

**Warm climate and Medium temperature**

Model(s):	CTC GSi 616		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI
Brine-to-water heat pump:	Yes	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	157 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>16</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>153</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>	14,3	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	2,57	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	10,4	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	3,50	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	4,4	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	5,13	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	14,5	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,68	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	14,34	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,57	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	na	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	na	-
Bivalent temperature	<i>T<sub>biv</sub></i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	na	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	na	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,020	kW	Rated heat output	<i>P<sub>sup</sub></i>	1,7	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,020	kW	Type of energy input	Electric		
Standby mode	<i>P<sub>SB</sub></i>	0,020	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	0,000	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	42 / na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1,6	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	5300	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	XL			<b>Water heating energy efficiency/Energy class</b>	$\eta_{wh/-}$	95 / A	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	8,010	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1762	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

**Warm climate and Low temperature**

Model(s):	<b>CTC GSi 616</b>		
Air-to-water heat pump:	<b>No</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>Yes</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>206</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>P<sub>rated</sub></i>	<b>16</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>202</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>15,6</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,77</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>10,4</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,01</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>4,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,00</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>15,6</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,77</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>15,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>3,77</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>2</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,020</b>	kW	Rated heat output	<i>P<sub>sup</sub></i>	<b>0,0</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,020</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,020</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>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>42 / na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>2,3</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>4080</b>	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>			<b>Water heating energy efficiency/Energy class</b>	$\eta_{wh/-}$	<b>95 / A</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>8,010</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1762</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

**Average climate and Medium temperature**

Model(s):	CTC GSi 616		
Air-to-water heat pump:	No	Energy efficiency class:	A+++ -
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	Yes	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	158 %
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>16</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>14,2</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,79</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>8,8</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,13</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>5,5</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,89</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>4,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,14</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>14,6</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,70</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>14,34</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,57</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>-8</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cy</sub></i>	<b>na</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,020</b>	kW	Rated heat output	<i>P<sub>sup</sub></i>	<b>1,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,020</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,020</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>Variable</b>			-			
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>42 / na</b>	dB	-			
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>8176</b>	kWh	-			

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>			<b>Water heating energy efficiency/Energy class</b>	$\eta_{wh/-}$	<b>95 / A</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>8,010</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1762</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details

CTC AB, Näsvägen 8, SE-341 34 Ljungby Tel +46 372 88000

[www.ctc.se](http://www.ctc.se)

231216



**Average climate and Low temperature**

Model(s):	<b>CTC GSi 616</b>		
Air-to-water heat pump:	<b>No</b>	Energy efficiency class:	<b>A+++</b> -
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>Yes</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>205</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>16</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>201</b>	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = - 7 °C	<i>Pdh</i>	<b>14,0</b>	kW	T j = - 7 °C	<i>COPd</i>	<b>4,17</b>	-
T j = + 2 °C	<i>Pdh</i>	<b>8,5</b>	kW	T j = +2 °C	<i>COPd</i>	<b>5,36</b>	-
T j = + 7 °C	<i>Pdh</i>	<b>5,6</b>	kW	T j = +7 °C	<i>COPd</i>	<b>5,87</b>	-
T j = + 12 °C	<i>Pdh</i>	<b>4,6</b>	kW	T j = +12 °C	<i>COPd</i>	<b>6,03</b>	-
T j = bivalent temperature	<i>Pdh</i>	<b>15,3</b>	kW	T j = bivalent temperature	<i>COPd</i>	<b>3,88</b>	-
T j = operation limit temperature	<i>Pdh</i>	<b>15,6</b>	kW	T j = operation limit temperature	<i>COPd</i>	<b>3,77</b>	-
For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	<i>Pdh</i>	<b>na</b>	kW	For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	<i>COPd</i>	<b>na</b>	-
Bivalent temperature	<i>T biv</i>	<b>-9</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P cych</i>	<b>na</b>	kW	Cycling interval efficiency	<i>COPcyc</i>	<b>na</b>	-
Degradation co-efficient	<i>Cdh</i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	<b>0,020</b>	kW	Rated heat output	<i>Psup</i>	<b>0,4</b>	kW
Thermostat-off mode	<i>P TO</i>	<b>0,020</b>	kW	Type of energy input <b>Electric</b>			
Standby mode	<i>P SB</i>	<b>0,020</b>	kW				
Crankcase heater mode	<i>P CK</i>	<b>0,000</b>	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	<b>Variable</b>			-	<b>na</b>	<b>m3/h</b>	
Sound power level, indoors/ outdoors	<i>L WA</i>	<b>42 / na</b>	<b>dB</b>	-	<b>2,3</b>	<b>m3/h</b>	
Annual energy consumption	<i>Q HE</i>	<b>6321</b>	<b>kWh</b>				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>			<b>Water heating energy efficiency/Energy class</b>	$\eta_{wh/-}$	<b>95 / A</b>	%
Daily electricity consumption	<i>Qelec</i>	<b>8,010</b>	kWh	Daily fuel consumption	<i>Qfuel</i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1762</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

**Cold climate and Medium temperature**

Model(s):	CTC GSi 616		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI
Brine-to-water heat pump:	Yes	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	165 %
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>16</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>161</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>9,84</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,79</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>5,9</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,78</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>4,5</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,31</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>4,5</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,31</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>14,3</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>14,34</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,57</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>na</b>	kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>	<b>na</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-18</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>cych</sub></i>	<b>na</b>	kW	Cycling interval efficiency	<i>COP<sub>cyc</sub></i>	<b>na</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,020</b>	kW	Rated heat output	<i>P<sub>sup</sub></i>	<b>1,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,020</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,020</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>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>42 / na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>1,6</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>9352</b>	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>			<b>Water heating energy efficiency/Energy class</b>	$\eta_{wh/-}$	<b>95 / A</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>8,010</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1762</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details

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[www.ctc.se](http://www.ctc.se)

231216

**Cold climate and Low temperature**

Model(s):	<b>CTC GSi 616</b>		
Air-to-water heat pump:	<b>No</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>Yes</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>214</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>P<sub>rated</sub></i>	<b>16</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>210</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>9,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>5,22</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>5,9</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>5,93</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>4,5</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>6,07</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>4,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,76</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>15,5</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>3,77</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>15,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>3,77</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>-21</b>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	<b>na</b>	°C
Cycling interval capacity for heating	<i>P<sub>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>0,99</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>65</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,020</b>	kW	Rated heat output	<i>P<sub>sup</sub></i>	<b>0,4</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,020</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,020</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>na</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>42 / na</b>	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>2,3</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>7239</b>	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>			<b>Water heating energy efficiency/Energy class</b>	$\eta_{wh/-}$	<b>95 / A</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>8,010</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>na</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>1762</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>na</b>	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

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