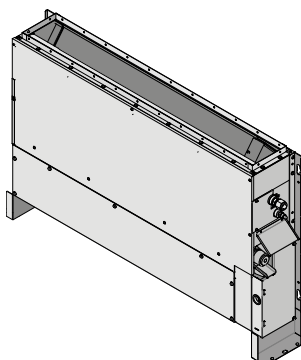




Installer reference guide

Split system air conditioners



FNA25A2VEB
FNA35A2VEB
FNA50A2VEB
FNA60A2VEB

Installer reference guide
Split system air conditioners

English

CE - DECLARATION-DE-CONFORMITÀ
CE - DICHIARAZIONE-DI-CONFORMITÀ
CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ
CE - DECLARATION-OF-CONFORMITY
CE - KONFORMITÄTSSERKLÄRUNG
CE - DECLARATION DE CONFORMITE
CE - KONFORMITÄTSSERKLÄRUNG

CE - DECLARAÇÃO-DE-CONFORMIDADE
CE - ЗАЯВЛЕНИЕ-О-СООТВЕТСТВИИ
CE - ÖVERENSSTÄMMELSEERKLÄRING
CE - FÖRSÄKRAN-OM-ÖVERENSSTÄMMELSE

CE - ERKLÆRING OM-SAMSVAR
CE - ILMOITUS-YHDENMUKAISUDESTA
CE - PROHLÁŠENÍ-O-SHOĐĚ

CE - IZJAVA O USKLADENOSTI
CE - MEGFELELŐSÉGI NYILATKOZAT
CE - DEKLARACIJA ZGODNOSTI
CE - DECLARATION DE CONFORMITE

CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARATSIOON
CE - ДЕКЛАРАЦИЯ-ЗА СЪОТВЕТСТВИЕ

CE - ATTIKTIES-DEKLARACIJA
CE - ATBILSTĪBAS-DEKLARĀCIJA
CE - VYHLÁSENIE-ZHODY
CE - UYGUNLUK-BEYANI

Daikin Industries Czech Republic s.r.o.

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839

[illegible][illegible]

FNA25A2VEB, FNA35A2VEB, FNA50A2VEB, FNA60A2VEB,

[illegible]

135 están en conformidad con (a) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras
136 instrucciones:

137 366 son conformes al (a) siguiente(s) estándar (o otros) documento(s) o carácter normativo a partir que vergano used in conformidad alle nostre istruzioni:
138 371 otro cualquier que tal (a) siguiente(s) documento(s) o carácter normativo, una vez que se utilizan de acuerdo con las instrucciones

EN60335-2-40,

10	under liggelse af bestemmelserne i	10	under liggelse af bestemmelserne i
11	enlig vilkåret i	11	enlig vilkåret i
12	gitt i henhold til bestemmelserne i	12	gitt i henhold til bestemmelserne i
13	noudatens malarýska	13	noudatens malarýska
14	za dodržení ustanovení předpisu:	14	za dodržení ustanovení předpisu:
15	prema določbam:	15	prema določbam:
16	kovel 12:	16	kovel 12:
17	zgodnje z poslovanenimi Direktiv:	17	zgodnje z poslovanenimi Direktiv:
18	in uma predjorlari	18	in uma predjorlari

01 Note	as set out in <> and judged positively by <>	06 Nota	delineato nel <> e giudicato positivamente da <>
02 Hinweis	according to the Certificate <>	07 Zeydunç*	secondo il Certificato <>
03 Remarque	bei der definiti durch <> und von <> positiv beurteilt gewesen. Zitiert <>	08 Nota	oncu' corroborato da <> cu' criteriul pozitiv al <> raportat la <>
04 Bemerk	bei der definit durch <> als positiv beurteilt worden. Zitiert <>	09 Preamenare	tal como estabelecido em <> e com o parecer positivo de <>
05 Nota	zoals vermeld in <> en positief beoordeeld door <>	10 Bemerk*	de <> de acordo com o Certificado <>
	overeenkomstig Certificat <>		cu' uzarează în <> și în conformitate cu conținutul acestui
	positively per <> es valorato		peșunești cu contractul <>
	como se establece en <> y es valorado		Contractului <>
	positively per <> de acuerdo con el		Contract <>
	Certificado <>		

01** DICZ**** is authorised to compile the Technical Construction File.
02** DICZ**** hat die Berechtigung die Technische Konstruktionsakte zusammenzustellen.
03** DICZ**** est autorisé à compiler le Dossier de Construction Technique.
04** DICZ**** is bevoegd om het Technisch Constructiedossier samen te stellen.
05** DICZ**** está autorizado a compilar el Archivo de Construcción Técnica.
06** DICZ**** è autorizzata a redurre il File Tecnico di Costruzione.

^{*****} DICz = Daikin Industries Czech Republic s.r.o.

19 ob upoštevanju dobroč:
20 vastavati nčutele:
21 следяи клзуйте на:
22 laikantis nuostaty, pateikiamų:
23 ievėrojti prasības, kas noteiktas:
24 atzīstājotc ustanovienā:
25 bunin koşullarına uygun olarak:

[illegible]

Η DIC²⁰⁰⁰ είναι εξοπλισμένη να συντάξει τον Τεχνικό φάκελο κατασκευής
07⁰⁸ DIC²⁰⁰⁰ está autorizada a compilar a documentação técnica de fabrico.
08⁰⁹ A Compilação DIC²⁰⁰⁰ é capaz de criar o conjunto técnico de documentação.
09¹⁰ DIC²⁰⁰⁰ er autoriseret til at udarbejde de tekniske konstruktionsdata.
10¹¹ DIC²⁰⁰⁰ er benyttet til at sammensætte den tekniske konstruktionsfil.
11¹² DIC²⁰⁰⁰ har færdigstillet filerne til den tekniske konstruktionsfil.
12

Machinery 2006/42/EC
Electromagnetic Compatibility 2014/30/EU
Low Voltage 2014/35/EU

11 Information*	enigati <A> rob gotkants av enigi	16 Meggyőzős*	aj <A> alapján igazolta a megjelölést, a/21 320	22 Pésztas*	23 Pésziz*	24 Pozno*	25 Not*
12 Merk*	son deli fremkimeri <A> gjenom positiv	17 Uwaga*	<A> tusavlyan szent	zopnie z dokumentacj <A> pozivlyu	as g am este stabil in <A> si apreciat pozitiv de	kolle doobreno v <A> doobreno s strani	nagu on radatui documents <A> la heats kitalud
13 Huom*	benelimesse av <A> folie Sertifikaat	18 Noti*	gonia Swadectem <A>	in conformitate cu	skladu s Sertifikaatim <A>	legro vaslapat Sertifikaatle <A>	
14 Poznámk*	on hlyadny sigi Sertifikaat <A> mikaseti,	19 Opomba*	jak bio uvedeno v <A> a pozitivne zjsteno				
15 Napomena*	<A> s voladu s svadectvom <A>	20 Märkus*	kako je doobreno v <A> pozitivno ocijeljeno ot strane				
	<A> prema Certifikaatu <A>						

13^o DIC²⁰⁰⁰ on valituettu laatiinam Teknisen asistijan.
14^o Spoločnosť DIC²⁰⁰⁰ má oprávnené na komplexnú technickú konštrukciu.
15^o DIC²⁰⁰⁰ je ovlaštená za izradu Datovej a technickej konštrukcii.
16^o A DIC²⁰⁰⁰ jogsull a mlszakl konštrukciós dokumentáció összeállítására.
17^o DIC²⁰⁰⁰ on upowazniony na zbieranie i opracowywanie dokumentacji konstrukcyjnej.
18^o DIC²⁰⁰⁰ este autorizată să complice Dosarul Tehnic de construcție.

[illegible]

belgika*	katro je kotirano v <A> i cenenje porokotirno ot cyslasno СЕРТИФИКАТА <C>	<A>	DAIKIN.TCF.033A.3/03-2017
staba*	kapo nastavlja <A> i kapo bugarina nuspjesta pagal СЕРТИФИКАТА <C>		DEKRA (NB0344)
zvezmes*	ka nadotis <A> an abitoisji pozitivajm veljajnam saskajna ar СЕРТИФИКАТ <C>	<C>	21792665.0651-EMC
zuzninka*	oto polo uvelenje v <A> a pozitivne zisene i sufade asoedeno <C>		
4*	<A> via belindija gbove СЕРТИФИКАТА gbove <C> taralindam olumju drakak derelindija gbove <C>		

19^o DIC^{***} je potrebán za sestavo datoteke s tehnično mapo.
20^o DIC^{***} on volitatu klostama tehnični dokumentacioni.
21^o DIC^{***} e organizirana na četrta Arta za tehnična konstrukcija.
22^o DIC^{***} vra garadi sudari s tehnični konstrukcijs falu.
23^o DIC^{***} je avtorizir sasiati tehnični dokumentaciju.
24^o Spobnost DIC^{***} je opravará vyhovit falu tehničke konstrukcije.
25^o DIC^{***} Teknik Yagi Dogasini deriemale vektirú.



Tetsuya Baba
Managing Director
Pilsen, 3rd of July 2017

DAIKIN INDUSTRIES CZECH REPUBLIC S.R.O.

U Nové Hospody 1/1155, 301 00 Plzeň Skvrňany,
Czech Republic

3P480520-5A

Table of Contents

1	General safety precautions	3
1.1	About the documentation	3
1.1.1	Meaning of warnings and symbols.....	3
1.2	For the installer.....	3
1.2.1	General	3
1.2.2	Installation site	4
1.2.3	Refrigerant	5
1.2.4	Brine.....	6
1.2.5	Water	6
1.2.6	Electrical	6
2	About the documentation	7
2.1	About this document.....	7
3	About the box	7
3.1	Overview: About the box	7
3.2	Indoor unit	8
3.2.1	To unpack and handle the unit.....	8
3.2.2	To remove the accessories from the indoor unit.....	8
4	About the units and options	8
4.1	Overview: About the units and options	8
4.2	System layout.....	8
4.3	Combining units and options	8
4.3.1	Possible options for the indoor unit.....	8
5	Preparation	8
5.1	Overview: Preparation	8
5.2	Preparing installation site	9
5.2.1	Installation site requirements of the indoor unit	9
5.3	Preparing refrigerant piping	10
5.3.1	Refrigerant piping requirements	10
5.3.2	Refrigerant piping insulation	10
5.4	Preparing electrical wiring	10
5.4.1	About preparing electrical wiring	10
6	Installation	10
6.1	Overview: Installation	10
6.2	Mounting the indoor unit.....	10
6.2.1	Precautions when mounting the indoor unit.....	10
6.2.2	Guidelines when installing the indoor unit.....	11
6.2.3	Guidelines when installing the ducting.....	13
6.2.4	Guidelines when installing the drain piping.....	13
6.3	Connecting the refrigerant piping	14
6.3.1	About connecting the refrigerant piping	14
6.3.2	Precautions when connecting the refrigerant piping ...	14
6.3.3	Guidelines when connecting the refrigerant piping	14
6.3.4	Pipe bending guidelines	15
6.3.5	To flare the pipe end	15
6.3.6	To braise the pipe end	15
6.3.7	To connect the refrigerant piping to the indoor unit	15
6.4	Connecting the electrical wiring	16
6.4.1	About connecting the electrical wiring	16
6.4.2	Precautions when connecting the electrical wiring	16
6.4.3	Guidelines when connecting the electrical wiring	16
6.4.4	To connect the electrical wiring on the indoor unit.....	16
6.4.5	Specifications of standard wiring components.....	17
7	Commissioning	17
7.1	Overview: Commissioning	17
7.2	Checklist before commissioning	17
7.3	To perform a test run.....	18
7.4	Error codes when performing a test run	18
8	Hand-over to the user	19
9	Disposal	19

10	Technical data	19
10.1	Wiring diagram	20
11	Glossary	20

1 General safety precautions

1.1 About the documentation

- The original documentation is written in English. All other languages are translations.
- The precautions described in this document cover very important topics, follow them carefully.
- The installation of the system, and all activities described in the installation manual and the installer reference guide must be performed by an authorised installer.

