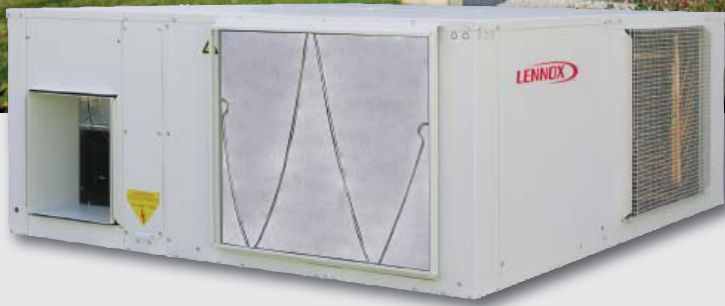


APPLICATION GUIDE



HORIZONTAL PACKAGED AIR CONDITIONER

FLATAIR

10 - 28 kW

FLATAIR-AGU-1612-E



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FLATAIR

APPLICATION GUIDE

Ref : FLATAIR AGU-1612-E

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1.1 GENERAL DESCRIPTION

FLATAIR is an air cooled horizontal air conditioning unit, available in cooling only or heat pump version, and as packaged or split unit. It is designed for local shops, small office buildings or residential applications.

Thanks to its small dimensions, this range is designed for false ceiling and can be ducted in both thermodynamic and air treatment sections.

A large range of options, fully factory assembled is also available.

CASING

Galvanized steel sheet casing, highly corrosion-resistant.

Metal profiles allowing ceiling installation.

Panels are easily inter exchangeable, allowing several supply and return configurations.

An insulation (fire class M1 and F1) is used in indoor section, certifying that the material is auto-extinguishable and avoiding the fumes inside the room to be aconditionned.

Auto extinguishable insulation M1 is used in thermodynamic unit.

COMPRESSORS

All units are equipped with R410A Scroll compressor, cooled by suction gas with thermic protection inside the engine.

It is mounted on anti-vibration mounts.

Compressors of heat pump units are equipped with a crankcase heater to heat the oil, this improving compressor reliability.

AIR FILTER

Washable air filter; M1 classification self-extinguishing material, high efficiency G2 filtration.

It can be removed through the upper part and from the sides.

FAN

Centrifugal outdoor and indoor fans with an assembled motor, mechanically balancing, with a low noise level.

Those fans are put on stands and on antivibratiles mounts to avoid vibrations.

EXCHANGER

Made of copper pipes and aluminium fins, designed to provide a high heat transfer.

The dimensions and design of the refrigerant circuit allow the heat exchanger to provide maximum performance, while reducing the energy consumption.

REFRIGERANT CIRCUIT

Carried out with welded deshydratable copper pipes with pressure intakes with schraeder valves in the suction and liquid lines in both air treatment and thermodynamic units.

On unit 20-25-30, the pressure intakes in the thermodynamic section are approachable from the outer part of the unit.

The unit is equipped with both high-low pressure switches with an automatic reset. It has also a filter dryer, expansion system with restrictors (units 10-12-15) ; thermostatic expansion valve (units 20-25-30). The heat pump units are equipped as well with a suction accumulator to avoid the liquid return to the compressor, a 4-way valve and a non return valve.

ELECTRICAL CIRCUIT

Designed according to EN 60204-1 normative hermetically sealed to avoid condensation. With circuits breakers to protect the unit from overloading.



FLATAIR units are designed for false ceiling mounting, to be installed exclusively indoor. For outdoor mounting, a shelter or roof structure has to be installed, to avoid direct water entry in the sensible parts of the unit (electrical board, joints between air treatment unit and thermodynamic units).

1.2 CONTROL

CLIMATIC 40 VERSION

CLIMATIC 60 VERSION

FLATAIR units may be equipped with two different controls :

- The basic CLIMATIC 40 platform, including one terminal in the unit and another DC40 remote
- The advanced CLIMATIC 60 platform including one terminal in the unit, and 3 optional remote displays (DC, DS, DM) (Non Standard Request)

CLIMATIC 60 controller intelligently improves efficiency and helps comissioning and service operations to guarantee long lasting performance.

OPTIMIZED OPERATION AND SETUP SAVES ENERGY

CLIMATIC™ 60 is designed to provide the best energy efficiency throughout unit's life cycle while ensuring reliable and consistent operation with user friendly interfaces.

This new controller constantly monitors more machine parameters than ever to improve units operation and maximize efficiency and reliability.

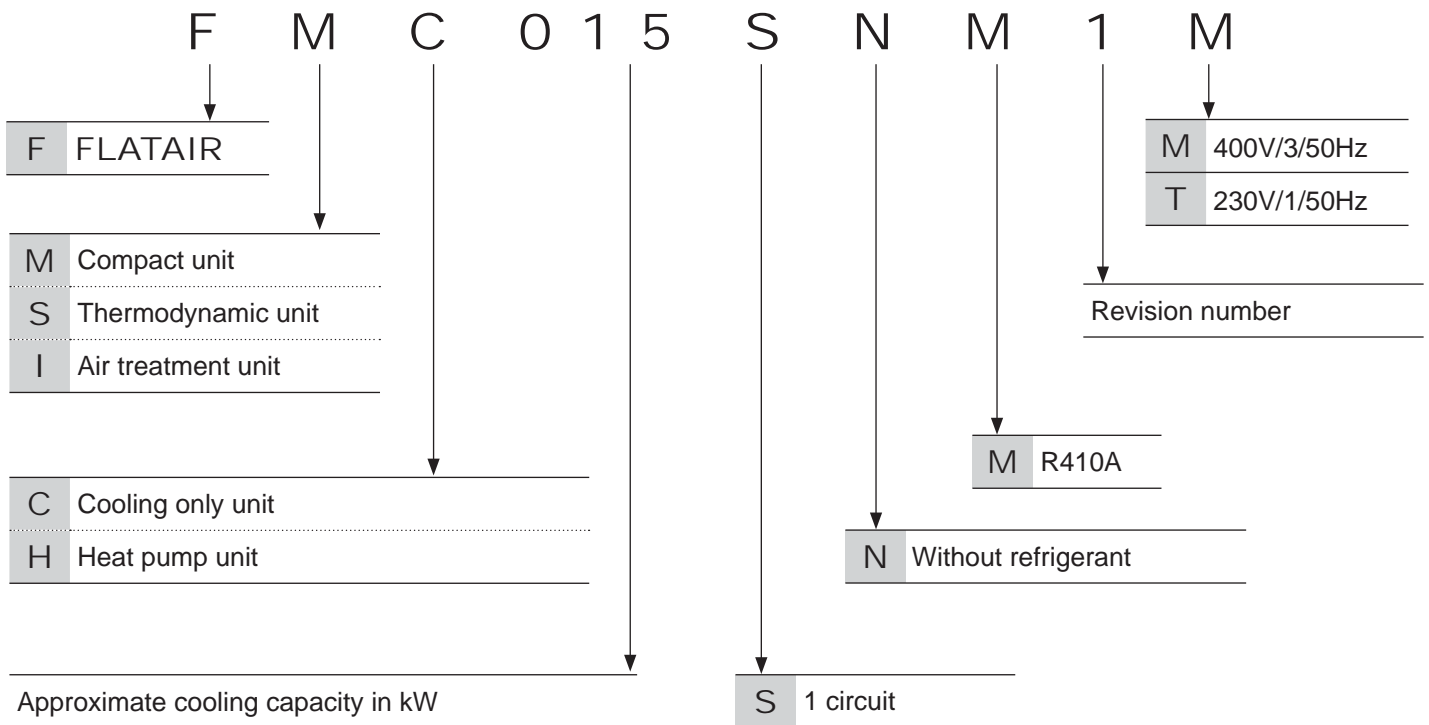
1.3 OPTIONS

Flatair units can be equipped with the following options:

- Main switch
- Heating electrical heater, made of blinded elements and assembled inside the unit
- Low ambient kit : -15°C
- Low ambient kit : 0°C (cooling units only)
- Compressor electrical protection (3 phase units only)
- **DC60** Customer display (CLIMATIC 60 version only)
- **DS60** Service display (CLIMATIC 60 version only)
- Remote duct sensor in return
- Ambient remote sensor
- Thermostatic freecooling
- Enthalpic freecooling (CLIMATIC 60 version only)
- Economizer 1 and 2 baffle(s)
- Different return and supply airflow configurations
- BMS communication interface (CLIMATIC 40 as standard and CLIMATIC 60 as an option)
- LonWorks communication interface (CLIMATIC 60 version only)
- Bacnet communication interface (CLIMATIC 60 version only)

2- MODEL NUMBER DESCRIPTION

EXAMPLE :



FMC/FMH		10	10	12	15	20	25	30
Cooling mode								
Net cooling capacity ⁽¹⁾	kW	9,7	12,1	15,0	19,5	23,5	27,0	
Absorbed power		3,7	5,2	5,9	8,0	9,6	11,7	
Net EER		2,62	2,33	2,54	2,44	2,45	2,31	
Heating mode								
Net heating capacity ⁽²⁾	kW	10,0	12,5	15,5	20,5	25,0	27,9	
Absorbed power		3,2	4,5	5,4	6,8	8,7	9,9	
Net COP		3,13	2,78	2,87	3,01	2,87	2,82	
Electrical data								
Electrical supply Indoor and Outdoor units	V/Ph/Hz	230/1/ 50+N	400V/50 + N					
Refrigerant circuit								
Number of compressors/Number of circuits	1/1							
Total refrigerant charge Cooling only	kg	2,14	2,57	3,55	4,46	5,38	6,15	
Total refrigerant charge Heat pump		2,5	2,93	4,0	4,9	6,3	7,0	
Air treatment section (FIC/FIH)								
Minimum airflow rate	m ³ /h	1500	1650	2410	3090	3455	3695	
Minimum airflow rate		2140	2040	3170	4500	5470	5060	
Maximum airflow rate		2350	2300	3575	4850	5750	5500	
Maximum available static pressure	Pa	120	110	160	200	240	180	
Thermodynamic section (FSC/FSH)								
Minimum airflow rate	m ³ /h	2350	2400	3740	4095	4760	5000	
Minimum airflow rate		2970	2890	4250	5150	5600	5400	
Maximum airflow rate		3500	3400	4500	5650	6000	5850	
Maximum available static pressure	Pa	100	90	120	150	160	100	
Auxiliary heating (option)								
Electric heater capacity (S/M/H) ⁽³⁾	kW	3/6/-	3/6/9	4,5/6/9			7,5/9/12	
Acoustic data								
Global sound power level ⁽⁴⁾ Air treatment section	dB(A)	72		76	80	84	83	
Global sound power level ⁽⁴⁾ Condensing section		77		82	86	81	81	
Refrigerant connections								
Liquid - Connection		3/8"	3/8"	1/2"		5/8"		
Gas - Connection		3/4"	3/4"	7/8"		1 1/8"		

(1) : Ambient air temperature : 27 °C DB, 19 °C WB - Outdoor air temperature : 35 °C DB, 24 °C WB.

(2) : Ambient air temperature : 20°C DB, 12°C WB - Outdoor air temperature : 7°C DB, 6°C WB.

(3) : S = Standard capacity - M = Average capacity - H = High capacity

(4) : EUROVENT conditions.

DIMENSIONS

FLATAIR		10	12	15	20	25	30
Casing		A		B	C	D	
Packaged unit (FMC)							
Length	mm	1250		1300	1450	1500	
Depth		1250		1330	1520	1800	
Height		500		595	595	645	
Air treatment unit (FIX/FIH)							
Length	mm	1250		1300	1450	1500	
Depth		430		500	620	775	
Height		500		595	595	645	
Thermodynamic unit (FSH)							
Length	mm	1250		1300	1450	1500	
Depth		820		830	900	1025	
Height		500		595	595	645	

WEIGHTS

FLATAIR		10	12	15	20	25	30
Cooling only and heat pump units							
Indoor unit (FIX/FIC)	kg	58	58	85	109	121	131
Outdoor unit (FSC)		117	121	170	164	207	213
Package (thermodynamic + air treatment units)		175	179	255	273	327	343
Options - to be added to indoor units weights							
Electrical heater	kg	7	7	7	7	8	8
1 damper free-cooling		12	12	12	14	15	15
2 dampers free-cooling		24	24	24	28	30	30

OPERATING LIMITS

UNITÉ DE CONDENSATION FSC/FSH		10	12	15	20	25	30
Cooling mode							
Maximum inside air temperature	°C	32°C DB / 23°C WB					
Minimum inside air temperature		21°C DB / 15°C WB					
Maximum outside air temperature Cooling mode / heat pump		45	43	45	44	44	41
Minimum outside air temperature		Standard unit : 15°C ⁽¹⁾					
Heating mode							
Maximum inside air temperature	°C	27°C DB					
Minimum inside air temperature		15°C DB					
Maximum outside air temperature Cooling mode / heat pump		25	23	25	25	23	25
Minimum outside air temperature		-12°C DB					

(1) : -15°C with low ambient kit

(2) : Inside temperature = 20°C

**AIR TREATMENT
UNITS**

		Airflow rate (m ³ /h)					
		10	12	15	20	25	30
Available static pressure (Pa)	0	2350	2300	3575	4850	5750	5500
	10	2275	2250	3495	4785	5730	5455
	20	2240	2200	3410	4715	5705	5405
	30	2190	2150	3330	4645	5670	5350
	40	2140	2100	3250	4575	5630	5285
	50	2080	2040	3170	4500	5580	5220
	60	2025	1975	3095	4425	5530	5140
	70	1975	1925	3020	4345	5470	5060
	80	1925	1860	2945	4260	5405	4965
	90	1840	1800	2875	4175	5330	4870
	100	1775	1730	2800	4090	5250	4765
	110	1625	1650	2735	4000	5165	4655
	120	1500	----	2665	3910	5075	4640
	130	---	---	2600	3815	4975	4415
	140	---	---	2535	3720	4870	4285
	150	---	---	2470	3620	4755	4150
	160	---	---	2410	3520	4640	4005
	170	---	---	---	3415	4515	3855
	180	---	---	---	3310	4380	3695
	190	---	---	---	3200	4245	---
	200	---	---	---	3090	4100	---
	210	---	---	---	---	3945	---
	220	---	---	---	---	3790	---
	230	---	---	---	---	3625	---
240	---	---	---	---	3455	---	

**THERMODYNAMIC
UNITS**

		Airflow rate (m ³ /h)					
		10	12	15	20	25	30
Available static pressure (Pa)	0	3500	3400	4500	5650	6000	5850
	10	3410	3325	4460	5550	5920	5755
	20	3300	3160	4410	5450	5840	5665
	30	3190	3075	4360	5350	5760	5575
	40	3080	2980	4310	5250	5680	5485
	50	2970	2890	4250	5150	5600	5400
	60	2840	2790	4190	5050	5520	5315
	70	2700	2690	4125	4945	5445	5235
	80	2560	2580	4055	4840	4365	5155
	90	2410	2400	3980	47365	5290	5075
	100	2350	---	3905	4630	5210	5000
	110	---	---	3825	4525	5135	----
	120	---	---	3740	4420	5060	----
	130	---	---	---	4315	4985	----
	140	---	---	---	4205	4910	----
	150	---	---	---	4095	4835	----
	160	---	---	---	---	4760	----

With option G4 additional pressure drop 50Pa

Nominal airflow rate

Keep in mind reduction on air flow and static pressure services if you use mufflers or external air filter.

