

# 38UQZ-40ALZ

## SPLIT SYSTEM AIR-TO-AIR HEAT PUMPS



### Physical data

| Indoor unit 40ALZ              |  | 007                                     | 008   | 011   | 014   | 016     | 020     | 024      |
|--------------------------------|--|---|-------|-------|-------|---------|---------|----------|
| Cooling capacity*              |  | 18.70                                   | 20.90 | 26.75 | 33.19 | 43.30   | 53.50   | 67.00    |
| Heating capacity**             |  | 20.8                                    | 23.35 | 30.04 | 40.04 | 45.5    | 57.5    | 78.4     |
| Refrigerant charge (R-407C)*** |  | 6.1                                     | 7.0   | 8.1   | 10.1  | 7.8 x 2 | 8.4 x 2 | 12.8 x 2 |
| Outdoor unit 38UQZ             |  | 007                                     | 008   | 011   | 014   | 016     | 020     | 024      |
| Weight                         |  | 146                                     | 175   | 246   | 355   | 480     | 555     | 590      |
| Compressor                     |  | Hermetic                                |       |       |       |         |         |          |
| Quantity                       |  | 1                                       | 1     | 1     | 1     | 2       | 2       | 2        |
| Outdoor heat exchanger         |  | Copper tubes, pre-coated aluminium fins |       |       |       |         |         |          |
| Fan                            |  | Propeller                               |       |       |       |         |         |          |
| Quantity                       |  | 2                                       | 2     | 1     | 2     | 1       | 2       | 2        |
| Nominal air flow               |  | 1805                                    | 1639  | 2500  | 4445  | 5850    | 11200   | 10700    |
| Indoor unit 40ALZ              |  | 007                                     | 008   | 011   | 014   | 016     | 020     | 024      |
| Weight                         |  | 140                                     | 146   | 160   | 236   | 290     | 305     | 325      |
| Refrigerant-air heat exchanger |  | Copper tubes, pre-coated aluminium fins |       |       |       |         |         |          |
| Fan                            |  | Two, double-inlet centrifugal           |       |       |       |         |         |          |
| Nominal air flow               |  | 1416                                    | 1583  | 1777  | 2694  | 2820    | 3120    | 3370     |

\* Based on an outdoor air temperature of 35°C db and an indoor air entering temperature of 19°C wb and 27°C db.

\*\* Based on an outdoor air temperature of 6°C wb and an indoor air entering temperature of 21°C db.

\*\*\* The refrigerant charge is for the complete system (38UQZ and 40ALZ), but excludes the refrigerant connection lines.

