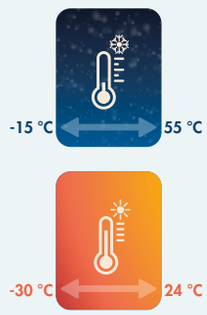
X3 VRF MODULAR

VRF All DC Inverter systems

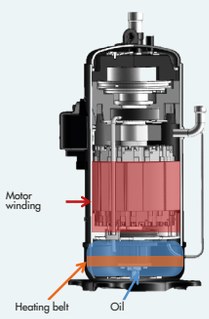
X3 VRF MODULAR

THE ADVANTAGES



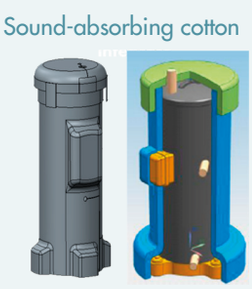
WIDE OPERATING RANGE

The system works with voltages between 380 V and 415 V, at 50 Hz and 60 Hz. The operating outdoor temperature range is even wider: from -15 °C to 55 °C in cooling mode; from -30 °C to +24 °C in heating mode.
The X3 VRF MODULAR system can work in cooling mode down to -15 °C outdoor temperatures, in case of special projects, for which it is necessary to consider indoor temperature settings, special installation requirements, piping length restrictions, etc. The standard minimum operating temperature in cooling mode is -5 °C.



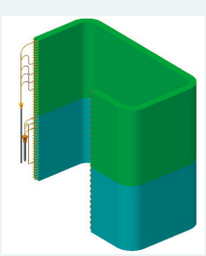
REDUCTION OF THE PRE-HEATING TIME

The motor's electrical winding and the heating belt activate simultaneously, heating the oil and guaranteeing the rapid and complete evaporation of the refrigerant. This allows for reducing the pre-heating time by 75%, namely from 8 to 2 hours.



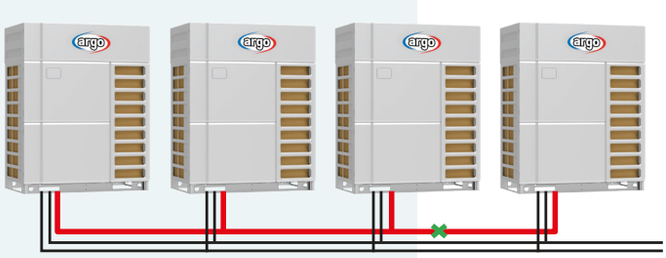
SOUND ABSORPTION AND SOUND INSULATION

The use of high-quality sound-absorbing materials guarantees optimal insulation of the compressor and of the other components.
Despite the fact that a higher-speed compressor was fitted into a tighter space, the adoption of the sound-absorbing cotton + insulating box allows for controlling the unit's noise level.



EFFICIENT HEAT EXCHANGE

The heat exchanger has been redesigned: the heat exchanger is now divided into two distinct areas (upper and lower) to improve the refrigerant flow compared to the traditional layout, guaranteeing an improved heat exchange.



TECHNOLOGY FOR CONTROLLING THE OIL BALANCING

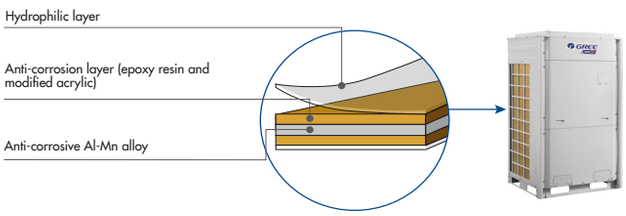
The outdoor units are designed for obtaining automatic oil balancing between the various modules. As a result, there is no need to mount an oil connection pipe. Simplified installation.

VRF ALL DC INVERTER SYSTEMS

The new range of X3 VRF MODULAR outdoor units, featuring a technologically advanced design, includes more and more sophisticated and interconnected components and is characterised by a high energy efficiency and increasingly accurate consumption control, in addition to reliable operation over time. The X3 VRF MODULAR range is suitable for a wide variety of applications: independent houses, shops, office buildings, shopping centres, hotels, hospitals, banks, museums and schools. The new range of outdoor units is compatible with the indoor units and control systems used for the X3 VRF SLIM and MINI, X3 VRF HOME ranges.

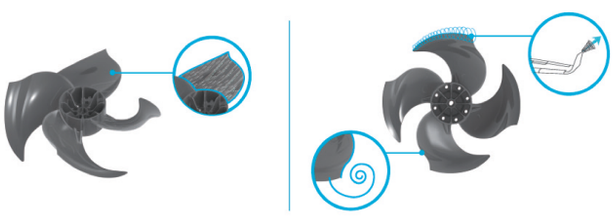
Two different designs are proposed: with single fan (from 22.4 to 33.5 kW) and with double fan (from 40 to 61.5 kW).

THE ADVANTAGES



GOLDEN FIN ANTI-CORROSION **PROTECTION**

The main material of the Golden Fins is an aluminium-manganese (Al-Mn) anti-rust alloy coated with the Golden Protection Layer (anti-corrosion layer - components: epoxy resin and modified acrylic, without silicone), which boasts an anti-corrosion performance during the salt spray test 200-300% higher than normal Blue Fins.



WIDE AIR FLOW

The design of the fan blades of the outdoor units has been optimised: its upside-down "S" shape ensures a broader action surface and, consequently, a greater volume of air treated considering the same number of rpm (+16%).

DC INVERTER SENSORLESS FAN MOTOR

The linear adjustment of the speed varies between 5 and 65 Hz. Compared to traditional inverter motors, it is more efficient from an energy saving perspective. The SENSORLESS control technology guarantees improved silence, less vibrations and more uniform operation.

COMPRESSOR WITH "EVI" TECHNOLOGY

The compressor features the "EVI" (Enhanced Vapour Injection) technology. This special technology applied to the compressor maximises performances and improves the energy efficiency in cooling mode by up to maximum 10% and the low-temperature heating capacity by up to maximum 30% compared to older technologies.

CAN+ **TECHNOLOGY**

The maximum cooling capacity of the individual outdoor unit touches 61.5 kW (22 HP); the maximum cooling capacity of the combined outdoor units reaches 246 kW (88 HP), the highest value in the sector. The CAN+ communication technology can be used to develop increasingly complex and interconnected systems and also to connect and personalise up to 100 indoor units combined with 4 outdoor units.

