Information for heat pump space heaters and heat pump combination heaters

CTC AB
Ljungby

Warm climate and Medium temperature

Model(s):	**CTC GSi 612**		
Air-to-water heat pump:	**No**	Energy efficiency class:	-
Water-to-water heat pump:	**No**	Controller class:	**VI** / -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**161** %
Equipped with a supplementary heater:	**Yes**	Package efficiency class:	-
Heat pump combination heater:	**Yes**		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	$Prated$	**8**	kW	**Seasonal space heating energy efficiency**	η_s	**157**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**na**	kW	T j = − 7 °C	$COPd$	**na**	-
T j = + 2 °C	Pdh	**8,3**	kW	T j = +2 °C	$COPd$	**2,75**	-
T j = + 7 °C	Pdh	**5,3**	kW	T j = +7 °C	$COPd$	**3,78**	-
T j = + 12 °C	Pdh	**2,4**	kW	T j = +12 °C	$COPd$	**5,12**	-
T j = bivalent temperature	Pdh	**8,3**	kW	T j = bivalent temperature	$COPd$	**2,75**	-
T j = operation limit temperature	Pdh	**8,3**	kW	T j = operation limit temperature	$COPd$	**2,75**	-
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	**na**	°C
Cycling interval capacity for heating	P_{cych}	**na**	kW	Cycling interval efficiency	$COPcyc$	**na**	-
Degradation co-efficient	Cdh	**0,98**	-	Heating water operating limit temperature	$WTOL$	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	**0,023**	kW	Rated heat output	$Psup$	**0,0**	kW
Thermostat-off mode	P_{TO}	**0,000**	kW				
Standby mode	P_{SB}	**0,000**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L_{WA}	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1**	m3/h
Annual energy consumption	Q_{HE}	**2687**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**7,628**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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.

Contact details	CTC AB, Näsvägen 8, SE-341 34 Ljungby Tel +46 372 88000 www.ctc.se F0101 231218

Information for heat pump space heaters and heat pump combination heaters

Warm climate and Low temperature

CTC AB
Ljungby

Model(s):	**CTC GSi 612**		
Air-to-water heat pump:	**No**	Energy efficiency class:	-
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**204** %
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*	**10**	kW	**Seasonal space heating energy efficiency**	η_S	**200**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	*Pdh*	**na**	kW	T j = − 7 °C	*COPd*	**na**	-
T j = + 2 °C	*Pdh*	**10,0**	kW	T j = +2 °C	*COPd*	**4,29**	-
T j = + 7 °C	*Pdh*	**6,4**	kW	T j = +7 °C	*COPd*	**5,29**	-
T j = + 12 °C	*Pdh*	**2,9**	kW	T j = +12 °C	*COPd*	**5,71**	-
T j = bivalent temperature	*Pdh*	**10,0**	kW	T j = bivalent temperature	*COPd*	**4,29**	-
T j = operation limit temperature	*Pdh*	**10,0**	kW	T j = operation limit temperature	*COPd*	**na**	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*Pdh*	**na**	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*COPd*	**na**	-
Bivalent temperature	*T biv*	**2**	°C	For air-to-water heat pumps: Operation limit temperature	*TOL*	**na**	°C
Cycling interval capacity for heating	*P cych*	**na**	kW	Cycling interval efficiency	*COPcyc*	**na**	-
Degradation co-efficient	*Cdh*	**0,97**	-	Heating water operating limit temperature	*WTOL*	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	*P OFF*	**0,023**	kW	Rated heat output	*Psup*	**0,0**	kW
Thermostat-off mode	*P TO*	**0,000**	kW				
Standby mode	*P SB*	**0,000**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	*L WA*	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,4**	m3/h
Annual energy consumption	*Q HE*	**2566**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**7,628**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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.

