2.2. Hydrobox

Model name				EHSD-MED	EHSD-VM2D	EHSD-VM6D	EHSD-YM9D	EHSD-YM9ED	EHSD-TM9D
Dimensions	Without package	Height	mm	800	800	800	800	800	800
		Width	mm	530	530	530	530	530	530
		Depth	mm	360	360	360	360	360	360
	With package	Height	mm	560	560	560	560	560	560
		Width	mm	600	600	600	600	600	600
		Depth	mm	990	990	990	990	990	990
Casing	Munsell		-	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9
	RAL code		-	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05
	Material		-	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal
Product weight (empty)			kg	36	43	44	44	40	44
Product weight (full)			kg	38	48	49	49	45	49
Gross weight			kg	49	55	57	57	53	57
Water volume of heating circuit in the unit *1			L	1.7	5.2	5.2	5.2	5.2	5.2
Type of Installation			-	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted
Electrical data	Control board *2 (Including 3 pumps)	Power supply	Ph	~/N	~/N	~/N	~/N	~/N	~/N
			V	230	230	230	230	230	230
			Hz	50	50	50	50	50	50
		Input	kW	0.30	0.30	0.30	0.30	0.30	0.30
		Current	A	1.95	1.95	1.95	1.95	1.95	1.95
		Breaker	A	10	10	10	10	10	10
	Booster heater	Power supply	Ph	-	~/N	~/N	3~	3~	3~
			V	-	230	230	400	400	230
			Hz	-	50	50	50	50	50
		Capacity	kW	-	2	2+4	3+6	3+6	3+6
		Heater step	-	-	-	1	3	3	3	3
		Current	A	-	9	26	13	13	23
		Breaker	A	-	16	32	16	16	32
	Immersion heater	Power supply	Ph	-	-	-	-	-	-
			V	-	-	-	-	-	-
			Hz	-	-	-	-	-	-
		Capacity	kW	-	-	-	-	-	-
		Current	A	-	-	-	-	-	-
		Breaker	A	-	-	-	-	-	-
Water circulation pump (Primary circuit)	Type		-	DC motor	DC motor	DC motor	DC motor	DC motor	DC motor
	Input (10/20/max L/min)*3	Speed 1	W	10/13/15	10/13/15	10/13/15	10/13/15	10/13/15	10/13/15
		Speed 2	W	16/21/27	16/21/27	16/21/27	16/21/27	16/21/27	16/21/27
		Speed 3	W	24/32/42	24/32/42	24/32/42	24/32/42	24/32/42	24/32/42
		Speed 4	W	34/46/58	34/46/58	34/46/58	34/46/58	34/46/58	34/46/58
		Speed 5	W	47/58/60	47/58/60	47/58/60	47/58/60	47/58/60	47/58/60
Performance curve: please refer to section 5.6.4	Current (10/20/max L/min)*3	Speed 1	A	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3
		Speed 2	A	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4
		Speed 3	A	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5
		Speed 4	A	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6
		Speed 5	A	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6
	Head difference	0L/min@Speed 5	m	7.5	7.5	7.5	7.5	7.5	7.5
		20L/min@Speed 5	m	7.2	7.2	7.2	7.2	7.2	7.2
		Max flow rate @Speed 5	m	4.9	4.9	4.9	4.9	4.9	4.9
Water circulation pump (DHW circuit)	Input	Speed Ⅰ	W	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	W	-	-	-	-	-	-
		Speed Ⅲ	W	-	-	-	-	-	-
	Current	Speed Ⅰ	A	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	A	-	-	-	-	-	-
		Speed Ⅲ	A	-	-	-	-	-	-
	Flow rate	Speed Ⅰ	L/min	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	L/min	-	-	-	-	-	-
		Speed Ⅲ	L/min	-	-	-	-	-	-
Flow rate	Primary circuit	Max.*4	L/min	36.9	36.9	36.9	36.9	36.9	36.9
		Min.*5	L/min	5.0	5.0	5.0	5.0	5.0	5.0
Heat exchanger	Refrigerant - Primary circuit water		-	MWA1-44DM	MWA1-44DM	MWA1-44DM	MWA1-44DM	MWA1-44DM	MWA1-44DM
	Primary circuit water - Domestic hot water		-	-	-	-	-	-	-
Domestic hot water tank	Volume		L	-	-	-	-	-	-
	Material		-	-	-	-	-	-	-
	Declared load profile		-	-	-	-	-	-	-
	Average climate	η_{wh} (water heating efficiency)*6	-	-	-	-	-	-	-
		P_{es} (standby power input)*6	kW						
		Water heater energy efficiency class	-	-	-	-	-	-	-
Expansion vessel (Primary circuit)	Volume		L	-	10	10	10	-	10
	Charge pressure		MPa	-	0.1	0.1	0.1	-	0.1
Safety device	Primary circuit	Control thermistor	°C	1 to 80	1 to 80	1 to 80	1 to 80	1 to 80	1 to 80
		Pressure relief valve	MPa	0.3	0.3	0.3	0.3	0.3	0.3
		Flow sensor (Min. flow)	L/min	5.0	5.0	5.0	5.0	5.0	5.0
		BH manual reset thermostat	°C	-	90	90	90	90	90
		BH thermal Cut Off	°C	-	121	121	121	121	121
	DHW tank	Control thermistor	°C	-	-	-	-	-	-
		IH manual reset thermostat	°C	-	-	-	-	-	-
		Temperature & pressure relief valve	°C	-	-	-	-	-	-
			MPa	-	-	-	-	-	-
Connections	Water	Primary circuit	mm	φ28	φ28	φ28	φ28	φ28	φ28
		DHW circuit	mm	-	-	-	-	-	-
	Refrigerant	Gas	mm	φ12.7	φ12.7	φ12.7	φ12.7	φ12.7	φ12.7
		Liquid	mm	φ6.35	φ6.35	φ6.35	φ6.35	φ6.35	φ6.35
Refrigerant *7			-	R32/R410A	R32/R410A	R32/R410A	R32/R410A	R32/R410A	R32/R410A
Guaranteed operating range *8	Ambient		°C	0 to 35	0 to 35	0 to 35	0 to 35	0 to 35	0 to 35
			%RH	≦80	≦80	≦80	≦80	≦80	≦80
	Outdoor temperature	Heating	°C	See outdoor unit spec table					
		Cooling	°C	-	-	-	-	-	-
Operating range	Heating	Room temperature	°C	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30
		Flow temperature	°C	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60
	Cooling	Room temperature	°C	-	-	-	-	-	-
		Flow temperature	°C	-	-	-	-	-	-
	DHW *9		°C	-	-	-	-	-	-
	Legionella prevention *9		°C	-	-	-	-	-	-
Sound power level (PWL)			dB(A)	41	41	41	41	41	41