LINE-UP OF OUTDOOR UNITS AND COMBINATIONS

COMBINATIONS OF OUTDOOR UNITS

CODE		398800010	398800011	398800012	398800013	398800014	398800015	398800016	398800017
MODEL		AEG08MI2H3 (8 HP)	AEG10MI2H3 (10 HP)	AEG12MI2H3 (12 HP)	AEG14MI2H3 (14 HP)	AEG16MI2H3 (16 HP)	AEG18MI2H3 (18 HP)	AEG20MI2H3 (20 HP)	AEG22MI2H3 (22 HP)
COOLING kW	HEATING kW								
68	76.5		●		●				
73	81.5		●			●			
78.4	88		●				●		
83	94.5		●					●	
89.5	100.5		●						●
95	106.5			●					●
101.5	114				●				●
106.5	119					●			●
111.9	125.5						●		●
117.5	132							●	●
123	138								●●
129	144.5		●			●		●	
134.5	150.5		●			●			●
140	156.5			●		●			●
145.5	163.5		●					●	●
151	169.5		●						●●
156.5	175.5			●					●●
163	183				●				●●
168	188					●			●●
173.4	194.5						●		●●
179	201							●	●●
184.5	207								●●●
190.5	213.5		●			●		●	●
195.9	220		●				●	●	●
201.5	226.5		●					●●	●
207	232.5		●					●	●●
212.5	238.5		●						●●●
218	244.5			●					●●●
224.5	252				●				●●●
229.5	257					●			●●●
234.9	263.5						●		●●●
240.5	270							●	●●●
246	276								●●●●

OUTDOOR UNITS TECHNICAL DATA

Model		Unit	AEG08MI2H3	AEG10MI2H3	AEG12MI2H3	AEG14MI2H3
Size		HP	8	10	12	14
Nominal cooling capacity*		kW	22.40	28.00	33.50	40.00
Heating capacity	Nominal*	kW	25.00	31.50	37.50	45.00
	Max.	kW	25.00	31.50	37.50	45.00
EER*		kW/kW	4.28	4.26	3.99	4.00
COP*		kW/kW	5.04	4.06	4.11	3.84
Space cooling seasonal efficiency*		ηs,c - %	305.0	271.0	259.0	272.6
Space heating seasonal efficiency*		ηs,h - %	217.4	217.4	228.2	204.2
SEER (ducted / cassette)		%	7.70/7.36	6.85/6.20	6.55/7.20	6.89/6.77
SCOP (ducted / cassette)			5.48/4.75	5.48/4.75	5.74/4.84	5.15/4.44
Compressor modulation range		%	17-100	13-100	11-100	14-100
Min-max total capacity range of indoor units compared to the outdoor unit capacity		%	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	9750	10500	11100	13500
Maximum external static pressure of the unit		Pa	0-110	0-110	0-110	0-110
Power supply			380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	5.23	6.57	8.40	10.00
Power input in heating mode	Nom.	kW	4.96	7.76	9.12	11.72
Maximum power input		kW	12.87	13.15	13.50	21.00
Max. current / Max. fusing current		A	23/25	23.5/25	24.1/25	37.5/40
Sound power level (ductable-cassette)		dB(A)	81-81	83-86	88-88	85-88
Cooling sound pressure level (distance 1 m)		dB(A)	56	57	59	59
Compressor		type/No.	Inverter scroll/1	Inverter scroll/1	Inverter scroll/1	Inverter scroll/1
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./100$ years	2088	2088	2088	2088
Standard refrigerant charge		$kg/T.CO_2$ eq.	5.5/11.484	5.5/11.484	7.5/15.660	7.5/15.660
Oil charge	Total	kg	4.60	4.60	4.50	6.10
	Compressor	kg	1.10	1.10	1.10	1.10
	Other	kg	3.50	3.50	3.50	5.00
Piping diameter	Gas pipe	mm	19.05	22.2	25.4	25.4
	Liquid pipe	mm	9.52	9.52	12.7	12.7
Net dimensions	Width	mm	930	930	930	1,340
	Depth	mm	775	775	775	775
	Height	mm	1,690	1,690	1,690	1,690
Dimensions with packaging	Width	mm	1,000	1,000	1,000	1,400
	Depth	mm	830	830	830	830
	Height	mm	1,855	1,855	1,855	1,855
Net weight		kg	220	220	240	300
Gross weight		kg	230	230	250	315
Maximum no. of connectable indoor units		no.	13	16	19	23
Maximum length of pipes		m	1,000	1,000	1,000	1,000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40
Maximum height difference (outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24

* Nominal data tested according to the EN14511 standard.

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19°C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the actual length of the pipes.

OUTDOOR UNITS TECHNICAL DATA

Combinations of outdoor units		Unit	AEG10MI2H3 AEG14MI2H3	AEG10MI2H3 AEG16MI2H3	AEG10MI2H3 AEG18MI2H3	AEG10MI2H3 AEG20MI2H3	AEG10MI2H3 AEG22MI2H3
Size		HP	24	26	28	30	32
			10+14	10+16	10+18	10+20	10+22
Nominal cooling capacity*		kW	68.00	73.00	78.40	83.00	89.50
Heating capacity	Nominal*	kW	76.50	81.50	88.00	94.50	100.50
	Max.	kW	76.50	81.50	88.00	94.50	100.50
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	23250	25150	25750	26250	26250
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	5.24+10.00	5.24+12.47	5.24+13.40	5.24+16.23	5.24+16.49
Nominal power input in heating mode		kW	6.90+10.42	6.90+11.72	6.90+13.02	6.90+14.47	6.90+24.27
Maximum power input		kW	13.15+21.00	13.15+26.85	13.15+26.30	13.15+26.85	13.15+27.41
Maximum current		A	23.5+37.50	23.50+39.30	23.50+47.00	23.50+48.00	23.50+49.00
Refrigerant type			R410A	R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088	2088
Standard refrigerant charge		kg	5.5+7.5	5.5+7.5	5.5+8.3	5.5+8.3	5.5+8.3
Piping diameter	Gas pipe	mm	Ø28.6	Ø31.8	Ø31.8	Ø31.8	Ø31.8
	Liquid pipe	mm	Ø15.9	Ø19.05	Ø19.05	Ø19.05	Ø19.05
Maximum no. of connectable indoor units		no.	39	43	46	50	53
Maximum length of pipes		m	1000	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 52	-5 – 52	-5 – 52	-5 – 52	-5 – 52
	Heating	°C	-20 – 24	-20 – 24	-20 – 24	-20 – 24	-20 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

