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

CTC AB Ljungby



Model(s):	CTC EcoAir 510N	1 230V+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	165	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9	kW	Seasonal space heating energy efficiency	η _s	161	%
Declared capacity for heating fo and outdoor temperature T j	or part load at ii	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature	•		
T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na	1 - 1
T j = + 2 °C	Pdh	9,2	kW	T j = +2 °C	COPd	2,28	-
T j = + 7 °C	Pdh	6,0	kW	T j = +7 °C	COPd	3,65	-
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,71	-
T j = bivalent temperature	Pdh	9,2	kW	T j = bivalent temperature	COPd	2,28	-
T j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	2,28] -
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}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,1	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items		,					
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3003	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	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 produc importance that th	t's life cycle, it m ne 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 ser	vice of that type	e. t is of great
Contact details C	TC AB, Näsväge	en 8, SE-341 34 I		•			231218

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510N	CTC EcoAir 510M 230V+ CTC EcoLogic					
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	222	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9	kW	Seasonal space heating energy efficiency	η _s	218	%
Declared capacity for heating for and outdoor temperature T j	or part load at in	door temperat	ure 20 °C	Declared coefficient of performan part load at indoor temperature 2	-		
Tj=−7 °C	Pdh	na	kW	T j = − 7 °C	COPd	na	1 -
T j = + 2 °C	Pdh	9,2	kW	T j = +2 °C	COPd	3,01	1 -
T j = + 7 °C	Pdh	6,1	kW	T j = +7 °C	COPd	5,27	1 -
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,65	-
T j = bivalent temperature	Pdh	7,3	kW	T j = bivalent temperature	COPd	3,01	-
T j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	3,01	-
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}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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}	0,015	kW	Rated heat output (*)	Psup	0,1	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	2250	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	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 produc importance that th	t's life cycle, it m he product's refr	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 hold waste is not permitted.	er offering a ser	vice of that type	. t is of grea
Contact details (CTC AB, Näsväge			· ·			231218

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ CTC EcoLogic					
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-		
Water-to-water heat pump:	No	Controller class:	VI	-		
Brine-to-water heat pump:	No	Controller contribution:	4	%		
Low-temperature heat pump:	No	Package efficiency:	129	%		
Equipped with a supplementary heater:	No	Package efficiency class:	A++	-		
Heat pump combination heater:	No					

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8	kW	Seasonal space heating energy efficiency	η _s	125	%
Declared capacity for heating for and outdoor temperature T j	or part load at ii	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature	•		
T j = – 7 °C	Pdh	7,0	kW	T j = – 7 °C	COPd	1,95	-
T j = + 2 °C	Pdh	4,4	kW	T j = +2 °C	COPd	3,14	-
T j = + 7 °C	Pdh	2,8	kW	T j = +7 °C	COPd	4,63	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,17	-
T j = bivalent temperature	Pdh	7,2	kW	T j = bivalent temperature	COPd	1,84	-
T j = operation limit temperature	Pdh	6,1	kW	T j = operation limit temperature	COPd	1,71	-
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}	-8	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	1,9	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	5155	kWh	flow rate, outdoor heat exchanger			
For heat pump combination heat	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 produc importance that the	t's life cycle, it n 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 sei	vice of that type	e. t is of grea
Contact details (TC AB. Näsväg	en 8, SE-341 34 I		· ·			231218

Information for heat pump space heaters and heat pump combination heaters **Average climate and Low temperature**

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	175	%			
Equipped with a supplementary heater:	No	Package efficiency class:	A+++	-			
Heat pump combination heater:	No						

