

Subtype VERSATI AIO G2 12/14/16kW

Certificate Holder	Gree Electric Appliances, Inc. of Zhuhai
Address	West Jinji Rd
ZIP	519070
City	Qianshan, Zhuhai, Guangdong
Country	CN
Certification Body	BRE Global Limited
Subtype title	VERSATI AIO G2 12/14/16kW
Registration number	041-K004-21
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.84 kg
Certification Date	11.11.2022
Testing basis	Heat Pump Keymark Scheme Rules Rev 09
Testing laboratory	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch, CN

Model GRS-CQ12PdG/NhH2-M

Model name	GRS-CQ12PdG/NhH2-M
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	112 %
COP	2.61
Heating up time	1:08 h:min
Standby power input	52.8 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	231 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	95 %
COP	2.23
Heating up time	1:20 h:min
Standby power input	58.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	230 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	116 %
COP	2.70
Heating up time	1:05 h:min
Standby power input	51.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	233 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	12 kW	12 kW
El input	2.4 kW	3.81 kW
COP	5	3.15
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	176 %	126 %
Prated	11 kW	11 kW
SCOP	4.48	3.23
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.7 kW	9.9 kW
COP Tj = -7°C	2.8	2.04
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	6.1 kW	5.4 kW
COP Tj = +2°C	4.38	2.98
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	3.9 kW	3.7 kW
COP Tj = +7°C	6.04	4.63
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.2 kW	3.1 kW
COP Tj = 12°C	7.19	5.61
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	9.7 kW	9.9 kW
COP Tj = Tbiv	2.8	2.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.6 kW	10.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	1.89
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	2.4 kW	0.9 kW
Annual energy consumption Q _{he}	5065 kWh	7028 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	159 %	115 %
Prated	10 kW	11 kW
SCOP	4.05	2.95
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	6.6 kW	6.9 kW
COP T _j = -7°C	3.29	2.59
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	4 kW	4.2 kW
COP T _j = +2°C	5.03	3.5
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.8 kW	2.6 kW
COP T _j = +7°C	5.7	4.38
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	3.4 kW	3.2 kW
COP T _j = 12°C	7.17	5.97
C _{dh} T _j = +12 °C	0.95	0.95
P _{dh} T _j = T _{biv}	9 kW	9 kW
COP T _j = T _{biv}	2.6	1.84
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	7.8 kW	4 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.75	1.08
WTOL	60 °C	60 °C
P _{off}	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.2 kW	7 kW
Annual energy consumption Q _{he}	6088 kWh	9131 kWh
P _{dh} T _j = -15°C (if TOL	9	9
COP T _j = -15°C (if TOL	2.6	1.84

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	234 %	168 %
Prated	12 kW	13 kW
SCOP	5.93	4.28
T _{biv}	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	12 kW	12.8 kW
COP Tj = +2°C	3.25	2.34
Cdh Tj = +2 °C	0.99	1
Pdh Tj = +7°C	7.5 kW	8.3 kW
COP Tj = +7°C	5.12	3.59
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.5 kW	3.7 kW
COP Tj = 12°C	7.66	5.64
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	12.08 kW	12.8 kW
COP Tj = Tbiv	3.25	2.34
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.08 kW	12.8 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.25	2.34
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2698 kWh	4047 kWh

