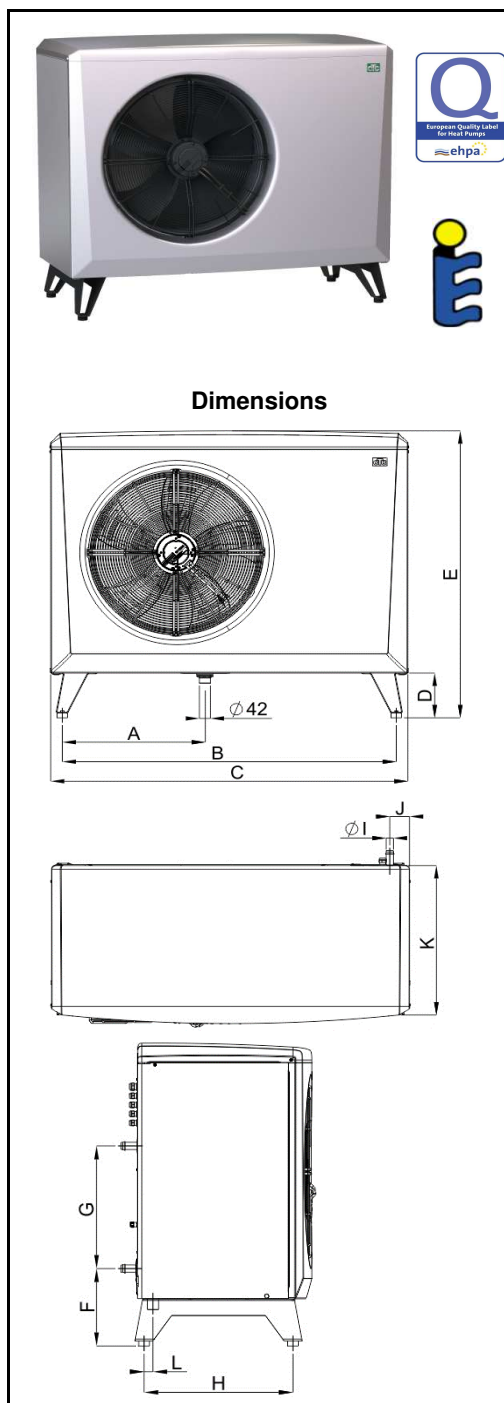


EcoAir 520M Air-to-water Heat Pump, three phase, 400 V

Main features	
Application	space heating and hot water heating
Description	Heat pumps extract energy from the ambient air (at outdoor temp. of down to -22°C). This energy is then "pumped" to a higher temp. and transferred into heating water. The flow temp. may reach up to 65 °C. It is equipped with modulating compressor control which enables efficient operation adjustment to current working conditions.
Working fluid	R407C (refrigerant), water (heating circuit)
Certifications	Q Label - European Heat Pump Association quality label HP Keymark - European Committee for Standardization quality label
Code	15 117



Technical data	
Output ¹⁾	4,90 / 10,40 kW
Power input ¹⁾	0,90 / 3,80 kW
COP ¹⁾	5,24 / 2,71
Power supply	3/N/PE ~ 400/230V 50Hz
Max. operating current ²⁾	19,5 A
Min. circuit breaker	B20A 3ph
Starting current	4,9 A
Steady current	3,9 A
Water volume	2,8 l
Max. water working pressure	2,5 bar
High pressure switch	31 bar
R407C ²⁾ refrigerant quantity	2,7 kg
CO ₂ equivalent (GWP)	4,790 (1774)
Compressor	inverter scroll
Compressor oil	PVE FV50S
Fan speed	variable
Max. fan output	170 W
Max. air flow rate (100 %)	6200 m ³ /h
Sound power level ³⁾	60,5 / 55,4 dB(A)
Min./max. air temp. during operation	-22/35 °C
Weight	186 kg

Energy efficiency data	
<i>(for low-temperature applications under average climatic conditions, others see the Product Fiche)</i>	
Seasonal Energy Efficiency	177 %
Energy Efficiency Class	A++
SCOP	4,50

Sound data (indicative values)	
Sound power level 55,4 dB(A)	Sound pressure level 32 - 35 dB(A) ... 5 m 26 - 29 dB(A) ... 10 m

Accessories	
Heating Cable for EcoAir	code 16 168
In Line Heater	code 16 166
Coupler Cu28x1" M	code 13 391
Braided hose G1" F x G1" M, l = 1 m	code 15 498