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	η _s	171	%
Declared capacity for heating for and outdoor temperature T j	or part load at ir	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	3,9	kW	T j = – 7 °C	COPd	2,92] -
T j = + 2 °C	Pdh	2,5	kW	T j = +2 °C	COPd	4,70	-
T j = + 7 °C	Pdh	2,6	kW	T j = +7 °C	COPd	5,93	-
T j = + 12 °C	Pdh	1,3	kW	T j = +12 °C	COPd	7,59	-
T j = bivalent temperature	Pdh	4,3	kW	T j = bivalent temperature	COPd	2,62	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,62	-
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}	-10	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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	other than active	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	2005	kWh	flow rate, outdoor heat exchanger			-,
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	t's life cycle, it m he product's refr	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 ser	vice of that type	e. t is of grea
Contact details	CTC AB, Näsväge			•			231218

Information for heat pump space heaters and heat pump combination heaters **Cold climate and Medium temperature**

CTC AB Ljungby



Model(s):	CTC EcoAir 510	CTC EcoAir 510M 230V+ CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:		-				
Water-to-water heat pump:	No	Controller class:	VI	-				
Brine-to-water heat pump:	No	Controller contribution:	4	%				
Low-temperature heat pump:	No	Package efficiency:	120	%				
Equipped with a supplementary heater:	No	Package efficiency class:		-				
Heat pump combination heater:	No							

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	η _s	116	%
Declared capacity for heating for and outdoor temperature T j	or part load at ir	idoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature			
T j = – 7 °C	Pdh	3,6	kW	T j = – 7 °C	COPd	2,45	-
T j = + 2 °C	Pdh	2,1	kW	T j = +2 °C	COPd	3,80	-
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	4,95	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,44	-
T j = bivalent temperature	Pdh	4,9	kW	T j = bivalent temperature	COPd	1,61	-
T j = operation limit temperature	Pdh	4,8	kW	T j = operation limit temperature	COPd	1,56] -
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	4,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,80	-
Bivalent temperature	T _{biv}	-17	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	5,8	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	4791	kWh	flow rate, outdoor heat exchanger			
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 produc importance that th	t's life cycle, it m ne product's refr	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 ser	vice of that type	e. t is of great
Contact details (CTC AB, Näsväge						231218

Information for heat pump space heaters and heat pump combination heaters **Cold climate and Low temperature**

CTC AB	
Ljungby	



Model(s):	CTC EcoAir 510M 230V+ CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	Νο	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	158	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	η _s	154	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature	•		
T j = – 7 °C	Pdh	3,7	kW	T j = − 7 °C	COPd	3,16	- [
T j = + 2 °C	Pdh	2,2	kW	T j = +2 °C	COPd	5,08	- 1
T j = + 7 °C	Pdh	2,6	kW	T j = +7 °C	COPd	6,27	
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,59	-
T j = bivalent temperature	Pdh	5,4	kW	T j = bivalent temperature	COPd	2,24	-
T j = operation limit temperature	Pdh	2,9	kW	T j = operation limit temperature	COPd	1,91	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	5,1	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	2,49	-
Bivalent temperature	T _{biv}	-17	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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	other than activ	e mode		Supplementary heater			
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	3,1	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3780	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Q _{elec}	na	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	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 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 ser	vice of that type	e. t is of great
Contact details (CTC AB, Näsväg	en 8, SE-341 34		· ·			231218

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510N	1 230V + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	Νο	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	165	%
Equipped with a supplementary heater:	Yes	Package efficiency class:		-
Heat pump combination heater:	Yes			

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9	kW	Seasonal space heating energy efficiency	η _s	161	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performation part load at indoor temperature 2			
T j = – 7 °C	Pdh	na	kW	T j = − 7 °C	COPd	na] -
T j = + 2 °C	Pdh	9,2	kW	T j = +2 °C	COPd	2,28	-
T j = + 7 °C	Pdh	6,0	kW	T j = +7 °C	COPd	3,65	-
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,71	-
T j = bivalent temperature	Pdh	9,2	kW	T j = bivalent temperature	COPd	2,28	-
T j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	2,28	-
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}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e <u>mode</u>		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,1	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3003	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	122	%
Daily electricity consumption	Qelec	6,232	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1371	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that the	t's life cycle, it n ne 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 ser	vice of that type	e. t is of grea
Contact details (CTC AB, Näsväg	en 8, SE-341 34 I		· ·			231218

