HITACHI

HITACHI High-Pressure Blower
Vortex Blower

**No oil fume, low noise,
energy saving and dual function of suction and discharge**

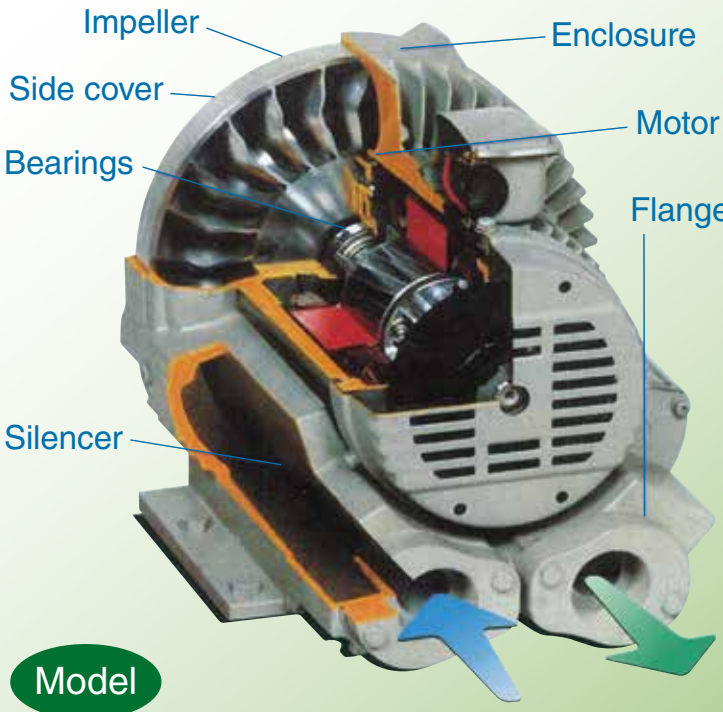
E SERIES
Volume Type

G SERIES
High-Pressure
Compact Type

DN SERIES
Wear-Resistant
Type

Hitachi Industrial Equipment Systems Co.,Ltd.

Hitachi Vortex Blower demonstrar
in a wide range of application eith
in suction (negative pressure) or d



Model

Structure and Characteristics;

1. Smooth air flowing in the tube
   - High efficiency
   - Low noise
2. Cooling the surface of cabinet by cooling air generated by motor.
3. One-way closed clearance to prevent contact with the turbine blades (Simple adjustment of clearance).
4. Clockwise and counterclockwise rotation of motor at the same air volume (E Series)

High-Pressure Compact Type G Series

For suction of case packer, soldering machine, woodworking machine, etc.
For underwater blowing in Jacuzzi bath, etc.

- High pressure, low-noise, compact type adopting three-dimensional impeller
- Applicable in full range to shutoff

Output 70W～2.2kW

Volume Type E Series

For suction and blowing-off of dust collector, pneumatic transportation, printing machine, washing machine.

- For pneumatic power source in various industries

Output 100W～11kW

es its power
ner
lischarge (positive pressure).

Low-Noise Type E Series

For installation environment where low noise is required.

- Low-noise type with large volume employing original structure
- Lower noise by 4 ~ 7dB in comparison with Volume Type E Series

Output 0.4kW～3.0kW

Wear-Resistant Type DN Series

Suitable for a wide range of applications, including removing dust and drops of water from printed circuit boards, etc.

- For relatively dusty or dirty sites

Output 0.4kW～2.0kW

High-Pressure 2-Stage Type

For underwater blowing in plating tank, purifying tank, etc.

