

Warm climate and Medium temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	144 %
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>Prated</i>	14	kW	Seasonal space heating energy efficiency	η_s	140	%
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>	13,0	kW	T _j = +2 °C	<i>COP_d</i>	2,56	-
T _j = +7 °C	<i>P_{dh}</i>	16,6	kW	T _j = +7 °C	<i>COP_d</i>	3,29	-
T _j = +12 °C	<i>P_{dh}</i>	20,0	kW	T _j = +12 °C	<i>COP_d</i>	4,33	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,67	-
T _j = operation limit temperature	<i>P_{dh}</i>	13,8	kW	T _j = operation limit temperature	<i>COP_d</i>	2,76	-
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>	3	°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>	0,99	-	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>	1,3	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				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	5390	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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

Model(s):	CTC EcoAir 420 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	179 %
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>Prated</i>	15	kW	Seasonal space heating energy efficiency	η_s	175	%
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>	na	kW	T j = - 7 °C	<i>COPd</i>	na	-
T j = + 2 °C	<i>Pdh</i>	13,9	kW	T j = + 2 °C	<i>COPd</i>	3,54	-
T j = + 7 °C	<i>Pdh</i>	17,6	kW	T j = + 7 °C	<i>COPd</i>	4,46	-
T j = + 12 °C	<i>Pdh</i>	21,2	kW	T j = + 12 °C	<i>COPd</i>	5,43	-
T j = bivalent temperature	<i>Pdh</i>	14,2	kW	T j = bivalent temperature	<i>COPd</i>	3,65	-
T j = operation limit temperature	<i>Pdh</i>	14,2	kW	T j = operation limit temperature	<i>COPd</i>	3,60	-
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>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	2	°C
Cycling interval capacity for heating	<i>P cyc</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>P sup</i>	1,4	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				
Other items							
Capacity control	Fixed						
Sound power level, indoors/ outdoors	<i>L WA</i>	na/66	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Annual energy consumption	<i>Q HE</i>	4574	kWh	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	na	m3/h

For heat pump combination heater:

Declared load profile	na	Efficiency class		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

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

Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000

www.ctc.se

181001

Average climate and Medium temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	123 %
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>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_{cy}</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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	9646	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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:

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Average climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	149 %
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>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 cyc</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			-			
Sound power level, indoors/ outdoors	<i>L WA</i>	na/66	dB	-			
Annual energy consumption	<i>Q HE</i>	7739	kWh	-			

For heat pump combination heater:

Declared load profile	na	Efficiency class		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

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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Cold climate and Medium temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	111 %
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>Prated</i>	11	kW	Seasonal space heating energy efficiency	η_s	107	%
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>	11,0	kW	T _j = -7 °C	<i>COP_d</i>	2,52	-
T _j = +2 °C	<i>P_{dh}</i>	13,6	kW	T _j = +2 °C	<i>COP_d</i>	3,15	-
T _j = +7 °C	<i>P_{dh}</i>	17,4	kW	T _j = +7 °C	<i>COP_d</i>	4,01	-
T _j = +12 °C	<i>P_{dh}</i>	20,5	kW	T _j = +12 °C	<i>COP_d</i>	4,76	-
T _j = bivalent temperature	<i>P_{dh}</i>	8,8	kW	T _j = bivalent temperature	<i>COP_d</i>	2,16	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,1	kW	T _j = operation limit temperature	<i>COP_d</i>	1,44	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	8,5	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,98	-
Bivalent temperature	<i>T_{biv}</i>	-14	°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_{cy}</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>	4,9	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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	9970	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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.