Model GRS-CQ12PdG/NhH2-E

Model name	GRS-CQ12PdG/NhH2-E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	112 %
COP	2.61
Heating up time	1:08 h:min
Standby power input	52.8 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	231 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	95 %
COP	2.23
Heating up time	1:20 h:min
Standby power input	58.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	230 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	116 %
COP	2.70
Heating up time	1:05 h:min
Standby power input	51.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	233 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	12 kW	12 kW
El input	2.4 kW	3.81 kW
COP	5	3.15
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	182 %	126 %
Prated	11 kW	11 kW
SCOP	4.63	3.23
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.8 kW	9.6 kW
COP Tj = -7°C	2.89	2.04
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	6.2 kW	5.6 kW
COP Tj = +2°C	4.48	3.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	3.6 kW	3.9 kW
COP Tj = +7°C	6.4	4.44
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.2 kW	3.1 kW
COP Tj = 12°C	7.19	5.61
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	9.8 kW	9.6 kW
COP Tj = Tbiv	2.89	2.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.6 kW	10.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.96
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	2.4 kW	0.9 kW
Annual energy consumption Q _{he}	4967 kWh	6985 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	162 %	119 %
Prated	10 kW	11 kW
SCOP	4.13	3.05
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	6.5 kW	6.8 kW
COP T _j = -7°C	3.32	2.6
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	3.9 kW	4.3 kW
COP T _j = +2°C	5.23	3.74
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.8 kW	2.6 kW
COP T _j = +7°C	5.7	4.38
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	3.2 kW	3.2 kW
COP T _j = 12°C	7.02	5.97
C _{dh} T _j = +12 °C	0.95	0.95
P _{dh} T _j = T _{biv}	8.5 kW	9.3 kW
COP T _j = T _{biv}	2.65	1.95
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	7.8 kW	4 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.83	1.08
WTOL	60 °C	60 °C
P _{off}	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.2 kW	7 kW
Annual energy consumption Q _{he}	6277 kWh	9207 kWh
P _{dh} T _j = -15°C (if TOL	8.5	9.3
COP T _j = -15°C (if TOL	2.65	1.95

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	262 %	169 %
Prated	12 kW	13 kW
SCOP	6.63	4.3
T _{biv}	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	12.3 kW	13.1 kW
COP Tj = +2°C	3.49	2.54
Cdh Tj = +2 °C	0.99	1
Pdh Tj = +7°C	7.5 kW	8 kW
COP Tj = +7°C	5.47	3.67
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.4 kW	3.6 kW
COP Tj = 12°C	9.06	5.52
Cdh Tj = +12 °C	0.93	0.96
Pdh Tj = Tbiv	12.3 kW	13.1 kW
COP Tj = Tbiv	3.49	2.54
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.3 kW	13.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.54
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2488 kWh	4057 kWh

Model GRS-CQ14PdG/NhH2-M

Model name	GRS-CQ14PdG/NhH2-M
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	112 %
COP	2.61
Heating up time	1:08 h:min
Standby power input	52.8 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	231 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	95 %
COP	2.23
Heating up time	1:20 h:min
Standby power input	58.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	230 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	116 %
COP	2.70
Heating up time	1:05 h:min
Standby power input	51.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	233 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	2.98 kW	4.67 kW
COP	4.7	3
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	175 %	132 %
Prated	12 kW	13 kW
SCOP	4.45	3.38
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.5 kW	11.6 kW
COP Tj = -7°C	2.64	1.96
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.5 kW	7.3 kW
COP Tj = +2°C	4.48	3.33
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	4.2 kW	4.2 kW
COP Tj = +7°C	5.75	4.48
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	3.2 kW	3.1 kW
COP Tj = 12°C	7.24	5.65
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	10.5 kW	11.6 kW
COP Tj = Tbiv	2.64	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.7 kW	11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	1.81
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	1.3 kW	2 kW
Annual energy consumption Q _{he}	5552 kWh	7958 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	119 %
Prated	12 kW	13 kW
SCOP	3.98	3.05
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	6.6 kW	8.6 kW
COP T _j = -7°C	3.29	2.63
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	4.5 kW	4.7 kW
COP T _j = +2°C	4.85	3.69
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.8 kW	3 kW
COP T _j = +7°C	5.83	4.58
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	3.2 kW	3.2 kW
COP T _j = 12°C	7.02	5.97
C _{dh} T _j = +12 °C	0.95	0.95
P _{dh} T _j = T _{biv}	10.1 kW	10.5 kW
COP T _j = T _{biv}	2.57	1.83
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	7.8 kW	4 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.75	1.08
WTOL	60 °C	60 °C
P _{off}	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	9 kW
Annual energy consumption Q _{he}	7442 kWh	10476 kWh
P _{dh} T _j = -15°C (if TOL	10.1	10.5
COP T _j = -15°C (if TOL	2.57	1.83

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	241 %	171 %
Prated	12 kW	14 kW
SCOP	6.1	4.35
T _{biv}	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	12 kW	13.7 kW
COP Tj = +2°C	3.25	2.29
Cdh Tj = +2 °C	0.99	1
Pdh Tj = +7°C	7.5 kW	8.9 kW
COP Tj = +7°C	5.35	3.61
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.7 kW	4.2 kW
COP Tj = 12°C	7.78	5.84
Cdh Tj = +12 °C	0.95	0.97
Pdh Tj = Tbiv	12 kW	13.7 kW
COP Tj = Tbiv	3.25	2.29
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12 kW	13.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.25	2.29
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2625 kWh	4287 kWh

