CTC

Model(s):	CTC EcoAir 415	+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	147	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_s	143	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na] -
T j = + 2 °C	Pdh	11,2	kW	T j = +2 °C	COPd	2,54	-
Γ j = + 7 °C	Pdh	14,7	kW	T j = +7 °C	COPd	3,39	-
T j = + 12 °C	Pdh	17,6	kW	T j = +12 °C	COPd	4,50	-
T j = bivalent temperature	Pdh	11,4	kW	T j = bivalent temperature	COPd	2,65	-
T j = operation limit temperature	Pdh	11,9	kW	T j = operation limit temperature	COPd	2,72	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°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	55	°C
Power consumption in modes	other than activ	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	1,1	kW
Thermostat-off mode	P_{TO}	0,020	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4509	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	t's life cycle, it m he product's refi	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

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Contact details

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		Ljungby	/	CIC
CTC EcoAir 415 +	+ CTC EcoLogic			
Yes	Energy efficiency class:		-	
No	Controller class:	VII	-	
No	Controller contribution:	3,5	%	
No	Package efficiency:	183	%	
No	Package efficiency class:		=	
No				
	Yes No No No No	No Controller class: No Controller contribution: No Package efficiency: No Package efficiency class:	CTC EcoAir 415 + CTC EcoLogic Yes Energy efficiency class: No Controller class: VII No Controller contribution: 3,5 No Package efficiency: 183 No Package efficiency class:	Yes Energy efficiency class: - No Controller class: VII - No Controller contribution: 3,5 % No Package efficiency: 183 % No Package efficiency class: -

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_{s}	179	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature			
Tj=-7°C	Pdh	na	kW	T j = -7 °C	COPd	na	-
T j = + 2 °C	Pdh	12,1	kW	T j = +2 °C	COPd	3,57] -
T j = + 7 °C	Pdh	16,1	kW	T j = +7 °C	COPd	4,66	-
T j = + 12 °C	Pdh	18,7	kW	T j = +12 °C	COPd	5,57	_
T j = bivalent temperature	Pdh	12,4	kW	T j = bivalent temperature	COPd	3,68	-
T j = operation limit temperature	Pdh	12,6	kW	T j = operation limit temperature	COPd	3,63	-
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	2	°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	55	°C
Power consumption in modes of	other than activ	e mode	·	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,2	kW
Thermostat-off mode	P_{TO}	0,067	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	3911	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic shold waste is not permitted.	ler offering a sei	vice of that type	. t is of great

Information for heat pump space h Average climate and Medium tem	CTC AB Ljungby		cTc		
Model(s):					
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-	
Water-to-water heat pump:	No	Controller class:	VII	-	
Brine-to-water heat pump:	No	Controller contribution:	3,5	%	
Low-temperature heat pump:	No	Package efficiency:	123	%	

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

Package efficiency class:

A+

No

No

Equipped with a supplementary heater:

Heat pump combination heater:

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_{s}	119	%
Declared capacity for heating fo and outdoor temperature T j	r part load at i	ndoor tempera	ture 20 °C	Declared coefficient of performal part load at indoor temperature 2			
T j = - 7 °C	Pdh	9,5	kW	T j = - 7 °C	COPd	2,32] -
T j = + 2 °C	Pdh	11,5	kW	T j = +2 °C	COPd	2,96	-
Гj = + 7 °С	Pdh	15,2	kW	T j = +7 °C	COPd	3,91	-
Г j = + 12 °C	Pdh	17,9	kW	T j = +12 °C	COPd	4,78	-
Γ j = bivalent temperature	Pdh	9,9	kW	T j = bivalent temperature	COPd	2,48	-
Γ j = operation limit temperature	Pdh	8,6	kW	T j = operation limit temperature	COPd	2,06	-
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}	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°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	55	°C
Power consumption in modes of	ther than activ	e mode	_	Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	3,7	kW
Thermostat-off mode	P _{TO}	0,020	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	8314	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	iter:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the produ importance that	ct's life cycle, it n the product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resell rigerant, compressor oil and electrical/electronic shold waste is not permitted.	ler offering a ser	vice of that type	. t is of gre
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Information for heat pump sp		and heat pum	p combina	ti	tion heaters		
Average climate and Low ter	nperature					Ljungby	7 0 1
Model(s):		CTC EcoAir 42	15 + CTC Ecol	L	ogic	ogic	ogic
Air-to-water heat pump:		Yes		_	Energy efficiency class:	Energy efficiency class: A+	Energy efficiency class: A+ -
Water-to-water heat pump:		No			Controller class:	Controller class: VII	Controller class: VII -
Brine-to-water heat pump:		No			Controller contribution:	Controller contribution: 3,5	Controller contribution: 3,5 %
Low-temperature heat pump:		No			Package efficiency:	Package efficiency: 151	Package efficiency: 151 %
Equipped with a supplementary	heater:	No			Package efficiency class:	Package efficiency class: A++	Package efficiency class: A++ -
Heat pump combination heater:		No					
				t	for low-temperature heat pumps	for low-temperature heat pumps. For low-temp	for low-temperature heat pumps. For low-temperature heat
parameters shall be declared for							
em	Symbol	Value	Unit	_	Item	1 - 	
Rated heat output (*)	Prated	13	kW		Seasonal space heating energe efficiency	Seasonal space heating energy efficiency $\eta_{\mathcal{S}}$	1 1 · · · · · · n 1 1/1/
Declared capacity for heating fo	r part load at i	ndoor tempera	ture 20 °C				Declared coefficient of performance or primary energy ra
and outdoor temperature T j			_		part load at indoor temperati	part load at indoor temperature 20 Cand o	part load at indoor temperature 20 °C and outdoor 20 °
Γj=−7°C	Pdh	10,1	kW		T j = - 7 °C	· ·	
T j = + 2 °C	Pdh 	12,3	kW		j = +2 °C	•	
Tj=+7°C	Pdh 	16,3	kW	111	= +7 °C		
T j = + 12 °C	Pdh	18,8	kW	T j = +1	.2 °C	12 °C COPd	12 °C COPd 5,70
T j = bivalent temperature	Pdh	10,6	kW	T j = bivale	nt temperature	nt temperature COPd	nt temperature COPd 3,25
T j = operation limit temperature	Pdh	9,2	kW	T j = operation		COPa	(C)Pd 7.83
For air-to-water heat pumps: $T j = -15 ^{\circ}\text{C} \text{ (if TOL} < -20 ^{\circ}\text{C)}$	Pdh	na	kW		rater heat pumps: (if TOL < - 20 °C)	rater heat pumps: COPd	(I)Pa I ha

		Efficiency		Water heating energy			_,
For heat pump combination he	eater:						
Annual energy consumption	Q _{HE}	7193	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Other items				↓			7
Crankcase heater mode	P _{CK}	0,000	kW	4			
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Thermostat-off mode	P _{TO}	0,067	kW				
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	3,9	kW
Power consumption in modes			7	Supplementary heater			7
Degradation co-efficient	Cdh	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	_
Bivalent temperature	T _{biv}	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
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	-
T j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	2,83	_
T j = bivalent temperature	Pdh	10,6	kW	T j = bivalent temperature	COPd	3,25	-
T j = + 12 °C	Pdh	18,8	kW	T j = +12 °C	COPd	5,70	-
T j = + 7 °C	Pdh	16,3	kW	T j = +7 °C	COPd	4,89	-
T j = + 2 °C	Pdh	12,3	kW	T j = +2 °C	COPd	3,78] -
Tj=-7°C	Pdh	10,1	kW	T j = -7 °C	COPd	3,08	-

Declared load profile	na	Efficiency class	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

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of.

Disposing of the product as household waste is not permitted.