THERMODYNAMIC UNITS

Size	Hz	dB(A)						Lw dB(A)	
		125	250	500	1000	2000	4000		8000
10		73	70	71	72.9	69.3	68.9	62.8	77
12		74	78	69	73.6	66.3	66.1	60.5	77
15		79	74	77	78.0	75.5	72.9	68.0	82
20		81	75	81	81.9	79.2	76.5	72.2	86
25		83	76	76	76.4	75.3	72.4	65.9	81
30		83	75	75	76.0	74.7	71.6	65.0	81

With compressor jacket, estimated reduction of 2 dB(A)

AIR TREATMENT UNITS

Size	Hz	dB(A)						Lw dB(A)	
		125	250	500	1000	2000	4000		8000
10		71	67	67	67.4	64.9	64.1	58.3	72
12		71	67	67	67.4	64.9	64.1	58.3	72
15		74	69	72	71.3	69.1	66.0	59.7	76
20		77	71	75	75.8	73.4	70.7	65.7	80
25		79	73	79	80.2	77.4	74.5	74.3	84
30		78	72	77	78.4	75.7	72.9	68.4	83

With compressor jacket, estimated reduction of 2 dB(A)

COOLING CAPACITIES

FMC/H 10			Outdoor temperature (dry bulb)																				
			Indoor wet bulb	Indoor dry bulb	20 °C			25 °C			30 °C			35 °C			40 °C			45 °C			
NC	AC	SC			NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC				
Minimum airflow rate	1500 m ³ /h	Evaporator air inlet temperature (°C)	16	21	9,56	2,80	5,88	9,29	2,96	5,75	8,96	3,16	5,60	8,57	3,41	5,43	8,12	3,74	5,23	7,62	4,21	5,00	
				24	9,56	2,80	7,21	9,30	2,96	7,07	8,98	3,16	6,91	8,59	3,41	6,71	8,15	3,74	6,47	7,66	4,20	6,19	
				27	9,60	2,80	8,41	9,35	2,96	8,27	9,03	3,16	8,09	8,66	3,41	7,87	8,22	3,74	7,61	7,73	4,20	7,29	
			19	24	10,46	2,84	5,78	10,15	3,00	5,65	9,79	3,21	5,51	9,36	3,46	5,35	8,88	3,80	5,17	8,34	4,29	4,96	
				27	10,45	2,84	7,14	10,15	3,00	7,00	9,79	3,21	6,84	9,37	3,46	6,65	8,90	3,80	6,43	8,36	4,29	6,18	
				30	10,48	2,84	8,33	10,18	3,01	8,19	9,83	3,21	8,02	9,42	3,47	7,81	8,95	3,81	7,57	8,42	4,28	7,27	
			22	27	11,46	2,88	5,61	11,12	3,05	5,48	10,71	3,26	5,35	10,25	3,52	5,21	9,73	3,87	5,06	9,15	4,36	4,88	
				30	11,44	2,88	6,98	11,10	3,05	6,85	10,70	3,26	6,70	10,25	3,52	6,53	9,73	3,87	6,34	9,16	4,36	6,11	
				33	11,45	2,88	8,18	11,11	3,05	8,05	10,72	3,26	7,89	10,28	3,52	7,70	9,77	3,87	7,48	9,20	4,36	7,22	
Nominal airflow rate	2140 m ³ /h		Evaporator air inlet temperature (°C)	16	21	9,96	3,05	6,61	9,65	3,21	6,48	9,28	3,40	6,32	8,85	3,65	6,14	8,37	3,98	5,93	7,82	4,44	5,68
					24	9,98	3,05	8,36	9,67	3,21	8,21	9,31	3,40	8,02	8,89	3,65	7,79	8,41	3,97	7,52	7,87	4,43	7,19
					27	10,03	3,05	9,97	9,75	3,22	9,75	9,45	3,42	9,45	9,09	3,68	9,09	8,68	4,02	8,68	8,22	4,49	8,22
				19	24	10,90	3,09	6,46	10,55	3,26	6,34	10,15	3,46	6,20	9,68	3,72	6,04	9,16	4,06	5,85	8,57	4,55	5,63
					27	10,90	3,09	8,27	10,56	3,26	8,12	10,16	3,46	7,95	9,70	3,72	7,74	9,18	4,06	7,49	8,61	4,54	7,19
					30	10,94	3,09	9,91	10,60	3,26	9,74	10,21	3,46	9,54	9,76	3,72	9,30	9,25	4,06	9,00	8,68	4,54	8,64
				22	27	11,93	3,13	6,22	11,55	3,31	6,11	11,11	3,52	6,00	10,60	3,78	5,86	10,04	4,14	5,71	9,42	4,64	5,52
					30	11,92	3,13	8,08	11,54	3,31	7,95	11,10	3,52	7,79	10,61	3,78	7,61	10,05	4,14	7,39	9,44	4,64	7,13
					33	11,94	3,13	9,76	11,57	3,31	9,61	11,14	3,52	9,43	10,65	3,78	9,21	10,10	4,14	8,94	9,49	4,64	8,62
Maximum airflow rate	2350 m ³ /h	Evaporator air inlet temperature (°C)		16	21	10,00	3,15	6,83	9,67	3,31	6,70	9,29	3,51	6,54	8,85	3,77	6,36	8,35	4,11	6,13	7,79	4,59	5,87
					24	10,02	3,15	8,71	9,70	3,31	8,55	9,32	3,51	8,35	8,89	3,76	8,11	8,40	4,10	7,82	7,84	4,58	7,47
					27	10,18	3,16	10,18	9,91	3,33	9,91	9,59	3,54	9,59	9,21	3,80	9,21	8,79	4,14	8,79	8,31	4,63	8,31
				19	24	10,95	3,19	6,68	10,59	3,36	6,56	10,17	3,57	6,42	9,69	3,84	6,25	9,15	4,19	6,06	8,56	4,71	5,82
					27	10,95	3,19	8,62	10,60	3,36	8,47	10,18	3,57	8,29	9,71	3,84	8,07	9,18	4,19	7,80	8,59	4,70	7,48
					30	10,99	3,19	10,40	10,64	3,36	10,23	10,24	3,57	10,01	9,77	3,84	9,75	9,32	4,21	9,32	8,77	4,73	8,77
				22	27	11,99	3,24	6,42	11,59	3,41	6,32	11,14	3,63	6,21	10,62	3,90	6,07	10,05	4,27	5,91	9,42	4,80	5,72
					30	11,98	3,24	8,43	11,59	3,41	8,30	11,14	3,63	8,14	10,63	3,90	7,95	10,06	4,27	7,72	9,44	4,80	7,44
					33	12,00	3,24	10,26	11,62	3,41	10,11	11,18	3,63	9,91	10,67	3,90	9,68	10,11	4,27	9,39	9,49	4,79	9,04

HEATING CAPACITIES

FMH 10			Outdoor temperature (dry bulb)													
Condenser air inlet temperature (dry bulb)			-10 °C		-5 °C		0 °C		5 °C		7 °C		10 °C		15 °C	
			NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC
Minimum airflow rate	1500 m ³ /h	15	6,40	2,44	7,39	2,62	8,37	2,79	9,34	2,96	9,73	3,03	10,31	3,13	11,27	3,31
		18	6,40	2,60	7,36	2,77	8,32	2,95	9,27	3,13	9,65	3,20	10,21	3,31	11,15	3,50
		20	6,41	2,71	7,36	2,89	8,30	3,07	9,23	3,25	9,60	3,32	10,16	3,44	11,08	3,64
		23	6,43	2,88	7,35	3,07	8,27	3,26	9,18	3,45	9,55	3,53	10,09	3,65	10,99	3,87
		25	6,45	3,01	7,36	3,20	8,26	3,39	9,16	3,59	9,51	3,68	10,05	3,80	10,93	4,03
Nominal airflow rate	2140 m ³ /h	15	6,62	2,50	7,66	2,63	8,69	2,76	9,72	2,89	10,13	2,94	10,75	3,02	11,76	3,16
		19	6,61	2,70	7,62	2,83	8,63	2,96	9,63	3,10	10,02	3,15	10,62	3,23	11,60	3,37
		20	6,61	2,76	7,62	2,89	8,61	3,02	9,61	3,15	10,00	3,21	10,59	3,29	11,57	3,43
		23	6,63	2,93	7,61	3,06	8,58	3,19	9,55	3,32	9,94	3,38	10,51	3,47	11,47	3,62
		25	6,65	3,05	7,61	3,18	8,57	3,31	9,52	3,45	9,90	3,50	10,47	3,59	11,41	3,75
Maximum airflow rate	2350 m ³ /h	15	6,84	2,49	7,90	2,61	8,95	2,73	10,00	2,84	10,42	2,89	11,04	2,96	12,08	3,08
		19	6,83	2,69	7,86	2,80	8,88	2,92	9,90	3,03	10,31	3,08	10,91	3,15	11,92	3,28
		20	6,83	2,74	7,85	2,85	8,87	2,97	9,88	3,08	10,28	3,13	10,88	3,20	11,88	3,33
		23	6,84	2,90	7,84	3,01	8,84	3,12	9,82	3,24	10,22	3,29	10,80	3,37	11,78	3,50
		25	6,86	3,02	7,84	3,12	8,82	3,23	9,79	3,35	10,18	3,40	10,76	3,48	11,71	3,62
27	6,88	3,14	7,85	3,24	8,81	3,35	9,77	3,47	10,15	3,52	10,72	3,60	11,66	3,75		

NC (kW) :	Net cooling capacity	NH (kW) :	Net heating capacity	SC (kW) :	Sensible cooling capacity	AC (kW) :	Compressor absorbed power
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COOLING CAPACITIES

FMC/H 12			Outdoor temperature (dry bulb)																			
	Indoor wet bulb	Indoor dry bulb	20 °C			25 °C			30 °C			35 °C			40 °C			43 °C				
			NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC		
Minimum airflow rate	1650 m³/h	Evaporator air inlet temperature (°C)	16	21	12,12	3,88	7,28	11,76	4,13	7,10	11,30	4,45	6,89	10,74	4,88	6,64	10,08	5,50	6,35	9,64	6,03	6,15
				24	12,13	3,88	8,79	11,77	4,13	8,60	11,31	4,45	8,37	10,75	4,88	8,09	10,10	5,50	7,75	9,67	6,03	7,51
				27	12,14	3,88	10,21	11,79	4,13	10,03	11,33	4,45	9,79	10,78	4,88	9,48	10,13	5,50	9,09	9,70	6,03	8,82
			19	24	13,22	3,94	7,16	12,81	4,20	6,97	12,30	4,52	6,77	11,70	4,96	6,53	11,01	5,59	6,26	10,54	6,13	6,08
				27	13,22	3,94	8,65	12,82	4,20	8,47	12,32	4,52	8,25	11,72	4,96	7,99	11,03	5,59	7,67	10,56	6,13	7,45
				30	13,24	3,94	10,06	12,84	4,20	9,88	12,34	4,52	9,65	11,75	4,96	9,36	11,06	5,60	9,01	10,60	6,14	8,76
			22	27	14,41	4,03	6,97	13,95	4,30	6,79	13,41	4,64	6,60	12,76	5,09	6,38	12,02	5,75	6,14	11,53	6,31	5,98
				30	14,41	4,03	8,44	13,96	4,30	8,27	13,42	4,64	8,06	12,78	5,09	7,82	12,04	5,75	7,54	11,55	6,31	7,35
				33	14,42	4,03	9,82	13,98	4,30	9,65	13,44	4,64	9,44	12,80	5,10	9,19	12,07	5,76	8,87	11,58	6,32	8,65
Nominal airflow rate	2040 m³/h	Evaporator air inlet temperature (°C)	16	21	12,48	4,08	7,76	12,08	4,33	7,58	11,58	4,64	7,37	10,99	5,07	7,11	10,30	5,68	6,81	9,84	6,21	6,59
				24	12,49	4,08	9,55	12,10	4,33	9,36	11,60	4,64	9,12	11,01	5,07	8,81	10,33	5,68	8,44	9,87	6,21	8,18
				27	12,51	4,09	11,26	12,12	4,33	11,06	11,63	4,65	10,79	11,05	5,07	10,45	10,37	5,69	10,01	9,91	6,22	9,71
			19	24	13,59	4,15	7,59	13,15	4,40	7,41	12,61	4,73	7,21	11,98	5,17	6,98	11,24	5,81	6,70	10,76	6,36	6,51
				27	13,61	4,15	9,39	13,17	4,40	9,20	12,63	4,73	8,97	12,00	5,17	8,69	11,27	5,81	8,35	10,79	6,36	8,12
				30	13,63	4,15	11,10	13,19	4,41	10,91	12,66	4,74	10,66	12,03	5,18	10,34	11,31	5,82	9,94	10,83	6,36	9,67
			22	27	14,80	4,25	7,34	14,32	4,52	7,18	13,74	4,86	6,99	13,06	5,33	6,79	12,28	6,00	6,54	11,77	6,58	6,38
				30	14,82	4,25	9,14	14,33	4,52	8,97	13,76	4,86	8,76	13,08	5,33	8,51	12,31	6,01	8,21	11,80	6,58	8,01
				33	14,84	4,26	10,84	14,36	4,52	10,67	13,78	4,87	10,44	13,11	5,34	10,16	12,34	6,01	9,81	11,84	6,59	9,57
Maximum airflow rate	2300 m³/h	Evaporator air inlet temperature (°C)	16	21	12,60	4,23	8,05	12,17	4,48	7,88	11,65	4,80	7,66	11,04	5,23	7,39	10,32	5,87	7,07	9,85	6,41	6,85
				24	12,61	4,24	10,02	12,20	4,48	9,82	11,68	4,80	9,57	11,07	5,23	9,24	10,36	5,87	8,84	9,88	6,41	8,56
				27	12,64	4,24	11,92	12,23	4,49	11,70	11,71	4,81	11,41	11,10	5,24	11,03	10,40	5,87	10,59	9,93	6,41	10,26
			19	24	13,73	4,31	7,86	13,26	4,57	7,69	12,70	4,90	7,49	12,04	5,35	7,25	11,28	6,02	6,96	10,78	6,59	6,77
				27	13,74	4,31	9,85	13,28	4,57	9,66	12,72	4,90	9,43	12,07	5,36	9,13	11,31	6,02	8,77	10,81	6,59	8,52
				30	13,77	4,31	11,76	13,31	4,57	11,56	12,76	4,91	11,29	12,10	5,36	10,94	11,35	6,03	10,52	10,86	6,60	10,21
			22	27	14,95	4,42	7,59	14,44	4,69	7,43	13,83	5,05	7,25	13,13	5,53	7,05	12,33	6,24	6,80	11,80	6,85	6,63
				30	14,97	4,42	9,59	14,46	4,69	9,42	13,86	5,05	9,21	13,16	5,53	8,95	12,36	6,24	8,63	11,84	6,85	8,41
				33	14,99	4,42	11,51	14,49	4,70	11,32	13,89	5,06	11,08	13,20	5,54	10,78	12,40	6,25	10,40	11,88	6,86	10,13

