



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:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	8	kW	Seasonal space heating energy efficiency	η_s	176	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>		kW	T _j = -7 °C	<i>COP_d</i>		-
T _j = +2 °C	<i>P_{dh}</i>	7,5	kW	T _j = +2 °C	<i>COP_d</i>	2,22	-
T _j = +7 °C	<i>P_{dh}</i>	4,8	kW	T _j = +7 °C	<i>COP_d</i>	3,82	-
T _j = +12 °C	<i>P_{dh}</i>	2,3	kW	T _j = +12 °C	<i>COP_d</i>	5,84	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,5	kW	T _j = bivalent temperature	<i>COP_d</i>	7,49	-
T _j = operation limit temperature	<i>P_{dh}</i>	7,5	kW	T _j = operation limit temperature	<i>COP_d</i>	7,49	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	2	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	2	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	1,00	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2,787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	2236	kWh				

For heat pump combination heater:

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

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

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:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	P_{rated}	8	kW	Seasonal space heating energy efficiency	η_s	240	%
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	P_{dh}	NA	kW	T _j = -7 °C	COP_d	NA	-
T _j = +2 °C	P_{dh}	7,5	kW	T _j = +2 °C	COP_d	2,85	-
T _j = +7 °C	P_{dh}	4,7	kW	T _j = +7 °C	COP_d	5,53	-
T _j = +12 °C	P_{dh}	2,4	kW	T _j = +12 °C	COP_d	7,50	-
T _j = bivalent temperature	P_{dh}	7,5	kW	T _j = bivalent temperature	COP_d	2,85	-
T _j = operation limit temperature	P_{dh}	7,5	kW	T _j = operation limit temperature	COP_d	2,85	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	P_{dh}	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	COP_d	NA	-
Bivalent temperature	T_{biv}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	NA	kW	Cycling interval efficiency	COP_{cyc}	NA	-
Degradation co-efficient	C_{dh}	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P_{sup}	0,0	kW
Thermostat-off mode	P_{TO}	0,015	kW	Type of energy input: Electric			
Standby mode	P_{SB}	0,015	kW				
Crankcase heater mode	P_{CK}	0,000	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2787	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	NA / 47	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ /h
Annual energy consumption	Q_{HE}	1650	kWh				

For heat pump combination heater:

Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	η_{wh}	NA	%
Daily electricity consumption	Q _{elec}	NA	kWh	Daily fuel consumption	Q _{fuel}	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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www.ctc.se

F-0138

231206

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
Rated heat output (*)	<i>P_{rated}</i>	7	kW	Seasonal space heating energy efficiency	η_s	151	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	6,0	kW	T _j = -7 °C	<i>COP_d</i>	2,31	-
T _j = +2 °C	<i>P_{dh}</i>	3,7	kW	T _j = +2 °C	<i>COP_d</i>	3,77	-
T _j = +7 °C	<i>P_{dh}</i>	2,4	kW	T _j = +7 °C	<i>COP_d</i>	5,16	-
T _j = +12 °C	<i>P_{dh}</i>	2,4	kW	T _j = +12 °C	<i>COP_d</i>	6,31	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,8	kW	T _j = bivalent temperature	<i>COP_d</i>	1,96	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,8	kW	T _j = operation limit temperature	<i>COP_d</i>	1,96	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	6,78	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	3751	kWh				

For heat pump combination heater:

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

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 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
Rated heat output (*)	<i>P_{rated}</i>	7	kW	Seasonal space heating energy efficiency	η_s	197	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	6,0	kW	T _j = -7 °C	<i>COP_d</i>	3,07	-
T _j = +2 °C	<i>P_{dh}</i>	3,8	kW	T _j = +2 °C	<i>COP_d</i>	4,94	-
T _j = +7 °C	<i>P_{dh}</i>	2,5	kW	T _j = +7 °C	<i>COP_d</i>	6,46	-
T _j = +12 °C	<i>P_{dh}</i>	2,5	kW	T _j = +12 °C	<i>COP_d</i>	8,23	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,2	kW	T _j = bivalent temperature	<i>COP_d</i>	2,54	-
T _j = operation limit temperature	<i>P_{dh}</i>	7,2	kW	T _j = operation limit temperature	<i>COP_d</i>	2,54	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	-10	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	3016	kWh				

For heat pump combination heater:

