

APPLICATION GUIDE



HORIZONTAL DUCTABLE CONDENSING UNIT

FSC/FSH

10 - 28 kW

FSC/FSH-AGU-1801-E



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FSC/FSH

APPLICATION GUIDE

Ref : FSC/FSH-AGU-1801-E

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Product designed and manufactured under quality management systems certified ISO 9001 and ISO 14001.



Our company's products comply with European standards.

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1.1 GENERAL DESCRIPTION

FSC/FSH is an air horizontal condensing unit, available in cooling only or heat pump version.

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.

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) is used in indoor section, certifying that the material is auto-extinguishable.

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.

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.



FSC/FSH 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

CLIMATIC 60

FSC/FSH 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.

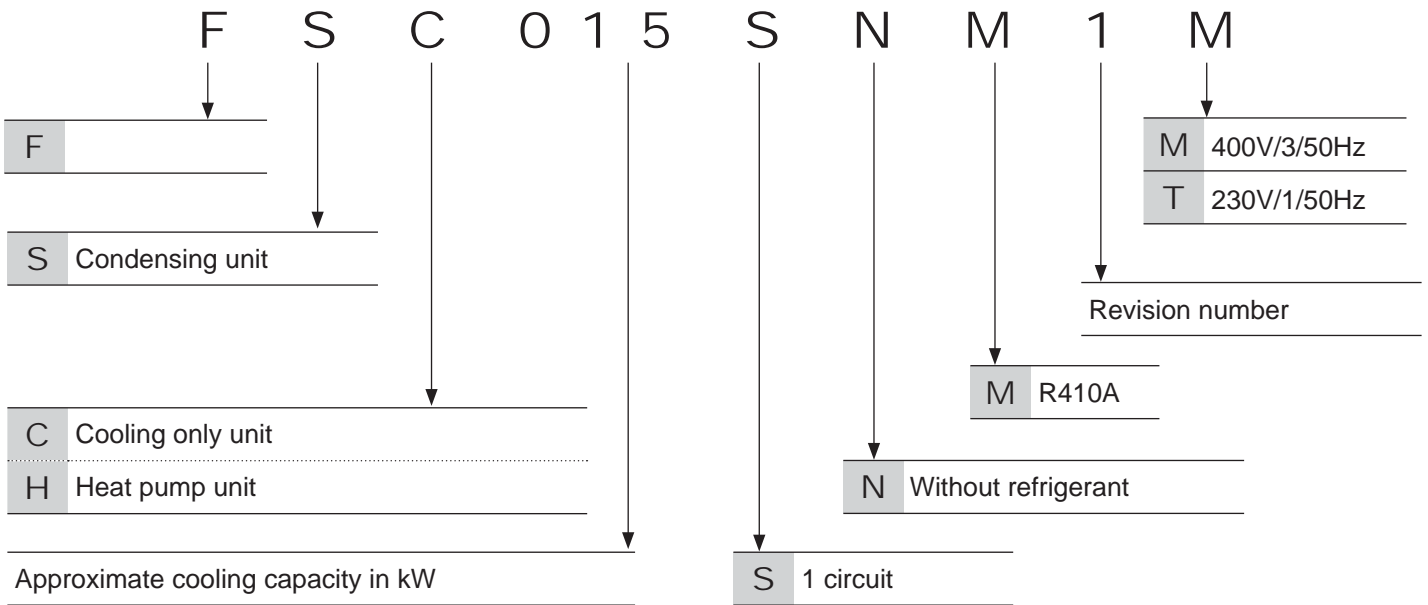
This new controller constantly monitors more machine parameters than ever to improve units operation and maximize efficiency and reliability.

1.3 OPTIONS

FSC/FSH units can be equipped with the following options:

- Main switch
- 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)
- 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)

EXAMPLE :



3 - GENERAL DATA

FSC/FSH	10	12	15	20	25	30	
Casing	A		B	C	D		
DIMENSIONS							
Length	mm	1250	1300	1450	1500		
Depth		820	830	900	1025		
Height		500	595	595	645		
WEIGHTS							
Condensing unit	kg	117	121	170	164	207	213

FSC/FSH		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	
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	
Electrical data								
Electrical supply	V/Ph/Hz	230/1/50 +N	400V/50 + N					
Refrigerant circuit								
Number of compressors/Number of circuits		1/1						
Total refrigerant load - Cooling only	kg	2,14	2,57	3,55	4,46	5,38	6,15	
Total refrigerant load - Heat pump		2,5	2,93	4,0	4,9	6,3	7,0	
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	
Acoustic data								
Global sound power level ⁽³⁾	dB(A)	77		82	86	81	81	

(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) : EUROVENT conditions.