HEATING CAPACITIES

FMH 12			Outdoor temperature (dry bulb)													
	Condenser air inlet temperature (dry bulb)		-10 °C		-5 °C		0 °C		5 °C		7 °C		10 °C		15 °C	
			NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC
Minimum airflow rate	1650 m³/h	15	8,31	3,31	9,51	3,57	10,69	3,83	11,85	4,10	12,31	4,21	13,00	4,37	14,13	4,65
		18	8,40	3,58	9,56	3,85	10,71	4,12	11,84	4,40	12,29	4,51	12,96	4,68	14,05	4,99
		20	8,46	3,78	9,60	4,06	10,73	4,33	11,84	4,62	12,28	4,74	12,93	4,92	14,01	5,24
		23	8,57	4,12	9,68	4,40	10,77	4,69	11,85	4,99	12,27	5,12	12,91	5,32	13,95	5,67
		25			9,73	4,66	10,80	4,96	11,86	5,27	12,28	5,41	12,90	5,61	13,92	5,99
		27							11,88	5,58	12,28	5,72	12,89	5,95	13,89	6,35
Nominal airflow rate	2040 m³/h	15	8,41	3,23	9,65	3,47	10,88	3,69	12,09	3,92	12,56	4,01	13,28	4,15	14,45	4,39
		19	8,51	3,57	9,70	3,80	10,89	4,04	12,05	4,27	12,51	4,37	13,20	4,51	14,33	4,77
		20	8,53	3,66	9,72	3,90	10,89	4,13	12,04	4,37	12,50	4,46	13,18	4,61	14,30	4,87
		23	8,62	3,96	9,78	4,20	10,91	4,44	12,03	4,68	12,48	4,78	13,14	4,94	14,23	5,22
		25	8,69	4,19	9,82	4,42	10,94	4,66	12,03	4,92	12,47	5,02	13,12	5,18	14,18	5,47
		27			9,87	4,67	10,96	4,91	12,04	5,17	12,47	5,28	13,10	5,45	14,14	5,76
Maximum airflow rate	2300 m³/h	15	8,50	3,26	9,77	3,48	11,03	3,69	12,26	3,89	12,75	3,97	13,48	4,10	14,69	4,31
		19	8,58	3,59	9,81	3,80	11,02	4,01	12,21	4,22	12,68	4,30	13,39	4,43	14,55	4,66
		20	8,61	3,68	9,82	3,89	11,02	4,10	12,20	4,31	12,67	4,40	13,37	4,53	14,52	4,75
		23	8,68	3,98	9,87	4,18	11,03	4,39	12,18	4,61	12,64	4,69	13,31	4,83	14,43	5,07
		25	8,74	4,20	9,90	4,40	11,05	4,61	12,17	4,82	12,62	4,91	13,29	5,05	14,38	5,30
		27	8,80	4,44	9,94	4,63	11,07	4,84	12,17	5,06	12,61	5,15	13,26	5,30	14,34	5,56

NC (kW) :	Gross cooling capacity	NH (kW) :	Net heating capacity	SC (kW) :	Sensible cooling capacity	AC (kW) :	Compressor absorbed power
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COOLING CAPACITIES

FMC/H 15			Outdoor temperature (dry bulb)																				
			Indoor wet bulb	Indoor dry bulb	20 °C			25 °C			30 °C			35 °C			40 °C			45 °C			
NC	AC	SC			NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC				
Minimum airflow rate	2410 m³/h	Evaporator air inlet temperature (°C)	16	21	14,83	4,75	9,09	14,39	4,98	8,90	13,85	5,25	8,66	13,21	5,60	8,39	12,47	6,06	8,07	11,63	6,72	7,69	
				24	14,84	4,75	11,40	14,41	4,98	11,16	13,89	5,26	10,88	13,27	5,60	10,53	12,55	6,07	10,12	11,73	6,73	9,63	
				27	15,00	4,76	13,26	14,60	4,99	13,01	14,09	5,27	12,69	13,49	5,62	12,30	12,79	6,08	11,84	12,00	6,72	11,29	
			19	24	16,26	4,79	8,89	15,77	5,02	8,72	15,17	5,30	8,52	14,48	5,65	8,28	13,68	6,12	8,00	12,79	6,79	7,68	
				27	16,20	4,79	11,37	15,72	5,02	11,15	15,15	5,30	10,88	14,47	5,66	10,56	13,70	6,13	10,19	12,83	6,80	9,74	
				30	16,29	4,79	13,32	15,84	5,02	13,07	15,28	5,31	12,77	14,63	5,66	12,40	13,87	6,13	11,96	13,02	6,79	11,45	
			22	27	17,95	4,83	8,31	17,40	5,06	8,18	16,75	5,34	8,03	16,01	5,70	7,86	15,16	6,16	7,66	14,22	6,81	7,41	
				30	17,82	4,82	11,01	17,29	5,06	10,82	16,66	5,34	10,60	15,93	5,70	10,34	15,11	6,17	10,02	14,18	6,82	9,65	
				33	17,84	4,82	13,12	17,33	5,06	12,90	16,72	5,34	12,63	16,01	5,70	12,31	15,21	6,17	11,93	14,30	6,82	11,47	
Nominal airflow rate	3170 m³/h		Evaporator air inlet temperature (°C)	16	21	15,36	4,98	10,17	14,89	5,20	9,96	14,31	5,47	9,71	13,64	5,82	9,41	12,87	6,28	9,06	12,00	6,93	8,64
					24	15,43	4,98	12,89	14,98	5,21	12,63	14,43	5,48	12,30	13,78	5,83	11,92	13,03	6,29	11,46	12,18	6,94	10,91
					27	15,67	5,00	15,17	15,23	5,22	14,88	14,70	5,49	14,52	14,10	5,85	14,10	13,45	6,31	13,45	12,71	6,93	12,71
				19	24	16,81	5,02	10,00	16,28	5,24	9,82	15,66	5,52	9,60	14,93	5,88	9,34	14,11	6,35	9,04	13,19	7,01	8,67
					27	16,82	5,02	12,91	16,31	5,25	12,66	15,70	5,53	12,36	15,00	5,88	12,01	14,20	6,36	11,58	13,30	7,02	11,08
					30	16,99	5,03	15,29	16,50	5,26	15,01	15,91	5,54	14,66	15,23	5,89	14,25	14,44	6,36	13,75	13,56	7,01	13,16
				22	27	18,52	5,05	9,45	17,94	5,28	9,32	17,27	5,56	9,16	16,49	5,92	8,97	15,61	6,39	8,73	14,64	7,05	8,45
					30	18,46	5,05	12,60	17,90	5,28	12,40	17,24	5,56	12,15	16,49	5,92	11,85	15,63	6,40	11,49	14,67	7,06	11,06
					33	18,55	5,05	15,16	18,01	5,29	14,91	17,37	5,57	14,61	16,63	5,93	14,23	15,80	6,40	13,79	14,86	7,06	13,26
Maximum airflow rate	3575 m³/h	Evaporator air inlet temperature (°C)		16	21	15,46	5,13	10,69	14,97	5,36	10,47	14,38	5,64	10,20	13,69	5,99	9,89	12,90	6,47	9,51	12,02	7,16	9,06
					24	15,57	5,14	13,60	15,10	5,37	13,32	14,53	5,65	12,98	13,86	6,00	12,56	13,09	6,48	12,07	12,23	7,16	11,49
					27	15,90	5,16	15,90	15,48	5,39	15,48	14,97	5,67	14,97	14,38	6,02	14,38	13,70	6,48	13,70	12,94	7,11	12,94
				19	24	16,92	5,16	10,56	16,38	5,40	10,36	15,74	5,68	10,13	14,99	6,05	9,86	14,15	6,54	9,52	13,22	7,25	9,13
					27	16,97	5,17	13,66	16,44	5,40	13,40	15,82	5,69	13,09	15,10	6,06	12,70	14,28	6,55	12,25	13,36	7,25	11,71
					30	17,17	5,18	16,27	16,67	5,41	15,96	16,06	5,70	15,59	15,36	6,07	15,14	14,57	6,55	14,57	13,73	7,26	13,73
				22	27	18,65	5,20	10,04	18,05	5,43	9,90	17,35	5,72	9,73	16,56	6,09	9,52	15,67	6,58	9,27	14,68	7,27	8,96
					30	18,62	5,20	13,41	18,05	5,43	13,19	17,37	5,73	12,92	16,60	6,10	12,59	15,72	6,59	12,20	14,75	7,28	11,74
					33	18,75	5,20	16,20	18,19	5,44	15,93	17,54	5,73	15,59	16,78	6,10	15,19	15,93	6,59	14,71	14,98	7,28	14,13

HEATING CAPACITIES

FMH 15			Outdoor temperature (dry bulb)													
Condenser air inlet temperature (dry bulb)			-10 °C		-5 °C		0 °C		5 °C		7 °C		10 °C		15 °C	
			NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC
Minimum airflow rate	2410 m³/h	15	10,12	4,46	11,66	4,68	13,19	4,89	14,71	5,08	15,31	5,16	16,21	5,28	17,69	5,47
		18	10,07	4,69	11,59	4,91	13,08	5,12	14,57	5,33	15,16	5,41	16,04	5,53	17,49	5,73
		20	10,04	4,85	11,53	5,07	13,01	5,29	14,47	5,50	15,05	5,58	15,92	5,71	17,35	5,92
		23	9,98	5,09	11,44	5,32	12,89	5,54	14,32	5,76	14,89	5,85	15,74	5,99	17,14	6,21
		25	9,94	5,25	11,38	5,49	12,81	5,72	14,22	5,95	14,78	6,04	15,62	6,18	17,00	6,42
27	9,90	5,42	11,32	5,66	12,73	5,90	14,12	6,14	14,67	6,24	15,49	6,38	16,85	6,64		
Nominal airflow rate	3170 m³/h	15	10,34	4,47	11,95	4,65	13,55	4,82	15,13	4,98	15,75	5,05	16,69	5,14	18,24	5,30
		19	10,28	4,77	11,85	4,95	13,40	5,13	14,94	5,29	15,55	5,36	16,46	5,46	17,97	5,62
		20	10,26	4,85	11,82	5,03	13,37	5,20	14,89	5,37	15,50	5,44	16,41	5,54	17,90	5,71
		23	10,21	5,09	11,74	5,27	13,25	5,45	14,75	5,62	15,34	5,69	16,23	5,79	17,69	5,97
		25	10,17	5,26	11,68	5,44	13,17	5,61	14,65	5,79	15,23	5,86	16,11	5,97	17,55	6,16
27	10,13	5,42	11,62	5,60	13,09	5,78	14,55	5,97	15,12	6,04	15,99	6,16	17,41	6,35		
Maximum airflow rate	3575 m³/h	15	10,46	4,56	12,10	4,72	13,74	4,87	15,35	5,01	15,99	5,06	16,95	5,15	18,53	5,29
		19	10,40	4,88	12,00	5,03	13,59	5,17	15,17	5,32	15,79	5,37	16,72	5,46	18,27	5,60
		20	10,38	4,96	11,98	5,11	13,56	5,25	15,12	5,40	15,74	5,45	16,67	5,54	18,20	5,69
		23	10,33	5,21	11,89	5,36	13,44	5,50	14,97	5,65	15,58	5,70	16,49	5,79	17,99	5,95
		25	10,29	5,38	11,84	5,53	13,36	5,67	14,88	5,82	15,48	5,88	16,37	5,97	17,85	6,13
27	10,25	5,56	11,78	5,70	13,28	5,84	14,77	5,99	15,37	6,06	16,25	6,15	17,71	6,32		

NC (kW) :	Net cooling capacity	NH (kW) :	Net heating capacity	SC (kW) :	Sensible cooling capacity	AC (kW) :	Compressor absorbed power
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COOLING CAPACITIES

FMC/H 20			Outdoor temperature (dry bulb)																		
	Indoor wet bulb	Indoor dry bulb	20 °C			25 °C			30 °C			35 °C			40 °C			44 °C			
			NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	
			Evaporator air inlet temperature (°C)																		
Minimum airflow rate	3090 m³/h	16	21	19,16	6,03	11,63	18,60	6,35	11,40	17,92	6,74	11,11	17,11	7,26	10,77	16,19	7,96	10,37	15,37	8,74	9,99
			24	19,14	6,02	14,52	18,61	6,34	14,22	17,95	6,74	13,85	17,18	7,26	13,40	16,28	7,96	12,88	15,48	8,75	12,39
			27	19,30	6,04	16,83	18,79	6,37	16,48	18,16	6,77	16,06	17,41	7,29	15,55	16,54	8,00	14,95	15,76	8,78	14,39
		19	24	20,92	6,17	11,31	20,29	6,50	11,12	19,55	6,90	10,88	18,68	7,42	10,59	17,70	8,12	10,24	16,82	8,91	9,92
			27	20,82	6,16	14,41	20,22	6,48	14,13	19,50	6,89	13,79	18,66	7,41	13,39	17,71	8,12	12,91	16,85	8,91	12,47
			30	20,89	6,16	16,83	20,32	6,49	16,50	19,63	6,90	16,10	18,82	7,43	15,62	17,89	8,14	15,05	17,05	8,93	14,53
		22	27	22,99	6,34	10,52	22,31	6,67	10,39	21,50	7,08	10,22	20,57	7,61	10,01	19,52	8,32	9,76	18,60	9,10	9,52
			30	22,81	6,32	13,89	22,15	6,65	13,66	21,37	7,06	13,38	20,47	7,59	13,05	19,45	8,31	12,65	18,54	9,10	12,27
			33	22,80	6,32	16,50	22,16	6,65	16,21	21,41	7,07	15,86	20,53	7,60	15,44	19,54	8,32	14,94	18,65	9,11	14,47
Nominal airflow rate	4050 m³/h	16	21	19,98	6,57	13,41	19,37	6,88	13,15	18,63	7,26	12,82	17,78	7,77	12,42	16,80	8,46	11,95	15,94	9,23	11,52
			24	20,10	6,58	16,93	19,51	6,89	16,58	18,81	7,29	16,14	17,98	7,79	15,63	17,03	8,49	15,01	16,18	9,25	14,45
			27	20,40	6,62	19,89	19,84	6,94	19,48	19,15	7,33	18,98	18,22	7,97	18,22	17,35	8,72	17,35	16,58	9,55	16,58
		19	24	21,78	6,71	13,20	21,10	7,03	12,97	20,30	7,43	12,69	19,38	7,94	12,35	18,34	8,65	11,94	17,43	9,43	11,56
			27	21,81	6,71	16,95	21,16	7,04	16,62	20,39	7,44	16,22	19,50	7,96	15,74	18,49	8,67	15,18	17,59	9,45	14,65
			30	22,03	6,74	20,04	21,40	7,07	19,64	20,66	7,47	19,16	19,79	8,00	18,59	18,81	8,71	17,91	17,93	9,48	17,29
		22	27	23,88	6,88	12,52	23,14	7,21	12,36	22,28	7,62	12,15	21,30	8,14	11,90	20,20	8,86	11,58	19,23	9,65	11,28
			30	23,84	6,88	16,57	23,13	7,21	16,29	22,29	7,62	15,95	21,34	8,15	15,55	20,26	8,87	15,06	19,31	9,66	14,61
			33	23,96	6,89	19,88	23,27	7,22	19,52	22,47	7,64	19,09	21,54	8,18	18,58	20,49	8,90	17,97	19,56	9,69	17,41
Maximum airflow rate	4850 m³/h	16	21	19,93	6,82	13,83	19,30	7,15	13,54	18,56	7,56	13,20	17,69	8,11	12,78	16,70	8,86	12,28	15,82	9,71	11,82
			24	20,08	6,84	17,47	19,48	7,17	17,09	18,76	7,59	16,64	17,92	8,14	16,09	16,96	8,89	15,44	16,10	9,73	14,85
			27	20,46	6,88	20,46	19,92	7,22	19,92	19,26	7,63	19,26	18,50	8,17	18,50	17,62	8,90	17,62	16,83	9,69	16,83
		19	24	21,73	6,96	13,67	21,04	7,30	13,43	20,23	7,72	13,13	19,30	8,28	12,76	18,25	9,04	12,32	17,32	9,90	11,91
			27	21,80	6,97	17,55	21,14	7,31	17,20	20,35	7,74	16,77	19,45	8,30	16,27	18,42	9,07	15,66	17,52	9,92	15,11
			30	22,05	7,00	20,78	21,41	7,35	20,36	20,65	7,78	19,85	19,78	8,34	19,24	18,78	9,11	18,53	17,89	9,96	17,87
		22	27	23,85	7,13	13,06	23,09	7,48	12,88	22,22	7,91	12,65	21,22	8,48	12,38	20,11	9,25	12,03	19,13	10,11	11,71
			30	23,84	7,13	17,23	23,11	7,48	16,94	22,26	7,92	16,58	21,29	8,49	16,14	20,21	9,26	15,62	19,25	10,13	15,13
			33	23,99	7,15	20,69	23,29	7,50	20,31	22,47	7,94	19,85	21,53	8,52	19,30	20,47	9,30	18,66	19,53	10,16	18,06

