VARIABLE REFRIGERANT FLOW SYSTEMS

VHED

Hydro Units | R-32 | 60Hz **35,500 to 152,900 Btuh**

COMMERCIAL
PRODUCT SPECIFICATIONS (EHB)



MODEL NUMBER IDENTIFICATION

V HE D 036 S 6 - 5 P

Brand/Family
V = Variable Refrigerant Flow (VRF)

Unit Type
HE = Hydro Indoor Unit (short)

Major Design Sequence
D = 4th Generation

Nominal Cooling Capacity - Btuh
036 = 35,500 Btuh
048 = 47,800 Btuh
096 = 95,600 Btuh
144 = 152,900 Btuh

Cooling Efficiency
S = High Efficiency

Refrigerant Type
6 = R-32

Controls Protocol
5 = Phase 5

Voltage
P = 208/230V-1 phase-60hz

Form Number 211328 | November 2026
Supersedes all previous versions

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Specifications

Hydro Unit (HE)

Model Code	Indoor Unit				-	VHED036S6-5P	VHED048S6-5P	VHED096S6-5P
Power Supply					Φ|#|V|Hz	1|2|208-230|60	1|2|208-230|60	1|2|208-230|60
Mode					-	Heat Pump	Heat Pump	Heat Pump
Performance	Capacity	Cooling	Nominal		kW	10.4	14.0	28.0
					Btu/h	35,560	47,800	95,600
					US RT	2.96	3.98	7.97
		Heating	Nominal		kW	11.72	15.97	31.65
					Btu/h	40,000	54,500	108,000
					US RT	3.33	4.54	9.00
Power	Power Input	Cooling	Nominal		W	10	10	10
		Heating	Nominal		W	10	10	10
	Current Input	Cooling	Nominal		A	0.05	0.05	0.05
		Heating	Nominal		A	0.05	0.05	0.05
	Current	MCA			A	2.20	2.20	2.20
		MOP			A	15	15	15
Casing	Material	Body			-	steel	steel	steel
Water Side Heat Exchanger	Type				-	PHE	PHE	PHE
	Quantity				EA	1	1	1
	Water Flow Rate				GPM	9.5	12.7	24.3
	Water Flow Rate	Flow Switch			GPM	3.2	5.3	7.9
	Pipe connection	Inlet	Diameter		mm	25	25	25
					in	1	1	1
		Outlet	Diameter		mm	25	25	25
					in	1	1	1
Piping Connections	Liquid Pipe	Type			-	Welding	Welding	Welding
		Diameter			mm	9.52	9.52	9.52
					in	3/8	3/8	3/8
	Gas Pipe	Type			-	Welding	Welding	Welding
		Diameter			mm	15.88	15.88	22.22
					in	5/8	5/8	7/8
Wiring Connection	Transmissi on Cable	Remark			-	0.75 ~ 1.50	0.75 ~ 1.50	0.75 ~ 1.50
Refrigerant	Type				-	R32	R32	R32
	Control Type				-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Sound Level	Sound Pressure Level			High	dB(A)	27.0	27.0	28.0
	Sound Power Level	Heating			dB(A)	54.0	54.0	56.0
External Dimension	Net Weight				lbs	63.9	63.9	75.0
	Shipping Weight				lbs	73.6	73.6	84.7
	Net Dimensions			W x H x D	mm	518 x 627 x 330	518 x 627 x 330	518 x 627 x 330
					in	20-3/8 x 24-11/16 x 13	20-3/8 x 24-11/16 x 13	20-3/8 x 24-11/16 x 13
	Shipping Dimensions			W x H x D	mm	652 x 700 x 426	652 x 700 x 426	652 x 700 x 426
					in	25-11/16 x 27-5/8 x 16-13/16	25-11/16 x 27-5/8 x 16-13/16	25-11/16 x 27-5/8 x 16-13/16
Operating Temp. Range	Cooling			Min. ~ Max.	°F	23 ~ 118	23 ~ 118	23 ~ 118
	Heating			Min. ~ Max.	°F	-4 ~ 95	-4 ~ 95	-4 ~ 95
Operating Water Temp. Range	Cooling			Min. ~ Max.	°F	41 ~ 86	41 ~ 86	41 ~ 86
	Heating			Min. ~ Max.	°F	68 ~ 122	68 ~ 122	68 ~ 122

NOTE

* Specifications may be subject to change without prior notice for product improvement.
* 1) Nominal cooling capacities are based on;
- Water temperature:73.4°F(23°C)inlet,64.4°F(18°C)outlet - Indoor temperature:80.6°F(27°C)DB,66.2°F(19°C)WB - Outdoor temperature:95°F(35°C)DB,75.2°F(24°C)WB
* 2) Nominal heating capacities are based on;
- Water temperature : 86°F(30℃) inlet, 95°F(35℃) outlet - Indoor temperature : 68°F(20°C) DB - Outdoor temperature : 44.6°F(7°C) DB, 42.8°F(6°C) WB
* 3) Sound pressure was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.
* 4) The VRF system contains R32 (GWP=675) which is fluorinated greenhouse gas.
* Heat Exchanger type : Plate Heat Exchanger (STS)

Specifications

Hydro Unit (HE)

