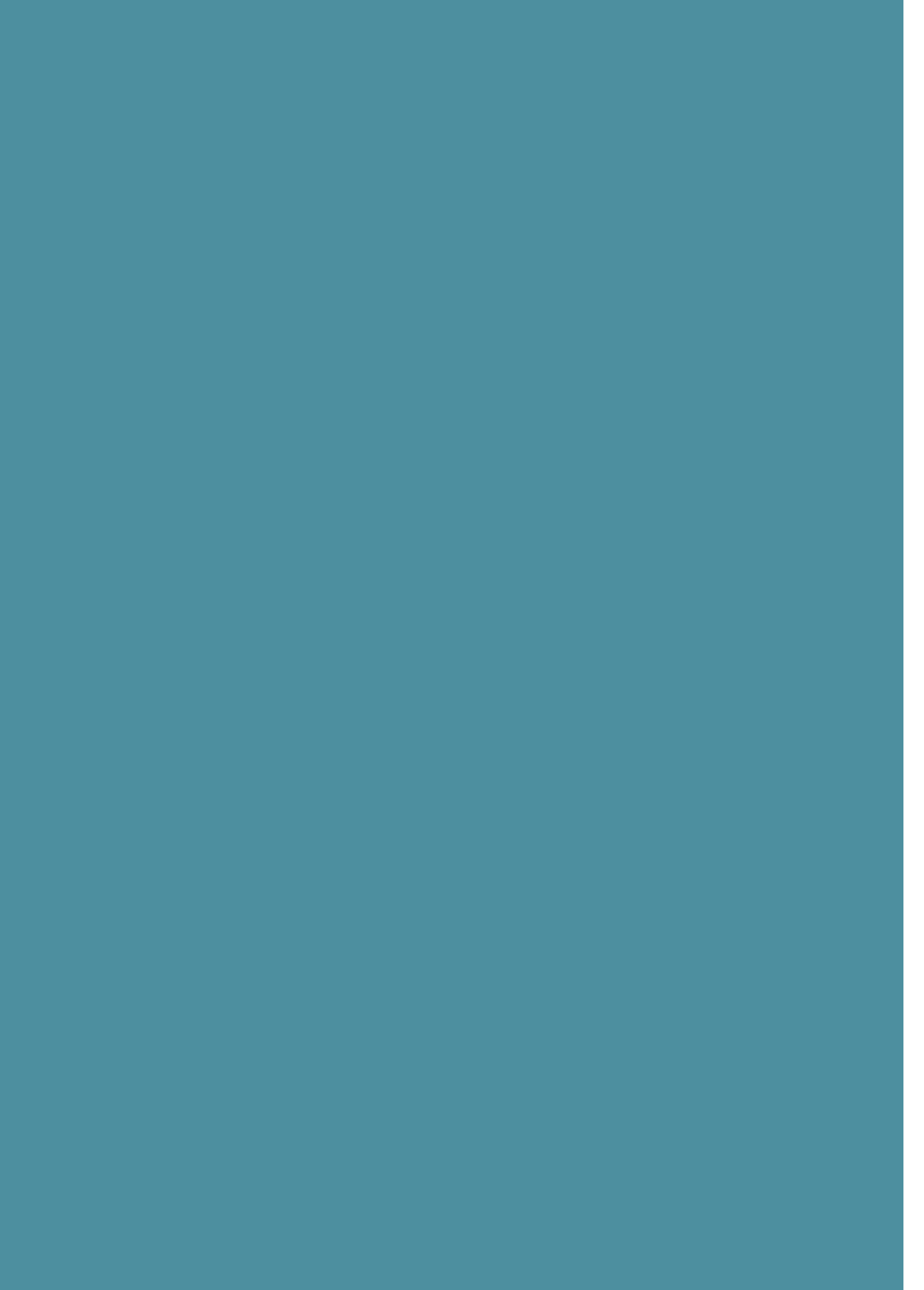




X3 VRF systems

All DC Inverter



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OUR HISTORY

We are an historical Italian company specialized in the production and sale of air conditioning products and heating systems, founded in 1929 in Cavarina, near Varese, where production, R&D, IT and quality control are still operating on an area of 42.000 sqm. The headquarters are nowadays based in Alfianello, close to Brescia, where the company established its logistic and commercial departments with a warehouse of 20.000 sqm.

SINCE 1929

OUR TEAM

We have an extensive sales network all over Europe which allows us to be easily reachable and aligned with local supply needs that, also due to different climatic conditions, require specific know-how.



ARGO ACADEMY

**ARGO ACADEMY IS AN INNOVATIVE SPACE THAT HAS RECENTLY
BEEN OPENED IN THE PRODUCTION PREMISES IN GALLARATE.**



Argo Academy is provided with the most modern work equipment and welcomes customers and collaborators for training activities that are structured on several specialisation levels.

To ensure high learning standards, the training offer combines theoretical activities with several operative sessions, thanks to the full functionality of the systems installed inside the training room.

MAIN GOALS

- **TECHNICAL TRAINING** on several levels for operators who work in the air conditioning and heating sector
- **COMMERCIAL INFORMATION** with constant updates on the Argo product range

THE RECIPIENTS OF OUR TRAINING OFFER

- INSTALLERS
- AGENTS - DISTRIBUTORS
- DESIGNERS – HEATING ENGINEERS

TYPES OF TRAINING OFFER

To pursue high learning standards, our training offer is divided by type of product, application sector and level of detail in the topics:

1. **Product type:** direct expansion/hydronic solutions
2. **Application sector:** residential/commercial/big systems
3. **Specialisation level:** base - installers/advanced - designers

THE COURSES

The training offer is initially articulated in the following courses:

1. Residential – air conditioning and direct expansion: monosplit and multiplit systems
2. Residential – hydronic heat pumps: monobloc units (iM) and iSERIES split systems
3. Commercial and big systems

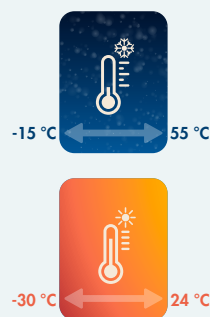


X3 VRF MODULAR

VRF All DC Inverter systems

X3 VRF MODULAR

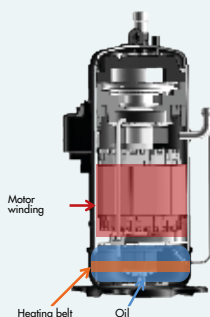
THE ADVANTAGES



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.

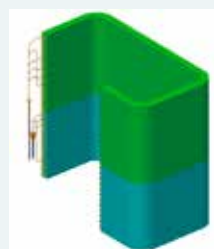
Sound-absorbing cotton



SOUND ABSORPTION AND SOUND INSULATION

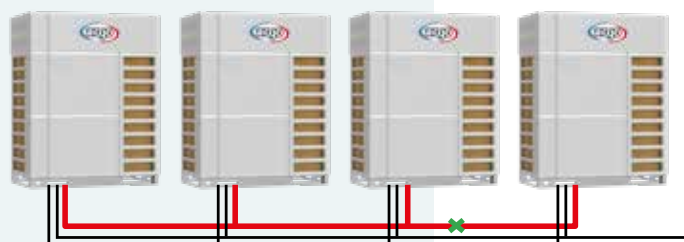
The use of high-quality sound-absorbing materials guarantees optimal insulation of the compressor and of the other components.

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.

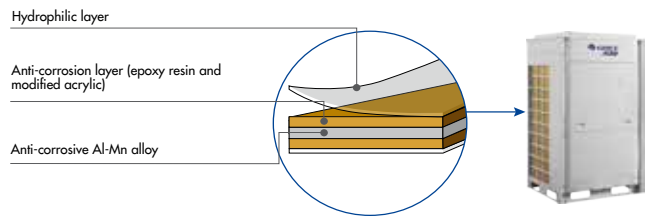
VRF ALL DC INVERTER SYSTEMS

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*		$\eta_{s,c}$ - %	305.0	271.0	259.0	272.6
Space heating seasonal efficiency*		$\eta_{s,h}$ - %	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 ₂ eq./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.

Model		Unit	AEG16MI2H3	AEG18MI2H3	AEG20MI2H3	AEG22MI2H3
Size		HP	16	18	20	22
Nominal cooling capacity*		kW	45.00	50.40	56.00	61.50
Heating capacity	Nominal*	kW	50.00	56.50	63.00	69.00
	Max.	kW	50.00	56.50	63.00	69.00
EER*		kW/kW	3.61	3.76	3.45	N.A.
COP*		kW/kW	3.84	3.87	3.87	N.A.
Space cooling seasonal efficiency*		$\eta_{s,c}$ - %	261.0	275.0	250.2	226.2
Space heating seasonal efficiency*		$\eta_{s,h}$ - %	204.2	162.2	162.2	169.8
SEER (ducted / cassette)		%	6.60/6.36	6.95/6.56	6.32/5.66	5.74/5.62
SCOP (ducted / cassette)			5.15/4.44	4.13/3.71	4.13/3.71	4.32/3.55
Compressor modulation range		%	12-100	7-100	7-100	6-100
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	15400	16000	16500	16500
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	12.47	13.40	16.23	16.49
Power input in heating mode	Nom.	kW	13.02	14.60	16.28	24.27
Maximum power input		kW	22.00	26.30	26.85	27.41
Max. current / Max. fusing current		A	39.3/40	47/50	48/50	49/50
Sound power level (ductable-cassette)		dB(A)	89-93	93-88	93-94	94-94
Cooling sound pressure level (distance 1 m)		dB(A)	60	61	62	63
Compressor		type/No.	Inverter scroll/1	Inverter scroll/1	Inverter scroll/2	Inverter scroll/2
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		kgCO ₂ eq./100 years	2088	2088	2088	2088
Standard refrigerant charge		kg/T.CO ₂ eq.	7.5/15.660	8.3/17.33	8.3/17.33	8.3/17.33
Oil charge	Total	kg	6.10	6.10	7.20	7.20
	Compressor	kg	1.10	1.10	1.1x2	1.1x2
	Other	kg	5.00	5.00	5.00	5.00
Piping diameter	Gas pipe	mm	28.6	28.6	28.6	28.6
	Liquid pipe	mm	12.7	15.9	15.9	15.9
Net dimensions	Width	mm	1,340	1,340	1,340	1,340
	Depth	mm	775	775	775	775
	Height	mm	1,690	1,690	1,690	1,690
Dimensions with packaging	Width	mm	1,400	1,400	1,400	1,400
	Depth	mm	830	830	830	830
	Height	mm	1,855	1,855	1,855	1,855
Net weight		kg	300	350	350	355
Gross weight		kg	315	365	365	370
Maximum no. of connectable indoor units		no.	26	29	33	36
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		m³/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 ₂ eq./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		m³/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 ₂ eq./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		m³/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 ₂ eq./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		m³/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 ₂ eq./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		m³/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 3N–50/60 Hz	380–415 V 3N–50/60 Hz	380–415 V 3N–50/60 Hz	380–415 V 3N–50/60 Hz	380–415 V 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 ₂ eq./ 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 ₂ eq./ 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 3N-50/60 Hz	380-415 V 3N-50/60 Hz	380-415 V 3N-50/60 Hz	380-415 V 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 ₂ eq./ 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

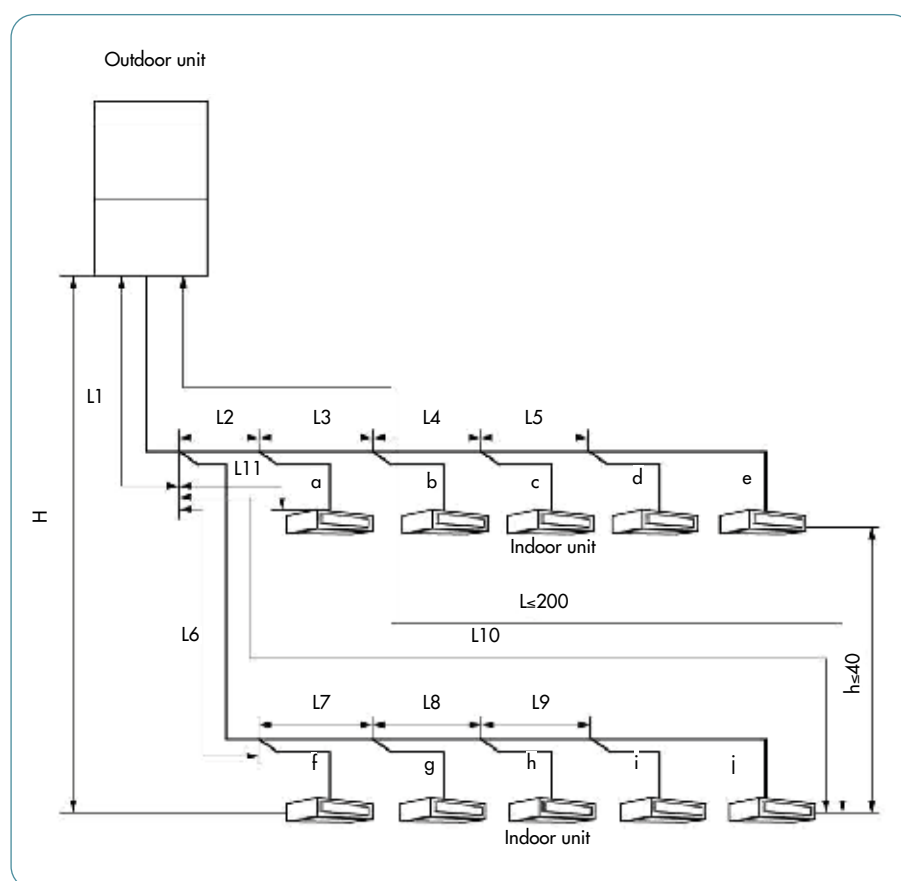
- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of 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: $L_1 + L_2 \times 2 + L_3 \times 2 + L_4 \times 2 + \dots + L_9 \times 2 + a + b + \dots + i \leq 1000$ m.

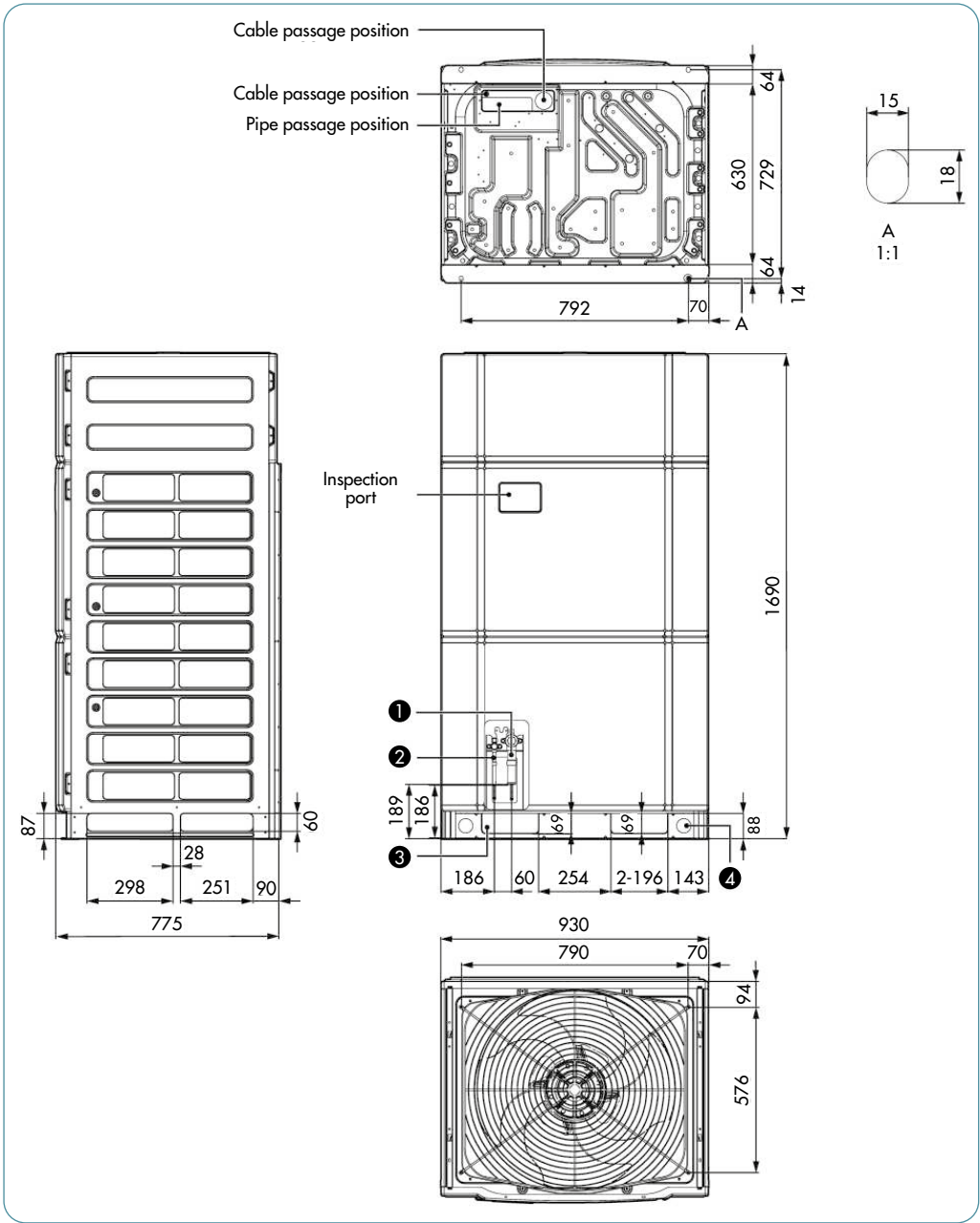
2) Length of the pipe of the single indoor unit to the nearest corresponding branch-off joint a, b, c, d, e, f, g, h, i, $j \leq 40$ m.

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: $L_{10}-L_{11} \leq 40$ m.

DIMENSIONAL DRAWINGS FOR OUTDOOR UNITS

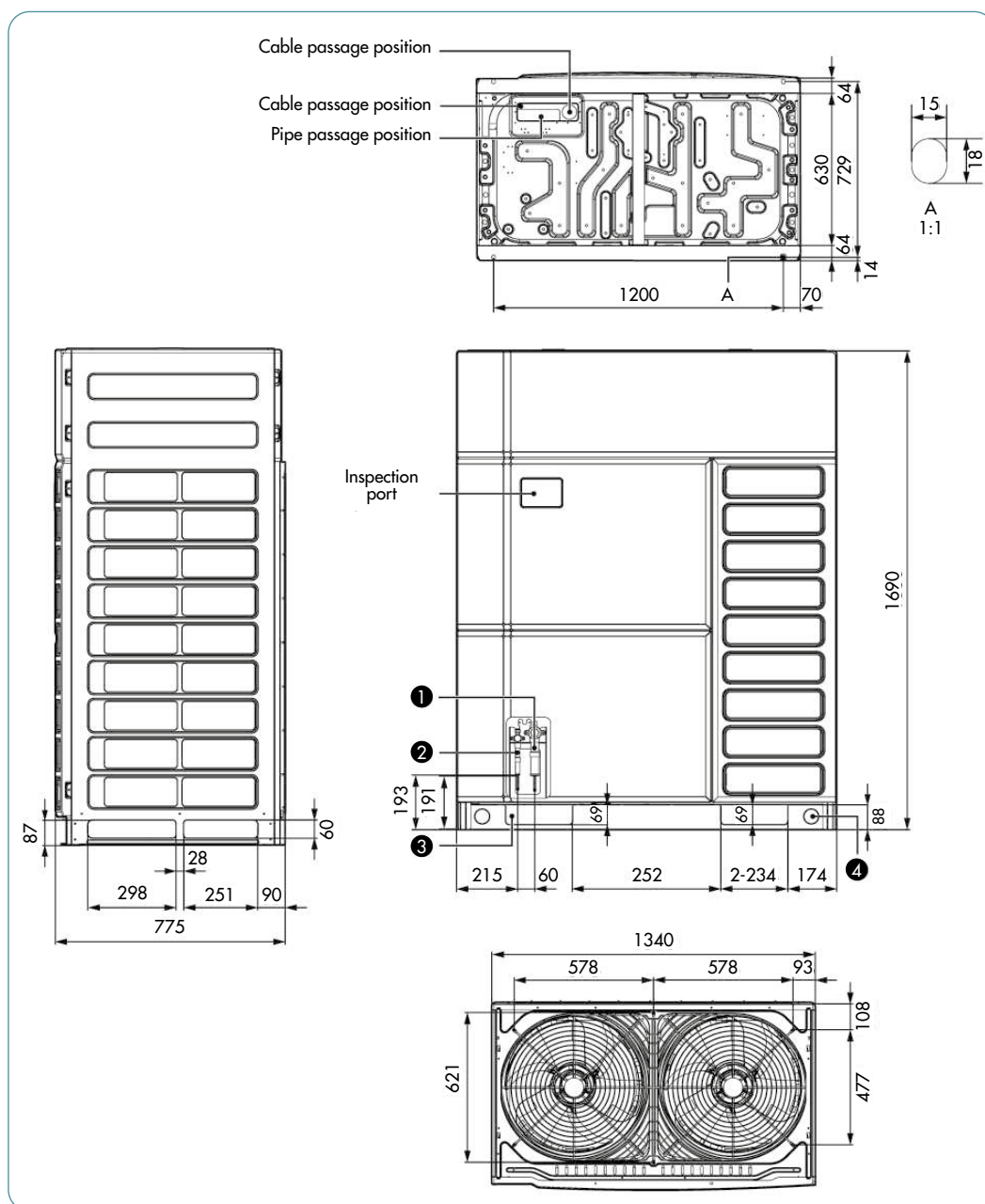
EXTERNAL DIMENSIONS AND SIZE OF THE INSTALLATION HOLES

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.

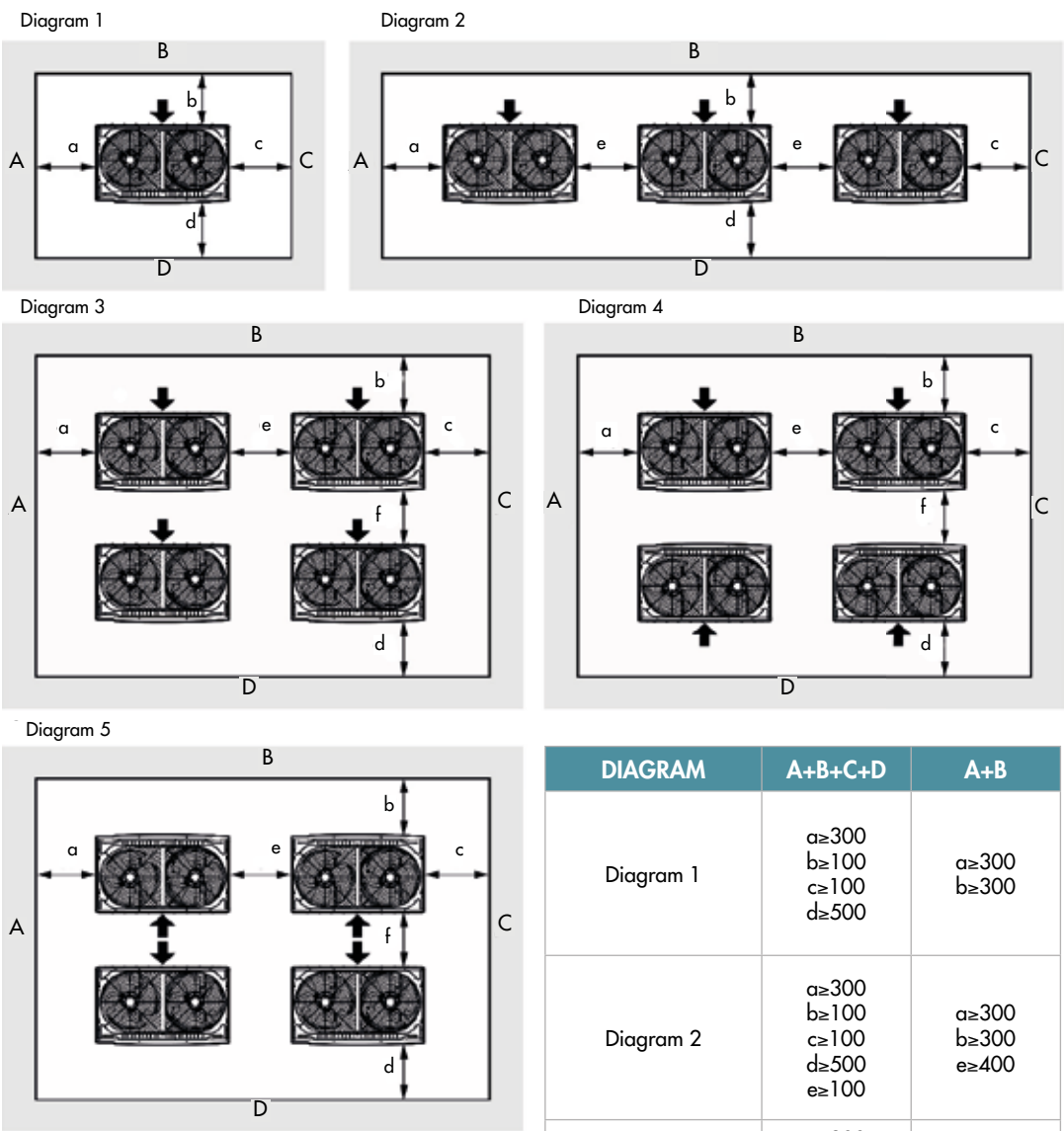
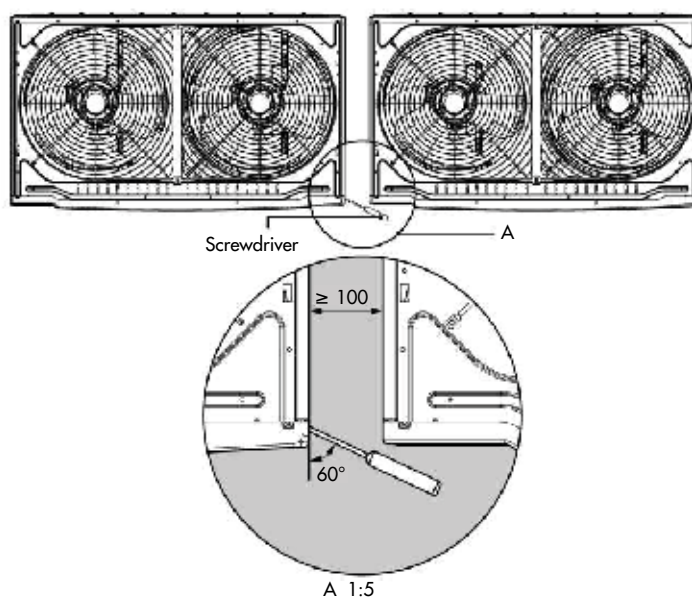
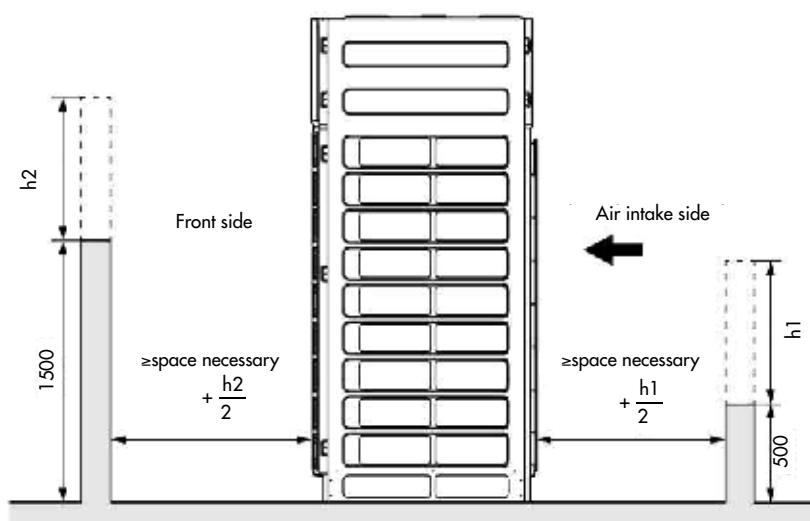


DIAGRAM	A+B+C+D	A+B
Diagram 1	a≥300 b≥100 c≥100 d≥500	a≥300 b≥300
Diagram 2	a≥300 b≥100 c≥100 d≥500 e≥100	a≥300 b≥300 e≥400
Diagram 3	a≥300 b≥100 c≥100 d≥500 e≥200 f≥600	—
Diagram 4	a≥300 b≥100 c≥100 d≥100 e≥200 f≥500	—
Diagram 5	a≥300 b≥500 c≥100 d≥500 e≥200 f≥900	—

- 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.

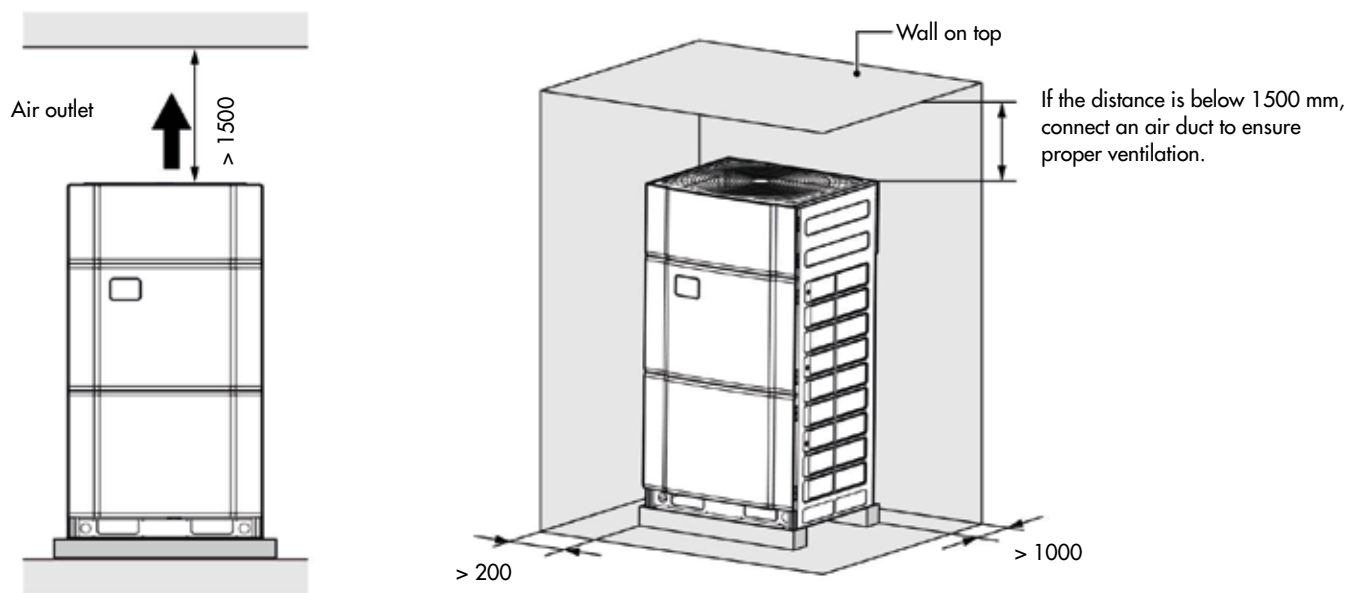


- 4 When the unit is installed in a place surrounded by walls, the height of the wall on the air intake side must be below 500 mm and the height of the wall on the front side must be below 1 500 mm.
- 5 If the walls are higher than the specified dimensions, increase the space as shown in the image below.

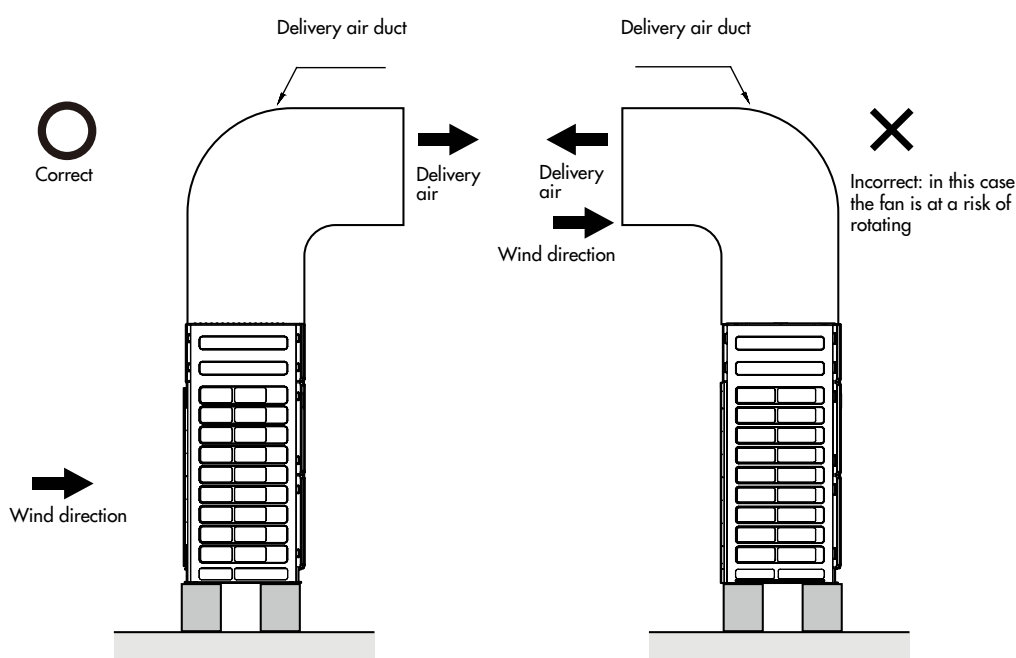


REQUIREMENTS FOR SPECIAL INSTALLATIONS

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.

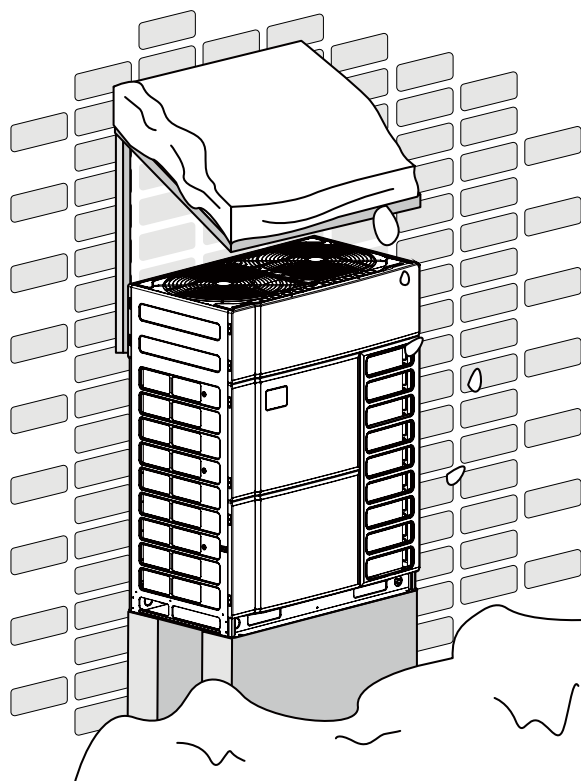


7 Anti-wind installation requirements for a unit connected to an exhaust duct.



8

Snow during installation of the outdoor unit.





X3 VRF SLIM AND MINI

VRF All DC Inverter systems

X3 VRF MINI AND SLIM

THE ADVANTAGES

The structure of the high-pressure chamber can increase the performance at high and medium frequency

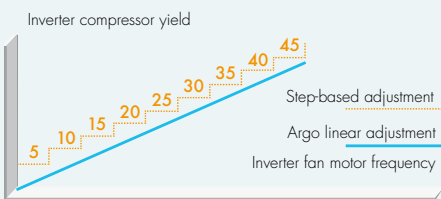
The new DC motor (concentrated winding) increases the performance at low frequency



ALL DC INVERTER COMPRESSORS

The use of all inverter compressors guarantees excellent efficiency of the system in both full-load conditions and during operation with partial load. The high-efficiency permanent magnet synchronous motor is adapted to guarantee improved performance compared to a traditional DC inverter compressor.

In this VRF system only DC inverter compressors are used. The system is able to directly absorb the gas to reduce the loss of overheating and improve efficiency.

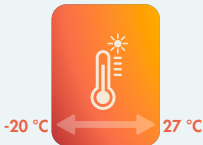
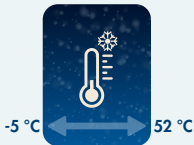


DC INVERTER SENSORLESS FAN MOTOR

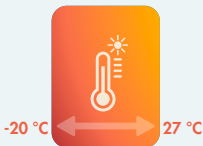
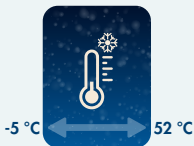
The linear adjustment of the speed varies between 5 and 44 Hz. Compared to traditional inverter motors, it is more efficient from an energy saving perspective.

The SENSORLESS control technology guarantees improved silence, less vibrations and more uniform operation.

GMV5 MINI



GMV5 SLIM



WIDE OPERATING RANGE

The unit employs the DC motor with a more accurate control of the high pressure, which effectively solves the problem of controlling high pressures in cooling conditions with low ambient temperature. In this way, the operating range in cooling mode is wider.

LOW NOISE LEVEL OF THE OUTDOOR UNIT

- Thanks to the advanced technology for controlling undercooling, the noise of the liquid flowing inside the indoor unit can be reduced when the latter operates in cooling mode.
- The noise level of the outdoor unit can be reduced to 45 dB thanks to the optimised design of the fan system and of the compressor, and thanks to the various silent modes of the outdoor unit itself.



VRF ALL DC INVERTER SYSTEMS

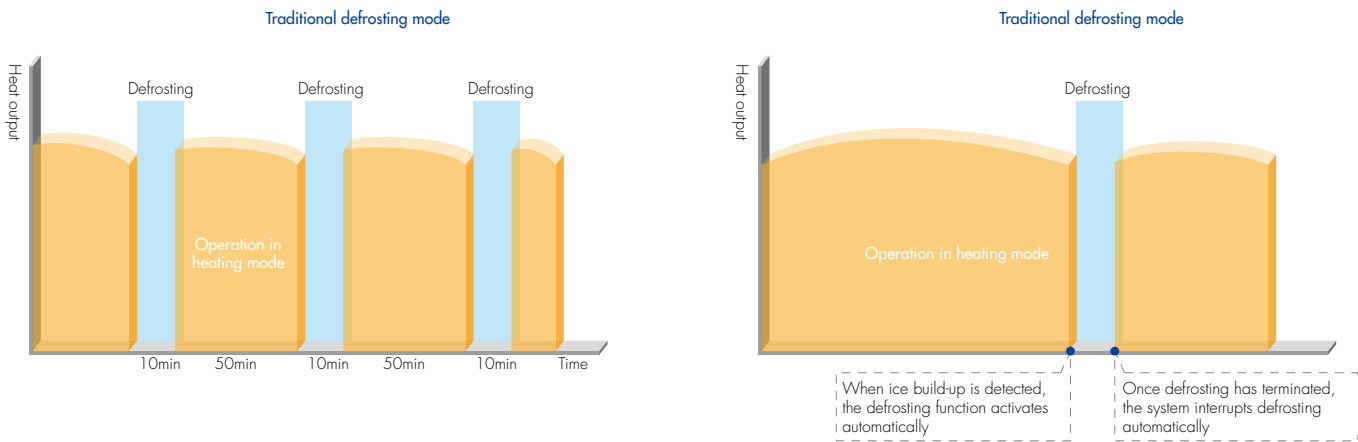
The X3 VRF MINI range and the X3 VRF SLIM range feature low noise levels and compact outdoor units with reduced dimensions, ideal for being installed in any environment and whenever high power levels and low bulk are required. The units have compressors with high energy efficiency levels and a wide operating range (-20 °C / +52 °C), which makes them perform optimally even in extreme conditions.