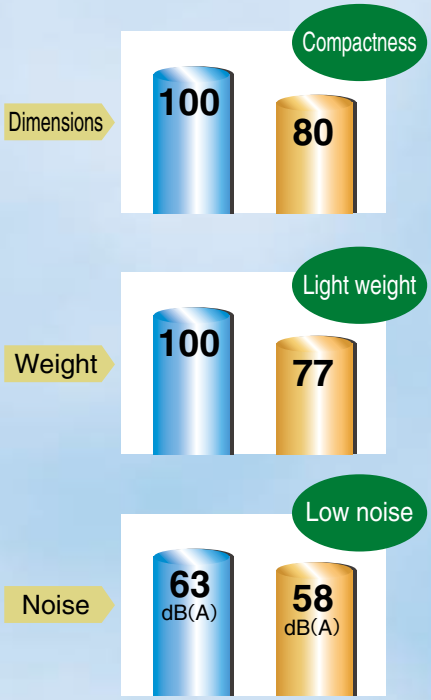
- Suitable for long piping at high pressure

Output 4.0kW～9.0kW

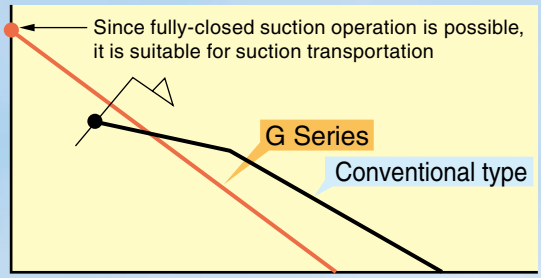
Wide lineup of products meets customers needs

G SERIES

Compactness and high pressure thanks to the adoption of three-dimensional blade impeller



Fully-closed suction operation



Three-dimensional blade impeller

DN SERIES

- Equipped with a peripheral open-type impeller that is resistant to dust and dirt, for superior durability in any environment.
- Compact structure requires minimal installation space.
- As a clean air source, can be used for discharge or suction, and is suitable for a wide range of applications.

Open-type impeller

E SERIES

- A wide range of models from 100W to 11kW
- Compactness/light weight because of aluminum housing motor (8% reduction in comparison with the conventional type)
- Improved reliability thanks to urea grease bearings superior in heat resistance
- Equipped with radial vane impeller enough to produce large volume.

Radial vane impeller

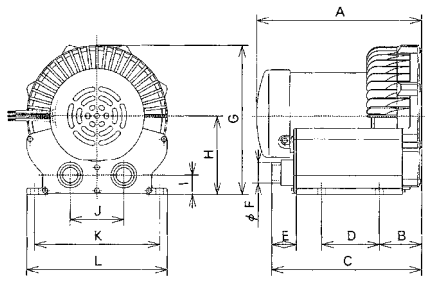
G SERIES

High-pressure compact Type

Featuring compactness, powerfulness, and low noise, it is suitable for a wide range of application.

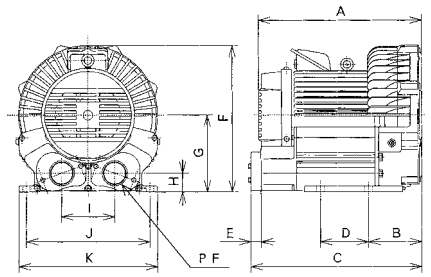
Dimensional outline drawing

VB-70W (S) -G2～VB-003 (S) -G2



MODEL	A	B	C	D	E	F	G	H	I	J	K	L
VB-70W (S) -G2	216.5	83	204	—	28	32	185	102.5	30	75	165	188
VB-001 (S) -G2	223	92	205	—	43	25.5	185	98.5	35	75	165	188
VB-002 (S) -G2	240	70.5	220	76	43	32.5	211	113	35	80	190	215
VB-003 (S) -G2	249.5	79	223	76	43	40.5	223.5	119.5	35	70	190	215