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510	CTC EcoAir 510M 230V + CTC EcoZenith i360					
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	222	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:		-			
Heat pump combination heater:	Yes						

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9	kW	Seasonal space heating energy efficiency	η _s	218	%
Declared capacity for heating and outdoor temperature T j	for part load at in	ndoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature	-		
T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na] -
Г ј = + 2 °С	Pdh	9,2	kW	T j = +2 °C	COPd	3,01] -
Г ј = + 7 °С	Pdh	6,1	kW	T j = +7 °C	COPd	5,27	-
Г ј = + 12 °С	Pdh	2,9	kW	T j = +12 °C	COPd	7,65	-
j = bivalent temperature	Pdh	7,3	kW	T j = bivalent temperature	COPd	3,01	-
Γ j = operation limit temperature	Pdh	9,2	kW	T j = operation limit temperature	COPd	3,01	-
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}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e <u>mode</u>		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,1	kW
Thermostat-off mode	P _{TO}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/
Annual energy consumption	Q _{HE}	2250	kWh	flow rate, outdoor heat exchanger			
or heat pump combination h	eater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	122	%
Daily electricity consumption	Qelec	6,232	kWh	Daily fuel consumption	Qfuel	NA	kW
Annual electricity consumption	AEC	1371	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance 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 sei	vice of that type	e. t is of g
Contact details	CTC AB, Näsväge			· ·			23121

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V + CTC EcoZenith i360					
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-		
Water-to-water heat pump:	No	Controller class:	VI	-		
Brine-to-water heat pump:	No	Controller contribution:	4	%		
Low-temperature heat pump:	No	Package efficiency:	129	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:	A++	-		
Heat pump combination heater:	Yes					

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8	kW	Seasonal space heating energy efficiency	η _s	125	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature 2	-		
T j = – 7 °C	Pdh	7,0	kW	T j = – 7 °C	COPd	1,95	1 -
T j = + 2 °C	Pdh	4,4	kW	T j = +2 °C	COPd	3,14	- 1
T j = + 7 °C	Pdh	2,8	kW	T j = +7 °C	COPd	4,63	
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,17	- 1
T j = bivalent temperature	Pdh	7,2	kW	T j = bivalent temperature	COPd	1,84	-
T j = operation limit temperature	Pdh	6,1	kW	T j = operation limit temperature	COPd	1,71	-
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}	-8	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	1,9	kW
Thermostat-off mode	P _{TO}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	5155	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	97	%
Daily electricity consumption	Qelec	7,880	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1734	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance 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 sei	vice of that type	e. t is of grea
Contact details	CTC AB. Näsväg	en 8, SE-341 34		· ·			231218

Information for heat pump space heaters and heat pump combination heaters **Average climate and Low temperature**

CTC AB Ljungby



			, ,	
Model(s):	CTC EcoAir 510N	1 230V + CTC EcoZenith i360		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-
Water-to-water heat pump:	Νο	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	175	%
Equipped with a supplementary heater:	Yes	Package efficiency class:	A+++	-
Heat pump combination heater:	Yes			

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	η _s	171	%
Declared capacity for heating for and outdoor temperature T j	or part load at ir	idoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature	-		
T j = – 7 °C	Pdh	3,9	kW	T j = – 7 °C	COPd	2,92] -
T j = + 2 °C	Pdh	2,5	kW	T j = +2 °C	COPd	4,70	-
T j = + 7 °C	Pdh	2,6	kW	T j = +7 °C	COPd	5,93	-
T j = + 12 °C	Pdh	1,3	kW	T j = +12 °C	COPd	7,59	-
T j = bivalent temperature	Pdh	4,3	kW	T j = bivalent temperature	COPd	2,62	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,62	-
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}	-10	°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	65	°C
Power consumption in modes of	other than active	mode		Supplementary heater			_
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items				1			
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	2005	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	97	%
Daily electricity consumption	Qelec	7,880	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1734	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 m he product's refr	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 ser	vice of that type	. t is of grea
Contact details (CTC AB, Näsväge			· ·			231218