Dimensions (in mm)			
A	550	E	1180
B	1285	F	306
C	1375	G	476
D	188	H	551
		I	Ø28
		J	76
		K	610
		L	33

¹⁾ for temp. A+7/W35 at 20 rev/s and A-7/W35 at 90 rev/s by EN 14511; ²⁾ at 120 rev/s (factory setting max. 90 rev/s) incl. Grundfos UPM GEO25-85 pump; ³⁾ annual refrigerant leak test is not required; ⁴⁾ sound power level by EN 12102/ISO 37441 under test conditions A+7 W47/55 and A+7 W30/35

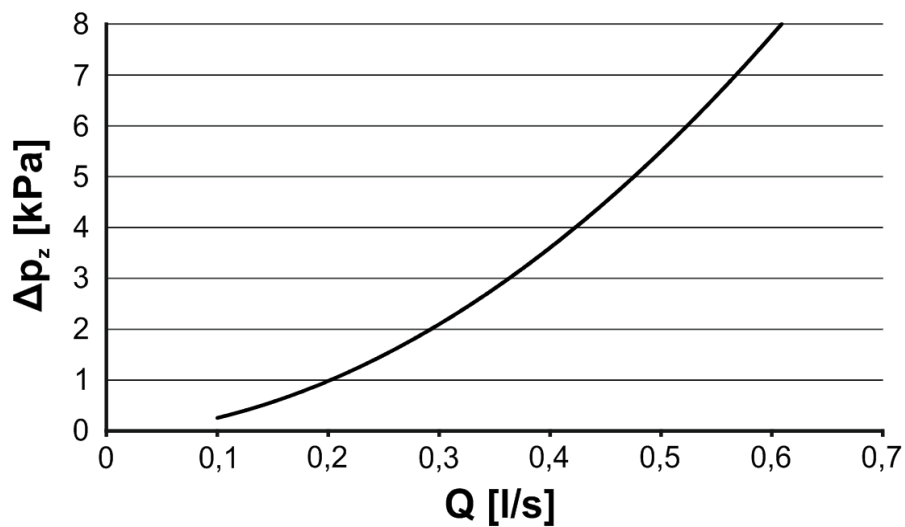
EcoAir 520M Air-to-water Heat Pump, three phase, 400 V

Output parameters ⁵⁾					
	Air temperature	Flow temperature	Output [kW]	Power input [kW]	COP [-]
RPS 100 Hz	12 °C	35 °C	21,70	5,70	3,80
		45 °C	20,50	6,70	3,07
		55 °C	20,20	7,61	2,65
		65 °C	16,40	7,39	2,22
	7 °C	35 °C	17,80	5,25	3,38
		45 °C	17,40	6,22	2,79
		55 °C	16,90	7,06	2,39
		65 °C	15,60	8,10	1,93
	2 °C	35 °C	13,40	4,75	2,82
		45 °C	13,50	5,73	2,36
		55 °C	13,10	3,20	2,03
	-7 °C	35 °C	10,40	4,57	2,28
		45 °C	10,50	5,52	1,90
		55 °C	10,10	6,24	1,62
	-15 °C	35 °C	7,78	4,36	1,78
		45 °C	7,66	5,23	1,47
RPS 50 Hz	12 °C	35 °C	13,20	2,37	5,57
		45 °C	12,60	2,89	4,34
		55 °C	12,00	3,39	3,54
		65 °C	11,10	4,17	2,66
	7 °C	35 °C	11,30	2,37	4,77
		45 °C	10,80	2,86	3,76
		55 °C	10,30	3,37	3,06
		65 °C	9,62	4,14	2,32
	2 °C	35 °C	8,31	2,21	3,76
		45 °C	7,74	2,66	2,92
		55 °C	7,76	3,20	2,43
		65 °C	7,28	3,86	1,88
	-7 °C	35 °C	6,28	2,15	2,92
		45 °C	7,05	2,75	2,56
		55 °C	5,97	3,17	1,88
	-15 °C	35 °C	4,74	2,10	2,25
		45 °C	4,60	2,60	1,77
RPS 20 Hz	12 °C	35 °C	5,65	0,88	6,45
		45 °C	5,48	1,17	4,57
		55 °C	5,27	1,45	3,63
		65 °C	4,52	1,86	2,43
	7 °C	35 °C	4,89	0,90	5,43
		45 °C	4,59	1,18	3,88
		55 °C	4,41	1,46	3,03
		65 °C	3,79	1,87	2,03
	2 °C	35 °C	4,14	0,91	4,53
		45 °C	3,90	1,17	3,33
		55 °C	3,65	1,45	2,51
		65 °C	3,17	1,87	1,69
	-7 °C	35 °C	2,32	0,94	2,47
		45 °C	2,17	1,19	1,82
		55 °C	2,07	1,48	1,40
	-15 °C	35 °C	1,66	0,93	1,78
		45 °C	1,59	1,20	1,32

5) The values of working parameters are measured according to EN 14 511 including defrost cycle at the manufacturer's test lab.

