



Quality Management System Approval

APPROVALS
ISO 9002
EN 29002
ANSI/ASQC Q92



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38TUA

Nominal cooling capacity 6.7-17.3 kW

The energy-efficient 38TUA air conditioner incorporates innovative technology to provide quiet, reliable summer cooling performance. Built into these units are the features most desired by homeowners today, including excellent COP ratings when used with Carrier designated components.

Features

- The Tech 2000 Silencer System features the InViroFlow design, energy-efficient fan and motor, and advanced sound hood. The InViroFlow design offers improved air flow pattern, requiring less energy. Energy-efficient fan and fan motor add to quiet operation while moving air more efficiently. The sound hood muffles operating noise. A compressor vibration isolation plate ensures quiet operation.
- Units are offered in 230-1-50 (size 024) and 400-3-50 (sizes 036-060) power supplies.
- Available in 4 nominal sizes from 024 to 060 to meet the needs of residential and light commercial applications.
- Weather-Armor II cabinet is made of galvanized steel and coated with a layer of zinc phosphate. A coat of modified polyester powder coating is then applied and baked on, providing each unit with a hard, smooth finish that will last for many years.
- Totally enclosed fan motor offers greater reliability under rain conditions and dependable performance for many years. Permanent-split-capacitor-type motors provide more economical operation.
- The copper tube and enhanced aluminium fin coil is designed for optimum heat transfer. Vertical air discharge carries sound and hot condenser air up and away from adjacent areas. New heat pump style drain pan for easy removal of water, dirt and leaves.
- The 38TUA offers maximum application versatility. It can be combined with a wide variety of evaporator coils and blower packages to provide quiet, dependable comfort. The unit can be installed on a roof or at ground level.
- Both external service valves are brass, back seating type with sweat connections. Valves are externally located so refrigerant tube connections can be made quickly and easily. Each valve has a service port for ease of checking operating refrigerant pressures.
- Service is easy, as one access panel provides access to electrical control box and compressor. Removal of the top gives access to fan motor and coil.
- All units are equipped with compressor sound hood and compressor short-cycle protector as standard.
- High pressure, low pressure and crankcase heater switches.

Accessories

- Time delay relay
- Winter start control
- Evaporator freeze thermostat
- Compressor start assistance (024)
- Thermostatic expansion valve (TXV) kit
- Low ambient temperature controller

Physical data

| 38TUA | | 024 | 036 | 048 | 060 |
|----------------------------------|---|------|-------|-------|-------|
| Nominal cooling capacity* | kW | 6.7 | 10.3 | 13.8 | 17.3 |
| Sound pressure level** | dB(A) | 38.1 | 40.3 | 38.7 | 38.3 |
| Operating weight | kg | 63.5 | 106.6 | 115.2 | 137.0 |
| Refrigerant Control | R-22 AccuRater (bypass type) | | | | |
| Compressor | Scroll | | | | |
| Outdoor fan | Propeller type, direct drive Vertical upward | | | | |
| Air discharge | | | | | |
| Air quantity | l/s | 660 | 1300 | 1300 | 1300 |
| Motor speed | r/s | 14.2 | 15.0 | 15.0 | 15.0 |
| Motor type | Totally enclosed, ball bearing, PSC | | | | |
| Condenser coil | Copper tube, aluminium plate fins | | | | |
| Face area | m ² | 0.81 | 1.11 | 1.41 | 1.70 |
| Rows | | 1 | 1 | 1 | 2 |
| Fin spacing | fins/m | 982 | 982 | 982 | 786 |
| Connections, ODS | in | | | | |
| Vapour | | 5/8 | 3/4 | 7/8 | 7/8 |
| Liquid | | 3/8 | 3/8 | 3/8 | 3/8 |
| Refrigerant connections | in | | | | |
| Vapour, OD | | 5/8 | 3/4 | 7/8 | 1-1/8 |
| Liquid | | 3/8 | 3/8 | 3/8 | 3/8 |

* Combination ratings based on 35°C condenser air entering temperature, 19°C evaporator air wet bulb temperature and nominal air flow.

