

Average climate and High temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic
Air-to-water heat pump:	Yes
Water-to-water heat pump:	No
Brine-to-water heat pump:	No
Low-temperature heat pump:	No
Equipped with a supplementary heater:	No
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>Prated</i>	14	kW	Seasonal space heating energy efficiency	η_s	119	%
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>	10,9	kW	T _j = -7 °C	<i>COP_d</i>	2,35	-
T _j = +2 °C	<i>P_{dh}</i>	13,4	kW	T _j = +2 °C	<i>COP_d</i>	2,97	-
T _j = +7 °C	<i>P_{dh}</i>	17,3	kW	T _j = +7 °C	<i>COP_d</i>	3,81	-
T _j = +12 °C	<i>P_{dh}</i>	20,3	kW	T _j = +12 °C	<i>COP_d</i>	4,62	-
T _j = bivalent temperature	<i>P_{dh}</i>	11,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,49	-
T _j = operation limit temperature	<i>P_{dh}</i>	10,0	kW	T _j = operation limit temperature	<i>COP_d</i>	2,10	-
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>	-5	°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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	4,3	kW
Thermostat-off mode	<i>P_{TO}</i>	0,020	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,018	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	Fixed			-	4100	<i>m³/h</i>	
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	na/66	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	9646	<i>kWh</i>				
For heat pump combination heater:							
Declared load profile	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

Contact details

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *P_{designh}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Average climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic
Air-to-water heat pump:	Yes
Water-to-water heat pump:	No
Brine-to-water heat pump:	No
Low-temperature heat pump:	No
Equipped with a supplementary heater:	No
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>Prated</i>	14	kW	Seasonal space heating energy efficiency	η_s	145	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = - 7 °C	<i>Pdh</i>	11,5	kW	T j = - 7 °C	<i>COPd</i>	3,07	-
T j = + 2 °C	<i>Pdh</i>	14,0	kW	T j = + 2 °C	<i>COPd</i>	3,72	-
T j = + 7 °C	<i>Pdh</i>	17,7	kW	T j = + 7 °C	<i>COPd</i>	4,64	-
T j = + 12 °C	<i>Pdh</i>	21,4	kW	T j = + 12 °C	<i>COPd</i>	5,56	-
T j = bivalent temperature	<i>Pdh</i>	11,5	kW	T j = bivalent temperature	<i>COPd</i>	3,15	-
T j = operation limit temperature	<i>Pdh</i>	10,5	kW	T j = operation limit temperature	<i>COPd</i>	2,82	-
For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	-6	°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>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</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>	0,018	kW	Rated heat output (*)	<i>Psup</i>	3,4	kW
Thermostat-off mode	<i>P TO</i>	0,068	kW	Type of energy input Electric			
Standby mode	<i>P SB</i>	0,018	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	Fixed			-	4100	<i>m3/h</i>	
Sound power level, indoors/outdoors	<i>L WA</i>	na/66	<i>dB</i>	-	na	<i>m3/h</i>	
Annual energy consumption	<i>Q HE</i>	7739	<i>kWh</i>				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Qelec</i>	na	kWh	Daily fuel consumption	<i>Qfuel</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*. (**) If *Cdh* is not determined by measurement then the default degradation coefficient is *Cdh* = 0,9.