

RVBH

BARREL/TANK/SHELL & TUBE TYPE HEAT EXCHANGER

INTRODUCTION

RVBH Series Tank-Type Heat Exchangers (1–15 HP)

Compact • High Efficiency • Reliable Performance

The RVBH Series Tank-Type Heat Exchangers are engineered to deliver powerful heat transfer in a compact footprint. Compared with traditional heat exchangers—dual-pipe (oversized), plate-type (easy to block/frost crack), and shell-tube (large and costly)—the RVBH Series offers a superior balance of size, efficiency, and reliability.

A free-flow water path and bottom-position water inlet improve drainage, reduce sediment buildup, and ensure long-term stable operation. The RVBH Series can be used as a condenser, evaporator, or multi-media heat exchanger across various HVAC applications.

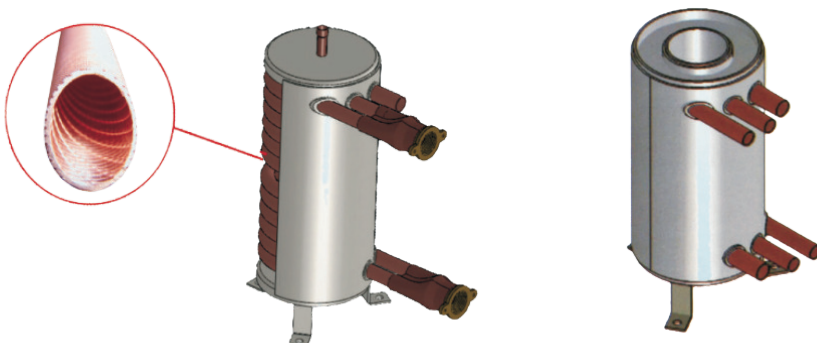
Key Advantages

- High-Performance Heat Exchange Core
 - Available with high-efficiency cores or anti-corrosion swimming-pool versions based on customer needs.
- Compact & Durable Design
 - Ideal for central air-conditioning chillers, air/water source heat pumps, swimming-pool systems, and more.
- Leak-Resistant Water Circuit
 - Seamless coil design eliminates welding joints and minimizes leakage risk.
- High Safety Assurance
 - Each unit undergoes a 4.2 MPa pressure test to guarantee safe and reliable performance.
- Flexible System Integration
 - Units can be connected in parallel or series to support larger system capacities.



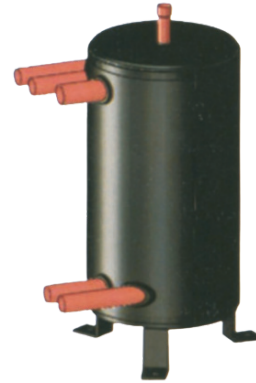
TECHNICAL EDGE

- High Heat Exchange Efficiency
 - The RVBH Series uses high-efficiency heat exchange tubes that provide up to four times the surface area of conventional tubes. The compact, precisely engineered coil structure ensures optimal refrigerant flow and maximum heat transfer performance.
- Enhanced Safety & Reliability
 - A unique double-helix water channel design delivers smooth, uniform water flow, preventing ice blockage and scale formation. The bottom-positioned water inlet allows complete drainage, protecting the coil from freezing when the system is shut down.
- Compact Design
 - Its small footprint makes system layout easier and helps reduce the overall size and cost of the complete unit.
- Efficient Oil Return
 - Special internal flow design ensures smooth and continuous oil recovery, improving system stability and long-term reliability.



TECHNICAL PARAMETERS

	Refrigerant Side	Secondary Refrigerant Side
Max. Working Pressure	4.5Mpa	1.6Mpa
Working Temperature Range	-50 DegC ~ 150 DegC	-30 DegC ~ 90 DegC
Media	Refrigerants: R22, R32, R134a, R407C, R410A	Fresh water, sea water, and other brine solutions.



When the pressure of refrigerant is beyond the scope, or the secondary refrigerant is not fresh, please contact RVG Rep.

