

Warm climate and High temperature

Model(s):	CTC EcoPart 430 + CTC EcoLogic, CTC EcoPart i430 PRO		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	140 %
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 (*)	Prated	30	kW	Seasonal space heating energy efficiency	ηs	136	%
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	Pdh	na	kW	T j = − 7 °C	COPd	na	-
T j = + 2 °C	Pdh	27,0	kW	T j = +2 °C	COPd	3,11	-
T j = + 7 °C	Pdh	27,6	kW	T j = +7 °C	COPd	3,48	-
T j = + 12 °C	Pdh	28,4	kW	T j = +12 °C	COPd	4,12	-
T j = bivalent temperature	Pdh	27,0	kW	T j = bivalent temperature	COPd	3,21	-
T j = operation limit temperature	Pdh	na	kW	T j = operation limit temperature	COPd	na	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	T biv	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P cych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	2,2	kW
Thermostat-off mode	P TO	0,032	kW	Type of energy input	Electric		
Standby mode	P SB	0,018	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L WA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,1	m3/h
Annual energy consumption	Q HE	10792	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	ηwh	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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.

Warm climate and Low temperature

Model(s):	CTC EcoPart 430 + CTC EcoLogic, CTC EcoPart i430 PRO		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	174 %
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 (*)				Seasonal space heating energy efficiency			
	<i>Prated</i>	32	kW		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>Pdh</i>	na	kW	T j = − 7 °C	<i>COPd</i>	na	-
T j = + 2 °C	<i>Pdh</i>	29,0	kW	T j = +2 °C	<i>COPd</i>	4,55	-
T j = + 7 °C	<i>Pdh</i>	29,4	kW	T j = +7 °C	<i>COPd</i>	4,76	-
T j = + 12 °C	<i>Pdh</i>	29,6	kW	T j = +12 °C	<i>COPd</i>	5,02	-
T j = bivalent temperature	<i>Pdh</i>	29,2	kW	T j = bivalent temperature	<i>COPd</i>	4,62	-
T j = operation limit temperature	<i>Pdh</i>	na	kW	T j = operation limit temperature	<i>COPd</i>	na	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	3	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	0,018	kW	Rated heat output (*)	<i>Psup</i>	2,4	kW
Thermostat-off mode	<i>P TO</i>	0,097	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	-	na	m3/h
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	<i>Q HE</i>	9404	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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 High temperature

Model(s):	CTC EcoPart 430 + CTC EcoLogic, CTC EcoPart i430 PRO			
Air-to-water heat pump:	No	Energy efficiency class:	A++	-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	Yes	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	141	%
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>	32	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>Pdh</i>	27,2	kW	T j = − 7 °C	<i>COPd</i>	3,29	-
T j = + 2 °C	<i>Pdh</i>	27,8	kW	T j = +2 °C	<i>COPd</i>	3,68	-
T j = + 7 °C	<i>Pdh</i>	28,4	kW	T j = +7 °C	<i>COPd</i>	4,03	-
T j = + 12 °C	<i>Pdh</i>	28,8	kW	T j = +12 °C	<i>COPd</i>	4,37	-
T j = bivalent temperature	<i>Pdh</i>	27,2	kW	T j = bivalent temperature	<i>COPd</i>	3,34	-
T j = operation limit temperature	<i>Pdh</i>	na	kW	T j = operation limit temperature	<i>COPd</i>	na	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	0,018	kW	Rated heat output (*)	<i>Psup</i>	5,4	kW
Thermostat-off mode	<i>P TO</i>	0,032	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	-	na	m3/h
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,1	m3/h
Annual energy consumption	<i>Q HE</i>	18316	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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

