



Outdoor Units

Heat Pump

380-415 / 3 / 50-
60 220 / 3 / 60
460 / 3 / 60

Four Seasons SERIES



Four Seasons

SERIES

- META Technology
- Zen Air Technology
- Doctor M Technology
- Enhanced Vapor Injection (EVI) Compressor
- Triple Configurations
- High Efficiency G-Shape Heat Exchanger
- ESP up to 120Pa
- Plate Heat (PHE) Subcooling
- Precise Oil Control Technology
- Multi Silent Modes
- Duty Cycling
- Backup Operation
- UL Anti-Corrosion Certificate
- Refrigerant Cooling PCB
- Auto Snow-blowing Function
- Dust-clean Function
- Multi-Functional Diagnosis Box
- Automatic Refrigerant Detecting/Charging/Recycling

Optimized design
for small to large
buildings



Safety devices

- High/low pressure switch,
- Fan driver overload protector
- Overcurrent relay,
- Inverter overload protector
- Overvoltage protector

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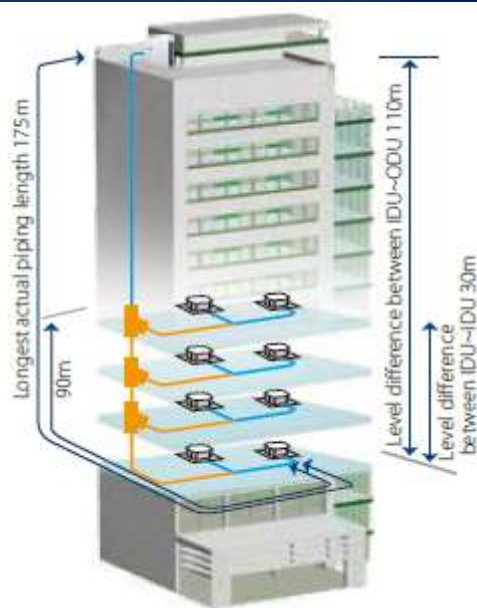
SERIES

Optimized design for small to large buildings

Long Piping Capability

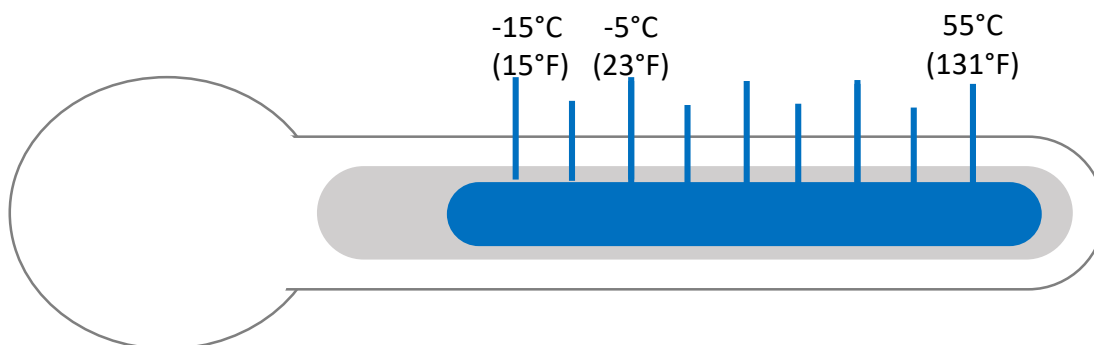
Piping Length	Capability	
	m	Ft
Total piping length	1,000	3,280
Longest piping length - actual / equivalent	175/200	574/656
Longest piping length after first branch	40/90(*)	(131.2/295.2)
Largest level difference between IDUs and ODU-ODU up/down	90/110	(295.2/360.8)
Largest level difference between IDUs	30	98.4

*The longest length after first branch is 40m(131.2ft.) as standard but can be extended to up to 90m(295.2ft.) under certain conditions. Please contact your local dealer for further information.



Wide Operating Temperature Range

The **Tropical Series** VRF can operate stably in a wide ambient temperature range: from -15°C(5°F)* to 55°C(131°F) in cooling mode.