Model Code	Indoor Unit				-	VHED144S6-5P
Power Supply					Φ|#|V|Hz	1|2|208-230|60
Mode					-	Heat Pump
Performance	Capacity	Cooling	Nominal		kW	44.8
					Btu/h	152,900
					US RT	12.74
		Heating	Nominal		kW	50.41
					Btu/h	172,000
					US RT	14.33
Power	Power Input	Cooling	Nominal		W	10
		Heating	Nominal		W	10
	Current Input	Cooling	Nominal		A	0.05
		Heating	Nominal		A	0.05
	Current	MCA			A	2.20
		MOP			A	15
Casing	Material	Body			-	steel
Water Side Heat Exchanger	Type				-	PHE
	Quantity				EA	1
	Water Flow Rate				GPM	39.6
	Water Flow Rate	Flow Switch			GPM	13.2
	Pipe connection	Inlet	Diameter		mm	32
					in	1-1/4
		Outlet	Diameter		mm	32
					in	1-1/4
Piping Connections	Liquid Pipe	Type			-	Welding
		Diameter			mm	12.7
					in	1/2
	Gas Pipe	Type			-	Welding
		Diameter			mm	28.58
					in	1-1/8
Wiring Connection	Transmissi on Cable	Remark			-	0.75 ~ 1.50
Refrigerant	Type				-	R32
	Control Type				-	EEV INCLUDED
Sound Level	Sound Pressure Level			High	dB(A)	30.0
	Sound Power Level	Heating			dB(A)	59.0
External Dimension	Net Weight				lbs	94.8
	Shipping Weight				lbs	104.5
	Net Dimensions			W x H x D	mm	518 x 627 x 330
					in	20-3/8 x 24-11/16 x 13
	Shipping Dimensions			W x H x D	mm	652 x 700 x 426
					in	25-11/16 x 27-5/8 x 16-13/16
Operating Temp. Range	Cooling			Min. ~ Max.	°F	23 ~ 118
	Heating			Min. ~ Max.	°F	-4 ~ 95
Operating Water Temp. Range	Cooling			Min. ~ Max.	°F	41 ~ 86
	Heating			Min. ~ Max.	°F	68 ~ 122

NOTE

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* 1) Nominal cooling capacities are based on;
- Water temperature:73.4°F(23°C)inlet,64.4°F(18°C)outlet - Indoor temperature:80.6°F(27°C)DB,66.2°F(19°C)WB - Outdoor temperature:95°F(35°C)DB,75.2°F(24°C)WB
* 2) Nominal heating capacities are based on;
- Water temperature : 86°F(30℃) inlet, 95°F(35℃) outlet - Indoor temperature : 68°F(20°C) DB - Outdoor temperature : 44.6°F(7°C) DB, 42.8°F(6°C) WB
* 3) Sound pressure was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.
* 4) The VRF system contains R32 (GWP=675) which is fluorinated greenhouse gas.
* Heat Exchanger type : Plate Heat Exchanger (STS)

Summary Table

Hydro Unit (HE)

Electric Characteristics

Model Code	Power Supply				Power Input	Current Input	MCA	MOP
	Φ	#	Hz	V	W	A	A	A
VHED036S6-5P	1	2	60	208-230	10.00	0.05	2.20	15
VHED048S6-5P	1	2	60	208-230	10.00	0.05	2.20	15
VHED096S6-5P	1	2	60	208-230	10.00	0.05	2.20	15
VHED144S6-5P	1	2	60	208-230	10.00	0.05	2.20	15

NOTE

- MCA : Minimum circuit amperes
- MOP: Maximum Overcurrent Protective Device
- FLA : Full load amperes
- Select wire size based on the value of MCA

Capacity Table

Hydro Unit (HE)

Cooling

TC : Total Capacity

Model	Outdoor Temperature (°F, DB)	Entering Water Temperature (°F, WB)					
		50	59	68	73	77	86
		TC	TC	TC	TC	TC	TC
		Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h
VHED036S6-5P	95	24,115	29,192	34,015	35,560	36,553	38,584
VHED048S6-5P	95	32,415	39,240	45,723	47,800	49,135	51,865
VHED096S6-5P	95	64,831	81,209	91,787	95,600	97,928	102,705
VHED144S6-5P	95	103,729	125,567	146,381	152,900	157,300	165,830

Heating

TC : Total Capacity

Model	Outdoor Temperature		Entering Water Temperature (°F, DB)			
			68	86	104	113
	DB	WB	TC	TC	TC	TC
	°F	°F	Btu/h	Btu/h	Btu/h	Btu/h
VHED036S6-5P	44.6	42.8	44,076	40,000	32,055	24,042
VHED048S6-5P	44.6	42.8	60,054	54,500	43,675	32,757
VHED096S6-5P	44.6	42.8	116,354	108,000	96,905	64,489
VHED144S6-5P	44.6	42.8	189,033	172,000	137,509	103,047

