

Warm climate and Medium temperature

Model(s):	CTC EcoAir 510M 230V+ 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:	165 %
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}	9	kW	Seasonal space heating energy efficiency	η_s	161	%
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}	9,2	kW	T _j = +2 °C	COP_d	2,28	-
T _j = +7 °C	P_{dh}	6,0	kW	T _j = +7 °C	COP_d	3,65	-
T _j = +12 °C	P_{dh}	2,8	kW	T _j = +12 °C	COP_d	5,71	-
T _j = bivalent temperature	P_{dh}	9,2	kW	T _j = bivalent temperature	COP_d	2,28	-
T _j = operation limit temperature	P_{dh}	9,2	kW	T _j = operation limit temperature	COP_d	2,28	-
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	0	°C
Cycling interval capacity for heating	P_{cych}	na	kW	Cycling interval efficiency	COP_{cyc}	na	-
Degradation co-efficient	C_{dh}	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P_{sup}	0,1	kW
Thermostat-off mode	P_{TO}	0,009	kW	Type of energy input: Electric			
Standby mode	P_{SB}	0,015	kW				
Crankcase heater mode	P_{CK}	0,023	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	na/60	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}	3003	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

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

www.ctc.se

181001



Warm climate and Low temperature

Model(s):	CTC EcoAir 510M 230V+ 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:	222 %
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>	9	kW	Seasonal space heating energy efficiency	η_s	218	%
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>	9,2	kW	T _j = +2 °C	<i>COP_d</i>	3,01	-
T _j = +7 °C	<i>P_{dh}</i>	6,1	kW	T _j = +7 °C	<i>COP_d</i>	5,27	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	7,65	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,3	kW	T _j = bivalent temperature	<i>COP_d</i>	3,01	-
T _j = operation limit temperature	<i>P_{dh}</i>	9,2	kW	T _j = operation limit temperature	<i>COP_d</i>	3,01	-
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>	0	°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>	65	°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>	0,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	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>	2250	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.

Average climate and Medium temperature

Model(s):	CTC EcoAir 510M 230V+ 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:	129 %
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>	8	kW	Seasonal space heating energy efficiency	η_s	125	%
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>	7,0	kW	T _j = -7 °C	<i>COP_d</i>	1,95	-
T _j = +2 °C	<i>P_{dh}</i>	4,4	kW	T _j = +2 °C	<i>COP_d</i>	3,14	-
T _j = +7 °C	<i>P_{dh}</i>	2,8	kW	T _j = +7 °C	<i>COP_d</i>	4,63	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	6,17	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,2	kW	T _j = bivalent temperature	<i>COP_d</i>	1,84	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,1	kW	T _j = operation limit temperature	<i>COP_d</i>	1,71	-
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>	-8	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	65	°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>	1,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	5155	<i>kWh</i>				

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

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

www.ctc.se

181001



Average climate and Low temperature

Model(s):	CTC EcoAir 510M 230V+ 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:	175 %
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>	4	kW	Seasonal space heating energy efficiency	η_s	171	%
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>	3,9	kW	T _j = -7 °C	<i>COP_d</i>	2,92	-
T _j = +2 °C	<i>P_{dh}</i>	2,5	kW	T _j = +2 °C	<i>COP_d</i>	4,70	-
T _j = +7 °C	<i>P_{dh}</i>	2,6	kW	T _j = +7 °C	<i>COP_d</i>	5,93	-
T _j = +12 °C	<i>P_{dh}</i>	1,3	kW	T _j = +12 °C	<i>COP_d</i>	7,59	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,3	kW	T _j = bivalent temperature	<i>COP_d</i>	2,62	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,62	-
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>	0	°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>	0,97	-	Heating water operating limit temperature	<i>WTOL</i>	65	°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>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	2005	<i>kWh</i>				

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 510M 230V+ 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:	120 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	116	%
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>	3,6	kW	T _j = -7 °C	<i>COP_d</i>	2,45	-
T _j = +2 °C	<i>P_{dh}</i>	2,1	kW	T _j = +2 °C	<i>COP_d</i>	3,80	-
T _j = +7 °C	<i>P_{dh}</i>	2,5	kW	T _j = +7 °C	<i>COP_d</i>	4,95	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	6,44	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,9	kW	T _j = bivalent temperature	<i>COP_d</i>	1,61	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,8	kW	T _j = operation limit temperature	<i>COP_d</i>	1,56	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	4,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,80	-
Bivalent temperature	<i>T_{biv}</i>	-17	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	65	°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>	5,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	4791	<i>kWh</i>				