Combinations of outdoor units		Unit	AEG12MI2H3 AEG22MI2H3	AEG14MI2H3 AEG22MI2H3	AEG16MI2H3 AEG22MI2H3	AEG18MI2H3 AEG22MI2H3	AEG20MI2H3 AEG22MI2H3
Size		HP	34	36	38	40	42
			12+22	14+22	16+22	18+22	20+22
Nominal cooling capacity*		kW	95.00	101.50	106.50	111.90	117.50
Heating capacity	Nominal*	kW	106.50	114.00	119.00	125.50	132.00
	Max.	kW	106.50	114.00	119.00	125.50	132.00
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	27600	30000	31900	32500	33000
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	8.40+16.49	10.00+16.49	12.47+16.49	13.40+16.49	16.23+16.49
Nominal power input in heating mode		kW	8.15+24.27	10.42+24.27	11.72+24.27	13.02+24.27	14.47+24.27
Maximum power input		kW	13.50+27.41	21.00+27.41	22.00+27.41	26.30+27.41	26.85+27.41
Maximum current		A	24.10+49.00	37.50+49.00	39.30+49.00	47.00+49.00	48.00+49.00
Refrigerant type			R410A	R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088	2088
Standard refrigerant charge		kg	7.5+8.3	7.5+8.3	7.5+8.3	8.3+8.3	8.3+8.3
Piping diameter	Gas pipe	mm	Ø31.8	Ø38.1	Ø38.1	Ø38.1	Ø38.1
	Liquid pipe	mm	Ø19.05	Ø19.05	Ø19.05	Ø19.05	Ø19.05
Maximum no. of connectable indoor units		no.	56	59	63	64	64
Maximum length of pipes		m	1000	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24	-30 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

OUTDOOR UNITS TECHNICAL DATA

Combinations of outdoor units		Unit	AEG22MI2H3 AEG22MI2H3	AEG10MI2H3 AEG16MI2H3 AEG20MI2H3	AEG10MI2H3 AEG16MI2H3 AEG22MI2H3	AEG12MI2H3 AEG16MI2H3 AEG22MI2H3	AEG10MI2H3 AEG20MI2H3 AEG22MI2H3
Size		HP	44	46	48	50	52
			20+22	22+22	10+16+20	10+16+22	10+20+22
Nominal cooling capacity*		kW	123.00	129.00	134.50	140.00	145.50
Heating capacity	Nominal*	kW	138.00	144.50	150.50	156.50	163.50
	Max.	kW	138.00	144.50	150.50	156.50	163.50
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	33000	42400	42400	43000	43500
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	16.49+16.49	6.57+12.47+16.23	6.57+12.47+16.49	8.40+12.47+16.49	6.57+16.23+16.49
Nominal power input in heating mode		kW	24.27+24.27	6.90+11.72+14.47	6.90+11.72+24.27	8.15+11.72+24.27	6.90+14.47+24.27
Maximum power input		kW	27.41+27.41	13.15+22.00+26.85	13.15+22.00+27.41	13.5+22.00+27.41	13.15+26.85+27.41
Maximum current		A	49.00+49.00	23.50+39.30+48.00	23.50+39.30+49.00	24.10+39.30+49.00	23.50+48.00+49.00
Refrigerant type			R410A	R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088	2088
Standard refrigerant charge		kg	8.3+8.3	5.5+7.5+8.3	5.5+7.5+8.3	7.5+7.5+8.3	5.5+8.3+8.3
Piping diameter	Gas pipe	mm	Ø38.1	Ø38.1	Ø38.1	Ø41.3	Ø41.3
	Liquid pipe	mm	Ø19.05	Ø19.05	Ø19.05	Ø19.05	Ø19.05
Maximum no. of connectable indoor units		no.	64	64	64	66	69
Maximum length of pipes		m	1000	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24	-30 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

Combinations of outdoor units		Unit	AEG10MI2H3 AEG22MI2H3 AEG22MI2H3	AEG12MI2H3 AEG22MI2H3 AEG22MI2H3	AEG14MI2H3 AEG22MI2H3 AEG22MI2H3	AEG16MI2H3 AEG22MI2H3 AEG22MI2H3	AEG18MI2H3 AEG22MI2H3 AEG22MI2H3
Size		HP	54	56	58	60	62
			10+22+22	12+22+22	14+22+22	16+22+22	18+22+22
Nominal cooling capacity*		kW	151.00	156.50	163.00	168.00	173.40
Heating capacity	Nominal*	kW	169.50	175.50	183.00	188.00	194.50
	Max.	kW	169.50	175.50	183.00	188.00	194.50
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	43400	46000	46000	48000	48000
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	6.75+16.49+16.49	8.40+16.49+16.49	10.00+16.49+16.49	12.47+16.49+16.49	13.40+16.49+16.49
Nominal power input in heating mode		kW	6.90+24.27+24.27	8.15+24.27+24.27	10.42+24.27+24.27	11.72+24.27+24.27	13.02+24.27+24.27
Maximum power input		kW	13.15+27.41+27.41	13.15+22.00+26.85	13.15+22.00+27.41	13.15+22.00+27.41	13.15+26.85+27.41
Maximum current		A	23.50+49.00+49.00	23.50+39.30+48.00	23.50+39.30+49.00	24.10+39.30+49.00	23.50+48.00+49.00
Refrigerant type			R410A	R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088	2088
Standard refrigerant charge		kg	5.5+8.3+8.3	7.5+8.3+8.3	7.5+8.3+8.3	7.5+8.3+8.3	8.3+8.3+8.3
Piping diameter	Gas pipe	mm	Ø41.3	Ø41.3	Ø41.3	Ø41.3	Ø41.3
	Liquid pipe	mm	Ø19.05	Ø19.05	Ø19.05	Ø19.05	Ø19.05
Maximum no. of connectable indoor units		no.	71	74	77	80	80
Maximum length of pipes		m	1000	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24	-30 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