Cold climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	133 %
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>Prated</i>	12	kW	Seasonal space heating energy efficiency	η_s	129	%
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>	11,6	kW	T _j = -7 °C	<i>COP_d</i>	3,20	-
T _j = +2 °C	<i>P_{dh}</i>	14,1	kW	T _j = +2 °C	<i>COP_d</i>	3,84	-
T _j = +7 °C	<i>P_{dh}</i>	17,8	kW	T _j = +7 °C	<i>COP_d</i>	4,74	-
T _j = +12 °C	<i>P_{dh}</i>	21,3	kW	T _j = +12 °C	<i>COP_d</i>	5,54	-
T _j = bivalent temperature	<i>P_{dh}</i>	9,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,74	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,8	kW	T _j = operation limit temperature	<i>COP_d</i>	2,04	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	9,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,63	-
Bivalent temperature	<i>T_{biv}</i>	-14	°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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	5,0	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				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	8876	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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:

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Warm climate and Medium temperature

Model(s):	CTC EcoAir 420 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	127 %
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>Prated</i>	15	kW	Seasonal space heating energy efficiency	η_s	123	%
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>	13,0	kW	T _j = +2 °C	<i>COP_d</i>	2,25	-
T _j = +7 °C	<i>P_{dh}</i>	16,6	kW	T _j = +7 °C	<i>COP_d</i>	2,94	-
T _j = +12 °C	<i>P_{dh}</i>	20,0	kW	T _j = +12 °C	<i>COP_d</i>	3,90	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,7	kW	T _j = bivalent temperature	<i>COP_d</i>	2,34	-
T _j = operation limit temperature	<i>P_{dh}</i>	13,8	kW	T _j = operation limit temperature	<i>COP_d</i>	2,45	-
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>	3	°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>	0,99	-	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>	1,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,051	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				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	6254	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	82	%
Daily electricity consumption	<i>Q_{elec}</i>	9,302	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2047	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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

Warm climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	151 %
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>Prated</i>	18	kW	Seasonal space heating energy efficiency	η_s	147	%
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>	13,9	kW	T _j = +2 °C	<i>COP_d</i>	2,98	-
T _j = +7 °C	<i>P_{dh}</i>	17,6	kW	T _j = +7 °C	<i>COP_d</i>	3,89	-
T _j = +12 °C	<i>P_{dh}</i>	21,3	kW	T _j = +12 °C	<i>COP_d</i>	4,82	-
T _j = bivalent temperature	<i>P_{dh}</i>	15,4	kW	T _j = bivalent temperature	<i>COP_d</i>	3,17	-
T _j = operation limit temperature	<i>P_{dh}</i>	14,2	kW	T _j = operation limit temperature	<i>COP_d</i>	3,04	-
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>	4	°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>	0,92	-	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>	4,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,160	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				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	6419	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	82	%
Daily electricity consumption	<i>Q_{elec}</i>	9,302	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2047	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

Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000

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Average climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 420 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	117 %
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>Prated</i>	15	kW	Seasonal space heating energy efficiency	η_s	114	%
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>	10,8	kW	T _j = -7 °C	<i>COP_d</i>	2,22	-
T _j = +2 °C	<i>P_{dh}</i>	14,5	kW	T _j = +2 °C	<i>COP_d</i>	3,05	-
T _j = +7 °C	<i>P_{dh}</i>	17,1	kW	T _j = +7 °C	<i>COP_d</i>	3,59	-
T _j = +12 °C	<i>P_{dh}</i>	19,2	kW	T _j = +12 °C	<i>COP_d</i>	4,17	-
T _j = bivalent temperature	<i>P_{dh}</i>	1,6	kW	T _j = bivalent temperature	<i>COP_d</i>	2,39	-
T _j = operation limit temperature	<i>P_{dh}</i>	9,5	kW	T _j = operation limit temperature	<i>COP_d</i>	1,91	-
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>	-4	°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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	5,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,051	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				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	10830	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	B	Water heating energy efficiency	η_{wh}	70	%
Daily electricity consumption	<i>Q_{elec}</i>	10,835	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2384	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

Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000

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Average climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	A -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	123 %
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>Prated</i>	16	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>	11,5	kW	T _j = -7 °C	<i>COP_d</i>	2,49	-
T _j = +2 °C	<i>P_{dh}</i>	14,0	kW	T _j = +2 °C	<i>COP_d</i>	3,12	-
T _j = +7 °C	<i>P_{dh}</i>	17,7	kW	T _j = +7 °C	<i>COP_d</i>	4,02	-
T _j = +12 °C	<i>P_{dh}</i>	21,4	kW	T _j = +12 °C	<i>COP_d</i>	4,91	-
T _j = bivalent temperature	<i>P_{dh}</i>	12,3	kW	T _j = bivalent temperature	<i>COP_d</i>	2,71	-
T _j = operation limit temperature	<i>P_{dh}</i>	10,5	kW	T _j = operation limit temperature	<i>COP_d</i>	2,26	-
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>	-4	°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_{cy}</i>	na	-
Degradation co-efficient	<i>C_{dh}</i>	0,94	-	Heating water operating limit temperature	<i>WTOL</i>	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P_{OFF}</i>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	5,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,160	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	10879	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	B	Water heating energy efficiency	η_{wh}	70	%
Daily electricity consumption	<i>Q_{elec}</i>	10,835	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2384	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.