THE ADVANTAGES

COMFORTABLE HEATING

The system is equipped with a smart defrosting system. This mode chooses the best defrosting method on the basis of the outdoor temperature and operating conditions to produce smart defrosting, thus improving the heating efficacy and efficiency. The traditional defrosting mode instead relies on a system based on regular intervals that reduces both the comfort and the energy efficiency.



COMPACT SIZE: X3 VRF SLIM

X3 VRF slim is designed with reduced and compact dimensions, but with the same capacity as the modular version.



LINE-UP OF OUTDOOR UNITS

X3 VRF MINI SINGLE-PHASE

Code	Model	Size (HP)
398800001	AEG04MMIH	4
398800002	AEG05MMIH	5
398800003	AEG06MMIH	6

X3 VRF MINI THREE-PHASE

Code	Model	Size (HP)
398800004	AEG04MMIH3	4
398800005	AEG05MMIH3	5
398800006	AEG06MMIH3	6

X3 VRF SLIM

Code	Model	Size (HP)
398800007	AEG08MSIH3	8
398800008	AEG10MSIH3	10
398800009	AEG12MSIH3	12

TECHNICAL DATA X3 VRF MINI SINGLE-PHASE

Model		Unit	AEG04MMIH	AEG05MMIH	AEG06MMIH
Size		HP	4	5	6
Nominal cooling capacity*		kW	12.10	14.00	16.00
Nominal heating capacity*		kW	14.00	16.50	18.50
EER*		kW/kW	3.99	3.90	3.37
COP*		kW/kW	4.28	4.18	3.87
Space cooling seasonal efficiency*		ηs,c - %	325.0	330.0	315.0
Space heating seasonal efficiency*		ηs,h - %	175.0	175.0	180.0
Compressor modulation range		%	10-100	10-100	10-100
Min-max total capacity range of indoor units compared to the outdoor unit capacity		%	50 – 135	50 – 135	50 – 135
Air flow rate		m³/h	6000	6300	6600
Power supply		V/Ph/Hz	220-240 – /1/50/60	220-240 – /1/50/60	220-240 – /1/50/60
Power input in cooling mode		kW	3.03	3.59	4.75
Power input in heating mode		kW	3.27	3.95	4.65
Current in cooling mode		A	16.20	19.20	25.40
Current in heating mode		A	17.50	21.10	24.80
Sound power level		dB(A)	72	72	72
Sound pressure level (distance 1 m)		dB(A)	57	58	58
Compressor		type/No.	Inverter Rotary/1	Inverter Rotary/1	Inverter Rotary/1
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Standard refrigerant charge		kg	3.3	3.3	3.3
Piping diameter	Gas pipe	mm	ø9.52	ø9.52	ø9.52
	Liquid pipe	mm	ø15.09	ø15.09	ø19.05
Net dimensions	Width	mm	900	900	900
	Depth	mm	340	340	340
	Height	mm	1,345	1,345	1,345
Dimensions with packaging	Width	mm	998	998	998
	Depth	mm	458	458	458
	Height	mm	1,500	1,500	1,500
Net weight		kg	112	112	112
Gross weight		kg	123	123	123
Maximum no. of connectable indoor units		no.	7	8	9
Maximum total length of pipes		m	300	300	300
Maximum length of the OU/IU connection		m	120	120	120
Maximum height difference (outdoor unit on top)		m	50	50	50
Maximum height difference (between indoor units)		m	15	15	15
Operating limits	cooling	°C	-5 – 52	-5 – 52	-5 – 52
	heating	°C	-20 – 27	-20 – 27	-20 – 27

* Nominal data tested according to the EN14511 standard and certified by EUROVENT.

- 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.

TECHNICAL DATA X3 VRF MINI THREE-PHASE

Model		Unit	AEG04MMIH3	AEG05MMIH3	AEG06MMIH3
Size		HP	4	5	6
Nominal cooling capacity*		kW	12.10	14.00	16.00
Nominal heating capacity*		kW	14.00	16.50	18.50
EER*		kW/kW	3.99	3.90	3.37
COP*		kW/kW	4.28	4.18	3.87
Space cooling seasonal efficiency*		$\eta_{s,c}$ - %	325.0	330.0	315.0
Space heating seasonal efficiency*		$\eta_{s,h}$ - %	175.0	175.0	180.0
Compressor modulation range		%	10-100	10-100	10-100
Min-max total capacity range of indoor units compared to the outdoor unit capacity		%	50 – 135	50 – 135	50 – 135
Air flow rate		m ³ /h	6000	6300	6600
Power supply		V/Ph/Hz	380-415 – /3/50/60	380-415 – /3/50/60	380-415 – /3/50/60
Power input in cooling mode		kW	3.03	3.59	4.75
Power input in heating mode		kW	3.27	3.95	4.65
Current in cooling mode		A	5.40	6.40	8.50
Current in heating mode		A	5.80	7.10	8.30
Sound power level		dB(A)	72	72	72
Sound pressure level (distance 1 m)		dB(A)	57	58	58
Compressor		type/No.	Inverter Rotary/1	Inverter Rotary/1	Inverter Rotary/1
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Standard refrigerant charge		kg	3.3	3.3	3.3
Piping diameter	Gas pipe	mm	ø9.52	ø9.52	ø9.52
	Liquid pipe	mm	ø15.09	ø15.09	ø19.05
Net dimensions	Width	mm	900	900	900
	Depth	mm	340	340	340
	Height	mm	1,345	1,345	1,345
Dimensions with packaging	Width	mm	998	998	998
	Depth	mm	458	458	458
	Height	mm	1,500	1,500	1,500
Net weight		kg	112	112	112
Gross weight		kg	123	123	123
Maximum no. of connectable indoor units		no.	7	8	9
Maximum total length of pipes		m	300	300	300
Maximum length of the OU/IU connection		m	120	120	120
Maximum height difference (outdoor unit on top)		m	50	50	50
Maximum height difference (between indoor units)		m	15	15	15
Operating limits	cooling	°C	-5 – 52	-5 – 52	-5 – 52
	heating	°C	-20 – 27	-20 – 27	-20 – 27

* Nominal data tested according to the EN14511 standard and certified by EUROVENT.

- 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.

TECHNICAL DATA X3 VRF SLIM

Model		Unit	AEG08MSIH3	AEG10MSIH3	AEG12MSIH3
Size		HP	8	10	12
Nominal cooling capacity*		kW	22.40	28.00	33.50
Nominal heating capacity*		kW	24.00	30.00	35.00
EER*		kW/kW	3.66	3.60	3.50
COP*		kW/kW	4.90	4.90	4.90
Space cooling seasonal efficiency*		η _{s,c} - %	335.0	276.2	281.0
Space heating seasonal efficiency*		η _{s,h} - %	195.6	153.8	159.4
Compressor modulation range		%	10-100	10-100	10-100
Min-max total capacity range of indoor units compared to the outdoor unit capacity		%	50 – 135	50 – 135	50 – 135
Air flow rate		m³/h	8000	11000	11000
Power supply		V/Ph/Hz	380-415 – /3/50/60	380-415 – /3/50/60	380-415 – /3/50/60
Power input in cooling mode		kW	6.12	7.78	9.57
Power input in heating mode		kW	4.90	6.12	7.14
Current in cooling mode		A	10.90	13.90	17.10
Current in heating mode		A	8.80	10.90	12.80
Sound power level		dB(A)	77	80	80
Sound pressure level (distance 1 m)		dB(A)	60	62	63
Compressor		type/No.	Inverter Rotary/1	Inverter Rotary/1	Inverter Rotary/1
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Standard refrigerant charge		kg	5.5	7.1	8.0
Piping diameter	Gas pipe	mm	ø9.52	ø9.52	ø12.7
	Liquid pipe	mm	ø19.05	ø22.20	ø25.40
Net dimensions	Width	mm	940	940	940
	Depth	mm	320	460	460
	Height	mm	1,430	1,615	1,615
Dimensions with packaging	Width	mm	1,038	1,038	1,038
	Depth	mm	438	578	578
	Height	mm	1,580	1,765	1,765
Net weight		kg	133	166	177
Gross weight		kg	144	183	194
Maximum no. of connectable indoor units		no.	13	17	20
Maximum total length of pipes		m	300	300	300
Maximum length of the OU/IU connection		m	120	120	120
Maximum height difference (outdoor unit on top)		m	50	50	50
Maximum height difference (between indoor units)		m	15	15	15
Operating limits	cooling	°C	-5 – 52	-5 – 52	-5 – 52
	heating	°C	-20 – 27	-20 – 27	-20 – 27

* Nominal data tested according to the EN14511 standard and certified by EUROVENT.

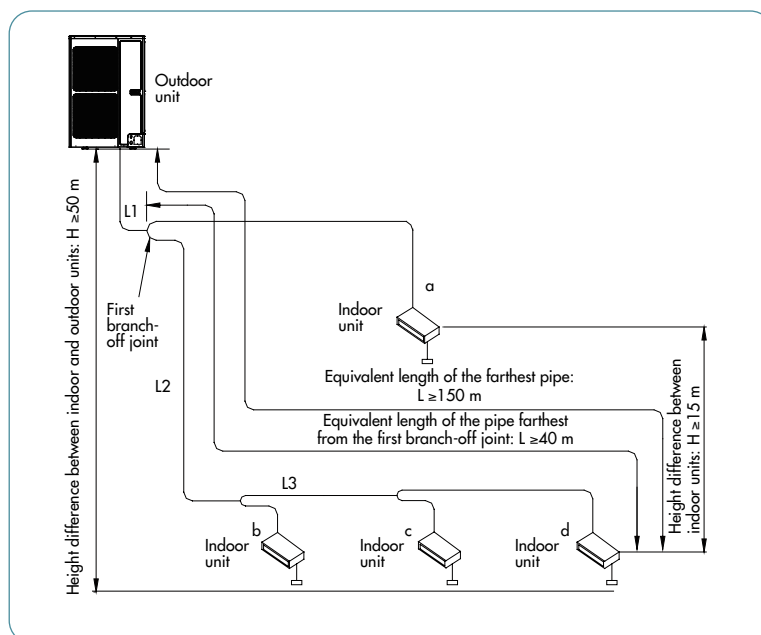
- Test conditions of the nominal cooling capacity: indoor unit 27 °C DB/19 °C VWB, outdoor unit 35 °C DB; length of the connecting pipe: 5 m, without any height difference between the units
- Test conditions of the nominal heating capacity: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C VWB; length 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

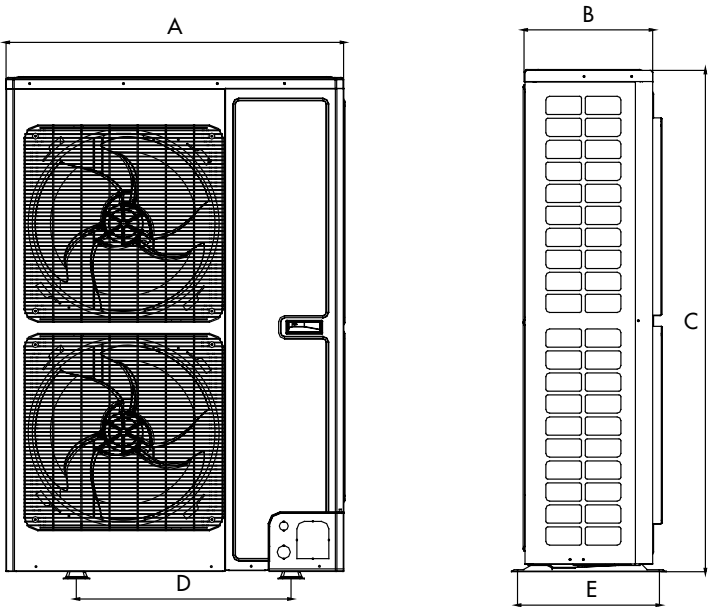
To connect the indoor and outdoor units a Y-shaped branch-off joint is used. The figure below shows the connection scheme.

Note: the equivalent length of a Y-shaped branch-off joint is 0.5 m.

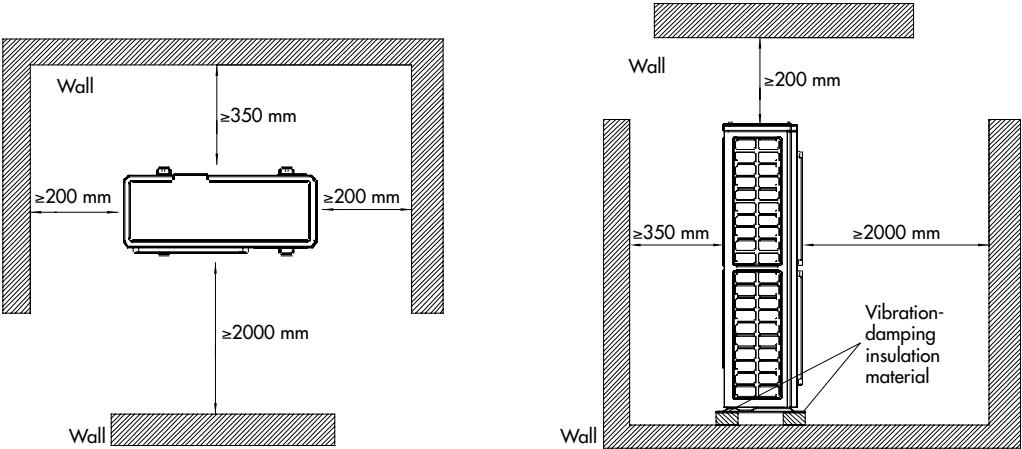


Lengths and height differences		Limit value (m)	Piping
Total length (actual) of piping		300	$L1+L2+L3+a+b+c+d$
Length of farthest pipe	Actual length	120	$L1+L2+L3+d$
	Equivalent length	150	
Equivalent length of the pipe farthest from the first branch-off joint		40	$L2+L3+d$
Height difference between indoor and outdoor units	Outdoor unit installed on top	50	—
	Outdoor unit installed on bottom	40	—
Height difference between indoor units		15	—

DIMENSIONAL DRAWINGS AND INSTALLATION SPACES



	MODEL	A	B	C	D	E
MINI SINGLE-PHASE	AEG04MMIH	900	340	1345	572	378
	AEG05MMIH					
	AEG06MMIH					
MINI THREE-PHASE	AEG04MMIH3	900	340	1345	572	378
	AEG05MMIH3					
	AEG06MMIH3					
SLIM	AEG08MSIH3	940	320	1430	632	350
	AEG10MSIH3	940	460	1615	610	486
	AEG12MSIH3					



NOTES



X3 VRF HOME

System integrated in heat pump

X3 VRF HOME

THE COMPONENTS



X3 VRF HOME OUTDOOR UNITS

Code	Model	Size (HP)
398800109	AEG04MHIH	4
398800110	AEG05MHIH	5
398800111	AEG06MHIH	6



AIR-TO-WATER INDOOR UNIT



HYDRONIC INDOOR UNITS AND X3 VRF HOME ACCESSORIES

Units designed for the production of both technical water and domestic hot water (hereinafter "DHW"), which requires the inclusion of a DHW storage tank working solely in heating mode.

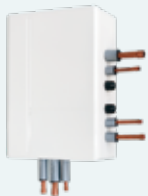
Code	Model	Description	Heating capacity (kW)
398800112	AGHYDROW45	Air-to-water indoor unit	3.6–16 kW

Code	Model	Description
387030701	ACS 200 L - 1S	200-litre DHW tank - 1 heat exchanger for heat pump
387030702	ACS 300 L - 1S	300-litre DHW tank - 1 heat exchanger for heat pump
387030700	ACS 300 L - 2S	300-litre DHW tank - 2 heat exchangers for heat pump and solar heating system

The DHW tank and the diverting valve that can be used for the production of DHW are the standard versions, already present in the X3 range of air-to-water heat pumps. The DHW tank can be equipped with a heat exchanger for forced-circulation solar heating systems.



DHW TANK 185 L



DHW CONVERTER

DHW KIT

DHW CONVERTER, a unit dedicated solely to the production of DHW, to be combined with a specific DHW storage tank (together they make up the DHW KIT).

Code	Model	Description	Heating capacity (kW)
398800113	DHW CONVERTER	DHW module for VRF	4.5 kW
398800114	DHW TANK 185 L	DHW tank 185 l (necessary for operation)	-

MIXED AIR/AIR + AIR/WATER SYSTEM

X3 VRF HOME is a multifunctional mixed air/air and air/water system designed for satisfying cooling and/or heating requests of rooms simultaneously to the production of domestic hot water.

It allows for generating DHW for free during cooling mode operation by recovering the heat generated and using it for heating the domestic water (total or partial heat recovery). The heat recovery technology allows for generating domestic hot water while minimising the production costs. The system features two types of connections: hydraulic and direct-expansion.

Moreover, the system includes in the mixed combination, for air conditioning in rooms, direct-expansion indoor units of the X3 VRF MODULAR and X3 VRF MINI and SLIM systems.

The connections between the indoor and outdoor units are made using Y-shaped branch-off joints, similarly to the VRF systems.

COMPONENTS OF THE SYSTEM'S HYDRONIC PART



X3 VRF HOME single-phase outdoor units
AEG04MHIH, AEG05MHIH, AEG06MHIH

FIVE POSSIBLE OPERATING MODES

1. COOLING + DOMESTIC HOT WATER PRODUCTION

When the system operates in cooling mode and needs to produce domestic hot water, it recovers for free the condensation heat which would otherwise be dispersed in the environment, to heat a tank where domestic hot water will be stored. Moreover, water-based condensation is certainly more effective than air-based condensation, thus producing a further advantage. All this ensures a reduction in energy consumption by up to 10%.



- Partial heat recovery** occurs when:
- the capacity of the indoor units in cooling mode is less than the capacity required for heating the DHW
 - the capacity of the indoor units in cooling mode is greater than the capacity required for heating the DHW



- Total heat recovery** occurs when:
- the capacity of the indoor units in cooling mode equals the capacity required for heating the DHW

2. HEATING + DOMESTIC HOT WATER PRODUCTION

When the system works in heating mode and needs to produce domestic hot water, it operates to fulfil both the requests simultaneously.



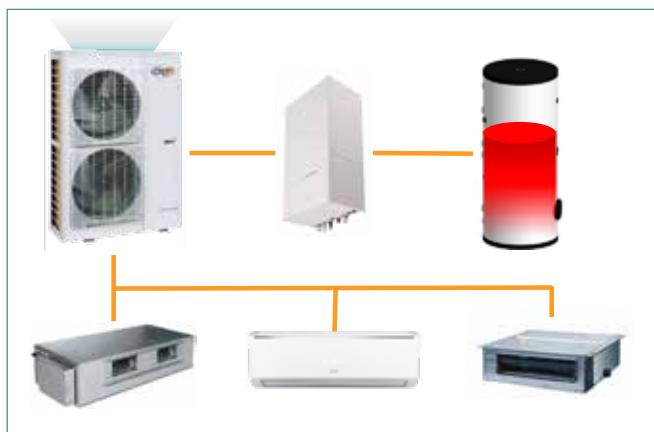
3. COOLING ONLY



4. HEATING ONLY



5. DOMESTIC HOT WATER PRODUCTION ONLY

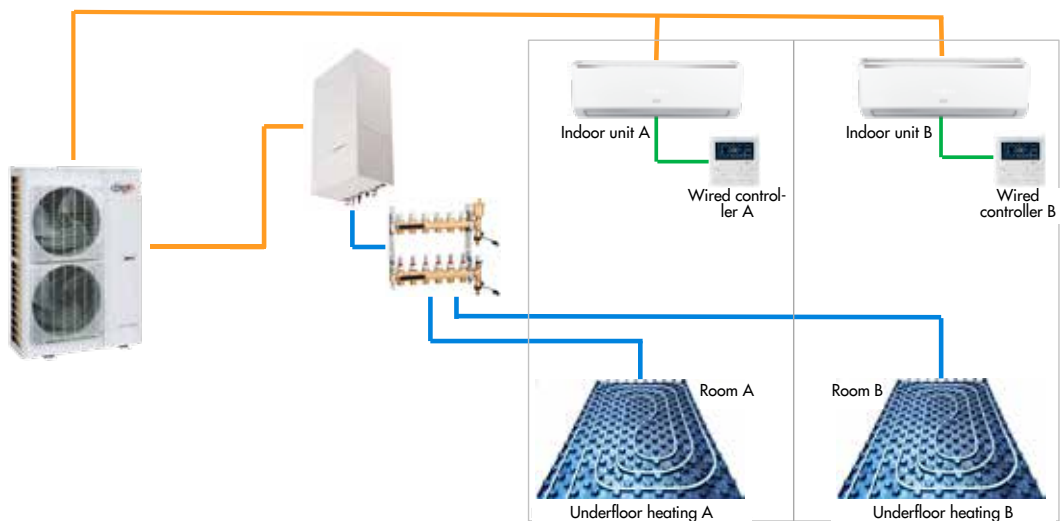


The management and control methods are the same as those of the X3 VRF MODULAR and X3 VRF MINI and SLIM systems. Only hydronic indoor units require a dedicated wired controller integrated in the hydronic indoor unit, mounted on the wall in the case of the DHW Converter version.

THE ADVANTAGES

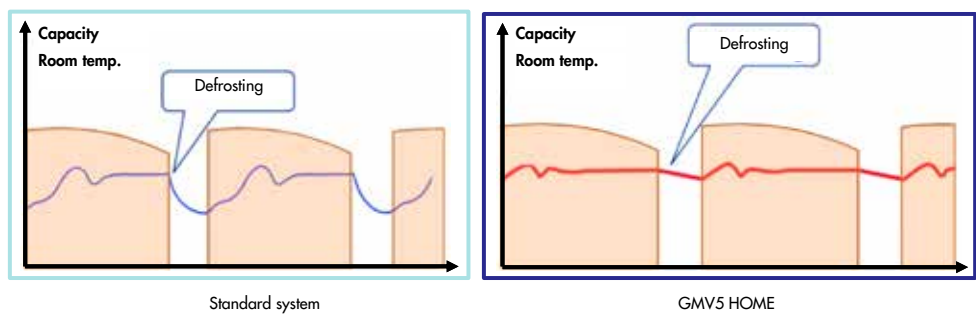
3D HEATING: ADVANCED TEMPERATURE CONTROL TECHNOLOGY

With the 3D Heating function, heating can occur simultaneously through underfloor heating, radiators and/or fan coil units together with the system’s direct expansion units. This allows for heating the room much more quickly and thus optimising comfort by increasing the system’s efficiency. The indoor unit’s wired controller can be used to activate/deactivate the radiant floor in the zone where the unit is installed.



DEFROSTING THROUGH THE “INTELLIGENT WATER TANK DEFROSTING TECHNOLOGY”

During defrosting with conventional units it may occur that the room temperature drops by 4-6 °C before the activity is completed. X3 VRF HOME adopts the “Intelligent Water Tank Defrosting Technology” which exploits the heat contained in the heat exchanger of the DHW tank. If sufficient, it only uses the latter and thus reduces the temperature fluctuation in the single rooms (no more than 2 °C).



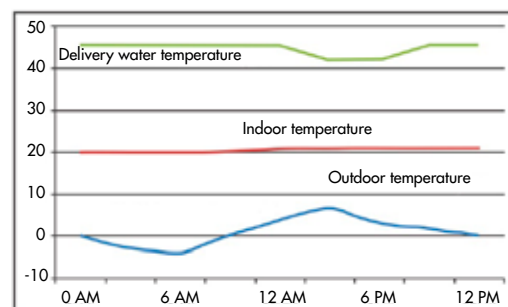
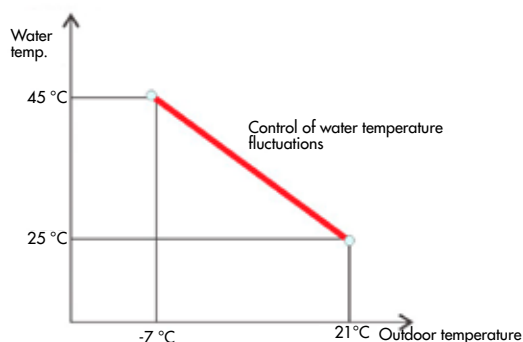
WIDE OPERATING RANGE

The outdoor temperature operating range varies according to the operation mode, as shown in the adjacent table.

OPERATING MODE	OUTDOOR TEMPERATURE (°C)
Cooling	-5 – 50
Heating	-15 – 24
Domestic hot water	-15 – 43
Cooling and domestic hot water	-5 – 43
Heating and domestic hot water	-15 – 24

CONTROL OF THE DELIVERY WATER TEMPERATURES IN THE PRODUCTION OF DHW AND IN HYDRONIC HEATING

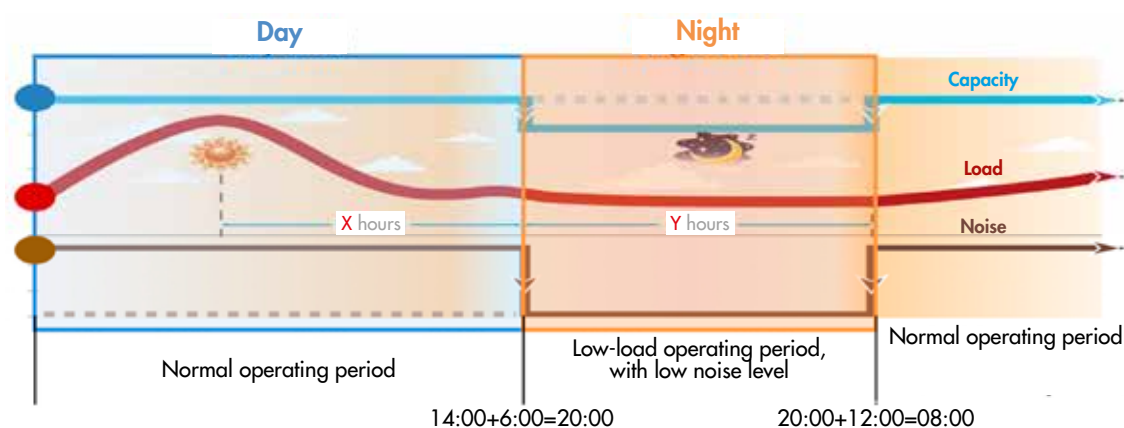
With the AUTO function the system can adapt the temperature of the delivery water to the system and of the DHW on the basis of the outdoor temperature.



QUIET MODE

a) Night Quiet mode

The system measures the highest outdoor temperature: from then on the operating programme will include X hours of operation at the normal noise level, followed by Y hours of operation with low load and in silent mode. The X and Y values may vary by up to 9 different combinations, corresponding to 9 different control levels.



b) Forced Quiet mode

In certain situations characterised by high noise levels, the unit can be set to forced silent mode to ensure a low noise level at any time. The forced silent mode has three options, in which the noise level can drop to 45 dB(A).

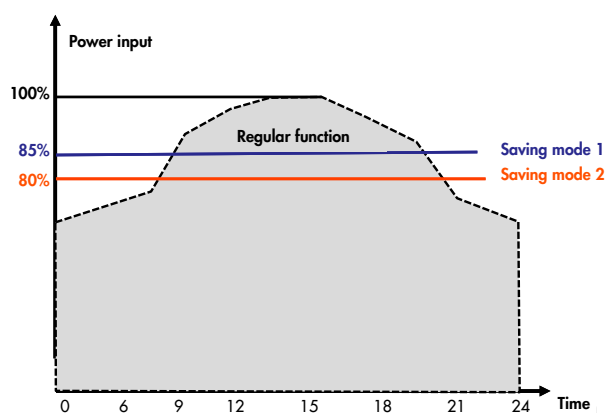
ENERGY-SAVING MODE

Saving mode 1

Automatic: in relation to the operating status, the compressor's % of operation and the number of rpm of the outdoor unit's fan are both reduced.

Saving mode 2

Forced: setting of the decrease of the compressor's % of operation and the number of rpm of the outdoor unit's fan.



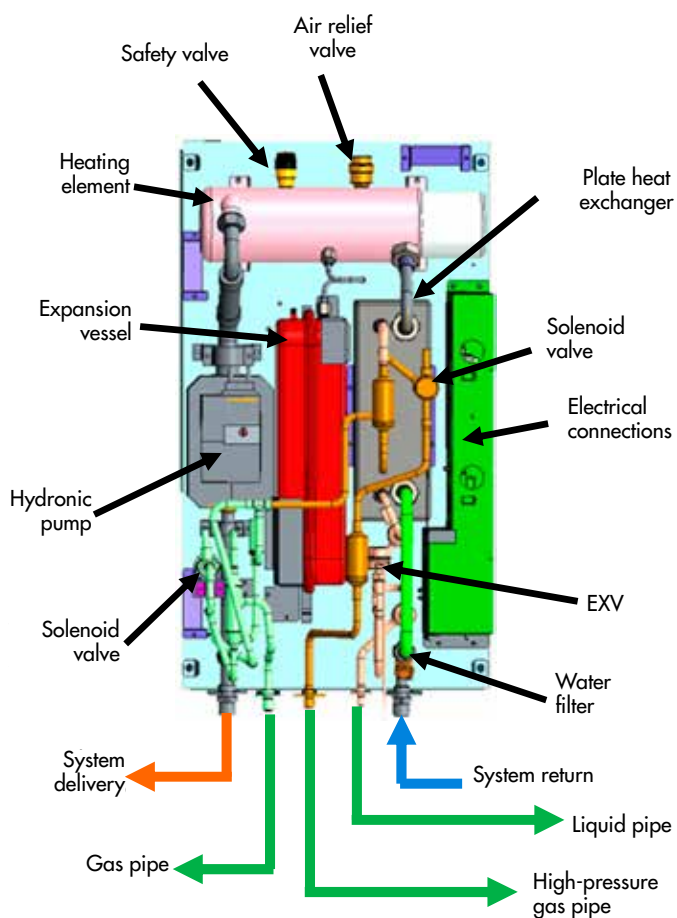
TECHNICAL DATA OF X3 VRF HOME OUTDOOR UNITS

Model		Unit	AEG04MHIH	AEG05MHIH	AEG06MHIH
Size		HP	4	5	6
Nominal cooling capacity *		kW	12.10	14.00	16.00
Nominal heating capacity *		kW	14.00	16.50	18.50
EER*		kW/kW	3.97	3.52	3.30
COP* - Air/air - air/water application (AGHYDROW45)		kW/kW	4.24 - 4.37	4.02 - 4.25	3.96 - 4.12
Space cooling seasonal efficiency $\eta_{s,c}$ *		%	318.9	307.1	298.9
Space heating seasonal efficiency $\eta_{s,h}$ *		%	166.9	164.3	161.8
Compressor modulation range		%	10-100	10-100	10-100
Min-max total capacity range of indoor units compared to the outdoor unit capacity		%	80 – 110	80 – 110	80 – 110
Air flow rate		m ³ /h	6000	6300	6600
Power supply		V/Ph/Hz	220-240 – /1/50/60	220-240 – /1/50/60	220-240 – /1/50/60
Power input in cooling mode		kW	3.05	3.98	4.85
Power input in heating mode		kW	3.30	4.10	4.67
Current in cooling mode		A	16.10	18.60	22.40
Current in heating mode		A	16.10	19.10	22.60
Sound power level (cold-hot)		dB(A)	71-72	71-72	71-72
Sound pressure level (distance 1 m)		dB(A)	55	56	58
Compressor		type/No.	Inverter Rotary/1	Inverter Rotary/1	Inverter Rotary/1
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Standard refrigerant charge		kg	5.0	5.0	5.0
Piping diameter	Gas pipe	mm	ø9.52	ø9.52	ø9.52
	Liquid pipe	mm	ø15.9	ø15.9	ø19.05
	High-pressure gas pipe	mm	ø12.7	ø12.7	ø12.7
Net dimensions	Width	mm	900	900	900
	Depth	mm	340	340	340
	Height	mm	1.345	1.345	1.345
Dimensions with packaging	Width	mm	998	998	998
	Depth	mm	458	458	458
	Height	mm	1500	1500	1500
Net weight		kg	113	113	113
Gross weight		kg	123	123	123
Maximum no. of connectable indoor units			6	7	8
Maximum no. of AGHYDROW45 that can be connected			1	1	1
Maximum no. of DHW Converter that can be connected			1	1	1
Maximum total length of pipes		m	300	300	300
Maximum length of the OU/IU connection		m	120	120	120
Maximum height difference (outdoor unit on top)		m	50	50	50
Maximum height difference (Outdoor unit on bottom)		m	40	40	40
Maximum height difference (between indoor units)		m	15	15	15
Operating limits	Cooling	°C	-5 – 50	-5 – 50	-5 – 50
	Heating	°C	-15 – 24	-15 – 24	-15 – 24
	DHW production	°C	-15 – 43	-15 – 43	-15 – 43
	Cooling and DHW production	°C	-5 – 43	-5 – 43	-5 – 43
	Heating and DHW production	°C	-15 – 24	-15 – 24	-15 – 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 (80%–110%) 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. **Efficiency requirements satisfied for combinations with directexpansion indoor units. To be confirmed for combinations with hydronic indoor units.

TECHNICAL DATA OF AIR-TO-WATER INDOOR UNIT



Model		Unit	Value
Nominal heating capacity (min. – max.)		kW	4.50 (3.60 – 16.00)
Max. delivery temperature		°C	55
Power supply		V/Ph/Hz	220-240/1/50/60
Power input (with heating element)		kW	3
Piping diameter	Power input	kW	0.08 – 0.14
	Flow rate	m³/h	1.7
	Available head	m.w.c.	6
Hydraulic fittings		inches	G1"
Refrigerant connections	Gas pipe	mm	ø9.52
	Liquid pipe	mm	ø15.9
	High-pressure gas pipe	mm	ø12.7
Net dimensions	Width	mm	500
	Depth	mm	328
	Height	mm	919
Net weight		kg	56

TECHNICAL DATA OF GLAZED CERAMIC-COATED STEEL TANKS FOR HEAT PUMPS



Glazed ceramic-coated carbon steel tanks for the production and storage of domestic hot water (DHW). They are equipped with one or two fixed internal heat exchangers that can be powered by a heat pump and by a solar heating system. The heat exchangers have a broad surface that ensures quicker and more effective transmission of the power delivered by the source, thus reducing the number of on and off cycles of the heat pump for improved durability and reliability of the system. Moreover, they are configured for the installation of a supplementary heating element.

