Product Catalog

VRF Water Source Unit

6 to 48 Tons

November 2014

VRF-PRC017A-EN

Introduction

System Features[1,2]

- Modules are "hybrid" systems, shipping as standard heat pump configuration, field convertible for simultaneous heating and cooling operation
- 3rd generation compressor technology features all inverter compressors for superior efficiency and reliability
- Asymmetric scroll is designed to minimize frictional loss
- Dual inverter compressors (available in 16 ton model) are designed to equally share load for higher reliability
- Improved vapor injection system increases refrigerant flow rate up to 20% for superior heating performance
- Intercooler uses a plate heat exchanger for improved heating and cooling efficiency
- 8,400 RPM (maximum speed) compressor assures quick start cooling and heating performance
- Auto oil balancing eliminates the need for an oil balancing pipe
- Inverter PCB is refrigerant cooled for improved reliability
- Longer pipe lengths are the result of large oil storage capacity and low oil circulation rate
- Total harmonic distortion is reduced through adaptive sine wave control
- Refrigerant pump down and pump out facilitates maintenance and repair
- High efficiency hatch design plate heat exchanger provides improved heat transfer between water and refrigerant
- Turbulent, high velocity water flow minimizes internal scaling and fouling
- Automatic refrigerant balancing between indoor units optimize refrigerant distribution for better comfort and performance
- Four and six port mode control units are light and compact. Distributed installation flexibility provides superior performance during simultaneous heating and cooling operation.
- Trane VRF systems feature self-diagnosis, including system monitoring and error code reporting

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[1] For Trane VRF Indoor Units, refer to VRF-PRC006*-EN
[2] For expanded capacity tables, refer to VRF-PRC018*-EN

Table of Contents

Model Number Description - Water Source

4	T	V	P	0	0	9	6	B	3	0	0	N	B
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Digit 1 — Refrigerant
4 = R-410A

Digit 2 — Brand Name
T = Trane

Digit 3 — System Type
V = Variable Refrigerant Flow

Digit 4 — Functional Type Outdoor Unit
P = Hybrid Water Source, DC Inverter (VRF)

Digit 5 — Efficiency Tier and/or Special Application
0 = Standard

Digit 6,7,8 — Nominal Capacity
Important: *Btuh x1,000*
072 = 72,000 Btuh
096 = 96,000 Btuh
120 = 120,000 Btuh
144 = 144,000 Btuh
168 = 168,000 Btuh
192 = 192,000 Btuh

Digit 9 — Major Development Sequence
B = Second Development Sequence

Digit 10 — Electric Power Supply Characteristics
3 = 208–230/60/3
4 = 460/60/3

Digit 11 — Reserved for Future Use
0 = Not currently used

Digit 12 — Reserved for Future Use
0 = Not currently used

Digit 13 — Region of Sale
N = North America (UL or ETL)

Digit 14 — Minor Design Sequence
B = Second Design Sequence

System Combination Line-up

Tons	Combination Modules		Individual Module Model Number			
	Model Number	Number of Units	4TVP0072B*	4TVP0096B*	4TVP0120B*	4TVP0192B*
6	4TVP0072B*	SINGLE	1	—	—	—
8	4TVP0096B*	SINGLE	—	1	—	—
10	4TVP0120B*	SINGLE	—	—	1	—
12	4TVP0144B*	DUAL	2	—	—	—
14	4TVP0168B*	DUAL	1	1	—	—
16	4TVP0192B*	SINGLE	—	—	—	1
18	4TVP0216B*	DUAL	—	1	1	—
20	4TVP0240B*	DUAL	—	—	2	—
22	4TVP0264B*	DUAL	1	—	—	1
24	4TVP0288B*	DUAL	—	1	—	1
26	4TVP0312B*	DUAL	—	—	1	1
28	4TVP0336B*	TRIPLE	2	—	—	1
30	4TVP0360B*	TRIPLE	1	1	—	1
32	4TVP0384B*	DUAL	—	—	—	2
34	4TVP0408B*	TRIPLE	—	1	1	1
36	4TVP0432B*	TRIPLE	—	—	2	1
38	4TVP0456B*	TRIPLE	1	—	—	2
40	4TVP0480B*	TRIPLE	—	1	—	2
42	4TVP0504B*	TRIPLE	—	—	1	2
48	4TVP0576B*	TRIPLE	—	—	—	3

Products

Table 1. Application matrix

		Capacity													
		7.5 MBh	9.0 MBh	9.5 MBh	12 MBh	18 MBh	20 MBh	24 MBh	30 MBh	36 MBh	42 MBh	48 MBh	60 MBh	76.8 MBh	96 MBh
Type															
Slim one way cassette		X		X	X										
Four way cassette			X		X	X		X	X	X		X			
Mini four way cassette				X	X	X	X								
Slim duct		X		X	X	X		X	X	X		X			
MSP duct						X		X	X	X		X			
HSP duct										X		X		X	X
Ceiling						X		X							
High Wall		X		X	X	X	X	X							
Convertible AHU								X	X	X	X	X	X		

Controls

Table 2. VRF water source controls

Family	Description	Model Number
Zone Controllers	VRF Wireless Remote Control	TVCTRLTRDH00UT
	VRF Simple Wired Remote Control	TVCTRLWR001T
	VRF Wired Remote Control	TVCTRLTWRWD01T
	VRF Duct Signal Receiver & Wire	TVCTRLTRKA10N0
Centralized Control Systems	VRF Central On/Off Control	TVCTRLTCMA202D
	VRF TouchScreen Control	TVCTRLTCMA300T
	VRF Mode Select Switch	TVCTRLTCMC2000
Integrated System Management	VRF System Controller	TVCTRLTIMD00A0
	VRF Enterprise Management Software	TVCTRLTSTP3P00
	VRF Power Meter Interface Mod.	TVCTRLTIMB16A0
Building Management System Gateways	VRF System Controller + BACnet™	TVCTRLTIMB17A0
	VRF System Controller + LonTalk™	TVCTRLTIMB18A0
Interface Modules	VRF External Contact Interface Module	TVCTRLTIMB14A0
	VRF Multi Function Control	TVCTRLTC210N00
	VRF MFC Enclosure	TVCTRLTC210BOX
Sensors	VRF Ext. Room Temp Sensor	TVCTRLTRWTA000
	VRF Motion Sensor Mini 4Way	MOTIONSEN4TVB
Commissioning and Utility Kits	VRF Technician Utilities Tool	TVCTRLTIMC0300
	VRF Auto-Commissioning Tool	TVCTRLTIMC1000

Accessories

Table 3. VRF water source accessories

Family	Description	Model Number
Refrigeration Joints	VRF Y-joint <51MBh	4YDK1509B0051A
	VRF Y-joint 51-138MBh	4YDK2512B0138A
	VRF Y-joint 138-160MBh	4YDK2812B0160A
	VRF Y-joint 160-240MBh	4YDK2815B0240A
	VRF Y-joint 240-336MBh	4YDK3419B0336A
	VRF Y-joint 336-468MBh	4YDK4119B0468A
	VRF Y-joint >468MBh	4YDK4422B0999A
	VRF Y-joint HR <80MBh	4YDK1500B0080A
	VRF Y-joint HR 80-240MBh	4YDK2500B0240A
	VRF Y-joint HR 240-468MBh	4YDK3100B0468A
	VRF Y-joint HR >468MBh	4YDK3800B0999A
	VRF T-joint >468MBh	4TDK3800B0999A
	VRF T-joint <468MBh	4TDK3819B0000A
	VRF T-joint HR <468MBh	4TDK3100B0000A
	VRF T-joint HR >468MBh	4TDK4422B0999A
Header Joints	VRF Header Joint 4Units<160MBh	4HJK2512B0159A
	VRF Header Joint 8Units 240MBh	4HJK3115B0241A
	VRF Header Joint 8Units<160MBh	4HJK3819B0998A
EEV Kits (for Floor/Ceiling and selected High Wall Indoor Units)	VRF EEV Kit 1Unit 7-15.5MBh	4EEVEVA24SA000
	VRF EEV Kit 1Unit 17-31MBh	4EEVEVA32SA000
	VRF EEV 1x 7-15.5& 1x 17-31MBh	4EEVXDA24K132A
	VRF EEV Kit 2Unit 7-15.5MBh	4EEVXDA24K200A
	VRF EEV 2x 7-15.5& 1x 17-31MBh	4EEVXDA24K232A
	VRF EEV Kit 2Unit 17-31MBh	4EEVXDA32K200A
	VRF EEV 1x 7-15.5& 2x 17-31MBh	4EEVXDA32K224A
	VRF EEV Kit 3Unit 7-15.5MBh	4EEVXDA24K300A
	VRF EEV Kit 3Unit 17-31MBh	4EEVXDA32K300A
AHU Kits	VRF AHU Kit 24-30MBh	4EEVAKA40K1025
	VRF AHU Kit 48-60MBh	4EEVAKA40K1050
	VRF AHU Kit 72-90MBh	4EEVAKA64K1075
	VRF AHU Kit 96-112MBh	4EEVAKA64K1100
Condensate Pumps	VRF Drain Pump High Wall and Floor/Ceiling	CONDPUMPAHWB01
	VRF Drain Pump Slim Duct	CONDPUMPXVLB01
	VRF Drain Pump MSP 18/24MBh	CONDPUMPXVMB01
	VRF Drain Pump MSP 30/36MBh	CONDPUMPXVMB02
	VRF Drain Pump MSP48/ HSP3648MBh	CONDPUMPXVDB01
	VRF Drain Pump HSP 76.8/96MBh	CONDPUMPXVHB01

continued on next page

Table 3. VRF water source accessories (continued)

Family	Description	Model Number
Mode Control Units (for Simultaneous Heating and Cooling Applications)	VRF MCU Kit up to 4 IDU	4MCUCUY4NCE000
	VRF MCU Kit up to 6 IDU	4MCUCUY6NCE000
	VRF MCU Kit 2 IDU HSP Only	4MCUCUY2NCE000
Ball Valves	1/2” Ball Valve Flare	BVALVE12FLARE1
	1/4” Ball Valve Flare	BVALVE14FLARE1
	3/8” Ball Valve Flare	BVALVE38FLARE1
	5/8” Ball Valve Flare	BVALVE58FLARE1
Cassette Panels	VRF Cassette Panel Sliding 1 Way	TVEPANPC1NUAET
	VRF Cassette Panel Slim 1 Way	TVEPANPC1NUSET
	VRF Cassette Panel 4 Way	TVEPANPC4NUSET
	VRF Cassette Panel Mini 4 Way	TVEPANPC4SUSET
Pressure Differential Module (for high rise applications)	Pressure Differential Module 6/8/10 Ton	MXD-A12K2A
	Pressure Differential Module 16 Ton	MXD-A58K2A
Water Source VRF Hose Kits	Hose Kit 4TVP0072	4TVP072HOSEKIT
	Hose Kit 4TVP0096	4TVP096HOSEKIT
	Hose Kit 4TVP0120	4TVP120HOSEKIT
	Hose Kit 4TVP0192	4TVP192HOSEKIT

Product Specifications

VRF Water Source

Table 4. 208-230V Water source modules

Model Name				4TVP0072B300NB		4TVP0096B300NB		4TVP0120B300NB	
Combination				Single Module		Single Module		Single Module	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			6	6	8	8	10	10
Performance	Capacity Nominal[a]	Cooling	Btuh	72,000	72,000	96,000	96,000	120,000	120,000
		Heating		81,000	81,000	108,000	108,000	135,000	135,000
	Capacity (Rated)[b]	Cooling	Btuh	69,000	69,000	92,000	92,000	114,000	114,000
		Heating		77,000	77,000	103,000	103,000	129,000	129,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	20.20	17.60	19.90	16.00	13.70	12.50
		IEER	—	30.10	25.20	28.60	23.00	22.20	20.10
		COP @ 68° F	—	6.00	5.90	5.90	5.40	4.40	4.40
		SCHE	—	26.50	23.70	27.40	23.60	18.50	19.00
	Heat Rejected to Equipment Room		Btuh	1,366		1,366		1,366	
Power	Power Input (Nominal)	Cooling	kW	3.15		4.27		8.50	
		Heating	kW	3.52		4.79		8.19	
	MCA		A	16.0		23.0		30.0	
	MOP			25		40		50	
Compressor	Type		—	SSC Scroll x 1		SSC Scroll x 1		SSC Scroll x 1	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96		4.96		4.96	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9		131.9		131.9	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT		1-1/4 FPT		1-1/4 FPT	
	Pressure Drop		ft wg	7.3		10.0		14.4	
	Water Flow Rate		GPM	21.1		25.4		30.1	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/8″ Braze		3/8″ Braze		1/2″ Braze	
	Gas Pipe		Ø, inch	3/4″ Braze		7/8″ Braze		1 1/8″ Braze	
	High Pressure Gas Pipe[d]		Ø, inch	5/8″ Braze		3/4″ Braze		7/8″ Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	12		16		20	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1		12.8		13.2	
Sound[g]	Sound Pressure		dB(A)	48		48		50	
	Sound Power			70		70		70	
External Dimension	Net Weight		lbs.	353		353		353	
	Shipping Weight		lbs.	368		368		368	
	Net Dimensions (WxHxD)		inch	30.3 x 39.4 x 21.5		30.3 x 39.4 x 21.5		30.3 x 39.4 x 21.5	
	Shipping Dimensions (WxHxD)		inch	33.1 x 47.2 x 24.4		33.1 x 47.2 x 24.4		33.1 x 47.2 x 24.4	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4″ BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 5. 208-230V Water source modules

