DATA SHEET

EcoAir 614M Air-to-water Heat Pump

Main features	
Application	space heating and hot water heating
Description	heat pumps extract energy from the ambient air (at outdoor temperature 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
Working fluid	water (heating circuit)
Installation[1)]	shall be installed with EcoZenith multi-energy thermal store, RegulusBOX indoor unit (code18054) or with CSE IR pump station w. controller (for variants and their codes see Catalogue)
Certification	HP Keymark – European Committee for Standardization quality label
Code	**17156**

1) in case of installation in series, the first heat pump in series shall be installed with Pump Station Kit w. Smart Controller, all the heat pumps following in series shall be installed with CSE TC W iPWM pump station (for codes see Catalogue)

Technical data	
Nominal output[2)]	2,55 / 8,69 kW
Nominal power input[2)]	0,54 / 3,94 kW
COP[2)]	4,71 / 2,21
Nominal current[3)]	10,2 A
Power supply	3/N/PE ~ 400/230V 50Hz
Recommended circuit breaker[4)]	B16A 3phase
Ingress protection (IP)	IPX4
Max. heat pump flow temp.	65 °C
Max. heating water temperature at HP inlet	100 °C
Max. working pressure of heat. water	3 bar
Heating water volume in heat pump	1,9 l
Min. volume of heating system that cannot be shut off	80 l
Min. flow rate through heat pump	760 l/h
Min. surface area of heat exchanger in tank	1 m²
Air operating temp.	–22/35 °C
Air volume	3129 m³/h
Fan speed	modulating
Fan input power	54 W
Compressor / oil type	Scroll / PVE FV50S
Refrigerant	R 407C (GWP 1774)
Refrigerant quantity	2,2 kg
CO_2 equivalent[5)]	3,903 t
Refrigerant max. working pressure	31 bar
Connections	2x Cu 28 x 1,5 mm
Weight	174 kg

2) for temperatures A+7/W35 at min. speed and A-7/W35 at max. speed following EN 14511; 3) at max. speed incl. circulation pump; 4) for heat pumps installed with the selected accessories (cf. the Installation row) the circuit breaker value may be reduced to B10A 3ph as the max. current limitation is secured through software in the controller included; 5) not subject to mandatory leak checks under EU Regulation No. 517/2014

Energy efficiency data *(for low-temperature applications under average climatic conditions, others see the Product Fiche)*	
Seasonal Energy Efficiency	193%
Energy Efficiency Class	A+++
SCOP	4,90

Sound data (according to ErP)	
Sound power level	52 dB(A)
Sound pressure level at	30 dB(A) at 5 m from the heat pump 24 dB(A) at 10 m from the heat pump

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DATA SHEET

EcoAir 614M Air-to-water Heat Pump

Parameters for distribution tariff change	
Parameters for distribution tariff change	5,86 kW
Heat output[6)]	9,66 kW
Steady current[6)]	5,9 A
Starting current	2,7 A
Nominal voltage / number of phases	400 V 3f