Model(s):	CTC EcoPart 430 + CTC EcoLogic, CTC EcoPart i430 PRO			
Air-to-water heat pump:	No	Energy efficiency class:	A++	-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	Yes	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	178	%
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>	32	kW	Seasonal space heating energy efficiency	η_s	174	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	<i>Pdh</i>	29,2	kW	T j = − 7 °C	<i>COPd</i>	4,64	-
T j = + 2 °C	<i>Pdh</i>	29,4	kW	T j = +2 °C	<i>COPd</i>	4,81	-
T j = + 7 °C	<i>Pdh</i>	29,6	kW	T j = +7 °C	<i>COPd</i>	4,97	-
T j = + 12 °C	<i>Pdh</i>	29,8	kW	T j = +12 °C	<i>COPd</i>	5,13	-
T j = bivalent temperature	<i>Pdh</i>	29,2	kW	T j = bivalent temperature	<i>COPd</i>	4,64	-
T j = operation limit temperature	<i>Pdh</i>	na	kW	T j = operation limit temperature	<i>COPd</i>	na	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	-7	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</i>	0,96	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	0,018	kW	Rated heat output (*)	<i>Psup</i>	4,0	kW
Thermostat-off mode	<i>P TO</i>	0,097	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	-	na	m3/h
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	<i>Q HE</i>	14934	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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 High temperature

Model(s):	CTC EcoPart 430 + CTC EcoLogic, CTC EcoPart i430 PRO		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	144 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	30	kW	Seasonal space heating energy efficiency	ηs	140	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = − 7 °C	Pdh	27,6	kW	Tj = − 7 °C	COPd	3,59	-
Tj = + 2 °C	Pdh	28,2	kW	Tj = +2 °C	COPd	3,94	-
Tj = + 7 °C	Pdh	28,6	kW	Tj = +7 °C	COPd	4,26	-
Tj = + 12 °C	Pdh	29,0	kW	Tj = +12 °C	COPd	4,49	-
Tj = bivalent temperature	Pdh	27,2	kW	Tj = bivalent temperature	COPd	3,28	-
Tj = operation limit temperature	Pdh	na	kW	Tj = operation limit temperature	COPd	na	-
For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	Tbiv	-18	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0,018	kW	Rated heat output (*)	Psup	3,4	kW
Thermostat-off mode	Pto	0,032	kW	Type of energy input	Electric		
Standby mode	PSB	0,018	kW				
Crankcase heater mode	PCK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	LWA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,1	m3/h
Annual energy consumption	QHE	20278	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	ηwh	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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

Model(s):	CTC EcoPart 430 + CTC EcoLogic, CTC EcoPart i430 PRO		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	180 %
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 (*)	Prated	32	kW	Seasonal space heating energy efficiency	ηs	176	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	29,4	kW	T j = − 7 °C	COPd	4,84	-
T j = + 2 °C	Pdh	29,6	kW	T j = +2 °C	COPd	4,98	-
T j = + 7 °C	Pdh	29,8	kW	T j = +7 °C	COPd	5,08	-
T j = + 12 °C	Pdh	29,8	kW	T j = +12 °C	COPd	5,11	-
T j = bivalent temperature	Pdh	29,2	kW	T j = bivalent temperature	COPd	4,67	-
T j = operation limit temperature	Pdh	na	kW	T j = operation limit temperature	COPd	na	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	Tbiv	-18	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,96	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0,018	kW	Rated heat output (*)	Psup	3,6	kW
Thermostat-off mode	Pto	0,097	kW	Type of energy input	Electric		
Standby mode	Psb	0,018	kW				
Crankcase heater mode	Pck	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	LWA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	QHE	8758	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	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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(Tj)*. (**) If *C_{dh}* is not determined by measurement then the default degradation coefficient is *C_{dh}* = 0,9.

Warm climate and High temperature

Model(s):	CTC EcoPart 430 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	124 %
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 (*)	Prated	29	kW	Seasonal space heating energy efficiency	ηs	120	%
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	Pdh	na	kW	T j = − 7 °C	COPd	na	-
T j = + 2 °C	Pdh	26,8	kW	T j = +2 °C	COPd	2,77	-
T j = + 7 °C	Pdh	27,2	kW	T j = +7 °C	COPd	3,09	-
T j = + 12 °C	Pdh	28,0	kW	T j = +12 °C	COPd	3,65	-
T j = bivalent temperature	Pdh	26,9	kW	T j = bivalent temperature	COPd	2,86	-
T j = operation limit temperature	Pdh	26,8	kW	T j = operation limit temperature	COPd	2,77	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	Tbiv	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcyh	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,025	kW	Rated heat output (*)	Psup	2,2	kW
Thermostat-off mode	P TO	0,119	kW	Type of energy input	Electric		
Standby mode	P SB	0,025	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L WA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,1	m3/h
Annual energy consumption	Q HE	12132	kWh				

For heat pump combination heater:

Declared load profile	XXL			Water heating energy efficiency	η_{wh}	100	%
Daily electricity consumption	<i>Q_{elec}</i>	9,851	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2167	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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.