NOTE

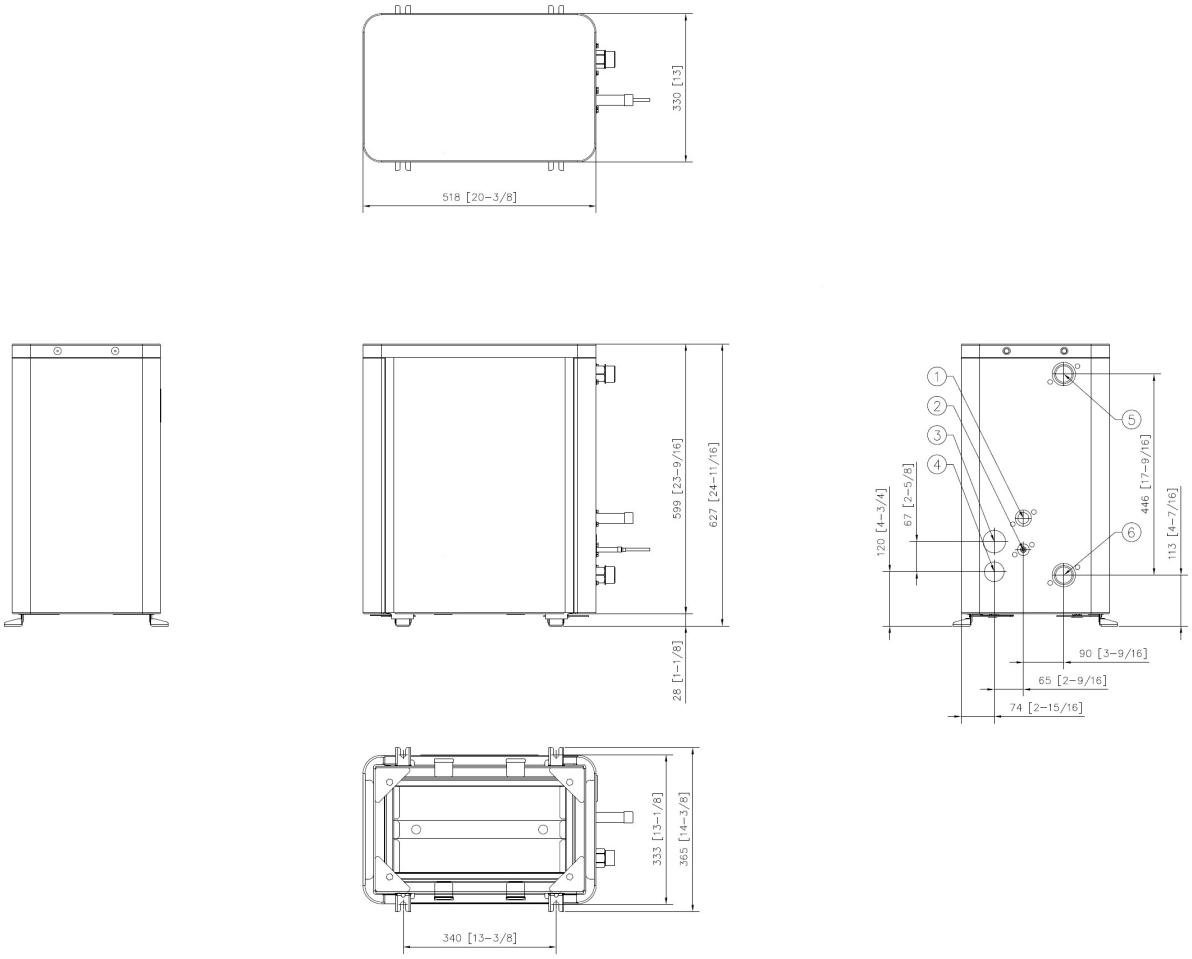
- The performance table shows the average value of each conditions.

Dimensional Drawing

Hydro Unit (HE)

VHED036S6-5P, VHED048S6-5P VHED096S6-5P, VHED144S6-5P

Unit: mm [inch]



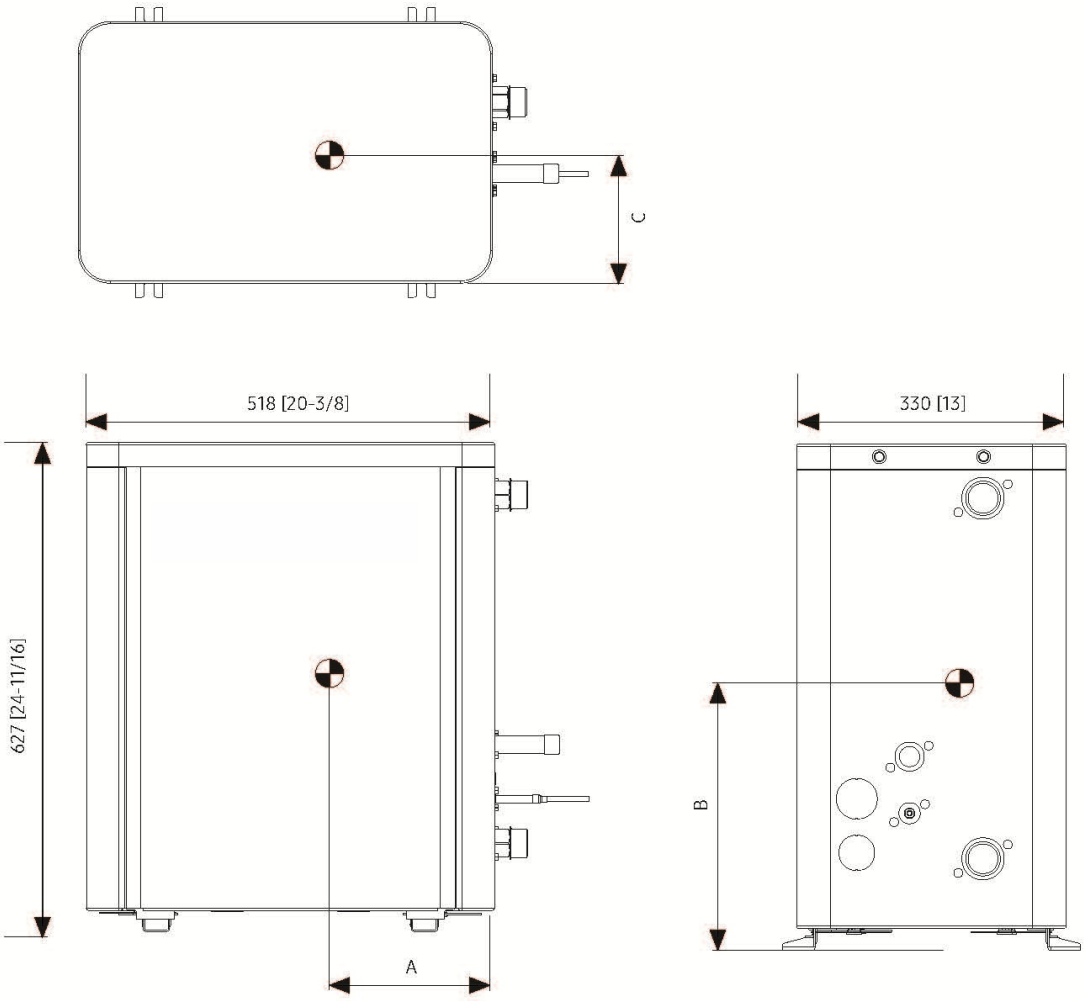
No.	Name	Description		
		VHED036S6-5P, VHED048S6-5P	VHED096S6-5P	VHED144S6-5P
1	Gas pipe connection	15.88 [5/8]	22.22 [7/8]	28.58 [1-1/8]
2	Liquid pipe connection	9.52 [3/8]		12.7 [1/2]
3	Communication wiring conduit	-		
4	Power supply wiring conduit	-		
5	Water outlet pipe	25 [1]		32 [1-1/4]
6	Water inlet pipe	25 [1]		32 [1-1/4]

