

Information requirements (heat pump space heaters and heat pump combination heaters)							
Model(s): GRS-CQ12PdG/NhH3-M							
Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	Y		
Brine-to-water heat pump	N			Heat pump combination heater	Y		
Parameters declared for	Medium-temperature application						
Parameters declared for	Average climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	ηs	133	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	11.04	kW	Tj = - 7 °C	COPd	2.13	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = 2 °C	Pdh	6.87	kW	Tj = 2 °C	COPd	3.28	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = 7 °C	Pdh	4.56	kW	Tj = 7 °C	COPd	4.33	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = 12 °C	Pdh	4.81	kW	Tj = 12 °C	COPd	6.16	-
Degradation co-efficient (**)	Cdh	0.91	-				
Tj = bivalent temperature	Pdh	11.04	kW	Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature	Pdh	12.03	kW	Tj = operation limit temperature	COPd	1.91	-
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	NA	kW	For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	NA	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Ppsych	NA	kW	Cycling interval efficiency	COPcyc	NA	-
				Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	Psup	0	kW
Thermostat-off mode	P _{TO}	0.025	kW	Type of energy input	Electric		
Standby mode	P _{SB}	0.025	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4003	m ³ / h
Sound power level, outdoors	L _{WA}	64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ / h
Annual energy consumption	Q _{HE}	7582	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η _{wh}	112	%
Daily electricity consumption	Q _{elec}	4.459	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	915	kWh	Annual fuel consumption	AFC	NA	GJ
Contact details: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China, 519070				Name of the supplier: GREE ELECTRIC APPLIANCES,INC. OF ZHUHAI			
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.							

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Model(s): GRS-CQ12PdG/NhH3-M							
Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	Y		
Brine-to-water heat pump	N			Heat pump combination heater	Y		
Parameters declared for	Medium-temperature application						
Parameters declared for	Colder climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	11	kW	Seasonal space heating energy efficiency	ηs	116	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = − 7 °C	Pdh	7.07	kW	Tj = − 7 °C	COPd	2.48	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 °C	Pdh	4.49	kW	Tj = 2 °C	COPd	3.54	–
Degradation co-efficient (**)	Cdh	0.97	–				
Tj = 7 °C	Pdh	3.79	kW	Tj = 7 °C	COPd	4.33	–
Degradation co-efficient (**)	Cdh	0.97	–				
Tj = 12 °C	Pdh	4.69	kW	Tj = 12 °C	COPd	5.92	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = bivalent temperature	Pdh	9.08	kW	Tj = bivalent temperature	COPd	1.88	–
Tj = operation limit temperature	Pdh	8.30	kW	Tj = operation limit temperature	COPd	1.37	–
For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	Pdh	9.08	kW	For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	COPd	1.88	–
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Ppsych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	Psup	2.70	kW
Thermostat-off mode	P _{TO}	0.025	kW	Type of energy input	Electric		
Standby mode	P _{SB}	0.025	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	–	4003	m ³ /h
Sound power level, outdoors	L _{WA}	64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	–	NA	m ³ /h
Annual energy consumption	Q _{HE}	9189	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η _{wh}	95	%
Daily electricity consumption	Q _{elec}	5.225	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1077	kWh	Annual fuel consumption	AFC	NA	GJ
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.							

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Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	Y		
Brine-to-water heat pump	N			Heat pump combination heater	Y		
Parameters declared for	Medium-temperature application						
Parameters declared for	Warmer climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	ηs	162	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	NA	kW	Tj = - 7 °C	COPd	NA	-
Degradation co-efficient (**)	Cdh	NA	-				
Tj = 2 °C	Pdh	13.24	kW	Tj = 2 °C	COPd	2.27	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = 7 °C	Pdh	9.19	kW	Tj = 7 °C	COPd	3.80	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = 12 °C	Pdh	4.13	kW	Tj = 12 °C	COPd	4.91	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	13.24	kW	Tj = bivalent temperature	COPd	2.27	-
Tj = operation limit temperature	Pdh	13.24	kW	Tj = operation limit temperature	COPd	2.27	-
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	NA	kW	For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	NA	-
Bivalent temperature	Tbiv	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Ppsych	NA	kW	Cycling interval efficiency	COPcyc	NA	-
				Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	Psup	0	kW
Thermostat-off mode	P _{TO}	0.025	kW	Type of energy input	Electric		
Standby mode	P _{SB}	0.025	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4003	m ³ / h
Sound power level, outdoors	L _{WA}	64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ / h
Annual energy consumption	Q _{HE}	4268	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η _{wh}	116	%
Daily electricity consumption	Q _{elec}	4.309	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	883	kWh	Annual fuel consumption	AFC	NA	GJ
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.							