1.1.1 Meaning of warnings and symbols



DANGER

Indicates a situation that results in death or serious injury.



DANGER: RISK OF ELECTROCUTION

Indicates a situation that could result in electrocution.



DANGER: RISK OF BURNING

Indicates a situation that could result in burning because of extreme hot or cold temperatures.



DANGER: RISK OF EXPLOSION

Indicates a situation that could result in explosion.



WARNING

Indicates a situation that could result in death or serious injury.



WARNING: FLAMMABLE MATERIAL



CAUTION

Indicates a situation that could result in minor or moderate injury.



NOTICE

Indicates a situation that could result in equipment or property damage.



INFORMATION

Indicates useful tips or additional information.

Symbol	Explanation
	Before installation, read the installation and operation manual, and the wiring instruction sheet.
	Before performing maintenance and service tasks, read the service manual.
	For more information, see the installer and user reference guide.

1.2 For the installer

1.2.1 General

If you are not sure how to install or operate the unit, contact your dealer.

1 General safety precautions



NOTICE

Improper installation or attachment of equipment or accessories could result in electric shock, short-circuit, leaks, fire or other damage to the equipment. Only use accessories, optional equipment and spare parts made or approved by Daikin.



WARNING

Make sure installation, testing and applied materials comply with applicable legislation (on top of the instructions described in the Daikin documentation).



CAUTION

Wear adequate personal protective equipment (protective gloves, safety glasses,...) when installing, maintaining or servicing the system.



WARNING

Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.



DANGER: RISK OF BURNING

- Do NOT touch the refrigerant piping, water piping or internal parts during and immediately after operation. It could be too hot or too cold. Give it time to return to normal temperature. If you must touch it, wear protective gloves.
- Do NOT touch any accidental leaking refrigerant.



WARNING

Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.



CAUTION

Do NOT touch the air inlet or aluminium fins of the unit.



NOTICE

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.



NOTICE

Works executed on the outdoor unit are best done under dry weather conditions to avoid water ingress.

In accordance with the applicable legislation, it might be necessary to provide a logbook with the product containing at least: information on maintenance, repair work, results of tests, stand-by periods,...

Also, at least, following information must be provided at an accessible place at the product:

- Instructions for shutting down the system in case of an emergency
- Name and address of fire department, police and hospital
- Name, address and day and night telephone numbers for obtaining service

In Europe, EN378 provides the necessary guidance for this logbook.

1.2.2 Installation site

- Provide sufficient space around the unit for servicing and air circulation.
- Make sure the installation site withstands the unit's weight and vibration.

- Make sure the area is well ventilated. Do NOT block any ventilation openings.
- Make sure the unit is level.

Do NOT install the unit in the following places:

- In potentially explosive atmospheres.
- In places where there is machinery that emits electromagnetic waves. Electromagnetic waves may disturb the control system, and cause malfunction of the equipment.
- In places where there is a risk of fire due to the leakage of flammable gases (example: thinner or gasoline), carbon fibre, ignitable dust.
- In places where corrosive gas (example: sulphurous acid gas) is produced. Corrosion of copper pipes or soldered parts may cause the refrigerant to leak.

Instructions for equipment using R32 refrigerant

If applicable.



WARNING

- Do NOT pierce or burn.
- Do NOT use means to accelerate the defrosting process or to clean the equipment, other than those recommended by the manufacturer.
- Be aware that R32 refrigerant does NOT contain an odour.



WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) and have a room size as specified below.



NOTICE

- Do NOT reuse joints which have been used already.
- Joints made in installation between parts of refrigerant system shall be accessible for maintenance purposes.



WARNING

Make sure installation, servicing, maintenance and repair comply with instructions from Daikin and with applicable legislation (for example national gas regulation) and are executed only by authorised persons.

Installation space requirements



NOTICE

- Pipework shall be protected from physical damage.
- Installation of pipework shall be kept to a minimum.



WARNING

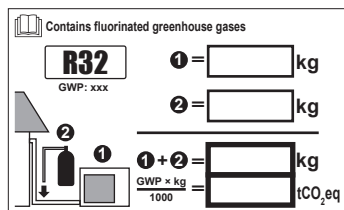
If appliances contain R32 refrigerant, then the floor area of the room in which the appliances are installed, operated and stored must be larger than the minimum floor area defined in table below A (m²). This applies to:

- Indoor units **without** refrigerant leakage sensor; in case of indoor units **with** refrigerant leakage sensor, consult the installation manual
- Outdoor units installed or stored indoors (example: winter garden, garage, machinery room)
- Pipework in unventilated spaces

1 General safety precautions

To determine the minimum floor area

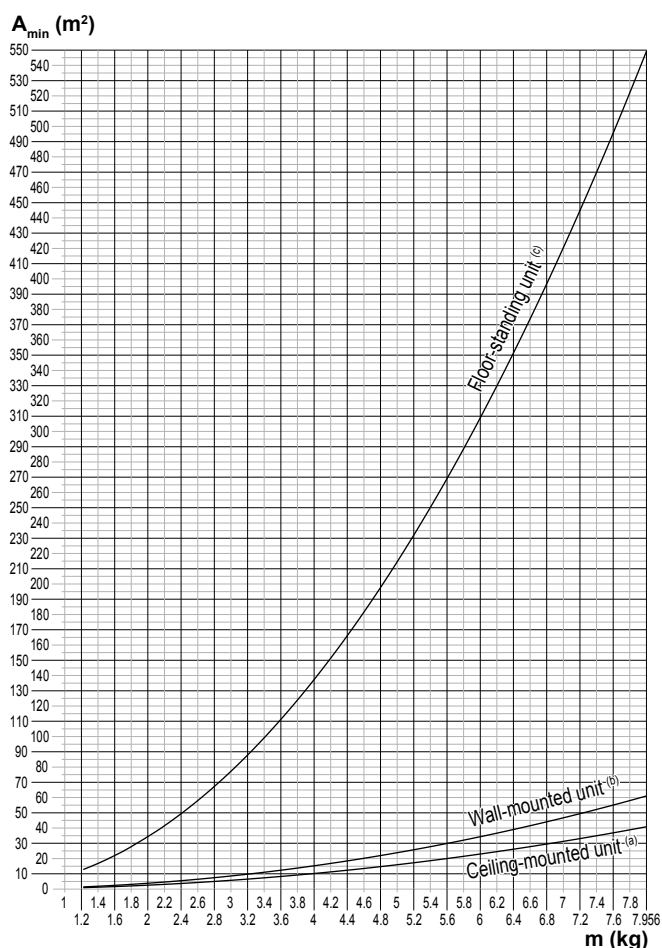
- 1 Determine the total refrigerant charge in the system (= factory refrigerant charge ① + ② additional refrigerant amount charged).



- 2 Determine which graph or table to use.
 - For indoor units: Is the unit ceiling-mounted, wall-mounted or floor-standing?
 - For outdoor units installed or stored indoors, and field piping in unventilated spaces, this depends on the installation height:

If the installation height is...	Then use the graph or table for...
<1.8 m	Floor-standing units
1.8 ≤ x < 2.2 m	Wall-mounted units
≥ 2.2 m	Ceiling-mounted units

- 3 Use the graph or table to determine the minimum floor area.



Ceiling-mounted unit ^(a)		Wall-mounted unit ^(b)		Floor-standing unit ^(c)	
m (kg)	A _{min} (m²)	m (kg)	A _{min} (m²)	m (kg)	A _{min} (m²)
<1.224	—	<1.224	—	<1.224	—
1.225	0.956	1.225	1.43	1.225	12.9
1.4	1.25	1.4	1.87	1.4	16.8
1.6	1.63	1.6	2.44	1.6	22.0
1.8	2.07	1.8	3.09	1.8	27.8
2.0	2.55	2.0	3.81	2.0	34.3
2.2	3.09	2.2	4.61	2.2	41.5
2.4	3.68	2.4	5.49	2.4	49.4
2.6	4.31	2.6	6.44	2.6	58.0
2.8	5.00	2.8	7.47	2.8	67.3
3.0	5.74	3.0	8.58	3.0	77.2
3.2	6.54	3.2	9.76	3.2	87.9
3.4	7.38	3.4	11.0	3.4	99.2
3.6	8.27	3.6	12.4	3.6	111
3.8	9.22	3.8	13.8	3.8	124
4.0	10.2	4.0	15.3	4.0	137
4.2	11.3	4.2	16.8	4.2	151
4.4	12.4	4.4	18.5	4.4	166
4.6	13.5	4.6	20.2	4.6	182
4.8	14.7	4.8	22.0	4.8	198
5.0	16.0	5.0	23.8	5.0	215
5.2	17.3	5.2	25.8	5.2	232
5.4	18.6	5.4	27.8	5.4	250
5.6	20.0	5.6	29.9	5.6	269
5.8	21.5	5.8	32.1	5.8	289
6.0	23.0	6.0	34.3	6.0	309
6.2	24.5	6.2	36.6	6.2	330
6.4	26.1	6.4	39.1	6.4	351
6.6	27.8	6.6	41.5	6.6	374
6.8	29.5	6.8	44.1	6.8	397
7.0	31.3	7.0	46.7	7.0	420
7.2	33.1	7.2	49.4	7.2	445
7.4	34.9	7.4	52.2	7.4	470
7.6	36.9	7.6	55.1	7.6	496
7.8	38.8	7.8	58.0	7.8	522
7.956	40.8	7.956	61.0	7.956	549

- m Total refrigerant charge in the system
 A_{min} Minimum floor area
 (a) Ceiling-mounted unit (= Ceiling-mounted unit)
 (b) Wall-mounted unit (= Wall-mounted unit)
 (c) Floor-standing unit (= Floor-standing unit)

1.2.3 Refrigerant

If applicable. See the installation manual or installer reference guide of your application for more information.



NOTICE

Make sure refrigerant piping installation complies with applicable legislation. In Europe, EN378 is the applicable standard.



NOTICE

Make sure the field piping and connections are not subjected to stress.



WARNING

During tests, NEVER pressurize the product with a pressure higher than the maximum allowable pressure (as indicated on the nameplate of the unit).



WARNING

Take sufficient precautions in case of refrigerant leakage. If refrigerant gas leaks, ventilate the area immediately. Possible risks:

- Excessive refrigerant concentrations in a closed room can lead to oxygen deficiency.
- Toxic gas may be produced if refrigerant gas comes into contact with fire.