Information for heat pump space heaters and heat pump combination heaters **Cold climate and Medium temperature**

CTC AB Ljungby



Model(s):	CTC EcoAir 510N	CTC EcoAir 510M 230V + CTC EcoZenith i360					
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	120	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:		-			
Heat pump combination heater:	Yes						

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	η _s	116	%
Declared capacity for heating and outdoor temperature T j	for part load at ir	idoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature 2	•		
T j = – 7 °C	Pdh	3,6	kW	T j = – 7 °C	COPd	2,45	1 -
T j = + 2 °C	Pdh	2,1	kW	T j = +2 °C	COPd	3,80	- [
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	4,95	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,44	-
T j = bivalent temperature	Pdh	4,9	kW	T j = bivalent temperature	COPd	1,61	-
T j = operation limit temperature	Pdh	4,8	kW	T j = operation limit temperature	COPd	1,56	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	4,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,80	-
Bivalent temperature	T _{biv}	-17	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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	s other than active	e mode		Supplementary heater			
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	5,8	kW
Thermostat-off mode	P _{TO}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/
Annual energy consumption	Q _{HE}	4791	kWh	flow rate, outdoor heat exchanger			
For heat pump combination h	neater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	82	%
Daily electricity consumption	Qelec	9,257	kWh	Daily fuel consumption	Qfuel	NA	kW
Annual electricity consumption	AEC	2037	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that the	t's life cycle, it m he product's refr	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 sei	vice of that type	e. t is of g
Contact details	CTC AB, Näsväge			· ·			23121

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

CTC AB Ljungby



Unit

%

Model(s):	CTC EcoAir 510N	CTC EcoAir 510M 230V + CTC EcoZenith i360					
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	158	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:		-			
Heat nump combination boator:	Voc						

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. Symbol Value Unit Symbol Value Item Item Seasonal space heating energy Rated heat output (*) 6 kW 154 Prated η_s efficiency Declared capacity for heating for part load at indoor temperature 20 °C Declared coefficient of performance or primary energy ratio for

and outdoor temperature T j				part load at indoor temperature	-		
T j = − 7 °C	Pdh	3,7	kW	T i = - 7 °C	COPd	3,16	1 -
T j = + 2 °C	Pdh	2,2	kW	T j = +2 °C	COPd	5,08	-
T j = + 7 °C	Pdh	2,6	kW	T j = +7 °C	COPd	6,27] -
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,59	-
T j = bivalent temperature	Pdh	5,4	kW	T j = bivalent temperature	COPd	2,24	-
T j = operation limit temperature	Pdh	2,9	kW	T j = operation limit temperature	COPd	1,91	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	5,1	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	2,49	-
Bivalent temperature	T _{biv}	-17	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	3,1	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,023	kW				
Other items						•	
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	3780	kWh	flow rate, outdoor heat exchanger		iiu	113711
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	82	%
Daily electricity consumption	Q_{elec}	9,257	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	NA	kWh
Annual electricity consumption	AEC	2037	kWh	Annual fuel consumption	AFC	NA	GJ

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the Specific precautions and end 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. of life information: Disposing of the product as household waste is not permitted.

