



SYNERGY

VRF

R-410A
Green Refrigerant

*Multi system 25-80 Tons
Large Commercial VRF System
TYV/CLCP/TYA R410A Series 50Hz*

TRANE
TECHNOLOGIES





Large Commercial VRF System

- Synergy VRF expanded portfolio of outdoor units comprise the largest capacity range for VRF systems in the commercial industry. The maximum capacity of the largest modular system is 960MBH.

DC Compressor Inverter



- DC inverter
- High energy efficiency
- High reliability
- Low noise / vibration

- Twin rotary DC Inverter / Scroll DC Inverter.
- Concentrated winding improve low frequency efficiency.

Easy Service and Maintenance

- Self-Diagnostic system shows error codes for the causes of malfunction which help reduce service time.

Unit Backup Operation Function

- If one of the unit in multiple outdoor system malfunctions, the other outdoor units can be manually enable to allow the remaining system to operate in a limited fashion.

New Refrigerant Cooled PCB Technology

- New full Package for top discharge and Micro Channel Radiator for side discharge design to enhance heat transfer and decrease temperature by 15 °C.



Wide Range of Outdoor Units

- The Outdoor units capacity range from 300MBH - 960MBH. Maximum 4 outdoor units can be connected in one refrigerant system.



Weekly Schedule Wired Controller TM-ATOBR

- The control panel of wire controller is responsible for controlling the operation status of the system by the button and displaying the working status of the entire system by its LCD screen and is responsible for communicating with the control board of the system.
- Weekly schedule wired controller is applied to industrial, commercial, and family room temperature control.



LCD Display



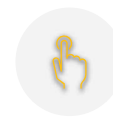
User Interface

Technique Index

- Temperature sensor: NTC.
- Temperature display precision: ± 0.5 °C.
- Temperature set range: 16-30 °C.
- Working environment: 0-50 °C.
- IP Level: IP20.
- Signal Wire: Sheathed twisted pair cable, 24AWG.
- Size: 86x86x41.3 mm. (Width x High x Thick).
- Distance of fixing: Max. 30m (Standard 10m).
- Self-consumption power: < 1W.



LCD LARGE SCREEN



TOUCH BUTTON



IP20



TIMER AND WEEKLY SCHEDULE



BUTTON LOCKED MODE



FAULT DISPLAY



Display Wired Controller



Remote Control (Option)



Touch Screen Centralized Control System (Optional)

- Touch screen centralized control system is the centralized management system of synergy system.
- For unit system, it can provide group configuration, schedule management, user operation, energy saving control and other functions.
- 7 inch Touch Screen Panel.