Warm climate and Low temperature

Model(s):	CTC EcoPart 430 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	150 %
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 (*)	Prated	31	kW	Seasonal space heating energy efficiency	ηs	146	%
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	Pdh	na	kW	T j = − 7 °C	COPd	na	-
T j = + 2 °C	Pdh	28,6	kW	T j = +2 °C	COPd	4,03	-
T j = + 7 °C	Pdh	28,9	kW	T j = +7 °C	COPd	4,22	-
T j = + 12 °C	Pdh	29,3	kW	T j = +12 °C	COPd	4,45	-
T j = bivalent temperature	Pdh	28,7	kW	T j = bivalent temperature	COPd	4,09	-
T j = operation limit temperature	Pdh	28,6	kW	T j = operation limit temperature	COPd	4,03	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	Tbiv	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,94	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0,025	kW	Rated heat output (*)	Psup	2,3	kW
Thermostat-off mode	Pto	0,357	kW	Type of energy input	Electric		
Standby mode	PSB	0,025	kW				
Crankcase heater mode	PCK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	LWA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	QHE	10756	kWh				

For heat pump combination heater:

Declared load profile	XXL			Water heating energy efficiency	η_{wh}	100	%
Daily electricity consumption	<i>Q_{elec}</i>	9,851	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2167	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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 High temperature

Model(s):	CTC EcoPart 430 + CTC EcoZenith 550			
Air-to-water heat pump:	No	Energy efficiency class:	A+	-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	Yes	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	125	%
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 (*)				Seasonal space heating energy efficiency				
	<i>Prated</i>	32	kW		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>Pdh</i>	27,00	kW	T j = − 7 °C	<i>COPd</i>	2,92	-	
T j = + 2 °C	<i>Pdh</i>	27,4	kW	T j = +2 °C	<i>COPd</i>	3,26	-	
T j = + 7 °C	<i>Pdh</i>	27,9	kW	T j = +7 °C	<i>COPd</i>	3,57	-	
T j = + 12 °C	<i>Pdh</i>	28,4	kW	T j = +12 °C	<i>COPd</i>	3,88	-	
T j = bivalent temperature	<i>Pdh</i>	27,1	kW	T j = bivalent temperature	<i>COPd</i>	2,97	-	
T j = operation limit temperature	<i>Pdh</i>	26,8	kW	T j = operation limit temperature	<i>COPd</i>	2,77	-	
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>COPd</i>	na	-	
Bivalent temperature	<i>T biv</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C	
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-	
Degradation co-efficient (**)	<i>Cdh</i>	0,98	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C	
Power consumption in modes other than active mode				Supplementary heater				
Off mode	<i>P OFF</i>	0,025	kW	Rated heat output (*)	<i>Psup</i>	5,1	kW	
Thermostat-off mode	<i>P TO</i>	0,119	kW	Type of energy input	Electric			
Standby mode	<i>P SB</i>	0,025	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	-	na	m3/h	
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,1	m3/h	
Annual energy consumption	<i>Q HE</i>	20510	kWh					
For heat pump combination heater:								
Declared load profile		XXL		Water heating energy efficiency		η_{wh}	100	%
Daily electricity consumption	Qelec	9,851	kWh	Daily fuel consumption	Qfuel	NA	kWh	
Annual electricity consumption	AEC	2167	kWh	Annual fuel consumption	AFC	NA	GJ	
Contact details								
Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se								