INSTALLATION TYPE

Refrigerant Side:

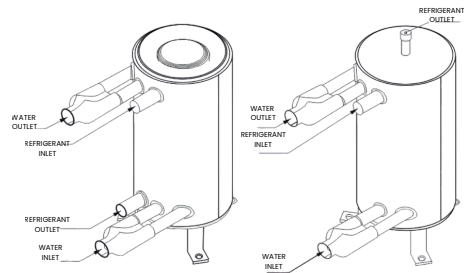
- The gas and liquid pipes are connected as shown.

Water Side:

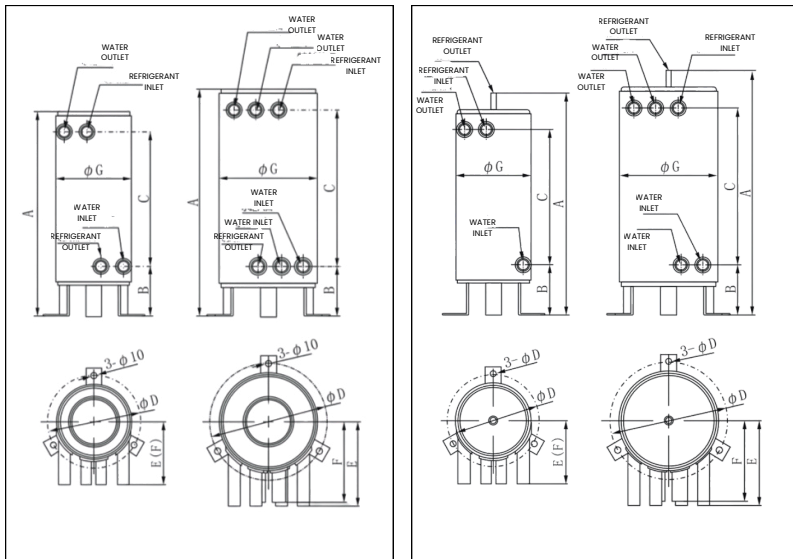
- The water side can be configured in either parallel or series arrangements (illustration shows a parallel setup). To avoid excessive water resistance, parallel connection is generally recommended over series.

System Integration:

- Depending on performance requirements, multiple RVBH heat exchanger tanks (typically 2-10 units) can be connected in parallel or series to meet the needs of large-capacity systems.



PRODUCT DIMENSION DIAGRAM



RVBH- ()HECA SERIES

RVBH- ()HECB SERIES

Condensing Type RVBH HEC-A/B Series (suitable for air source heat pumps, air-cooled cabinet units, and heat recovery systems)

AIR-CONDITIONING CONDITION

Model	Heating capacity (KW)	Water flow (m/h)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Refrigerant in-let OD(mm)	Refrigerant out-let OD(mm)	Water in&out-let OD(mm)	Nominal Compressor Capacity
RVBH-1HEC	5.5	1	220(250)	80	140	148	100	100	120	15.88	15.88	19.05	1
RVBH-2HEC	7	1	260(290)	80	180	148	100	100	120	15.88	15.88	19.05	2
RVBH-3aHEC	9.5	1.5	330(360)	80	250	148	100	100	120	15.88	15.88	19.05	3
RVBH-4aHEC	12	2	390(420)	80	310	148	100	100	120	15.88	15.88	19.05	4
RVBH-3HEC	11.5	2	262(302)	83	142	187	134	125	157	22.22	22.22	19.05*2	3
RVBH-4HEC	15.5	2.5	300(340)	83	180	187	134	125	157	22.22	22.22	19.05*2	4
RVBH-5HEC	19.5	3	340(380)	83	220	187	134	125	157	22.22	22.22	19.05*2	5
RVBH-6HEC	23	4	390(430)	83	270	187	134	125	157	22.22	22.22	19.05*2	6
RVBH-6bHEC	23	4	533(578)	71	426	187	130	140	159	22.22	22.22	25.4	6
RVBH-7HEC	27	4.5	430(470)	83	310	187	134	125	157	22.22	22.22	19.05*2	7
RVBH-7.5HEC	29	5	450(490)	83	330	187	134	125	157	22.22	22.22	19.05*2	7
RVBH-8HEC	31	5.5	472(512)	83	352	187	134	125	157	22.22	22.22	19.05*2	8
RVBH-9HEC	34.5	6	514(554)	83	400	187	134	125	157	22.22	22.22	19.05*2	9
RVBH-10HEC	37.5	6.5	448(498)	99	300	252	176	176	222	25.4	25.4	25.4*2	10
RVBH-12HEC	41.5	7	500(550)	99	352	252	176	176	222	25.4	25.4	25.4*2	12
RVBH-15HEC	53	9	558(608)	99	410	252	176	176	222	25.4	25.4	25.4*2	15
RVBH-15fHEC	56	9.5	608(658)	99	460	252	176	176	222	28	28	28*2	15

