

1. Outdoor Unit

1-1. Specifications

Unit specifications (1)

| Outdoor Unit | | MODEL | Space saving combination | | | Space saving combination | | | Space saving combination | | |
|--|---------------------------------------|-------------------------|--|--------------|--------------|--|--------------|--------------|--|--------------|--------------|
| | | | U-8ME2E8 | | | U-10ME2E8 | | | U-12ME2E8 | | |
| Performance test condition | | | EN14511 | | | EN14511 | | | EN14511 | | |
| Power supply | | ø,Hz | 3ø 50Hz | | | 3ø 50Hz | | | 3ø 50Hz | | |
| | | V | 380 | 400 | 415 | 380 | 400 | 415 | 380 | 400 | 415 |
| C O O L I N G | Capacity | kW | 22.4 | 22.4 | 22.4 | 28.0 | 28.0 | 28.0 | 33.5 | 33.5 | 33.5 |
| | | BTU/h | 76500 | 76500 | 76500 | 95600 | 95600 | 95600 | 114300 | 114300 | 114300 |
| | Current | A | 7.79 | 7.40 | 7.14 | 10.7 | 10.2 | 9.80 | 13.7 | 13.0 | 12.5 |
| | Input power | W | 4.77k | 4.77k | 4.77k | 6.41k | 6.41k | 6.41k | 8.47k | 8.47k | 8.47k |
| | EER | (W/W) | 4.70 | 4.70 | 4.70 | 4.37 | 4.37 | 4.37 | 3.96 | 3.96 | 3.96 |
| | Power factor | % | 93 | 93 | 93 | 91 | 91 | 91 | 94 | 94 | 94 |
| Noise outdoor | | dB-A (Normal) | 54.0 | | | 56.0 | | | 59.0 | | |
| | | Power Level dB (Normal) | 75.0 | | | 77.0 | | | 80.0 | | |
| | | dB-A (Silent) | 51.0 | | | 53.0 | | | 56.0 | | |
| H E A T I N G | Capacity | kW | 25.0 | 25.0 | 25.0 | 31.5 | 31.5 | 31.5 | 37.5 | 37.5 | 37.5 |
| | | BTU/h | 85300 | 85300 | 85300 | 107500 | 107500 | 107500 | 128000 | 128000 | 128000 |
| | Current | A | 7.96 | 7.56 | 7.29 | 11.10 | 10.5 | 10.1 | 12.9 | 12.3 | 11.8 |
| | Input power | W | 4.87k | 4.87k | 4.87k | 6.62k | 6.62k | 6.62k | 7.92k | 7.92k | 7.92k |
| | COP | (W / W) | 5.13 | 5.13 | 5.13 | 4.76 | 4.76 | 4.76 | 4.73 | 4.73 | 4.73 |
| | Power factor | % | 93 | 93 | 93 | 91 | 91 | 91 | 93 | 93 | 93 |
| Max Current (A) / Max Input power (W) | | | 10.2 / 6.24k | 10.2 / 6.57k | 10.2 / 6.82k | 14.5 / 8.68k | 14.5 / 9.14k | 14.5 / 9.48k | 18.2 / 11.3k | 18.2 / 11.9k | 18.2 / 12.3k |
| Starting current (A) | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Time Delay fuse max size (A) | | | 20 | | | 25 | | | 30 | | |
| Fan motor output | W / Pole number | | 750 / 8 | | | 750 / 8 | | | 750 / 8 | | |