Information for heat pump space heaters and heat pump combination heaters

CTC AB
Ljungby

Average climate and Medium temperature

Model(s):	**CTC GSi 612**		
Air-to-water heat pump:	**No**	Energy efficiency class:	**A+++**	-
Water-to-water heat pump:	**No**	Controller class:	**VI**	-
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4**	%
Low-temperature heat pump:	**No**	Package efficiency:	**159**	%
Equipped with a supplementary heater:	**Yes**	Package efficiency class:	**A+++**	-
Heat pump combination heater:	**Yes**			

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	*Prated*	**7**	kW	**Seasonal space heating energy efficiency**	η_s	**155**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	*Pdh*	**6,0**	kW	T j = − 7 °C	COPd	**3,25**	-
T j = + 2 °C	*Pdh*	**3,7**	kW	T j = +2 °C	COPd	**4,18**	-
T j = + 7 °C	*Pdh*	**2,4**	kW	T j = +7 °C	COPd	**4,70**	-
T j = + 12 °C	*Pdh*	**2,4**	kW	T j = +12 °C	COPd	**5,34**	-
T j = bivalent temperature	*Pdh*	**6,7**	kW	T j = bivalent temperature	COPd	**3,00**	-
T j = operation limit temperature	*Pdh*	**na**	kW	T j = operation limit temperature	COPd	**na**	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*Pdh*	**na**	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	COPd	**na**	-
Bivalent temperature	*T biv*	**-10**	°C	For air-to-water heat pumps: Operation limit temperature	TOL	**na**	°C
Cycling interval capacity for heating	*P cych*	**na**	kW	Cycling interval efficiency	COPcyc	**na**	-
Degradation co-efficient	*Cdh*	**0,98**	-	Heating water operating limit temperature	WTOL	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	*P OFF*	**0,023**	kW	Rated heat output	*Psup*	**0,1**	kW
Thermostat-off mode	*P TO*	**0,000**	kW				
Standby mode	*P SB*	**0,000**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	*L WA*	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,0**	m3/h
Annual energy consumption	*Q HE*	**3444**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**7,628**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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
Average climate and Low temperature

CTC AB
Ljungby

Model(s):	**CTC GSi 612**		
Air-to-water heat pump:	**No**	Energy efficiency class:	**A+++**	-
Water-to-water heat pump:	**No**	Controller class:	**VI**	-
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4**	%
Low-temperature heat pump:	**No**	Package efficiency:	**212**	%
Equipped with a supplementary heater:	**Yes**	Package efficiency class:	**A+++**	-
Heat pump combination heater:	**Yes**			

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	*Prated*	**10**	kW	**Seasonal space heating energy efficiency**	η_s	**208**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	*Pdh*	**8,8**	kW	T j = − 7 °C	*COPd*	**4,59**	-
T j = + 2 °C	*Pdh*	**5,4**	kW	T j = +2 °C	*COPd*	**5,60**	-
T j = + 7 °C	*Pdh*	**3,5**	kW	T j = +7 °C	*COPd*	**6,05**	-
T j = + 12 °C	*Pdh*	**2,4**	kW	T j = +12 °C	*COPd*	**6,03**	-
T j = bivalent temperature	*Pdh*	**9,8**	kW	T j = bivalent temperature	*COPd*	**4,30**	-
T j = operation limit temperature	*Pdh*	**na**	kW	T j = operation limit temperature	*COPd*	**na**	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*Pdh*	**na**	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*COPd*	**na**	-
Bivalent temperature	*T biv*	**-10**	°C	For air-to-water heat pumps: Operation limit temperature	*TOL*	**na**	°C
Cycling interval capacity for heating	*P cych*	**na**	kW	Cycling interval efficiency	*COPcyc*	**na**	-
Degradation co-efficient	*Cdh*	**0,97**	-	Heating water operating limit temperature	*WTOL*	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	*P OFF*	**0,023**	kW	Rated heat output	*Psup*	**0,1**	kW
Thermostat-off mode	*P TO*	**0,000**	kW				
Standby mode	*P SB*	**0,000**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	*L WA*	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,4**	m3/h
Annual energy consumption	*Q HE*	**3800**	kWh				

For heat pump combination heater:

Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**7,628**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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

