



Warm climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC EcoLogic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	140 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	15	kW	Seasonal space heating energy efficiency	η_s	136	%
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	<i>P_{dh}</i>	na	kW	T _j = - 7 °C	<i>COP_d</i>	na	-
T _j = + 2 °C	<i>P_{dh}</i>	13,5	kW	T _j = +2 °C	<i>COP_d</i>	3,11	-
T _j = + 7 °C	<i>P_{dh}</i>	13,8	kW	T _j = +7 °C	<i>COP_d</i>	3,48	-
T _j = + 12 °C	<i>P_{dh}</i>	14,2	kW	T _j = +12 °C	<i>COP_d</i>	4,12	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,5	kW	T _j = bivalent temperature	<i>COP_d</i>	3,21	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	5396	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Warm climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC EcoLogic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	174 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	170	%
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	<i>P_{dh}</i>	na	kW	T _j = - 7 °C	<i>COP_d</i>	na	-
T _j = + 2 °C	<i>P_{dh}</i>	14,5	kW	T _j = +2 °C	<i>COP_d</i>	4,55	-
T _j = + 7 °C	<i>P_{dh}</i>	14,7	kW	T _j = +7 °C	<i>COP_d</i>	4,76	-
T _j = + 12 °C	<i>P_{dh}</i>	14,8	kW	T _j = +12 °C	<i>COP_d</i>	5,02	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,62	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,097	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	4702	kWh				
For heat pump combination heater:							
Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Average climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC EcoLogic		
Air-to-water heat pump:	No	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	141 %
Equipped with a supplementary heater:	No	Package efficiency class:	A++ -
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	137	%
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	<i>P_{dh}</i>	13,6	kW	T _j = -7 °C	<i>COP_d</i>	3,29	-
T _j = +2 °C	<i>P_{dh}</i>	13,9	kW	T _j = +2 °C	<i>COP_d</i>	3,68	-
T _j = +7 °C	<i>P_{dh}</i>	14,2	kW	T _j = +7 °C	<i>COP_d</i>	4,03	-
T _j = +12 °C	<i>P_{dh}</i>	14,4	kW	T _j = +12 °C	<i>COP_d</i>	4,37	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,6	kW	T _j = bivalent temperature	<i>COP_d</i>	3,34	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	2,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	9158	kWh				
For heat pump combination heater:							
Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			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_{design,h}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Average climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC EcoLogic		
Air-to-water heat pump:	No	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	178 %
Equipped with a supplementary heater:	No	Package efficiency class:	A+++ -
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	174	%
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	<i>P_{dh}</i>	14,6	kW	T _j = -7 °C	<i>COP_d</i>	4,64	-
T _j = +2 °C	<i>P_{dh}</i>	14,7	kW	T _j = +2 °C	<i>COP_d</i>	4,81	-
T _j = +7 °C	<i>P_{dh}</i>	14,8	kW	T _j = +7 °C	<i>COP_d</i>	4,97	-
T _j = +12 °C	<i>P_{dh}</i>	14,9	kW	T _j = +12 °C	<i>COP_d</i>	5,13	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,64	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-7	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	2,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,097	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	7467	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Cold climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC EcoLogic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	144 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	15	kW	Seasonal space heating energy efficiency	η_s	140	%
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	<i>P_{dh}</i>	13,8	kW	T _j = -7 °C	<i>COP_d</i>	3,59	-
T _j = +2 °C	<i>P_{dh}</i>	14,1	kW	T _j = +2 °C	<i>COP_d</i>	3,94	-
T _j = +7 °C	<i>P_{dh}</i>	14,3	kW	T _j = +7 °C	<i>COP_d</i>	4,26	-
T _j = +12 °C	<i>P_{dh}</i>	14,5	kW	T _j = +12 °C	<i>COP_d</i>	4,49	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,6	kW	T _j = bivalent temperature	<i>COP_d</i>	3,28	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	10139	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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(*) 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_{design,h}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Cold climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC EcoLogic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	180 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	176	%
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	<i>P_{dh}</i>	14,7	kW	T _j = - 7 °C	<i>COP_d</i>	4,84	-
T _j = + 2 °C	<i>P_{dh}</i>	14,8	kW	T _j = + 2 °C	<i>COP_d</i>	4,98	-
T _j = + 7 °C	<i>P_{dh}</i>	14,9	kW	T _j = + 7 °C	<i>COP_d</i>	5,08	-
T _j = + 12 °C	<i>P_{dh}</i>	14,9	kW	T _j = + 12 °C	<i>COP_d</i>	5,11	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,67	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cy}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,097	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	8758	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Warm climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	125 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	15	kW	Seasonal space heating energy efficiency	η_s	121	%
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	<i>P_{dh}</i>	na	kW	T _j = -7 °C	<i>COP_d</i>	na	-
T _j = +2 °C	<i>P_{dh}</i>	13,5	kW	T _j = +2 °C	<i>COP_d</i>	2,81	-
T _j = +7 °C	<i>P_{dh}</i>	13,8	kW	T _j = +7 °C	<i>COP_d</i>	3,14	-
T _j = +12 °C	<i>P_{dh}</i>	14,2	kW	T _j = +12 °C	<i>COP_d</i>	3,67	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,90	-
T _j = operation limit temperature	<i>P_{dh}</i>	13,5	kW	T _j = operation limit temperature	<i>COP_d</i>	2,81	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,039	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	6019	kWh				
For heat pump combination heater:							
Declared load profile / Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	102	%
Daily electricity consumption	<i>Q_{elec}</i>	7,515	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1653	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170904		

