

ShinMaywa

Submersible Helical Rotor Blower (Roots Type) RB-H Series

Low Noise

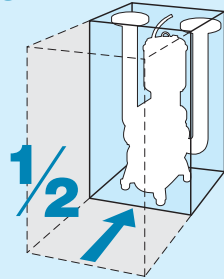
**Submersible Blower with Helical Rotor
can significantly reduce the Noise Level**



The body is slim, yet discharge pressure is impressive. Helical rotor is imparted to all models.

● Installation space reduced to one-half that of the surface type

The use of helical rotors has enabled the inlet silencer to be made slim and the rotor shaft to be set upright. As a result, the blower installation space is about one-half that required for the surface type. The opening space of a blower tank to be installed can be reduced.



● Three-lobe helical rotor

The use of three-lobe helical rotor has improved the blower performance, to a discharge pressure of 60kPa (RB50AH-RB125H). With the helical rotor which produce little pulsation noise, the need for noise-proof equipment can be eliminated merely by providing silencers in two tiers at the suction side (one in the water and one on the ground).

● Proven reliability

The rotor driving motor is an air-filled submersible motor which has been employed in many submersible pumps. The housing sealed with an O-ring is watertight. For the oil seal, fluororubber which has good heat resistance and durability is used. In addition, the lubricating system is protected with the labyrinth seal which is effective to prevent oil leakage.

● Simple installation reduces installation time

The submersible helical blower has neither a base nor a stand, hence there is no need to use anchor bolts. All that is necessary for installation is to set the blower on the tank bottom and provide a support for the intake and discharge pipes at the top of the tank. Since the blower is provided with anti-vibration rubber mount at the bottom to prevent the blower vibration from being transmitted to the tank bottom, it can be used even in FRP tanks.

● Easy maintenance

A ball bearing is used in place of a roller bearing to avoid damaging the inner race during disassembly and reassembly. The oil for gear lubrication needs not be changed for about two years, since it is cooled underwater.

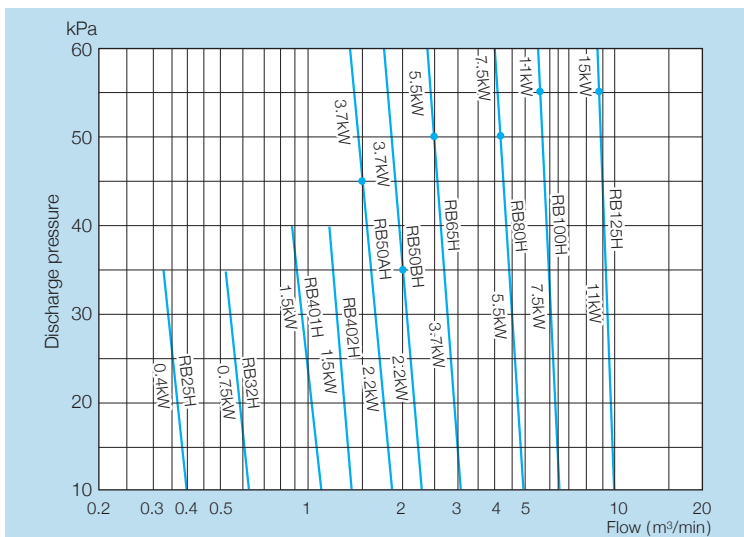
50Hz Standard Specifications

Model	Discharge mm	Rated output kW	Phase	No. of poles	Discharge pressure / Flow: m ³ /min											Weight kg	
					10kPa	15kPa	20kPa	25kPa	30kPa	35kPa	40kPa	45kPa	50kPa	55kPa	60kPa		
RB25H	25	0.4	3	2	0.40	0.39	0.37	0.36	0.34	0.33	—	—	—	—	—	43	
RB32H	32	0.75			0.62	0.60	0.58	0.56	0.54	0.52	—	—	—	—	—	—	48
RB401H	40	1.5			1.09	1.05	1.02	0.99	0.95	0.91	0.87	—	—	—	—	—	60
RB402H					1.39	1.36	1.32	1.28	1.25	1.21	1.17	—	—	—	—	—	62
RB50AH	50	2.2			1.83	1.78	1.73	1.68	1.63	1.59	1.54	1.50	—	—	—	—	120
RB50BH		3.7			2.27	2.23	2.18	2.14	2.09	2.05	—	—	—	—	—	—	
RB65H	65	2.2			3.03	2.95	2.88	2.79	2.70	2.63	2.56	2.51	2.45	2.40	2.34	—	140
RB80H		3.7															
RB100H	100	5.5		6.50	6.40	6.30	6.20	6.10	6.00	5.90	5.80	5.70	5.60	5.50	—	300	
RB125H		7.5															10.00
		11															
		15															

- Flow indicated the volume of air on the suction side.
- The tolerance for flow at the prescribed pressure shall be ±5%.