All parameters above are based on refrigerant R410A.

The data below is based on a water inlet temperature of 30°C, water outlet temperature of 35°C, and a condensing temperature of 40°C.

(The data shown in parentheses refers to the RVBH-() HEC-B Series.)

HEAT PUMP CONDITION

Model	Heating capacity (KW)	Water flow (m/h)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Refrigerant in-let OD(mm)	Refrigerant out-let OD(mm)	Water in&out-let OD(mm)	Nominal Compressor Capacity
RVBH-1HEC	5	0.83	220(250)	80	140	148	100	100	120	15.88	15.88	19.05	0.5
RVBH-2HEC	6.5	1.1	260(290)	80	180	148	100	100	120	15.88	15.88	19.05	1
RVBH-3aHEC	8.5	1.5	330(360)	80	250	148	100	100	120	15.88	15.88	19.05	2
RVBH-4aHEC	11	1.85	390(420)	80	310	148	100	100	120	15.88	15.88	19.05	3
RVBH-3HEC	10.5	1.75	262(302)	83	142	187	134	125	157	22.22	22.22	19.05*2	2
RVBH-4HEC	14	2.4	300(340)	83	180	187	134	125	157	22.22	22.22	19.05*2	3
RVBH-5HEC	17.5	2.9	340(380)	83	220	187	134	125	157	22.22	22.22	19.05*2	4
RVBH-6HEC	21	3.6	390(430)	83	270	187	134	125	157	22.22	22.22	19.05*2	5
RVBH-6bHEC	21	3.6	533(578)	71	426	187	130	140	159	22.22	22.22	25.4	5
RVBH-7HEC	24.5	4.2	430(470)	83	310	187	134	125	157	22.22	22.22	19.05*2	6
RVBH-7.5HEC	26.5	4.5	450(490)	83	330	187	134	125	157	22.22	22.22	19.05*2	7
RVBH-8HEC	28	4.8	472(512)	83	352	187	134	125	157	22.22	22.22	19.05*2	7
RVBH-9HEC	31.5	5.4	514(554)	83	400	187	134	125	157	22.22	22.22	19.05*2	8
RVBH-10HEC	34	5.8	448(498)	99	300	252	176	176	222	25.4	25.4	25.4*2	9
RVBH-12HEC	37.5	6.4	500(550)	99	352	252	176	176	222	25.4	25.4	25.4*2	10
RVBH-15HEC	48	8.2	558(608)	99	410	252	176	176	222	25.4	25.4	25.4*2	12
RVBH-15fHEC	51	8.7	608(658)	99	460	252	176	176	222	28	28	28*2	15

All parameters above are based on refrigerant R410A.

The data below is based on the standard operating conditions of heat pump water heaters, with water flow calculated at a 5°C temperature difference between inlet and outlet. The heat exchange capacity is the average value measured when water is heated from an inlet temperature of 15°C to an outlet temperature of 55°C.