*1 Volume of sanitary water circuit, primary DHW circuit (from 3-way valve to confluent point with Heating circuit), piping to Expansion vessel, and Expansion vessel is not included in this value.
*2 When powered from independent source.
*3 Allowable flow rate range differs depending on connected outdoor unit. Please refer to section 5.6.4.
*4 If the water flow rate range exceeds maximum, the flow speed will be greater than 1.5 m/s, which could corrode the pipes.
*5 If the water flow is less than the minimum, the flow error will be activated.
*6 Hot water performance differs depending on connected outdoor unit.
*7 Refrigerant of outdoor unit connected to cylinder unit.
*8 The enviroment must be frost-free.
*9 For the model without both booster heater and immersion heater, the max. hot water temperature is [Max. outlet water of outdoor unit -3°C]. For the max. outllet of outdoor unit spec table.

2 Specifications

Model name				EHSC-MED	EHSC-VM2D	EHSC-VM6D	EHSC-YM9D	EHSC-YM9ED	EHSC-TM9D
Dimensions	Without package	Height	mm	800	800	800	800	800	800
		Width	mm	530	530	530	530	530	530
		Depth	mm	360	360	360	360	360	360
	With package	Height	mm	560	560	560	560	560	560
		Width	mm	600	600	600	600	600	600
		Depth	mm	990	990	990	990	990	990
Casing	Munsell		-	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9
	RAL code		-	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05
	Material		-	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal
Product weight (empty)			kg	40	47	48	48	43	48
Product weight (full)			kg	42	53	54	54	50	54
Gross weight			kg	53	60	61	61	57	61
Water volume of heating circuit in the unit *1			L	2.6	6.1	6.1	6.1	6.1	6.1
Type of Installation			-	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted
Electrical data	Control board *2 (Including 3 pumps)	Power supply	Ph	~/N	~/N	~/N	~/N	~/N	~/N
			V	230	230	230	230	230	230
			Hz	50	50	50	50	50	50
		Input	kW	0.30	0.30	0.30	0.30	0.30	0.30
		Current	A	1.95	1.95	1.95	1.95	1.95	1.95
		Breaker	A	10	10	10	10	10	10
	Booster heater	Power supply	Ph	-	~/N	~/N	3~	3~	3~
			V	-	230	230	400	400	230
			Hz	-	50	50	50	50	50
		Capacity	kW	-	2	2+4	3+6	3+6	3+6
		Heater step	-	-	1	3	3	3	3
		Current	A	-	9	26	13	13	23
		Breaker	A	-	16	32	16	16	32
	Immersion heater	Power supply	Ph	-	-	-	-	-	-
			V	-	-	-	-	-	-
			Hz	-	-	-	-	-	-
		Capacity	kW	-	-	-	-	-	-
		Current	A	-	-	-	-	-	-
		Breaker	A	-	-	-	-	-	-
Water circulation pump (Primary circuit)	Type		-	DC motor	DC motor	DC motor	DC motor	DC motor	DC motor
	Input (10/20/max L/min)*3	Speed 1	W	10/13/15	10/13/15	10/13/15	10/13/15	10/13/15	10/13/15
		Speed 2	W	16/21/27	16/21/27	16/21/27	16/21/27	16/21/27	16/21/27
		Speed 3	W	24/32/42	24/32/42	24/32/42	24/32/42	24/32/42	24/32/42
		Speed 4	W	34/46/58	34/46/58	34/46/58	34/46/58	34/46/58	34/46/58
		Speed 5	W	47/58/60	47/58/60	47/58/60	47/58/60	47/58/60	47/58/60
Performance curve: please refer to section 5.6.4	Current (10/20/max L/min)*3	Speed 1	A	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3
		Speed 2	A	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4
		Speed 3	A	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5
		Speed 4	A	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6
		Speed 5	A	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6
	Head difference	0L/min@Speed 5	m	7.5	7.5	7.5	7.5	7.5	7.5
		20L/min@Speed 5	m	7.2	7.2	7.2	7.2	7.2	7.2
		Max flow rate @Speed 5	m	4.9	4.9	4.9	4.9	4.9	4.9
Water circulation pump (DHW circuit)	Input	Speed Ⅰ	W	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	W	-	-	-	-	-	-
		Speed Ⅲ	W	-	-	-	-	-	-
	Current	Speed Ⅰ	A	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	A	-	-	-	-	-	-
		Speed Ⅲ	A	-	-	-	-	-	-
	Flow rate	Speed Ⅰ	L/min	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	L/min	-	-	-	-	-	-
		Speed Ⅲ	L/min	-	-	-	-	-	-
Flow rate	Primary circuit	Max.*4	L/min	36.9	36.9	36.9	36.9	36.9	36.9
		Min.*5	L/min	5.0	5.0	5.0	5.0	5.0	5.0
Heat exchanger	Refrigerant - Primary circuit water		-	MWA2-38PA-4	MWA2-38PA-4	MWA2-38PA-4	MWA2-38PA-4	MWA2-38PA-4	MWA2-38PA-4
	Primary circuit water - Domestic hot water		-	-	-	-	-	-	-
Domestic hot water tank	Volume		L	-	-	-	-	-	-
	Material		-	-	-	-	-	-	-
	Declared load profile		-	-	-	-	-	-	-
	Average climate	η_{wh} (water heating efficiency)*6	-	-	-	-	-	-	-
		P_{es} (standby power input)*6	kW						
		Water heater energy efficiency class	-	-	-	-	-	-	-
Expansion vessel (Primary circuit)	Volume		L	-	10	10	10	-	10
	Charge pressure		MPa	-	0.1	0.1	0.1	-	0.1
Safety device	Primary circuit	Control thermistor	°C	1 to 80	1 to 80	1 to 80	1 to 80	1 to 80	1 to 80
		Pressure relief valve	MPa	0.3	0.3	0.3	0.3	0.3	0.3
		Flow sensor (Min. flow)	L/min	5.0	5.0	5.0	5.0	5.0	5.0
		BH manual reset thermostat	°C	-	90	90	90	90	90
		BH thermal Cut Off	°C	-	121	121	121	121	121
	DHW tank	Control thermistor	°C	-	-	-	-	-	-
		IH manual reset thermostat	°C	-	-	-	-	-	-
		Temperature & pressure relief valve	°C	-	-	-	-	-	-
			MPa	-	-	-	-	-	-
Connections	Water	Primary circuit	mm	φ28	φ28	φ28	φ28	φ28	φ28
		DHW circuit	mm	-	-	-	-	-	-
	Refrigerant	Gas	mm	φ15.88	φ15.88	φ15.88	φ15.88	φ15.88	φ15.88
		Liquid	mm	φ9.52	φ9.52	φ9.52	φ9.52	φ9.52	φ9.52
Refrigerant *7			-	R410A	R410A	R410A	R410A	R410A	R410A
Guaranteed operating range *8	Ambient		°C	0 to 35	0 to 35	0 to 35	0 to 35	0 to 35	0 to 35
			%RH	≦80	≦80	≦80	≦80	≦80	≦80
	Outdoor temperature	Heating	°C	See outdoor unit spec table					
		Cooling	°C	-	-	-	-	-	-
Operating range	Heating	Room temperature	°C	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30
		Flow temperature	°C	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60
	Cooling	Room temperature	°C	-	-	-	-	-	-
		Flow temperature	°C	-	-	-	-	-	-
	DHW *9		°C	-	-	-	-	-	-
	Legionella prevention *9		°C	-	-	-	-	-	-
Sound power level (PWL)			dB(A)	40	40	40	40	40	40