(*) 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_{design,h}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Warm climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	153 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	149	%
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	<i>P_{dh}</i>	na	kW	T _j = - 7 °C	<i>COP_d</i>	na	-
T _j = + 2 °C	<i>P_{dh}</i>	14,5	kW	T _j = +2 °C	<i>COP_d</i>	4,01	-
T _j = + 7 °C	<i>P_{dh}</i>	14,7	kW	T _j = +7 °C	<i>COP_d</i>	4,18	-
T _j = + 12 °C	<i>P_{dh}</i>	14,8	kW	T _j = +12 °C	<i>COP_d</i>	4,39	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,01	-
T _j = operation limit temperature	<i>P_{dh}</i>	14,5	kW	T _j = operation limit temperature	<i>COP_d</i>	4,07	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,107	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	5335	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	102	%
Daily electricity consumption	<i>Q_{elec}</i>	7,515	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1653	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170904		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Average climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	127 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	A++ -
Heat pump combination heater:	Yes		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>Prated</i>	16	kW	Seasonal space heating energy efficiency	η_s	123	%
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	<i>Pdh</i>	13,6	kW	T j = - 7 °C	<i>COPd</i>	2,96	-
T j = + 2 °C	<i>Pdh</i>	13,9	kW	T j = +2 °C	<i>COPd</i>	3,31	-
T j = + 7 °C	<i>Pdh</i>	14,2	kW	T j = +7 °C	<i>COPd</i>	3,59	-
T j = + 12 °C	<i>Pdh</i>	14,4	kW	T j = +12 °C	<i>COPd</i>	3,87	-
T j = bivalent temperature	<i>Pdh</i>	13,6	kW	T j = bivalent temperature	<i>COPd</i>	3,02	-
T j = operation limit temperature	<i>Pdh</i>	13,5	kW	T j = operation limit temperature	<i>COPd</i>	2,81	-
For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	0,018	kW	Rated heat output (*)	<i>Psup</i>	2,7	kW
Thermostat-off mode	<i>P TO</i>	0,039	kW	Type of energy input Electric			
Standby mode	<i>P SB</i>	0,018	kW				
Crankcase heater mode	<i>P CK</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	na	<i>m3/h</i>	
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	<i>dB</i>	-	3,0	<i>m3/h</i>	
Annual energy consumption	<i>Q HE</i>	10197	<i>kWh</i>				

For heat pump combination heater:

Declared load profile / Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	102	%
Daily electricity consumption	<i>Qelec</i>	7,515	kWh	Daily fuel consumption	<i>Qfuel</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1653	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170904		

