

Warm climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + CTC EcoZenith i350/ i350F		
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:	152 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	148	%
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>	5,9	kW	T _j = +2 °C	<i>COP_d</i>	2,10	-
T _j = +7 °C	<i>P_{dh}</i>	7,3	kW	T _j = +7 °C	<i>COP_d</i>	3,21	-
T _j = +12 °C	<i>P_{dh}</i>	9,4	kW	T _j = +12 °C	<i>COP_d</i>	4,88	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,0	kW	T _j = bivalent temperature	<i>COP_d</i>	1,59	-
T _j = operation limit temperature	<i>P_{dh}</i>	5,6	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>	0,97	-	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>	0,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	2271	kWh				
For heat pump combination heater:							
Declared load profile/ Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	112	%
Daily electricity consumption	<i>Q_{elec}</i>	6,835	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1504	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

Contact details

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

Warm climate and Low temperature

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Model(s):	CTC EcoAir 408 + CTC EcoZenith i350/ i350F		
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:	197 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	194	%
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>	6,0	kW	T _j = +2 °C	<i>COP_d</i>	3,76	-
T _j = +7 °C	<i>P_{dh}</i>	7,9	kW	T _j = +7 °C	<i>COP_d</i>	5,01	-
T _j = +12 °C	<i>P_{dh}</i>	9,7	kW	T _j = +12 °C	<i>COP_d</i>	6,41	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,2	kW	T _j = bivalent temperature	<i>COP_d</i>	3,91	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,0	kW	T _j = operation limit temperature	<i>COP_d</i>	3,70	-
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>	0,97	-	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>	0,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	1816	kWh				
For heat pump combination heater:							
Declared load profile/ Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	112	%
Daily electricity consumption	<i>Q_{elec}</i>	6,84	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1504	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Average climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + CTC EcoZenith i350/ i350F		
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:	122 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	118	%
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>	4,5	kW	T _j = -7 °C	<i>COP_d</i>	2,21	-
T _j = +2 °C	<i>P_{dh}</i>	5,5	kW	T _j = +2 °C	<i>COP_d</i>	2,98	-
T _j = +7 °C	<i>P_{dh}</i>	7,6	kW	T _j = +7 °C	<i>COP_d</i>	4,09	-
T _j = +12 °C	<i>P_{dh}</i>	9,0	kW	T _j = +12 °C	<i>COP_d</i>	5,31	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,9	kW	T _j = bivalent temperature	<i>COP_d</i>	2,51	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,0	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>	0,99	-	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>	2,4	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	4343	kWh				
For heat pump combination heater:							
Declared load profile/ Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	98	%
Daily electricity consumption	<i>Q_{elec}</i>	7,816	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1720	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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Average climate and Low temperature

Model(s):	CTC EcoAir 408 + CTC EcoZenith i350/ i350F		
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:	157 %
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>	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>	4,7	kW	T _j = -7 °C	<i>COP_d</i>	3,07	-
T _j = +2 °C	<i>P_{dh}</i>	6,2	kW	T _j = +2 °C	<i>COP_d</i>	4,03	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	5,28	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,58	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,1	kW	T _j = bivalent temperature	<i>COP_d</i>	3,30	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,80	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-5	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{Cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{Cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,97	-	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>	1,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	3297	kWh				
For heat pump combination heater:							
Declared load profile/ Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	98	%
Daily electricity consumption	<i>Q_{elec}</i>	7,816	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1720	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
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Cold climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + CTC EcoZenith i350/ i350F		
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:	109 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	106	%
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>	4,6	kW	T _j = -7 °C	<i>COP_d</i>	2,49	-
T _j = +2 °C	<i>P_{dh}</i>	5,7	kW	T _j = +2 °C	<i>COP_d</i>	3,25	-
T _j = +7 °C	<i>P_{dh}</i>	7,7	kW	T _j = +7 °C	<i>COP_d</i>	4,40	-
T _j = +12 °C	<i>P_{dh}</i>	9,6	kW	T _j = +12 °C	<i>COP_d</i>	5,50	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,0	kW	T _j = bivalent temperature	<i>COP_d</i>	2,24	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,3	kW	T _j = operation limit temperature	<i>COP_d</i>	1,24	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,85	-
Bivalent temperature	<i>T_{biv}</i>	-11	°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>	0,99	-	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>	3,3	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	5143	kWh				
For heat pump combination heater:							
Declared load profile/ Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	84	%
Daily electricity consumption	<i>Q_{elec}</i>	9,038	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1988	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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Cold climate and Low temperature

