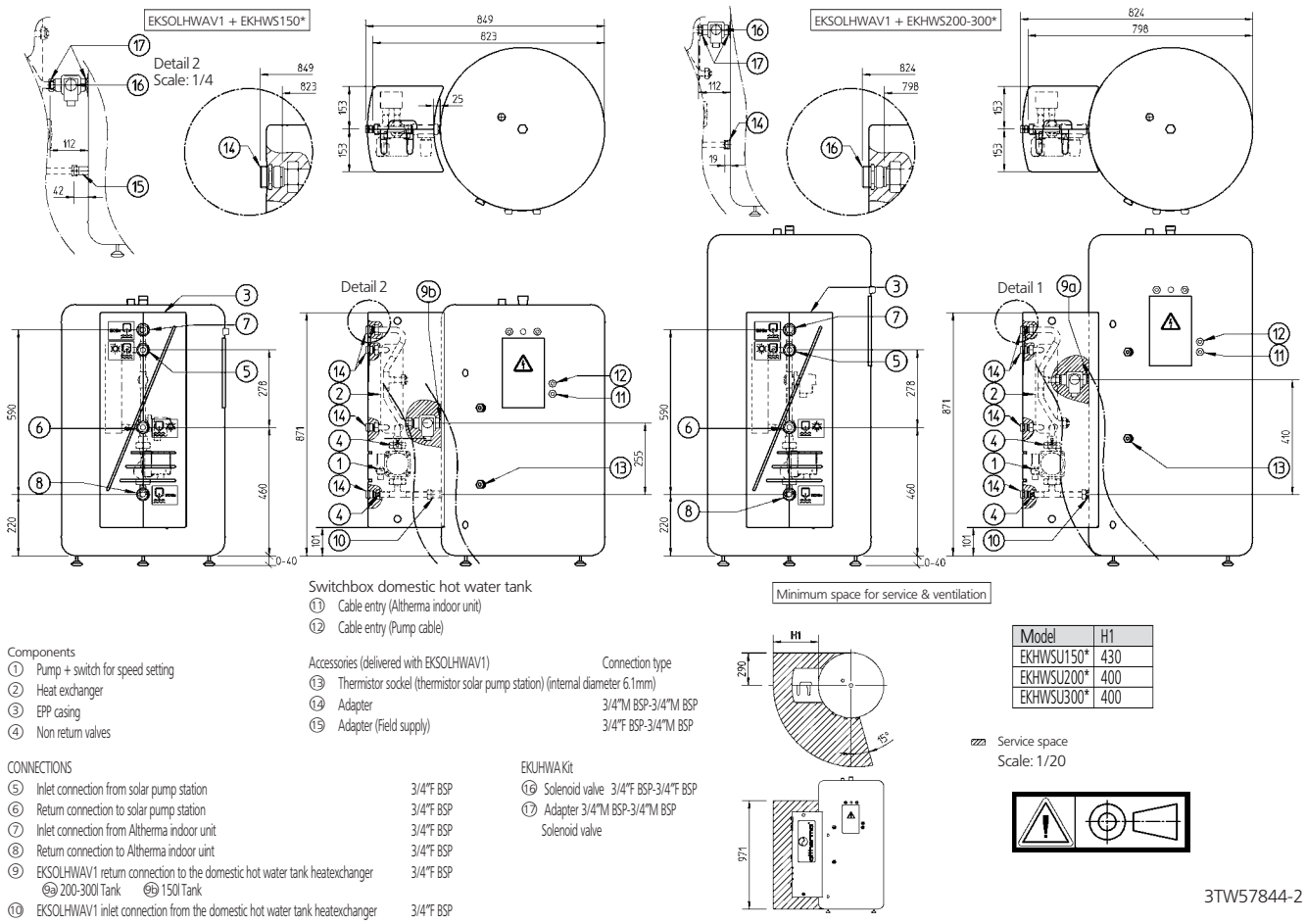
⑤ Inlet connection from solar pump station	3/4"F BSP
⑥ Return connection to solar pump station	3/4"F BSP
⑦ Inlet connection from Altherma indoor unit	3/4"F BSP
⑧ Return connection to Altherma indoor uint	3/4"F BSP
⑨ EKSOLHWAV1 return connection to the domestic hot water tank heatexchanger ⑨a 200-300l Tank ⑨b 150l Tank	3/4"F BSP
⑩ EKSOLHWAV1 inlet connection from the domestic hot water tank heatexchanger	3/4"F BSP

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3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKSOLHWAV1+EKHWSU



Components
① Pump + switch for speed setting
② Heat exchanger
③ EPP casing
④ Non return valves

Accessories (delivered with EKSOLHWAV1)	Connection type
⑬ Thermistor sockel (thermistor solar pump station) (internal diameter 6.1mm)	
⑭ Adapter	3/4"M BSP-3/4"M BSP
⑮ Adapter (Field supply)	3/4"F BSP-3/4"M BSP

CONNECTIONS

⑤ Inlet connection from solar pump station	3/4"F BSP
⑥ Return connection to solar pump station	3/4"F BSP
⑦ Inlet connection from Altherma indoor unit	3/4"F BSP
⑧ Return connection to Altherma indoor uint	3/4"F BSP
⑨ EKSOLHWAV1 return connection to the domestic hot water tank heatexchanger ⑨a 200-300l Tank ⑨b 150l Tank	3/4"F BSP
⑩ EKSOLHWAV1 inlet connection from the domestic hot water tank heatexchanger	3/4"F BSP

EKUHWA Kit

⑯ Solenoid valve	3/4"F BSP-3/4"F BSP
⑰ Adapter 3/4"M BSP-3/4"M BSP Solenoid valve	

