

**Warm climate and Medium temperature**

Model(s):	CTC EcoAir 410 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	149 %
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>Prated</i>	<b>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>145</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>	8,0	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	2,62	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	10,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	3,39	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	13,1	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	4,69	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	8,3	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,76	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	8,1	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,40	-
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>	2	°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>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	55	°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>	0,9	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,013	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	-	4100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	3227	kWh				
For heat pump combination heater:							
<b>Declared load profile</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

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	193 %
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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>189</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>	8,9	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	3,72	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	11,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	4,84	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	13,9	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	6,07	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	9,1	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	3,83	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	9,3	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	3,87	-
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>	2	°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>	55	°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>	0,7	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,041	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	-	4100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	2734	kWh				
For heat pump combination heater:							
<b>Declared load profile</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

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**Average climate and Medium temperature**

Model(s):	CTC EcoAir 410 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	125 %
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>Prated</i>	<b>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>121</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>6,6</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,22</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,6</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,07</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,99</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,3</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,04</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,46</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>5,9</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,95</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>-5</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>55</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>0,013</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	<b>Fixed</b>			-	<b>4100</b>	<i>m<sup>3</sup>/h</i>	
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	<i>dB</i>	-	<b>na</b>	<i>m<sup>3</sup>/h</i>	
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5826</b>	<i>kWh</i>				
For heat pump combination heater:				<b>Water heating energy efficiency</b>			
<b>Declared load profile</b>	<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

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**Average climate and Low temperature**

Model(s):	CTC EcoAir 410 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	158 %
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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>154</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>7,4</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>9,0</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>11,7</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,08</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,23</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,8</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,42</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>6,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,97</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>-5</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>0,97</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</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>2,9</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,041</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	<b>Fixed</b>			-	<b>4100</b>	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	-	<b>na</b>		m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5063</b>	kWh	<b>160406</b>			
For heat pump combination heater:							
<b>Declared load profile</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

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**Cold climate and Medium temperature**

Model(s):	CTC EcoAir 410 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	113 %
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>Prated</i>	<b>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>109</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>6,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,56</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,7</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,28</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,3</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,25</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,21</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>5,5</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,13</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>3,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,50</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,1</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>1,95</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-13</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>55</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>3,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,013</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>6381</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</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

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	No	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
<b>Rated heat output (*)</b>	<i>Prated</i>	<b>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>136</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>7,5</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,41</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>9,1</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,06</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,21</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,20</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>5,9</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,95</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>4,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,07</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,7</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>2,74</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-14</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>0,97</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</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>3,4</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,041</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5337</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</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

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 Medium temperature**

Model(s):	CTC EcoAir 410 + CTC EcoZenith 250		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	136 %
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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>132</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>	8,0	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	2,37	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	10,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	3,15	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	13,1	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	4,37	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	8,6	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,63	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	8,1	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,15	-
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>	2	°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>	55	°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>	2,0	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,030	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	-	4100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	3971	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>L</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>70</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	6,622	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1457	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
							<b>160304</b>

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**Warm climate and Low temperature**

Model(s):	CTC EcoAir 410 + CTC EcoZenith 250		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	166 %
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>Prated</i>	<b>11</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>162</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>	8,9	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	3,26	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	11,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	4,38	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	13,9	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	5,56	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	9,3	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	3,46	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	9,3	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	3,41	-
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>	2	°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>	55	°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>	2,0	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,096	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	-	4100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	3512	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>L</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>70</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	6,622	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1457	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
						<b>160304</b>	

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC EcoZenith 250		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	135 %
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>Prated</i>	<b>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>131</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>7,7</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,59</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>9,6</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,47</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,16</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,6</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,89</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>8,3</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,92</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>6,9</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,24</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>-4</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>55</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>2,6</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,030</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>Variable</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5826</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>L</b>	<b>Efficiency class</b>	<b>B</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>59</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>7,969</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1753</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ
							<b>171005</b>

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**Average climate and Low temperature**

Model(s):	<b>CTC EcoAir 410 + CTC EcoZenith 250</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	<b>A+</b> -
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VII</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>3,5</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>134</b> %
Equipped with a supplementary heater:	<b>Yes</b>	Package efficiency class:	<b>A+</b> -
Heat pump combination heater:	<b>Yes</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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>130</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>7,4</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,77</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>9,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,43</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,7</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,57</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,69</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,01</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,9</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,51</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>-4</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>55</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>3,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,096</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
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>na/58</b>	dB	-			
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>6399</b>	kWh	-			

For heat pump combination heater:

Declared load profile	<b>L</b>	Efficiency class	<b>B</b>	Water heating energy efficiency	$\eta_{wh}$	<b>59</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>7,969</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1753</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ

**160406**

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC EcoZenith 250		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	100 %
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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>96</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>6,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,31</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,7</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,96</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,3</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,90</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,82</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>6,5</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,18</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>3,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,25</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,1</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>1,67</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-9</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>55</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>6,3</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,030</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>9752</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>L</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>52</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,017</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1984</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ
							<b>160304</b>

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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):	<b>CTC EcoAir 410 + CTC EcoZenith 250</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VII</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>3,5</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>116</b> %
Equipped with a supplementary heater:	<b>Yes</b>	Package efficiency class:	-
Heat pump combination heater:	<b>Yes</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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>112</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>7,5</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,92</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>9,1</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,54</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,68</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,67</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>6,8</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,73</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>4,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,61</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,7</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>2,24</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-10</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>55</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>5,9</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,096</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>8586</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>L</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>52</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,017</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1984</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ
							<b>160304</b>