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Model(s): GRS-CQ12PdG/NhH3-M							
Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	Y		
Brine-to-water heat pump	N			Heat pump combination heater	Y		
Parameters declared for	Low-temperature application						
Parameters declared for	Average climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	ηs	179	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	11.03	kW	Tj = - 7 °C	COPd	3.24	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = 2 °C	Pdh	7.11	kW	Tj = 2 °C	COPd	4.37	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = 7 °C	Pdh	4.57	kW	Tj = 7 °C	COPd	5.82	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = 12 °C	Pdh	4.61	kW	Tj = 12 °C	COPd	6.52	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = bivalent temperature	Pdh	11.03	kW	Tj = bivalent temperature	COPd	3.24	-
Tj = operation limit temperature	Pdh	12.24	kW	Tj = operation limit temperature	COPd	2.45	-
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	NA	kW	For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	NA	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Ppsych	NA	kW	Cycling interval efficiency	COPcyc	NA	-
				Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	Psup	0	kW
Thermostat-off mode	P _{TO}	0.025	kW	Type of energy input	Electric		
Standby mode	P _{SB}	0.025	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4003	m ³ / h
Sound power level, outdoors	L _{WA}	64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	NA	m ³ / h
Annual energy consumption	Q _{HE}	5644	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η _{wh}	112	%
Daily electricity consumption	Q _{elec}	4.459	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	915	kWh	Annual fuel consumption	AFC	NA	GJ
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.							

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Model(s): GRS-CQ12PdG/NhH3-M							
Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	Y		
Brine-to-water heat pump	N			Heat pump combination heater	Y		
Parameters declared for	Low-temperature application						
Parameters declared for	Colder climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_s	157	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = − 7 °C	Pdh	7.59	kW	Tj = − 7 °C	COPd	3.14	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 °C	Pdh	4.95	kW	Tj = 2 °C	COPd	5.18	–
Degradation co-efficient (**)	Cdh	0.97	–				
Tj = 7 °C	Pdh	4.04	kW	Tj = 7 °C	COPd	5.38	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = 12 °C	Pdh	4.71	kW	Tj = 12 °C	COPd	6.90	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = bivalent temperature	Pdh	9.92	kW	Tj = bivalent temperature	COPd	2.56	–
Tj = operation limit temperature	Pdh	8.89	kW	Tj = operation limit temperature	COPd	1.90	–
For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	Pdh	9.92	kW	For air-to-water heat pumps: Tj = − 15 °C (if TOL < − 20 °C)	COPd	2.56	–
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Ppsych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	3.11	kW
Thermostat-off mode	P _{TO}	0.025	kW	Type of energy input	Electric		
Standby mode	P _{SB}	0.025	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	–	3086	m ³ /h
Sound power level, outdoors	L _{WA}	64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	–	NA	m ³ /h
Annual energy consumption	Q _{HE}	7487	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	95	%
Daily electricity consumption	Q _{elec}	5.225	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1077	kWh	Annual fuel consumption	AFC	NA	GJ
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.							

Information requirements (heat pump space heaters and heat pump combination heaters)							
Model(s): GRS-CQ12PdG/NhH3-M							
Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	Y		
Brine-to-water heat pump	N			Heat pump combination heater	Y		
Parameters declared for	Low-temperature application						
Parameters declared for	Warmer climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	ηs	254	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = − 7 °C	Pdh	NA	kW	Tj = − 7 °C	COPd	NA	–
Degradation co-efficient (**)	Cdh	NA	–				
Tj = 2 °C	Pdh	12.49	kW	Tj = 2 °C	COPd	3.18	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 7 °C	Pdh	8.49	kW	Tj = 7 °C	COPd	6.09	–
Degradation co-efficient (**)	Cdh	0.98	–				
Tj = 12°C	Pdh	5.09	kW	Tj = 12°C	COPd	7.70	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = bivalent temperature	Pdh	12.49	kW	Tj = bivalent temperature	COPd	3.18	–
Tj = operation limit temperature	Pdh	12.49	kW	Tj = operation limit temperature	COPd	3.18	–
For air-to-water heat pumps: Tj = − 15°C (if TOL < − 20°C)	Pdh	NA	kW	For air-to-water heat pumps: Tj = − 15°C (if TOL < − 20°C)	COPd	NA	–
Bivalent temperature	Tbiv	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Ppsych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	0	kW
Thermostat-off mode	P _{TO}	0.025	kW	Type of energy input	Electric		
Standby mode	P _{SB}	0.025	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	–	4003	m ³ /h
Sound power level, outdoors	L _{WA}	64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	–	NA	m ³ /h
Annual energy consumption	Q _{HE}	2595	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η _{wh}	116	%
Daily electricity consumption	Q _{elec}	4.309	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	883	kWh	Annual fuel consumption	AFC	NA	GJ
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