

## Warm climate and Medium temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	180 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>176</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>		kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>		-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>7,5</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,22</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>4,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,82</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,3</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,84</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,5</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>7,49</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,5</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>7,49</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>2</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>1,00</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>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2,787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>2236</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>NA</b>	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	NA	%
Daily electricity consumption	Qelec	NA	kWh	Daily fuel consumption	Q <sub>fuel</sub>	NA	kWh
Annual electricity consumption	AEC	NA	kWh	Annual fuel consumption	AFC	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.

Contact details

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

www.ctc.se

F-0138

240520

## Warm climate and Low temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	244 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>240</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>	7,5	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	2,85	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	4,7	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	5,53	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	2,4	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	7,50	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	7,5	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,85	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	7,5	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,85	-
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>	2	°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>cy</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>	0,015	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	0,0	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,015	kW	Type of energy input	Electric		
Standby mode	<i>P<sub>SB</sub></i>	0,015	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	0,000	kW				
Other items							
Capacity control	Variable						
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	NA / 47	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	2787	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	1650	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	NA	%
Daily electricity consumption	Qelec	NA	kWh	Daily fuel consumption	Q <sub>fuel</sub>	NA	kWh
Annual electricity consumption	AEC	NA	kWh	Annual fuel consumption	AFC	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.

Contact details

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240520

## Average climate and Medium temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+++ -
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
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>P<sub>rated</sub></i>	<b>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>151</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>6,0</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>3,7</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>2,4</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,16</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,31</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>1,96</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>6,8</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,96</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>-10</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>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>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>3751</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>NA</b>	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	NA	%
Daily electricity consumption	Qelec	NA	kWh	Daily fuel consumption	Q <sub>fuel</sub>	NA	kWh
Annual electricity consumption	AEC	NA	kWh	Annual fuel consumption	AFC	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.

Contact details

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## Average climate and Low temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+++ -
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	201 %
Equipped with a supplementary heater:	No	Package efficiency class:	A+++ -
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>197</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>6,0</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,07</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,8</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,94</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,5</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>6,46</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,5</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>8,23</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,2</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,54</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,2</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,54</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>-10</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>cy</sub></i>	<b>NA</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>3016</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>NA</b>	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	NA	%
Daily electricity consumption	Q <sub>elec</sub>	NA	kWh	Daily fuel consumption	Q <sub>fuel</sub>	NA	kWh
Annual electricity consumption	AEC	NA	kWh	Annual fuel consumption	AFC	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.

## Cold climate and Medium temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	136 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>8</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>5,3</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,75</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,33</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,75</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,62</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>2,04</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>3,2</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,53</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>6,1</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>1,92</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>cy</sub></i>	<b>NA</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</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>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</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>6130</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>NA</b>	<b>Efficiency class</b>	<b>NA</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>NA</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>NA</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>NA</b>	kWh	Annual fuel consumption	<i>AFC</i>	<b>NA</b>	GJ

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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F-0138

231206

## Cold climate and Low temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	171 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output (*)</b>	<i>P<sub>rated</sub></i>	<b>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>167</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>5,1</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,51</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>5,29</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>6,95</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>8,03</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>6,4</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,34</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>5,3</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,00</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>6,4</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>2,34</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-15</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>cy</sub></i>	<b>NA</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>2,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,015</b>	kW				
Other items							
Capacity control	<b>Variable</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</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>4653</b>	kWh				

For heat pump combination heater:

Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	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	AEC	NA	kWh	Annual fuel consumption	AFC	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.

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## Warm climate and Medium temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	180 %
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>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>176</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>		kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>		-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>7,5</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,22</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>4,8</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>3,82</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,3</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,84</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,5</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>7,49</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,5</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>7,49</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>2</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>1,00</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>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</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>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</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>2236</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>A</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>116</b>	%
Daily electricity consumption	Q <sub>elec</sub>	<b>7</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1445</b>	kWh	Annual fuel consumption	AFC	<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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**Warm climate and Low temperature**

Model(s):	CTC EcoAir 712M + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	244 %
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>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>240</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>	7,5	kW	T <sub>j</sub> = + 2 °C	<i>COP<sub>d</sub></i>	2,85	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	4,7	kW	T <sub>j</sub> = + 7 °C	<i>COP<sub>d</sub></i>	5,53	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	2,4	kW	T <sub>j</sub> = + 12 °C	<i>COP<sub>d</sub></i>	7,50	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	7,5	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	2,85	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	7,5	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	2,85	-
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>	2	°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>cy</sub></i>	NA	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>			
Off mode	<i>P<sub>OFF</sub></i>	0,015	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	0,0	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,015	kW	Type of energy input	Electric		
Standby mode	<i>P<sub>SB</sub></i>	0,015	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	0,000	kW				
<b>Other items</b>							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2787	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	NA / 47	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>	1650	kWh				

For heat pump combination heater:

<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>A</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>116</b>	%
Daily electricity consumption	Qelec	6,570	kWh	Daily fuel consumption	Q <sub>fuel</sub>	NA	kWh
Annual electricity consumption	AEC	1445	kWh	Annual fuel consumption	AFC	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.