*1 Volume of sanitary water circuit, primary DHW circuit (from 3-way valve to confluent point with Heating circuit), piping to Expansion vessel, and Expansion vessel is not included in this value.
*2 When powered from independent source.
*3 Allowable flow rate range differs depending on connected outdoor unit. Please refer to section 5.6.4.
*4 If the water flow rate range exceeds maximum, the flow speed will be greater than 1.5 m/s, which could corrode the pipes.
*5 If the water flow is less than the minimum, the flow error will be activated.
*6 Hot water performance differs depending on connected outdoor unit.
*7 Refrigerant of outdoor unit connected to cylinder unit.
*8 The enviroment must be frost-free.
*9 For the model without both booster heater and immersion heater, the max. hot water temperature is [Max. outlet water of outdoor unit -3°C]. For the max. outllet of outdoor unit spec table.

2 Specifications

Model name				EHSE-YM9ED	EHSE-MED	ERSD-MED	ERSD-VM2D	ERSC-MED	ERSC-VM2D
Dimensions	Without package	Height	mm	950	950	800	800	800	800
		Width	mm	600	600	530	530	530	530
		Depth	mm	360	360	360	360	360	360
	With package	Height	mm	560	560	560	560	560	560
		Width	mm	690	690	600	600	600	600
		Depth	mm	1150	1150	990	990	990	990
Casing	Munsell		-	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9
	RAL code		-	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05
	Material		-	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal
Product weight (empty)			kg	63	61	38	44	41	48
Product weight (full)			kg	73	71	39	50	44	54
Gross weight			kg	78	76	51	58	54	61
Water volume of heating circuit in the unit *1			L	10.0	10.0	1.7	5.2	2.6	6.1
Type of Installation			-	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted
Electrical data	Control board *2 (Including 3 pumps)	Power supply	Ph	~/N	~/N	~/N	~/N	~/N	~/N
			V	230	230	230	230	230	230
			Hz	50	50	50	50	50	50
		Input	kW	0.34	0.34	0.30	0.30	0.30	0.30
		Current	A	2.56	2.56	1.95	1.95	1.95	1.95
		Breaker	A	10	10	10	10	10	10
	Booster heater	Power supply	Ph	3~	-	-	~/N	-	~/N
			V	400	-	-	230	-	230
			Hz	50	-	-	50	-	50
		Capacity	kW	3+6	-	-	2	-	2
		Heater step	-	3	-	-	1	-	1
		Current	A	13	-	-	9	-	9
		Breaker	A	16	-	-	16	-	16
	Immersion heater	Power supply	Ph	-	-	-	-	-	-
			V	-	-	-	-	-	-
			Hz	-	-	-	-	-	-
		Capacity	kW	-	-	-	-	-	-
		Current	A	-	-	-	-	-	-
		Breaker	A	-	-	-	-	-	-
Water circulation pump (Primary circuit)	Type		-	DC motor	DC motor	DC motor	DC motor	DC motor	DC motor
	Input (10/20/max L/min)*3	Speed 1	W	31/37/38	31/37/38	10/13/15	10/13/15	10/13/15	10/13/15
		Speed 2	W	51/63/38	51/63/38	16/21/27	16/21/27	16/21/27	16/21/27
		Speed 3	W	75/94/105	75/94/105	24/32/42	24/32/42	24/32/42	24/32/42
		Speed 4	W	106/134/153	106/134/153	34/46/58	34/46/58	34/46/58	34/46/58
		Speed 5	W	148/180/180	148/180/180	47/58/60	47/58/60	47/58/60	47/58/60
Performance curve: please refer to section 5.6.4	Current (10/20/max L/min)*3	Speed 1	A	0.3/0.3/0.3	0.3/0.3/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3
		Speed 2	A	0.4/0.5/0.5	0.4/0.5/0.5	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4
		Speed 3	A	0.6/0.7/0.8	0.6/0.7/0.8	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5
		Speed 4	A	0.9/1.1/1.2	0.9/1.1/1.2	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6
		Speed 5	A	1.2/1.4/1.4	1.2/1.4/1.4	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6
	Head difference	0L/min@Speed 5	m	12.7	12.7	7.5	7.5	7.5	7.5