HEATING CAPACITIES

FMH 20			Outdoor temperature (dry bulb)													
Condenser air inlet temperature (dry bulb)			-10 °C		-5 °C		0 °C		5 °C		7 °C		10 °C		15 °C	
			NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC
Minimum airflow rate	3090 m³/h	15	13,12	5,19	15,13	5,57	17,14	5,93	19,15	6,30	19,96	6,45	21,18	6,67	23,20	7,06
		18	13,12	5,51	15,08	5,89	17,05	6,26	19,03	6,65	19,82	6,80	21,01	7,04	22,99	7,45
		20	13,13	5,73	15,06	6,12	17,00	6,50	18,95	6,89	19,73	7,06	20,90	7,30	22,86	7,74
		23	13,15	6,10	15,04	6,49	16,94	6,88	18,84	7,30	19,61	7,47	20,75	7,73	22,67	8,19
		25	13,16	6,35	15,03	6,75	16,90	7,16	18,78	7,59	19,53	7,76	20,66	8,04	22,55	8,53
Nominal airflow rate	4500 m³/h	15	13,56	5,29	15,68	5,60	17,80	5,89	19,92	6,19	20,77	6,31	22,05	6,49	24,19	6,80
		19	13,53	5,69	15,59	5,99	17,65	6,29	19,72	6,60	20,55	6,72	21,80	6,91	23,88	7,24
		20	13,53	5,80	15,57	6,10	17,62	6,40	19,68	6,71	20,50	6,83	21,74	7,03	23,80	7,36
		23	13,52	6,13	15,52	6,43	17,53	6,74	19,54	7,05	20,35	7,18	21,56	7,38	23,59	7,73
		25	13,52	6,37	15,50	6,67	17,48	6,97	19,46	7,30	20,26	7,43	21,45	7,64	23,45	8,00
Maximum airflow rate	4850 m³/h	15	13,79	5,50	15,93	5,77	18,07	6,05	20,23	6,32	21,09	6,43	22,38	6,60	24,55	6,89
		19	13,75	5,92	15,83	6,19	17,92	6,46	20,02	6,74	20,86	6,85	22,12	7,03	24,23	7,34
		20	13,74	6,03	15,81	6,30	17,89	6,57	19,97	6,85	20,80	6,97	22,06	7,14	24,15	7,45
		23	13,73	6,38	15,75	6,64	17,79	6,91	19,83	7,20	20,65	7,32	21,88	7,50	23,93	7,83
		25	13,72	6,62	15,72	6,88	17,73	7,16	19,74	7,45	20,55	7,57	21,76	7,76	23,79	8,10
27	13,72	6,88	15,70	7,14	17,68	7,41	19,66	7,71	20,46	7,83	21,65	8,03	23,65	8,38		

NC (kW) :	Gross cooling capacity	NH (kW) :	Net heating capacity	SC (kW) :	Sensible cooling capacity	AC (kW) :	Compressor absorbed power
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COOLING CAPACITIES

FMC/H 25			Outdoor temperature (dry bulb)																				
		Indoor wet bulb	Indoor dry bulb	20 °C			25 °C			30 °C			35 °C			40 °C			44 °C				
				NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC		
				Evaporator air inlet temperature (°C)																			
Minimum airflow rate	3455 m ³ /h		16	21	23,00	7,15	13,63	22,35	7,54	13,33	21,55	8,03	12,98	20,58	8,67	12,56	19,46	9,57	12,06	18,44	10,61	11,59	
				24	22,91	7,13	16,87	22,28	7,53	16,52	21,50	8,03	16,08	20,55	8,69	15,55	19,45	9,60	14,92	18,45	10,65	14,34	
				27	23,05	7,15	19,43	22,45	7,55	19,05	21,68	8,06	18,56	20,76	8,72	17,97	19,67	9,65	17,26	18,69	10,71	16,60	
				19	24	25,15	7,29	13,21	24,42	7,68	12,94	23,52	8,18	12,63	22,47	8,83	12,25	21,25	9,73	11,82	20,17	10,75	11,41
					27	24,97	7,27	16,71	24,25	7,67	16,38	23,38	8,17	15,97	22,34	8,83	15,48	21,15	9,75	14,89	20,08	10,80	14,35
					30	25,01	7,27	19,42	24,32	7,68	19,04	23,46	8,19	18,58	22,45	8,86	18,01	21,28	9,79	17,34	20,22	10,85	16,71
				22	27	27,60	7,49	12,18	26,77	7,89	11,97	25,79	8,40	11,73	24,64	9,06	11,45	23,34	9,98	11,11	22,18	11,01	10,80
					30	27,31	7,46	16,02	26,51	7,87	15,72	25,54	8,39	15,37	24,42	9,06	14,96	23,14	9,99	14,46	21,99	11,06	14,00
					33	27,25	7,46	18,96	26,46	7,87	18,62	25,52	8,39	18,21	24,42	9,08	17,70	23,15	10,03	17,10	22,03	11,11	16,53
Nominal airflow rate	5470 m ³ /h		16	21	24,31	7,92	15,92	23,55	8,28	15,59	22,63	8,75	15,19	21,55	9,36	14,70	20,32	10,22	14,12	19,21	11,21	13,58	
				24	24,44	7,93	20,01	23,70	8,30	19,60	22,80	8,78	19,08	21,75	9,40	18,46	20,53	10,28	17,71	19,44	11,27	17,01	
				27	24,80	7,97	23,44	24,08	8,35	22,98	23,20	8,83	22,40	22,17	9,47	21,68	20,97	10,35	20,82	28,25	7,35	26,61	
				19	24	26,43	8,09	15,65	25,58	8,47	15,35	24,57	8,96	15,00	23,41	9,60	14,56	22,08	10,49	14,04	20,90	11,51	13,56
					27	26,46	8,10	20,02	25,63	8,48	19,63	24,65	8,98	19,14	23,50	9,63	18,55	22,19	10,54	17,85	21,03	11,58	17,20
					30	26,73	8,13	23,62	25,92	8,52	23,16	24,95	9,02	22,60	23,82	9,68	21,91	22,54	10,60	21,08	21,39	11,65	20,31
				22	27	28,84	8,32	14,79	27,90	8,72	14,57	26,80	9,23	14,29	25,55	9,91	13,95	24,13	10,85	13,53	22,88	11,92	13,14
					30	28,77	8,32	19,51	27,86	8,73	19,17	26,78	9,25	18,75	25,54	9,94	18,24	24,14	10,90	17,62	22,91	11,99	17,04
					33	28,93	8,34	23,37	28,03	8,76	22,95	26,97	9,28	22,44	25,75	9,98	21,81	24,38	10,95	21,05	23,16	12,06	20,34
Maximum airflow rate	5750 m ³ /h		16	21	24,01	8,37	16,20	23,23	8,79	15,86	22,30	9,32	15,43	21,21	10,05	14,92	19,95	11,09	14,30	18,83	12,32	13,73	
				24	24,17	8,39	20,34	23,41	8,81	19,91	22,50	9,36	19,37	21,43	10,09	18,71	20,19	11,15	17,92	19,09	12,39	17,19	
				27	24,56	8,43	23,84	23,82	8,86	23,36	22,93	9,41	22,75	21,90	10,06	21,90	20,79	11,01	20,79	19,80	12,09	19,80	
				19	24	26,12	8,54	16,01	25,26	8,97	15,69	24,24	9,53	15,31	23,05	10,28	14,85	21,71	11,36	14,30	20,52	12,62	13,78
					27	26,19	8,55	20,43	25,34	8,99	20,01	24,34	9,55	19,50	23,18	10,32	18,88	21,85	11,41	18,13	20,68	12,70	17,44
					30	26,48	8,58	24,09	25,66	9,03	23,62	24,67	9,60	23,02	23,53	10,37	22,29	22,23	11,48	21,41	21,07	12,77	20,60
				22	27	28,53	8,77	15,24	27,57	9,22	15,00	26,46	9,81	14,70	25,19	10,60	14,33	23,75	11,73	13,88	22,49	13,05	13,44
					30	28,49	8,77	20,01	27,56	9,23	19,64	26,47	9,83	19,19	25,21	10,63	18,65	23,80	11,78	17,99	22,56	13,13	17,37
					33	28,67	8,80	23,94	27,76	9,26	23,50	26,69	9,87	22,95	25,46	10,68	22,28	24,06	11,84	21,47	22,84	13,20	20,72

HEATING CAPACITIES

FMH 25			Outdoor temperature (dry bulb)														
Condenser air inlet temperature (dry bulb)			-10 °C		-5 °C		0 °C		5 °C		7 °C		10 °C		15 °C		
			NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	
Minimum airflow rate	3455 m ³ /h		15	16,02	6,72	18,42	7,21	20,79	7,71	23,15	8,22	24,09	8,42	25,49	8,74	27,80	9,30
			18	16,00	7,13	18,35	7,64	20,67	8,16	22,98	8,69	23,90	8,91	25,27	9,25	27,53	9,85
			20	15,99	7,43	18,31	7,95	20,60	8,48	22,87	9,03	23,78	9,26	25,13	9,62	27,36	10,26
			23	15,99	7,92	18,26	8,46	20,50	9,02	22,72	9,60	23,60	9,85	24,92	10,24	27,11	10,93
			25	16,00	8,28	18,23	8,83	20,44	9,41	22,63	10,02	23,50	10,29	24,80	10,69	26,94	11,43
Nominal airflow rate	5470 m ³ /h		15	16,69	6,77	19,27	7,14	21,82	7,51	24,35	7,88	25,36	8,03	26,87	8,26	29,36	8,66
			19	16,63	7,26	19,14	7,63	21,62	8,00	24,09	8,38	25,07	8,54	26,53	8,79	28,96	9,21
			20	16,62	7,39	19,11	7,76	21,58	8,13	24,03	8,52	25,00	8,68	26,45	8,93	28,86	9,36
			23	16,59	7,81	19,03	8,18	21,45	8,55	23,84	8,95	24,80	9,12	26,22	9,38	28,58	9,84
			25	16,57	8,11	18,98	8,48	21,36	8,86	23,73	9,27	24,67	9,44	26,08	9,71	28,40	10,19
Maximum airflow rate	5750 m ³ /h		15	17,12	7,21	19,72	7,54	22,30	7,87	24,85	8,21	25,87	8,35	27,39	8,57	29,91	8,94
			19	17,05	7,74	19,58	8,06	22,09	8,39	24,58	8,74	25,57	8,89	27,05	9,12	29,50	9,52
			20	17,04	7,88	19,55	8,20	22,05	8,53	24,52	8,89	25,50	9,03	26,97	9,26	29,41	9,67
			23	17,00	8,34	19,47	8,65	21,91	8,98	24,33	9,35	25,30	9,50	26,74	9,74	29,12	10,17
			25	16,99	8,67	19,42	8,98	21,83	9,31	24,22	9,68	25,17	9,84	26,59	10,08	28,94	10,53
27	16,97	9,03	19,37	9,32	21,75	9,66	24,10	10,03	25,04	10,20	26,44	10,45	28,76	10,92			

NC (kW) :	Net cooling capacity	NH (kW) :	Net heating capacity	SC (kW) :	Sensible cooling capacity	AC (kW) :	Compressor absorbed power
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COOLING CAPACITIES