Model Name				4TVP0144B300NB		4TVP0168B300NB		4TVP0192B300NB	
Combination				4TVP0072B300NB + 4TVP0072B300NB		4TVP0072B300NB + 4TVP0096B300NB		Single Module	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			12	12	14	14	16	16
Performance	Capacity Nominal[a]	Cooling	Btuh	144,000	144,000	168,000	168,000	192,000	192,000
		Heating		162,000	162,000	189,000	189,000	216,000	216,000
	Capacity (Rated)[b]	Cooling	Btuh	138,000	138,000	160,000	160,000	184,000	184,000
		Heating		154,000	154,000	180,000	180,000	206,000	206,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	19.10	17.40	18.10	16.50	12.30	12.60
		IEER	—	28.10	25.20	26.70	23.80	19.30	20.90
		COP @ 68° F	—	5.70	5.80	5.60	5.50	4.50	4.70
		SCHE	—	23.80	21.30	24.20	21.30	20.20	19.70
	Heat Rejected to Equipment Room		Btuh	2,732		2,732		1,366	
Power	Power Input (Nominal)	Cooling	kW	6.30		7.42		15.20	
		Heating	kW	7.04		8.31		13.39	
	MCA		A	16 + 16		16 + 23		39.6	
	MOP			25 + 25		25 + 40		50	
Compressor	Type		—	SSC Scroll x 2		SSC Scroll x 2		SSC Scroll x 2	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96 each		4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9 ea.		131.9 ea.		209.6	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 2		1-1/4 FPT x 2		1-1/4 FPT	
	Pressure Drop		ft wg	7.3 x 2		7.3 + 10.0		18.1	
	Water Flow Rate		GPM	21.1 x 2		21.1 + 25.4		50.2	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	1/2” Braze		5/8” Braze		5/8” Braze	
	Gas Pipe		Ø, inch	1 1/8” Braze		1 1/8” Braze		1 1/8” Braze	
	High Pressure Gas Pipe[d]		Ø, inch	7/8” Braze		7/8” Braze		1 1/8” Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	25		29		33	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1 x2		12.1 + 12.8		21.6	
Sound[g]	Sound Pressure		dB(A)	—		—		51	
	Sound Power			—		—		73	
External Dimension	Net Weight		lbs.	353 x 2		353 x 2		529	
	Shipping Weight		lbs.	368 x 2		368 x 2		551	
	Net Dimensions (WxHxD)		inch	(30.3 x 39.4 x 21.5) x 2		(30.3 x 39.4 x 21.5) x 2		43.3 x 39.4 x 21.5	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) x 2		46.1 x 47.2 x 24.4	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4” BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 6. 208-230V Water source modules

Model Name				4TVP0216B300NB		4TVP0240B300NB	
Combination				4TVP0096B300NB + 4TVP0120B300NB		4TVP0120B300NB+ 4TVP0120B300NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			18	18	20	20
Performance	Capacity Nominal[a]	Cooling	Btuh	216,000	216,000	240,000	240,000
		Heating		243,000	243,000	270,000	270,000
	Capacity (Rated)[b]	Cooling	Btuh	206,000	206,000	228,000	228,000
		Heating		232,000	232,000	258,000	258,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	15.30	14.50	12.50	11.90
		IEER	—	23.10	22.40	21.10	19.30
		COP @ 68° F	—	4.90	4.70	4.10	4.20
		SCHE	—	20.30	18.60	16.00	16.00
	Heat Rejected to Equipment Room		Btuh	2,732		2,732	
Power	Power Input (Nominal)	Cooling	kW	12.77		17.00	
		Heating	kW	12.98		16.38	
	MCA		A	23 + 30		30 + 30	
	MOP			40 + 50		50 + 50	
Compressor	Type		—	SSC Scroll x 2		SSC Scroll x 2	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE	
		Initial Charge	fl. ozs.	131.9 ea.		131.9 ea.	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 2		1-1/4 FPT x 2	
	Pressure Drop		ft wg	10.0 + 14.4		14.4 x 2	
	Water Flow Rate		GPM	25.4 + 30.1		30.1 x 2	
	Water Max. Pressure		Psi	285		285	
Piping Connections	Liquid Pipe		Ø, inch	5/8” Braze		5/8” Braze	
	Gas Pipe		Ø, inch	1 1/8” Braze		1 1/8” Braze	
	High Pressure Gas Pipe[d]		Ø, inch	7/8” Braze		7/8” Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	37		41	
Refrigerant	Type		—	R-410A		R-410A	
	Factory Charging		lbs.	12.8 + 13.2		13.2 x 2	
Sound[g]	Sound Pressure		dB(A)	—		—	
	Sound Power			—		—	
External Dimension	Net Weight		lbs.	353 x 2		353 x 2	
	Shipping Weight		lbs.	368 x 2		368 x 2	
	Net Dimensions (WxHxD)		inch	(30.3 x 39.4 x 21.5) x 2		(30.3 x 39.4 x 21.5) x 2	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) x 2	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104	
	Heating		°F	32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4” BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 7. 208-230V Water source modules

Model Name				4TVP0264B300NB		4TVP0288B300NB		4TVP0312B300NB	
Combination				4TVP0072B300NB + 4TVP0192B300NB		4TVP0096B300NB + 4TVP0192B300NB		4TVP0120B300NB + 4TVP0192B300NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			22	22	24	24	26	26
Performance	Capacity Nominal[a]	Cooling	Btuh	264,000	264,000	288,000	288,000	312,000	312,000
		Heating		297,000	297,000	324,000	324,000	351,000	351,000
	Capacity (Rated)[b]	Cooling	Btuh	252,000	252,000	276,000	276,000	298,000	298,000
		Heating		282,000	282,000	308,000	308,000	334,000	334,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	13.60	13.90	13.90	13.20	10.20	11.50
		IEER	—	23.00	21.90	20.20	20.70	18.90	19.10
		COP @ 68° F	—	4.60	4.90	4.60	4.60	3.70	4.10
		SCHE	—	21.00	19.50	21.40	19.70	17.80	16.90
	Heat Rejected to Equipment Room		Btuh	2,732		2,732		2,732	
Power	Power Input (Nominal)	Cooling	kW	18.35		19.47		23.70	
		Heating	kW	16.91		18.18		21.58	
	MCA		A	16 + 39.6		23 + 39.6		30 + 39.6	
	MOP			25 + 50		40 + 50		50 + 50	
Compressor	Type		—	SSC Scroll x 3		SSC Scroll x 3		SSC Scroll x 3	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96 each		4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9 + 209.6		131.9 + 209.6		131.9 + 209.6	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 2		1-1/4 FPT		1-1/4 FPT	
	Pressure Drop		ft wg	7.3 + 18.1		10.0 + 18.1		14.4 + 18.1	
	Water Flow Rate		GPM	21.1 + 50.2		25.4 + 50.2		30.1 + 50.2	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4" Braze		3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch	1 3/8" Braze		1 3/8" Braze		1 3/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 1/8" Braze		1 1/8" Braze		1 1/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	45		49		54	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1 + 21.6		12.8 + 21.6		13.2 + 21.6	
Sound[g]	Sound Pressure		dB(A)	—		—		—	
	Sound Power			—		—		—	
External Dimension	Net Weight		lbs.	353 + 529		353 + 529		353 + 529	
	Shipping Weight		lbs.	368 + 551		368 + 551		368 + 551	
	Net Dimensions (WxHxD)		inch	(30.3 x 39.4 x 21.5) + (43.3 x 39.4 x 21.5)		(30.3 x 39.4 x 21.5) + (43.3 x 39.4 x 21.5)		(30.3 x 39.4 x 21.5) + (43.3 x 39.4 x 21.5)	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4)	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 8. 208-230V Water source modules

Model Name				4TVP0336B300NB		4TVP0360B300NB		4TVP0384B300NB	
Combination				4TVP0072B300NB + 4TVP0072B300NB + 4TVP0192B300NB		4TVP0072B300NB + 4TVP0096B300NB + 4TVP0192B300NB		4TVP0192B300NB + 4TVP0192B300NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			28	28	30	30	32	32
Performance	Capacity Nominal[a]	Cooling	Btuh	336,000	336,000	360,000	360,000	384,000	384,000
		Heating		378,000	378,000	405,000	405,000	432,000	432,000
	Capacity (Rated)[b]	Cooling	Btuh	322,000	322,000	344,000	344,000	366,000	366,000
		Heating		360,000	360,000	386,000	386,000	410,000	410,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	15.30	14.70	15.10	14.20	12.90	13.10
		IEER	—	19.40	17.70	18.60	16.70	16.60	15.60
		COP @ 68° F	—	4.70	5.10	4.60	4.90	4.10	4.70
		SCHE	—	19.60	18.60	21.10	18.60	18.40	19.40
	Heat Rejected to Equipment Room		Btuh	4,098		4,098		2,732	
Power	Power Input (Nominal)	Cooling	kW	21.50		22.62		30.40	
		Heating	kW	20.43		21.70		26.78	
	MCA		A	16 + 16 + 39.6		16 + 23 + 39.6		39.6 + 39.6	
	MOP			25 + 25 + 50		25 + 40 + 50		50 + 50	
Compressor	Type		—	SSC Scroll x 4		SSC Scroll x 4		SSC Scroll x 4	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96 each		4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	(131.9 x 2) + 209.6		(131.9 x 2) + 209.6		209.6 ea.	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 3		1-1/4 FPT x 3		1-1/4 FPT	
	Pressure Drop		ft wg	(7.3 x 2) + 18.1		7.3 + 10.0 + 18.1		18.1 x 2	
	Water Flow Rate		GPM	(21.1 x 2) + 50.2		21.1 + 25.4 + 50.2		50.2 x 2	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4" Braze		3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch	1 3/8" Braze		1 5/8" Braze		1 5/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 1/8" Braze		1 3/8" Braze		1 3/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	58		62		64	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	(12.1 x2) + 21.6		12.1 + 12.8 + 21.6		21.6 x 2	
Sound[g]	Sound Pressure		dB(A)	—		—		—	
	Sound Power			—		—		—	
External Dimension	Net Weight		lbs.	(353 x 2) + 529		(353 x 2) + 529		529 x 2	
	Shipping Weight		lbs.	(368 x 2) + 551		(368 x 2) + 551		551 x 2	
	Net Dimensions (WxHxD)		inch	(30.3 x 39.4 x 21.5) x 2) + (43.3 x 39.4 x 21.5)		(30.3 x 39.4 x 21.5) x 2 + (43.3 x 39.4 x 21.5)		(43.3 x 39.4 x 21.5) x 2	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)		(46.1 x 47.2 x 24.4) x 2	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 9. 208-230V Water source modules

Model Name				4TVP0408B300NB		4TVP0432B300NB	
Combination				4TVP0096B300NB + 4TVP0120B300NB + 4TVP0192B300NB		4TVP0120B300NB + 4TVP0120B300NB + 4TVP0192B300NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			34	34	36	36
Performance	Capacity Nominal[a]	Cooling	Btuh	408,000	408,000	432,000	432,000
		Heating		459,000	459,000	486,000	486,000
	Capacity (Rated)[b]	Cooling	Btuh	390,000	390,000	415,000	415,000
		Heating		435,000	435,000	460,000	460,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	12.70	12.60	12.40	11.50
		IEER	—	15.80	14.70	14.00	13.60
		COP @ 68° F	—	4.20	4.40	4.20	4.10
		SCHE	—	19.00	19.00	17.20	18.40
	Heat Rejected to Equipment Room		Btuh	4,098		4,098	
Power	Power Input (Nominal)	Cooling	kW	27.97		32.20	
		Heating	kW	26.37		29.77	
	MCA		A	23 + 30 + 39.6		30 + 30 + 39.6	
	MOP			40 + 50 + 50		50 + 50 + 50	
Compressor	Type		—	SSC Scroll x 4		SSC Scroll x 4	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE	
		Initial Charge	fl. ozs.	(131.9 x 2) + 209.6		(131.9 x 2) + 209.6	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 3		1-1/4 FPT x 3	
	Pressure Drop		ft wg	10.0 +14.4 + 18.1		(14.4 x 2) + 18.1	
	Water Flow Rate		GPM	25.4 + 30.1 + 50.2		(30.1 x 2) + 50.2	
	Water Max. Pressure		Psi	285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4” Braze		3/4” Braze	
	Gas Pipe		Ø, inch	1 5/8” Braze		1 5/8” Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 3/8” Braze		1 3/8” Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	64		64	
Refrigerant	Type		—	R-410A		R-410A	
	Factory Charging		lbs.	12.8 + 13.2 + 21.6		(13.2 x 2) + 21.6	
Sound[g]	Sound Pressure		dB(A)	—		—	
	Sound Power			—		—	
External Dimension	Net Weight		lbs.	(353 x 2) + 529		(353 x 2) + 529	
	Shipping Weight		lbs.	(368 x 2) + 551		(368 x 2) + 551	
	Net Dimensions (WxHxD)		inch	(30.3 x 39.4 x 21.5) x 2 + (43.3 x 39.4 x 21.5)		(30.3 x 39.4 x 21.5) x 2 + (43.3 x 39.4 x 21.5)	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104	
	Heating		°F	32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4” BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 10. 208-230V Water source modules

