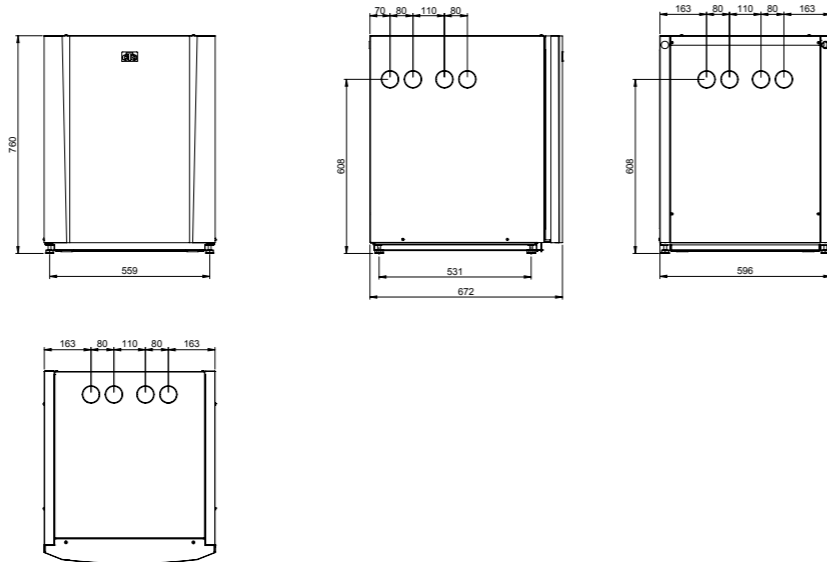
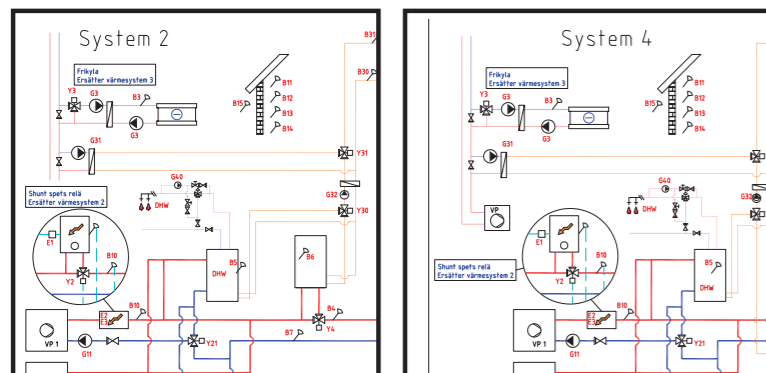


## MEASUREMENTS OF CTC ECOPART



Technical		EcoPart 406	EcoPart 408	EcoPart 410	EcoPart 412
COP at B0/W35°C:	35°C <sup>1)</sup>	5	5.01	5.04	5.04
	35°C <sup>2)</sup>	4.57	4.58	4.6	4.6
	45°C <sup>2)</sup>	3.54	3.64	3.68	3.66
Power output of the compressor at B0/W35°C:	35°C <sup>1)</sup>	6.05	8.37	10.18	12.05
	35°C <sup>2)</sup>	5.9	8.19	9.98	11.75
	45°C <sup>2)</sup>	5.49	7.88	9.55	11.24
Input power of compressor at B0/W35°C:	35°C <sup>1)</sup>	1.21	1.67	2.02	2.39
	35°C <sup>2)</sup>	1.29	1.79	2.17	2.55
	45°C <sup>2)</sup>	1.55	2.16	2.6	3.07
Compressor		Scroll			
Immersion heater power stages		N/A			
Power limit		Standard			
Load sensor and current sensors		Standard			
Soft start		Standard			
Dimensions W x H x D		600 x 760 x 673 mm			

<sup>1)</sup> 10° C excluding circulation pumps. <sup>2)</sup> According to EN 14511.  
 Tests conducted as per the Swedish Heat Pump Association (SVEP) recommendations.  
 Enertech reserves the right to make any changes



For more information about ctc's product range visit:  
 Ten Acres, Berry Hill Industrial Estate, Droitwich Spa, Worcestershire WR9 9BP  
**Tel: +44 (0) 1905 791 610 www.ctc-uk.com**



# EcoPart

## Ground Source Heat Pump

The CTC EcoPart provides an environmental heating solution for private houses, smaller properties and can be used to heat small swimming pools.