To use Variable Frequency Driver(VFD), please set VFD base frequency to 60Hz. For 50Hz blower, do not operate with the frequency over 50Hz.

Performance Curves



Noise Levels

dB(A)

Model	Discharge pressure					
	10kPa	20kPa	30kPa	40kPa	50kPa	60kPa
RB25H	47	48	50	—	—	—
RB32H	—	—	—	—	—	—
RB401H	50	51	52	53	—	—
RB402H						
RB50AH	52	53	53	54	54	55
RB50BH	53		54	55	55	56
RB65H	58	58	59	60	61	62
RB80H	60	60		59	58	58
RB100H	53	55	57	58	59	59
RB125H	64	65	66	66	66	66

- The noise levels shown are those measured at 1m away from the No. 2 inlet silencer (tolerance: ±3dB(A)).
- This table is provided only for reference.

Sectional View

No. 1 inlet silencer

Absorbs noise generated by air flow
(Silencers for models RH50AH – 125H are of large diameter type)

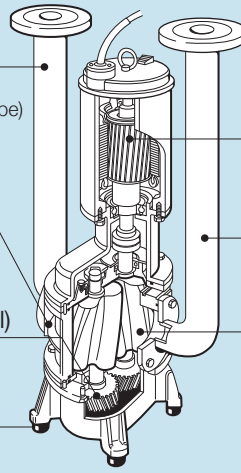
Rotor housing (FC200: gray iron casting)

Timing gear (SCM415:chromium molybdenum steel)

Maintains the phases of two helical rotors. And using the helical gears to suppress the noise.

Anti-vibration rubber mount

Prevents the blower vibration from being transmitted to the tank bottom.



Motor

Air-filled submersible motor which has been employed in many submersible pumps.

Outlet silencer

The sound-absorbing lining absorbs the noise which is otherwise emitted to the discharge side.

Helical rotor (FCD500:spheroidal graphite iron casting)

The Roots-type in which two rotors constantly maintain a certain clearance by the action of a timing gear, to compress air. Since the helical rotors permit air to be discharged continuously, the pulsation noise generated is minimal.

Variety of Uses

Wastewater treatment

- Aeration at sewage treatment plants
- Aeration at onsite wastewater treatment systems
- Aeration of wastewater from food processing plants, etc.
- Aeration of wastewater from livestock farms

Others

- Oxygen supply in aquariums, aquaculture ponds, etc.
- Foaming of water in baths and swimming pools

<NOTE>

This product can handle only air of atmospheric pressure and of 0 to 35°C in inlet temperature. Do not use any other gas.

<Applicable water condition>

Water temperature	5 to 32°C	pH	6.5 to 9
Electric conductivity	1,000 μS/cm or less	DO (Dissolved oxygen)	1 to 4 mg (O ₂)/L
Chlorine ion	1,000 mg/L or less	SS	3,000 mg/L or less
BOD,COD	1,000 mg /L or less	—	—

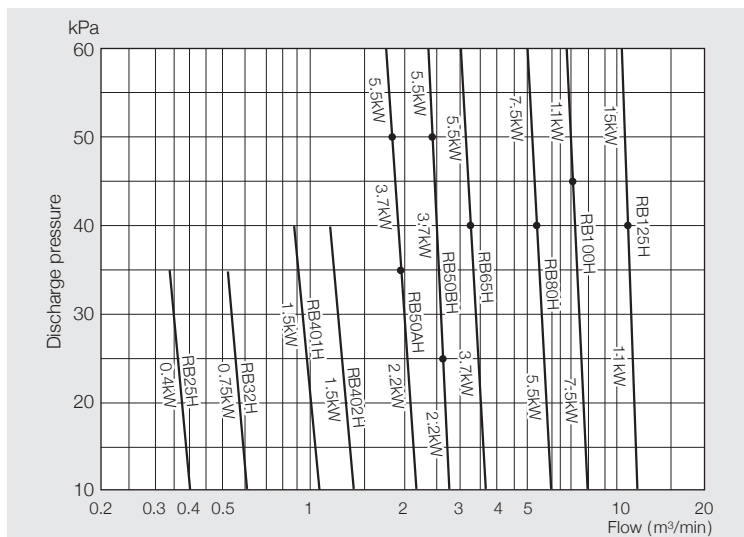
※Water must be always flowing.