### Electrical data (3 phase, 50 Hz)

| 38UQZ-40ALZ           | 007 |       | 008  |       | 011   |       | 014   |       | 016   |       | 020   |       | 024   |        |       |
|-----------------------|-----|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| Nominal supply ± 10%  | V   | 230   | 400  | 230   | 400   | 230   | 400   | 230   | 400   | 230   | 400   | 230   | 400   | 230    | 400   |
| Nominal power input   | kW  |       |      |       |       |       |       |       |       |       |       |       |       |        |       |
| Cooling*              |     | 9.15  | 9.15 | 9.77  | 9.77  | 12.87 | 12.87 | 16.55 | 16.55 | 19.77 | 19.77 | 27.50 | 27.50 | 33.90  | 33.90 |
| Heating**             |     | 7.05  | 7.05 | 8.09  | 8.09  | 10.77 | 10.77 | 15.63 | 15.63 | 17.07 | 17.07 | 24.50 | 24.50 | 32.00  | 32.00 |
| Nominal current drawn | A   |       |      |       |       |       |       |       |       |       |       |       |       |        |       |
| Cooling*              |     | 24.0  | 15.2 | 25.6  | 17.0  | 33.7  | 22.0  | 43.4  | 29.5  | 57.95 | 33.50 | 77.19 | 44.62 | 95.36  | 55.12 |
| Heating**             |     | 18.5  | 13.2 | 21.2  | 15.5  | 28.3  | 19.2  | 17.0  | 28.5  | 52.47 | 30.33 | 68.42 | 39.55 | 91.17  | 52.70 |
| Starting current      | A   | 165.0 | 89.0 | 157.0 | 99.0  | 222.0 | 146.0 | 270.0 | 171.0 | 205.2 | 118.6 | 288.6 | 166.8 | 358.3  | 207.1 |
| Maximum power input   | kW  |       |      |       |       |       |       |       |       |       |       |       |       |        |       |
| Cooling***            |     | 9.85  | 9.85 | 10.87 | 10.87 | 13.97 | 13.97 | 18.83 | 18.83 | 22.92 | 22.92 | 30.10 | 30.10 | 37.97  | 37.97 |
| Heating+              |     | 8.65  | 8.63 | 9.89  | 9.89  | 12.95 | 12.95 | 18.50 | 18.50 | 21.06 | 21.06 | 29.60 | 29.60 | 40.27  | 40.27 |
| Maximum current drawn | A   |       |      |       |       |       |       |       |       |       |       |       |       |        |       |
| Cooling***            |     | 25.8  | 17.0 | 28.5  | 18.5  | 36.7  | 23.3  | 49.4  | 32.9  | 65.60 | 37.92 | 83.39 | 48.20 | 105.36 | 60.90 |
| Heating+              |     | 22.7  | 15.4 | 26.9  | 13.5  | 34.0  | 21.75 | 48.5  | 32.0  | 60.55 | 35.00 | 81.62 | 47.18 | 110.93 | 64.12 |

\* Based on an outdoor air temperature of 35°C db and an indoor air entering temperature of 19°C wb and 27°C db.

\*\* Based on an outdoor air temperature of 6°C wb and an indoor air entering temperature of 21°C db.

\*\*\* Based on an outdoor air temperature of 40°C for sizes 007 and 011, 44°C for sizes 008 and 014 and 46°C for sizes 016-024.

+ Based on an indoor air temperature of 24°C and an outdoor air temperature of 18°C.

Note: The power input of the optional electric resistance heaters (that can be installed in the unit) is not included.

### Operating limits

| Zone                                      | Air temperature °C          |          |                 |          |
|---|-----------------------------|----------|-----------------|----------|
|   | Dry bulb                    | Wet bulb | Dry bulb        | Wet bulb |
| Cooling                                   |                             |          |                 |          |
| Indoor                                    |                             |          |                 |          |
| Maximum                                   | +35                         | +21      | Outdoor +40/44* | -        |
| Minimum                                   | +19                         | +14      | +19***          | -        |
| Heating                                   |                             |          |                 |          |
| Indoor                                    |                             |          |                 |          |
| Maximum                                   | +27                         | -        | Outdoor +24     | +18      |
| Minimum                                   | -                           | -        | -10             | -        |
| Indoor air flow                           |                             |          |                 |          |
| Maximum/minimum                           | +20% /-20% of nominal value |          |                 |          |
| Hot water coil maximum water temperature: | 80°C                        |          |                 |          |

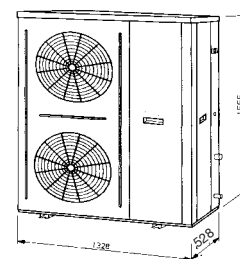
\* Sizes 007 and 011: 40°C; sizes 008 and 014: 44°C

\*\* With head pressure control, the unit will operate at temperatures below 19°C

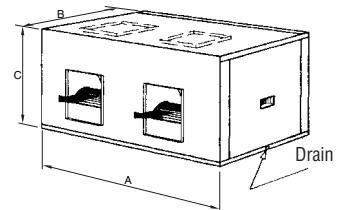
### Dimensions, mm

| 40ALZ         | A    | B    | C   |
|---------------|------|------|-----|
| 007, 008, 011 | 1348 | 807  | 662 |
| 014           | 1588 | 910  | 788 |
| 016           | 2125 | 1080 | 680 |
| 020, 024      | 2625 | 1080 | 680 |