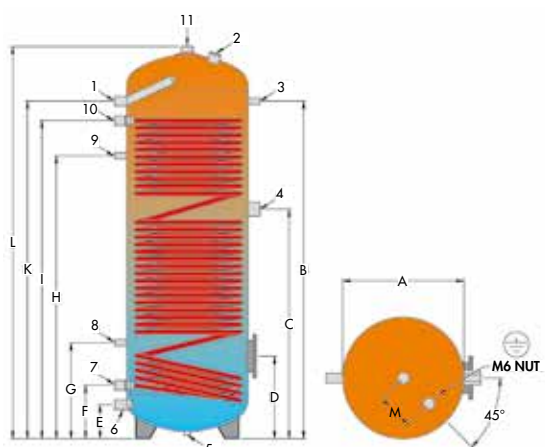
Accessories:
Heating element kit for DHW tank

Code	Model	Description
387030701	ACS 200 L - 1S	200 litres DHW tank - 1 heat exchanger for heat pump
387030702	ACS 300 L - 1S	300 litres DHW tank - 1 heat exchanger for heat pump
387030700	ACS 300 L - 2S	300 litres DHW tank - 2 heat exchanger for heat pump and solar heating system

DHW STORAGE TANK	
Material	Glazed ceramic-coated S 235 Jr carbon steel
Internal protective treatment	Food-grade inorganic enamelling (DIN 4753-3)
Usage limit (max. P / max. T)	10 bar / 95 °C
Cathodic protection	Magnesium anode
HEAT EXCHANGER	
Material	Glazed ceramic-coated S 235 Jr carbon steel
Internal protective treatment	Unfinished
External protective treatment	Food-grade inorganic enamelling (DIN 4753.3)
Type	Fixed spiral heat exchanger
Usage limit (max. P / max. T)	10 bar / 95 °C
GENERAL CHARACTERISTICS	
Capacity	200–300 l
Warranty	2 years
Insulation	Rigid polyurethane + PVC: Fire resistance class B3 (DIN 4102)
Reference standard	Directive 2014/68/EU (PED) Art. 4 Par. 3 (pressure equipment)
	(Italian) Ministerial Decree No. 174 of 6 April 2004 (suitability of materials in contact with DHW)
	Directive 2009/125/EC (Energy-related Products)

DHW TANK 200–300 L - 1 HEAT EXCHANGER

Model	Total diameter	Total height	Diagonal size	Insulation thickness	ErP class	Dispersion	Real capacity	No-load weight
	mm	mm	mm	mm		W	L	kg
ACS 200 L - 1S	640	1215	1375	70	B	51	190	90
ACS 300 L - 1S	640	1615	1735	70	B	63	263	124



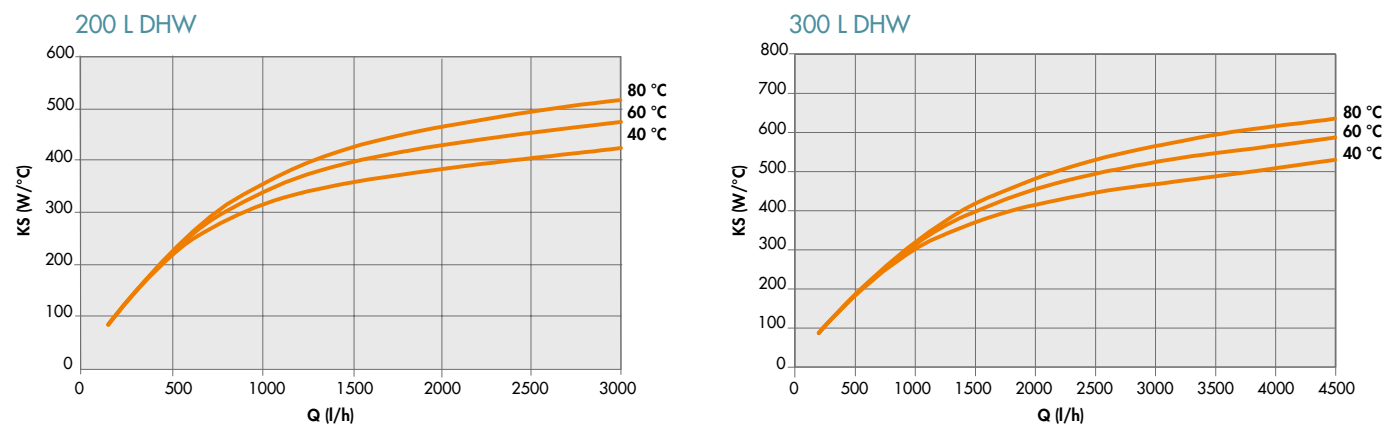
No.	TYPE OF FITTING	200 – 300
1	Hot water delivery	1"
2	Anode	1"1/4
3	Thermometer - Sensor	1/2"
4	Heating element	1"1/2
5	(Blind) pallet fitting	1/2"
6	Cold water inlet	1"
7	Heat exchanger return	1"
8	Sensor	1/2"
9	Recirculation	1/2"
10	Heat exchanger delivery	1"
11	Hot water delivery	1"1/4

Model	A	B	C	D	E	F	G	H	I	K	L	M
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
ACS 200 L - 1S	500	995	735	320	140	220	370	835	990	1070	1215	150
ACS 300 L - 1S	500	1390	945	340	140	220	395	1165	1310	1390	1615	150

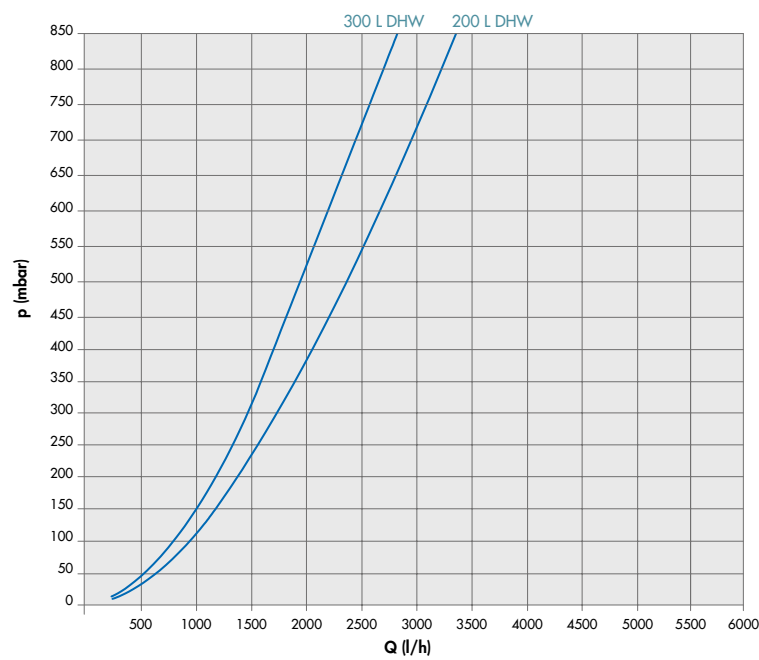
Model	Heat exchanger surface	Heat exchanger water content	Heating water 60 °C/50 °C	Power output 60 °C/50 °C	DHW production 10 °C/45 °C
	m²	L	m³/h	kW	m³/h
ACS 200 L - 1S	3	17.2	1.2	14	0.3
ACS 300 L - 1S	4	23	1.6	19	0.5

DHW TANK 200–300 L - 1 HEAT EXCHANGER

DIAGRAMS FOR THE SPECIFIC HEAT OUTPUT IN RELATION TO THE HEAT EXCHANGER INPUT TEMPERATURE



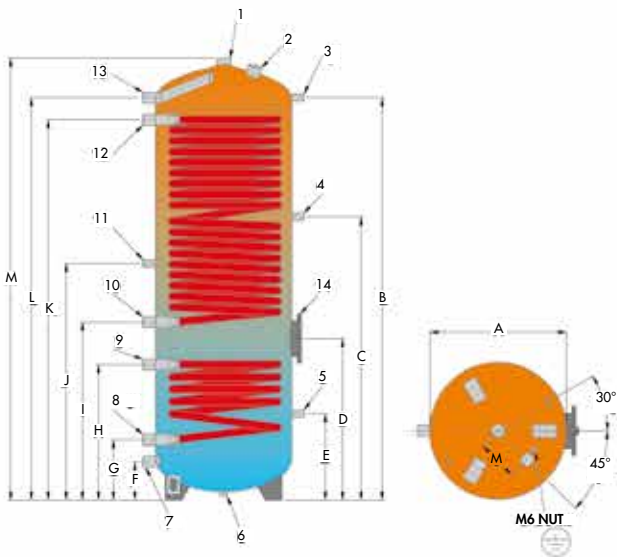
HEAD EXCHANGER HEAD LOSSES



300 L DHW TANK - DOUBLE HEAT EXCHANGER

Model	ErP class	Dispersion	Total diameter	Total height	Diagonal size	Insulation thickness
		W	mm	mm	mm	mm
ACS 300 L - 2S	B	63	640	1615	1735	70

Model	Real capacity	No-load weight	Upper heat exchanger		Lower heat exchanger	
			Surface area	Water content	Surface area	Water content
	L	kg	m²	L	m²	L
ACS 300 L - 2S	260	131	3.7	18	1.2	8



No.	TYPE OF FITTING	300
1	Hot water delivery	1"1/4
2	Anode	1"1/4
3	Thermometer - Sensor	1/2"
4	Thermometer - Sensor	1/2"
5	Thermometer - Sensor	1/2"
6	(Blind) pallet fitting	1/2"
7	Cold water inlet	1"
8	Lower heat exchanger return	1"
9	Lower heat exchanger delivery	1"
10	Upper heat exchanger return	1"
11	Recirculation	1/2"
12	Upper heat exchanger delivery	1"
13	Hot water delivery	1"
14	Flange with heating element fitting	1"1/2

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	No.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
ACS 300 L - 2S	500	1470	1035	590	315	140	220	495	650	865	1390	1470	1615	150

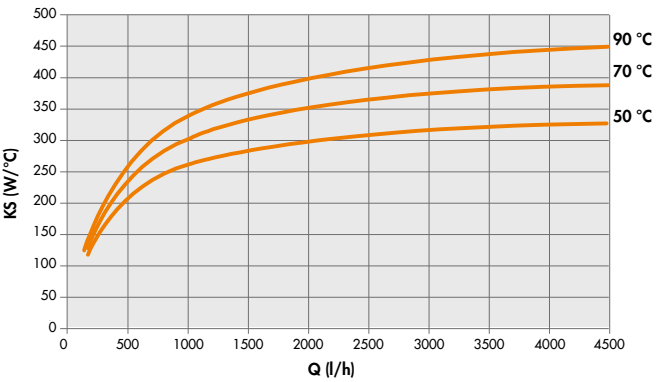
300 L DHW TANK - DOUBLE HEAT EXCHANGER

PERFORMANCES

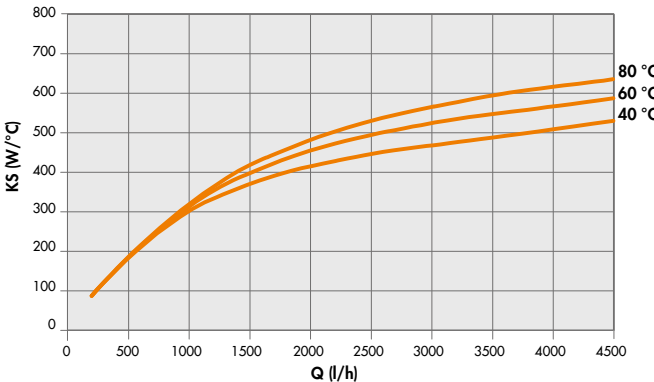
Model	Performances			
ACS 300 L - 2S	Upper heat exchanger			
	Heating water	Power output	DHW production	Head losses
	60 °C/50 °C	60 °C/50 °C	10 °C/45 °C	60 °C/50 °C
	m³/h	kW	m³/h	mbar
	1.59	18.5	0.45	31
	Lower heat exchanger			
	Heating water	Power output	DHW production	Head losses
	80 °C/60 °C	80 °C/60 °C	10 °C/45 °C	80 °C/60 °C
	m³/h	kW	m³/h	mbar
	1.25	29	0.71	17

DIAGRAMS FOR THE SPECIFIC HEAT OUTPUT IN RELATION TO THE HEAT EXCHANGER INPUT TEMPERATURE

Lower heat exchanger

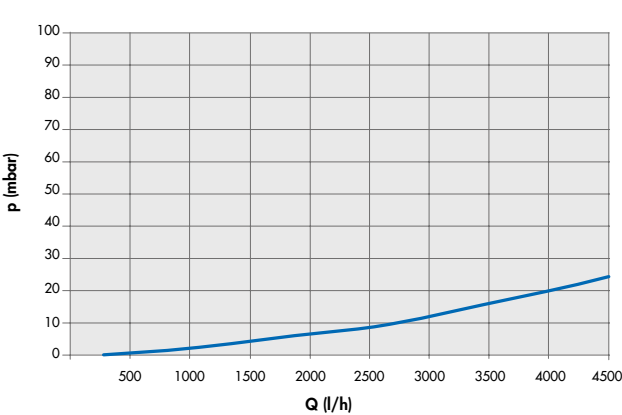


Upper heat exchanger

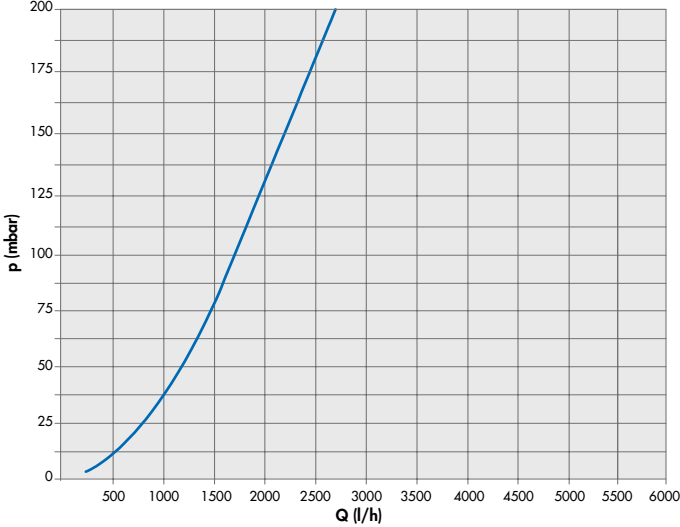


HEAD EXCHANGER HEAD LOSSES

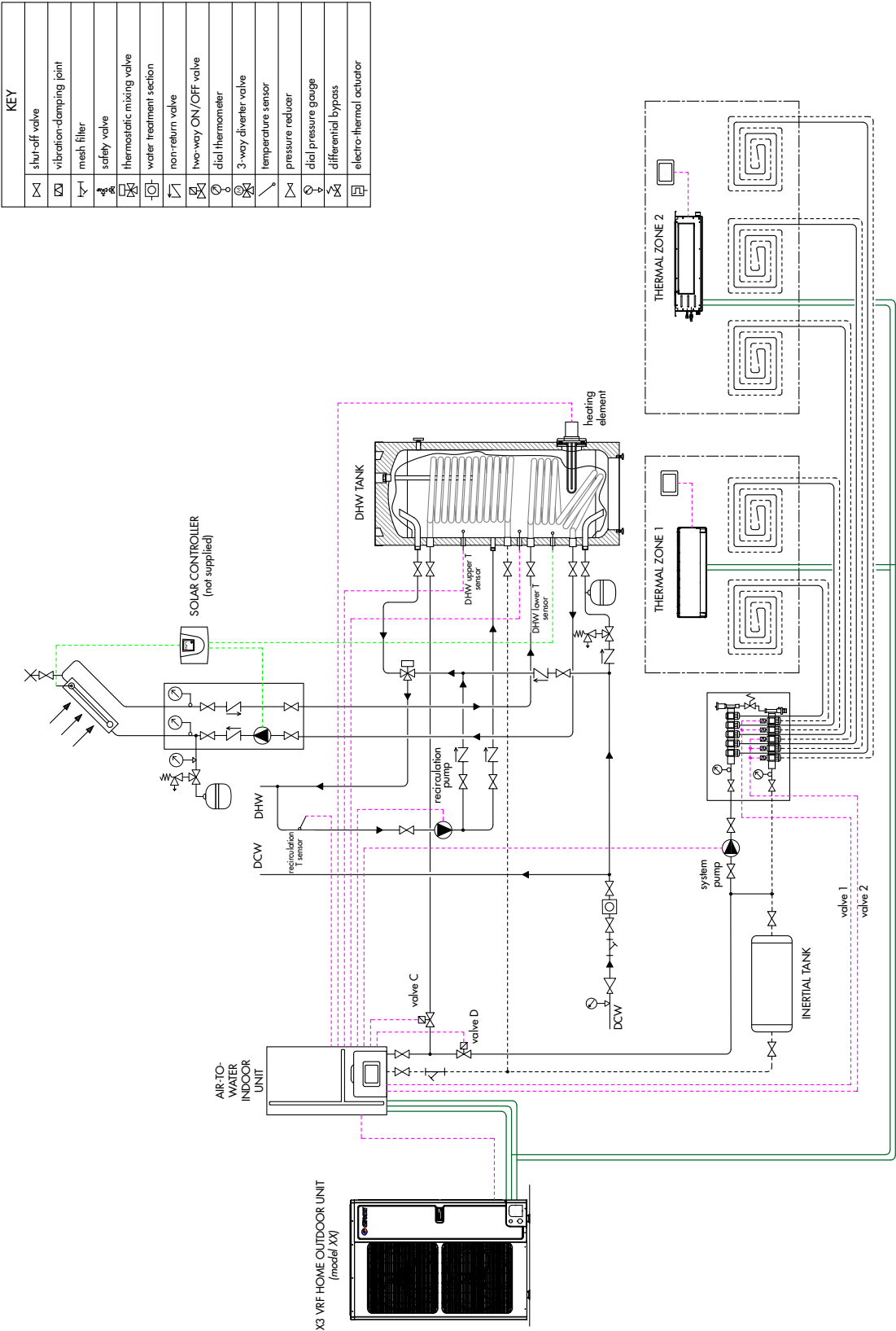
Lower heat exchanger



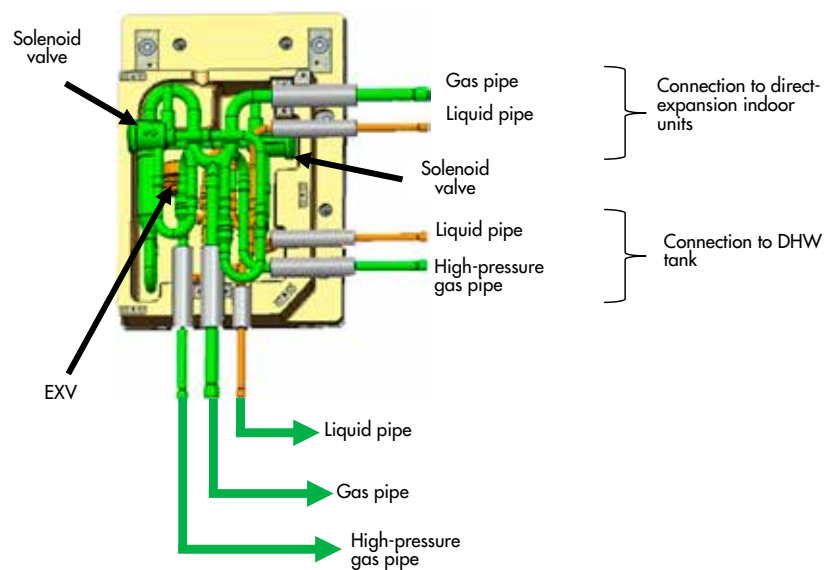
Upper heat exchanger



EXAMPLE OF DIAGRAM FOR AIR-TO-WATER INDOOR UNIT



DHW KIT TECHNICAL DATA



DHW CONVERTER



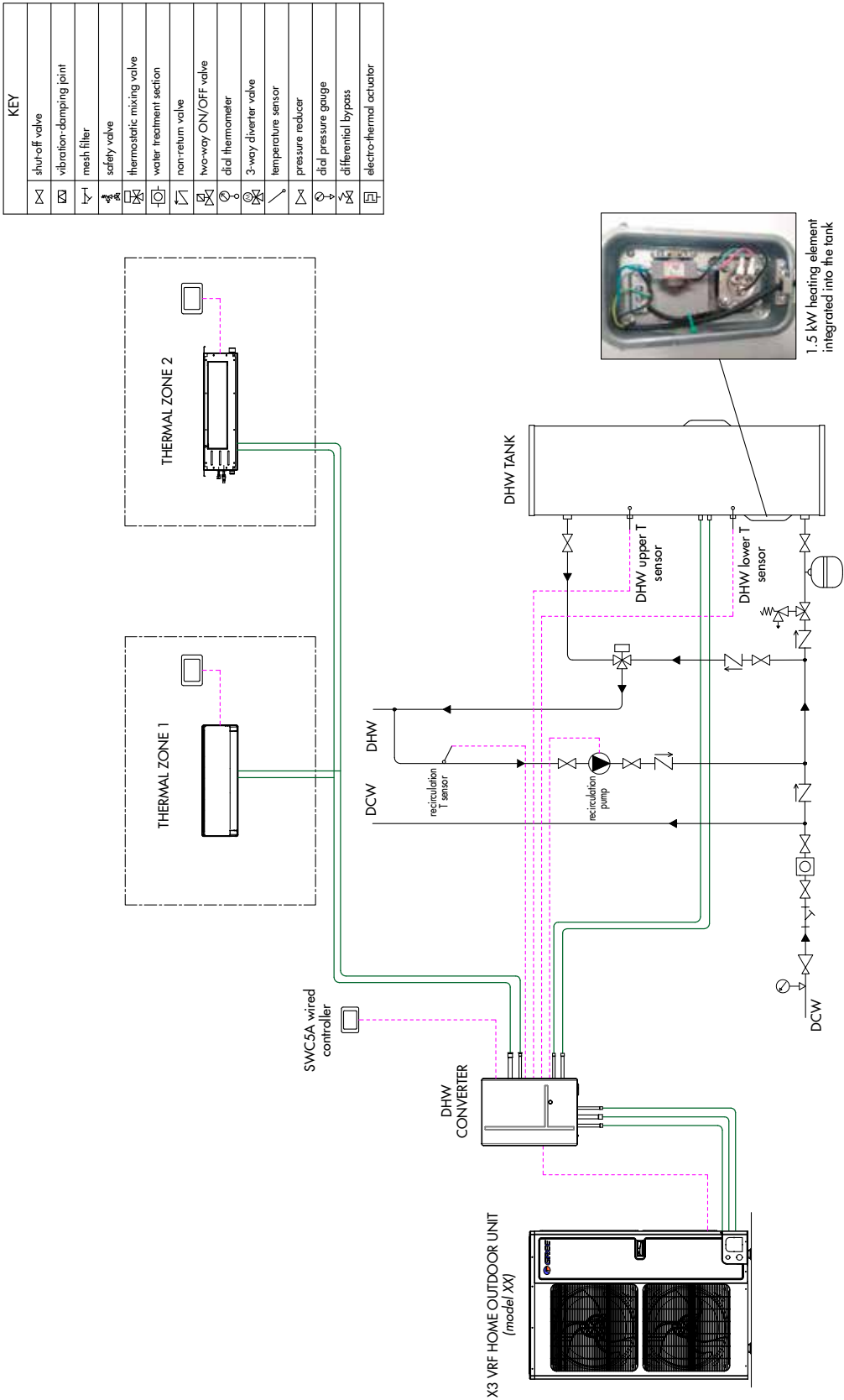
Features		Unit	Value
Heating capacity		kW	4.50
Connections to outdoor unit	Gas pipe	mm	Ø15.9
	Liquid pipe	mm	Ø9.52
	High-pressure gas pipe	mm	Ø12.7
Connections to DHW tank SXTD200LCJW/A-K	Liquid pipe	mm	Ø9.52
	High-pressure gas pipe	mm	Ø12.7
Net dimensions	Width	mm	370
	Depth	mm	135
	Height	mm	485
Net weight		kg	8.5

185 L DHW TANK FOR DHW CONVERTER



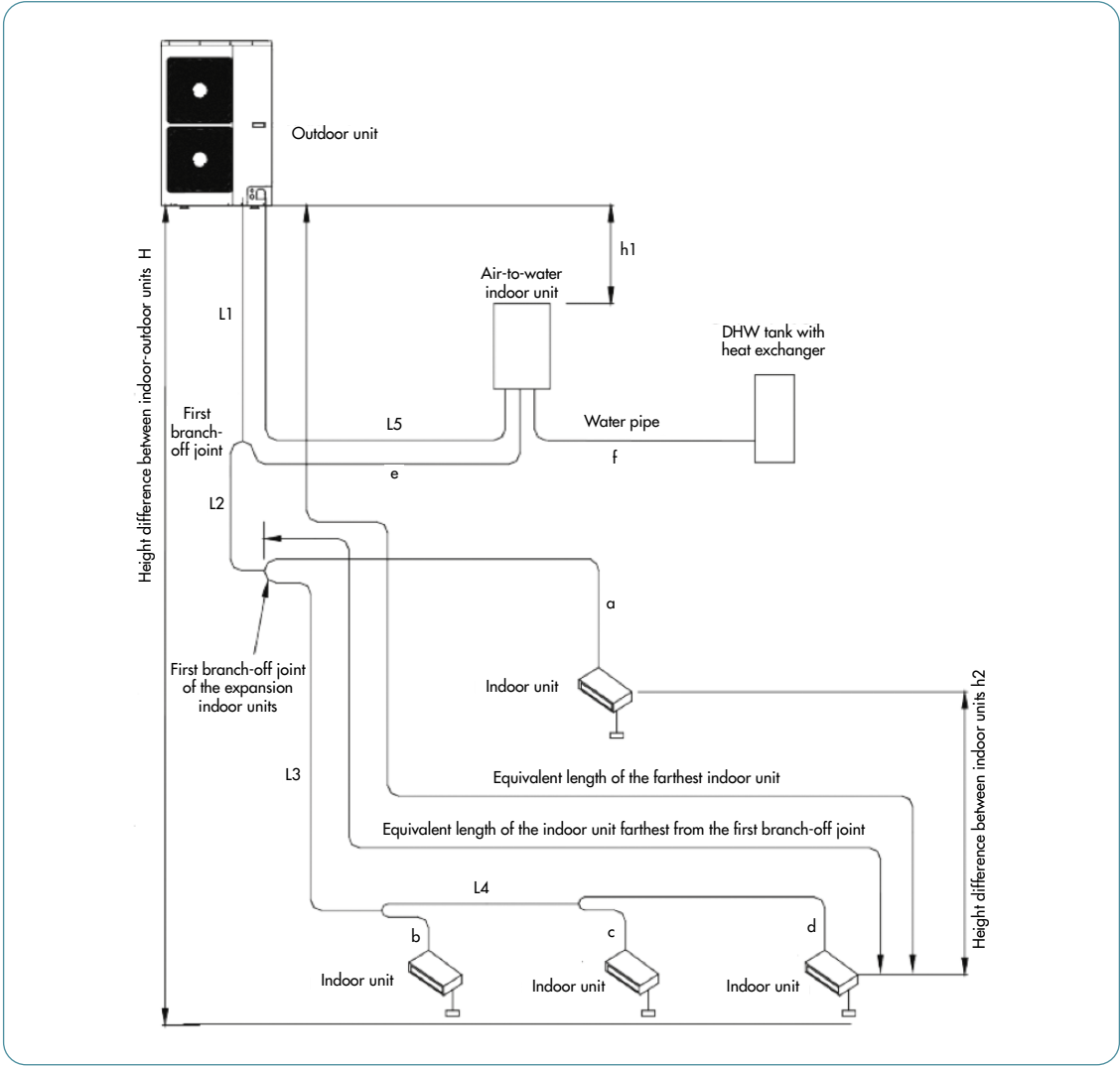
Features		Unit	Value
Capacity		l	200
Connections to Hot Water Converter	Liquid pipe	mm	Ø6.35
	High-pressure gas pipe	mm	Ø9.52
Hydraulic fittings	DCW inlet	inches	G1/2"
	DHW outlet	inches	G1/2"
	Drain	inches	G1/2"
Additional electric heating element		W	1500
Net dimensions	Width	mm	462
	Depth	mm	462
	Height	mm	1944
Net weight		kg	72.5

EXAMPLE OF DIAGRAM FOR DHW CONVERTER



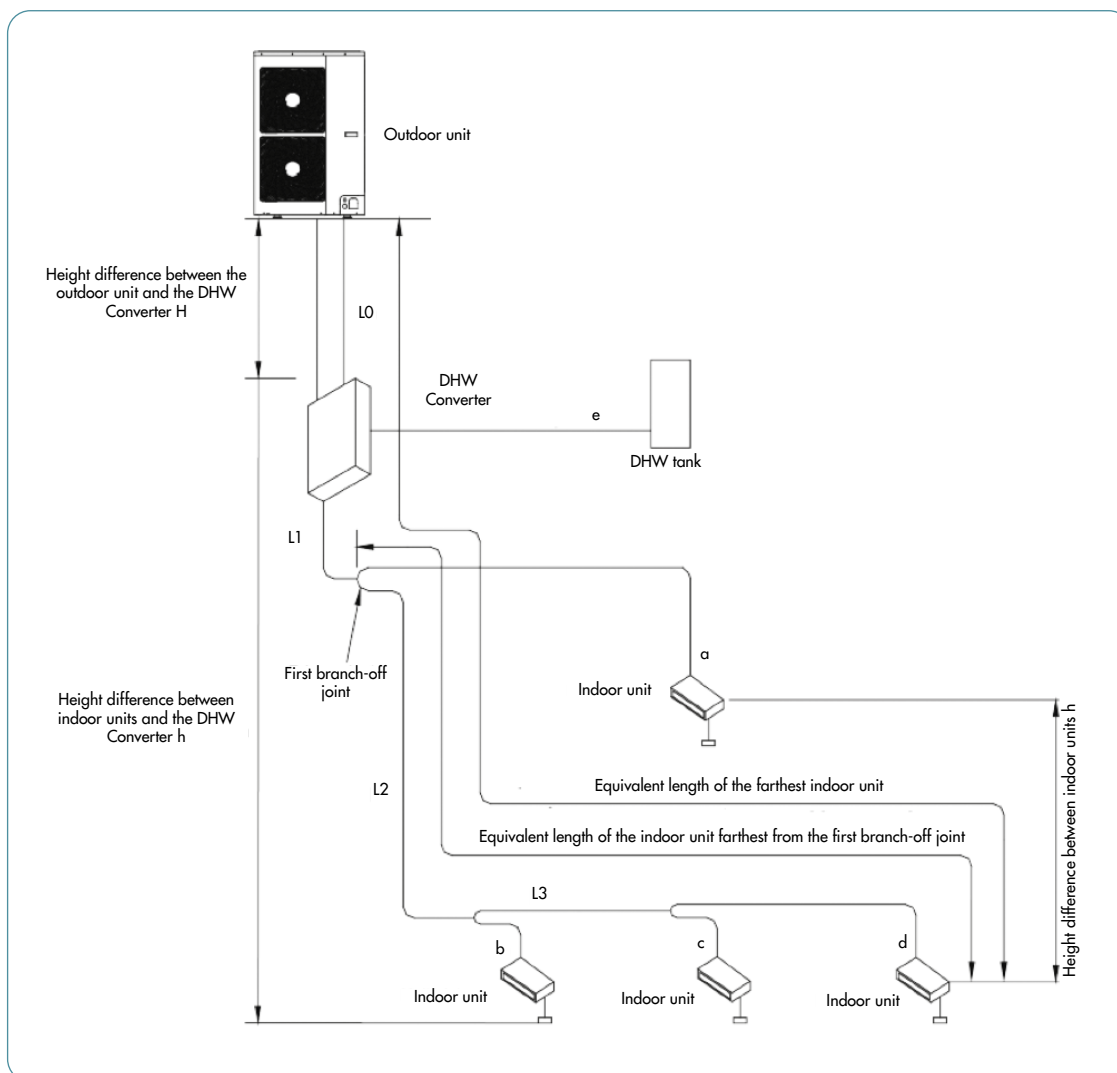
PIPING REQUIREMENTS

PIPE LENGTH LIMITS AND HEIGHT DIFFERENCE BETWEEN INDOOR AND OUTDOOR UNITS SOLUTION WITH AIR-TO-WATER INDOOR UNIT AND SINGLE-PHASE OUTDOOR UNITS



Length and height differences		Value (m)	Pipes
Total length of pipes (actual)		300	$L1 + L2 + L3 + L4 + L5 + a + b + c + d + e$
Length of the farthest pipe	Actual length	120	$L1 + L2 + L3 + L4 + d$
	Equivalent length	150	
Distance between the first branch-off joint and the farthest indoor unit		40	$L3 + L4 + d$
Height difference between the outdoor unit and the indoor units	Outdoor unit installed on top	50	---
	Outdoor unit installed on bottom	40	---
Height difference between indoor units (including the air-to-water indoor unit)		15	$h2$
Height difference between the outdoor unit and the air-to-water indoor unit		30	$h1$
Height difference between the air-to-water indoor unit and the DHW tank		3	---
Distance between the air-to-water indoor unit and the outdoor unit		30	$L5$
Distance between the air-to-water indoor unit and the DHW tank		6	f
Distance between the air-to-water indoor unit and the first branch-off joint		5	e

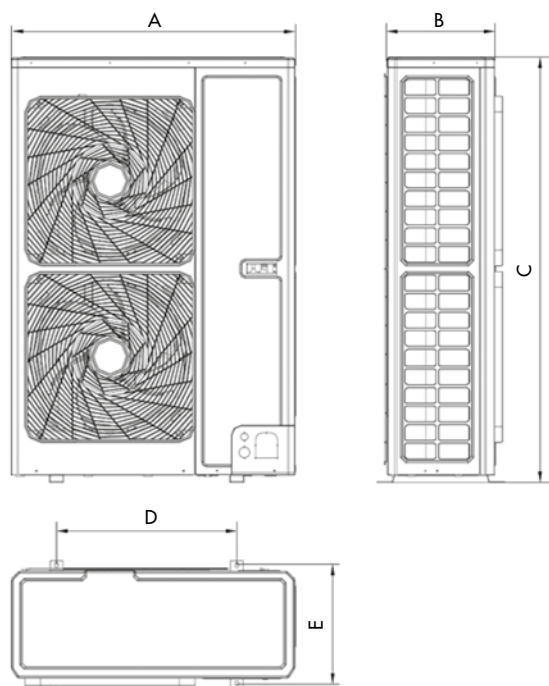
PIPE LENGTH LIMITS AND HEIGHT DIFFERENCE BETWEEN INDOOR AND OUTDOOR UNITS SOLUTION WITH DHW MODULE (DHW CONVERTER) AND SINGLE-PHASE OUTDOOR UNITS



Length and height differences		Value (m)	Pipes
Total length of pipes (actual)		300	$L0+L1+L2+L3+a+b+c+d$
Length of the farthest pipe	Actual length	120	$L0+L1+L2+L3+d$
	Equivalent length	150	
Distance between the DHW Converter and the outdoor unit		30	L0
Height difference between the outdoor unit and the DHW Converter		30	H
Distance between the DHW Converter and the DHW tank		6	e
Height difference between the DHW Converter and the DHW tank		3	---
Distance between the first branch-off joint and the farthest indoor unit		40	$L2+L3+d$
Height difference between the outdoor-indoor units	Outdoor unit installed on top	50	---
	Outdoor unit installed on bottom	40	---
Height difference between indoor units (including DHW Converter)		15	h

DIMENSIONAL DRAWINGS

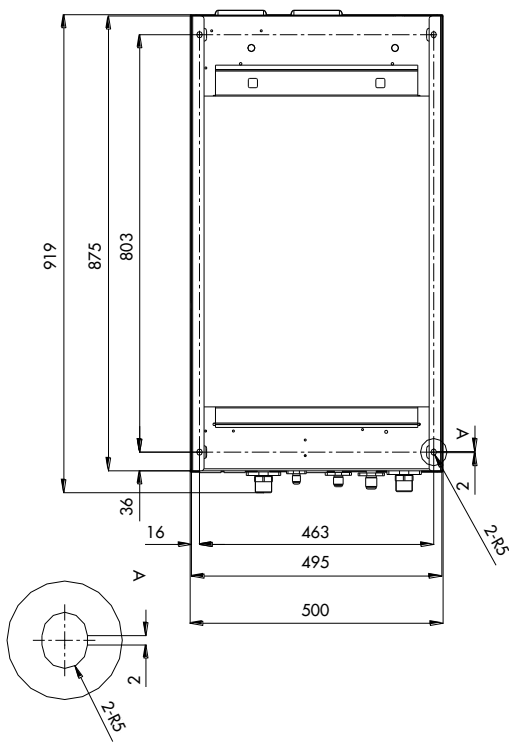
OUTDOOR UNITS



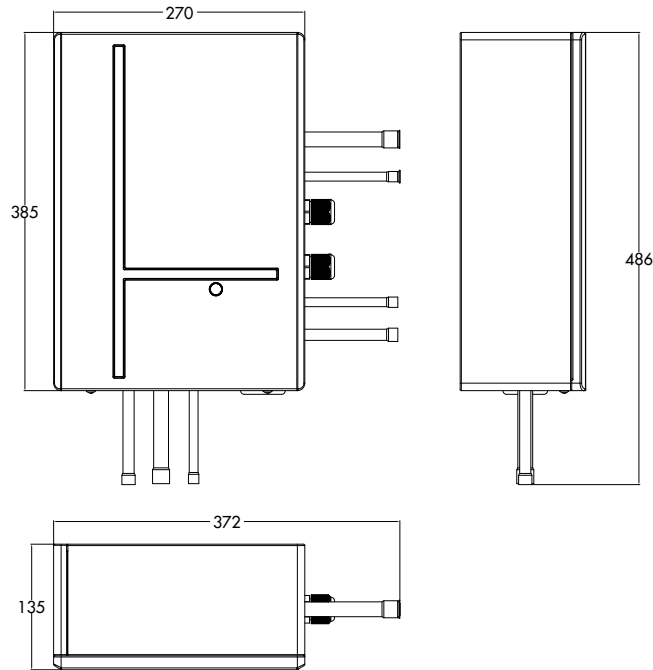
MODEL	A	B	C	D	E
AEG08MHIH	900	340	1345	572	378
AEG10MHIH					
AEG12MHIH					

HYDRONIC INDOOR UNITS

Air-to-water indoor unit

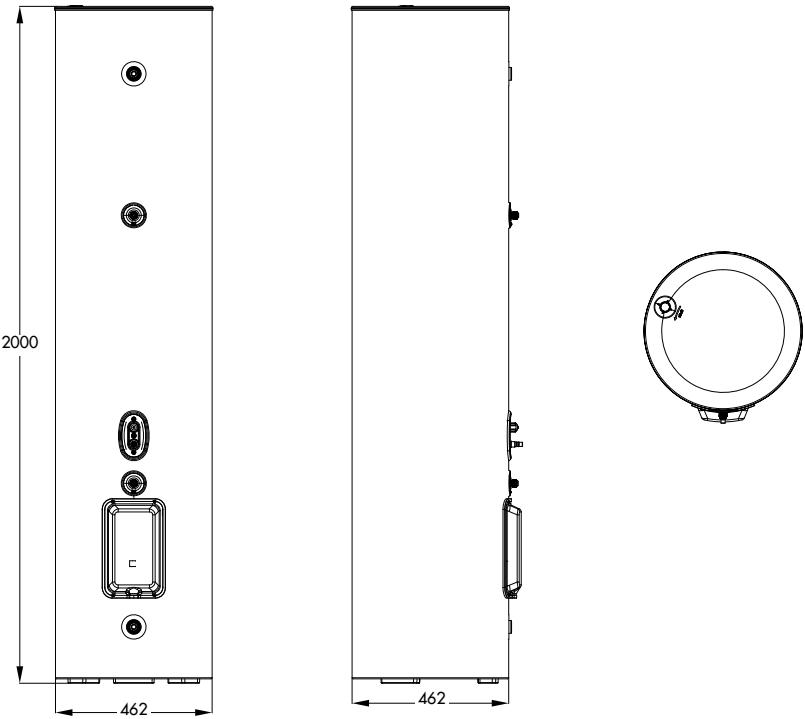


DHW Converter



ACCESSORIES FOR INDOOR UNITS

DHW tank for DHW Converter



WIRED CONTROLLERS FOR HYDRONIC INDOOR UNITS



Only the air-to-water indoor unit and the DHW Converter hydronic indoor unit require a dedicated wired controller that can be installed directly on the air-to-water indoor unit or separately on the wall in the case of the DHW Converter.

MAIN FUNCTIONS

1. Management of DHW production (DHW tank set-point, different types of production logics, disinfection, back-up, etc.)
2. Management of the heating unit (system water temperature set-point, climate compensation, management of thermal zones and user-side heat pump, etc.)

SPECIAL FUNCTIONS

- **SUNFLOWER FUNCTION (DHW production)**

DHW can only be produced when the outdoor temperature is the day's highest, so as to reduce energy consumption. The activation period is determined on the basis of the recording of the previous day's outdoor temperature.

- **AUTO FUNCTION (DHW production)**

The DHW production temperature depends on the outdoor temperature; the aim is to maintain the DHW temperature consistent with the energy consumption and requirements of the user. It is not possible to modify the SET values.

- **AUTO FUNCTION (Heating)**

The heating temperature depends on the outdoor temperature. The aim is to keep the system supply temperature consistent with the energy consumption and requirements of the user, avoiding under- or over-heating.

- **RAPID WATER HEATING FUNCTION (DHW production)**

The heat pump and the heating element in the tank work simultaneously. After use the function deactivates automatically to avoid consuming too much energy.

- **ABSENCE FUNCTION (Heating)**

This function can be applied during the winter season and allows for maintaining the room temperature between 7 °C and 12 °C. The water output temperature is equal to 25 °C.

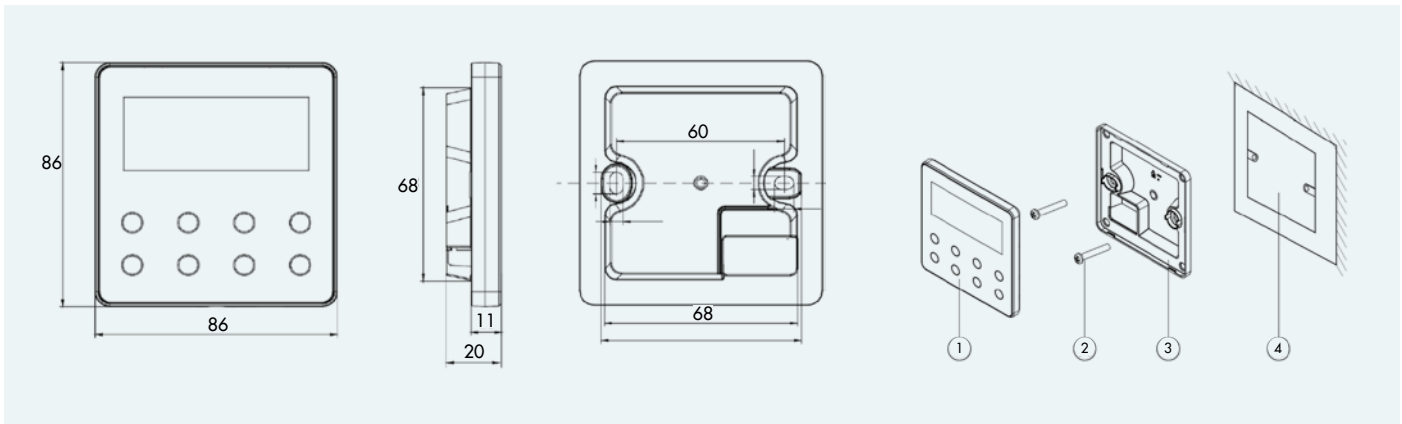
- **CLEAN FUNCTION (only for air-to-water indoor units) (Heating)**

It can be used to degas the system and/or the DHW production circuit and entails the opening of the system valves and activation of the circulator pump (both the one mounted on the air-to-water indoor unit and the one on the system side, if present, provided that it is managed through the air-to-water indoor unit).