Model	H1
EKHWSU150*	430
EKHWSU200*	400
EKHWSU300*	400

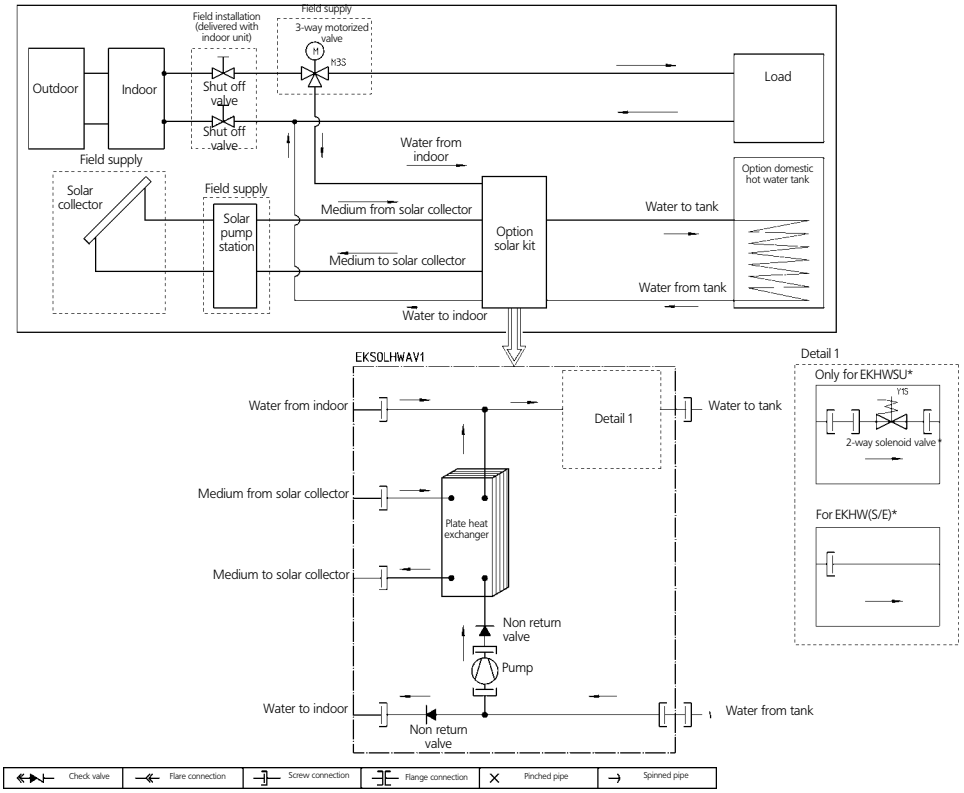
4 Piping diagram

4 - 1 Piping diagram

EKSOLHWAV1

Y1S	Solenoid valve
M3S	3-way motorized valve

Overview



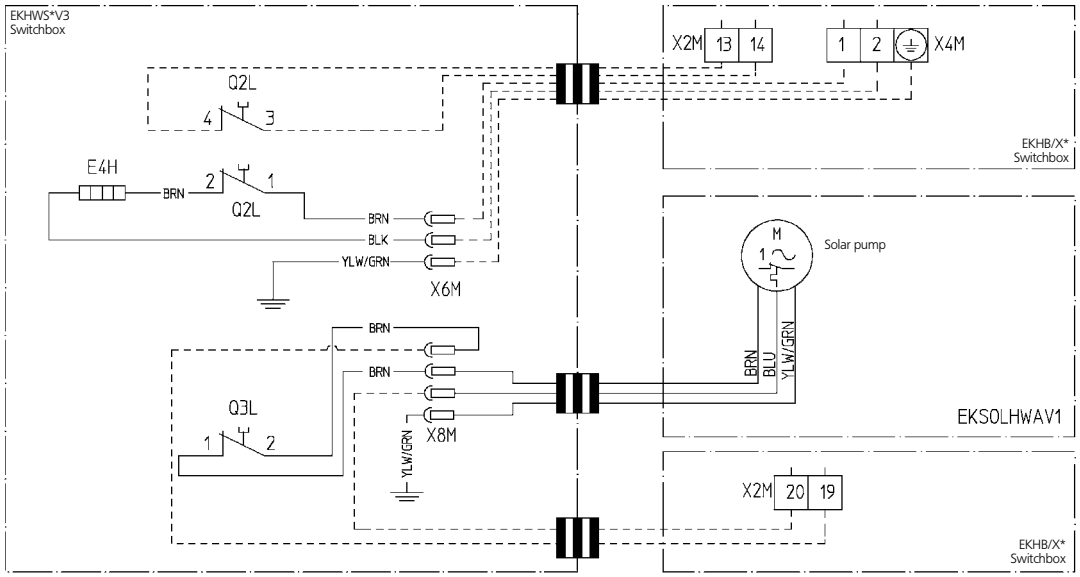
*Delivered with EKUHWA kit

3TW57845-1

5 Wiring diagram

5 - 1 Wiring diagram

EKSOLHWAV1 with EKHWS*V3



E4H	: Booster heater
F2B	: Fuse booster heater
F2U	: Fuse 5A/250V
K3M	: Contactor booster heater
L	: Line
N	: Neutral
Q2T	: Thermostat protector 1 domestic hot water tank
Q2L	: Thermal protector
Q3L	: Thermal protector 2 Booster heater
Q3T	: Thermostat protector 2 domestic hot water tank
X2M~X4M	: Terminal block
X5M1~X7M	: Terminal block
Y1S	: Solenoid valve

Notes:

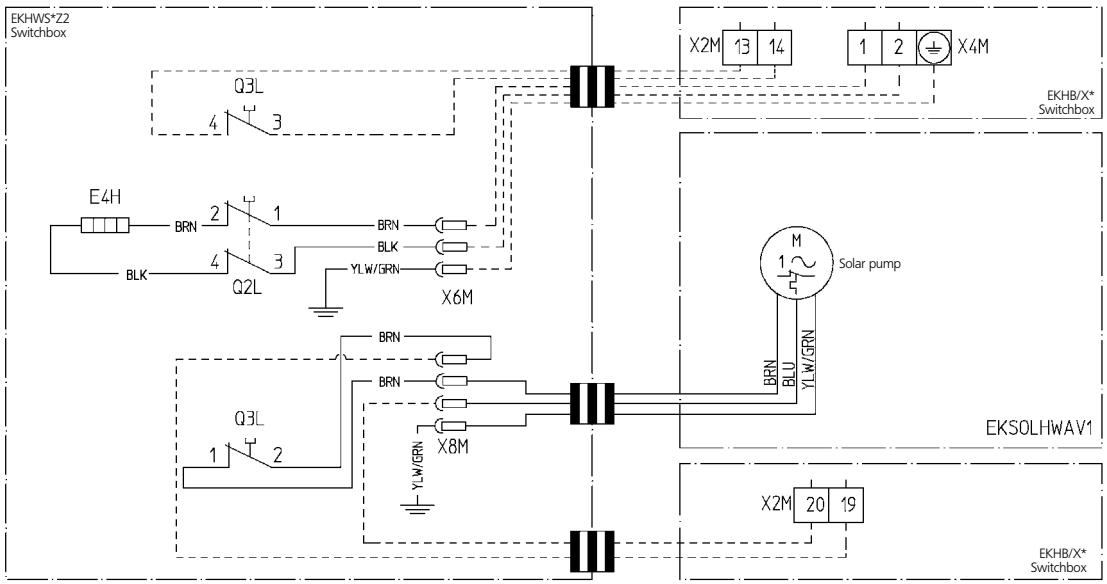
1 : Field wiring
: Field wiring
BLK : Wire colour
: Terminal strip
: Protective earth

2 BLK=Black RED=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY=Grey GNR=Green ORG=Orange VIO=Violet

3 For more installation details please refer to the relevant installation manual.

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EKSOLHWAV1 with EKHWS*Z2



E4H	: Booster heater
F2B	: Fuse booster heater
F2U	: Fuse 5A/250V
K3M	: Contactor booster heater
L	: Line
N	: Neutral
Q2T	: Thermostat protector 1 domestic hot water tank
Q2L	: Thermal protector
Q3L	: Thermal protector 2 Booster heater
Q3T	: Thermostat protector 2 domestic hot water tank
X2M~X4M	: Terminal block
X5M1~X7M	: Terminal block
Y1S	: Solenoid valve

Notes:

1 : Field wiring
: Field wiring
BLK : Wire colour
: Terminal strip
: Protective earth

2 BLK=Black RED=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY=Grey GNR=Green ORG=Orange VIO=Violet

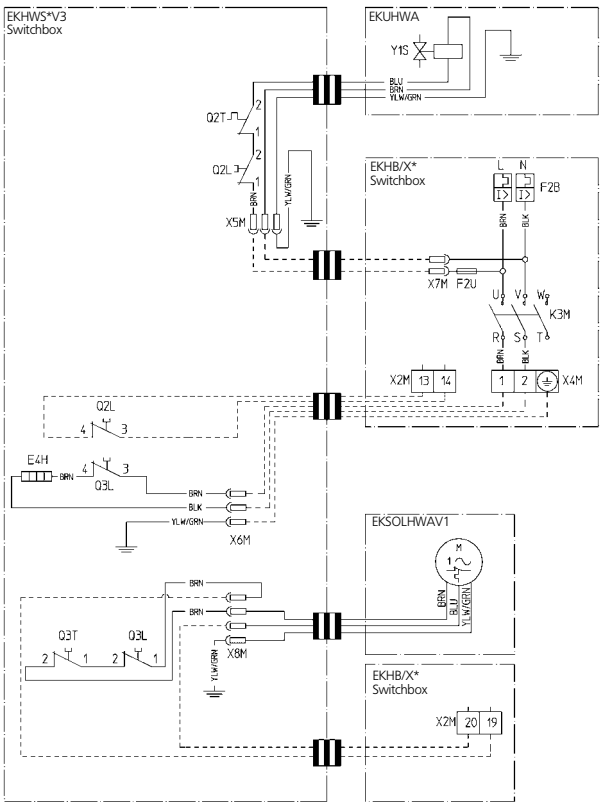
3 For more installation details please refer to the relevant installation manual.