(*) 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 supplementary capacity for heating sup(Tj). (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Average climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	157 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	A++ -
Heat pump combination heater:	Yes		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	17	kW	Seasonal space heating energy efficiency	η_s	153	%
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	<i>P_{dh}</i>	14,6	kW	T _j = -7 °C	<i>COP_d</i>	4,08	-
T _j = +2 °C	<i>P_{dh}</i>	14,7	kW	T _j = +2 °C	<i>COP_d</i>	4,23	-
T _j = +7 °C	<i>P_{dh}</i>	14,8	kW	T _j = +7 °C	<i>COP_d</i>	4,35	-
T _j = +12 °C	<i>P_{dh}</i>	14,9	kW	T _j = +12 °C	<i>COP_d</i>	4,48	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,11	-
T _j = operation limit temperature	<i>P_{dh}</i>	14,5	kW	T _j = operation limit temperature	<i>COP_d</i>	4,01	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	2,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,107	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	8881	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	102	%
Daily electricity consumption	<i>Q_{elec}</i>	7,515	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1653	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170904		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Model(s):	CTC EcoPart 414 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	128 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	15	kW	Seasonal space heating energy efficiency	η_s	124	%
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	<i>P_{dh}</i>	13,8	kW	T _j = -7 °C	<i>COP_d</i>	3,23	-
T _j = +2 °C	<i>P_{dh}</i>	14,1	kW	T _j = +2 °C	<i>COP_d</i>	3,52	-
T _j = +7 °C	<i>P_{dh}</i>	14,3	kW	T _j = +7 °C	<i>COP_d</i>	3,78	-
T _j = +12 °C	<i>P_{dh}</i>	14,5	kW	T _j = +12 °C	<i>COP_d</i>	3,97	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,6	kW	T _j = bivalent temperature	<i>COP_d</i>	2,96	-
T _j = operation limit temperature	<i>P_{dh}</i>	13,5	kW	T _j = operation limit temperature	<i>COP_d</i>	2,81	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,039	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	11314	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	102	%
Daily electricity consumption	<i>Q_{elec}</i>	7,515	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1653	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170904		

(*) 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_{design,h}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Cold climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	157 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	153	%
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	<i>P_{dh}</i>	14,7	kW	T _j = - 7 °C	<i>COP_d</i>	4,24	-
T _j = + 2 °C	<i>P_{dh}</i>	14,8	kW	T _j = + 2 °C	<i>COP_d</i>	4,35	-
T _j = + 7 °C	<i>P_{dh}</i>	14,9	kW	T _j = + 7 °C	<i>COP_d</i>	4,44	-
T _j = + 12 °C	<i>P_{dh}</i>	14,9	kW	T _j = + 12 °C	<i>COP_d</i>	4,46	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,10	-
T _j = operation limit temperature	<i>P_{dh}</i>	14,5	kW	T _j = operation limit temperature	<i>COP_d</i>	4,01	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cy}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,107	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	9957	kWh				
For heat pump combination heater:				Water heating energy efficiency			
Declared load profile / Energy efficiency class	XL / A			η_{wh}	102	%	
Daily electricity consumption	<i>Q_{elec}</i>	7,515	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1653	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170904		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Warm climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC Basicstyrning		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	137 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	15	kW	Seasonal space heating energy efficiency	η_s	136	%
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	<i>P_{dh}</i>	na	kW	T _j = - 7 °C	<i>COP_d</i>	na	-
T _j = + 2 °C	<i>P_{dh}</i>	13,5	kW	T _j = +2 °C	<i>COP_d</i>	3,11	-
T _j = + 7 °C	<i>P_{dh}</i>	13,8	kW	T _j = +7 °C	<i>COP_d</i>	3,48	-
T _j = + 12 °C	<i>P_{dh}</i>	14,2	kW	T _j = +12 °C	<i>COP_d</i>	4,12	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,5	kW	T _j = bivalent temperature	<i>COP_d</i>	3,21	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = - 15 °C (if TOL < - 20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	5396	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170410		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Warm climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC Basicstyrning		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	171 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	170	%
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	<i>P_{dh}</i>	na	kW	T _j = -7 °C	<i>COP_d</i>	na	-
T _j = +2 °C	<i>P_{dh}</i>	14,5	kW	T _j = +2 °C	<i>COP_d</i>	4,55	-
T _j = +7 °C	<i>P_{dh}</i>	14,7	kW	T _j = +7 °C	<i>COP_d</i>	4,76	-
T _j = +12 °C	<i>P_{dh}</i>	14,8	kW	T _j = +12 °C	<i>COP_d</i>	5,02	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,62	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,097	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	4702	kWh				
For heat pump combination heater:							
Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170410		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.



