RBC-DXC
0/10V DX KIT

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 **6000**m^3/h

OUTDOOR UNITS COMPATIBILITY

SMMS-e

LOCAL CONTROLS

RBC-AMTU31-E

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		8 & 10HP SMMSe only
Power supply		220 - 240V AC 50Hz

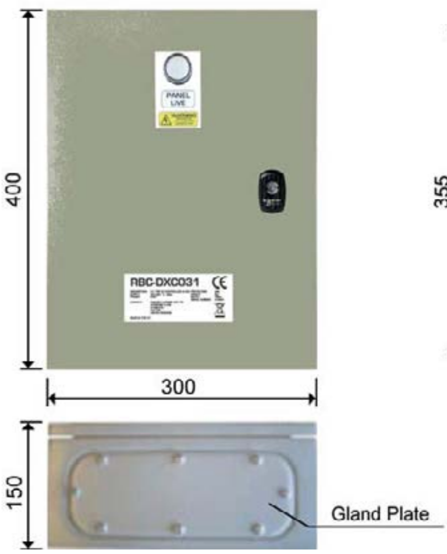
VRF DX coil controller unit	RBC-	DXC031	DXC031	DXC031
VRF DX PMV valve unit	MM-	DXV141	DXV281	DXV281
Cooling capacity	kW	16.0	22.4	28.0
Heating capacity	kW	18.0	25.0	31.5
Capacity code	HP	6.0	8.0	10.0

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

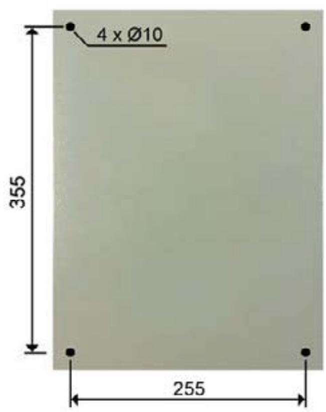
Drawings

Unit: mm

Dimensions



Mounting Holes



Units: mm
Weight: 8.0kg

Capacity table

	Capacity in HP	Diversity ratio	VRF DX Coil controller (Individual/Header) RBC-DXC031	VRF DX Coil valve kit MM-DXV141	MM-DXV281	Nominal capacity (kW) Cool Min	Cool Max	Heat Min	Heat Max	DX coil internal volume (cc) Min	Max	Recommended liquid capillary mm	Air volume flow rate (m³/h) Std
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	3000	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.

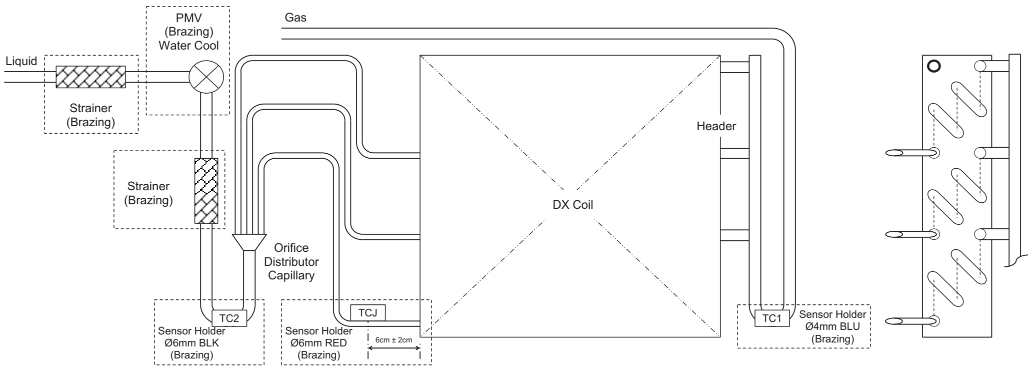
The counter flow principle must be observed for the DX coil design
A Drain Pan must be fitted (even if only used in Heat mode) due to defrost cycles
It is recommended to fit droplet eliminator plates in the discharge air stream if used in Cool mode.
1:1 Connection: The DX Interface (0-10V) must be connected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

Inputs and Outputs

	Temrinal block	Description	Type	Remarks	
Input	TB4 & 5	Capacity demand	Analog input		0/10V
	TB6 & 7	On /Off	Digital input		
	TB8 & 9	Mode input	Digita input		
	TB14 & 15	Safety contact input	Digita input	NC	
	TB16 & KP1	Fan error input	Digita 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

VRF DX Coil Schematic



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.