



**Warm climate and Medium temperature**

Model(s):	<b>CTC EcoPart 425 + CTC EcoLogic, CTC EcoPart i425 PRO</b>		
Air-to-water heat pump:	<b>No</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VII</b>
Brine-to-water heat pump:	<b>Yes</b>	Controller contribution:	<b>3,5</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>141</b> %
Equipped with a supplementary heater:	<b>No</b>	Package efficiency class:	-
Heat pump combination heater:	<b>No</b>		

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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>24</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>137</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	<i>P<sub>dh</sub></i>	<b>na</b>	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	<b>na</b>	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	<b>27,2</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,08</b>	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	<b>22,2</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,45</b>	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	<b>23,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,14</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>22,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,18</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>na</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>na</b>	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>3</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,018</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>1,0</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,005</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,1/1,6</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>8728</b>	kWh				

For heat pump combination heater:

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

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *P<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Warm climate and Low temperature**

Model(s):	CTC EcoPart 425 + CTC EcoLogic, CTC EcoPart i425 PRO		
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:	184 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>26</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>180</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	<i>P<sub>dh</sub></i>	na	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	na	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	23,6	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	4,60	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	23,8	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	4,83	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	24,0	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	5,11	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	23,6	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	4,68	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	na	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	na	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>	na	kW	For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>COP<sub>d</sub></i>	na	-
Bivalent temperature	<i>T<sub>biv</sub></i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	na	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	na	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,018	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	1,8	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,022	kW	Type of energy input	Electric		
Standby mode	<i>P<sub>SB</sub></i>	0,018	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,0	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	7236	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	na			<b>Water heating energy efficiency</b>	$\eta_{wh}$	na	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	na	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.



**Average climate and Medium temperature**

Model(s):	CTC EcoPart 425 + CTC EcoLogic, CTC EcoPart i425 PRO		
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:	142 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>24</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>138</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	<i>P<sub>dh</sub></i>	<b>22,0</b>	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	<b>3,25</b>	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	<b>22,4</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,64</b>	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	<b>22,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,02</b>	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	<b>23,2</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,40</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>22,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,25</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>na</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>na</b>	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-7</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,018</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>3</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,005</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,1/1,6</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>14168</b>	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	<b>na</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>na</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>na</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>na</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Average climate and Low temperature**

Model(s):	CTC EcoPart 425 + CTC EcoLogic, CTC EcoPart i425 PRO		
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:	186 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>26</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>182</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	<b>23,6</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>4,69</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>23,8</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,88</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>24,0</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,06</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>24,2</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,23</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>23,6</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>4,69</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>na</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>na</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-7</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,018</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>3,2</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,022</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,8/2,0</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>11628</b>	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	<b>na</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>na</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>na</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>na</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Cold climate and Medium temperature**

Model(s):	<b>CTC EcoPart 425 + CTC EcoLogic, CTC EcoPart i425 PRO</b>		
Air-to-water heat pump:	<b>No</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VII</b>
Brine-to-water heat pump:	<b>Yes</b>	Controller contribution:	<b>3,5</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>145</b> %
Equipped with a supplementary heater:	<b>No</b>	Package efficiency class:	-
Heat pump combination heater:	<b>No</b>		

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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>24</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>141</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	<b>22,4</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,56</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>22,8</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,94</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>23,2</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,29</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>23,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,54</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>22,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,25</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>na</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>na</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-18</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,018</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>2,8</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,005</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,1/1,6</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>16390</b>	kWh				
For heat pump combination heater:				<b>Declared load profile / Energy efficiency class</b>			
<b>Declared load profile / Energy efficiency class</b>		<b>na</b>		<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>na</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>na</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>na</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Cold climate and Low temperature**

Model(s):	CTC EcoPart 425 + CTC EcoLogic, CTC EcoPart i425 PRO		
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:	189 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>24</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>185</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	<b>23,8</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>4,89</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>24,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>5,06</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>24,2</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,18</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>24,2</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,20</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>23,6</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>4,66</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>na</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>na</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-20</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cy</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,018</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>1,4</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,022</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,8/2,0</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>12746</b>	kWh				

For heat pump combination heater:

Declared load profile / Energy efficiency class	Symbol	Value	Unit	Water heating energy efficiency	Symbol	Value	Unit
		<b>na</b>			$\eta_{wh}$	<b>na</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>na</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>na</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>design,h</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Warm climate and Medium temperature**