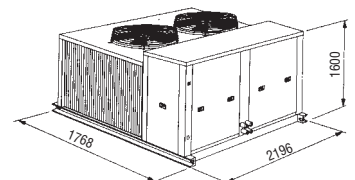
38UQZ 007, 008



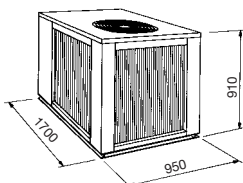
40ALZ



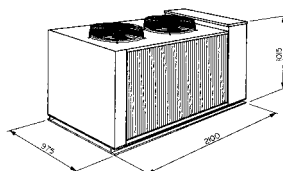
38UQZ 016-024



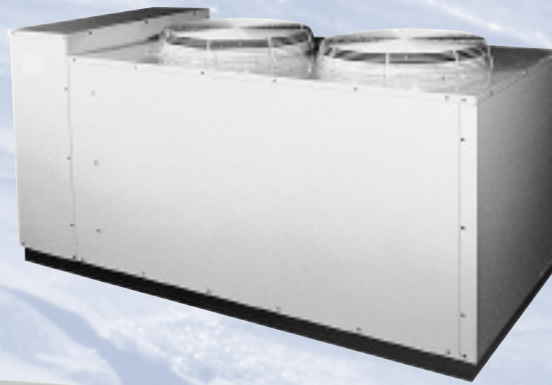
38UQZ 011



38UQZ 014



38UQZ 014



38UQZ 007 and 008



40ALZ

38UQZ-40ALZ SPLIT SYSTEM AIR-TO-AIR HEAT PUMPS

## FEATURES

- Seven sizes with nominal cooling capacities from 18.7 to 67.0 kW and nominal heating capacities from 20.8 to 78.4 kW
- Split-system heat pumps for cooling only and heat pump applications, consisting of remote air-cooled outdoor units 38UQZ and 40ALZ indoor units.
- Refrigerant lines (gas and liquid) and electrical cables connect the two units.
- Three-phase hermetic reciprocating compressors, operating on R-407C refrigerant, and including a crankcase heater.
- Refrigerant-to-air heat exchangers (evaporators and condensers), made of copper tubes and pre-treated water-resistant aluminium fins.
- All-copper refrigerant circuit. Indoor unit refrigerant control using thermostatic expansion valves, with bypass using non-return valves.
- 38UQZ units use throttle valves for the expansion in heat pump mode.
- High and low pressure switches and filter drier, outdoor fan control high pressure switch (38UQZ 014).
- Complete internal wiring. Thermal-magnetic disconnect switches for compressors and fan motors.
- The indoor units have centrifugal fans driven by three-phase motors with adjustable belt-pulley drives. The outdoor units have direct-drive propeller fans.
- Pre-painted galvanised sheet steel casings, thermal and acoustical insulation. Flexible shock absorbers.
- Unit connections to Carrier Comfort Zone II, VVT and TEMP systems (depending on the model).
- Defrost control, anti-liquid slugging tank, discharge line muffler and thermal protection.

## OPTIONS/ACCESSORIES

- Electric resistance heaters or hot-water coils for 40ALZ indoor units (option/accessory)
- Low refrigerant pressure switch for 38UQZ outdoor units (option)
- Outdoor air thermostat for connection to the supplementary heating coil for units (38UQZ/40ALZ 007, 008 - option/accessory)
- Head pressure control for cooling operation at outdoor air temperatures below +19°C (38UQZ - option/accessory)
- Special drives for higher indoor unit fan static pressure (40ALZ - option)
- Room thermostat, wired remote control - versions: 220 V for sizes 38UQZ/40ALZ 007 and 008 (accessory); 24 V for sizes 38UQZ/ALZ 011 and 014 (programmable, with remote sensor option for return air duct or room air, or non programmable - accessory)