1 General safety precautions



DANGER: RISK OF EXPLOSION

Pump down – Refrigerant leakage. If you want to pump down the system, and there is a leakage in the refrigerant circuit:

- Do NOT use the unit's automatic pump down function, with which you can collect all refrigerant from the system into the outdoor unit. **Possible consequence:** Self-combustion and explosion of the compressor because of air going into the operating compressor.
- Use a separate recovery system so that the unit's compressor does NOT have to operate.



WARNING

Always recover the refrigerant. Do NOT release them directly into the environment. Use a vacuum pump to evacuate the installation.



NOTICE

After all the piping has been connected, make sure there is no gas leak. Use nitrogen to perform a gas leak detection.



NOTICE

- To avoid compressor breakdown, do NOT charge more than the specified amount of refrigerant.
- When the refrigerant system is to be opened, refrigerant must be treated according to the applicable legislation.



WARNING

Make sure there is no oxygen in the system. Refrigerant may only be charged after performing the leak test and the vacuum drying.

- In case re-charge is required, refer to the nameplate of the unit. It states the type of refrigerant and necessary amount.
- The unit is factory charged with refrigerant and depending on pipe sizes and pipe lengths some systems require additional charging of refrigerant.
- Only use tools exclusively for the refrigerant type used in the system, this to ensure pressure resistance and prevent foreign materials from entering into the system.
- Charge the liquid refrigerant as follows:

If	Then
A siphon tube is present (i.e., the cylinder is marked with "Liquid filling siphon attached")	Charge with the cylinder upright. 
A siphon tube is NOT present	Charge with the cylinder upside down. 

- Open refrigerant cylinders slowly.
- Charge the refrigerant in liquid form. Adding it in gas form may prevent normal operation.



CAUTION

When the refrigerant charging procedure is done or when pausing, close the valve of the refrigerant tank immediately. If the valve is not closed immediately, remaining pressure might charge additional refrigerant. **Possible consequence:** Incorrect refrigerant amount.

1.2.4 Brine

If applicable. See the installation manual or installer reference guide of your application for more information.



WARNING

The selection of the brine MUST be in accordance with the applicable legislation.



WARNING

Take sufficient precautions in case of brine leakage. If brine leaks, ventilate the area immediately and contact your local dealer.



WARNING

The ambient temperature inside the unit can get much higher than that of the room, e.g. 70°C. In case of a brine leak, hot parts inside the unit can create a hazardous situation.



WARNING

The use and installation of the application MUST comply with the safety and environmental precautions specified in the applicable legislation.

1.2.5 Water

If applicable. See the installation manual or installer reference guide of your application for more information.



NOTICE

Make sure water quality complies with EU directive 98/83 EC.

1.2.6 Electrical



DANGER: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Disconnect the power supply for more than 1 minute, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage MUST be less than 50 V DC before you can touch electrical components. For the location of the terminals, see the wiring diagram.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.



WARNING

If NOT factory installed, a main switch or other means for disconnection, having a contact separation in all poles providing full disconnection under overvoltage category III condition, MUST be installed in the fixed wiring.

**WARNING**

- ONLY use copper wires.
- Make sure the field wiring complies with the applicable legislation.
- All field wiring must be performed in accordance with the wiring diagram supplied with the product.
- NEVER squeeze bundled cables and make sure they do not come in contact with the piping and sharp edges. Make sure no external pressure is applied to the terminal connections.
- Make sure to install earth wiring. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earth may cause electrical shock.
- Make sure to use a dedicated power circuit. NEVER use a power supply shared by another appliance.
- Make sure to install the required fuses or circuit breakers.
- Make sure to install an earth leakage protector. Failure to do so may cause electric shock or fire.
- When installing the earth leakage protector, make sure it is compatible with the inverter (resistant to high frequency electric noise) to avoid unnecessary opening of the earth leakage protector.

**NOTICE**

Precautions when laying power wiring:

- Do not connect wiring of different thicknesses to the power terminal block (slack in the power wiring may cause abnormal heat).
- When connecting wiring which is the same thickness, do as shown in the figure below.



- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will damage the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.

**WARNING**

- After finishing the electrical work, confirm that each electrical component and terminal inside the electrical components box is connected securely.
- Make sure all covers are closed before starting up the unit.

**NOTICE**

Only applicable if the power supply is three-phase, and the compressor has an ON/OFF starting method.

If there exists the possibility of reversed phase after a momentary black out and the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase can break the compressor and other parts.

2 About the documentation

2.1 About this document

**INFORMATION**

Make sure that the user has the printed documentation and ask him/her to keep it for future reference.

Target audience

Authorised installers

**INFORMATION**

This appliance is intended to be used by expert or trained users in shops, in light industry, and on farms, or for commercial and household use by lay persons.

Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
 - Safety instructions that you must read before installing
 - Format: Paper (in the box of the indoor unit)
- **Indoor unit installation manual:**
 - Installation instructions
 - Format: Paper (in the box of the indoor unit)
- **Installer reference guide:**
 - Preparation of the installation, good practices, reference data,...
 - Format: Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

The original documentation is written in English. All other languages are translations.

Technical engineering data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin extranet (authentication required).

3 About the box

3.1 Overview: About the box

It contains information about:

- Unpacking and handling the units
- Removing the accessories from the units

Keep the following in mind:

- At delivery, the unit must be checked for damage. Any damage must be reported immediately to the carrier's claims agent.
- Bring the packed unit as close as possible to its final installation position to prevent damage during transport.
- Prepare the path along which you want to bring the unit inside in advance.

4 About the units and options

3.2 Indoor unit



WARNING: FLAMMABLE MATERIAL

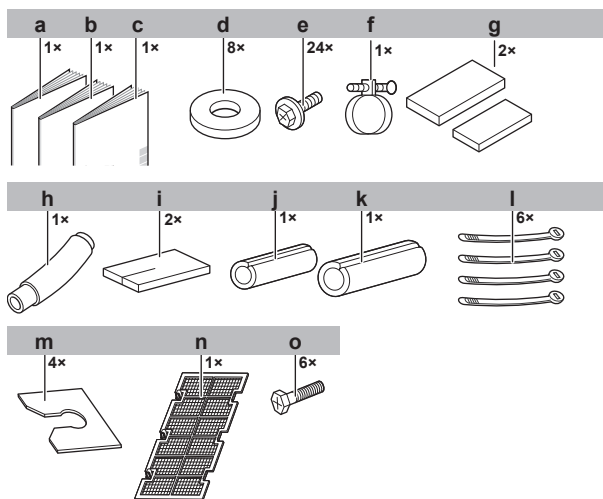
The R32 refrigerant (if applicable) in this unit is mildly flammable.¹

3.2.1 To unpack and handle the unit

Use a sling of soft material or protective plates together with a rope when lifting the unit. This to avoid damage or scratches to the unit.

Lift the unit by holding on to the hanger brackets without exerting any pressure on other parts, especially on refrigerant piping, drain piping and other resin parts.

3.2.2 To remove the accessories from the indoor unit



- a Installation manual
- b Operation manual
- c General safety precautions
- d Washers for hanger bracket
- e Screws for duct flanges
- f Metal clamp
- g Sealing pads: small and large
- h Drain hose
- i Sealing material
- j Insulation piece: Small (liquid pipe)
- k Insulation piece: Large (gas pipe)
- l Tie wraps
- m Washer fixing plate
- n Air filter
- o Levelling screws

4 About the units and options

4.1 Overview: About the units and options

This chapter contains information about:

- Combining outdoor and indoor units
- Combining the indoor unit with options



WARNING

Never use a flammable spray such as hair spray, lacquer or paint near the unit. It may cause a fire.



NOTICE

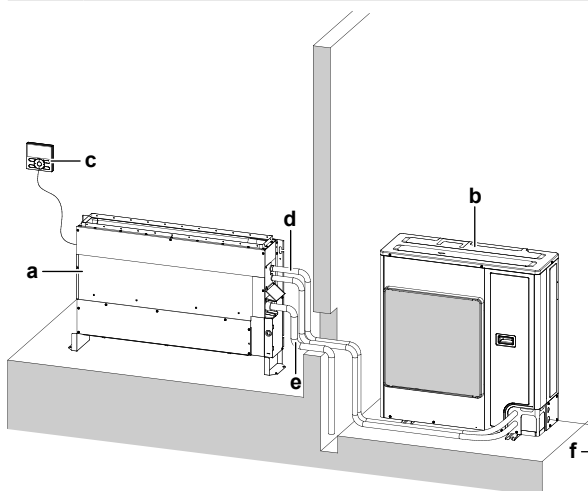
Do not wipe the controller operation panel with benzene, thinner, chemical dust cloth, etc. The panel may get discoloured or the coating peeled off. If it is heavily dirty, soak a cloth in water-diluted neutral detergent, squeeze it well and wipe the panel clean. Wipe it with another dry cloth.

4.2 System layout



INFORMATION

The following illustration is an example and might NOT match your system layout.



- a Indoor unit
- b Outdoor unit
- c User interface
- d Refrigerant piping + interconnection cable
- e Drain pipe
- f Earth wiring

4.3 Combining units and options

4.3.1 Possible options for the indoor unit

Make sure you have the following mandatory options:

- User interface: Wired or wireless

Select a user interface in accordance with the customer's request. Refer to the table below to select a suitable user interface.

User interface	
Wired user interface	BRC1D52/BRC1D61/ BRC1E51A/BRC1E53A7/ BRC1E53B7/BRC1E53C7
Wireless user interface	BRC4C65

5 Preparation

5.1 Overview: Preparation

This chapter describes what you have to do and know before going on-site.

It contains information about:

- Preparing the installation site
- Preparing the refrigerant piping

⁽¹⁾ Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

- Preparing the electrical wiring

5.2 Preparing installation site

- Provide sufficient space around the unit for servicing and air circulation.
- Choose the installation location with sufficient place for carrying the unit in and out of the site.



CAUTION

Do NOT install or use in places filled with smoke, gas, chemicals etc. Sensors inside the indoor unit may detect these substances, and display a refrigerant leak abnormality.¹



WARNING

Do NOT install the air conditioner at any place where flammable gas may leak out. If the gas leaks out and stays around the air conditioner, a fire may break out.



CAUTION

Do NOT install or use in highly airtight spaces, e.g. soundproof chambers or rooms with sealed doors.¹



CAUTION

This unit is equipped with electrically powered safety measures, such as a refrigerant leak detector. In order to be effective, the unit must be electrically powered at all times after installation, except for short service periods.¹

5.2.1 Installation site requirements of the indoor unit



INFORMATION

Also read the following requirements:

- General installation site requirements. See the "General safety precautions" chapter.
- Refrigerant piping requirements (length, height difference). See further in this "Preparation" chapter.



INFORMATION

The sound pressure level is less than 70 dBA.



NOTICE

The equipment described in this manual may cause electronic noise generated from radio-frequency energy. The equipment complies to specifications that are designed to provide reasonable protection against such interference. However, there is no guarantee that interference will not occur in a particular installation.

It is therefore recommended to install the equipment and electric wires keeping proper distances away from stereo equipment, personal computers, etc.

- Fluorescent lights.** When installing a wireless user interface in a room with fluorescent lights, mind the following to avoid interference:
 - Install the wireless user interface as close as possible to the indoor unit.
 - Install the indoor unit as far as possible from the fluorescent lights.
- Take care that in the event of a water leak, water cannot cause any damage to the installation space and surroundings.