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

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 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
Rated heat output (*)	<i>P_{rated}</i>	8	kW	Seasonal space heating energy efficiency	η_s	132	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	5,3	kW	T _j = -7 °C	<i>COP_d</i>	2,75	-
T _j = +2 °C	<i>P_{dh}</i>	3,0	kW	T _j = +2 °C	<i>COP_d</i>	4,33	-
T _j = +7 °C	<i>P_{dh}</i>	2,1	kW	T _j = +7 °C	<i>COP_d</i>	5,75	-
T _j = +12 °C	<i>P_{dh}</i>	2,4	kW	T _j = +12 °C	<i>COP_d</i>	6,62	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,04	-
T _j = operation limit temperature	<i>P_{dh}</i>	3,2	kW	T _j = operation limit temperature	<i>COP_d</i>	1,53	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	6,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,92	-
Bivalent temperature	<i>T_{biv}</i>	-13	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	5,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	6130	kWh				

For heat pump combination heater:				For heat pump combination heater:			
Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	η_{wh}	NA	%
Daily electricity consumption	<i>Q_{elec}</i>	NA	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	NA	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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.



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
Rated heat output (*)	P_{rated}	8	kW	Seasonal space heating energy efficiency	η_s	167	%
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	P_{dh}	5,1	kW	T _j = -7 °C	COP_d	3,51	-
T _j = +2 °C	P_{dh}	3,0	kW	T _j = +2 °C	COP_d	5,29	-
T _j = +7 °C	P_{dh}	2,1	kW	T _j = +7 °C	COP_d	6,95	-
T _j = +12 °C	P_{dh}	2,4	kW	T _j = +12 °C	COP_d	8,03	-
T _j = bivalent temperature	P_{dh}	6,4	kW	T _j = bivalent temperature	COP_d	2,34	-
T _j = operation limit temperature	P_{dh}	5,3	kW	T _j = operation limit temperature	COP_d	2,00	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	P_{dh}	6,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	COP_d	2,34	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	NA	kW	Cycling interval efficiency	COP_{cyc}	NA	-
Degradation co-efficient	C_{dh}	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P_{sup}	2,7	kW
Thermostat-off mode	P_{TO}	0,015	kW	Type of energy input Electric			
Standby mode	P_{SB}	0,015	kW				
Crankcase heater mode	P_{CK}	0,015	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2787	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	NA / 47	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ /h
Annual energy consumption	Q_{HE}	4653	kWh				

For heat pump combination heater:							
Declared load profile	NA	Efficiency class	NA	Water heating energy efficiency	η_{wh}	NA	%
Daily electricity consumption	Q_{elec}	NA	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	NA	kWh	Annual fuel consumption	AFC	NA	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.



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
Rated heat output (*)	<i>P_{rated}</i>	8	kW	Seasonal space heating energy efficiency	η_s	176	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>		kW	T _j = -7 °C	<i>COP_d</i>		-
T _j = +2 °C	<i>P_{dh}</i>	7,5	kW	T _j = +2 °C	<i>COP_d</i>	2,22	-
T _j = +7 °C	<i>P_{dh}</i>	4,8	kW	T _j = +7 °C	<i>COP_d</i>	3,82	-
T _j = +12 °C	<i>P_{dh}</i>	2,3	kW	T _j = +12 °C	<i>COP_d</i>	5,84	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,5	kW	T _j = bivalent temperature	<i>COP_d</i>	7,49	-
T _j = operation limit temperature	<i>P_{dh}</i>	7,5	kW	T _j = operation limit temperature	<i>COP_d</i>	7,49	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	2	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	2	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	1,00	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input: Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-			m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	2236	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	116	%
Daily electricity consumption	<i>Q_{elec}</i>	7	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1445	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

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:	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
Rated heat output (*)	<i>P_{rated}</i>	8	kW	Seasonal space heating energy efficiency	η_s	240	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	NA	kW	T _j = -7 °C	<i>COP_d</i>	NA	-
T _j = +2 °C	<i>P_{dh}</i>	7,5	kW	T _j = +2 °C	<i>COP_d</i>	2,85	-
T _j = +7 °C	<i>P_{dh}</i>	4,7	kW	T _j = +7 °C	<i>COP_d</i>	5,53	-
T _j = +12 °C	<i>P_{dh}</i>	2,4	kW	T _j = +12 °C	<i>COP_d</i>	7,50	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,85	-
T _j = operation limit temperature	<i>P_{dh}</i>	7,5	kW	T _j = operation limit temperature	<i>COP_d</i>	2,85	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	2	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	2	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2787	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	1650	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	116	%
Daily electricity consumption	<i>Q_{elec}</i>	6,570	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1445	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.