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Information for heat pump space heaters and heat pump combination heaters

Cold climate and Medium temperature

CTC AB Ljungby



Model(s):	CTC EcoAir 415 + CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VII	-			
Brine-to-water heat pump:	No	Controller contribution:	3,5	%			
Low-temperature heat pump:	No	Package efficiency:	111	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						
Parameters shall be declared for medium-te	mperature application	on, except for low-temperature heat pump	s. For low- te	emperature heat pumps,			

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_s	107	%
Declared capacity for heating fo and outdoor temperature T j	or part load at i	ndoor temperat	ture 20 °C	Declared coefficient of performa part load at indoor temperature	-		
T j = -7 °C	Pdh	9,6	kW	T j = -7 °C	COPd	2,52] -
T j = + 2 °C	Pdh	11,7	kW	T j = +2 °C	COPd	3,16	-
T j = + 7 °C	Pdh	15,5	kW	T j = +7 °C	COPd	4,14	-
T j = + 12 °C	Pdh	18,0	kW	T j = +12 °C	COPd	4,92	-
T j = bivalent temperature	Pdh	7,6	kW	T j = bivalent temperature	COPd	2,17	-
T j = operation limit temperature	Pdh	5,2	kW	T j = operation limit temperature	COPd	1,40	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	7,3	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	1,95	-
Bivalent temperature	T _{biv}	-14	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°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	55	°C
Power consumption in modes o	ther than activ	e mode	-	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	4,4	kW
Thermostat-off mode	P _{TO}	0,020	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	-	4100	m3/h
Sound power level, indoors/outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	8576	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:	<u> </u>		· ·		•	
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the production importance that t	ct's life cycle, it n the product's ref	at a recycling station or with the installation enginust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic shold waste is not permitted.	ller offering a se	rvice of that type	e. t is of great
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Cold climate and Low temperature

Contact details

CTC AB Ljungby



Model(s):	CTC EcoAir 415 + CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VII	-			
Brine-to-water heat pump:	No	Controller contribution:	3,5	%			
Low-temperature heat pump:	No	Package efficiency:	134	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_s	130	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	10,2	kW	T j = -7 °C	COPd	3,21	-
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,90	_
T j = + 7 °C	Pdh	16,5	kW	T j = +7 °C	COPd	5,01	-
Γ j = + 12 °C	Pdh	18,8	kW	T j = +12 °C	COPd	5,67	-
Γ j = bivalent temperature	Pdh	8,2	kW	T j = bivalent temperature	COPd	2,72	-
Γ j = operation limit temperature	Pdh	5,8	kW	T j = operation limit temperature	COPd	2,04	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	7,9	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	2,63	-
Bivalent temperature	T _{biv}	-14	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°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	55	°C
Power consumption in modes	other than activ	e mode		Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	4,5	kW
Thermostat-off mode	P_{TO}	0,067	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7695	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

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Model(s):	CTC EcoAir 415 +	CTC EcoAir 415 + CTC EcoZenith i555					
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VII	-			
Brine-to-water heat pump:	No	Controller contribution:	3,5	%			
Low-temperature heat pump:	No	Package efficiency:	131	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:		-			
Heat pump combination heater:	Yes						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_s	127	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na] -
T j = + 2 °C	Pdh	11,2	kW	T j = +2 °C	COPd	2,23] -
T j = + 7 °C	Pdh	14,7	kW	T j = +7 °C	COPd	3,05	-
T j = + 12 °C	Pdh	17,6	kW	T j = +12 °C	COPd	4,06	-
T j = bivalent temperature	Pdh	11,9	kW	T j = bivalent temperature	COPd	2,32	-
Γ j = operation limit temperature	Pdh	11,9	kW	T j = operation limit temperature	COPd	2,41	-
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	2	°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	55	°C
Power consumption in modes	other than activ	e mode	1	Supplementary heater		1	-
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	1,6	kW
Thermostat-off mode	P_{TO}	0,043	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	5262	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	88	%
Daily electricity consumption	Qelec	8,698	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1914	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