OUTDOOR UNITS TECHNICAL DATA

Combinations of outdoor units		Unit	AEG20MI2H3 AEG22MI2H3 AEG22MI2H3	AEG22MI2H3 AEG22MI2H3 AEG22MI2H3	AEG10MI2H3 AEG16MI2H3 AEG20MI2H3 AEG22MI2H3	AEG10MI2H3 AEG18MI2H3 AEG20MI2H3 AEG22MI2H3	AEG10MI2H3 AEG20MI2H3 AEG20MI2H3 AEG22MI2H3
Size		HP	64	66	68	70	72
			20+22+22	22+22+22	10+16+20+22	10+18+20+22	10+20+20+22
Nominal cooling capacity*		kW	179.00	184.50	190.50	195.90	201.50
Heating capacity	Nominal*	kW	201.00	207.00	213.50	220.00	226.50
	Max.	kW	201.00	207.00	213.50	220.00	226.50
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	49500	49500	58900	64400	64900
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	16.23+16.49+16.49	16.49+16.49+16.49	6.57+12.47+16.23+16.49	6.57+12.47+16.23+16.49	6.57+16.23+16.23+16.49
Nominal power input in heating mode		kW	14.47+24.27+24.27	24.27+24.27+24.27	6.90+11.72+14.47+24.27	6.90+11.72+14.47+24.27	6.90+14.47+14.47+24.27
Maximum power input		kW	26.85+27.41+27.41	27.41+27.41+27.41	13.15+22+26.85+27.41	13.15+26.3+26.85+27.41	13.15+26.85+26.85+27.41
Maximum current		A	48.00+49.00+49.00	49.00+49.00+49.00	23.50+39.30+48.00+49.00	23.50+47.00+48.00+49.00	23.50+48.00+48.00+49.00
Refrigerant type			R410A	R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088	2088
Standard refrigerant charge		kg	8.3+8.3+8.3	8.3+8.3+8.3	5.5+7.5+8.3+8.3	5.5+8.3+8.3+8.3	5.5+8.3+8.3+8.3
Piping diameter	Gas pipe	mm	Ø41.3	Ø41.3	Ø44.5	Ø44.5	Ø44.5
	Liquid pipe	mm	Ø19.05	Ø19.05	Ø22.2	Ø22.2	Ø22.2
Maximum no. of connectable indoor units		no.	80	80	80	80	80
Maximum length of pipes		m	1000	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24	-30 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

Combinations of outdoor units		Unit	AEG10MI2H3 AEG20MI2H3 AEG22MI2H3 AEG22MI2H3	AEG10MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3	AEG12MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3	AEG14MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3
Size		HP	74	76	78	80
			10+20+22+22	10+22+22+22	12+22+22+22	14+22+22+22
Nominal cooling capacity*		kW	207.00	212.50	218.00	224.50
Heating capacity	Nominal*	kW	232.50	238.50	244.50	252.00
	Max.	kW	232.50	238.50	244.50	252.00
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	60000	60000	60600	63000
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	6.57+16.23+ 16.49+16.49	6.57+16.49+ 16.49+16.49	8.40+16.49+ 16.49+16.49	10.00+16.49+ 16.49+16.49
Nominal power input in heating mode		kW	6.90+14.47+ 24.27+24.27	6.90+24.27+2 4.27+24.27	8.15+24.27+2 4.27+24.27	10.42+24.27+2 4.27+24.27
Maximum power input		kW	13.15+26.85+ 27.41+27.41	13.15+27.41+ 27.41+27.41	13.50+27.41+ 27.41+27.41	21.00+27.41+2 7.41+27.41
Maximum current		A	23.50+48.00+ 49.00+49.00	23.50+49.00+ 49.00+49.00	24.10+49.00+ 49.00+49.00	37.50+49.00+ 49.00+49.00
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088
Standard refrigerant charge		kg	5.5+8.3+8.3+8.3	5.5+8.3+8.3+8.3	7.5+8.3+8.3+8.3	7.5+8.3+8.3+8.3
Piping diameter	Gas pipe	mm	Ø44.5	Ø44.5	Ø44.5	Ø44.5
	Liquid pipe	mm	Ø22.2	Ø22.2	Ø22.2	Ø22.2
Maximum no. of connectable indoor units		no.	80	80	80	80
Maximum length of pipes		m	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