- **SHIELD function**

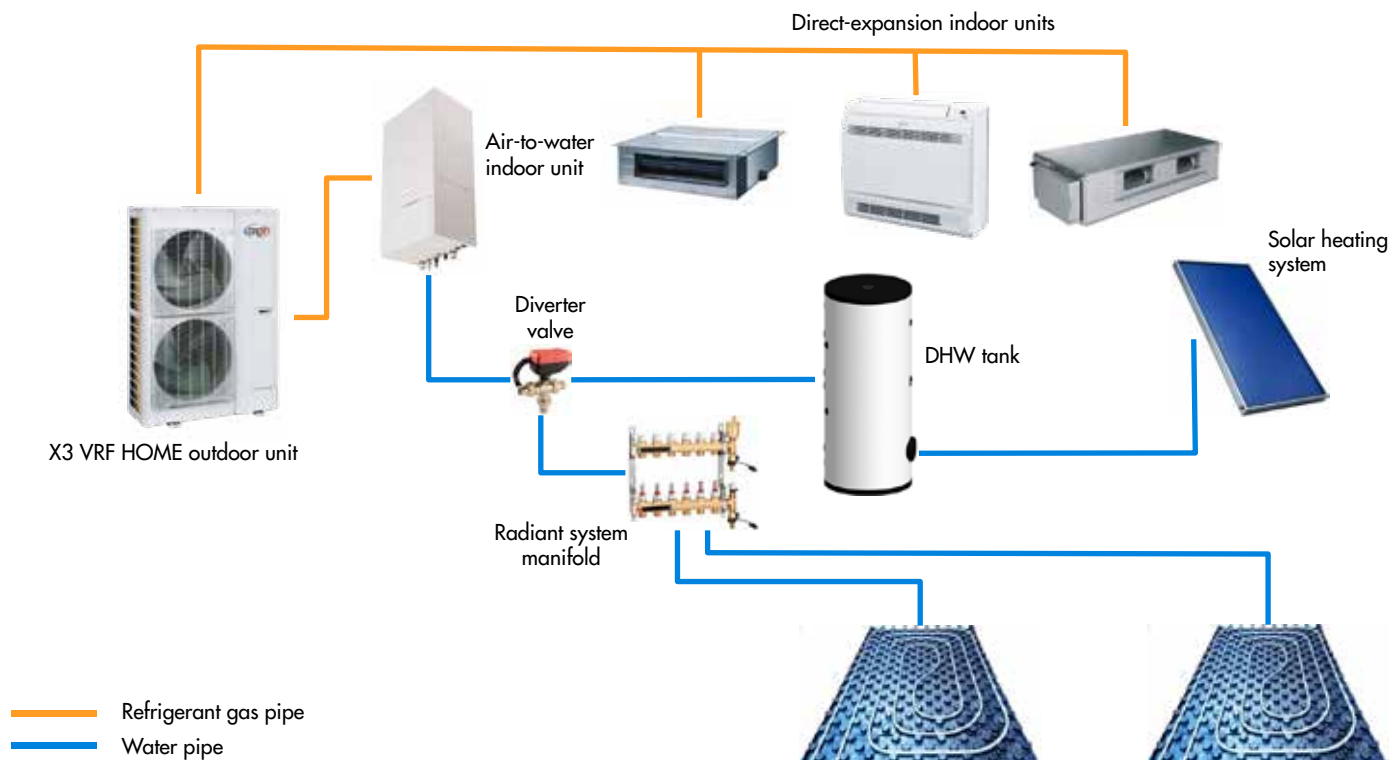
The SWC4A centralised controller, if connected to the system, can disable several of the wired controller's functions so as to allow for remote control. The SHIELD function goes in this direction, enabling the partial or total disabling of the functions on the individual wired controller.

DIMENSIONAL DRAWING

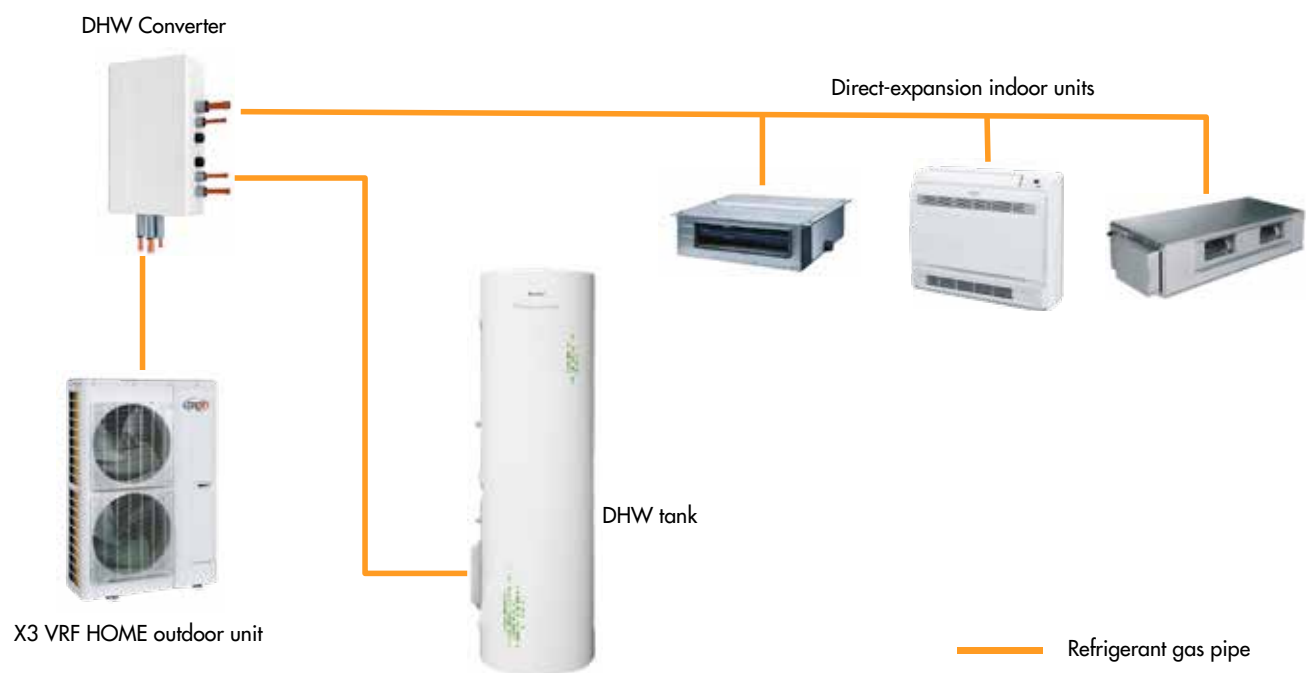


TYPES OF INSTALLATION

Typical installation: SOLUTION WITH HYDRONIC INDOOR UNIT



Typical installation: SOLUTION WITH DHW CONVERTER





INDOOR UNITS

ducted

cassette

high-wall

floor/ceiling

console






conceiled console

AHU KIT

X3 VRF

INDOOR UNIT RANGE









Code	Model	Type of indoor unit
398800018	ADGH22MH	Ducted high static pressure 
398800019	ADGH28MH	
398800020	ADGH36MH	
398800021	ADGH45MH	
398800022	ADGH56MH	
398800023	ADGH71MH	
398800024	ADGH90MH	
398800025	ADGH112MH	
398800026	ADGH140MH	
398800027	ADGH160MH	
398800028	ADGH224MH	
398800029	ADGH280MH	
398800061	SDG18MHP	Ducted low static pressure 
398800062	SDG22MHP	
398800063	SDG28MHP	
398800064	SDG36MHP	
398800065	SDG45MHP	
398800066	SDG56MHP	
398800041	ASG22MH	Compact 8-way cassette 
398800042	ASG28MH	
398800043	ASG36MH	
398800044	ASG45MH	
398800045	ASG50MH	
398800046	ASG56MH	
ASG140-160GRID	ASG140-160GRID	8-way cassette 
398800067	ASG71MH	
398800068	ASG90MH	
398800069	ASG112MH	
398800070	ASG140MH	
398100677	GRID BIG BOXES	

Code	Model	Type of indoor unit
398800047	AWG15MH	High-wall 
398800048	AWG22MH	
398800049	AWG28MH	
398800050	AWG36MH	
398800051	AWG45MH	
398800052	AWG50MH	
398800053	AWG56MH	
398800054	AWG71MH	Floor/Ceiling 
398800055	FCG28MH	
398800056	FCG36MH	
398800057	FCG50MH	
398800058	FCG71MH	
398800059	FCG112MH	
398800060	FCG140MH	Console 
398800071	AFG22MH	
398800072	AFG28MH	
398800073	AFG36MH	
398800074	AFG45MH	
398800075	AFG50MH	Conceiled console 
398800076	CFCG22MH	
398800077	CFCG28MH	
398800078	CFCG36MH	
398800079	CFCG45MH	
398800080	CFCG56MH	Interface kit for air handling unit (AHU KIT)* 
398800081	AHUKIT36	
398800082	AHUKIT71	
398800083	AHUKIT140	
398800084	AHUKIT280	
398800085	AHUKIT560	

* non usable with X3 VRF HOME

X3 VRF

CONTROL SYSTEMS RANGE

Code	Type of controller		CASSETTE	DUCTED (WITH HIGH AND LOW STATIC PRESSURE)	CONCEILED CONSOLE	HIGH-WALL	FLOOR/CEILING	CONSOLE
398800087	Remote controller		●	○	○	●	●	●
398800086	Wired controller		○	●	●	○	○	○
398800088	Hotel wired controller		○	○	○	○	○	○
398800089	Wired controller with weekly timer		○	○	○	○	○	○
398800103	Smart zone controller		○	○	○	○	○	○
398800104	Centralized controller		○	○	○	○	○	○
398800108	G-Cloud (Kit Wi-Fi)		○	○	○	○	○	○
398800105	Gateway MODBUS mini		○	○	○	○	○	○

● STANDARD
 ○ OPTIONAL



DUCTED

Ducted units with high external static pressure

Ducted units with low external static pressure

X3 VRF INDOOR UNITS

DUCTED UNITS WITH HIGH STATIC PRESSURE



**WIRED
CONTROLLER**
(Standard)



**REMOTE
CONTROLLER**
(Optional)



**HOTEL WIRED
CONTROLLER**
(Optional)



**WIRED
CONTROLLER WT**
(Optional)

DC Inverter motor

With good speed adjustment performances, the motor's efficiency has improved by 30% compared to a normal motor.

High external static pressure

The static pressure may reach 1.50 Pa, particularly suitable for places that require a broad air flow.

Easy maintenance

The system has an access port for simplifying maintenance operations.

Smart drainage device

Thanks to a height difference of the drainage pipe of up to 0.8 m,























the condensation water can be easily drained without taking up too much space.

Versatile installation

It is possible to choose between a round or rectangular cross-section profile for the channel depending on the specific needs, or between different air intake methods.

Protections

Anti-freeze protection, fan overload protection, protection in case of temperature sensor malfunctions.

 FAST Rapid cooling and heating	 Quiet mode	 Sleep mode	 iFeel	 Cold air control	 Smart defrosting	 Automatic mode	 Fan speed adjustment	 Automatic fan speed	 Turbo fan speed	 Dehumidification mode	 I-Demand energy saving	 Optional centralised controller
Optional modbus	 Optional access control	 Double wired controller	 8 °C heating	 Memory	 Self-diagnosis	 Integrated water pump except for PH models	 On/off timer	 Ambient temperature control	 Static pressure			

TECHNICAL DATA

MODEL		Unit	ADGH22MH	ADGH28MH	ADGH36MH	ADGH45MH
Capacity	Cooling	kW	2.20	2.80	3.60	4.50
	Heating	kW	2.50	3.20	4.00	5.00
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	50	50	50	50
Air flow rate (l/m/h)		m³/h	400/480/550	400/480/550	420/500/600	600/700/850
External static pressure (Factory / adjustment range)		Pa	60/0–150	60/0–150	60/0–150	60/0–150
Sound pressure level (l/m/h)*		dB(A)	28/30/33	28/30/33	29/31/33	32/34/36
Fan type			Centrifugal	Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	12.7 (1/2")	12.7 (1/2")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25	25
Net dimensions	Width	mm	700	700	700	700
	Depth	mm	700	700	700	700
	Height	mm	300	300	300	300
Dimensions with packaging	Width	mm	897	897	897	897
	Depth	mm	808	808	808	808
	Height	mm	360	360	360	360
Net weight		kg	32	32	32	34
Gross weight		kg	38	38	38	40

The technical data provided refers to the European EN14511 standard.

* Sound pressure level measured in an anechoic chamber at the following conditions: 1.4 m from the lower part of the machine.

TECHNICAL DATA

MODEL		Unit	ADGH56MH	ADGH71MH	ADGH90MH	ADGH112MH
Capacity	Cooling	kW	5.60	7.10	9.00	11.20
	Heating	kW	6.30	8.00	10.00	12.50
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	120	130	200	200
Air flow rate (l/m/h)		m³/h	600/800/1000	700/900/1100	1100/1450/1700	1100/1450/1700
External static pressure (Factory / adjustment range)		Pa	70/0–100	70/0–100	70/0–100	70/0–100
Sound pressure level (l/m/h)*		dB(A)	36/40/44	37/41/45	42/44/46	42/44/46
Fan type			Centrifugal	Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
	Liquid pipe	mm (inches)	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Type of connection		Collar	Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25	25
Net dimensions	Width	mm	1271	1271	1229	1229
	Depth	mm	558	558	775	775
	Height	mm	268	268	290	290
Dimensions with packaging	Width	mm	1348	1348	1338	1338
	Depth	mm	597	597	877	877
	Height	mm	283	283	305	305
Net weight		kg	35.0	35.0	47.0	47.0
Gross weight		kg	40.0	40.0	54.0	54.0

The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1.4 m from the lower part of the machine.

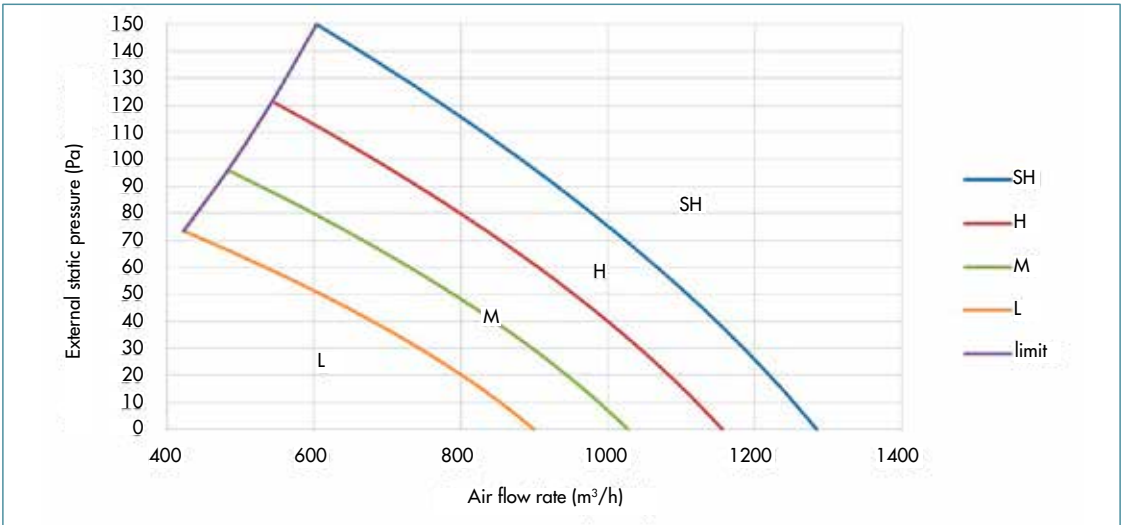
MODEL		Unit	ADGH140MH	ADGH160MH	ADGH224MH	ADGH280MH
Capacity	Cooling	kW	14.00	16.00	22.40	28.00
	Heating	kW	16.00	17.00	25.00	31.00
Power supply		V/Ph/Hz	220-240 - /1/50 208-230 - /1/60	220-240 - /1/50 208-230 - /1/60	220-240 - /1/50 208-230 - /1/60	220-240 - /1/50 208-230 - /1/60
Power input		W	220	230	800	900
Air flow rate (l/m/h)		m ³ /h	1400/1700/2000	1700/2000/2650	4,000	4,400
External static pressure (Factory / adjustment range)		Pa	70/0-100	70/0-150	100/50-200	100/50-200
Sound pressure level (l/m/h)*		dB(A)	44/46/48	46/48/50	54	55
Fan type		Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Fan motor type		Type	Inverter	Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
	Liquid pipe	mm (inches)	15.88 (5/8")	15.88 (5/8")	19.05 (3/4")	22.2 (7/8")
	Type of connection		Collar	Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	2.5	2.5
Net dimensions	Width	mm	1229	1340	1483	1483
	Depth	mm	775	750	791	791
	Height	mm	290	305	385	385
Dimensions with packaging	Width	mm	1338	1338		
	Depth	mm	877	877		
	Height	mm	305	305		
Net weight		kg	47.0	47.0	82.0	105.0
Gross weight		kg	54.0	60.0		

The technical data provided refers to the European EN14511 standard.

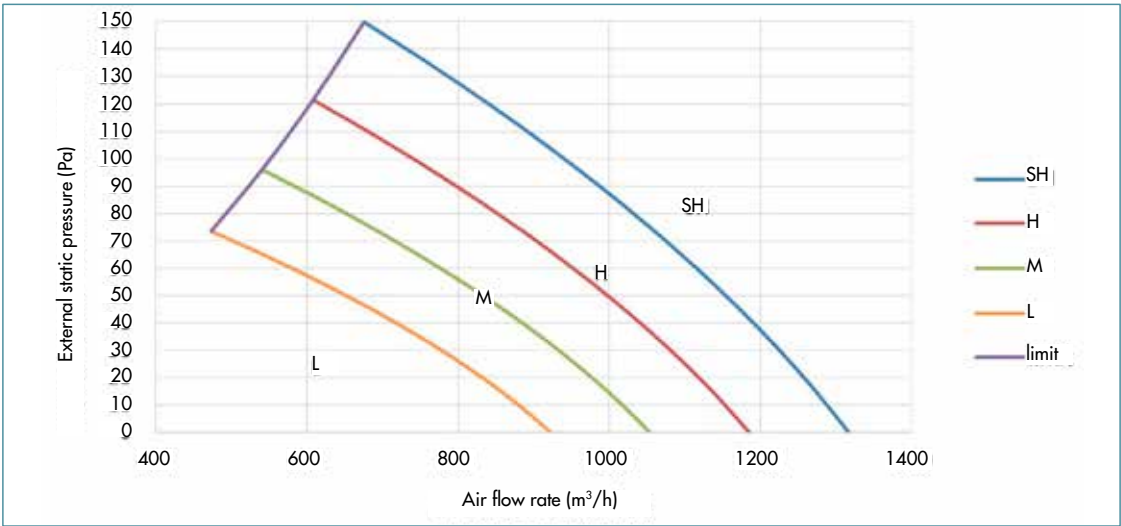
* Sound pressure level measured in an anechoic chamber at the following conditions: 1.4 m from the lower part of the machine.

EXTERNAL STATIC PRESSURE/AIR FLOW RATE CURVES

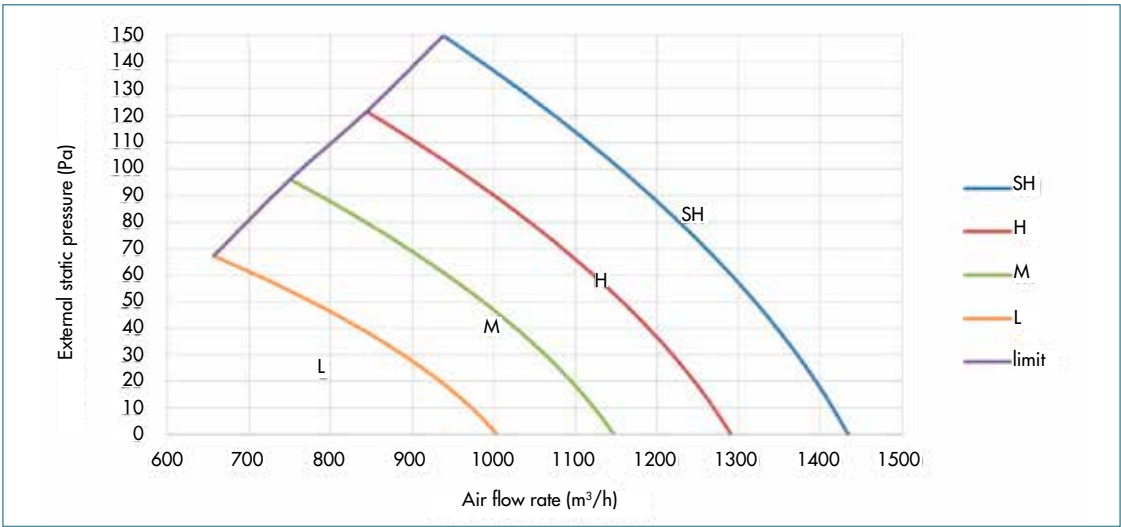
ADGH22MH - ADGH28MH



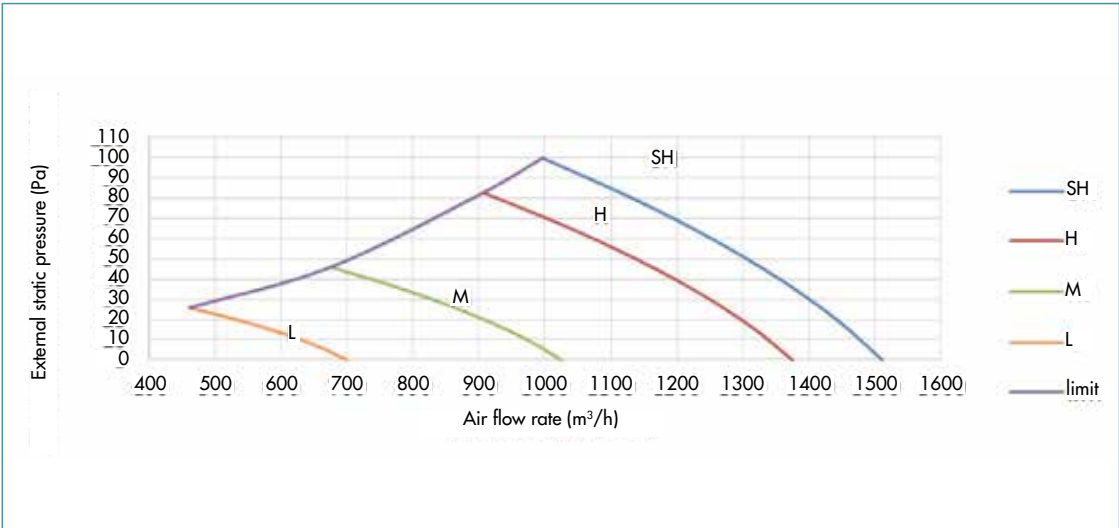
ADGH36MH



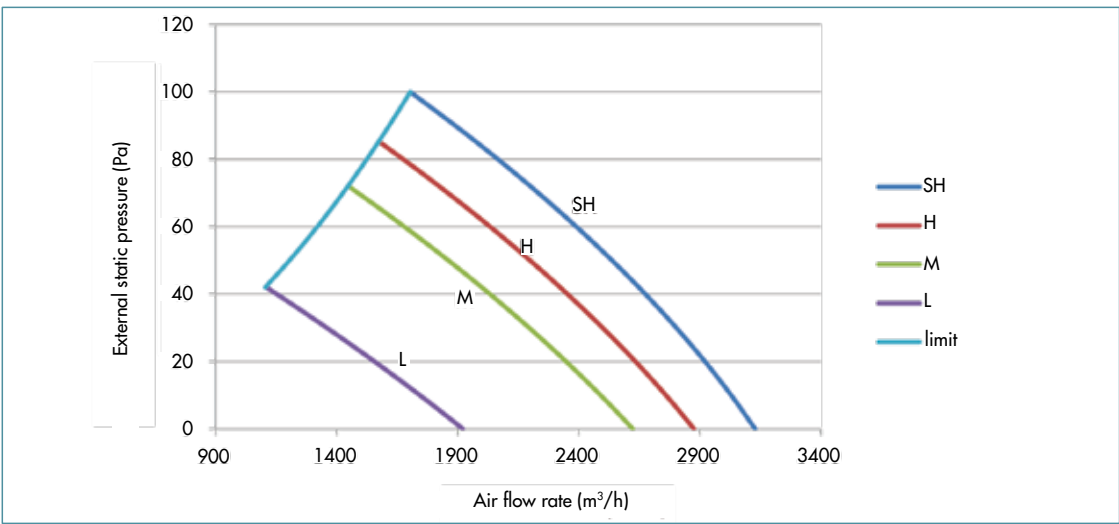
ADGH45MH



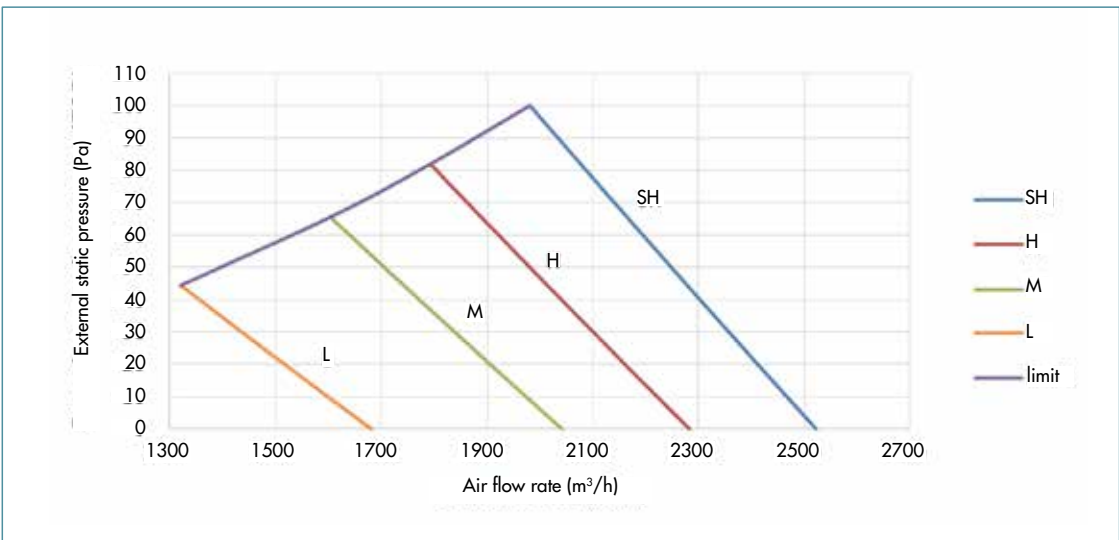
ADGH56MH - ADGH71MH



ADGH90MH - ADGH112MH

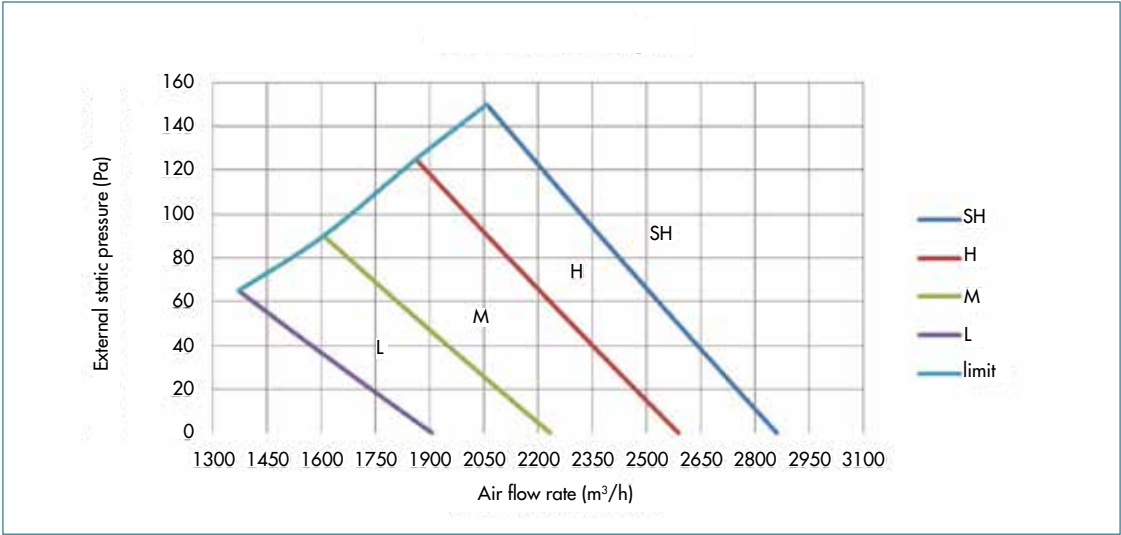


ADGH140MH

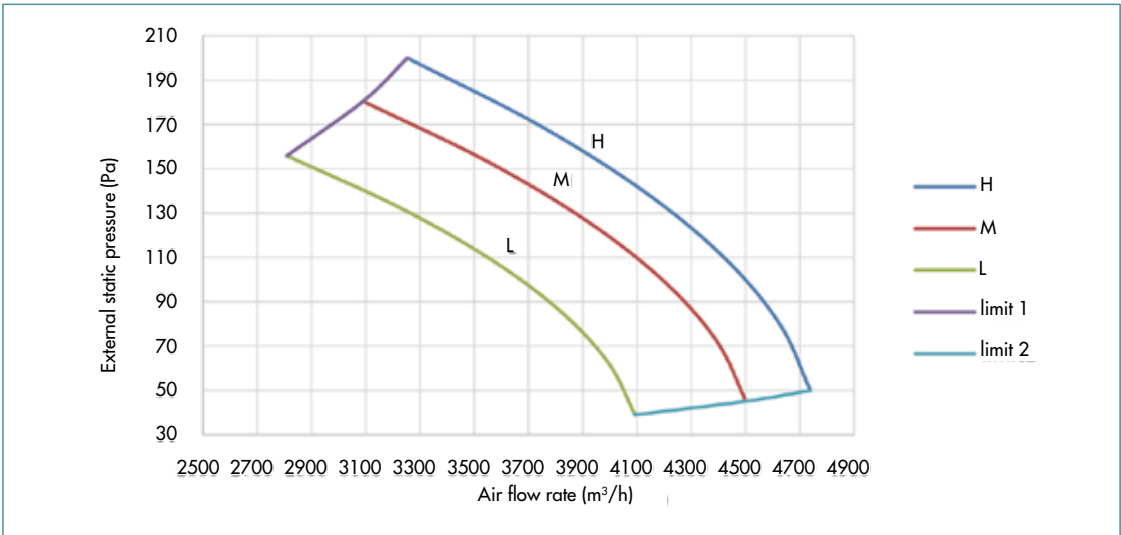


EXTERNAL STATIC PRESSURE/AIR FLOW RATE CURVES

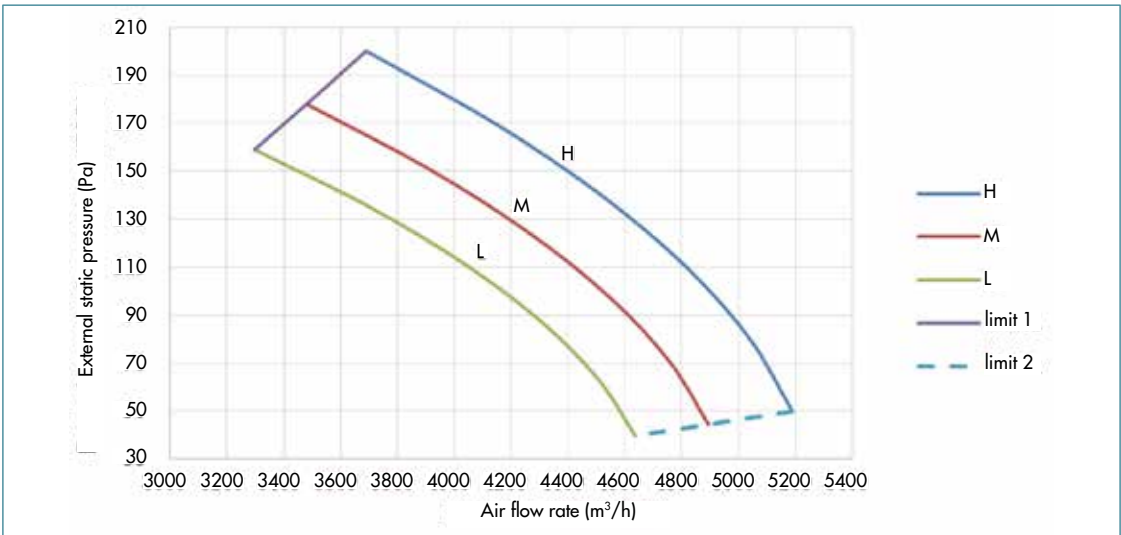
ADGH160MH



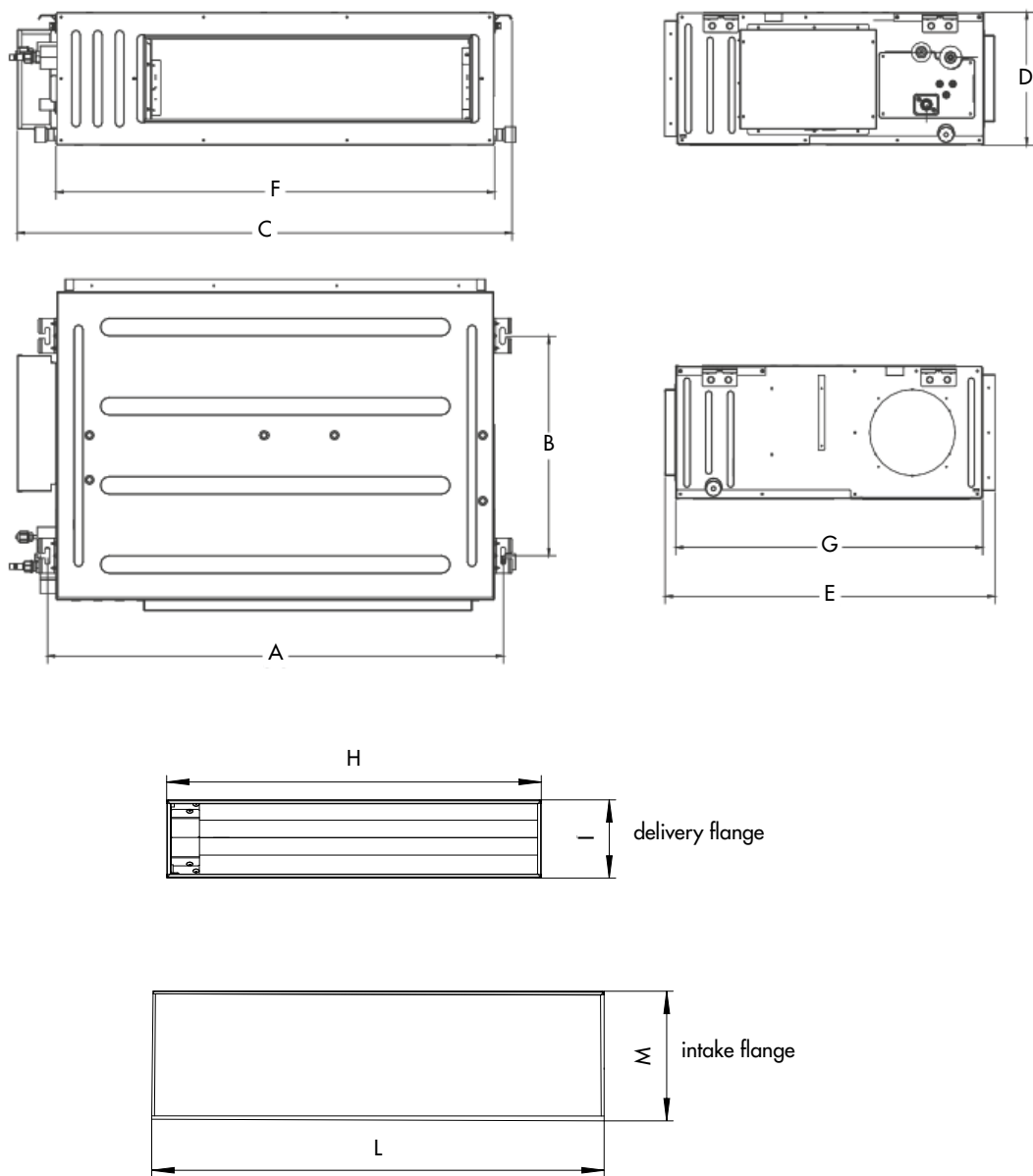
ADGH2024MH



ADGH280MH

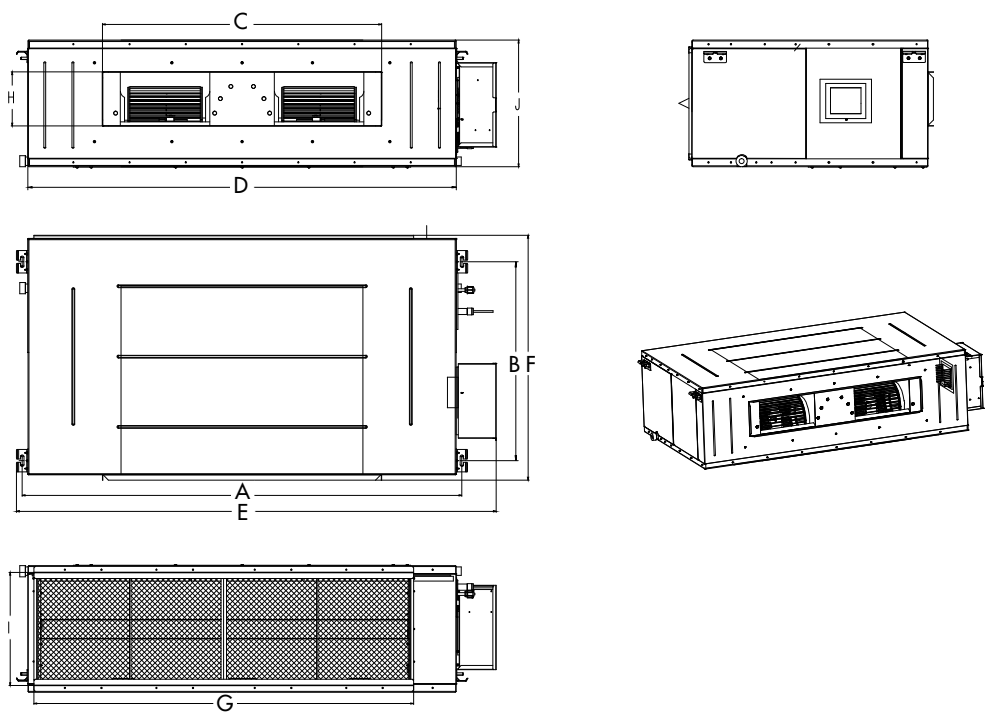


DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E	F	G	H	I	L	M
ADGH22MH ADGH28MH ADGH36MH ADGH45MH	740	500	830	300	754	700	700	451	195	660	264

DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E	F	G	H	I	J
ADGH56MH	1101	517	820	1159	1271	558	1002	160	235	268
ADGH71MH	1101	517	820	1159	1271	558	1002	160	235	268
ADGH90MH	1011	748	820	1115	1229	775	979	160	231	290
ADGH112MH	1011	748	820	1115	1229	775	979	160	231	290
ADGH140MH	1011	748	820	1115	1229	775	979	160	231	290
ADGH160MH	1177	646	852	1150	1340	750	953	190	316	350

MODEL	A	B	C	D	E	F	G	H	I	J
ADGH224MH	1353	632	992	1315	1483	791	1150	192	327	385
ADGH280MH	1563	706	992	1524	1686	870	1350	192	402	450

X3 VRF INDOOR UNITS

DUCTED UNITS WITH LOW EXTERNAL STATIC PRESSURE



**WIRED
CONTROLLER**
(Standard)



**REMOTE
CONTROLLER**
(Optional)



**HOTEL WIRED
CONTROLLER**
(Optional)



**WIRED
CONTROLLER WT**
(Optional)

DC Inverter motor

With good speed adjustment performances, the motor’s efficiency has improved by 30% compared to a normal motor.

