

## Subtype VERSATI AIO G2 8-10kW

|                     |                                          |
|---------------------|------------------------------------------|
| 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 8-10kW                    |
| Registration number | 041-K004-11                              |
| Heat Pump Type      | Outdoor Air/Water                        |
| Refrigerant         | R32                                      |
| Mass of Refrigerant | 1.1 kg                                   |
| Certification Date  | 18.01.2022                               |
| Testing basis       | Heat Pump Keymark Scheme Rules Rev 09    |

## Model GRS-CQ8.0PdG/NhH2-E

|                                     |                                                |
|-------------------------------------|------------------------------------------------|
| Model name                          | GRS-CQ8.0PdG/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 $\eta_{DHW}$         | 123 %      |
| COP                             | 2.92       |
| Heating up time                 | 1:47 h:min |
| Standby power input             | 36.1 W     |
| Reference hot water temperature | 53.1 °C    |
| Mixed water at 40°C             | 226 l      |

### EN 16147 | Colder Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 94 %       |
| COP                             | 2.25       |
| Heating up time                 | 1:58 h:min |
| Standby power input             | 38.2 W     |
| Reference hot water temperature | 53.0 °C    |
| Mixed water at 40°C             | 226 l      |

### EN 16147 | Warmer Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 143 %      |
| COP                             | 3.40       |
| Heating up time                 | 1:33 h:min |
| Standby power input             | 30.0 W     |
| Reference hot water temperature | 53.2 °C    |
| Mixed water at 40°C             | 226 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 | 8.00 kW         | 7.98 kW            |
| El input    | 1.61 kW         | 2.60 kW            |
| COP         | 4.97            | 3.06               |

#### EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 47 dB(A)        | 47 dB(A)           |
| Sound power level outdoor | 67 dB(A)        | 67 dB(A)           |

#### EN 14825 | Average Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 181 %           | 129 %              |
| Prated                                              | 7.00 kW         | 7.00 kW            |
| SCOP                                                | 4.60            | 3.30               |
| Tbiv                                                | -7 °C           | -7 °C              |
| TOL                                                 | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 6.20 kW         | 6.30 kW            |
| COP Tj = -7°C                                       | 2.94            | 2.24               |
| Cdh Tj = -7 °C                                      | 0.990           | 0.990              |
| Pdh Tj = +2°C                                       | 3.90 kW         | 4.10 kW            |
| COP Tj = +2°C                                       | 4.39            | 3.18               |
| Cdh Tj = +2 °C                                      | 0.970           | 0.980              |
| Pdh Tj = +7°C                                       | 3.00 kW         | 4.30 kW            |
| COP Tj = +7°C                                       | 6.29            | 4.26               |
| Cdh Tj = +7 °C                                      | 0.950           | 0.970              |
| Pdh Tj = 12°C                                       | 3.60 kW         | 5.00 kW            |
| COP Tj = 12°C                                       | 8.43            | 5.93               |
| Cdh Tj = +12 °C                                     | 0.940           | 0.970              |
| Pdh Tj = Tbiv                                       | 6.20 kW         | 6.30 kW            |
| COP Tj = Tbiv                                       | 2.94            | 2.24               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.90 kW         | 6.30 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.69            | 1.79               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| 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                 | 1.10 kW     | 0.70 kW     |
| Annual energy consumption Q <sub>he</sub>  | 3149 kWh    | 4371 kWh    |

#### EN 12102-1 | Colder Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 47 dB(A)        | 47 dB(A)           |
| Sound power level outdoor | 67 dB(A)        | 67 dB(A)           |

#### EN 14825 | Colder Climate

|                                                                                                                             | Low temperature | Medium temperature |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                                                                                                    | 146 %           | 112 %              |
| Prated                                                                                                                      | 7.00 kW         | 7.00 kW            |
| SCOP                                                                                                                        | 3.72            | 2.87               |
| T <sub>biv</sub>                                                                                                            | -15 °C          | -15 °C             |
| TOL                                                                                                                         | -22 °C          | -22 °C             |
| P <sub>dh</sub> T <sub>j</sub> = -7°C                                                                                       | 4.50 kW         | 4.60 kW            |
| COP T <sub>j</sub> = -7°C                                                                                                   | 3.26            | 2.64               |
| C <sub>dh</sub> T <sub>j</sub> = -7 °C                                                                                      | 0.980           | 0.990              |
| P <sub>dh</sub> T <sub>j</sub> = +2°C                                                                                       | 3.30 kW         | 3.30 kW            |
| COP T <sub>j</sub> = +2°C                                                                                                   | 4.26            | 3.24               |
| C <sub>dh</sub> T <sub>j</sub> = +2 °C                                                                                      | 0.970           | 0.980              |
| P <sub>dh</sub> T <sub>j</sub> = +7°C                                                                                       | 4.30 kW         | 4.20 kW            |
| COP T <sub>j</sub> = +7°C                                                                                                   | 6.04            | 4.76               |
| C <sub>dh</sub> T <sub>j</sub> = +7 °C                                                                                      | 0.960           | 0.970              |
| P <sub>dh</sub> T <sub>j</sub> = 12°C                                                                                       | 4.90 kW         | 4.70 kW            |
| COP T <sub>j</sub> = 12°C                                                                                                   | 7.26            | 5.86               |
| C <sub>dh</sub> T <sub>j</sub> = +12 °C                                                                                     | 0.960           | 0.970              |
| P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>                                                                           | 5.80 kW         | 5.90 kW            |
| COP T <sub>j</sub> = T <sub>biv</sub>                                                                                       | 2.63            | 1.77               |
| P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub> | 4.50 kW         | 2.90 kW            |
| COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>                         | 1.52            | 1.26               |
| C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub> |                 |                    |
| WTOL                                                                                                                        | 60 °C           | 60 °C              |
| P <sub>off</sub>                                                                                                            | 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                                                                                                  | 2.50 kW         | 4.10 kW            |
| Annual energy consumption Q <sub>he</sub>                                                                                   | 4628 kWh        | 5982 kWh           |
| P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL                                                                              | 5.80            | 5.90               |