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Information for heat pump space heaters and heat pump combination heaters	
Warm climate and Low temperature	



CTC EcoAir 415 +	CTC EcoAir 415 + CTC EcoZenith i555					
Yes	Energy efficiency class:		-			
No	Controller class:	VII	-			
No	Controller contribution:	3,5	%			
No	Package efficiency:	156	%			
Yes	Package efficiency class:		-			
Yes						
	Yes No No No Yes	Yes Energy efficiency class: No Controller class: No Controller contribution: No Package efficiency: Yes Package efficiency class:	Yes Energy efficiency class: No Controller class: VII No Controller contribution: 3,5 No Package efficiency: 156 Yes Package efficiency class:	Yes Energy efficiency class: - No Controller class: VII - No Controller contribution: 3,5 % No Package efficiency: 156 % Yes Package efficiency class: -		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14	kW	Seasonal space heating energy efficiency	η_s	152	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature			
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na] -
T j = + 2 °C	Pdh	12,1	kW	T j = +2 °C	COPd	3,01] -
T j = + 7 °C	Pdh	16,1	kW	T j = +7 °C	COPd	4,08	-
T j = + 12 °C	Pdh	18,7	kW	T j = +12 °C	COPd	4,94	-
T j = bivalent temperature	Pdh	12,9	kW	T j = bivalent temperature	COPd	3,11	-
Γ j = operation limit temperature	Pdh	12,6	kW	T j = operation limit temperature	COPd	3,07	-
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	2	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,95	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than activ	e mode	•	Supplementary heater			-
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	1,8	kW
Thermostat-off mode	P_{TO}	0,133	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4793	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	88	%
Daily electricity consumption	Qelec	8,698	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1914	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

Information for heat pump	space heaters a	and heat pum	p combinati	on heaters	CTC AB		57
Average climate and Mediu	ım temperatur	e	•		Ljungby		
Model(s):		CTC EcoAir 4:	15 + CTC Eco2	Zenith i555			
Air-to-water heat pump:		Yes		Energy efficiency class:	A+	-	
Water-to-water heat pump:		No		Controller class:	VII	-	
Brine-to-water heat pump:		No		Controller contribution:	3,5	%	
Low-temperature heat pump:		No		Package efficiency:	117	%	
Equipped with a supplementar	y heater:	Yes		Package efficiency class:	A+	-	
Heat pump combination heate	r:	Yes					
Parameters shall be declared f parameters shall be declared f				for low-temperature heat pumps.	For low- tempe	erature heat	pumps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_{s}	114	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor tempera	ture 20°C	Declared coefficient of perform part load at indoor temperatur	•		
T j = – 7 °C	Pdh	9,4	kW	T j = - 7 °C	COPd	2,19] -
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,04] -
T j = + 7 °C	Pdh	15,0	kW	T j = +7 °C	COPd	3,68] -
T j = + 12 °C	Pdh	16,9	kW	T j = +12 °C	COPd	4,32	_
	Pdh						1

				efficiency	'3		
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor tempera	ture 20°C	Declared coefficient of performa part load at indoor temperature	•	, ,,	
T j = -7 °C	Pdh	9,4	kW	T j = - 7 °C	COPd	2,19	7 -
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,04	1 -
T j = + 7 °C	Pdh	15,0	kW	T j = +7 °C	COPd	3,68] -
T j = + 12 °C	Pdh	16,9	kW	T j = +12 °C	COPd	4,32	
T j = bivalent temperature	Pdh	10,0	kW	T j = bivalent temperature	COPd	2,38	-
T j = operation limit temperature	Pdh	8,2	kW	T j = operation limit temperature	COPd	1,87	-
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}	-4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°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	55	°C
Power consumption in modes of	other than activ	re mode	_	Supplementary heater			_
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	5,0	kW
Thermostat-off mode	P _{TO}	0,018	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		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	9318	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	В	Water heating energy efficiency	$\eta_{\sf wh}$	75	%
Daily electricity consumption	Qelec	10,117	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity	AEC	2226	kWh	Annual fuel consumption	AFC	NA	GJ

Declared load profile	XL	Efficiency class	В	Water heating energy efficiency	$\eta_{\sf wh}$	75	%
Daily electricity consumption	Qelec	10,117	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2226	kWh	Annual fuel consumption	AFC	NA	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of.
Disposing of the product as household waste is not permitted.