Touch Panel F007



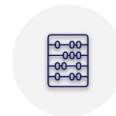
User Interface



COMPACT
STRUCTURE



USER-FRIENDLY
INTERFACE



ALL UNITS
CONTROL



GROUP DEVICE
CONTROL



TIMER AND
SCHEDULE



ENERGY
SAVING MODE

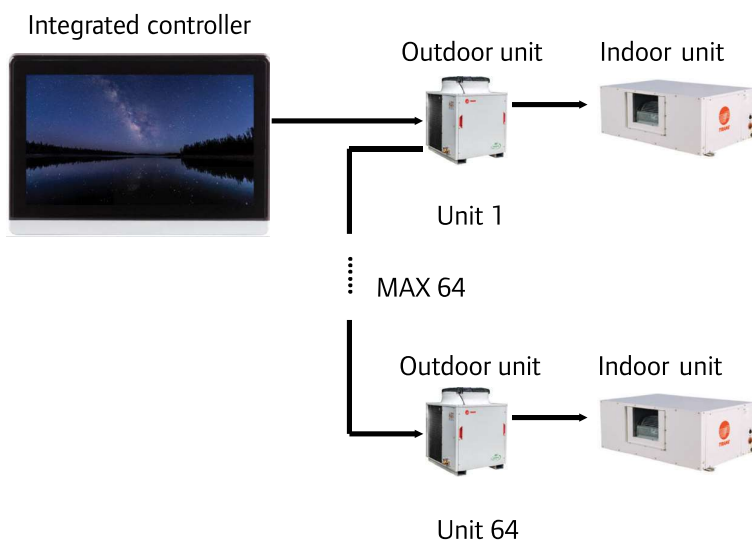


ALARM

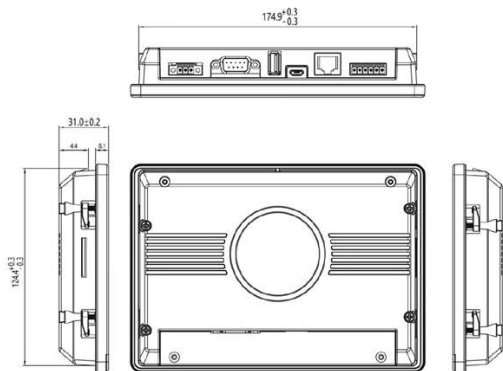


SYSTEM
DIAGNOSING

- Uses RS-485 network form, the structure is simple, the wiring is convenient and fast.
- Centralized touch screen, can control up to 64 sets.
- The longest transmission distance can reach 1,000 meters.



Product Dimension



TYV Air Handling Unit (Single skin)

- Vertical discharge.
- Forward curved centrifugal type evaporator fan(s) with fixed belt drive.
- Suitable for ducted application (Fan motor hp output will be specially selected to properly match with Free blow application.)



CLCP Air Handling Unit (Double skin)

- Customizable for air discharge.
- Belt drive.
- High Static Pressure.
- Suitable for ducted application (Fan motor hp output will be specially selected to properly match with application.)



TYA150JD-TYA200JD



TYA240JD

TYA Condensing Unit

- External current overload for compressor.
- Temperature protection.
- Under and Over voltage protection.
- Hi/Low pressure.
- Phase protection.
- Cooled PCB.

Combination Table

Capacity (MBH)	Unit 1	Unit 2	Unit 3	Unit 4
300	TYA150JD	TYA150JD		
400	TYA200JD	TYA200JD		
450	TYA150JD	TYA150JD	TYA150JD	
480	TYA240JD	TYA240JD		
600	TYA200JD	TYA200JD	TYA200JD	
720	TYA240JD	TYA240JD	TYA240JD	
800	TYA200JD	TYA200JD	TYA200JD	TYA200JD
960	TYA240JD	TYA240JD	TYA240JD	TYA240JD

1 AHU + 3 CDUs



Indoor model	Indoor motor (HP)	Outdoor model	Capacity (MBH)
TYV500	10 (15.3)	TYA 150JD x 3	450
TYV600	15 (22.2A)	TYA 200JD x 3	600
TYV800	20 (29.6A)	TYA 240JD x 3	720
CLCP030	10 (15.3)	TYA 150JD x 3	450
CLCP035	15 (22.2A)	TYA 200JD x 3	600
CLCP040	20 (29.6A)	TYA 240JD x 3	720

1 AHU + 2 CDUs



Indoor model	Indoor motor (HP)	Outdoor model	Capacity (MBH)
TYV300	7.5 (11.5A)	TYA 150JD x 2	300
TYV400	7.5 (11.5A)	TYA 150JD x 2	350
TYV400	7.5 (11.5A)	TYA 200JD x 2	400
TYV500	10 (15.3)	TYA 240JD x 2	480
CLCP 300K	7.5 (11.5A)	TYA 150JD x 2	300
CLCP 400K	7.5 (11.5A)	TYA 200JD x 2	400
CLCP 500K	10 (15.3)	TYA 240JD x 2	480

1 AHU + 4 CDUs



Indoor model	Indoor motor (HP)	Outdoor model	Capacity (MBH)
TYV800	20 (29.6A)	TYA 200JD x 4	800
CLCP040	20 (29.6A)	TYA 200JD x 4	800
CLCP050	25 (35.8)	TYA 240JD x 4	960

Product Specifications (TYV Model)