OPERATING LIMITS

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

COOLING CAPACITIES

FSC/FSH 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 m³/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 m³/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 m³/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

FSH 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 m³/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 m³/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 m³/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

FSC/FSH 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

FSH 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

FSC/FSH 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

FSH 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
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
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

FSC/FSH 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		
Minimum airflow rate	3090 m ³ /h	Evaporator air inlet temperature (°C)	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 m ³ /h	Evaporator air inlet temperature (°C)	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 m ³ /h	Evaporator air inlet temperature (°C)	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

FSH 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 m ³ /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 m ³ /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 m ³ /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

FSC/FSH 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		
Minimum airflow rate	3455 m³/h	Evaporator air inlet temperature (°C)	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 m³/h	Evaporator air inlet temperature (°C)	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	5750m³/h	Evaporator air inlet temperature (°C)	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

FSH 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 m³/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
		27	16,01	8,67	18,21	9,24	20,38	9,84	22,54	10,48	23,39	10,76	24,67	11,19		
Nominal airflow rate	5470 m³/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
		27	16,56	8,43	18,94	8,80	21,29	9,18	23,62	9,60	24,55	9,78	25,93	10,06	28,22	10,56
Maximum airflow rate	5750 m³/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

FSC/FSH 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	
Minimum airflow rate 3695 m ³ /h	Evaporator air inlet temperature (°C)	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 m ³ /h	Evaporator air inlet temperature (°C)	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 m ³ /h	Evaporator air inlet temperature (°C)	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

FSH 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	
			NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC	NH	AC
Minimum airflow rate 2695 m ³ /h		15	18,30	7,75	21,01	8,31	23,70	8,87	26,37	9,43	27,43	9,66	29,02	10,01	31,65	10,61
		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
Nominal airflow rate 5060 m ³ /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
Maximum airflow rate 5500 m ³ /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
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CORRECTION COEFICIENTS - AIRFLOW RATES