(*) 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

Model(s):	CTC EcoPart 430 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	A++ -
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	155 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	A+++ -
Heat pump combination heater:	Yes		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	34	kW	Seasonal space heating energy efficiency	ηs	151	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	28,70	kW	T j = − 7 °C	COPd	4,11	-
T j = + 2 °C	Pdh	29,0	kW	T j = +2 °C	COPd	4,27	-
T j = + 7 °C	Pdh	29,2	kW	T j = +7 °C	COPd	4,41	-
T j = + 12 °C	Pdh	29,5	kW	T j = +12 °C	COPd	4,55	-
T j = bivalent temperature	Pdh	28,8	kW	T j = bivalent temperature	COPd	4,14	-
T j = operation limit temperature	Pdh	28,6	kW	T j = operation limit temperature	COPd	4,03	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	T biv	-6	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P cych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,94	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,025	kW	Rated heat output (*)	Psup	5,4	kW
Thermostat-off mode	P TO	0,357	kW	Type of energy input	Electric		
Standby mode	P SB	0,025	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L WA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	Q HE	17699	kWh				

For heat pump combination heater:

Declared load profile	XXL			Water heating energy efficiency	η_{wh}	100	%
Daily electricity consumption	<i>Q_{elec}</i>	9,851	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2167	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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 High temperature

Model(s):	CTC EcoPart 430 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	126 %
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 (*)	Prated	31	kW	Seasonal space heating energy efficiency	ηs	122	%
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	Pdh	27,30	kW	T j = − 7 °C	COPd	3,19	-
T j = + 2 °C	Pdh	27,8	kW	T j = +2 °C	COPd	3,50	-
T j = + 7 °C	Pdh	28,2	kW	T j = +7 °C	COPd	3,78	-
T j = + 12 °C	Pdh	28,6	kW	T j = +12 °C	COPd	3,99	-
T j = bivalent temperature	Pdh	27,0	kW	T j = bivalent temperature	COPd	2,95	-
T j = operation limit temperature	Pdh	26,8	kW	T j = operation limit temperature	COPd	2,77	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	3,00	-
Bivalent temperature	Tbiv	-17	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0,025	kW	Rated heat output (*)	Psup	4,3	kW
Thermostat-off mode	Pto	0,119	kW	Type of energy input	Electric		
Standby mode	PSB	0,025	kW				
Crankcase heater mode	PCK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	LWA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,1	m3/h
Annual energy consumption	QHE	23522	kWh				

For heat pump combination heater:

Declared load profile	XXL			Water heating energy efficiency	η_{wh}	100	%
Daily electricity consumption	<i>Q_{elec}</i>	9,851	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2167	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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

Model(s):	CTC EcoPart 430 + CTC EcoZenith 550		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	VII -
Brine-to-water heat pump:	Yes	Controller contribution:	3,5 %
Low-temperature heat pump:	No	Package efficiency:	155 %
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 (*)	Prated	33	kW	Seasonal space heating energy efficiency	ηs	151	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	29,10	kW	T j = − 7 °C	COPd	4,29	-
T j = + 2 °C	Pdh	29,3	kW	T j = +2 °C	COPd	4,42	-
T j = + 7 °C	Pdh	29,4	kW	T j = +7 °C	COPd	4,51	-
T j = + 12 °C	Pdh	29,4	kW	T j = +12 °C	COPd	4,53	-
T j = bivalent temperature	Pdh	28,8	kW	T j = bivalent temperature	COPd	4,16	-
T j = operation limit temperature	Pdh	28,6	kW	T j = operation limit temperature	COPd	4,03	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	4,19	-
Bivalent temperature	Tbiv	-17	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcyh	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,94	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0,025	kW	Rated heat output (*)	Psup	4,6	kW
Thermostat-off mode	Pto	0,357	kW	Type of energy input	Electric		
Standby mode	Psb	0,025	kW				
Crankcase heater mode	Pck	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	LWA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	QHE	20588	kWh				

For heat pump combination heater:

Declared load profile	XXL			Water heating energy efficiency	η_{wh}	100	%
Daily electricity consumption	<i>Q_{elec}</i>	9,851	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	NA	kWh
Annual electricity consumption	<i>AEC</i>	2167	kWh	Annual fuel consumption	<i>AFC</i>	NA	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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.