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 510M 230V+ 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:	158 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	154	%
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>	3,7	kW	T _j = -7 °C	<i>COP_d</i>	3,16	-
T _j = +2 °C	<i>P_{dh}</i>	2,2	kW	T _j = +2 °C	<i>COP_d</i>	5,08	-
T _j = +7 °C	<i>P_{dh}</i>	2,6	kW	T _j = +7 °C	<i>COP_d</i>	6,27	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	7,59	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,24	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,9	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>	5,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,49	-
Bivalent temperature	<i>T_{biv}</i>	-17	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	0,97	-	Heating water operating limit temperature	<i>WTOL</i>	65	°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>	3,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	3780	<i>kWh</i>				

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 Medium temperature

Model(s):	CTC EcoAir 510M 230V + 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:	165 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	-
Heat pump combination heater:	Yes		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>P_{rated}</i>	9	kW	Seasonal space heating energy efficiency	η_s	161	%
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>	9,2	kW	T _j = +2 °C	<i>COP_d</i>	2,28	-
T _j = +7 °C	<i>P_{dh}</i>	6,0	kW	T _j = +7 °C	<i>COP_d</i>	3,65	-
T _j = +12 °C	<i>P_{dh}</i>	2,8	kW	T _j = +12 °C	<i>COP_d</i>	5,71	-
T _j = bivalent temperature	<i>P_{dh}</i>	9,2	kW	T _j = bivalent temperature	<i>COP_d</i>	2,28	-
T _j = operation limit temperature	<i>P_{dh}</i>	9,2	kW	T _j = operation limit temperature	<i>COP_d</i>	2,28	-
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>	0	°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>	65	°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>	0,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	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>	3003	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	122	%
Daily electricity consumption	<i>Q_{elec}</i>	6,232	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1371	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 510M 230V + 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:	222 %
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}	9	kW	Seasonal space heating energy efficiency	η_s	218	%
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}	9,2	kW	T _j = +2 °C	COP_d	3,01	-
T _j = +7 °C	P_{dh}	6,1	kW	T _j = +7 °C	COP_d	5,27	-
T _j = +12 °C	P_{dh}	2,9	kW	T _j = +12 °C	COP_d	7,65	-
T _j = bivalent temperature	P_{dh}	7,3	kW	T _j = bivalent temperature	COP_d	3,01	-
T _j = operation limit temperature	P_{dh}	9,2	kW	T _j = operation limit temperature	COP_d	3,01	-
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	0	°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	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P_{sup}	0,1	kW
Thermostat-off mode	P_{TO}	0,009	kW	Type of energy input	Electric		
Standby mode	P_{SB}	0,015	kW				
Crankcase heater mode	P_{CK}	0,023	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	na/60	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}	2250	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	122	%
Daily electricity consumption	Q_{elec}	6,232	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	1371	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

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

www.ctc.se

200701

Average climate and Medium temperature

Model(s):	CTC EcoAir 510M 230V + 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:	129 %
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>	8	kW	Seasonal space heating energy efficiency	η_s	125	%
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>	7,0	kW	T _j = -7 °C	<i>COP_d</i>	1,95	-
T _j = +2 °C	<i>P_{dh}</i>	4,4	kW	T _j = +2 °C	<i>COP_d</i>	3,14	-
T _j = +7 °C	<i>P_{dh}</i>	2,8	kW	T _j = +7 °C	<i>COP_d</i>	4,63	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	6,17	-
T _j = bivalent temperature	<i>P_{dh}</i>	7,2	kW	T _j = bivalent temperature	<i>COP_d</i>	1,84	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,1	kW	T _j = operation limit temperature	<i>COP_d</i>	1,71	-
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>	-8	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	65	°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>	1,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input	Electric		
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	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>	5155	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	97	%
Daily electricity consumption	<i>Q_{elec}</i>	7,880	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1734	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

200701

Average climate and Low temperature

Model(s):	CTC EcoAir 510M 230V + 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:	175 %
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>	4	kW	Seasonal space heating energy efficiency	η_s	171	%
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>	3,9	kW	T _j = -7 °C	<i>COP_d</i>	2,92	-
T _j = +2 °C	<i>P_{dh}</i>	2,5	kW	T _j = +2 °C	<i>COP_d</i>	4,70	-
T _j = +7 °C	<i>P_{dh}</i>	2,6	kW	T _j = +7 °C	<i>COP_d</i>	5,93	-
T _j = +12 °C	<i>P_{dh}</i>	1,3	kW	T _j = +12 °C	<i>COP_d</i>	7,59	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,3	kW	T _j = bivalent temperature	<i>COP_d</i>	2,62	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,62	-
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>	0,97	-	Heating water operating limit temperature	<i>WTOL</i>	65	°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>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	kW				
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors			
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Annual energy consumption	<i>Q_{HE}</i>	2005	kWh				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	97	%
Daily electricity consumption	<i>Q_{elec}</i>	7,880	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1734	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