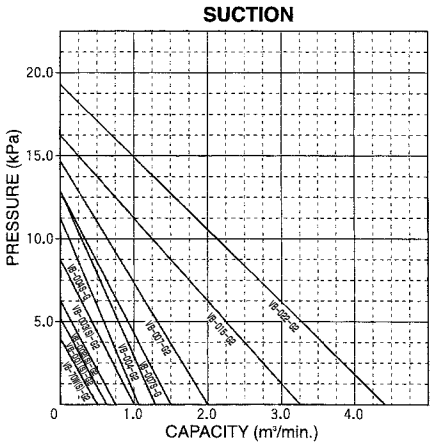
VB-004 (S) -G (2) ～VB-022-G2

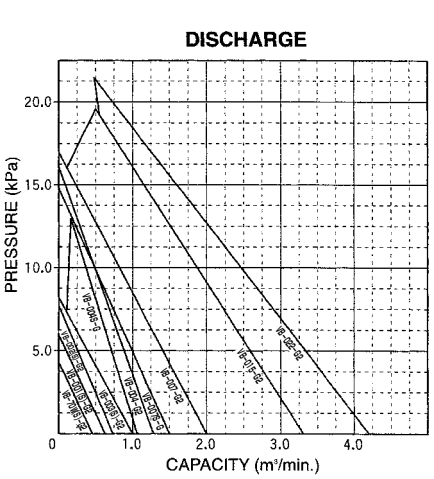


MODEL	A	B	C	D	E	F	G	H	I	J	K	PF
VB-004 (S) -G (2)	263	99	285	83	20	241	128	35	85	205	230	G1 1/4
VB-007 (S) -G (2)	310	112	319	95	20	270	143	45	95	225	255	G1 1/2
VB-015-G2	345	127	362.8	115	20	313	163.5	45	110	260	295	G1 1/2
VB-022-G2	385	126	390	140	25	339	179	50	116	290	324	G2

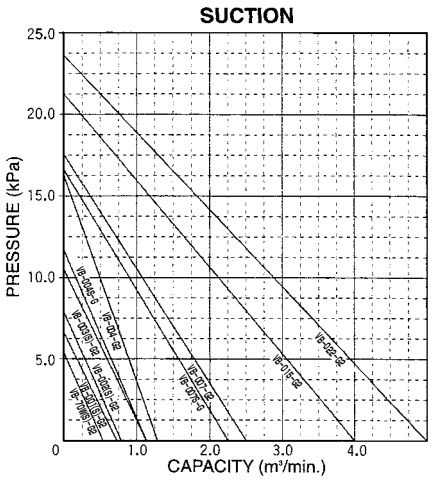
Characteristic drawing

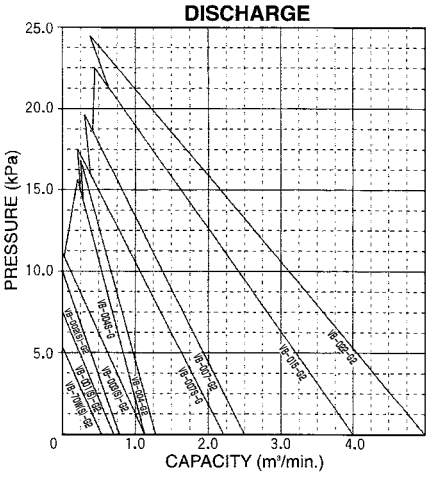
50Hz





60Hz





Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max. capacity (m³/min.)	Noise dB (A)
				Max. operating					
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
VB-70WS-G2	1	220	2	4.0/ 5.4	0.05 /0.075	4.2/ 5.6	0.055/0.085	0.45 / 0.5	45/47
VB-001S-G2	1	220	2	5.4/ 6.9	0.08 /0.12	5.9/ 7.4	0.090/0.135	0.6 / 0.7	48/52
VB-002S-G2	1	220	2	7.6/ 9.3	0.1 /0.2	8.1 / 9.8	0.145 /0.210	0.7 / 0.8	52/55
VB-003S-G2	1	220	2	8.8/ 10.3	0.19 /0.28	9.3/ 10.9	0.203/0.300	1.0 / 1.15	53/57
VB-004S-G	1	220	2	11.8/ 14.7	0.33 /0.52	14.2/ 15.7	0.41 /0.58	1.1 / 1.3	54/58
VB-007S-G	1	220	2	12.7/ 16.7	0.51 /0.7	14.7/ 17.7	0.55 /0.77	2.0 / 2.4	60/63
VB-70W-G2	3	380	2	4.0/ 5.4	0.04 /0.071	4.2/ 5.6	0.048/0.083	0.45 / 0.5	45/47
VB-001-G2	3	220/380	2	5.4/ 6.9	0.07 /0.01	5.9/ 7.4	0.080/0.113	0.6 / 0.7	48/52
VB-002-G2	3	220/380	2	7.6/ 9.3	0.125 /0.195	8.1 / 9.8	0.130 /0.200	0.7 / 0.8	52/55
VB-003-G2	3	220/380	2	8.8/ 10.3	0.185 /0.28	9.3/ 11.9	0.198 /0.300	1.0 / 1.15	53/57
VB-004-G2	3	220/380	2	12.7/ 16.2	0.38 /0.55	15.7/ 17.2	0.49 /0.65	1.3 / 1.3	54/58
VB-007-G2	3	220/380	2	14.7/ 17.6	0.54 /0.78	16.7/ 20.5	0.6 /0.92	2.6 / 2.4	60/63
VB-015-G2	3	220/380	2	16.1/ 21.1	1.2 /1.7	19.6/ 22.5	1.4 /1.8	3.3 / 4.0	64/69
VB-022-G2	3	220/380	2	19.6/ 23.5	1.6 /2.3	21.6/ 24.5	2.1 /2.5	4.1 / 4.8	63/72