Low external static pressure, adjustable to between 0 and 30 Pa

This unit is especially suited to rooms with a compact structure or to small installation spaces. It guarantees a comfortable and silent environment.

Easy maintenance

























Maintenance is made easier also thanks to the plastic tab filter, the detachable fan motor, the independent condensate drainage pump assembly and the electrical panel assembly.

Smart drainage device

Thanks to a height difference of the drainage pipe of up to 1.2 m, the condensation water can be easily drained without taking up too much space.

Protections

Protection against condensate overflow, anti-freeze protection, fan overload protection, protection in case of temperature sensor malfunctions.

 FAST Rapid cooling and heating	 Quiet mode	 Sleep mode	 iFeel	 Cold air control	 Smart defrosting	 Automatic mode	 Fan speed adjustment	 AUTO Automatic fan speed	 Turbo Turbo fan speed	 Dehumidification mode	 I-Demand energy saving	 Wifi Wi-Fi and app (optional)
 Optional centralised controller	 Optional modbus	 Optional access control	 Double wired controller	 8 °C heating	 Memory	 Self-diagnosis	 Integrated water pump	 On/off timer	 Ambient temperature control	 Static pressure		

TECHNICAL DATA

MODEL		Unit	SDG18MHWP	SDG18MHWP	SDG18MHWP
Capacity	Cooling	kW	1.80	2.20	2.80
	Heating	kW	2.20	2.50	3.60
Power supply		V/Ph/Hz	220-240/208-230 – /1/50/60	220-240/208-230 – /1/50/60	220-240/208-230 – /1/50/60
Power input		W	28	28	28
Air flow rate (l/m/h)		m³/h	200/350/450	200/350/450	200/350/450
External static pressure (factory / adjustment range)		Pa	15/0–30	15/0–30	15/0–30
Sound pressure level (l/m/h)*		dB(A)	22/25/30	22/25/30	22/25/30
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/t. CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25
Net dimensions	Width	mm	710	710	710
	Depth	mm	462	462	462
	Height	mm	200	200	200
Dimensions with packaging	Width	mm	1008	1008	1008
	Depth	mm	568	568	568
	Height	mm	275	275	275
Net weight		kg	18.5	18.5	18.5
Gross weight		kg	23.5	23.5	23.5

The technical data provided refers to the European EN14511 standard.
* The sound pressure level was measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

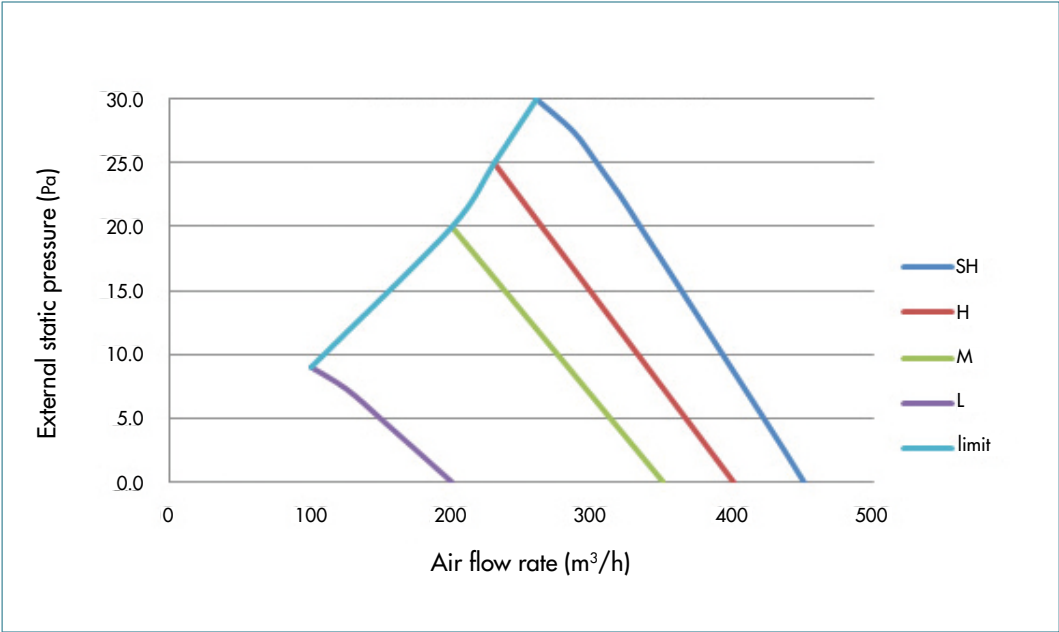
MODEL		Unit	SDG18MHWP	SDG18MHWP	SDG18MHWP
Capacity	Cooling	kW	3.60	4.50	5.60
	Heating	kW	4.00	5.00	6.30
Power supply		V/Ph/Hz	220-240/208-230 - /1/50/60	220-240/208-230 - /1/50/60	220-240/208-230 - /1/50/60
Power input		W	37	40	55
Air flow rate (l/m/h)		m³/h	300/400/550	400/550/750	550/700/850
External static pressure (factory / adjustment range)		Pa	15/0-30	15/0-30	15/0-30
Sound pressure level (l/m/h)*		dB(A)	25/27/31	27/29/33	29/31/35
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/t. CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	12.70 (1/2")	12.70 (1/2")	15.88 (5/8")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25
Net dimensions	Width	mm	710	1010	1010
	Depth	mm	462	462	462
	Height	mm	200	200	200
Dimensions with packaging	Width	mm	1008	1308	1308
	Depth	mm	568	568	568
	Height	mm	275	275	275
Net weight		kg	19.0	25.0	25.0
Gross weight		kg	24.0	31.0	31.0

The technical data provided refers to the European EN14511 standard.

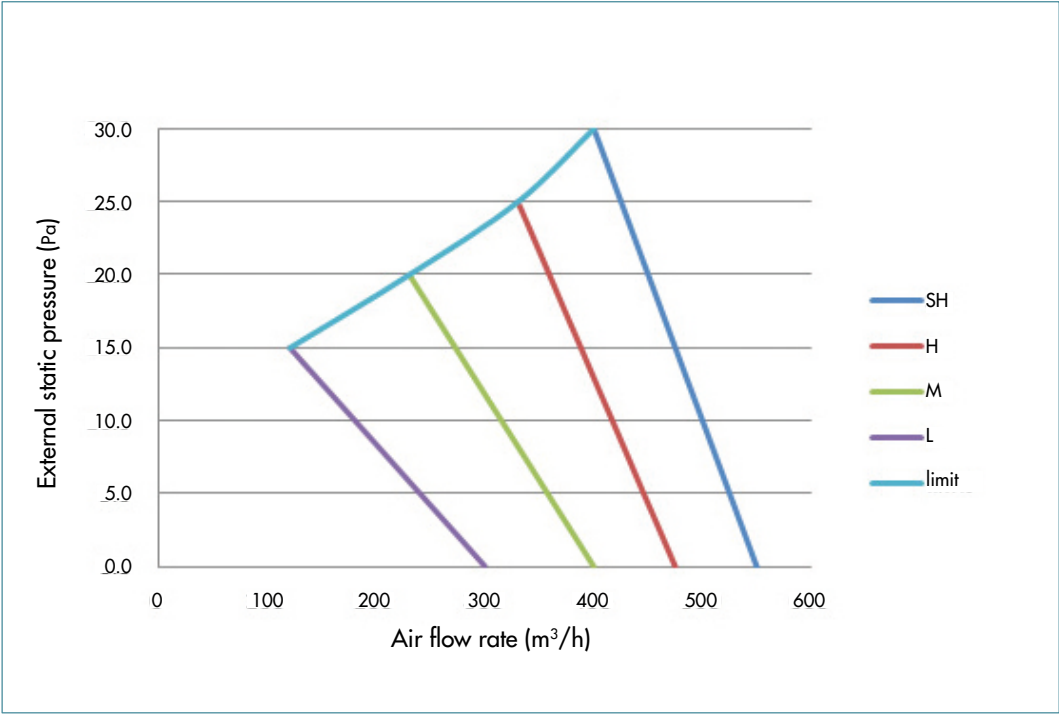
* The sound pressure level was measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

EXTERNAL STATIC PRESSURE/AIR FLOW RATE CURVES

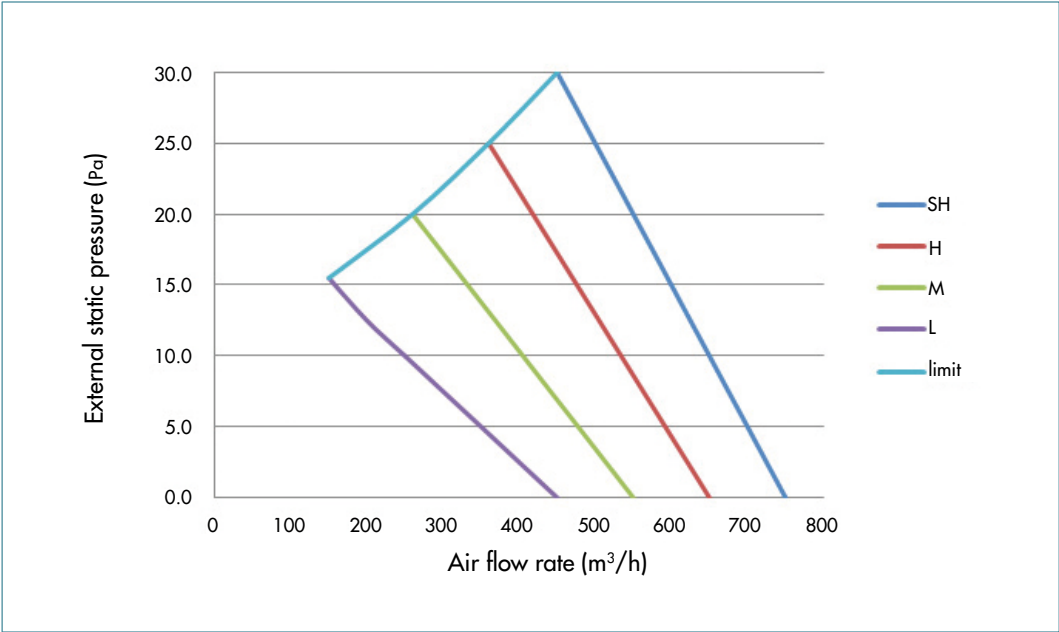
SDG18MHWP - SDG22MHWP - SDG28MHWP



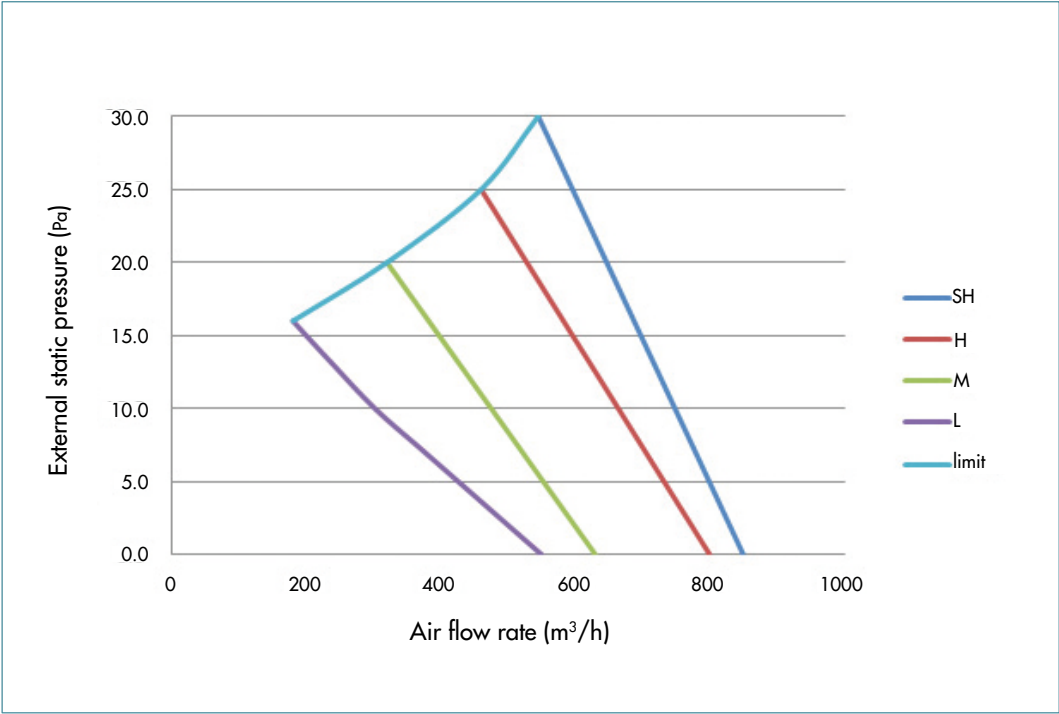
SDG36MHWP



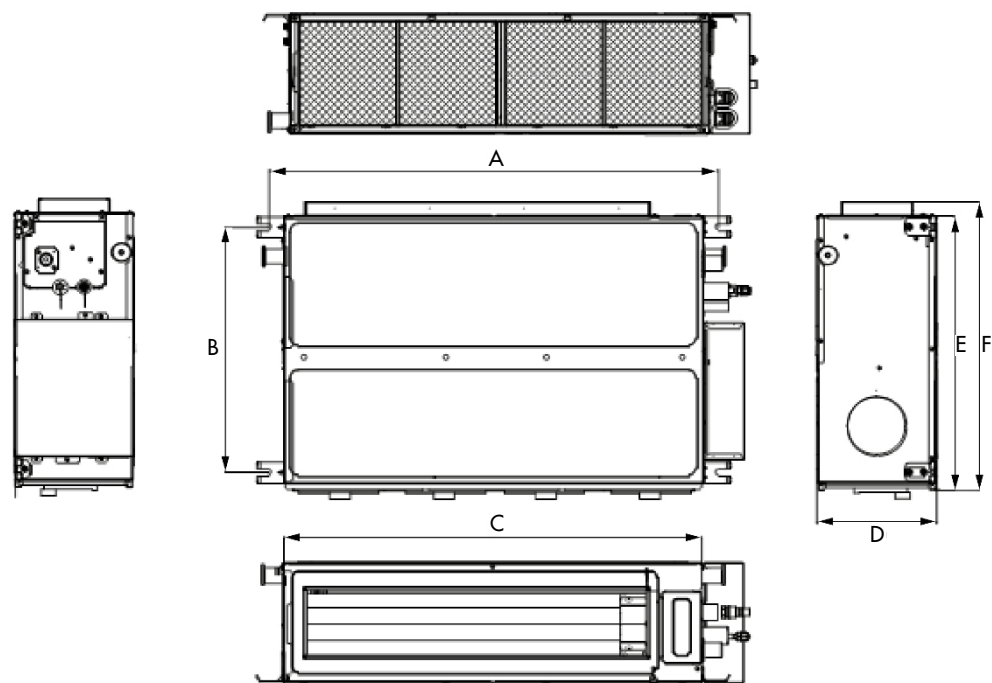
SDG45MHWP



SDG56MHWP



DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E	F
SDG18MHWP	760	415	710	200	462	486
SDG22MHWP						
SDG28MHWP						
SDG36MHWP						
SDG45MHWP	1060	415	1010	200	462	486
SDG56MHWP						

NOTES



CASSETTE

Compact 8-way cassette

8-way cassette

X3 VRF INDOOR UNITS

COMPACT 8-WAY CASSETTE



REMOTE
CONTROLLER
(Optional)



WIRED
CONTROLLER
(Optional)



HOTEL WIRED
CONTROLLER
(Optional)



WIRED
CONTROLLER WT
(Optional)

Air delivery at 360°

Attractively designed 8-way cassette suitable for being used in the commercial and tertiary sectors.

DC Inverter motor

With good speed adjustment performances, the motor's efficiency has improved by 30% compared to a normal motor.

Compact design for straightforward installation

Since the units all have the same length and width, the ceiling openings and dimensions of the panels are unchanged, making both the projects and installation easier.

Smart condensate drainage device

Thanks to a height difference of the drainage pipe of up to 1 m, the condensation water can be easily drained without taking up too much space.

The incorporated condensate drainage pump is also very silent.

Extremely low noise level during operation

The DC Inverter motor is able to adjust the speed in a linear way to reduce the noise level. The indoor unit can also be set so that it functions in the automatic silent mode through the wired controller.

 FAST Rapid cooling and heating	 Quiet mode	 Sleep mode	 iFeel	 Cold air control	 Smart defrosting	 Automatic mode	 Automatic swinging	 Fixed swinging	 Fan speed adjustment	 Automatic fan speed	 Turbo fan speed	 Dehumidification mode
 Optional centralised controller	 Optional modbus	 Optional access control	 Double wired controller	 8 °C heating	 Memory	 Self-diagnosis	 Integrated water pump	 On/off timer	 Ambient temperature control			

TECHNICAL DATA

MODEL		Unit	ASG22MH	ASG28MH	ASG36MH
Capacity	Cooling	kW	2.20	2.80	3.60
	Heating	kW	2.50	3.20	4.00
Power supply		V/Ph/Hz	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60
Air flow rate (l/m/h)		m ³ /h	370/460/500	420/480/570	480/550/620
Power input		W	30	30	30
Sound pressure level (l/m/h)*		dB(A)	25/31/36	28/33/36	35/37/39
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	12.7 (1/2")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25
Net dimensions	Width	mm	570	570	570
	Depth	mm	570	570	570
	Height	mm	265	265	265
Dimensions with packaging	Width	mm	620	620	620
	Depth	mm	620	620	620
	Height	mm	47.5	47.5	47.5
Net weight of unit / grille		kg	17.5/3.0	17.5/3.0	17.5/3.0
Gross weight of unit / grille		kg	25.5/4.5	25.5/4.5	25.5/4.5

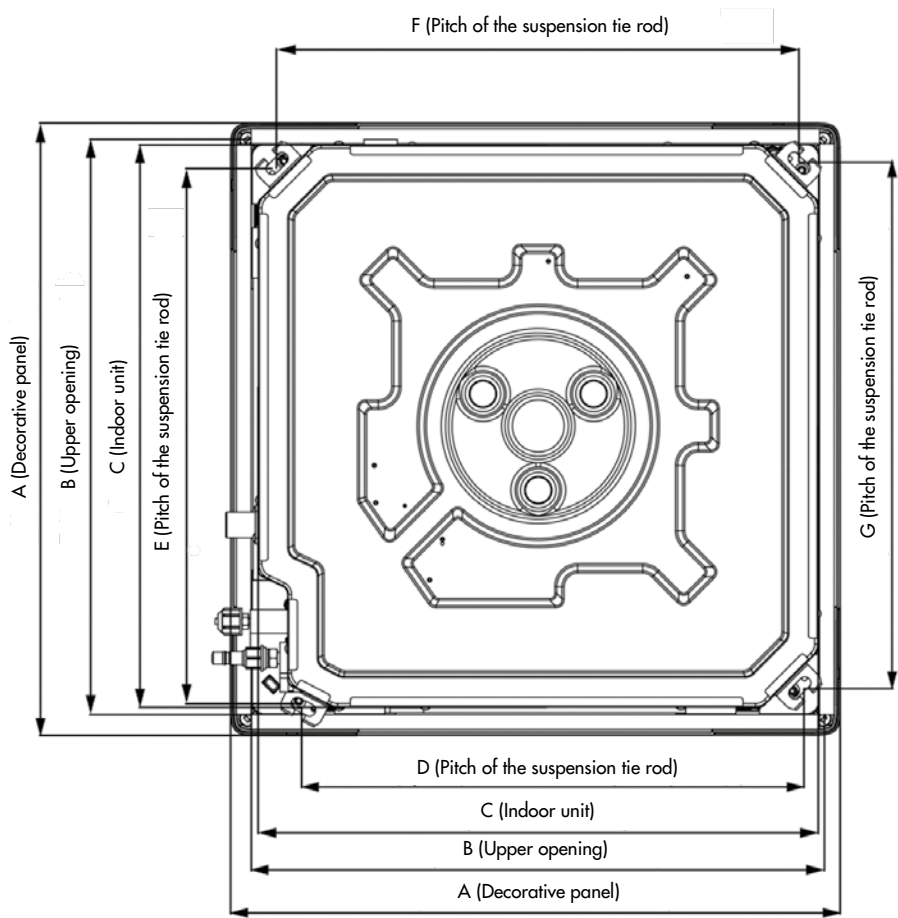
The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

TECHNICAL DATA

MODEL		Unit	ASG45MH	ASG50MH	ASG56MH
Capacity	Cooling	kW	4.50	5.00	5.60
	Heating	kW	5.00	5.60	6.30
Power supply		V/Ph/Hz	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60
Air flow rate (l/m/h)		m³/h	560/650/730	560/650/730	560/650/730
Power input		W	45	45	45
Sound pressure level (l/m/h)*		dB(A)	39/41/43	39/41/43	39/41/43
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	12.7 (1/2")	12.7 (1/2")	15.88 (5/8")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25
Net dimensions	Width	mm	570	570	570
	Depth	mm	570	570	570
	Height	mm	265	265	265
Dimensions with packaging	Width	mm	620	620	620
	Depth	mm	620	620	620
	Height	mm	47.5	47.5	47.5
Net weight of unit / grille		kg	17.5/3.0	17.5/3.0	17.5/3.0
Gross weight of unit / grille		kg	25.5/4.5	25.5/4.5	25.5/4.5

The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E	F	G
ASG22MH	620	580	570	505	550	530	530
ASG28MH							
ASG36MH							
ASG45MH							
ASG50MH							
ASG56MH							

X3 VRF INDOOR UNITS

8-WAY CASSETTE



REMOTE
CONTROLLER
(Optional)



WIRED
CONTROLLER
(Optional)



HOTEL WIRED
CONTROLLER
(Optional)



WIRED
CONTROLLER WT
(Optional)

Air delivery at 360°

Cassette with 360° air outlet characterised by a powerful and balanced flow. The air is distributed uniformly in the room and comfort is optimised. Suitable for shops, offices, meeting rooms, hotels, restaurants, club rooms, gyms and open-space areas.

More compact and attractive design

With its entirely new design – more compact and visually appealing – the unit is easier to install and can also be integrated to perfection in any context.

DC Inverter motor

With good speed adjustment performances, the motor's efficiency has improved by 30% compared to a normal motor.

Smart condensate drainage device

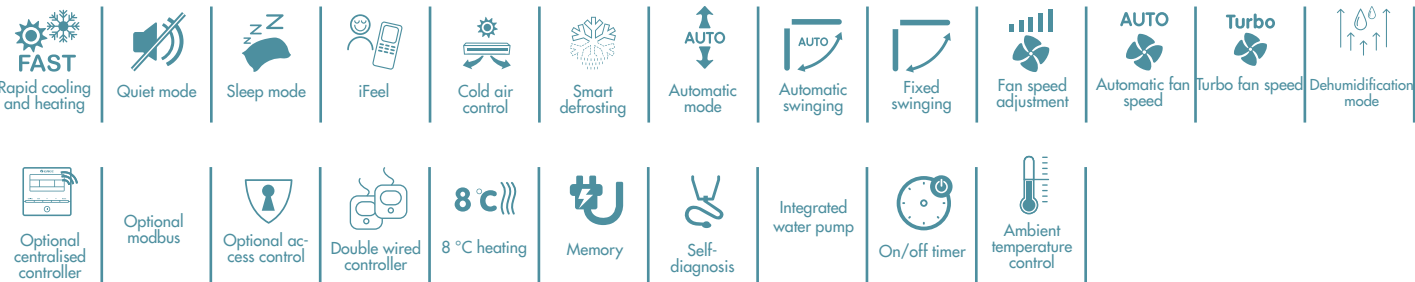
Thanks to a height difference of the drainage pipe, which can be up to 1.2 m, the condensation water can be easily drained without taking up too much space. The incorporated drainage pump is also very silent.

Extremely low noise level during operation

Thanks to the new design of the fans and of the air ducts, both the internal ones and those to the DC inverter motor, the noise level is reduced to a minimum. The indoor unit can also be set so to function in the automatic silent mode through the wired controller.

Protections

The multiple protection functions against condensate overflow, freezing, motor and fan overload or temperature sensor malfunctions guarantee safe and reliable long-term operation.



TECHNICAL DATA

MODEL		Unit	ASG71MH	ASG90MH
Cooling capacity	Cooling	kW	7.10	9.00
	Heating	kW	8.00	10.00
Power supply		V/Ph/Hz	208-230/220-240 – /1/60/50	208-230/220-240 – /1/60/50
Power input		W	60	80
Air flow rate (l/m/h)		m³/h	850/950/1150	900/1000/1250
Sound pressure level (l/m/h)*		dB(A)	31/34/37	34/37/39
Fan type			Helical centrifugal	Helical centrifugal
Fan motor type			Inverter	Inverter
Refrigerant type			R410A	R410A
GWP of refrigerant		kgCO ₂ eq./100 years	2088	2088
Piping diameter	Gas pipe	mm (inches)	15.88 (5/8")	15.88 (5/8")
	Liquid pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")
	Type of connection		Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25
Net dimensions of unit	Width	mm	840	840
	Depth	mm	840	840
	Height	mm	240	240
Panel dimensions	Width	mm	950	950
	Depth	mm	950	950
	Height	mm	65	65
Dimensions with unit packaging	Width	mm	963	963
	Depth	mm	963	963
	Height	mm	325	325
Dimensions with panel packaging	Width	mm	1033	1033
	Depth	mm	1020	1020
	Height	mm	110	110
Net weight of unit / panel		kg	28/6.0	29/6
Gross weight		kg	39/9.5	37/9.5

The technical data provided refers to the European EN14511 standard.

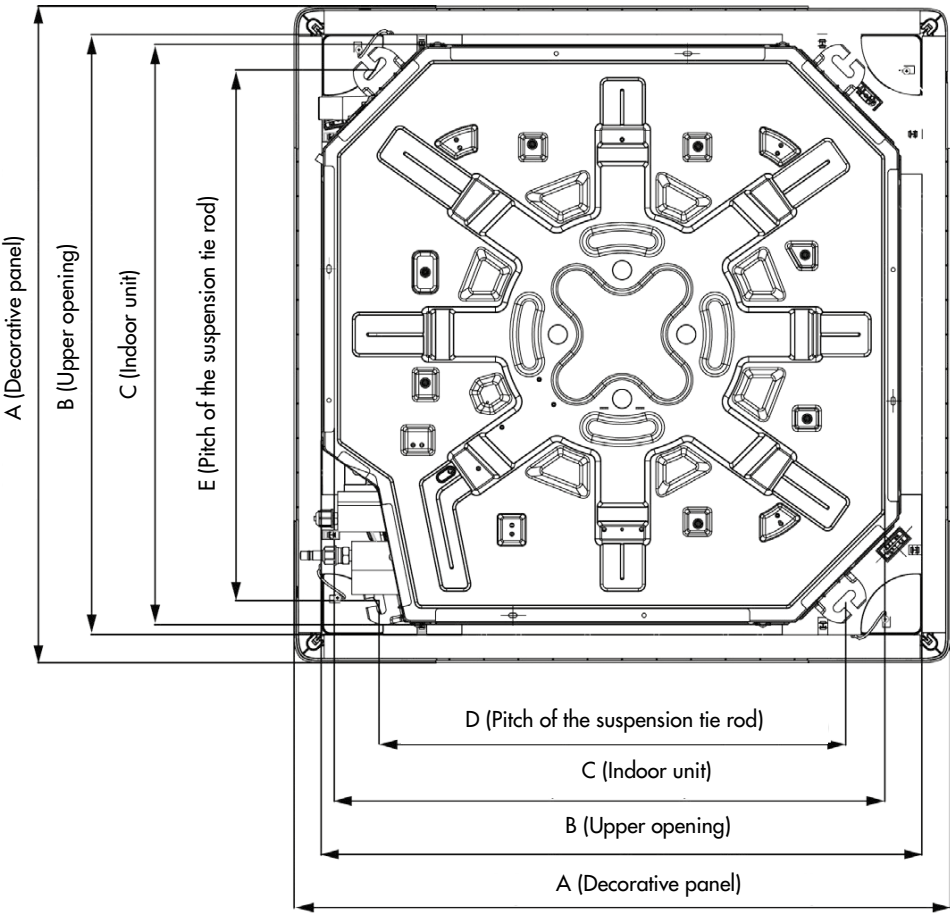
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

TECHNICAL DATA

MODEL		Unit	ASG112MH	ASG140MH
Cooling capacity	Cooling	kW	11.20	14.00
	Heating	kW	12.50	16.00
Power supply		V/Ph/Hz	208-230/220-240 – /1/60/50	208-230/220-240 – /1/60/50
Power input		W	115	115
Air flow rate (l/m/h)		m³/h	1100/1300/1650	1100/1300/1650
Sound pressure level (l/m/h)*		dB(A)	39/41/43	39/41/43
Fan type			Helical centrifugal	Helical centrifugal
Fan motor type			Inverter	Inverter
Refrigerant type			R410A	R410A
GWP of refrigerant		kgCO ₂ eq./100 years	2088	2088
Piping diameter	Gas pipe	mm (inches)	15.88 (5/8")	15.88 (5/8")
	Liquid pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")
	Type of connection		Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25
Net dimensions of unit	Width	mm	840	840
	Depth	mm	840	840
	Height	mm	290	290
Panel dimensions	Width	mm	950	950
	Depth	mm	950	950
	Height	mm	65	65
Dimensions with unit packaging	Width	mm	963	963
	Depth	mm	963	963
	Height	mm	379	379
Dimensions with panel packaging	Width	mm	1033	1033
	Depth	mm	1020	1020
	Height	mm	110	110
Net weight of unit / panel		kg	33/6	33/6
Gross weight		kg	42/9.5	42/9.5

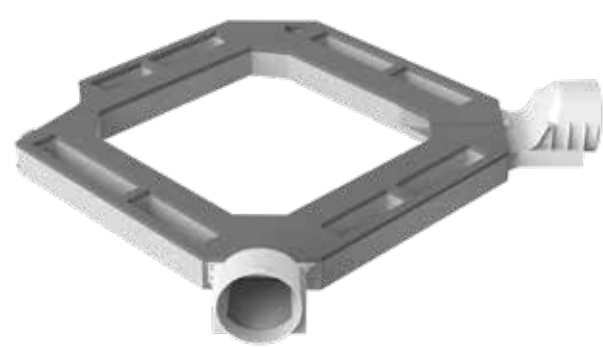
The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E
ASG71MH	950	890	840	680	780
ASG90MH					
ASG112MH					
ASG140MH					

ACCESSORY FOR FRESH AIR INTAKE



Code	Model
398800101	Fresh air ASG

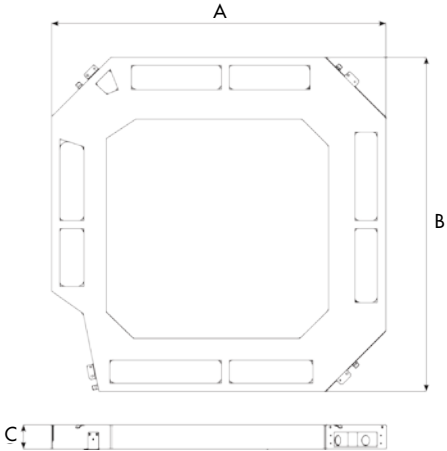
Thanks to this accessory, which can be combined with boxes that deliver air over 360°, it is possible to effectively introduce 8%-10% fresh air into the room.

Made of metal and ABS, it is lightweight and resistant, straightforward and easy to install; the double air intakes exploit the pressure difference principle and can automatically introduce fresh air, improving the air quality in the room.

Features	Unit	Value
Air intake volume	%	10
Net dimensions (WxDxH) without packaging	mm	834x834x60
Net dimensions (WxDxH) with packaging	mm	873x873x180
Connection dimensions	mm	150
	pieces	2
Net / gross weight	kg	2.7/7.7

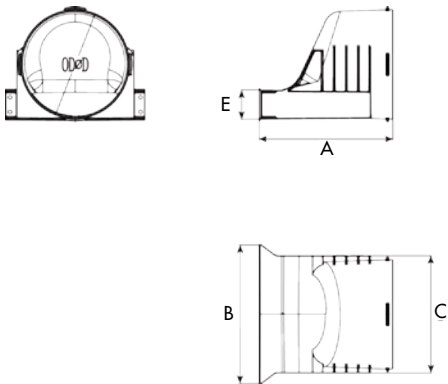
APPEARANCE AND DIMENSIONS OF THE OUTER MAIN BODY

Dimensional data (mm)		
A	B	C
834	834	60



APPEARANCE AND DIMENSIONS OF THE FRESH AIR INTAKE

Dimensional data (mm)				
A	B	C	D	E
183	190	160	150	38



NOTES



HIGH-WALL

X3 VRF INDOOR UNITS

HIGH-WALL



REMOTE
CONTROLLER
(Optional)



WIRED
CONTROLLER
(Optional)



HOTEL WIRED
CONTROLLER
(Optional)



WIRED
CONTROLLER WT
(Optional)

DC Inverter motor

With good speed adjustment performances, the motor's efficiency has improved by 30% compared to a normal motor.

Comfortable and balanced air flow, air jet distributed upwards and downwards

Upward air jet: in cooling mode the fresh air is delivered horizontally and then the jet drops gradually. Downward air jet: in heating mode the hot air is delivered downwards and then rises gradually.

Triple protection for improved air purification

Anti-mould filter, electrostatic fibres and antibiotic fibres for removing dust, odours, bacteria and moulds.

Special design for preventing cold air

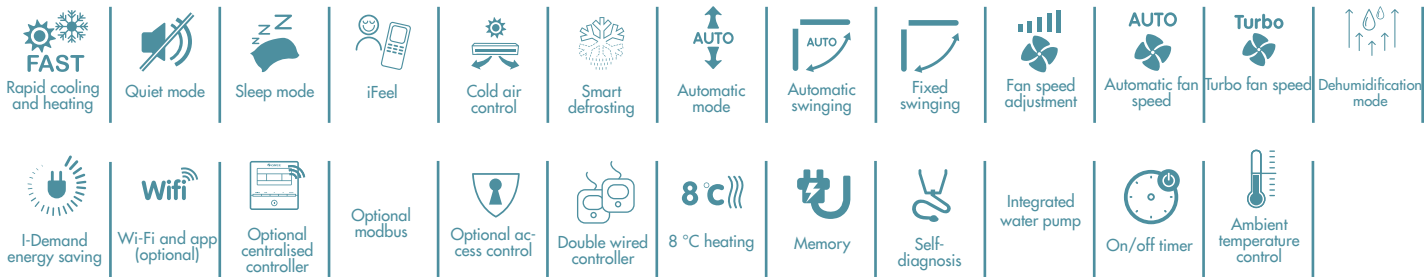
In heating mode during winter, the cold air prevention function is enabled thanks to which air is delivered only once it is sufficiently hot.

Multiple protections

Anti-freeze protection, fan motor overload protection, protection in case of temperature sensor malfunctions.

Operation with multiple wired controllers

An indoor unit can be connected to various wired controllers so that it can be managed from various spots; at the same time, various indoor units can be connected to a wired controller for centrally controlling up to maximum 16 indoor units.



TECHNICAL DATA

MODEL		Unit	AWG15MH	AWG22MH	AWG28MH	AWG36MH
Capacity	Cooling	kW	1.50	2.20	2.80	3.60
	Heating	kW	1.80	2.50	3.20	4.00
Power supply		V/Ph/Hz	220-240 / 208-230 - /1/50-60	220-240 / 208-230 - /1/50-60	220-240 / 208-230 - /1/50-60	220-240 / 208-230 - /1/50-60
Power input		W	15	20	20	25
Air flow rate (l/m/h)		m ³ /h	300/440/500	300/440/500	300/440/500	320/460/630
Sound pressure level (l/m/h)*		dB(A)	30/33/35	30/33/35	30/33/35	31/35/38
Fan type			Tangential	Tangential	Tangential	Tangential
Fan motor type			Inverter	Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	12.70 (1/2")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	20	20	20	20
Net dimensions	Width	mm	845	845	845	845
	Depth	mm	209	209	209	209
	Height	mm	289	289	289	289
Dimensions with packaging	Width	mm	973	973	973	973
	Depth	mm	278	278	278	278
	Height	mm	364	364	364	364
Net weight		kg	10.5	10.5	10.5	10.5
Gross weight		kg	12.5	12.5	12.5	12.5

The technical data provided refers to the European EN14511 standard.