Center of Gravity

Hydro Unit (HE)

VHED036S6-5P, VHED048S6-5P VHED096S6-5P, VHED144S6-5P

Unit: mm [inch]

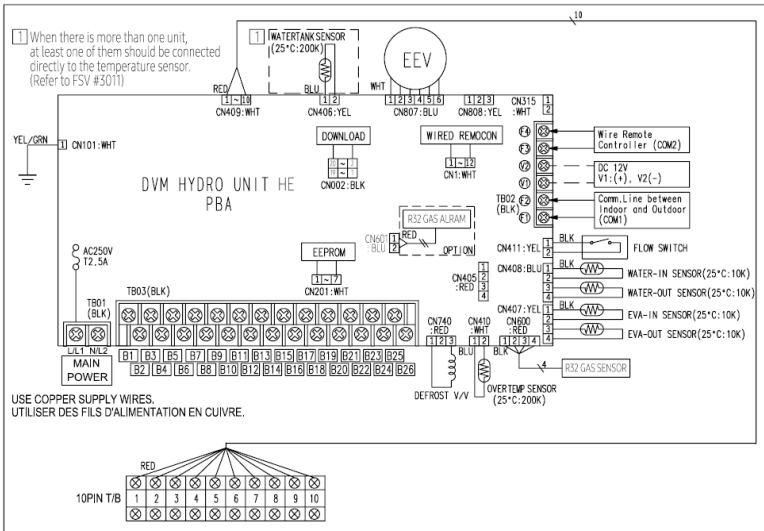


Model	A	B	C
VHED036S6-5P VHED048S6-5P VHED096S6-5P VHED144S6-5P	284.9 [11-3/16]	321.8 [12-11/16]	185.2 [7-5/16]

Electrical Wiring Diagram

Hydro Unit (HE)

VHED036S6-5P, VHED048S6-5P, VHED096S6-5P, VHED144S6-5P



Terminal No.	Explanation	Remark
B1 - B2	OPERATION CHECK	Optional
B3 - B4	ALRAM	Optional
B5 - B6	MAIN WATER PUMP	Mandatory
B7 - B8	HEATER	Optional
B9 - B10 - B11	3WAY V/V 1 (B9-B10 : NO / B9-B11 : NC)	Optional
B12 - B13 - B14	3WAY V/V 2 (B12-B13 : NO / B12-B14 : NC)	Optional
B15 - B16 - B17	2WAY V/V (B15-B16 : NO / B15-B17 : NC)	Optional
B19 - B20	THERMOSTAT1_COOLING(Input Thermostor Signal_AC220-240V)	Optional
B21 - B22	THERMOSTAT2_HEATING(Input Thermostor Signal_AC220-240V)	Optional
B23 - B24	THERMOSTAT1_COOLING(Input Thermostor Signal_AC24V)	Optional
B25 - B26	THERMOSTAT2_HEATING(Input Thermostor Signal_AC24V)	Optional
1 - 2 of 10PIN T/B	ROOM TEMP(Option Kit : MRW-TA)	Optional
5 - 6 of 10PIN T/B	SOLAR PUMP(Input Contact Signal)	Optional
7 - 8 of 10PIN T/B	EXT_CTRL(Input Contact Signal)	Optional
9 - 10 of 10PIN T/B	SMART GRID(Input Contact Signal)	Optional

CODE	ERROR DESCRIPTION
E101	COMMUNICATION EERROR BETWEEN DVM HYDRO AND OUTDOOR UNIT (INDOOR UNIT CAN'T RECEIVE ANY DATA FROM OUTDOOR UNIT)
E108	INDOOR UNIT ADDRESS SETTING ERROR (2 OR MORE INDOOR UNIT HAVE SAME ADDRESS WITHIN THE NETWORK)
E109	INDOOR UNIT COMMUNICATION ERROR (INCOMPLETE ADDRESS SETTINGS)
E116	ERROR OF R32 GAS SENSOR(SHORT/OPEN)
E121	ROOM TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E122	EVA-IN TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E123	EVA-OUT TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E128	EVA-IN SENSOR IS DETACHED
E129	EVA-OUT SENSOR IS DETACHED
E151	INDOOR EEV OPENING ERROR(2nd detection)
E152	INDOOR EEV CLOSING ERROR(2nd detection)
E162	EEPROM H/W ERROR
E163	EEPROM OPTION SETTING ERROR
E641	THE WIRED REMOTE CONROLLER IS NOT CONNECTED WELL (R32 INDOOR MODEL MUST CONNECT WITH WIRED REMOTE CONTROLLER)
E901	WATER INLET TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E902	WATER OUTLET TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E903	OVER-TEMP TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E904	WATER TANK TEMPERATURE SENSOR ERROR(SHORT/OPEN)
E910	WATER OUTLET TEMPERATURE SENSOR HAS SEPERATED FROM THE PIPE
E911	WATER FLOW SWITCH OPEN ERROR
E913	"WATER FLOW SWITCH OPEN ERROR" HAS BEEN DETECTED 6TIMES
E914	INCORRECT CONNECTION OF THE THERMOSTAT
E981	WATER OUTLET TEMP IS OVER HEATING