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5 Wiring diagram

5 - 1 Wiring diagram

EKSOLHWAV1 with EKHWSU



Notes:

1 : Field wiring
: Field wiring
—BLK— : Wire colour
: Terminal strip
: Protective earth

2 BLK=Black RED=Red BLU=Blue WHT=White PNK=Pink YLW=Yellow BRN=Brown GRY=Grey GNR=Green ORG=Orange VIO=Violet

3 For more installation details please refer to the relevant installation manual.

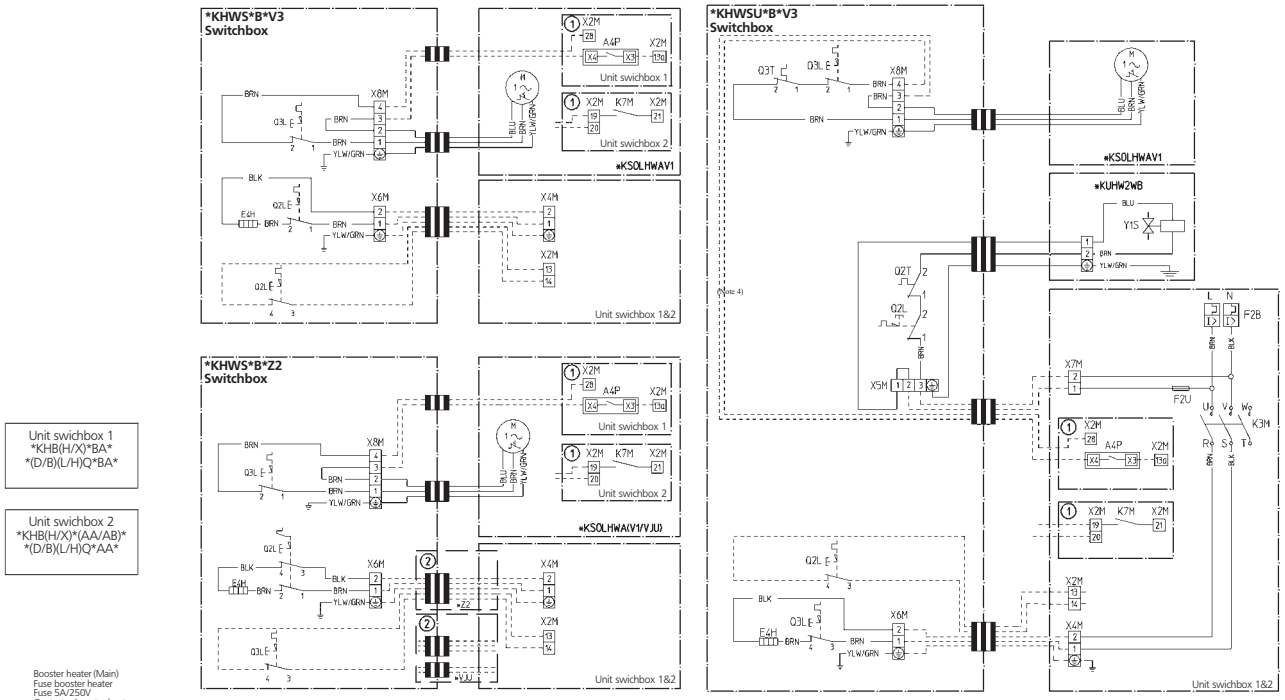
E4H	: Booster heater
F2B	: Fuse booster heater
F2U	: Fuse 5A/250V
K3M	: Contactor booster heater
L	: Line
N	: Neutral
Q2T	: Thermostat protector 1 domestic hot water tank
Q2L	: Thermal protector
Q3L	: Thermal protector 2 Booster heater
Q3T	: Thermostat protector 2 domestic hot water tank
X2M–X4M	: Terminal block
X5M1–X7M	: Terminal block
Y1S	: Solenoid valve

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EKSOL

*KSOLHWAV1 with *KHWS*B*V3

*KSOLHWAV1 with *KHWSU*B*V3



E4H	Booster heater (Main)
F2B	Fuse booster heater
F2U	Fuse 5A/250V
K3M	Contactor booster heater
L	Line
N	Neutral
Q2L	Thermal protector 1 Domestic hot water tank
Q2T	Thermostat protector 1 domestic hot water tank
Q3L	Thermal protector 2 Domestic hot water tank
Q3T	Thermostat protector 2 domestic hot water tank
X2M–X4M	Terminal strip
X5M–X8M	Terminal block
Y1S	Solenoid valve

Notes

1 : Field wiring
: Terminal strip
: Protective earth (screw)
: Field wiring
—BRN— : Wire colour

2 BLK: black, RED: red, BLU: blue, WHT:white, PNK: pink, YLW: yellow, BRN: brown, GRY: grey, GRN: green, ORG: orange, VIO: violet

3 For more installation details please refer to the relevant installation manual.

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5 Hydraulic performance 466
Static Pressure Drop Unit 466

1 Specifications

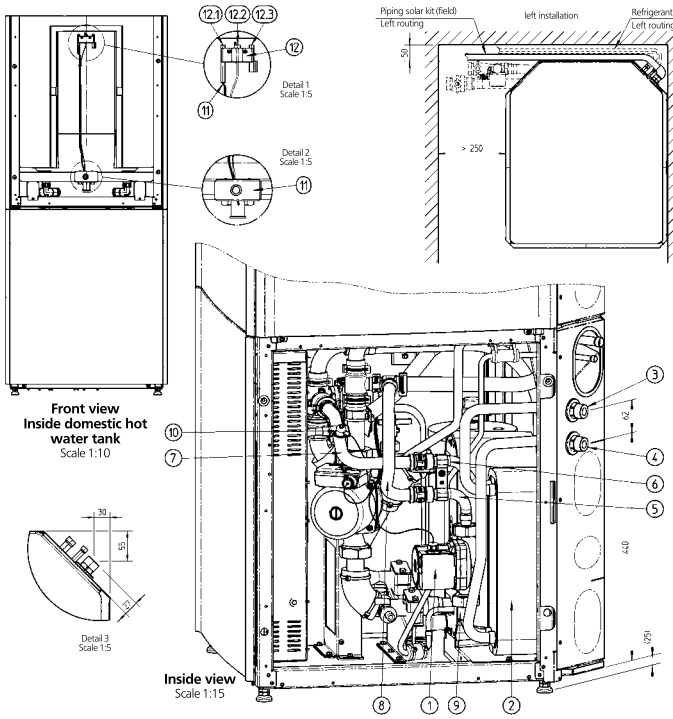
1-1 Technical Specifications				EKSOLHTBV1
Dimensions	Packed unit	HeightxWidthxDepth	mm	190x510x360
Weight	Packed unit		kg	10
	Unit		kg	8
Packing	Material			Carton
	Weight		kg	2
Heat exchanger	Capacity		W/K	1,400
	Logarithmic mean temperature difference (LMTD)		K	5
	Maximum inlet temperature	Solar side	ºC	110
	Type			Brazed plate
Pump	Nr of speeds			3
	Power input		W	65
	Type			Water cooled
Operation range	Ambient temperature	Min.	ºC	1
		Max.	ºC	35
Sound pressure level	Nom.		dBA	27
Thermal performance	Zero loss collector efficiency η0		%	-