CTC AB
Ljungby

Cold climate and Medium temperature

Model(s):	**CTC GSi 612**		
Air-to-water heat pump:	**No**	Energy efficiency class:	-
Water-to-water heat pump:	**No**	Controller class:	**VI**	-
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4**	%
Low-temperature heat pump:	**No**	Package efficiency:	**167**	%
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 (*)	P_{rated}	**7**	kW	**Seasonal space heating energy efficiency**	η_s	**163**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**4,46**	kW	T j = − 7 °C	$COPd$	**4,01**	-
T j = + 2 °C	Pdh	**2,7**	kW	T j = +2 °C	$COPd$	**4,66**	-
T j = + 7 °C	Pdh	**2,4**	kW	T j = +7 °C	$COPd$	**5,17**	-
T j = + 12 °C	Pdh	**2,4**	kW	T j = +12 °C	$COPd$	**5,51**	-
T j = bivalent temperature	Pdh	**7,5**	kW	T j = bivalent temperature	$COPd$	**2,86**	-
T j = operation limit temperature	Pdh	**7,54**	kW	T j = operation limit temperature	$COPd$	**2,86**	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	Pdh	**na**	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	$COPd$	**na**	-
Bivalent temperature	T_{biv}	**-22**	°C	For air-to-water heat pumps: Operation limit temperature	TOL	**na**	°C
Cycling interval capacity for heating	P_{cych}	**na**	kW	Cycling interval efficiency	$COPcyc$	**na**	-
Degradation co-efficient	Cdh	**0,98**	-	Heating water operating limit temperature	$WTOL$	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	**0,023**	kW	Rated heat output	$Psup$	**0,0**	kW
Thermostat-off mode	P_{TO}	**0,000**	kW				
Standby mode	P_{SB}	**0,000**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L_{WA}	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,0**	m3/h
Annual energy consumption	Q_{HE}	**4158**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**7,628**	kWh	Daily fuel consumption	Q_{fuel}	**na**	kWh
Annual electricity consumption	AEC	**1678**	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   CTC AB

Cold climate and Low temperature   Ljungby

Model(s):	**CTC GSi 612**		
Air-to-water heat pump:	**No**	Energy efficiency class:	**-**
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**214** %
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*	**11**	kW	**Seasonal space heating energy efficiency**	η_S	**210**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**7,0**	kW	T j = − 7 °C	COPd	**5,33**	-
T j = + 2 °C	Pdh	**4,2**	kW	T j = +2 °C	COPd	**5,90**	-
T j = + 7 °C	Pdh	**2,8**	kW	T j = +7 °C	COPd	**5,95**	-
T j = + 12 °C	Pdh	**2,4**	kW	T j = +12 °C	COPd	**5,74**	-
T j = bivalent temperature	Pdh	**11,5**	kW	T j = bivalent temperature	COPd	**3,93**	-
T j = operation limit temperature	Pdh	**11,45**	kW	T j = operation limit temperature	COPd	**3,93**	-
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}	**-22**	°C	For air-to-water heat pumps: Operation limit temperature	TOL	**na**	°C
Cycling interval capacity for heating	P_{cych}	**na**	kW	Cycling interval efficiency	COPcyc	**na**	-
Degradation co-efficient	Cdh	**0,96**	-	Heating water operating limit temperature	WTOL	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	**0,013**	kW	Rated heat output	*Psup*	**0,0**	kW
Thermostat-off mode	P_{TO}	**0,034**	kW				
Standby mode	P_{SB}	**0,000**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L_{WA}	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,0**	m3/h
Annual energy consumption	Q_{HE}	**5145**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**7,628**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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

Warm climate and Medium temperature

CTC AB
Ljungby

Model(s):	**CTC GSi 612 1x230V F0101-1**		
Air-to-water heat pump:	**No**	Energy efficiency class:	-
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**148** %
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 (*)	$Prated$	**12**	kW	**Seasonal space heating energy efficiency**	η_s	**144**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**na**	kW	T j = − 7 °C	$COPd$	**na**	-
T j = + 2 °C	Pdh	**11,3**	kW	T j = +2 °C	$COPd$	**2,46**	-
T j = + 7 °C	Pdh	**7,7**	kW	T j = +7 °C	$COPd$	**3,28**	-
T j = + 12 °C	Pdh	**3,4**	kW	T j = +12 °C	$COPd$	**4,80**	-
T j = bivalent temperature	Pdh	**11,3**	kW	T j = bivalent temperature	$COPd$	**2,46**	-
T j = operation limit temperature	Pdh	**11,28**	kW	T j = operation limit temperature	$COPd$	**2,46**	-
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	**na**	°C
Cycling interval capacity for heating	P_{cych}	**na**	kW	Cycling interval efficiency	$COPcyc$	**na**	-
Degradation co-efficient	Cdh	**0,99**	-	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	$Psup$	**0,0**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L_{WA}	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**0,9**	m3/h
Annual energy consumption	Q_{HE}	**4233**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**8,030**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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

