

MMD-AP_HFE FRESH AIR INTAKE



This indoor unit has been specifically designed to manage and treat fresh air before its distribution into the building.

| | | |
|-----------------|---|-----------------------------|
| CAPACITY | AIR FLOW | SOUND PRESSURE LEVEL |
| | | |
| 5 HP < 10 HP | 1,080m ³ /h > 2,100m ³ /h | 41dB |

| | |
|----------------------|---|
| OUTDOOR UNITS | LOCAL CONTROLS |
| | |
| SMMS-e | RBC-AMS55E-ES(EN) RBC-AMS41E RBC-AMT32E |

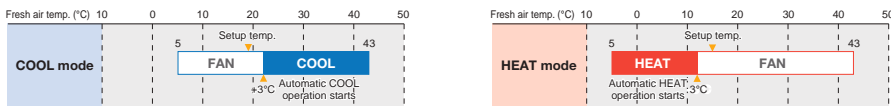
Features

| Model name | MMD-AP0481HFE | | MMD-AP0721HFE | | MMD-AP0961HFE | |
|--|--------------------------|---|---------------|--------------|---------------|---------------|
| Line Capacity | 5 | | 8 | | 10 | |
| Cooling capacity | kW | | 22.4 | | 28 | |
| Heating capacity | kW | | 13.9 | | 17.4 | |
| Electrical characteristics | Power supply | 1 phase 50Hz 220-240V / 1 phase 60Hz 220V | | | | |
| | Running current | A | 1.43 / 1.66 | 2.52 / 2.75 | 2.73 / 3.12 | |
| | Power consumption | kW | 0.28 / 0.34 | 0.45 / 0.55 | 0.52 / 0.65 | |
| | Starting current | A | 3.50 / 3.40 | 7.00 / 6.80 | 7.00 / 6.80 | |
| Dimensions | Main unit | HxWxD | mm | 482x892x1262 | 482x1392x1262 | 482x1392x1262 |
| Weight | Main unit | kg | | 93 | 144 | 144 |
| Heat exchanger | Finned tube | | | | | |
| Soundproof / Heat-insulating material | Non-flammable insulation | | | | | |
| Fan unit | Fan | Centrifugal fan | | | | |
| | Standard air flow | m ³ /h | 1.080 | 1.680 | 2.100 | |
| | Motor | W | 160 | 160 x 2 | | |
| | External static pressure | 50 Hz Pa | 170-210-230 | 140-165-180 | 160-190-205 | |
| | | 60 Hz Pa | 115-215-260 | 150-210-235 | 80-180-220 | |
| | Factory setting | 50 Hz / 60 Hz Pa | 210 / 215 | 165 / 210 | 190 / 180 | |
| | Air flow limit | Lower limit m ³ /h | 756 | 1.176 | 1.470 | |
| | | Upper limit m ³ /h | 1.188 | 1.848 | 2.310 | |
| Air filter | Option or field supply | | | | | |
| Controller | Wired remote controller | | | | | |
| Connecting pipe | Gas pipe | inch | 5/8" | 7/8" | | |
| | Liquid pipe | inch | 3/8" | 1/2" | | |
| | Drain pipe | mm | | 25 | | |
| Sound pressure level (Note 2) (High/Med./Low) | dB(A) | | 45 / 43 / 41 | 46 / 45 / 44 | | |
| Sound power level (High/Med./Low) | dB(A) | | 65 / 63 / 61 | 66 / 65 / 64 | | |
| Operation range | Cooling (Note 3) | °C | | 5 - 43 | | |
| | Heating (Note 4) | °C | | -5 - 43 | | |

- Note 1: Rated conditions
Cooling: Outdoor air temperature 33°C DB/28°C WB setting temperature 18°C
Heating: Outdoor air temperature 0°C DB/-2.9°C WB setting temperature 18°C
Piping: Length 7.5 m / Height 0 m
- Note 2: Normally, the values measured in the actual operating environment become large than the indicated values due to the effects of external sound.
- Note 3: When supply air temperature is «setting temperature + 3°C» or less, fresh air intake unit operates as FAN mode
When supply air temperature is «19°C» or less, fresh air intake unit operates as FAN mode
- Note 4: When supply air temperature is «setting temperature -3°C» or over, fresh air intake unit operates as FAN mode.

Use conditions

- In COOL mode, if temperature of the fresh air is below the setup temp. of +3°C, FAN status is automatically made. When temperature of the fresh air is below 19°C, FAN status is also made regardless of the setup temperature.
- In HEAT mode, if temperature of the fresh air is above the setup temp. -3°C, FAN status is automatically made. When temperature of the fresh air is above 15°C, FAN status is also made regardless of the setup temperature.

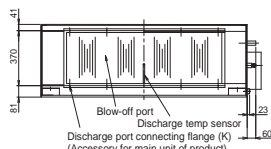
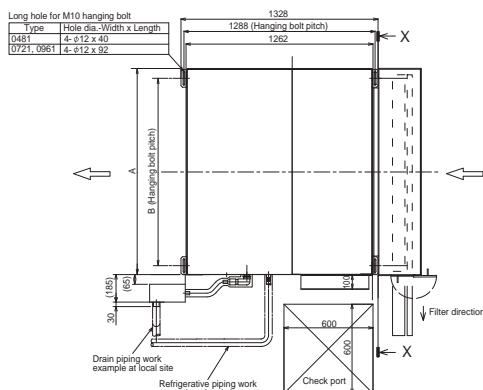


Operable mode and discharge temperature setup range

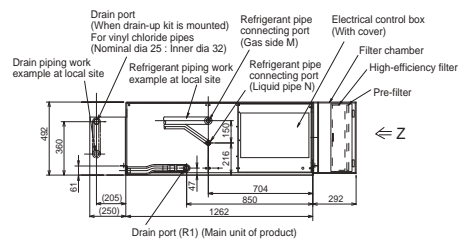
| Operation mode | At shipment from factory | Setup range |
|----------------|--------------------------|-------------|
| COOL | 18°C | 16 to 27°C |
| HEAT | 25°C | 16 to 27°C |

Drawings

Unit: mm



| Model | MMD- | A | B |
|-----------|------|------|------|
| AP0961HFE | | 1392 | 1260 |
| AP0721HFE | | 1392 | 1260 |
| AP0481HFE | | 892 | 810 |



FRESH AIR INTAKE

Fresh air intake indoor unit type

| System restriction | |
|---|---------|
| Max. no. of combined outdoor units | 1 unit |
| Max. capacity of combined outdoor units | 22HP |
| Max. no. of combined indoor units | 3 units |

| | | | | Allowable value (m) | |
|--|--|---------------------|-----|-------------------------|----------------------------|
| | | | | Heat Pump configuration | Cooling Only configuration |
| Pipe length | Total extension of pipe (Liquid pipe) | Actual length | m | 300 | 300 |
| | | Equivalent length | m | 150 | 235 |
| | Farthest piping length | Actual length | m | 130 | 190 |
| | | Equivalent length | m | Max. 120 (Min. -) | Max. 120 (Min. -) |
| | Main piping length | Actual length | m | Max. 100 (Min. 50) | Max. 100 (Min. -) |
| | | Equivalent length | m | 30 | 90 |
| | Farthest equivalent piping length from the first branching section | Equivalent length | m | 30 | 30 |
| Maximum actual length of pipes connected to indoor units | Actual length | m | 30 | 30 | |
| Height difference | Height between outdoor and indoor units | Upper outdoor units | m | 40 | 70 |
| | | Lower outdoor units | m | 3 | 40 |
| | Height between indoor units | m | 0,5 | 0,5 | |

- * The setting temperature is 16 - 27°C (standard FCU 18 - 29 °C).
- * An option humidifier is not available with fresh air intake indoor unit.
- * Height difference between fresh air intake indoor units must be within 0.5 m.
- * Height difference between fresh air intake indoor unit and standard FCU must be within 30 m.

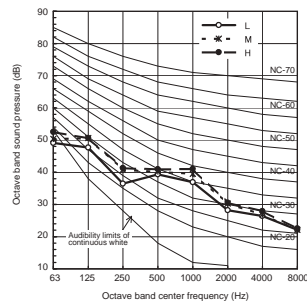
- Note 1: Rated conditions
- Note 2: Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
- Note 3: When supply air temperature is «setting temperature + 3°C» or less, fresh air intake unit operates as FAN mode
- Note 4: When supply air temperature is «setting temperature - 3°C» or over, fresh air intake unit operates as FAN mode

Sound pressure levels

Unit: dB(A)

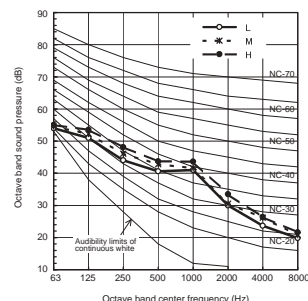
MMD-AP0481HFE

| Fan tap | H | M | L |
|------------------------------|----|----|----|
| Sound pressure level (dB(A)) | 45 | 43 | 41 |

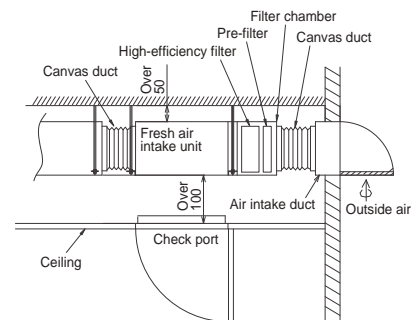


MMD-AP0721HFE MMD-AP0961HFE

| Fan tap | H | M | L |
|------------------------------|----|----|----|
| Sound pressure level (dB(A)) | 46 | 45 | 44 |



Other information



Accessories

| Type | Model name | Description | Applied model | Appearance | Remarks |
|----------------|----------------|---------------------------|--------------------|-------------|---------|
| Air filtration | TCB-UFM3DE | High-efficiency filter 65 | MMD-AP0721-0961HFE | | |
| | TCB-UFM4D-1E | High-efficiency filter 65 | MMD-AP0481HFE | | |
| | TCB-UFH7DE | High-efficiency filter 90 | MMD-AP0721-0961HFE | | |
| | TCB-UFH8D-1E | High-efficiency filter 90 | MMD-AP0481HFE | | |
| | TCB-PF3DE | Long life prefilter | MMD-AP0721-0961HFE | | |
| | TCB-PF4D-1E | Long life prefilter | MMD-AP0481HFE | | |
| | TCB-FCY51DFE | Filter chamber | MMD-AP0481HFE | | |
| TCB-FCY100DE | Filter chamber | MMD-AP0721-0961HFE | | | |
| Drain pump kit | TCB-DP32DFE | Drain pump kit | All models | TCB-DP32DFE | |

Fresh air duct embeded connectors

| CN32 | CN60 | CN61 | CN70 | CN73 | CN80 |
|--|--|--|--|---|--|
| Additional ventilation control from remote control | Operation status signal output (cooling, heating, fan, defrost, thermo-on) | External On/Off, operation output and alarm output | Warning symbol on remote control based on signal input. No IDU thermo off. | Forced IDU thermo-off based on signal input | Forced IDU thermo-off and IDU lock based on signal input |
| • | • | • | • | - | - |

MM-DXC STANDARD DX KIT



Built an efficient and reliable ventilation system managed by Toshiba remote controller mixing third party AHU, DX coil and Toshiba VRF system.

CAPACITY



2 HP < 60 HP

AIR FLOW



Up to 30,000m³/h

OUTDOOR UNITS



MINI SMMS-e



SMMS-e



SHRM-e

LOCAL CONTROLS



RBC-AMT32E

Features

| DX controller unit | MM- | DXC010 | |
|--|---------|--|-----------------------------------|
| | | VRF DX COIL CONTROLLER (Individual / Header) | VRF DX COIL CONTROLLER (Follower) |
| Dimensions (HxWxD) | mm | 400 x 300 x 150 | 400 x 300 x 150 |
| Weight | kg | 8 | 7.6 |
| Standard rating | IP | 65 | 65 |
| Operating temperature/Humidity | °C / RH | 5-40 / 10-90 | 5-40 / 10-90 |
| Operating range - Cooling coil «Air on» temp | °C | 15°CWB±24°CWB | 15°CWB±24°CWB |
| Operating range - Heating coil «Air on» temp | °C | 15°CDB±28°CDB | 15°CDB±28°CDB |
| Power supply | V-ph-Hz | 220/240-1-50 | 220/240-1-50 |

| DX valve kit | MM- | DXV080 | | | DXV140 | | | DXV280 | | |
|-----------------------|-----|--|--|--|------------------------|--|--|----------------|--|--|
| | | 5.6kW, 7.1kW, 8.0kW | | | 11.2kW, 14.0kW, 16.0kW | | | 22.4kW, 28.0kW | | |
| Nominal capacity | | 1.7 - 3.2 HP | | | 4 - 6HP | | | 8 - 10 HP | | |
| Dimensions | mm | 155 x 155 x 185 | | | | | | | | |
| Weight | kg | 0.9kg | | | | | | | | |
| Integrated components | | TA, TC1, TC & TCJ sensors, PMV, sensor holder 4 & 6 mm, fix plate, strainer and P clamp (For TA) | | | | | | | | |

