No

Yes

CTC EcoPart 410 + CTC EcoLogic

Energy efficiency class:

Controller contribution:

Controller class:

Warm climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Brine-to-water heat pump:

Enertech AB, 341 26 Ljungby

%

VII

3,5

				-,-		
	No		Package efficiency:	141	%	
y heater:	No		Package efficiency class:		-	
r:	No					
		ion, except fo	r low-temperature heat pumps. For l	ow- tempera	ture heat pu	mps,
or low-temperatu	re application.					
Symbol	Value	Unit	Item	Symbol	Value	Unit
Prated	10	kW	Seasonal space heating energy efficiency	η_s	137	%
or part load at in	door temperatu	re 20 °C and				
Pdh	na	kW	T j = - 7 °C	COPd	na] -
Pdh	9,3	kW	T j = +2 °C	COPd	3,10	1 -
Pdh	9,5	kW	T j = +7 °C	COPd	3,47] -
Pdh	9,8	kW	T j = +12 °C	COPd	4,15] -
Pdh	9,3	kW	T j = bivalent temperature	COPd	3,21	-
Pdh	na	kW	T j = operation limit temperature	COPd	na	-
Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
T _{biv}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°c
P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	_
Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
other than active	mode	-	Supplementary heater			_
P OFF	0,018	kW	Rated heat output (*)	Psup	0,8	kW
P _{TO}	0,003	kW				
P_{SR}	0,018	kW	Type of energy input		Electric	
		4				
· CA	3,000	1	1 			
	Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/
L WA	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Q _{HE}	3701	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/
ater:						
	na		Water heating energy efficiency	η_{wh}	na	%
Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWł
		kWh	Annual fuel consumption	AFC		GJ
	r: or medium-tempor low-temperatu Symbol Prated or part load at incomplete process of the pro	y heater: No r: No or medium-temperature application. Symbol Value Prated 10 or part load at indoor temperature Pdh na Pdh 9,3 Pdh 9,5 Pdh 9,8 Pdh 9,8 Pdh na Pdh na Pdh na Pdh na Pdh 9,8 Pdh na Pdh na Pdh 9,8 Pdh 0,018 Pcych na Cdh 0,99 other than active mode Poff 0,018 Pro 0,003 PsB 0,018 PcK 0,000 Fixed LWA 49/na QHE 3701 ater:	y heater: No r: No r: No or medium-temperature application, except for part low-temperature application. Symbol Value Unit Prated 10 kW or part load at indoor temperature 20 °C and Pdh 9,3 kW Pdh na kW Pdh na kW Pdh na kW Pdh na kW Pdh na kW Pdh na kW Fixed Fixed L WA 49/na dB Q HE 3701 kWh ater:	y heater: No residum-temperature application, except for low-temperature heat pumps. For low low-temperature application. Symbol Value Unit Proted 10 kW Path	No Package efficiency: 141 y heater: No Package efficiency: 141 y heater: No Package efficiency class: No Package afficiency: No Package efficiency class: No Package afficiency: No Package after at pumps: A combact afficiency: No Package afficiency: No Package afficiency: No Package afficiency: No Package affici	No Package efficiency: 141 % y heater: No Package efficiency class: To medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps for low-temperature application. Symbol Value Unit Item Symbol Value Proted 10 kW Seasonal space heating energy efficiency Institute for low-temperature 20 °C and part load at indoor temperature 20 °C and part load at indoor temperature 20 °C and part load at indoor temperature 20 °C and outdoor 20 °C and 20 °C and 3,10 °C and

^(*) 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.

No

CTC EcoPart 410 + CTC EcoLogic

Energy efficiency class:

Controller class:

Warm climate and Low temperature

Model(s):

consumption Contact details

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

VII

water-to-water neat pump.		NU		CONTROLLER Class.	VII		
Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	183	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:		-	
Heat pump combination heater	••	No					
		erature applicat	tion, except for	r low-temperature heat pumps. For	low- tempera	iture heat pu	mps,
parameters shall be declared for	or low-temperati	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	179	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	ire 20 °C and	Declared coefficient of performation part load at indoor temperature			
T j = - 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na] -
T j = + 2 °C	Pdh	10,0	kW	T j = +2 °C	COPd	4,60	-
T j = + 7 °C	Pdh	10,1	kW	T j = +7 °C	COPd	4,82	-
T j = + 12 °C	Pdh	10,2	kW	T j = +12 °C	COPd	5,10	-
T j = bivalent temperature	Pdh	10	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	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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	other than active	mode	_	Supplementary heater			-
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,8	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	3079	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	ater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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

^(*) 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.