|                        |       |       |
|------------------------|-------|-------|
| COP Tj = -15°C (if TOL | 2.63  | 1.77  |
| Cdh Tj = -15 °C        | 0.990 | 0.990 |

#### EN 12102-1 | Warmer Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 47 dB(A)        | 47 dB(A)           |
| Sound power level outdoor | 67 dB(A)        | 67 dB(A)           |

#### EN 14825 | Warmer Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 217 %           | 159 %              |
| Prated                                              | 8.00 kW         | 8.00 kW            |
| SCOP                                                | 5.50            | 4.05               |
| Tbiv                                                | 2 °C            | 2 °C               |
| TOL                                                 | 2 °C            | 2 °C               |
| Pdh Tj = +2°C                                       | 8.20 kW         | 8.10 kW            |
| COP Tj = +2°C                                       | 3.58            | 2.52               |
| Cdh Tj = +2 °C                                      | 0.990           | 0.990              |
| Pdh Tj = +7°C                                       | 5.40 kW         | 5.30 kW            |
| COP Tj = +7°C                                       | 4.84            | 3.38               |
| Cdh Tj = +7 °C                                      | 0.980           | 0.980              |
| Pdh Tj = 12°C                                       | 5.10 kW         | 5.20 kW            |
| COP Tj = 12°C                                       | 7.08            | 5.42               |
| Cdh Tj = +12 °C                                     | 0.960           | 0.970              |
| Pdh Tj = Tbiv                                       | 8.20 kW         | 8.10 kW            |
| COP Tj = Tbiv                                       | 3.58            | 2.52               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.20 kW         | 8.10 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.58            | 2.52               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| 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                          | 0.00 kW         | 0.00 kW            |
| Annual energy consumption Qhe                       | 1947 kWh        | 2645 kWh           |

## Model GRS-CQ10PdG/NhH2-E

|                                     |                                                |
|-------------------------------------|------------------------------------------------|
| Model name                          | GRS-CQ10PdG/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 $\eta_{DHW}$         | 123 %      |
| COP                             | 2.92       |
| Heating up time                 | 1:47 h:min |
| Standby power input             | 36.1 W     |
| Reference hot water temperature | 53.1 °C    |
| Mixed water at 40°C             | 226 l      |

### EN 16147 | Colder Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 94 %       |
| COP                             | 2.25       |
| Heating up time                 | 1:58 h:min |
| Standby power input             | 38.2 W     |
| Reference hot water temperature | 53.0 °C    |
| Mixed water at 40°C             | 226 l      |

### EN 16147 | Warmer Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 143 %      |
| COP                             | 3.40       |
| Heating up time                 | 1:33 h:min |
| Standby power input             | 30.0 W     |
| Reference hot water temperature | 53.2 °C    |
| Mixed water at 40°C             | 226 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 | 10.00 kW        | 9.47 kW            |
| El input    | 2.10 kW         | 3.12 kW            |
| COP         | 4.76            | 3.04               |

#### EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 47 dB(A)        | 47 dB(A)           |
| Sound power level outdoor | 68 dB(A)        | 68 dB(A)           |

#### EN 14825 | Average Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 181 %           | 127 %              |
| Prated                                              | 9.00 kW         | 8.00 kW            |
| SCOP                                                | 4.60            | 3.25               |
| Tbiv                                                | -7 °C           | -7 °C              |
| TOL                                                 | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 7.70 kW         | 6.90 kW            |
| COP Tj = -7°C                                       | 2.87            | 2.12               |
| Cdh Tj = -7 °C                                      | 0.990           | 0.990              |
| Pdh Tj = +2°C                                       | 4.80 kW         | 4.20 kW            |
| COP Tj = +2°C                                       | 4.34            | 3.09               |
| Cdh Tj = +2 °C                                      | 0.980           | 0.980              |
| Pdh Tj = +7°C                                       | 3.10 kW         | 4.30 kW            |
| COP Tj = +7°C                                       | 6.58            | 4.34               |
| Cdh Tj = +7 °C                                      | 0.950           | 0.970              |
| Pdh Tj = 12°C                                       | 3.70 kW         | 4.90 kW            |
| COP Tj = 12°C                                       | 8.37            | 5.91               |
| Cdh Tj = +12 °C                                     | 0.940           | 0.970              |
| Pdh Tj = Tbiv                                       | 7.70 kW         | 6.90 kW            |
| COP Tj = Tbiv                                       | 2.87            | 2.12               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.10 kW         | 6.80 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.59            | 1.75               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| 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                 | 1.90 kW     | 1.20 kW     |
| Annual energy consumption Q <sub>he</sub>  | 4038 kWh    | 5091 kWh    |