		20L/min@Speed 5	m	11	11	7.2	7.2	7.2	7.2
		Max flow rate @Speed 5	m	9.5	9.5	4.9	4.9	4.9	4.9
Water circulation pump (DHW circuit)	Input	Speed Ⅰ	W	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	W	-	-	-	-	-	-
		Speed Ⅲ	W	-	-	-	-	-	-
	Current	Speed Ⅰ	A	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	A	-	-	-	-	-	-
		Speed Ⅲ	A	-	-	-	-	-	-
	Flow rate	Speed Ⅰ	L/min	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	L/min	-	-	-	-	-	-
		Speed Ⅲ	L/min	-	-	-	-	-	-
Flow rate	Primary circuit	Max.*4	L/min	61.5	61.5	36.9	36.9	36.9	36.9
		Min.*5	L/min	5.0	5.0	5.0	5.0	5.0	5.0
Heat exchanger	Refrigerant - Primary circuit water		-	MWA2-72PA	MWA2-72PA	MWA1-44DM	MWA1-44DM	MWA2-38PA-4	MWA2-38PA-4
	Primary circuit water - Domestic hot water		-	-	-	-	-	-	-
Domestic hot water tank	Volume		L	-	-	-	-	-	-
	Material		-	-	-	-	-	-	-
	Declared load profile		-	-	-	-	-	-	-
	Average climate	η_{wh} (water heating efficiency)*6	-	-	-	-	-	-	-
		P_{es} (standby power input)*6	kW						
		Water heater energy efficiency class	-	-	-	-	-	-	-
Expansion vessel (Primary circuit)	Volume		L	-	-	-	10	-	10
	Charge pressure		MPa	-	-	-	0.1	-	0.1
Safety device	Primary circuit	Control thermistor	°C	1 to 80	1 to 80	1 to 80	1 to 80	1 to 80	1 to 80
		Pressure relief valve	MPa	0.3	0.3	0.3	0.3	0.3	0.3
		Flow sensor (Min. flow)	L/min	5.0	5.0	5.0	5.0	5.0	5.0
		BH manual reset thermostat	°C	90	-	-	90	-	90
		BH thermal Cut Off	°C	121	-	-	121	-	121
	DHW tank	Control thermistor	°C	-	-	-	-	-	-
		IH manual reset thermostat	°C	-	-	-	-	-	-
		Temperature & pressure relief valve	°C	-	-	-	-	-	-
			MPa	-	-	-	-	-	-
Connections	Water	Primary circuit	mm	G1-1/2 -B	G1-1/2 -B	G1-B	G1-B	G1-B	G1-B
		DHW circuit	mm	-	-	-	-	-	-
	Refrigerant	Gas	mm	φ25.4(Brazing)	φ25.4(Brazing)	φ12.7	φ12.7	φ15.88	φ15.88
		Liquid	mm	φ9.52	φ9.52	φ6.35	φ6.35	φ9.52	φ9.52
Refrigerant *7			-	R410A	R410A	R32/R410A	R32/R410A	R410A	R410A
Guaranteed operating range *8	Ambient		°C	0 to 35	0 to 35	0 to 35	0 to 35	0 to 35	0 to 35
			%RH	≦80	≦80	≦80	≦80	≦80	≦80
	Outdoor temperature	Heating	°C	See outdoor unit spec table					
		Cooling	°C	-	-	10 to 46	10 to 46	10 to 46	10 to 46
Operating range	Heating	Room temperature	°C	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30
		Flow temperature	°C	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60
	Cooling	Room temperature	°C	-	-	-	-	-	-
		Flow temperature	°C	-	-	5 to 25	5 to 25	5 to 25	5 to 25
	DHW *9		°C	-	-	-	-	-	-
	Legionella prevention *9		°C	-	-	-	-	-	-
Sound power level (PWL)			dB(A)	45	45	41	41	40	40

*1 Volume of sanitary water circuit, primary DHW circuit (from 3-way valve to confluent point with Heating circuit), piping to Expansion vessel, and Expansion vessel is not included in this value.
*2 When powered from independent source.
*3 Allowable flow rate range differs depending on connected outdoor unit. Please refer to section 5.6.4.
*4 If the water flow rate range exceeds maximum, the flow speed will be greater than 1.5 m/s, which could corrode the pipes.
*5 If the water flow is less than the minimum, the flow error will be activated.
*6 Hot water performance differs depending on connected outdoor unit.
*7 Refrigerant of outdoor unit connected to cylinder unit.
*8 The enviroment must be frost-free.
*9 For the model without both booster heater and immersion heater, the max. hot water temperature is [Max. outlet water of outdoor unit -3°C]. For the max. outllet of outdoor unit spec table.