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No

CTC EcoPart 410 + CTC EcoLogic

Energy efficiency class:

Controller class:

ENERTECH

Average climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

A++

VII

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	142	%	
Equipped with a supplementary	heater:	No		Package efficiency class:	A++	-	
Heat pump combination heater		No					
			tion, except fo	r low-temperature heat pumps. Fo	or low- tempera	ture heat pu	mps,
parameters shall be declared for	-						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energ efficiency	γ η _ς	138	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of perform			
T j = -7 °C	Pdh	9,4	kW	T j = - 7 °C	COPd	3,28] -
T j = + 2 °C	Pdh	9,5	kW	T j = +2 °C	COPd	3,66	-
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	4,03	-
T j = + 12 °C	Pdh	9,9	kW	T j = +12 °C	COPd	4,41	
T j = bivalent temperature	Pdh	9,4	kW	T j = bivalent temperature	COPd	3,28	-
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}	-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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	ther than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,3	kW
Thermostat-off mode	P _{TO}	0,003	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items					Į.		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water hea pumps: Rated brine or water	nt		
Annual energy consumption	Q _{HE}	5999	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination hea	ater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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
	enertech AB, Box	309, SE-341 26	Ljungby Tel +	46 372 88000 www.ctc.se	2		

^(*) 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.

No

CTC EcoPart 410 + CTC EcoLogic

Energy efficiency class:

Controller class:

Average climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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A++

VII

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	185	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:	A+++	-	
Heat pump combination heater	r:	No					
Parameters shall be declared fo	or medium-temp	erature applica	tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared fo	or low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	181	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	ıre 20 °C and	Declared coefficient of performation part load at indoor temperature	•		
T j = - 7 °C	Pdh	10,0	kW	T j = - 7 °C	COPd	4,69] -
T j = + 2 °C	Pdh	10,1	kW	T j = +2 °C	COPd	4,88] -
T j = + 7 °C	Pdh	10,2	kW	T j = +7 °C	COPd	5,05	
T j = + 12 °C	Pdh	10,3	kW	T j = +12 °C	COPd	5,22	
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,69	-
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}	-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	СОРсус	na	_
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	other than active	mode	_	Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,3	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4944	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/ł
For heat pump combination he	ater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

^(*) 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.

No

CTC EcoPart 410 + CTC EcoLogic

Energy efficiency class:

Controller class:

Cold climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

VII

		NU		Controller class.	VII		
Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	145	%	
Equipped with a supplementary	/ heater:	No		Package efficiency class:		-	
Heat pump combination heater	••	No					
			tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared fo							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_{s}	141	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of performation part load at indoor temperature	•		
T j = - 7 °C	Pdh	9,5	kW	T j = - 7 °C	COPd	3,58] -
T j = + 2 °C	Pdh	9,7	kW	T j = +2 °C	COPd	3,96] -
T j = + 7 °C	Pdh	9,8	kW	T j = +7 °C	COPd	4,29	
T j = + 12 °C	Pdh	10,0	kW	T j = +12 °C	COPd	4,54] -
T j = bivalent temperature	Pdh	9,4	kW	T j = bivalent temperature	COPd	3,27	-
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}	-18	°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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	other than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,2	kW
Thermostat-off mode	P _{TO}	0,003	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
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/ł
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	6939	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/ł
For heat pump combination he	ater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

^(*) 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.

No

CTC EcoPart 410 + CTC EcoLogic

Energy efficiency class:

Controller class:

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

VII

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	188	%	
Equipped with a supplementar	v heater:	No		Package efficiency class:		-	
Heat pump combination heate	-	No		,			
			tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared for	or low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	184	%
Declared capacity for heating foutdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of performa part load at indoor temperature	•		
T j = - 7 °C	Pdh	10,1	kW	T j = - 7 °C	COPd	4,89] -
T j = + 2 °C	Pdh	10,2	kW	T j = +2 °C	COPd	5,05	1 -
T j = + 7 °C	Pdh	10,2	kW	T j = +7 °C	COPd	5,16	-
T j = + 12 °C	Pdh	10,2	kW	T j = +12 °C	COPd	5,19] -
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,66] -
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}	-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	СОРсус	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	0,6	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	5414	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	eater:						
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
	Enertech AB, Box	309, SE-341 26	Ljungby Tel +4	16 372 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.

No

CTC EcoPart 410 + CTC EcoZenith 250

Energy efficiency class:

Controller class:

Warm climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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VII