| External static pressure | Pa | | 0 ~ 80 | | | 0 ~ 80 | | | 0 ~ 80 | | |
| Air flow | m ³ /min | | 224 | | | 224 | | | 232 | | |
| Refrigerant type / amount g | | | R410A / 5.6k | | | R410A / 5.6k | | | R410A / 8.3k | | |
| Product dimension | Height | mm | 1842 | | | 1842 | | | 1842 | | |
| | Width | mm | 770 | | | 770 | | | 1180 | | |
| | Depth | mm | 1000 | | | 1000 | | | 1000 | | |
| Packing dimension | Height | mm | 1977 | | | 1977 | | | 1977 | | |
| | Width | mm | 870 | | | 870 | | | 1280 | | |
| | Depth | mm | 1100 | | | 1100 | | | 1100 | | |
| Weight | (NET) kg | | 210 | | | 210 | | | 270 | | |
| | (GROSS) kg | | 225 | | | 225 | | | 285 | | |
| Layers limit | | | 1 | | | 1 | | | 1 | | |
| Operation condition | Cool (DBT) | | -10°C ~ 52°C | | | -10°C ~ 52°C | | | -10°C ~ 52°C | | |
| | Heat (WBT) | | -25°C ~ 18°C | | | -25°C ~ 18°C | | | -25°C ~ 18°C | | |
| MAX. WORKING PRESSURE | High side bar (MPa) | | 38.0 (3.80) | | | 38.0 (3.80) | | | 38.0 (3.80) | | |
| | Low side bar (MPa) | | 31.1 (3.11) | | | 31.1 (3.11) | | | 31.1 (3.11) | | |
| P I P I N G | Pipe diameter mm (inch) | | (Liquid) 9.52(3/8) | | | (Liquid) 9.52(3/8) | | | (Liquid) 12.7(1/2) | | |
| | (Under 90m for ultimate Indoor unit.) | | (Gas) 19.05(3/4) | | | (Gas) 22.22(7/8) | | | (Gas) 25.4(1) | | |
| | Pipe diameter mm (inch) *1 | | (Liquid) 12.7(1/2) | | | (Liquid) 12.7(1/2) | | | (Liquid) 15.88(5/8) | | |
| | (Over 90m for ultimate Indoor unit.) | | (Gas) 22.22(7/8) | | | (Gas) 25.4(1) | | | (Gas) 28.58(1-1/8) | | |
| | Balance pipe mm (inch) | | 6.35(1/4) | | | 6.35(1/4) | | | 6.35(1/4) | | |
| | Connecting method | | flared(Liquid) , brazing(Gas) flared(Balance) | | | flared(Liquid) , brazing(Gas) flared(Balance) | | | flared(Liquid) , brazing(Gas) flared(Balance) | | |
| | Max tubing length m | | 7.5 | ~ | 200 | 7.5 | ~ | 200 | 7.5 | ~ | 200 |
| Total Max tubing length m | | 7.5 | ~ | 1000 | 7.5 | ~ | 1000 | 7.5 | ~ | 1000 | |
| Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m | | 50 / 40 | | | 50 / 40 | | | 50 / 40 | | | |
| Max connectable indoor units pcs. | | 13 | | | 16 | | | 19 | | | |
| Max allowable indoor/outdoor capacity ratio % | | 50 ~ 130 *2 | | | 50 ~ 130 *2 | | | 50 ~ 130 *2 | | | |