EcoAir 520M Air-to-water Heat Pump, three phase, 400 V

Condenser pressure drop graph



EcoAir 520M Air-to-water Heat Pump, three phase, 400 V

Supplier's name REGULUS spol. s.r.o.
Supplier's model identifier CTC EcoAir 520M

Parameter	low temperature	medium temperature
The seasonal space heating energy efficiency class	A++	A++
Average climate		
The rated heat output including any supplementary heaters	8 kW	8 kW
The seasonal space heating energy efficiency	177%	132%
The annual energy consumption	3 526 kWh	3 090 kWh
Cold climate		
The rated heat output including any supplementary heaters	11 kW	10 kW
The seasonal space heating energy efficiency	149%	121%
The annual energy consumption	7 156 kWh	7 956 kWh
Warm climate		
The rated heat output including any supplementary heaters	14 kW	13 kW
The seasonal space heating energy efficiency	240%	180%
The annual energy consumption	2968 kWh	3 730 kWh
The sound power level LWA, outdoors	61 dB	

Any specific precautions that shall be taken when the space heater is assembled, installed or maintained are stated in the manual that is part of the supply.

Model(s):	CTC EcoAir 520 M
Air-to-water heat pump:	yes
Water-to-water heat pump:	no
Brine-to-water heat pump:	no
Low-temperature heat pump:	no
Equipped with a supplementary heater:	no
Heat pump combination heater:	no

Parameters declared for medium-temperature application and average climate.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	P _{rated}	8	kW	Seasonal space heat. ener. efficiency	η _s	125	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j :				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temp. T _j :			
T _j = - 7 °C	P _{dh}	7,60	kW	T _j = - 7 °C	COP _d	2,07	-
T _j = + 2 °C	P _{dh}	4,60	kW	T _j = + 2 °C	COP _d	3,49	-
T _j = + 7 °C	P _{dh}	4,80	kW	T _j = + 7 °C	COP _d	4,69	-
T _j = + 12 °C	P _{dh}	5,80	kW	T _j = + 12 °C	COP _d	6,36	-
T _j = bivalent temperature	P _{dh}	8,40	kW	T _j = bivalent temperature	COP _d	1,71	-
T _j = operation limit temperature	P _{dh}	8,40	kW	T _j = operation limit temperature	COP _d	1,71	-
For air-to-water heat pumps:	P _{dh}	-	kW	For air-to-water heat pumps:	COP _d	-	-
T _j = - 15 °C, if TOL < - 20 °C				T _j = - 15 °C, if TOL < - 20 °C			
Bivalent temperature	T _{biv}	-10	°C	For air-to-water heat pumps:	T _{OL}	-10	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	operation limit temperature			
Degradation co-efficient (**)	C _{dh}	0,99	-	Cycling interval efficiency	COP _{cyc}	-	-
Power consumption in modes other than active mode:				Heating water operating limit temp.	W _{TOL}	55	°C
Off mode	P _{OFF}	0,015	kW	Supplementary heater			
Thermostat-off mode	P _{TO}	0,010	kW	Rated heat output (*)	P _{sup}	0,10	kW
Standby mode	P _{SB}	0,000	kW	Type of energy input	elektrická energie		
Crankcase heater mode	P _{CK}	0,000	kW	For air-to-water heat pumps:			
Other items:				rated air flow rate, outdoors		6200	m ³ /h
Capacity control		variable		For water/brine-to-water heat pumps:			
Sound power level, indoors / outdoors	L _{WA}	- / 61	db	rated brine or water flow rate, outdoor heat exchanger		-	m ³ /h

Contacts details **Enertech AB, Box 309, SE-341 26 Ljungby, Sweden**

www.ctc.se

(*) For heat pump space heaters and heat pump combination heaters, the rated output P_{rated} is equal to the design load for heating $P_{desingh}$ and the heat output of a supplementary heater P_{sup} is equal to the supplementary capacity for heating $sup(Tj)$.

(**) If C_{dh} is not determined by measurement then the default degradation coefficient is $C_{dh} = 0,9$.