	Yes		Controller contribution:	3,5	%	
	No		Package efficiency:	128	%	
y heater:	yes		Package efficiency class:		-	
r:	Yes					
		tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
-						
Symbol	Value	Unit	1	Symbol	Value	Unit
Prated	10	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	124	%
or part load at ind	door temperatu	ıre 20 °C and	·	•		
Pdh	na	kW	T j = - 7 °C	COPd	na] -
Pdh	9,3	kW	T j = +2 °C	COPd	2,86] -
Pdh	9,5	kW	T j = +7 °C	COPd	3,20	-
Pdh	9,8	kW	T j = +12 °C	COPd	3,78	
Pdh	9,3	kW	T j = bivalent temperature	COPd	2,96	-
Pdh	9,3	kW	T j = operation limit temperature	COPd	2,86	-
Pdh	na	kW	For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	COPd	na	-
T _{biv}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	_
Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
ther than active	mode	_	Supplementary heater			-
P OFF	0,018	kW	Rated heat output (*)	Psup	0,8	kW
P _{TO}	0,026	kW				
P_{SB}	0,018	kW	Type of energy input		Electric	
P _{CK}	0,000	kW				
	,					
	Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Q _{HE}	4090	kWh	flow rate, outdoor heat exchanger		1,9	m3/h
ater:						
	L		Water heating energy efficiency	$\eta_{\sf wh}$	87	%
Qelec	5,377	kWh	Daily fuel consumption	Qfuel	na	kWh
AEC	1183	kWh	Annual fuel consumption	AFC	na	GJ
	or medium-tempor low-temperature. Symbol Prated Or part load at in Pdh Pdh Pdh Pdh Pdh Pdh Pdh Pdh Pdh Pd	No y heater: yes r: Yes or medium-temperature application. Symbol Value Prated 10 or part load at indoor temperature Pdh	No y heater: yes Yes or medium-temperature application, except fo or low-temperature application. Symbol Value Unit Prated 10 kW Prated 10 kW Or part load at indoor temperature 20 °C and Pdh 9,3 kW Pdh 9,5 kW Pdh 9,8 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Fixed two deater: L Fixed L Fixed L L L L L L L L L L L L L	No Package efficiency: / heater: yes Package efficiency class: Yes or medium-temperature application, except for low-temperature heat pumps. For or low-temperature application. Symbol Value Unit Item Prated 10 kW Seasonal space heating energy efficiency or part load at indoor temperature 20 °C and Declared coefficient of performs part load at indoor temperature Pdh	No Package efficiency: 128 y heater: yes Package efficiency class: yes Package efficiency class: yes package efficiency class: yes package efficiency class: yes package efficiency class: yes package efficiency class: yes package efficiency class: yes package efficiency class: yes package efficiency class: yes package ficiency class: yes package ficiency class: yes package efficiency class: yes package ficiency class. yes package efficiency class. yes package ficiency class. yes package ficiency class. yes package afficiency class. yes package ficiency class package afficiency class package ficiency class package ficiency clas	No Package efficiency: 128 % / heater: yes Package efficiency class: Tes Tes Tes Tes Tes Tes Tes

^(*) 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.

No

CTC EcoPart 410 + CTC EcoZenith 250

Energy efficiency class:

Controller class:

Warm climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

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				COTILIONEL Class.			
Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	156	%	
Equipped with a supplementary	/ heater:	yes		Package efficiency class:		-	
Heat pump combination heater	:	Yes					
			tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared fo	r low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	152	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	ire 20 °C and	Declared coefficient of performation part load at indoor temperature			
T j = - 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na] -
T j = + 2 °C	Pdh	10,0	kW	T j = +2 °C	COPd	4,16] -
T j = + 7 °C	Pdh	10,1	kW	T j = +7 °C	COPd	4,35] -
T j = + 12 °C	Pdh	10,2	kW	T j = +12 °C	COPd	4,58	_
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,22] -
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,16	-
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,96	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	ther than active	mode		Supplementary heater			-
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	0,8	kW
Thermostat-off mode	P _{TO}	0,082	kW				-
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items	J.	-,	ļ		!		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/l
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	3592	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/l
For heat pump combination he	ater:	-					
Declared load profile		L		Water heating energy efficiency	$\eta_{\sf wh}$	87	%
Daily electricity consumption	Qelec	5,377	kWh	Daily fuel consumption	Qfuel	na	kWł
Annual electricity	AEC	1183	kWh	Annual fuel consumption	AFC	na	GJ

^(*) 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.

No

Average climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	129	%	
Equipped with a supplementary	heater:	yes		Package efficiency class:	A++	-	
Heat pump combination heater		Yes					
Parameters shall be declared fo parameters shall be declared fo			tion, except fo	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η _s	125	%
Declared capacity for heating fo outdoor temperature T j	or part load at in	door temperatu	ire 20 °C and	Declared coefficient of perform part load at indoor temperature			
T j = - 7 °C	Pdh	9,4	kW	T j = - 7 °C	COPd	3,02] -
T j = + 2 °C	Pdh	9,6	kW	T j = +2 °C	COPd	3,39] -
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	3,69	
T j = + 12 °C	Pdh	9,9	kW	T j = +12 °C	COPd	4,00	-
T j = bivalent temperature	Pdh	9,4	kW	T j = bivalent temperature	COPd	3,08	-
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	2,86	_
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	СОРсус	na	_
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	ther than active	mode	7	Supplementary heater			7
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	1,8	kW
Thermostat-off mode	P _{TO}	0,026	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	6900	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination hea	ater:	•	-				
Declared load profile		L		Water heating energy efficiency	$\eta_{\sf wh}$	x	%
Daily electricity consumption	Qelec	х	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity	AEC	X	kWh	Annual fuel consumption	AFC	NA	GJ

CTC EcoPart 410 + CTC EcoZenith 250

Energy efficiency class:

Controller class:

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

consumption Contact details

www.ctc.se

AFC

GJ

^(*) 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.