Contact details

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231206

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
Rated heat output (*)	<i>P_{rated}</i>	7	kW	Seasonal space heating energy efficiency	η_s	151	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	6,0	kW	T _j = -7 °C	<i>COP_d</i>	2,31	-
T _j = +2 °C	<i>P_{dh}</i>	3,7	kW	T _j = +2 °C	<i>COP_d</i>	3,77	-
T _j = +7 °C	<i>P_{dh}</i>	2,4	kW	T _j = +7 °C	<i>COP_d</i>	5,16	-
T _j = +12 °C	<i>P_{dh}</i>	2,4	kW	T _j = +12 °C	<i>COP_d</i>	6,31	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,8	kW	T _j = bivalent temperature	<i>COP_d</i>	1,96	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,8	kW	T _j = operation limit temperature	<i>COP_d</i>	1,96	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	6,78	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	3751	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	99,1	%
Daily electricity consumption	<i>Q_{elec}</i>	7,7	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1694	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.

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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
Rated heat output (*)	<i>P_{rated}</i>	7	kW	Seasonal space heating energy efficiency	η_s	197	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	6,0	kW	T _j = -7 °C	<i>COP_d</i>	3,07	-
T _j = +2 °C	<i>P_{dh}</i>	3,8	kW	T _j = +2 °C	<i>COP_d</i>	4,94	-
T _j = +7 °C	<i>P_{dh}</i>	2,5	kW	T _j = +7 °C	<i>COP_d</i>	6,46	-
T _j = +12 °C	<i>P_{dh}</i>	2,5	kW	T _j = +12 °C	<i>COP_d</i>	8,23	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,2	kW	T _j = bivalent temperature	<i>COP_d</i>	2,54	-
T _j = operation limit temperature	<i>P_{dh}</i>	7,2	kW	T _j = operation limit temperature	<i>COP_d</i>	2,54	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	NA	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	NA	-
Bivalent temperature	<i>T_{biv}</i>	-10	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	0,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	3016	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	99	%
Daily electricity consumption	Q _{elec}	8	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1694	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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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
Rated heat output (*)	<i>P_{rated}</i>	8	kW	Seasonal space heating energy efficiency	η_s	132	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	5,3	kW	T _j = -7 °C	<i>COP_d</i>	2,75	-
T _j = +2 °C	<i>P_{dh}</i>	3,0	kW	T _j = +2 °C	<i>COP_d</i>	4,33	-
T _j = +7 °C	<i>P_{dh}</i>	2,1	kW	T _j = +7 °C	<i>COP_d</i>	5,75	-
T _j = +12 °C	<i>P_{dh}</i>	2,4	kW	T _j = +12 °C	<i>COP_d</i>	6,62	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,04	-
T _j = operation limit temperature	<i>P_{dh}</i>	3,2	kW	T _j = operation limit temperature	<i>COP_d</i>	1,53	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	6,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,92	-
Bivalent temperature	<i>T_{biv}</i>	-13	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	5,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2787	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	6130	kWh				

For heat pump combination heater:				For heat pump combination heater:			
Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	84,1	%
Daily electricity consumption	<i>Q_{elec}</i>	9,07	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1995	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.



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
Rated heat output (*)	<i>P_{rated}</i>	8	kW	Seasonal space heating energy efficiency	η_s	167	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	<i>P_{dh}</i>	5,1	kW	T _j = -7 °C	<i>COP_d</i>	3,51	-
T _j = +2 °C	<i>P_{dh}</i>	3,0	kW	T _j = +2 °C	<i>COP_d</i>	5,29	-
T _j = +7 °C	<i>P_{dh}</i>	2,1	kW	T _j = +7 °C	<i>COP_d</i>	6,95	-
T _j = +12 °C	<i>P_{dh}</i>	2,4	kW	T _j = +12 °C	<i>COP_d</i>	8,03	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,34	-
T _j = operation limit temperature	<i>P_{dh}</i>	5,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,00	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	6,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,34	-
Bivalent temperature	<i>T_{biv}</i>	-15	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	NA	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	NA	-
Degradation co-efficient	<i>C_{dh}</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,015	kW	Rated heat output (*)	<i>P_{sup}</i>	2,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,015	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,015	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	Variable			-	2787	NA	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	NA / 47	dB	-	NA		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	4653	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	84,1	%
Daily electricity consumption	<i>Q_{elec}</i>	9,07	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	AEC	1995	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.