Model Name				4TVP0456B300NB		4TVP0480B300NB		4TVP0504B300NB		4TVP0576B300NB	
Combination				4TVP0072B300NB + 4TVP0192B300NB + 4TVP0192B300NB		4TVP0096B300NB + 4TVP0192B300NB + 4TVP0192B300NB		4TVP0120B300NB + 4TVP0192B300NB + 4TVP0192B300NB		4TVP0192B300NB + 4TVP0192B300NB + 4TVP0192B300NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				208-230/60/3		208-230/60/3		208-230/60/3		208-230/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			38	38	40	40	42	42	48	48
Performance	Capacity Nominal[a]	Cooling	Btuh	456,000	456,000	480,000	480,000	504,000	504,000	576,000	576,000
		Heating		513,000	513,000	540,000	540,000	567,000	567,000	648,000	648,000
	Capacity (Rated)[b]	Cooling	Btuh	440,000	440,000	460,000	460,000	485,000	485,000	555,000	555,000
		Heating		485,000	485,000	515,000	515,000	540,000	540,000	615,000	615,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	12.40	13.10	12.20	12.60	10.20	11.50	10.00	11.50
		IEER	—	14.50	14.60	13.80	13.70	12.20	12.80	12.20	12.50
		COP @ 68° F	—	4.20	4.60	4.10	4.40	3.90	4.00	4.00	4.00
		SCHE	—	17.80	17.20	18.10	17.20	18.70	18.50	17.60	17.10
	Heat Rejected to Equipment Room		Btuh	4,098		4,098		4,098		4,098	
Power	Power Input (Nominal)	Cooling	kW	33.55		34.67		38.90		45.60	
		Heating	kW	30.30		31.57		34.97		40.17	
	MCA		A	16 + 39.6 + 39.6		23 + 39.6 + 39.6		30 + 39.6 + 39.6		39.6 + 39.6 + 39.6	
	MOP			25 + 50 + 50		40 + 50 + 50		50 + 50 + 50		50 + 50 + 50	
Compressor	Type		—	SSC Scroll x 5		SSC Scroll x 5		SSC Scroll x 5		SSC Scroll x 6	
	Model Number			DS-GB052FBVASG		DS-GB052FBVASG		DS-GB052FBVASG		DS-GB052FBVASG	
	Output		kW	4.96 each		4.96 each		4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9 + (209.6 x 2)		131.9 + (209.6 x 2)		131.9 + (209.6 x 2)		209.6 x 3	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 3		1-1/4 FPT x 3		1-1/4 FPT x 3		1-1/4 FPT x 3	
	Pressure Drop		ft wg	7.3 + (18.1 x 2)		10.0 + (18.1 x 2)		14.4 + (18.1 x 2)		18.1 x 3	
	Water Flow Rate		GPM	21.1 + (50.2 x 2)		25.4 + (50.2 x 2)		30.1 + (50.2 x 2)		50.2 x 3	
	Water Max. Pressure		Psi	285		285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4" Braze		3/4" Braze		3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch	1 5/8" Braze		1 5/8" Braze		1 5/8" Braze		1 5/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 3/8" Braze		1 3/8" Braze		1 3/8" Braze		1 3/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	64		64		64		64	
Refrigerant	Type		—	R-410A		R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1 + (21.6 x 2)		12.8 + (21.6 x 2)		13.2 + (21.6 x 2)		21.6 x 3	
Sound[g]	Sound Pressure		dB(A)	—		—		—		—	
	Sound Power			—		—		—		—	
External Dimension	Net Weight		lbs.	353 + (529 x 2)		353 + (529 x 2)		353 + (529 x 2)		529 x 3	
	Shipping Weight		lbs.	368 + (551 x 2)		368 + (551 x 2)		368 + (551 x 2)		551 x 3	
	Net Dimensions (WxHxD)		inch	(30.3 x 39.4 x 21.5) + (43.3 x 39.4 x 21.5) x 2		(30.3 x 39.4 x 21.5) + (43.3 x 39.4 x 21.5) x 2		(30.3 x 39.4 x 21.5) + (43.3 x 39.4 x 21.5) x 2		(43.3 x 39.4 x 21.5) x 3	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4) x 2		(46.1 x 47.2 x 24.4) x 3	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 11. 460V Water source modules

Model Name				4TVP0072B400NB		4TVP0096B400NB		4TVP0120B400NB	
Combination				Single Module		Single Module		Single Module	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				460/60/3		460/60/3		460/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			6	6	8	8	10	10
Performance	Capacity Nominal[a]	Cooling	Btuh	72,000	72,000	96,000	96,000	120,000	120,000
		Heating		81,000	81,000	108,000	108,000	135,000	135,000
	Capacity (Rated)[b]	Cooling	Btuh	69,000	69,000	92,000	92,000	114,000	114,000
		Heating		77,000	77,000	103,000	103,000	129,000	129,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	20.20	17.60	19.60	16.00	15.40	13.50
		IEER	—	30.10	25.20	28.60	23.00	25.30	22.50
		COP @ 68° F	—	6.00	5.90	5.90	5.40	4.80	4.90
		SCHE	—	26.50	23.70	27.40	23.60	20.30	22.50
	Heat Rejected to Equipment Room		Btuh	1,366		1,366		1,366	
Power	Power Input (Nominal)	Cooling	kW	3.15		4.27		6.99	
		Heating	kW	3.52		4.79		7.49	
	MCA		A	10.0		11.0		15.6	
	MOP			15		15		25	
Compressor	Type		—	SSC Scroll x 1		SSC Scroll x 1		SSC Scroll x 1	
	Model Number			DS-GB052FAVBSG		DS-GB052FAVBSG		DS-GB066FAVBSG	
	Output		kW	4.96		4.96		6.13	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9		131.9		131.9	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT		1-1/4 FPT		1-1/4 FPT	
	Pressure Drop		ft wg	7.3		10.0		14.4	
	Water Flow Rate		GPM	21.1		25.4		30.1	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/8″ Braze		3/8″ Braze		1/2″ Braze	
	Gas Pipe		Ø, inch	3/4″ Braze		7/8″ Braze		1 1/8″ Braze	
	High Pressure Gas Pipe[d]		Ø, inch	5/8″ Braze		3/4″ Braze		7/8″ Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	12		16		20	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1		12.8		13.2	
Sound[g]	Sound Pressure		dB(A)	48		48		50	
	Sound Power			70		70		70	
External Dimension	Net Weight		lbs.	368		368		368	
	Shipping Weight		lbs.	384		384		384	
	Net Dimensions (WxHxD)		inch	31.1 x 39.4 x 21.5		31.1 x 39.4 x 21.5		31.1 x 39.4 x 21.5	
	Shipping Dimensions (WxHxD)		inch	33.1 x 47.2 x 24.4		33.1 x 47.2 x 24.4		33.1 x 47.2 x 24.4	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4″ BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 12. 460V Water source modules

Model Name				4TVP0144B400NB		4TVP0168B400NB		4TVP0192B400NB	
Combination				4TVP0072B400NB + 4TVP0072B400NB		4TVP0072B400NB + 4TVP0096B400NB		Single Module	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				460/60/3		460/60/3		460/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			12	12	14	14	16	16
Performance	Capacity Nominal[a]	Cooling	Btuh	144,000	144,000	168,000	168,000	192,000	192,000
		Heating		162,000	162,000	189,000	189,000	216,000	216,000
	Capacity (Rated)[b]	Cooling	Btuh	138,000	138,000	160,000	160,000	184,000	184,000
		Heating		154,000	154,000	180,000	180,000	206,000	206,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	19.10	17.40	18.10	16.50	12.30	12.60
		IEER	—	28.10	25.20	26.70	23.80	19.30	20.90
		COP @ 68° F	—	5.70	5.80	5.60	5.50	4.50	4.70
		SCHE	—	23.80	21.30	24.20	21.30	20.20	19.70
	Heat Rejected to Equipment Room		Btuh	2,732		2,732		1,366	
Power	Power Input (Nominal)	Cooling	kW	6.30		7.42		15.20	
		Heating	kW	7.04		8.31		13.39	
	MCA		A	10 + 10		10 + 11		26.2	
	MOP			15 + 15		15 + 15		35	
Compressor	Type		—	SSC Scroll x 2		SSC Scroll x 2		SSC Scroll x 2	
	Model Number			DS-GB052FAVBSG		DS-GB052FAVBSG		DS-GB052FAVBSG	
	Output		kW	4.96 each		4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9 ea.		131.9 ea.		209.6	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 2		1-1/4 FPT x 2		1-1/4 FPT	
	Pressure Drop		ft wg	7.3 x 2		7.3 + 10.0		18.1	
	Water Flow Rate		GPM	21.1 x 2		21.1 + 25.4		50.2	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	1/2” Braze		5/8" Braze		5/8" Braze	
	Gas Pipe		Ø, inch	1 1/8" Braze		1 1/8" Braze		1 1/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	7/8" Braze		7/8" Braze		1 1/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	25		29		33	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1 x2		12.1 + 12.8		21.6	
Sound[g]	Sound Pressure		dB(A)	—		—		51	
	Sound Power			—		—		73	
External Dimension	Net Weight		lbs.	368 x 2		368 x 2		545	
	Shipping Weight		lbs.	384 x 2		384 x 2		567	
	Net Dimensions (WxHxD)		inch	(31.1 x 39.4 x 21.5) x 2		(31.1 x 39.4 x 21.5) x 2		44.1 x 39.4 x 21.5	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) x 2		46.1 x 47.2 x 24.4	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4” BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 13. 460V Water source modules

Model Name				4TVP0216B400NB		4TVP0240B400NB	
Combination				4TVP0096B400NB + 4TVP0120B400NB		4TVP0120B400NB + 4TVP0120B400NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				460/60/3		460/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			18	18	20	20
Performance	Capacity Nominal[a]	Cooling	Btuh	216,000	216,000	240,000	240,000
		Heating		243,000	243,000	270,000	270,000
	Capacity (Rated)[b]	Cooling	Btuh	206,000	206,000	228,000	228,000
		Heating		232,000	232,000	258,000	258,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	16.50	14.60	15.10	12.90
		IEER	—	24.50	22.30	23.00	21.60
		COP @ 68° F	—	5.00	4.90	4.50	4.60
		SCHE	—	21.50	20.70	18.30	20.20
	Heat Rejected to Equipment Room		Btuh	2,732		2,732	
Power	Power Input (Nominal)	Cooling	kW	11.26		13.98	
		Heating	kW	12.28		14.98	
	MCA		A	11 + 15.6		15.6 + 15.6	
	MOP			15 + 25		25 + 25	
Compressor	Type		—	SSC Scroll x 2		SSC Scroll x 2	
	Model Number			DS-GB052FAVBSG + DS-GB066FAVBSG		DS-GB066FAVBSG	
	Output		kW	4.96 + 6.13		6.13 each	
	Oil	Type	—	PVE		PVE	
		Initial Charge	fl. ozs.	131.9 ea.		131.9 ea.	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 2		1-1/4 FPT x 2	
	Pressure Drop		ft wg	10.0 + 14.4		14.4 x 2	
	Water Flow Rate		GPM	25.4 + 30.1		30.1 x 2	
	Water Max. Pressure		Psi	285		285	
Piping Connections	Liquid Pipe		Ø, inch	5/8 " Braze		5/8 " Braze	
	Gas Pipe		Ø, inch	1 1/8" Braze		1 1/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	7/8" Braze		7/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	37		41	
Refrigerant	Type		—	R-410A		R-410A	
	Factory Charging		lbs.	12.8 + 13.2		13.2 x 2	
Sound[g]	Sound Pressure		dB(A)	—		—	
	Sound Power			—		—	
External Dimension	Net Weight		lbs.	368 x 2		368 x 2	
	Shipping Weight		lbs.	384 x 2		384 x 2	
	Net Dimensions (WxHxD)		inch	(31.1 x 39.4 x 21.5) x 2		(31.1 x 39.4 x 21.5) x 2	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) x 2	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104	
	Heating		°F	32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 14. 460V Water source modules

Model Name				4TVP0264B400NB		4TVP0288B400NB		4TVP0312B400NB	
Combination				4TVP0072B400NB + 4TVP0192B400NB		4TVP0096B400NB + 4TVP0192B400NB		4TVP0120B400NB + 4TVP0192B400NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				460/60/3		460/60/3		460/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			22	22	24	24	26	26
Performance	Capacity Nominal[a]	Cooling	Btuh	264,000	264,000	288,000	288,000	312,000	312,000
		Heating		297,000	297,000	324,000	324,000	351,000	351,000
	Capacity (Rated)[b]	Cooling	Btuh	252,000	252,000	276,000	276,000	298,000	298,000
		Heating		282,000	282,000	308,000	308,000	334,000	334,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	13.60	13.90	13.90	13.20	11.30	11.90
		IEER	—	23.00	21.90	20.20	20.70	20.30	20.20
		COP @ 68° F	—	4.60	4.90	4.60	4.60	3.80	4.40
		SCHE	—	21.00	19.50	21.40	19.70	18.90	19.00
	Heat Rejected to Equipment Room		Btuh	2,732		2,732		2,732	
Power	Power Input (Nominal)	Cooling	kW	18.35		19.47		22.19	
		Heating	kW	16.91		18.18		20.88	
	MCA		A	10 + 26.2		11 + 26.2		15.6 + 26.2	
	MOP			15 + 35		15 + 35		25 + 35	
Compressor	Type		—	SSC Scroll x 3		SSC Scroll x 3		SSC Scroll x 3	
	Model Number			DS-GB052FAVBSG		DS-GB052FAVBSG		"DS-GB066FAVBSG + DS-GB052FAVBSG x 2	
	Output		kW	4.96 each		4.96 each		6.13 + 4.96 (x2)	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	131.9 + 209.6		131.9 + 209.6		131.9 + 209.6	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 2		1-1/4 FPT		1-1/4 FPT	
	Pressure Drop		ft wg	7.3 + 18.1		10.0 + 18.1		14.4 + 18.1	
	Water Flow Rate		GPM	21.1 + 50.2		25.4 + 50.2		30.1 + 50.2	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4" Braze		3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch	1 3/8" Braze		1 3/8" Braze		1 3/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 1/8" Braze		1 1/8" Braze		1 1/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	45		49		54	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	12.1 + 21.6		12.8 + 21.6		13.2 + 21.6	
Sound[g]	Sound Pressure		dB(A)	—		—		—	
	Sound Power			—		—		—	
External Dimension	Net Weight		lbs.	368 + 545		368 + 545		368 + 545	
	Shipping Weight		lbs.	384 + 567		384 + 567		384 + 567	
	Net Dimensions (WxHxD)		inch	(31.1 x 39.4 x x21.5) + (44.1 x 39.4 x 21.5)		(31.1 x 39.4 x x21.5) + (44.1 x 39.4 x 21.5)		(31.1 x 39.4 x x21.5) + (44.1 x 39.4 x 21.5)	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4)	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 15. 460V Water source modules

