

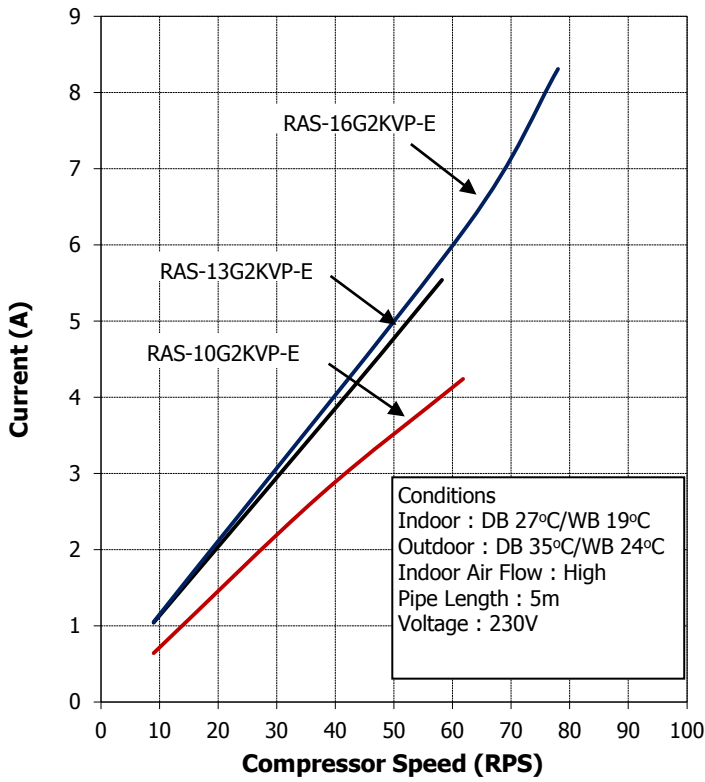
## 2. SPECIFICATIONS

### 2-1. Specifications

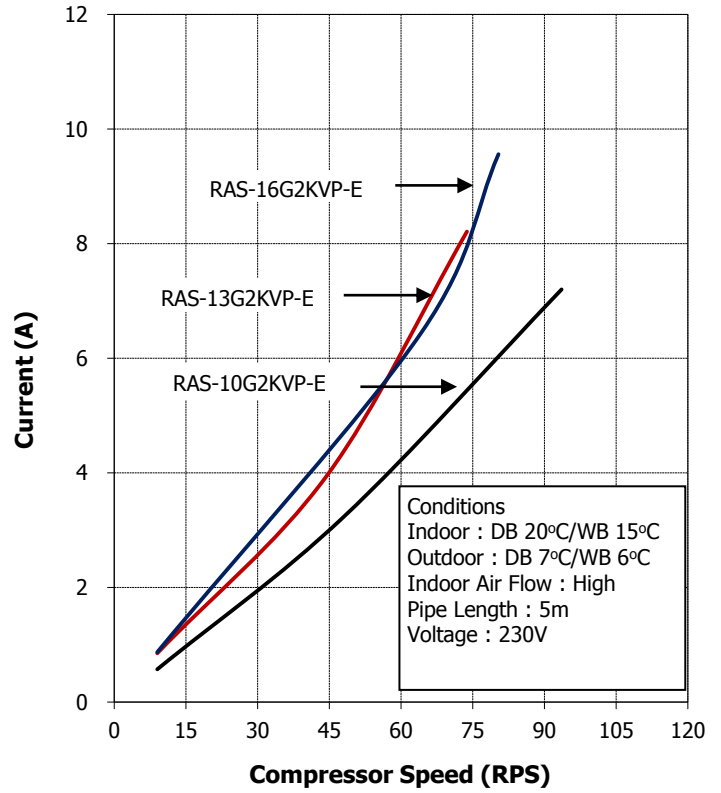
|                          |  |                                 |  |                      |                      |                |                |                |
|--------------------------|--|---------------------------------|--|----------------------|----------------------|----------------|----------------|----------------|
| Unit model               | Indoor                                   |                                 | <b>RAS-10G2KVP-E</b>   | <b>RAS-13G2KVP-E</b> | <b>RAS-16G2KVP-E</b> |                |                |                |
|                          | Outdoor                                  |                                 | <b>RAS-10G2AVP-E</b>   | <b>RAS-13G2AVP-E</b> | <b>RAS-16G2AVP-E</b> |                |                |                |
| Cooling capacity         | (kW)                                     |                                 | 2.50   | 3.50                 | 4.50                 |                |                |                |
| Cooling capacity range   | (kW)                                     |                                 | 0.55-3.50  | 0.63-4.10            | 0.63-5.00            |                |                |                |
| Heating capacity         | (kW)                                     |                                 | 3.20   | 4.00                 | 5.50                 |                |                |                |
| Heating capacity range   | (kW)                                     |                                 | 0.45-5.80  | 0.65-6.30            | 0.65-6.80            |                |                |                |
| Power supply             | 1 Ph, 220-240V, 50Hz & 1 Ph, 220V, 60Hz  |                                 |  |                      |                      |                |                |                |
| Electric characteristic  | Indoor                                   | Operation mode                  | <b>Cooling</b>   | <b>Heating</b>       | <b>Cooling</b>       | <b>Heating</b> | <b>Cooling</b> | <b>Heating</b> |
|                          |  | Running current (A)             | 0.24-0.22  | 0.28-0.26            | 0.24-0.22            | 0.28-0.26      | 0.24-0.22      | 0.28-0.26      |
|                          |  | Power consumption (W)           | 25   | 30                   | 25                   | 30             | 25             | 30             |
|                          |  | Power factor (%)                | 47   | 48                   | 47                   | 48             | 47             | 48             |
|                          | Outdoor                                  | Operation mode                  | <b>Cooling</b>   | <b>Heating</b>       | <b>Cooling</b>       | <b>Heating</b> | <b>Cooling</b> | <b>Heating</b> |
|                          |  | Running current (A)             | 2.58-2.36  | 3.10-2.84            | 4.03-3.70            | 3.84-3.52      | 6.24-5.72      | 6.41-5.87      |
|                          |  | Power consumption (W)           | 485  | 580                  | 820                  | 800            | 1300           | 1370           |
|                          |  | Power factor (%)                | 78   | 78                   | 87                   | 88             | 91             | 93             |
|                          |  | Starting current (A)            | 2.82-2.58  | 3.38-3.10            | 4.27-3.92            | 4.12-3.78      | 6.48-5.94      | 6.69-6.13      |
|                          |  | COP                             |  |                      | 5.15/5.52            | 4.27/5.00      | 3.46/4.01      |                |
| Operating noise          | Indoor                                   | High (Cooling/Heating) (dB-A)   | 42/43  | 43/44                | 44/45                |                |                |                |
|                          |  | Medium (Cooling/Heating) (dB-A) | 33/33  | 34/34                | 35/35                |                |                |                |
|                          |  | Low (Cooling/Heating) (dB-A)    | 24/24  | 25/25                | 26/26                |                |                |                |
|                          | Outdoor                                  | (Cooling/Heating) (dB-A)        | 46/47  | 48/49                | 49/50                |                |                |                |
| Indoor unit              | Unit model                               |                                 | <b>RAS-10G2KVP-E</b>   | <b>RAS-13G2KVP-E</b> | <b>RAS-16G2KVP-E</b> |                |                |                |
|                          | Dimension                                | Height (mm)                     | 293  | 293                  | 293                  |                |                |                |
|                          |  | Width (mm)                      | 831  | 831                  | 831                  |                |                |                |
|                          |  | Depth (mm)                      | 270  | 270                  | 270                  |                |                |                |
|                          | Net weight (kg)                          | 14                              | 14   | 14                   |                      |                |                |                |
|                          | Fan motor output (W)                     | 30                              | 30   | 30                   |                      |                |                |                |
|                          | Air flow rate (Cooling/Heating) (m3/min) | 10.8-11.3                       | 11.2-12.1  | 11.6-12.4            |                      |                |                |                |
| Outdoor unit             | Unit model                               |                                 | <b>RAS-10G2AVP-E</b>   | <b>RAS-13G2AVP-E</b> | <b>RAS-16G2AVP-E</b> |                |                |                |
|                          | Dimension                                | Height (mm)                     | 630  | 630                  | 630                  |                |                |                |
|                          |  | Width (mm)                      | 800  | 800                  | 800                  |                |                |                |