Drawings

Unit: mm



STANDARD DX KIT

Capacity table

| | Capacity in HP | VRF DX Coil controller (Individual/Header) | VRF DX Coil Controller (Follower) | VRF DX Coil valve kit | | | Nominal capacity (kW) | | DX coil internal volume (cc) | | | Recommended liquid capillary | Air volume flow rate (m ³ /h) |
|------------|----------------|--|-----------------------------------|-----------------------|-----------|-----------|-----------------------|-------|------------------------------|-------|------|------------------------------|--|
| | | MM-DXC010 | MM-DXC012 | MM-DXV080 | MM-DXV140 | MM-DXV280 | Cool | Heat | Min | Std | Max | mm | Std |
| All models | 2 | 1 | | 1 | | | 5.6 | 6.3 | 850 | 1000 | 1150 | 3.2 ~ 3.5 | 900 |
| | 2.5 | 1 | | | | | 7.1 | 8 | 1063 | 1250 | 1438 | 3.5 ~ 4 | 1320 |
| | 3 | 1 | | 1 | | | 8 | 9 | 1275 | 1500 | 1725 | 3.5 ~ 4 | 1320 |
| | 3.2 | 1 | | 1 | | | 9 | 10 | 1360 | 1600 | 1840 | 3.5 ~ 4 | 1320 |
| | 4 | 1 | | | 1 | | 11.2 | 12.5 | 1700 | 2000 | 2300 | 4.5 ~ 5 | 1600 |
| | 5 | 1 | | | 1 | | 14 | 16 | 2125 | 2500 | 2875 | 5 ~ 5.5 | 2100 |
| | 6 | 1 | | | 1 | | 16 | 17 | 2550 | 3000 | 3450 | 5.5 ~ 6 | 2800 |
| | 8 | 1 | | | | 1 | 2.4 | 25 | 3400 | 4000 | 4600 | 6.5 ~ 7 | 3600 |
| | 10 | 1 | | | | 1 | 28 | 31.5 | 4250 | 5000 | 5250 | 7 ~ 8 | 4200 |
| | 12 | 1 | 1 | | | 2 | 33.5 | 37.5 | 5100 | 6000 | 6900 | | 5600 |
| 14 | 1 | 1 | | 1 | 1 | 40 | 45 | 5950 | 7000 | 8050 | | 6400 | |
| 16 | 1 | 1 | 1 | | 2 | 45 | 50 | 6800 | 800 | 9200 | | 7200 | |
| 18 | 1 | 1 | 1 | | 2 | 50.4 | 56 | 7650 | 9000 | 10350 | | 7800 | |
| 20 | 1 | 1 | 1 | | 2 | 56 | 63 | 8500 | 10000 | 11500 | | 8400 | |
| 22 | 1 | 1 | 2 | | 2 | 61.5 | 64 | 9350 | 11000 | 12650 | | 10000 | |
| 24 | 1 | 1 | 2 | | 3 | 67 | 75 | 10200 | 12000 | 13800 | | 10800 | |
| 26 | 1 | 1 | 2 | | 3 | 73.5 | 82.5 | 11050 | 13000 | 14950 | | 11400 | |
| 28 | 1 | 1 | 2 | | 3 | 78.5 | 87.5 | 11900 | 14000 | 16100 | | 12000 | |
| 30 | 1 | 1 | 2 | | 2 | 85 | 95 | 12750 | 15000 | 17250 | | 12600 | |
| 32 | 1 | 1 | 3 | | 4 | 90 | 100 | 13600 | 16000 | 18400 | | 14400 | |
| 34 | 1 | 1 | 3 | | 4 | 95.4 | 106.5 | 14450 | 17000 | 19550 | | 15000 | |
| 36 | 1 | 1 | 3 | | 4 | 101 | 113 | 15300 | 18000 | 20700 | | 15600 | |
| 38 | 1 | 1 | 3 | | 4 | 106.5 | 114 | 16150 | 19000 | 21850 | | 16200 | |
| 40 | 1 | 1 | 3 | | 4 | 112 | 126 | 17000 | 20000 | 23000 | | 16800 | |
| 42 | 1 | 1 | 4 | | 5 | 117.5 | 127 | 17850 | 21000 | 24150 | | 18600 | |
| 44 | 1 | 1 | 4 | | 5 | 123 | 128 | 18700 | 22000 | 25300 | | 19200 | |
| 46 | 1 | 1 | 4 | | 5 | 130 | 145 | 19550 | 23000 | 26450 | | 19800 | |
| 48 | 1 | 1 | 4 | | 5 | 135 | 150 | 20400 | 24000 | 27600 | | 20400 | |
| 50 | 1 | 1 | 4 | | 5 | 140.4 | 156 | 21250 | 25000 | 28750 | | 21000 | |
| 52 | 1 | 1 | 4 | | 6 | 146 | 163 | 22100 | 26000 | 29900 | | 22800 | |
| 54 | 1 | 1 | 5 | | 6 | 151.5 | 164 | 22950 | 27000 | 31050 | | 23400 | |
| 56 | 1 | 1 | 5 | | 6 | 157 | 176 | 23800 | 28000 | 32200 | | 24000 | |
| 58 | 1 | 1 | 5 | | 6 | 162.5 | 177 | 24650 | 29000 | 33350 | | 24600 | |
| 60 | 1 | 1 | 5 | | 6 | 168 | 178 | 25500 | 30000 | 34500 | | 25200 | |
| 12 | 1 | 1 | | | 2 | 33.5 | 37.5 | 5100 | 6000 | 6900 | | 5600 | |
| 14 | 1 | 1 | | 1 | 1 | 40 | 45 | 5950 | 7000 | 8050 | | 6400 | |
| 16 | 1 | 1 | | | 2 | 45 | 50 | 6800 | 800 | 9200 | | 7200 | |
| 18 | 1 | 1 | | | 2 | 50.4 | 56 | 7650 | 9000 | 10350 | | 7800 | |
| 20 | 1 | 1 | | | 2 | 56 | 58 | 8500 | 10000 | 11500 | | 8400 | |
| 22 | 1 | 1 | 2 | | 2 | 61.5 | 69 | 9350 | 11000 | 12650 | | 10000 | |
| 24 | 1 | 1 | 2 | | 3 | 68 | 76.5 | 10200 | 12000 | 13800 | | 10800 | |
| 26 | 1 | 1 | 2 | | 3 | 73.5 | 82.5 | 11050 | 13000 | 14950 | | 11400 | |
| 28 | 1 | 1 | 2 | | 3 | 80 | 90 | 11900 | 14000 | 16100 | | 12000 | |
| 30 | 1 | 1 | 2 | | 2 | 85 | 95 | 12750 | 15000 | 17250 | | 12600 | |
| 32 | 1 | 1 | 3 | | 4 | 90.4 | 101.4 | 13600 | 16000 | 18400 | | 14400 | |
| 34 | 1 | 1 | 3 | | 4 | 95.4 | 106.5 | 14450 | 17000 | 19550 | | 15000 | |
| 36 | 1 | 1 | 3 | | 4 | 100.8 | 113 | 15300 | 18000 | 20700 | | 15600 | |
| 38 | 1 | 1 | 3 | | 4 | 106.5 | 114.5 | 16150 | 19000 | 21850 | | 16200 | |
| 40 | 1 | 1 | 3 | | 4 | 112 | 126 | 17000 | 20000 | 23000 | | 16800 | |
| 42 | 1 | 1 | 4 | | 5 | 120 | 135 | 17850 | 21000 | 24150 | | 18600 | |

DX-Coils > 10HP must be designed with multiple sections each 10HP or less. These sections must have dedicated Headers and liquid capillary distributors. Therefore recommended office sizes only 2 - 10 HP

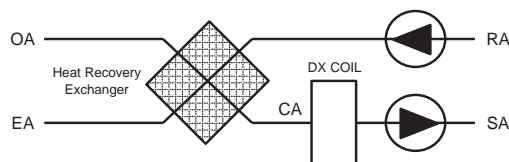


Cooling Capacity Conditions (Indoor 27 °Cdb / 19 °Cwb & Outdoor 35 °Cdb) at Standard Air Flow rate Heating Capacity Conditions (Indoor 20 °Cdb & Outdoor 7 °Cdb / 6 °Cwb) at Standard Air Flow rate DX-Coils > 10HP must be designed with multiple pathways each 10HP or less. These pathways must have dedicated Headers and Liquid Capillary distributors. Therefore recommended sizes only needed for 2 - 10HP.

SHRMe Capacity quoted as nominal cooling and maximum heating. The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection. Single Port Flow Selectors (3-Series) MUST be used with the DX-Interface. It is not compatible with Multi Port Flow Selector (This limits the maximum SHRMe DX-Interface size to 42HP).

Other information

- The DX Coil **MUST** be operated within the following limits to ensure reliability:
 - Cooling mode DX coil "air on" temp: Min: 15°C WB (18°CDB) ~ Max: 24°C WB (32°CDB)
 - Heating mode DX coil "air on" temp: Min: 15°C DB ~ Max: 28°C DB
- When used for ventilation, the DX-Coil **MUST** be combined with other equipment such as heat recovery exchanger or heaters / coolers to ensure that the CA limits are not exceeded:



| | |
|----|--|
| OA | Outdoor Air |
| SA | Supply Air |
| CA | Coil Air (After Heat Recovery Exchanger) |
| RA | Return Air |
| EA | Exhaust Air |

DX-Coil design

- The DX Coil must be suitable for R410A.
- The design should allow operation as both an evaporator and a condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header).
- The counter flow principle must be observed.
- Design target evaporation temperature: 6.5°C.
- Design target condensation temperature: 52°C.
- A drain pan must be fitted (even if only used in heat mode) due to defrost cycles.
- It is recommended to fit droplet eliminator plates in the discharge air stream if used in cool mode.
- The sensor holders must be brazed on to DX-Coil to ensure accurate temperature sensing.
- DX Coils (>10HP) must be designed with multiple pathways each 10HP or less. These pathways must have dedicated headers and liquid capillary distributors each with the appropriate DX valve kit. These DX-Coils can be Interlaced or split face:-
- Where grouped the header controller (MM-DXC010) must be connected to the largest DX-Coil valve kit.
- AHU fan motor must be interlocked to fan control output.
- Maximum DXCoil U-pipe outer diameter: 12.7 mm (1/2")
- Recommended DX-Coil U-pipe outer diameter: 9.52 mm (3/8")



Control the capacity of the Toshiba VRF system directly from the air handling unit controller to maintain constant fresh air temperature intake inside the building: the ultimate in fresh air solution.

CAPACITY



6 HP < 10 HP

AIR FLOW

Up to 6000m³/hOUTDOOR UNITS
COMPATIBILITY

SMMS-e

LOCAL CONTROLS



RBC-AMT32E

Features

| LC / VRF DX Coil Controller Unit | RBC- | DXC031 |
|---|-------------------|--------------------|
| Minimum air flow rate | m ³ /h | 2310 |
| Maximum air flow rate | m ³ /h | 3960 |
| Dimensions (HxWxD) | mm | 400 x 300 x 165 |
| Weight | kg | 8 |
| Cable max length (Analogue Input) (Screened cable: 0.5 ~ 1.0 mm ²) | m | 200 |
| Cable max length (Digital Input) (Non screened cable: 1.5 ~ 2.5 mm ²) | m | 100 |
| Cable max length (Digital Output) (Non screened cable: 1.5 ~ 2.5 mm ²) | m | 500 |
| Cable max length (TCC Link) (Screened cable: 1.5 ~ 2.5 mm ²) | m | 1000 |
| Standard rating | IP | 65 |
| Operating temperature/humidity | °C / RH | 5-40 / 10-90 |
| Operating range - Cooling coil «Air on» temp | °C | 15°CWB+24°CWB |
| Operating range - Heating coil «Air on» temp | °C | 12°CDB+28°CDB |
| System diversity | % | 75 - 100 |
| Outdoor Unit | | 8HP SMMS-e only |
| Power supply | | 220 - 240V AC 50Hz |

| VRF DX coil controller unit | RBC- | DXC031 | DXC031 | DXC031 |
|-----------------------------|------|--------|--------|--------|
| VRF DX PMV valve unit | MM- | DXV141 | DXV281 | DXV281 |
| Cooling capacity | kW | 16.0 | 22.4 | 28.0 |
| Heating capacity | kW | 18.0 | 25.0 | 31.5 |
| Capacity code | HP | 6.0 | 8.0 | 10.0 |

Heating & Cooling Capacity are guide-line figures, the design of each customer's AHU and DX Coil will have an impact on the actual system performance
Cooling Capacity Conditions (Indoor 27 °Cdb / 19 °Cwb & Outdoor 35 °Cdb) at Standard Air Flow rate
Heating Capacity Conditions (Indoor 20 °Cdb & Outdoor 7 °Cdb / 6 °Cdb) at Standard Air Flow rate

Drawings

Unit: mm



Capacity table

| | Capacity in HP | Diversity ratio | VRF DX Coil controller (Individual/Header) | | VRF DX Coil valve kit | | Nominal capacity (kW) | | | | DX coil internal volume (cc) | | Recommended liquid capillary | Air volume flow rate (m ³ /h) |
|--------------|----------------|-----------------|--|-----------|-----------------------|------|-----------------------|------|------|------|------------------------------|---------|------------------------------|--|
| | | | RBC-DXC031 | MM-DXV141 | MM-DXV281 | Cool | | Heat | | Min | Max | mm | Std | |
| | | | Min | Max | Min | Max | Min | Max | Min | Max | | | | |
| SMMSe | 6 | 75 to 100% | 1 | 1 | | 8 | 16 | 7.2 | 18 | 1700 | 3200 | 5.5 ~ 6 | 3300 | |
| | 8 | | 1 | 1 | 11.2 | 22.4 | 10 | 25 | 3000 | 4200 | 6.5 ~ 7 | 4300 | | |
| | 10 | | 1 | 1 | 14 | 28 | 12.6 | 31.5 | 3 | 5400 | 7 ~ 8 | 5000 | | |

Cooling & Heating output figures are based on calculations and 'general' test data. All figures are to be taken as approximations. The properties of the 3rd Party DX Coil will have an effect on the performance of the Outdoor units. The DX Coil must be suitable for R410A. The design should allow operation as both an Evaporator and a Condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header). The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection.

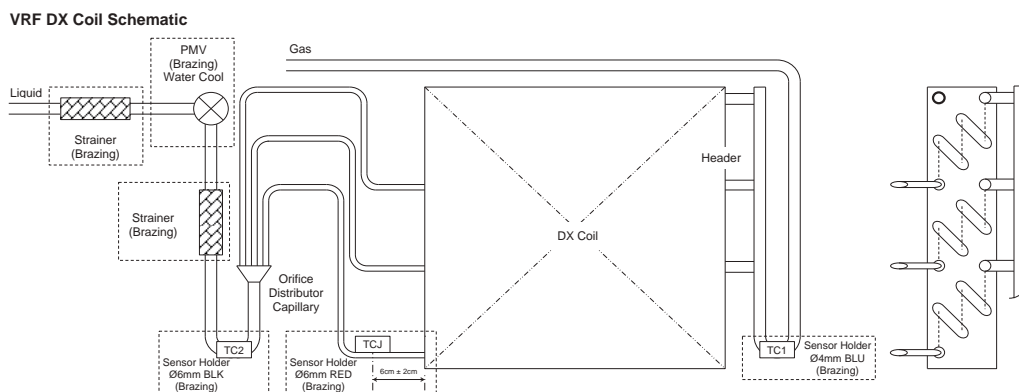
The counter flow principle must be observed for the DX coil design. A Drain Pan must be fitted (even if only used in Heat mode) due to defrost cycles. It is recommended to fit droplet eliminator plates in the discharge air stream if used in Cool mode. 1:1 Connection: The DX Interface (0-10V) must be connected 1:1 with Toshiba outdoor units. Only Heating and Cooling Modes are available on the RBC-DXC031 (No Automatic or Fan Only).

