

Information requirements (heat pump space heaters and heat pump combination heaters)							
Model(s): GRS-CQ8.0PdG/NhH-E							
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	7	kW	Seasonal space heating energy efficiency	η_s	129	%
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			
$T_j = -7\text{ °C}$	Pdh	6.3	kW	$T_j = -7\text{ °C}$	COPd	2.24	-
Degradation co-efficient (**)	Cdh	0.99	-				
$T_j = 2\text{ °C}$	Pdh	4.1	kW	$T_j = 2\text{ °C}$	COPd	3.18	-
Degradation co-efficient (**)	Cdh	0.98	-				
$T_j = 7\text{ °C}$	Pdh	4.3	kW	$T_j = 7\text{ °C}$	COPd	4.26	-
Degradation co-efficient (**)	Cdh	0.97	-				
$T_j = 12\text{ °C}$	Pdh	5.0	kW	$T_j = 12\text{ °C}$	COPd	5.93	-
Degradation co-efficient (**)	Cdh	0.97	-				
$T_j = \text{bivalent temperature}$	Pdh	6.3	kW	$T_j = \text{bivalent temperature}$	COPd	2.24	-
$T_j = \text{operation limit temperature}$	Pdh	6.3	kW	$T_j = \text{operation limit temperature}$	COPd	1.79	-
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	Pdh	NA	kW	For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	COPd	NA	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{psych}	NA	kW	Cycling interval efficiency	COP _{cycle}	NA	-
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	0.7	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}	0.025	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3300	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/67	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}	4371	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	89	%
Daily electricity consumption	Q _{elec}	5.632	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1152	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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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	7	kW	Seasonal space heating energy efficiency	η_s	112	%
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	4.6	kW	Tj = -7 °C	COPd	2.64	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = 2 °C	Pdh	3.3	kW	Tj = 2 °C	COPd	3.24	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = 7 °C	Pdh	4.2	kW	Tj = 7 °C	COPd	4.76	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = 12 °C	Pdh	4.7	kW	Tj = 12 °C	COPd	5.86	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	5.9	kW	Tj = bivalent temperature	COPd	1.77	-
Tj = operation limit temperature	Pdh	2.9	kW	Tj = operation limit temperature	COPd	1.26	-
For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	Pdh	5.9	kW	For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	COPd	1.77	-
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	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	4.1	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}	0.025	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3300	m ³ / h
Sound power level, indoors/outdoors	L _{WA}	42/67	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}	5982	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	Q _{elec}	6.401	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1314	kWh	Annual fuel consumption	AFC	NA	GJ
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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	8	kW	Seasonal space heating energy efficiency	η_s	159	%
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			
$T_j = -7\text{ °C}$	Pdh	NA	kW	$T_j = -7\text{ °C}$	COPd	NA	-
Degradation co-efficient (**)	Cdh	NA	-				
$T_j = 2\text{ °C}$	Pdh	8.1	kW	$T_j = 2\text{ °C}$	COPd	2.52	-
Degradation co-efficient (**)	Cdh	0.99	-				
$T_j = 7\text{ °C}$	Pdh	5.3	kW	$T_j = 7\text{ °C}$	COPd	3.38	-
Degradation co-efficient (**)	Cdh	0.98	-				
$T_j = 12\text{ °C}$	Pdh	5.2	kW	$T_j = 12\text{ °C}$	COPd	5.42	-
Degradation co-efficient (**)	Cdh	0.97	-				
$T_j = \text{bivalent temperature}$	Pdh	8.1	kW	$T_j = \text{bivalent temperature}$	COPd	2.52	-
$T_j = \text{operation limit temperature}$	Pdh	8.1	kW	$T_j = \text{operation limit temperature}$	COPd	2.52	-
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	Pdh	NA	kW	For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	COPd	NA	-
Bivalent temperature	Tbiv	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{ych}	NA	kW	Cycling interval efficiency	COP _{yc}	NA	-
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	0.0	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}	0.025	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3300	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/67	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}	2645	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	110	%
Daily electricity consumption	Q _{elec}	4.574	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	933	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	Low-temperature application						
Parameters declared for	Average climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η_s	181	%