#### EN 12102-1 | Colder Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 47 dB(A)        | 47 dB(A)           |
| Sound power level outdoor | 68 dB(A)        | 68 dB(A)           |

#### EN 14825 | Colder Climate

|                                                                                                                             | Low temperature | Medium temperature |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                                                                                                    | 149 %           | 110 %              |
| Prated                                                                                                                      | 8.00 kW         | 8.00 kW            |
| SCOP                                                                                                                        | 3.80            | 2.82               |
| T <sub>biv</sub>                                                                                                            | -15 °C          | -15 °C             |
| TOL                                                                                                                         | -22 °C          | -22 °C             |
| P <sub>dh</sub> T <sub>j</sub> = -7°C                                                                                       | 5.20 kW         | 5.30 kW            |
| COP T <sub>j</sub> = -7°C                                                                                                   | 3.25            | 2.42               |
| C <sub>dh</sub> T <sub>j</sub> = -7 °C                                                                                      | 0.980           | 0.990              |
| P <sub>dh</sub> T <sub>j</sub> = +2°C                                                                                       | 3.20 kW         | 3.10 kW            |
| COP T <sub>j</sub> = +2°C                                                                                                   | 4.31            | 3.23               |
| C <sub>dh</sub> T <sub>j</sub> = +2 °C                                                                                      | 0.970           | 0.970              |
| P <sub>dh</sub> T <sub>j</sub> = +7°C                                                                                       | 4.30 kW         | 4.20 kW            |
| COP T <sub>j</sub> = +7°C                                                                                                   | 6.11            | 4.78               |
| C <sub>dh</sub> T <sub>j</sub> = +7 °C                                                                                      | 0.960           | 0.970              |
| P <sub>dh</sub> T <sub>j</sub> = 12°C                                                                                       | 4.90 kW         | 4.80 kW            |
| COP T <sub>j</sub> = 12°C                                                                                                   | 7.30            | 5.91               |
| C <sub>dh</sub> T <sub>j</sub> = +12 °C                                                                                     | 0.960           | 0.970              |
| P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>                                                                           | 6.40 kW         | 6.70 kW            |
| COP T <sub>j</sub> = T <sub>biv</sub>                                                                                       | 2.69            | 1.83               |
| P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub> | 5.60 kW         | 3.30 kW            |
| COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>                         | 1.67            | 1.22               |
| C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub> |                 |                    |
| WTOL                                                                                                                        | 60 °C           | 60 °C              |
| P <sub>off</sub>                                                                                                            | 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                                                                                                  | 2.40 kW         | 4.70 kW            |
| Annual energy consumption Q <sub>he</sub>                                                                                   | 5201 kWh        | 6985 kWh           |
| P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL                                                                              | 6.40            | 6.70               |

|                        |       |       |
|------------------------|-------|-------|
| COP Tj = -15°C (if TOL | 2.69  | 1.83  |
| Cdh Tj = -15 °C        | 0.990 | 0.990 |

#### EN 12102-1 | Warmer Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 47 dB(A)        | 47 dB(A)           |
| Sound power level outdoor | 68 dB(A)        | 68 dB(A)           |

#### EN 14825 | Warmer Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 217 %           | 161 %              |
| Prated                                              | 9.00 kW         | 9.00 kW            |
| SCOP                                                | 5.50            | 4.10               |
| Tbiv                                                | 2 °C            | 2 °C               |
| TOL                                                 | 2 °C            | 2 °C               |
| Pdh Tj = +2°C                                       | 8.80 kW         | 9.00 kW            |
| COP Tj = +2°C                                       | 3.15            | 2.48               |
| Cdh Tj = +2 °C                                      | 0.990           | 0.990              |
| Pdh Tj = +7°C                                       | 5.80 kW         | 5.90 kW            |
| COP Tj = +7°C                                       | 4.86            | 3.56               |
| Cdh Tj = +7 °C                                      | 0.980           | 0.980              |
| Pdh Tj = 12°C                                       | 5.10 kW         | 5.20 kW            |
| COP Tj = 12°C                                       | 7.18            | 5.30               |
| Cdh Tj = +12 °C                                     | 0.960           | 0.970              |
| Pdh Tj = Tbiv                                       | 8.80 kW         | 9.00 kW            |
| COP Tj = Tbiv                                       | 3.15            | 2.48               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.80 kW         | 9.00 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.15            | 2.48               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| 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                          | 0.00 kW         | 0.00 kW            |
| Annual energy consumption Qhe                       | 2183 kWh        | 2927 kWh           |