Warm climate and Low temperature

CTC AB
Ljungby

Model(s):	**CTC GSi 612 1x230V F0101-1**		
Air-to-water heat pump:	**No**	Energy efficiency class:	**-**
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**196** %
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*	**12**	kW	**Seasonal space heating energy efficiency**	η_S	**192**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**na**	kW	T j = − 7 °C	COPd	**na**	-
T j = + 2 °C	Pdh	**11,6**	kW	T j = +2 °C	COPd	**3,61**	-
T j = + 7 °C	Pdh	**7,7**	kW	T j = +7 °C	COPd	**4,64**	-
T j = + 12 °C	Pdh	**3,3**	kW	T j = +12 °C	COPd	**5,93**	-
T j = bivalent temperature	Pdh	**11,6**	kW	T j = bivalent temperature	COPd	**3,61**	-
T j = operation limit temperature	Pdh	**11,6**	kW	T j = operation limit temperature	COPd	**3,61**	-
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	**na**	°C
Cycling interval capacity for heating	P cych	**na**	kW	Cycling interval efficiency	COPcyc	**na**	-
Degradation co-efficient	Cdh	**0,99**	-	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	**0,0**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L WA	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,2**	m3/h
Annual energy consumption	Q HE	**3205**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**8,030**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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   CTC AB
Average climate and Medium temperature   Ljungby

Model(s):	**CTC GSi 612 1x230V F0101-1**		
Air-to-water heat pump:	**No**	Energy efficiency class:	**A++** -
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**144** %
Equipped with a supplementary heater:	**Yes**	Package efficiency class:	**A++** -
Heat pump combination heater:	**Yes**		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	*Prated*	**10**	kW	**Seasonal space heating energy efficiency**	η_s	**140**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**8,7**	kW	T j = − 7 °C	COPd	**2,77**	-
T j = + 2 °C	Pdh	**5,3**	kW	T j = +2 °C	COPd	**3,76**	-
T j = + 7 °C	Pdh	**3,5**	kW	T j = +7 °C	COPd	**4,35**	-
T j = + 12 °C	Pdh	**2,2**	kW	T j = +12 °C	COPd	**4,48**	-
T j = bivalent temperature	Pdh	**9,8**	kW	T j = bivalent temperature	COPd	**2,54**	-
T j = operation limit temperature	Pdh	**9,75**	kW	T j = operation limit temperature	COPd	**2,54**	-
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	**na**	°C
Cycling interval capacity for heating	P_{cych}	**na**	kW	Cycling interval efficiency	COPcyc	**na**	-
Degradation co-efficient	Cdh	**0,99**	-	Heating water operating limit temperature	WTOL	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	**0,018**	kW	Rated heat output	*Psup*	**0,0**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L_{WA}	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**0,9**	m3/h
Annual energy consumption	Q_{HE}	**5582**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**8,030**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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

Average climate and Low temperature

CTC AB
Ljungby

Model(s):	**CTC GSi 612 1x230V F0101-1**		
Air-to-water heat pump:	**No**	Energy efficiency class:	**A+++** -
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**192** %
Equipped with a supplementary heater:	**Yes**	Package efficiency class:	**A+++** -
Heat pump combination heater:	**Yes**		

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	*Prated*	**12**	kW	**Seasonal space heating energy efficiency**	η_s	**188**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**10,5**	kW	T j = − 7 °C	COPd	**3,84**	-
T j = + 2 °C	Pdh	**6,5**	kW	T j = +2 °C	COPd	**4,84**	-
T j = + 7 °C	Pdh	**4,2**	kW	T j = +7 °C	COPd	**5,85**	-
T j = + 12 °C	Pdh	**2,3**	kW	T j = +12 °C	COPd	**6,19**	-
T j = bivalent temperature	Pdh	**11,6**	kW	T j = bivalent temperature	COPd	**3,61**	-
T j = operation limit temperature	Pdh	**11,6**	kW	T j = operation limit temperature	COPd	**3,61**	-
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	**na**	°C
Cycling interval capacity for heating	*P cych*	**na**	kW	Cycling interval efficiency	COPcyc	**na**	-
Degradation co-efficient	Cdh	**0,98**	-	Heating water operating limit temperature	WTOL	**55**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	**0,018**	kW	Rated heat output	*Psup*	**0,0**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L WA	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,2**	m3/h
Annual energy consumption	Q HE	**5049**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**8,030**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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   CTC AB