*1: If the longest tubing equivalent length exceeds 90m, increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes.

*2: If the following conditions are satisfied, the effective range is above 130 % and below 200 %.

- i) Obey the limited number of connectable indoor units.
- ii) The lower limit of operating range for heating outdoor temperature is limited to -10°CWB (standard -25°CWB).
- iii) Simultaneous operation is limited to less than 130 % of connectable indoor units.

The number of max connectable outdoor units are 4.

Necessary amount of additional refrigerant charge per outdoor unit, for 8HP or 10HP is 5.5kg, for 12HP or 14HP or 16HP or 18HP or 20HP is 7.0kg.

Max total refrigerant amount of 1 outdoor unit is 50kg, for 2 outdoor units is 80kg, for 3 or 4 outdoor units is 100kg.

1. Outdoor Unit

1-1. Specifications

Unit specifications (2)

| Outdoor Unit | | MODEL | Space saving combination | | | Space saving combination | | |
|--|---------------------------------------|-------------------------------|--------------------------|--------------|-------------------------------|--------------------------|--------------|--------------|
| Outdoor Unit | | MODEL | U-14ME2E8 | | | U-16ME2E8 | | |
| Performance test condition | | EN14511 | | | | | | |
| Power supply | | ø,Hz | 3ø 50Hz | | | 3ø 50Hz | | |
| | | V | 380 | 400 | 415 | 380 | 400 | 415 |
| C O O L I N G | Capacity | kW | 40.0 | 40.0 | 40.0 | 45.0 | 45.0 | 45.0 |
| | | BTU/h | 136500 | 136500 | 136500 | 153600 | 153600 | 153600 |
| | Current | A | 17.4 | 16.5 | 15.9 | 21.1 | 20.1 | 19.4 |
| | Input power | W | 10.3k | 10.3k | 10.3k | 12.8k | 12.8k | 12.8k |
| | EER | (W/W) | 3.88 | 3.88 | 3.88 | 3.52 | 3.52 | 3.52 |
| | Power factor | % | 90 | 90 | 90 | 92 | 92 | 92 |
| N O I S E | Noise outdoor | dB-A (Normal) | 60.0 | | | 61.0 | | |
| | | Power Level dB (Normal) | 81.0 | | | 82.0 | | |
| | | dB-A (Silent) | 57.0 | | | 58.0 | | |
| H E A T I N G | Capacity | kW | 45.0 | 45.0 | 45.0 | 50.0 | 50.0 | 50.0 |
| | | BTU/h | 153600 | 153600 | 153600 | 170600 | 170600 | 170600 |
| | Current | A | 16.6 | 15.8 | 15.2 | 18.9 | 17.9 | 17.3 |
| | Input power | W | 9.86k | 9.86k | 9.86k | 11.3k | 11.3k | 11.3k |
| | COP | (W / W) | 4.56 | 4.56 | 4.56 | 4.42 | 4.42 | 4.42 |
| | Power factor | % | 90 | 90 | 90 | 91 | 91 | 91 |
| Max Current (A) / Max Input power (W) | | | 23.4 / 13.9k | 23.4 / 14.6k | 23.4 / 15.1k | 28.5 / 17.3k | 28.5 / 18.2k | 28.5 / 18.8k |
| Starting current (A) | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Time Delay fuse max size (A) | | | 35 | | | 40 | | |
| Fan motor output | W / Pole number | | 750 / 8 | | | 750 / 8 | | |
| External static pressure | | Pa | 0 ~ 80 | | | 0 ~ 80 | | |
| Air flow | | m ³ /min | 232 | | | 232 | | |
| Refrigerant type / amount g | | | R410A / 8.3k | | | R410A / 8.3k | | |
| P R O D U C T | dimension | Height mm | 1842 | | | 1842 | | |
| | | Width mm | 1180 | | | 1180 | | |
| | | Depth mm | 1000 | | | 1000 | | |
| P A C K I N G | dimension | Height mm | 1977 | | | 1977 | | |
| | | Width mm | 1280 | | | 1280 | | |
| | | Depth mm | 1100 | | | 1100 | | |
| W E I G H T | (NET) kg | 315 | | | 315 | | | |
| | (GROSS) kg | 330 | | | 330 | | | |
| Layers limit | | | 1 | | | 1 | | |
| O P E R A T I O N | condition | Cool (DBT) | -10°C ~ 52°C | | | -10°C ~ 52°C | | |
| | | Heat (WBST) | -25°C ~ 18°C | | | -25°C ~ 18°C | | |
| M A X. W O R K I N G P R E S S U R E | High side bar (MPa) | 38.0 (3.80) | | | 38.0 (3.80) | | | |
| | Low side bar (MPa) | 31.1 (3.11) | | | 31.1 (3.11) | | | |
| P I P I N G | Pipe diameter mm (inch) | (Liquid) 12.7(1/2) | | | (Liquid) 12.7(1/2) | | | |
| | (Under 90m for ultimate Indoor unit.) | (Gas) 25.4(1) | | | (Gas) 28.58(1-1/8) | | | |
| | Pipe diameter mm (inch) *1 | (Liquid) 15.88(5/8) | | | (Liquid) 15.88(5/8) | | | |
| | (Over 90m for ultimate Indoor unit.) | (Gas) 28.58(1-1/8) | | | (Gas) 31.75(1-1/4) | | | |
| | Balance pipe mm (inch) | 6.35(1/4) | | | 6.35(1/4) | | | |
| | Connecting method | flared(Liquid) , brazing(Gas) | | | flared(Liquid) , brazing(Gas) | | | |
| | | flared(Balance) | | | flared(Balance) | | | |
| | Max tubing length m | 7.5 | ~ | 200 | 7.5 | ~ | 200 | |
| Total Max tubing length m | 7.5 | ~ | 1000 | 7.5 | ~ | 1000 | | |
| Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m | | 50 / 40 | | | 50 / 40 | | | |
| Max connectable indoor units pcs. | | 23 | | | 26 | | | |
| Max allowable indoor/outdoor capacity ratio % | | 50 ~ 130 *2 | | | 50 ~ 130 *2 | | | |