FMC/H 30			Outdoor temperature (dry bulb)																		
	Indoor wet bulb	Indoor dry bulb	20 °C			25 °C			30 °C			35 °C			40 °C			41 °C			
			NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	NC	AC	SC	
			Evaporator air inlet temperature (°C)																		
Minimum airflow rate	3695 m³/h	16	21	27,18	8,87	16,14	26,31	9,37	15,73	25,21	10,02	15,24	23,88	10,89	14,66	22,32	12,17	13,97	21,98	12,50	13,82
			24	27,15	8,87	19,69	26,30	9,37	19,25	25,22	10,02	18,70	23,90	10,90	18,03	22,35	12,18	17,20	22,01	12,52	17,01
			27	27,18	8,88	22,96	26,35	9,38	22,52	25,28	10,03	21,92	23,98	10,92	21,17	22,44	12,21	20,22	22,11	12,54	20,01
		19	24	29,61	9,10	15,82	28,63	9,63	15,40	27,41	10,31	14,93	25,96	11,25	14,38	24,27	12,63	13,74	23,91	12,99	13,60
			27	29,57	9,09	19,36	28,60	9,63	18,92	27,40	10,32	18,38	25,96	11,26	17,74	24,29	12,64	16,97	23,93	13,00	16,80
			30	29,59	9,10	22,58	28,64	9,63	22,13	27,45	10,33	21,56	26,03	11,27	20,85	24,37	12,66	19,96	24,01	13,02	19,77
		22	27	32,26	9,31	15,37	31,16	9,86	14,97	29,82	10,59	14,52	28,25	11,58	14,02	26,45	13,04	13,45	26,06	13,42	13,32
			30	32,21	9,30	18,87	31,12	9,86	18,45	29,80	10,59	17,95	28,24	11,58	17,36	26,45	13,05	16,66	26,07	13,43	16,51
			33	32,21	9,30	22,04	31,14	9,87	21,61	29,83	10,60	21,08	28,29	11,60	20,43	26,51	13,06	19,63	26,13	13,45	19,45
Nominal airflow rate	5060 m³/h	16	21	28,49	9,38	18,20	27,49	9,86	17,80	26,27	10,48	17,30	24,81	11,33	16,68	23,11	12,58	15,93	22,74	12,90	15,76
			24	28,48	9,38	22,81	27,50	9,86	22,34	26,29	10,49	21,72	24,85	11,34	20,95	23,17	12,59	19,99	22,80	12,91	19,77
			27	28,54	9,39	27,13	27,57	9,87	26,61	26,38	10,50	25,90	25,04	11,66	25,04	23,62	13,09	23,62	23,31	13,46	23,31
		19	24	31,01	9,62	17,73	29,90	10,13	17,34	28,55	10,81	16,88	26,97	11,73	16,32	25,16	13,10	15,64	24,77	13,45	15,49
			27	31,00	9,61	22,39	29,90	10,13	21,94	28,57	10,81	21,36	27,00	11,74	20,65	25,20	13,11	19,77	24,81	13,46	19,57
			30	31,04	9,62	26,73	29,95	10,14	26,23	28,64	10,82	25,57	27,09	11,75	24,72	25,30	13,12	23,67	24,92	13,48	23,43
		22	27	33,76	9,84	17,10	32,52	10,39	16,74	31,06	11,11	16,33	29,36	12,10	15,84	27,42	13,56	15,26	27,01	13,94	15,13
			30	33,73	9,83	21,80	32,51	10,38	21,38	31,06	11,11	20,86	29,37	12,10	20,22	27,45	13,56	19,44	27,04	13,94	19,26
			33	33,75	9,84	26,15	32,55	10,39	25,69	31,11	11,12	25,08	29,44	12,11	24,32	27,53	13,58	23,37	27,13	13,96	23,16
Maximum airflow rate	5500 m³/h	16	21	28,47	9,80	18,76	27,43	10,32	18,34	26,16	11,00	17,82	24,66	11,95	17,18	22,93	13,37	16,39	22,55	13,74	16,21
			24	28,47	9,80	23,64	27,45	10,32	23,14	26,20	11,01	22,50	24,71	11,96	21,67	22,99	13,38	20,65	22,62	13,76	20,42
			27	28,53	9,81	28,25	27,57	10,37	27,57	26,51	11,08	26,51	25,25	12,06	25,25	23,79	13,51	23,79	23,47	13,89	23,47
		19	24	31,02	10,04	18,27	29,87	10,59	17,89	28,48	11,33	17,41	26,86	12,36	16,83	25,00	13,91	16,12	24,60	14,32	15,96
			27	31,02	10,03	23,25	29,88	10,60	22,77	28,50	11,34	22,17	26,89	12,37	21,41	25,05	13,92	20,48	24,66	14,33	20,27
			30	31,06	10,04	27,90	29,94	10,60	27,36	28,58	11,35	26,65	26,99	12,39	25,74	25,16	13,94	24,61	24,77	14,35	24,35
		22	27	33,80	10,25	17,62	32,52	10,85	17,27	31,01	11,63	16,86	29,27	12,73	16,36	27,30	14,39	15,75	26,87	14,82	15,61
			30	33,78	10,25	22,66	32,52	10,85	22,23	31,02	11,63	21,69	29,29	12,74	21,02	27,33	14,39	20,19	26,91	14,83	20,00
			33	33,81	10,25	27,36	32,56	10,85	26,87	31,08	11,64	26,22	29,37	12,75	25,40	27,42	14,41	24,38	27,01	14,84	24,15

HEATING CAPACITIES

FMH 30			Outdoor temperature (dry bulb)													
Condenser air inlet temperature (dry bulb)			-10 °C		-5 °C		0 °C		5 °C		7 °C		10 °C		15 °C	
	Indoor wet bulb	Indoor dry bulb	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC
			Minimum airflow rate	2695 m³/h	15	18,30	7,75	21,01	8,31	23,70	8,87	26,37	9,43	27,43	9,66	29,02
18	18,32	8,25			20,97	8,82	23,59	9,40	26,19	9,99	27,23	10,23	28,78	10,60	31,35	11,24
20	18,35	8,60			20,95	9,19	23,53	9,78	26,09	10,39	27,11	10,64	28,63	11,03	31,16	11,71
23	18,40	9,18			20,94	9,78	23,46	10,40	25,95	11,04	26,95	11,31	28,43	11,72	30,89	12,46
25	18,45	9,59			20,95	10,21	23,42	10,84	25,87	11,51	26,85	11,79	28,31	12,23	30,73	13,01
27	18,51	10,03			20,96	10,65	23,39	11,31	25,80	12,01	26,76	12,31	28,20	12,77	30,57	13,60
Nominal airflow rate	5060 m³/h	15	18,63	7,57	21,49	8,04	24,33	8,50	27,16	8,96	28,28	9,14	29,96	9,42	32,75	9,90
		19	18,61	8,18	21,39	8,66	24,14	9,13	26,88	9,60	27,97	9,79	29,60	10,08	32,30	10,59
		20	18,61	8,34	21,37	8,82	24,10	9,29	26,82	9,77	27,90	9,96	29,52	10,26	32,19	10,78
		23	18,63	8,86	21,32	9,34	23,99	9,82	26,64	10,31	27,70	10,51	29,28	10,83	31,89	11,38
		25	18,66	9,23	21,30	9,71	23,93	10,19	26,54	10,70	27,58	10,91	29,13	11,23	31,70	11,80
		27	18,69	9,62	21,29	10,09	23,88	10,58	26,45	11,10	27,47	11,32	28,99	11,66	31,52	12,26
Maximum airflow rate	5500 m³/h	15	18,97	7,86	21,88	8,29	24,77	8,71	27,65	9,13	28,79	9,30	30,50	9,56	33,34	10,00
		19	18,94	8,50	21,76	8,93	24,57	9,35	27,35	9,78	28,46	9,96	30,12	10,23	32,87	10,69
		20	18,93	8,67	21,74	9,10	24,52	9,52	27,29	9,95	28,39	10,13	30,04	10,40	32,76	10,88
		23	18,94	9,22	21,68	9,64	24,40	10,06	27,10	10,50	28,18	10,69	29,79	10,97	32,45	11,47
		25	18,96	9,61	21,65	10,02	24,33	10,44	26,99	10,90	28,05	11,08	29,63	11,38	32,25	11,90
		27	18,98	10,01	21,64	10,42	24,27	10,85	26,89	11,31	27,93	11,50	29,49	11,81	32,06	12,35

NC (kW) : Gross cooling capacity	NH (kW) : Net heating capacity	SC (kW) : Sensible cooling capacity	AC (kW) : Compressor absorbed power
---	---------------------------------------	--	--

CORRECTION COEFICIENTS

Airflow rates (thermodynamic and air treatment sections)

	Sizes 10-12-15-20			Sizes 25-30		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
Calculation of cooling capacity depending airflow rate						
Cooling capacity	x 0.97	x 1.00	x 1.01	x 0.98	x 1.00	x 1.01
Sensible capacity	x 0.90	x 1.00	x 1.03	x 0.95	x 1.00	x 1.02
Calculation of heating power depending on airflow rate						
Cooling capacity	x 0.98	x 1.00	x 1.01	x 0.91	x 1.00	x 1.03
Sensible capacity	x 0.98	x 1.00	x 1.01	x 0.98	x 1.00	x 1.01

UNITS WITHOUT ELECTRICAL HEATER (STANDARD UNITS)

PACKAGED UNIT (THERMODYNAMIC + AIR TREATMENT SECTIONS)

FLATAIR	10-230 I	10	12	15	20	25	30
Maximum power (KW)	5,5	5,3	6,6	7,8	10,4	12,6	14,2
Maximum current (A)	31,7	13,7	16,0	18,6	23,6	30,0	31,0
Starting current (A)	90,2	34,1	39,7	49,0	75,3	82,3	86,9
Locked rotor current (A)	133,7	48,7	57,2	70,8	109,6	120,0	127,0

AIR TREATMENT UNIT

FLATAIR	10-230 I	10	12	15	20	25	30
Maximum power (KW)	0,4	0,4	0,4	0,8	1,0	1,3	1,3
Maximum current (A)	2,6	2,6	2,6	2,8	4,3	4,3	4,3
Starting current (A)	1,7	1,7	1,7	1,8	2,8	2,8	2,8
Locked rotor current (A)	2,6	2,6	2,6	2,8	4,3	4,3	4,3

THERMODYNAMIC UNIT

FLATAIR	10-230 I	10	12	15	20	25	30
Maximum power (KW)	5,1	4,9	6,1	7,0	9,4	11,3	13,0
Maximum current (A)	29,1	11,1	13,4	15,8	19,3	25,7	26,7
Starting current (A)	87,6	31,5	37,1	46,2	71,0	78,0	82,6
Locked rotor current (A)	131,1	46,1	54,6	68,0	105,3	115,7	122,7

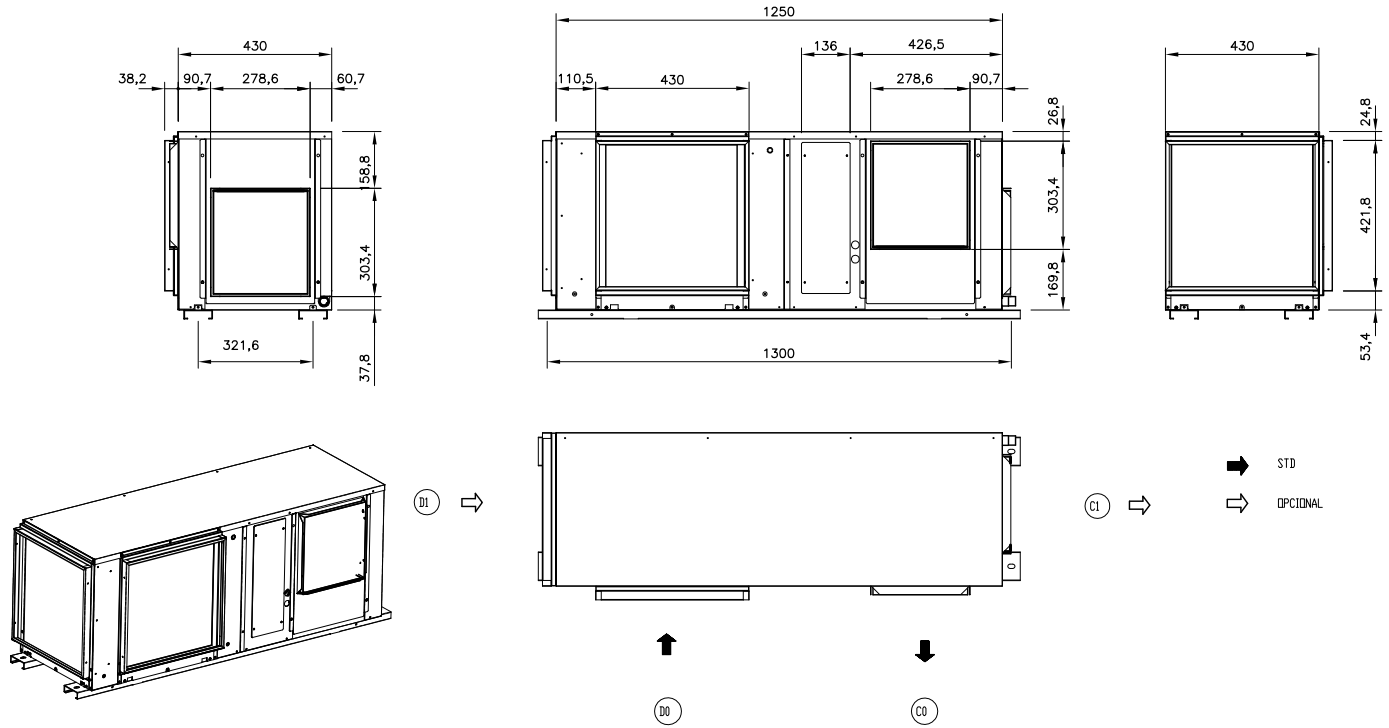
UNITS WITH ELECTRICAL HEATER (add the following consumption for heat pump units)

FLATAIR	10-230 I	10	12	15	20	25	30
Power input (kW)	3	3		4,5		7,5	
	6	6		6		9	
		9		9		12	
Maximum current (A)	13,0	7,5		11,3		18,8	
	26,1	15		15		22,5	
	-	22,5		22,5		30	

8.1 - UNIT DIMENSIONS

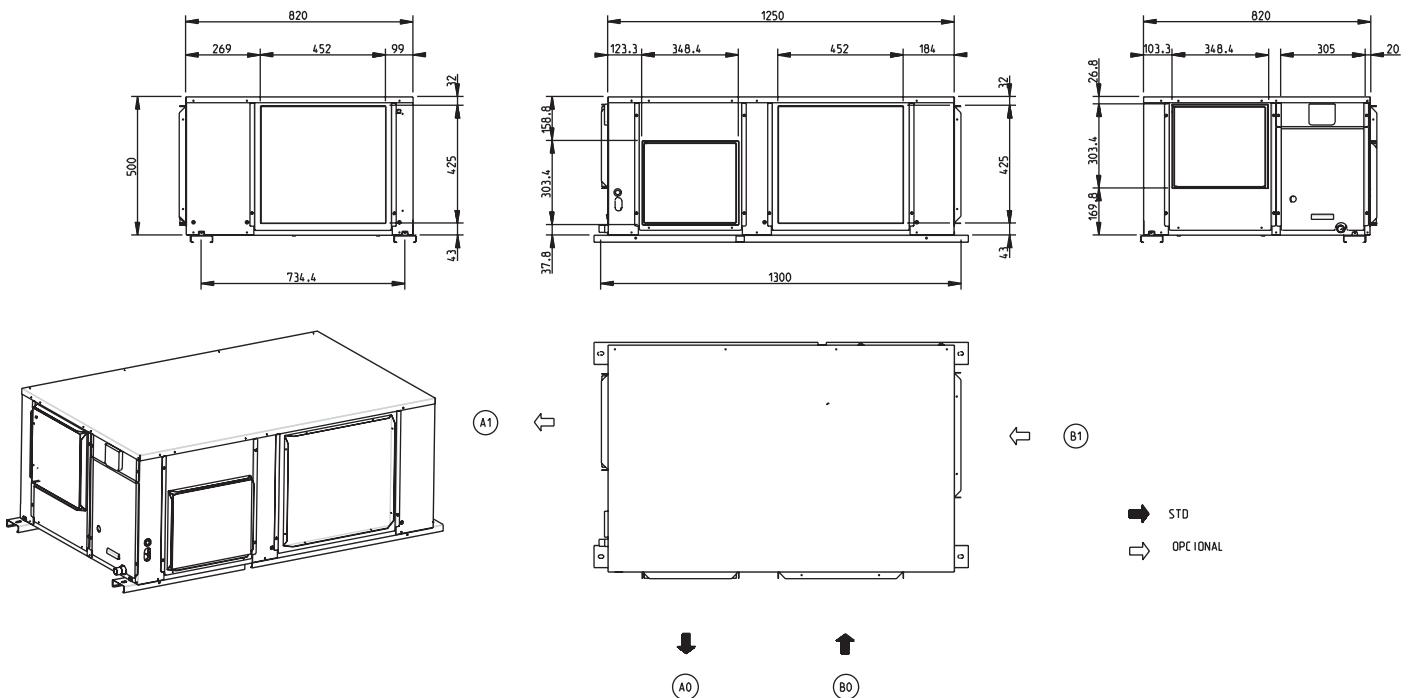
AIR TREATMENT UNIT - COOLING ONLY AND HEAT PUMP UNITS