60Hz Standard Specifications

Model	Discharge mm	Rated output kW	Phase	No. of poles	Discharge pressure / Flow: m ³ /min											Weight kg			
					10kPa	15kPa	20kPa	25kPa	30kPa	35kPa	40kPa	45kPa	50kPa	55kPa	60kPa				
RB25H	25	0.4	3	2	0.40	0.39	0.37	0.36	0.34	0.33	—	—	—	—	—	—	43		
RB32H	32	0.75			0.62	0.60	0.58	0.56	0.54	0.52	—	—	—	—	—	—	—	48	
RB401H	40	1.5			1.09	1.05	1.02	0.99	0.95	0.91	0.87	—	—	—	—	—	—	60	
RB402H					1.39	1.36	1.32	1.28	1.25	1.21	1.17	—	—	—	—	—	—	62	
RB50AH	50	2.2			4	2	2.17	2.13	2.08	2.04	1.99	1.95	—	—	—	—	—	—	120
		3.7					2.75	2.70	2.66	2.61	—	—	—	—	—	—	—		
		5.5		—			—	—	—	2.56	2.51	2.47	2.42	2.37	—	—	—		
RB50BH	50	2.2		—			—	—	—	—	—	—	—	—	—	—	—	—	130
		3.7		—			—	—	—	—	—	—	—	—	—	—	—		
RB65H	65	5.5		—			—	—	—	—	—	—	—	—	—	—	—	—	140
		3.7		3.71	3.64		3.58	3.48	3.40	3.33	3.25	—	—	—	—	—			
RB80H	80	5.5		—	—		—	—	—	—	—	—	—	—	—	—	—	230	
		7.5	5.98	5.89	5.80		5.71	5.62	5.53	5.44	—	—	—	—	—				
RB100H	100	7.5	—	4	7.94		7.81	7.68	7.55	7.42	7.29	7.16	7.03	—	—	—	300		
		11	—		—		—	—	—	—	—	—	—	—	—				
RB125H	125	11	—		—		—	—	—	—	—	—	—	—	—	—	390		
		15	11.80		11.70	11.50	11.40	11.20	11.10	10.90	—	—	—	—					
					10.80	10.60	10.50	10.30											

- Flow indicated the volume of air on the suction side.
- The tolerance for flow at the prescribed pressure shall be ±5%.

Performance Curves



Noise Levels

dB(A)

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RB401H	50	51	52	53	—	—
RB402H					—	—
RB50AH	55	55	55	55	56	56
RB50BH	54	54	54	54	54	54
RB65H	60	60	59	59	59	59
RB80H	62	62	61	61	61	60
RB100H	55	56	58	59	60	61
RB125H	65	65	66	66	67	67

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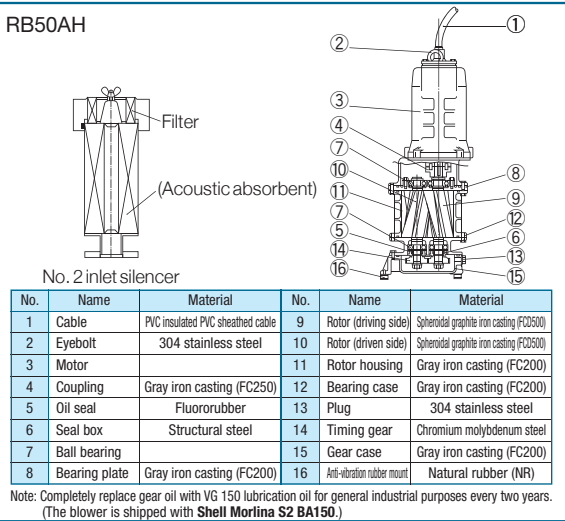
Standard Accessories

- Cable
6m for RB25H-402H 1
8m for RB50AH-100H (7.5kW) 1
8m for RB100H(11kW), 125H 3
- Lifting chain (6m), (4m for RB25H-402H) 1
- No.1 inlet silencer (built into the blower) 1
- No.1 outlet silencer (built into the blower) 1
- Check valve (with safety valve) 1
- Expansion joint 2
- Pressure gauge (with gauge cock 160kPa) 1