IDU

Inputs and Outputs

| | Terminal block | Description | Type | Remarks |
|-------------------|---------------------|---|----------------|--|
| Input | TB4 & 5 | Capacity demand | Analog input | 0/10V |
| | TB6 & 7 | On /Off | Digital input | |
| | TB8 & 9 | Mode input | Digital input | |
| | TB14 & 15 | Safety contact input | Digital input | NC |
| | TB16 & KP1 | Fan error input | Digital input | KP1.14_NO |
| Output | KP2 | Fan Operation | Digital output | KP2.11 & KP2.12_NC / KP2.14_NO 250VAC 6A |
| | KP3 | Alarm output | Digital output | KP3.11 & KP3.12_NC / KP3.14_NO 250VAC 6A |
| | KP4 | Defrost output | Digital output | KP4.11 & KP4.12_NC / KP4.14_NO 250VAC 6A |
| | KP5 | VRF Start-up Control | Digital output | KP5.11 & KP5.12_NC / KP5.14_NO 250VAC 6A |
| | KP6 | VRF Pre-Defrost Active | Digital output | KP6.11 & KP6.12_NC / KP6.14_NO 250VAC 6A |
| | KP7 | Heat Mode Active / Cool Mode Active | Digital output | KP7.11 & KP7.12_NC / KP7.14_NO 250VAC 6A |
| | TB10 & 11 (SW1_0) | Capacity lower than Capacity Demand | Digital output | |
| | TB12 & 13 (SW2_0) | | | |
| | TB10 & 11 (SW1_1) | Capacity higher than Capacity Demand | Digital output | |
| | TB12 & 13 (SW2_1) | | | |
| | TB10 & 11 (SW1_2) | VRF Cooling Oil Recovery / VRF Heating refrigerant recovery control | Digital output | |
| | TB12 & 13 (SW2_2) | | | |
| | TB10 & 11 (SW1_3) | Cooling Mode Active | Digital output | |
| TB12 & 13 (SW2_3) | | | | |
| TB10 & 11 (SW1_4) | Heating Mode Active | Digital output | | |
| TB12 & 13 (SW2_4) | | | | |

Other information



Notes:

- 1) The PMV must be water cooled whilst brazing, to prevent damage to the mechanism.
- 2) To ensure reliable operation, all Sensor Holders must be fitted by brazing.
- 3) The TCJ Sensor Holder must be brazed to the capillary on the DX Coil's lowest circuit.
- 4) For brazing, be sure to use nitrogen gas to avoid oxidation of pipe inner surface.



With the mid temperature hot water module, produce hot water in addition of cooling and heating.

CAPACITY



8kW > 16kW

HOT WATER



Max 50°C

SOUND PRESSURE LEVEL



25dB(A)

OUTDOOR UNITS



SMMSe SHRM-e

LOCAL CONTROLS



RBC-AMT32E

Features

| Model | MMW-AP0271LQ-E | | MMW-AP0561LQ-E | | |
|---|--|-----------------------------------|----------------|-----------------------|--|
| Heating capacity *1 | kW | | 8.0 | 16.0 | |
| Electrical characteristics | Power supply *2 | 1 phase 50 Hz 230 V (220 - 240 V) | | | |
| | Running current | A | 0.08 | 0.08 | |
| | Power consumption | W | 14 | 14 | |
| Appearance | Zinc hot dipping steel plate | | | | |
| Dimensions | Unit | HxL(leg included)xD | mm | | |
| Weight | Unit | | 17.8 | 20.3 | |
| Design pressure | Refrigerant side | MPa | 3.73 | | |
| | Water side | MPa | 1.0 | | |
| Heat exchanger | Plate type heat exchanger | | | | |
| Heat-insulating material | Polyethylene foam + Polyurethane foam | | | | |
| Water flow rate | Standard | L/min | 22.9 | 45.8 | |
| | Min. | L/min | 19.5 | 38.9 | |
| Water pressure loss (At standard water flow rate) | | kPa | 40.5 | 44.2 | |
| Controller | Remote controller | | | | |
| Operation range | Indoor | CDB | +5 / +32 | | |
| | | CWB | +23 or less | | |
| | | RH(%) | +30 / +85 | | |
| | Ambient | Outdoor (At heating) | CDB | -25 / +21 | |
| | | SMMSe | CWB | -25 / +19 | |
| | | Outdoor (At heating) | CDB | -25 / +40 | |
| | | SHRM-e | CWB | -25 / +28 | |
| Water inlet side | C | +15 or more and +45 or less | | | |
| Water outlet side | C | +25 / +50 | | | |
| Water filter | Strainer with Mesh 30 to 40 (Procured locally) | | | | |
| Connecting pipe | Water pipe | Inlet | R1 - 1/4 | | |
| | | Outlet | R1 - 1/4 | | |
| | Refrigerant pipe | Gas pipe | inch | 5/8" flare connection | |
| | | Liquid pipe | inch | 3/8" flare connection | |
| Drain pipe | | | R1 | | |
| Sound pressure level | | dB(A) | 25 | 27 | |
| Sound power level | | dB(A) | 25 | 27 | |
| Installation place | Indoor | | | | |

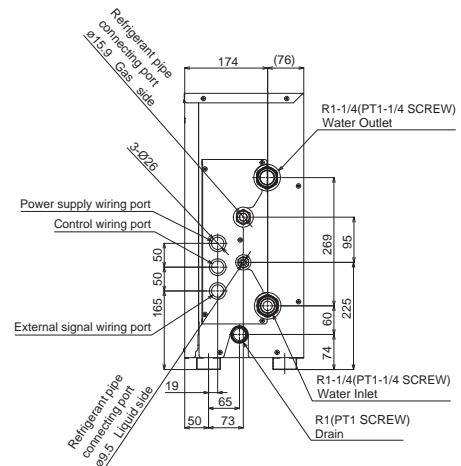
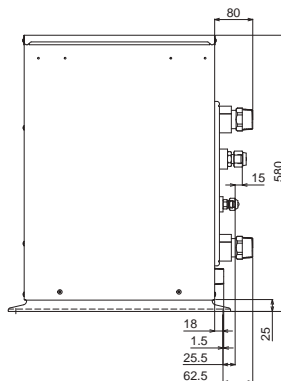
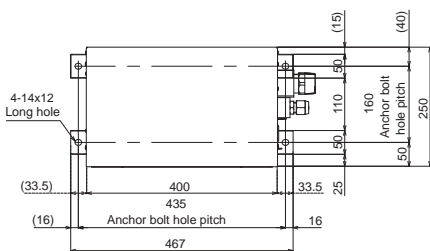
*1: Rated conditions: entering condenser water temp. 30 °C leaving condenser water temp. 35 °C Outdoor air temp. 7 °CDB / 6 °CWB

The standard piping means that mean pipe length is 5 m. branching pipe length is 2.5 m of branch piping connected with a 0 meter height.

*2: The source voltage must not fluctuate more than ±10%.

Drawings

Unit: mm



MID TEMPERATURE HOT WATER MODULE

↑ IDU

Piping rules

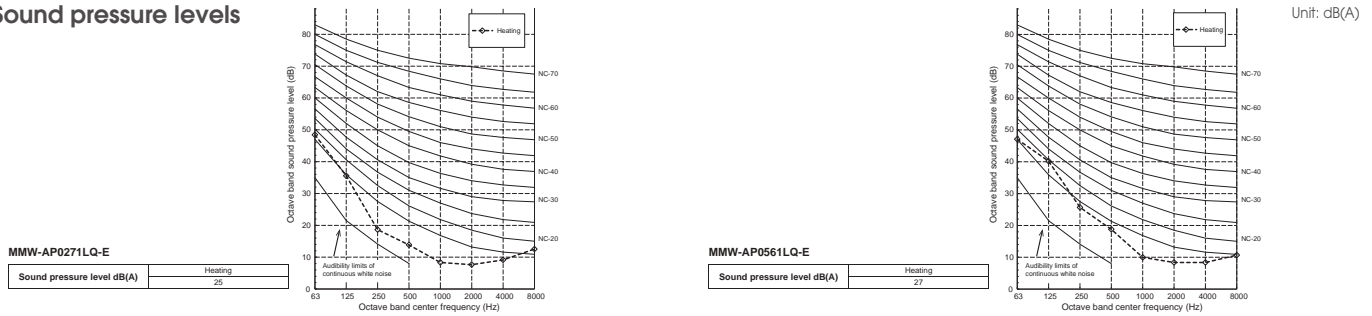
| | | SMMSe | SHRMe | |
|---|---|------------------------------------|----------|----------|
| Piping length | Total extension of pipe (Liquide pipe. real length) | Below 34HP | 300m | |
| | | 34HP or more | 1000m | |
| | Farthest piping length | Equivalent length | 235m | |
| | | Real length | 190m | |
| | Equivalent length of farthest piping form 1st branching | High difference between IDU >3 m | 65m | |
| | | High difference between IDU ≤3 m | 90m | |
| | Equivalent length of farthest piping between outdoor units | | 25m | 15m |
| | Max equivalent length of main piping | Height difference between IDU >3 m | 120/100m | 100/85m |
| | | Height difference between IDU ≤3 m | | 120/100m |
| | Max. equivalent length of outdoor unit connecting piping | | 10m | 10m |
| Max. real length of indoor unit connecting piping | | 30m | 30m | |
| Max. equivalent length between branches | | 50m | 50m | |
| Maximum real length of terminal branching section to indoor units | Single port type | 15m | | |
| | Multi port type | 50m | | |
| Maximum equivalent length between branching section Upper outdoor unit | | 50m | | |
| Difference in height | Height between indoor and outdoor units | Upper outdoor unit | 70m | |
| | | Lower outdoor unit | 40m | |
| | Height between indoor units | Upper outdoor unit | 3m* | |
| | | Lower outdoor unit | 10m* | |
| | Height between HWM | Upper outdoor unit | 3m | 40m |
| | | Lower outdoor unit | | 15m |
| | Height between indoor units and HWM | Upper outdoor unit | 3m* | 40m |
| | | Lower outdoor unit | 10m* | 15m |
| Height between outdoor units | | 5m | 5m | |
| In case of 4serie flow selector connection to indoor units | Maximum equivalent length indoor units in group control by one single | 30m | | |
| | Maximum real length between flow selector unit and indoor unit | Single port type | 15m | |
| | | Multi port type | 50m | |
| Height difference between indoor units in group control by one flow selector unit | | 0.5m | | |

* 40 m if hot water module and indoor units are not operating at the same time.

Connectivity restrictions

| | | SMMSe | SHRMe |
|---|------------------------|------------------------------|-----------|
| Indoor connection capacity | Total | Standard indoor unit + M-HWM | 65 - 115% |
| | Farthest piping length | Standard indoor unit | 50 - 115% |
| M-HWM | | 0 - 50% | 0 - 67.5% |
| Number of combined indoor units and M-HWM | Total | Standard indoor unit + M-HWM | 2 - 64 |
| | | Standard indoor unit | 2 - 64 |
| | Allowed number | M-HWM | 0 - 2 |

Sound pressure levels

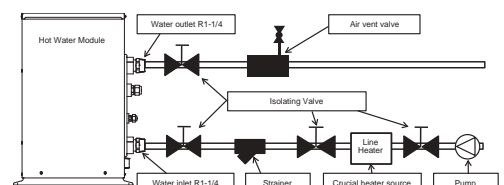


Other information

Water piping and line heater installation

- Make the piping route a closed circuit. (An open water circuit may cause a failure.)
- Before a long period of none use, purge the water out of the pipes and thoroughly let them dry.
- Do not add brine to the circulating water.
- Do not use the water used for the unit for drinking or food manufacturing.
- To ensure easy maintenance, inspection, and replacement of the unit, use a proper joint, valve, etc. (procured locally) on the water inlet and outlet port.
- Be sure to install a strainer with 30 to 40 meshes (procured locally) on the water inlet pipe. If a strainer is not installed, this may cause impaired performance, or damage to the plate heat exchanger from freezing.
- Install a suitable air vent (procured locally) on the water pipe. After sending water through the pipe, be sure to vent the excess air.
- To avoid water leak, wrap some sealing tape around the screw part.
- Water pipes can get very hot, depending on the preset temperature. Wrap the water pipes with heat insulation (procured locally) to prevent burns.
- Be sure to install the line heater (procured locally) on the water inlet side. In addition, position it within 5 m of the water inlet pipe of the Hot Water Module.
- Follow capacity table to select a line heater (procured locally) within the range of 40 to 50% of the Hot Water Module's rated capacity.

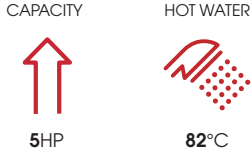
| Hot Water Module model name | Capacity of line heater (kW) |
|-----------------------------|------------------------------|
| MMW-AP0271LQ-E | 3.2-4.0 |
| MMW-AP0561LQ-E | 6.4-8.0 |



MMW-AP_CHQ HIGH TEMPERATURE HOT WATER MODULE



In addition to the standard simultaneous heating and cooling function of the SHRMe system, it is now possible with the new Toshiba high temperature hot water module, to produce hot water up to 85°C, whilst still retaining the comfort operation of the indoor units.