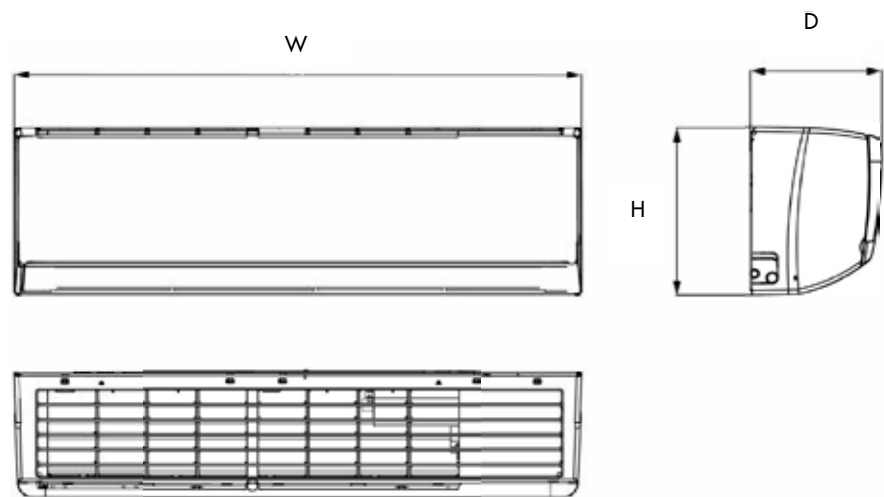
* The sound pressure level was measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

TECHNICAL DATA

MODEL		Unit	AWG45MH	AWG50MH	AWG56MH	AWG71MH
Capacity	Cooling	kW	4.50	5.00	5.60	7.10
	Heating	kW	5.00	5.80	6.30	7.50
Power supply		V/Ph/Hz	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60	220-240 / 208-230 – /1/50-60
Power input		W	35	35	50	65
Air flow rate (l/m/h)		m³/h	500/580/850	500/580/850	650/850/1100	650/850/1200
Sound pressure level (l/m/h)*		dB(A)	37/40/43	37/40/43	37/41/43	37/41/44
Fan type			Tangential	Tangential	Tangential	Tangential
Fan motor type			Inverter	Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088		2088	2088
Piping diameter	Gas pipe	mm (inches)	12.70 (1/2")	12.70 (1/2")	15.88 (5/8")	15.88 (5/8")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")	9.52 (3/8")
	Type of connection		Collar	Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	20	20	30	30
Net dimensions	Width	mm	970	970	1078	1078
	Depth	mm	224	224	246	246
	Height	mm	300	300	325	325
Dimensions with packaging	Width	mm	1093	1093	1200	1200
	Depth	mm	305	305	335	335
	Height	mm	380	380	410	410
Net weight		kg	12.5	12.5	16	16
Gross weight		kg	15.5	15.5	19	19

The technical data provided refers to the European EN14511 standard.
* The sound pressure level was measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

DIMENSIONAL DRAWINGS



MODEL	W	H	D
AWG15MH AWG22MH AWG28MH AWG36MH	845	289	209
AWG45MH AWG50MH	970	300	224
AWG56MH AWG71MH	1008	319	221



FLOOR/CEILING

X3 VRF INDOOR UNITS

FLOOR/CEILING





**REMOTE
CONTROLLER**
(Optional)



**WIRED
CONTROLLER**
(Optional)



**HOTEL WIRED
CONTROLLER**
(Optional)



**WIRED
CONTROLLER WT**
(Optional)

DC Inverter motor

With good speed adjustment performances, the motor's efficiency has improved by 30% compared to a normal motor.

Flexible floor or ceiling installation

The unit can be installed on the wall or floor.

Visually appealing design
























With its visually appealing and elegant front panel, the unit can blend in perfectly to any furnishing style.

Protections

Anti-freeze protection, fan motor overload protection, protection in case of temperature sensor malfunctions.

Air delivery with horizontal and vertical swinging action

The air delivery swing range is broader for added comfort in the home or work environment.

 <p>FAST Rapid cooling and heating</p>	 <p>Quiet mode</p>	 <p>Sleep mode</p>	 <p>iFeel</p>	 <p>Cold air control</p>	 <p>Smart defrosting</p>	 <p>AUTO Automatic mode</p>	 <p>AUTO Automatic swinging</p>	 <p>Fixed swinging</p>	 <p>Fan speed adjustment</p>	 <p>AUTO Automatic fan speed</p>	 <p>Turbo Turbo fan speed</p>	 <p>Dehumidification mode</p>
 <p>I-Demand energy saving</p>	 <p>Wifi Wi-Fi and app (optional)</p>	 <p>Optional centralised controller</p>	 <p>Optional modbus</p>	 <p>Double wired controller</p>	 <p>8 °C heating</p>	 <p>Memory</p>	 <p>Self-diagnosis</p>	 <p>On/off timer</p>	 <p>Ambient temperature control</p>			

TECHNICAL DATA

MODEL		Unit	FCG28MH	FCG36MH	FCG50MH
Capacity	Cooling	kW	2.80	3.60	5.00
	Heating	kW	3.20	4.00	5.60
Power supply		V/Ph/Hz	220-240 - /1/50 208-230 - /1/60	220-240 - /1/50 208-230 - /1/60	220-240 - /1/50 208-230 - /1/60
Power input		W	40	40	50
Air flow rate (l/m/h)		m³/h	500/580/650	500/580/650	700/850/950
Sound pressure level (l/m/h)*		dB(A)	32/34/36	32/34/36	33/38/42
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	12.70 (1/2")	12.70 (1/2")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	17	17	17
Net dimensions	Width	mm	1220	1220	1220
	Depth	mm	700	700	700
	Height	mm	225	225	225
Dimensions with packaging	Width	mm	1343	1343	1343
	Depth	mm	823	823	823
	Height	mm	315	315	315
Net weight		kg	40	40	40
Gross weight		kg	49	49	49

The technical data provided refers to the European EN14511 standard.

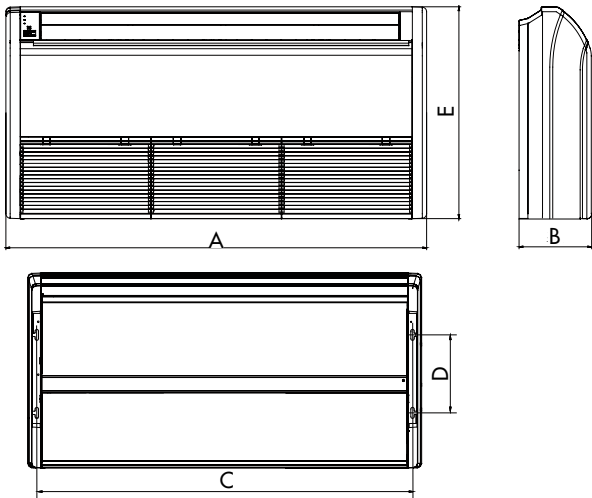
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

TECHNICAL DATA

MODEL		Unit	FCG71MH	FCG112MH	FCG140MH
Capacity	Cooling	kW	7.10	11.20	14.00
	Heating	kW	8.00	12.50	16.00
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	75	160	160
Air flow rate (l/m/h)		m³/h	1000/1150/1400	1450/1800/2000	1450/1800/2000
Sound pressure level (l/m/h)*		dB(A)	39/42/44	42/47/51	45/49/52
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088		2088
Piping diameter	Gas pipe	mm (inches)	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Liquid pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	17	17	17
Net dimensions	Width	mm	1420	1700	1700
	Depth	mm	700	700	700
	Height	mm	245	245	245
Dimensions with packaging	Width	mm	1548	1828	1828
	Depth	mm	828	828	828
	Height	mm	345	345	345
Net weight		kg	50	60	60
Gross weight		kg	58	68	68

The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E
FCG28MH	1220	225	1158	280	700
FCG36MH					
FCG50MH					
FCG71MH	1420	245	1354	280	700
FCG112MH	1700	245	1634	280	700
FCG140MH					



CONSOLE

X3 VRF INDOOR UNITS

CONSOLE



REMOTE
CONTROLLER
(Optional)



WIRED
CONTROLLER
(Optional)



HOTEL WIRED
CONTROLLER
(Optional)



WIRED
CONTROLLER WT
(Optional)

DC Inverter motor

With good speed adjustment performances, the motor’s efficiency has improved by 30% compared to a normal motor.

Multiple-speed fan
























The fan can work at multiple speeds to vary the air flow volume according to needs.

Detachable grille and long-lasting filter

The grille can be detached to facilitate cleaning. Thanks to the long-lasting filter, the cleaning cycle is 20 times longer.

Protections

Protection against condensate water overflow, anti-freeze protection, fan motor overload protection, protection in case of temperature sensor malfunctions.

 FAST Rapid cooling and heating	 Quiet mode	 Sleep mode	 iFeel	 Cold air control	 Smart defrosting	 Automatic mode	 Automatic swinging	 Fixed swinging	 Fan speed adjustment	 Automatic fan speed	 Turbo fan speed	 Dehumidification mode
 Optional centralised controller	 Remote control	 Optional modbus	 Optional access control	 Double wired controller	 8 °C heating	 Memory	 Self-diagnosis	 On/off timer	 Ambient temperature control			

TECHNICAL DATA

MODEL		Unit	AFG22MH	AFG28MH	AFG36MH
Capacity	Cooling	kW	2.20	2.80	3.60
	Heating	kW	2.50	3.20	4.00
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	15	15	20
Air flow rate (l/m/h)		m ³ /h	270/320/400	270/320/400	310/400/480
Sound pressure level (l/m/h)*		dB(A)	27/33/38	27/33/38	32/37/40
Fan type			Tangential/2	Tangential/2	Tangential/2
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	28	28	28
Net dimensions	Width	mm	700	700	700
	Depth	mm	215	215	215
	Height	mm	600	600	600
Dimensions with packaging	Width	mm	788	788	788
	Depth	mm	283	283	283
	Height	mm	777	777	777
Net weight		kg	16	16	16
Gross weight		kg	19	19	19

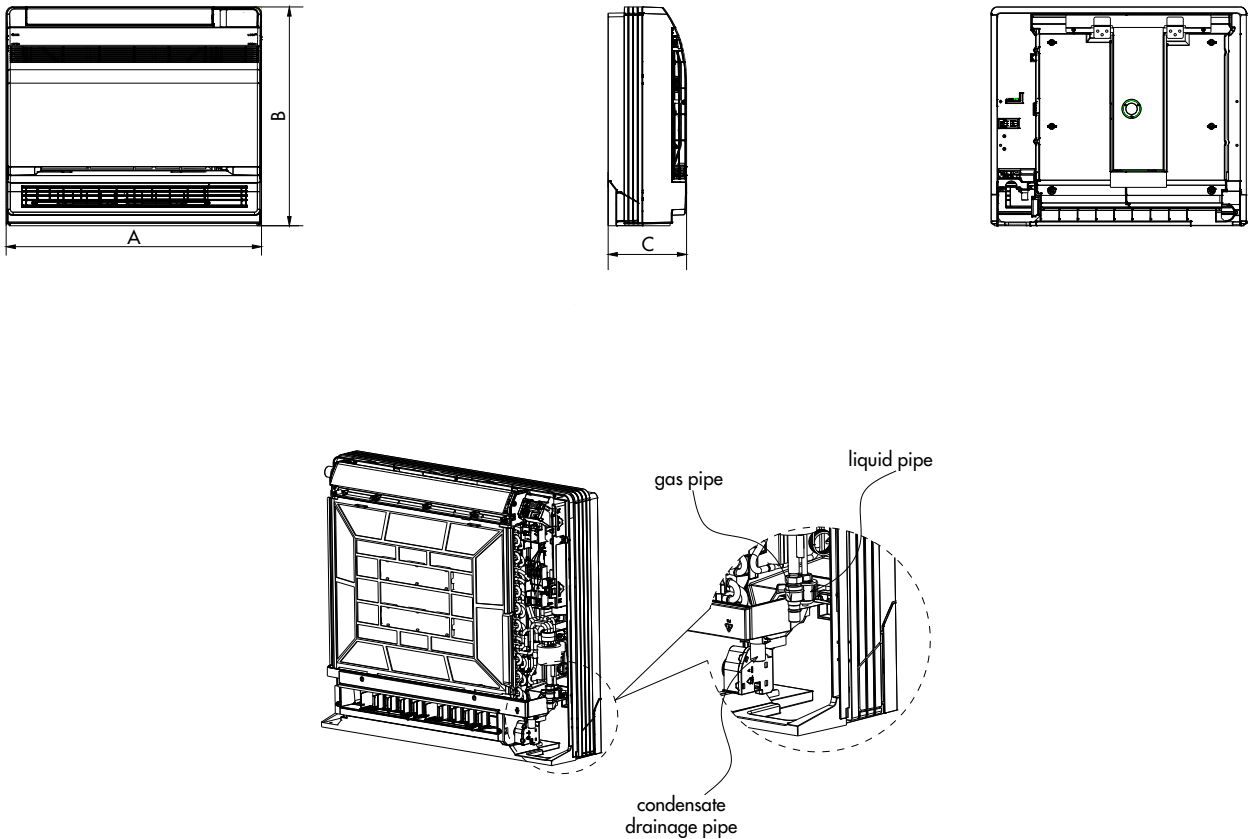
The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

TECHNICAL DATA

MODEL		Unit	AFG45MH	AFG50MH
Capacity	Cooling	kW	4.50	5.00
	Heating	kW	5.00	5.50
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	40	40
Air flow rate (l/m/h)		m³/h	500/600/680	500/600/680
Sound pressure level (l/m/h)*		dB(A)	39/43/46	39/43/46
Fan type			Tangential/2	Tangential/2
Fan motor type			Inverter	Inverter
Refrigerant type			R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088
Piping diameter	Gas pipe	mm (inches)	12.7 (1/2")	12.7 (1/2")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	28	28
Net dimensions	Width	mm	700	700
	Depth	mm	215	215
	Height	mm	600	600
Dimensions with packaging	Width	mm	788	788
	Depth	mm	283	283
	Height	mm	777	777
Net weight		kg	16	16
Gross weight		kg	19	19

The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

DIMENSIONAL DRAWINGS



MODEL	A	B	C
AFG22MH	700	600	215
AFG28MH	700	600	215
AFG36MH	700	600	215
AFG45MH	700	600	215
AFG50MH	700	600	215



CONCEILED CONSOLE

X3 VRF INDOOR UNITS

CONCEILED CONSOLE



**WIRED
CONTROLLER**
(Standard)



**REMOTE
CONTROLLER**
(Optional)



**HOTEL WIRED
CONTROLLER**
(Optional)



**WIRED
CONTROLLER WT**
(Optional)

Broad power range

The range has cooling power values between 2.2 and 7.1 kW.

DC Inverter motor, maximum efficiency

With good speed adjustment performances, the motor's efficiency has improved by 30% compared to a normal motor.

Compact dimensions

The units are all 200 mm thick, making them extremely compact and guaranteeing the utmost installation flexibility.

Easy installation

Thanks to the high static pressure, the units can be ducted.

FAST Rapid cooling and heating	Quiet mode	Sleep mode	iFeel	Cold air control	Smart defrosting	Automatic mode	On/off timer	Ambient temperature control	Fan speed adjustment	Automatic fan speed	Turbo fan speed	Dehumidification mode
I-Demand energy saving	Wi-Fi Wi-Fi & app (optional)	Optional centralised controller	Optional modbus	Double wired controller	8 °C heating	Memory	Self-diagnosis					

TECHNICAL DATA

MODEL		Unit	CFCG22MH	CFCG28MH	CFCG36MH
Capacity	Cooling	kW	2.20	2.80	3.60
	Heating	kW	2.50	3.20	4.00
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	35	35	43
Air flow rate (l/m/h)		m³/h	250/350/450	250/350/450	350/450/550
External static pressure (Factory / adjustment range)		Pa	10/0–40	10/0–40	10/0–40
Sound pressure level (l/m/h)*		dB(A)	25/28/30	25/28/30	28/31/33
Fan type			Centrifugal	Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter	Inverter
Refrigerant type			R410A	R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088	2088
Piping diameter	Gas pipe	mm (inches)	9.52 (3/8")	9.52 (3/8")	12.70 (1/2")
	Liquid pipe	mm (inches)	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")
	Type of connection		Collar	Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25	25
Net dimensions	Width	mm	700	700	700
	Depth	mm	615	615	615
	Height	mm	200	200	200
Net weight		kg	23	23	23

The technical data provided refers to the European EN14511 standard.

* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

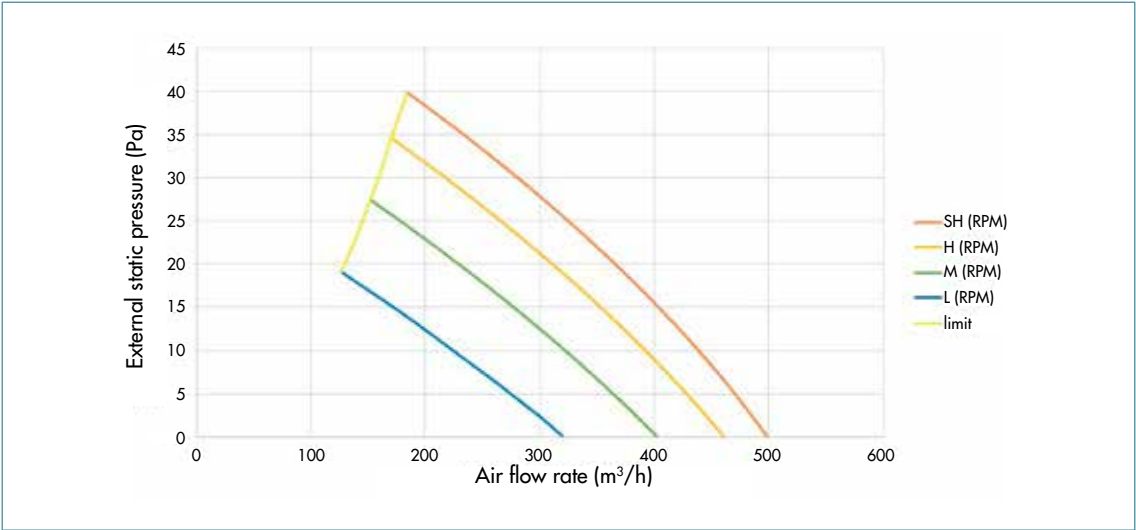
TECHNICAL DATA

MODEL		Unit	CFCG45MH	CFCG56MH
Capacity	Cooling	kW	4.50	5.00
	Heating	kW	5.00	5.60
Power supply		V/Ph/Hz	220-240 – /1/50 208-230 – /1/60	220-240 – /1/50 208-230 – /1/60
Power input		W	45	45
Air flow rate (l/m/h)		m³/h	400/500/650	600/750/900
External static pressure (Factory / adjustment range)		Pa	15/0–60	15/0–60
Sound pressure level (l/m/h)*		dB(A)	28/31/33	30/33/35
Fan type			Centrifugal	Centrifugal
Fan motor type			Inverter	Inverter
Refrigerant type			R410A	R410A
GWP of refrigerant		kg/T.CO ₂ eq.	2088	2088
Piping diameter	Gas pipe	mm (inches)	12.7 (1/2")	15.88 (5/8")
	Liquid pipe	mm (inches)	6.35 (1/4")	9.52 (3/8")
	Type of connection		Collar	Collar
Condensate drainage pipe	Outdoor diameter	mm	25	25
Net dimensions	Width	mm	700	1,100
	Depth	mm	615	615
	Height	mm	200	200
Net weight		kg	27	32

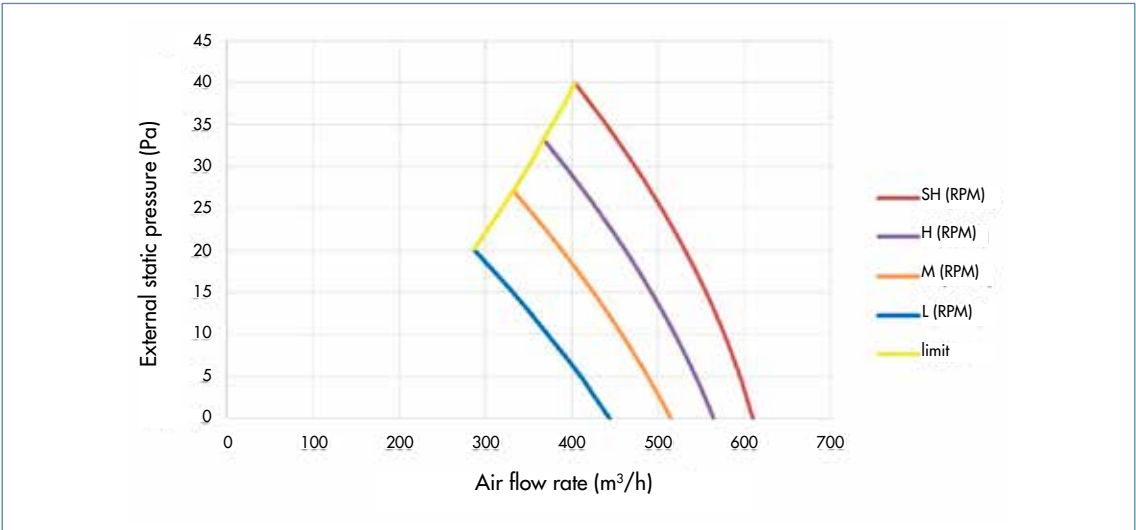
The technical data provided refers to the European EN14511 standard.
* Sound pressure level measured in an anechoic chamber at the following conditions: 1 m from the surface of the unit's service cover and 1.5 m from the floor level.

EXTERNAL STATIC PRESSURE/AIR FLOW RATE CURVES

CFCG22MH - CFCG28MH

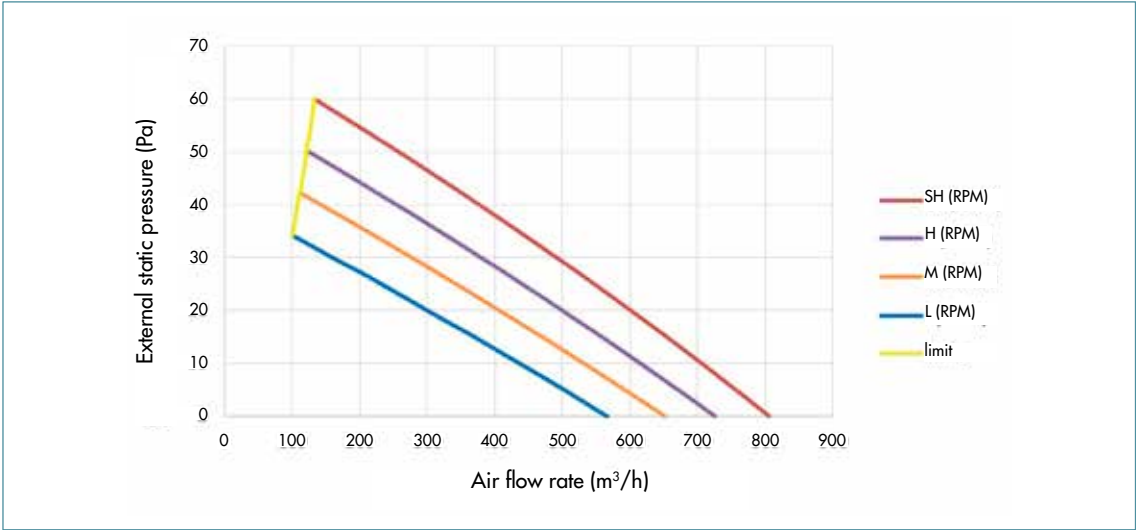


CFCG36MH

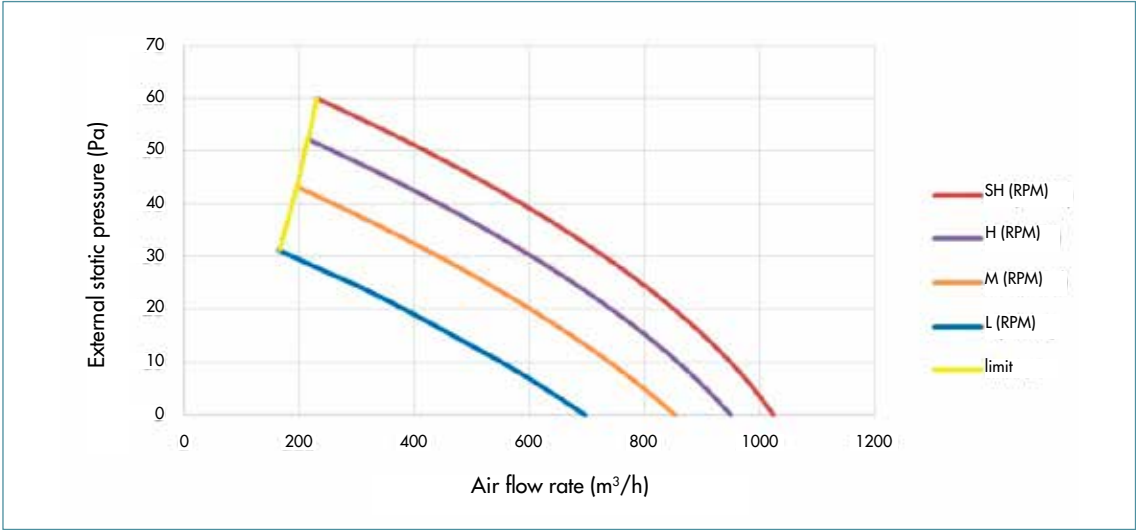


EXTERNAL STATIC PRESSURE/AIR FLOW RATE CURVES

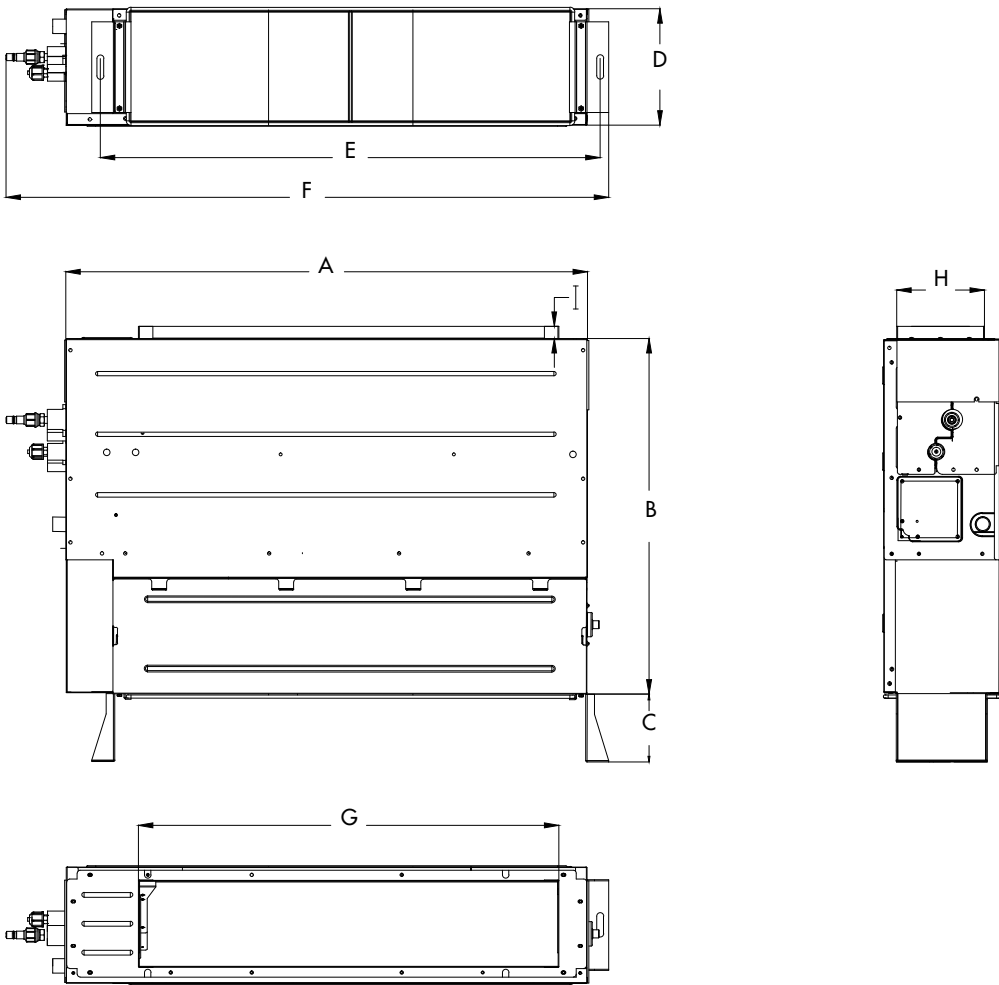
CFCG45MH



CFCG56MH



DIMENSIONAL DRAWINGS



MODEL	A	B	C	D	E	F	G	H	I
CFCG22MH	700	615	120	200	673	837	728	152	21
CFCG28MH									
CFCG36MH									
CFCG45MH	900	615	120	200	873	1045	728	152	21
CFCG56MH	1100	615	120	200	1073	1236	928	152	21



AHU KIT

Interface kit for air handling unit

AHU KIT

INTERFACE KIT FOR AIR HANDLING UNIT



Interface for air handling unit

The AHU KIT can be used to connect third-party air handling units to the VFR ARGO system.

Multiple connection methods

The air handling unit equipped with the AHU KIT has various methods for connection to the VRF system. It can connect independently to compose a one-to-one solution; it can combine with other air handling units or VRF indoor units in the same system.

Independent design, convenient installation

The AHU KIT is made up of two independent components (the EXV box and the control panel) designed in an independent manner.

Multiple combinations

The high number of possible combinations between models allows for expanding the capacity range for satisfying all needs.

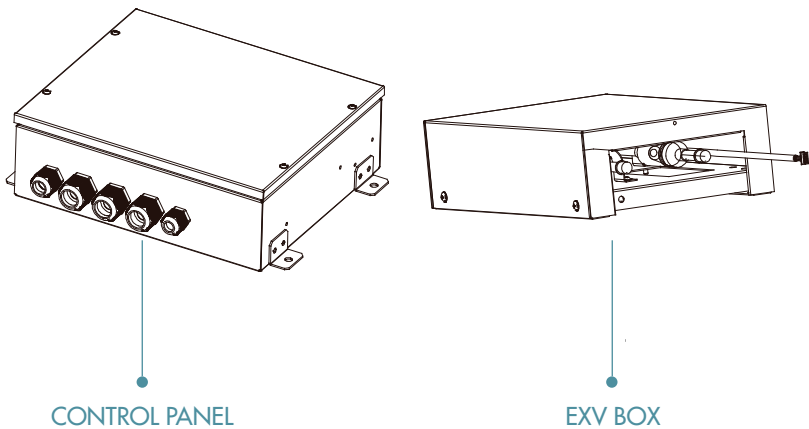
Presence of the error signal

The error signal of the air handling unit is connected to the AHU KIT. In case of malfunctions, the unit interrupts its operation.

Control through third-party controllers

The AHU KIT adapter can be controlled by means of the wired controller supplied, or through third-party controllers, for switching the device on/off, setting the mode, adjusting the temperature and obtaining feedback on the unit's operating status.

AHU KIT COMPONENTS



TECHNICAL DATA

MODEL			AHUKIT36		AHUKIT71			AHUKIT140			
Capacity (factory)	Cooling	kW	3.60		7.10			14.00			
	Heating	kW	4.00		8.00			16.00			
Capacity (adjustment range)	Cooling	kW	2.8	3.6	4.5	5.6	7.1	9	11.2	14	
	Heating	kW	3.2	4	5	6.3	8	10	12.5	16	
Power input		W	8		8			8			
Power supply		V/Ph/Hz	220-240 - /1/50 208-230 - /1/60		220-240 - /1/50 208-230 - /1/60			220-240 - /1/50 208-230 - /1/60			
Dimensions of the connecting pipe	AHU KIT (factory)		mm	Ø6.35	Ø6.35	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52
	Air handling unit	Liquid pipe	mm	Ø6.35	Ø6.35	Ø6.35	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52
		Gas pipe	mm	Ø9.52	Ø12.7	Ø12.7	Ø15.9	Ø15.9	Ø15.9	Ø15.9	Ø15.9
	Connection methods			weld-on		weld-on			weld-on		
External dimensions (WxDxH)	EXV box		mm	203x326x85		203x326x85			203x326x85		
	Control panel		mm	334x284x111		334x284x111			334x284x111		
Packaging dimensions (WxDxH)			mm	539x461x247		539x461x247			539x461x247		
Weight			kg	10		10.5			10.5		

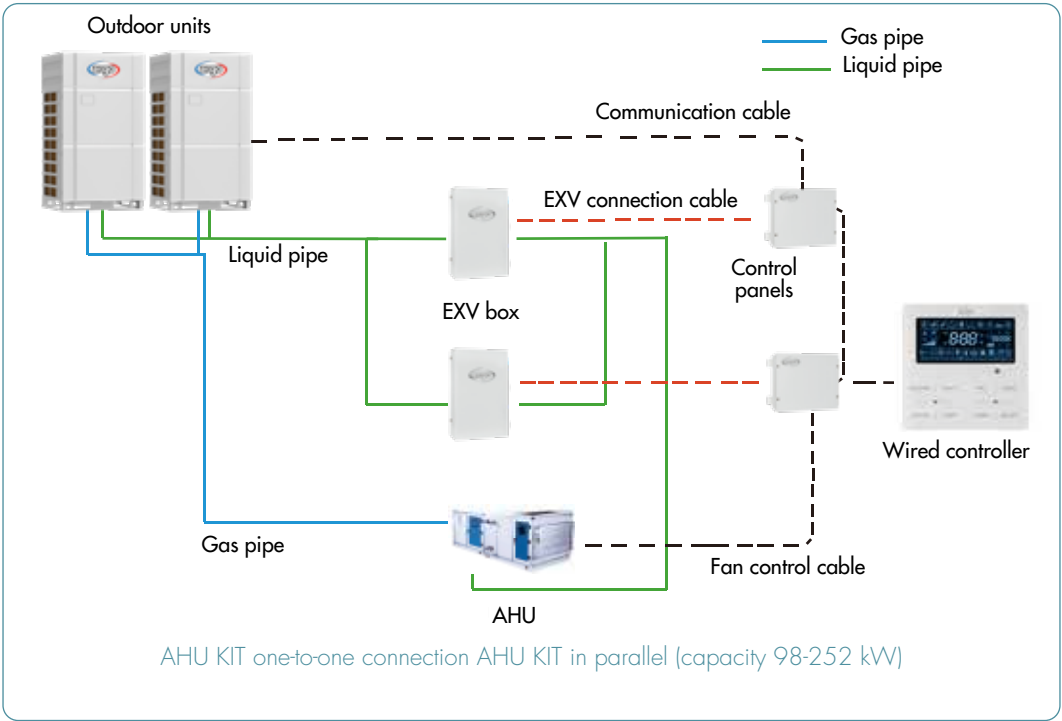
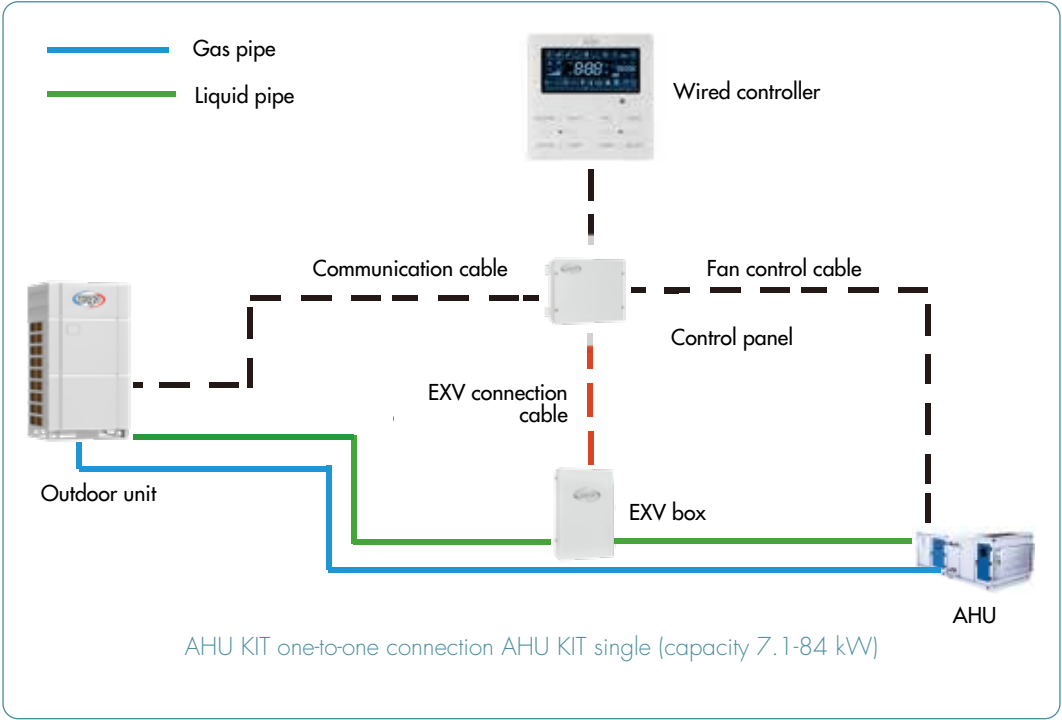
MODEL			AHUKIT280					AHUKIT560			
Capacity (factory)	Cooling	kW	28.00					56.00			
	Heating	kW	31.50					63.00			
Capacity (adjustment range)	Cooling	kW	22.4	28	33.5	40	45	50.4	56	84	
	Heating	kW	25	31.5	37.5	45	50	56.5	63	94.5	
Power input		W	8					8			
Power supply		V/Ph/Hz	220-240 - /1/50 208-230 - /1/60					220-240 - /1/50 208-230 - /1/60			
Dimensions of the connecting pipe	AHU KIT (factory)		mm	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø15.9	Ø15.9	Ø15.9
	Air handling unit	Liquid pipe	mm	Ø9.52	Ø9.52	Ø12.7	Ø12.7	Ø12.7	Ø15.9	Ø15.9	Ø19.05
		Gas pipe	mm	Ø19.05	Ø22.2	Ø25.4	Ø25.4	Ø28.6	Ø28.6	Ø28.6	Ø31.8
	Connection methods			weld-on					weld-on		
External dimensions (WxDxH)	EXV box		mm	203x326x85					246x500x120		
	Control panel		mm	334x284x111					334x284x111		
Packaging dimensions (WxDxH)		mm	539x461x247					759x645x180			
Weight		kg	10.5					13			

The technical data provided refers to the European EN14511 standard.

SYSTEM CONNECTION DIAGRAMS

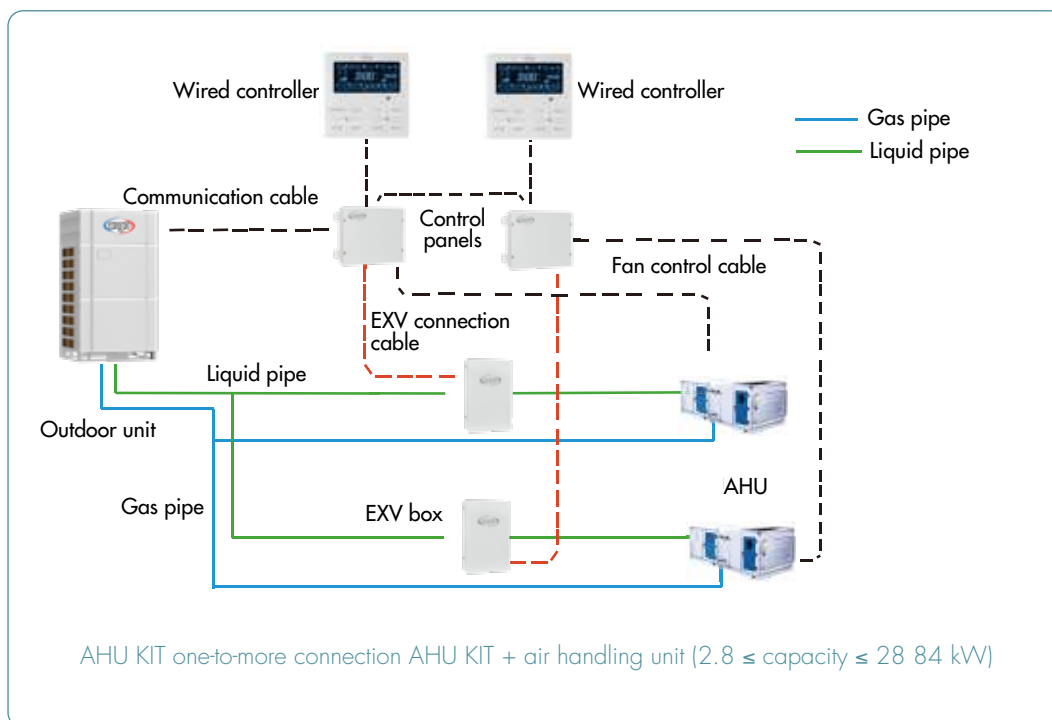
1. ONE-TO-ONE - AHU KIT + air handling unit

The AHU KIT, connected to the air handling unit, can be connected directly to the VRF outdoor unit, without the presence of additional direct-expansion indoor units. The KIT's total capacity must be between 80-110% of the total capacity of the outdoor unit(s).