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nformation for heat pump s	naco hoators	and heat num	n combinati	ion hostors		CTC AB
Average climate and Low te	•	ina neat puin	p combinati	on neaters		Ljungby
Model(s):	pc.a.a.c	CTC EcoAir 4	15 + CTC Eco2	Zenith i555		Jan 182 y
Air-to-water heat pump:		Yes		Energy efficiency class:	Α	
Vater-to-water heat pump:		No		Controller class:	VII	
Brine-to-water heat pump:		No		Controller contribution:	3,5	
.ow-temperature heat pump:		No		Package efficiency:	126	
quipped with a supplementary	/ heater:	Yes		Package efficiency class:	A+	
eat pump combination heater		Yes		, , , , , , , , , , , , , , , , , , , ,		
		perature applic	ation, except	t for low-temperature heat pumps.	For low- te	mpe
arameters shall be declared fo	or low-temperat	ure application	۱.			
em	Symbol	Value	Unit	Item	Symbol	
ated heat output (*)	Prated	14	kW	Seasonal space heating energy efficiency	η _s	
clared capacity for heating fo	or part load at i	ndoor tempera	ture 20 °C	Declared coefficient of perforn		
d outdoor temperature T j				part load at indoor temperatur	e 20 °C and	ou
j = − 7 °C	Pdh	10,1	kW	T j = - 7 °C	COPd	
j = + 2 °C	Pdh	12,3	kW	T j = +2 °C	COPd	
j = + 7 °C	Pdh	16,4	kW	T j = +7 °C	COPd	
j = + 12 °C	Pdh	18,8	kW	T j = +12 °C	COPd	
j = bivalent temperature	Pdh	10,8	kW	T j = bivalent temperature	COPd	
i = operation limit mperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	
or air-to-water heat pumps: 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	
ivalent temperature	T _{biv}	-4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	
ycling interval capacity for eating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	

Bivalent temperature	T _{biv}	-4	°C
Cycling interval capacity for heating	P _{cych}	na	kW
Degradation co-efficient	Cdh	0,95	-
Power consumption in modes of	ther than active	mode	
Off mode		0.010	
on mode	P _{OFF}	0,018	kW
Thermostat-off mode	P _{OFF} P _{TO}	0,018	kW kW
ooue			
Thermostat-off mode	P _{TO}	0,133	kW

part load at indoor temperature	20 °C and out	tdoor tempei	rature T j
T i = - 7 °C	COPd	2,50] -
T j = +2 °C	COPd	3,17	-
T j = +7 °C	COPd	4,27	-
T j = +12 °C	COPd	5,05	-
T j = bivalent temperature	COPd	2,27	-
T j = operation limit temperature	COPd	2,73	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	СОРсус	na	-
Heating water operating limit temperature	WTOL	55	°C
Supplementary heater			
Rated heat output (*)	Psup	4,9	kW
Type of energy input		Electric	
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat		-	m2/h
eychanger	-	na	m3/h

Sound power level, indoors/ outdoors	L _{WA}	na/64	dB
Annual energy consumption	Q _{HE}	9335	kWh

Fixed

For air-to-water heat pumps:	4100	m3/h
Rated air flow rate, outdoors	4100	1113/11
For water-/brine-to-water heat		
pumps: Rated brine or water		
flow rate, outdoor heat	na	m3/h
exchanger	na	1113/11

Capacity control

Declared load profile	XL	Efficiency class	В	Water heating energy efficiency	$\eta_{\sf wh}$	75	%
Daily electricity consumption	Qelec	10,117	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2226	kWh	Annual fuel consumption	AFC	NA	GJ

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of.
Disposing of the product as household waste is not permitted.