Model(s):	CTC EcoAir 408 + CTC EcoZenith i350/ i350F		
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:	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 (*)	<i>Prated</i>	5	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	<i>P_{dh}</i>	4,8	kW	T _j = -7 °C	<i>COP_d</i>	3,22	-
T _j = +2 °C	<i>P_{dh}</i>	6,3	kW	T _j = +2 °C	<i>COP_d</i>	4,19	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	5,42	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,55	-
T _j = bivalent temperature	<i>P_{dh}</i>	3,8	kW	T _j = bivalent temperature	<i>COP_d</i>	2,54	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,7	kW	T _j = operation limit temperature	<i>COP_d</i>	1,90	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,55	-
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>	0,97	-	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>	2,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	3494	kWh				
For heat pump combination heater:							
Declared load profile/ Energy efficiency class	XL / A			Water heating energy efficiency	η_{wh}	84	%
Daily electricity consumption	<i>Q_{elec}</i>	9,038	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1988	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Warm climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + 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:	152 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	148	%
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>	5,9	kW	T _j = +2 °C	<i>COP_d</i>	2,10	-
T _j = +7 °C	<i>P_{dh}</i>	7,3	kW	T _j = +7 °C	<i>COP_d</i>	3,21	-
T _j = +12 °C	<i>P_{dh}</i>	9,4	kW	T _j = +12 °C	<i>COP_d</i>	4,88	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,0	kW	T _j = bivalent temperature	<i>COP_d</i>	1,59	-
T _j = operation limit temperature	<i>P_{dh}</i>	5,6	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>	0,97	-	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>	0,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	2271	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

Contact details

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

Warm climate and Low temperature

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Model(s):	CTC EcoAir 408 + 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:	198 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	194	%
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>	6,0	kW	T _j = +2 °C	<i>COP_d</i>	3,76	-
T _j = +7 °C	<i>P_{dh}</i>	7,9	kW	T _j = +7 °C	<i>COP_d</i>	5,01	-
T _j = +12 °C	<i>P_{dh}</i>	9,7	kW	T _j = +12 °C	<i>COP_d</i>	6,41	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,2	kW	T _j = bivalent temperature	<i>COP_d</i>	3,91	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,0	kW	T _j = operation limit temperature	<i>COP_d</i>	3,70	-
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>	0,97	-	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>	0,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	1816	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	#####	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Average climate and Medium temperature

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Model(s):	CTC EcoAir 408 + 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:	122 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	118	%
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>	4,5	kW	T _j = -7 °C	<i>COP_d</i>	2,21	-
T _j = +2 °C	<i>P_{dh}</i>	5,5	kW	T _j = +2 °C	<i>COP_d</i>	2,98	-
T _j = +7 °C	<i>P_{dh}</i>	7,6	kW	T _j = +7 °C	<i>COP_d</i>	4,09	-
T _j = +12 °C	<i>P_{dh}</i>	9,0	kW	T _j = +12 °C	<i>COP_d</i>	5,31	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,9	kW	T _j = bivalent temperature	<i>COP_d</i>	2,51	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,0	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>	0,99	-	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>	2,4	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	4343	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Average climate and Low temperature

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Model(s):	CTC EcoAir 408 + 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:	158 %
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>	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>	4,7	kW	T _j = -7 °C	<i>COP_d</i>	3,07	-
T _j = +2 °C	<i>P_{dh}</i>	6,2	kW	T _j = +2 °C	<i>COP_d</i>	4,03	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	5,28	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,58	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,1	kW	T _j = bivalent temperature	<i>COP_d</i>	3,30	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,80	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-5	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,97	-	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>	1,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	3297	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
							160406