* Please refer to the installation manual for detailed connection methods of Terminal Block and other error codes.

CODE : DB68-13988A E-PASS

HYDRO UNIT HE PBA	Printed Circuit board	**EVA-IN(10K)**	Thermistor - heat exchanger In
Fuse	Fuse T2.5A	**EVA-OUT(10K)**	Thermistor - heat exchanger Out
WATERTANK SENSOR (200K)	Thermistor - WaterTank	**R32 GAS SENSOR**	R32 Gas Leakage Detecting Sensor
EEV	Electronic Expansion Valve	**OVERTEMP SENSOR (200K)**	Thermistor - OverTemp of Water Outlet
WATER-IN SENSOR (10K)	Thermistor - Water Inlet	**DEFROST V/V**	Defrosting valve
WATER-OUT SENSOR (10K)	Thermistor - Water Outlet	**R32 GAS ALRAM**	Contact output port for R32 Gas Alarm

NOTE

- 1. This wiring diagram applies only to the indoor unit.
- 2. Symbols show as follow;
- BLK : black, RED : red, BLU : blue, WHT:white, YEL : yellow, BRN : brown, SKY : sky-blue, GRN : green
- 3. For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remotecontroller transmission F3-F4.
- ⏚ : Protective earth(screw) □□□□ : Connector N : The wire quantity

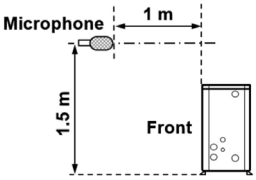
Sound Data

Hydro Unit (HE)

Sound Pressure Level

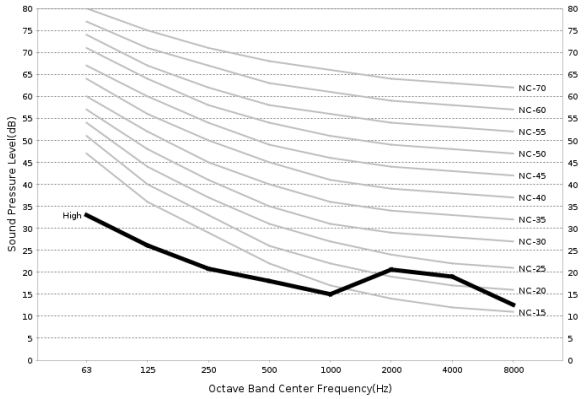
Unit : dB(A)

Model	High
VHED036S6-5P	27.0
VHED048S6-5P	27.0
VHED096S6-5P	28.0
VHED144S6-5P	30.0

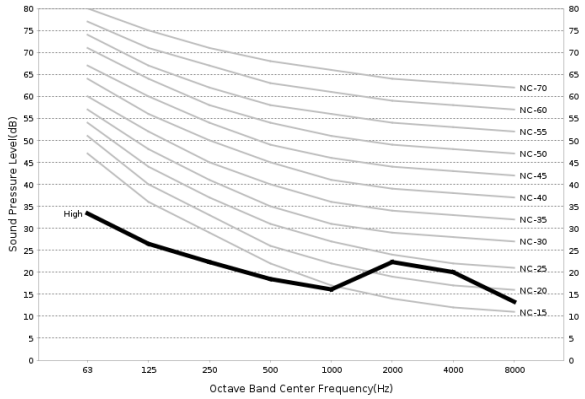


- **NC CURVE**

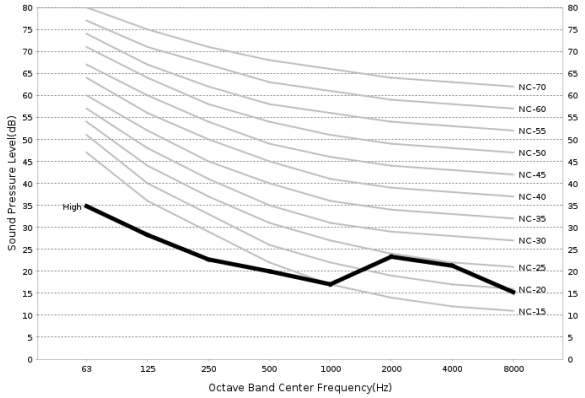
(1) VHED036S6-5P



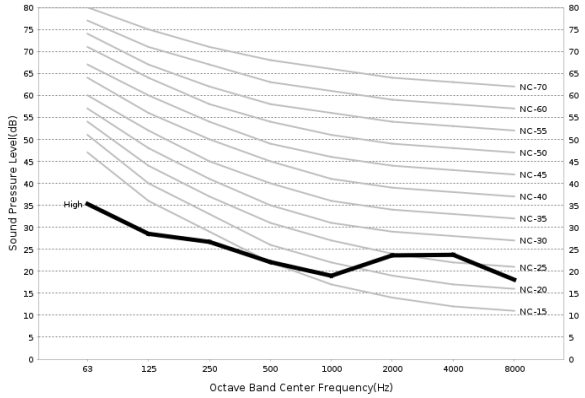
(2) VHED048S6-5P



(3) VHED096S6-5P



(4) VHED144S6-5P



NOTE

- Specifications may be subject to change without prior notice.
  - Sound pressure level is obtained in an anechoic room.
  - Sound pressure level is a relative value, depending on the distance and acoustic environment.
  - Sound pressure level may differ depending on operation condition.
  - dBA = A-weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa

Sound Data

Hydro Unit (HE)

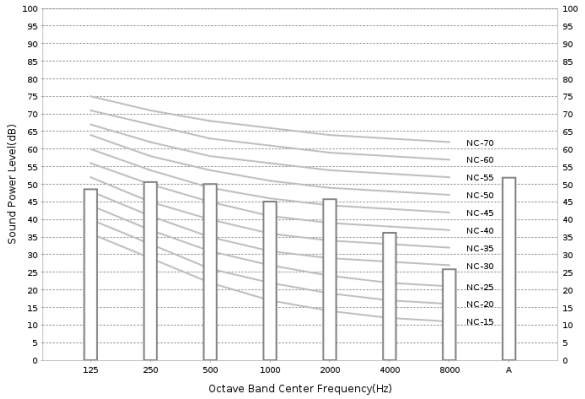
Sound Power Level

Unit : dB(A)

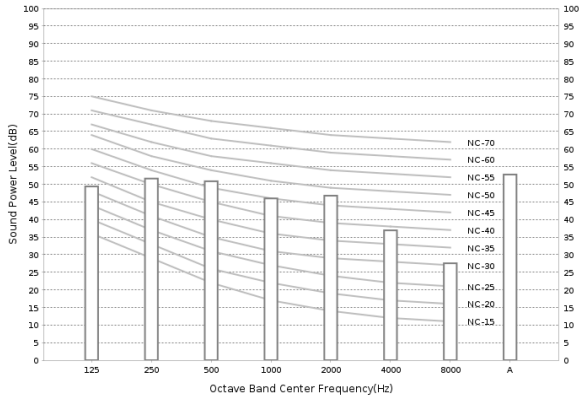
Model	Heating
VHED036S6-5P	54.0
VHED048S6-5P	54.0
VHED096S6-5P	56.0
VHED144S6-5P	59.0

- **NC CURVE**

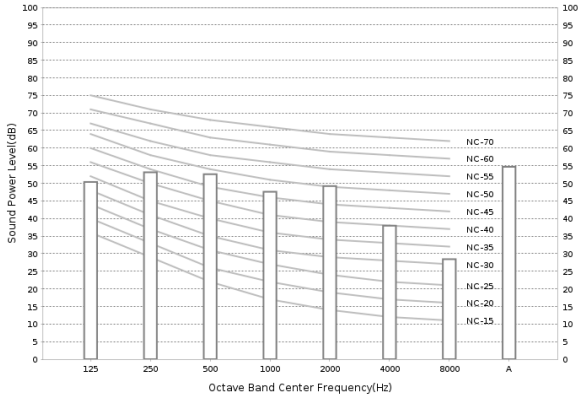
(1) VHED036S6-5P



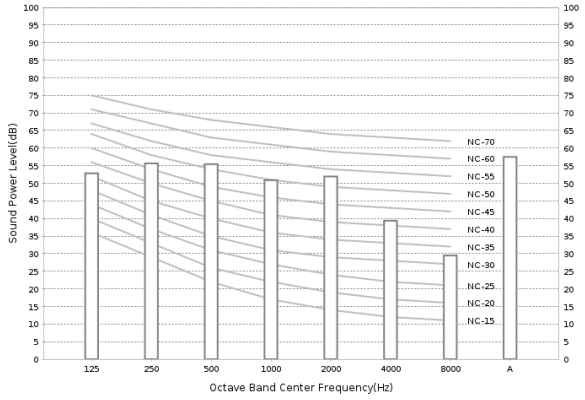
(2) VHED048S6-5P



(3) VHED096S6-5P



(4) VHED144S6-5P



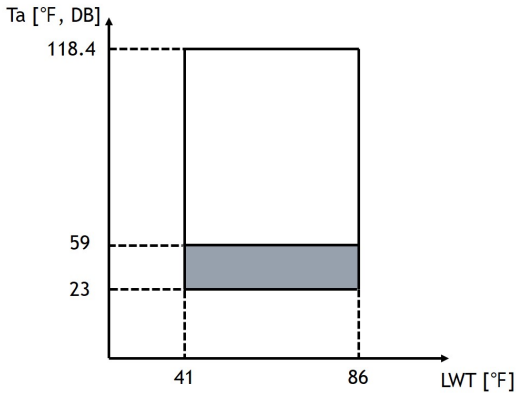
NOTE

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  - Sound pressure level is obtained in an anechoic room.
  - Sound pressure level is a relative value, depending on the distance and acoustic environment.
  - Sound pressure level may differ depending on operation condition.
  - dBA = A-weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa

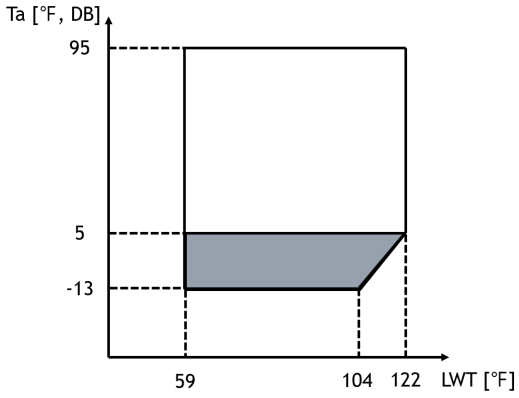
Operation Range

Hydro Unit (HE)