200701



Model(s):	CTC EcoAir 510M 230V + 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:	120 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	116	%
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>	3,6	kW	T _j = -7 °C	<i>COP_d</i>	2,45	-
T _j = +2 °C	<i>P_{dh}</i>	2,1	kW	T _j = +2 °C	<i>COP_d</i>	3,80	-
T _j = +7 °C	<i>P_{dh}</i>	2,5	kW	T _j = +7 °C	<i>COP_d</i>	4,95	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	6,44	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,9	kW	T _j = bivalent temperature	<i>COP_d</i>	1,61	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,8	kW	T _j = operation limit temperature	<i>COP_d</i>	1,56	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	4,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,80	-
Bivalent temperature	<i>T_{biv}</i>	-17	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	65	°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>	5,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	4791	<i>kWh</i>				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	82	%
Daily electricity consumption	<i>Q_{elec}</i>	9,257	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2037	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 510M 230V + 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:	158 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	154	%
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>	3,7	kW	T _j = -7 °C	<i>COP_d</i>	3,16	-
T _j = +2 °C	<i>P_{dh}</i>	2,2	kW	T _j = +2 °C	<i>COP_d</i>	5,08	-
T _j = +7 °C	<i>P_{dh}</i>	2,6	kW	T _j = +7 °C	<i>COP_d</i>	6,27	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	7,59	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,4	kW	T _j = bivalent temperature	<i>COP_d</i>	2,24	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,9	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>	5,1	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,49	-
Bivalent temperature	<i>T_{biv}</i>	-17	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	0,97	-	Heating water operating limit temperature	<i>WTOL</i>	65	°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>	3,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	kW	Type of energy input Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,023	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	3780	<i>kWh</i>				

For heat pump combination heater:

Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	82	%
Daily electricity consumption	<i>Q_{elec}</i>	9,257	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2037	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

200701



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255		
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:	143 %
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	139	%
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>	8,2	kW	T _j = +2 °C	<i>COP_d</i>	1,72	-
T _j = +7 °C	<i>P_{dh}</i>	5,7	kW	T _j = +7 °C	<i>COP_d</i>	3,01	-
T _j = +12 °C	<i>P_{dh}</i>	2,8	kW	T _j = +12 °C	<i>COP_d</i>	4,94	-
T _j = bivalent temperature	<i>P_{dh}</i>	8,2	kW	T _j = bivalent temperature	<i>COP_d</i>	1,72	-
T _j = operation limit temperature	<i>P_{dh}</i>	8,2	kW	T _j = operation limit temperature	<i>COP_d</i>	1,72	-
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>	0	°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>	65	°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>	0,009	kW	Electric			
Standby mode	<i>P_{SB}</i>	0,015	kW				
Crankcase heater mode	<i>P_{CK}</i>	0,000	kW	Type of energy input			
Other items							
Capacity control	Variable			For air-to-water heat pumps: Rated air flow rate, outdoors			
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Annual energy consumption	<i>Q_{HE}</i>	3078	kWh	-	6200	na	m ³ /h

For heat pump combination heater:

Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	68	%
Daily electricity consumption	<i>Q_{elec}</i>	6,856	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1508	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 510M 230V+ EcoZenith i255		
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:	195 %
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}	9	kW	Seasonal space heating energy efficiency	η_s	191	%
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}	8,8	kW	T _j = +2 °C	COP_d	2,38	-
T _j = +7 °C	P_{dh}	6,0	kW	T _j = +7 °C	COP_d	4,31	-
T _j = +12 °C	P_{dh}	2,9	kW	T _j = +12 °C	COP_d	6,51	-
T _j = bivalent temperature	P_{dh}	8,8	kW	T _j = bivalent temperature	COP_d	2,38	-
T _j = operation limit temperature	P_{dh}	8,8	kW	T _j = operation limit temperature	COP_d	2,38	-
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	0	°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	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P_{sup}	0,2	kW
Thermostat-off mode	P_{TO}	0,009	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	-	6200	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	na/60	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}	2475	kWh				

For heat pump combination heater:

Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	68	%
Daily electricity consumption	Q_{elec}	6,856	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	1508	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