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

Cold climate and Medium temperature

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Model(s):	CTC EcoAir 408 + 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:	110 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	106	%
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>	4,6	kW	T _j = -7 °C	<i>COP_d</i>	2,49	-
T _j = +2 °C	<i>P_{dh}</i>	5,7	kW	T _j = +2 °C	<i>COP_d</i>	3,25	-
T _j = +7 °C	<i>P_{dh}</i>	7,7	kW	T _j = +7 °C	<i>COP_d</i>	4,40	-
T _j = +12 °C	<i>P_{dh}</i>	9,6	kW	T _j = +12 °C	<i>COP_d</i>	5,50	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,0	kW	T _j = bivalent temperature	<i>COP_d</i>	2,24	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,3	kW	T _j = operation limit temperature	<i>COP_d</i>	1,24	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,85	-
Bivalent temperature	<i>T_{biv}</i>	-11	°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>	0,99	-	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>	3,3	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	5143	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Cold climate and Low temperature

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Model(s):	CTC EcoAir 408 + 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:	137 %
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>	5	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	<i>P_{dh}</i>	4,8	kW	T _j = -7 °C	<i>COP_d</i>	3,22	-
T _j = +2 °C	<i>P_{dh}</i>	6,3	kW	T _j = +2 °C	<i>COP_d</i>	4,19	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	5,42	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,55	-
T _j = bivalent temperature	<i>P_{dh}</i>	3,8	kW	T _j = bivalent temperature	<i>COP_d</i>	2,54	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,7	kW	T _j = operation limit temperature	<i>COP_d</i>	1,90	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,55	-
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>	0,97	-	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>	2,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	3494	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Warm climate and Medium temperature

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Model(s):	CTC EcoAir 408 + CTC EcoZenith 250		
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:	141 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	137	%
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>	5,9	kW	T _j = +2 °C	<i>COP_d</i>	2,42	-
T _j = +7 °C	<i>P_{dh}</i>	7,3	kW	T _j = +7 °C	<i>COP_d</i>	3,26	-
T _j = +12 °C	<i>P_{dh}</i>	9,4	kW	T _j = +12 °C	<i>COP_d</i>	4,68	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,0	kW	T _j = bivalent temperature	<i>COP_d</i>	2,63	-
T _j = operation limit temperature	<i>P_{dh}</i>	5,6	kW	T _j = operation limit temperature	<i>COP_d</i>	2,36	-
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>	0,98	-	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>	1,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,018	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/58	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>	2688	kWh				
For heat pump combination heater:							
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	73	%
Daily electricity consumption	<i>Q_{elec}</i>	6,352	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1397	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
				160204			

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

Warm climate and Low temperature

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Model(s): **CTC EcoAir 408 + CTC EcoZenith 250**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: **174** %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>	7	kW	Seasonal space heating energy efficiency	η_s	170	%
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>	6,0	kW	T _j = +2 °C	<i>COP_d</i>	3,37	-
T _j = +7 °C	<i>P_{dh}</i>	7,9	kW	T _j = +7 °C	<i>COP_d</i>	4,62	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	5,98	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,4	kW	T _j = bivalent temperature	<i>COP_d</i>	3,66	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,0	kW	T _j = operation limit temperature	<i>COP_d</i>	3,31	-
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>	0,95	-	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>	0,055	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/58	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	2302	kWh				
For heat pump combination heater:							
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	73	%
Daily electricity consumption	<i>Q_{elec}</i>	6,352	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1397	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
						160204	

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



Average climate and Medium temperature

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Model(s):	CTC EcoAir 408 + CTC EcoZenith 250		
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:	121 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	117	%
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>	4,4	kW	T _j = -7 °C	<i>COP_d</i>	2,10	-
T _j = +2 °C	<i>P_{dh}</i>	6,3	kW	T _j = +2 °C	<i>COP_d</i>	3,21	-
T _j = +7 °C	<i>P_{dh}</i>	7,6	kW	T _j = +7 °C	<i>COP_d</i>	3,80	-
T _j = +12 °C	<i>P_{dh}</i>	8,9	kW	T _j = +12 °C	<i>COP_d</i>	4,66	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,1	kW	T _j = bivalent temperature	<i>COP_d</i>	2,51	-
T _j = operation limit temperature	<i>P_{dh}</i>	3,9	kW	T _j = operation limit temperature	<i>COP_d</i>	1,82	-
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>	-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>	2,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,018	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	Variable			-	4100	na	m ³ /h
Sound power level, indoors/ outdoors	<i>L_{WA}</i>	na/58	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	4380	kWh	171005			