Enertech Group

[www.ctc-uk.com](http://www.ctc-uk.com)

## Heat pump for bedrock, ground and lake heating

CTC EcoPart range of ground source heat pumps offer an extremely efficient solution for space heating and hot water generation. CTC EcoPart heat pumps work by absorbing and moving the energy from the ground, borehole or water source and amplifying the temperature by compression, for use in the home or office.

The heat pumps are highly efficient, as 75% of its output energy is sourced from the external environment and only 25% comes from the direct power supply. This can offer consumers impressive output energy performance, which reduces fuel consumption by up to 75%.

The CTC EcoPart heat pump has been established over 20 years and widely used throughout the Nordic and Scandinavian regions. The units house a patented intercooler, designed to maximize energy absorption during colder temperatures. They also contain many more unique features to ensure it is highly energy efficient and maintains high performance throughout the entire year. The CTC EcoPart range works in conjunction with a CTC EcoLogic controller that has multiple system programs,

allowing you to incorporate many different functions and heat inputs. CTC EcoPart can also be connected to the CTC EcoEl multi zone, weather compensated thermal store and the award winning EcoZenith unique all-in-one thermal store with an integral intelligent control system.

### Key features

- Available in sizes up to 17kW in a single unit.
- Equipped with a built-in control system for solid condensation / accumulator charging
- The solution for installations in an area with low ceiling height
- For better efficiency, economy and longer life time the CTC EcoPart is equipped with a patented intercooler
- Suitable for single and two pipe system, convectors, radiators, and under floor heating
- Silent-running
- Built-in soft starter
- Discharge and suction super heat control

CTC ENERTECH  
**90**  
 YEARS  
 1923-2013



Electrical data			400v / 230v EcoPart 414	400v only EcoPart 417
Rated power	kW		6.0	7.4
Rated current	A		12.2/33.2	13.9
IP class			IPX1	
Operational data for heat pump			EcoPart 414	EcoPart 417
Output from compressor <sup>1)</sup>	@ -5/45	kW	12.09	14.05
COP <sup>1)</sup>	@ -5/45	-	3.24	3.19
Output from compressor <sup>1)</sup>	@ 0/35   0/45	kW	14.47   13.93	16.76   16.14
	0/55		13.40	15.87
COP <sup>1)</sup>	@ 0/35   0/45	-	4.54   3.64	4.52   3.61
	0/55		2.95	3.07
Output from compressor <sup>1)</sup>	@ 5/35   5/45	kW	16.48/15.98	19.25   18.42
	5/55		15.28	18.16
COP <sup>1)</sup>	@ 5/35   5/45	-	5.13   4.11	5.02   4.05
	5/55		3.28	3.38
Max. operating current Compressor	A		9.14	11.5
Sound effect according to EN12102	dB(A)		53.0	55.5

<sup>1)</sup> EN14511:2007, inclusive  
Heating medium pump (EP406/408 - Stratos Tec 25/6 and EP410/412 - Stratos Tec 25/7)  
Brine system pump (EP406/410 - Wilo Stratos Para 25/8 and EP412 - Wilo Stratos Para 25/12)

Heating system		400v / 203v EcoPart 414	400v only EcoPart 417
Max temperature heating medium (TS)	°C	110	
Heating medium system min flow <sup>2)</sup>	l/s	0.34	0.40
Heating medium system nominal flow <sup>3)</sup>	l/s	0.68	0.81
Heating medium pump (2xLEP only)		UPM GEO 25-85	

<sup>2)</sup> At  $\Delta t = 10$  k och 0/35°C heat pump operation

<sup>3)</sup> At  $\Delta t = 5$  k och 0/35°C heat pump operation

Brine system		400v / 230v EcoPart 414	400v only EcoPart 417
Water volume (V)	l	4.07	4.07
Brine system min./max. temp. (TS)	°C	-5/20	
Brine system min./max. pressure (PS)	bar	0.2/3.0	
Brine system min. flow, $\Delta t = 5$ K	l/s	0.53	0.63
Brine system nominal flow, $\Delta t = 3$ K	l/s	0.88	1.05
Brine system pump, standard		TOP-S 25/10	
Brine system pump speed adjustment		3	
Brine system pump LEP*		Wilo Stratos Para 25/12	
Brine system pump LEP* speed		adjust to $\Delta t = 2-4$ K	
Pump capacity		See diagram in the Pipe installation chapter	