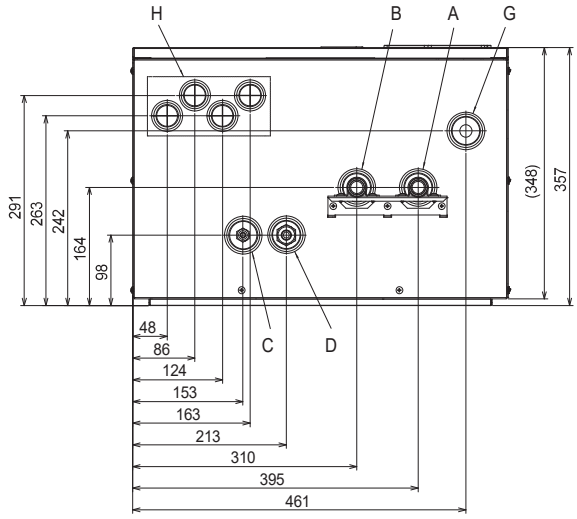
2 Specifications

Model name				ERSD-VM6D	ERSD-YM9D	ERSC-VM6D	ERSC-YM9D	ERSE-YM9ED	ERSE-MED
Dimensions	Without package	Height	mm	800	800	800	800	950	950
		Width	mm	530	530	530	530	600	600
		Depth	mm	360	360	360	360	360	360
	With package	Height	mm	560	560	560	560	560	560
		Width	mm	600	600	600	600	690	690
		Depth	mm	990	990	990	990	1150	1150
Casing	Munsell		-	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9	6.2PB 9/0.9
	RAL code		-	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05	260 90 05
	Material		-	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal	Pre-coated metal
Product weight (empty)			kg	43	44	48	48	64	62
Product weight (full)			kg	49	50	54	55	74	72
Gross weight			kg	57	58	61	62	79	77
Water volume of heating circuit in the unit *1			L	5.2	5.2	6.1	6.1	10.0	10.0
Type of Installation			-	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted	Wall mounted
Electrical data	Control board *2 (Including 3 pumps)	Power supply	Ph	~/N	~/N	~/N	~/N	~/N	~/N
			V	230	230	230	230	230	230
			Hz	50	50	50	50	50	50
		Input	kW	0.30	0.30	0.30	0.30	0.34	0.34
		Current	A	1.95	1.95	1.95	1.95	2.56	2.56
		Breaker	A	10	10	10	10	10	10
	Booster heater	Power supply	Ph	~/N	3~	~/N	3~	3~	-
			V	230	400	230	400	400	-
			Hz	50	50	50	50	50	-
		Capacity	kW	2+4	3+6	2+4	3+6	3+6	-
		Heater step	-	-	3	-	3	3	-
		Current	A	26	13	26	13	13	-
		Breaker	A	32	16	32	16	16	-
	Immersion heater	Power supply	Ph	-	-	-	-	-	-
			V	-	-	-	-	-	-
			Hz	-	-	-	-	-	-
		Capacity	kW	-	-	-	-	-	-
		Current	A	-	-	-	-	-	-
		Breaker	A	-	-	-	-	-	-
Water circulation pump (Primary circuit)	Type		-	DC motor	DC motor	DC motor	DC motor	DC motor	DC motor
	Input (10/20/max L/min)*3	Speed 1	W	10/13/15	10/13/15	10/13/15	10/13/15	31/37/38	31/37/38
		Speed 2	W	16/21/27	16/21/27	16/21/27	16/21/27	51/63/38	51/63/38
		Speed 3	W	24/32/42	24/32/42	24/32/42	24/32/42	75/94/105	75/94/105
		Speed 4	W	34/46/58	34/46/58	34/46/58	34/46/58	106/134/153	106/134/153
		Speed 5	W	47/58/60	47/58/60	47/58/60	47/58/60	148/180/180	148/180/180
Performance curve: please refer to section 5.6.4	Current (10/20/max L/min)*3	Speed 1	A	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.2/0.2/0.3	0.3/0.3/0.3	0.3/0.3/0.3
		Speed 2	A	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.2/0.3/0.4	0.4/0.5/0.5	0.4/0.5/0.5
		Speed 3	A	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.3/0.4/0.5	0.6/0.7/0.8	0.6/0.7/0.8
		Speed 4	A	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.9/1.1/1.2	0.9/1.1/1.2
		Speed 5	A	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	0.5/0.6/0.6	1.2/1.4/1.4	1.2/1.4/1.4
	Head difference	0L/min@Speed 5	m	7.5	7.5	7.5	7.5	12.7	12.7
		20L/min@Speed 5	m	7.2	7.2	7.2	7.2	11	11
		Max flow rate @Speed 5	m	4.9	4.9	4.9	4.9	9.5	9.5
Water circulation pump (DHW circuit)	Input	Speed Ⅰ	W	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	W	-	-	-	-	-	-
		Speed Ⅲ	W	-	-	-	-	-	-
	Current	Speed Ⅰ	A	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	A	-	-	-	-	-	-
		Speed Ⅲ	A	-	-	-	-	-	-
	Flow rate	Speed Ⅰ	L/min	-	-	-	-	-	-
		Speed Ⅱ (Default setting)	L/min	-	-	-	-	-	-
		Speed Ⅲ	L/min	-	-	-	-	-	-
Flow rate	Primary circuit	Max.*4	L/min	36.9	36.9	36.9	36.9	61.5	61.5
		Min.*5	L/min	5.0	5.0	5.0	5.0	5.0	5.0
Heat exchanger	Refrigerant - Primary circuit water		-	MWA1-44DM	MWA1-44DM	MWA2-38PA-4	MWA2-38PA-4	MWA2-72PA	MWA2-72PA
	Primary circuit water - Domestic hot water		-	-	-	-	-	-	-
Domestic hot water tank	Volume		L	-	-	-	-	-	-
	Material		-	-	-	-	-	-	-
	Declared load profile		-	-	-	-	-	-	-
	Average climate	η_{wh} (water heating efficiency)*6	-	-	-	-	-	-	-
		P_{es} (standby power input)*6	kW						
		Water heater energy efficiency class	-	-	-	-	-	-	-
Expansion vessel (Primary circuit)	Volume		L	10	10	10	10	-	-
	Charge pressure		MPa	0.1	0.1	0.1	0.1	-	-
Safety device	Primary circuit	Control thermistor	°C	1~80	1~80	1~80	1~80	1 to 80	1 to 80
		Pressure relief valve	MPa	0.3	0.3	0.3	0.3	0.3	0.3
		Flow sensor (Min. flow)	L/min	5.0	5.0	5.0	5.0	5.0	5.0
		BH manual reset thermostat	°C	90	90	90	90	90	-
		BH thermal Cut Off	°C	121	121	121	121	121	-
	DHW tank	Control thermistor	°C	-	-	-	-	-	-
		IH manual reset thermostat	°C	-	-	-	-	-	-
		Temperature & pressure relief valve	°C	-	-	-	-	-	-
			MPa	-	-	-	-	-	-
Connections	Water	Primary circuit	mm	G1-A	G1-A	G1-A	G1-A	G1-1/2 -B	G1-1/2 -B
		DHW circuit	mm	-	-	-	-	-	-
	Refrigerant	Gas	mm	φ12.7	φ12.7	φ15.88	φ15.88	φ25.4(Brazing)	φ25.4(Brazing)
		Liquid	mm	φ6.35	φ6.35	φ9.52	φ9.52	φ9.52	φ9.52
Refrigerant *7			-	R32/R410A	R32/R410A	R410A	R410A	R410A	R410A
Guaranteed operating range *8	Ambient		°C	0~35	0~35	0~35	0~35	0 to 35	0 to 35
			%RH	≦80	≦80	≦80	≦80	≦80	≦80
	Outdoor temperature	Heating	°C	See outdoor unit spec table					
		Cooling	°C	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46
Operating range	Heating	Room temperature	°C	10~30	10~30	10~30	10~30	10 to 30	10 to 30
		Flow temperature	°C	20~60	20~60	20~60	20~60	20 to 60	20 to 60
	Cooling	Room temperature	°C	-	-	-	-	-	-
		Flow temperature	°C	5~25	5~25	5~25	5~25	5 to 25	5 to 25
	DHW *9		°C	-	-	-	-	-	-
	Legionella prevention *9		°C	-	-	-	-	-	-
Sound power level (PWL)			dB(A)	41	41	40	40	45	45

