

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	R407C (refrigerant), water (heating circuit)
Installation*	the heat pump shall be installed with EcoZenith multi-energy thermal store (code 13241 or 17192), or with a Pump Station Kit w. Smart Controller (code 17357 or 17358); see Accessories
Certification	HP Keymark - European Committee for Standardization quality label
Code	17156

* 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 PWM pump station (for codes see Accessories)



Optional accessories



Heating Cable for EcoAir



In Line Heater



Braided hose

Technical data	
Nominal output	2,55 / 8,69 kW
Nominal power input	0,54 / 3,94 kW
COP	4,71 / 2,21
Nominal current ¹	10,2 A
Steady current	5,9 A
Starting current	2,7 A
Power supply	3/N/PE ~ 400/230V 50Hz
Recommended circuit breaker	B16A 3phase
Ingress protection (IP)	IPX4
Max. heat pump flow temp.	65 °C
Max. heating water temp. in system	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 m ²
Air operating temp.	-22/35 °C
Air volume	3129 m ³ /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 ³	3,903 t
Refrigerant max. working pressure	31 bar
Connections	2 x Cu 28x1,5 mm
Weight	174 kg

1) for temperatures A+7/W35 at min. RPS and A-7/W35 at max. RPS according to EN 14511; 2) at max. RPS including charge pump 3) is not covered by the annual check for leaking refrigerant (EU 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 EN 12 102)	
Sound power level for A7/W55 temp. at compressor speed of 21 Hz	52 dB(A)
Sound power level for A7/W55 temp. at compressor speed of 80 Hz	62 dB(A)
Sound pressure level at	33 dB(A) ... 5 m 27 dB(A) ... 10 m

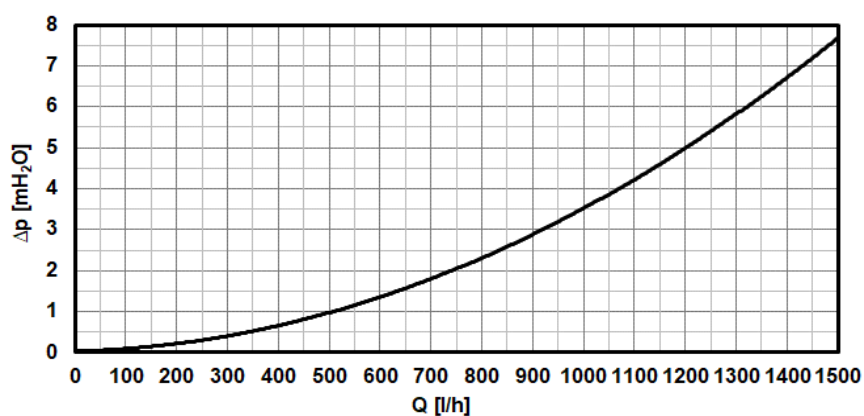
Accessories	
Compensator for heat pump	part of delivery (code 16757)
EcoZenith i350 L Multi-Energy Thermal Store	code 17192
CSE TC W Pump Station & IR 12 CTC Controller	code 17357
CSE TC W Pump Station & IR 12 FV3F Controller	code 17358
CSE TC W PWM Pump Station *	code 15874
Heating Cable for EcoAir	code 16168
In Line Heater	code 16166
Braided hose	for available variants with codes see the Catalogue
Coupler	for available variants with codes see the Catalogue
Elbow	for available variants with codes see the Catalogue

* applies only to installation in series, for heat pumps on the second and all following positions in the cascade (see Installation on Page 1)

