

Information requirements (heat pump space heaters and heat pump combination heaters)							
Model(s): TH-V10EM3-R							
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	8	kW	Seasonal space heating energy efficiency	ηs	147	%
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	6.68	kW	Tj = − 7 °C	COPd	2.25	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 °C	Pdh	3.97	kW	Tj = 2 °C	COPd	3.79	–
Degradation co-efficient (**)	Cdh	0.98	–				
Tj = 7 °C	Pdh	2.59	kW	Tj = 7 °C	COPd	4.61	–
Degradation co-efficient (**)	Cdh	0.96	–				
Tj = 12°C	Pdh	2.46	kW	Tj = 12°C	COPd	6.68	–
Degradation co-efficient (**)	Cdh	0.93	–				
Tj = bivalent temperature	Pdh	6.68	kW	Tj = bivalent temperature	COPd	2.25	–
Tj = operation limit temperature	Pdh	7.18	kW	Tj = operation limit temperature	COPd	2.02	–
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	Pcyc	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	0.82	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}	0.000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	–	5000	m ³ /h
Sound power level, outdoors	L _{WA}	56	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}	4152	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η _{wh}	121	%
Daily electricity consumption	Q _{elec}	6.789	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1494	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): TH-V10EM3-R							
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	8	kW	Seasonal space heating energy efficiency	ηs	131	%
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	5.03	kW	Tj = − 7 °C	COPd	2.87	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 2 °C	Pdh	2.85	kW	Tj = 2 °C	COPd	3.95	–
Degradation co-efficient (**)	Cdh	0.97	–				
Tj = 7 °C	Pdh	3.05	kW	Tj = 7 °C	COPd	5.64	–
Degradation co-efficient (**)	Cdh	0.95	–				
Tj = 12°C	Pdh	2.06	kW	Tj = 12°C	COPd	6.37	–
Degradation co-efficient (**)	Cdh	0.92	–				
Tj = bivalent temperature	Pdh	6.39	kW	Tj = bivalent temperature	COPd	2.01	–
Tj = operation limit temperature	Pdh	5.63	kW	Tj = operation limit temperature	COPd	1.62	–
For air-to-water heat pumps: Tj = − 15°C (if TOL < − 20°C)	Pdh	6.39	kW	For air-to-water heat pumps: Tj = − 15°C (if TOL < − 20°C)	COPd	2.01	–
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	P _{sup}	2.37	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}	0.000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	–	5000	m ³ /h
Sound power level, outdoors	L _{WA}	56	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}	5732	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η _{wh}	100	%
Daily electricity consumption	Q _{elec}	8.223	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1809	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	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	8	kW	Seasonal space heating energy efficiency	ηs	198	%
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	8.23	kW	Tj = 2 °C	COPd	2.45	–
Degradation co-efficient (**)	Cdh	0.99	–				
Tj = 7 °C	Pdh	5.25	kW	Tj = 7 °C	COPd	4.13	–
Degradation co-efficient (**)	Cdh	0.98	–				
Tj = 12°C	Pdh	2.93	kW	Tj = 12°C	COPd	7.00	–
Degradation co-efficient (**)	Cdh	0.94	–				
Tj = bivalent temperature	Pdh	8.23	kW	Tj = bivalent temperature	COPd	2.45	–
Tj = operation limit temperature	Pdh	8.23	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	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcyc	NA	kW	Cycling interval efficiency	COPcyc	NA	–
				Heating water operating limit temperature	WTOL	80	°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}	0.000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	–	5000	m ³ /h
Sound power level, outdoors	L _{WA}	56	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}	2184	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η _{wh}	123	%
Daily electricity consumption	Q _{elec}	6.536	kWh	Daily fuel consumption	Q _{fuel}	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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Model(s): TH-V10EM3-R							
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	9	kW	Seasonal space heating energy efficiency	ηs	189	%
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	7.88	kW	Tj = − 7 °C	COPd	2.69	−
Degradation co-efficient (**)	Cdh	0.99	−				
Tj = 2 °C	Pdh	4.42	kW	Tj = 2 °C	COPd	4.57	−
Degradation co-efficient (**)	Cdh	0.97	−				
Tj = 7 °C	Pdh	3.02	kW	Tj = 7 °C	COPd	7.11	−
Degradation co-efficient (**)	Cdh	0.94	−				
Tj = 12 °C	Pdh	2.31	kW	Tj = 12 °C	COPd	8.85	−
Degradation co-efficient (**)	Cdh	0.90	−				
Tj = bivalent temperature	Pdh	7.88	kW	Tj = bivalent temperature	COPd	2.69	−
Tj = operation limit temperature	Pdh	8.02	kW	Tj = operation limit temperature	COPd	2.76	−
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	80	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	Psup	0.98	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}	0.000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	−	5000	m ³ / h
Sound power level, outdoors	L _{WA}	56	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}	3830	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η _{wh}	121	%
Daily electricity consumption	Q _{elec}	6.789	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1494	kWh	Annual fuel consumption	AFC	NA	GJ
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Model(s): TH-V10EM3-R							
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	8	kW	Seasonal space heating energy efficiency	ηs	181	%
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	4.87	kW	Tj = - 7 °C	COPd	3.75	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = 2 °C	Pdh	2.86	kW	Tj = 2 °C	COPd	5.89	-
Degradation co-efficient (**)	Cdh	0.95	-				
Tj = 7 °C	Pdh	2.93	kW	Tj = 7 °C	COPd	7.29	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = 12 °C	Pdh	2.33	kW	Tj = 12 °C	COPd	7.87	-
Degradation co-efficient (**)	Cdh	0.92	-				
Tj = bivalent temperature	Pdh	6.30	kW	Tj = bivalent temperature	COPd	2.62	-
Tj = operation limit temperature	Pdh	6.13	kW	Tj = operation limit temperature	COPd	2.08	-
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	6.30	kW	For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	2.62	-
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	80	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.025	kW	Rated heat output (*)	Psup	1.87	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}	0.000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	5000	m ³ / h
Sound power level, outdoors	L _{WA}	56	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}	4132	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η _{wh}	100	%
Daily electricity consumption	Q _{elec}	8.223	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1809	kWh	Annual fuel consumption	AFC	NA	GJ
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Information requirements (heat pump space heaters and heat pump combination heaters)							
Model(s): TH-V10EM3-R							
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	8	kW	Seasonal space heating energy efficiency	ηs	276	%
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	8.35	kW	Tj = 2 °C	COPd	3.56	−
Degradation co-efficient (**)	Cdh	0.99	−				
Tj = 7 °C	Pdh	5.28	kW	Tj = 7 °C	COPd	6.09	−
Degradation co-efficient (**)	Cdh	0.97	−				
Tj = 12°C	Pdh	2.52	kW	Tj = 12°C	COPd	9.01	−
Degradation co-efficient (**)	Cdh	0.91	−				
Tj = bivalent temperature	Pdh	8.35	kW	Tj = bivalent temperature	COPd	3.56	−
Tj = operation limit temperature	Pdh	8.35	kW	Tj = operation limit temperature	COPd	3.56	−
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	Pcych	NA	kW	Cycling interval efficiency	COPcyc	NA	−
				Heating water operating limit temperature	WTOL	80	°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}	0.000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	−	5000	m ³ /h
Sound power level, outdoors	L _{WA}	56	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}	1595	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η _{wh}	123	%
Daily electricity consumption	Q _{elec}	6.536	kWh	Daily fuel consumption	Q _{fuel}	NA	kWh
Annual electricity consumption	AEC	1438	kWh	Annual fuel consumption	AFC	NA	GJ
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