

TOSHIBA

Toshiba MMW-AP0481CHQ-E Manual

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Hot Water Module

MMW-AP0481CHQ-E

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Hot water module (multi type) (34 pages)

[Water Heater Toshiba MMW-AP0271LQ-E Owner's Manual](#)

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[Water Heater Toshiba DSK ES Series Installation Instruction](#)

Electric water heater (12 pages)

Summary of Contents for Toshiba MMW-AP0481CHQ-E

[Page 1: Table Of Contents](#)

E18-361 MMW-AP__1CHQ Hot Water Module MMW-AP0481CHQ-E MMW-AP0481CHQ-TR Contents Summaries of product characteristics Specifications Dimensional drawing Center of gravity Refrigerant cycle diagram Wiring diagram Optional connector specifications Electrical characteristics External wiring diagram Water side characteristics Sound data Caution of installation...

[Page 2: Summaries Of Product Characteristics](#)

• To create a single solution for our customers heating and domestic hot water requirements. Toshiba SHRM-e High temperature Hot Water Module - CHARACTER • New Design, specifically engineered for VRF application • Operating Control designed specifically to maximize both performance and efficiency.

[Page 3](#) E18-361 MMW-AP__1CHQ Allowable length / height difference of refrigerant piping ■ System High temperature Hot Water Module (H-HWM) is connectable to only SHRM-e. The system does not work when it connect to the SMMS-i, SMMS-e, MiNi-SMMS-e and SHRM-i. The Fresh Air intake type and Air to Air Heat Exchanger with DX Coil cannot be connected with the same refrigerant system.

[Page 4](#) E18-361 MMW-AP__1CHQ Follower unit Unit (C) Maximum equivalent piping length of outdoor Header unit Follower unit unit connecting pipe: Lc (La, Lb) Unit (A) Unit (B) Height between outdoor units: H3 Farthest equivalent piping length between outdoor units: LO Main piping Branching header Branching pipe: L2...

[Page 5](#) E18-361 MMW-AP__1CHQ SHRM-e Item Pipes Without With Less than 34 HP or less 300 m 300 m LA + La + Lb + Lc + L1 + L2 + L3 + L4 + Total extension of pipe L5 + L6 + L7 + L8 + a + b + c + d + e + f + (liquid pipe, real length) 34 HP or more 1000 m (*3)

[Page 6](#) E18-361 MMW-AP__1CHQ M-HWM: Mid temperature Hot Water Module H-HWM: High temperature Hot Water Module correct Incorrect Incorrect Standard Standard indoor unit indoor unit H-HWM M-HWM M-HWM H-HWM correct correct correct Standard indoor unit Standard M-HWM M-HWM H-HWM H-HWM indoor unit...

[Page 7](#) The capacity code of the Hot water module is different from the capacity code of the standard indoor unit. Mid temperature High temperature Hot water module MMW-AP0271LQ-E MMW-AP0561LQ-E MMW-AP0481CHQ-E Capacity rank type Capacity code Equivalent to HP (HP)

Equivalent to capacity 14.0 (kW) 12.5...

[Page 8: Specifications](#)

E18-361 MMW-AP__1CHQ 2. Specifications Hot Water Module Specifications Model MMW-AP0481CHQ-E MMW-AP0481CHQ-TR Heating capacity *1 (kW) 14.0 14.0 Power supply *2 1 phase 50 Hz 220-240 V 1 phase 50 Hz 220-240 V Electrical Running current (max) 17.5 17.5 characteristics Power consumption (max) (kW) 4.15...

[Page 9: Dimensional Drawing](#)

E18-361 MMW-AP__1CHQ 3. Dimensional drawing MMW-AP0481CHQ-E, MMW-AP0481CHQ-TR...

[Page 10: Center Of Gravity](#)

E18-361 MMW-AP__1CHQ 4. Center of gravity MMW-AP0481CHQ-E, MMW-AP0481CHQ-TR Model type X (mm) Y (mm) Z (mm) Weight (kg) MMW-AP0481CHQ-* (Unit: mm)

[Page 11: Refrigerant Cycle Diagram](#)

E18-361 MMW-AP__1CHQ 5. Refrigerant cycle diagram MMW-AP0481CHQ-E, MMW-AP0481CHQ-TR...

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E18-361 MMW-AP__1CHQ 6. Wiring diagram MMW-AP0481CHQ-E, MMW-AP0481CHQ-TR...

[Page 13: Optional Connector Specifications](#)

8. Electrical characteristics Nominal Voltage Voltage Range Power Supply Model (V-Ph-Hz) Min. Max. MOCP MMW-AP0481CHQ-E 220 to 240 - 1 - 50 17.5 25.0 MMW-AP0481CHQ-TR 220 to 240 - 1 - 50 17.5 25.0 MCA : Minimum Circuit Amps MOCP: Maximum Over current Protection (Amps)

[Page 14: External Wiring Diagram](#)

E18-361 MMW-AP__1CHQ 9. External wiring diagram Output signal function wiring Connect the following output signals from the Hot Water Module. Terminal Function Comments block No. DC12 V (COM) Common for connector S2 ~ S5 DC12 V Defrosting output (COM-S1) Relay coil is less than 16 mA. DC12 V Line heater output (COM-S2) Relay coil is less than 16 mA.

Page 15 E18-361 MMW-AP__1CHQ ■Outside trouble input wiring • In case of connecting the Relay (procured locally) for outside trouble input, connect a connector with wire (accessory) to CN703 on I/F P.C.Board (MCC-1628). • After signal is input, 3 sec. later: Forced thermostat - OFF 1 min.