- Choose a location where the hot/cold air discharged from the unit or the operation noise, will NOT disturb anyone.



WARNING

Do NOT place objects below the indoor and/or outdoor unit that may get wet. In this condition, condensation on the main unit or refrigerant pipes, air filter dirt or drain blockage may cause dripping. This results in fouling or failure of the object which is located beneath the unit.

- Air flow.** Make sure nothing blocks the air flow.
- Drainage.** Make sure condensation water can be evacuated properly.
- Wall insulation.** When conditions in the wall exceed 30°C and a relative humidity of 80%, or when fresh air is inducted into the wall, then additional insulation is required (minimum 10 mm thickness, polyethylene foam).
- Protective guards.** Make sure to install protective guards on the suction and discharge side to prevent somebody from touching the fan blades or heat exchanger.

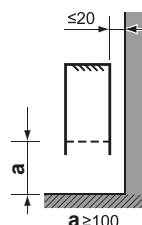
Do NOT install the unit in the following places:

- In places where a mineral oil mist, spray or vapour may be present in the atmosphere. Plastic parts may deteriorate and fall off or cause water leakage.

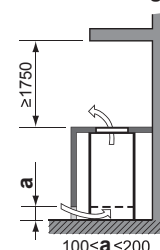
It is NOT recommended to install the unit in the following places because it may shorten the life of the unit:

- Where the voltage fluctuates a lot
- In vehicles or vessels
- Where acidic or alkaline vapour is present
- Use **suspension bolts** for installation.
- Mind the following requirements:

Wall-mounted type

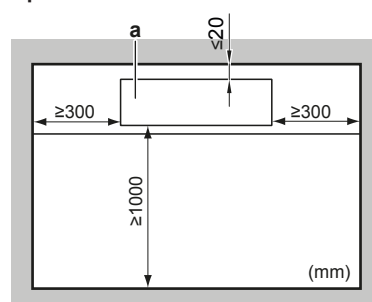


Floor-standing type



a Minimum clearance

Top view



a Indoor unit

- Install the unit with a prebuilt fully enclosed casing with removable access panel, suction air grille and discharge grille. These removable parts shall prevent access to the unit and can ONLY be removed using a removal tool.
- In case of installation under a window sill, make sure that there is no short-circuit of air.

⁽¹⁾ Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

6 Installation

5.3 Preparing refrigerant piping

5.3.1 Refrigerant piping requirements



INFORMATION

Also read the precautions and requirements in the "General safety precautions" chapter.

Refrigerant piping material

- **Piping material:** Phosphoric acid deoxidised seamless copper.
- **Piping temper grade and thickness:**

Outer diameter (Ø)	Temper grade	Thickness (t) ^(a)	
6.4 mm (1/4")	Annealed (O)	≥0.8 mm	
9.5 mm (3/8")			
12.7 mm (1/2")			

- (a) Depending on the applicable legislation and the unit's maximum working pressure (see "PS High" on the unit name plate), larger piping thickness might be required.

Refrigerant piping diameter

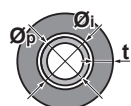
Use the same diameters as the connections on the outdoor units:

Class	L1 liquid piping	L1 gas piping
25/35	Ø6.4	Ø9.5
50/60	Ø6.4	Ø12.7

5.3.2 Refrigerant piping insulation

- Use polyethylene foam as insulation material:
 - with a heat transfer rate between 0.041 and 0.052 W/mK (0.035 and 0.045 kcal/mh°C)
 - with a heat resistance of at least 120°C
- Insulation thickness

Pipe outer diameter (Ø _p)	Insulation inner diameter (Ø _i)	Insulation thickness (t)
6.4 mm (1/4")	8~10 mm	≥10 mm
9.5 mm (3/8")	12~15 mm	
12.7 mm (1/2")	14~16 mm	



If the temperature is higher than 30°C and the humidity is higher than RH 80%, the thickness of the insulation materials should be at least 20 mm to prevent condensation on the surface of the insulation.

5.4 Preparing electrical wiring

5.4.1 About preparing electrical wiring



INFORMATION

Also read the precautions and requirements in the "General safety precautions" chapter.



WARNING

- If the power supply has a missing or wrong N-phase, equipment might break down.
- Establish proper earthing. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earthing may cause electrical shock.
- Install the required fuses or circuit breakers.
- Secure the electrical wiring with cable ties so that the cables do NOT come in contact with sharp edges or piping, particularly on the high-pressure side.
- Do NOT use taped wires, stranded conductor wires, extension cords, or connections from a star system. They can cause overheating, electrical shock or fire.
- Do NOT install a phase advancing capacitor, because this unit is equipped with an inverter. A phase advancing capacitor will reduce performance and may cause accidents.



WARNING

- All wiring must be performed by an authorised electrician and must comply with the applicable legislation.
- Make electrical connections to the fixed wiring.
- All components procured on the site and all electrical construction must comply with the applicable legislation.



WARNING

ALWAYS use multicore cable for power supply cables.

6 Installation

6.1 Overview: Installation

This chapter describes what you have to do and know on-site to install the system.

Typical workflow

Installation typically consists of the following stages:

- Mounting the outdoor unit.
- Mounting the indoor unit.
- Connecting the refrigerant piping.
- Checking the refrigerant piping.
- Charging refrigerant.
- Connecting the electrical wiring.
- Finishing the outdoor installation.
- Finishing the indoor installation.

6.2 Mounting the indoor unit

6.2.1 Precautions when mounting the indoor unit



INFORMATION

Also read the precautions and requirements in the following chapters:

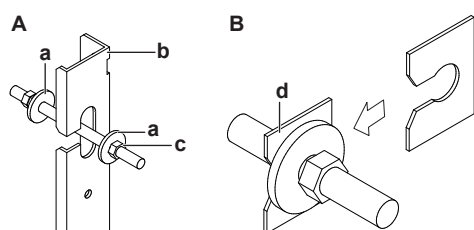
- General safety precautions
- Preparation

6.2.2 Guidelines when installing the indoor unit

i INFORMATION

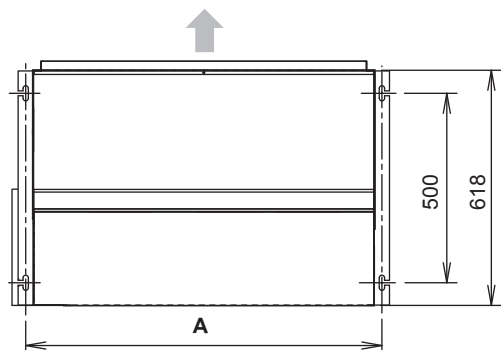
Optional equipment. When installing optional equipment, also read the installation manual of the optional equipment. Depending on the field conditions, it might be easier to install the optional equipment first.

- **Wall or floor strength.** Check whether the wall or the floor is strong enough to support the weight of the unit. If there is a risk, reinforce the wall or the floor before installing the unit.
- **Suspension bolts.** Use W3/8 M10 suspension bolts for installation. Attach the hanger bracket to the suspension bolt. Fix it securely using a nut and washer from the upper and lower sides of the hanger bracket.



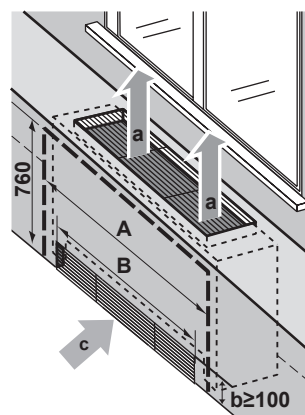
- A** Securing the hanger bracket
B Securing the washers
a Washer (accessories)
b Hanger bracket
c1 Nut (field supply)
c2 Double nut (field supply)
d Washer fixing plate (accessory)

- Suspension bolt pitch for fastening to the wall:



Class	A (mm)
25/35	740
50/60	1140

Floor-standing installation



Class	A (mm)	B (mm)
25/35	1350	660
50/60	1750	1060

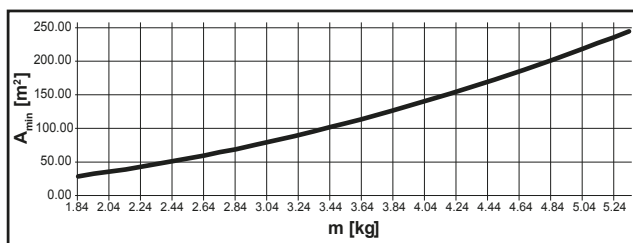
- A** Maintenance area width
B Air inlet grille width
a Air outlet direction
b Air inlet grille height
c Air inlet direction

- To determine the minimum floor area for **floor-standing** indoor unit installation, refer to the table or graph below.¹

Minimum floor area for indoor unit			
m (kg)	A _{min} (m ²)	m (kg)	A _{min} (m ²)
0.70	No requirements	3.04	78.65
0.76		3.14	83.91
0.86		3.24	89.34
0.96		3.34	94.94
1.06		3.44	100.71
1.16		3.54	106.65
1.26		3.64	112.76
1.36		3.74	119.05
1.46		3.84	125.50
1.56		3.94	132.12
1.66	28.81	4.04	138.91
1.76		4.14	145.87
1.84		4.24	153.00
1.94		4.34	160.31
2.04		4.44	167.78
2.14		4.54	175.42
2.24		4.64	183.23
2.34		4.74	191.22
2.44		4.84	199.37
2.54		4.94	207.69
2.64		5.04	216.19
2.74		5.14	224.85
2.84		5.24	233.69
2.94		5.34	242.69

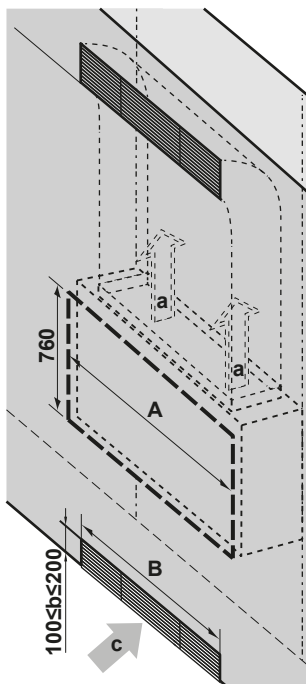
⁽¹⁾ Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

6 Installation



m Mass of refrigerant
A_{min} Minimum floor area

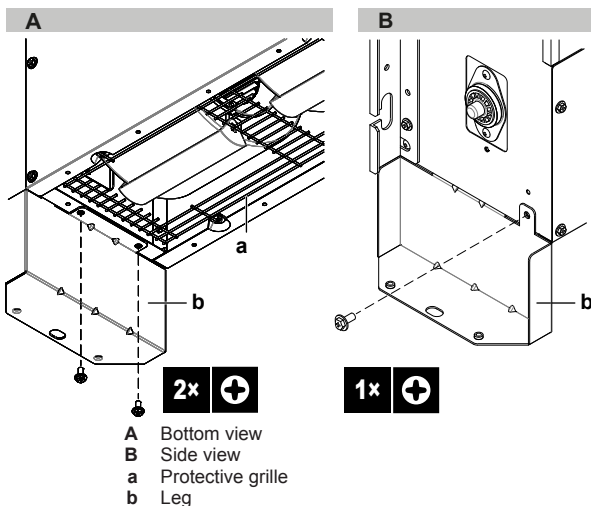
Wall-mounted installation



Class	A (mm)	B (mm)
25/35	1350	660
50/60	1750	1060

A Maintenance area width
B Air inlet grille width
a Air outlet direction
b Air inlet grille height
c Air inlet direction

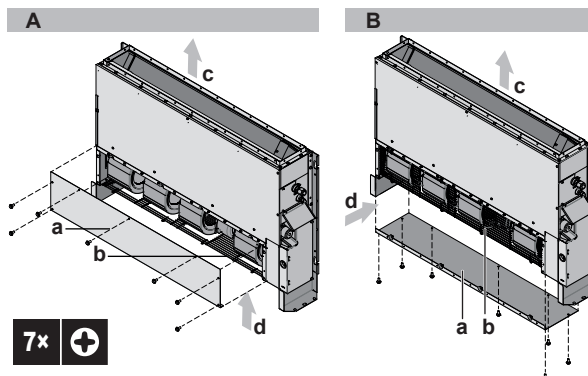
- **External static pressure.** Refer to technical documentation to ensure that the unit's external static pressure is not exceeded.
- **Removing the legs.** If it is necessary to remove the legs, follow these instructions:



- 1 In case of bottom suction, remove the air filter.
- 2 Remove 4 screws (2 on each side) that hold both legs on the bottom side of the unit.
- 3 Remove 2 screws (1 on each side) on the side of the unit.
- 4 In case of bottom suction, reattach the filter.
- 5 In case of front suction, reinstall 2 screws on the side of the unit.

