No

Yes

CTC EcoPart 424 + 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:

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%

VII

3,5

					-,-		
Low-temperature heat pump:		No		Package efficiency:	141	%	
Equipped with a supplementar	y heater:	No		Package efficiency class:		-	
Heat pump combination heate	r:	No					
Parameters shall be declared for	or medium-temp		ion, except fo	r low-temperature heat pumps. For l	ow- 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	24	kW	Seasonal space heating energy efficiency	$\eta_s$	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	na	kW	T j = - 7 °C	COPd	na	] -
T j = + 2 °C	Pdh	27,2	kW	T j = +2 °C	COPd	3,08	1 -
T j = + 7 °C	Pdh	22,2	kW	T j = +7 °C	COPd	3,45	1 -
T j = + 12 °C	Pdh	23,0	kW	T j = +12 °C	COPd	4,14	1 -
T j = bivalent temperature	Pdh	22,0	kW	T j = bivalent temperature	COPd	3,18	-
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 <sub>biv</sub>	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	1,0	kW
Thermostat-off mode	P <sub>TO</sub>	0,005	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	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 <sub>WA</sub>	50/na	dВ	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	8728	kWh	flow rate, outdoor heat exchanger	-	2,1	m3/h
For heat pump combination he	eater:						
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	Gl
	Enertech AB, Box	309, SE-341 26	Ljungby Tel +	46 372 88000 www.ctc.se			

<sup>(\*)</sup> 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 424 + CTC EcoLogic

Energy efficiency class:

Controller class:

## Warm climate and Low 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:	184	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:		-	
Heat pump combination heater	·:	No					
		erature applica	tion, except for	r low-temperature heat pumps. For	low- tempera	ture heat pu	mps,
parameters shall be declared fo	or low-temperati	re application.					
ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	26	kW	Seasonal space heating energy efficiency	$\eta_{s}$	180	%
Declared capacity for heating foutdoor temperature T j	or part load at in	door temperatu	ıre 20 °C and	Declared coefficient of performa			
T j = – 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na	] -
T j = + 2 °C	Pdh	23,6	kW	T j = +2 °C	COPd	4,60	] -
T j = + 7 °C	Pdh	23,8	kW	T j = +7 °C	COPd	4,83	] -
T j = + 12 °C	Pdh	24,0	kW	T j = +12 °C	COPd	5,11	_
T j = bivalent temperature	Pdh	23,6	kW	T j = bivalent temperature	COPd	4,68	-
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 <sub>biv</sub>	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	ther than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,8	kW
Thermostat-off mode	P <sub>TO</sub>	0,022	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	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 <sub>WA</sub>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	7236	kWh	flow rate, outdoor heat exchanger	-	2,6	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

<sup>(\*)</sup> 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 424 + CTC EcoLogic

Energy efficiency class:

Controller class:

Model(s):

Air-to-water heat pump:

Water-to-water heat pump:

A++

VII

Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	142	%	
Equipped with a supplementar	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 for	or low-temperatu	ire application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	24	kW	Seasonal space heating energy efficiency	$\eta_{s}$	138	%
Declared capacity for heating for outdoor temperature T j	or part load at ind	door temperatu	ıre 20°C and	Declared coefficient of performation part load at indoor temperature			
T j = - 7 °C	Pdh	22,0	kW	T j = - 7 °C	COPd	3,25	] -
T j = + 2 °C	Pdh	22,4	kW	T j = +2 °C	COPd	3,64	-
T j = + 7 °C	Pdh	22,8	kW	T j = +7 °C	COPd	4,02	-
T j = + 12 °C	Pdh	23,2	kW	T j = +12 °C	COPd	4,40	-
T j = bivalent temperature	Pdh	22,0	kW	T j = bivalent temperature	COPd	3,25	-
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 <sub>biv</sub>	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	0,018	kW	Rated heat output (*)	Psup	3,0	kW
Thermostat-off mode	P <sub>TO</sub>	0,005	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	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 <sub>WA</sub>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	14168	kWh	flow rate, outdoor heat exchanger	-	2,1	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
				Ī			1

<sup>(\*)</sup> 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 424 + CTC EcoLogic

Energy efficiency class:

Controller class:

# ENERTECH

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:	186	%	
Equipped with a supplementar	y heater:	No		Package efficiency class:	A+++	-	
Heat pump combination heater	r:	No					
Parameters shall be declared fo	or medium-temp	erature applicat	tion, except for	r low-temperature heat pumps. For	low- tempera	ture 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	26	kW	Seasonal space heating energy efficiency	$\eta_{s}$	182	%
Declared capacity for heating foutdoor 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	23,6	kW	T j = - 7 °C	COPd	4,69	] -
T j = + 2 °C	Pdh	23,8	kW	T j = +2 °C	COPd	4,88	1 -
T j = + 7 °C	Pdh	24,0	kW	T j = +7 °C	COPd	5,06	-
T j = + 12 °C	Pdh	24,2	kW	T j = +12 °C	COPd	5,23	-
T j = bivalent temperature	Pdh	23,6	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 <sub>biv</sub>	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	3,2	kW
Thermostat-off mode	P <sub>TO</sub>	0,022	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		<u> </u>			Į.		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	11628	kWh	flow rate, outdoor heat exchanger	-	2,6	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	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

<sup>(\*)</sup> 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 424 + CTC EcoLogic

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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%

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3,5

Low-temperature heat pump:		No		Package efficiency:	145	%	
Equipped with a supplementar	ry heater:	No		Package efficiency class:		-	
Heat pump combination heate	er:	No					
			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	24	kW	Seasonal space heating energy efficiency	$\eta_{s}$	141	%
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	22,4	kW	T j = - 7 °C	COPd	3,56	] -
T j = + 2 °C	Pdh	22,8	kW	T j = +2 °C	COPd	3,94	1 -
T j = + 7 °C	Pdh	23,2	kW	T j = +7 °C	COPd	4,29	1 -
T j = + 12 °C	Pdh	23,4	kW	T j = +12 °C	COPd	4,54	] -
T j = bivalent temperature	Pdh	22,0	kW	T j = bivalent temperature	COPd	3,25	-
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 <sub>biv</sub>	-18	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	2,8	kW
Thermostat-off mode	P <sub>TO</sub>	0,005	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items	- CA	3,333	,				
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	m3/h	
Sound power level, indoors/ outdoors	L <sub>WA</sub>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	16390	kWh	flow rate, outdoor heat exchanger	-	2,1	m3/h
For heat pump combination he	eater:					<u> </u>	<u> </u>
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
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<sup>(\*)</sup> 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 424 + CTC EcoLogic

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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		NU		Controller class.	VII		
Brine-to-water heat pump:		Yes		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	189	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:		-	
Heat pump combination heater	:	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	24	kW	Seasonal space heating energy efficiency	$\eta_{s}$	185	%
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	23,8	kW	T j = - 7 °C	COPd	4,89	] -
T j = + 2 °C	Pdh	24,0	kW	T j = +2 °C	COPd	5,06	-
T j = + 7 °C	Pdh	24,2	kW	T j = +7 °C	COPd	5,18	] -
T j = + 12 °C	Pdh	24,2	kW	T j = +12 °C	COPd	5,20	-
T j = bivalent temperature	Pdh	23,6	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 <sub>biv</sub>	-20	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,4	kW
Thermostat-off mode	P <sub>TO</sub>	0,022	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	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 <sub>WA</sub>	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	12746	kWh	flow rate, outdoor heat exchanger	-	2,6	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	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

<sup>(\*)</sup> 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.