- **Cooling**



- **Heating**



NOTE

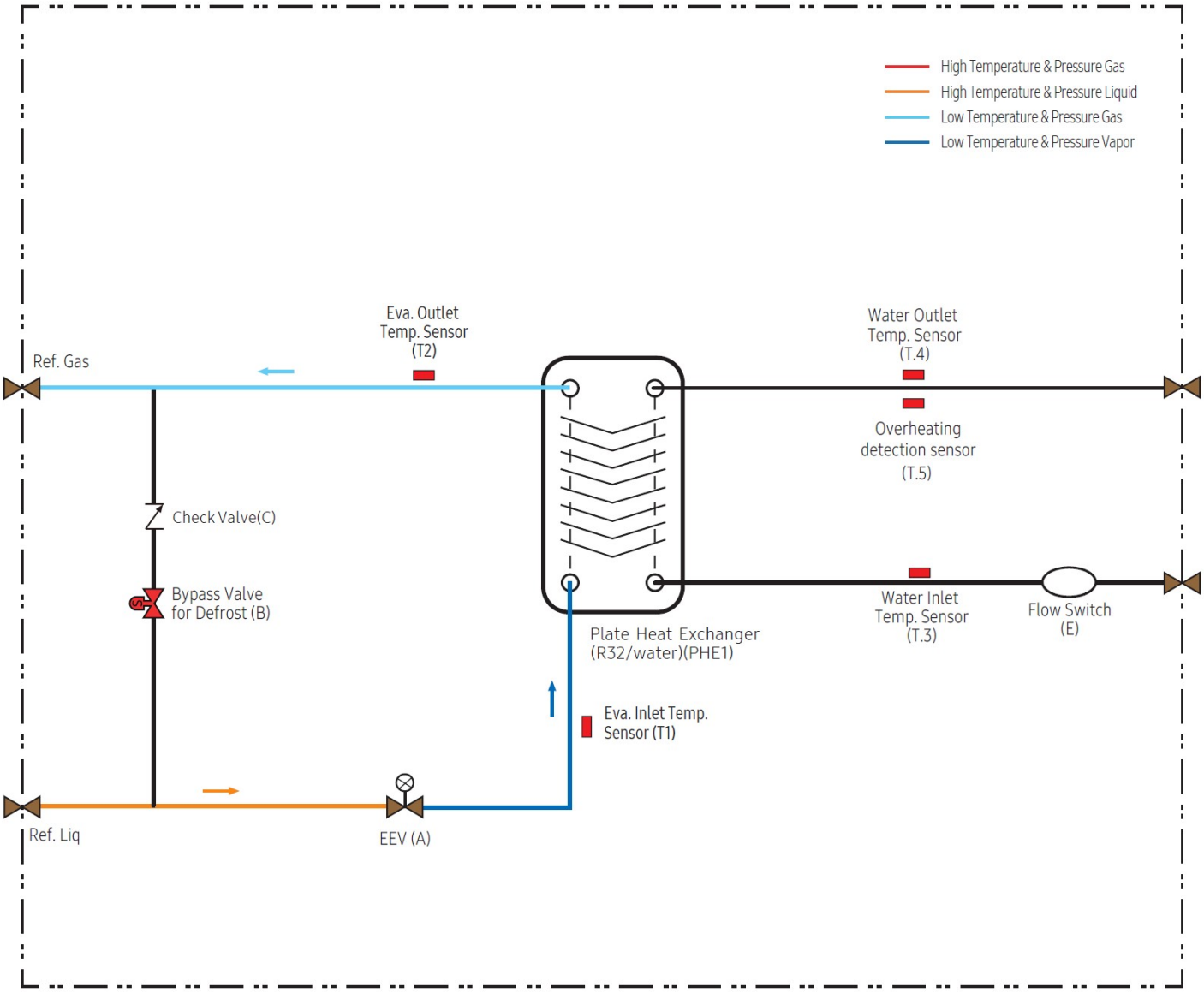
- Gray part : Operation of outdoor unit possible, but no guarantee of capacity in this condition.
- Ta : Ambient Temperature
- LWT : Leaving Water Temperature

Piping Diagram

Hydro Unit (HE)