No

CTC EcoPart 410 + CTC EcoZenith 250

Energy efficiency class:

Controller class:

Average climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

A++

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Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	161	%	
Equipped with a supplementary	y heater:	yes		Package efficiency class:	A+++	-	
Heat pump combination heater		Yes					
		erature applicat	tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared fo	or low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_{s}	157	%
Declared capacity for heating foutdoor temperature T j	or part load at in	door temperatu	ıre 20°C and	Declared coefficient of performa part load at indoor temperature			
T j = - 7 °C	Pdh	10,0	kW	T j = - 7 °C	COPd	4,24] -
T j = + 2 °C	Pdh	10,1	kW	T j = +2 °C	COPd	4,40	1 -
T j = + 7 °C	Pdh	10,2	kW	T j = +7 °C	COPd	4,54] -
T j = + 12 °C	Pdh	10,3	kW	T j = +12 °C	COPd	4,68	_
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,27	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,16	_
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	СОРсус	na] -
Degradation co-efficient (**)	Cdh	0,96	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	other than active	mode	•	Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,9	kW
Thermostat-off mode	P _{TO}	0,082	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items	CK	3,000	1		!		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/I
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	5938	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/l
For heat pump combination he	ater:						
Declared load profile		L		Water heating energy efficiency	$\eta_{\sf wh}$	87	%
Daily electricity consumption	Qelec	5,377	kWh	Daily fuel consumption	Qfuel	na	kWł
Annual electricity	AEC	1183	kWh	Annual fuel consumption	AFC	na	GJ

^(*) 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.

No

Cold climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

VII

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	131	%	
Equipped with a supplementary	y heater:	yes		Package efficiency class:		-	
Heat pump combination heater		Yes					
Parameters shall be declared for parameters shall be declared for			tion, except fo	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy	η _s	127	%
		10		efficiency	' '\\$	127	,,,
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	ıre 20 °C and	Declared coefficient of perform part load at indoor temperature	•		
T j = - 7 °C	Pdh	9,5	kW	T j = - 7 °C	COPd	3,30] -
T j = + 2 °C	Pdh	9,7	kW	T j = +2 °C	COPd	3,62] -
T j = + 7 °C	Pdh	9,8	kW	T j = +7 °C	COPd	3,90	-
T j = + 12 °C	Pdh	10,0	kW	T j = +12 °C	COPd	4,11	-
T j = bivalent temperature	Pdh	9,4	kW	T j = bivalent temperature	COPd	3,02	-
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	2,86	-
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}	-18	°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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	other than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,2	kW
Thermostat-off mode	P _{TO}	0,026	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7647	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination he	ater:			1 1			
Declared load profile		L		Water heating energy efficiency	η_{wh}	87	%
Daily electricity consumption	Qelec	5,377	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1183	kWh	Annual fuel consumption	AFC	na	GJ
Contact details	Enertech AB, Box	309, SE-341 26	Ljungby Tel +4	46 372 88000 www.ctc.se			

CTC EcoPart 410 + CTC EcoZenith 250

Energy efficiency class:

Controller class:

^(*) 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.

No

CTC EcoPart 410 + CTC EcoZenith 250

Energy efficiency class:

Controller class:

Cold climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

VII

water-to-water neat pump.		NU		Controller class.	VII		
Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	162	%	
Equipped with a supplementar	y heater:	yes		Package efficiency class:		-	
Heat pump combination heate		Yes					
		erature applicat	ion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared for	or low-temperatu	ire application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	158	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of performation part load at indoor temperature			
T j = -7 °C	Pdh	10,1	kW	T j = - 7 °C	COPd	4,42	-
T j = + 2 °C	Pdh	10,2	kW	T j = +2 °C	COPd	4,54] -
T j = + 7 °C	Pdh	10,2	kW	T j = +7 °C	COPd	4,64] -
T j = + 12 °C	Pdh	10,2	kW	T j = +12 °C	COPd	4,66	-
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,26	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,16	-
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}	-18	°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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,96	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	other than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,2	kW
Thermostat-off mode	P _{TO}	0,082	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items		,	!		ļ		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			1
Annual energy consumption	Q _{HE}	6656	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	ater:						
Declared load profile		L		Water heating energy efficiency	$\eta_{\sf wh}$	x	%
Daily electricity consumption	Qelec	x	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	х	kWh	Annual fuel consumption	AFC	NA	GJ
	Enertech AB, Box	309, SE-341 26	Ljungby Tel +4	16 372 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.

No

CTC EcoPart 410 + CTC EcoZenith 550

Energy efficiency class:

Controller class:

Warm climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Enertech AB, 341 26 Ljungby

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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					
		erature applicat	tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared fo	or low-temperatu	ire application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_{s}	124	%
Declared capacity for heating foutdoor temperature T j	or part load at ind	door temperatu	ıre 20°C and	Declared coefficient of performa part load at indoor temperature			
T j = - 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na] -
T j = + 2 °C	Pdh	9,3	kW	T j = +2 °C	COPd	2,86] -
T j = + 7 °C	Pdh	9,5	kW	T j = +7 °C	COPd	3,20	-
T j = + 12 °C	Pdh	9,8	kW	T j = +12 °C	COPd	3,78	
T j = bivalent temperature	Pdh	9,3	kW	T j = bivalent temperature	COPd	2,96	-
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	2,86	-
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	ther than active	mode	_	Supplementary heater			
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	0,8	kW
Thermostat-off mode	P _{TO}	0,019	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items					ļ		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/l
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4070	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/l
For heat pump combination he	ater:			-			
Declared load profile		XL		Water heating energy efficiency	$\eta_{\sf wh}$	101	%
Daily electricity consumption	Qelec	7,552	kWh	Daily fuel consumption	Qfuel	NA	kWł
Annual electricity	AEC	1661	kWh	Annual fuel consumption	AFC	NA	GJ

^(*) 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.