**OUTDOOR UNITS
COMPATIBILITY**



SHRM-e

LOCAL CONTROLS



RBC-AMT32E

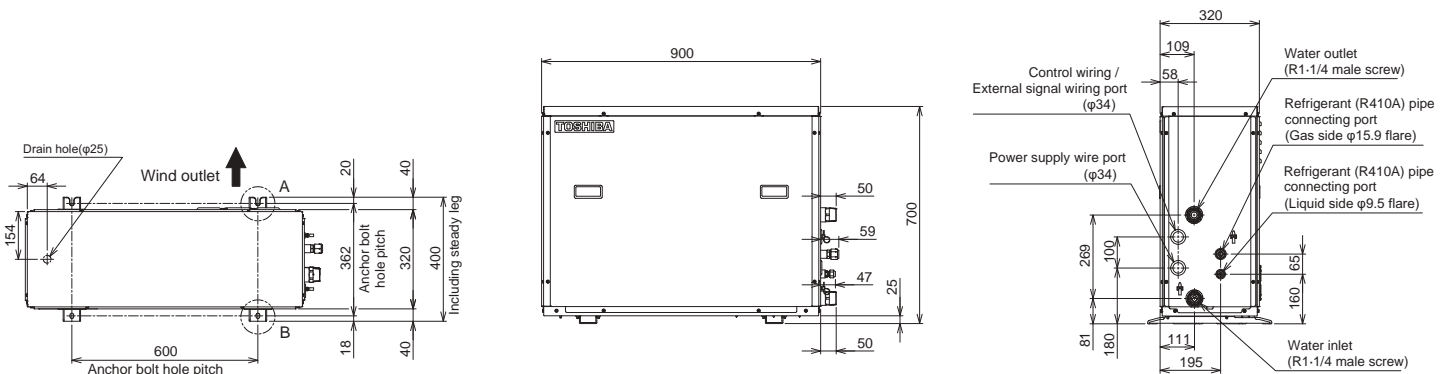
Features

| Model | | MMW-AP0481CHQ-E | | |
|--|-------------------------------|--|------------------|-----------------------|
| Heating capacity *1 | | kW | 14.0 | |
| Electrical characteristics | Power supply *2 | 1 phase 50 Hz 220-240 V | | |
| | Running current (max) | A | 17.5 | |
| | Power consumption (max) | kW | 4.15 | |
| Appearance | | Zinc hot dipping steel plate | | |
| Dimensions | HxWxD(leg included) | mm | 700x900x320(400) | |
| Weight | Unit | kg | 100 | |
| Design pressure | Refrigerant (R410A) side | MPa | 3.73 | |
| | Refrigerant (R134a) side | MPa | 4.15 | |
| | Water side | MPa | 1.0 | |
| Heat exchanger (Water) | | Plate type heat exchanger | | |
| Heat exchanger (Cascade) | | Plate type heat exchanger | | |
| Heat-insulating material | | Polyethylene foam + Polyurethane foam | | |
| Water flow rate | Standard | L/min | 40 | |
| | Max - Min. | L/min | 46 - 34 | |
| Water pressure loss (At standard water flow rate) | | kPa | 15 | |
| Control method | | Wired remote controller (Option) | | |
| Operation range | indoor | °CDB | +5 / +32 | |
| | Ambient couvre | °CWB | + 23 or less | |
| | Indoor, allowable and Outdoor | Allowable dew point | RH(%) | +30 / +85 |
| | Outdoor (At heating) SHRMe | °CDB | -25 / +40 (*3) | |
| | | °CWB | -25 / +28 (*3) | |
| Water outlet side | °C | +50 / +82 | | |
| Water filter | | Strainer with mesh 30 to 40 (Procured locally) | | |
| Connecting pipe | Water pipe | Inlet | R1-1/4 | |
| | | Outlet | R1-1/4 | |
| | Refrigerant pipe | Gas pipe | inch | 5.8" flare connection |
| | | Liquid pipe | inch | 3/8" flare connection |
| Drain nipple | mm | ID 15 | | |
| Sound pressure level *1 | | dB(A) | 44 | |
| Sound power level *1 | | dB(A) | 60 | |
| Refrigerant | type/charge | kg/ TCO ₂ eq | R134A 2.1/3 | |
| Installation place | | Indoor | | |

*1 Rated conditions: entering condenser water temp. 60°C leaving condenser water temp. 65°C Outdoor air temp. 7°CDB / 6°CWB
 The standard piping means that main pipe length is 5 m, branching pipe length is 2.5 m of branch piping connected with a 0 meter height.
 *2 The source voltage must not fluctuate more than ±10%.
 *3 Low ambient heating (-20°C or less) for extended periods of time is not allowed.
 Model name of usable Flow Selector unit: RBM-Y1124FE, RBM-Y1804FE, RBM-Y2804FE, RBM-Y1801F6PE, RBM-Y1801F4PE

Drawings

Unit: mm



HIGH TEMPERATURE HOT WATER MODULE

↑ IDU

Piping rules

| | | | SHRMe |
|---|---|----------------------------------|----------|
| Piping length | Total extension of pipe (Liquid pipe, real length) | Below 34HP | 300m |
| | | 34HP or more | 1000m |
| | Farthest piping length | Equivalent length | 200m |
| | | Real length | 180m |
| | Equivalent length of farthest piping form 1st branching | High difference between IDU >3 m | 50m |
| | | High difference between IDU ≤ 3m | 65m |
| | Equivalent length of farthest piping between outdoor units | | 15m |
| | Max equivalent length of main piping | High difference between IDU > 3m | 100/85m |
| | | High difference between IDU ≤ 3m | 120/100m |
| | Max. equivalent length of outdoor unit connecting piping | | 10m |
| | Max. real length of indoor unit connecting piping | | 30m |
| | Max. equivalent length between branches | | 50m |
| Maximum real length of terminal branching section to indoor units | Single port type | 15m | |
| | Multi port type | 50m | |
| Maximum equivalent length between branching section | | Upper outdoor unit 50m | |
| Difference in height | Height between indoor and outdoor units | Upper outdoor unit | 70m |
| | | Lower outdoor unit | 30m |
| | Height between indoor units | Upper outdoor unit | 40m |
| | | Lower outdoor unit | 15m |
| | Height between HWM | Upper outdoor unit | 40m |
| | | Lower outdoor unit | 15m |
| | Height between indoor units and HWM | Upper outdoor unit | 40m |
| | | Lower outdoor unit | 15m |
| Height between outdoor units | | 5m | |
| In case of 4serie flow selector connection to indoor units | Maximum equivalent length indoor units in group control by one single port flow selector unit | | 30m |
| | Maximum real length between flow selector unit and indoor unit | Single port type | 15m |
| | | Multi port type | 50m |
| Height difference between indoor units in group control by one flow selector unit | | | 0.5m |

Connectivity restrictions

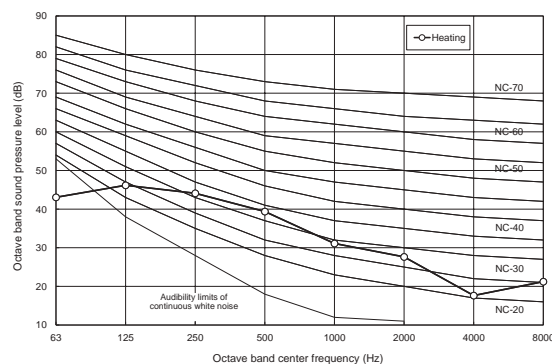
| | | | SHRMe |
|---|------------------|--------------------------------------|-----------|
| Indoor connection capacity | Total | Standard indoor unit + M-HWM + H-HWM | 90 - 200% |
| | Allowed capacity | Standard indoor unit | 50 - 120% |
| | | H-HWM | 0 - 100% |
| Number of combined indoor units and M-HWM | Total | Standard indoor unit + M-HWM + H-HWM | 2 - 32 |
| | Allowed number | Standard indoor unit | 2 - 32 |
| | | H-HWM | 0 - 12 |

Sound pressure levels

Unit: dB(A)

MMW-AP0481CHQ-E

| Sound pressure level dB(A) | Heating |
|----------------------------|---------|
| | 44 |

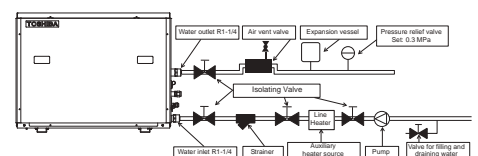


Other information

Water piping and line heater installation

- Make the piping route a closed circuit. (An open water circuit may cause a failure.)
- Before a long period of none use, purge the water out of the pipes and thoroughly let them dry.
- Do not add brine to the circulating water.
- Do not use the water used for the unit for drinking or food manufacturing.
- To ensure easy maintenance, inspection, and replacement of the unit, use a proper joint, valve, etc. (procured locally) on the water inlet and outlet port.
- Be sure to install a strainer with 30 to 40 meshes (procured locally) on the water inlet pipe.
- If a strainer is not installed, this may cause impaired performance, or damage to the plate heat exchanger from freezing.
- Install a suitable air vent (procured locally) on the water pipe. After sending water through the pipe, be sure to vent the excess air.
- To avoid water leak, wrap some sealing tape around the screw part.
- Water pipes can get very hot, depending on the preset temperature. Wrap the water pipes with heat insulation (procured locally) to prevent burns.
- Be sure to install the line heater (procured locally) on the water inlet side. In addition, position it within 5 m of the water inlet pipe of the Hot Water Module.
- Follow capacity table to select a line heater (procured locally) within the range of 40 to 50% of the Hot Water Module's rated capacity.

| Hot Water Module model name | Capacity of line heater (kW) |
|-----------------------------|------------------------------|
| MMW-AP0481CHQ-E | 5.8 ~ 7.2 |



WIRELESS SOLUTIONS KEEP CONTROL!



In addition to the high quality of the air conditioners, the controls also play a significant part in the ease-of-use and efficiency of the units. Optimized settings create the perfect climate. As well as local control options, Toshiba also offers a broad selection of central control systems or the option to integrate these in the building control system.

> ONE CONTROL FOR EVERY USAGE



Local controls

Cable remote controls (max. cable length 500 m) or wireless infrared remote controls are used to control individual units or groups of up to 8 indoor units. Additional modules allow units to be controlled from any location via apps or the Internet.



Central controls

VRF systems can be controlled from a preferred central location, such as the reception or plant room. Cable lengths can be max. 2,000m and up to 512 indoor units can be controlled.



Building control systems

Toshiba air conditioners can be interlinked with all conventional building control systems. This makes air conditioning an integral part of the central control of a building.

> WHEREVER YOU ARE



On the cloud with Toshiba AC control app

Locally with standard remote control

Using Toshiba WebBrowser for all your facilities

> TRUST TOSHIBA TCC LINK

All control devices are connected to the air conditioner side using Toshiba's dedicated central control network, also called the TCC-Link. It can be used to directly connect all equipment.

Wiring: 2-core, non-polarity

Type: Shield wire

Size/length:

• 1.25 mm² / Up to 1,000 m

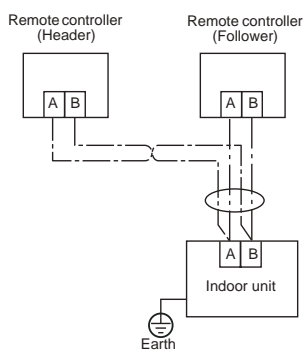
• 2 mm² / Up to 2,000 m

INDIVIDUAL REMOTE CONTROLLER

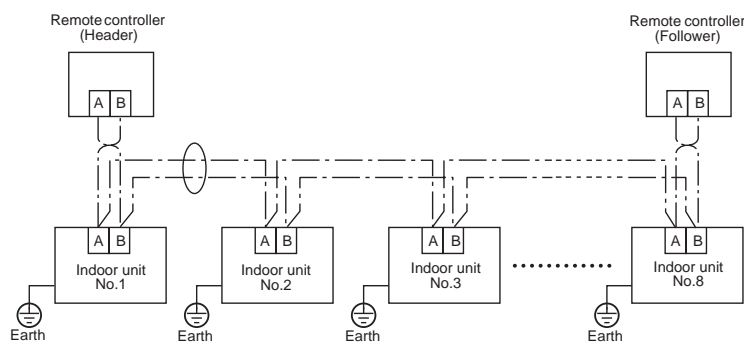
| TYPE | | INFRARED | | | | | WIRED | | | | | |
|------------------------------|--|------------------|----------------|------------------------|-----------------|--------------------------|------------------|------------------|------------------|------------------|------------------|---------------------------|
| Part number | | TCB-AX32E2 | RBC-AX32U(W)-E | RBC-AX32UM(W)-E | RBC-AX32UW(W)-E | RBC-AX33CE | RBC-ASC11E | RBC-AS41E | RBC-AMT32E | RBC-AMS41E | RBC-AMS55EES | NRC-01HE |
| Picture | | | | | | | | | | | | |
| Dimensions (h x l x p) in mm | Remote | 157x56x19 | 157x56x19 | 157x56x19 | 157x56x19 | 157x56x19 | 86x86 x16 | 120x70 x18 | 120x120 x16 | 120x120 x16 | 120x120 x20 | 120x120 x16 |
| | Infrared receiver | 120x70x18 | 163x163x24 | 163x163x24 | 162x63x33 | 130x65 | | | | | | |
| Compatibility | | All indoor units | 4-Way Cassette | Compact 4-Way Cassette | 2-Way Cassette | Ceiling & 1-way cassette | All indoor units | All indoor units | All indoor units | All indoor units | All indoor units | Air-to-air heat exchanger |
| Connectivity | | 1:1 | 1:1 | 1:1 | 1:1 | 1:1 | 1:8 | 1:8 | 1:8 | 1:8 | 1:8 (1:7 SHRMe) | 1:8 |
| Standard functions | On/Off | • | • | • | • | • | • | • | • | • | • | • |
| | Mode (Heat, cool, ventilation, dry, auto) | • | • | • | • | • | • | • | • | • | • | • |
| | Temperature setting (Min/Max) in °C | 17 / 30 | 17 / 30 | 17 / 30 | 17 / 30 | 17 / 30 | 18 / 29 | 18 / 29 | 18 / 29 | 18 / 29 | 18 / 29 | 18 / 29 |
| | Fan speed (Auto, manual 5 speeds) | • | • | • | • | • | • | • | • | • | • | • |
| | Air direction (Swing mode or manual orientation) | • | • | • | • | • | • | • | • | • | • | • |
| Scheduling | Timer function | • | • | • | • | • | • | • | • | • | • | • |
| | Schedule function | | | | | | | | • | • | | |
| | Return back | | | | | | | | | | • | |
| Advanced functions | Dual set point | | | | | | | | | | • | |
| | Soft cooling | | | | | | | | | | • | |
| | Night operation | | | | | | | | | | • | |
| | Energy save function | | | | | | | | • | • | • | • |
| | Frost protection | | | | | | | | • | • | • | • |
| | Lock function | | | | | | | | | | • | |
| | Summer time | | | | | | | | | | • | |
| Room naming | | | | | | | | | | • | | |
| Installation & maintenance | Filter dirt indication | | | | | | • | • | • | • | • | |
| | Error display | • | • | • | • | • | • | • | • | • | • | • |
| | System settings | | | | | | • | • | • | • | • | |
| | Indoor unit serial number | | | | | | | | | | • | |
| Outputs | Error output | | | | | | • | • | • | • | • | • |
| | External ventilation control | | | | | | | | • | • | | |
| Display & Interface | Interface | Icon | Icon | Icon | Icon | Icon | Icon | Icon | Icon | Icon | Menu | Icon |
| | Multilanguage | | | | | | | | | | • | |
| | Luminous buttons | | | | | | | | | | • | |
| | Backlight display | | | | | | • | | | | • | |
| Other | Temperature sensor | | | | | | • | • | • | • | • | • |

