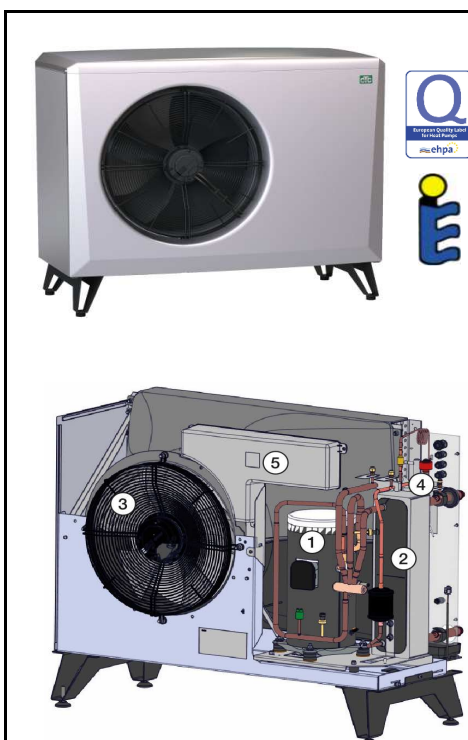
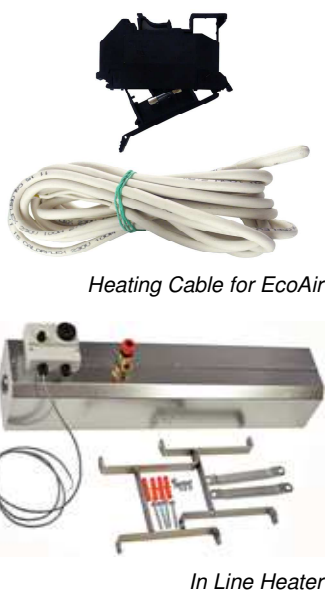


Main features	
Application	space heating and hot water heating
Description	heat pumps extract energy from the ambient air (at outdoor temperature of down to -22 °C); this energy is then "pumped" to a higher temp. and transferred into heating water; the flow temp. may reach up to 65 °C
Working fluid	R407C (refrigerant), water (heating circuit)
Certification	Q Label - European Heat Pump Association quality label HP Keymark - European Committee for Standardization quality label
Code	13 243



- 1) compressor, 2) heat exchanger,
3) fan, 4) expansion valve,
5) electric panel

Optional accessories



Heating Cable for EcoAir

In Line Heater

Technical data	
Nominal output	4,69 kW
Nominal power input	1,28 kW
Nominal current ¹	4,0 A
Steady current	2,1 A
Starting current	16,4 A
Power supply	3/N/PE ~ 400/230V 50Hz
Recommended circuit breaker	B10A 3phase
Air operating temp.	-22/35 °C
Air volume	2500 m ³ /h
Fan speed	463 rpm
Fan input power	25 W
Compressor / oil type	Scroll / PVE FV50S
Refrigerant	R 407C (GWP 1774)
Refrigerant quantity	2,2 kg
CO ₂ equivalent	3,902 t
Refrigerant max. working pressure	31 bar
Weight	120 kg

1) incl. secondary circulation pump StratosTec 25/7 or Grundfos UPM GEO25-85

Energy efficiency data (for low-temperature applications under average climatic conditions, others see the Product Fiche)	
Seasonal Energy Efficiency	151%
Energy Efficiency Class	A++
SCOP	3,85

Heating system parameters	
Max. heat pump flow temp.	65 °C
Max. heating water temp. in system	110 °C
Max. working pressure of heat. water	2,5 bar
Heating water volume in heat pump	1,9 l
Min. flow rate through heat pump ²	0,21 l/s
Connections	2 x Cu 28x1,5

2) $\Delta t = 7 K$ at 7/35 °C

Sound data	
Sound power level by EN 12 102	56 dB(A)
Sound pressure level at	34-37 dB(A) ... 5 m 28-31 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