\*Low Energy Pump

Other data		400v / 230v EcoPart 414	400v only EcoPart 417
Refrigerant quantity (R407C)	kg	2.9	2.9
Compressor oil		Polyolester (POE)	
Interrupt value switch HP	MPa	3.1 (31 bar)	
Weight	kg	168	168
Width x Height x Depth	mm	600 x 760 x 672	

Electrical data			EcoPart 406	400v / 1 x 230v EcoPart 408	EcoPart 410	EcoPart 412
Rated power	kW		2.7	3.5	4.2	5.1
Rated current	A		5.8/14.0	6.5/19.5	8.1/21.6	9.6/27.1
IP class			IPX1			
Operational data for heat pump			EcoPart 406	EcoPart 408	EcoPart 410	EcoPart 412
Output from compressor <sup>1)</sup>	@ -5/45	kW	4.68	6.84	8.33	9.88
COP <sup>1)</sup>	@ -5/45	-	3.09	3.34	3.30	3.30
Output from compressor <sup>1)</sup>	@ 0/35   0/45	kW	5.90   5.48	8.19   7.87	9.97   9.55	11.75   11.24
	5/55		5.17	7.55	9.28	10.97
COP <sup>1)</sup>	@ 0/35   0/45	-	4.57   3.54	4.58   3.64	4.60   3.68	4.60   3.66
	0/55		2.76	2.99	2.98	2.96
Output from compressor <sup>1)</sup>	@ 5/35   5/45	kW	6.81   6.49	9.44   9.05	11.42   10.99	13.53   12.95
	5/55		6.08	8.65	10.58	12.57
COP <sup>1)</sup>	@ 5/35   5/45	-	5.24   4.15	5.02   4.04	5.20   4.16	5.11   4.11
	5/55		3.18	3.30	3.28	3.35
Max. operating current Compressor	A		4.5	5.2	6.8	8.2
Sound effect according to EN12102	dB(A)		43.0	42.5	48.5	50.3

<sup>1)</sup> EN14511:2007, inclusive  
Heating medium pump (EP406/408 - Stratos Tec 25/6 and EP410/412 - Stratos Tec 25/7)  
Brine system pump (EP406/410 - Wilo Stratos Para 25/8 and EP412 - Wilo Stratos Para 25/12)

Heating system		EcoPart 406	400v / 1 x 230v EcoPart 408	EcoPart 410	EcoPart 412
Max temperature heating medium (TS)	°C	110			
Heating medium system min flow <sup>2)</sup>	l/s	0.14	0.20	0.24	0.28
Heating medium system nominal flow <sup>3)</sup>	l/s	0.28	0.39	0.48	0.56

<sup>2)</sup> At  $\Delta t = 10$  k and 0/35°C heat pump operation

<sup>3)</sup> At  $\Delta t = 5$  k and 0/35°C heat pump operation

Brine system		EcoPart 406	400v / 1 x 230v EcoPart 408	EcoPart 410	EcoPart 412
Water volume (V)	l	2.3	2.9	2.9	3.4
Brine system min./max. temp. (TS)	°C	-5/20			
Brine system min./max. pressure (PS)	bar	0.2/3.0			
Brine system min. flow, $\Delta t = 5$ K	l/s	0.22	0.31	0.38	0.44
Brine system nominal flow, $\Delta t = 3$ K	l/s	0.37	0.51	0.64	0.73
Brine system pump, standard	l/s	TOP-S 25/7			TOP-S 25/10
Brine system pump speed adjustment		3			
Brine system pump LEP*		Wilo Stratos Para 25/8			Wilo Stratos Para 25/12
Brine system pump LEP* speed		adjust to $\Delta t = 2-4$ K			
Pump capacity		See diagram in the Pipe installation chapter			

\*Low Energy Pump

Other data		EcoPart 406	400v / 1 x 230v EcoPart 408	EcoPart 410	EcoPart 412
Refrigerant quantity (R407C)	kg	2.1	2.1	2.1	2.5
Compressor oil		FV50S	Polyolester (POE)		
Interrupt value switch HP	MPa	3.1 (31 bar)			
Weight	kg	138	143	148	164
Width x Height x Depth	mm	600 x 760 x 672			