## Average climate and Medium temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+++ -
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	155 %
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>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>151</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>6,0</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>3,7</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>2,4</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,16</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,31</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>1,96</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>6,8</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,96</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>-10</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>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>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</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>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</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>3751</b>	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	$\eta_{wh}$	99,1	%
Daily electricity consumption	Qelec	<b>7,7</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1694</b>	kWh	Annual fuel consumption	AFC	<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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## Average climate and Low temperature

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+++ -
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	201 %
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>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>197</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>6,0</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,07</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,8</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,94</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,5</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>6,46</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,5</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>8,23</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,2</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,54</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,2</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,54</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>-10</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>cy</sub></i>	<b>NA</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</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>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</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>3016</b>	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	$\eta_{wh}$	99	%
Daily electricity consumption	Qelec	<b>8</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1694</b>	kWh	Annual fuel consumption	AFC	<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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F-0138

231206

Model(s):	CTC EcoAir 712M + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
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>8</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>5,3</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,75</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,33</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,75</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,62</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>2,04</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>3,2</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,53</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>6,1</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>1,92</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>cy</sub></i>	<b>NA</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</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>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</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>6130</b>	kWh				
For heat pump combination heater:							
<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>A</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>84,1</b>	%
Daily electricity consumption	Qelec	<b>9,07</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1995</b>	kWh	Annual fuel consumption	AFC	<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 Low temperature**

Ljungby

Model(s):	CTC EcoAir 712M + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	171 %
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>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>167</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>5,1</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>3,51</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,0</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>5,29</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>6,95</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>8,03</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>6,4</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,34</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>5,3</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,00</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>	<b>6,4</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>2,34</b>	-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-15</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>cy</sub></i>	<b>NA</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>0,98</b>	-	Heating water operating limit temperature	<i>WTOL</i>	<b>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>2,7</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,015</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA / 47</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>4653</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>NA</b>	m <sup>3</sup> /h
For heat pump combination heater:							
<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>A</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>84,1</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>9,07</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1995</b>	kWh	Annual fuel consumption	AFC	<b>NA</b>	GJ

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.

Specific precautions and end of life information:

Contact details

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www.ctc.se

F-0138

231206

**Warm climate and Medium temperature**

Model(s):	<b>CTC EcoAir 712M + CTC EcoZenith i555</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>157</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>8</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>		kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>		-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>7,1</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,07</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>3,45</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>4,80</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,1</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,07</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,1</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>		kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>		-
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>2</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>1,00</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>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA/46</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>2576</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
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>95</b>	%
Daily electricity consumption	Qelec	<b>8,030</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1767</b>	kWh	Annual fuel consumption	AFC	<b>NA</b>	GJ

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.

Specific precautions and end of life information:

Contact details

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F-0138

241018

**Warm climate and Low temperature**

Model(s):	<b>CTC EcoAir 712M + CTC EcoZenith i555</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>216</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>8</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>212</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>		kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>		-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>7,3</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>2,74</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>4,6</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,11</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,3</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,28</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>7,3</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,74</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>7,3</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,74</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>		kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>		-
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>2</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>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA/46</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>1864</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>NA</b>	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	XL	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	95	%
Daily electricity consumption	Qelec	<b>8,030</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>1767</b>	kWh	Annual fuel consumption	AFC	<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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F-0138

241018

**Average climate and Medium temperature**

Model(s):	CTC EcoAir 712M + CTC EcoZenith i555		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	128 %
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>6</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>124</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>4,9</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>1,96</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>3,1</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,03</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,2</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,34</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,2</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,24</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>5,6</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>1,69</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>5,6</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,69</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>		kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>		-
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>-10</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>1,00</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>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA/46</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>3749</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	$\eta_{wh}$	77	%
Daily electricity consumption	Qelec	<b>9,870</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>2171</b>	kWh	Annual fuel consumption	AFC	<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, Näsavägen 8, SE-341 34 Ljungby Tel +46 372 88000

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F-0138

241101

**Average climate and Low temperature**

Model(s):	CTC EcoAir 712M + CTC EcoZenith i555		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+++
Water-to-water heat pump:	No	Controller class:	VI -
Brine-to-water heat pump:	No	Controller contribution:	4 %
Low-temperature heat pump:	No	Package efficiency:	167 %
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>5</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>163</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>4,0</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,82</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>2,5</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>4,01</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>5,28</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>6,72</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>4,2</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>2,52</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>4,2</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>2,53</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>		kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>		-
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>-10</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>55</b>	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</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>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/ outdoors	<i>L<sub>WA</sub></i>	<b>NA/46</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>2239</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h
For heat pump combination heater:							
<b>Declared load profile</b>	<b>XL</b>	<b>Efficiency class</b>	<b>A</b>	<b>Water heating energy efficiency</b>	$\eta_{wh}$	<b>77</b>	%
Daily electricity consumption	Q <sub>elec</sub>	<b>9,870</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>2171</b>	kWh	Annual fuel consumption	AFC	<b>NA</b>	GJ

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.