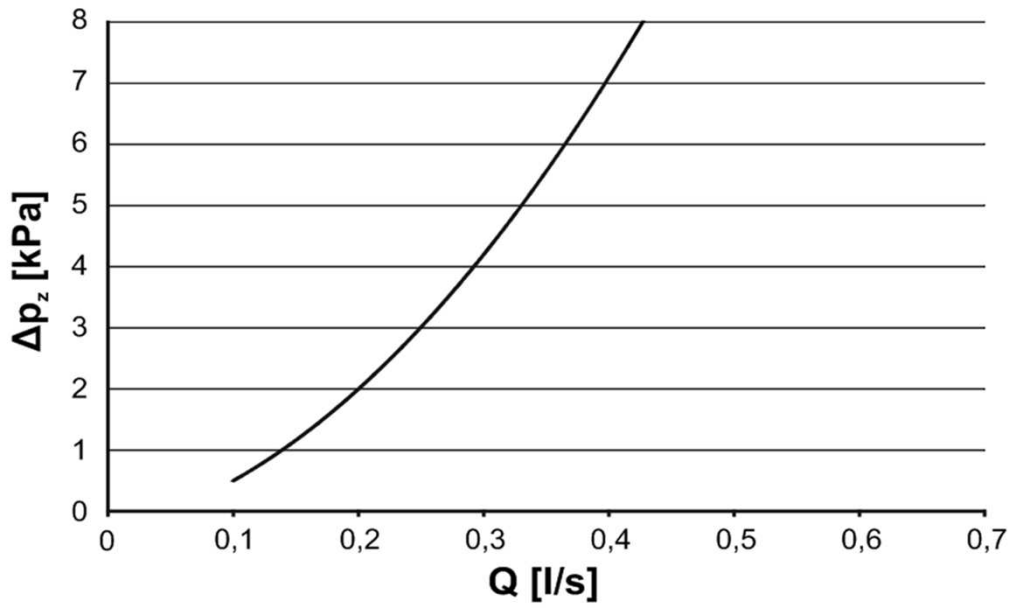
Output parameters ³				
Air temperature	Flow temperature	Output [kW]	Power input [kW]	COP [-]
12 °C	35 °C	-	-	-
	45 °C	-	-	-
	55 °C	-	-	-
	65 °C	-	-	-
7 °C	35 °C	6,22	1,30	4,78
	45 °C	5,89	1,60	3,68
	55 °C	5,56	1,83	3,03
	65 °C	-	-	-
2 °C	35 °C	4,69	1,28	3,66
	45 °C	4,34	1,50	2,89
	55 °C	4,25	1,75	2,43
	65 °C	-	-	-
-7 °C	35 °C	3,87	1,25	3,10
	45 °C	3,63	1,47	2,47
	55 °C	3,43	1,73	1,99
-15 °C	35 °C	2,84	1,17	2,42
	45 °C	2,65	1,40	1,90
	55 °C	2,49	1,62	1,54

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

Dimensions

	[mm]		[mm]
A	486	G	476
B	1155	H	451
C	1245	I	Ø28
D	188	J	80
E	1080	K	530
F	301	L	10

Condenser pressure drop graph



Supplier's name *REGULUS spol. s.r.o.*
 Supplier's model identifier *CTC EcoAir 406*

Parameter	low temperature	medium temperature
The seasonal space heating energy efficiency class	A++	A+
Average climate		
The rated heat output including any supplementary heaters	5 kW	5 kW
The seasonal space heating energy efficiency	151 %	115 %
The annual energy consumption	2 722 kWh	3 470 kWh
Cold climate		
The rated heat output including any supplementary heaters	4 kW	5 kW
The seasonal space heating energy efficiency	131 %	103 %
The annual energy consumption	3 045 kWh	4 785 kWh
Warm climate		
The rated heat output including any supplementary heaters	5 kW	5 kW
The seasonal space heating energy efficiency	188 %	140 %
The annual energy consumption	1 451 kWh	1 947 kWh
The sound power level LWA, outdoors	56 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 406
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}	5	kW	Seasonal space heating energy efficie	η_s	115	%
<i>Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j.</i>				<i>Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T_j.</i>			
$T_j = -7\text{ °C}$	P_{dh}	3,50	kW	$T_j = -7\text{ °C}$	COP_d	2,13	-
$T_j = +2\text{ °C}$	P_{dh}	4,40	kW	$T_j = +2\text{ °C}$	COP_d	2,93	-
$T_j = +7\text{ °C}$	P_{dh}	6,00	kW	$T_j = +7\text{ °C}$	COP_d	3,99	-
$T_j = +12\text{ °C}$	P_{dh}	7,60	kW	$T_j = +12\text{ °C}$	COP_d	5,21	-
$T_j = \text{bivalnet temperature}$	P_{dh}	3,80	kW	$T_j = \text{bivalnet temperature}$	COP_d	2,44	-
$T_j = \text{operation limit temperature}$	P_{dh}	3,10	kW	$T_j = \text{operation limit temperature}$	COP_d	1,82	-
For air-to-water heat pumps:	P_{dh}	-	kW	For air-to-water heat pumps:	COP_d	-	-
$T_j = -15\text{ °C}$ (if TOL < -20 °C)				$T_j = -15\text{ °C}$ (if TOL < -20 °C)			
Bivalent temperature	T_{biv}	-5,00	°C	For air-to-water heat pumps:	T_{OL}	-10,00	°C
Cycling interval capacity for heating	P_{cvc}	-	kW	operation limit temperature			
Degradation co-efficient (**)	C_{dh}	0,98	-	Cycling interval efficiency	COP_{cvc}	-	-
<i>Power consumption in modes other than active mode</i>				Heating water operating limit temp.	W_{TOL}	55,00	°C
Off mode	P_{OFF}	0,018	kW	<i>Supplementary heater</i>			
Thermostat-off mode	P_{TO}	0,006	kW	Rated heat output (*)	P_{sup}	1,90	kW
Standby mode	P_{SB}	0,018	kW	Type of energy input	electric		
Crankcase heater mode	P_{CK}	0,000	kW	For air-to-water heat pumps:			
<i>Other items</i>				rated air flow rate, outdoors		4100	m ³ /h
capacity control		fixed		For water/brine-to-water heat pumps:			
Sound power level, indoors / outdoors	L_{WA}	- / 56	db	Rated brine or water flow rate, outdoor heat exchanger		-	m ³ /h

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 $C_{dh} = 0,9$.