OUTDOOR UNITS TECHNICAL DATA

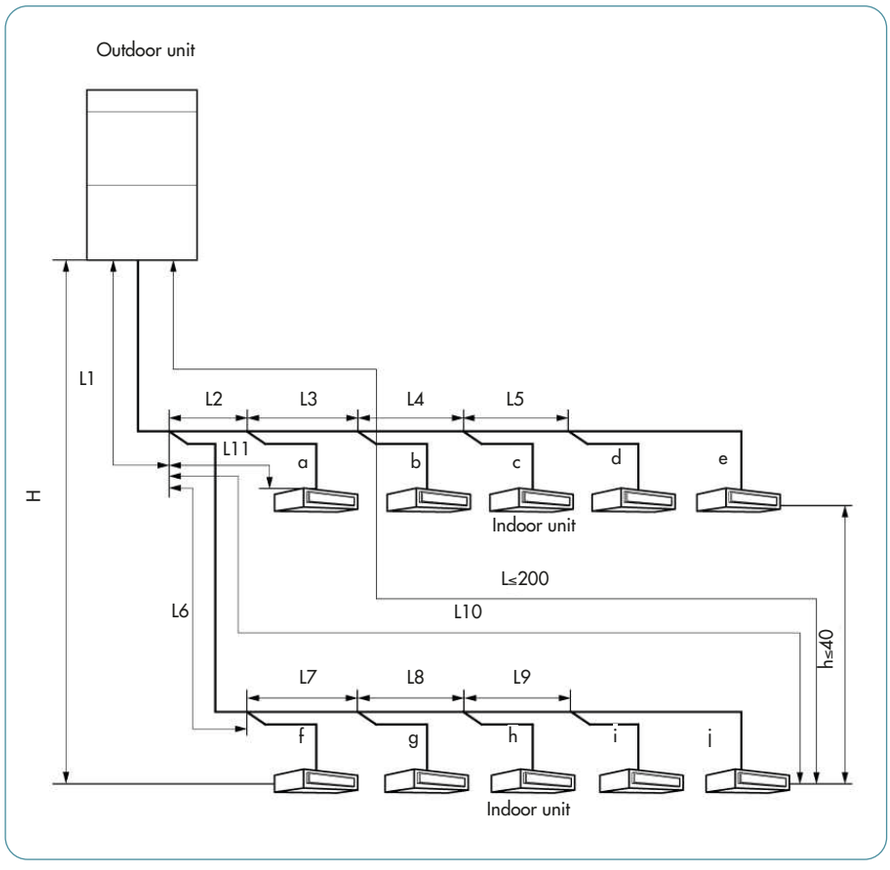
Combinations of outdoor units		Unit	AEG16MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3	AEG18MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3	AEG20MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3	AEG22MI2H3 AEG22MI2H3 AEG22MI2H3 AEG22MI2H3
Size		HP	82	84	86	88
			16+22+22+22	18+22+22+22	20+22+22+22	22+22+22+22
Nominal cooling capacity*		kW	229.50	234.90	240.50	246.00
Heating capacity	Nominal*	kW	257.00	263.50	270.00	276.00
	Max.	kW	257.00	263.50	270.00	276.00
Min.-max. power range of indoor units		%	50 – 135	50 – 135	50 – 135	50 – 135
Air flow rate		m^3/h	64900	65500	66000	66000
External static pressure of the unit		Pa	0-110	0-110	0-110	0-110
Power supply		-	380–415 V	380–415 V	380–415 V	380–415 V
			3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz	3N–50/60 Hz
Power input in cooling mode		kW	12.47+16.49+ 16.49+16.49	13.40+16.49+ 16.49+16.49	16.23+16.49+ 16.49+16.49	16.49+16.49+ 16.49+16.49
Nominal power input in heating mode		kW	11.72+24.27+ 24.27+24.27	13.02+24.27+ 24.27+24.27	14.47+24.27+ 24.27+24.27	24.27+24.27+ 24.27+24.27
Maximum power input		kW	22.00+27.41+ 27.41+27.41	26.30+27.41+ 27.41+27.41	26.85+27.41+ 27.41+27.41	27.41+27.41+ 27.41+27.41
Maximum current		A	39.30+49.00+ 49.00+49.00	47.00+49.00+ 49.00+49.00	48.00+49.00+ 49.00+49.00	49.00+49.00+ 49.00+49.00
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		$kgCO_2eq./$ 100 years	2088	2088	2088	2088
Standard refrigerant charge		kg	7.5+8.3+8.3+8.3	8.3+8.3+8.3+8.3	8.3+8.3+8.3+8.3	8.3+8.3+8.3+8.3
Piping diameter	Gas pipe	mm	Ø44.5	Ø44.5	Ø44.5	Ø44.5
	Liquid pipe	mm	Ø22.2	Ø22.2	Ø22.2	Ø22.2
Maximum no. of connectable indoor units		no.	80	80	80	80
Maximum length of pipes		m	1000	1000	1000	1000
Max. distance between outdoor unit and last indoor unit		m	200	200	200	200
Maximum height difference (between indoor units)		m	40	40	40	40
Maximum height difference (Outdoor unit on top/bottom)		m	100/110	100/110	100/110	100/110
Operating limits	Cooling	°C	-5 – 55	-5 – 55	-5 – 55	-5 – 55
	Heating	°C	-30 – 24	-30 – 24	-30 – 24	-30 – 24

- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of the connecting pipe: 5 m, without any height difference between the units
- The sum of capacities of the indoor units connected must fall within the capacity range (50%–135%) of the outdoor units. The pertinent parameters can be corrected by referring to the capacity correction table of the units.
- The parameters indicated above were tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the capacity correction for the long connecting pipe of the units.

PIPING REQUIREMENTS

PIPE LENGTH LIMITS AND HEIGHT DIFFERENCE BETWEEN INDOOR AND OUTDOOR UNITS

To connect the indoor and outdoor units a Y-shaped branch-off joint is used. The figure below shows the connection scheme.
Note: the equivalent length of a Y-shaped branch-off joint is 0.5 m.



L10: Length from the first branch-off joint to the farthest indoor unit;
L11: Length from the first branch-off joint to the nearest indoor unit.

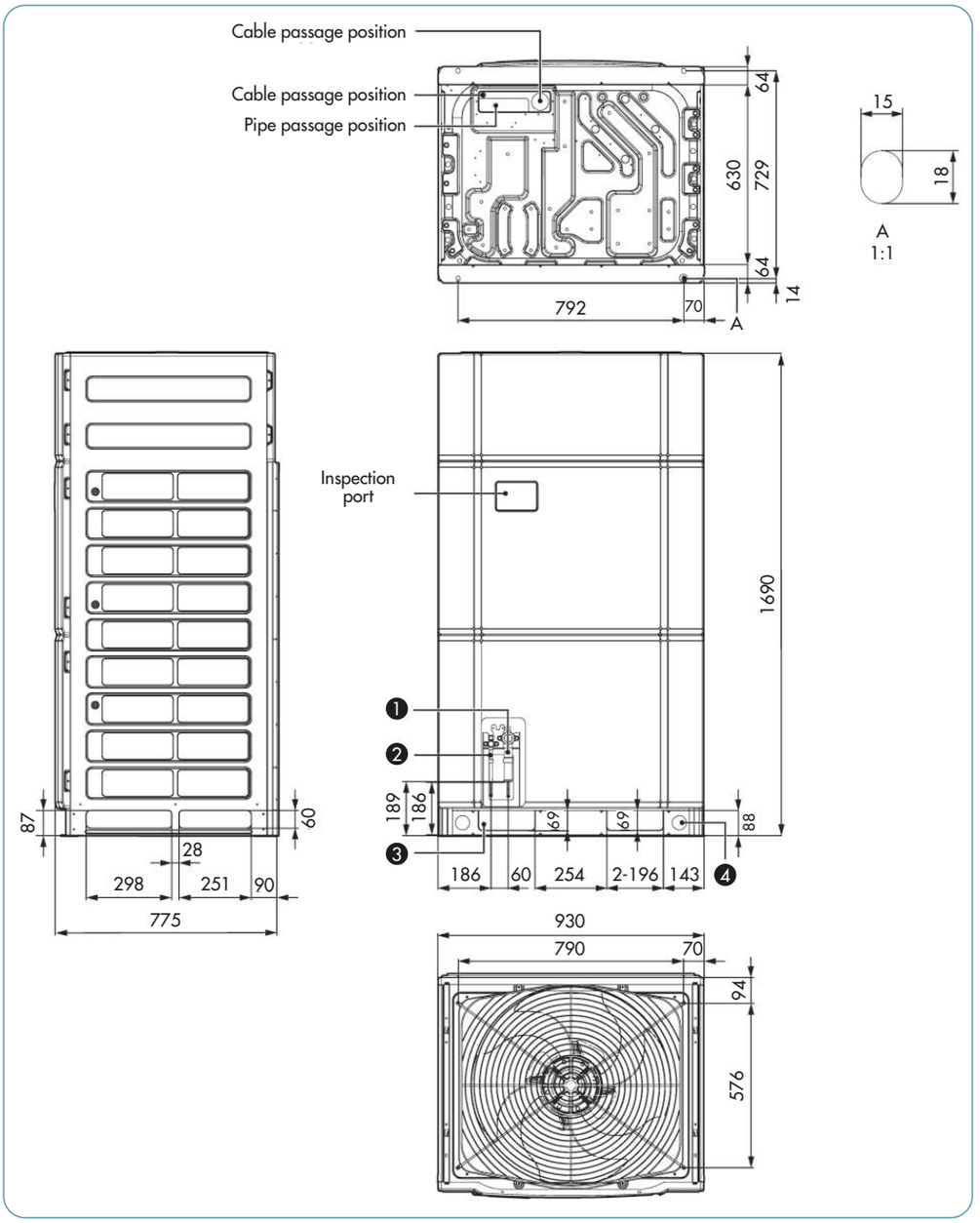
Lengths and height differences		LIMIT value (m)	Piping
Total length (actual) of piping		⩽ 1000	L1+L2+L3+L4+…+L9+a+b+…+i+j
Length of farthest pipe	Actual length	⩽ 200	L1+L6+L7+L8+L9+j
	Equivalent length	⩽ 240	
Difference between the length of the pipe from the first branch-off joint to the farthest indoor unit and the length of the pipe from the first branch-off joint to the nearest indoor unit		⩽ 40	L10-L11
Equivalent length from the first branch-off joint to the farthest pipe*		⩽ 40	L6+L7+L8+L9+j
Height difference between indoor and outdoor units	Outdoor unit installed on top	⩽ 100	——
	Outdoor unit installed on bottom	⩽ 110	——
Height difference between indoor units		⩽ 30	——
Length of the main pipe (2)		< 90	L1
Length of the pipe from the indoor unit to the nearest corresponding branch-off joint		⩽ 40	a, b, c, d, e, f, g, h, i, j