** Sound pressure level (at 10 m), with semispherical radiation in a free field.

Combination ratings

| Outdoor unit 38TUA | Indoor unit FB4ASX | Nominal air flow l/s | Rated capacity kW | Power kW | COP |
|-----------------------|-----------------------|-------------------------|-------------------------|-------------|-----|
| 024 | 024 | 380 | 6.7 | 2.3 | 2.9 |
| | 030 | 380 | 7.0 | 2.3 | 3.0 |
| 036 | 036 | 560 | 10.3 | 3.8 | 2.7 |
| | 042 | 560 | 10.5 | 3.7 | 2.8 |
| 048 | 048 | 750 | 13.8 | 5.1 | 2.7 |
| | 060 | 750 | 14.1 | 5.3 | 2.7 |
| 060 | 060 | 950 | 16.8 | 6.0 | 2.8 |
| | 070 | 950 | 17.3 | 6.1 | 2.8 |

Notes:

1. Ratings are net values reflecting the effects of circulating fan motor heat. Supplemental electric heat is not included.
2. Determine actual air flow values obtainable for your system by referring to fan performance data in fan coil unit literature.
3. Combination ratings based on 35°C condenser air entering temperature, 19°C evaporator air wet bulb temperature and nominal air flow.

Electrical data

| 38TUA | Power supply V-ph-Hz | Operating range, V | | Compressor | | Fan | MCA | MOCP |
|-------|-------------------------|--------------------|------|------------|------|------|------|------|
| | | Min. | Max. | RLA | LRA | FLA | | |
| 024 | 230-1-50 | 207 | 253 | 15.0 | 72.5 | 0.60 | 19.4 | 30 |
| 036 | 400-3-50 | 360 | 440 | 8.2 | 49.5 | 0.70 | 10.9 | 15 |
| 048 | 400-3-50 | 360 | 440 | 7.9 | 63.0 | 0.70 | 10.7 | 15 |
| 060 | 400-3-50 | 360 | 440 | 9.0 | 74.0 | 0.70 | 11.9 | 20 |

Legend:

- FLA - Full load amps
- LRA - Locked rotor amps
- MCA - Minimum circuit amps
- MOCP - Maximum overcurrent protection (A)
- RLA - Rated load amps

- Low ambient pressure switch
- Filter drier
- Liquid solenoid valve (LLS)
- Support feet
- Coastal filter
- Motormaster head pressure control

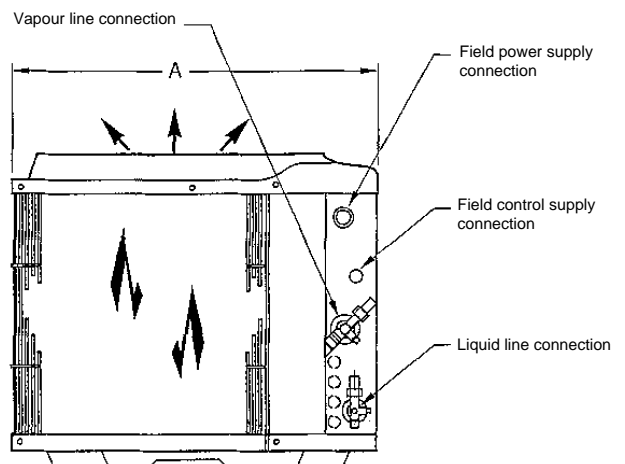
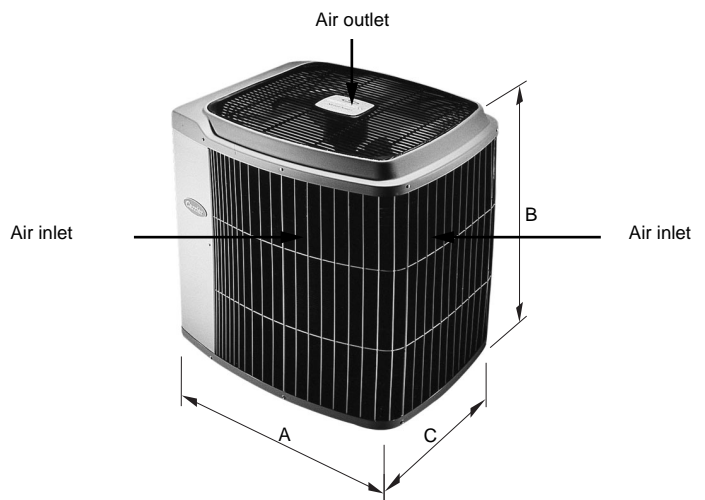
Dimensions/clearances