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Information for heat pump space heaters and heat pump combination heaters $% \left(1\right) =\left(1\right) \left(1\right)$

Cold climate and Medium temperature

CTC AB Ljungby



Model(s):	CTC EcoAir 415 +				
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VII	-	
Brine-to-water heat pump:	No	Controller contribution:	3,5	%	
Low-temperature heat pump:	No	Package efficiency:	95	%	
Equipped with a supplementary heater:	Yes	Package efficiency class:		-	
Heat pump combination heater:	Yes				

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14	kW	Seasonal space heating energy efficiency	η_s	91	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	9,6	kW	T j = - 7 °C	COPd	2,18] -
T j = + 2 °C	Pdh	11,8	kW	T j = +2 °C	COPd	2,75	-
T j = + 7 °C	Pdh	15,5	kW	T j = +7 °C	COPd	3,69	-
T j = + 12 °C	Pdh	18,1	kW	T j = +12 °C	COPd	4,42	-
T j = bivalent temperature	Pdh	9,0	kW	T j = bivalent temperature	COPd	2,08	-
T j = operation limit temperature	Pdh	5,2	kW	T j = operation limit temperature	COPd	1,09	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	7,3	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	1,60	-
Bivalent temperature	T _{biv}	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°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	55	°C
Power consumption in modes	other than activ	e mode	•	Supplementary heater			-
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	8,5	kW
Thermostat-off mode	P _{TO}	0,043	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	14414	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:			•			
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	64	%
Daily electricity consumption	Qelec	11,937	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2626	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it m he product's refi	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel igerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	ervice of that type	. t is of gre

Information for heat pump space heaters and heat pump combination heaters

Cold climate and Low temperature

CTC AB Ljungby



Model(s):	CTC EcoAir 415 +			
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	108	%
Equipped with a supplementary heater:	Yes	Package efficiency class:		-
Heat pump combination heater:	Yes			

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_{s}	104	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	-		
Tj=-7°C	Pdh	10,2	kW	T j = -7 °C	COPd	2,61] -
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,28] -
T j = + 7 °C	Pdh	16,5	kW	T j = +7 °C	COPd	4,37	-
T j = + 12 °C	Pdh	18,8	kW	T j = +12 °C	COPd	5,03	-
T j = bivalent temperature	Pdh	9,7	kW	T j = bivalent temperature	COPd	2,47	-
T j = operation limit temperature	Pdh	5,8	kW	T j = operation limit temperature	COPd	1,48	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	7,9	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	2,02	-
Bivalent temperature	T _{biv}	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,95	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	other than activ	e mode	·	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	8,9	kW
Thermostat-off mode	P_{TO}	0,133	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	13566	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	64	%
Daily electricity consumption	Qelec	11,937	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2626	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic shold waste is not permitted.	ler offering a sei	vice of that type	. t is of grea



Model(s):	CTC EcoAir 415 + CTC Basicstyrning						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	1	-			
Brine-to-water heat pump:	No	Controller contribution:	1	%			
Low-temperature heat pump:	No	Package efficiency:	144	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_s	143	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na] -
T j = + 2 °C	Pdh	11,2	kW	T j = +2 °C	COPd	2,54	-
Γ j = + 7 °C	Pdh	14,7	kW	T j = +7 °C	COPd	3,39	-
T j = + 12 °C	Pdh	17,6	kW	T j = +12 °C	COPd	4,50	-
T j = bivalent temperature	Pdh	11,4	kW	T j = bivalent temperature	COPd	2,65	-
T j = operation limit temperature	Pdh	11,9	kW	T j = operation limit temperature	COPd	2,72	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°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	55	°C
Power consumption in modes	other than activ	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,018	kW	Rated heat output (*)	Psup	1,1	kW
Thermostat-off mode	P_{TO}	0,020	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4509	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	t's life cycle, it m he product's refi	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