|                          |  | Depth (mm)                      | 300  | 300                  | 300                  |                |                |                |
|                          | Net weight (kg)                          | 42                              | 42   | 42                   |                      |                |                |                |
|                          | Compressor                               | Motor output (W)                | 750  | 750                  | 750                  |                |                |                |
|                          |  | Type                            | <b>Twin rotary type with DC-inverter variablespeed control</b> |                      |                      |                |                |                |
|                          |  | Model                           | DA111A1F-24F   | DA150A1T-21F         | DA150A1T-21F         |                |                |                |
|                          | Fan motor output (W)                     | 43                              | 43   | 43                   |                      |                |                |                |
|                          | Air flow rate (Cooling/Heating) (m3/min) | 31.2/31.2                       | 36.0/36.0  | 42.4/42.4            |                      |                |                |                |
| Piping connection        | Type                                     |                                 | Flare connection   | Flare connection     | Flare connection     |                |                |                |
|                          | Indoor unit                              | Liquid side (mm)                | ∅6.35  | ∅6.35                | ∅6.35                |                |                |                |
|                          |  | Gas side (mm)                   | ∅9.52  | ∅9.52                | ∅12.7                |                |                |                |
|                          | Outdoor unit                             | Liquid side (mm)                | ∅6.35  | ∅6.35                | ∅6.35                |                |                |                |
|                          |  | Gas side (mm)                   | ∅9.52  | ∅9.52                | ∅12.7                |                |                |                |
|                          | Maximum length (m)                       | 25                              | 25   | 25                   |                      |                |                |                |
|                          | Maximum chargeless length (m)            | 15                              | 15   | 15                   |                      |                |                |                |
|                          | Maximum height difference (m)            | 10                              | 10   | 10                   |                      |                |                |                |
| Refrigerant              | Name of refrigerant                      |                                 | R410A  | R410A                | R410A                |                |                |                |
|                          | Weight (kg)                              |                                 | 1.05   | 1.05                 | 1.05                 |                |                |                |
| Wiring connection        | Power supply                             |                                 | 3Wires:includes earth (Outdoor)                                |                      |                      |                |                |                |
|                          | Interconnection                          |                                 | 4Wires:includes earth  |                      |                      |                |                |                |
| Usable temperature range | Indoor (Cooling/Heating) (°C)            | 21-32/ 0-28                     | 21-32/ 0-28  | 21-32/ 0-28          |                      |                |                |                |
|                          | Outdoor (Cooling/Heating) (°C)           | -10-46/-15-24                   | -10-46/-15-24  | -10-46/-15-24        |                      |                |                |                |
| Accessory                | Indoor unit                              | Installation plate              | 1  | 1                    | 1                    |                |                |                |
|                          |  | Wireless remote controller      | 1  | 1                    | 1                    |                |                |                |
|                          |  | Batteries                       | 2  | 2                    | 2                    |                |                |                |
|                          |  | Remote controller holder        | 1  | 1                    | 1                    |                |                |                |
|                          |  | Toshiba IAQ-Filter              | 1  | 1                    | 1                    |                |                |                |
|                          |  | Mounting screw                  | 6(∅4x25L)  | 6(∅4x25L)            | 6(∅4x25L)            |                |                |                |
|                          |  | Remote controller holder        | 2(∅3.1x16L)  | 2(∅3.1x16L)          | 2(∅3.1x16L)          |                |                |                |
|                          |  | Pan head wood screw             |  |                      |                      |                |                |                |
|                          |  | Plasma ionizer purifier         | 1  | 1                    | 1                    |                |                |                |
|                          |  | Installation manual             | 1  | 1                    | 1                    |                |                |                |
|                          | Owner's manual                           | 1                               | 1  | 1                    |                      |                |                |                |
|                          | Outdoor unit                             | Drain nipple                    | 1  | 1                    | 1                    |                |                |                |
|                          |  | Water-proof rubber cap          | 2  | 2                    | 2                    |                |                |                |