*1: If the longest tubing equivalent length exceeds 90m, increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes.

*2: If the following conditions are satisfied, the effective range is above 130 % and below 200 %.

- i) Obey the limited number of connectable indoor units.
- ii) The lower limit of operating range for heating outdoor temperature is limited to -10°CWB (standard -25°CWB).
- iii) Simultaneous operation is limited to less than 130 % of connectable indoor units.

The number of max connectable outdoor units are 4.

Necessary amount of additional refrigerant charge per outdoor unit, for 8HP or 10HP is 5.5kg, for 12HP or 14HP or 16HP or 18HP or 20HP is 7.0kg.

Max total refrigerant amount of 1 outdoor unit is 50kg, for 2 outdoor units is 80kg, for 3 or 4 outdoor units is 100kg.

1. Outdoor Unit

1-1. Specifications

Unit specifications (3)

| Outdoor Unit | | MODEL | Space saving combination | | | Space saving combination | | |
|---|--|--|--------------------------|--------------|--|--------------------------|--------------|--------------|
| | | | U-18ME2E8 | | | U-20ME2E8 | | |
| Performance test condition | | EN14511 | | | | | | |
| Power supply | | ø,Hz | 3ø 50Hz | | | 3ø 50Hz | | |
| | | V | 380 | 400 | 415 | 380 | 400 | 415 |
| C O O L I N G | Capacity | kW | 50.0 | 50.0 | 50.0 | 56.0 | 56.0 | 56.0 |
| | | BTU/h | 170600 | 170600 | 170600 | 191100 | 191100 | 191100 |
| | Current | A | 23.2 | 22.0 | 21.2 | 26.7 | 25.4 | 24.5 |
| | Input power | W | 14.2k | 14.2k | 14.2k | 16.7k | 16.7k | 16.7k |
| | EER | (W/W) | 3.52 | 3.52 | 3.52 | 3.35 | 3.35 | 3.35 |
| | Power factor | % | 93 | 93 | 93 | 95 | 95 | 95 |
| N O I S E | Noise outdoor | dB-A (Normal) | 59.0 | | | 60.0 | | |
| | | Power Level dB (Normal) | 80.0 | | | 81.0 | | |
| | | dB-A (Silent) | 56.0 | | | 57.0 | | |
| H E A T I N G | Capacity | kW | 56.0 | 56.0 | 56.0 | 63.0 | 63.0 | 63.0 |
| | | BTU/h | 191100 | 191100 | 191100 | 215000 | 215000 | 215000 |
| | Current | A | 21.1 | 20.1 | 19.4 | 25.9 | 24.6 | 23.7 |
| | Input power | W | 12.8k | 12.8k | 12.8k | 16.0k | 16.0k | 16.0k |
| | COP | (W / W) | 4.38 | 4.38 | 4.38 | 3.94 | 3.94 | 3.94 |
| | Power factor | % | 92 | 92 | 92 | 94 | 94 | 94 |
| Max Current (A) / Max Input power (W) | | | 31.5 / 19.3k | 31.5 / 20.3k | 31.5 / 21.1k | 36.4 / 22.8k | 36.4 / 24.0k | 36.4 / 24.9k |
| Starting current (A) | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Time Delay fuse max size (A) | | | 50 | | | 60 | | |
| Fan motor output | | W / Pole number | 750×2 / 8 | | | 750×2 / 8 | | |