FIX 10-12



THERMODYNAMIC UNIT - COOLING ONLY / HEAT PUMP

FSC / FSH 10-12



← STANDARD

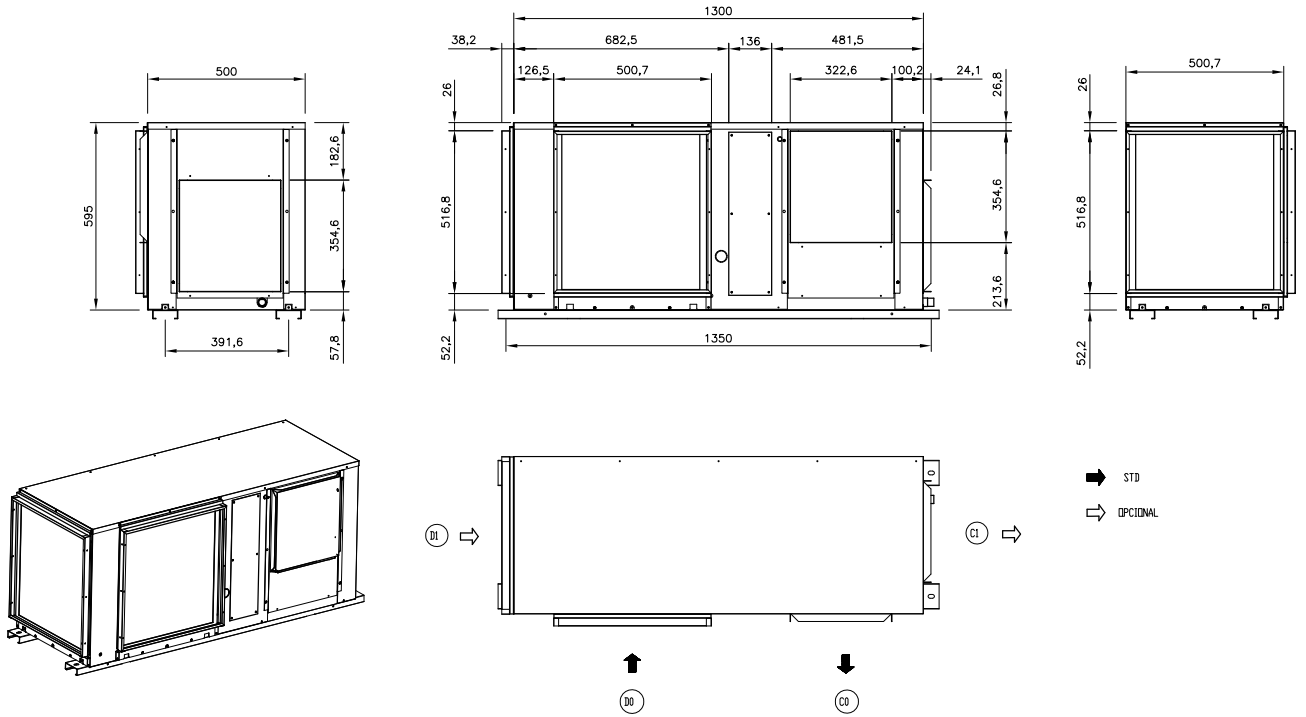
⇐ OPTION

A Condenser air inlet
B Condensing exhaust air flow

C Supply air flow
D Return air flow

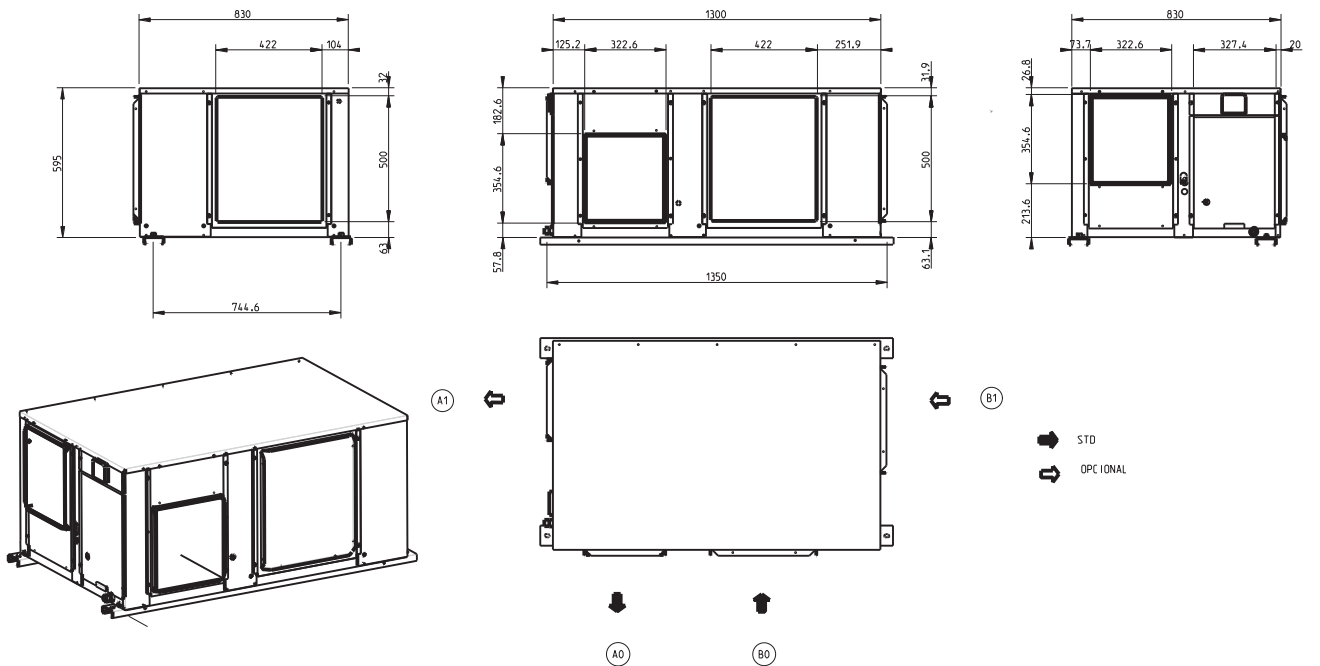
AIR TREATMENT UNIT - COOLING ONLY AND HEAT PUMP UNITS