| 38TUA | A | B | C |
|-------|-----|------|-----|
| 024 | 699 | 706 | 572 |
| 036 | 887 | 706 | 762 |
| 048 | 887 | 859 | 762 |
| 060 | 887 | 1011 | 762 |

All dimensions are given in mm.

Notes:

1. Allow 762 mm clearance to service side of unit, 1220 mm above unit, 153 mm on one side, 305 mm on remaining side and 610 mm between units for proper air flow.
2. Minimum outdoor operating ambient temperature in cooling mode is 13°C (unless low ambient control is used), maximum temperature is 52°C.



Cooling capacities, condensing unit

38TUA 024

| SST °C | | Condenser air entering temperature °C | | | | | | | | |
|-----------|-----|---------------------------------------|------|------|------|------|------|------|------|------|
| | | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 |
| -2 | CAP | 5.75 | 5.55 | 5.34 | 5.13 | 4.90 | 4.67 | 4.43 | 4.19 | 3.94 |
| | kW | 1.38 | 1.53 | 1.69 | 1.85 | 2.03 | 2.22 | 2.41 | 2.61 | 2.81 |
| | SDT | 28.5 | 33.2 | 37.7 | 42.1 | 46.4 | 50.6 | 54.8 | 58.9 | 63.0 |
| 0 | CAP | 6.15 | 5.94 | 5.73 | 5.50 | 5.27 | 5.03 | 4.79 | 4.53 | 4.28 |
| | kW | 1.38 | 1.52 | 1.68 | 1.85 | 2.03 | 2.22 | 2.42 | 2.62 | 2.83 |
| | SDT | 28.5 | 33.2 | 37.8 | 42.2 | 46.6 | 50.8 | 55.0 | 59.2 | 63.3 |
| 2 | CAP | 6.57 | 6.36 | 6.13 | 5.90 | 5.66 | 5.41 | 5.16 | 4.89 | 4.63 |
| | kW | 1.37 | 1.52 | 1.68 | 1.86 | 2.04 | 2.23 | 2.43 | 2.64 | 2.85 |
| | SDT | 28.5 | 33.4 | 38.0 | 42.5 | 46.8 | 51.1 | 55.3 | 59.5 | 63.6 |
| 4 | CAP | 7.01 | 6.78 | 6.55 | 6.30 | 6.06 | 5.80 | 5.54 | 5.27 | 4.99 |
| | kW | 1.37 | 1.52 | 1.68 | 1.86 | 2.04 | 2.23 | 2.44 | 2.65 | 2.87 |
| | SDT | 28.6 | 33.5 | 38.2 | 42.7 | 47.1 | 51.4 | 55.7 | 59.8 | 63.9 |
| 6 | CAP | 7.46 | 7.23 | 6.98 | 6.73 | 6.47 | 6.20 | 5.93 | 5.65 | 5.36 |
| | kW | 1.37 | 1.52 | 1.69 | 1.86 | 2.05 | 2.24 | 2.45 | 2.66 | 2.89 |
| | SDT | 28.6 | 33.6 | 38.4 | 43.0 | 47.4 | 51.8 | 56.0 | 60.2 | 64.3 |
| 8 | CAP | 7.93 | 7.69 | 7.43 | 7.16 | 6.89 | 6.62 | 6.33 | 6.04 | 5.74 |
| | kW | 1.37 | 1.52 | 1.69 | 1.86 | 2.05 | 2.25 | 2.46 | 2.68 | 2.90 |
| | SDT | 28.6 | 33.8 | 38.6 | 43.2 | 47.8 | 52.1 | 56.4 | 60.6 | 64.7 |
| 10 | CAP | 8.42 | 8.17 | 7.90 | 7.62 | 7.34 | 7.05 | 6.75 | 6.45 | 6.14 |
| | kW | 1.37 | 1.52 | 1.69 | 1.87 | 2.06 | 2.26 | 2.47 | 2.69 | 2.92 |
| | SDT | 28.6 | 33.9 | 38.7 | 43.5 | 48.1 | 52.5 | 56.8 | 61.0 | 65.2 |