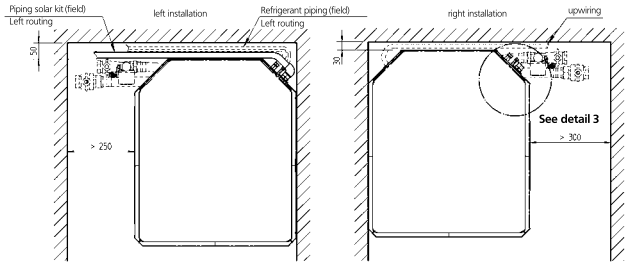
1-2 Electrical Specifications			EKSOLHTBV1
Power supply	Phase		1~
	Frequency	Hz	50
	Voltage	V	220-240
Voltage range	Min.	%	-10
	Max.	%	10
Power supply intake			Indoor unit

2 Dimensional drawings

2 - 1 Dimensional Drawings

EKSOLHTBV1



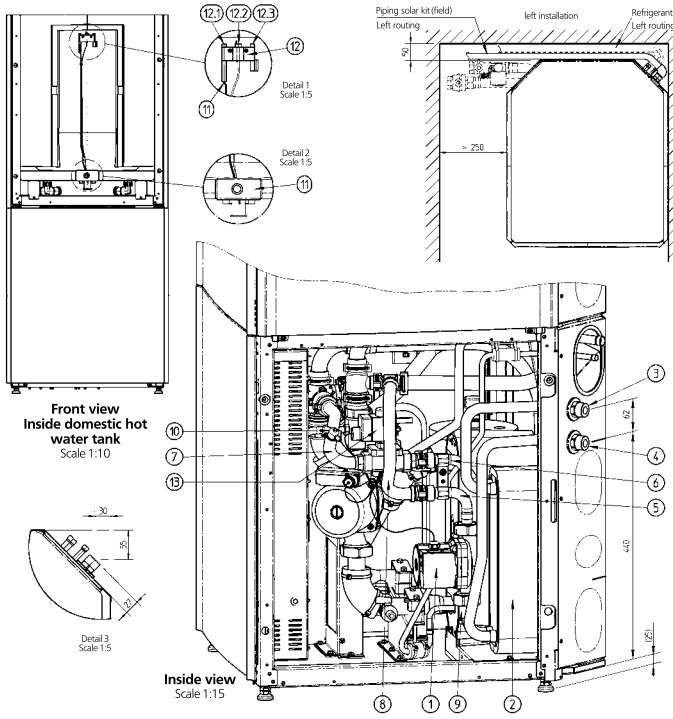


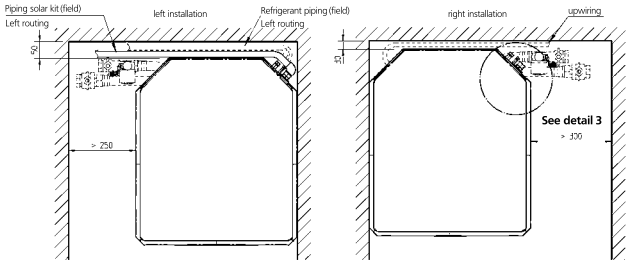
MAIN COMPONENTS

1. Pump + switch for speed setting
2. Solar kit heat exchanger
3. Inlet connection from solar pump station (3/4" M BSP)
4. Return connection to solar pump station (3/4" M BSP)
5. Inlet connection from the unit
6. Return connection to the unit
7. Return connection pipe to the domestic hot water tank
8. Inlet connection pipe from the domestic hot water tank
9. Non-return valve
10. Piping thermal cut-out
11. Tank thermal cut-out
12. Sensor holder
12.1 Insertion tube for thermal cut-out solar kit
12.2 Insertion tube for thermistor domestic hot water tank
12.3 Insertion tube for thermistor solar pump station

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EKSOLHTBV1





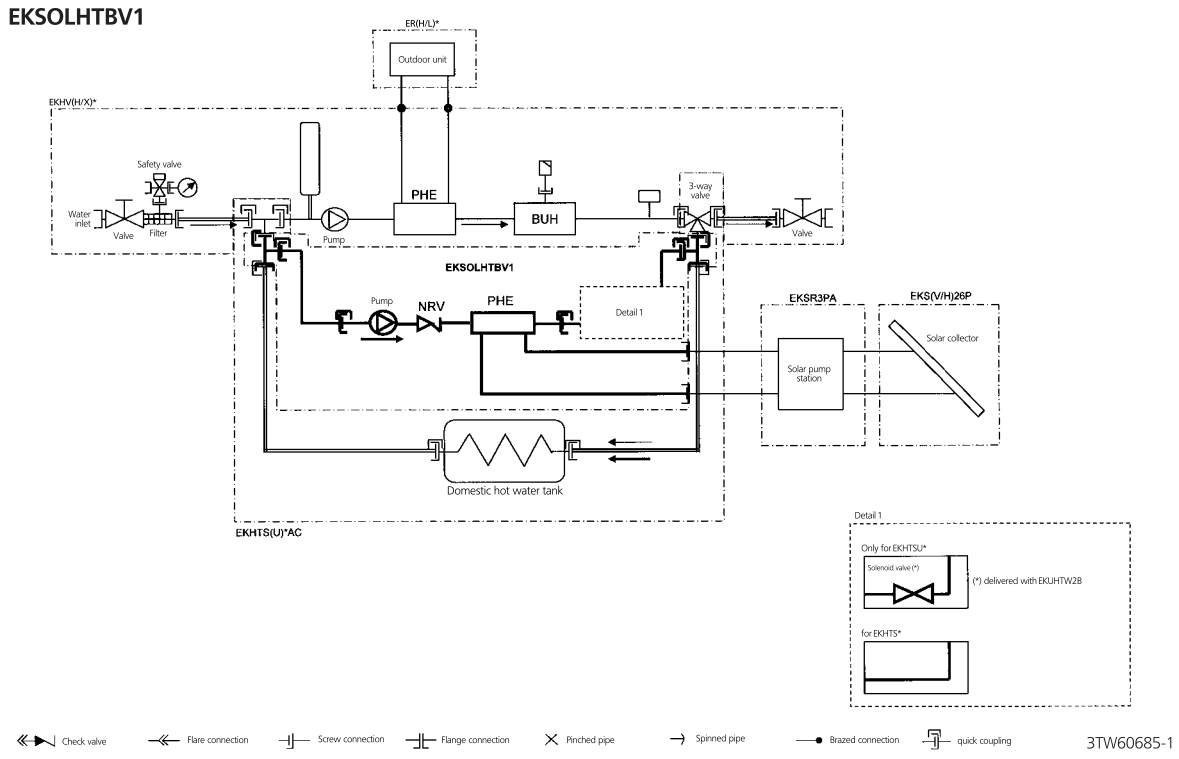
MAIN COMPONENTS

1. Pump + switch for speed setting
2. Solar kit heat exchanger
3. Inlet connection from solar pump station (3/4" M BSP)
4. Return connection to solar pump station (3/4" M BSP)
5. Inlet connection from the unit
6. Return connection to the unit
7. Return connection pipe to the domestic hot water tank (delivered with EKUHT2WB)
8. Inlet connection pipe from the domestic hot water tank
9. Non-return valve
10. Piping thermal cut-out
11. Tank thermal cut-out
12. Sensor holder
12.1 Insertion tube for thermal cut-out solar kit
12.2 Insertion tube for thermistor domestic hot water tank
12.3 Insertion tube for thermistor solar pump station
13. Solenoid valve (delivered with EKUHT2WB)

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3 Piping diagrams

3 - 1 Piping Diagrams



4 Wiring diagrams

4 - 1 Wiring Diagrams - Single Phase

EKSOLHTBV1

NOTES

: Earth wiring

: Field supply

: Wiring depending on model

: PCB

BLK = Black, RED = Red, BLU = Blue, WHT = White, PNK = Pink, YLW = Yellow, BRN = Brown, GRY = grey, GRN = Green, ORG = Orange, VIO = Violet