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 Medium temperature**

Model(s):	CTC EcoAir 410 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	136 %
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>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>132</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>	8,0	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	2,37	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	10,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	3,11	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	13,1	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	4,34	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	8,3	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,50	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	8,1	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,15	-
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>	2	°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>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	55	°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>	0,9	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,024	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				For air-to-water heat pumps: Rated air flow rate, outdoors			
Capacity control	Fixed					4100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	3526	kWh				
For heat pump combination heater:				<b>160304</b>			
<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>85</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	9,006	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1981	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<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 EcoAir 410 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	170 %
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>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>166</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>	8,9	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	4,24	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	11,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	3,26	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	13,9	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	4,35	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	9,1	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	5,55	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	9,3	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	3,36	-
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>	3,41	-
Bivalent temperature	<i>T<sub>biv</sub></i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	2	°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>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	55	°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>	0,9	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,073	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	-	4100	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	3099	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>85</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	9,006	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1981	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<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 EcoAir 410 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	113 %
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>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>110</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>6,6</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,05</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,9</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,97</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>10,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,55</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>12,6</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,31</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,30</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>5,8</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,71</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>-4</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>55</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>3,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,024</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>Variable</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>6901</b>	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	B	Water heating energy efficiency	$\eta_{wh}$	73	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>10,478</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2305</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ

**171005**

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(\*) 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 EcoAir 410 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	136 %
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>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>132</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>7,4</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,77</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>9,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,43</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,7</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,57</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,69</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,9</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,01</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>6,7</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,51</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>-4</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>0,95</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</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>3,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,073</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>6320</b>	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>B</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>73</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>10,478</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2305</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ

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(\*) 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 EcoAir 410 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	101 %
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>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>97</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>6,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,30</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,7</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,95</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,3</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,89</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,81</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>6,2</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,10</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>3,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,25</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,1</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>1,67</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-10</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>55</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>5,6</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,024</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>9015</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>66</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>11,558</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2543</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ

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**Cold climate and Low temperature**

Model(s):	CTC EcoAir 410 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	117 %
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>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>113</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>7,5</b>	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	<b>2,91</b>	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	<b>9,1</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,54</b>	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	<b>11,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,67</b>	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,67</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>6,6</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,65</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>4,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,61</b>	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>	<b>5,7</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>2,24</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-11</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</b>	°C
Cycling interval capacity for heating	<i>P<sub>cyh</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyh</sub></i>	<b>na</b>	-
Degradation co-efficient (**)	<i>C<sub>dh</sub></i>	<b>0,95</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</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>5,2</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,073</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>7894</b>	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>na</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>66</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>11,558</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>XL</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2543</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>XL</b>	GJ

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**Warm climate and Medium temperature**

Model(s):	<b>CTC EcoAir 410 + CTC Basicstyrning</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>I</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>1</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>146</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>Prated</i>	<b>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>145</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>8,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,62</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>10,6</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,39</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,1</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,69</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>8,3</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,76</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>8,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,40</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>2</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>55</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>0,9</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,013</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	<b>Fixed</b>			-	<b>4100</b>	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	-	<b>na</b>		m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>3227</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</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

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	190 %
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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>189</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>	8,9	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	3,72	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	11,6	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	4,84	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	13,9	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	6,07	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	9,1	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	3,83	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	9,3	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	3,87	-
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>	2	°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>	55	°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>	0,9	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,041	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	-	4100	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	na/58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	2734	kWh				
For heat pump combination heater:							
<b>Declared load profile</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>	#####	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 *Prated* 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 EcoAir 410 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	122 %
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>Prated</i>	<b>9</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>121</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>6,6</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,22</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,6</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,07</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,99</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,3</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,04</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,0</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,46</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>5,9</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,95</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>-5</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>55</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>0,013</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	<b>Fixed</b>			-	<b>4100</b>	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	-	<b>na</b>		m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5826</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</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

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	155 %
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>Prated</i>	<b>10</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>154</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>7,4</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>9,0</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>11,7</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,08</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,23</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,8</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,42</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>6,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,97</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>-5</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-10</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>0,97</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</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>2,9</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5063</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</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
							<b>170410</b>

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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 EcoAir 410 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	110 %
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>Prated</i>	<b>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>109</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>6,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,56</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,7</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,28</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,3</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,25</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>13,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,21</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>5,5</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,13</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>3,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,50</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,1</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>1,95</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-13</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>55</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>3,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,013</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>4100</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>6381</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</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
							<b>170410</b>

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* 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):	<b>CTC EcoAir 410 + CTC Basicstyrning</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>I</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>1</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>137</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>Prated</i>	<b>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>136</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>7,5</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,41</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>9,1</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,06</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>11,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,21</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>14,0</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,20</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>5,9</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,95</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>4,1</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,07</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>5,7</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>2,74</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-14</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>-22</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>0,97</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</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>3,4</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,041</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,018</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	<b>Fixed</b>			-	<b>4100</b>	<b>na</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>na/58</b>	dB	-	<b>na</b>		m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>5337</b>	kWh	<b>170410</b>			
For heat pump combination heater:				<b>Water heating energy efficiency</b>			
<b>Declared load profile</b>	<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

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