6) for temperatures A2/W35 and max. compressor rpm

Output parameters[7)]					
	Air temperature	Flow temperature	Output [kW]	Power input [kW]	COP [–]
RPS 120 Hz	12 °C	35 °C	13,34	4,12	3,24
		45 °C	13,62	4,99	2,73
		55 °C	13,90	5,86	2,37
	7 °C	35 °C	10,79	3,70	2,92
		45 °C	11,23	4,64	2,42
		55 °C	11,66	5,58	2,09
	2 °C	35 °C	9,66	3,67	2,63
		45 °C	9,83	4,47	2,20
		55 °C	10,00	5,26	1,90
	–7 °C	35 °C	8,69	3,94	2,21
		45 °C	8,54	4,67	1,83
		55 °C	8,39	5,39	1,56
	–15 °C	35 °C	7,57	3,82	1,98
		45 °C	7,17	4,53	1,58
		55 °C	6,77	5,23	1,29
RPS 50 Hz	12 °C	35 °C	7,34	1,33	5,58
		45 °C	6,98	1,61	4,33
		55 °C	6,52	1,89	3,45
	7 °C	35 °C	6,42	1,32	4,85
		45 °C	6,01	1,60	3,77
		55 °C	5,60	1,87	3,00
	2 °C	35 °C	5,31	1,31	4,05
		45 °C	5,10	1,57	3,25
		55 °C	4,89	1,83	2,67
	–7 °C	35 °C	4,11	1,26	3,27
		45 °C	3,93	1,52	2,59
		55 °C	3,75	1,77	2,12
	–15 °C	35 °C	3,15	1,21	2,60
		45 °C	2,99	1,47	2,03
		55 °C	2,83	1,73	1,64
RPS 20 Hz	12 °C	35 °C	2,92	0,49	5,92
		45 °C	3,07	0,70	4,41
		55 °C	3,21	0,90	3,56
	7 °C	35 °C	2,55	0,54	4,71
		45 °C	2,62	0,71	3,69
		55 °C	2,69	0,88	3,05
	2 °C	35 °C	2,17	0,50	4,33
		45 °C	–	–	–
		55 °C	–	–	–

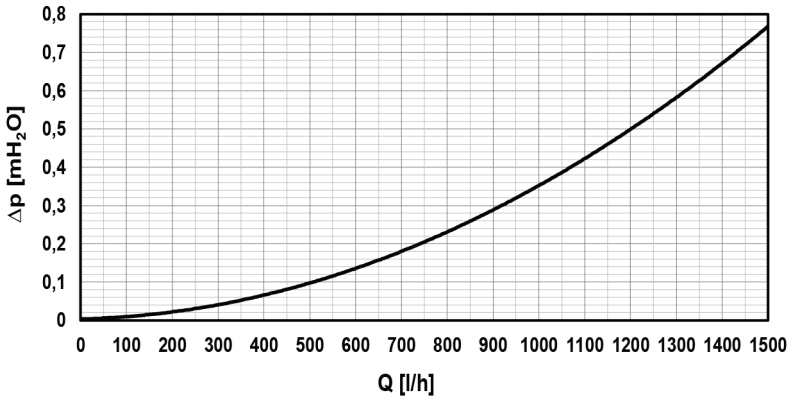
7) The values of working parameters are measured according to EN 14 511 including defrost cycle at the manufacturer' s test lab.

DATA SHEET

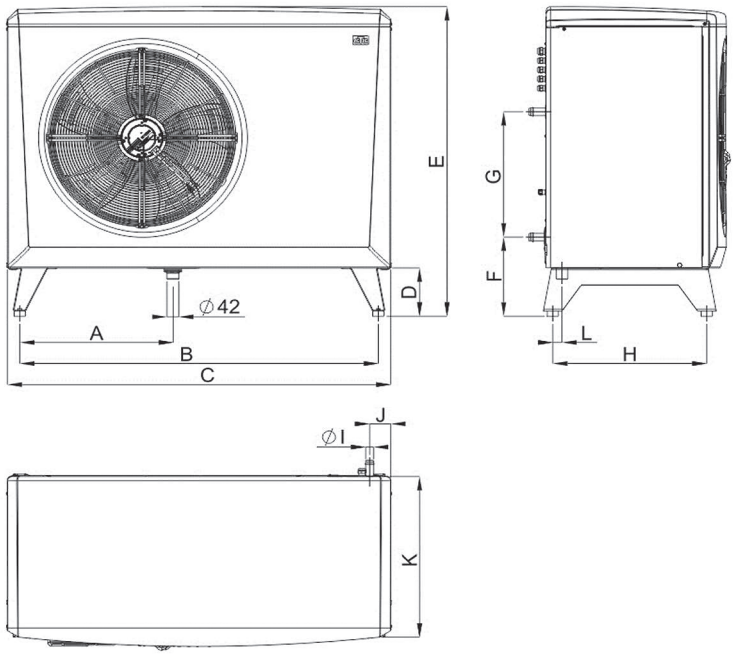
EcoAir 614M Air-to-water Heat Pump

Sound data	heat pump in night mode	max. compressor rpm
Sound power level	54 dB(A)	62 dB(A)
Sound pressure level	32 dB(A) at 5 m from the heat pump 26 dB(A) at 10 m from the heat pump	40 dB(A) at 5 m from the heat pump 34 dB(A) at 10 m from the heat pump