For heat pump combination heater:

Declared load profile	L	Efficiency class	B	Water heating energy efficiency	η_{wh}	61	%
Daily electricity consumption	<i>Q_{elec}</i>	7,630	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1679	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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

Average climate and Low temperature

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Model(s):	CTC EcoAir 408 + CTC EcoZenith 250		
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:	138 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	134	%
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>	4,7	kW	T _j = -7 °C	<i>COP_d</i>	2,67	-
T _j = +2 °C	<i>P_{dh}</i>	6,2	kW	T _j = +2 °C	<i>COP_d</i>	3,60	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	4,84	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,12	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,2	kW	T _j = bivalent temperature	<i>COP_d</i>	2,99	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,41	-
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>	0,95	-	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>	2,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,055	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/58	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>	4088	kWh				

For heat pump combination heater:

Declared load profile	L	Efficiency class	B	Water heating energy efficiency	η_{wh}	61	%
Daily electricity consumption	<i>Q_{elec}</i>	7,630	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1679	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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

Cold climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + CTC EcoZenith 250		
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:	99 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	95	%
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>	4,6	kW	T _j = -7 °C	<i>COP_d</i>	2,27	-
T _j = +2 °C	<i>P_{dh}</i>	5,7	kW	T _j = +2 °C	<i>COP_d</i>	2,99	-
T _j = +7 °C	<i>P_{dh}</i>	7,7	kW	T _j = +7 °C	<i>COP_d</i>	4,10	-
T _j = +12 °C	<i>P_{dh}</i>	9,6	kW	T _j = +12 °C	<i>COP_d</i>	5,18	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,22	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,3	kW	T _j = operation limit temperature	<i>COP_d</i>	1,01	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,60	-
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>	0,98	-	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>	4,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,018	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/58	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>	71330	kWh				
For heat pump combination heater:							
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	54	%
Daily electricity consumption	<i>Q_{elec}</i>	8,617	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1896	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *P_{designh}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Cold climate and Low temperature

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Model(s):	CTC EcoAir 408 + CTC EcoZenith 250		
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:	117 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	113	%
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>	4,8	kW	T _j = -7 °C	<i>COP_d</i>	2,81	-
T _j = +2 °C	<i>P_{dh}</i>	6,3	kW	T _j = +2 °C	<i>COP_d</i>	3,76	-
T _j = +7 °C	<i>P_{dh}</i>	8,1	kW	T _j = +7 °C	<i>COP_d</i>	4,98	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,10	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,61	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,7	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>	3,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,12	-
Bivalent temperature	<i>T_{biv}</i>	-9	°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>	0,95	-	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>	4,2	kW
Thermostat-off mode	<i>P_{TO}</i>	0,055	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/58	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>	5832	kWh				
For heat pump combination heater:							
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	54	%
Daily electricity consumption	<i>Q_{elec}</i>	8,617	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1896	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *P_{designh}*, and the rated heat output of a supplementary heater *P_{sup}* is equal to the supplementary capacity for heating *sup(T_j)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Warm climate and Medium temperature

Model(s):	CTC EcoAir 408 + 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:	142 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	138	%
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>	5,9	kW	T _j = +2 °C	<i>COP_d</i>	2,42	-
T _j = +7 °C	<i>P_{dh}</i>	7,3	kW	T _j = +7 °C	<i>COP_d</i>	3,24	-
T _j = +12 °C	<i>P_{dh}</i>	9,4	kW	T _j = +12 °C	<i>COP_d</i>	4,66	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,1	kW	T _j = bivalent temperature	<i>COP_d</i>	2,53	-
T _j = operation limit temperature	<i>P_{dh}</i>	5,6	kW	T _j = operation limit temperature	<i>COP_d</i>	2,36	-
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>	0,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,012	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/58	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>	2477	kWh				
For heat pump combination heater:							
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	88	%
Daily electricity consumption	<i>Q_{elec}</i>	8,698	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1914	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
							160204