Cold climate and Medium temperature

Model(s):	CTC EcoAir 420 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	94 %
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>Prated</i>	15	kW	Seasonal space heating energy efficiency	η_s	90	%
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>	11,0	kW	T _j = -7 °C	<i>COP_d</i>	2,16	-
T _j = +2 °C	<i>P_{dh}</i>	13,6	kW	T _j = +2 °C	<i>COP_d</i>	2,73	-
T _j = +7 °C	<i>P_{dh}</i>	17,4	kW	T _j = +7 °C	<i>COP_d</i>	3,55	-
T _j = +12 °C	<i>P_{dh}</i>	20,5	kW	T _j = +12 °C	<i>COP_d</i>	4,26	-
T _j = bivalent temperature	<i>P_{dh}</i>	10,1	kW	T _j = bivalent temperature	<i>COP_d</i>	2,01	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,1	kW	T _j = operation limit temperature	<i>COP_d</i>	1,13	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	8,5	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,62	-
Bivalent temperature	<i>T_{biv}</i>	-10	°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_{cy}</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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	8,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,051	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				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	15548	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	64	%
Daily electricity consumption	<i>Q_{elec}</i>	11,937	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2626	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

Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000

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Cold climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC EcoZenith 550		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	No	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	106 %
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>Prated</i>	18	kW	Seasonal space heating energy efficiency	η_s	102	%
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>	11,6	kW	T _j = -7 °C	<i>COP_d</i>	2,60	-
T _j = +2 °C	<i>P_{dh}</i>	14,1	kW	T _j = +2 °C	<i>COP_d</i>	3,22	-
T _j = +7 °C	<i>P_{dh}</i>	17,8	kW	T _j = +7 °C	<i>COP_d</i>	4,11	-
T _j = +12 °C	<i>P_{dh}</i>	21,4	kW	T _j = +12 °C	<i>COP_d</i>	4,90	-
T _j = bivalent temperature	<i>P_{dh}</i>	11,3	kW	T _j = bivalent temperature	<i>COP_d</i>	2,54	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,8	kW	T _j = operation limit temperature	<i>COP_d</i>	1,48	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	9,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,59	-
Bivalent temperature	<i>T_{biv}</i>	-8	°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>	0,93	-	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>	11,0	kW
Thermostat-off mode	<i>P_{TO}</i>	0,160	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,018	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
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>	16783	<i>kWh</i>				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	64	%
Daily electricity consumption	<i>Q_{elec}</i>	11,937	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2626	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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www.ctc.se

181001

Warm climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 420 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	141 %
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>Prated</i>	14	kW	Seasonal space heating energy efficiency	η_s	140	%
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>	13,0	kW	T _j = +2 °C	<i>COP_d</i>	2,56	-
T _j = +7 °C	<i>P_{dh}</i>	16,6	kW	T _j = +7 °C	<i>COP_d</i>	3,29	-
T _j = +12 °C	<i>P_{dh}</i>	20,0	kW	T _j = +12 °C	<i>COP_d</i>	4,33	-
T _j = bivalent temperature	<i>P_{dh}</i>	13,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,67	-
T _j = operation limit temperature	<i>P_{dh}</i>	13,8	kW	T _j = operation limit temperature	<i>COP_d</i>	2,76	-
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>	3	°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>	0,99	-	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>	1,3	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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	5390	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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

Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000

www.ctc.se

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Warm climate and Low temperature