Page 16 E18-361 MMW-AP__1CHQ ▼Clamp filter (accessory) • In case of using external connecting to CN703 on I/F P.C.Board (MCC-1628) or CN61 on Control P.C.Board (MCC-1643), attach the clamp filters (accessory) as following. • Fix a clamp filter to a spacer of P.C. Board or Power supply wire with a binding band. •...

Page 17 E18-361 MMW-AP__1CHQ Interface P.C. board on the header outdoor unit SW06 SW07 SW09 SW10 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 SW11 SW12 SW13 SW14 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 Wiring between indoor (including Hot Water Module) and outdoor units...

Page 18 E18-361 MMW-AP__1CHQ ▼Power supply • For the power supply of the hot water module, prepare the exclusive power supply separated from that of the outdoor unit and other indoor units. • Power supply wire specification: Cable 3-core, in conformity with 60245 IEC 57. Power supply 220 V -...

Page 19 E18-361 MMW-AP__1CHQ Remote controller wiring Indoor unit Remote controller FS unit M-HWM: Mid temperature Hot Water Module H-HWM: High temperature Hot Water Module Indoor unit Indoor unit Indoor unit Indoor unit Remote Correct controller wiring (Max. 8 units) Remote Remote controller inter-unit wiring controller M-HWM Indoor unit...

[Page 20: Water Side Characteristics](#)

E18-361 MMW-AP__1CHQ 10. Water side characteristics High temperature Hot Water Module operation temperature range Continuous operation range Startup area A area Ambient [WB°C]

A area: Low ambient heating (-20°C or less) for extended periods of time is not allowed.

[Page 21](#) E18-361 MMW-AP__1CHQ Hot Water Module capacity characteristics Correction by temperature (Estimated performance without defrost) Inlet Water Temperature (°C) 60°C 50°C 70°C 75°C Outdoor temperature [WB] In case of outside air temperature is 27°C DB or more and the total operating capacity of M-HWM and H-HWM is less than 5 horsepower, the heating capacity may be extremely decreased.

[Page 22](#) E18-361 MMW-AP__1CHQ Booster Heater capacity simple selection table Water piping installation example Pump Booster Heater Air vent valve Pressure relief valve Expansion vessel Set: 0.3 MPa Hot Water Module Hot water using equipment • Such as air Isolating Valve handling unit Line Heater Strainer...

[Page 23](#) E18-361 MMW-AP__1CHQ Characteristics of Hot Water Module flow rate and pressure loss The following graph shows the range of flow rates used for the Hot Water Module, and the characteristic pressure losses. Use this as an aid in the local pump procurement process. 048 type Min.

[Page 24: Sound Data](#)

E18-361 MMW-AP__1CHQ 11. Sound data Sound characteristics of Hot Water Module MMW-AP0481CHQ-E/TR Heating Sound pressure level dB(A) Heating NC-70 NC-60 NC-50 NC-40 NC-30 Audibility limits of continuous white noise NC-20 1000 2000 4000 8000 Octave band center frequency (Hz) Measuring location Microphone 1.5 m...

[Page 25: Caution Of Installation](#)

E18-361 MMW-AP__1CHQ 12. Caution of installation Water piping WARNING • Install water pipes according to the regulations of respective countries. • Install water pipes in the freeze-free place. • Make sure that water pipes have sufficient pressure resistance. The design pressure is 1.0 MPa. CAUTION •...

[Page 26](#) • Follow the table below 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 Water outlet R1-1/4 Air vent valve...

[Page 27](#) E18-361 MMW-AP__1CHQ Pipe size, material and insulator The following specification for piping work and insulating process are procured locally. Model MMW- AP048 Inlet R1 - 1/4 Connecting pipe Water pipe (unit side) Outlet R1 - 1/4 Connecting pipes material Copper pipes are recommended Insulator Formed polyethylene foam, thickness: 10 mm or more Drain piping...

[Page 28](#) E18-361 MMW-AP__1CHQ Selection of installation place Avoid installing in the following places Select a location for the indoor unit where the cool or warm air will circulate evenly. Avoid installation in the following kinds of locations. • Saline area (coastal area) •...

[Page 29](#) E18-361 MMW-AP__1CHQ Installation atmosphere Installation atmosphere of the unit is as follows. Be careful of installation atmosphere. It becomes a cause of failure of a product by dewing or freezing. Dry-bulb temp. (°C) 5 to 32 Wet-bulb temp. (°C) 24 (Max.) Installation atmosphere RH (%) 30 to 85...

[Page 30](#) E18-361 MMW-AP__1CHQ Buffer Tank Installation A buffer tank must be installed in order to stabilize the temperature of the water supplied when using a Hot Water Module to the heating equipment such as a radiator or floor heating. Buffer tank for space heating...

[Page 31](#) E18-361 MMW-AP__1CHQ Cylinder Tank Installation (For sanitary applications) A cylinder tank must be installed in order to protect for Hot Water Module when used in sanitary applications. For Hot water module protection, always install a cylinder tank. If the cylinder tank is not installed, the temperature of the water does not rise, or problems occurs that do not come up with warm air from the air conditioner, which is connected to the same refrigerant piping.

[Page 32](#) E18-361 MMW-AP__1CHQ External (Support) Line Heater Installations Please be sure to install the line heater (procured locally) when HWM is installed a water freezes environment. Not installing a heater causes problems such as the HWM water heat exchanger freezing and loss of heating ability. [1] Install the heater within 5 m of the water pipe between

the Hot Water Module and the water pump, and 5 m of the HWM pipe connections.

[Page 33](#) High temperature Hot Water Module Engineering Data Book Model name: MMW-AP___1CHQ-E November, 2019 Second Edition...

This manual is also suitable for:

[Mmw-ap0481chq-tr](#)