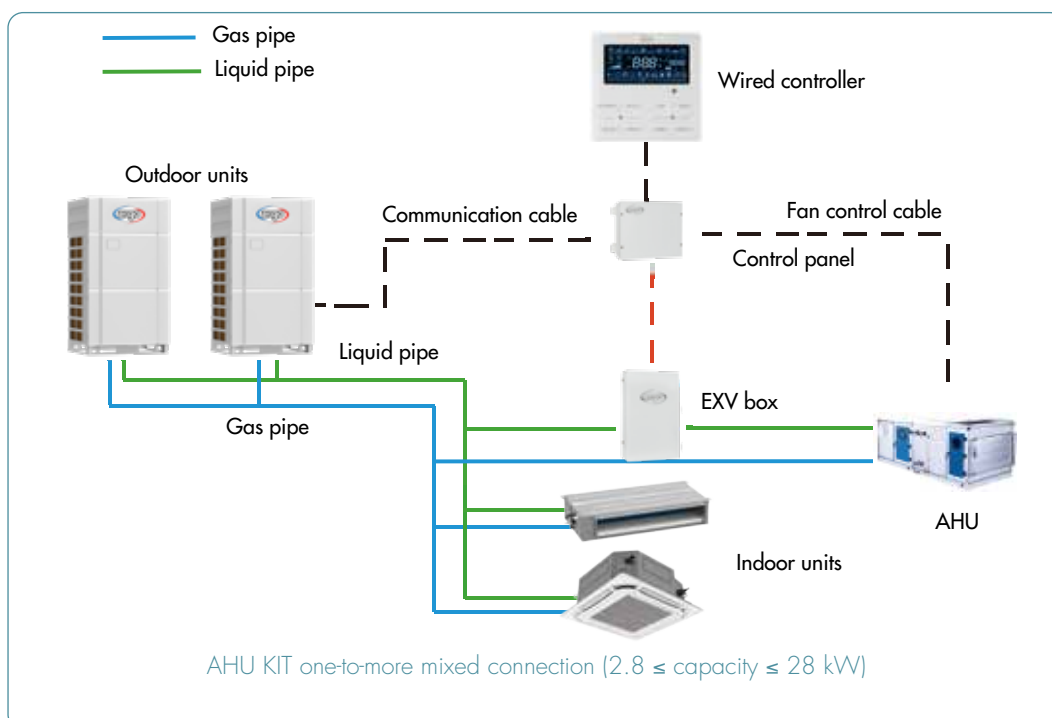
2. ONE-TO-MORE - AHU KIT + air handling unit

Multiple AHU KITs (maximum 3) can be connected to a single outdoor unit, without the presence of additional direct-expansion indoor units. The total capacity of the AHU KITs must be between 50% and 110% of the total capacity of the outdoor unit(s).



3. ONE-TO-MORE - AHU KIT + air handling unit + GMV DX indoor units

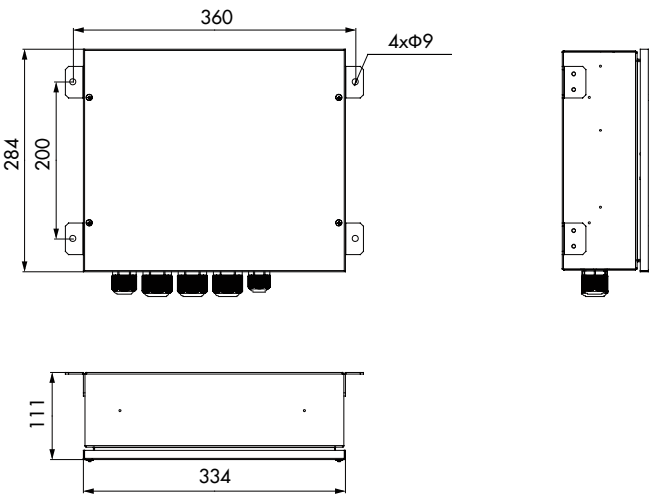
The AHU KIT installed on the air handling unit and VRF direct-expansion indoor units can be connected to the same multi-VRF outdoor unit. The total capacity of the AHU KIT and of the indoor unit(s) should be between 50% and 110% of the total capacity of the outdoor unit(s). The total capacity of the AHU KIT cannot exceed 30% of the capacity of the outdoor unit(s).



DIMENSIONAL DRAWINGS

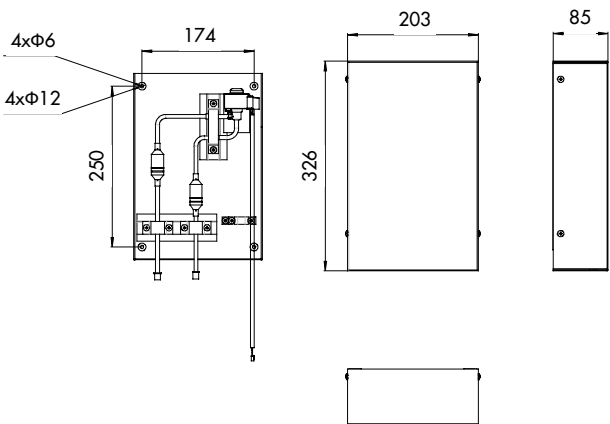
CONTROL PANEL DIMENSIONS (mm)

- AHUKIT36
- AHUKIT71
- AHUKIT140
- AHUKIT280
- AHUKIT560



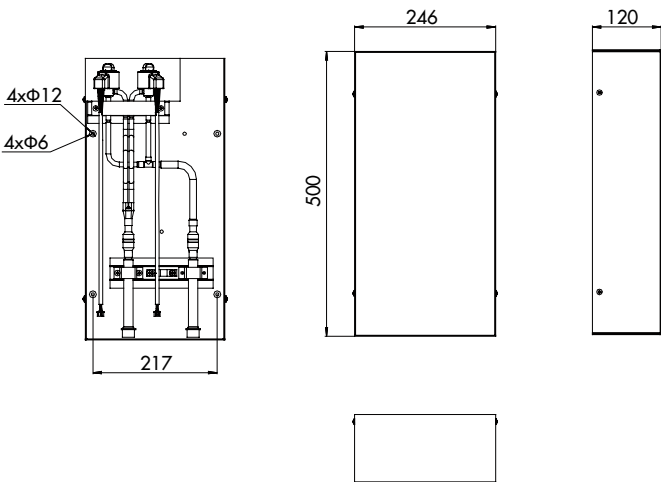
EXV BOX DIMENSIONS (mm)

- AHUKIT36
- AHUKIT71
- AHUKIT140
- AHUKIT280



EXV BOX DIMENSIONS (mm)

- AHUKIT560



NOTES

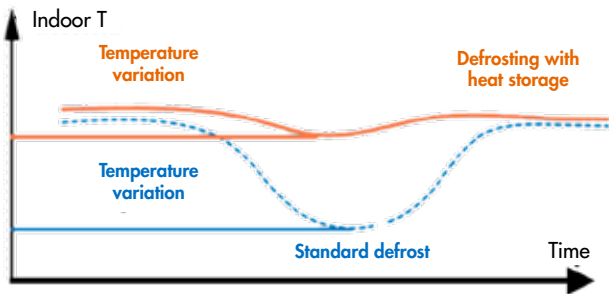
ACCESSORIES FOR X3 VRF MODULAR UNITS

MODULE WITH HEAT STORAGE

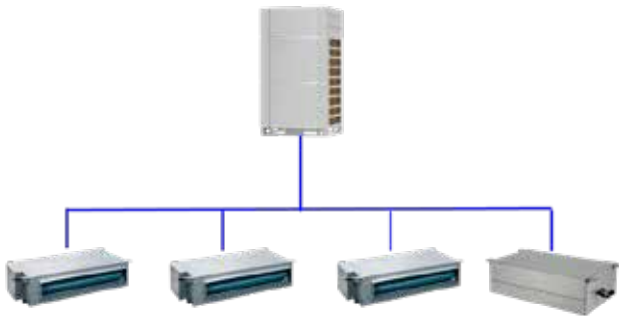
The module with heat storage is optional and offers the advantage of an innovative and smart defrosting mode: it allows for speeding up the transfer of heat, rapidly defrosting and, above all, maintaining a constant comfort level in the rooms.



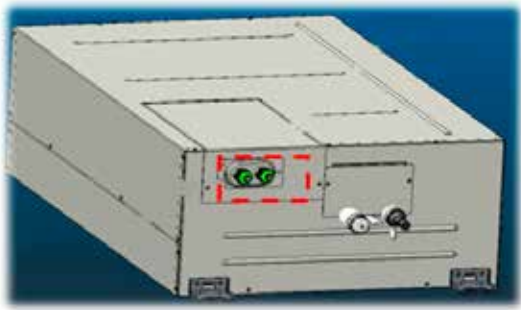
It works as follows: during normal winter operation the gas circulates through all the indoor units and is stored also in this special module; when the outdoor unit requires the defrosting cycle due to ice build-up, the heat necessary to melt the ice on the outdoor unit is drawn only from this module and not also from the indoor units, which can thus continue to work in heating mode, guaranteeing uninterrupted comfort.



The module is installed on the suspended ceiling according to the following layout.

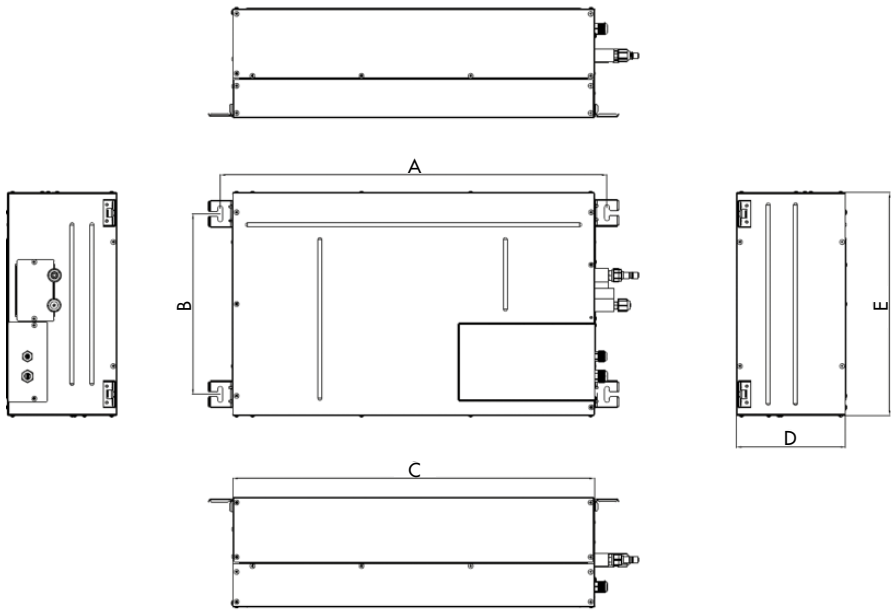


The module is made of a paraffin and expanded graphite compound. Paraffin, with its high latent heat of phase change (162.2 J/g) makes up 90% of the compound. Graphite is used to reduce the time required for storing and emitting the heat, as it allows for reducing this time from 27.4% to 56.4% compared to pure paraffin. The number of heat storage modules is calculated on the basis of the outdoor unit's capacity. A module that has loaded with heat can withstand defrosting of an 18 kW unit once. The total capacity of the heat storage modules must be between 90% and 150% of the capacity of the outdoor unit.



TECHNICAL DATA AND DIMENSIONAL DRAWINGS

Features		Unit	Value
Power		W	5
Current		A	0.05
Maximum fuse current		A	6
Power supply			220-240 V 1 phase ~ 50 Hz 208-230 V 1 phase ~ 60 Hz
Refrigerant pipes	Liquid	mm	6.35
	Gas	mm	12.7
Dimensions (WxDxH)		mm	730x450x220
Net weight		kg	31.5



MODEL	A	B	C	D	E
AEGHSM	780	364	730	220	450



CONTROL SYSTEMS

WIRED CONTROLLER



- LCD with black background and white text; touch buttons;
- Clock and 24h timer viewing and setting;
- 7 fan speed levels, air distribution with vertical and horizontal swinging;
Settable operating modes: Automatic, Cooling, Dehumidification, Ventilation,
- Underfloor heating, 3D heating and Space heating;
- Master/slave configuration setting: function with simultaneous control of several indoor units (max. 16);
- Available functions: Sleep, ventilation, silent/automatic silent, display illumination, energy saving, dehumidification, memory, low-temperature dehumidification, absence of heating, filter cleaning reminder;
- Room temperature measurement; infrared remote control signal reception.

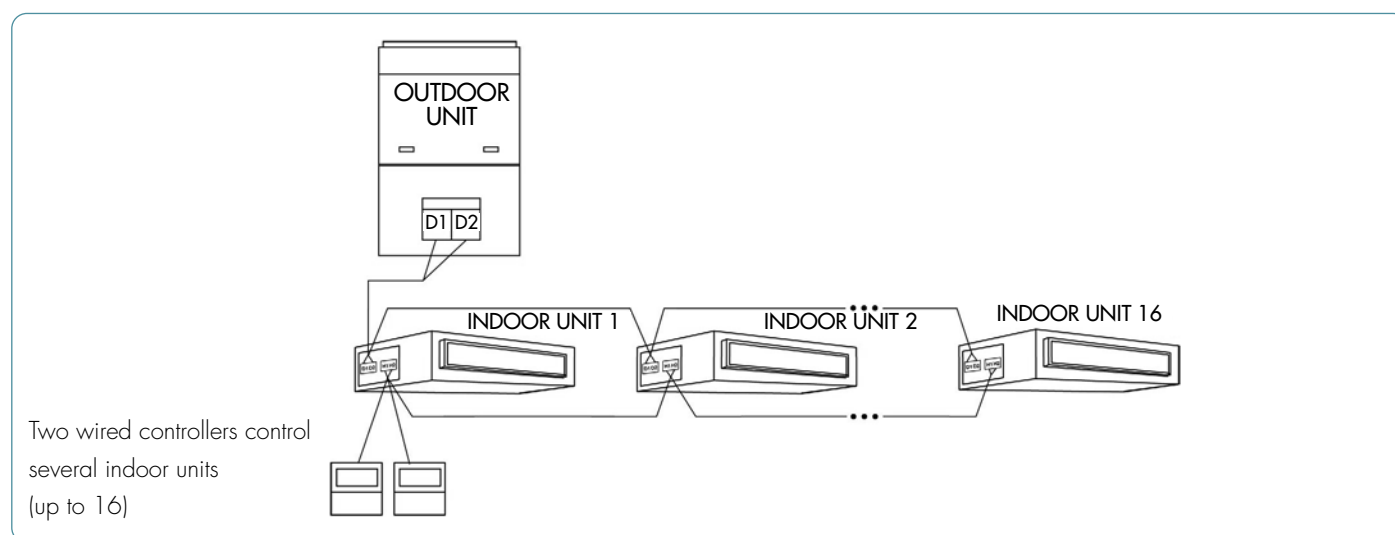
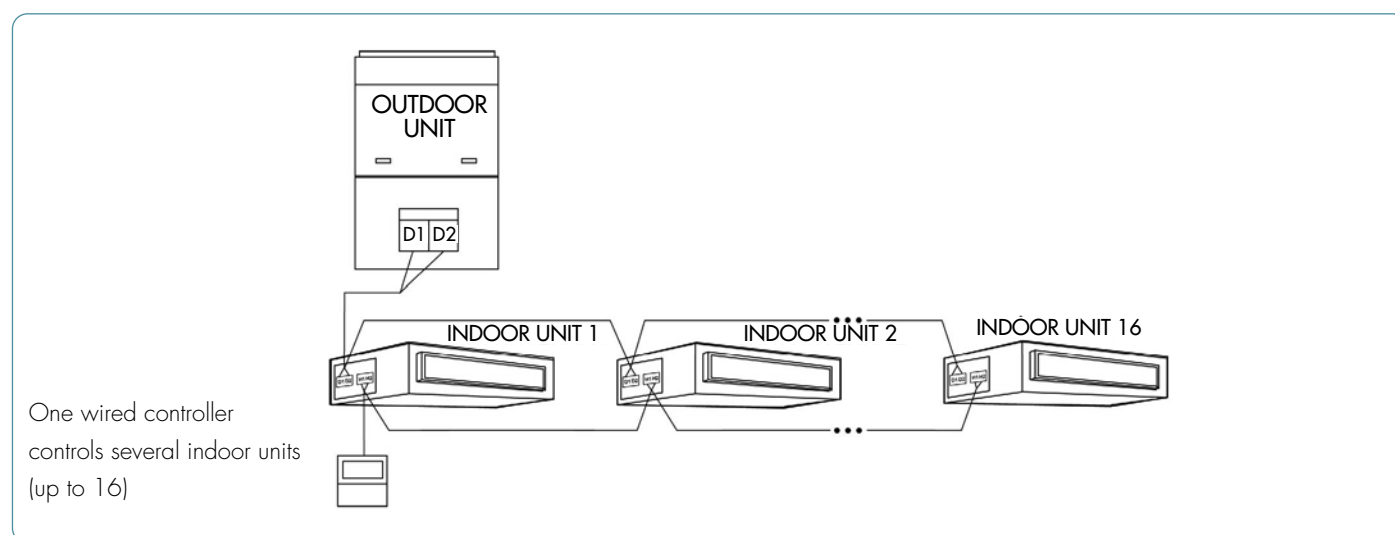
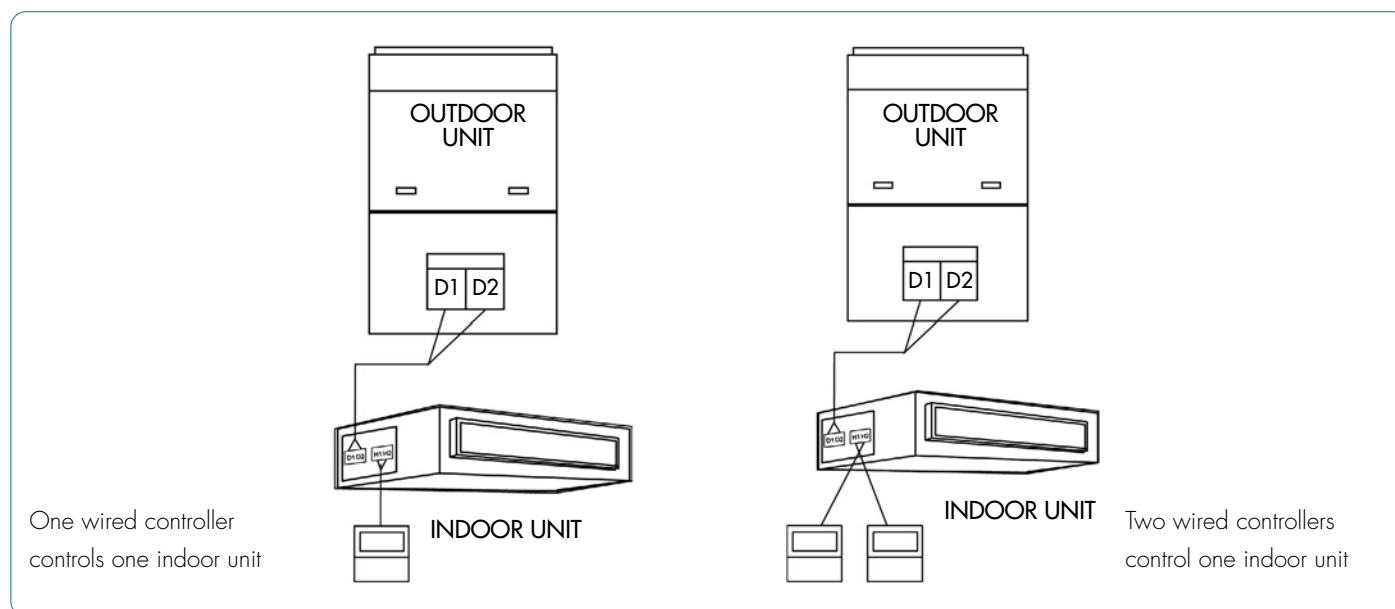
WT WIRED CONTROLLER



- Elegant design, high-resolution colour LCD;
- User-friendly soft-touch control;
- Infrared remote control signal reception;
- 7 fan speed levels, air distribution with vertical and horizontal swinging;
Room temperature measurement;
- Settable operating modes: Automatic, Cooling, Dehumidification, Ventilation, Heating,
- Underfloor heating;
- Master/slave configuration setting: function with simultaneous control of several indoor units (max. 16);
- Available functions: Sleep, ventilation, silent/automatic silent, display illumination, energy saving, dehumidification, memory, low-temperature dehumidification, absence of heating, filter cleaning reminder;
- Broad timer function: three weekly timers and a countdown;
- In the weekly timer function it is possible to pre-set the mode, temperature and fan speed.

METHODS FOR CONNECTING THE INDOOR UNIT TO THE WIRED CONTROLLER

The indoor unit and the wired controller can be connected in one of the following four ways.



HOTEL WIRED CONTROLLER



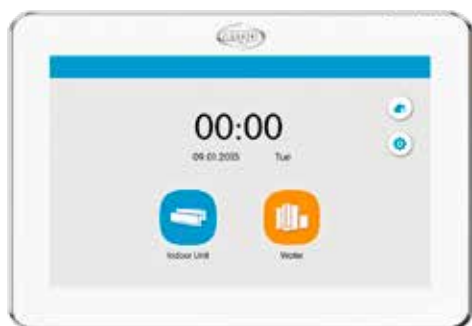
- Compact and attractively designed;
- A mere 12 mm thickness and backlit LCD with black background and white figures;
- Eight touch buttons;
- Clock and 24h timer viewing and setting;
- 7 fan speed levels, air distribution with vertical swinging and with horizontal swinging;
- Settable operating modes: Automatic, Cooling, Dehumidification, Ventilation, Underfloor heating, 3D heating and Space heating;
- Master/slave configuration setting: function with simultaneous control of several indoor units (max. 16);
- Available functions: Sleep, ventilation, silent/automatic silent, display illumination, energy saving, dehumidification, memory, low-temperature dehumidification, absence of heating, filter cleaning reminder;
- Room temperature measurement; infrared remote control signal reception;
- Design parameters visualisation and setting functions;
- It is possible to connect to it the door control system (ideal for hotels).

REMOTE CONTROLLER

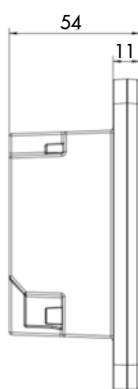
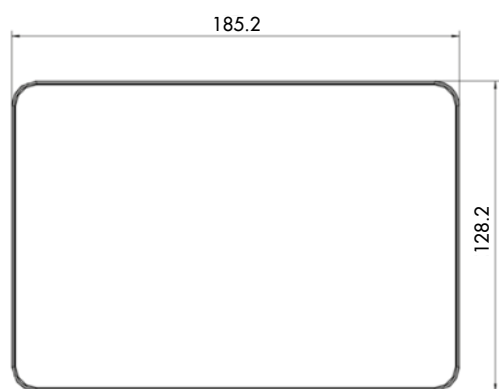


- Settable operating modes: Automatic, Cooling, Dehumidification, Ventilation and Heating;
- 6 settable fan speeds, besides the Turbo mode;
- Available functions: Child lock, Dehumidification, Health, Ventilation, Turbo, Sleep, Light, Absence, i-Feel and Timer;
- Selecting the i-Feel function activates the sensor on the remote control, which then sends inputs to the indoor unit at regular intervals, so as to guarantee at any time the desired level of comfort in the point where the remote control is positioned;
- Clock and indoor/outdoor temperature visualisation functions;
- Air delivery with horizontal and vertical swinging action.

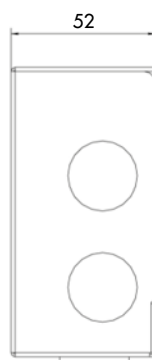
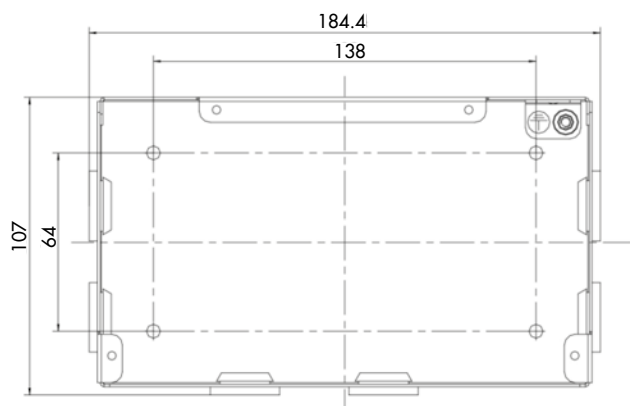
SMART ZONE CONTROLLER (up to 32 indoor units)



- High-resolution colour LCD;
- 7" capacitive touch screen for ease of use;
- Shielding function of the single unit, of a group and of all indoor units (shielding on/off, mode, temperature setting, etc.);
- Equipped with various functions: centralised control (controls all indoor units), group management (DIY support grouping), programming management (setting of various programmes) and control of the single unit (on/off, mode, temperature setting, fan speed, silent mode, air delivery control, etc.);
- Assignment of names to indoor units, icon selection and personalised settings (background setting, backlight, etc.);
- Up to 32 indoor units and up to 16 outdoor units can be controlled;
- Possibility of connecting indoor and outdoor units to the network;
- Independent power supply in a broad range of voltages between 110 V and 240 V.



Wired controller dimensions



Junction box dimensions

SMART ZONE CONTROLLER (up to 32 indoor units)

CONNECTION METHOD VIA CAN-BUS NETWORK

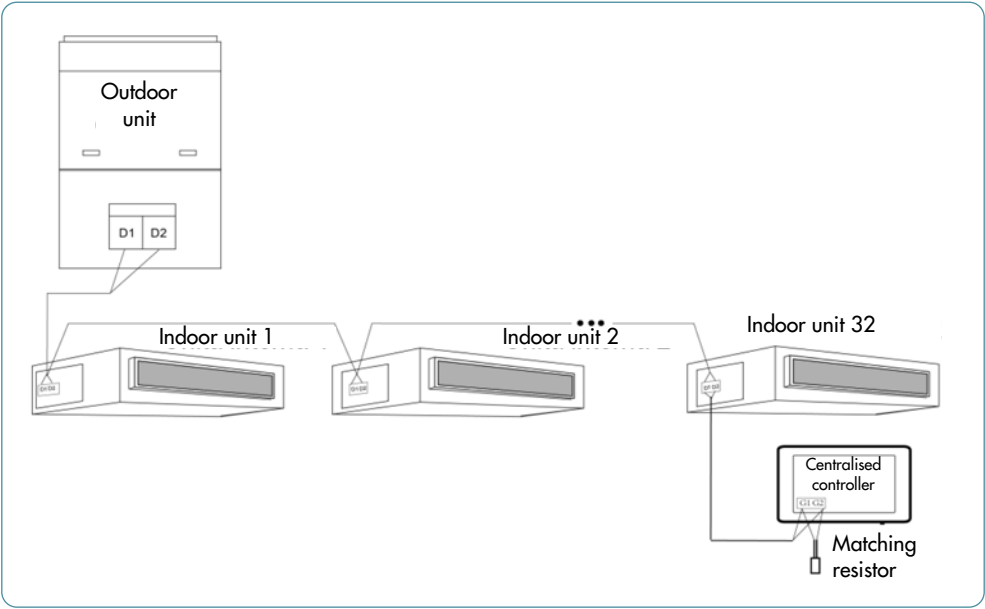


FIG. 1
On indoor unit network

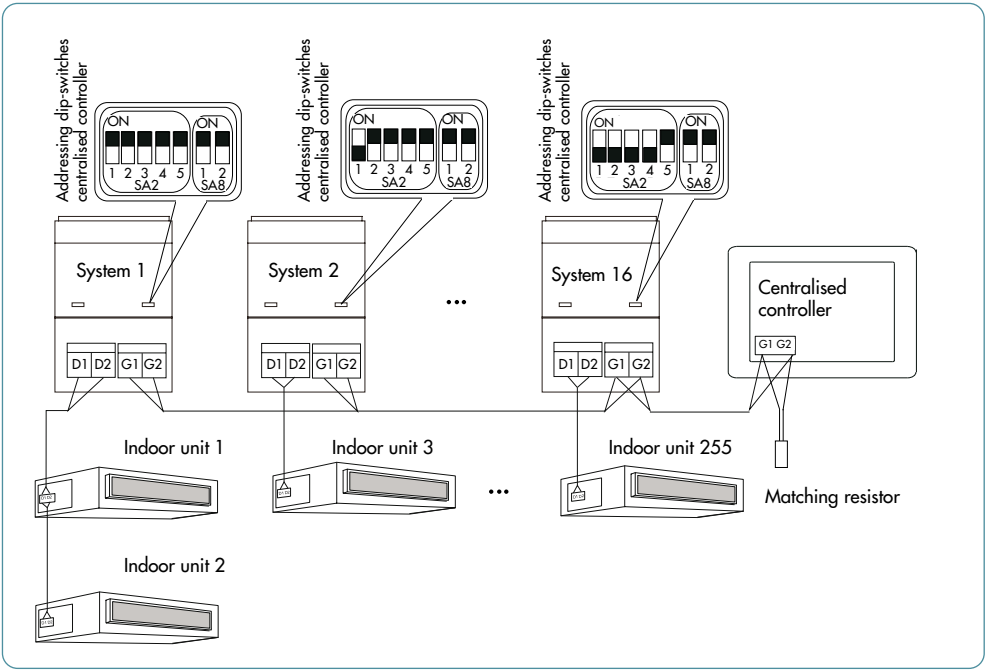


FIG. 2
On outdoor unit network

The centralised controller can be linked to multiple VRF units: it can control up to 16 outdoor units and up to 32 indoor units.

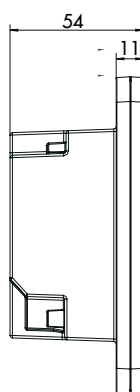
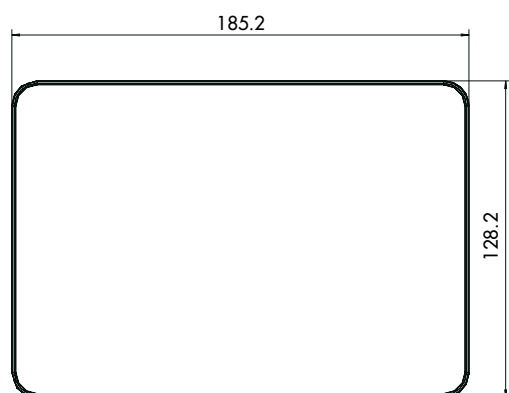
If the centralised controller must be connected to the indoor units network, make the connection as shown in FIG. 1. The controller must be wired in series to the end unit of the indoor network, by connecting ports G1 and G2 of the former with ports D1 and D2 of the latter. Moreover, it is necessary to add a matching resistor to ports G1 and G2 of the controller.

If the centralised controller must be connected to the outdoor units network, make the connection as shown in FIG. 2. The controller must be connected to the end unit of the outdoor network. Also in this case it is necessary to add a matching resistor to ports G1 and G2 of the controller.

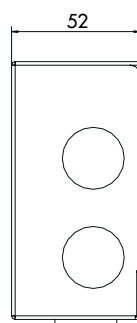
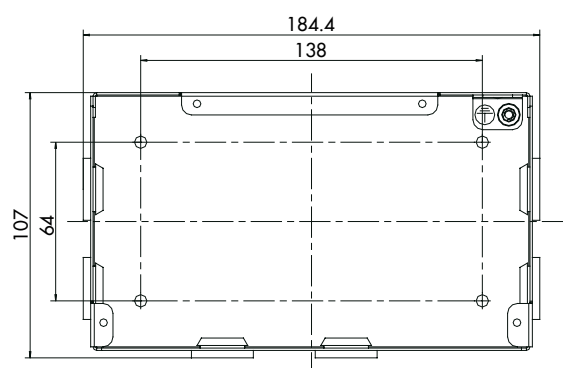
CENTRALIZED CONTROLLER (up to 255 indoor units)



- High-resolution colour LCD;
- 7" capacitive touch screen for ease of use;
- Shielding function of the single unit, of a group and of all indoor units;
- Equipped with the parameter visualisation, fault recording and access management functions;
- Equipped with various functions: centralised control (controls all indoor units), group management (grouping of certain units), programming management (setting of various programmes) and control of the single unit;
- Assignment of names to indoor units, icon selection and personalised settings (background setting, backlight, etc.);
- Up to 255 indoor units and up to 16 outdoor units can be controlled;
- Built-in wall-mounted installation with a mere 11 mm protrusion;
- Independent power supply in a broad range of voltages between 110 V and 240 V.



Wired controller dimensions



Junction box dimensions

CENTRALIZED CONTROLLER (up to 255 indoor units)

CONNECTION METHOD VIA CAN-BUS NETWORK

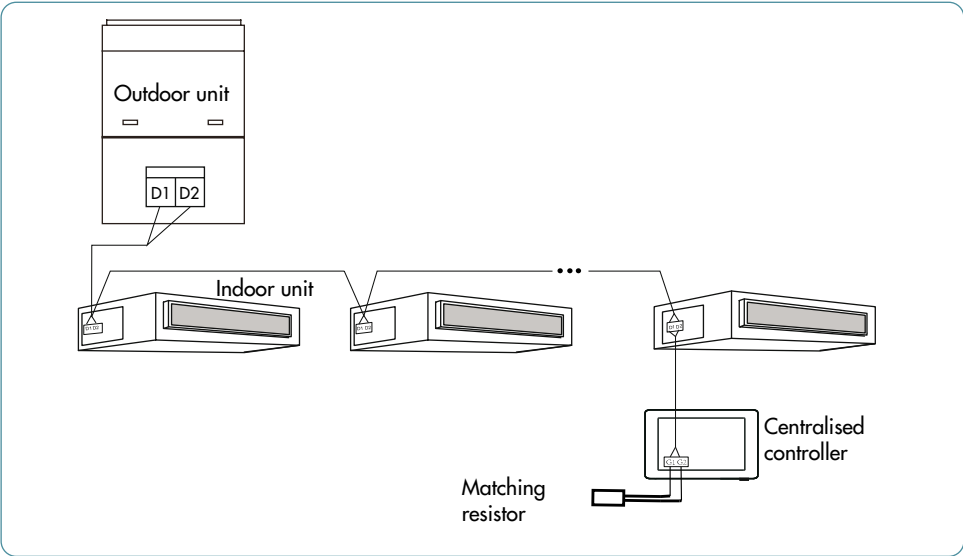


FIG. 1
On indoor unit network

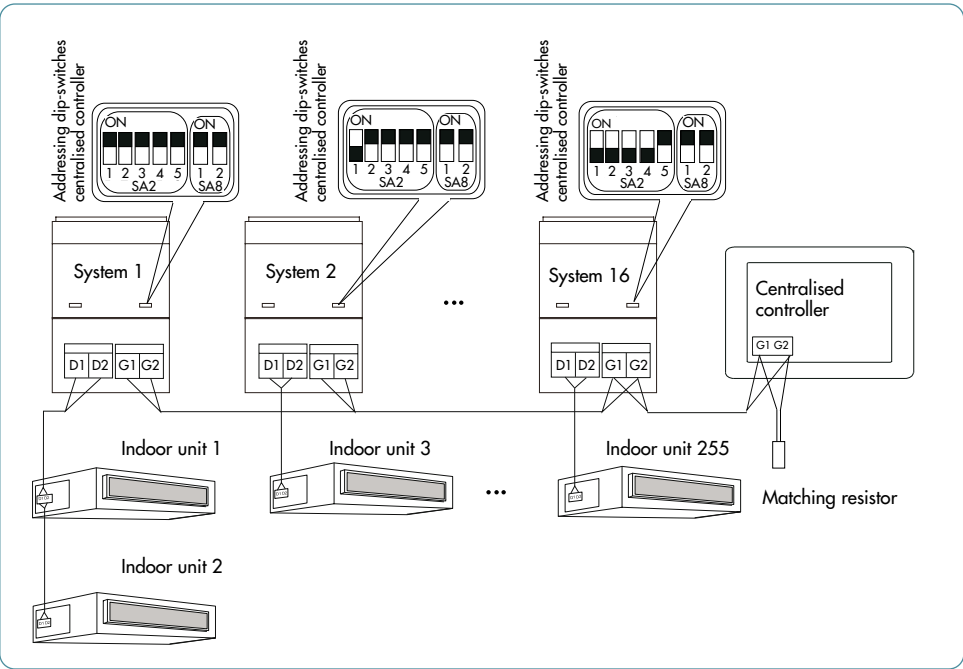


FIG. 2
On outdoor unit network

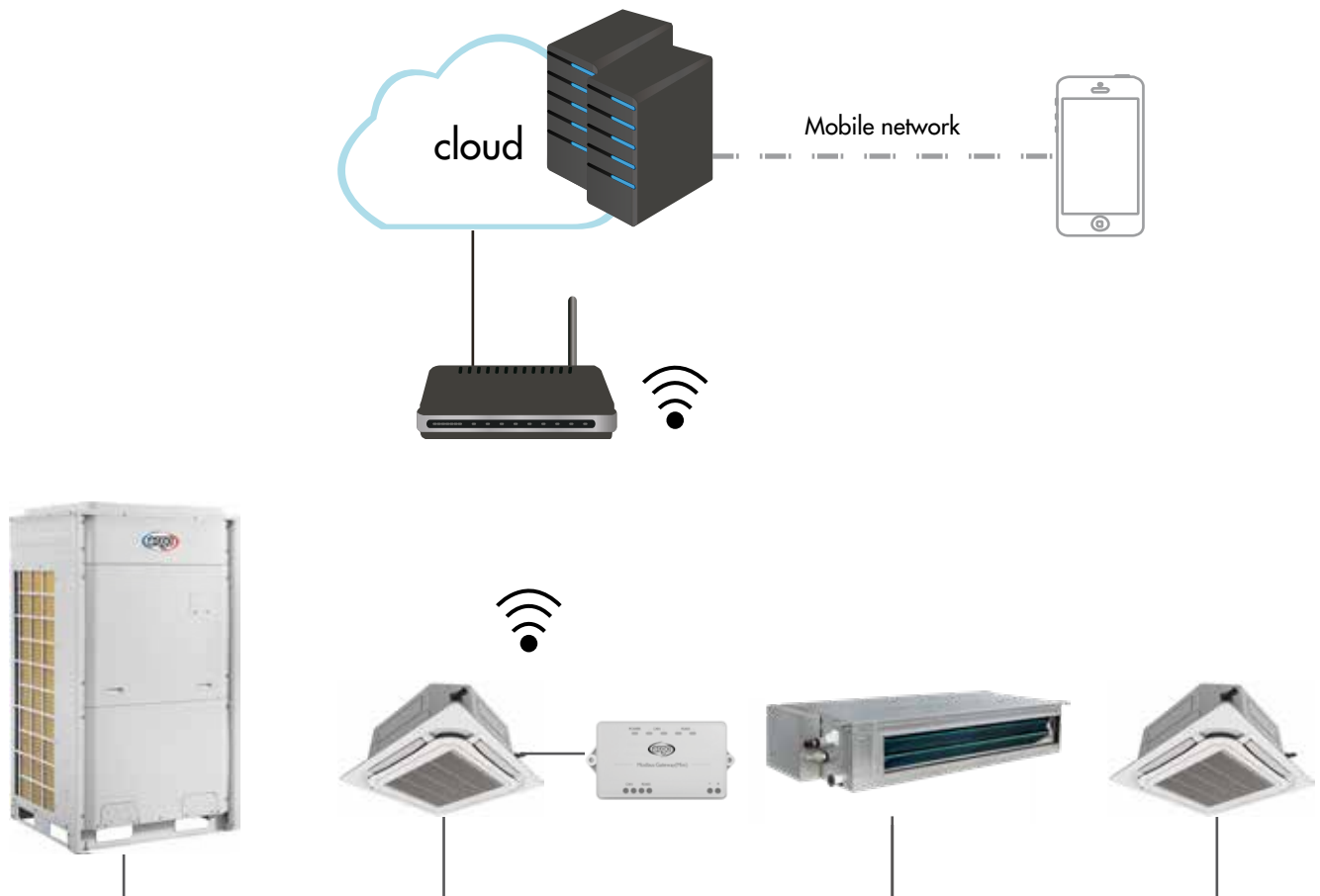
The centralised controller can be linked to multiple VRF units: it can control up to 16 outdoor units and up to 255 indoor units.