Cold climate and Medium temperature   Ljungby

Model(s):	**CTC GSi 612 1x230V F0101-1**		
Air-to-water heat pump:	**No**	Energy efficiency class:	-
Water-to-water heat pump:	**No**	Controller class:	**VI** -
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**154** %
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*	**10**	kW	**Seasonal space heating energy efficiency**	η_S	**150**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	Pdh	**6,1**	kW	T j = − 7 °C	COPd	**3,53**	-
T j = + 2 °C	Pdh	**3,8**	kW	T j = +2 °C	COPd	**4,30**	-
T j = + 7 °C	Pdh	**2,5**	kW	T j = +7 °C	COPd	**5,36**	-
T j = + 12 °C	Pdh	**2,4**	kW	T j = +12 °C	COPd	**5,00**	-
T j = bivalent temperature	Pdh	**9,8**	kW	T j = bivalent temperature	COPd	**2,54**	-
T j = operation limit temperature	Pdh	**9,75**	kW	T j = operation limit temperature	COPd	**2,54**	-
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}	**-22**	°C	For air-to-water heat pumps: Operation limit temperature	TOL	**na**	°C
Cycling interval capacity for heating	P_{cych}	**na**	kW	Cycling interval efficiency	COPcyc	**na**	-
Degradation co-efficient	Cdh	**0,98**	-	Heating water operating limit temperature	WTOL	**55**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	**0,018**	kW	Rated heat output	Psup	**0,0**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	L_{WA}	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**0,9**	m3/h
Annual energy consumption	Q_{HE}	**6258**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**8,030**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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

CTC AB
Ljungby

CTC

Cold climate and Low temperature

Model(s):	**CTC GSi 612 1x230V F0101-1**		
Air-to-water heat pump:	**No**	Energy efficiency class:	-
Water-to-water heat pump:	**No**	Controller class:	**VI** —
Brine-to-water heat pump:	**Yes**	Controller contribution:	**4** %
Low-temperature heat pump:	**No**	Package efficiency:	**208** %
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*	**10**	kW	**Seasonal space heating energy efficiency**	η_S	**204**	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = − 7 °C	*Pdh*	**6,0**	kW	T j = − 7 °C	*COPd*	**5,05**	-
T j = + 2 °C	*Pdh*	**3,7**	kW	T j = +2 °C	*COPd*	**5,81**	-
T j = + 7 °C	*Pdh*	**2,4**	kW	T j = +7 °C	*COPd*	**5,62**	-
T j = + 12 °C	*Pdh*	**2,3**	kW	T j = +12 °C	*COPd*	**5,71**	-
T j = bivalent temperature	*Pdh*	**9,8**	kW	T j = bivalent temperature	*COPd*	**3,86**	-
T j = operation limit temperature	*Pdh*	**9,83**	kW	T j = operation limit temperature	*COPd*	**3,86**	-
For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*Pdh*	**na**	kW	For air-to-water heat pumps: T j = − 15 °C (if TOL < − 20 °C)	*COPd*	**na**	-
Bivalent temperature	*T biv*	**-22**	°C	For air-to-water heat pumps: Operation limit temperature	*TOL*	**na**	°C
Cycling interval capacity for heating	*P cych*	**na**	kW	Cycling interval efficiency	*COPcyc*	**na**	-
Degradation co-efficient	*Cdh*	**0,97**	-	Heating water operating limit temperature	*WTOL*	**65**	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	*P OFF*	**0,018**	kW	Rated heat output	*Psup*	**0,0**	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	-	**na**	m3/h
Sound power level, indoors/ outdoors	*L WA*	**41/na**	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	**1,2**	m3/h
Annual energy consumption	*Q HE*	**4659**	kWh				
For heat pump combination heater:							
Declared load profile		**XL**		**Water heating energy efficiency/Energy class**	$\eta_{wh/-}$	**100/A**	%
Daily electricity consumption	Qelec	**8,030**	kWh	Daily fuel consumption	Qfuel	**na**	kWh
Annual electricity consumption	AEC	**1678**	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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