38TUA 048

| SST °C | | Condenser air entering temperature °C | | | | | | | | |
|-----------|-----|---------------------------------------|------|------|------|------|------|------|------|------|
| | | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 |
| -2 | CAP | 11.7 | 11.3 | 10.9 | 10.5 | 10.0 | 9.58 | 9.16 | 8.77 | 8.43 |
| | kW | 3.22 | 3.45 | 3.69 | 3.94 | 4.20 | 4.47 | 4.77 | 5.09 | 5.41 |
| | SDT | 33.5 | 37.6 | 41.7 | 45.8 | 49.9 | 54.0 | 58.1 | 62.0 | 65.9 |
| 0 | CAP | 12.7 | 12.3 | 11.8 | 11.4 | 10.9 | 10.5 | 10.0 | 9.59 | 9.20 |
| | kW | 3.29 | 3.52 | 3.77 | 4.03 | 4.29 | 4.57 | 4.88 | 5.20 | 5.54 |
| | SDT | 34.3 | 38.4 | 42.5 | 46.6 | 50.7 | 54.8 | 58.8 | 62.8 | 66.7 |
| 2 | CAP | 13.7 | 13.3 | 12.8 | 12.3 | 11.8 | 11.4 | 10.9 | 10.4 | 9.97 |
| | kW | 3.36 | 3.60 | 3.85 | 4.12 | 4.39 | 4.68 | 4.99 | 5.32 | 5.66 |
| | SDT | 35.0 | 39.2 | 43.3 | 47.4 | 51.5 | 55.6 | 59.6 | 63.6 | 67.6 |
| 4 | CAP | 14.7 | 14.2 | 13.8 | 13.3 | 12.8 | 12.2 | 11.7 | 11.2 | 10.7 |
| | kW | 3.43 | 3.67 | 3.93 | 4.20 | 4.49 | 4.78 | 5.11 | 5.44 | 5.79 |
| | SDT | 35.8 | 40.0 | 44.1 | 48.2 | 52.3 | 56.4 | 60.4 | 64.4 | 68.4 |
| 6 | CAP | 15.7 | 15.2 | 14.7 | 14.2 | 13.7 | 13.1 | 12.6 | 12.0 | 11.5 |
| | kW | 3.49 | 3.74 | 4.01 | 4.29 | 4.58 | 4.89 | 5.22 | 5.56 | 5.92 |
| | SDT | 36.5 | 40.8 | 44.9 | 49.0 | 53.1 | 57.2 | 61.2 | 65.2 | 69.2 |
| 8 | CAP | 16.7 | 16.2 | 15.7 | 15.1 | 14.6 | 14.0 | 13.4 | 12.8 | 12.3 |
| | kW | 3.56 | 3.82 | 4.09 | 4.38 | 4.68 | 4.99 | 5.33 | 5.68 | 6.05 |
| | SDT | 37.3 | 41.5 | 45.7 | 49.8 | 53.9 | 58.0 | 62.0 | 66.0 | 70.0 |
| 10 | CAP | 17.7 | 17.2 | 16.6 | 16.1 | 15.5 | 14.9 | 14.3 | 13.7 | 13.0 |
| | kW | 3.63 | 3.89 | 4.17 | 4.47 | 4.78 | 5.10 | 5.44 | 5.80 | 6.18 |
| | SDT | 38.1 | 42.3 | 46.5 | 50.6 | 54.7 | 58.8 | 62.8 | 66.8 | 70.9 |