Model(s):	CTC EcoPart 425 + 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:	123 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>25</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>119</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	na	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	na	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	23,5	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	2,79	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	23,8	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	3,09	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	24,5	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	3,64	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	23,6	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,87	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	23,5	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,79	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	na	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	na	-
Bivalent temperature	<i>T<sub>biv</sub></i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	na	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	na	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,025	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	1,9	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,117	kW	Type of energy input	Electric		
Standby mode	<i>P<sub>SB</sub></i>	0,025	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/1,6	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	10694	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	<b>XXL / A</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>101</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	9,750	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2145	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Warm climate and Low temperature**

Model(s):	CTC EcoPart 425 + 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:	147 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>29</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>143</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	na	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	na	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	25,1	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	4,02	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	25,3	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	4,23	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	25,6	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	4,45	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	25,2	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	4,14	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	25,1	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	4,02	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	na	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	na	-
Bivalent temperature	<i>T<sub>biv</sub></i>	4	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	na	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	na	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	0,94	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,025	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	4,4	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,354	kW	Type of energy input	Electric		
Standby mode	<i>P<sub>SB</sub></i>	0,025	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,0	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	10386	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	XXL / A			<b>Water heating energy efficiency</b>	$\eta_{wh}$	101	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	9,750	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2145	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.





**Average climate and Medium temperature**

Model(s):	CTC EcoPart 425 + 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:	124 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>28</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>120</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	<i>P<sub>dh</sub></i>	<b>23,7</b>	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	<b>2,93</b>	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	<b>24,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,25</b>	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	<b>24,4</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,56</b>	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	<b>24,9</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>3,87</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>23,7</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,98</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>23,5</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,79</b>	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-6</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,011</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>4,5</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,117</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,025</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,1/1,6</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>18065</b>	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	<b>XXL / A</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>101</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,750</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2145</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>design,h</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Average climate and Low temperature**

Model(s):	CTC EcoPart 425 + 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:	153 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>30</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>149</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	<b>25,2</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>4,10</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>25,4</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,26</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>25,6</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,40</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>25,8</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,54</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>25,2</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>4,13</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>25,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>4,02</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-6</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,94</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,025</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>4,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,354</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,025</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,8/2,0</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>15661</b>	kWh				

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	<b>XXL / A</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>101</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,750</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2145</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.

**Cold climate and Medium temperature**

Model(s):	CTC EcoPart 425 + 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:	126 %
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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>27</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>122</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = -7 °C	<i>P<sub>dh</sub></i>	<b>23,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,18</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>24,3</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,49</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>24,7</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,77</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>25,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>3,98</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>23,7</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,96</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>23,5</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,79</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-17</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,025</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>3,8</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,117</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,025</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Fixed</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>3,1/1,6</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>20723</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile / Energy efficiency class</b>	<b>XXL / A</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>101</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,750</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2145</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	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  $C_{dh} = 0,9$ .



**Cold climate and Low temperature**

Model(s):	CTC EcoPart 425 + 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
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>29</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>149</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	<i>P<sub>dh</sub></i>	<b>25,4</b>	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	<b>4,29</b>	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	<b>25,6</b>	kW	T <sub>j</sub> = + 2 °C	<i>COP<sub>d</sub></i>	<b>4,41</b>	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	<b>25,7</b>	kW	T <sub>j</sub> = + 7 °C	<i>COP<sub>d</sub></i>	<b>4,50</b>	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	<b>25,7</b>	kW	T <sub>j</sub> = + 12 °C	<i>COP<sub>d</sub></i>	<b>4,52</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>25,2</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>4,15</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>25,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>4,02</b>	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>COP<sub>d</sub></i>	<b>4,18</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-17</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cy</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,93</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,025</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>4,0</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,354</b>	kW	Type of energy input <b>Electric</b>			
Standby mode	<i>P<sub>SB</sub></i>	<b>0,025</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	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	<b>Fixed</b>			-			
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>50/na</b>	dB	-			
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>18242</b>	kWh	<b>3,8/2,0</b> m <sup>3</sup> /h			

For heat pump combination heater:

<b>Declared load profile / Energy efficiency class</b>	<b>XXL / A</b>			<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>101</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,750</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2145</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	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<sub>rated</sub>* is equal to the design load for heating *P<sub>designh</sub>*, and the rated heat output of a supplementary heater *P<sub>sup</sub>* is equal to the supplementary capacity for heating *sup(T<sub>j</sub>)*. (\*\*) If *C<sub>dh</sub>* is not determined by measurement then the default degradation coefficient is *C<sub>dh</sub>* = 0,9.