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

Warm climate and Low temperature

Model(s):	CTC EcoAir 408 + 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:	181 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	177	%
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>	6,0	kW	T _j = +2 °C	<i>COP_d</i>	3,37	-
T _j = +7 °C	<i>P_{dh}</i>	7,9	kW	T _j = +7 °C	<i>COP_d</i>	4,60	-
T _j = +12 °C	<i>P_{dh}</i>	9,7	kW	T _j = +12 °C	<i>COP_d</i>	5,97	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,4	kW	T _j = bivalent temperature	<i>COP_d</i>	3,51	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,0	kW	T _j = operation limit temperature	<i>COP_d</i>	3,31	-
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>	0,96	-	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>	0,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,034	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/58	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>	2053	kWh				
For heat pump combination heater:							
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	88	%
Daily electricity consumption	<i>Q_{elec}</i>	8,698	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	1914	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
				160204			

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

Average climate and Medium temperature

Model(s):	CTC EcoAir 408 + 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:	124 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	121	%
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>	4,3	kW	T _j = -7 °C	<i>COP_d</i>	2,14	-
T _j = +2 °C	<i>P_{dh}</i>	6,2	kW	T _j = +2 °C	<i>COP_d</i>	3,26	-
T _j = +7 °C	<i>P_{dh}</i>	7,6	kW	T _j = +7 °C	<i>COP_d</i>	4,04	-
T _j = +12 °C	<i>P_{dh}</i>	8,9	kW	T _j = +12 °C	<i>COP_d</i>	4,90	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,0	kW	T _j = bivalent temperature	<i>COP_d</i>	5,58	-
T _j = operation limit temperature	<i>P_{dh}</i>	3,7	kW	T _j = operation limit temperature	<i>COP_d</i>	1,77	-
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>	0,99	-	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>	2,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,012	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/58	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>	4242	kWh				
For heat pump combination heater:							
Declared load profile	XL	Efficiency class	B	Water heating energy efficiency	η_{wh}	75	%
Daily electricity consumption	<i>Q_{elec}</i>	10,117	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2226	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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

Average climate and Low temperature

Model(s):	CTC EcoAir 408 + 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:	141 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	137	%
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>	4,7	kW	T _j = -7 °C	<i>COP_d</i>	2,67	-
T _j = +2 °C	<i>P_{dh}</i>	6,2	kW	T _j = +2 °C	<i>COP_d</i>	3,59	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	4,83	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,12	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,1	kW	T _j = bivalent temperature	<i>COP_d</i>	2,88	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,41	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-5	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,96	-	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>	1,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,034	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/58	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>	3708	kWh				
For heat pump combination heater:							
Declared load profile	XL	Efficiency class	B	Water heating energy efficiency	η_{wh}	75	%
Daily electricity consumption	<i>Q_{elec}</i>	10,117	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2226	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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

Cold climate and Medium temperature

Model(s):	CTC EcoAir 408 + 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:	99 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	95	%
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>	4,6	kW	T _j = -7 °C	<i>COP_d</i>	2,27	-
T _j = +2 °C	<i>P_{dh}</i>	5,7	kW	T _j = +2 °C	<i>COP_d</i>	2,99	-
T _j = +7 °C	<i>P_{dh}</i>	7,7	kW	T _j = +7 °C	<i>COP_d</i>	4,10	-
T _j = +12 °C	<i>P_{dh}</i>	9,6	kW	T _j = +12 °C	<i>COP_d</i>	5,18	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,5	kW	T _j = bivalent temperature	<i>COP_d</i>	2,22	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,3	kW	T _j = operation limit temperature	<i>COP_d</i>	1,01	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,60	-
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_{cyh}</i>	na	kW	Cycling interval efficiency	<i>COP_{cyh}</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>	4,8	kW
Thermostat-off mode	<i>P_{TO}</i>	0,012	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/58	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>	7107	kWh				
For heat pump combination heater:							
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	68	%
Daily electricity consumption	<i>Q_{elec}</i>	11,152	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2453	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ

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

Cold climate and Low temperature

Model(s):	CTC EcoAir 408 + 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:	119 %
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	115	%
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>	4,8	kW	T _j = -7 °C	<i>COP_d</i>	2,79	-
T _j = +2 °C	<i>P_{dh}</i>	6,3	kW	T _j = +2 °C	<i>COP_d</i>	3,74	-
T _j = +7 °C	<i>P_{dh}</i>	8,1	kW	T _j = +7 °C	<i>COP_d</i>	4,96	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,09	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,2	kW	T _j = bivalent temperature	<i>COP_d</i>	2,40	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,7	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>	3,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,12	-
Bivalent temperature	<i>T_{biv}</i>	-11	°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>	0,96	-	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>	3,3	kW
Thermostat-off mode	<i>P_{TO}</i>	0,034	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/58	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>	4977	kWh				
For heat pump combination heater:							
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	68	%
Daily electricity consumption	<i>Q_{elec}</i>	11,152	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	XL	kWh
Annual electricity consumption	<i>AEC</i>	2453	kWh	Annual fuel consumption	<i>AFC</i>	XL	GJ

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Warm climate and Medium temperature

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Model(s):	CTC EcoAir 408 + 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:	149 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	148	%
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>	5,9	kW	T _j = +2 °C	<i>COP_d</i>	2,10	-
T _j = +7 °C	<i>P_{dh}</i>	7,3	kW	T _j = +7 °C	<i>COP_d</i>	3,21	-
T _j = +12 °C	<i>P_{dh}</i>	9,4	kW	T _j = +12 °C	<i>COP_d</i>	4,88	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,0	kW	T _j = bivalent temperature	<i>COP_d</i>	1,59	-
T _j = operation limit temperature	<i>P_{dh}</i>	5,6	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>	0,97	-	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>	0,5	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	2271	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Warm climate and Low temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + 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:	195 %
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>	7	kW	Seasonal space heating energy efficiency	η_s	194	%
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>	6,0	kW	T _j = +2 °C	<i>COP_d</i>	3,76	-
T _j = +7 °C	<i>P_{dh}</i>	7,9	kW	T _j = +7 °C	<i>COP_d</i>	5,01	-
T _j = +12 °C	<i>P_{dh}</i>	9,7	kW	T _j = +12 °C	<i>COP_d</i>	6,41	-
T _j = bivalent temperature	<i>P_{dh}</i>	6,2	kW	T _j = bivalent temperature	<i>COP_d</i>	3,91	-
T _j = operation limit temperature	<i>P_{dh}</i>	6,0	kW	T _j = operation limit temperature	<i>COP_d</i>	3,70	-
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>	0,97	-	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>	0,7	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	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>	1816	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	#####	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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

Average climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + 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:	119 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	118	%
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>	4,5	kW	T _j = -7 °C	<i>COP_d</i>	2,21	-
T _j = +2 °C	<i>P_{dh}</i>	5,5	kW	T _j = +2 °C	<i>COP_d</i>	2,98	-
T _j = +7 °C	<i>P_{dh}</i>	7,6	kW	T _j = +7 °C	<i>COP_d</i>	4,09	-
T _j = +12 °C	<i>P_{dh}</i>	9,0	kW	T _j = +12 °C	<i>COP_d</i>	5,31	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,9	kW	T _j = bivalent temperature	<i>COP_d</i>	2,51	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,0	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>	0,99	-	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>	2,4	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	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>	4343	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ