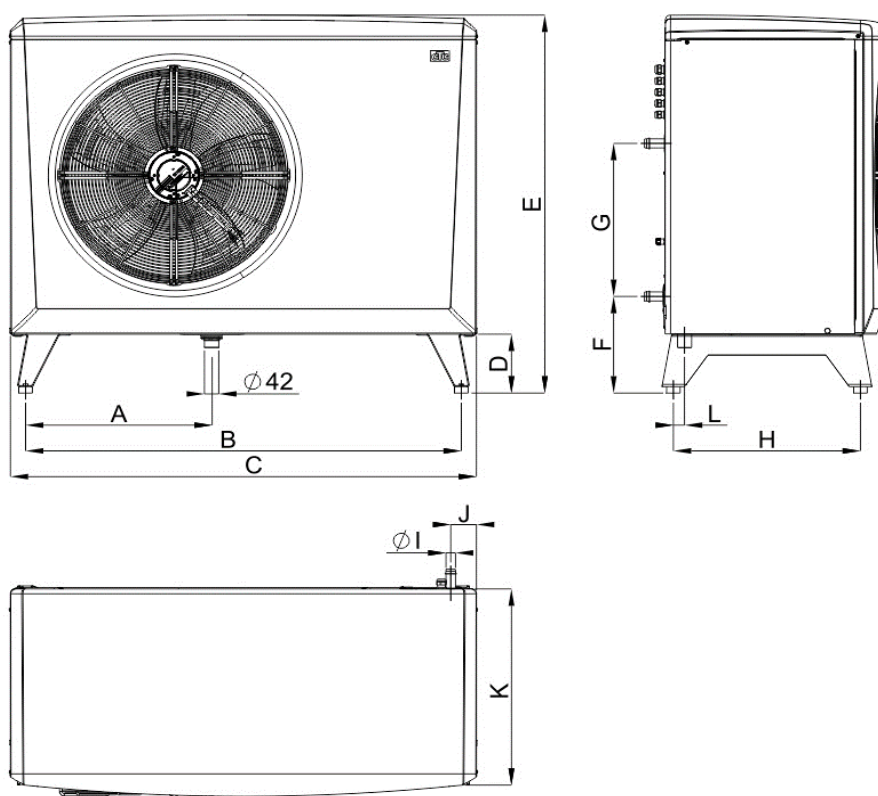
Output parameters *					
	Air temperature	Flow temperature	Output [kW]	Power input [kW]	COP [-]
RPS 120 Hz	12 °C	35 °C	13,34	4,12	3,24
		45 °C	13,62	4,99	2,73
		55 °C	13,90	5,86	2,37
	7 °C	35 °C	10,79	3,70	2,92
		45 °C	11,23	4,64	2,42
		55 °C	11,66	5,58	2,09
	2 °C	35 °C	9,66	3,67	2,63
		45 °C	9,83	4,47	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
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
RPS 20 Hz	12 °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
	7 °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
	2 °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	-	-	-

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

Condenser pressure drop graph



Dimensions



	[mm]		[mm]
A	486	G	476
B	1155	H	451
C	1245	I	Ø28
D	188	J	85
E	1080	K	545
F	308	L	10

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 supplementary 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 supplementary 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 supplementary 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 that 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	Item	Symbol	Value	Unit
Rated heat output (*)	P _{rated}	8	kW	Seasonal space heating energy efficiency	η _s	148	%
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 temperature T _j .			
T _j = - 7 °C	P _{dh}	6,80	kW	T _j = - 7 °C	COP _d	2,01	-
T _j = + 2 °C	P _{dh}	4,10	kW	T _j = + 2 °C	COP _d	3,94	-
T _j = + 7 °C	P _{dh}	2,60	kW	T _j = + 7 °C	COP _d	5,14	-
T _j = + 12 °C	P _{dh}	2,90	kW	T _j = + 12 °C	COP _d	6,53	-
T _j = bivalent temperature	P _{dh}	7,70	kW	T _j = bivalent temperature	COP _d	1,51	-
T _j = operation limit temperature	P _{dh}	7,70	kW	T _j = operation limit temperature	COP _d	1,51	-
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 _{cvc}	-	kW	operation limit temperature			
Degradation co-efficient (**)	C _{dh}	0,98	-	Cycling interval efficiency	COP _{cvc}	-	-
Power consumption in modes other than active mode				Heating water operating limit temp.	W _{TOL}	55	°C
Off mode	P _{OFF}	0,014	kW	Supplementary heater			
Thermostat-off mode	P _{TO}	0,014	kW	Rated heat output (*)			
Standby mode	P _{SB}	0,014	kW		P _{sup}	0,00	kW
Crankcase heater mode	P _{CK}	0,000	kW	Type of energy input			
Other items					electric		
capacity control		variable		For air-to-water heat pumps:			
Sound power level, indoors / outdoors	L _{WA}	- / 52	db	rated air flow rate, outdoors		2350	m ³ /h
Annual energy consumption	Q _{HE}	4153	kWh	For water/brine-to-water heat pumps:			
				Rated brine or water flow rate,		-	m ³ /h
				outdoor heat exchanger			

Contact 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 heat output P_{rated} is equal to the design load for heating

P_{designh}, and the rated heat output of a supplementary heater P_{sup} is equal to the capacity for heating sup(T_j).

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