| External static pressure | | Pa | 0 ~ 80 | | | 0 ~ 80 | | |
| Air flow | | m ³ /min | 405 | | | 405 | | |
| Refrigerant type / amount g | | | R410A / 9.5k | | | R410A / 9.5k | | |
| P R O D U C T | dimension | Height mm | 1842 | | | 1842 | | |
| | | Width mm | 1540 | | | 1540 | | |
| | | Depth mm | 1000 | | | 1000 | | |
| P A C K I N G | dimension | Height mm | 1977 | | | 1977 | | |
| | | Width mm | 1640 | | | 1640 | | |
| | | Depth mm | 1100 | | | 1100 | | |
| W E I G H T | (NET) kg | 375 | | | 375 | | | |
| | (GROSS) kg | 395 | | | 395 | | | |
| Layers limit | | | 1 | | | 1 | | |
| O P E R A T I O N | condition (Outdoor) | Cool (DBT) | -10°C ~ 52°C | | | -10°C ~ 52°C | | |
| | | Heat (WBT) | -25°C ~ 18°C | | | -25°C ~ 18°C | | |
| M A X. W O R K I N G P R E S S U R E | High side bar (MPa) | 38.0 (3.80) | | | 38.0 (3.80) | | | |
| | Low side bar (MPa) | 31.1 (3.11) | | | 31.1 (3.11) | | | |
| P I P I N G | Pipe diameter mm (inch) (Under 90m for ultimate Indoor unit.) | (Liquid) 15.88(5/8) (Gas) 28.58(1-1/8) | | | (Liquid) 15.88(5/8) (Gas) 28.58(1-1/8) | | | |
| | Pipe diameter mm (inch) *1 (Over 90m for ultimate Indoor unit.) | (Liquid) 19.05(3/4) (Gas) 31.75(1-1/4) | | | (Liquid) 19.05(3/4) (Gas) 31.75(1-1/4) | | | |
| | Balance pipe mm (inch) | 6.35(1/4) | | | 6.35(1/4) | | | |
| | Connecting method | flared(Liquid) , brazing(Gas) flared(Balance) | | | flared(Liquid) , brazing(Gas) flared(Balance) | | | |
| | Max tubing length m | 7.5 | ~ | 200 | 7.5 | ~ | 200 | |
| | Total Max tubing length m | 7.5 | ~ | 1000 | 7.5 | ~ | 1000 | |
| Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m | | 50 / 40 | | | 50 / 40 | | | |
| Max connectable indoor units pcs. | | 29 | | | 33 | | | |
| Max allowable indoor/outdoor capacity ratio % | | 50 ~ 130 *2 | | | 50 ~ 130 *2 | | | |

*1: If the longest tubing equivalent length exceeds 90m, increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes.

*2: If the following conditions are satisfied, the effective range is above 130 % and below 200 %.

- i) Obey the limited number of connectable indoor units.
- ii) The lower limit of operating range for heating outdoor temperature is limited to -10°CWB (standard -25°CWB).
- iii) Simultaneous operation is limited to less than 130 % of connectable indoor units.

The number of max connectable outdoor units are 4.

Necessary amount of additional refrigerant charge per outdoor unit, for 8HP or 10HP is 5.5kg, for 12HP or 14HP or 16HP or 18HP or 20HP is 7.0kg.

Max total refrigerant amount of 1 outdoor unit is 50kg, for 2 outdoor units is 80kg, for 3 or 4 outdoor units is 100kg.