FIX 15



THERMODYNAMIC UNIT - COOLING ONLY / HEAT PUMP

FSC / FSH 15



← STANDARD

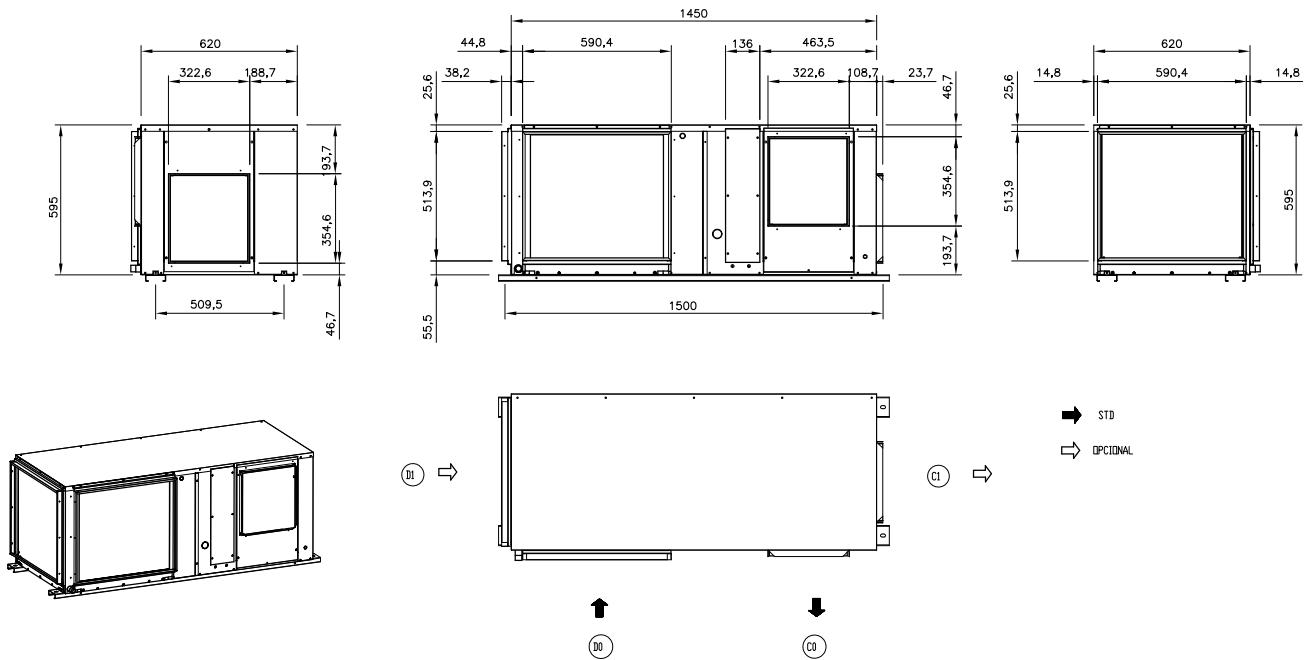
⇨ OPTION

A Condenser air inlet
B Condensing exhaust air flow

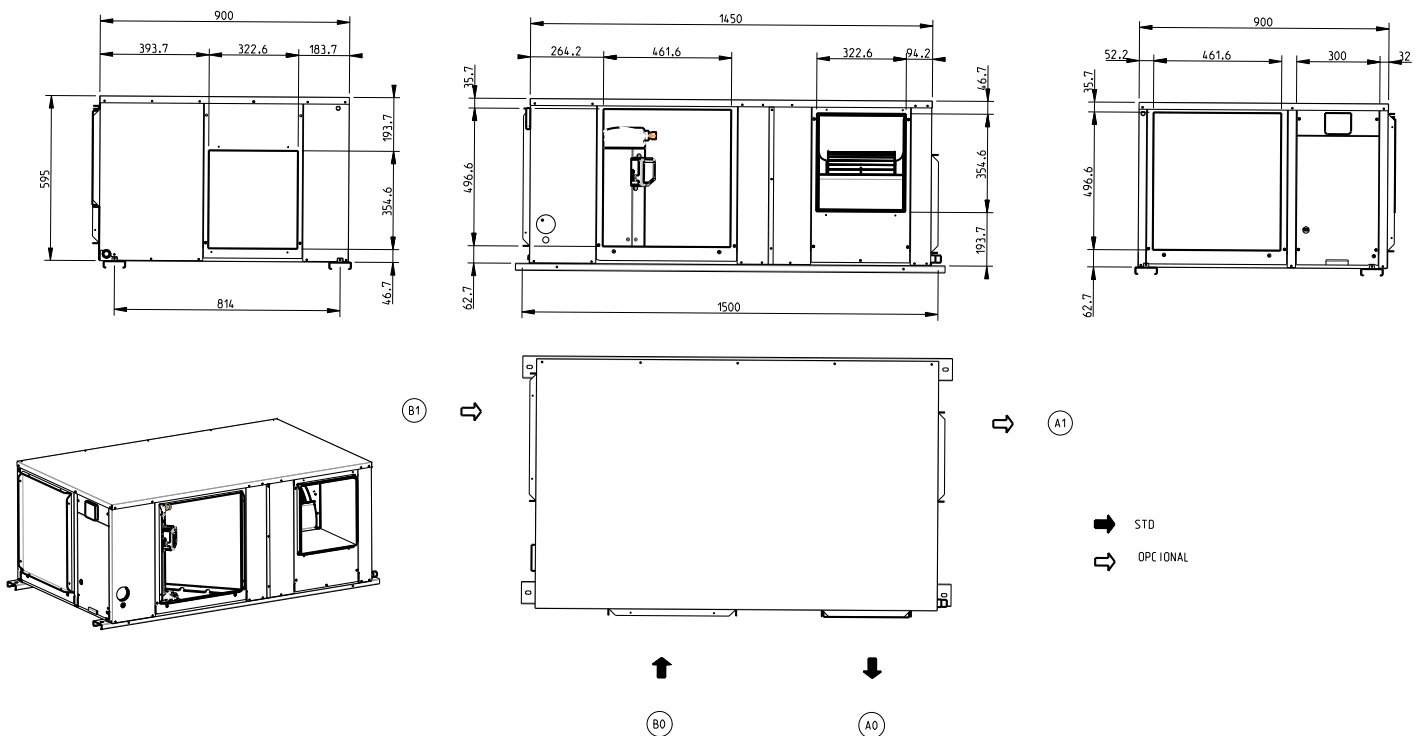
C Supply air flow
D Return air flow

8.1 - UNIT DIMENSIONS

AIR TREATMENT UNIT - COOLING ONLY / HEAT PUMP
FIC / FIH 20



THERMODYNAMIC UNIT - COOLING ONLY / HEAT PUMP
FSC / FSH 20

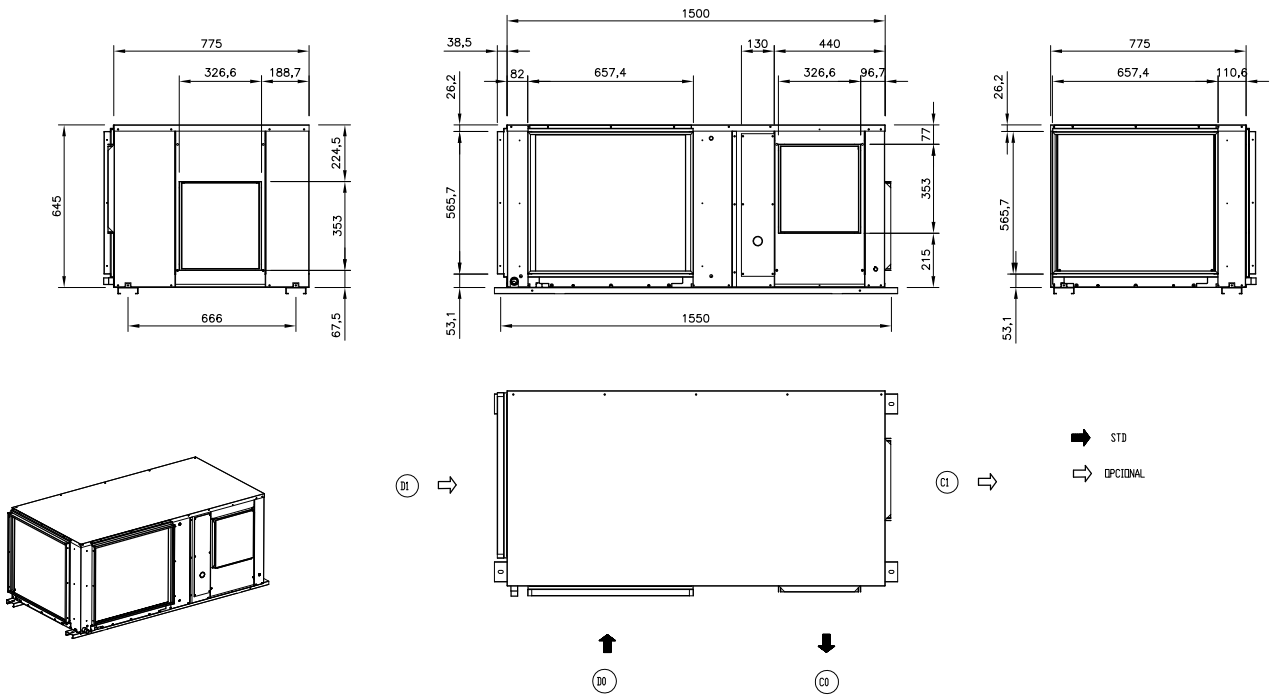


← STANDARD
⇐ OPTION

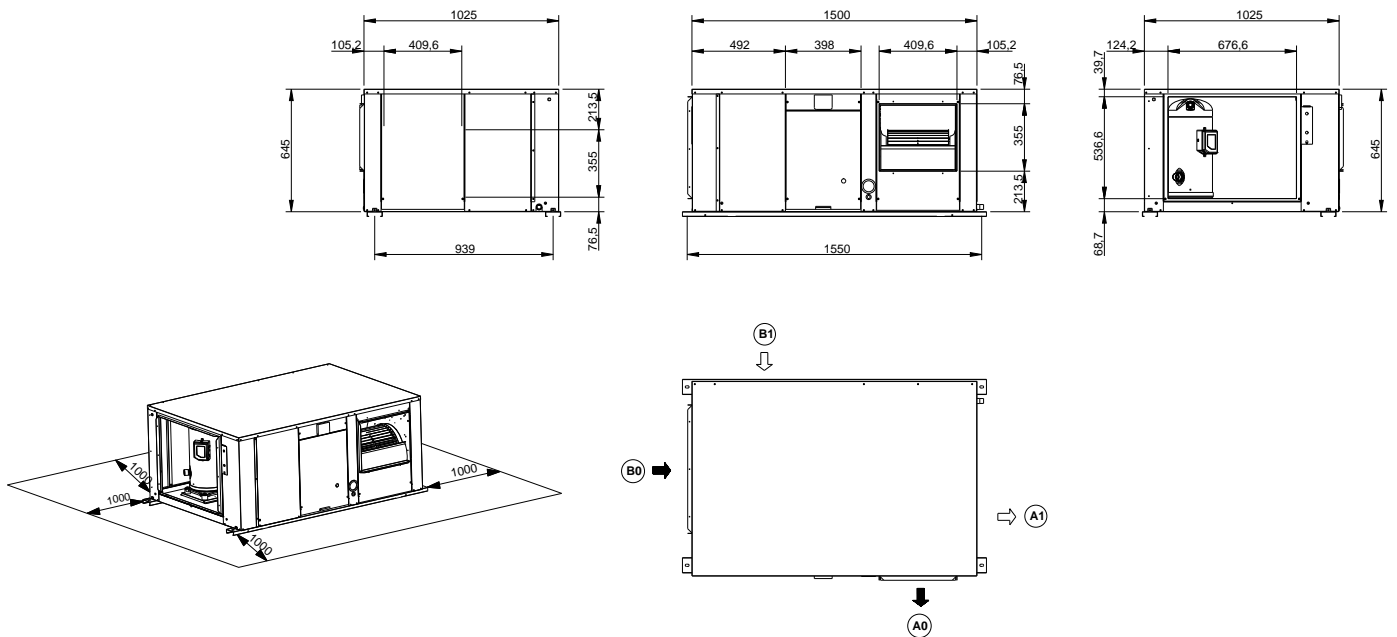
A Condenser air inlet
B Condensing exhaust air flow

C Supply air flow
D Return air flow

AIR TREATMENT UNIT - COOLING ONLY / HEAT PUMP
FIC / FIH 25-30



THERMODYNAMIC UNIT - COOLING ONLY / HEAT PUMP
FSC / FSH 25-30



← STANDARD

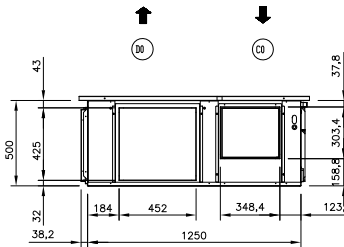
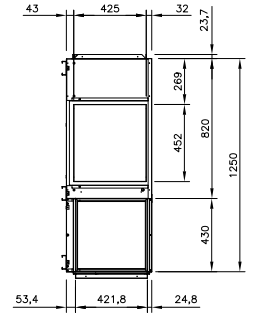
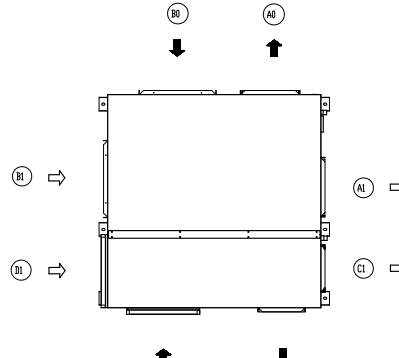
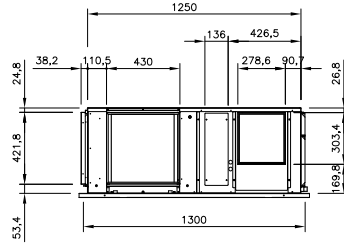
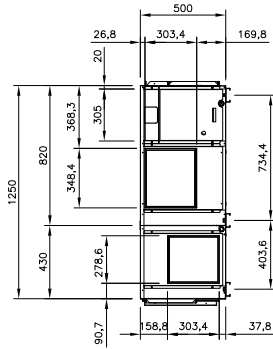
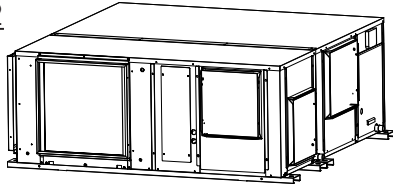
⇐ OPTION

A Condenser air inlet
 B Condensing exhaust air flow

C Supply air flow
 D Return air flow

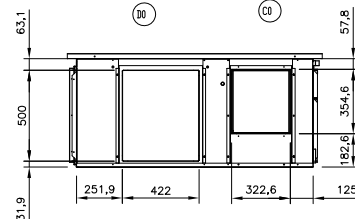
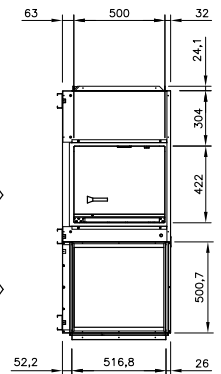
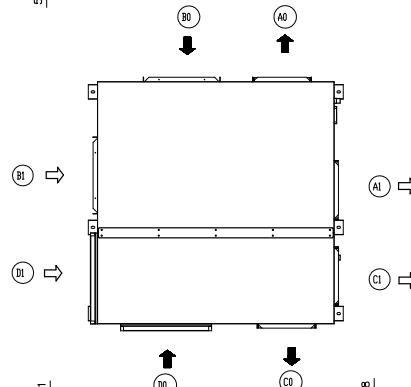
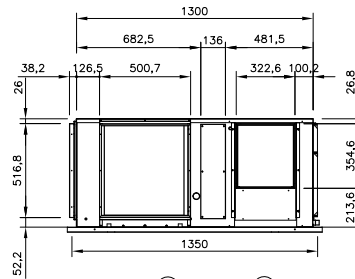
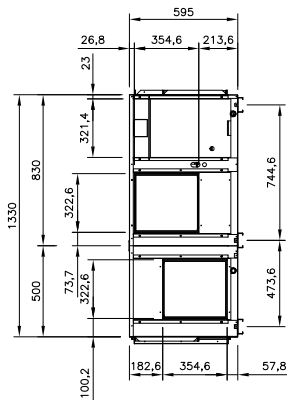
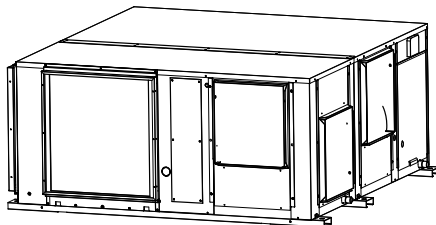
8.1 - UNIT DIMENSIONS - PACKAGED UNITS

FMC/FMH 10-12



➡ STD
↔ OPTIONAL

FMC/FMH 15



➡ STD
↔ OPTIONAL

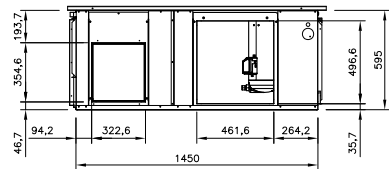
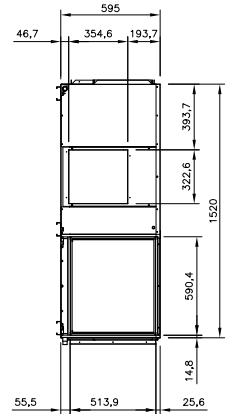
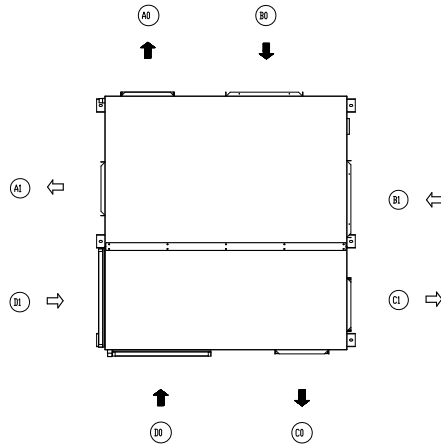
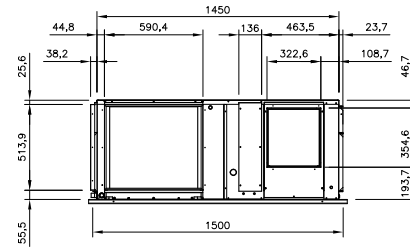
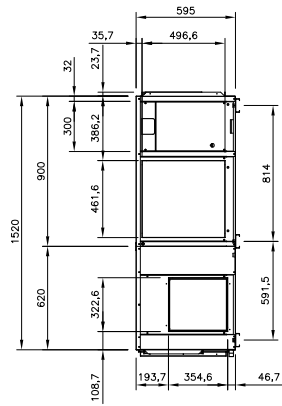
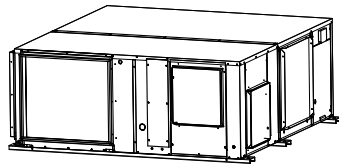
➡ STANDARD

↔ OPTION

A Condenser air inlet
B Condensing exhaust air flow

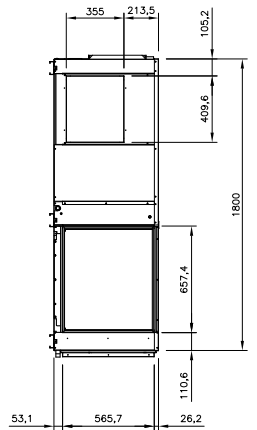
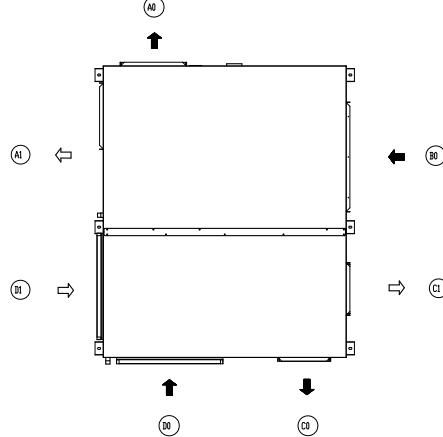
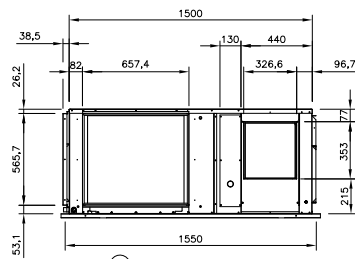
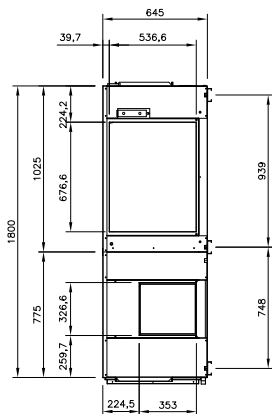
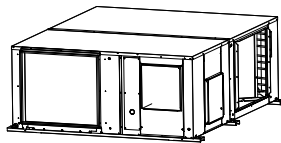
C Supply air flow
D Return air flow

FMC/FMH 20



→ STD
⇌ EPICIONAL

FMC/FMH 25-30



→ STD
⇌ EPICIONAL

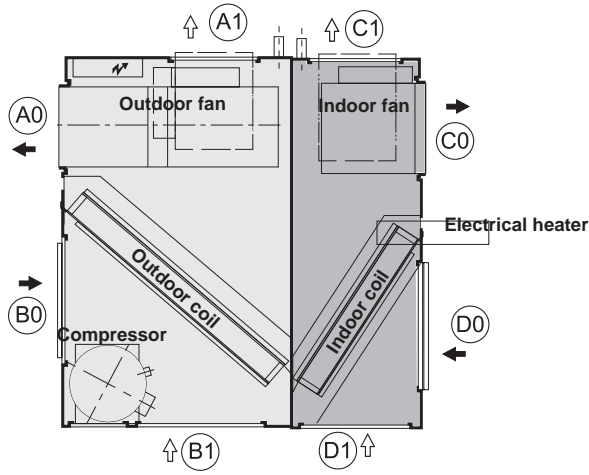
← STANDARD
⇌ OPTION

A Condenser air inlet C Supply air flow
B Condensing exhaust air flow D Return air flow