Model Name				4TVP0336B400NB		4TVP0360B400NB		4TVP0384B400NB	
Combination				4TVP0072B400NB + 4TVP0072B400NB + 4TVP0192B400NB		4TVP0072B400NB + 4TVP0096B400NB + 4TVP0192B400NB		4TVP0192B400NB + 4TVP0192B400NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				460/60/3		460/60/3		460/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			28	28	30	30	32	32
Performance	Capacity Nominal[a]	Cooling	Btuh	336,000	336,000	360,000	360,000	384,000	384,000
		Heating		378,000	378,000	405,000	405,000	432,000	432,000
	Capacity (Rated)[b]	Cooling	Btuh	322,000	322,000	344,000	344,000	366,000	366,000
		Heating		360,000	360,000	386,000	386,000	410,000	410,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	15.30	14.70	15.10	14.20	13.60	13.40
		IEER	—	19.40	17.70	18.60	16.70	17.30	16.10
		COP @ 68° F	—	4.70	5.10	4.60	4.90	4.30	4.80
		SCHE	—	19.60	18.60	21.10	18.60	19.20	18.00
	Heat Rejected to Equipment Room		Btuh	4,098		4,098		2,732	
Power	Power Input (Nominal)	Cooling	kW	21.50		22.62		30.40	
		Heating	kW	20.43		21.70		26.78	
	MCA		A	10 + 10 + 26.2		10 + 11 + 26.2		26.2 + 26.2	
	MOP			15 + 15 + 35		15 + 15 + 35		35 + 35	
Compressor	Type		—	SSC Scroll x 4		SSC Scroll x 4		SSC Scroll x 4	
	Model Number			DS-GB052FAVBSG		DS-GB052FAVBSG		DS-GB052FAVBSG	
	Output		kW	4.96 each		4.96 each		4.96 each	
	Oil	Type	—	PVE		PVE		PVE	
		Initial Charge	fl. ozs.	(131.9 x 2) + 209.6		(131.9 x 2) + 209.6		209.6 ea.	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 3		1-1/4 FPT x 3		1-1/4 FPT	
	Pressure Drop		ft wg	(7.3 x 2) + 18.1		7.3 + 10.0 + 18.1		18.1 x 2	
	Water Flow Rate		GPM	(21.1 x 2) + 50.2		21.1 + 25.4 + 50.2		50.2 x 2	
	Water Max. Pressure		Psi	285		285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4" Braze		3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch	1 3/8" Braze		1 5/8" Braze		1 5/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 1/8" Braze		1 3/8" Braze		1 3/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	58		62		64	
Refrigerant	Type		—	R-410A		R-410A		R-410A	
	Factory Charging		lbs.	(12.1 x2) + 21.6		12.1 + 12.8 + 21.6		21.6 x 2	
Sound[g]	Sound Pressure		dB(A)	—		—		—	
	Sound Power			—		—		—	
External Dimension	Net Weight		lbs.	(368 x 2) + 545		(368 x 2) + 545		545 x 2	
	Shipping Weight		lbs.	(384 x 2) + 567		(384 x 2) + 567		567 x 2	
	Net Dimensions (WxHxD)		inch	(31.1 x 39.4 x 21.5) x 2 + (44.1 x 39.4 x 21.5)		(31.1 x 39.4 x 21.5) x 2 + (44.1 x 39.4 x 21.5)		(44.1 x 39.4 x 21.5) x 2	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)		(46.1 x 47.2 x 24.4) x 2	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104		32~104	
	Heating		°F	32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 16. 460V Water source modules

Model Name				4TVP0408B400NB		4TVP0432B400NB	
Combination				4TVP0096B400NB + 4TVP0120B400NB + 4TVP0192B400NB		4TVP0120B400NB + 4TVP0120B400NB + 4TVP0192B400NB	
Mode				Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply				460/60/3		460/60/3	
System Type				Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons			34	34	36	36
Performance	Capacity Nominal[a]	Cooling	Btuh	408,000	408,000	432,000	432,000
		Heating		459,000	459,000	486,000	486,000
	Capacity (Rated)[b]	Cooling	Btuh	390,000	390,000	415,000	415,000
		Heating		435,000	435,000	460,000	460,000
	AHRI-1230 Efficiency Ratings[b]	EER	—	13.50	12.90	12.10	12.10
		IEER	—	16.50	15.20	15.40	14.70
		COP @ 68° F	—	4.30	4.60	4.10	4.40
		SCHE	—	19.70	18.00	18.40	17.70
	Heat Rejected to Equipment Room		Btuh	4,098		4,098	
Power	Power Input (Nominal)	Cooling	kW	26.46		29.18	
		Heating	kW	25.67		28.37	
	MCA		A	11 + 15.6 + 26.2		15.6 + 15.6 + 26.2	
	MOP			15 + 25 + 35		25 + 25 + 35	
Compressor	Type		—	SSC Scroll x 4		SSC Scroll x 4	
	Model Number			DS-GB052FAVBSG x 3 + DS-GB066FAVBSG		DS-GB052FAVBSG x 2 + DS-GB066FAVBSG x 2	
	Output		kW	(4.96 x 3) + 6.13		(4.96 x 2) + (6.13 x 2)	
	Oil	Type	—	PVE		PVE	
		Initial Charge	fl. ozs.	(131.9 x 2) + 209.6		(131.9 x 2) + 209.6	
Condenser	Type		—	Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch	1-1/4 FPT x 3		1-1/4 FPT x 3	
	Pressure Drop		ft wg	10.0 +14.4 + 18.1		(14.4 x 2) + 18.1	
	Water Flow Rate		GPM	25.4 + 30.1 + 50.2		(30.1 x 2) + 50.2	
	Water Max. Pressure		Psi	285		285	
Piping Connections	Liquid Pipe		Ø, inch	3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch	1 5/8" Braze		1 5/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch	1 3/8" Braze		1 3/8" Braze	
	Installation Limitation	Max Length[e]	ft	558 (623)		558 (623)	
		Max Height[f]	ft	164 (131)		164 (131)	
	Maximum Number of Indoor Units		—	64		64	
Refrigerant	Type		—	R-410A		R-410A	
	Factory Charging		lbs.	12.8 + 13.2 + 21.6		(13.2 x 2) + 21.6	
Sound[g]	Sound Pressure		dB(A)	—		—	
	Sound Power			—		—	
External Dimension	Net Weight		lbs.	(368 x 2) + 545		(368 x 2) + 545	
	Shipping Weight		lbs.	(384 x 2) + 567		(384 x 2) + 567	
	Net Dimensions (WxHxD)		inch	(31.1 x 39.4 x 21.5) x 2 + (44.1 x 39.4 x 21.5)		(31.1 x 39.4 x 21.5) x 2 + (44.1 x 39.4 x 21.5)	
	Shipping Dimensions (WxHxD)		inch	(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)		(33.1 x 47.2 x 24.4) x 2 (46.1 x 47.2 x 24.4)	
Operating Range (Mechanical Room)	Cooling		°F	32~104		32~104	
	Heating		°F	32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F	50~113		50~113	
	Heating	Closed Loop (Boiler)	°F	50~113		50~113	
		Ground Loop[h]	°F	23~113		23~113	

(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Table 17. 460V Water source modules

Model Name					4TVP0456B400NB		4TVP0480B400NB		4TVP0504B400NB		4TVP0576B400NB	
Combination					4TVP0072B400NB + 4TVP0192B400NB + 4TVP0192B400NB		4TVP0096B400NB + 4TVP0192B400NB + 4TVP0192B400NB		4TVP0120B400NB + 4TVP0192B400NB + 4TVP0192B400NB		4TVP0192B400NB + 4TVP0192B400NB + 4TVP0192B400NB	
Mode					Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery		Heat Pump/Heat Recovery	
Power Supply					460/60/3		460/60/3		460/60/3		460/60/3	
System Type					Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted	Non-Ducted	Ducted
Performance	Nominal Tons				38	38	40	40	42	42	48	48
Performance	Capacity Nominal[a]	Cooling	Btuh		456,000	456,000	480,000	480,000	504,000	504,000	576,000	576,000
		Heating			513,000	513,000	540,000	540,000	567,000	567,000	648,000	648,000
	Capacity (Rated)[b]	Cooling	Btuh		440,000	440,000	460,000	460,000	485,000	485,000	555,000	555,000
		Heating			485,000	485,000	515,000	515,000	540,000	540,000	615,000	615,000
	AHRI-1230 Efficiency Ratings[b]	EER	—		12.40	13.10	12.20	12.60	10.90	11.80	10.00	11.50
		IEER	—		14.50	14.60	13.80	13.70	12.80	13.30	12.20	12.50
		COP @ 68° F	—		4.20	4.60	4.10	4.40	4.10	4.20	4.00	4.00
		SCHE	—		18.70	17.20	19.20	17.20	17.70	17.20	17.60	17.10
	Heat Rejected to Equipment Room		Btuh		4,098		4,098		4,098		4,098	
Power	Power Input (Nominal)	Cooling	kW		33.55		34.67		37.39		45.60	
		Heating	kW		30.30		31.57		34.27		40.17	
	MCA		A		10 + 26.2 + 26.2		11 + 26.2 + 26.2		15.6 + 26.2 + 26.2		26.2 + 26.2 + 26.2	
	MOP				15 + 35 + 35		15 + 35 + 35		25 + 35 + 35		35 + 35 + 35	
Compressor	Type		—		SSC Scroll x 5		SSC Scroll x 5		SSC Scroll x 5		SSC Scroll x 6	
	Model Number				DS-GB052FAVBSG		DS-GB052FAVBSG		DS-GB052FAVBSG x 4 + DS-GB066FAVBSG		DS-GB052FAVBSG	
	Output		kW		4.96 each		4.96 each		(4.96 x 4) + 6.13		4.96 each	
	Oil	Type	—		PVE		PVE		PVE		PVE	
		Initial Charge	fl. ozs.		131.9 + (209.6 x 2)		131.9 + (209.6 x 2)		131.9 + (209.6 x 2)		209.6 x 3	
Condenser	Type		—		Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger		Plate Heat Exchanger	
	Pipe Size (Female Thread)[c]		Ø, inch		1-1/4 FPT x 3		1-1/4 FPT x 3		1-1/4 FPT x 3		1-1/4 FPT x 3	
	Pressure Drop		ft wg		7.3 + (18.1 x 2)		10.0 + (18.1 x 2)		14.4 + (18.1 x 2)		18.1 x 3	
	Water Flow Rate		GPM		21.1 + (50.2 x 2)		25.4 + (50.2 x 2)		30.1 + (50.2 x 2)		50.2 x 3	
	Water Max. Pressure		Psi		285		285		285		285	
Piping Connections	Liquid Pipe		Ø, inch		3/4" Braze		3/4" Braze		3/4" Braze		3/4" Braze	
	Gas Pipe		Ø, inch		1 5/8" Braze		1 5/8" Braze		1 5/8" Braze		1 5/8" Braze	
	High Pressure Gas Pipe[d]		Ø, inch		1 3/8" Braze		1 3/8" Braze		1 3/8" Braze		1 3/8" Braze	
	Installation Limitation	Max Length[e]	ft		558 (623)		558 (623)		558 (623)		558 (623)	
		Max Height[f]	ft		164 (131)		164 (131)		164 (131)		164 (131)	
	Maximum Number of Indoor Units		—		64		64		64		64	
Refrigerant	Type		—		R-410A		R-410A		R-410A		R-410A	
	Factory Charging		lbs.		12.1 + (21.6 x 2)		12.8 + (21.6 x 2)		13.2 + (21.6 x 2)		21.6 x 3	
Sound[g]	Sound Pressure		dB(A)		—		—		—		—	
	Sound Power				—		—		—		—	
External Dimension	Net Weight		lbs.		368 + (545 x 2)		368 + (545 x 2)		368 + (545 x 2)		545 x 3	
	Shipping Weight		lbs.		384 + (567 x 2)		384 + (567 x 2)		384 + (567 x 2)		567 x 3	
	Net Dimensions (WxHxD)		inch		(31.1 x 39.4 x 21.5) + (44.1 x 39.4 x 21.5) x 2		(31.1 x 39.4 x 21.5) + (44.1 x 39.4 x 21.5) x 2		(31.1 x 39.4 x 21.5) + (44.1 x 39.4 x 21.5) x 2		(44.1 x 39.4 x 21.5) x 3	
	Shipping Dimensions (WxHxD)		inch		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4) x 2		(33.1 x 47.2 x 24.4) + (46.1 x 47.2 x 24.4) x 2		(46.1 x 47.2 x 24.4) x 3	
Operating Range (Mechanical Room)	Cooling		°F		32~104		32~104		32~104		32~104	
	Heating		°F		32~104		32~104		32~104		32~104	
Operating Temperature Range (Water)	Cooling		°F		50~113		50~113		50~113		50~113	
	Heating	Closed Loop (Boiler)	°F		50~113		50~113		50~113		50~113	
		Ground Loop[h]	°F		23~113		23~113		23~113		23~113	

