Information requirements
(heat pump space heaters and heat pump combination heaters)

Model(s): GRS-CQ12Pd/NpG4-M

Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	N		
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	140	%
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 ℃	Pdh	10.52	kW	Tj = – 7 ℃	COPd	2.11	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 ℃	Pdh	6.90	kW	Tj = 2 ℃	COPd	3.55	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 7 ℃	Pdh	4.37	kW	Tj = 7 ℃	COPd	4.71	–
Degradation co-efficient (**)	Cdh	0.97	–				
Tj = 12℃	Pdh	2.98	kW	Tj = 12℃	COPd	5.49	–
Degradation co-efficient (**)	Cdh	0.95	–				
Tj = bivalent temperature	Pdh	10.52	kW	Tj = bivalent temperature	COPd	2.11	–
Tj = operation limit temperature	Pdh	11.54	kW	Tj = operation limit temperature	COPd	2.21	–
For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	Pdh	NA	kW	For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	COPd	NA	–
Bivalent temperature	Tbiv	-7	℃	For air-to-water heat pumps: Operation limit temperature	TOL	-10	℃
Cycling interval capacity for heating	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	℃
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	Psup	0.46	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	–	4936	m 3 /h
Sound power level, outdoors	L_{WA}	58	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}	6860	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	ηwh	112	%
Daily electricity consumption	Qelec	7.136	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1570	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.

Information requirements
(heat pump space heaters and heat pump combination heaters)

Model(s): GRS-CQ12Pd/NpG4-M

Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	N		
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	121	%
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 ℃	Pdh	7.00	kW	Tj = – 7 ℃	COPd	2.40	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 ℃	Pdh	4.31	kW	Tj = 2 ℃	COPd	3.76	–
Degradation co-efficient (**)	Cdh	0.98	–				
Tj = 7 ℃	Pdh	2.76	kW	Tj = 7 ℃	COPd	4.76	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = 12℃	Pdh	2.97	kW	Tj = 12℃	COPd	5.68	–
Degradation co-efficient (**)	Cdh	0.95	–				
Tj = bivalent temperature	Pdh	8.75	kW	Tj = bivalent temperature	COPd	2.16	–
Tj = operation limit temperature	Pdh	6.86	kW	Tj = operation limit temperature	COPd	1.59	–
For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	Pdh	8.75	kW	For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	COPd	2.16	–
Bivalent temperature	Tbiv	-15	℃	For air-to-water heat pumps: Operation limit temperature	TOL	-22	℃
Cycling interval capacity for heating	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	℃
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	Psup	4.14	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	–	4936	m 3 /h
Sound power level, outdoors	L_{WA}	58	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}	8525	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	ηwh	89	%
Daily electricity consumption	Qelec	8,993	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1979	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-CQ12Pd/NpG4-M

Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	N		
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	12	kW	Seasonal space heating energy efficiency	ηs	180	%
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 ℃	Pdh	NA	kW	Tj = – 7 ℃	COPd	NA	–
Degradation co-efficient (**)	Cdh	NA	–				
Tj = 2 ℃	Pdh	11.69	kW	Tj = 2 ℃	COPd	2.42	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 7 ℃	Pdh	7.54	kW	Tj = 7 ℃	COPd	4.15	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 12℃	Pdh	3.61	kW	Tj = 12℃	COPd	5.57	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = bivalent temperature	Pdh	11.69	kW	Tj = bivalent temperature	COPd	2.42	–
Tj = operation limit temperature	Pdh	11.69	kW	Tj = operation limit temperature	COPd	2.42	–
For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	Pdh	NA	kW	For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	COPd	NA	–
Bivalent temperature	Tbiv	2	℃	For air-to-water heat pumps: Operation limit temperature	TOL	2	℃
Cycling interval capacity for heating	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	℃
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	Psup	0.31	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	–	4936	m 3 /h
Sound power level, outdoors	L_{WA}	58	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}	3408	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	ηwh	122	%
Daily electricity consumption	Qelec	6,535	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1438	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-CQ12Pd/NpG4-M							
Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	N		
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	187	%
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 ℃	Pdh	10.75	kW	Tj = – 7 ℃	COPd	2.69	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 ℃	Pdh	6.81	kW	Tj = 2 ℃	COPd	4.71	–
Degradation co-efficient (**)	Cdh	0.98	–				
Tj = 7 ℃	Pdh	4.48	kW	Tj = 7 ℃	COPd	6.78	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = 12℃	Pdh	3.18	kW	Tj = 12℃	COPd	7.09	–
Degradation co-efficient (**)	Cdh	0.94	–				
Tj = bivalent temperature	Pdh	10.75	kW	Tj = bivalent temperature	COPd	2.69	–
Tj = operation limit temperature	Pdh	10.62	kW	Tj = operation limit temperature	COPd	2.54	–
For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	Pdh	NA	kW	For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	COPd	NA	–
Bivalent temperature	Tbiv	-7	℃	For air-to-water heat pumps: Operation limit temperature	TOL	-10	℃
Cycling interval capacity for heating	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	℃
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	Psup	1.38	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	–	4936	m 3 /h
Sound power level, outdoors	L_{WA}	58	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}	5272	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	ηwh	112	%
Daily electricity consumption	Qelec	7.136	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1570	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.							