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			
$T_j = -7\text{ °C}$	Pdh	6.2	kW	$T_j = -7\text{ °C}$	COPd	2.94	-
Degradation co-efficient (**)	Cdh	0.99	-				
$T_j = 2\text{ °C}$	Pdh	3.9	kW	$T_j = 2\text{ °C}$	COPd	4.39	-
Degradation co-efficient (**)	Cdh	0.97	-				
$T_j = 7\text{ °C}$	Pdh	3.0	kW	$T_j = 7\text{ °C}$	COPd	6.29	-
Degradation co-efficient (**)	Cdh	0.95	-				
$T_j = 12\text{ °C}$	Pdh	3.6	kW	$T_j = 12\text{ °C}$	COPd	8.43	-
Degradation co-efficient (**)	Cdh	0.94	-				
$T_j = \text{bivalent temperature}$	Pdh	6.2	kW	$T_j = \text{bivalent temperature}$	COPd	2.94	-
$T_j = \text{operation limit temperature}$	Pdh	5.9	kW	$T_j = \text{operation limit temperature}$	COPd	2.69	-
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	Pdh	NA	kW	For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	COPd	NA	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{psych}	NA	kW	Cycling interval efficiency	COP _{cycle}	NA	-
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	1.1	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}	0.025	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3300	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/67	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}	3149	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	89	%
Daily electricity consumption	Q _{elec}	5.632	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1152	kWh	Annual fuel consumption	AFC	NA	GJ
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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	Low-temperature application						
Parameters declared for	Colder climate condition						
Item	symbol	value	unit	Item	symbol	value	unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η_s	146	%
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			
$T_j = -7\text{ °C}$	Pdh	4.5	kW	$T_j = -7\text{ °C}$	COPd	3.26	-
Degradation co-efficient (**)	Cdh	0.98	-				
$T_j = 2\text{ °C}$	Pdh	3.3	kW	$T_j = 2\text{ °C}$	COPd	4.26	-
Degradation co-efficient (**)	Cdh	0.97	-				
$T_j = 7\text{ °C}$	Pdh	4.3	kW	$T_j = 7\text{ °C}$	COPd	6.04	-
Degradation co-efficient (**)	Cdh	0.96	-				
$T_j = 12\text{ °C}$	Pdh	4.9	kW	$T_j = 12\text{ °C}$	COPd	7.26	-
Degradation co-efficient (**)	Cdh	0.96	-				
$T_j = \text{bivalent temperature}$	Pdh	5.8	kW	$T_j = \text{bivalent temperature}$	COPd	2.63	-
$T_j = \text{operation limit temperature}$	Pdh	4.5	kW	$T_j = \text{operation limit temperature}$	COPd	1.52	-
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	Pdh	5.8	kW	For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	COPd	2.63	-
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	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	P_{sup}	2.5	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}	0.025	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3300	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	42/67	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}	4628	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	Q_{elec}	6.401	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	1314	kWh	Annual fuel consumption	AFC	NA	GJ
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Information requirements (heat pump space heaters and heat pump combination heaters)							
Model(s): GRS-CQ8.0PdG/NhH-E							
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	8	kW	Seasonal space heating energy efficiency	η_s	217	%
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			
$T_j = -7\text{ °C}$	Pdh	NA	kW	$T_j = -7\text{ °C}$	COPd	NA	-
Degradation co-efficient (**)	Cdh	NA	-				
$T_j = 2\text{ °C}$	Pdh	8.2	kW	$T_j = 2\text{ °C}$	COPd	3.58	-
Degradation co-efficient (**)	Cdh	0.99	-				
$T_j = 7\text{ °C}$	Pdh	5.4	kW	$T_j = 7\text{ °C}$	COPd	4.84	-
Degradation co-efficient (**)	Cdh	0.98	-				
$T_j = 12\text{ °C}$	Pdh	5.1	kW	$T_j = 12\text{ °C}$	COPd	7.08	-
Degradation co-efficient (**)	Cdh	0.96	-				
$T_j = \text{bivalent temperature}$	Pdh	8.2	kW	$T_j = \text{bivalent temperature}$	COPd	3.58	-
$T_j = \text{operation limit temperature}$	Pdh	8.2	kW	$T_j = \text{operation limit temperature}$	COPd	3.58	-
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	Pdh	NA	kW	For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if $TOL < -20\text{ °C}$)	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	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.025	kW	Rated heat output (*)	P_{sup}	0.0	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}	0.025	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3300	m ³ /h
Sound power level, indoors/outdoors	L_{WA}	42/67	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}	1947	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	110	%
Daily electricity consumption	Q_{elec}	4.574	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	933	kWh	Annual fuel consumption	AFC	NA	GJ
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