No

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	160	%	
Equipped with a supplementary	heater:	yes		Package efficiency class:		-	
Heat pump combination heater	:	Yes					
			ion, except fo	r low-temperature heat pumps. Fo	r low- tempera	ture heat pu	mps,
parameters shall be declared for	r low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	156	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of perform			
T j = -7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na] -
T j = + 2 °C	Pdh	10,0	kW	T j = +2 °C	COPd	4,16] -
T j = + 7 °C	Pdh	10,1	kW	T j = +7 °C	COPd	4,35	
T j = + 12 °C	Pdh	10,2	kW	T j = +12 °C	COPd	4,58	_
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,22	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,16	-
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	ther than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,8	kW
Thermostat-off mode	P _{TO}	0,051	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items			!		_ <u>!</u>		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water hear pumps: Rated brine or water	t		
Annual energy consumption	Q _{HE}	3506	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination hea	ater:						
Declared load profile		XL		Water heating energy efficiency	$\eta_{\sf wh}$	101	%
Daily electricity consumption	Qelec	7,552	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1661	kWh	Annual fuel consumption	AFC	NA	GJ
Contact details	nertech AB, Box	309, SE-341 26	Ljungby Tel +	46 372 88000 www.ctc.se			

CTC EcoPart 410 + CTC EcoZenith 550

Energy efficiency class:

VII

Controller class:

^(*) 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.

No

Yes

CTC EcoPart 410 + CTC EcoZenith 550

Energy efficiency class:

Controller contribution:

Controller class:

Average climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Brine-to-water heat pump:

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%

A++

VII

3,5

					-,-		
Low-temperature heat pump:		No		Package efficiency:	141	%	
Equipped with a supplementar	y heater:	yes		Package efficiency class:	A++	-	
Heat pump combination heate	r:	Yes					
		erature applicat	ion, except fo	r low-temperature heat pumps. For	low- tempera	iture heat pu	mps,
parameters shall be declared f	or low-temperatu	ire application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9	kW	Seasonal space heating energy efficiency	η_{s}	137	%
Declared capacity for heating foutdoor temperature T j	or part load at ind	door temperatu	re 20 °C and	Declared coefficient of performa part load at indoor temperature			
T j = - 7 °C	Pdh	9,4	kW	T j = - 7 °C	COPd	3,02] -
T j = + 2 °C	Pdh	9,6	kW	T j = +2 °C	COPd	3,39	1 -
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	3,69] -
T j = + 12 °C	Pdh	9,9	kW	T j = +12 °C	COPd	4,00] -
T j = bivalent temperature	Pdh	9,4	kW	T j = bivalent temperature	COPd	3,08] -
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	2,86] -
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	СОРсус	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	1,8	kW
Thermostat-off mode	P _{TO}	0,019	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items	CK	3,000					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	6880	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination he	eater:			<u>, , 0</u> -			•
Declared load profile		XL		Water heating energy efficiency	$\eta_{\sf wh}$	101	%
Daily electricity consumption	Qelec	7,552	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1661	kWh	Annual fuel consumption	AFC	NA	GJ
	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.

No

Average climate and Low temperature

Model(s):

Air-to-water heat pump:

Annual electricity

consumption Contact details AEC

1661

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Water-to-water heat pump:

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A++

VII

water-to-water near pump.		NO		Controller class.	VII	_	
Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	164	%	
Equipped with a supplementar	ry heater:	yes		Package efficiency class:	A+++	-	
Heat pump combination heate	er:	Yes					
Parameters shall be declared for	or medium-temp	erature applicat	ion, except for	r low-temperature heat pumps. For	low- tempera	ature heat pu	mps,
parameters shall be declared for	or low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	160	%
Declared capacity for heating foutdoor temperature T j	for part load at ind	door temperatu	re 20 °C and	Declared coefficient of performation part load at indoor temperature			
T j = - 7 °C	Pdh	10,0	kW	T j = - 7 °C	COPd	4,24] -
T j = + 2 °C	Pdh	10,1	kW	T j = +2 °C	COPd	4,39	1 -
T j = + 7 °C	Pdh	10,2	kW	T j = +7 °C	COPd	4,53] -
T j = + 12 °C	Pdh	10,3	kW	T j = +12 °C	COPd	4,68] -
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,24	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,16	-
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	СОРсус	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	0,018	kW	Rated heat output (*)	Psup	1,3	kW
Thermostat-off mode	P _{TO}	0,051	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	5582	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	eater:						
Declared load profile		XL		Water heating energy efficiency	η_{wh}	101	%
Daily electricity consumption	Qelec	7,552	kWh	Daily fuel consumption	Qfuel	NA	kWh

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Energy efficiency class:

Controller class:

Annual fuel consumption

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AFC

NA

GJ

kWh

^(*) 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.