UNIT MODELS	Indoor unit		TYV300	TYV400	TYV400	TYV500	TYV500	TYV600	TYV800	TYV800
	Outdoor unit	(Unit 1)	TYA150JD	TYA150JD	TYA200JD	TYA150JD	TYA240JD	TYA200JD	TYA240JD	TYA200JD
		(Unit 2)	TYA150JD	TYA150JD	TYA200JD	TYA150JD	TYA240JD	TYA200JD	TYA240JD	TYA200JD
		(Unit 3)	-	-	-	TYA150JD	-	TYA200JD	TYA240JD	TYA200JD
		(Unit 4)	-	-	-	-	-	-	-	TYA200JD
Electrical Data	Power Supply	V/Ph/Hz	380-415/3/50							
Performance data	Cooling Capacity	Btu/h	300,000	350,000	400,000	450,000	480,000	600,000	720,000	800,000
	Nominal Airflow	CFM	9,240	12,120	12,120	15,130	15,130	18,080	24,240	24,240
System data	Refrigerant Type		R410A							
	No. Refrigerant Circuits		2	2	2	3	2	3	3	4
	Refrigerant Connection Type		BRAZE	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE
	Suction Line OD	in (mm)	(1-1/8") x 2	(1-1/8") x 2	(1-3/8") x 2	(1-1/8") x 3	(1-5/8") x 2	(1-3/8") x 3	(1-5/8") x 3	(1-3/8") x 4
	Liquid Line OD	in (mm)	(5/8") x 2	(5/8") x 2	(5/8") x 2	(5/8") x 3	(5/8") x 2	(5/8") x 3	(5/8") x 3	(5/8") x 4
Indoor Units										
Flow control	Type		Thermostatic Expansion Valve							
Fan	Fan Type		Forward Curve Centrifugal Fan							
	Qty		1	2	2	2	2	2	2	2
	Drive Type		Belt - Drive							
Fan Motor	Output	Hp (kW)	7.5 (5.5)	7.5 (5.5)	7.5 (5.5)	10 (7.5)	10 (7.5)	15 (11)	20 (15)	20 (15)
	Qty x FLA	Amp	11.5	11.5	11.5	15.3	15.3	22.2	29.6	29.6
Filter	Type		1 - In Thickness Washable Aluminium							
Dimension (HxWxD)	Unit (Net)	mm	1,372x1,808x1,040	1,520x2,088x1,040	1,520x2,088x1,040	1,653x2,596x1,275	1,653x2,596x1,275	1,777x2,596x1,275	2,045x2,952x1,375	2,045x2,952x1,375
Weight	Unit (Net)	kg	421	487	487	685	685	749	900	900
Outdoor Units										
Compressor	Type		Twin Rotary DC Inverter	Twin Rotary DC Inverter	Scroll DC Inverter	Twin Rotary DC Inverter	Twin Rotary DC Inverter	Scroll DC Inverter	Twin Rotary DC Inverter	Scroll DC Inverter
	Qty x FLA		2 x 37	2 x 37	2 x 41.5	3 x 37	4 x 27.5	3 x 41.5	6 x 27.5	4 x 41.5
Fan	Fan Type		Propeller							
	Qty		2	2	2	3	4	3	6	4
Fan Motor	Type		AC motor							
	Qty x Output	Watt	2 x 1,050	2 x 1,050	2 x 1,580	3 x 1,050	4 x 650	3 x 1,580	6 x 650	4 x 1,580
	Qty x FLA		2 x 2.1	2 x 2.1	2 x 3.1	3 x 2.1	4 x 1.4	3 x 3.1	6 x 1.4	4 x 3.1
Dimension (HxWxD)	Unit 1 (Net)	mm	1,370x1,040x1,090	1,370x1,040x1,090	1,370x1,040x1,090	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090
	Unit 2 (Net)	mm	1,370x1,040x1,090	1,370x1,040x1,090	1,370x1,040x1,090	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090
	Unit 3 (Net)	mm	-	-	-	1,370x1,040x1,090	-	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090
	Unit 4 (Net)	mm	-	-	-	-	-	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090
Weight	Qty x Unit (Net)	kg	2 x 175	2 x 175	2 x 200	3 x 175	2 x 290	3 x 200	3 x 290	4 x 200

Product Specifications (CLCP Model)