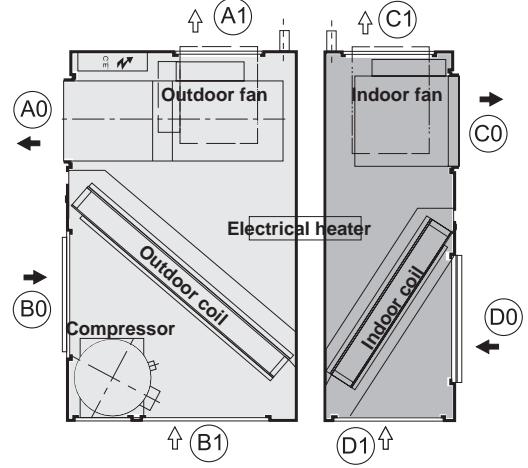
8.2.- DUCT POSITION

MODELS 10-12-15

Packaged unit

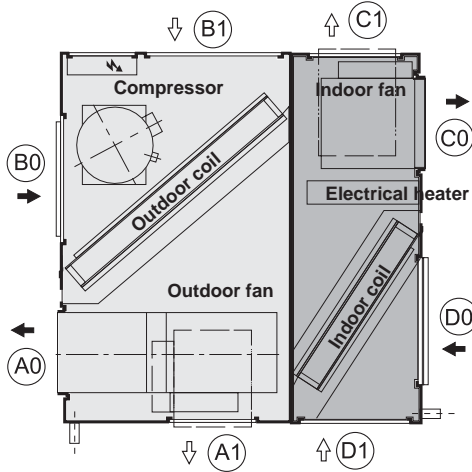


Split unit

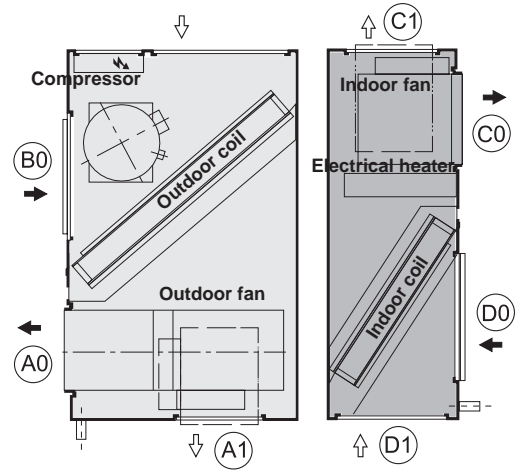


MODEL 20

Packaged unit

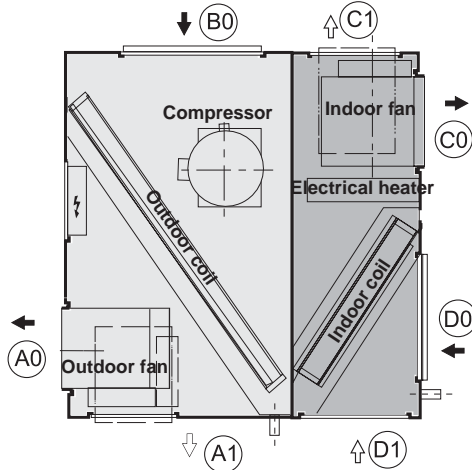


Split unit

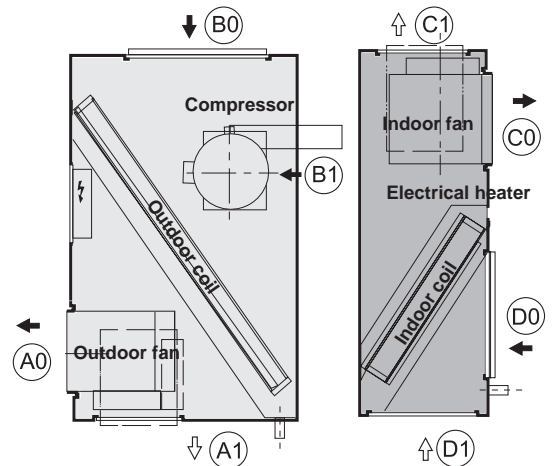


MODELS 25-30

Packaged unit

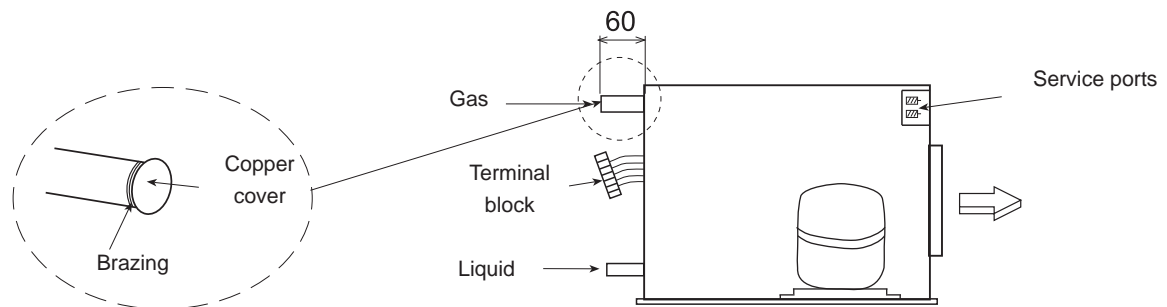


Split unit



9.1 - REFRIGERANT CONNECTIONS

Split units are supplied with gas and liquid lines sealed with copper covers, and located 60mm from casing.



Split units are supplied with nitrogen gas, this must be removed and then proceed as following

1. Remove the nitrogen gas through the high and low through the 5/16" service ports (high and low pressure Schraeder valves) located inside and provide a low vacuum for safety.
2. Remove the caps from lines to be connected.
3. Braze the piping connection lines. Select piping diameter in the REFRIGERANT LINES table.
(When brazing refrigerant pipes, nitrogen gas must be supplied into the pipes through the service ports to remove the air).
4. Leak test:
Add nitrogen gas, check that a pressure of 5 kg/cm² has been reached and that there are no leak on circuit or brazing. Listen and apply soap and water to detect potential leaks. To detect smaller leaks, proceed as follow: add nitrogen gas and check that a pressure of 25 kg/cm² has been reached. We consider that the test is correct if the pressure drop isn't superior to 10% after 24h.
5. Ensure that the gas line is insulated.
6. Evacuation:
Remove the nitrogen gas, connect the gauge manifold and vacuum pump to both the liquid and gas lines, fully open the gauge manifold valve and switch on the vacuum pump. Check to make sure the gauge shows a pressure of -750mm Hg. Once a level of -750mm Hg is reached, keep the vacuum pump running for at least one hour.
7. Refrigerant charge:
 - In the tables " REFRIGERANT CHARGE" and " EXTRA REFRIGERANT CHARGE R410A BY METER", check the necessary quantity of refrigerant charge, depending on the length and size of the pipe connections.
 - Disconnect the vacuum pump and connect to the refrigerant-charging bottle. Open the charging pump and purge the air from the hose at the pressure gauge manifold.
 - Set up the amount of additional refrigerant on the weighing scale, open the high pressure and charged in the liquid state. If the total amount of refrigerant charge has not been reached because the pressure is balanced, turn off the high pressure side of the gauge manifold, turn on the unit, and add the remaining amount of the refrigerant charge required slowly through the low pressure side of the pressure gauge. (With R-410A refrigerant, the charging bottle must be in a vertical position and charged in the liquid state). Close the pressure gauge, disconnect it from the service port of the unit and fit caps on the service ports. The unit is then ready to operate.



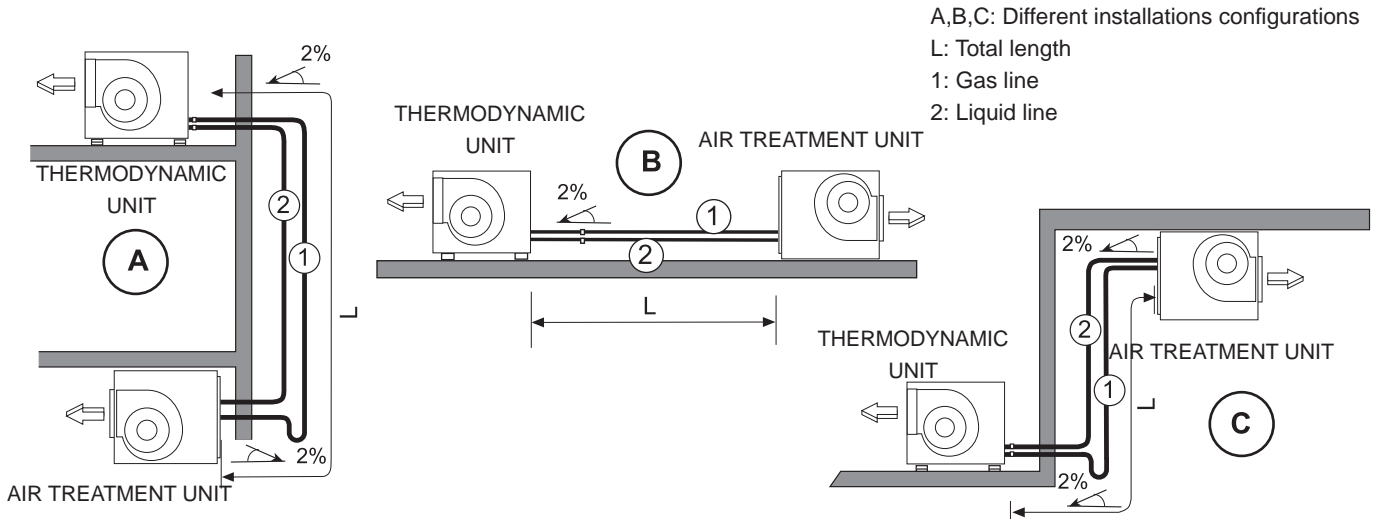
During installation operations, keep gas and liquid pipes covered, in order to prevent humidity and dirt, get into them.

Carefully check that refrigerant pipes are isolated.

Avoid collapse on line installation.

9.2 - REFRIGERANT CONNECTIONS

To locate the thermodynamic and air treatment units, refer to the following information:



- A:**
A syphon suction must be installed on the vertical line of the gas line 1, and syphons must be installed every 8 meters upward. The minimum speed suction must not be below 6 m/s.
- B:**
Tip the lines toward the thermodynamic unit. Make special attention to the line length longer than 10m and avoid collapse on pipe lines installation.
- C:**
Install a syphon at the base of the vertical line, no more syphons are necessary.

REFRIGERANT LINES

REFRIGERANT LINES		SIZE					
		10	12	15	20	25	30
Total length 0 to 30m	Liquid	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"
	Gas	3/4"	3/4"	7/8"	7/8"	1 1/8"	1 1/8"
Maximum vertical line length (m)		15	15	15	15	15	15
Maximum number of bends		12	12	12	12	12	12

! For other positions and lines lengths between 30 and 50 m or longer, consult the commercial-technical department.

Split units are supplied with nitrogen gas. The installer should remove this gas and charge the units with the charge of refrigerant R410A, shown in the table 2.7.2 plus the charge by additional meter shown in the table 2.7.3.

REFRIGERANT CHARGE

FLATAIR	MODELS	10	12	15	20	25	30
Refrigerant charge R-410A	Cooling only	2,14	2,57	3,55	4,46	5,38	6,15
	Heat pump	2,5	2,93	4	4,9	6,3	7

EXTRA REFRIGERANT CHARGE R410A BY METER

Liquid	Gas	g/m
3/8"	3/4"	57
1/2"	7/8"	108
5/8"	1 1/8"	177

9.3 - ELECTRICAL CONNECTIONS



- Before making any electrical connections, ensure that all circuit breakers are open.
- In order to make the electrical connections, follow the electrical diagram supplied with the unit.

POWER SUPPLY

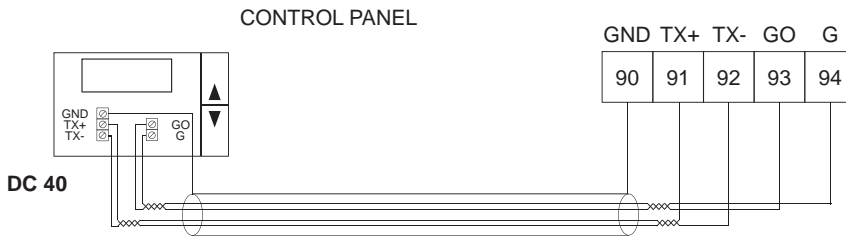
POWER SUPPLY 230V SINGLE PHASE UNITS 	SIZE	N° of cables x section (mm²)	
		Supply without electrical coil	Supply with electrical coil
	10	3 x 4	3 x 16

POWER SUPPLY 400V THREE-PHASE UNITS 	SIZE	N° of cables x section (mm²)	
		Supply without electrical coil	Supply with electrical coil
	10	5 x 2,5	5 x 4
	12	5 x 2,5	5 x 4
	15	5 x 4	5 x 6
	20	5 x 4	5 x 10
	25	5 x 6	5 x 10
	30	5 x 6	5 x 10

VOLTAGE OPERATING LIMITS: 342-462V

SIZE	VOLTAGE	LIMIT
10	230V-1Ph-50 Hz	198-264 V
	400V-3Ph-50 Hz	342-462 V
12-15-20-25-30	400V-3Ph-50 Hz	

DC 40 DISPLAY, ELECTRICAL CONNECTION



2 x Shielded twisted pairs AWG 20. 100 m maximum.
 1x Shielded twisted pair AWG20 + 2 x 1,5 mm. 200m maximum.



IMPORTANT

THE SHIELDED CONNECTING CABLE BETWEEN THE CONTROL PANEL AND THE UNIT MUST BE SEPARATED FROM ANY OTHER TYPE OF ELECTRICAL WIRING. CONNECT IT TO THE ELECTRIC PANEL LOCATED IN THE THERMODYNAMIC UNIT.

NOTES:

- For securing and connecting the electrical devices, please consult the electrical drawing and the control manual supplied with the unit.
- Connection between the DC40 and the unit must be made using shielded twisted pair cables (where the screens are connected to the control panel and the unit Electrical box).
- The Tx+ and Tx- polarity must strictly comply with the electrical diagram supplied with the unit.

ELECTRIC HEATER

As an option, these units can contain shielded element electric heating batteries assembled in factory. The electric heater must get its power from the unit's electrical box.

FLATAIR	10 1Ph	10 3Ph	12	15	20	25	30
Standard capacity (kw)	3		4,5			7,5	
Medium capacity (kw)	6					9	
High capacity (kW)	-	9			12		

MAIN SWITCH

The main switch is located on the access panel to the electrical box in the outdoor section in such a way that the unit is disconnected when the panel is opened.

(Refer to the size diagram to see the position of the electrical box access panel).

Make sure that the main switch is large enough to handle the current for the unit if electric heaters are installed.

PHASE SEQUENCER (THREE-PHASE UNIT)

The phase sequencer is located in the electrical box in the thermodynamic section, thus assuring that the unit will not begin operation while the phase connection of the compressor is not correct. Should this occur, then just switch two phase connections.

REMOTE ROOM TEMPERATURE SENSOR, REMOTE DUCT SENSOR

These sensors may be used with remote controller, allowing the controller to be mounted in a room away from the conditioned space.

- **REMOTE DUCT SENSOR** : The sensor will be located in the return air duct, detecting the air temperature of the air being air conditioned.
- **REMOTE ROOM TEMPERATURE SENSOR** : The sensor will be placed in the area to be air conditioned.

KIT 0 DEGREES TEMPERATURE :

This kit includes a crankcase heater in the cooling only version, to allow working with outdoor temperatures up to 0 degrees. This crankcase heater is standard on heat pump units.

KIT -15 DEGREES TEMPERATURE :

This kit includes a proportional regulation of the outdoor fan, to allow operation with outdoor temperatures up to minus 15 degrees.

ONE DAMPER FREECOOLING

Fresh air damper regulated by the control, to introduce fresh air if the temperature conditions are favourable.

TWO DAMPERS FREECOOLING

Second damper for the freecooling, to regulate the return air regarding the % of fresh air introduced in the room. This option is only valid with the option FREECOOLING ONE DAMPER.

LOW NOISE LEVEL

Compressor jacket to reduce the sound level around by 2 dB(A).

AIRFLOW CONFIGURATIONS

These units have different configurations to manage the air flow, both in the thermodynamic and air treatment sections.

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