(*) Normally, the length of the pipe from the first branch-off joint to the farthest indoor unit is 40 m. If the three conditions specified below are all fulfilled, the length can reach 120 m.
More specifically:
1) Total actual length of piping: L1+L2×2+L3×2+L4×2+…+L9×2+a+b+…i+j≤1000 m.
2) Length of the pipe of the single indoor unit to the nearest corresponding branch-off joint a, b, c, d, e, f, g, h, i, j≤40 m.
3) Difference between the length of the pipe from the first branch-off joint to the farthest indoor unit and the length of the pipe from the first branch-off joint to the nearest indoor unit: L10-L11≤40 m.

DIMENSIONAL DRAWINGS FOR OUTDOOR UNITS

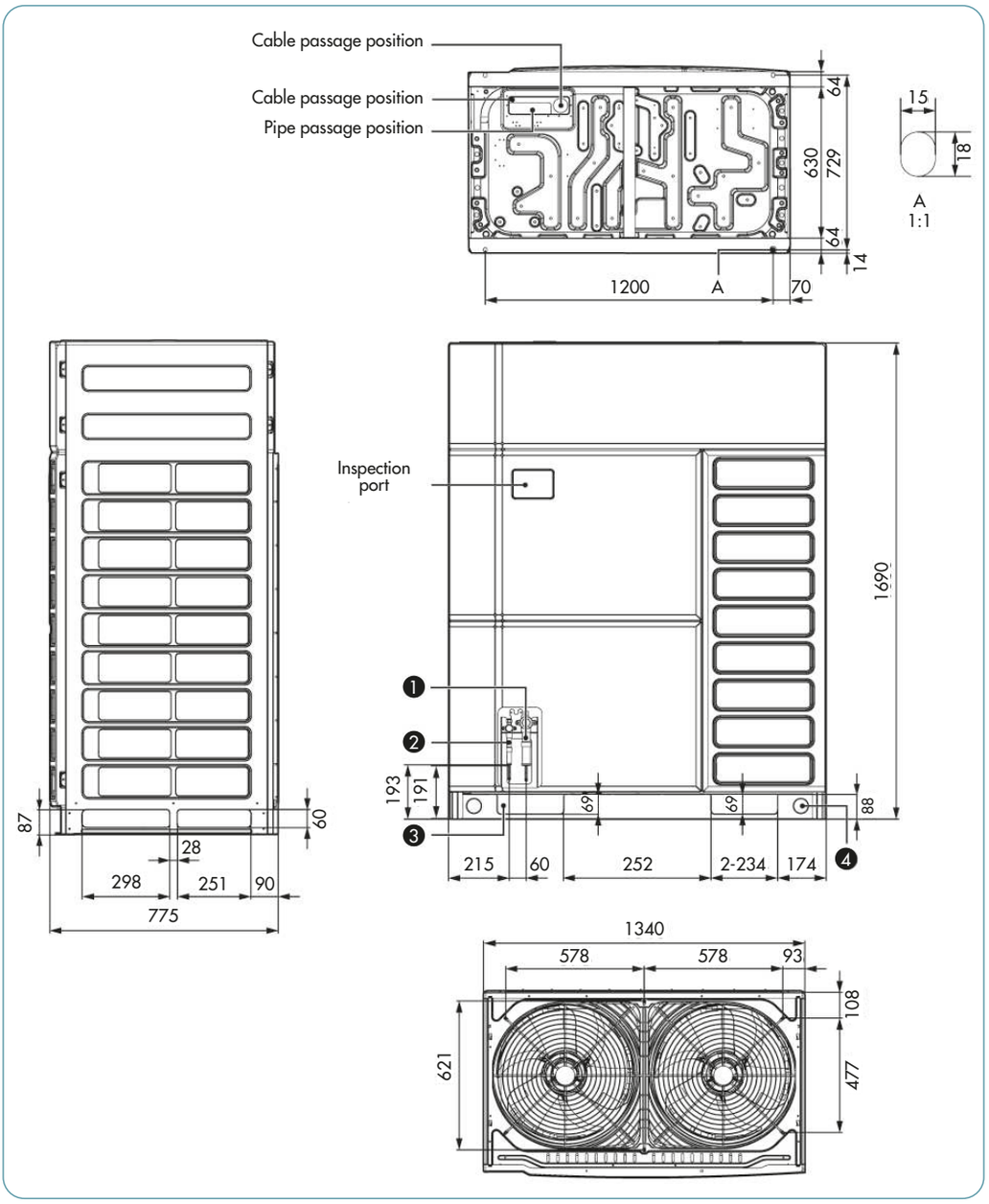
EXTERNAL DIMENSIONS AND SIZE OF THE INSTALLATION HOLES

Profile and physical dimensions of **AEG08MI2H3 - AEG10MI2H3 - AEG12MI2H3**



Number	Name
❶	Gas pipe
❷	Liquid pipe
❸	Through-hall for pipes and wiring
❹	Hanging hall