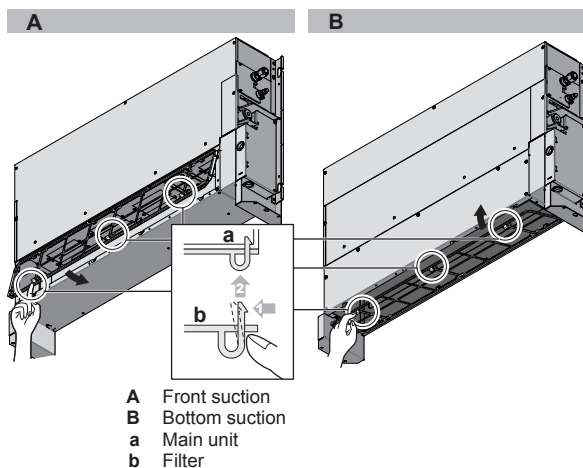
• Install suction cover and air filter (accessory)

- 6 In case of front suction, remove the protective grille and the suction cover from the front side.



A Removing the suction cover
B Reattaching the suction cover
a Suction cover
b Protective grille
c Air inlet
d Air outlet

- 7 Remove one leg on the opposite side of the electronic component box.
- 8 Reattach the removed suction cover to the bottom side.
- 9 Attach the protective grille to the front side.
- 10 Reattach the leg if necessary.
- 11 Attach the air filter (accessory) by pushing down the hooks (2 hooks for 25/35 type, 3 hooks for 50/60 type).



• Install the unit temporarily.

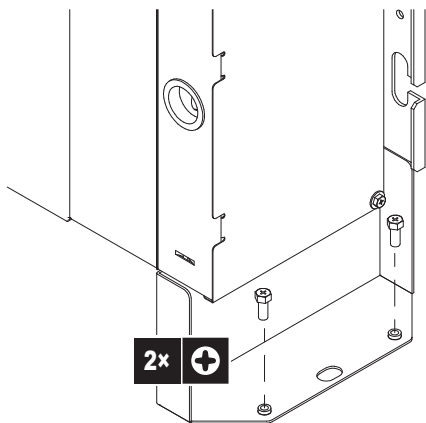
- 12 Attach the hanger bracket to the suspension bolt.
- 13 Fix the unit securely.
- 14 Adjust the unit to fit between the walls.
- **Level.** Make sure the unit is level at all four corners using a level or a water-filled vinyl tube.
- 15 Tighten the upper nut.



NOTICE

Do NOT install the unit tilted. **Possible consequence:** If the unit is tilted against the direction of the condensate flow (the drain piping side is raised), the float switch might malfunction and cause water to drip.

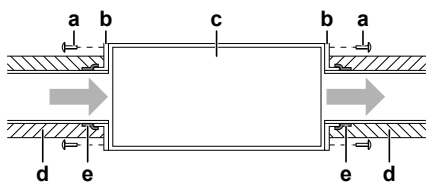
- **Fixing the unit.** Level the unit with the levelling screws (accessory). If the floor is too uneven to level the unit, place the unit on a flat and levelled base. If the unit is in danger of falling over, fasten it to the wall using factory-made holes or to the floor using floor fasteners (field supply).



6.2.3 Guidelines when installing the ducting

The ducting is to be field supplied.

- **Air inlet side.** Attach the duct and intake-side flange (field supply). For connecting the flange, use 7 accessory screws.



- a Connection screw (accessory)
- b Flange (field supply)
- c Main unit
- d Insulation (field supply)
- e Aluminium tape (field supply)

- **Filter.** Be sure to attach an air filter inside the air passage on the intake side. Use an air filter with dust collecting efficiency $\geq 50\%$ (gravimetric method). The included filter is not used when the intake duct is attached.
- **Air outlet side.** Connect the duct according to the inside dimension of the outlet-side flange.
- **Air leaks.** Wind aluminium tape around the intake side flange and duct connection. Make sure there are no air leaks at any other connection.
- **Insulation.** Insulate the duct to prevent condensation from forming. Use glass wool or polyethylene foam 25 mm thick.

6.2.4 Guidelines when installing the drain piping

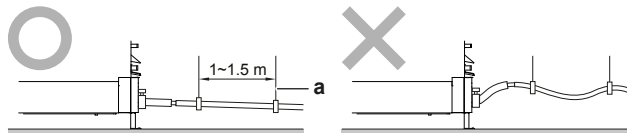
Make sure condensation water can be evacuated properly. This involves:

- General guidelines
- Connecting the drain piping to the indoor unit
- Checking for water leaks

General guidelines

- **Pipe length.** Keep drain piping as short as possible.

- **Pipe size.** Keep the pipe size equal to or greater than that of the connecting pipe (vinyl pipe of 20 mm nominal diameter and 26 mm outer diameter).
- **Slope.** Make sure the drain piping slopes down (at least 1/100) to prevent air from being trapped in the piping. Use hanging bars as shown.



- a Hanging bar
- O Allowed
- X Not allowed

- **Condensation.** Take measures against condensation. Insulate the complete drain piping in the building.

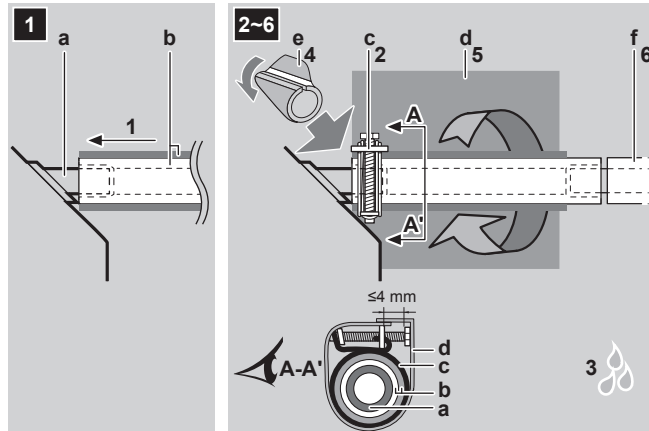
To connect the drain piping to the indoor unit



NOTICE

Incorrect connection of the drain hose might cause leaks, and damage the installation space and surroundings.

- 1 Push the drain hose as far as possible over the drain pipe connection.
- 2 Tighten the metal clamp until the screw head is less than 4 mm from the metal clamp part.
- 3 Check for water leaks (see To check for water leaks).
- 4 Install the insulation piece (drain pipe).
- 5 Wind the large sealing pad (= insulation) around the metal clamp and drain hose, and fix it with cable ties.
- 6 Connect the drain piping to the drain hose.



- a Drain pipe connection (attached to the unit)
- b Drain hose (accessory)
- c Metal clamp (accessory)
- d Large sealing pad (accessory)
- e Insulation piece (drain pipe) (accessory)
- f Drain piping (field supply)



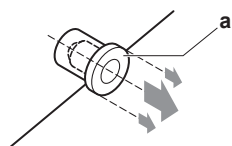
NOTICE

- Do NOT remove the drain pipe plug. Water might leak out.
- Use the drain outlet only to discharge the water if the drain pump is not used or before maintenance.
- Insert and remove the drain plug gently. Excessive force may deform the drain socket of the drain pan.

Pull out the plug.

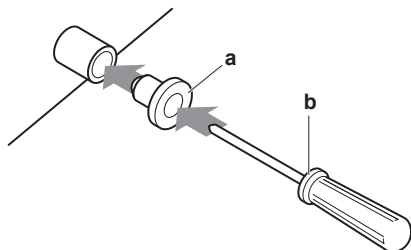
- Do NOT wiggle the plug up and down.

6 Installation



Push in the plug.

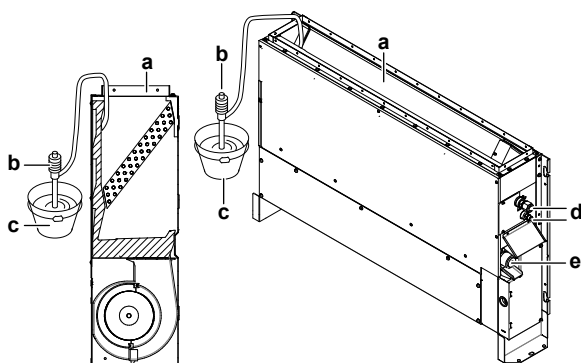
- Set the plug and push it in using a Phillips screwdriver.



a Drain plug
b Phillips screwdriver

To check for water leaks

Gradually pour approximately 1 l of water in the drain pan, and check for water leaks.



a Air outlet
b Portable pump
c Bucket
d Refrigerant pipes
e Drain outlet

6.3 Connecting the refrigerant piping

6.3.1 About connecting the refrigerant piping

Before connecting the refrigerant piping

Make sure the outdoor and indoor unit are mounted.

Typical workflow

Connecting the refrigerant piping involves:

- Connecting the refrigerant piping to the outdoor unit
- Connecting the refrigerant piping to the indoor unit
- Insulating the refrigerant piping
- Keeping in mind the guidelines for:
 - Pipe bending
 - Flaring pipe ends
 - Brazing
 - Using the stop valves

6.3.2 Precautions when connecting the refrigerant piping



INFORMATION

Also read the precautions and requirements in the following chapters:

- General safety precautions
- Preparation



DANGER: RISK OF BURNING



CAUTION

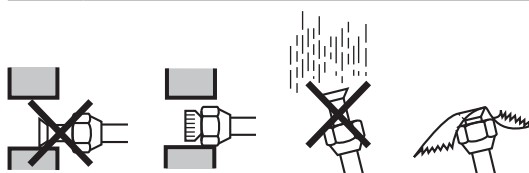
- Do NOT use mineral oil on flared part.
- NEVER install a drier to this unit to guarantee its lifetime. The drying material may dissolve and damage the system.