*1 Volume of sanitary water circuit, primary DHW circuit (from 3-way valve to confluent point with Heating circuit), piping to Expansion vessel, and Expansion vessel is not included in this value.
*2 When powered from independent source.
*3 Allowable flow rate range differs depending on connected outdoor unit. Please refer to section 5.6.4.
*4 If the water flow rate range exceeds maximum, the flow speed will be greater than 1.5 m/s, which could corrode the pipes.
*5 If the water flow is less than the minimum, the flow error will be activated.
*6 Hot water performance differs depending on connected outdoor unit.
*7 Refrigerant of outdoor unit connected to cylinder unit.
*8 The enviroment must be frost-free.
*9 For the model without both booster heater and immersion heater, the max. hot water temperature is [Max. outlet water of outdoor unit -3°C]. For the max. outllet of outdoor unit spec table.

<Unit: mm>

<EHS*> (Split model system for heating)



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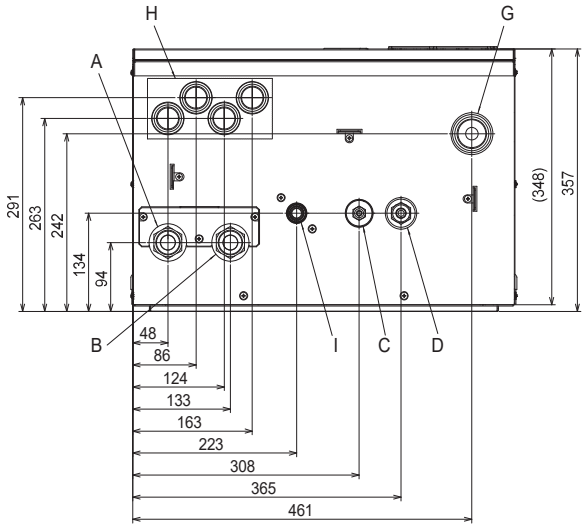
<ERS*> (Split model system for heating and cooling)



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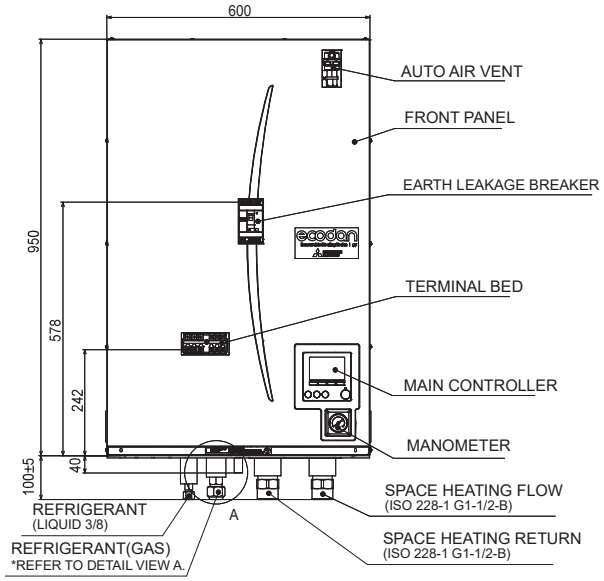
<E*SE> (Split model system for heating/ heating and cooling)