Profile and physical dimensions of **AEG14MI2H3 - AEG16MI2H3 - AEG18MI2H3 - AEG20MI2H3 - AEG22MI2H3**



Number	Name
❶	Gas pipe
❷	Liquid pipe
❸	Through-hall for pipes and wiring
❹	Hanging hall

INSTALLATION REQUIREMENTS FOR OUTDOOR UNIT

OVERALL DIMENSIONS REQUIREMENTS FOR THE OUTDOOR UNIT'S INSTALLATION

The installation space must include enough space for performing maintenance and for the unit's ventilation. Select an installation method based on the actual situation.

Diagram 1

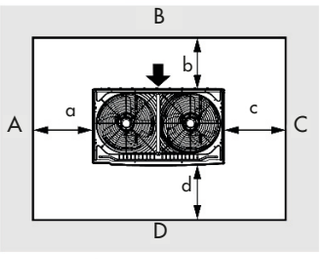


Diagram 2

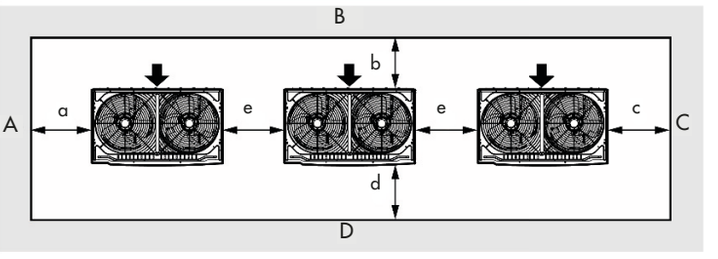


Diagram 3

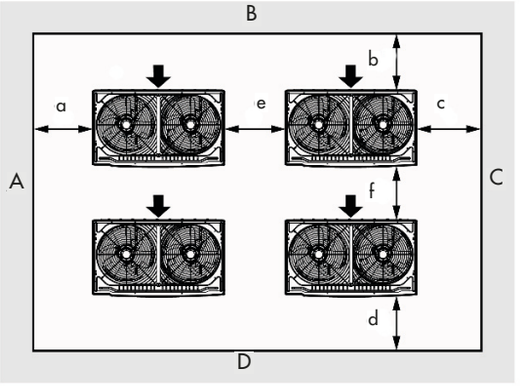


Diagram 4

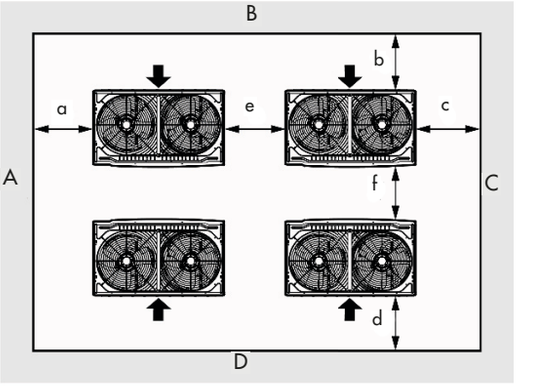


Diagram 5

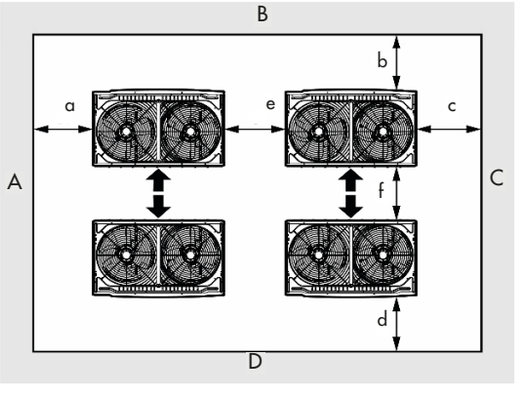
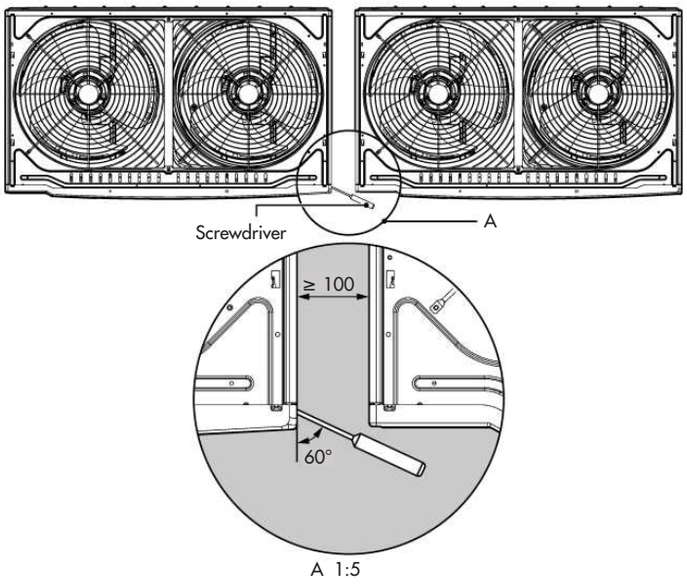


DIAGRAM	A+B+C+D	A+B
Diagram 1	a≥300 b≥100 c≥100 d≥500	a≥300 b≥300
Diagram 2	a≥300 b≥100 c≥100 d≥500 e≥100	a≥300 b≥300 e≥400
Diagram 3	a≥300 b≥100 c≥100 d≥500 e≥200 f≥600	——
Diagram 4	a≥300 b≥100 c≥100 d≥100 e≥200 f≥500	——
Diagram 5	a≥300 b≥500 c≥100 d≥500 e≥200 f≥900	——

1 The installation space shown previously refers to cooling mode operation with an outdoor temperature of 35 °C. If the outdoor temperature exceeds 35 °C or the thermal load is high and all outdoor units work with excess capacity, the space on the intake side must be increased.