Contact details CTC AB, Näsvägen 8, SE-341 34 Ljungby Tel +46 372 88000 www.ctc.se

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	143	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:		-			
Heat pump combination heater:	Yes						

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8	kW	Seasonal space heating energy efficiency	η _s	139	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performation part load at indoor temperature a	-		
T j = – 7 °C	Pdh	na	kW	T j = − 7 °C	COPd	na	-
T j = + 2 °C	Pdh	8,2	kW	T j = +2 °C	COPd	1,72	-
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,01	-
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	4,94	-
T j = bivalent temperature	Pdh	8,2	kW	T j = bivalent temperature	COPd	1,72	-
T j = operation limit temperature	Pdh	8,2	kW	T j = operation limit temperature	COPd	1,72	1 -
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}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	P _{TO}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	3078	kWh	flow rate, outdoor heat exchanger		114	1110/11
For heat pump combination heat	ater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	68	%
Daily electricity consumption	Qelec	6,856	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1508	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that t	t's life cycle, it n 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 sei	vice of that type	e. t is of great
Contact details (CTC AB, Näsväg	en 8, SE-341 34		· ·			231218

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255					
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	VI	-		
Brine-to-water heat pump:	No	Controller contribution:	4	%		
Low-temperature heat pump:	No	Package efficiency:	195	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:		-		
Heat pump combination heater:	Yes					

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9	kW	Seasonal space heating energy efficiency	η _s	191	%
Declared capacity for heating and outdoor temperature T j	for part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature :	-		
T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na	- 1
T j = + 2 °C	Pdh	8,8	kW	T j = +2 °C	COPd	2,38	- 1
T j = + 7 °C	Pdh	6,0	kW	T j = +7 °C	COPd	4,31	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,51	-
Γ j = bivalent temperature	Pdh	8,8	kW	T j = bivalent temperature	COPd	2,38	-
T j = operation limit temperature	Pdh	8,8	kW	T j = operation limit temperature	COPd	2,38	-
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}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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	s other than activ	e <u>mode</u>		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,2	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	2475	kWh	flow rate, outdoor heat exchanger			
For heat pump combination h	neater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	68	%
Daily electricity consumption	Qelec	6,856	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1508	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance 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 sei	vice of that type	e. t is of gre
Contact details	CTC AB, Näsväge			· ·			231218

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

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255						
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	115	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:	A+	-			
Heat pump combination heater:	Yes						

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	111	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature 2	-		
T j = – 7 °C	Pdh	6,0	kW	T j = – 7 °C	COPd	1,67	1 -
T j = + 2 °C	Pdh	3,9	kW	T j = +2 °C	COPd	2,63	- [
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	3,99	
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	5,40	-
T j = bivalent temperature	Pdh	6,0	kW	T j = bivalent temperature	COPd	1,67	-
T j = operation limit temperature	Pdh	4,9	kW	T j = operation limit temperature	COPd	1,51	-
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	0	°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 activ	e mode		Supplementary heater			
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,3	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	5134	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	L	Efficiency class	В	Water heating energy efficiency	η_{wh}	52	%
Daily electricity consumption	Qelec	8,897	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1957	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance 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 sei	vice of that type	e. t is of grea
Contact details (CTC AB. Näsväg	en 8, SE-341 34		· ·			231218

Information for heat pump space heaters and heat pump combination heaters **Average climate and Low temperature**

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255					
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-		
Water-to-water heat pump:	No	Controller class:	VI	-		
Brine-to-water heat pump:	No	Controller contribution:	4	%		
Low-temperature heat pump:	No	Package efficiency:	153	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:	A++	-		
Heat pump combination heater:	Yes					

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	η _s	149	%
Declared capacity for heating for and outdoor temperature T j	or part load at ii	ndoor temperat	ure 20 °C	Declared coefficient of performan part load at indoor temperature 2			
T j = – 7 °C	Pdh	3,6	kW	T j = – 7 °C	COPd	2,44	1 -
T j = + 2 °C	Pdh	2,3	kW	T j = +2 °C	COPd	3,91] -
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	4,97	- 1
T j = + 12 °C	Pdh	1,3	kW	T j = +12 °C	COPd	6,45	-
T j = bivalent temperature	Pdh	4,0	kW	T j = bivalent temperature	COPd	2,25	-
T j = operation limit temperature	Pdh	4,0	kW	T j = operation limit temperature	COPd	2,25] -
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	0	°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	other than activ	e <u>mode</u>		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	0,1	kW
Thermostat-off mode	P _{TO}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	2229	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	L	Efficiency class	В	Water heating energy efficiency	η_{wh}	52	%
Daily electricity consumption	Qelec	8,897	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1957	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance 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 resell rigerant, compressor oil and electrical/electronic hold waste is not permitted.	ler offering a ser	vice of that type	e. t is of grea
Contact details (CTC AB, Näsväge			· · ·			231218