No

Yes

CTC EcoPart 410 + CTC EcoZenith 550

Energy efficiency class:

Controller contribution:

Controller class:

Cold climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Brine-to-water heat pump:

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%

VII

3,5

Low-temperature heat pump:		No		Package efficiency:	132	%	
Equipped with a supplementar	ry heater:	yes		Package efficiency class:		-	
Heat pump combination heate	er:	Yes					
			ion, except for	low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared f							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_{s}	128	%
Declared capacity for heating foutdoor temperature T j	for part load at inc	door temperatu	re 20 °C and	Declared coefficient of performa part load at indoor temperature			
T j = -7 °C	Pdh	9,5	kW	T j = − 7 °C	COPd	3,30] -
T j = + 2 °C	Pdh	9,7	kW	T j = +2 °C	COPd	3,62	1 -
T j = + 7 °C	Pdh	9,8	kW	T j = +7 °C	COPd	3,90	1 -
T j = + 12 °C	Pdh	10,0	kW	T j = +12 °C	COPd	4,11] -
T j = bivalent temperature	Pdh	9,4	kW	T j = bivalent temperature	COPd	3,02	-
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	2,86	-
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}	-18	°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	СОРсус	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	1,2	kW
Thermostat-off mode	P _{TO}	0,019	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items	CK	3,000					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7618	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination he	eater:						
Declared load profile		XL		Water heating energy efficiency	$\eta_{\sf wh}$	101	%
Daily electricity consumption	Qelec	7,552	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1661	kWh	Annual fuel consumption	AFC	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.

No

CTC EcoPart 410 + CTC EcoZenith 550

Energy efficiency class:

Controller class:

Cold climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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VII

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	165	%	
Equipped with a supplementar	y heater:	yes		Package efficiency class:		-	
Heat pump combination heate	r:	Yes					
Parameters shall be declared for	or medium-temp	erature applicat	tion, except for	r low-temperature heat pumps. For l	ow- tempera	ture heat pu	mps,
parameters shall be declared for	or low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	161	%
Declared capacity for heating foutdoor temperature T j	or part load at ind	door temperatu	ıre 20°C and	Declared coefficient of performa part load at indoor temperature	•		
T j = - 7 °C	Pdh	10,1	kW	T j = - 7 °C	COPd	4,42] -
T j = + 2 °C	Pdh	10,2	kW	T j = +2 °C	COPd	4,54	1 -
T j = + 7 °C	Pdh	10,2	kW	T j = +7 °C	COPd	4,64] -
T j = + 12 °C	Pdh	10,2	kW	T j = +12 °C	COPd	4,66	_
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,26	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,16	-
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}	-18	°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	СОРсус	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	0,018	kW	Rated heat output (*)	Psup	1,2	kW
Thermostat-off mode	P _{TO}	0,051	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	6528	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	eater:	•	•	· · ·			
Declared load profile		XL	_	Water heating energy efficiency	$\eta_{\sf wh}$	101	%
Daily electricity consumption	Qelec	7,552	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1661	kWh	Annual fuel consumption	AFC	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.

CTC EcoPart 410 + CTC Basic

Energy efficiency class:

Warm climate and High temperature

Model(s):

consumption Contact details

Air-to-water heat pump:

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to				=67			
Water-to-water heat pump:		No		Controller class:	T.	-	
Brine-to-water heat pump:		Yes		Controller contribution:	1	%	
Low-temperature heat pump:		No		Package efficiency:	107	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:		-	
Heat pump combination heater		No		,			
		erature applicat	ion, except fo	r low-temperature heat pumps. For	low- tempera	iture heat pu	mps,
parameters shall be declared for	or low-temperati	ure application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_s	106	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of performa part load at indoor temperature			
T j = -7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na] -
T j = + 2 °C	Pdh	9,3	kW	T j = +2 °C	COPd	3,10 kr	
T j = + 7 °C	Pdh	9,2	kW	T j = +7 °C	COPd	2,96	-
T j = + 12 °C	Pdh	9,2	kW	T j = +12 °C	COPd	2,79	-
T j = bivalent temperature	Pdh	9,3	kW	T j = bivalent temperature	COPd	3,10 kr	-
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	3,10	-
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	1	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	other than active	mode	•	Supplementary heater			_
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	0,7	kW
Thermostat-off mode	P _{TO}	0,003	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input		Electric	
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4709	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination he	ater:						
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

^(*) 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.