Heat Pump

220 / 3 / 60Hz

460 / 3 / 60Hz

Four Seasons SERIES



			Model		
(220V, 3Ph, 60Hz) Voltage A			CTVS-EMO-H-086-A-CE-DC-1	CTVS-EMO-H-096-A-CE-DC-1	CTVS-EMO-H-120-A-CE-DC-1
(460V, 3Ph, 60Hz) Voltage D			CTVS-EMO-H-086-D-CE-DC-1	CTVS-EMO-H-096-D-CE-DC-1	CTVS-EMO-H-120-D-CE-DC-1
Combination type			I	I	I
Cooling	Capacity	kBtu/h	86	95.5	114.3
		kW	25.2	28	33.5
		HP	8	10	12
	Power input	kW	5.36	6.22	7.79
	EER		4.7	4.5	4.3
Heating	Capacity	kBtu/h	92.1	107.5	128
		kW	27	31.5	37.5
	Power input	kW	4.82	5.94	7.65
	COP		5.6	5.3	4.9
Connectable indoor unit	Total capacity		50~130% of outdoor unit capacity		
	Max. quantity		13	16	20
Compressor	Type		DC inverter		
	Quantity		1		
Fan motor	Type		DC motor		
	Quantity		1		
	Static pressure	Pa(in.wg)	0-20(0-0.08)(default)		
		Pa(in.wg)	20-60(0.08-0.24) (customized)		
Refrigerant	Type		R410A		
	Factory charging	Kg	9	11	
		Lbs	19.8	24.2	
Pipe connections	Liquid pipe	mm	2.7	5.9	
		inch	1/2"	5/8"	
	Gas pipe	mm	25.4	28.6	
		inch	1"	1-1/8"	
	Oil balance pipe	mm	6.35		
		inch	1/4"		
Airflow rate		m³/h	12,000		
		CFM	7,063		
Sound pressure level		dB(A)	58	59	60
Net dimension (WxHxD)		mm	990 x 1,635 x 790		
		Inch	39" x 64-3/8" x 31-1/8"		
Packing size (WxHxD)		mm	1,090 x 1,805 x 860		
		inch	42-15/16" x 71-1/16" x 33-7/8"		
Net weight (220V)	kg	219		237	
	lbs	481.8		521.4	
Gross weight (220V)	kg	234		252	
	lbs	514.8		554.4	
Net weight (460V)	kg	229		247	
	lbs	503.8		543.4	
Gross weight (460V)	kg	249		267	
	lbs	548		587	
Operating temperature range		°C	Cooling : 5 to 48; Heating: 20 to 24		
		°F	Cooling : 23 to 118.4; Heating: -4 to 75.2		

Notes:

Capacities are based on the following conditions:

Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB; Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB.

Piping length: Interconnecting piping length is 7.5m, level difference is zero.

Connection piping diameter of multi-unit is the main pipe connecting to the first indoor branch joint, in case of the total equivalent liquid length is less than 90m. If the total equivalent liquid length is more than 90m, please refer to technical manual to choose the connection piping diameter.

Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.3m above the floor.

Heat Pump

220 / 3 / 60Hz

460 / 3 / 60Hz

Four Seasons SERIES



			Model				
(220V, 3Ph, 60Hz) Voltage A			CTVS-EMO-H-137-A-CE-DC-1	CTVS-EMO-H-154-A-CE-DC-1	CTVS-EMO-H-171-A-CE-DC-1	CTVS-EMO-H-191-A-CE-DC-1	CTVS-EMO-H-210-A-CE-DC-1
(460V, 3Ph, 60Hz) Voltage D			CTVS-EMO-H-137-D-CE-DC-1	CTVS-EMO-H-154-D-CE-DC-1	CTVS-EMO-H-171-D-CE-DC-1	CTVS-EMO-H-191-D-CE-DC-1	CTVS-EMO-H-210-D-CE-DC-1
Combination type							
Cooling	Capacity	kBtu/h	136.5	153.5	170.6	191.1	209.8
		kW	40	45	50	56	61.5
	Power input	HP	14	16	18	20	22
		kW	9.3	10.98	12.82	14.51	16.44
		EER	4.3	4.1	39	386	3.74
Heating	Capacity	kBtu/h	153.5	170.6	191.1	215	235.4
		kW	45	50	56	63	69
	Power input	kW	9.38	10.87	13.18	15.29	17.12
	COP	4.8	4.6	4.25	4.12	403	
Connectable indoor unit	Total capacity		50~1 30%of outdoor unit capacity				
	Max. quantity		23	26	29	33	36
Compressor	Type		DC inverter				
	Quantity		2				
Fan motor	Type		DC motor				
	Quan t i t y		2				
	Static pressure	Pa(in.wg)	0-20(0-0 08) (default)				
		Pa(in.wg)	20-60(0.08-024) (customized)				
Refrigerant	Type		R41 0A				
	Factory charging	Kg	13			16	
		Lbs	28.6			35.2	
Pipe connections	Liquid pipe	mm	5.9		19.1		
		inch	5/8"		3/4"		
	Gas pipe	mm	31.8		31.8		
		inch	1-1/4"		1-1/4"		
	Oil balance pipe	mm	6.35				
		inch	1/4"				
Airflow rate		m ³ /h	14,000		16,000		
		CFM	8,240		9,417		
Sound pressure level		dB(A)	62		63		
Net dimension (WxHxD)		mm	1,340 x 1,635 x 790				
		inch	52-3/4" x 64-3/8" x 31-1/8"				
Packing size (WxHxD)		mm	1,405 x 1,805 x 855				
		inch	55-5/16" x 71-1/16" x 33-21/32"				
Net weight (220V)	kg	297		305		340	
	lbs	654.3		671.0		748.0	
Gross weight (220V)	kg	31 5		323		358	
	lbs	693.0		710.6		787.6	
Net weight (460V)	kg	326		334		369	
	lbs	71 7.2		734.8		811.8	
Gross weight (460V)	kg	353		361		396	
	lbs	777		794		871	
Operating temperature range		°C	Cooling : 5 to 48; Heating: 20 to 24				
		°F	Cooling : 23 to 118.4; Heating: -4 to 75.2				

Notes:

Capacities are based on the following conditions:

Cooling: Indoor temperature 27oC DB/19oC WB; Outdoor temperature 35oC DB/24oC WB; Heating: Indoor temperature 20oC DB/15oC WB; Outdoor temperature 7oC DB/6oC WB.

Piping length: Interconnecting piping length is 7.5m, level difference is zero.

Connection piping diameter of multi-unit is the main pipe connecting to the first indoor branch joint, is case of the total equivalent liquid length is less than 90m. If the total equivalent liquid length is more than 90m, please refer to technical manual to choose the connection piping diameter.

Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.3m above the floor.