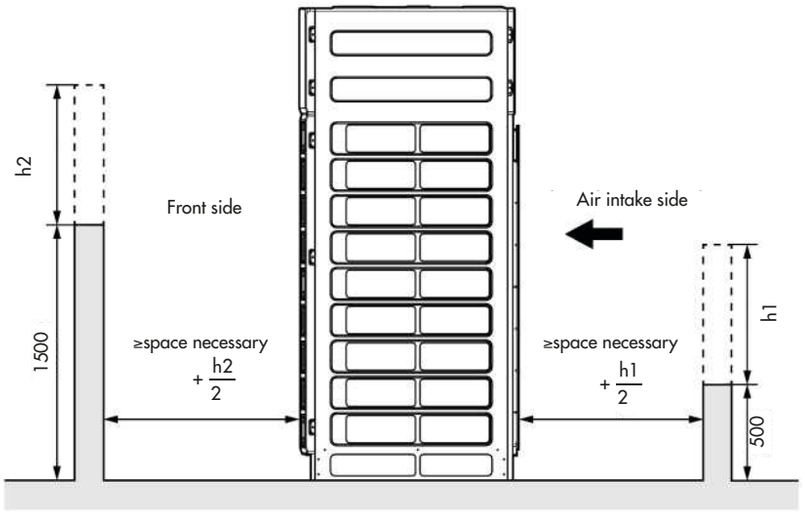
2 When the unit is dismantled or installed, the operation can be hindered by obstacles and the distance between the unit and the surface of the wall can be increased, if necessary.

3 When two or more units are installed, their operation may be subject to mutual influences. The distance between two adjacent units must be ≥ 100 mm.



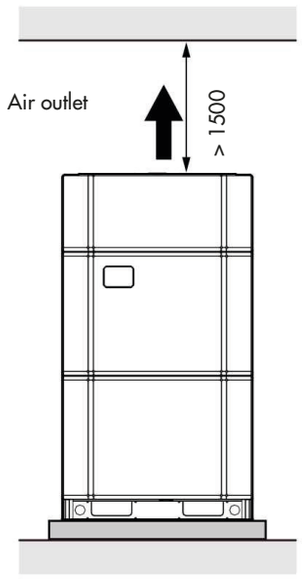
4 When the unit is installed in a place surrounded by walls, the height of the wall on the air intake side must be below 500 mm and the height of the wall on the front side must be below 1500 mm.

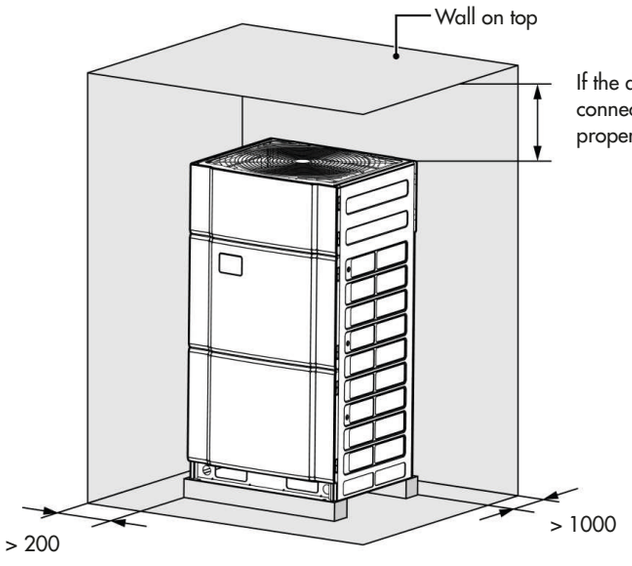
5 If the walls are higher than the specified dimensions, increase the space as shown in the image below.



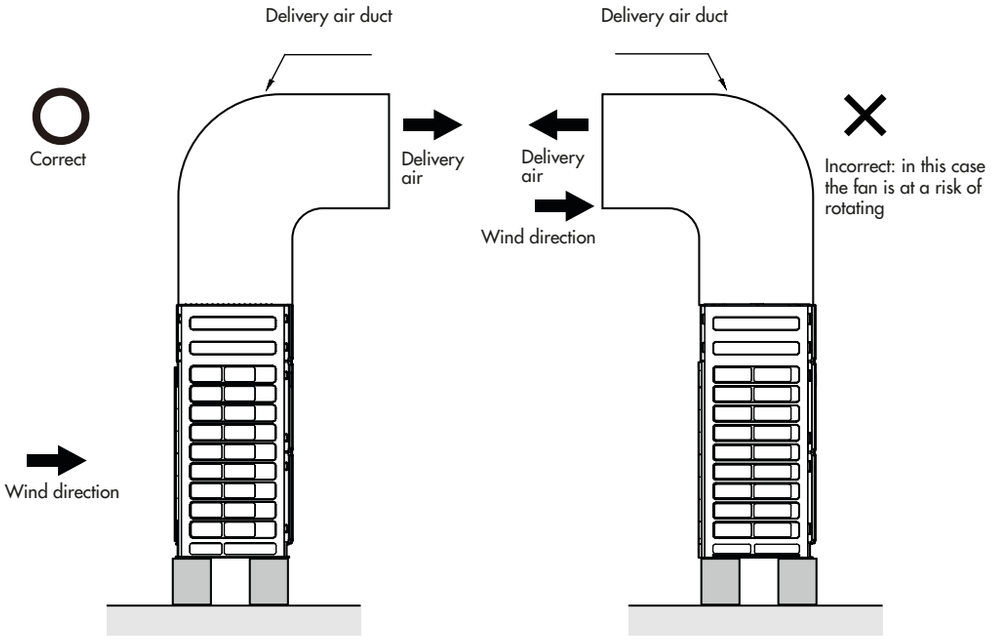
REQUIREMENTS FOR SPECIAL INSTALLATIONS

6 If there is an obstacle above the unit, perform the installation as indicated below. Theoretically, the upper part of the unit should be more than 3000 mm away from the upper wall. If the area around the front, rear, left and right sides of the unit is open, the upper part of the unit must be at least 1500 mm away from the upper wall, as shown in the figure below. If the distance is below 1500 mm or the area around the unit is not open, it is necessary to fit an intake duct to ensure regular ventilation, as shown below.





7 Anti-wind installation requirements for a unit connected to an exhaust duct.



8 Snow during installation of the outdoor unit.