Installation drawings

Individual control






Group control

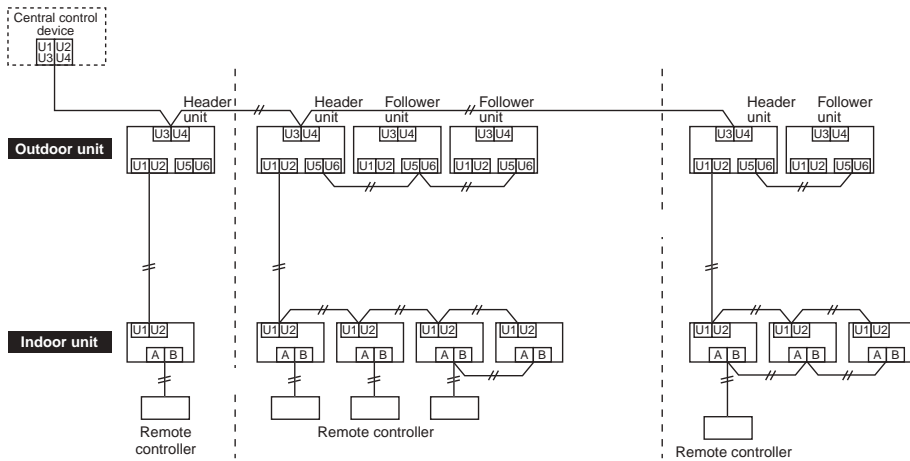


* The Header or Follower remote controller can be connected to any indoor unit.

CENTRAL CONTROL

| TYPE | | WIRED | WIRED | WIRED |
|----------------------------|--|---|---|---|
| Part number | | TCB-SC643TLE | BMS-CM1280TLE | BMS-SM1281ETLE |
| | | | Compliant Manager | Smart Manager |
| Picture | |  |  |  |
| Dimensions (h x l x p) | | 120x120x20mm | 180x120x90mm | 180x120x90mm |
| Compatibility | | All systems | All systems | All systems |
| Connectivity | | 1:64 | 1:128 | 1:128 |
| Standard function | On/Off | • | • | • |
| | Mode (Heat, cool, ventilation, dry, auto) | • | • | • |
| | Temperature setting | • | • | • |
| | Fan speed (Auto, manual 5 speeds) | • | • | • |
| | Air direction (Swing mode or manual orientation) | • | • | • |
| Scheduling | Timer function | • | • | • |
| | Schedule function | | | • |
| | Return back | | | • |
| Advanced functions | Dual set point | | | • |
| | Soft cooling | | | • |
| | Energy save function | | | • |
| | Energy monitoring | | | • (If power meter, BMS-IFWH5E interface relay needed) |
| Central control | Permit/Prohibit function | • | • | • |
| | Group control | • | • | • |
| Installation & maintenance | Filter dirt indication | • | • | • |
| | Error display | • | • | • |
| | Error transfer by Email | | | • |
| | System setting | • | • | • |
| | Interface | Menu | Icon | Icon |
| Display & Interface | Multilanguage | • | | • |
| | Luminous buttons | • | | |
| | Backlight display | • | | |
| | Digital input/output | | | • (BMS-IFDD03E interface needed) |
| Outputs | Digital I/O built in | • | • | • |
| | Web connection | | | • |

Drawings



Focus on Web Browser

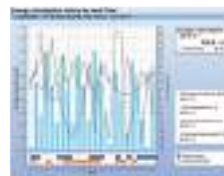
The Smart Manager can be remotely connected via a computer and all functions can be controlled via web browser:

Standard operation - Advanced scheduling - Dual set point management - Up to 64 zones - Permit/Prohibit function - Energy saving - Return back



Focus on Data Analyzer


With or without power meter, the Data Analyzer software allows facility manager to manage system energy consumption. Through graphics on different periods, different indoor units, different energy consumption zones can be compared to optimize global efficiency. Set point, ambient temperature and outdoor temperature are monitored.



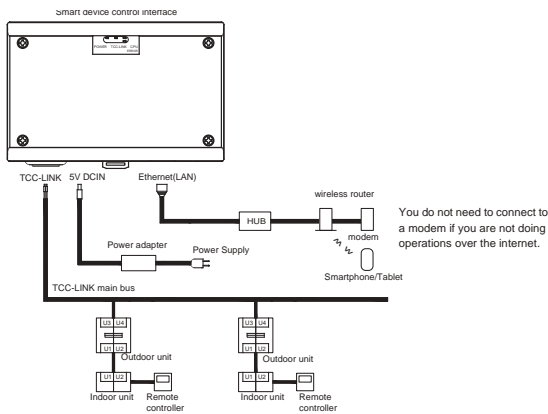
Energy consumption history



Energy consumption comparison

| | | |
|----------------------------|---|-----------------------|
| Part number | BMS-IWF0320E | |
| | Smart Device control interface | |
| App name | Toshiba AC Control | |
| Picture |  | |
| Dimensions | 140x90x45mm | |
| Compatibility | All indoor units (Except hot water module, DX kit, fresh air, A2A heat exchanger) | |
| Connectivity | 1:32 | |
| Standard functions | On/Off | • |
| | Mode (Heat, cool, ventilation, dry, auto) | • |
| | Temperature setting | • |
| | Fan speed (Auto, manual 5 speeds) | • |
| | Air direction (Swing mode or manual orientation) | • |
| Scheduling | Timer function | • |
| | Schedule function | • |
| | Return back | • |
| Advanced functions | Energy save function | • |
| | Eco temperature schiff | • |
| | Soft cooling | • |
| | Customize room/floor/building name | • |
| Central control | Permit/Prohibit function | • |
| | Group control | • |
| Display & Interface | Interface | App |
| | Multilanguage | • |
| | Apps compatibility | Android & IOS |
| | Devices compatibility | Smartphone and tablet |
| Installation & miantenance | Filter dirt indication | • |
| | Error display | • |
| | Error transfer by Email | • |
| Users | User access | Login & Password |
| | Max users | 1 admin / 32 users |

Drawings



User access

| Level | Administrator | User |
|------------------------------------|-----------------------------|---------|
| Function | | |
| Air conditioner's display | • | •*1 |
| Air conditioner's settings | • | •*1, *2 |
| Users sttings | • | - |
| Alarm | • | •*3 |
| Schedule | • | - |
| Air conditioner's various settings | • | •*4 |
| Clock settings | • (via intranet acces only) | - |
| Operation mode restriction | • (via intranet acces only) | - |

*1: Only the air conditioners in the "Access Area" can be displayed.

*2: If the locking setting is enabled, you cannot do any settings.

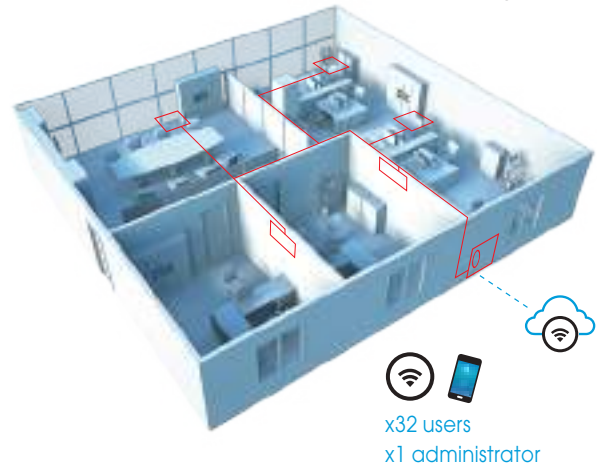
*3: The alarm settings for "Access Area" can only be displayed.

*4: The settings can only be displayed.

Toshiba AC control



Designed for commercial applications, the Toshiba AC Control App is your one-stop solution for managing up to 32 indoor units via an Android or iOS smartphone, with all main functions accessible in a single touch.



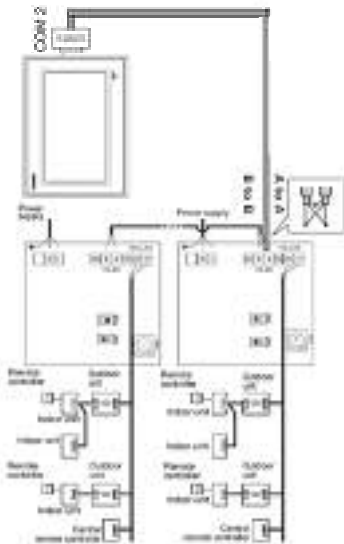
TOUCH SCREEN SOLUTIONS

Features

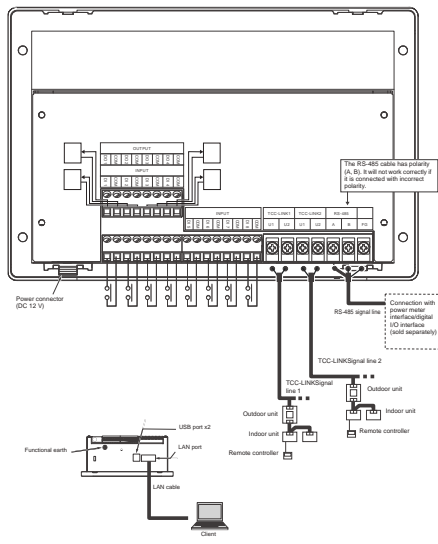
| Part number | TCB-TSC640-PY | BMS-CT1280E | BMS-CT5121E | |
|----------------------------|---|--|---|---|
| | | Touch Screen Smart Manager | Touch Screen controller | |
| Picture |  |  |  | |
| Dimensions | 148x202x46mm | 205x136x90mm | 255x323x49mm | |
| Compatibility | All indoor units (Except hot water module and A2A heat exchanger) | All indoor units (Except hot water module, DX kit, fresh air, A2A heat exchanger) | All indoor units (Except hot water module & A2A heat exchanger). TCS-NET relay interface needed (BMS-IFLSV4E) | |
| Connectivity | 1:64 | 1:128 | 1:512 | |
| Screen | Type | Color touch screen | Capacitive color touch screen | |
| | Dimension | 7" | 7" | 12.1" |
| Standard functions | On/Off | • | • | |
| | Mode (Heat, cool, ventilation, dry, auto) | • | • | |
| | Temperature setting | • | • | |
| | Fan speed (Auto, manual 5 speeds) | • | • | |
| | Air direction (Swing mode or manual orientation) | • | • | |
| Scheduling | Timer function | • | • | |
| | Schedule function | • | • | |
| | Return back | • | • | |
| Advanced functions | Dual set point | • | • | |
| | Soft cooling | • | • | |
| | Energy save function | • | • | |
| | Energy monitoring | | • (Data Analyzer software) | • (If power meter, BMS-IFWH5E interface relay needed) |
| | Rooms naming | • | • | • |
| Central control | External interlocking | • (Requires General Purpose Interface TCB-IFCG1TLE) | | |
| | Permit/Prohibit function | • | • | |
| Installation & maintenance | Group control | • | • | |
| | Filter dirt indication | • | • | |
| | Error display | • | • | |
| | Error transfer by Email | • | • | |
| | System setting | • | • | |
| Outputs | Digital Input/Output | • (General Purpose Relay Interface needed TCB-IFCG1TLE) | • (Digital I/O BMS-IFDD03E needed) | |
| | Web connection | • | • | |
| Display & interface | Interface | Menu | Menu | |
| | Multilanguage | • | • | |
| | Backlight display | • | • | |

Installation drawings

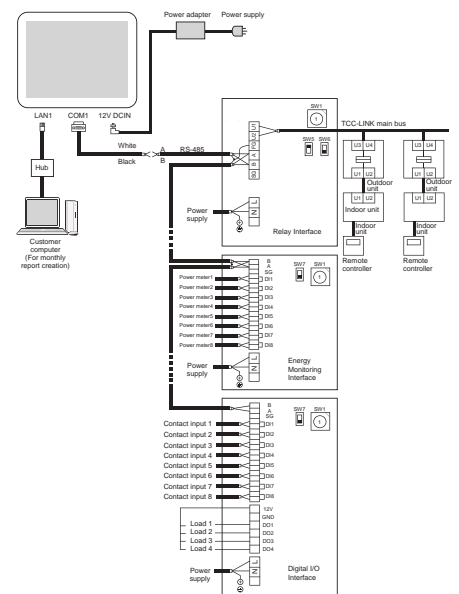
TCB-TSC640PY



BMS-CT1280E



BMS-CT5121E



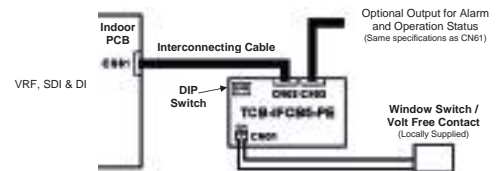
Additional PCB for outdoor units

| Model name | Power peak-cut control board | | | External master ON/OFF control board | | | Output control board | | |
|---|------------------------------|-------|------------|--------------------------------------|-------|------------|----------------------|-------|------------|
| | TCB-PCDM4E | | | TCB-PCMO4E | | | TCB-PCIN4E | | |
| System | SMMSe | SHRMe | MINI SMMSe | SMMSe | SHRMe | MINI SMMSe | SMMSe | SHRMe | MINI SMMSe |
| Power peak cut control | • | • | • | | | | | | |
| Power peak cut extend | • | • | • | | | | | | |
| Snowfall fan control | | | | • | • | | | | |
| External master ON/OFF control | | | | • | • | • | | | |
| Night operation (Sound reduction) control | | | | • | • | • | | | |
| Operation mode selection control | | | | • | • | • | | | |
| Error/Operation output control | | | | | | | • | • | • |
| Compressor operation output | | | | | | | • | • | • |
| Operation rate display | | | | | | | • | • | |
| Max number installed | 1 | 1 | 1 | 4 | 4 | 2 | 2 | 2 | 1 |
| Kind of digital input / output | | 2 / 1 | | | 6 / - | | | - / 8 | |