Model GRS-CQ14PdG/NhH2-E

Model name	GRS-CQ14PdG/NhH2-E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	112 %
COP	2.61
Heating up time	1:08 h:min
Standby power input	52.8 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	231 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	95 %
COP	2.23
Heating up time	1:20 h:min
Standby power input	58.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	230 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	116 %
COP	2.70
Heating up time	1:05 h:min
Standby power input	51.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	233 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	2.98 kW	4.52 kW
COP	4.7	3.1
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	183 %	137 %
Prated	12 kW	13 kW
SCOP	4.65	3.5
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11 kW	12 kW
COP Tj = -7°C	2.79	2.23
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.2 kW	7.2 kW
COP Tj = +2°C	4.48	3.33
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	4.3 kW	4.5 kW
COP Tj = +7°C	6.54	4.72
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.2 kW	3.1 kW
COP Tj = 12°C	7.24	5.65
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	11 kW	12 kW
COP Tj = Tbiv	2.79	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.7 kW	11.8 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.74	2
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	1.3 kW	1.2 kW
Annual energy consumption Q _{he}	5535 kWh	8045 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	165 %	122 %
Prated	12 kW	13 kW
SCOP	4.2	3.13
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	6.6 kW	8.3 kW
COP T _j = -7°C	3.33	2.62
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	4.7 kW	5.1 kW
COP T _j = +2°C	5.49	3.84
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.8 kW	3 kW
COP T _j = +7°C	5.83	4.58
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	3.2 kW	3.2 kW
COP T _j = 12°C	7.02	5.97
C _{dh} T _j = +12 °C	0.95	0.95
P _{dh} T _j = T _{biv}	9.5 kW	11 kW
COP T _j = T _{biv}	2.64	2.05
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	7.8 kW	4 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.83	1.08
WTOL	60 °C	60 °C
P _{off}	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	9 kW
Annual energy consumption Q _{he}	6908 kWh	10672 kWh
P _{dh} T _j = -15°C (if TOL	9.5	11
COP T _j = -15°C (if TOL	2.64	2.05

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	260 %	180 %
Prated	12 kW	14 kW
SCOP	6.58	4.58
T _{biv}	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	12.3 kW	13.7 kW
COP Tj = +2°C	3.49	2.32
Cdh Tj = +2 °C	0.99	1
Pdh Tj = +7°C	7.5 kW	9 kW
COP Tj = +7°C	5.35	3.71
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.4 kW	4.1 kW
COP Tj = 12°C	9.06	6.34
Cdh Tj = +12 °C	0.93	0.96
Pdh Tj = Tbiv	12.3 kW	13.7 kW
COP Tj = Tbiv	3.49	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.3 kW	13.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.32
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2513 kWh	4017 kWh

Model GRS-CQ16PdG/NhH2-M

Model name	GRS-CQ16PdG/NhH2-M
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	112 %
COP	2.61
Heating up time	1:08 h:min
Standby power input	52.8 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	231 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	95 %
COP	2.23
Heating up time	1:20 h:min
Standby power input	58.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	230 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	116 %
COP	2.70
Heating up time	1:05 h:min
Standby power input	51.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	233 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	15.5 kW	16 kW
El input	3.44 kW	5.42 kW
COP	4.51	2.95
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	175 %	132 %
Prated	13 kW	13 kW
SCOP	4.45	3.38
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.1 kW	11.6 kW
COP Tj = -7°C	2.68	1.96
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.5 kW	7.3 kW
COP Tj = +2°C	4.35	3.33
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	4.2 kW	4.2 kW
COP Tj = +7°C	6.05	4.48
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.3 kW	3.1 kW
COP Tj = 12°C	7.34	5.65
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	11.1 kW	11.6 kW
COP Tj = Tbiv	2.68	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.7 kW	11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	1.81
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	2.3 kW	2 kW
Annual energy consumption Q _{he}	6027 kWh	7958 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	119 %
Prated	12 kW	13 kW
SCOP	3.98	3.05
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	6.6 kW	8.6 kW
COP T _j = -7°C	3.29	2.63
C _{dh} T _j = -7 °C	0.98	0.99
P _{dh} T _j = +2°C	4.5 kW	4.7 kW
COP T _j = +2°C	4.85	3.69
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.8 kW	3 kW
COP T _j = +7°C	5.83	4.58
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	3.3 kW	3.2 kW
COP T _j = 12°C	7.03	5.97
C _{dh} T _j = +12 °C	0.95	0.95
P _{dh} T _j = T _{biv}	10.1 kW	10.5 kW
COP T _j = T _{biv}	2.57	1.83
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	7.8 kW	4 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.75	1.08
WTOL	60 °C	60 °C
P _{off}	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	9 kW
Annual energy consumption Q _{he}	7442 kWh	10476 kWh
P _{dh} T _j = -15°C (if TOL	10.1	10.5
COP T _j = -15°C (if TOL	2.57	1.83