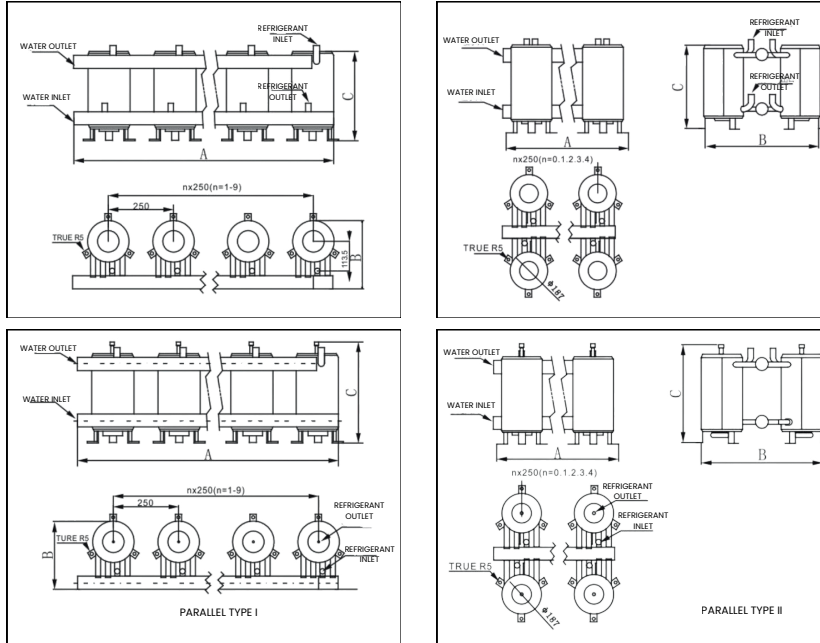
(The data shown in parentheses refers to the RVBH-() HEC-B Series.)

HEAT EXCHANGE CORRECTION FOR OTHER OPERATING CONDITIONS

Condensing temperature Deg C	30	40	50
Refrigerant Correction	Factor		
R22	1.03	1	0.96
R134a	0.91	0.88	0.84
R410a	1.13	1.1	1.05



COMBINED USAGE CONFIGURATION



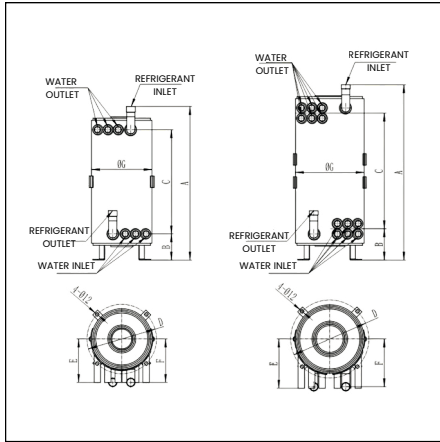
PARAMETERS

Type	Combining Form	Outline Dimension			Refrigerant Inlet (OD)	Refrigerant Outlet (OD)	Water Inlet & Outlet (OD)	Nominal Compressor Capacity HP	
		A (mm)	B (mm)	C (mm)				Air Conditioning Condition	Heat Pump Condition
2-RVBH-4HEC	II	189	457	300 (340)	2*22	2*22	35	2*5	2*4
2-RVBH-5HEC	II	189	457	340 (380)	2*22	2*22	35	2*6	2*5
2-RVBH-6HEC	II	189	464	390(430)	2*22	2*22	42	2*8	2*6
2-RVBH-7HEC	II	189	464	430(470)	2*22	2*22	42	2*10	2*8
3-RVBH-4HEC	I	714	280	300 (340)	2*22	2*22	42	3*5	3*4
3-RVBH-5HEC	I	714	280	340 (380)	3*22	3*22	42	3*6	3*5
3-RVBH-6HE	I	714	288	390(430)	3*22	3*22	50	3*8	3*6
3-RVBH-7HEC	I	714	288	430 (470)	3*22	3*22	50	3*10	3*8
4-RVBH-4HEC	II	439	472	300 (340)	4*22	4*22	50	4*5	4*4
4-RVBH-5HEC	II	439	472	340(380)	4*22	4*22	50	4*6	4*5
4-RVBH-6HEC	II	439	476	390(430)	4*22	4*22	54	4*8	4*6
4-RVBH-7HEC	II	439	482	430(470)	4*22	4*22	60	4*10	4*8
5-RVBH-5HEC	I	121	429	340 (380)	5*22	5*22	54	5*6	5*5
5-RVBH-6HEC	I	121	429	390(430)	5*22	5*22	60	5*8	5*8
6-RVBH-5HEC	II	689	482	340 (380)	6*22	6*22	60	6*6	6*5
6-RVBH-6HEC	II	689	482	390(430)	6*22	6*22	60	6*8	6*5
7-RVBH-5HEC	I	1714	302	340(380)	7*22	7*22	64	7*6	7*5
8-RVBH-5HEC	II	939	486	340 (380)	8*22	8*22	64	8*6	8*5
8-RVBH-6HEC	II	939	498	390(430)	8*22	8*22	76	-	8*6