UNIT MODELS	Indoor unit		CLCP020	CLCP025	CLCP030	CLCP030	CLCP035	CLCP040	CLCP040	CLCP050
	Outdoor unit	(Unit 1)	TYA150JD	TYA200JD	TYA150JD	TYA240JD	TYA200JD	TYA240JD	TYA200JD	TYA240JD
		(Unit 2)	TYA150JD	TYA200JD	TYA150JD	TYA240JD	TYA200JD	TYA240JD	TYA200JD	TYA240JD
		(Unit 3)	-	-	TYA150JD	-	TYA200JD	TYA240JD	TYA200JD	TYA240JD
		(Unit 4)	-	-	-	-	-	-	TYA200JD	TYA240JD
Electrical Data	Power Supply	V/Ph/Hz	380-415/3/50							
Performance data	Cooling Capacity	Btu/h	300,000	400,000	450,000	480,000	600,000	720,000	800,000	960,000
	Nominal Airflow	CFM	10,530	12,120	15,130	15,130	18,080	24,240	24,240	32,322
System data	Refrigerant Type		R410A							
	No. Refrigerant Circuits		2	2	3	2	3	3	4	4
	Refrigerant Connection Type		BRAZE	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE
	Suction Line OD	in (mm)	(1-1/8") x 2	(1-3/8") x 2	(1-1/8") x 3	(1-5/8") x 2	(1-3/8") x 3	(1-5/8") x 3	(1-3/8") x 4	(1-5/8") x 4
	Liquid Line OD	in (mm)	(5/8") x 2	(5/8") x 2	(5/8") x 3	(5/8") x 2	(5/8") x 3	(5/8") x 3	(5/8") x 4	(5/8") x 4
Indoor Units										
Flow control	Type		Thermostatic Expansion Valve							
Fan	Fan Type		Forward Curve Centrifugal Fan							
	Qty		1	1	1	1	1	1	1	1
	Drive Type		Belt - Drive							
Fan Motor	Output	Hp (kW)	7.5 (5.5)	7.5 (5.5)	10 (7.5)	10 (7.5)	15 (11)	20 (15)	20 (15)	25 (18.5)
	Qty x FLA	Amp	11.5	11.5	15.3	15.3	22.2	29.6	29.6	35.8
Filter	Type		1 - In Thickness Washable Aluminium							
Dimension (HxWxD)	Unit (Net)	mm	1,488x1,988x1,678	1,798x1,988x1,833	2,108x1,988x1,988	2,108x1,988x1,988	2,108x2,298x1,988	2,108x2,608x2,143	2,108x2,608x2,143	2,108x3,228x2,298
Weight	Unit (Net)	kg	700	750	850	850	900	1,150	1,150	1,460
Outdoor Units										
Compressor	Type		Twin Rotary DC Inverter	Scroll DC Inverter	Twin Rotary DC Inverter	Twin Rotary DC Inverter	Scroll DC Inverter	Twin Rotary DC Inverter	Scroll DC Inverter	Twin Rotary DC Inverter
	Qty x FLA		2 x 37	2 x 41.5	3 x 37	4 x 27.5	3 x 41.5	6 x 27.5	4 x 41.5	8 x 27.5
Fan	Fan Type		Propeller							
	Qty		2	2	3	4	3	6	4	8
Fan Motor	Type		AC motor							
	Qty x Output	Watt	2 x 1,050	2 x 1,580	3 x 1,050	4 x 650	3 x 1,580	6 x 650	4 x 1,580	8 x 650
	Qty x FLA		2 x 2.1	2 x 3.1	3 x 2.1	4 x 1.4	3 x 3.1	6 x 1.4	4 x 3.1	8 x 1.4
Dimension (HxWxD)	Unit 1 (Net)	mm	1,370x1,040x1,090	1,370x1,040x1,090	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881
	Unit 2 (Net)	mm	1,370x1,040x1,090	1,370x1,040x1,090	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881
	Unit 3 (Net)	mm	-	-	1,370x1,040x1,090	-	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090	1,378x1,792x881
	Unit 4 (Net)	mm	-	-	-	-	-	1,370x1,040x1,090	1,378x1,792x881	1,370x1,040x1,090
Weight	Qty x Unit (Net)	kg	2 x 175	2 x 200	3 x 175	2 x 290	3 x 200	3 x 290	4 x 200	4 x 290

- Note: 1. Capacity is rated at AR conditions of 80° / 67° FDB/FWB for Indoor & 95° FDB for Outdoor.
 2. Outdoor unit dimensions depth is not included the dimensions of unit's legs.
 3. Product design and specification are subject to change without notice.
 4. The actual sizing of CLCP model is depends on the design airflow cfm.



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