Specific precautions and end of life information:

Contact details

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F-0138

241101



Model(s):	<b>CTC EcoAir 712M + CTC EcoZenith i555</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>112</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>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>108</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>4,4</b>	kW	T <sub>j</sub> = -7 °C	<i>COP<sub>d</sub></i>	<b>2,33</b>	-
T <sub>j</sub> = +2 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = +2 °C	<i>COP<sub>d</sub></i>	<b>3,38</b>	-
T <sub>j</sub> = +7 °C	<i>P<sub>dh</sub></i>	<b>2,0</b>	kW	T <sub>j</sub> = +7 °C	<i>COP<sub>d</sub></i>	<b>4,78</b>	-
T <sub>j</sub> = +12 °C	<i>P<sub>dh</sub></i>	<b>2,3</b>	kW	T <sub>j</sub> = +12 °C	<i>COP<sub>d</sub></i>	<b>5,51</b>	-
T <sub>j</sub> = bivalent temperature	<i>P<sub>dh</sub></i>	<b>5,4</b>	kW	T <sub>j</sub> = bivalent temperature	<i>COP<sub>d</sub></i>	<b>1,79</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>2,0</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,04</b>	-
For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>P<sub>dh</sub></i>		kW	For air-to-water heat pumps: T <sub>j</sub> = -15 °C (if TOL < -20 °C)	<i>COP<sub>d</sub></i>		-
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>cy</sub></i>	<b>na</b>	-
Degradation co-efficient	<i>C<sub>dh</sub></i>	<b>1,00</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>0,015</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>5,0</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
Other items							
Capacity control	<b>Variable</b>						
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA/46</b>	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Annual energy consumption	<i>Q<sub>HE</sub></i>	<b>6205</b>	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	<b>na</b>	m <sup>3</sup> /h

For heat pump combination heater:

Declared load profile	XL	Efficiency class	NA	Water heating energy efficiency	$\eta_{wh}$	64	%
Daily electricity consumption	Qelec	<b>11,940</b>	kWh	Daily fuel consumption	Q <sub>fuel</sub>	<b>NA</b>	kWh
Annual electricity consumption	AEC	<b>2627</b>	kWh	Annual fuel consumption	AFC	<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 Low temperature**

Model(s):	<b>CTC EcoAir 712M + CTC EcoZenith i555</b>		
Air-to-water heat pump:	<b>Yes</b>	Energy efficiency class:	-
Water-to-water heat pump:	<b>No</b>	Controller class:	<b>VI</b> -
Brine-to-water heat pump:	<b>No</b>	Controller contribution:	<b>4</b> %
Low-temperature heat pump:	<b>No</b>	Package efficiency:	<b>143</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>7</b>	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	<b>139</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>4,4</b>	kW	T <sub>j</sub> = - 7 °C	<i>COP<sub>d</sub></i>	<b>3,05</b>	-
T <sub>j</sub> = + 2 °C	<i>P<sub>dh</sub></i>	<b>2,6</b>	kW	T <sub>j</sub> = + 2 °C	<i>COP<sub>d</sub></i>	<b>4,16</b>	-
T <sub>j</sub> = + 7 °C	<i>P<sub>dh</sub></i>	<b>2,1</b>	kW	T <sub>j</sub> = + 7 °C	<i>COP<sub>d</sub></i>	<b>5,88</b>	-
T <sub>j</sub> = + 12 °C	<i>P<sub>dh</sub></i>	<b>2,4</b>	kW	T <sub>j</sub> = + 12 °C	<i>COP<sub>d</sub></i>	<b>6,74</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>2,14</b>	-
T <sub>j</sub> = operation limit temperature	<i>P<sub>dh</sub></i>	<b>4,4</b>	kW	T <sub>j</sub> = operation limit temperature	<i>COP<sub>d</sub></i>	<b>1,76</b>	-
For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>P<sub>dh</sub></i>		kW	For air-to-water heat pumps: T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	<i>COP<sub>d</sub></i>		-
Bivalent temperature	<i>T<sub>biv</sub></i>	<b>-15</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>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>55</b>	°C
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>			
Off mode	<i>P<sub>OFF</sub></i>	<b>0,015</b>	kW	Rated heat output (*)	<i>P<sub>sup</sub></i>	<b>2,5</b>	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	<b>0,015</b>	kW	Type of energy input	<b>Electric</b>		
Standby mode	<i>P<sub>SB</sub></i>	<b>0,015</b>	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	<b>0,000</b>	kW				
<b>Other items</b>							
Capacity control	<b>Variable</b>			For air-to-water heat pumps: Rated air flow rate, outdoors	-	<b>2787</b>	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	<b>NA/46</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>4747</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>64</b>	%
Daily electricity consumption	<i>Q<sub>elec</sub></i>	<b>11,940</b>	kWh	Daily fuel consumption	<i>Q<sub>fuel</sub></i>	<b>NA</b>	kWh
Annual electricity consumption	<i>AEC</i>	<b>2627</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.