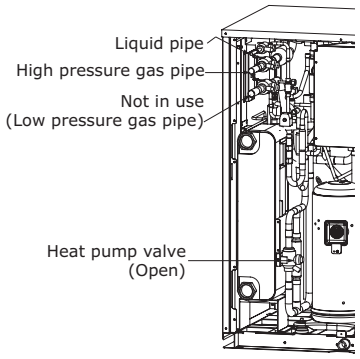
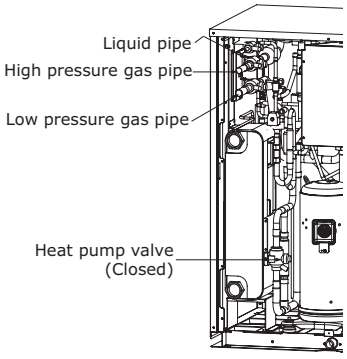
(a) Nominal capacity based on 25 ft. of equivalent refrigerant piping with 0 ft. level difference. Cooling: Indoor temperature 80° F. DB, 67° F. WB; Entering water temperature 85° F. Heating: Indoor temperature 70° F. DB, 60° F. WB; Entering water temperature 68° F.
(b) Rated per AHRI 1230 Standard conditions.
(c) Water pipe connections require a field supplied 1 1/4" BSPP (British Standard Parallel Pipe) to NPT adapter (also provided as part of accessory 4TVPxxxHOSEKIT).
(d) High pressure gas pipe not used in heat pump applications.
(e) Actual length (equivalent length in parenthesis).
(f) If the water source unit is installed above the indoor units, the allowable height difference to the furthest indoor unit is 164 ft. If the water source unit is installed below the indoor units, the allowable height difference to the furthest indoor unit is 131 ft.
(g) Sound level was obtained in an anechoic room. Actual sound level may be different depending on installation conditions.
(h) Anti-freeze must be used when the temperature of the inlet water for heating is below 50°F. or a ground water loop is used. Maintain appropriate concentration level of anti-freeze according to temperature of inlet water.

Hybrid System Conversion

Refrigerant Pipe Connection

Correct refrigerant pipe connection is required for proper application of hybrid water source unit.

1. For heat pump operation, connect the liquid and the high pressure gas pipes to indoor units. The low pressure gas pipe must be brazed shut.
2. For heat recovery operation, connect the liquid and both the high and low pressure gas pipe to a mode control unit(s) or MCUs. Close the internal heat pump valve and set the K5 switch to “OFF”.
3. For multi-module systems, make certain each unit is consistently installed per step one or two above, depending on the required application. If the settings are different between the units in a multi-module system, an E573 error code may occur.

Classification	HP System	HR System
Service valve		
Heat Pump valve	Open (factory default)	Closed (set during installation)
Option switch (K5)	ON (factory default)	OFF (set during installation)

Operation Limit

Heat Pump

Figure 1. Cooling (heat pump application)

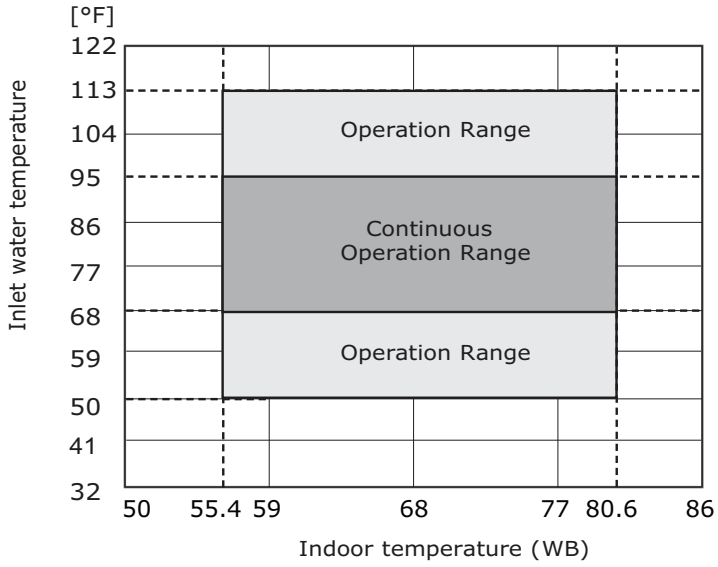
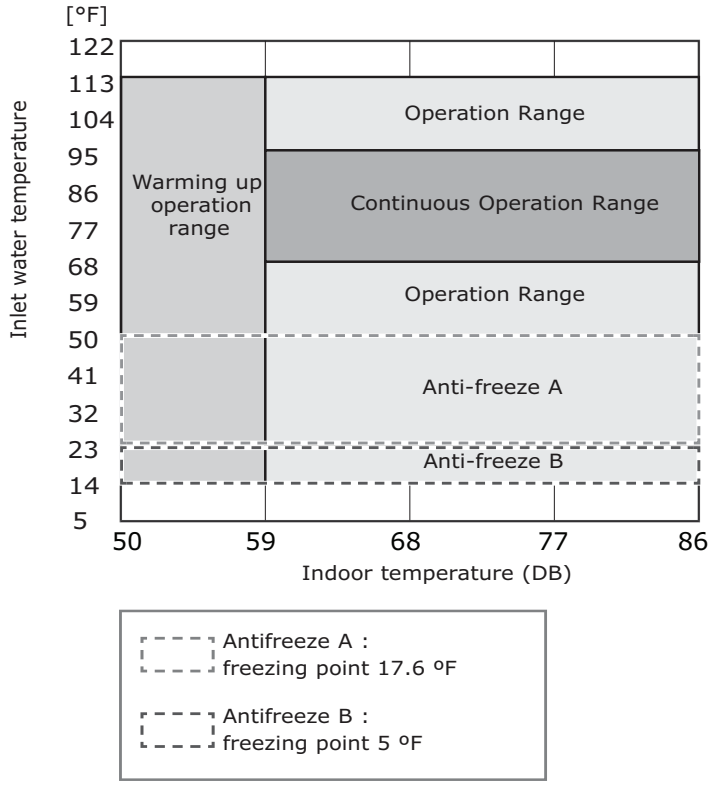
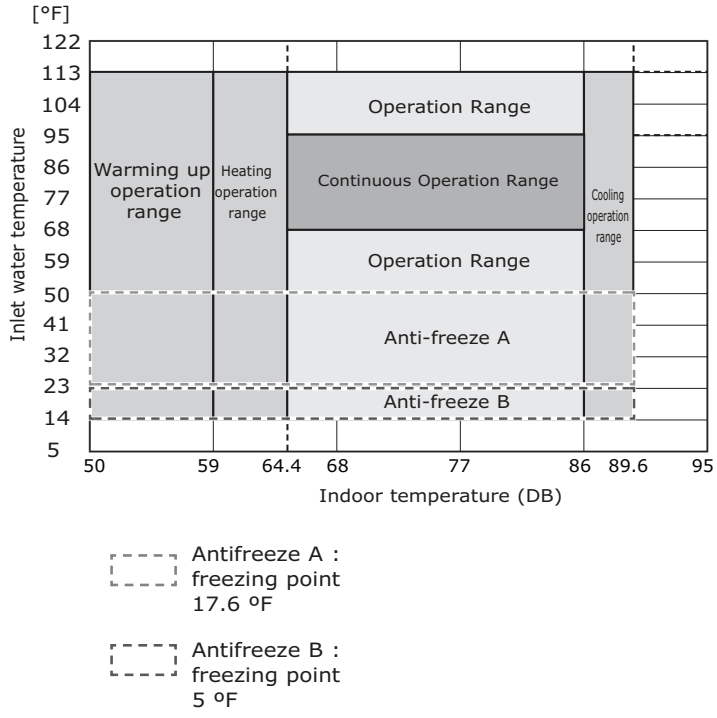


Figure 2. Heating (heat pump application)



Heat Recovery

Figure 3. Heat recovery



Operation Range of Water

Table 18. Design condition

Type	Circulating Water	Operation	Inlet Water Temperature	
			Main usage range	Usage range limit[a]
Cooling Tower/Boiler	Water loop	Cooling	68 ~ 95 °F	50 ~ 113 °F
		Heating		
Geothermal[b]	Ground loop	Cooling	59 ~ 95 °F	50 ~ 113 °F
		Heating	41 ~ 77 °F	23 ~ 113 °F
				14 ~ 113 °F[c]

(a) When inlet water temperature is outside of limit, consult Trane® before application.
(b) Anti-freeze must be used when temperature of water inlet for heating is below 50 °F or ground heat source is used. Maintain appropriate concentration level of anti-freeze according to temperature of water inlet.
(c) Strict management of anti-freeze concentration level is required. Consult Trane® before application.

Table 19. Standard data for status of anti-freeze [based on temperature of anti-freeze at 59 °F]

Type of Anti-Freeze [based on 59°F]	Concentration [% Wt.]	Freezing Temperature	Density	
		°F	kg/m^3	lb/ft^3
Methanol	10	21.9	983.60	61.4
	20	10.9	975.60	60.9
Ethanol	10	25.0	983.60	61.4
	20	17.1	972.40	60.7
Ethylene glycol	10	26.2	1014.87	63.4
	20	18.0	1031.39	64.4
	30	6.6	1047.07	65.4
	40	-8.1	1061.65	66.3
Propylene glycol	10	26.1	1009.75	63.0
	20	19.2	1020.91	63.7
	30	9.1	1030.51	64.3
	40	-6.0	1038.65	64.8

Table 20.

Model Name		4TVP0072B*	4TVP0096B*	4TVP0120B*	4TVP0192B*
Standard condition	Cooling/ Heating	21.1	25.4	30.1	50.2
Operation range	Cooling/ Heating	12.7 ~ 25.4	15.3 ~ 30.4	18 ~ 36.2	30.1 ~ 60.2

Note: If the water flow rate is outside the allowable operating range (60-120% of the standard water flow rate), stop the unit and correct the problem before re-starting the system.

Figure 4. 4TVP0072B*, 4TVP0096B*, 4TVP0120B*

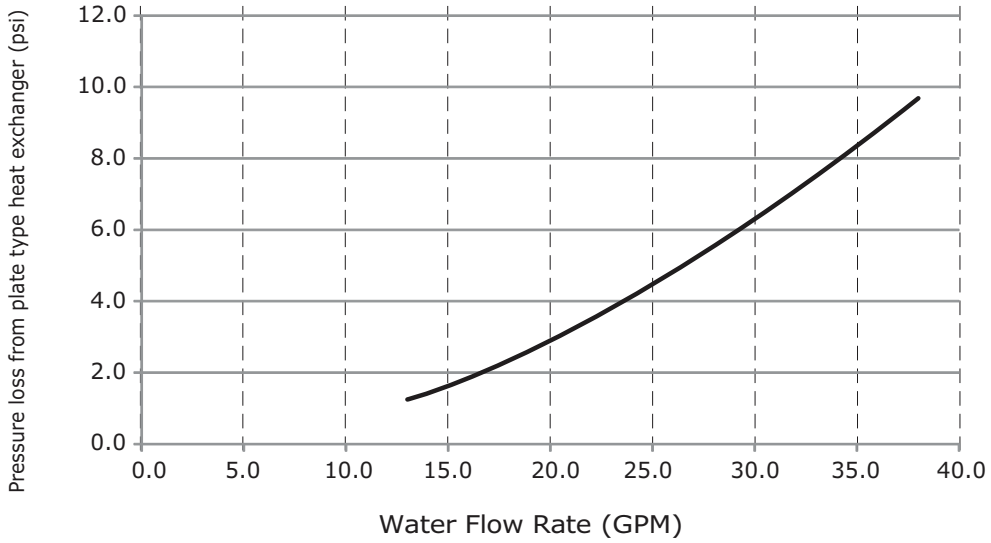
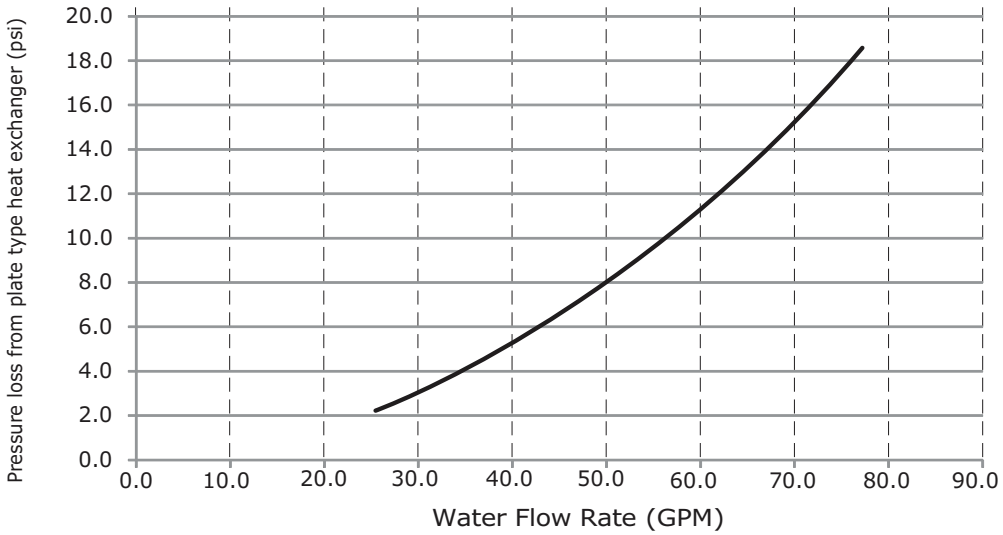