Notes)
1) The performance value are at suction conditions of 20℃ and 1,013hPa
2) Name plate value = Suction data

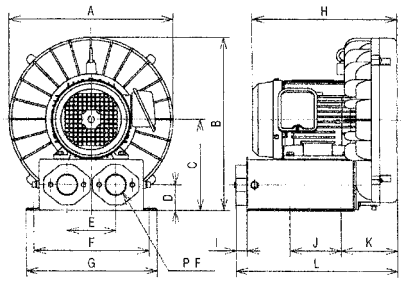
E SERIES

Volume Type

Demonstrating its power for such application as blowing-off by large volume

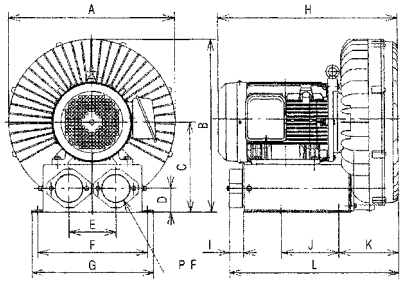
Dimensional outline drawing

VB-004～040-EN2



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	PF
VB-004-EN2	281	301	161	46	85	205	203	268	25	83	100.5	286	G1 1/4
VB-007-EN2	316	338	180	51	95	225	255	287	25	95	113.5	322	G1 1/2
VB-020-EN2	371	390	204	57	110	260	295	325	25	115	127	363	G1 1/2
VB-030-EN2	398	426	226	60	116	290	325	335	30	140	126	390	G2
VB-040-EN2	424	452	241	64	125	300	335	378	30	140	151	415	G2

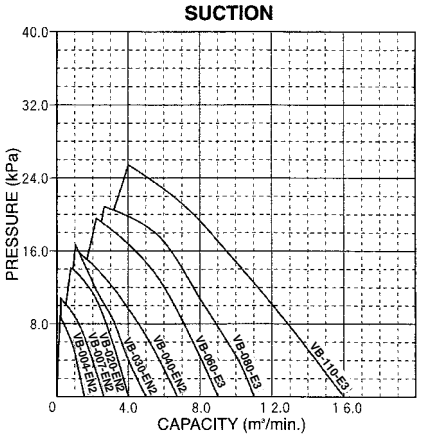
VB-060～110-E3

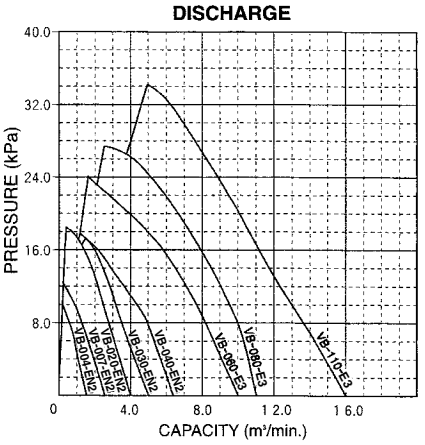


MODEL	A	B	C	D	E	F	G	H	I	J	K	L	PF
VB-060-E3	475	518	280.5	74	145	340	375	492	30	140	179	492	G2 1/2
VB-080-E3	515	538	280.5	74	145	340	375	556	40	178	185	520	G3
VB-110-E3	565	606	323.5	81	160	375	410	623	40	210	210	634	G3