NOTICE

Take the following precautions on refrigerant piping into account:

- Avoid anything but the designated refrigerant to get mixed into the refrigerant cycle (e.g. air).
- Only use R32 or R410A² when adding refrigerant.
- Only use installation tools (e.g. manifold gauge set) that are exclusively used for R32 or R410A² installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils and moisture) from mixing into the system.
- Install the piping so that the flare is NOT subjected to mechanical stress.
- Protect the piping as described in the following table to prevent dirt, liquid or dust from entering the piping.
- Use caution when passing copper tubes through walls (see figure below).



Unit	Installation period	Protection method
Outdoor unit	>1 month	Pinch the pipe
	<1 month	Pinch or tape the pipe
Indoor unit	Regardless of the period	



INFORMATION

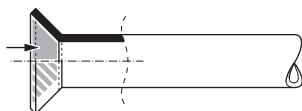
Do NOT open the refrigerant stop valve before checking the refrigerant piping. When you need to charge additional refrigerant it is recommended to open the refrigerant stop valve after charging.

6.3.3 Guidelines when connecting the refrigerant piping

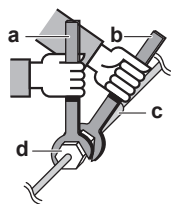
Take the following guidelines into account when connecting pipes:

- Coat the flare inner surface with ether oil or ester oil when connecting a flare nut. Tighten 3 or 4 turns by hand, before tightening firmly.

⁽²⁾ Refer to the outdoor unit specifications for the type of refrigerant to be used.



- Always use 2 wrenches together when loosening a flare nut.
- Always use a spanner and torque wrench together to tighten the flare nut when connecting the piping. This to prevent nut cracking and leaks.



- a Torque wrench
- b Spanner
- c Piping union
- d Flare nut

Piping size (mm)	Tightening torque (N·m)	Flare dimensions (A) (mm)	Flare shape (mm)
Ø6.4	15~17	8.7~9.1	
Ø9.5	33~39	12.8~13.2	
Ø12.7	50~60	16.2~16.6	

6.3.4 Pipe bending guidelines

Use a pipe bender for bending. All pipe bends should be as gentle as possible (bending radius should be 30~40 mm or larger).

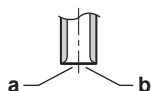
6.3.5 To flare the pipe end



CAUTION

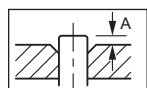
- Incomplete flaring may cause refrigerant gas leakage.
- Do NOT re-use flares. Use new flares to prevent refrigerant gas leakage.
- Use flare nuts that are included with the unit. Using different flare nuts may cause refrigerant gas leakage.

- Cut the pipe end with a pipe cutter.
- Remove burrs with the cut surface facing down so that the chips do not enter the pipe.



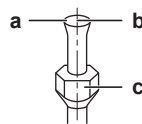
- a Cut exactly at right angles.
- b Remove burrs.

- Remove the flare nut from the stop valve and put the flare nut on the pipe.
- Flare the pipe. Set exactly at the position as shown in the following illustration.



	Flare tool for R410A or R32 (clutch type)	Conventional flare tool	
		Clutch type (Ridgid-type)	Wing nut type (Imperial-type)
A	0~0.5 mm	1.0~1.5 mm	1.5~2.0 mm

- Check that the flaring is properly made.

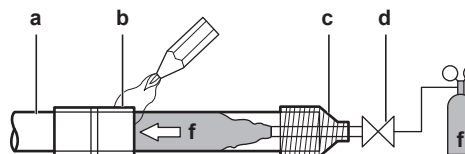


- a Flare's inner surface must be flawless.
- b The pipe end must be evenly flared in a perfect circle.
- c Make sure the flare nut is fitted.

6.3.6 To braise the pipe end

The indoor unit and outdoor unit have flare connections. Connect both ends without brazing. If brazing should be needed, take the following into account:

- When brazing, blow through with nitrogen to prevent creation of large quantities of oxidised film on the inside of the piping. This film adversely affects valves and compressors in the refrigerating system and prevents proper operation.
- Set the nitrogen pressure to 20 kPa (0.2 bar) (just enough so it can be felt on the skin) with a pressure-reducing valve.



- a Refrigerant piping
- b Part to be brazed
- c Taping
- d Manual valve
- e Pressure-reducing valve
- f Nitrogen

- Do NOT use anti-oxidants when brazing pipe joints. Residue can clog pipes and break equipment.
- Do NOT use flux when brazing copper-to-copper refrigerant piping. Use phosphor copper brazing filler alloy (BCuP), which does not require flux. Flux has an extremely harmful influence on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will deteriorate the refrigerant oil.

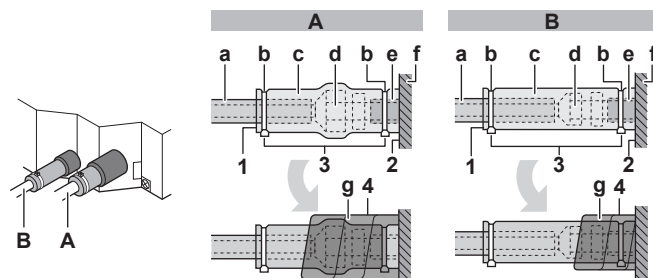
6.3.7 To connect the refrigerant piping to the indoor unit



WARNING: FLAMMABLE MATERIAL

The R32 refrigerant (if applicable) in this unit is mildly flammable.¹

- Pipe length.** Keep refrigerant piping as short as possible.
- Flare connections.** Connect refrigerant piping to the unit using flare connections.
- Insulation.** Insulate the refrigerant piping on the indoor unit as follows:



- A Gas piping
- B Liquid piping
- a Insulation material (field supply)
- b Cable tie (accessory)

⁽¹⁾ Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

6 Installation

- c Insulation pieces: Large (gas pipe), small (liquid pipe) (accessories)
 - d Flare nut (attached to the unit)
 - e Refrigerant pipe connection (attached to the unit)
 - f Unit
 - g Sealing pads: Medium 1 (gas pipe), medium 2 (liquid pipe) (accessories)
- 1 Turn up the seams of the insulation pieces.
 - 2 Attach to the base of the unit.
 - 3 Tighten the cable ties on the insulation pieces.
 - 4 Wrap the sealing pad from the base of the unit to the top of the flare nut.



NOTICE

Make sure to insulate all refrigerant piping. Any exposed piping might cause condensation.

6.4 Connecting the electrical wiring

6.4.1 About connecting the electrical wiring

Typical workflow

Connecting the electrical wiring typically consists of the following stages:

- 1 Making sure the power supply system complies with the electrical specifications of the units.
- 2 Connecting the electrical wiring to the outdoor unit.
- 3 Connecting the electrical wiring to the indoor unit.
- 4 Connecting the main power supply.

6.4.2 Precautions when connecting the electrical wiring



INFORMATION

Also read the precautions and requirements in the following chapters:

- General safety precautions
- Preparation



DANGER: RISK OF ELECTROCUTION



WARNING

ALWAYS use multicore cable for power supply cables.



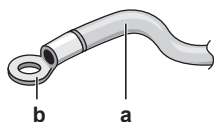
WARNING

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

6.4.3 Guidelines when connecting the electrical wiring

Keep the following in mind:

- If stranded conductor wires are used, install a round crimp-style terminal on the end of the wire. Place the round crimp-style terminal on the wire up to the covered part and fasten the terminal with the appropriate tool.



- a Stranded conductor wire
- b Round crimp-style terminal

- Use the following methods for installing wires:

Wire type	Installation method
Single-core wire	a Curled single-core wire b Screw c Flat washer
Stranded conductor wire with round crimp-style terminal	a Terminal b Screw c Flat washer O Allowed X Not allowed

Tightening torques

Wiring	Screw size	Tightening torque (N•m)
Interconnection cable (indoor↔outdoor)	M4	1.18~1.44
User interface cable	M3.5	0.79~0.97

- If single-core wires are used, be sure to curl the end of the lead. Improper work may cause heat or fire.
- The earth wire between the pull relief and the terminal must be longer than the other wires.

6.4.4 To connect the electrical wiring on the indoor unit

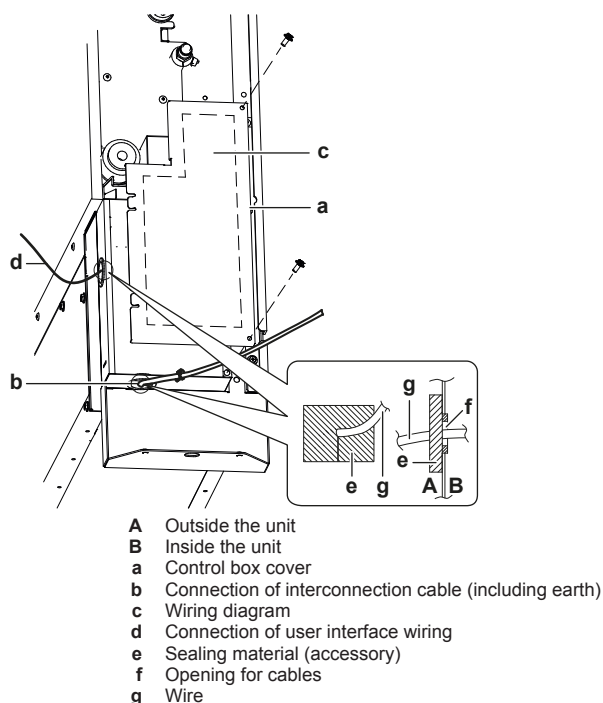
It is important to keep the power supply and the transmission wiring separated from each other. In order to avoid any electrical interference the distance between both wiring should always be at least 50 mm.



NOTICE

Be sure to keep the power line and transmission line apart from each other. Transmission wiring and power supply wiring may cross, but may not run parallel.

- 1 Remove the service cover.

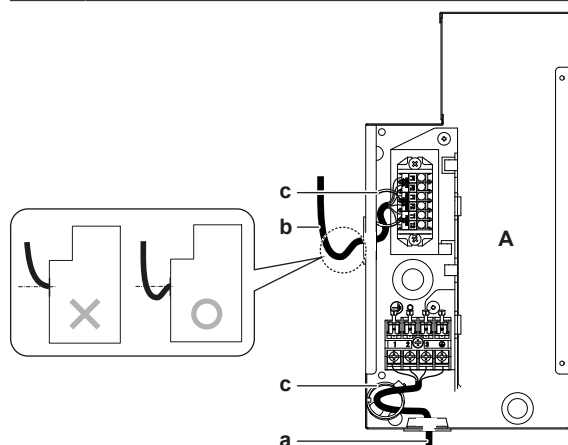


- 2 **User interface cable:** Route the cable through the frame, connect the cable to the terminal block, and fix the cable with a cable tie.
- 3 **Interconnection cable** (indoor↔outdoor): Route the cable through the frame, connect the cable to the terminal block (make sure the numbers match with the numbers on the outdoor unit, and connect the earth wire), and fix the cable with a cable tie.
- 4 Wrap the cables with the sealing material (accessory) to prevent water from entering the unit. Seal all gaps to prevent small animals from entering the system.

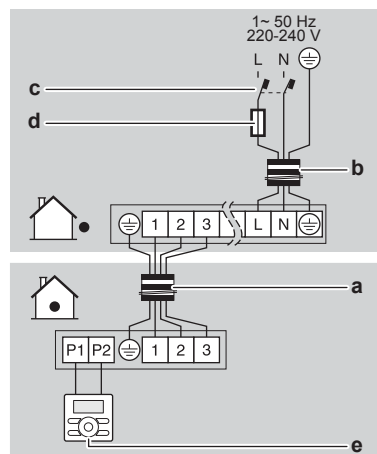


WARNING

Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.