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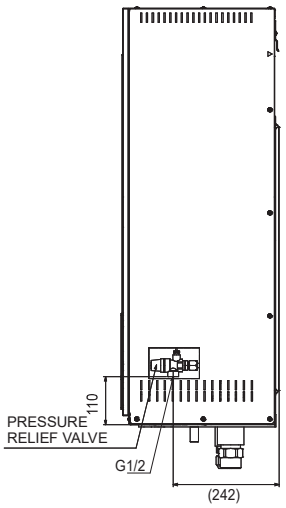

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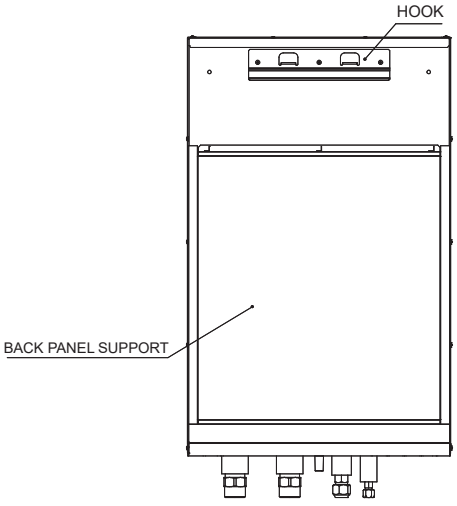
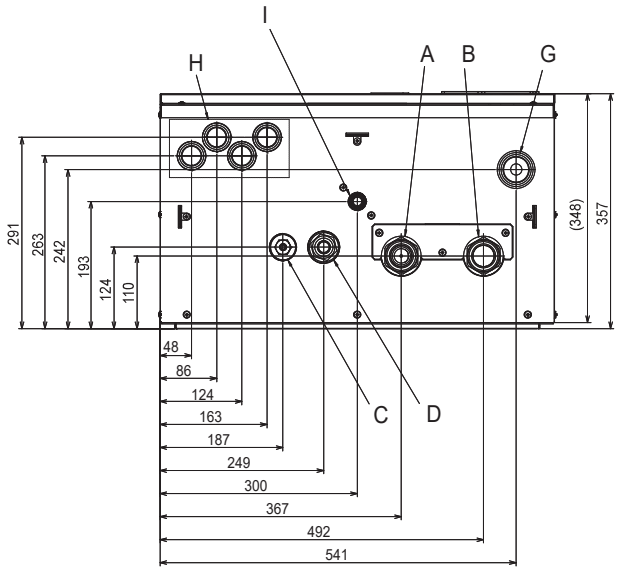
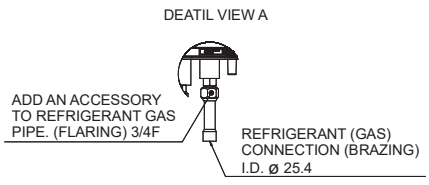