341 26 Ljungby

Model(s):	CTC EcoAir 420 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	176 %
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>Prated</i>	15	kW	Seasonal space heating energy efficiency	η_s	175	%
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>	13,9	kW	T _j = +2 °C	<i>COP_d</i>	3,54	-
T _j = +7 °C	<i>P_{dh}</i>	17,6	kW	T _j = +7 °C	<i>COP_d</i>	4,46	-
T _j = +12 °C	<i>P_{dh}</i>	21,2	kW	T _j = +12 °C	<i>COP_d</i>	5,43	-
T _j = bivalent temperature	<i>P_{dh}</i>	14,2	kW	T _j = bivalent temperature	<i>COP_d</i>	3,65	-
T _j = operation limit temperature	<i>P_{dh}</i>	14,2	kW	T _j = operation limit temperature	<i>COP_d</i>	3,60	-
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>	3	°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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	1,4	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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
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>	4574	<i>kWh</i>				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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.

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Average climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 420 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	120 %
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>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_{cy}</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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	9646	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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.

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Average climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	146 %
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>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>P_{dh}</i>	11,5	kW	T _j = -7 °C	<i>COP_d</i>	3,07	-
T _j = +2 °C	<i>P_{dh}</i>	14,0	kW	T _j = +2 °C	<i>COP_d</i>	3,72	-
T _j = +7 °C	<i>P_{dh}</i>	17,7	kW	T _j = +7 °C	<i>COP_d</i>	4,64	-
T _j = +12 °C	<i>P_{dh}</i>	21,4	kW	T _j = +12 °C	<i>COP_d</i>	5,56	-
T _j = bivalent temperature	<i>P_{dh}</i>	11,5	kW	T _j = bivalent temperature	<i>COP_d</i>	3,15	-
T _j = operation limit temperature	<i>P_{dh}</i>	10,5	kW	T _j = operation limit temperature	<i>COP_d</i>	2,82	-
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	°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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	7739	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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:

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Cold climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 420 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	108 %
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>Prated</i>	11	kW	Seasonal space heating energy efficiency	η_s	107	%
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>	11,0	kW	T _j = -7 °C	<i>COP_d</i>	2,52	-
T _j = +2 °C	<i>P_{dh}</i>	13,6	kW	T _j = +2 °C	<i>COP_d</i>	3,15	-
T _j = +7 °C	<i>P_{dh}</i>	17,4	kW	T _j = +7 °C	<i>COP_d</i>	4,01	-
T _j = +12 °C	<i>P_{dh}</i>	20,5	kW	T _j = +12 °C	<i>COP_d</i>	4,76	-
T _j = bivalent temperature	<i>P_{dh}</i>	8,8	kW	T _j = bivalent temperature	<i>COP_d</i>	2,16	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,1	kW	T _j = operation limit temperature	<i>COP_d</i>	1,44	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	8,5	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,98	-
Bivalent temperature	<i>T_{biv}</i>	-14	°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_{cy}</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>	4,9	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				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	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>	9970	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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:

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Cold climate and Low temperature

Model(s):	CTC EcoAir 420 + CTC Basicstyrning		
Air-to-water heat pump:	Yes	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	No	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	130 %
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>Prated</i>	12	kW	Seasonal space heating energy efficiency	η_s	129	%
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>	11,6	kW	T _j = -7 °C	<i>COP_d</i>	3,20	-
T _j = +2 °C	<i>P_{dh}</i>	14,1	kW	T _j = +2 °C	<i>COP_d</i>	3,84	-
T _j = +7 °C	<i>P_{dh}</i>	17,8	kW	T _j = +7 °C	<i>COP_d</i>	4,74	-
T _j = +12 °C	<i>P_{dh}</i>	21,3	kW	T _j = +12 °C	<i>COP_d</i>	5,54	-
T _j = bivalent temperature	<i>P_{dh}</i>	9,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,74	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,8	kW	T _j = operation limit temperature	<i>COP_d</i>	2,04	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	9,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,63	-
Bivalent temperature	<i>T_{biv}</i>	-14	°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_{cy}</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>	0,018	kW	Rated heat output (*)	<i>P_{sup}</i>	5,0	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	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW				
Other items				For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	Fixed			-	4100	na	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/66	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	8876	kWh				

For heat pump combination heater:

Declared load profile	na	Efficiency class		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:

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181001