Additional PCB for indoors units

Windows switch sensor TCB-IFCB5PE

| Function | Mode / Description | Dip Switch setting |
|-----------------------------------|--|--------------------|
| Remote On/Off control application | Remote On-Off signal has full priority | All Bits OFF |
| | Priority is given to the remote ON signal | Bit 1 ON |
| | Priority is given to the remote OFF signal | Bit 2 ON |
| | Last touch priority | Bit 1 & 2 ON |
| Window switch application | With return back to previous operation | Bit 3 ON |
| | With no return back function | Bit 4 ON |

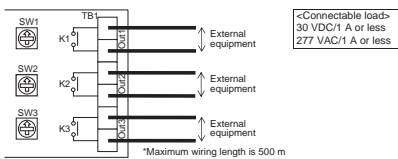


Optionnal connection kit TCB-PCUC2-E

SIGNAL

OUTPUT TERMINAL TB1

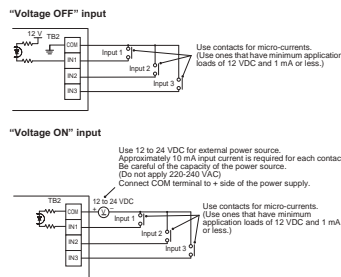
Signal outputs (Mode, fans status, alarm, defrost, ...) are extracted from "OUT1", "OUT2", and "OUT3".



EXTERNAL

DIGITAL INPUT TERMINAL TB2

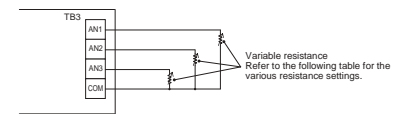
Stop air conditioner or lock local remote by inputting signal.



EXTERNAL

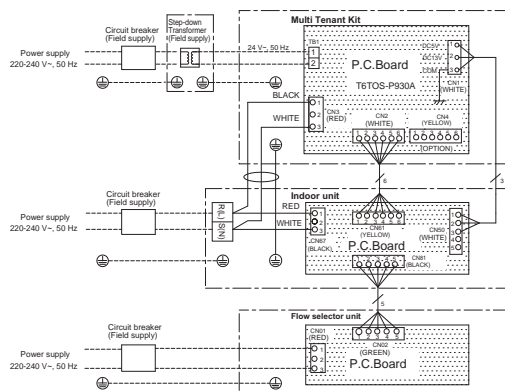
ANALOG INPUT TERMINAL TB3

Change the indoor unit's operation mode (AN1), set temperature (AN2), and blower setting (AN3) by connecting a variable resistor to the analog input terminal.











Multi tenant kit TCB-PSMT1E

For multi tenant application, this PCB maintain low voltage power during tenant absence when main power supply for the FCU is shut down.



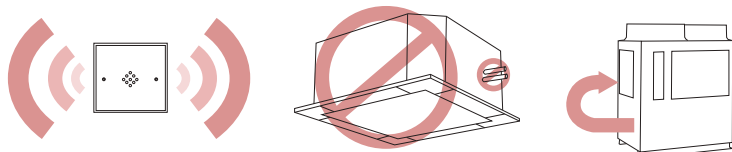
CONTROL

Features

| Part number | BMS-IFMB0TLR-E | TCB-IFMB641TLE | BMS-IFX0TLR-E | TO-AC-KNX-16 | TO-AC-KNX-64 | TCB-IFLN642TLE | BMS-IFBN640TLE | TCB-IFCB640TLE |
|---------------------------------|---|---|---|---|---|---|---|---|
| Language | Modbus | | | KNX | | LonWorks | Bacnet | Analog and digital inputs |
| Picture |  |  |  |  |  |  |  |  |
| Dimensions (h x l x w) | 53x86 | 170x200x66 | 92x82x33 | 217x147x90mm | | 193x246x66 | 90x140x45 | 66x170x200 |
| Compatibility | All indoor units | All indoor units (HWM, A2A heat exchanger excluded) | All indoor units (HWM, A2A heat exchanger excluded) | All indoor units (HWM, A2A heat exchanger excluded) | | All indoor units (HWM, A2A heat exchanger excluded) | All indoor units (HWM excluded) | All indoor units |
| Connectivity | Max number of indoor units | 8 | 64 | 8 | 16 | 64 | 64 | 64 |
| | Max number of outdoor units | | 16 | | | 16 | | 16 |
| | Max number of gateways | 63 | 15 | | | 10 | 1 | |
| Command | On/Off | R/W | R/W | R/W | R/W | R/W | R/W | R/W |
| | Accumulated operation time | | R/W | | | | | |
| | Mode (Heat, cool, ventilation, dry, auto) | R/W | R/W | R/W | R/W | R/W | R/W | R/W |
| | Temperature setting | R/W (Dual set point supported) | R/W | R/W (Dual set point supported) | R/W | R/W | R/W | R/W |
| | Fan speed (Auto, manual 5 speeds) | R/W | R/W | R/W | R/W | R/W | R/W | R/W |
| | Air direction (swing mode or manual orientation) | R/W | R/W | R/W | R/W | R/W | R/W | R/W |
| | Soft cooling | R/W | | | | | | |
| | Save operation | R/W | | R/W | | | | |
| | Filter dirt indication | R/W | R/W | R/W | R/W | R/W | R/W | R/W |
| | Room temperature | R | R | R | | | R | R |
| | Permit/Prohibit of local operation | R/W | R/W | R/W | R/W | R/W | R/W | R/W |
| | Temperature setting range limitation | | R/W | | | | | |
| | Error status | R | R | R | R | R | R | R |
| | Error code | R | R | R | R | R | R | |
| | Error address | R | | R | R | | | |
| | Model name | | R | | | | | |
| Serial number | | R | | | | | | |
| Indoor unit capacity | | R | | | | | | |
| Indoor unit type | | R | | | | | | |
| Protocol | Modbus RTU | Modbus RTU | EIB bus | EIB bus | | Lontalk communication | Bacnet IP | Voltage signal |
| Infrastructure | RS-485 | RS-485 | KNX TP1 | KNX TP2 | | Twisted pair shield cable | LAN cable (Higher than Category 5, UTP) | |
| Requirements (Locally supplied) | | Modbus master device Modbus graphic control | KNX power unit ETS4 or ETS5 tool | KNX power unit ETS4 or ETS5 tool | | Lonworks control system Lonworks Network Card for PC Control | | |

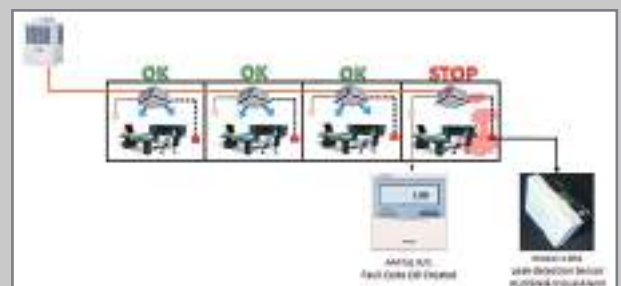
Leak detection

YOUR SAFETY
FIRST AND FOREMOST



Toshiba Air Conditioning is offering a full set of leak detection solutions compliant with EN378 standard.

> Solution 1 : Audible & visible alarm + indoor unit insulation

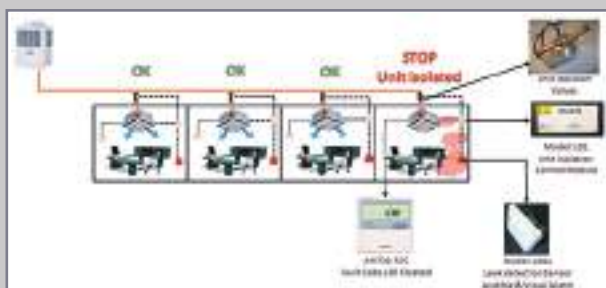


Leak detector: TCB-LDS1 (Plastic) or TCB-LDS2 (Metal)
Flush mounting: TCB-LDSBB1 (Dry lining) or TCB-LDSBB2 (Concrete)

Controls

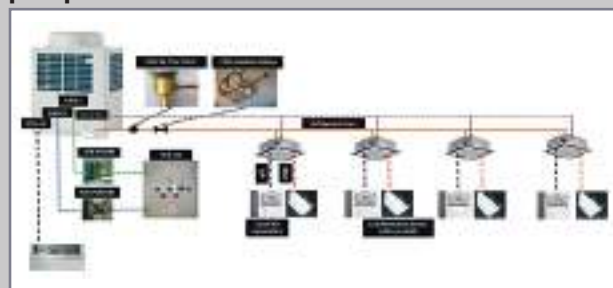
| Model number | Reference | Description | Used with |
|------------------|---|---|---|
| BMS-CM1280TLE | Compliant Manager | Enables full control of up to 128 indoor units | |
| BMS-CT1280E | 7-inch Touch Screen Controller | Enables full control of up to 128 indoor units | |
| BMS-CT5121E | 12-inch Touch Screen Controller | Enables full control of up to 512 indoor units with electric billing, ML | |
| BMS-IFBN640TLE | BN Interface | BACnet Interface for LC & VRF | Enables integration with BACnet |
| BMS-IFDD03E | Digital I/O relay interface | Digital I/O relay interface | Touch screen controller, Compliant manager, Web based controller, Smart Manager |
| BMS-IFX0TLR-E | 1:1 KNX interface | Connect the system to a KNX Building Management System | Remote Control wiring |
| BMS-IFLSV4E | TCS-Net relay Interface | Relay for integration to TCS-Net | Bacnet gateway, Touch-screens & Web based controller |
| BMS-IFMB0TLR-E | 1:1 Modbus interface | Connect the system to a Modbus Building Management System | Remote Control wiring |
| BMS-IFWH5E | Energy monitoring relay interface | Energy monitoring relay interface | Touch screen controller, Compliant manager, Web based controller, Smart Manager |
| BMS-IWF0320E | Smart Device Control interface | Enables full control of up to 32 indoor units by using Toshiba AC app (Smart phone & Tablet) | |
| BMS-SM1281ETLE | Smart BMS Manager with data analyzer | Enables full control of up to 128 indoor units with Energy Monitoring and Advanced Control options. | Network 1:1 model connection interface required for DI/SDI (Excluding high-wall type) |
| NRB-1HE | Remote ON/OFF adapter | Allows ON/OFF control | All Air-to-air heat exchangers |
| NRC-01HE | Wired remote controller | Air-to-air heat exchanger remote controller, including with DX coil and humidifiers models | Air-to-air heat exchangers and Air-to-air heat exchangers with DX coil |
| RBC-AMS41E | Remote controller with schedule timer | Indoor unit operation with schedule timer (7-days) allowing to program 8 functions/day + clock display | |
| RBC-AMS55E-EN/ES | Design remote controller with schedule timer | Multi-Language LCD display, a built-in 7-Day timer, Energy Saving options and Return Back function, Dual set points, and Soft Cooling. EN = English, Italian, Polish, Greek, Russian, Turkish. ES = English, Spanish, Portuguese, French, Dutch, German | |
| RBC-AMT32E | Wired remote controller | Main wired remote controller | |
| RBC-AS41E | Simplified wired remote controller | dedicated to hotel and domestic applications | |
| RBC-ASC11E | Simplified wired remote controller | Dedicated to hotel and domestic applications | |
| RBC-AX32CE2 | Infra-red remote kit | Wireless remote controller | All ceiling units and one-way cassettes (SH series) |
| RBC-AX32U(W)-E | Wireless remote unit kit | Wireless remote unit kit for 4-way cassette | 4-way cassette series 4 & RBC-U31PGP(W)-E panel |
| RBC-AX32UM(W)-E | Wireless remote unit kit | Wireless remote unit kit for 2-way cassette | Compact 4way cassette MMU-AP***7MH-E |
| RBC-AX33CE | Infra-red remote kit | Wireless remote controller | For ceiling units series 8 (MMC-APxxx8H-E) and one-way cassettes (SH series) |
| TCB-AX32E2 | Infra-red remote kit | Wireless remote controller | All units |
| TCB-EXS21TLE | Schedule timer | Operating in weekly timer mode or schedule timer mode | |
| TCB-IFCB-4E2 | Remote location On/Off control box | Enables remote location On/Off control | |
| TCB-IFCB5-PE | Window Switch & Remote on/off | Ensure the indoor unit not operate when outside window is open or for Door Entry systems | |
| TCB-IFCB640TLE | Analog interface | Control & monitoring up to 64 IU on TCC-link | Combination with TCB-IFCG1TLE |
| TCB-IFCG1TLE | General purpose interface | Enable control of A/C by the DI/DO and AI/AO | Combination with TCB-IFCB640TLE |
| TCB-IFLN642TLE | LN interface | Allows control of 64 indoor units from a Lonworks based BMS | |
| TCB-IFMB641TLE | Modbus interface box | Connect the system to a Modbus Building Management System | |
| TCB-KBCN32VEE | Connectors | For CN32 | |
| TCB-KBCN60OPE | Connectors | For CN60 | |
| TCB-KBCN61HAE | Connectors | For CN61 | |
| TCB-KBCN70OAE | Connectors | For CN70 | |
| TCB-KBCN73DEE | Connectors | For CN73 | |
| TCB-KBCN80EXE | Connectors | For CN80 | |
| TCB-PCDM4E | Application control PC board | Power Peak Cut Control | |
| TCB-PCIN4E | Application control PC board | Error/Individual compressor Operation Output Control Board | |
| TCB-PCMO4E | Application control PC board | External Master ON/OFF Control Board | |
| TCB-PCUC2E | Optional connection kit | | |
| TCB-PSMT1E | Optional connector kit | Multi-Tenant kit for VRF Systems | SMMS-e, SHRM-e and MINI-SMMS indoor units (Refer to I/M for more details of connectable Indoor units) |
| TCB-PX100-PE | Enclosure for the Window Switch / Remote On/Off | For use when the Window Switch / Remote On/Off Accessory cannot fit within the AC unit, eg. High Walls | For use with TCB-IFCB5-PE |
| TCB-PX30MUE | E-Box extension enclosure | For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB | 4-Way Cassettes only & TCB-IFCB5-PE |
| TCB-PX40MUE | E-Box extension enclosure | For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB | 4-Way Compact Cassettes only & TCB-IFCB5-PE |
| TCB-SC643TLE | Centralized remote control | Up to 64 indoor units | |
| TCB-TC41LE | Remote temperature sensor | Remote temperature sensor for cassette & duct | |
| TCB-TSC640-PY | 7-inch Touch Screen Controller | Enable full control of up to 64 indoor units | |