Warm climate and High temperature

Model(s):	CTC EcoPart 430 + CTC EcoBasic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	106 %
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 (*)	Prated	28	kW	Seasonal space heating energy efficiency	ηs	105	%
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	Pdh	33,2	kW	T j = − 7 °C	COPd	7,56	-
T j = + 2 °C	Pdh	26,8	kW	T j = +2 °C	COPd	3,11	-
T j = + 7 °C	Pdh	26,6	kW	T j = +7 °C	COPd	2,98	-
T j = + 12 °C	Pdh	26,4	kW	T j = +12 °C	COPd	2,81	-
T j = bivalent temperature	Pdh	26,8	kW	T j = bivalent temperature	COPd	3,11	-
T j = operation limit temperature	Pdh	26,8	kW	T j = operation limit temperature	COPd	3,11	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	Tbiv	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	2,0	kW
Thermostat-off mode	P TO	0,032	kW	Type of energy input	Electric		
Standby mode	P SB	0,007	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L WA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,2	m3/h
Annual energy consumption	Q HE	33642	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	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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.

Warm climate and Low temperature

Model(s):	CTC EcoPart 430 + CTC EcoBasic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	156 %
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 (*)	Prated	32	kW	Seasonal space heating energy efficiency	ηs	155	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = − 7 °C	Pdh	NA	kW	Tj = − 7 °C	COPd	NA	-
Tj = + 2 °C	Pdh	29,0	kW	Tj = +2 °C	COPd	4,55	-
Tj = + 7 °C	Pdh	28,8	kW	Tj = +7 °C	COPd	4,42	-
Tj = + 12 °C	Pdh	28,6	kW	Tj = +12 °C	COPd	4,26	-
Tj = bivalent temperature	Pdh	29,0	kW	Tj = bivalent temperature	COPd	4,55	-
Tj = operation limit temperature	Pdh	29	kW	Tj = operation limit temperature	COPd	4,55	-
For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	Tbiv	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	Pcych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0,007	kW	Rated heat output (*)	Psup	2,2	kW
Thermostat-off mode	Pto	0,097	kW	Type of energy input	Electric		
Standby mode	Psb	0,007	kW				
Crankcase heater mode	Pck	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	Lwa	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	Qhe	10256	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	ηwh	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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 High temperature

Model(s):	CTC EcoPart 430 + CTC EcoBasic		
Air-to-water heat pump:	No	Energy efficiency class:	A+ -
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	108 %
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 (*)				Seasonal space heating energy efficiency			
	<i>Prated</i>	32	kW		η_s	107	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	<i>Pdh</i>	27	kW	T j = − 7 °C	<i>COPd</i>	3,11	-
T j = + 2 °C	<i>Pdh</i>	26,6	kW	T j = +2 °C	<i>COPd</i>	2,95	-
T j = + 7 °C	<i>Pdh</i>	26,4	kW	T j = +7 °C	<i>COPd</i>	2,86	-
T j = + 12 °C	<i>Pdh</i>	26,4	kW	T j = +12 °C	<i>COPd</i>	2,76	-
T j = bivalent temperature	<i>Pdh</i>	27,0	kW	T j = bivalent temperature	<i>COPd</i>	3,11	-
T j = operation limit temperature	<i>Pdh</i>	27	kW	T j = operation limit temperature	<i>COPd</i>	3,11	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	-6	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	0,007	kW	Rated heat output (*)	<i>Psup</i>	4,8	kW
Thermostat-off mode	<i>P TO</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P SB</i>	0,007	kW				
Crankcase heater mode	<i>P CK</i>	0	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,2	m3/h
Annual energy consumption	<i>Q HE</i>	22778	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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