Average climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC Basicstyrning		
Air-to-water heat pump:	No	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	138 %
Equipped with a supplementary heater:	No	Package efficiency class:	A++ -
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	137	%
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	<i>P_{dh}</i>	13,6	kW	T _j = -7 °C	<i>COP_d</i>	3,29	-
T _j = +2 °C	<i>P_{dh}</i>	13,9	kW	T _j = +2 °C	<i>COP_d</i>	3,68	-
T _j = +7 °C	<i>P_{dh}</i>	14,2	kW	T _j = +7 °C	<i>COP_d</i>	4,03	-
T _j = +12 °C	<i>P_{dh}</i>	14,4	kW	T _j = +12 °C	<i>COP_d</i>	4,37	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,6	kW	T _j = bivalent temperature	<i>COP_d</i>	3,34	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	2,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,032	kW	Type of energy input: Electric			
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	na	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	<i>dB</i>	-	3,0	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	9158	<i>kWh</i>				
For heat pump combination heater:				For heat pump combination heater:			
Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se		170410	

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Average climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC Basicstyrning		
Air-to-water heat pump:	No	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	175 %
Equipped with a supplementary heater:	No	Package efficiency class:	A+++ -
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	174	%
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	<i>P_{dh}</i>	14,6	kW	T _j = -7 °C	<i>COP_d</i>	4,64	-
T _j = +2 °C	<i>P_{dh}</i>	14,7	kW	T _j = +2 °C	<i>COP_d</i>	4,81	-
T _j = +7 °C	<i>P_{dh}</i>	14,8	kW	T _j = +7 °C	<i>COP_d</i>	4,97	-
T _j = +12 °C	<i>P_{dh}</i>	14,9	kW	T _j = +12 °C	<i>COP_d</i>	5,13	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,64	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-7	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	2,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,097	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	7467	kWh				
For heat pump combination heater:							
Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170410		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Cold climate and Medium temperature

Model(s):	CTC EcoPart 414 + CTC Basicstyrning		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	141 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	15	kW	Seasonal space heating energy efficiency	η_s	140	%
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	<i>P_{dh}</i>	13,8	kW	T _j = -7 °C	<i>COP_d</i>	3,59	-
T _j = +2 °C	<i>P_{dh}</i>	14,1	kW	T _j = +2 °C	<i>COP_d</i>	3,94	-
T _j = +7 °C	<i>P_{dh}</i>	14,3	kW	T _j = +7 °C	<i>COP_d</i>	4,26	-
T _j = +12 °C	<i>P_{dh}</i>	14,5	kW	T _j = +12 °C	<i>COP_d</i>	4,49	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,6	kW	T _j = bivalent temperature	<i>COP_d</i>	3,28	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,0	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	10139	kWh				
For heat pump combination heater:							
Declared load profile / Energy efficiency class	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170410		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Cold climate and Low temperature

Model(s):	CTC EcoPart 414 + CTC Basicstyrning		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	177 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	16	kW	Seasonal space heating energy efficiency	η_s	176	%
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	<i>P_{dh}</i>	14,7	kW	T _j = -7 °C	<i>COP_d</i>	4,84	-
T _j = +2 °C	<i>P_{dh}</i>	14,8	kW	T _j = +2 °C	<i>COP_d</i>	4,98	-
T _j = +7 °C	<i>P_{dh}</i>	14,9	kW	T _j = +7 °C	<i>COP_d</i>	5,08	-
T _j = +12 °C	<i>P_{dh}</i>	14,9	kW	T _j = +12 °C	<i>COP_d</i>	5,11	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,6	kW	T _j = bivalent temperature	<i>COP_d</i>	4,67	-
T _j = operation limit temperature	<i>P_{dh}</i>	na	kW	T _j = operation limit temperature	<i>COP_d</i>	na	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cy}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,097	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,6	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	8758	kWh				
For heat pump combination heater:				Declared load profile / Energy efficiency class			
Declared load profile / Energy efficiency class		na		Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se	170410		

(*) 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 supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.