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No

CTC EcoPart 410 + CTC Basic

Energy efficiency class:

ī

Controller class:

ENERTECH

Warm climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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water-to-water neat pump.		NU		Controller class.			
Brine-to-water heat pump:		Yes		Controller contribution:	1	%	
Low-temperature heat pump:		No		Package efficiency:	163	%	
Equipped with a supplementar	y heater:	No		Package efficiency class:		-	
Heat pump combination heate	r:	No					
		* *	tion, except for	low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared for		re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_{s}	162	%
Declared capacity for heating for outdoor temperature T j	or part load at in	door temperatu	ire 20 °C and	Declared coefficient of performation part load at indoor temperature	•		
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na] -
T j = + 2 °C	Pdh	10,0	kW	T j = +2 °C	COPd	4,60] -
T j = + 7 °C	Pdh	9,9	kW	T j = +7 °C	COPd	4,46] -
T j = + 12 °C	Pdh	9,8	kW	T j = +12 °C	COPd	4,29	
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,60	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,60	-
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	other than active	mode	•	Supplementary heater		•	
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	0,8	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items	CN	3,000			!		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	3372	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	ater:						
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	AEC	na	kWh	Annual fuel consumption	AFC	NA	GJ

^(*) 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.

No

Yes

CTC EcoPart 410 + CTC Basic

Energy efficiency class:

Controller contribution:

Controller class:

A+

Ĺ 1

Average climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

Brine-to-water heat pump:

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%

Low-temperature heat pump:		No		Package efficiency:	108	%	
Equipped with a supplementar	y heater:	No		Package efficiency class:	A+	-	
Heat pump combination heate		No		·			
		erature applicat	ion, except fo	r low-temperature heat pumps. For l	ow- tempera	ture heat pu	mps,
parameters shall be declared f	or low-temperatu	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_s	107	%
Declared capacity for heating foutdoor temperature T j	or part load at ind	door temperatu	re 20 °C and	Declared coefficient of performa part load at indoor temperature	•		
T j = - 7 °C	Pdh	9,3	kW	T j = - 7 °C	COPd	3,10] -
T j = + 2 °C	Pdh	9,2	kW	T j = +2 °C	COPd	2,94] -
T j = + 7 °C	Pdh	9,2	kW	T j = +7 °C	COPd	2,84] -
T j = + 12 °C	Pdh	9,1	kW	T j = +12 °C	COPd	2,73] -
T j = bivalent temperature	Pdh	9,3	kW	T j = bivalent temperature	COPd	3,10	-
T j = operation limit temperature	Pdh	9,3	kW	T j = operation limit temperature	COPd	3,10	-
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	1	-	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	1,7	kW
Thermostat-off mode	P _{TO}	0,003	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	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	L WA	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7880	kWh	flow rate, outdoor heat exchanger	-	1,9	m3/h
For heat pump combination he	ater:		•				
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
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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.

No

CTC EcoPart 410 + CTC Basic

Energy efficiency class:

Controller class:

Average climate and Low temperature

Model(s):

Air-to-water heat pump:

Annual electricity

consumption Contact details AEC

Water-to-water heat pump:

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A++

AFC

NA

GJ

ī

Trater to trater near pamp.					•		
Brine-to-water heat pump:		Yes		Controller contribution:	1	%	
Low-temperature heat pump:		No		Package efficiency:	166	%	
Equipped with a supplementar	y heater:	No		Package efficiency class:	A+++	-	
Heat pump combination heater	r:	No					
			ion, except for	r low-temperature heat pumps. For	low- tempera	ature heat pu	mps,
parameters shall be declared for	•	re application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_s	165	%
Declared capacity for heating for outdoor temperature T j	or part load at ind	door temperatui	re 20 °C and	Declared coefficient of performation part load at indoor temperature			
T j = -7 °C	Pdh	10,0	kW	T j = - 7 °C	COPd	4,60] -
T j = + 2 °C	Pdh	9,9	kW	T j = +2 °C	COPd	4,42] -
T j = + 7 °C	Pdh	9,9	kW	T j = +7 °C	COPd	4,33	
T j = + 12 °C	Pdh	9,8	kW	T j = +12 °C	COPd	4,23	_
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,60	-
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,60	_
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	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	other than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	1,3	kW
Thermostat-off mode	P_{TO}	0,014	kW				
Standby mode	P _{SB}	0,007	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items		,	ļ				
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	5397	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h
For heat pump combination he	ater:						
Declared load profile		na		Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	NA	kWh

Annual fuel consumption

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kWh

na

^(*) 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.

No

CTC EcoPart 410 + CTC Basic

Energy efficiency class:

Controller class:

Cold climate and High temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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	Yes		Controller contribution:	1	%	
	No		Package efficiency:	107	%	
heater:	No		Package efficiency class:		-	
:	No					
r medium-temp	erature applicat	tion, except for	low-temperature heat pumps. For I	ow- tempera	ture heat pu	mps,
r low-temperati	ure application.					
Symbol	Value	Unit	Item	Symbol	Value	Unit
Prated	10	kW	Seasonal space heating energy efficiency	η_{s}	106	%
or part load at in	door temperatu	ıre 20 °C and	•	•		
Pdh	9,2	kW	T j = - 7 °C	COPd	2,96] -
Pdh	9,2	kW	T j = +2 °C	COPd	2,84] -
Pdh	9,2	kW	T j = +7 °C	COPd	2,77] -
Pdh	9,1	kW	T j = +12 °C	COPd	2,71	_
Pdh	9,3	kW	T j = bivalent temperature	COPd	3,10	-
Pdh	9,3	kW	T j = operation limit temperature	COPd	3,10	-
Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
T _{biv}	-18	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Cdh	1	-	Heating water operating limit temperature	WTOL	65	°C
ther than active	mode	_	Supplementary heater			_
P OFF	0,007	kW	Rated heat output (*)	Psup	1,1	kW
P _{TO}	0,003	kW				
P_{SB}	0,007	kW	Type of energy input		Electric	
P _{CK}		kW				
		•				
	Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
L _{WA}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Q _{HE}	8982	kWh		-	1,9	m3/h
ater:			-			
	na		Water heating energy efficiency	$\eta_{\sf wh}$	na	%
Qelec	na	kWh	Daily fuel consumption	Qfuel	NA	kWh
		_	Ī			1
	Prated Prated or part load at in Pdh Pdh Pdh Pdh Pdh Pdh Pdh Pdh Pdh Pd	No y heater: No r: No remedium-temperature application or low-temperature application. Symbol Value Prated 10 or part load at indoor temperature Pdh 9,2 Pdh 9,2 Pdh 9,2 Pdh 9,1 Pdh 9,3 Pdh 9,3 Pdh 9,3 Pdh 9,3 Pdh 10 Pdh 1	No r heater: No remedium-temperature application, except for or low-temperature application. Symbol Value Unit Prated 10 kW or part load at indoor temperature 20 °C and Pdh 9,2 kW Pdh 9,2 kW Pdh 9,2 kW Pdh 9,1 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 9,3 kW Pdh 10 1 kW Pdh 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No Package efficiency: Package efficiency: Package efficiency Package efficiency class: No Package efficiency class: Package efficiency class: Package efficiency class: No Package efficiency class: Package efficiency Package efficiency	No Package efficiency: 107 / heater: No Package efficiency: 107 / heater: No Package efficiency class: No Package efficiency class:	No Package efficiency: 107 % / heater: No Package efficiency class: No Package efficiency class: No Package efficiency class: no redium-temperature application. Symbol Value Unit Item Symbol Value Prated 10 kW Prated 10 kW Seasonal space heating energy efficiency Path 9,2 kW Path 9,2 kW Path 9,2 kW Path 9,1 kW Path 9,1 kW Path 9,1 kW Path 9,3 kW Path 9,3 kW Path 9,3 kW Path 9,3 kW Path 1 - 15 °C (if ToL < 20 °C) Path 1 - 15 °C (if ToL < 20 °C) No Package efficiency Path 9,3 kW Path 9,4 kW Path 9,5 kW Path 9,6 kW Path 9,6 kW Path 9,7 kW Path 9,8 kW Path 9,9 kW Path 9,1 kW Path 9,1 kW Path 9,3 kW Path 9,4 kW Path 9,5 kW Path 9,6 kW Path 9,6 kW Path 9,7 kW Path 9,8 kW Pa

^(*) 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.

No

CTC EcoPart 410 + CTC Basic

Energy efficiency class:

Controller class:

Cold climate and Low temperature

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

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water-to-water neat pump.		INU		Controller class.	•			
Brine-to-water heat pump:		Yes		Controller contribution:	1	%		
Low-temperature heat pump:		No		Package efficiency:	165	%		
Equipped with a supplementary	/ heater:	No		Package efficiency class:		-		
Heat pump combination heater	••	No						
Parameters shall be declared for	or medium-tempo	erature applicat	tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,	
parameters shall be declared for								
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	164	%	
Declared capacity for heating for outdoor temperature T j	or part load at inc	door temperatu	re 20 °C and	Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature				
T j = - 7 °C	Pdh	9,9	kW	T j = - 7 °C	COPd	4,44] -	
T j = + 2 °C	Pdh	9,8	kW	T j = +2 °C	COPd	4,32] -	
T j = + 7 °C	Pdh	9,8	kW	T j = +7 °C	COPd	4,26		
T j = + 12 °C	Pdh	9,8	kW	T j = +12 °C	COPd	4,20		
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	4,60	-	
T j = operation limit temperature	Pdh	10,0	kW	T j = operation limit temperature	COPd	4,60	-	
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	СОРсус	na	_	
Degradation co-efficient (**)	Cdh	0,99	-	Heating water operating limit temperature	WTOL	65	°C	
Power consumption in modes of	other than active	mode	_	Supplementary heater			-	
Off mode	P OFF	0,007	kW	Rated heat output (*)	Psup	0,6	kW	
Thermostat-off mode	P _{TO}	0,014	kW					
Standby mode	P_{SB}	0,007	kW	Type of energy input		Electric		
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}	49/na	dB	For water-/brine-to-water heat pumps: Rated brine or water				
Annual energy consumption	Q _{HE}	6051	kWh	flow rate, outdoor heat exchanger	-	2,3	m3/h	
For heat pump combination he	ater:							
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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 +4	16 372 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.