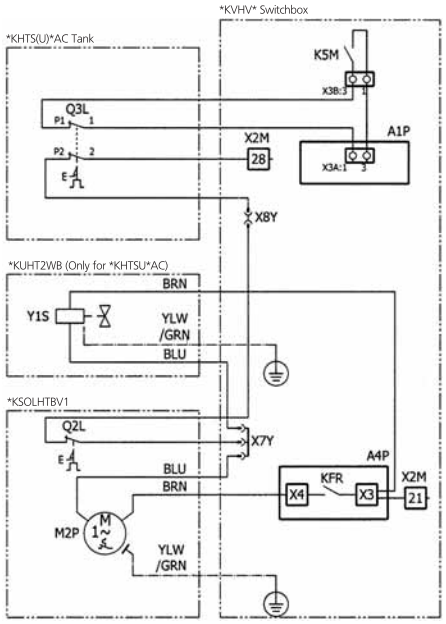
User installed:
- □ *KSOLHTBV1 = Solar kit
- □ *KHTS(U)*AC = Tank
- □ *KUHT2WB = Solenoid valve kit

Legend

Translation of this legend can be found in the installation manual.

Part number	Description
A1P	Main PCB
A4P	Digital I/O PCB
KFR	PCB relay
K5M	Contactor (depending on model, refer to unit wiring diagram)
M2P	Solar pump
Q2L	Thermal protector piping (Manual reset)
Q3L	Thermal protector tank (Manual reset)
X2M	Terminal strip
X7Y,X8Y	Connector
Y1S	Solenoid valve

Wiring diagram
***KSOLHTBV1 + *KHTS(U)*AC**

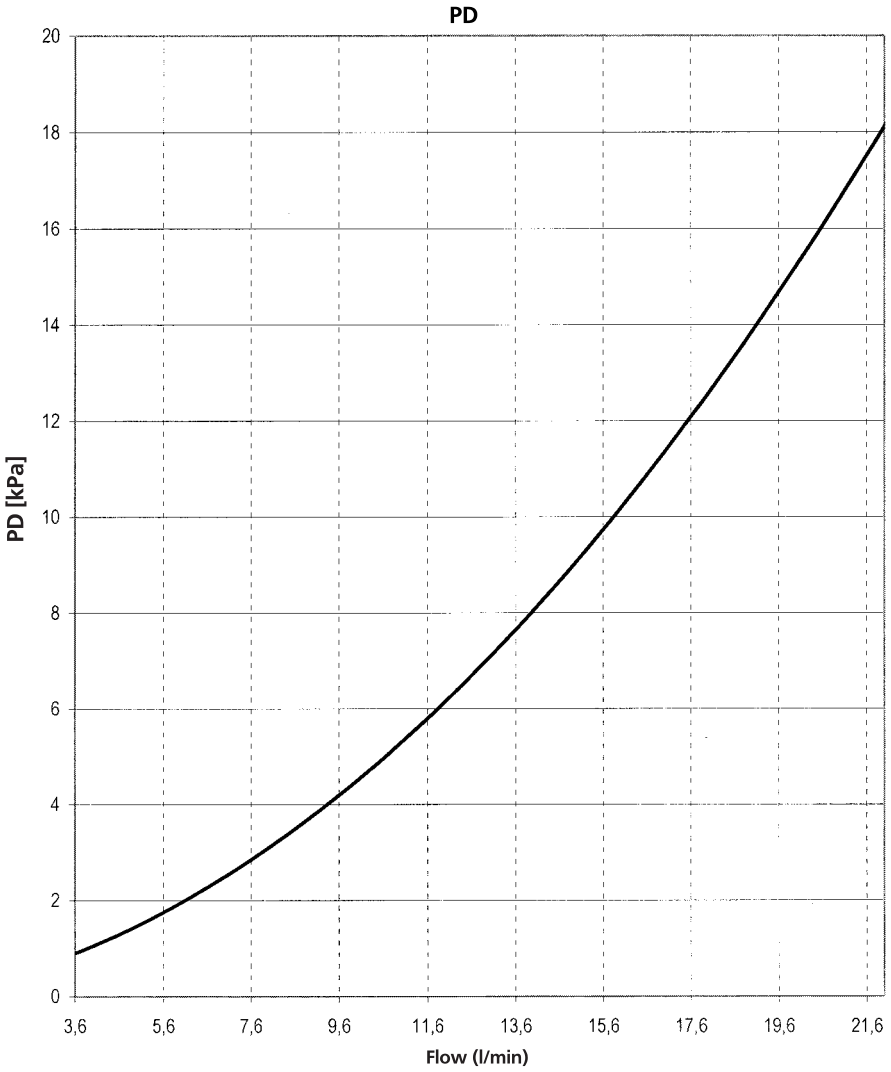


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5 Hydraulic performance

5 - 1 Static Pressure Drop Unit

EKSOLHTBV1



PD: pressure drop over the solar kit
Flow: waterflow through the unit

Warning:
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

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1 Features

- Solar control of pump station for pressurised system
- Connectable to solar collectors
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort

2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKSR3PA
Mounting				On wall
Dimensions	Unit	Height	mm	332
		Width	mm	230
		Depth	mm	145
Control	Type			Digital temperature difference controller with plain text display
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5 DC)

2-2 ELECTRICAL SPECIFICATIONS				EKSR3PA
Unit	Power Supply	Frequency	Hz	50
		Voltage	V	230
Control	Power consumption		W	2

3 Options

EKSRDS1A

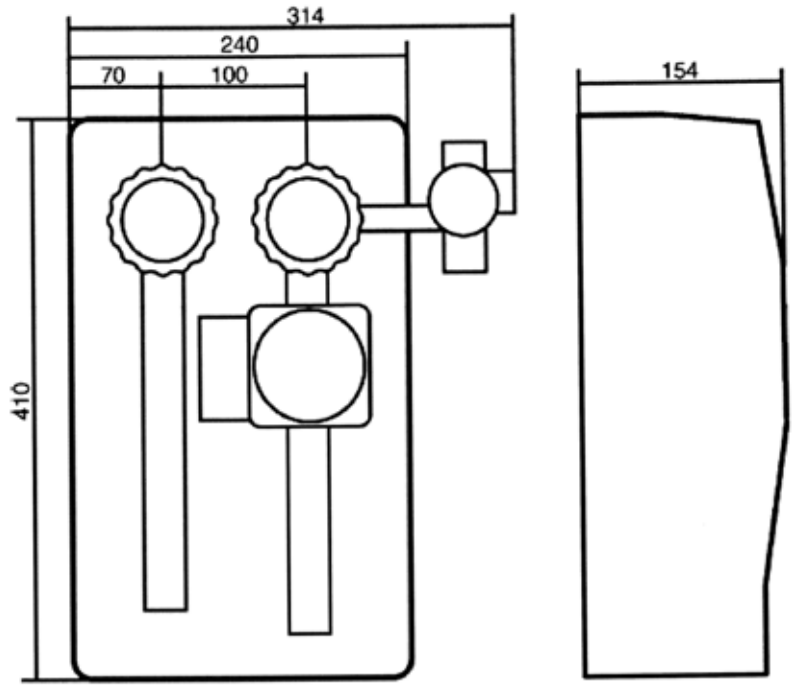
General		
Weight	6.8 kg	
Material of fittings	Brass CW 617 N	
Insulation material	Polypropylene EPP	
System pressure	Max. 6 bar	
Operating temperature range		
Ambient	Max. 40°C	
Medium	Max. 120°C, brief spells max. 160°C	
Flow meter		
Connection	Screwed compression ring connector for 22 mm Ø pipe, pump side with flange and cap nut G1 ½	
Measuring range	2-12 l/min	
Combination cock, red (feed)		
Connection	Two-sided screwed compression ring connector for 22mm Ø pipe	
Indication range	0°C to + 120 °C	
Combination cock, blue (return)		
Connection	Screwed compression ring connector for 22 mm Ø pipe, pump side with flange and cap nut G1 ½	
Indication range	0°C to + 120 °C	
Safety group fittings		
Connection	Screwed compression ring connector for 22 mm Ø pipe for expansion vessel	
Safety valve	6 bar	
Pressure gauge	Ø 63 mm, 0-10 bar, hard soldered	
Circulation pump : Grundof Solar 25-65		
Nominal voltage	AC 230 V, 50Hz	
Power at Speed 1 Speed 2	Power consumption [W] 50 52	Pumping height [m] 4.3 5.5
Pumping capacity	Max. 2.0 m^3/h	
Connections	Male / male G1 ½	
Construction length	130 mm	
Protection	IP 44	
Noise level	< 43 dB(A)	