- 5 Reattach the service cover.



6.4.5 Specifications of standard wiring components

Component	Specification
Interconnection cable (indoor↔outdoor)	Minimum cable section of 2.5 mm ² and applicable for 230 V
User interface cable	Vinyl cords with 0.75 to 1.25 mm ² sheath or cables (2-core wires) Maximum 500 m

7 Commissioning

7.1 Overview: Commissioning

This chapter describes what you have to do and know to commission the system after it is installed.

Typical workflow

Commissioning typically consists of the following stages:

- 1 Checking the "Checklist before commissioning".
- 2 Performing a test run for the system.

7.2 Checklist before commissioning

Do NOT operate the system before the following checks are OK:

☐	You read the complete installation instructions, as described in the installer reference guide .
☐	The indoor units are properly mounted.
☐	In case a wireless user interface is used: The indoor unit decoration panel with infrared receiver is installed.
☐	The outdoor unit is properly mounted.
☐	There are NO missing phases or reversed phases .
☐	The system is properly earthed and the earth terminals are tightened.
☐	The fuses or locally installed protection devices are installed according to this document, and have not been bypassed.

7 Commissioning

☐	The power supply voltage matches the voltage on the identification label of the unit.
☐	There are NO loose connections or damaged electrical components in the switch box.
☐	The insulation resistance of the compressor is OK.
☐	There are NO damaged components or squeezed pipes on the inside of the indoor and outdoor units.
☐	There are NO refrigerant leaks .
☐	The correct pipe size is installed and the pipes are properly insulated.
☐	The stop valves (gas and liquid) on the outdoor unit are fully open.

7.3 To perform a test run

This task is only applicable when using the BRC1E52 or BRC1E53 user interface. When using any other user interface, see the installation manual or service manual of the user interface.



NOTICE

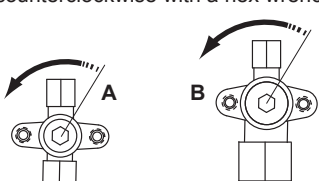
Do not interrupt the test run.



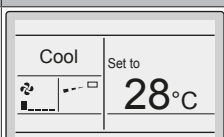
INFORMATION

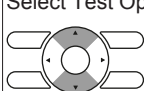
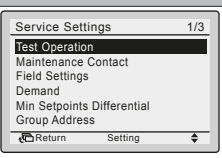
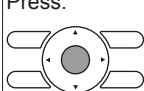
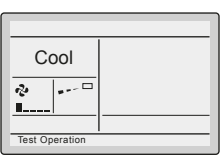
Backlight. To perform an ON/OFF action on the user interface, the backlight does not need to be lit. For any other action, it needs to be lit first. The backlight is lit for ± 30 seconds when you press a button.

1 Perform introductory steps.

#	Action
1	Open the liquid stop valve (A) and gas stop valve (B) by removing the stem cap and turning counterclockwise with a hex wrench until it stops. 
2	Close the service cover to prevent electric shocks.
3	Turn ON power for at least 6 hours before starting operation to protect the compressor.
4	On the user interface, set the unit to cooling operation mode.

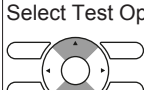
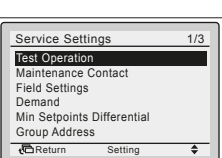
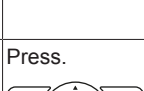
2 Start the test run

#	Action	Result
1	Go to the home menu.	
2	Press at least 4 seconds. 	The Service Settings menu is displayed.

#	Action	Result
3	Select Test Operation. 	
4	Press. 	Test Operation is displayed on the home menu. 
5	Press within 10 seconds. 	Test run starts.

3 Check operation for 3 minutes.

4 Stop the test run.

#	Action	Result
1	Press at least 4 seconds. 	The Service Settings menu is displayed.
2	Select Test Operation. 	
3	Press. 	The unit returns to normal operation, and the home menu is displayed.



NOTICE

When the indoor unit fan rotates and the operation light flashes after trial operation, there is a risk of refrigerant leakage. In that case, immediately ventilate the room and contact your dealer.¹

7.4 Error codes when performing a test run

If the installation of the outdoor unit has NOT been done correctly, the following error codes may be displayed on the user interface:

Error code	Possible cause
Nothing displayed (the currently set temperature is not displayed)	- The wiring is disconnected or there is a wiring error (between power supply and outdoor unit, between outdoor unit and indoor units, between indoor unit and user interface). - The fuse on the outdoor or indoor unit PCB has blown.
A0	Refrigerant leak detected. ¹
CH	Abnormality of refrigerant leakage sensor. ¹
E3, E4 or L8	- The stop valves are closed. - The air inlet or air outlet is blocked.

⁽¹⁾ Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

Error code	Possible cause
E7	There is a missing phase in case of three-phase power supply units. Note: Operation will be impossible. Turn OFF the power, recheck the wiring, and switch two of the three electrical wires.
L4	The air inlet or air outlet is blocked.
U0	The stop valves are closed.
U2	- There is a voltage imbalance. - There is a missing phase in case of three-phase power supply units. Note: Operation will be impossible. Turn OFF the power, recheck the wiring, and switch two of the three electrical wires.
U4 or UF	The inter-unit branch wiring is not correct.
UA	The outdoor and indoor unit are incompatible.

8 Hand-over to the user

Once the test run is finished and the unit operates properly, please make sure the following is clear for the user:

- Make sure that the user has the printed documentation and ask him/her to keep it for future reference. Inform the user that he can find the complete documentation on the url as earlier described in this manual.
- Explain the user how to properly operate the system and what to do in case of problems.
- Show the user what to do in relation to maintaining the unit.

9 Disposal



NOTICE

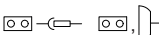
Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, oil and other parts must comply with applicable legislation. Units must be treated at a specialised treatment facility for reuse, recycling and recovery.

10 Technical data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin extranet (authentication required).

11 Glossary

10.1 Wiring diagram

Unified Wiring Diagram Legend					
For applied parts and numbering refer to the wiring diagram sticker supplied on the unit. Part numbering is realized by Arabic numbers in ascending order for each part and is represented in the overview below by symbol "a1" in the part code.					
	:	CIRCUIT BREAKER		:	PROTECTIVE EARTH
	:	CONNECTION		:	PROTECTIVE EARTH (SCREW)
	:	CONNECTOR		:	RECTIFIER
	:	EARTH		:	RELAY CONNECTOR
	:	FIELD WIRING		:	SHORT CIRCUIT CONNECTOR
	:	FUSE		:	TERMINAL
	:	INDOOR UNIT		:	TERMINAL STRIP
	:	OUTDOOR UNIT		:	WIRE CLAMP
BLK : BLACK	GRN : GREEN	PNK : PINK	WHT : WHITE		
BLU : BLUE	GRY : GREY	PRP, PPL : PURPLE	YLW : YELLOW		
BRN : BROWN	ORG : ORANGE	RED : RED			
A*P	:	PRINTED CIRCUIT BOARD	PS	:	SWITCHING POWER SUPPLY
BS*	:	PUSH BUTTON ON / OFF, OPERATION SWITCH	PTC*	:	THERMISTOR PTC
BZ, H*O	:	BUZZER	Q*	:	INSULATED GATE BIPOLAR TRANSISTOR (IGBT)
C*	:	CAPACITOR	Q*DI	:	EARTH LEAK CIRCUIT BREAKER
AC*, CN*, E*, HA*, HE, HL*, HN*, HR*, MR*_A, MR*_B, S*, U, V, W, X*A	:	CONNECTION, CONNECTOR	Q*L	:	OVERLOAD PROTECTOR
D*, V*D	:	DIODE	Q*M	:	THERMO SWITCH
DB*	:	DIODE BRIDGE	R*	:	RESISTOR
DS*	:	DIP SWITCH	R*T	:	THERMISTOR
E*H	:	HEATER	RC	:	RECEIVER
F*U, FU* (FOR CHARACTERISTICS REFER TO PCB INSIDE YOUR UNIT)	:	FUSE	S*C	:	LIMIT SWITCH
FG*	:	CONNECTOR (FRAME GROUND)	S*L	:	FLOAT SWITCH
H*	:	HARNESS	S*NPH	:	PRESSURE SENSOR (HIGH)
H*P, LED*, V*L	:	PILOT LAMP, LIGHT EMITTING DIODE	S*NPL	:	PRESSURE SENSOR (LOW)
HAP	:	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	S*PH, HPS*	:	PRESSURE SWITCH (HIGH)
HIGH VOLTAGE	:	HIGH VOLTAGE	S*PL	:	PRESSURE SWITCH (LOW)
IES	:	INTELLIGENT EYE SENSOR	S*T	:	THERMOSTAT
IPM*	:	INTELLIGENT POWER MODULE	S*W, SW*	:	OPERATION SWITCH
K*R, KCR, KFR, KHuR	:	MAGNETIC RELAY	SA*	:	SURGE ARRESTOR
L	:	LIVE	SR*, WLU	:	SIGNAL RECEIVER
L*	:	COIL	SS*	:	SELECTOR SWITCH
L*R	:	REACTOR	SHEET METAL	:	TERMINAL STRIP FIXED PLATE
M*	:	STEPPER MOTOR	T*R	:	TRANSFORMER
M*C	:	COMPRESSOR MOTOR	TC, TRC	:	TRANSMITTER
M*F	:	FAN MOTOR	V*, R*V	:	VARISTOR
M*P	:	DRAIN PUMP MOTOR	V*R	:	DIODE BRIDGE
M*S	:	SWING MOTOR	WRC	:	WIRELESS REMOTE CONTROLLER
MR*, MRCW*, MRM*, MRN*	:	MAGNETIC RELAY	X*	:	TERMINAL
N	:	NEUTRAL	X*M	:	TERMINAL STRIP (BLOCK)
n = *	:	NUMBER OF PASSES THROUGH FERRITE CORE	Y*E	:	ELECTRONIC EXPANSION VALVE COIL
PAM	:	PULSE-AMPLITUDE MODULATION	Y*R, Y*S	:	REVERSING SOLENOID VALVE COIL
PCB*	:	PRINTED CIRCUIT BOARD	Z*C	:	FERRITE CORE
PM*	:	POWER MODULE	ZF, Z*F	:	NOISE FILTER

11 Glossary

Dealer

Sales distributor for the product.

Authorized installer

Technical skilled person who is qualified to install the product.

User

Person who is owner of the product and/or operates the product.

Applicable legislation

All international, European, national and local directives, laws, regulations and/or codes that are relevant and applicable for a certain product or domain.

Service company

Qualified company which can perform or coordinate the required service to the product.

Installation manual

Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Operation manual

Instruction manual specified for a certain product or application, explaining how to operate it.

Maintenance instructions

Instruction manual specified for a certain product or application, which explains (if relevant) how to install, configure, operate and/or maintain the product or application.