> Solution 2: Audible & visible alarm only



Leak detector: TCB-LDS1 (Plastic) or TCB-LDS2 (Metal)
 Flush mounting: TCB-LDSBB1 (Dry lining) or TCB-LDSBB2 (Concrete)
 Isolation valve: TCB-AW17861/7
 Control module: TCB-LD1

> Solution 3: Audible & visible alarm + refrigerant pump down









Leak detector: TCB-LDS1 (plastic) or TCB-LDS2 (metal)
 Flush mounting: TCB-LDSBB1 (dry lining) or TCB-LDSBB2 (concret)
 One per system: Isolation valve: TCB-AW17861/7
 Control module: TCB-LD1

ACCESSORIES

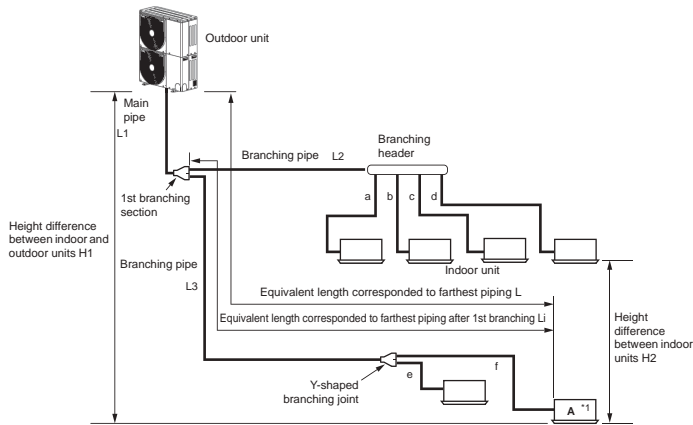
Indoor units accessories

| Indoor unit type | Part name | Model name | Compliance with VRF FCU | Notes | Remarks |
|--|------------------------------|---|---|--|---|
| 4-way air discharge cassette type | Standard panel | RBC-U31PGP(W)-E | MMU-AP***4H/4HP-E/4HP1-E | Required accessory | |
| | Fresh air and filter chamber | TCB-GFC1602UE | MMU-AP***4H/4HP-E/4HP1-E | For fresh air inlet box | Use with TCB-GFC1602UE |
| | Fresh air inlet box | TCB-GB1602UE | | For fresh air intake by using the knockout hole of fresh air and filter chamber. (dia.=100 mm) | |
| | Auxiliary fresh air flange | TCB-FF101URE2 | MMU-AP***4H/4HP-E/4HP1-E | For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm) | |
| | Spacer for height adjustment | TCB-SP1602UE | | Height 50 mm | |
| | Air discharge direction kit | TCB-BC1602UE | MMU-AP***2H,4H-E,4HP-E,4HP1-E | Air direction change by cutting off air discharge port (3 pcs.) | |
| Compact 4-way cassette type | Decoration panel | RBC-UM21PG(W)-E | MMU-AP***7MH-E | Required accessory | |
| | Motion sensor | TCB-SIR41UM-E | MMU-AP***7MH-E | | Wireless remote controller kit (RBC-AX32UM(W)-E) and Occupancy sensor cannot be used on the same indoor unit. |
| 2-way cassette type | Decoration panel | RBC-UW283PG(W)-E | MMU-AP0072/0092/0122/0152WH, WH1 | Required accessory | |
| | | RBC-UW803PG(W)-E | MMU-AP0182/0242/0272/0302WH, WH1 | | |
| | | RBC-UW1403PG(W)-E | MMU-AP0362/0484/0562WH, WH1 | | |
| | Auxiliary fresh air flange | TCB-FF151US-E | MMU-AP***2WH, WH1 | For easy fresh air intake by using the knockout hole of indoor unit | |
| | Filter chamber | TCB-FC283UW-E | MMU-AP0072/0092/0122/0152WH, WH1 | | |
| | | TCB-FC803UW-E | MMU-AP0182/0242/0272/0302WH, WH1 | | |
| Super long life filter | TCB-LF283UW-E | MMU-AP0072/0092/0122/0152WH, WH1 | | Use with TCB-FC283UW-E | |
| | TCB-LF803UW-E | MMU-AP0182/0242/0272/0302WH, WH1 | | | For use with filter chamber |
| | TCB-LF1403UW-E | MMU-AP0362/0484/0562WH, WH1 | | | Use with TCB-LF1403UW-E |
| 1-way cassette type | Decoration panel | RBC-UV136PG | MMU-AP0071/0091/0121YH, 4YH-E, 4YH1-E | Required accessory | |
| | Front air discharge unit | RBC-US21PGE | MMU-AP0152/0182/0242SH, 4SH-E, 4SH1-E | | |
| | Auxiliary fresh air flange | TCB-BUS21WHE | | | |
| Auxiliary fresh air flange | TCB-FF101URE2 | | For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm) | | |
| Slim duct type | Auxiliary fresh air flange | TCB-FF101URE2 | MMU-AP***1SPH, 4SPH-E | For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm) | |
| Concealed duct type | Spigot shaped flange | TCB-SF56C6BE | MMD-AP0076/0096/0126/0156/0186BH P-E, BHP1-E | | |
| | | TCB-SF80C6BE | MMD-AP0246/0276/0306BHP-E, BHP1-E | | |
| | | TCB-SF160C6BE | MMD-AP0366/0486/0566BHP-E, BHP1-E | | |
| Concealed duct high static pressure type | Long life filter kit | TCB-LK801D-E | MMD-AP0186/0246/0276HP-E, 6HP1-E | | |
| | | TCB-LK1401D-E | MMD-AP0366/0466/0566HP-E, 6HP1-E | | |
| | | TCB-LK2801DP-E | MMD-AP0726/0966HP-E | | |
| | Spigot shaped flange | TCB-SF80C6BE | MMD-AP0186/0246/0276HP-E, 6HP1-E | | |
| | | TCB-SF160C6BE | MMD-AP0366/0466/0566HP-E, 6HP1-E | | |
| | Auxiliary fresh air flange | TCB-FF151US-E | MMD-AP***6HP-E, 6HP1-E | | |
| Drain pump kit | TCB-DP40DPE | MMD-AP***6HP-E, 6HP1-E | | | |
| High-wall | PMV Kit 3-Series | RBM-PMV0363E | | For FCU capacity 0.8-1.3HP | Suitable for high wall 7 seire with or without embedded PMV |
| | | RBM-PMV0903E | | For FCU capacity 1.7-2.5HP | |
| Fresh air intake type | High efficiency filter 65 | TCB-UFM4D-1E | MMD-AP0481HFE | Dust collecting effect: 65% (NBS Colorimetric method) | Use with TCB-PF4D-1E |
| | | TCB-UFM3DE | MMD-AP0721/0961HFE | | Use with TCB-PF3D |
| | High efficiency filter 90 | TCB-UFH8D-1E | MMD-AP0481HFE | Dust collecting effect: 90% (NBS Colorimetric method) | Use with TCB-PF4D-1E |
| | | TCB-UFH7DE | MMD-AP0721/0961HFE | | Use with TCB-PF3D |
| | Long life filter | TCB-PF4D-1E | MMD-AP0481HFE | Dust collecting effect: 50% (NBS Colorimetric method) | Use with TCB-FCY51DFE |
| | | TCB-PF3DE | MMD-AP0721/0961HFE | | Use with TCB-PF3D |
| Filter chamber | TCB-FCY51DFE | MMD-AP0481HFE | | | |
| Drain pump kit | TCB-FCY100DE | MMD-AP0721/0961H, 4H-E & MMD-AP0721/0961HFE | | For high efficiency filter or long life prefilter | |
| Air-to-air heat exchanger with DX coil | Drain pump kit | TCB-DP31HEXE | MMD-VN502/802/1002HEXE & MMD-VNk502/802/1002HEXE | Lift up to 330 mm | |
| | | TCB-DP31CE | MMC-AP***7HP-E, 7HP1-E, 8HP-E | Lift up to 600 mm | Use TCB-KP13, 23CE |
| Ceiling-suspended type | Elbow piping kit | TCB-KP13CE | MMC-AP0157/0187HP 7HP1-E, 8HP-E | | |
| | | TCB-KP23CE | MMC-AP0247/0277/0367/0487/0567HP, 7HP1-E, 8HP-E | | |

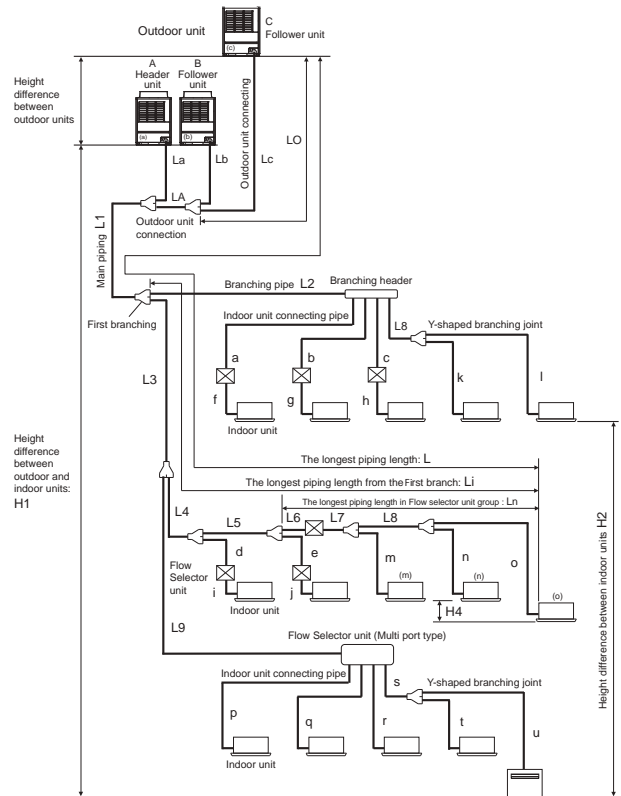
Refrigerant accessories

| Model name | | Description | Picture | Capacities |
|--------------------------------------|------------------------|--|--|---------------------------------|
| Compatible with MINI SMMS-e & SMMS-e | Compatible with SHRM-e | | | |
| RBM-BY55E | RBM-BY55FE | Branching joint |  | < 6.4 HP |
| RBM-BY105E | RBM-BY105FE | | | < 6.4 - 14.2 HP |
| RBM-BY205E | RBM-BY205FE | Branching joint |  | < 14.2 - 25.2 HP |
| RBM-BY305E | RBM-BY305FE | | | 25.2 HP |
| RBM-HY1043E | RBM-HY1043FE | Headers branching four-way |  | < 14.2 HP |
| RBM-HY2043E | RBM-HY2043FE | | | < 14.2 - 25.2 HP |
| RBM-HY1083E | RBM-HY1083FE | Headers branching eight-way |  | < 14.2 HP |
| RBM-HY2083E | RBM-HY2083FE | | | < 14.2 - 25.2 HP |
| RBM-BT14E | RBM-BT14FE | Joints for connection of outdoor units |  | < 26 HP system capacity |
| RBM-BT24E | RBM-BT24FE | | | >26 HP system capacity |
| | RBM-Y1123FE | Flow selector unit |  | < 4.0 HP indoor units |
| | RBM-Y1803FE | | | < 4.0 - 6.4 HP indoor units |
| | RBM-Y2803FE | Flow selector unit long piping | | < 6.4 - 10.0 HP indoor units |
| | RBM-Y1124FE | | | < 4.0 HP indoor units |
| | RBM-Y1804FE | Flow selector unit long piping | | < 4.0 - 6.4 HP indoor units |
| | RBM-Y2804FE | | | < 6.4 - 10.0 HP indoor units |
| | RBM-Y1801F4PE | Multi-port flow selector unit | | < 6.4 HP indoor units x 4 ports |
| | RBM-Y1801F6PE | | | < 6.4 HP indoor units x 6 ports |