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Warm climate and Low temperature			Ljungby	,	CIC
Model(s):	CTC EcoAir 415	+ CTC Basicstyrning			
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	I	-	
Brine-to-water heat pump:	No	Controller contribution:	1	%	
Low-temperature heat pump:	No	Package efficiency:	180	%	
Equipped with a supplementary heater:	No	Package efficiency class:		-	
Heat pump combination heater:	No				

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_s	179	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	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	12,1	kW	T j = +2 °C	COPd	3,57] -
Γ j = + 7 °C	Pdh	16,1	kW	T j = +7 °C	COPd	4,66	-
T j = + 12 °C	Pdh	18,7	kW	T j = +12 °C	COPd	5,57	-
T j = bivalent temperature	Pdh	12,4	kW	T j = bivalent temperature	COPd	3,68	-
T j = operation limit temperature	Pdh	12,6	kW	T j = operation limit temperature	COPd	3,63	-
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	2	°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	55	°C
Power consumption in modes	other than activ	e mode		Supplementary heater		,	_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,2	kW
Thermostat-off mode	P_{TO}	0,067	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	3911	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

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Information for heat pump space heaters and heat pump combination heaters Average climate and Medium temperature

CTC AB Ljungby



Model(s):	CTC EcoAir 415 + CTC Basicstyrning						
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-			
Water-to-water heat pump:	No	Controller class:	1	-			
Brine-to-water heat pump:	No	Controller contribution:	1	%			
Low-temperature heat pump:	No	Package efficiency:	120	%			
Equipped with a supplementary heater:	No	Package efficiency class:	A+	-			
Heat pump combination heater:	No						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_{s}	119	%
Declared capacity for heating f and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	-		
T j = - 7 °C	Pdh	9,5	kW	T j = - 7 °C	COPd	2,32	-
T j = + 2 °C	Pdh	11,5	kW	T j = +2 °C	COPd	2,96] -
T j = + 7 °C	Pdh	15,2	kW	T j = +7 °C	COPd	3,91	-
T j = + 12 °C	Pdh	17,9	kW	T j = +12 °C	COPd	4,78	-
T j = bivalent temperature	Pdh	9,9	kW	T j = bivalent temperature	COPd	2,48	-
T j = operation limit temperature	Pdh	8,6	kW	T j = operation limit temperature	COPd	2,06	-
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}	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°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	55	°C
Power consumption in modes	other than activ	e mode		Supplementary heater			-
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	3,7	kW
Thermostat-off mode	P _{TO}	0,020	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	8314	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	t's life cycle, it m he product's refi	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic shold waste is not permitted.	ler offering a se	vice of that type	. t is of grea

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Information for heat pump sp Average climate and Low ter		and heat pum	p combinati	on heaters	CTC AB Ljungby		eTc
Model(s):		CTC EcoAir 4	15 + CTC Basi	cstyrning			
Air-to-water heat pump:		Yes		Energy efficiency class:	A+	-	
Water-to-water heat pump:		No		Controller class:	I	-	
Brine-to-water heat pump:		No		Controller contribution:	1	%	
Low-temperature heat pump:		No		Package efficiency:	148	%	
Equipped with a supplementary	heater:	No		Package efficiency class:	A+	-	
Heat pump combination heater: Parameters shall be declared fo parameters shall be declared fo	r medium-tem _l			for low-temperature heat pumps. F	or low- temp	erature heat	pumps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_{s}	147	%
Declared capacity for heating fo and outdoor temperature T j	r part load at ii	ndoor tempera	iture 20 °C	Declared coefficient of perform part load at indoor temperature	•		
T j = - 7 °C	Pdh	10,1	kW	T j = - 7 °C	COPd	3,08	1 -
Γ j = + 2 °C	Pdh	12,3	kW	T j = +2 °C	COPd	3,78	1 -
Γ j = + 7 °C	Pdh	16,3	kW	T j = +7 °C	COPd	4,89] -
Γj=+12 °C	Pdh	18,8	kW	T j = +12 °C	COPd	5,70] -
Γj = bivalent temperature	Pdh	10,6	kW	T j = bivalent temperature	COPd	3,25	-
Γ j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	2,83	_
For air-to-water heat pumps: F 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	-
Rivalent temperature	T	_5	• _C	For air-to-water heat pumps:	TOI	-10	۰,