	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

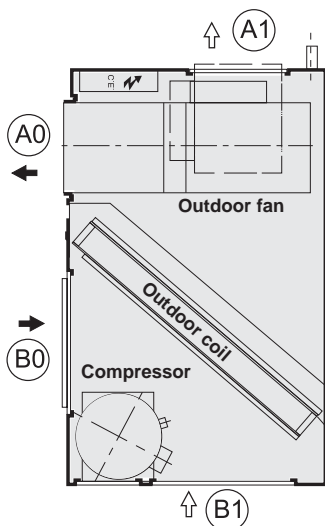
5 - ELECTRICAL DATA

FSC/FSH	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

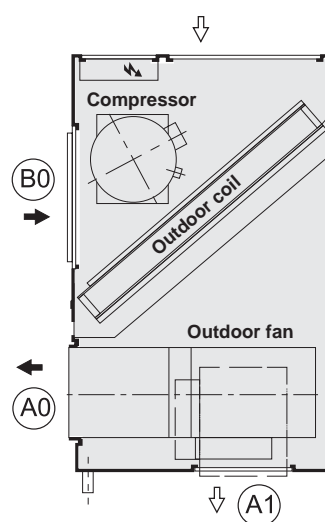
6 - DIMENSIONS

DUCT POSITION

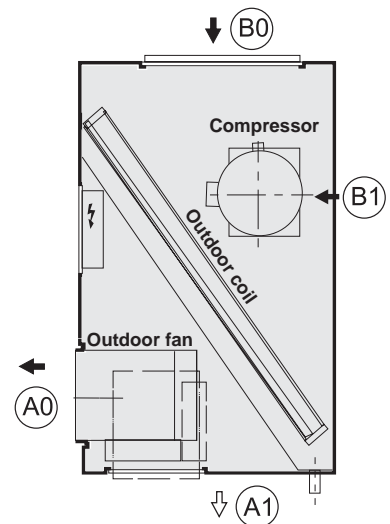
MODELS 10-12-15



MODEL 20



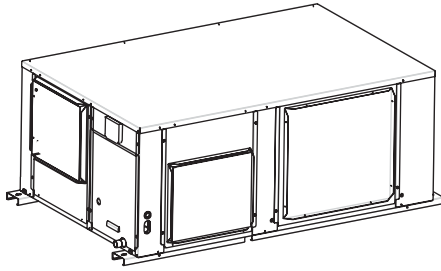
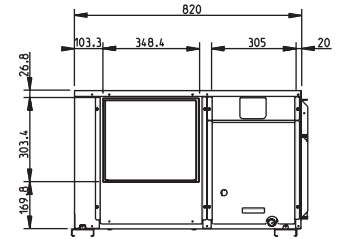
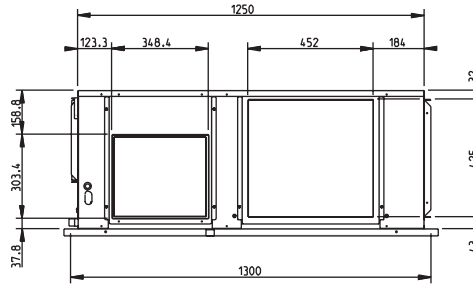
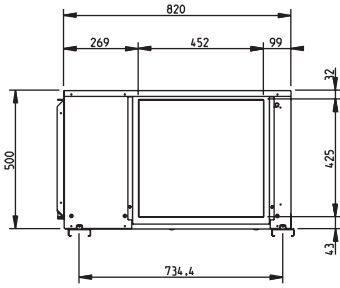
MODELS 25-30



← STANDARD ← OPTION

⚡ ELECTRICAL BOX

FSC / FSH 10-12



A1



B1

➔ STD
➞ OPTIONAL



A0



B0

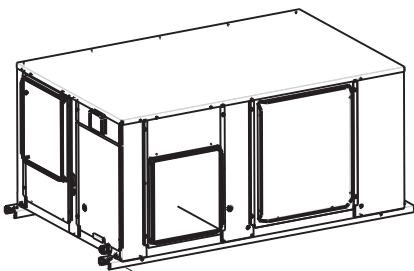
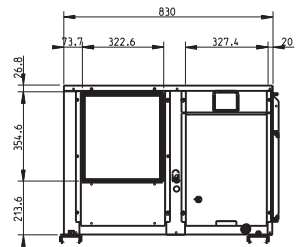
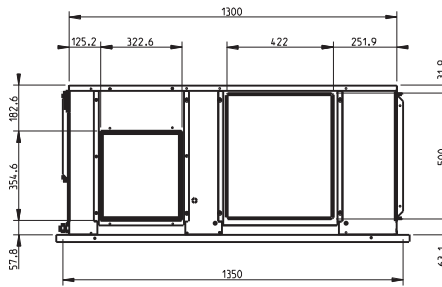
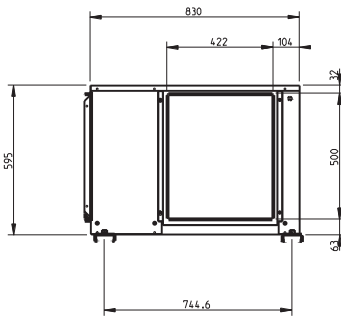
➔ STANDARD