Figure 5. 4TVP0192B*



Electrical Wiring Diagrams - Water Source Units

Figure 6. 4TVP**B***

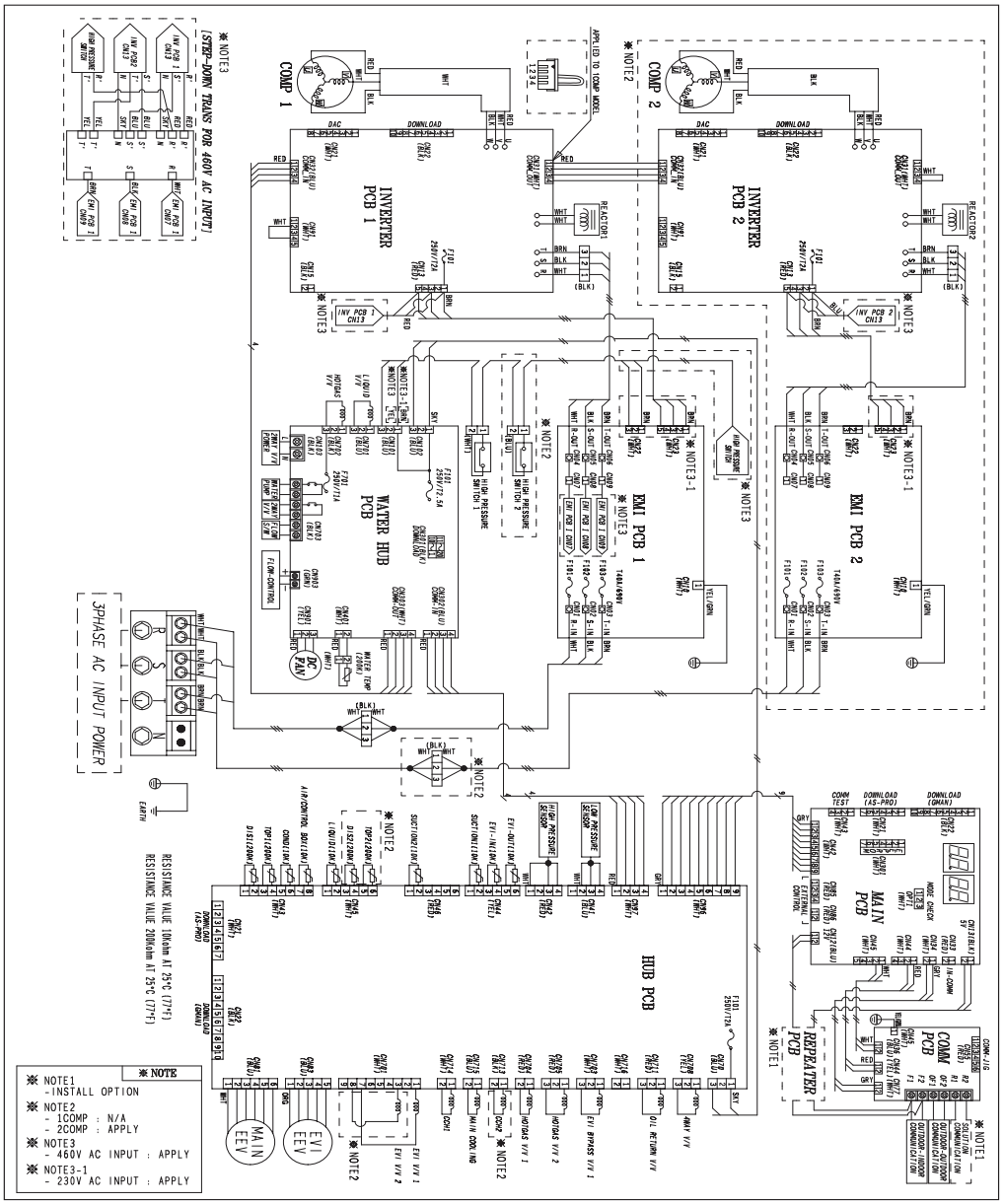
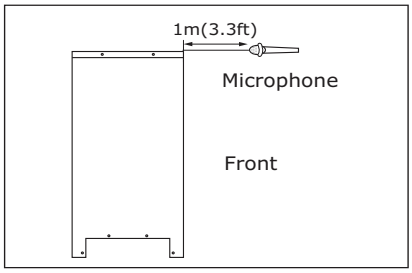


Table 21. 4TVP**B***

External contact	Input/Output	AC/DC	Remarks
2Way V/V power	Output	AC	Optional
Water pump	Contact output	—	Optional
2Way V/V	Contact output	—	Optional
Flow S/W	Contact input	—	Mandatory
Flow control	Output	DC(0~10V)	Optional

Sound Levels - Outdoor Units

Figure 7. Sound Pressure Level



Unit: dB(A)

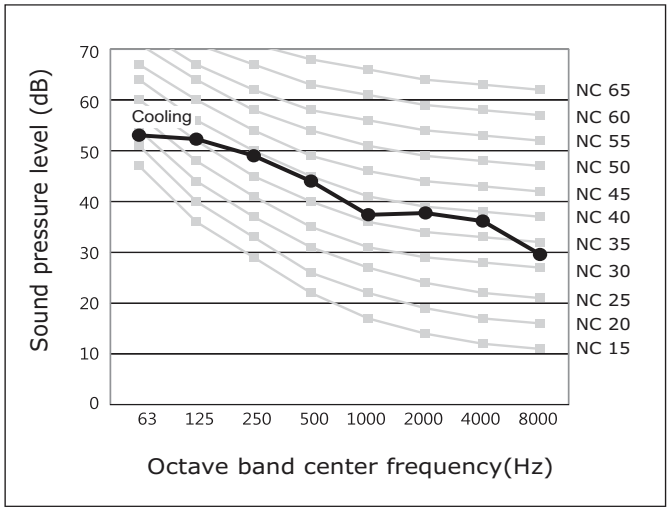
Model	Pressure
4TVP0072B*	48
4TVP0096B*	48
4TVP0120B*	50
4TVP0192B*	51

Notes:

- *These operation values were obtained in an anechoic room. Sound pressure level will vary depending on a range of factors such as the construction of the particular room where the equipment is installed.*
- *Operation sound level may differ depending on operation and ambient conditions.*

NC Curves

Figure 8. 4TVP0072B*



Sound Levels - Outdoor Units

Figure 9. 4TVP0096B*

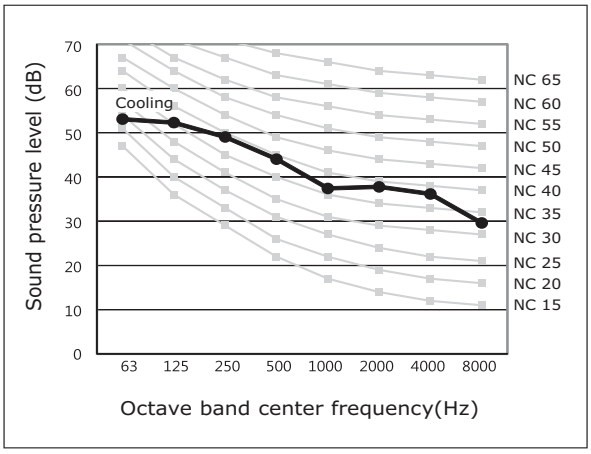


Figure 10. 4TVP0120B*

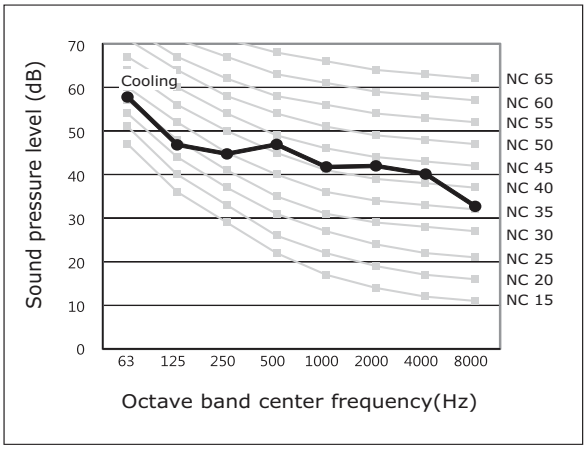
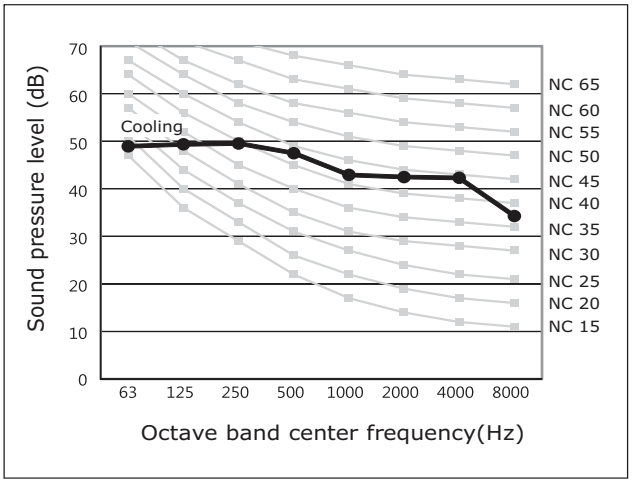


Figure 11. 4TVP0192B*



Sound Power

Notes:

- *dBA = A-weighted sound power level.*
- *Reference power: 1pW*
- *Measured according to ISO 3741.*

Unit: dB(A)

Model	Power
4TVP0072B*	70
4TVP0096B*	70
4TVP0120B*	70
4TVP0192B*	73

Figure 12. 4TVP0072B*

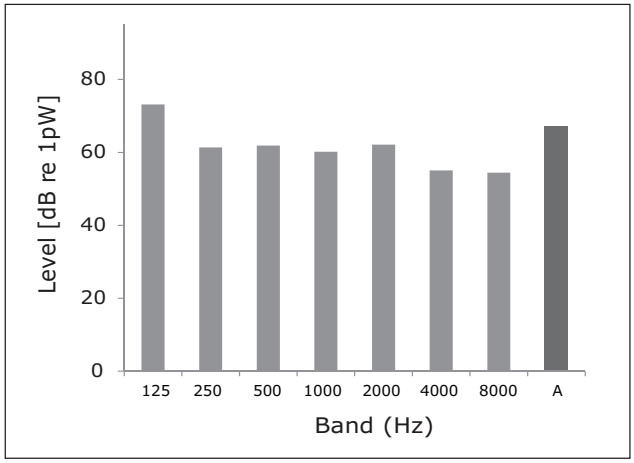


Figure 13. 4TVP0096B*

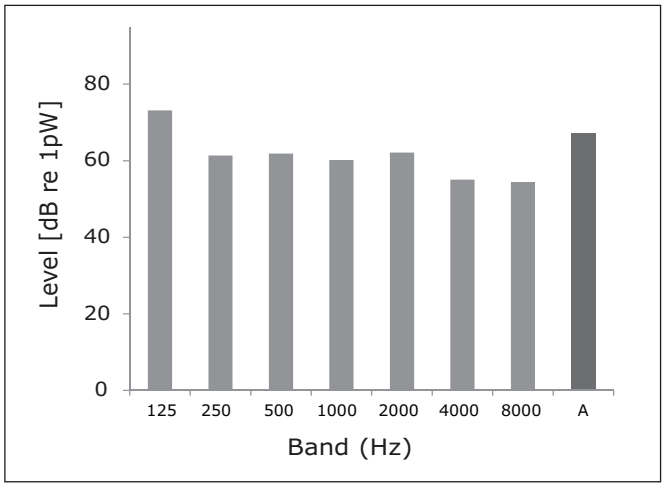


Figure 14. 4TVP0120B*

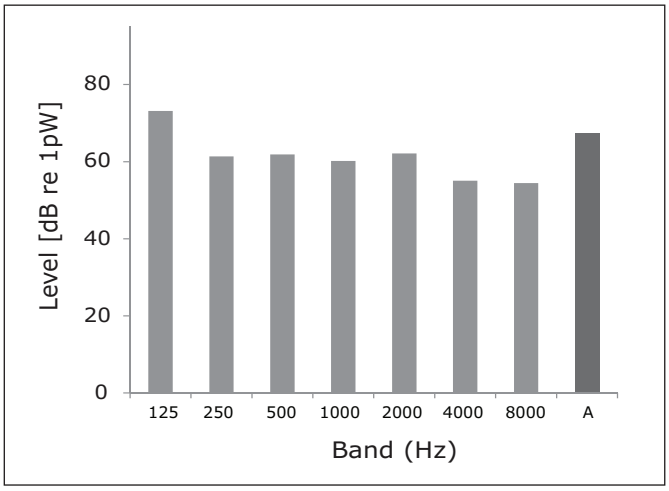
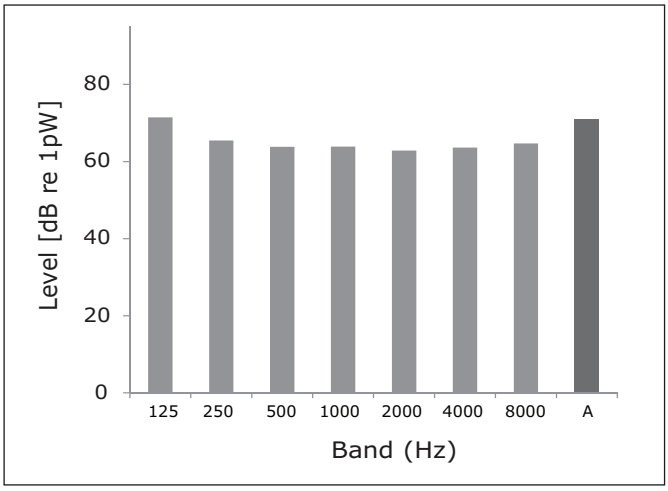