Accessories

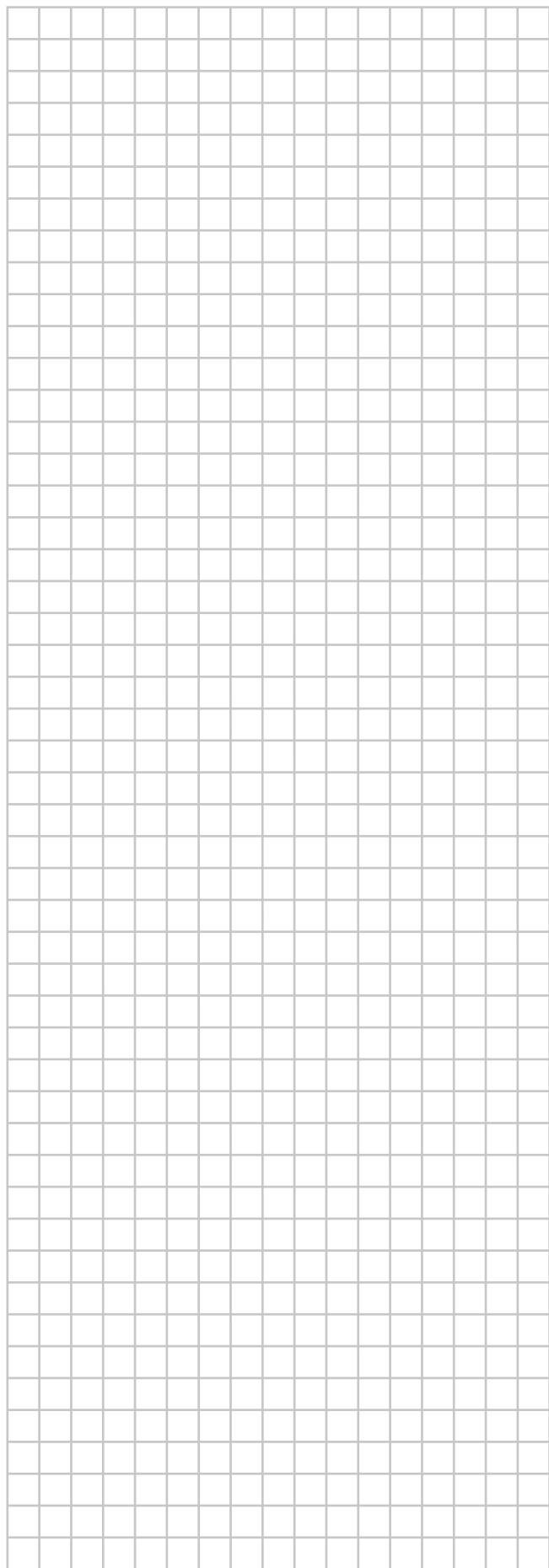
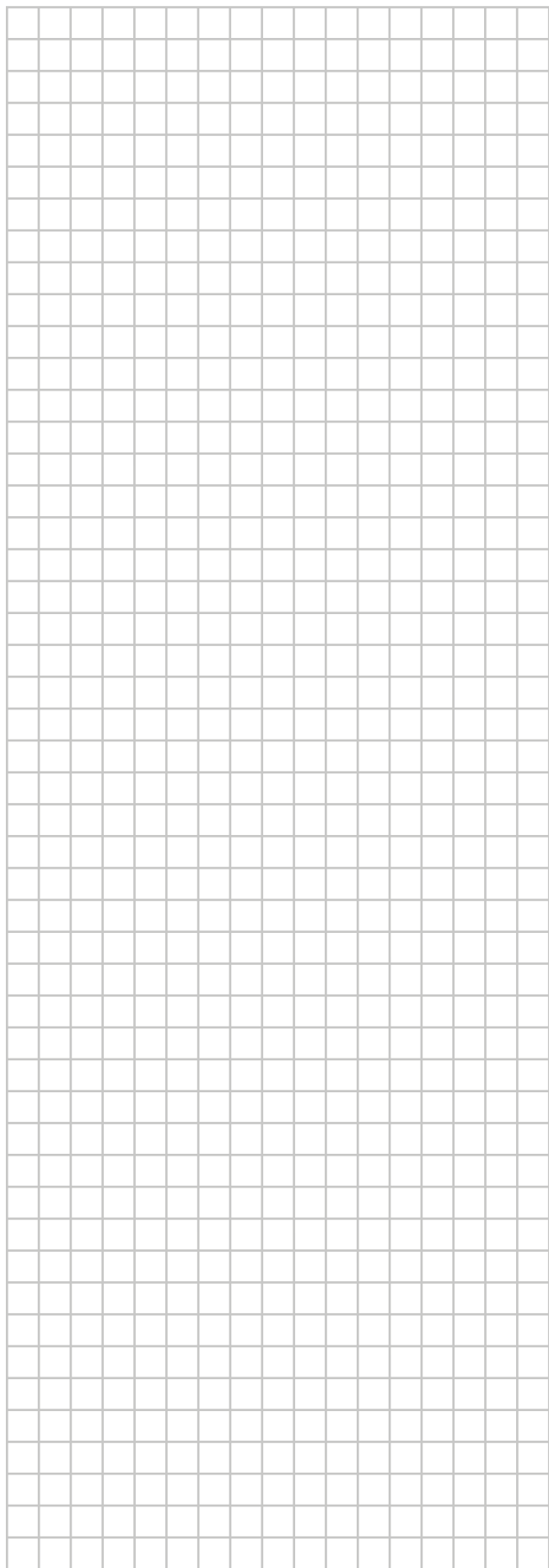
Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

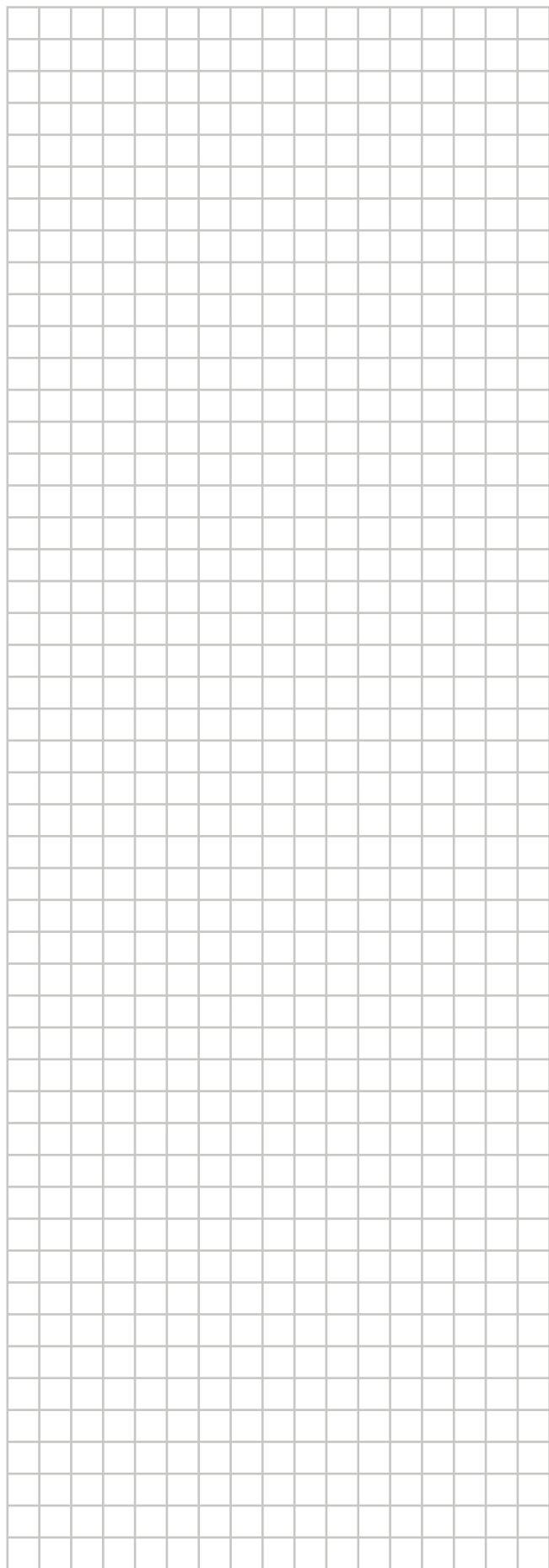
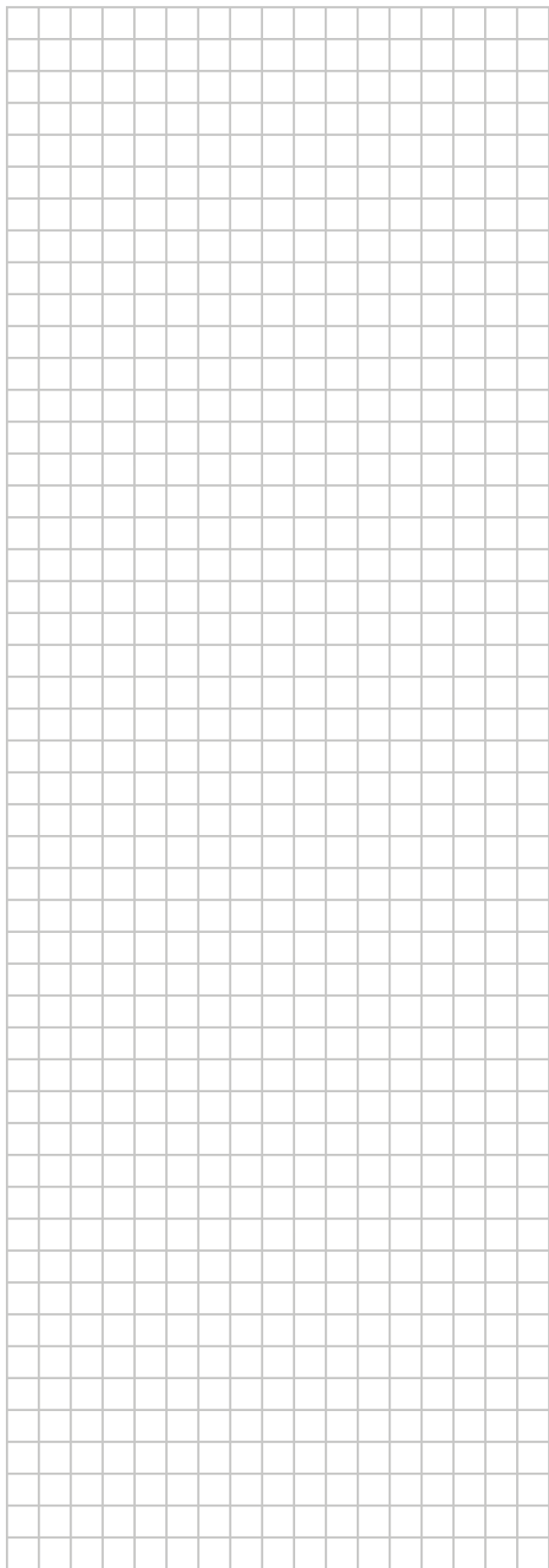
Optional equipment

Equipment made or approved by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

Field supply

Equipment NOT made by Daikin that can be combined with the product according to the instructions in the accompanying documentation.





DAIKIN INDUSTRIES CZECH REPUBLIC s.r.o.

U Nové Hospody 1/1155, 301 00 Plzeň Skvrňany, Czech Republic

DAIKIN EUROPE N.V.

Zandvoordestraat 300, B-8400 Oostende, Belgium

4P482940-1 2017.06