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|                     |  |          |             |
|---------------------|--|----------|-------------|
| Summary of          | 11. Yutaki S 10.0HP (tri)                      | Reg. No. | 041-K002-11 |
| Certificate Holder  |  |          |             |
| Name                | Johnson Controls-Hitachi AirConditioning Spain |          |             |
| Address             | Ronda Shimizu, 1. Pol. Ind. Can Torrella       | Zip      | 08233       |
| City                | Vacarisses, Barcelona                          | Country  | Spain       |
| Certification Body  | BRE Global Limited                             |          |             |
| Subtype title       | 11. Yutaki S 10.0HP (tri)                      |          |             |
| Heat Pump Type      | Outdoor Air/Water                              |          |             |
| Refrigerant         | R410A  |          |             |
| Mass of Refrigerant | 5 kg   |          |             |

# Model: RAS-10WHNPE RWM-10.0NE - Heating Only

| Configure model                     |                                       |
|-------------------------------------|---------------------------------------|
| Model name                          | RAS-10WHNPE RWM-10.0NE - Heating Only |
| Application                         | Heating (medium temp)                 |
| Units                               | Indoor + Outdoor                      |
| Climate Zone                        | n/a                                   |
| Reversibility                       | No                                    |
| Cooling mode application (optional) | n/a                                   |

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

## Heating

| EN 14511-4   |        |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow                                 | passed |
| Complete power supply failure  | passed |
| Defrost test   | passed |

| EN 14511-2  |                 |                    |
|-------------|-----------------|--------------------|
|             | Low temperature | Medium temperature |
| Heat output | 24.00 kW        | 24.00 kW           |
| El input    | 5.59 kW         | 9.06 kW            |
| COP         | 4.29            | 2.65               |

## Average Climate

| <b>EN 12102-1</b>         |                        |                           |
|---------------------------|------------------------|---------------------------|
|                           | <b>Low temperature</b> | <b>Medium temperature</b> |
| Sound power level indoor  | 47 dB(A)               | 47 dB(A)                  |
| Sound power level outdoor | 74 dB(A)               | 74 dB(A)                  |

| <b>EN 14825</b> |                        |                           |
|-----------------|------------------------|---------------------------|
|                 | <b>Low temperature</b> | <b>Medium temperature</b> |
| $\eta_s$        | 141 %                  | 116 %                     |
| Prated          | 20.00 kW               | 18.00 kW                  |
| SCOP            | 3.60                   | 2.98                      |
| Tbiv            | -7 °C                  | -7 °C                     |
| TOL             | -10 °C                 | -10 °C                    |
| Pdh Tj = -7°C   | 17.40 kW               | 15.60 kW                  |
| COP Tj = -7°C   | 2.30                   | 1.65                      |
| Pdh Tj = +2°C   | 10.77 kW               | 9.50 kW                   |
| COP Tj = +2°C   | 3.60                   | 3.10                      |
| Pdh Tj = +7°C   | 8.70 kW                | 8.30 kW                   |
| COP Tj = +7°C   | 5.10                   | 4.35                      |
| Pdh Tj = 12°C   | 8.70 kW                | 8.50 kW                   |
| COP Tj = 12°C   | 4.90                   | 4.60                      |

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|   |             |             |
|---|-------------|-------------|
| Pdh Tj = Tbiv                                       | 17.40 kW    | 15.60 kW    |
| COP Tj = Tbiv                                       | 2.10        | 1.65        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 18.00 kW    | 14.00 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.30        | 1.45        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90        | 0.90        |
| WTOL  | 55 °C       | 55 °C       |
| Poff  | 36 W        | 36 W        |
| PTO   | 0 W         | 0 W         |
| PSB   | 36 W        | 36 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 1.70 kW     | 3.60 kW     |
| Annual energy consumption Qhe                       | 11410 kWh   | 12210 kWh   |

# Model: RAS-10WHNPE RWM-10.0NE - with cooling kit

| Configure model                     |   |
|-------------------------------------|---|
| Model name                          | RAS-10WHNPE RWM-10.0NE - with cooling kit |
| Application                         | Heating (medium temp)                     |
| Units                               | Indoor + Outdoor                          |
| Climate Zone                        | n/a                                       |
| Reversibility                       | No  |
| Cooling mode application (optional) | n/a                                       |

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

## Heating

| EN 14511-4   |        |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow                                 | passed |
| Complete power supply failure  | passed |
| Defrost test   | passed |

| EN 14511-2  |                 |                    |
|-------------|-----------------|--------------------|
|             | Low temperature | Medium temperature |
| Heat output | 24.00 kW        | 24.00 kW           |
| El input    | 5.59 kW         | 9.06 kW            |
| COP         | 4.29            | 2.65               |

## Average Climate

| <b>EN 12102-1</b>         |                        |                           |
|---------------------------|------------------------|---------------------------|
|                           | <b>Low temperature</b> | <b>Medium temperature</b> |
| Sound power level indoor  | 47 dB(A)               | 47 dB(A)                  |
| Sound power level outdoor | 74 dB(A)               | 74 dB(A)                  |

| <b>EN 14825</b> |                        |                           |
|-----------------|------------------------|---------------------------|
|                 | <b>Low temperature</b> | <b>Medium temperature</b> |
| $\eta_s$        | 142 %                  | 118 %                     |
| Prated          | 20.00 kW               | 18.00 kW                  |
| SCOP            | 3.60                   | 2.98                      |
| Tbiv            | -7 °C                  | -7 °C                     |
| TOL             | -10 °C                 | -10 °C                    |
| Pdh Tj = -7°C   | 17.40 kW               | 15.60 kW                  |
| COP Tj = -7°C   | 2.30                   | 1.65                      |
| Pdh Tj = +2°C   | 10.77 kW               | 9.50 kW                   |
| COP Tj = +2°C   | 3.60                   | 3.10                      |
| Pdh Tj = +7°C   | 8.70 kW                | 8.30 kW                   |
| COP Tj = +7°C   | 5.10                   | 4.35                      |
| Pdh Tj = 12°C   | 8.70 kW                | 8.50 kW                   |
| COP Tj = 12°C   | 4.90                   | 4.60                      |

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|   |             |             |
|---|-------------|-------------|
| Pdh Tj = Tbiv                                       | 17.40 kW    | 15.60 kW    |
| COP Tj = Tbiv                                       | 2.10        | 1.65        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 18.00 kW    | 14.00 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.30        | 1.45        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90        | 0.90        |
| WTOL  | 55 °C       | 55 °C       |
| Poff  | 36 W        | 36 W        |
| PTO   | 0 W         | 0 W         |
| PSB   | 36 W        | 36 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 1.70 kW     | 3.60 kW     |
| Annual energy consumption Qhe                       | 11278 kWh   | 12078 kWh   |