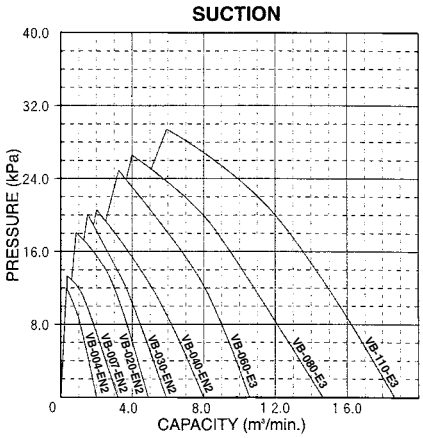
Characteristic drawing

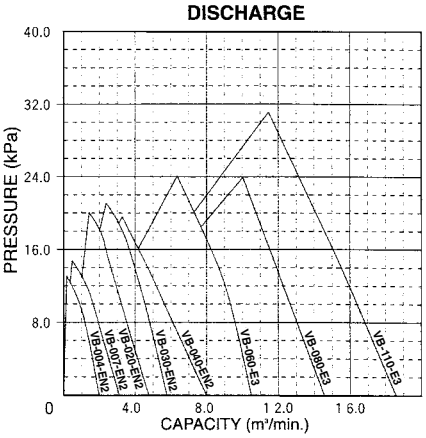
50Hz





60Hz





Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max. capacity (m^3/min.)	Weight (Kg)
				Max. operating					
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
VB-004-EN2	3	220/380	2	9.7/12.3	0.35-0.35/0.53-0.53	10.2/12.7	0.38-0.38/0.56-0.56	1.7/ 2.0	19.0
VB-007-EN2	3	220/380	2	11.5/13.3	0.63-0.63/0.90-0.90	12.3/13.0	0.70-0.70/0.90-0.90	2.6/ 3.1	23.0
VB-020-EN2	3	220/380	2	16.5/19.0	1.4-1.4/2.0-2.1	18.0/21.0	1.6-1.7/2.2-2.3	3.7/ 4.2	32.0
VB-030-EN2	3	220/380	2	17.5/21.0	1.6-1.7/2.4-2.5	20.5/21.5	1.9-1.9/2.6-2.7	4.5/ 5.5	41.0
VB-040-EN2	3	220/380	2	16.0/20.0	2.4-2.4/3.4-3.5	20.0/18.0	2.8-2.8/3.5-3.5	6.7/ 7.8	54.0
VB-060-E3	3	220/380	2	20.5/25.2	4.0-4.0/6.3-6.3	22.9/25.6	5.0-5.0/7.2-7.2	9.0/10.5	90.0
VB-080-E3	3	220/380	2	23.0/28.0	5.7-5.7/8.4-8.4	26.0/26.0	7.0-7.0/9.5-9.5	11.0/14.5	106.0
VB-110-E3	3	220/380	2	26.5/29.5	8.7-8.7/12.0-12.0	32.0/32.5	11.0-11.0/15.0-15.0	16.0/18.5	140.0

Notes)

1) The performance value are at suction conditions of 20℃ and 1,013hPa
2) Name plate value = Suction data
3) Specifications are subject to change without notice. *Mark is design value.

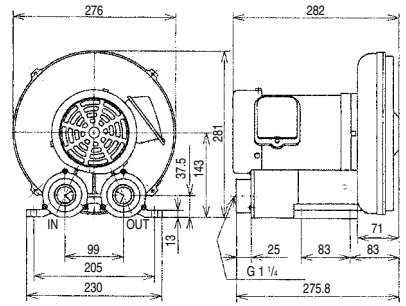
DN SERIES

Wear-Resistant Type

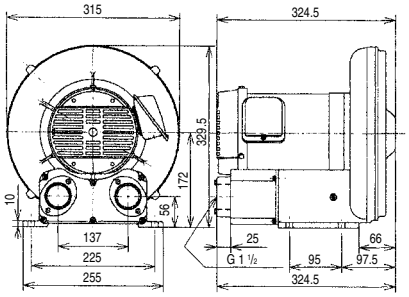
New structural design is highly wear-resistant in dusty or dirty sites, and suitable for a wide range of applications.