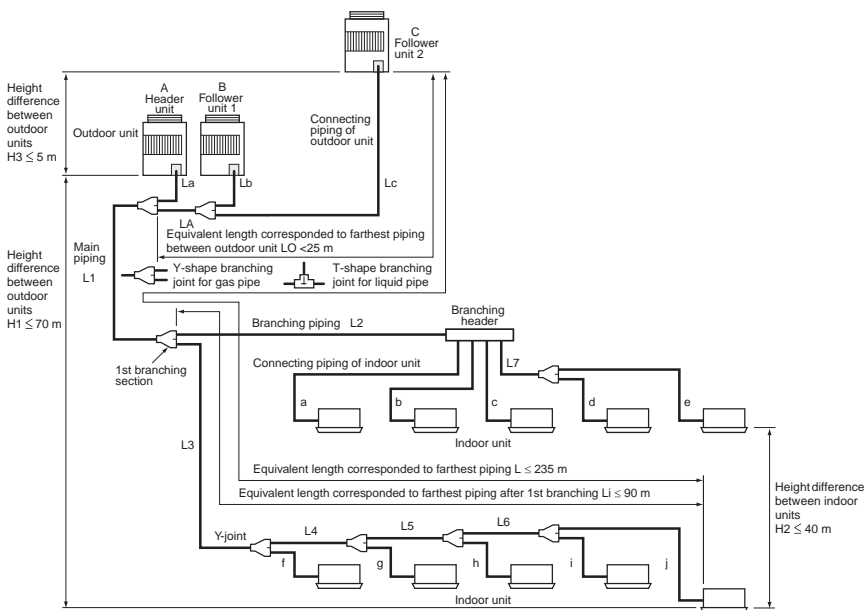
Mini VRF piping



SHRM-e piping



SMMS-e piping



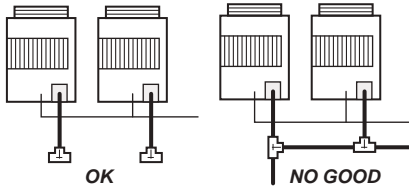
CONTROL

SYSTEM RESTRICTION

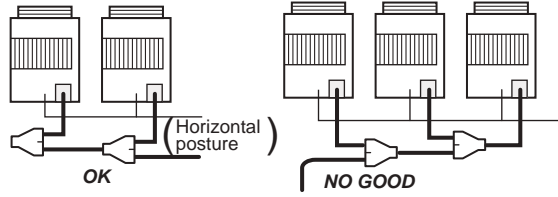
| | | SMMS-e | | SHRM-e |
|---------------------------------|----------|----------------|----------------|--|
| | | Standard | Stand alone | |
| Outdoor unit combination | | Up to 3 units | 1 unit | Up to 3 units |
| Total capacity of outdoor units | | Up to 60HP | Up to 12HP | Up to 54HP |
| Indoor unit connection | | Up to 64 units | Up to 27 units | Up to 64 units (54 with central control) |
| Total capacity of indoor units | H2 ≤ 15m | 135% | | 135%* |
| | 15m > H2 | 105% | | 105% |

* 20HP & 40HP: 125% 38HP: 130%

T-shape branching joint for liquid pipe



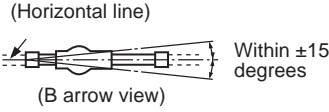
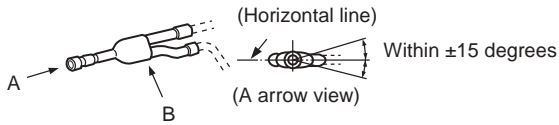
Y-shape branching joint for gas pipe



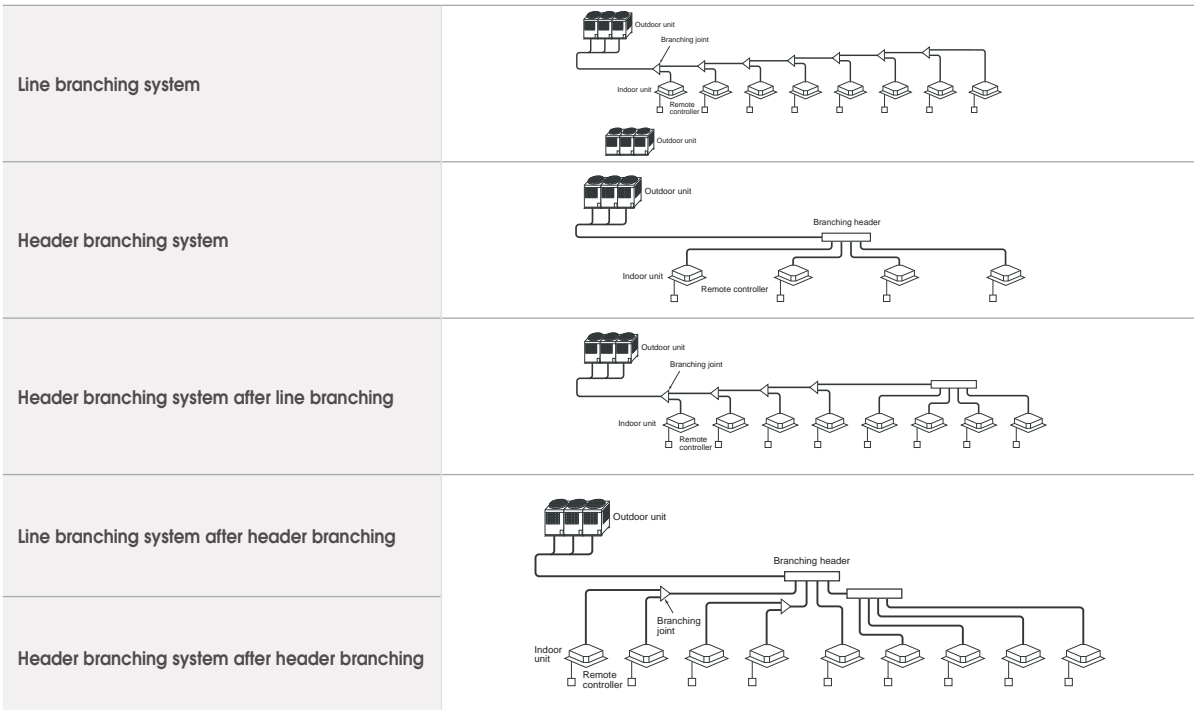
CAUTION FOR INSTALLATION

Be careful of the connecting arrangement of the header unit and follower units. Set the outdoor units in order of capacity from the one with the largest capacity.

At a level position

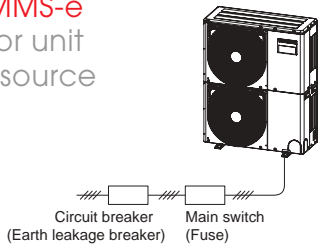


FREE BRANCHING SYSTEM

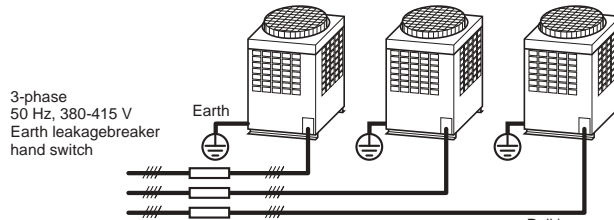


Electrical wiring

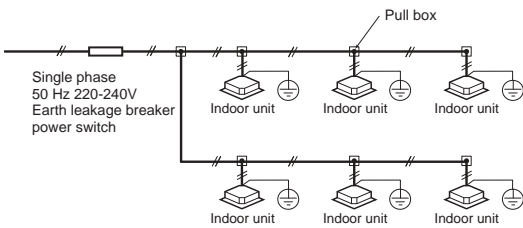
Mini SMMS-e
Outdoor unit
power source



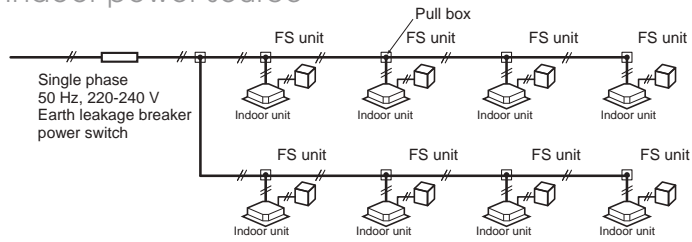
SMMS-e/SHRM-e
Outdoor power source



Indoor unit power source



Indoor power source

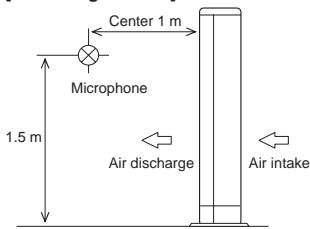


FS unit only applicable for SHRM-e. Multiple and 4 series FS boxes need to be powered separately from indoor unit.

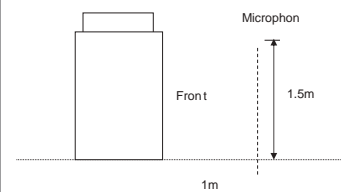
Sound pressure level measurement

MINI SMMS

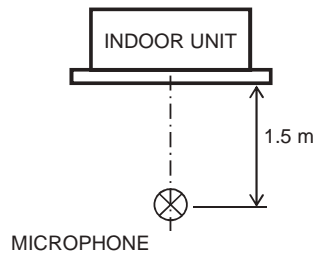
[Measuring location]



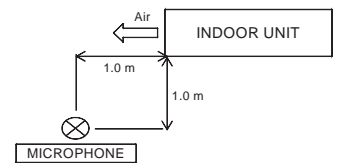
SMMS-e & SHRM-e



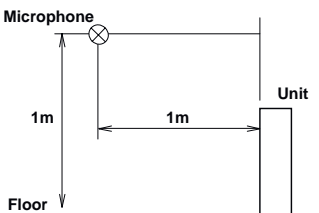
COMPACT 4-WAY CASSETTE & 4-WAY CASSETTE & 2-WAY CASSETTE & 1-WAY CASSETTE



HIGH-WALL & CEILING



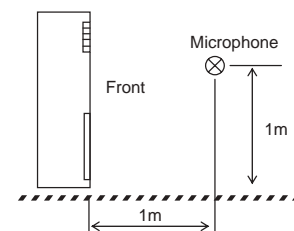
CONSOLE & BIFLOW CONSOLE



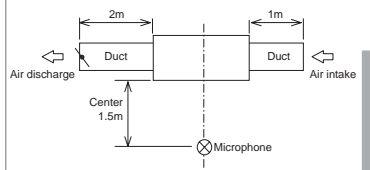
CONCEALED CHASSIS



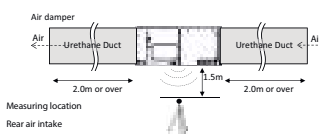
FLOOR STANDING



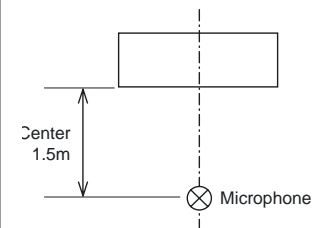
SLIM DUCT & STANDARD DUCT & HIGH STATIC DUCT



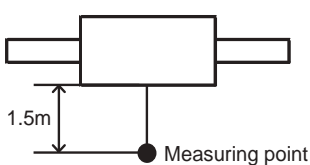
HIGH STATIC DUCT SIZES 72 & 96



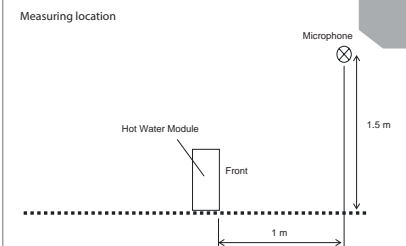
FRESH AIR



A2A HEAT EXCHANGER



HOT WATER MODULE (MID & HIGH TEMPERATURE)



CONTROL

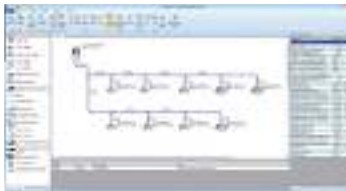
Toshiba selection Tool

MAKE IT EASIER

Toshiba Selection software has been fully designed, with a user-friendly interface allowing novice and expert users alike to create simple, yet detailed VRF system schematics. It is highly versatile, allowing the level of detail to be tailored to suit customer requirements. The software also allows the user to specify pricing strategy and create additional interim reports, including any diagrams and schematics required. Final detailed reports can then be produced and sent to customers in PDF format or in more complex files, such as AutoCAD DXF, allowing simple integration into their existing software packages.



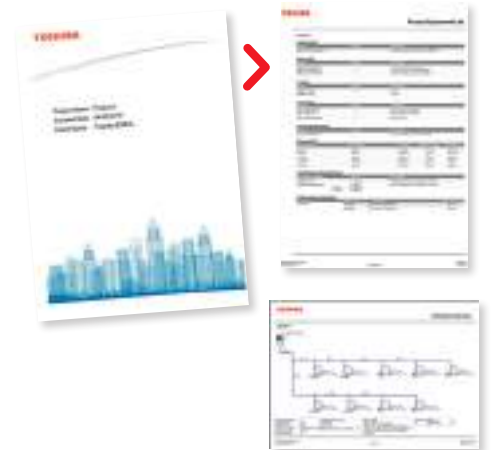
Software main screen



Project fully customizable



Complete report



Dyna Doctor

DIAGNOSTIC TOOL

System sophisticated as the VRF needs advanced solution to simplify commissioning and ensure good operation. Toshiba has developed Dyna Doctor software: a precious diagnostic tool for the technicians who deal with installation and maintenance. Technicians can connect to the VRF system using a dedicated interface that allows download of all parameters of operation. This allows analysis or instant verification of data.



Wave tool

NEAR FIELD TECHNOLOGY AND WAVE TOOL, ALL YOUR DATA WITHIN REACH

With Near Field Communication (NFC), the SMMS-e and the SHRM-e are the first in the industry to allow remote monitoring of CDU operations. Using NFC technology, Read and Write data is exchanged wirelessly between the unit and a smartphone (Android, OS, 5.0) for remote commissioning and operations data checking.



Product data
System data
Fault history
Test operation results
(Android only)

Less time needed for system configuration and maintenance operations

➤ INSTALLATION AND USE OF REFRIGERANTS NOT SPECIFIED BY TOSHIBA CARRIER CORPORATION

Toshiba Air Conditioning products are designed and manufactured on the assumption that each product is used with the specific refrigerant specified for that product.

The use of incorrect refrigerant may cause mechanical defects, malfunctions or failures which, in some cases, could result in a serious safety issue. For this reason Toshiba Carrier Corporation requires that only the specified refrigerant for a product should be used.

The type of refrigerant specified for a product is stated in the accompanying owners manual for a product, or on the label attached to the product itself.

Toshiba Carrier Corporation shall not assume any liability for failures, malfunctions or safety issues on any product if incorrect refrigerant is used in that product.

➤ TESTING CONDITIONS BASED ON EUROVENT REQUIREMENTS

Cooling mode

Indoor air temperature: 27°CDB / 19°CWB

Outdoor temperature: 35°CDB / 24°CWB

Heating mode

Indoor air temperature: 20°CDB

Outdoor temperature: 7°CDB / 6°CWB

Certified data accessible on Eurovent website

Seasonal data accessible on Toshiba Ecodesign website