If the centralised controller must be connected to the indoor units network, make the connection as shown in FIG. 1. The controller must be wired in series to the end unit of the indoor network, by connecting ports G1 and G2 of the former with ports D1 and D2 of the latter. Moreover, it is necessary to add a matching resistor to ports G1 and G2 of the controller.

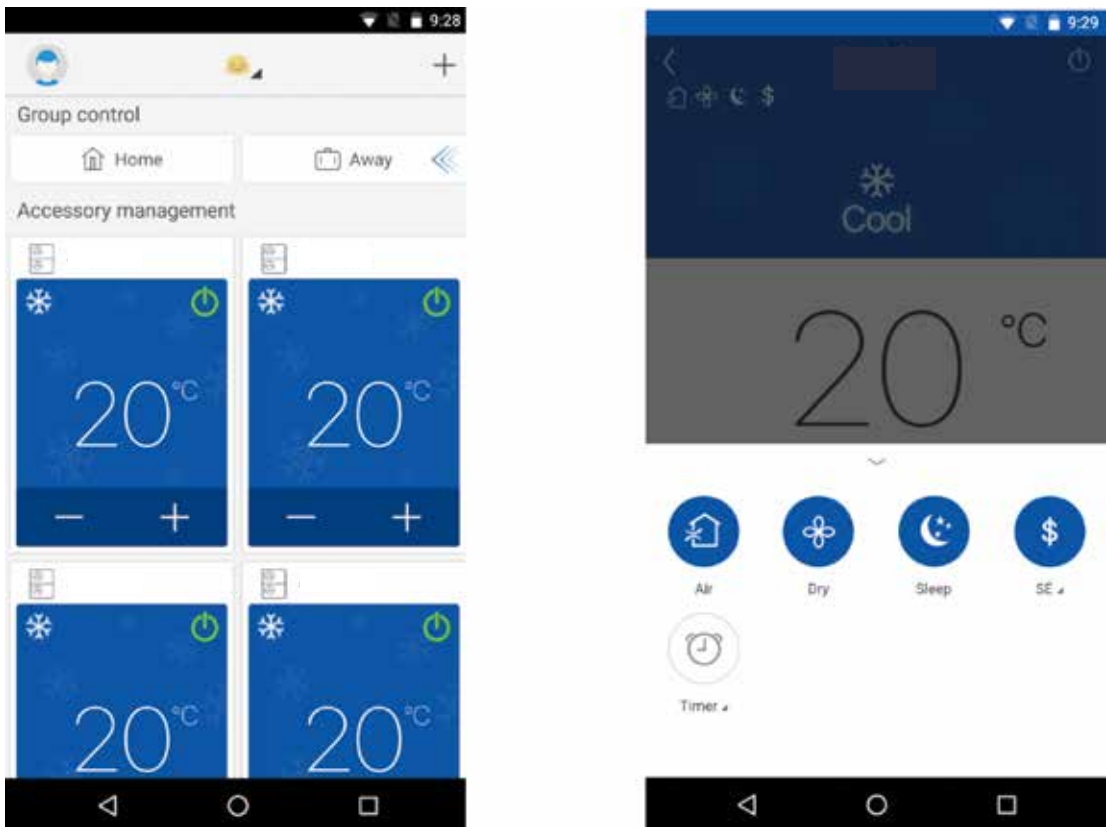
If the centralised controller must be connected to the outdoor units network, make the connection as shown in FIG. 2. The controller must be connected to the end unit of the outdoor network. Also in this case it is necessary to add a matching resistor to ports G1 and G2 of the controller.

G-CLOUD WI-FI KIT

G-Cloud is a new-generation Wi-Fi device applicable to VRF Argo units. It can be used to show the operating status of the units to users, who can manage their adjustment via an app. It is designed for smart domestic control, namely for remote control of the individual unit, management of the various zones, fault reminder and access management.



MANAGEMENT APP



Lightweight

Compact and easy to install, the G-Cloud module does not require any external power source: power is supplied by the indoor unit to which it is connected.

User-friendly app

EVPE is an app that can be easily configured by the user; it comes with a quick guide featuring a straightforward and clear interface;

Smart remote controller

The user can set the operating status of the VRF system; the remote controller allows for modifying the adjustment settings at any time;

Large network capacity

A G-Cloud module is able to control up to 80 indoor units in a single system;

Error detection

It monitors the units, detects errors and signals them.

BRANCH-OFF JOINTS

BRANCH-OFF JOINTS FOR DIRECT-EXPANSION INDOOR UNITS			
Model/ Code	Capacity (kW)	GAS PIPE	LIQUID PIPE
JOINT01/ 398800090	X<20		
JOINT01B/ 398800091	20≤X≤30		
JOINT02/ 398800092	30<X≤70		
JOINT03/ 398800093	70<X≤136		
JOINT04/ 398800094	136<X		
BRANCH-OFF JOINTS FOR OUTDOOR UNITS			
JOINT05/ 398800095			

MANIFOLDS

MANIFOLDS FOR DIRECT-EXPANSION INDOOR UNITS		
JOINT14/ 398800096	GAS PIPE	
	LIQUID PIPE	
JOINT18/ 398800097	GAS PIPE	
	LIQUID PIPE	
JOINT18B/ 398800098	GAS PIPE	
	LIQUID PIPE	

Total capacity of downstream indoor units	Dimensions of connecting pipe		Manifold model	Number of fittings
	Gas pipe (mm)	Liquid pipe (mm)		
X≤40.0	≤Ø25.4	≤Ø12.7	JOINT14	4
X≤68.0	≥Ø28.6	≥Ø15.9	JOINT18	8
68.0<X	≤Ø31.8	≤Ø19.05	JOINT18B	8

BRANCH-OFF JOINTS FOR AHU KITS

The use of the branch-off joint(s) is necessary only when several AHU KITS are connected to an air handling unit, according to the indications shown in the table below:

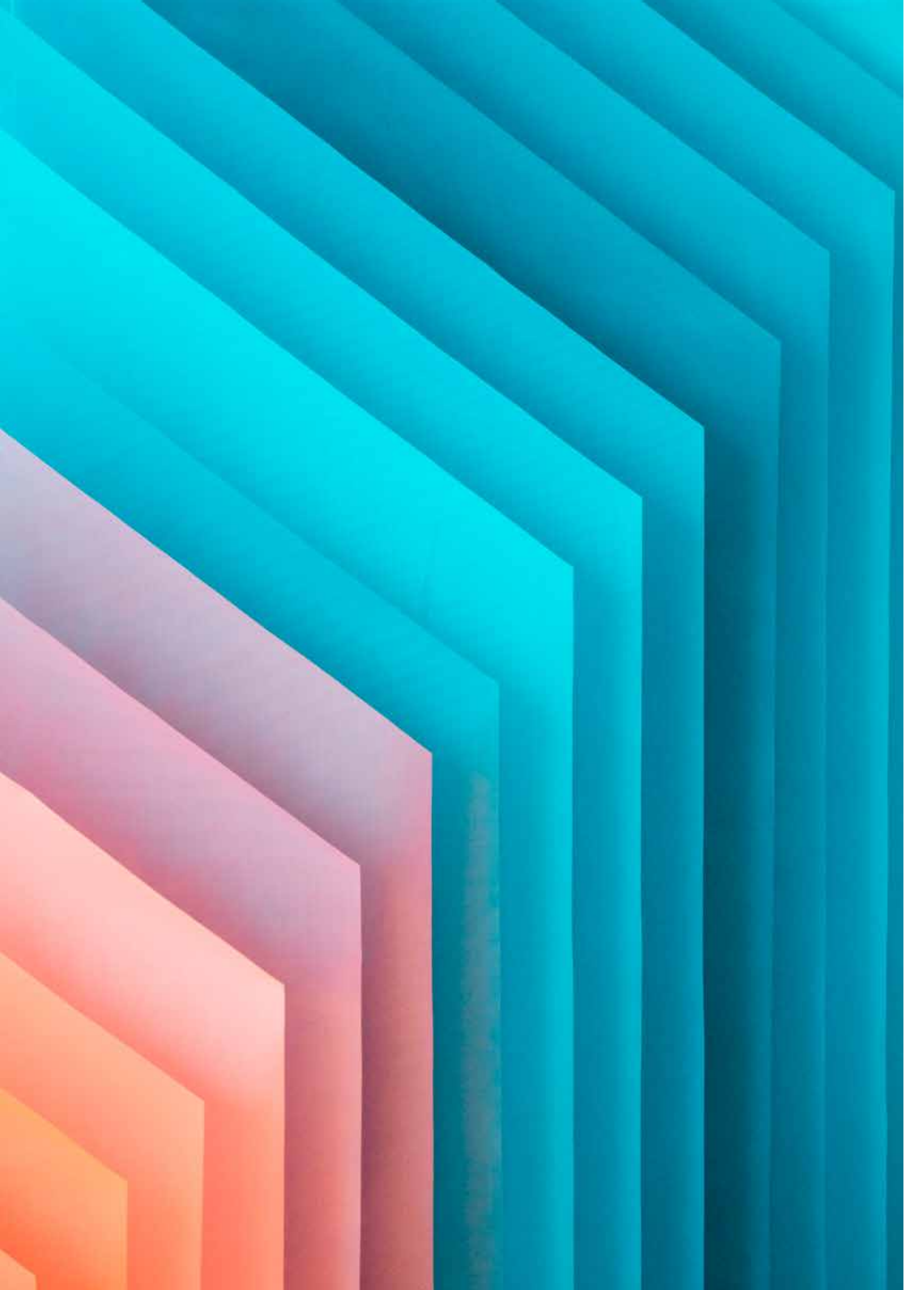
Combinations of models	Joint code	Joint	Quantity
AHUKIT560 + AHUKIT140	398800099	JOINT AHUKIT280-561	1
AHUKIT560 + AHUKIT280			1
AHUKIT560 + AHUKIT560			1
AHUKIT560 + AHUKIT560 + AHUKIT140			2
AHUKIT560 + AHUKIT560 + AHUKIT280			2
AHUKIT560 + AHUKIT560 + AHUKIT560			2

Model	Liquid pipe
FQ02U/A	

BRANCH-OFF JOINTS FOR X3 VRF HOME

FROM HYDROBOX TO DIRECT-EXPANSION INDOOR UNITS

Model	Gas pipe	Liquid pipe
JOINT01B		



HEAT RECOVERY UNITS

With or without direct-expansion coil

REC CFR MICRO EH

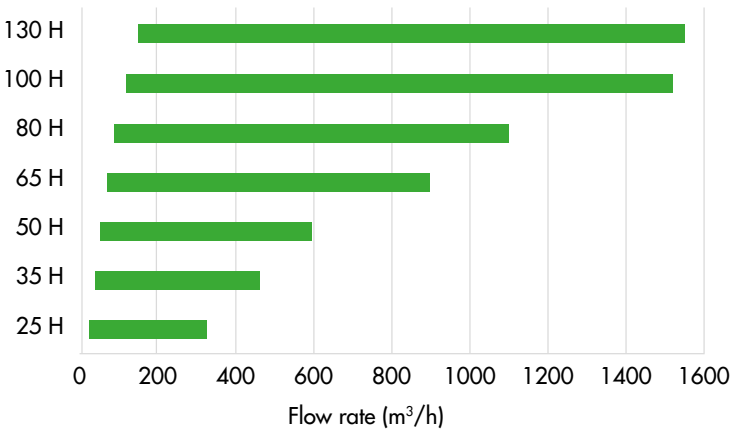
HEAT RECOVERY UNIT WITH ENTHALPY HEAT EXCHANGER



Code	Model
398000184	REC MICRO E 25H
398000185	REC MICRO E 35H
398000186	REC MICRO E 50H
398000187	REC MICRO E 65H
398000188	REC MICRO E 80H
398000189	REC MICRO E 100H
398000190	REC MICRO E 130H

MAIN FEATURES

- Static enthalpy heat recovery unit with thermal efficiency of up to 76%;
- Self-supporting galvanised sheet steel structure, insulated internally and externally; accessible through a side port;
- Air filtration with efficiency class F9 (with G3 pre-filter) on the renewal air, G3 filter on the intake flow;
- Heat recovery unit motor-driven bypass system activated automatically by the electronic controller, for guaranteeing free cooling with the outside air whenever it is convenient;
- Electric fans with low-consumption EC motor boasting high performance and silent operation; possibility of managing 10 speed levels;
- Incorporated control panel with PCB for controlling the ventilation and free-cooling functions.



ACCESSORIES



Code	Model
398100181	PTS

Touch-screen control panel - PTS

The remotable control panel is necessary for managing all settings and functions of the heat recovery unit. It is equipped with a capacitive glass screen and has blue backlighting. It is supplied with a 5 metre-long cable and connectors for connection to the PCB fitted on the machine. The device can be attached to the wall using the template provided.

PERFORMANCES

MODEL		E 25H	E 35H	E 50H	E 65H	E 80H	E 100H	E 130H
Rated air flow	m ³ /h	250	350	500	650	800	1000	1300
Rated available static pressure	Pa	90	140	110	100	140	140	135
				90	75	120	115	105
Power supply	V/ph/Hz	230 / 1 / 50-60						
Total maximum current	A	0.5	0.6	0.6	1.2	1.4	2.1	2.7
FANS								
Type of motor		EC	EC	EC	EC	EC	EC	EC
No. of speeds		10	10	10	10	10	10	10
Ventilation control (1)		Man VSD	Man VSD	Man VSD	Man VSD	Man VSD	Man VSD	Man VSD
Internal specific fan power - SFP int (5)	W (m ³ /s)	812	670	547	846	865	881	873
Total rated power input	kW	0.08	0.13	0.15	0.23	0.32	0.39	0.49
Sound pressure level (2)	dB(A)	34	37	39	40	42	43	44
HEAT RECOVERY UNIT								
Winter thermal efficiency (3)	%	73.0	74.0	76.0	74.0	76.0	76.0	74.2
Winter enthalpy efficiency (3)	%	65.0	65.0	67.0	65.0	65.0	62.0	59.0
Summer thermal efficiency (4)	%	73.0	74.0	76.0	74.0	76.0	76.0	74.0
Summer enthalpy efficiency (4)	%	62.0	62.0	63.0	60.0	63.0	60.0	58.0
Dry thermal efficiency (5)	%	73.0	74.0	76.0	74.0	76.0	76.0	74.0

(1) Man = Manual from selector or keypad; VSD = Air quality/humidity sensor-based modulation

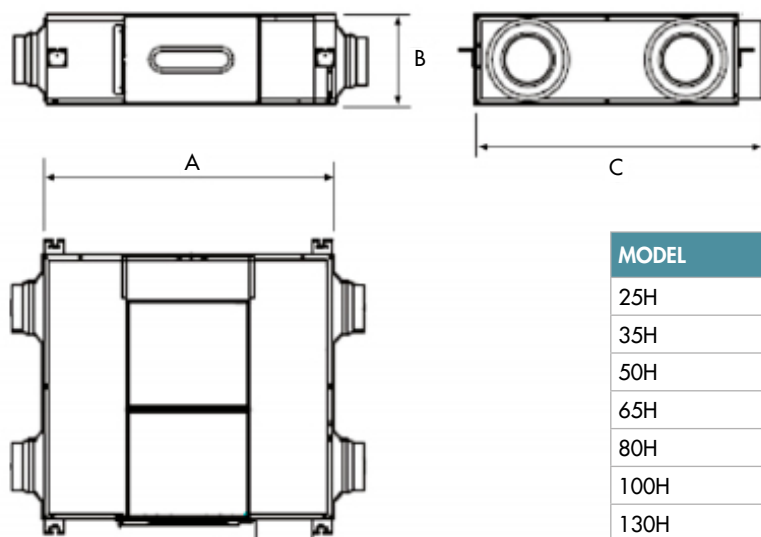
(2) Sound pressure level measured at 1 m from the casing on the inspection side with delivery nozzles, exhaust, intake and ducted outside air, at the nominal conditions

(3) Outside air -5 °C 80% R.H.; room air 20 °C 50% R.H.

(4) Outside air 32 °C 50% R.H.; room air 26 °C 50% R.H.

(5) As per Regulation (EU) 1253/2014: at the nominal pressure; temperature and humidity conditions referred to EN 308

DIMENSIONAL DRAWING



MODEL	A (mm)	B (mm)	C (mm)	Weight (kg)
25H	815	270	650	30
35H	815	270	855	37
50H	895	270	955	43
65H	1185	390	945	65
80H	1185	390	1200	71
100H	1200	390	1290	83
130H	1200	390	1290	83

REC CFR MICRO DX

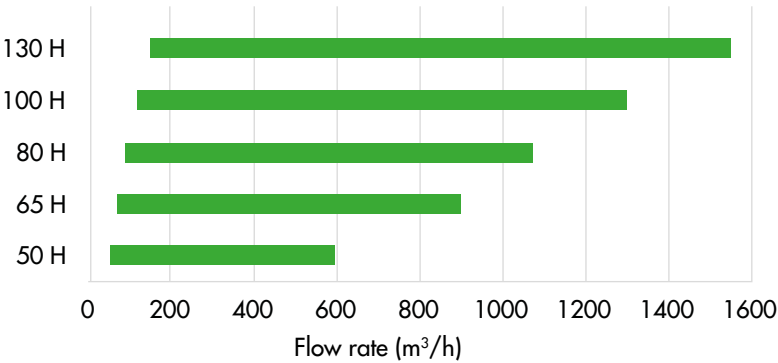
HEAT RECOVERY UNIT WITH ENTHALPY HEAT EXCHANGER AND DIRECT-EXPANSION COIL



Code	Model
398000191	REC CFR MICRO DX 50H
398000192	REC CFR MICRO DX 65H
398000193	REC CFR MICRO DX 80H
398000194	REC CFR MICRO DX 100H
398000195	REC CFR MICRO DX 130H

MAIN FEATURES

- Built on the basis of the Micro EH series and factory-integrated with the AHU kit
- Entry module to be connected to the VRF system with direct-expansion coil (R410A) equipped with an expansion valve, filter, adjustment sensors on the cooling line and temperature sensors upstream and downstream of the air flow.
- Printed circuit board for managing the thermo-ventilation functions, inclusive of wired remote control panel.



STANDARD WIRED CONTROLLER



All units are equipped with a wired controller, shown in the figure on the left.

DX COIL SPECIFICATIONS

MODEL	DX 50H	DX 65H	DX 80H	DX 100H	DX 130H
Shape	2522	2522	2522	2522	2522
No. of rows	3	3	3	3	3
No. of circuits (AHU kits)	1	1	1	1	1
Ø in (liq) SAE - Flare	1/4"	1/4"	1/4"	1/4"	1/4"
Ø out (gas) SAE Flare	1/2"	1/2"	1/2"	1/2"	1/2"
Volume (l)	0.7	0.7	1.2	1.2	1.2

PERFORMANCES

MODEL		DX 50H	DX 65H	DX 80H	DX 100H	DX 130H
Rated air flow	m³/h	500	650	800	1000	1300
Rated available static pressure	Pa	110	100	140	140	135
		90	75	120	115	105
Power supply	V/ph/Hz	230 / 1 / 50-60				
Total maximum current	A	0.6	1.2	1.4	2.1	2.7
FANS						
Type of motor		EC	EC	EC	EC	EC
No. of speeds		3	3	3	3	3
Ventilation control (1)		Man	Man	Man	Man	Man
Internal specific fan power - SFP int (5)	W (m³/s)	547	846	865	881	873
Total rated power input	kW	0.15	0.23	0.32	0.39	0.49
Sound pressure level (2)	dB(A)	39	40	42	43	44
HEAT RECOVERY UNIT						
Winter thermal efficiency (3)	%	76.0	74.0	76.0	76.0	74.2
Winter enthalpy efficiency (3)	%	67.0	65.0	65.0	62.0	59.0
Summer thermal efficiency (4)	%	76.0	74.0	76.0	76.0	74.0
Summer enthalpy efficiency (4)	%	63.0	60.0	63.0	60.0	58.0
Dry thermal efficiency (5)	%	76.0	74.0	76.0	76.0	74.0
DIRECT-EXPANSION COIL						
Heat output (6)	kW	2.5 (2.7)	3.0 (3.3)	4.4 (4.8)	5.2 (6.7)	6.2 (6.7)
Total cooling capacity (7)	kW	3.0	3.5	5.1	5.8	7.0

(1) Man = Manual from selector or keypad

(2) Sound pressure level measured at 1 m from the casing on the inspection side with delivery nozzles, exhaust, intake and ducted outside air, at the nominal conditions

(3) Outside air -5 °C 80% R.H.; room air 20 °C 50% R.H.

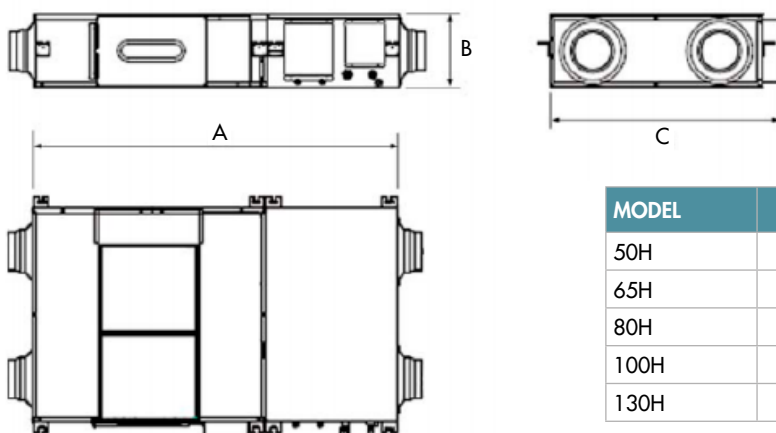
(4) Outside air 32 °C 50% R.H.; room air 26 °C 50% R.H.

(5) As per Regulation (EU) 1253/2014: at the nominal pressure; temperature and humidity conditions referred to EN 308

(6) Coil input air: 13 °C DB, 40% R.H. (11 °C DB, 45% R.H.); condensation 40 °C

(7) Coil input air: 28.5 °C DB, 50% R.H.; evaporation 7 °C

DIMENSIONAL DRAWING



MODEL	A (mm)	B (mm)	C (mm)	Weight (kg)
50H	1495	270	955	90
65H	1685	390	945	97
80H	1685	390	1200	100
100H	1700	390	1290	105
130H	1700	390	1290	105

REC CFR PHE+

HEAT RECOVERY UNIT WITH CROSS-FLOW ENTHALPY HEAT EXCHANGER

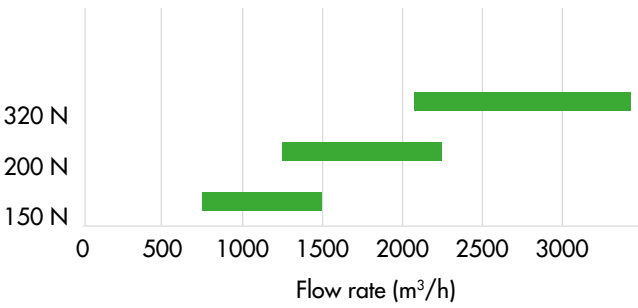




Code	Model
398000197	REC CFR-PHE+ 150N
398000198	REC CFR-PHE+ 200N
398000199	REC CFR-PHE+ 320N

MAIN FEATURES

- Horizontal ceiling-mounted installation, extraction from below of the heat exchanger for all models
- Structure consisting of sandwich-type panels th. 23 mm, made of galvanised sheet metal inside and pre-coated on the outside, with polyurethane thermo-acoustic insulation with 45 kg/m³ density
- Double-intake centrifugal electric fans with directly coupled multi-speed electric motor
- Filtration sections consisting of compact cell-type filters with polypropylene media and low load loss, laterally removable, with F7 efficiency class for the renewal flow and M5 for the expulsion flow
- Integrated pressure switch for signalling dirty filters



ACCESSORIES



Code	Model
398100185	PCU

Speed control panel - PCU

Controller for heat recovery units with AC fans, manages activation of the water coil (if present) or heating element through the ON/OFF signal. Controls the free-cooling function (if present) through reading of the temperature sensors installed on the machine. Allows for selecting the fan's operating speed between minimum, medium and maximum.

PERFORMANCES

MODEL		150 N	200 N	320 N
Rated air flow	m ³ /h	1500	2300	3100
Rated available static pressure	Pa	190	240	190
Maximum available static pressure	Pa	190	240	190
Power supply	V/ph/Hz	230 / 1 / 50-60		
Total maximum current	A	6.0	14.0	14.0
FANS				
Type of motor		AC	AC	AC
No. of speeds		3	3	10
Ventilation control		Man	Man	Man
Internal specific fan power - SFP int (4)	W (m ³ /s)	1031	1008	966
Total rated power input	kW	0.96	1.55	1.67
Sound pressure level (1)	dB(A)	56	60	61
HEAT RECOVERY UNIT				
Winter thermal efficiency (2)	%	73.0	73.2	71.4
Winter enthalpy efficiency (2)	%	62.5	62.7	55.5
Summer thermal efficiency (3)	%	60.1	60.2	57.4
Summer enthalpy efficiency (3)	%	58.3	58.5	52.5
Dry thermal efficiency (3)	%	73.1	73.2	73.0

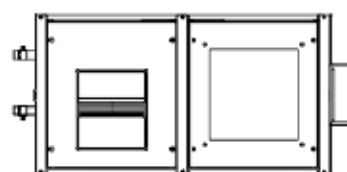
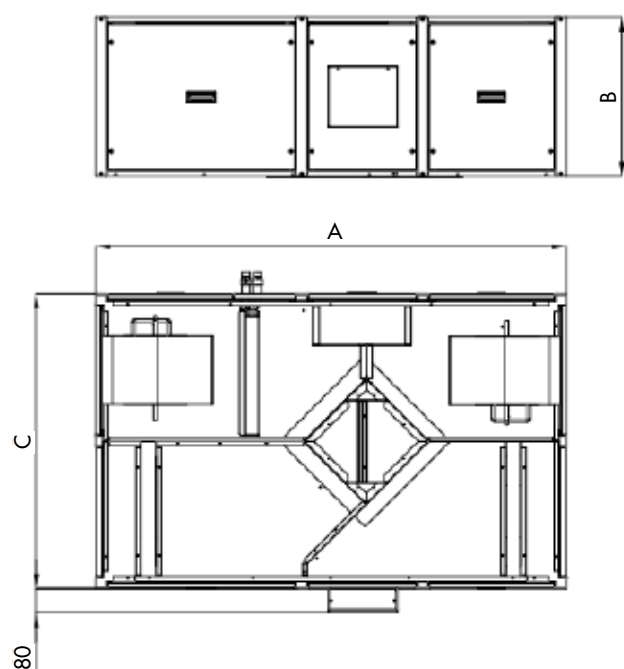
(1) Sound pressure level measured at 1 m from the casing on the inspection side with delivery nozzles, exhaust, intake and ducted outside air, at the nominal conditions

(2) Outside air -5 °C 80% R.H.; room air 20 °C 50% R.H.

(3) Outside air 32 °C 50% R.H.; room air 26 °C 50% R.H.

(4) As per Regulation (EU) 1253/2014: at the nominal pressure; temperature and humidity conditions referred to EN 308

DIMENSIONAL DRAWING



MODEL	A (mm)	B (mm)	C (mm)	Weight (kg)
150 N	2000	680	1290	190
200 N	2000	680	1290	200
320 N	2100	680	1400	220

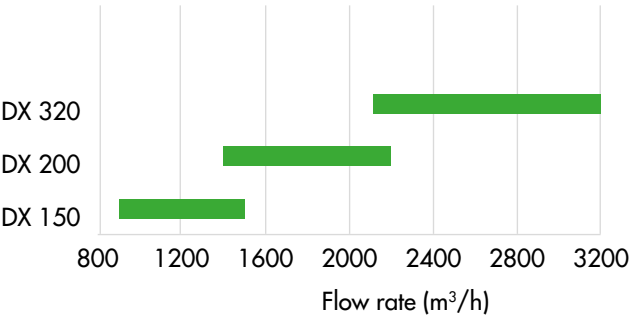
REC CF PHE DX

HEAT RECOVERY UNIT WITH ENTHALPY HEAT EXCHANGER AND DIRECT-EXPANSION COIL



MAIN FEATURES

- Horizontal ceiling-mounted installation, extraction from below of the heat exchanger for all models
- Structure of the main module consisting of sandwich-type panels th. 23 mm, made of galvanised sheet metal inside and pre-coated on the outside, with polyurethane thermo-acoustic insulation with 45 kg/m³ density
- Entry module to be connected to the VRF system with direct-expansion coil (R410A), with copper piping and aluminium fins, equipped with an expansion valve, filter, adjustment sensors on the cooling line and temperature sensors upstream and downstream of the air flow. Sheet metal structure internally insulated with thermo-acoustic insulation, complete with stainless steel condensate collection tray
- Double-intake centrifugal electric fans with high-efficiency electric motors with EC technology
- Integrated pressure switch for signalling dirty filters
- Filtration sections consisting of compact cell-type filters with polypropylene media and low load loss, laterally removable, with F7 efficiency class for the renewal flow and M5 for the expulsion flow
- Printed circuit board for managing the thermo-ventilation functions, inclusive of wired remote control panel.



STANDARD WIRED CONTROLLER



All units are equipped with a wired controller, shown in the figure on the left.

DX COIL SPECIFICATIONS

MODEL	150	200	320
Shape	2522	2522	2522
No. of rows	3	3	3
No. of circuits (AHU kits)	1	1	1
Ø in (liq) ODS (mm)	12	16	22
Ø out (gas) ODS (mm)	28	28	28
Volume (l)	1.8	2.2	2.9

PERFORMANCES

MODEL		DX 150	DX 200	DX 320
Rated air flow	m ³ /h	1500	2300	3100
Rated available static pressure	Pa	170	210	155
Maximum available static pressure	Pa	530	420	365
Power supply	V/ph/Hz	230/1/50-60		
Total maximum current	A	9.0	9.0	10.0
FANS				
Type of motor		EC	EC	EC
No. of speeds		Multiple	Multiple	Multiple
Ventilation control		0-10 V VSD	0-10 V VSD	0-10 V VSD
Internal specific fan power - SFP int (4)	W (m ³ /s)	673	857	866
Total rated power input	kW	0.62	1.31	1.50
Sound pressure level (1)	dB(A)	53	59	58
HEAT RECOVERY UNIT				
Winter thermal efficiency (2)	%	73.0	73.2	71.4
Winter enthalpy efficiency (2)	%	62.5	62.7	55.5
Summer thermal efficiency (3)	%	60.1	60.2	57.4
Summer enthalpy efficiency (3)	%	58.3	58.5	52.5
Dry thermal efficiency (3)	%	73.1	73.2	73.0
DIRECT-EXPANSION COIL				
Heat output (6)	kW	8.6	12.2	17.1
Total cooling capacity (7)	kW	9.9	14.2	19.3

(1) Multiple = multi-speed > 3, Man = manual from selector or keypad; 0-10 V = from potentiometer or keypad; VSD = with constant flow rate or modulation from air quality / humidity sensor

(2) Sound pressure level measured at 1 m from the casing on the inspection side with delivery nozzles, exhaust, intake and ducted outside air, at the nominal conditions

(3) Outside air -5 °C 80% R.H.; room air 20 °C 50% R.H.

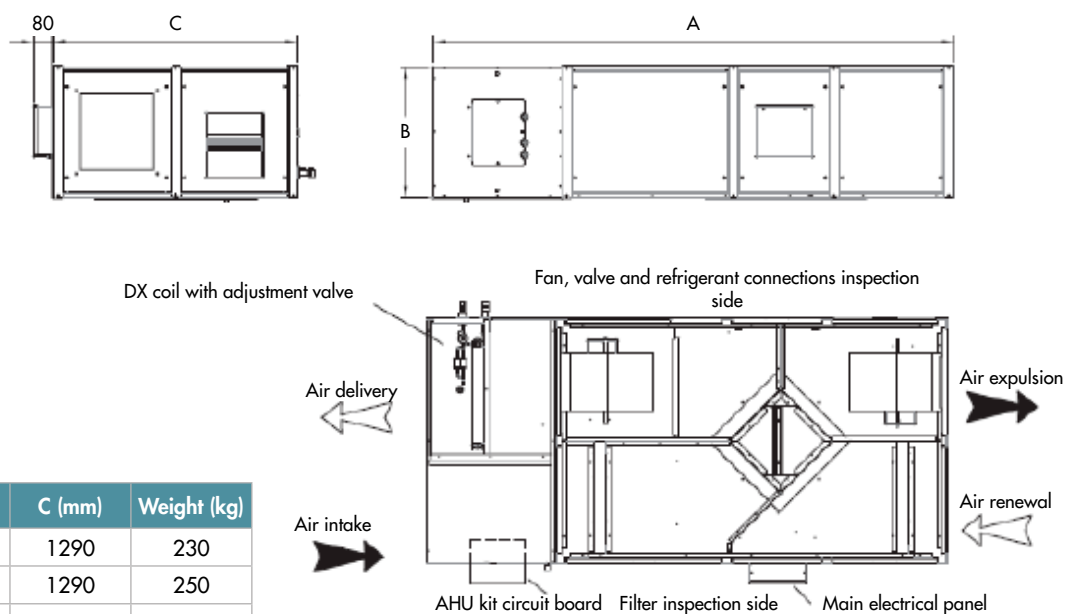
(4) Outside air 32 °C 50% R.H.; room air 26 °C 50% R.H.

(5) As per Regulation (EU) 1253/2014: at the nominal pressure; temperature and humidity conditions referred to EN 308

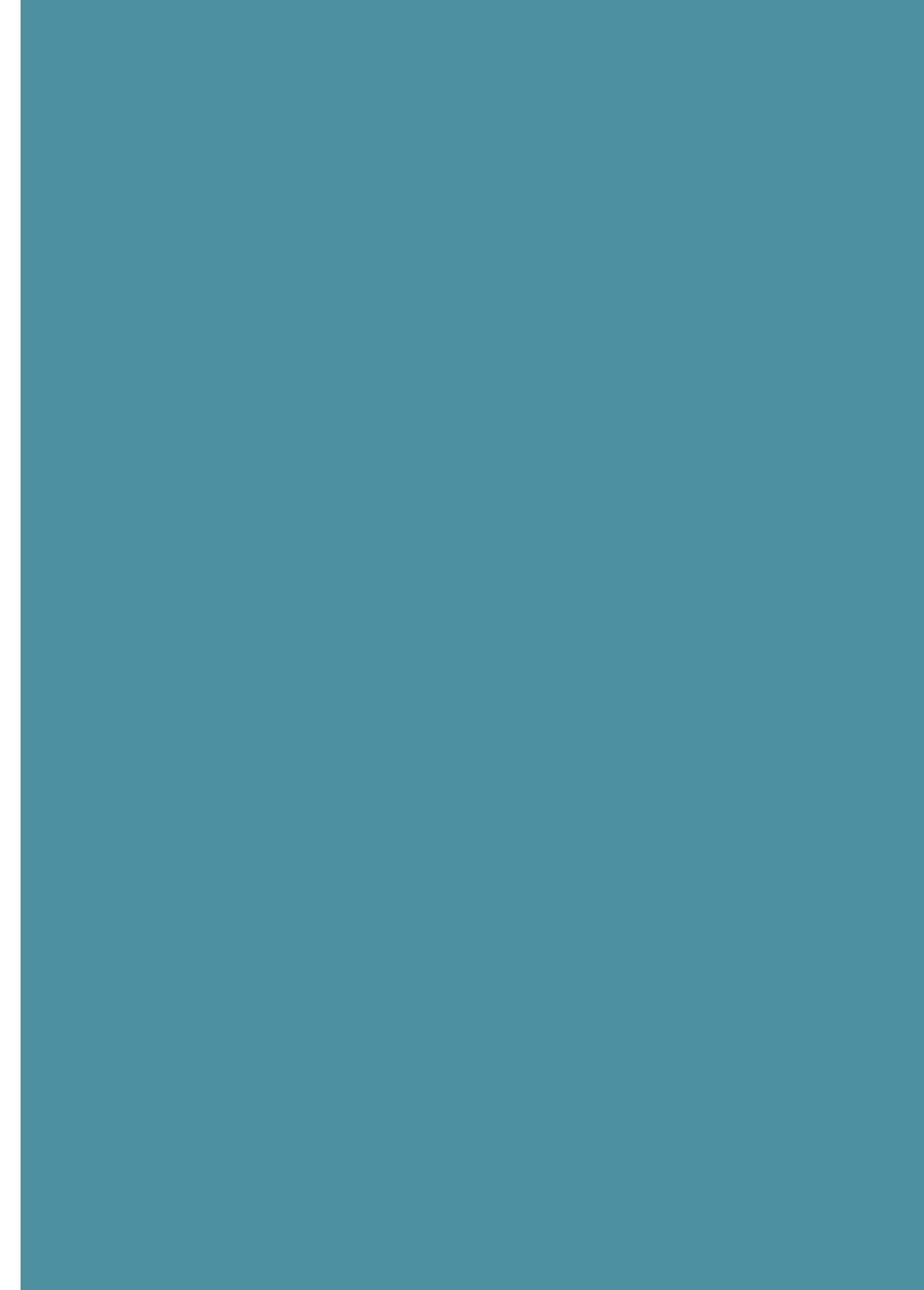
(6) Coil input air: 13 °C DB, 40% R.H. (11 °C DB, 45% R.H.); condensation 40 °C

(7) Coil input air: 28.5 °C DB, 50% R.H.; evaporation 7 °C

DIMENSIONAL DRAWING



MODEL	A (mm)	B (mm)	C (mm)	Weight (kg)
150	2500	680	1290	230
200	2500	680	1290	250
320	2600	680	1400	270





N.B.: The manufacturer shall not be held liable for any errors or inaccuracies regarding the contents of this catalogue, and reserves the right to make any necessary changes to its products, at any time and without prior notice, for technical or commercial reasons.

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