4TW59691-1

4 Dimensional drawing & centre of gravity

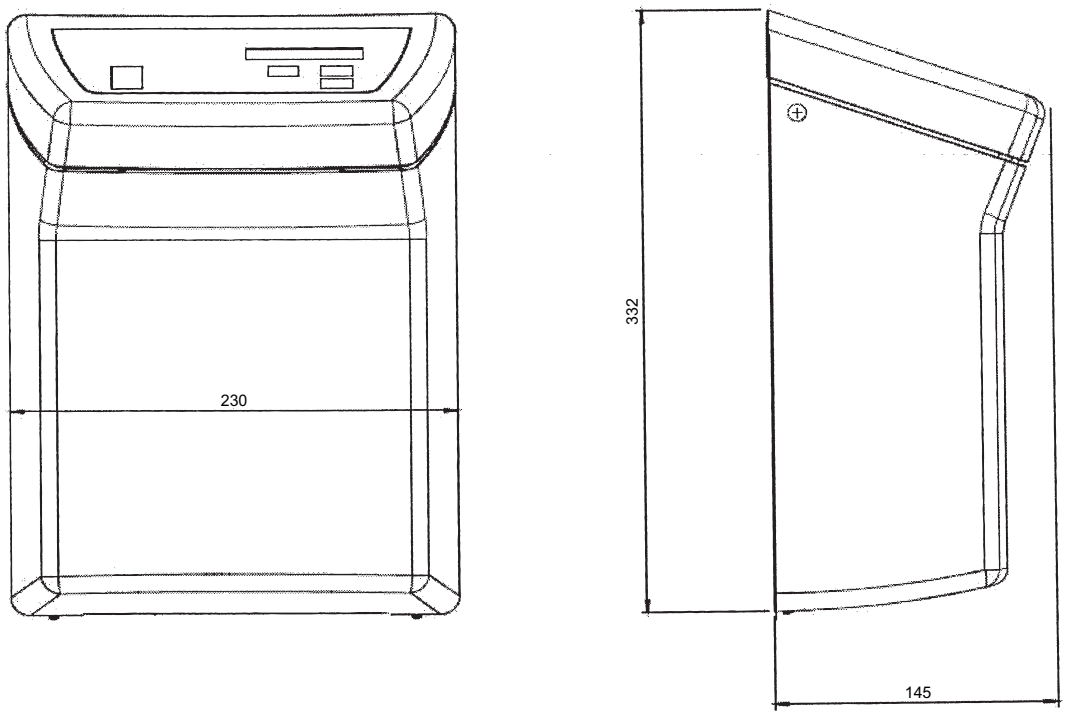
4 - 1 Dimensional drawing

EKRDS1A



4TW59694-1

EKSR3PA

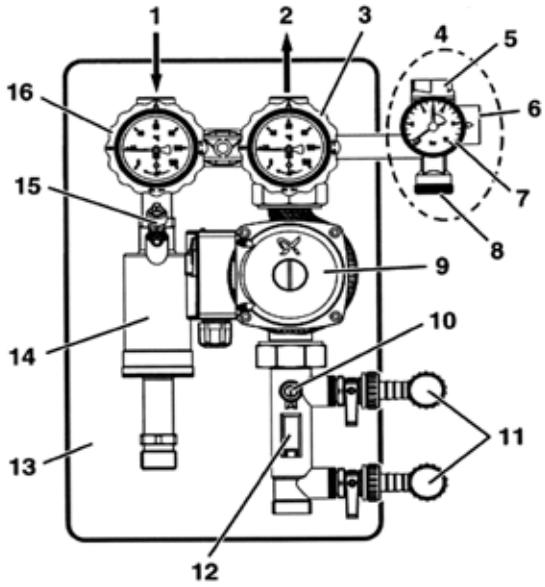


4TW59694-2

5 Piping diagram

5 - 1 Piping diagram

EKSRDS1A



1. Feed
2. Return
3. Ball cock valve, blue, can be closed, with gravity brake and thermometer
4. Safety group fittings
5. Safety valve
6. Blow out opening
7. Pressure gauge with mounting valve
8. Connection for expansion vessel
9. Circulation pump
10. Stop cock
11. Fill- and rinsing cocks
12. Flow meter
13. Insulation
14. Vent pot
15. Vent cock with hand wheel
16. Ball cock valve, red, can be closed, with gravity brake and thermometer.

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1 Features





2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKRTR thermostat
Dimensions	Unit	Height	mm	87
		Width	mm	125
		Depth	mm	34
	Packing	Height	mm	70
		Width	mm	200
		Depth	mm	140
Weight	Unit	Net	g	210
		Gross	g	665
Packing	Material			Carton
	Weight		g	85
Ambient temperature	Storage		°C	-20~60
	Operation		°C	0~50
Temperature setting range	Heating		°C	4-37
	Cooling		°C	4-37
Temperature setting resolution			°C	0.5
Clock				Yes
Regulation function				Proportional band
Features	Item			Heating only
				Heating and cooling
				Comfort function mode (= comfort setpoint)
				Reduced function mode (=night setback setpoint)
				Scheduled function mode(= schedule timer)
				Number of setpoint changes
	Note			12/day
	Item			Holiday function mode
				Off function (with integrated frost protection)
				Setpoint limitation
				Keylock function
				Floor temperature protection
	Note			Only in combination with EKRTETS

2-2 ELECTRICAL SPECIFICATIONS			EKRTR thermostat
Power Supply	Voltage		battery powered 3* AA-LR6 (alkaline)
Connection			Wireless
Maximum distance to receiver	Indoor	m	approx. 30m
	Outdoor	m	approx. 100m

2 Specifications

Additional information:

comfort function mode	use this mode for a fixed temperature on comfort level (comfort setpoint default on 21°C /70 °F in heating mode, 24°C / 75,5 °F in cooling mode))
reduced function mode	Use this mode for a fixed temperature on reduced level (reduced setpoint default on 17°C / 63°F in heatin mode, 28°C / 82,5 °F in cooling mode)
scheduled function mode	Use this mode to let your installation be controlled by the schedule timer. The actions programmed in the schedule timer will be executed automatically according to the actual time. This function uses the scheduled temperature setpoint.
holiday function mode	Use this mode to set a fixed temperature during a long absence.
off function	Use this mode to switch off your installation. Integrated frost protection remains activated (frost protection default on 4°C / 41 °F in heating mode)
setpoint limitation	Use this function to limit the setpoint range for the end customer.
floor temperature protection	Use this function to set a maximum and a minimum floor temperature.
dew point prevention	Use this function to prevent dew on the floor (in case of floor cooling)