Information for heat pump space heaters and heat pump combination heaters **Cold climate and Medium temperature**

CTC AB Ljungby



Model(s):	CTC EcoAir 510M 230V+ EcoZenith i255					
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	VI	-		
Brine-to-water heat pump:	No	Controller contribution:	4	%		
Low-temperature heat pump:	No	Package efficiency:	107	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:		-		
Heat pump combination heater:	Yes					

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	η _s	103	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performation part load at indoor temperature a	-		
T j = – 7 °C	Pdh	2,6	kW	T j = − 7 °C	COPd	2,17] -
T j = + 2 °C	Pdh	1,6	kW	T j = +2 °C	COPd	3,29	-
T j = + 7 °C	Pdh	2,3	kW	T j = +7 °C	COPd	4,31	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	5,67	-
T j = bivalent temperature	Pdh	3,6	kW	T j = bivalent temperature	COPd	1,57	-
T j = operation limit temperature	Pdh	2,8	kW	T j = operation limit temperature	COPd	1,39	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	3,3	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,76	-
Bivalent temperature	T _{biv}	-16	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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 activ	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,015	kW	Rated heat output (*)	Psup	4,2	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	3903	kWh	flow rate, outdoor heat exchanger			
For heat pump combination he	ater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	50	%
Daily electricity consumption	Qelec	9,380	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2064	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that t	t's life cycle, it n 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 ser	vice of that type	e. t is of great
Contact details (CTC AB, Näsväg	en 8, SE-341 34		· ·			231218

Information for heat pump space heaters and heat pump combination heaters **Cold climate and Low temperature**

CTC AB Ljungby



Model(s):	CTC EcoAir 510N	CTC EcoAir 510M 230V+ EcoZenith i255						
Air-to-water heat pump:	Yes	Energy efficiency class:		-				
Water-to-water heat pump:	No	Controller class:	VI	-				
Brine-to-water heat pump:	No	Controller contribution:	4	%				
Low-temperature heat pump:	No	Package efficiency:	137	%				
Equipped with a supplementary heater:	Yes	Package efficiency class:		-				
Heat pump combination heater:	Yes							

Rated heat output (*)		1					
	Prated	6	kW	Seasonal space heating energy efficiency	n _s	133	%
Declared capacity for heating fo and outdoor temperature T j	r part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performation part load at indoor temperature 2			
T j = – 7 °C	Pdh	3,4	kW	T j = – 7 °C	COPd	2,68	- 1
T j = + 2 °C	Pdh	2,1	kW	T j = +2 °C	COPd	4,29	-
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	5,31	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,45	-
T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	2,06	-
T j = operation limit temperature	Pdh	2,4	kW	T j = operation limit temperature	COPd	1,91	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	4,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	2,29	-
Bivalent temperature	T _{biv}	-16	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°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}	0,015	kW	Rated heat output (*)	Psup	3,2	kW
Thermostat-off mode	Р _{то}	0,009	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input	Electric		
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/60	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	4066	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	iter:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	η_{wh}	50	%
Daily electricity consumption	Q_{elec}	9,380	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	NA	kWh
Annual electricity consumption	AEC	2064	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that t	t's life cycle, it n 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 ser	vice of that type	e. t is of great
Contact details C	TC AB. Näsväg	en 8, SE-341 34		•			231218