Condenser pressure drop graph



Dimensions



	[mm]		[mm]
A	486	G	476
B	1155	H	450
C	1245	I	ø28
D	188	J	85
E	1080	K	545
F	308	L	10

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PRODUCT FICHE

EcoAir 614M Air-to-water Heat Pump

Supplier's name *REGULUS spol. s r. o.*
Supplier's model identifier *CTC EcoAir 614M*

Parameter	low temperature	medium temperature
The seasonal space heating energy efficiency class	**A+++**	**A++**
Average climate		
The rated heat output including any suplementary heaters	**8 kW**	**8 kW**
The seasonal space heating energy efficiency	**193 %**	**148 %**
The annual energy consumption	**3 163 kWh**	**4 153 kWh**
Cold climate		
The rated heat output including any suplementary heaters	**11 kW**	**11 kW**
The seasonal space heating energy efficiency	**151 %**	**120 %**
The annual energy consumption	**7 038 kWh**	**8 797 kWh**
Warm climate		
The rated heat output including any suplementary heaters	**10 kW**	**10 kW**
The seasonal space heating energy efficiency	**232 %**	**176 %**
The annual energy consumption	**2 164 kWh**	**2 845 kWh**
The sound power level LWA, outdoors	**52 dB**	

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

Model:	**CTC EcoAir 614M**
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 supplementary heater:	**no**
Heat pump combination heater:	**no**

Parameters declared for medium-temperature application and average climate.

Item	Symbol	Value	Unit
Rated heat output (*)	P_{rated}	**8**	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj.			
Tj = –7 °C	P_{dh}	**6,80**	kW
Tj = +2 °C	P_{dh}	**4,10**	kW
Tj = +7 °C	P_{dh}	**2,60**	kW
Tj = +12 °C	P_{dh}	**2,90**	kW
Tj = bivalent temperature	P_{dh}	**7,70**	kW
Tj = operation limit temperatur	P_{dh}	**7,70**	kW
For air-to-water heat pumps: Tj = –15 °C (if TOL < –20 °C)	P_{dh}	**–**	kW
Bivalent temperature	T_{biv}	**–10**	°C
Cycling interval capacity for heating	P_{cyc}	**–**	kW
Degradation co-efficient (**)	C_{dh}	**0,98**	–
Power consumption in modes other than active mode			
Off mode	P_{OFF}	**0,014**	kW
Thermostat-off mode	P_{TO}	**0,014**	kW
Standby mode	P_{SB}	**0,014**	kW
Crankcase heater mode	P_{CK}	**0,000**	kW
Other items			
Capacity control		**variable**	
Sound power level, indoors / outdoors	L_{WA}	**– / 52**	dB
Annual energy consumption	Q_{HE}	**4 153**	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficie	η_s	**148**	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj.			
Tj = –7 °C	COP_d	**2,01**	–
Tj = +2 °C	COP_d	**3,94**	–
Tj = +7 °C	COP_d	**5,14**	–
Tj = +12 °C	COP_d	**6,53**	–
Tj = bivalent temperature	COP_d	**1,51**	–
Tj = operation limit temperature	COP_d	**1,51**	–
For air-to-water heat pumps: Tj = –15 °C (if TOL < –20 °C	COP_d	**–**	–
For air-to-water heat pumps: operation limit temperature	T_{OL}	**–10**	°C
Cycling interval efficiency	COP_{cyc}	**–**	–
Heating water operating limt temp.	W_{TOL}	**55**	°C
Supplementary heater			
Rated heat output (*)	P_{sup}	**0,00**	kW
Type of energy input		**electric**	
For air-to-water heat pumps: rated air flow rate, outdoors		**2 350**	m^3/h
For water/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		**–**	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation is Cdh = 0,9.