Figure 15. 4TVP0192B*



Cycle Diagrams

Parts of Outdoor Unit

Table 22. 4TVP0072/096/120B*

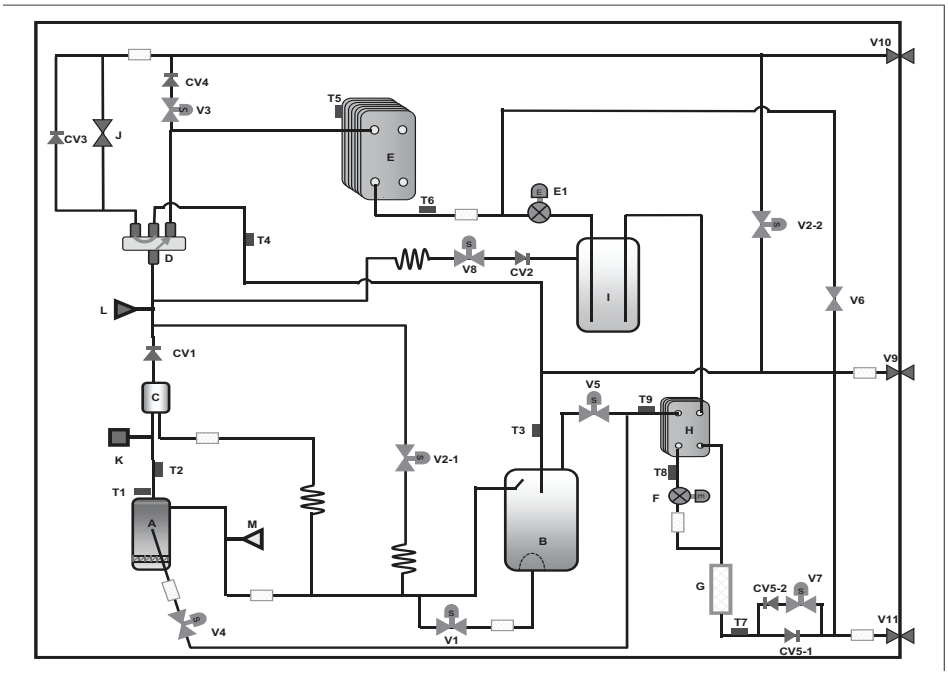


Table 23. 4TVP0072/096/120B* classification table

Classification	Name
A	INV COMP
B	ACCUM
C	O/S
D	4WAY V/V
E	PLATE HEAT EXCHANGER
E1	MAIN EEV
F	EVI EEV
G	IPM COOLER
H	SUB COOLER
I	RECEIVER
J	HEAT PUMP V/V
K	HIGH PRE. S/W
L	HIGH PRE. SENSOR
M	LOW PRE. SENSOR
V1	ACCUM RETRUN V/V
V2-1, V2-2	HOT GAS BYPASS VV
V3	MAIN COOLING V/V
V4	EVI V/V
V5	EVI B/P V/V
V6	DPR V/V

Classification	Name
V7	LIQUID TUBE V/V
V8	HOT GAS CHARGING V/V
V9	LOW PRE. GAS SERVICE V/V
V10	HIGH PRE. GAS SERVICE V/V
V11	LIQUID SERVICE V/V
CV1	DISC. CHECK V/V
CV2	HRV CHECK V/V
CV3	HR CHECK V/V
CV4	MAIN COOL CHECK V/V
CV5-1, CV5-2	LIQUID TUBE CHECK V/V
T1	COMP TOP SENSOR
T2	DISC. SENSOR
T3	SUC. SENSOR 2
T4	SUC. SENSOR 1
T5	WATER SENSOR
T6	COND OUT SENSOR
T7	LIQUID TUBE SENSOR
T8	SC IN SENSOR
T9	SC OUT SENSOR

Table 24. 4TVP0192B*

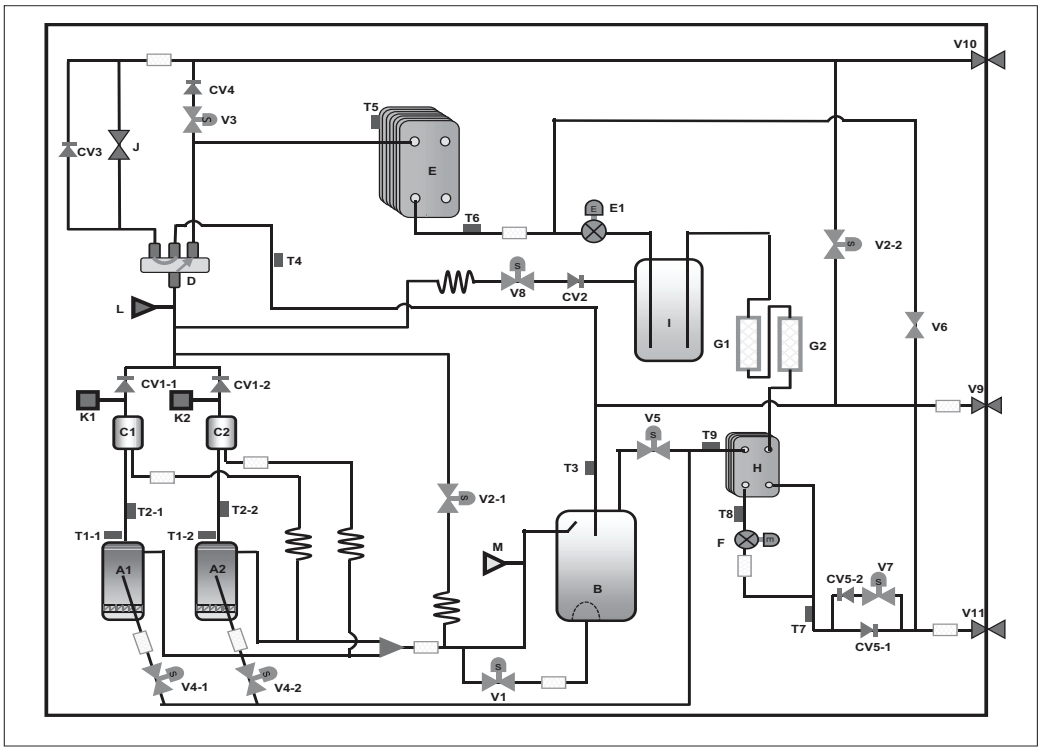


Table 25. 4TVP192B* classification table

Classification	Name
A1, A2	INV COMP
B	ACCUM
C1, C2	O/S
D	4WAY V/V
E	PLATE HEAT EXCHANGER
E1	MAIN EEV
F	EVI EEV
G1, G2	IPM COOLER
H	SUB COOLER
I	RECEIVER
J	HEAT PUMP V/V
K1, K2	HIGH PRE. S/W
L	HIGH PRE. SENSOR
M	LOW PRE. SENSOR
V1	ACCUM RETRUN V/V
V2-1, V2-2	HOT GAS BYPASS VV
V3	MAIN COOLING V/V
V4-1, V4-2	EVI V/V
V5	EVI B/P V/V
V6	DPR V/V

Classification	Name
V7	LIQUID TUBE V/V
V8	HOT GAS CHARGING V/V
V9	LOW PRE. GAS SERVICE V/V
V10	HIGH PRE. GAS SERVICE V/V
V11	LIQUID SERVICE V/V
CV1-1, CV-2	DISC. CHECK V/V
CV2	HRV CHECK V/V
CV3	HR CHECK V/V
CV4	MAIN COOL CHECK V/V
CV5-1, CV5-2	LIQUID TUBE CHECK V/V
T1-1, T1-2	COMP TOP SENSOR
T2-1, T2-2	DISC. SENSOR
T3	SUC. SENSOR 2
T4	SUC. SENSOR 1
T5	WATER SENSOR
T6	COND OUT SENSOR
T7	LIQUID TUBE SENSOR
T8	SC IN SENSOR
T9	SC OUT SENSOR

Dimensional Drawings

Heat Pump/Heat Recovery

Figure 16. 4TVP0072/0096/0120B3

Unit : mm(in.)

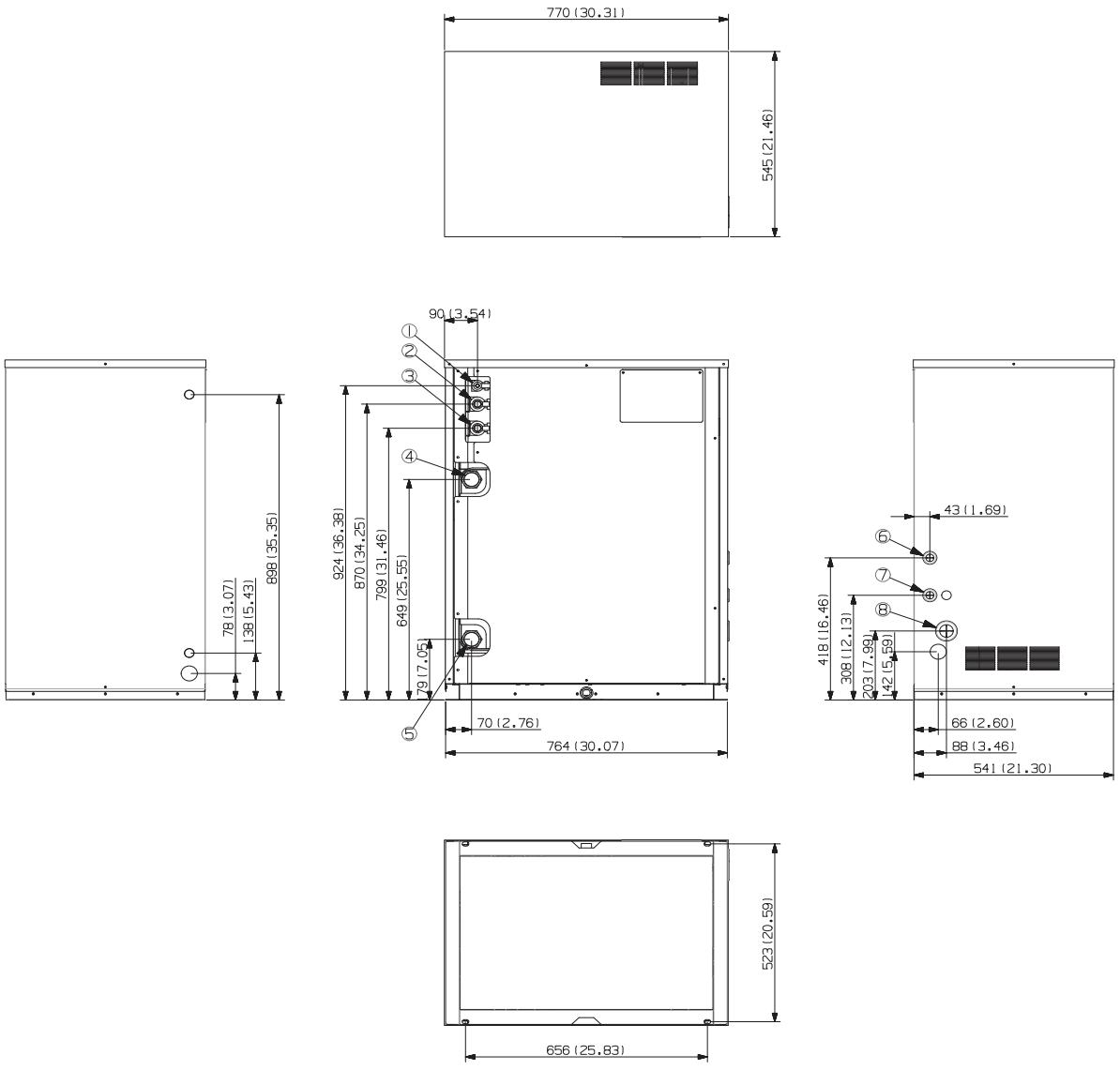


Table 26. 4TVP0072/0096/0120B3

No.	Name	Description			No.	Name	Description		
		6 Ton	8 Ton	10 Ton			6 Ton	8 Ton	10 Ton
1	Liquid ref. pipe	9.52 (3/8″)	9.52 (3/8″)	12.70 (1/2″)	**5**	Water inlet pipe	1-1/4 FPT		
2	High pressure gas ref. pipe	15.88 (5/8″)	19.05 (3/4″)	19.05 (3/4″)	**6**	External contact wiring	—		
3	Low pressure gas ref. pipe	19.05 (3/4″)	22.22 (7/8″)	28.58 (1 1/8″)	**7**	Communication wiring	—		
4	Water outlet pipe	1-1/4 FPT			**8**	Power wiring	—		

Figure 17. 4TVP0192B3

Unit : mm(in.)