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	236 %	171 %
Prated	13 kW	14 kW
SCOP	5.98	4.35
T _{biv}	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	13 kW	13.7 kW
COP Tj = +2°C	3	2.29
Cdh Tj = +2 °C	0.99	1
Pdh Tj = +7°C	8.1 kW	9.3 kW
COP Tj = +7°C	5.14	3.59
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.7 kW	4.2 kW
COP Tj = 12°C	7.84	5.84
Cdh Tj = +12 °C	0.95	0.97
Pdh Tj = Tbiv	13 kW	13.7 kW
COP Tj = Tbiv	3	2.29
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13 kW	13.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3	2.29
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2903 kWh	4292 kWh

Model GRS-CQ16PdG/NhH2-E

Model name	GRS-CQ16PdG/NhH2-E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	112 %
COP	2.61
Heating up time	1:08 h:min
Standby power input	52.8 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	231 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	95 %
COP	2.23
Heating up time	1:20 h:min
Standby power input	58.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	230 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	116 %
COP	2.70
Heating up time	1:05 h:min
Standby power input	51.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	233 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	15.5 kW	16 kW
El input	3.44 kW	5.42 kW
COP	4.51	2.95
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	181 %	137 %
Prated	13 kW	13 kW
SCOP	4.6	3.5
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.6 kW	12 kW
COP Tj = -7°C	2.76	2.23
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.5 kW	7.2 kW
COP Tj = +2°C	4.4	3.33
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	4.5 kW	4.5 kW
COP Tj = +7°C	6.63	4.72
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.3 kW	3.1 kW
COP Tj = 12°C	7.34	5.65
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	11.6 kW	12 kW
COP Tj = Tbiv	2.76	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.7 kW	11.8 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.74	2
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	2.3 kW	1.2 kW
Annual energy consumption Q _{he}	5886 kWh	8045 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	165 %	122 %
Prated	12 kW	13 kW
SCOP	4.2	3.13
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	6.6 kW	8.3 kW
COP T _j = -7°C	3.33	2.62
C _{dh} T _j = -7 °C	0.99	0.99
P _{dh} T _j = +2°C	4.7 kW	5.1 kW
COP T _j = +2°C	5.49	3.84
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.8 kW	3 kW
COP T _j = +7°C	5.83	4.58
C _{dh} T _j = +7 °C	0.95	0.96
P _{dh} T _j = 12°C	3.2 kW	3.2 kW
COP T _j = 12°C	7.02	5.97
C _{dh} T _j = +12 °C	0.95	0.95
P _{dh} T _j = T _{biv}	9.5 kW	11 kW
COP T _j = T _{biv}	2.64	2.05
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	7.8 kW	4 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.83	1.08
WTOL	60 °C	60 °C
P _{off}	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.2 kW	9 kW
Annual energy consumption Q _{he}	6908 kWh	10672 kWh
P _{dh} T _j = -15°C (if TOL	9.5	11
COP T _j = -15°C (if TOL	2.64	2.05

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	266 %	178 %
Prated	13 kW	14 kW
SCOP	6.73	4.53
T _{biv}	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	13.1 kW	13.7 kW
COP Tj = +2°C	3.19	2.32
Cdh Tj = +2 °C	0.99	1
Pdh Tj = +7°C	8.4 kW	8.9 kW
COP Tj = +7°C	5.6	3.65
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.7 kW	4 kW
COP Tj = 12°C	9.24	6.3
Cdh Tj = +12 °C	0.94	0.96
Pdh Tj = Tbiv	13.1 kW	13.7 kW
COP Tj = Tbiv	3.19	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.1 kW	13.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.19	2.32
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	2610 kWh	4055 kWh