• The data shown in parentheses refers to the RVBH-() HEC-B Series.

• Our company assumes no responsibility for any errors that may appear in the catalogue or electronic materials and reserves the right to make product changes without prior notice.

MULTI-TUBE HIGH-EFFICIENCY TANK HEAT EXCHANGER



COMBINED USAGE CONFIGURATION

Uses 22-fin heat-exchange copper tubes, offering low water resistance, low cost, compact size, excellent cooling performance, and high heat exchange efficiency

TECHNICAL PARAMETER

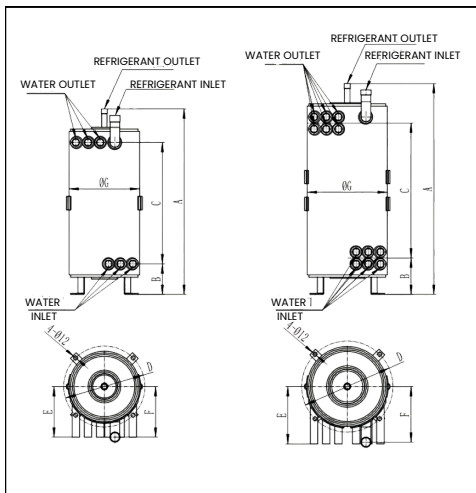
Model	Heating capacity (KW)	Water flow (m/h)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Refrigerant in-let ID(mm)	Refrigerant out-let ID(mm)	Water in&out-let OD(mm)
RVBH-12HEC-C	30	6.5	530(550)	90	360	240	150	150	209	28.6	28.6(15.88)	22*3
RVBH-15HEC-C	40	7.8	580(600)	90	410	240	150	150	209	28.6	28.6(15.88)	22*3
RVBH-18HEC-C	50	8.6	620(640)	90	450	240	150	150	209	28.6	28.6(15.88)	22*3

Heating Condition 1: Ambient dry-bulb temperature 7°C, wet-bulb 6°C, inlet water temperature 40°C, outlet water temperature 45°C.

Heating Condition 2: Ambient temperature -12°C, outlet water temperature 41°C.

Cooling Condition: Ambient dry-bulb temperature 35°C, wet-bulb 24°C, inlet water temperature 12°C, outlet water temperature 7°C

HIGH-EFFICIENCY NEW MULTI-TUBE TANK HEAT EXCHANGER



PRODUCT CHARACTERISTICS

- Uses 22-groove finned copper tubes
- Low water resistance
- Low cost
- Compact size
- Excellent cooling performance
- High heat exchange efficiency