➞ OPTION

A Condenser air inlet
B Condensing exhaust air flow

C Supply air flow
D Return air flow

FSC / FSH 15



A1



B1

➔ STD
➞ OPTIONAL



A0



B0

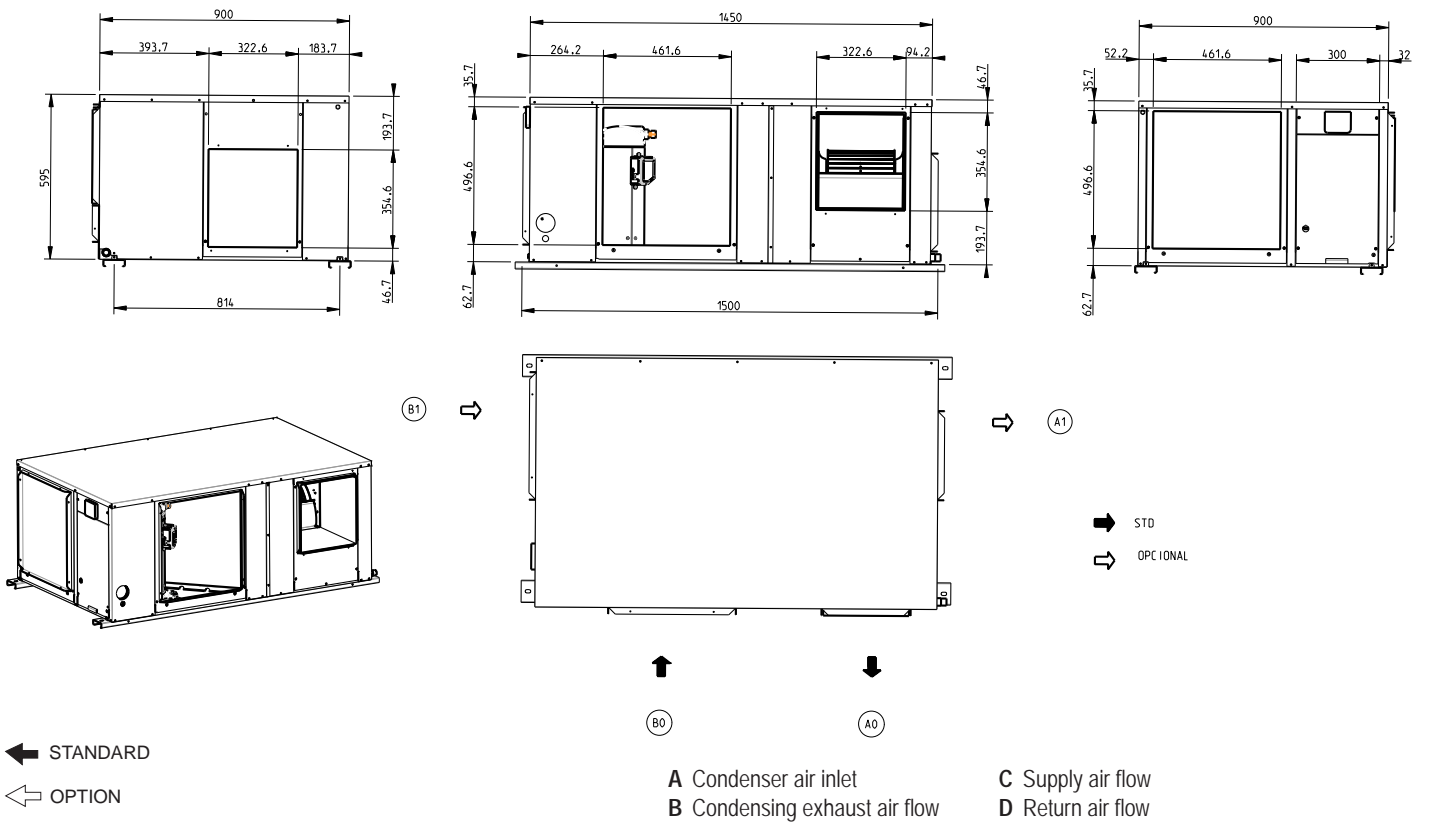
➔ STANDARD

➞ OPTION

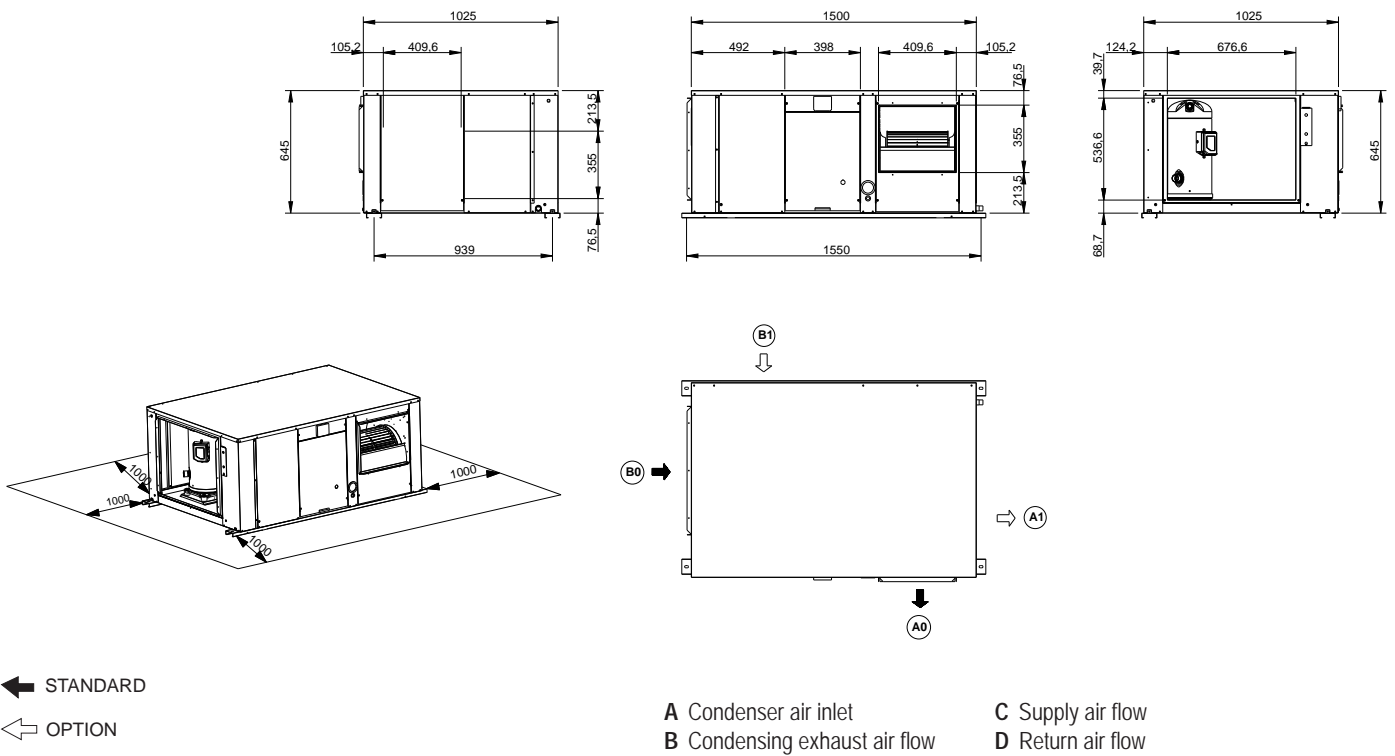
A Condenser air inlet
B Condensing exhaust air flow

C Supply air flow
D Return air flow

FSC / FSH 20



FSC / FSH 25-30



REFRIGERANT LOAD

FSC/FSH		10	12	15	20	25	30
Refrigerant load 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

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

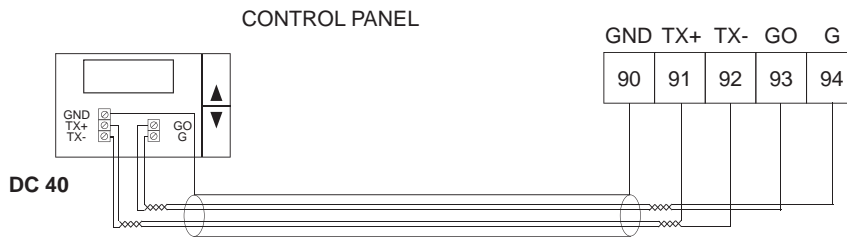
POWER SUPPLY 230V SINGLE PHASE UNITS		Nº of cables x section (mm ²)
<p>1N ~ 230V - 50 Hz + PE</p>	SIZE	Supply
	10	3 x 4

POWER SUPPLY 400V THREE-PHASE UNITS		Nº of cables x section (mm ²)
<p>3N ~ 400V - 50 Hz + PE</p>	SIZE	Supply without electrical coil
	10	5 x 2,5
	12	5 x 2,5
	15	5 x 4
	20	5 x 4
	25	5 x 6
	30	5 x 6

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.

8 - OPTIONS

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.

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.

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.

SALES OFFICES :

BELGIUM AND LUXEMBOURG

+32 3 633 3045

FRANCE

+33 1 64 76 23 23

GERMANY

+49 (0) 211 950 79 60

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+39 02 495 26 200

NETHERLANDS

+31 332 471 800

POLAND

+48 22 58 48 610

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+351 229 066 050

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+34 915 401 810

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+38 044 585 59 10

UNITED KINGDOM AND IRELAND

+44 1604 669 100

OTHER COUNTRIES :

LENNOX DISTRIBUTION

+33 4 72 23 20 20



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Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency

FSC/FSH-AGU-1801-E



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