•		•	Į.	1 1 '			Į.
T j = bivalent temperature	Pdh	10,6	kW	T j = bivalent temperature	COPd	3,25	-
T j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	2,83	-
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}	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°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	55	°C
Power consumption in modes	other than active	mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	3,9	kW
Thermostat-off mode	P_{TO}	0,067	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7193	kWh	flow rate, outdoor heat exchanger	-	na	m3/h

For heat pump combination he	eater:						
Declared load profile	na	Efficiency class	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

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of.

Disposing of the product as household waste is not permitted.

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Information for heat pump space heaters and heat pump combination heaters $% \left(1\right) =\left(1\right) \left(1\right)$

Cold climate and Medium temperature

CTC AB Ljungby



CTC EcoAir 415 + CTC Basicstyrning						
Yes	Energy efficiency class:		-			
No	Controller class:	1	-			
No	Controller contribution:	1	%			
No	Package efficiency:	108	%			
No	Package efficiency class:		-			
No						
	Yes No No No No	Yes Energy efficiency class: No Controller class: No Controller contribution: No Package efficiency: No Package efficiency class:	Yes Energy efficiency class: No Controller class: No Controller contribution: No Package efficiency: No Package efficiency class:			

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_{s}	107	%
Declared capacity for heating f and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performa part load at indoor temperature	-		
T j = -7 °C	Pdh	9,6	kW	T j = - 7 °C	COPd	2,52	-
T j = + 2 °C	Pdh	11,7	kW	T j = +2 °C	COPd	3,16	-
T j = + 7 °C	Pdh	15,5	kW	T j = +7 °C	COPd	4,14	-
T j = + 12 °C	Pdh	18,0	kW	T j = +12 °C	COPd	4,92	-
T j = bivalent temperature	Pdh	7,6	kW	T j = bivalent temperature	COPd	2,17	-
T j = operation limit temperature	Pdh	5,2	kW	T j = operation limit temperature	COPd	1,40	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	7,3	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	1,95	-
Bivalent temperature	T _{biv}	-14	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°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	55	°C
Power consumption in modes	other than activ	re mode		Supplementary heater			-
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	4,4	kW
Thermostat-off mode	P_{TO}	0,020	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	8576	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	t's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic shold waste is not permitted.	, ler offering a sei	vice of that type	t is of great

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Model(s):	CTC EcoAir 415 + CTC Basicstyrning						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	1	-			
Brine-to-water heat pump:	No	Controller contribution:	1	%			
Low-temperature heat pump:	No	Package efficiency:	131	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW	Seasonal space heating energy efficiency	η_s	130	%
Declared capacity for heating fand outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	10,2	kW	T j = -7 °C	COPd	3,21	-
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,90	_
T j = + 7 °C	Pdh	16,5	kW	T j = +7 °C	COPd	5,01	-
Γ j = + 12 °C	Pdh	18,8	kW	T j = +12 °C	COPd	5,67	-
Γ j = bivalent temperature	Pdh	8,2	kW	T j = bivalent temperature	COPd	2,72	-
T j = operation limit temperature	Pdh	5,8	kW	T j = operation limit temperature	COPd	2,04	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	7,9	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	2,63	-
Bivalent temperature	T _{biv}	-14	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°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	55	°C
Power consumption in modes	other than activ	e mode		Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	4,5	kW
Thermostat-off mode	P_{TO}	0,067	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	-	4100	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/64	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7695	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	na	Efficiency class	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
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it n he product's ref	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a se	rvice of that type	. t is of gre

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