<Rear>

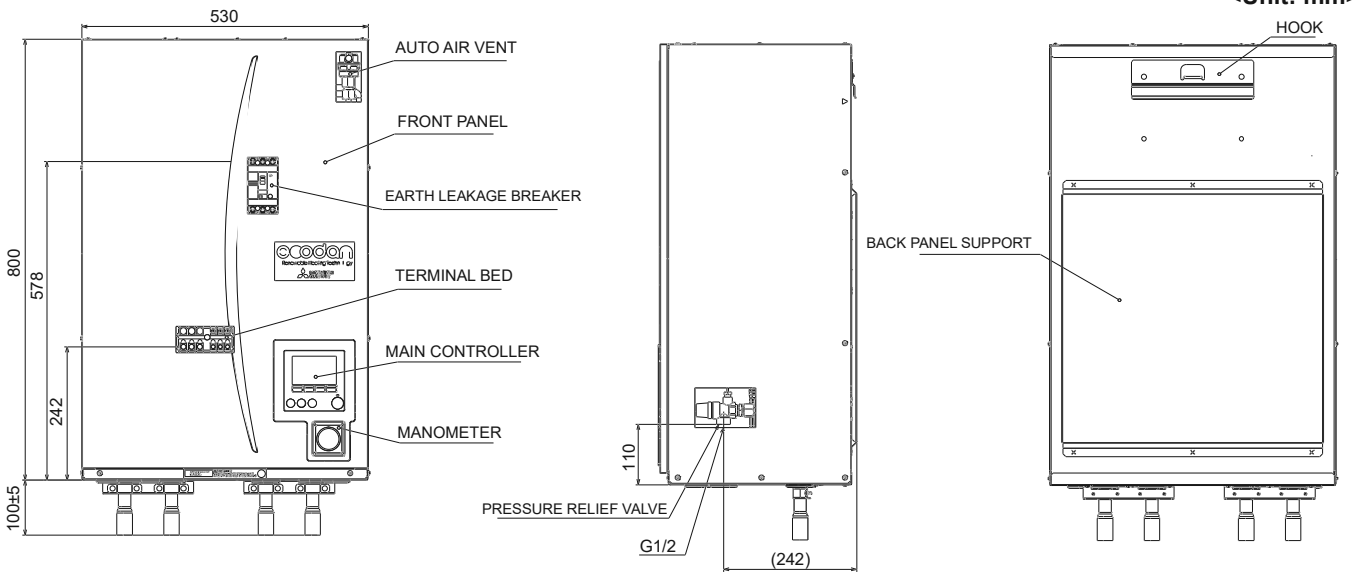




5.1. Outlines and dimensions

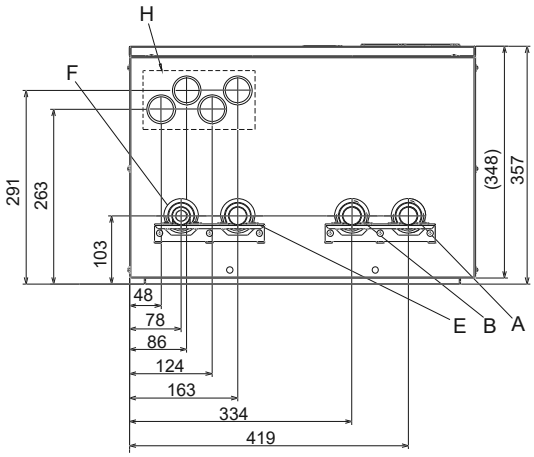
■ Technical Drawings

<Unit: mm>



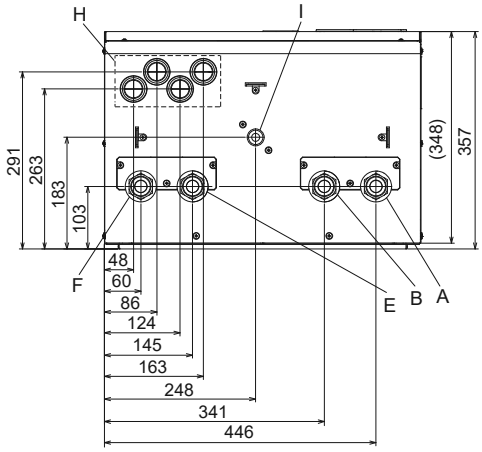
<Front> <Side> <Rear>

<EHPX> (Packaged model system for heating)



<View from below>

<ERPX> (Packaged model system for heating and cooling)

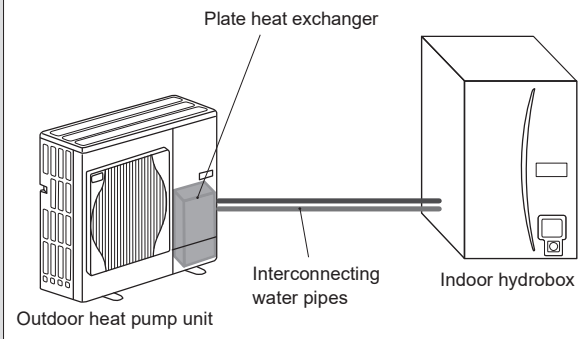
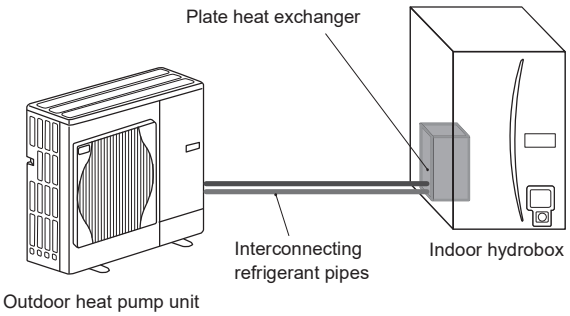


<View from below>

Letter	Pipe description	Connection size/type	
A	Space heating/Indirect DHW tank (primary) RETURN connection	28mm/Compression (EHSD/EHSC/EHPX-*) G1 nut (ERSD/ERSC/ERPX-*) G1-1/2 nut (E*SE-*)	
B	Space heating/Indirect DHW tank (primary) FLOW connection	28mm/Compression (EHSD/EHSC/EHPX-*) G1 nut (ERSD/ERSC/ERPX-*) G1-1/2 nut (E*SE-*)	
C	Refrigerant (Liquid)	6.35 mm/Flare (E*SD-*) 9.52 mm/Flare (E*SC-*) 9.52 mm/Flare (E*SE-*)	⚠ **Warning** • Refrigerant pipes connection shall be accessible for maintenance purposes. • In the case of reconnecting the refrigerant pipes after detaching, make the flared part of pipe re-fabricated.
D	Refrigerant (Gas)	12.7 mm/Flare (E*SD-*) 15.88 mm/Flare (E*SC-*) Brazing connection I.D. ø25.4 (E*SE-*)	
E	Flow connection FROM heat pump	28 mm/Compression (EHPX-*) G1 nut (ERPX-*)	
F	Return connection TO heat pump	28 mm/Compression (EHPX-*) G1 nut (ERPX-*)	
G	Discharge pipe (by installer) from pressure relief valve	G1/2" female (valve port within hydrobox casing)	
H	Electrical cable inlets ① ② ③ ④	For inlets ① and ②, run high-voltage wires including power cable, indoor-outdoor cable, and external output wires. For inlets ③ and ④, run low-voltage wires including external input wires and thermistor wires. For a wireless receiver (option) cable, use inlet ④.	
I	Drain socket	O.D. ø20	

<Table 5.1>

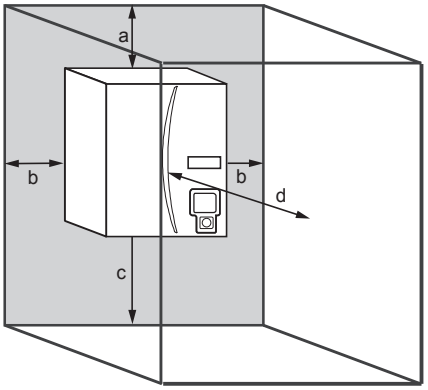
■ System configuration

	Packaged model system	Split model system
Model name	EHPT20X-	EHST20*-, ERST20*-
Model name	EHPX-	EHS*-, ERS*-
Hydrobox		

■ Service access diagrams

Service access	
Parameter	Dimension (mm)
a	200
b	150
c	500
d	500

Sufficient space MUST be left for the provision of discharge pipework as detailed in National and Local building regulations.



<Figure 5.1.1>
Service access

The hydrobox must be located indoors and in a frost-free environment, for example in a utility room.