TECHNICAL PARAMETER

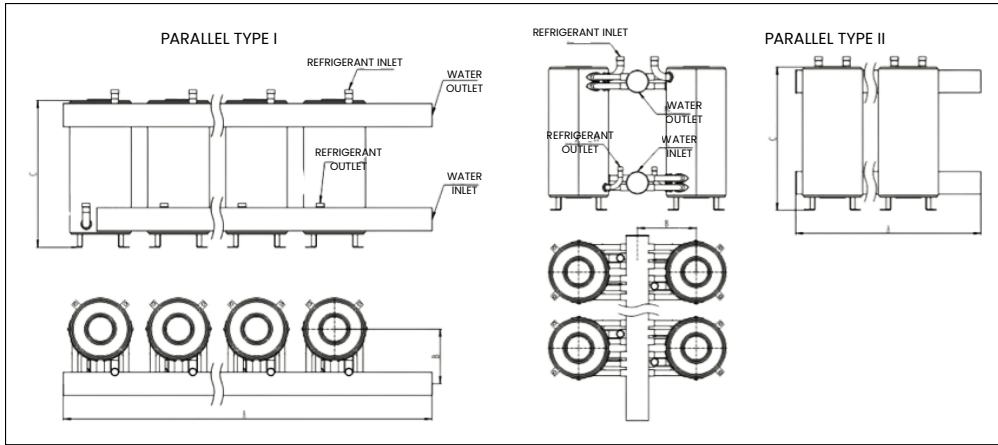
Model	Heating capacity (KW)	Water flow (m/h)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Refrigerant in-let ID(mm)	Refrigerant out-let ID(mm)	Water in&out-let OD(mm)
RVBH-25HEC-C	85	14.5	605(625)	90	400	270	170	165	237	28.6	28.6(15.88)	22*6
RVBH-30HEC-C	100	17	655(675)	90	450	270	170	165	237	28.6	28.6(15.88)	22*6

Heating Condition 1: Ambient temperature: Dry bulb 7°C, Wet bulb 6°C; Inlet water temperature 40°C; Outlet water temperature 45°C

Heating Condition 2: Ambient temperature: -12°C; Outlet water temperature 41°C

Cooling Condition: Ambient temperature: Dry bulb 35°C, Wet bulb 24°C; Inlet water temperature 12°C; Outlet water temperature 7°C

COMBINED-USE HIGH-EFFICIENCY TANK HEAT EXCHANGER



TECHNICAL PARAMETER

Type	Combining Form	Outline Dimension			Refrigerant Inlet (ID)	Refrigerant Outlet (ID)	Water Inlet & Outlet (OD)	Nominal Compressor Configuration
		A (mm)	B (mm)	C (mm)				
2-RVBH-12HEC-C	I (II)	189	457	300 (340)	2*22	2*22	35	2*5
2-RVBH-15HEC-C	I (II)	189	457	340 (380)	2*22	2*22	35	2*6
2-RVBH-18HEC-C	I (II)	189	464	390(430)	2*22	2*22	42	2*8
2-RVBH-25HEC-C	I (II)	189	464	430(470)	2*22	2*22	42	2*10
2-RVBH-30HEC-C	I (II)	714	280	300 (340)	2*22	2*22	42	3*5
3-RVBH-12HEC-C	I	714	280	340 (380)	3*22	3*22	42	3*6
3-RVBH-15HEC-C	I	714	288	390(430)	3*22	3*22	50	3*8
3-RVBH-18HEC-C	I	714	288	430 (470)	3*22	3*22	50	3*10
3-RVBH-25HEC-C	I	439	472	300 (340)	4*22	4*22	50	4*5
3-RVBH-30HEC-C	I	439	472	340(380)	4*22	4*22	50	4*6
4-RVBH-12HEC-C	I (II)	439	476	390(430)	4*22	4*22	54	4*8
4-RVBH-15HEC-C	I (II)	439	482	430(470)	4*22	4*22	60	4*10
4-RVBH-18HEC-C	I (II)	121	429	340 (380)	5*22	5*22	54	5*6
4-RVBH-25HEC-C	I (II)	121	429	390(430)	5*22	5*22	60	5*8
4-RVBH-30HEC-C	I (II)	689	482	340 (380)	6*22	6*22	60	6*6

Heating Condition 1: Ambient temperature DB 7°C, WB 6°C; inlet water temperature 40°C; outlet water temperature 45°C.

Heating Condition 2: Ambient temperature -12°C; outlet water temperature 41°C.

Cooling Condition: Ambient temperature DB 35°C, WB 24°C; inlet water temperature 12°C; outlet water temperature 7°C.

PROFESSIONAL CUSTOMIZED SERVICES

Personalized product customization services, offering different multi-heat-exchanger assemblies based on customer installation requirements to meet various power and model design needs.