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

www.ctc.se

200701

Average climate and Medium temperature

Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255		
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:	115 %
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	111	%
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>	1,67	-
T _j = +2 °C	<i>P_{dh}</i>	3,9	kW	T _j = +2 °C	<i>COP_d</i>	2,63	-
T _j = +7 °C	<i>P_{dh}</i>	2,5	kW	T _j = +7 °C	<i>COP_d</i>	3,99	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	5,40	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,0	kW	T _j = bivalent temperature	<i>COP_d</i>	1,67	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,9	kW	T _j = operation limit temperature	<i>COP_d</i>	1,51	-
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>	0	°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>	65	°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>	0,3	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	5134	<i>kWh</i>				

For heat pump combination heater:

Declared load profile	L	Efficiency class	B	Water heating energy efficiency	η_{wh}	Value	Unit
Daily electricity consumption	<i>Q_{elec}</i>	8,897	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1957	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

200701

Average climate and Low temperature

Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255		
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:	153 %
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>	4	kW	Seasonal space heating energy efficiency	η_s	149	%
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>	3,6	kW	T _j = -7 °C	<i>COP_d</i>	2,44	-
T _j = +2 °C	<i>P_{dh}</i>	2,3	kW	T _j = +2 °C	<i>COP_d</i>	3,91	-
T _j = +7 °C	<i>P_{dh}</i>	2,5	kW	T _j = +7 °C	<i>COP_d</i>	4,97	-
T _j = +12 °C	<i>P_{dh}</i>	1,3	kW	T _j = +12 °C	<i>COP_d</i>	6,45	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,0	kW	T _j = bivalent temperature	<i>COP_d</i>	2,25	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,0	kW	T _j = operation limit temperature	<i>COP_d</i>	2,25	-
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>	-7	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	0,97	-	Heating water operating limit temperature	<i>WTOL</i>	65	°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>	0,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	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	-	6200	m ³ /h
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	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>	2229	kWh				

For heat pump combination heater:

Declared load profile	L	Efficiency class	B	Water heating energy efficiency	η_{wh}	52	%
Daily electricity consumption	<i>Q_{elec}</i>	8,897	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1957	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

200701



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255		
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:	107 %
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>	4	kW	Seasonal space heating energy efficiency	η_s	103	%
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>	2,6	kW	T _j = -7 °C	<i>COP_d</i>	2,17	-
T _j = +2 °C	<i>P_{dh}</i>	1,6	kW	T _j = +2 °C	<i>COP_d</i>	3,29	-
T _j = +7 °C	<i>P_{dh}</i>	2,3	kW	T _j = +7 °C	<i>COP_d</i>	4,31	-
T _j = +12 °C	<i>P_{dh}</i>	2,9	kW	T _j = +12 °C	<i>COP_d</i>	5,67	-
T _j = bivalent temperature	<i>P_{dh}</i>	3,6	kW	T _j = bivalent temperature	<i>COP_d</i>	1,57	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,8	kW	T _j = operation limit temperature	<i>COP_d</i>	1,39	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,3	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,76	-
Bivalent temperature	<i>T_{biv}</i>	-16	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	0	°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>	65	°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>	4,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,009	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			-	6200	<i>m³/h</i>	
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/60	<i>dB</i>	-	na	<i>m³/h</i>	
Annual energy consumption	<i>Q_{HE}</i>	3903	<i>kWh</i>				

For heat pump combination heater:

Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	50	%
Daily electricity consumption	<i>Q_{elec}</i>	9,380	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2064	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 510M 230V+ EcoZenith i255		
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:	137 %
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}	6	kW	Seasonal space heating energy efficiency	η_s	133	%
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}	3,4	kW	T _j = -7 °C	COP_d	2,68	-
T _j = +2 °C	P_{dh}	2,1	kW	T _j = +2 °C	COP_d	4,29	-
T _j = +7 °C	P_{dh}	2,5	kW	T _j = +7 °C	COP_d	5,31	-
T _j = +12 °C	P_{dh}	2,9	kW	T _j = +12 °C	COP_d	6,45	-
T _j = bivalent temperature	P_{dh}	4,8	kW	T _j = bivalent temperature	COP_d	2,06	-
T _j = operation limit temperature	P_{dh}	2,4	kW	T _j = operation limit temperature	COP_d	1,91	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	P_{dh}	4,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	COP_d	2,29	-
Bivalent temperature	T_{biv}	-16	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°C
Cycling interval capacity for heating	P_{cych}	na	kW	Cycling interval efficiency	COP_{cyc}	na	-
Degradation co-efficient	C_{dh}	0,97	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P_{sup}	3,2	kW
Thermostat-off mode	P_{TO}	0,009	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	-	6200	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	na/60	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}	4066	kWh				

For heat pump combination heater:

Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	50	%
Daily electricity consumption	Q_{elec}	9,380	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	2064	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

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

www.ctc.se

200701