Information requirements
(heat pump space heaters and heat pump combination heaters)

Model(s): GRS-CQ12Pd/NpG4-M

Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	N		
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	11	kW	Seasonal space heating energy efficiency	ηs	155	%
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 ℃	Pdh	7.08	kW	Tj = – 7 ℃	COPd	3.31	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 ℃	Pdh	4.11	kW	Tj = 2 ℃	COPd	4.90	–
Degradation co-efficient (**)	Cdh	0.97	–				
Tj = 7 ℃	Pdh	2.72	kW	Tj = 7 ℃	COPd	5.70	–
Degradation co-efficient (**)	Cdh	0.95	–				
Tj = 12℃	Pdh	3.17	kW	Tj = 12℃	COPd	6.83	–
Degradation co-efficient (**)	Cdh	0.95	–				
Tj = bivalent temperature	Pdh	8.75	kW	Tj = bivalent temperature	COPd	2.52	–
Tj = operation limit temperature	Pdh	6.96	kW	Tj = operation limit temperature	COPd	2.14	–
For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	Pdh	8.75	kW	For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	COPd	2.52	–
Bivalent temperature	Tbiv	-15	℃	For air-to-water heat pumps: Operation limit temperature	TOL	-22	℃
Cycling interval capacity for heating	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	℃
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	Psup	4.04	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	–	4936	m 3 /h
Sound power level, outdoors	L_{WA}	58	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}	6621	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	ηwh	89	%
Daily electricity consumption	Qelec	8,993	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1979	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-CQ12Pd/NpG4-M

Air-to-water heat pump	Y			Low-temperature heat pump	N		
Water-to-water heat pump	N			Equipped with a supplementary heater	N		
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	246	%
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 ℃	Pdh	NA	kW	Tj = – 7 ℃	COPd	NA	–
Degradation co-efficient (**)	Cdh	NA	–				
Tj = 2 ℃	Pdh	11.69	kW	Tj = 2 ℃	COPd	3.09	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 7 ℃	Pdh	7.53	kW	Tj = 7 ℃	COPd	5.82	–
Degradation co-efficient (**)	Cdh	0.98	–				
Tj = 12℃	Pdh	3.48	kW	Tj = 12℃	COPd	7.43	–
Degradation co-efficient (**)	Cdh	0.95	–				
Tj = bivalent temperature	Pdh	11.69	kW	Tj = bivalent temperature	COPd	3.09	–
Tj = operation limit temperature	Pdh	11.69	kW	Tj = operation limit temperature	COPd	3.09	–
For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	Pdh	NA	kW	For air-to-water heat pumps: Tj = – 15℃ (if TOL < – 20℃)	COPd	NA	–
Bivalent temperature	Tbiv	2	℃	For air-to-water heat pumps: Operation limit temperature	TOL	2	℃
Cycling interval capacity for heating	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	℃
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	Psup	0.31	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	–	4972	m 3 /h
Sound power level, outdoors	L_{WA}	58	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}	2508	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	ηwh	122	%
Daily electricity consumption	Qelec	6.535	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1438	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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