Enertech AB, 341 26 Ljungby

Model(s):	CTC EcoPart 430 + CTC EcoBasic			
Air-to-water heat pump:	No	Energy efficiency class:	A++	-
Water-to-water heat pump:	No	Controller class:	I	-
Brine-to-water heat pump:	Yes	Controller contribution:	1	%
Low-temperature heat pump:	No	Package efficiency:	160	%
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 (*)	Prated	32	kW	Seasonal space heating energy efficiency	ηs	159	%
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	Pdh	NA	kW	T j = − 7 °C	COPd	NA	-
T j = + 2 °C	Pdh	28,8	kW	T j = +2 °C	COPd	4,38	-
T j = + 7 °C	Pdh	28,6	kW	T j = +7 °C	COPd	4,29	-
T j = + 12 °C	Pdh	28,6	kW	T j = +12 °C	COPd	4,20	-
T j = bivalent temperature	Pdh	29,0	kW	T j = bivalent temperature	COPd	4,55	-
T j = operation limit temperature	Pdh	29,0	kW	T j = operation limit temperature	COPd	4,55	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	T biv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P cych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	3,8	kW
Thermostat-off mode	P TO	0,097	kW	Type of energy input	Electric		
Standby mode	P SB	0,007	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L WA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	Q HE	8113	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	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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 High temperature

Model(s):	CTC EcoPart 430 + CTC EcoBasic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	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 (*)				Seasonal space heating energy efficiency			
	<i>Prated</i>	30	kW		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>Pdh</i>	26,6	kW	T j = − 7 °C	<i>COPd</i>	2,97	-
T j = + 2 °C	<i>Pdh</i>	26,4	kW	T j = +2 °C	<i>COPd</i>	2,86	-
T j = + 7 °C	<i>Pdh</i>	26,4	kW	T j = +7 °C	<i>COPd</i>	2,79	-
T j = + 12 °C	<i>Pdh</i>	26,2	kW	T j = +12 °C	<i>COPd</i>	2,73	-
T j = bivalent temperature	<i>Pdh</i>	27,0	kW	T j = bivalent temperature	<i>COPd</i>	3,11	-
T j = operation limit temperature	<i>Pdh</i>	26,8	kW	T j = operation limit temperature	<i>COPd</i>	3,11	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>Pdh</i>	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	<i>COPd</i>	na	-
Bivalent temperature	<i>T biv</i>	-18	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	na	°C
Cycling interval capacity for heating	<i>P cych</i>	na	kW	Cycling interval efficiency	<i>COPcyc</i>	na	-
Degradation co-efficient (**)	<i>Cdh</i>	0,99	-	Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P OFF</i>	0,007	kW	Rated heat output (*)	<i>Psup</i>	3,2	kW
Thermostat-off mode	<i>P TO</i>	0,032	kW	Type of energy input	Electric		
Standby mode	<i>P SB</i>	0,007	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	-	na	m3/h
Sound power level, indoors/ outdoors	<i>L WA</i>	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,1/2,2	m3/h
Annual energy consumption	<i>Q HE</i>	25954	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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

Model(s):	CTC EcoPart 430 + CTC EcoBasic		
Air-to-water heat pump:	No	Energy efficiency class:	-
Water-to-water heat pump:	No	Controller class:	I -
Brine-to-water heat pump:	Yes	Controller contribution:	1 %
Low-temperature heat pump:	No	Package efficiency:	158 %
Equipped with a supplementary heater:	No	Package efficiency class:	-
Heat pump combination heater:	No		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	30	kW	Seasonal space heating energy efficiency	ηs	157	%
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	Pdh	28,8	kW	T j = − 7 °C	COPd	4,40	-
T j = + 2 °C	Pdh	28,6	kW	T j = +2 °C	COPd	4,29	-
T j = + 7 °C	Pdh	28,6	kW	T j = +7 °C	COPd	4,23	-
T j = + 12 °C	Pdh	28,6	kW	T j = +12 °C	COPd	4,17	-
T j = bivalent temperature	Pdh	29,0	kW	T j = bivalent temperature	COPd	4,55	-
T j = operation limit temperature	Pdh	29	kW	T j = operation limit temperature	COPd	4,55	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	na	-
Bivalent temperature	T biv	-20	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P cych	na	kW	Cycling interval efficiency	COPcyc	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	1,6	kW
Thermostat-off mode	P TO	0,097	kW	Type of energy input	Electric		
Standby mode	P SB	0,007	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items							
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L WA	53/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	3,8/2,6	m3/h
Annual energy consumption	Q HE	18324	kWh				
For heat pump combination heater:							
Declared load profile	na			Water heating energy efficiency	ηwh	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000			www.ctc.se			

(*) 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.