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Average climate and Low temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + 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:	155 %
Equipped with a supplementary heater:	No	Package efficiency class:	A++ -
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	<i>Prated</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>	4,7	kW	T _j = -7 °C	<i>COP_d</i>	3,07	-
T _j = +2 °C	<i>P_{dh}</i>	6,2	kW	T _j = +2 °C	<i>COP_d</i>	4,03	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	5,28	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,58	-
T _j = bivalent temperature	<i>P_{dh}</i>	5,1	kW	T _j = bivalent temperature	<i>COP_d</i>	3,30	-
T _j = operation limit temperature	<i>P_{dh}</i>	4,3	kW	T _j = operation limit temperature	<i>COP_d</i>	2,80	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	na	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	na	-
Bivalent temperature	<i>T_{biv}</i>	-5	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-10	°C
Cycling interval capacity for heating	<i>P_{Cych}</i>	na	kW	Cycling interval efficiency	<i>COP_{Cyc}</i>	na	-
Degradation co-efficient (**)	<i>C_{dh}</i>	0,97	-	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>	1,9	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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			-			
Sound power level, indoors/outdoors	<i>L_{WA}</i>	na/58	dB	-			
Annual energy consumption	<i>Q_{HE}</i>	3297	kWh	-			
For heat pump combination heater:				-			
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>AFC</i>	na	GJ
							160406

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



Cold climate and Medium temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + 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:	107 %
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>	6	kW	Seasonal space heating energy efficiency	η_s	106	%
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>	4,6	kW	T _j = -7 °C	<i>COP_d</i>	2,49	-
T _j = +2 °C	<i>P_{dh}</i>	5,7	kW	T _j = +2 °C	<i>COP_d</i>	3,25	-
T _j = +7 °C	<i>P_{dh}</i>	7,7	kW	T _j = +7 °C	<i>COP_d</i>	4,40	-
T _j = +12 °C	<i>P_{dh}</i>	9,6	kW	T _j = +12 °C	<i>COP_d</i>	5,50	-
T _j = bivalent temperature	<i>P_{dh}</i>	4,0	kW	T _j = bivalent temperature	<i>COP_d</i>	2,24	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,3	kW	T _j = operation limit temperature	<i>COP_d</i>	1,24	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,4	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	1,85	-
Bivalent temperature	<i>T_{biv}</i>	-11	°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>	0,99	-	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>	3,3	kW
Thermostat-off mode	<i>P_{TO}</i>	0,007	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/58	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	5143	kWh				

For heat pump combination heater:

Declared load profile	Symbol	Value	Unit	Water heating energy efficiency	Symbol	Value	Unit
Daily electricity consumption	<i>Q_{elec}</i>	na	kWh	Daily fuel consumption	η_{wh}	na	%
Annual electricity consumption	<i>AEC</i>	na	kWh	Annual fuel consumption	<i>Q_{fuel}</i>	na	kWh
					<i>AFC</i>	na	GJ

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

Cold climate and Low temperature

341 26 Ljungby

Model(s):	CTC EcoAir 408 + 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:	134 %
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>	5	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	<i>P_{dh}</i>	4,8	kW	T _j = -7 °C	<i>COP_d</i>	3,22	-
T _j = +2 °C	<i>P_{dh}</i>	6,3	kW	T _j = +2 °C	<i>COP_d</i>	4,19	-
T _j = +7 °C	<i>P_{dh}</i>	8,0	kW	T _j = +7 °C	<i>COP_d</i>	5,42	-
T _j = +12 °C	<i>P_{dh}</i>	9,8	kW	T _j = +12 °C	<i>COP_d</i>	6,55	-
T _j = bivalent temperature	<i>P_{dh}</i>	3,8	kW	T _j = bivalent temperature	<i>COP_d</i>	2,54	-
T _j = operation limit temperature	<i>P_{dh}</i>	2,7	kW	T _j = operation limit temperature	<i>COP_d</i>	1,90	-
For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>P_{dh}</i>	3,7	kW	For air-to-water heat pumps: T _j = -15 °C (if TOL < -20 °C)	<i>COP_d</i>	2,55	-
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>	0,97	-	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>	2,1	kW
Thermostat-off mode	<i>P_{TO}</i>	0,022	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/58	dB	-	na		m ³ /h
Annual energy consumption	<i>Q_{HE}</i>	3494	kWh				
For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	na			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

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