

Warm climate and High temperature

Model(s):	CTC EcoHeat 406		
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:	123 %
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	6	kW	Seasonal space heating energy efficiency	ηs	119	%
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	5,2	kW	Tj = +2 °C	COPd	2,72	-
Tj = + 7 °C	Pdh	5,4	kW	Tj = +7 °C	COPd	3,11	-
Tj = + 12 °C	Pdh	5,7	kW	Tj = +12 °C	COPd	3,76	-
Tj = bivalent temperature	Pdh	5,3	kW	Tj = bivalent temperature	COPd	2,83	-
Tj = operation limit temperature	Pdh	5,2	kW	Tj = operation limit temperature	COPd	2,72	-
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	0,98	-	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	0,4	kW
Thermostat-off mode	Pto	0,010	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	43/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	m3/h
Annual energy consumption	QHE	2382	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	ηwh	78	%
Daily electricity consumption	Qelec	5,985	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1317	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 EcoHeat 406		
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:	161 %
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	6	kW	Seasonal space heating energy efficiency	ηs	157	%
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	5,9	kW	Tj = +2 °C	COPd	4,23	-
Tj = + 7 °C	Pdh	6,0	kW	Tj = +7 °C	COPd	4,45	-
Tj = + 12 °C	Pdh	6,2	kW	Tj = +12 °C	COPd	4,71	-
Tj = bivalent temperature	Pdh	5,9	kW	Tj = bivalent temperature	COPd	4,30	-
Tj = operation limit temperature	Pdh	5,9	kW	Tj = operation limit temperature	COPd	4,23	-
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	0,018	kW	Rated heat output (*)	Psup	0,5	kW
Thermostat-off mode	Pto	0,027	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	43/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1,4	m3/h
Annual energy consumption	QHE	2073	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	ηwh	78	%
Daily electricity consumption	Qelec	5,977	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1315	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 EcoHeat 406		
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:	123 %
Equipped with a supplementary heater:	Yes	Package efficiency class:	A+ -
Heat pump combination heater:	Yes		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	ηs	119	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	5,3	kW	T j = − 7 °C	COPd	2,90	-
T j = + 2 °C	Pdh	5,4	kW	T j = +2 °C	COPd	3,32	-
T j = + 7 °C	Pdh	5,6	kW	T j = +7 °C	COPd	3,66	-
T j = + 12 °C	Pdh	5,8	kW	T j = +12 °C	COPd	4,01	-
T j = bivalent temperature	Pdh	5,2	kW	T j = bivalent temperature	COPd	2,96	-
T j = operation limit temperature	Pdh	5,2	kW	T j = operation limit temperature	COPd	2,72	-
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	-6	°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	POFF	0,18	kW	Rated heat output (*)	Psup	1,1	kW
Thermostat-off mode	Pto	0,010	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	43/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	m3/h
Annual energy consumption	QHE	4006	kWh				

For heat pump combination heater:

Declared load profile	L			Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	<i>Q_{elec}</i>	5,985	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1317	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 Low temperature

Model(s):	CTC EcoHeat 406		
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:	166 %
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	7	kW	Seasonal space heating energy efficiency	ηs	162	%
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	6,0	kW	Tj = − 7 °C	COPd	4,32	-
Tj = + 2 °C	Pdh	6,0	kW	Tj = +2 °C	COPd	4,50	-
Tj = + 7 °C	Pdh	6,1	kW	Tj = +7 °C	COPd	4,66	-
Tj = + 12 °C	Pdh	6,2	kW	Tj = +12 °C	COPd	4,83	-
Tj = bivalent temperature	Pdh	6,0	kW	Tj = bivalent temperature	COPd	4,32	-
Tj = operation limit temperature	Pdh	5,9	kW	Tj = operation limit temperature	COPd	4,23	-
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	-7	°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	0,018	kW	Rated heat output (*)	Psup	0,8	kW
Thermostat-off mode	Pto	0,027	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	43/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1,4	m3/h
Annual energy consumption	QHE	3281	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	ηwh	78	%
Daily electricity consumption	Qelec	5,985	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1317	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 EcoHeat 406		
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:	128 %
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	6	kW	Seasonal space heating energy efficiency	ηs	124	%
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	5,4	kW	T j = − 7 °C	COPd	3,23	-
T j = + 2 °C	Pdh	5,6	kW	T j = +2 °C	COPd	3,59	-
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,91	-
T j = + 12 °C	Pdh	5,9	kW	T j = +12 °C	COPd	4,14	-
T j = bivalent temperature	Pdh	5,3	kW	T j = bivalent temperature	COPd	2,94	-
T j = operation limit temperature	Pdh	5,2	kW	T j = operation limit temperature	COPd	2,72	-
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	-17	°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	0,98	-	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	0,9	kW
Thermostat-off mode	P TO	0,010	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	43/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	m3/h
Annual energy consumption	Q HE	4560	kWh				

For heat pump combination heater:

Declared load profile	L			Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	<i>Q_{elec}</i>	5,985	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1317	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 EcoHeat 406		
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:	168 %
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	7	kW	Seasonal space heating energy efficiency	ηs	164	%
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	6,1	kW	T j = − 7 °C	COPd	4,52	-
T j = + 2 °C	Pdh	6,1	kW	T j = +2 °C	COPd	4,66	-
T j = + 7 °C	Pdh	6,2	kW	T j = +7 °C	COPd	4,78	-
T j = + 12 °C	Pdh	6,2	kW	T j = +12 °C	COPd	4,80	-
T j = bivalent temperature	Pdh	6,0	kW	T j = bivalent temperature	COPd	4,32	-
T j = operation limit temperature	Pdh	5,9	kW	T j = operation limit temperature	COPd	4,23	-
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	-19	°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	0,97	-	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	0,6	kW
Thermostat-off mode	Pto	0,027	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	43/na	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1,4	m3/h
Annual energy consumption	QHE	3709	kWh				

For heat pump combination heater:

Declared load profile	L			Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	<i>Q_{elec}</i>	5,985	kWh	Daily fuel consumption	<i>Q_{fuel}</i>	na	kWh
Annual electricity consumption	<i>AEC</i>	1317	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.