SST - Saturated suction temperature entering compressor, °C
 CAP - Total cooling capacity, kW
 kW - Total power input
 SDT - Saturated discharge temperature leaving compressor, °C

38TUA 036

| SST °C | | Condenser air entering temperature °C | | | | | | | | |
|-----------|-----|---------------------------------------|------|------|------|------|------|------|------|------|
| | | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 |
| -2 | CAP | 9.08 | 8.75 | 8.41 | 8.07 | 7.73 | 7.38 | 7.02 | 6.65 | 6.29 |
| | kW | 2.15 | 2.35 | 2.57 | 2.80 | 3.05 | 3.30 | 3.57 | 3.85 | 4.14 |
| | SDT | 31.2 | 35.5 | 39.7 | 43.9 | 48.0 | 52.0 | 56.0 | 60.0 | 64.0 |
| 0 | CAP | 9.74 | 9.40 | 9.04 | 8.68 | 8.32 | 7.95 | 7.57 | 7.19 | 6.80 |
| | kW | 2.16 | 2.36 | 2.59 | 2.83 | 3.07 | 3.33 | 3.61 | 3.89 | 4.19 |
| | SDT | 31.6 | 35.9 | 40.1 | 44.3 | 48.5 | 52.5 | 56.5 | 60.5 | 64.5 |
| 2 | CAP | 10.4 | 10.0 | 9.67 | 9.29 | 8.91 | 8.52 | 8.13 | 7.73 | 7.33 |
| | kW | 2.18 | 2.38 | 2.61 | 2.85 | 3.10 | 3.36 | 3.64 | 3.93 | 4.23 |
| | SDT | 32.0 | 36.3 | 40.5 | 44.8 | 48.9 | 53.0 | 57.0 | 61.0 | 65.0 |
| 4 | CAP | 11.1 | 10.7 | 10.3 | 9.94 | 9.53 | 9.13 | 8.71 | 8.29 | 7.87 |
| | kW | 2.20 | 2.40 | 2.63 | 2.87 | 3.12 | 3.39 | 3.68 | 3.97 | 4.28 |
| | SDT | 32.4 | 36.8 | 41.0 | 45.2 | 49.4 | 53.5 | 57.5 | 61.5 | 65.5 |
| 6 | CAP | 11.8 | 11.4 | 11.0 | 10.6 | 10.2 | 9.75 | 9.32 | 8.88 | 8.44 |
| | kW | 2.22 | 2.42 | 2.65 | 2.89 | 3.15 | 3.43 | 3.71 | 4.01 | 4.32 |
| | SDT | 32.9 | 37.2 | 41.5 | 45.7 | 49.9 | 54.1 | 58.1 | 62.1 | 66.1 |
| 8 | CAP | 12.6 | 12.2 | 11.7 | 11.3 | 10.9 | 10.4 | 9.95 | 9.49 | 9.02 |
| | kW | 2.24 | 2.45 | 2.67 | 2.92 | 3.18 | 3.46 | 3.75 | 4.06 | 4.37 |
| | SDT | 33.4 | 37.7 | 42.0 | 46.3 | 50.5 | 54.6 | 58.7 | 62.7 | 66.7 |
| 10 | CAP | 13.3 | 12.9 | 12.5 | 12.0 | 11.6 | 11.1 | 10.6 | 10.1 | 9.63 |
| | kW | 2.26 | 2.47 | 2.70 | 2.95 | 3.21 | 3.49 | 3.79 | 4.10 | 4.42 |
| | SDT | 33.8 | 38.3 | 42.6 | 46.8 | 51.0 | 55.2 | 59.3 | 63.3 | 67.3 |