VHED036S6-5P, VHED048S6-5P, VHED096S6-5P, VHED144S6-5P

Cooling

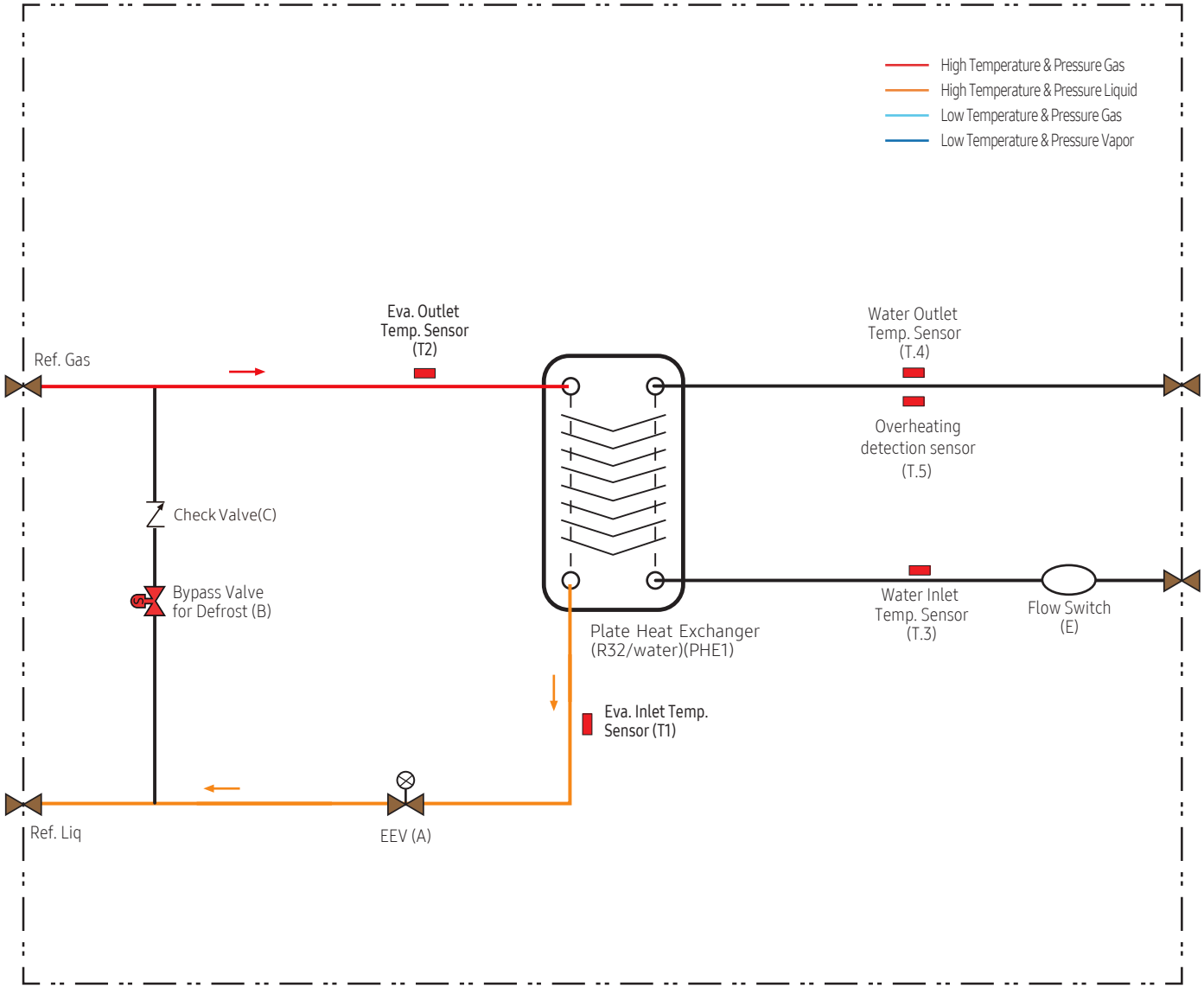


Piping Diagram

Hydro Unit (HE)

VHED036S6-5P, VHED048S6-5P, VHED096S6-5P, VHED144S6-5P

Heating



Installation Clearances

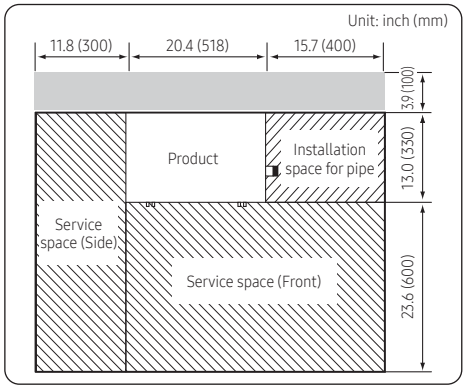
Choosing the installation location

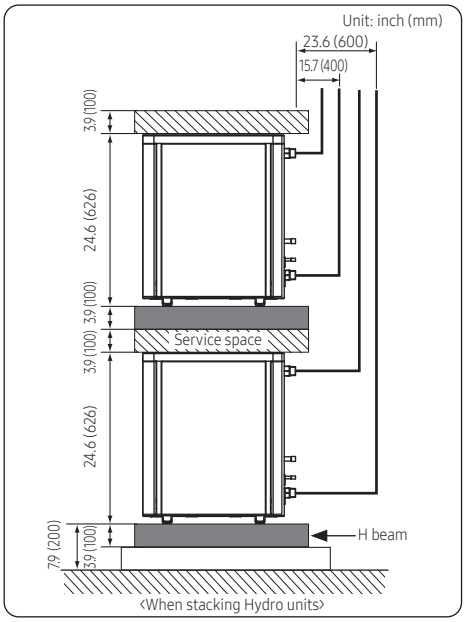
Installation location requirements

- Install the indoor unit on place that can support its weight.
- Maintain sufficient clearance around the indoor unit.
- Before installing the indoor unit, be sure to check whether the chosen location is well-drained.
- The indoor unit must be installed such that it is beyond public access and is not touchable by users.
- Rigid wall without vibration.
- Where it is not exposed to direct sunshine.
- A location where animals cannot access and urinate on the product. Ammonia may be generated.
- The amount of refrigerant to add differs, depending on the installation conditions (e.g., the total piping length and the indoor unit combination), and the minimum indoor-unit installation area depends on the final amount of refrigerant.
  Be sure to install by referring to the minimum indoor-unit installation area depending on the final refrigerant amount, provided in the refrigerant amount table in the outdoor unit installation manual.

Space requirements for installation

- When installing the product, make sure to secure minimum clearance with obstacles as shown below.
- When you install one product on top of the other one, secure at least 23.6 inch (600 mm) of space on the water pipe side.











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