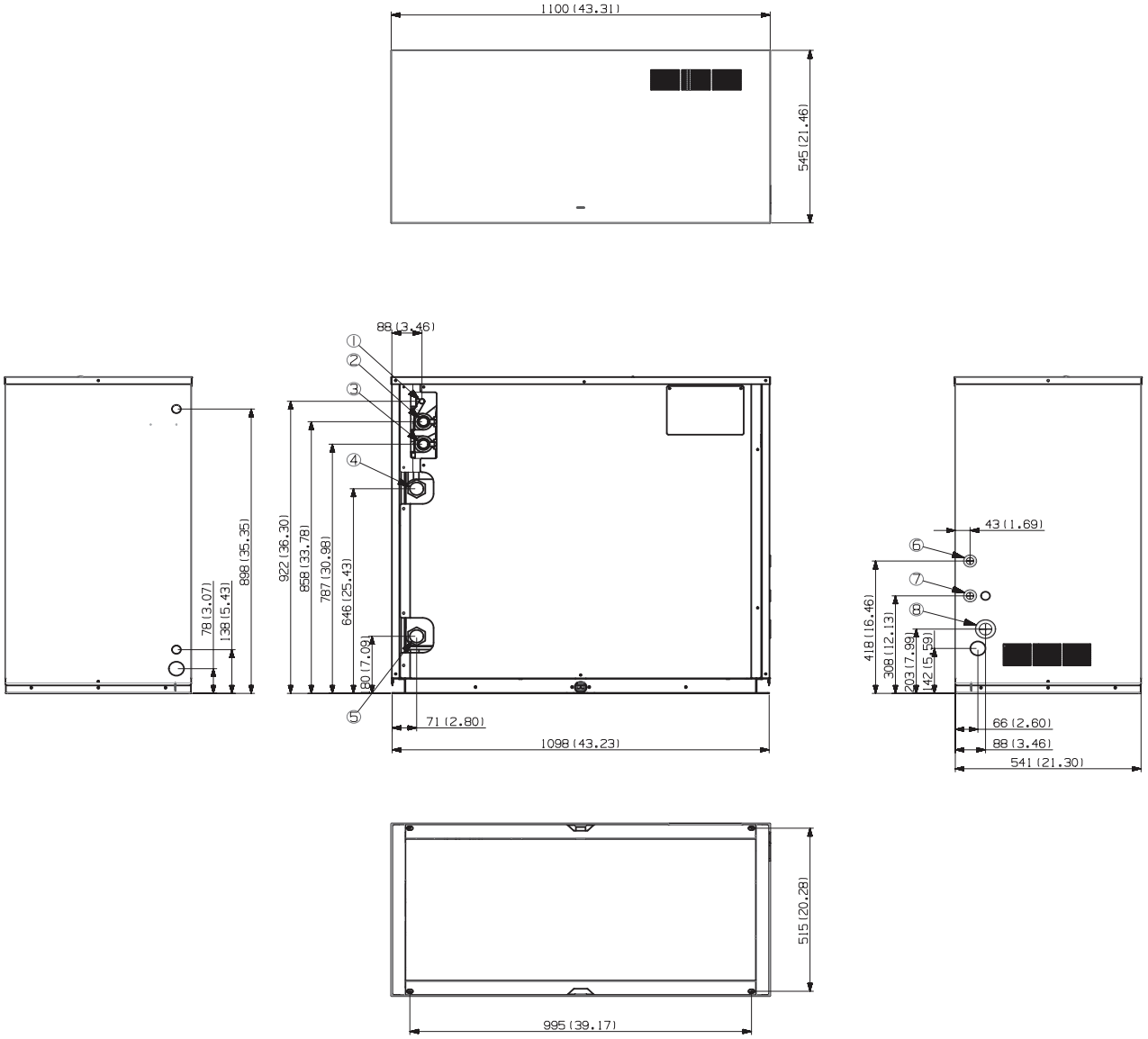


Table 27. 4TVP0192B3

No.	Name	Description	No.	Name	Description
1	Liquid ref. pipe	15.88 (5/8″)	**5**	Water inlet pipe	1-1/4 FPT
2	High pressure gas ref. pipe	28.58 (1 1/8″)	**6**	External contact wiring	—
3	Low pressure gas ref. pipe	28.58 (1 1/8″)	**7**	Communication wiring	—
4	Water outlet pipe	1-1/4 FPT	**8**	Power wiring	—

Figure 18. 4TVP0072/0096/0120B4

Unit : mm(in.)

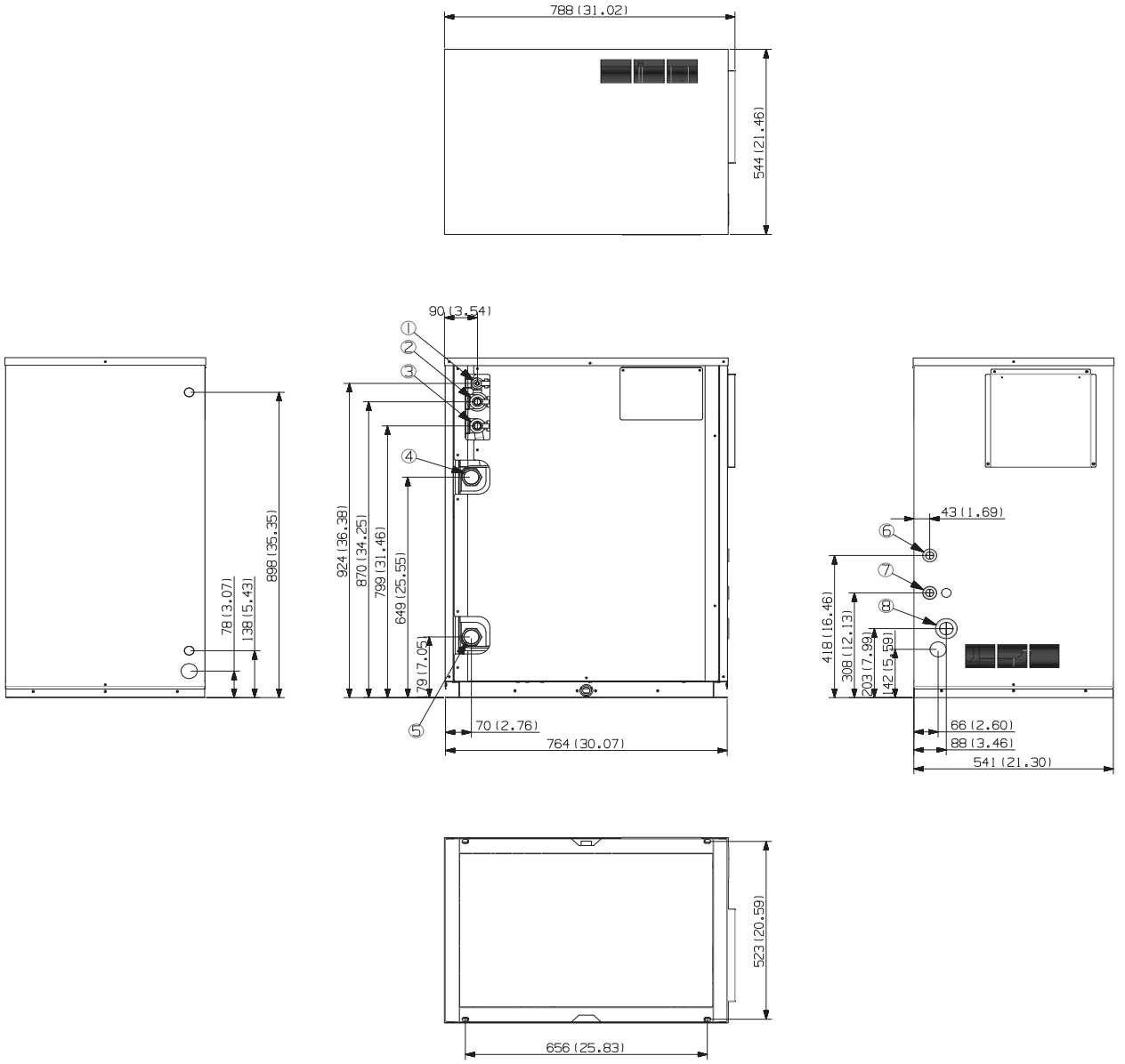


Table 28. 4TVP0072/0096/0120B4

No.	Name	Description			No.	Name	Description		
		6 Ton	8 Ton	10 Ton			6 Ton	8 Ton	10 Ton
1	Liquid ref. pipe	9.52 (3/8″)	9.52 (3/8″)	12.70 (1/2″)	**5**	Water inlet pipe	1-1/4 FPT		
2	High pressure gas ref. pipe	15.88 (5/8″)	19.05 (3/4″)	19.05 (3/4″)	**6**	External contact wiring	—		
3	Low pressure gas ref. pipe	19.05 (3/4″)	22.22 (7/8″)	28.58 (1 1/8″)	**7**	Communication wiring	—		
4	Water outlet pipe	1-1/4 FPT			**8**	Power wiring	—		

Dimensional Drawings

Figure 19. 4TVP0192B4

Unit : mm(in.)

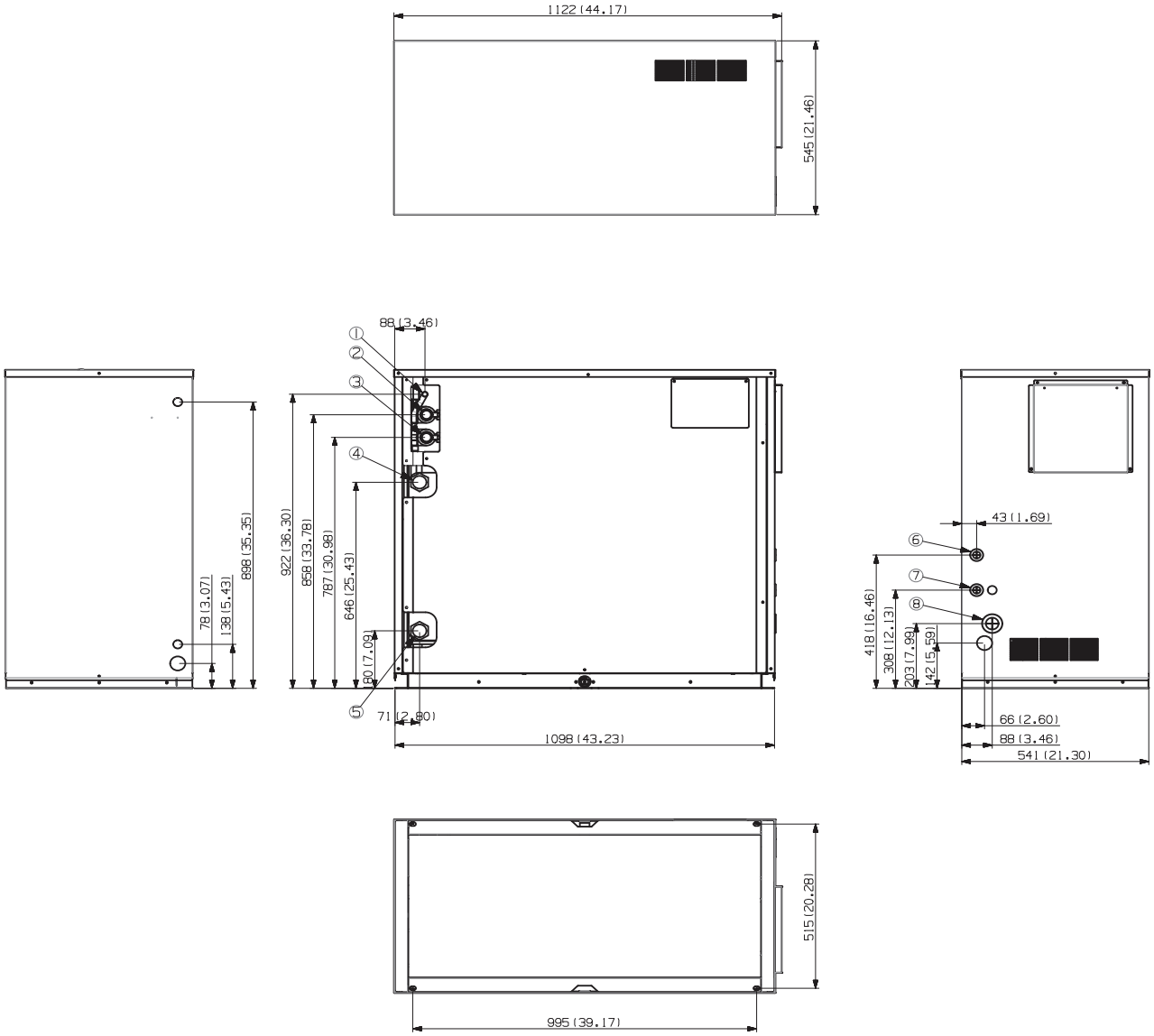


Table 29. 4TVP0192B4

No.	Name	Description	No.	Name	Description
1	Liquid ref. pipe	15.88 (5/8″)	**5**	Water inlet pipe	1-1/4 FPT
2	High pressure gas ref. pipe	28.58 (1 1/8″)	**6**	External contact wiring	—
3	Low pressure gas ref. pipe	28.58 (1 1/8″)	**7**	Communication wiring	—
4	Water outlet pipe	1-1/4 FPT	**8**	Power wiring	—

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