38TUA 060

| SST °C | | Condenser air entering temperature °C | | | | | | | | |
|-----------|-----|---------------------------------------|------|------|------|------|------|------|------|------|
| | | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 |
| -2 | CAP | 13.9 | 13.4 | 13.0 | 12.6 | 12.1 | 11.7 | 11.2 | 10.7 | 10.3 |
| | kW | 3.26 | 3.55 | 3.87 | 4.22 | 4.57 | 4.94 | 5.35 | 5.79 | 6.24 |
| | SDT | 31.9 | 36.1 | 40.3 | 44.5 | 48.5 | 52.4 | 56.3 | 60.3 | 64.3 |
| 0 | CAP | 15.1 | 14.6 | 14.1 | 13.7 | 13.2 | 12.7 | 12.2 | 11.7 | 11.2 |
| | kW | 3.36 | 3.65 | 3.98 | 4.33 | 4.69 | 5.06 | 5.48 | 5.92 | 6.38 |
| | SDT | 32.6 | 36.9 | 41.1 | 45.3 | 49.4 | 53.2 | 57.2 | 61.1 | 65.1 |
| 2 | CAP | 16.3 | 15.8 | 15.3 | 14.8 | 14.2 | 13.7 | 13.2 | 12.6 | 12.1 |
| | kW | 3.47 | 3.76 | 4.09 | 4.44 | 4.81 | 5.19 | 5.61 | 6.05 | 6.51 |
| | SDT | 33.4 | 37.7 | 41.9 | 46.1 | 50.2 | 54.1 | 58.0 | 61.9 | 65.9 |
| 4 | CAP | 17.5 | 16.9 | 16.4 | 15.8 | 15.3 | 14.7 | 14.1 | 13.6 | 13.0 |
| | kW | 3.57 | 3.87 | 4.20 | 4.55 | 4.93 | 5.31 | 5.73 | 6.18 | 6.65 |
| | SDT | 34.1 | 38.4 | 42.7 | 46.9 | 51.0 | 54.9 | 58.8 | 62.8 | 66.7 |
| 6 | CAP | 18.7 | 18.1 | 17.5 | 16.9 | 16.3 | 15.7 | 15.1 | 14.5 | 13.9 |
| | kW | 3.68 | 3.97 | 4.31 | 4.67 | 5.04 | 5.44 | 5.86 | 6.31 | 6.78 |
| | SDT | 34.9 | 39.2 | 43.5 | 47.7 | 51.8 | 55.7 | 59.7 | 63.6 | 67.5 |
| 8 | CAP | 19.9 | 19.3 | 18.7 | 18.0 | 17.4 | 16.8 | 16.1 | 15.5 | 14.8 |
| | kW | 3.78 | 4.08 | 4.42 | 4.78 | 5.16 | 5.56 | 5.99 | 6.44 | 6.92 |
| | SDT | 35.7 | 40.0 | 44.3 | 48.5 | 52.6 | 56.6 | 60.5 | 64.4 | 68.3 |
| 10 | CAP | 21.0 | 20.4 | 19.8 | 19.1 | 18.5 | 17.8 | 17.1 | 16.4 | 15.7 |
| | kW | 3.89 | 4.19 | 4.53 | 4.89 | 5.28 | 5.68 | 6.12 | 6.58 | 7.05 |
| | SDT | 36.4 | 40.8 | 45.0 | 49.3 | 53.4 | 57.4 | 61.4 | 65.3 | 69.1 |



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