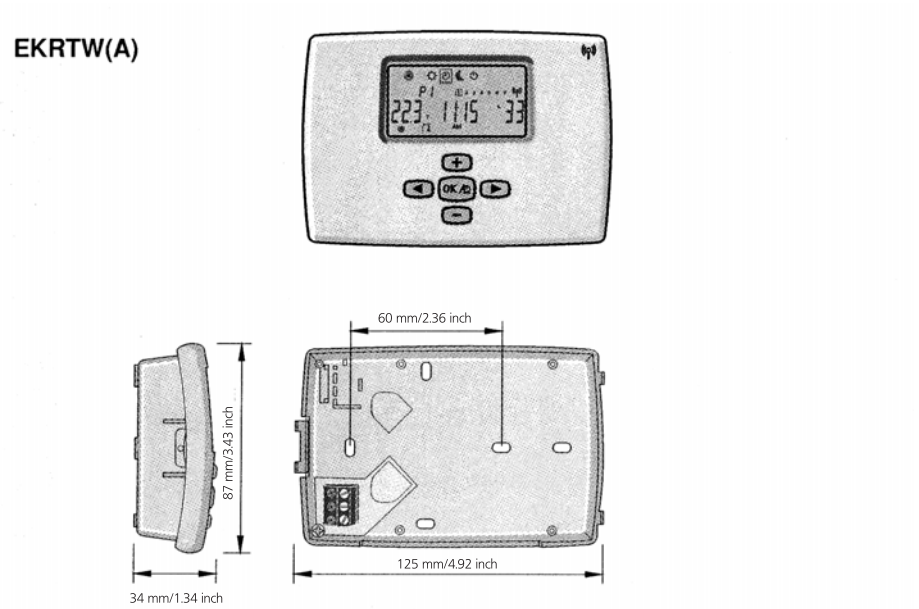
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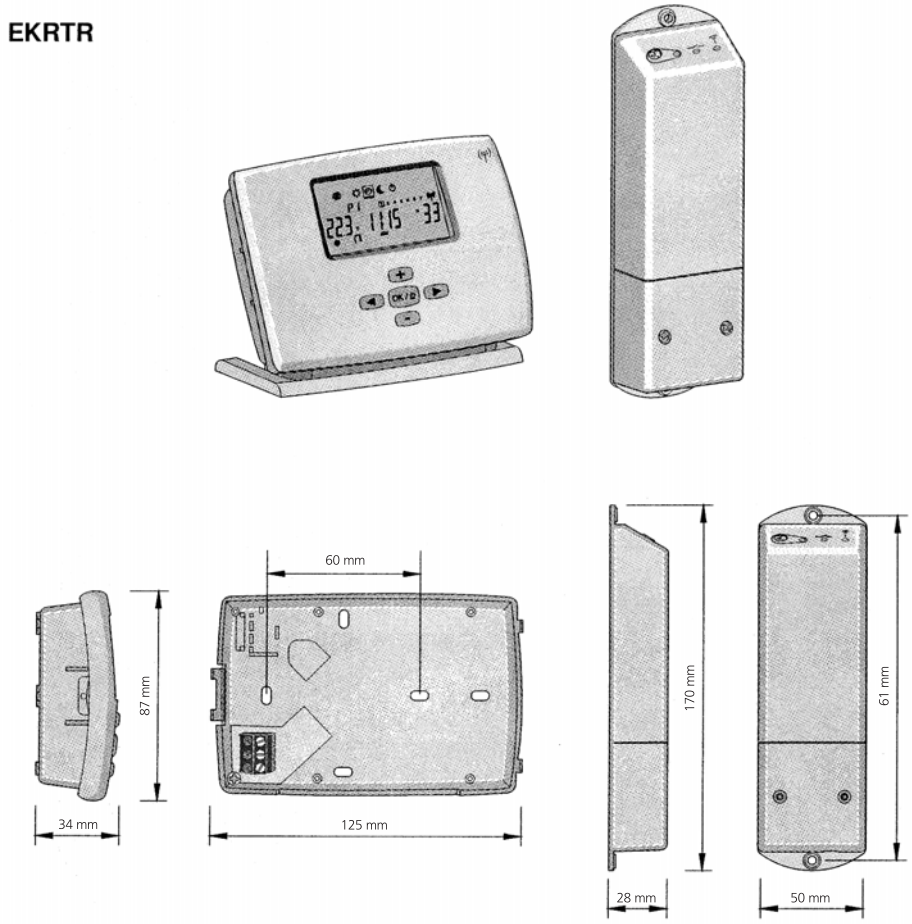
3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKRTW(A)



EKRTR



4TW57994-1A

4 Wiring diagram

4 - 1 External connection diagram

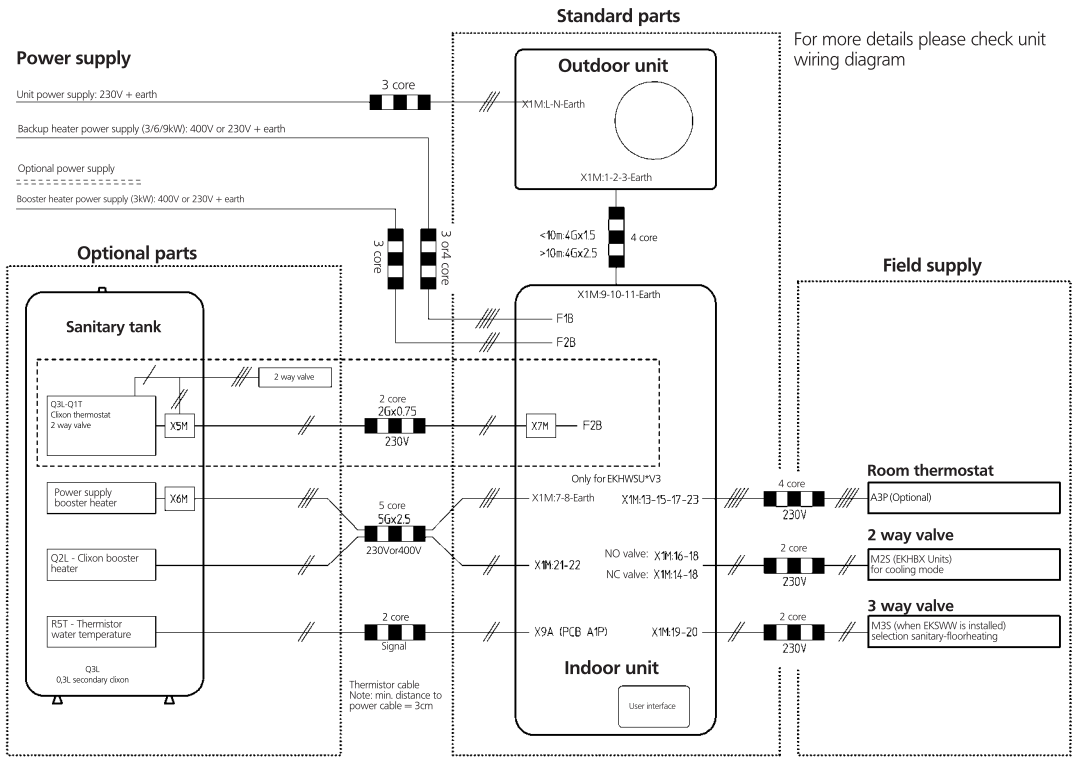


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1 Features



2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKRTW
Dimensions	Unit	Height	mm	87
		Width	mm	125
		Depth	mm	34
	Packing	Height	mm	65
		Width	mm	175
		Depth	mm	100
Weight	Unit	Net	g	215
		Gross	g	440
Packing	Material			Carton
	Weight		g	55
Ambient temperature	Storage		°C	-20~60
	Operation		°C	0~50
Temperature setting range	Heating		°C	4-37
	Cooling		°C	4-37
Temperature setting resolution			°C	0.5
Clock				Yes
Regulation function				Proportional band
Features	Item			Heating only
				Heating and cooling
				Comfort function mode (= comfort setpoint)
				Reduced function mode (=night setback setpoint)
				Scheduled function mode(= schedule timer)
				Number of setpoint changes
	Note			12/day
	Item			Holiday function mode
				Off function (with integrated frost protection)
				Setpoint limitation
				Keylock function