Options

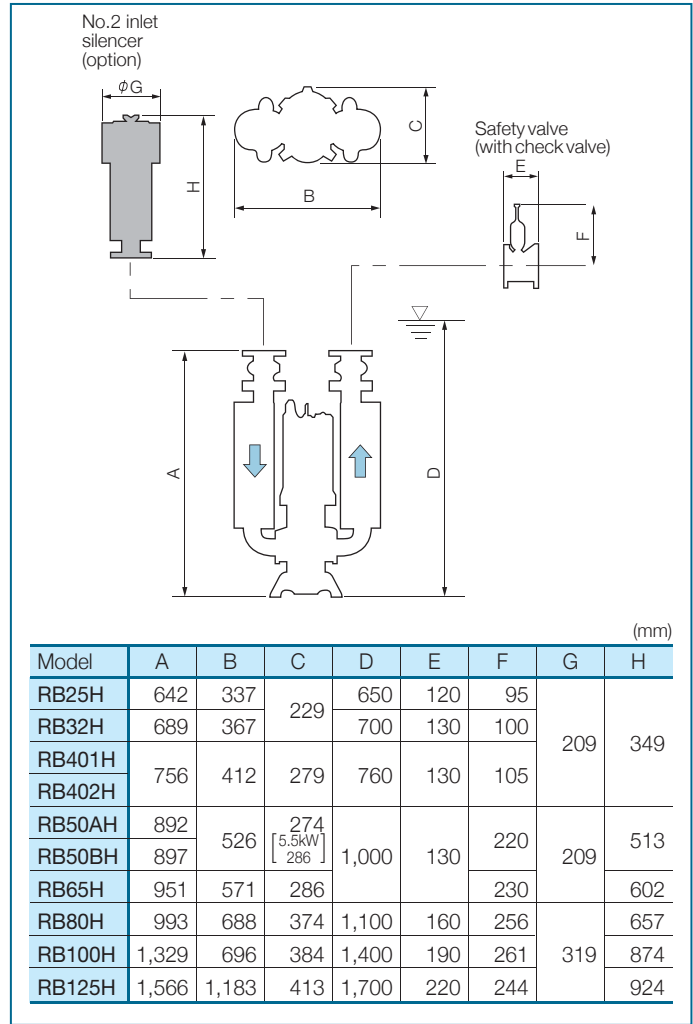
- Gate valve
- No2. inlet silencer

Sectional View

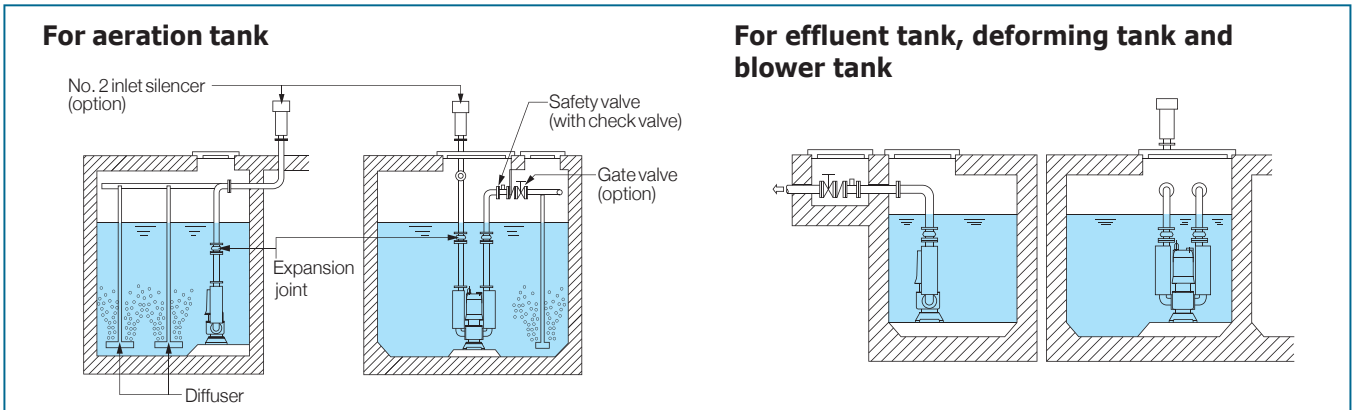


※ This data may not be applied to other models.

Dimensions



Installation Examples



Specifications and dimensions are subject to change without notice.

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