## 2-2. Operation Characteristic Curve

<Cooling>

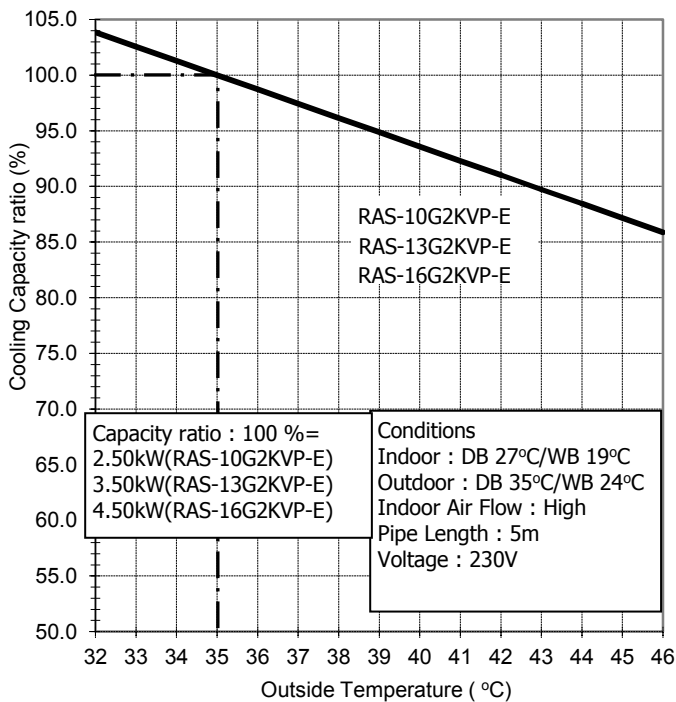


<Heating>



## 2-3. Capacity Variation ratio According to Temperature.

<Cooling>



<Heating>