2-2 ELECTRICAL SPECIFICATIONS			EKRTW
Power Supply	Voltage		battery powered 3* AA-LR6 (alkaline)
Connection			Wired
Maximum rated switching current (at 230VAC)		A	0.1

2 Specifications

Additional information:

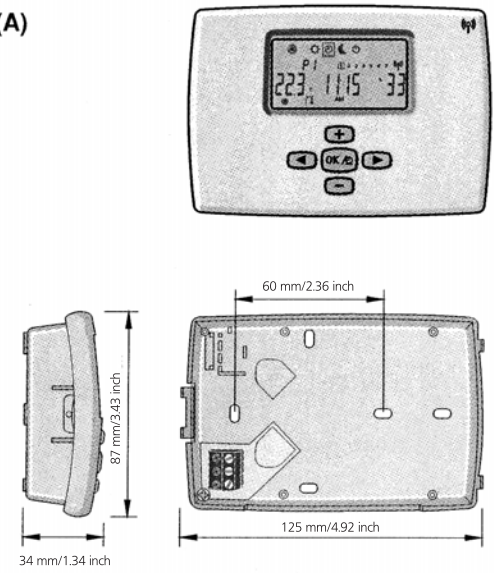
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reduced function mode	Use this mode for a fixed temperature on reduced level (reduced setpoint default on 17°C / 63°F in heatin mode, 28°C / 82,5 °F in cooling mode)
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off function	Use this mode to switch off your installation. Integrated frost protection remains activated (frost protection default on 4°C / 41 °F in heating mode)
setpoint limitation	Use this function to limit the setpoint range for the end customer.
floor temperature protection	Use this function to set a maximum and a minimum floor temperature.
dew point prevention	Use this function to prevent dew on the floor (in case of floor cooling)

4TW57991-2C

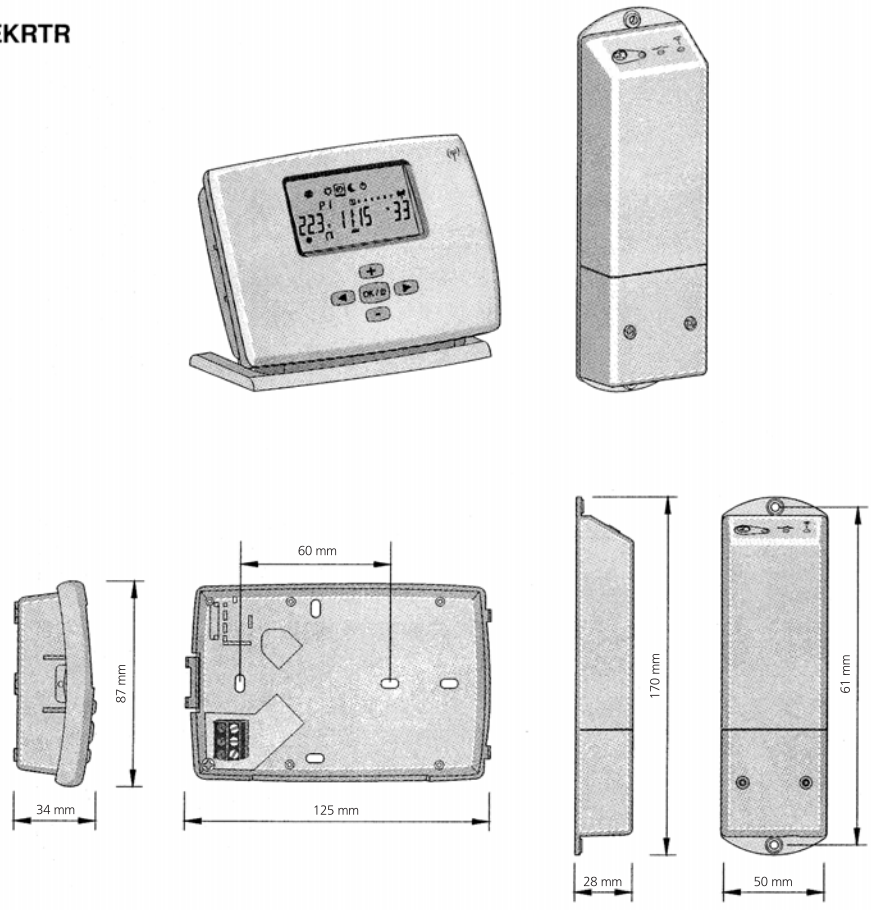
3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKRTW(A)



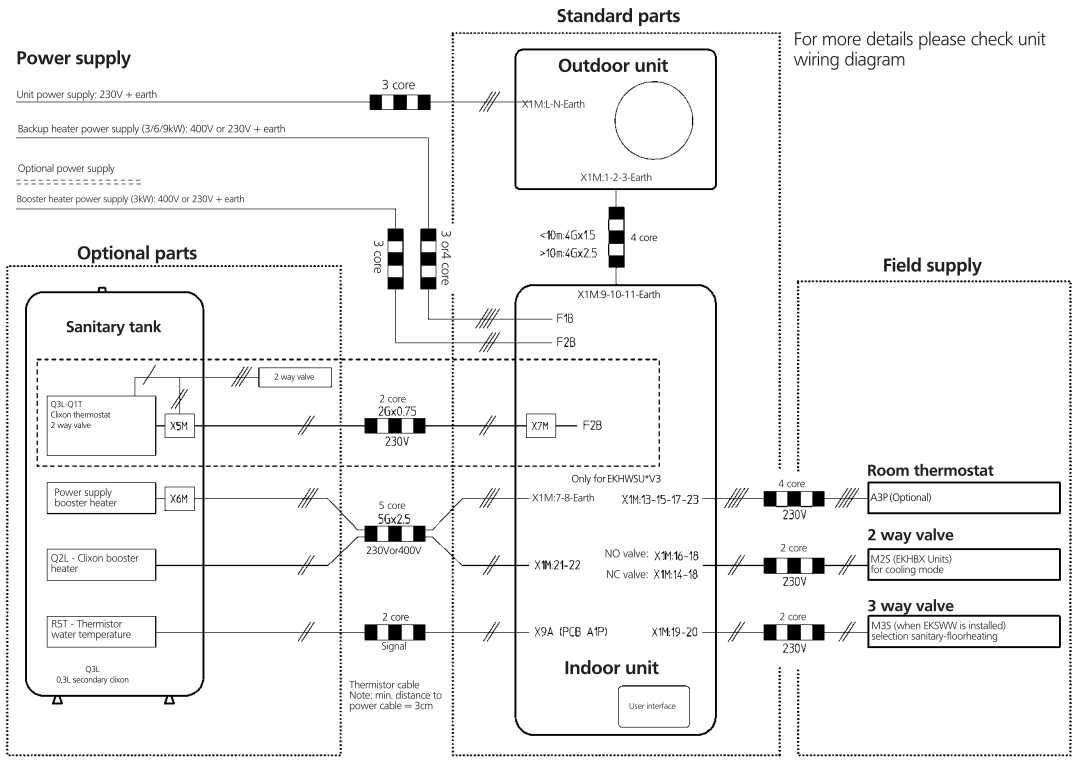
EKRTR



4TW57994-1A

4 Wiring diagram

4 - 1 External connection diagram





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