Dimensional outline drawing

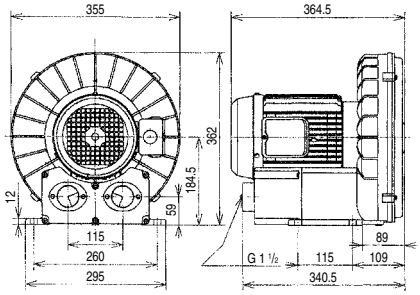
VB-004(S)-DN



VB-007(S)-DN

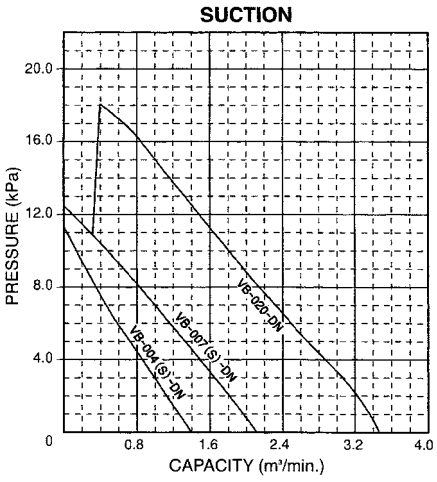


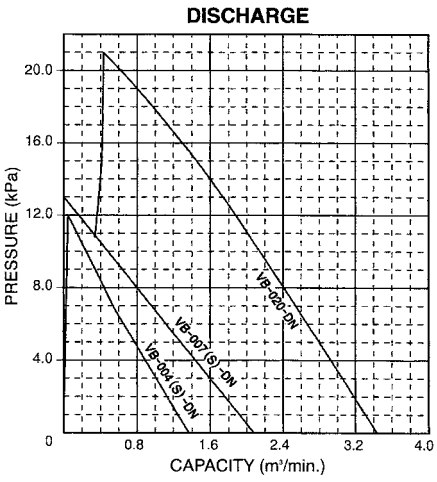
VB-020-DN



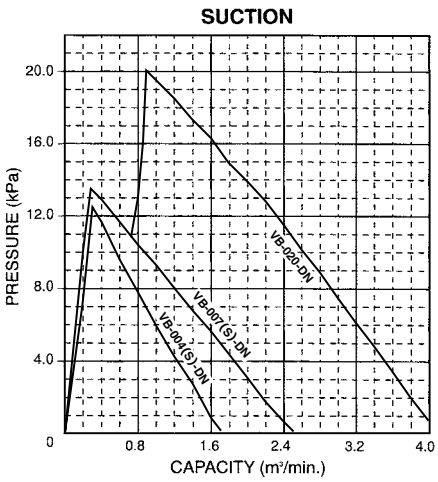
Characteristic drawing

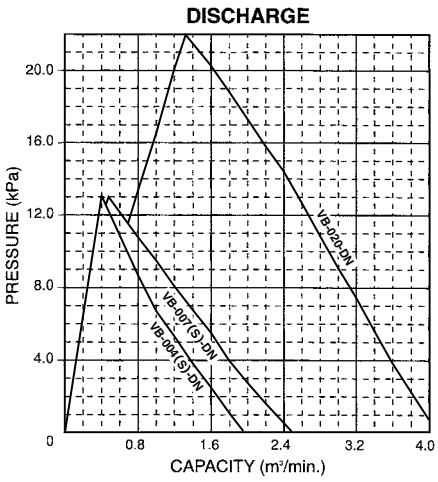
50Hz





60Hz





Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max. capacity (m^3/min.)	Weight (Kg)
				Max. operating					
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
VB-004S-DN	1	220	2	11.1/12.7	0.33 /0.45	11.8/13.1	0.37 / 0.56	1.4/1.8	11.5
VB-007S-DN	1	220	2	12.6/13.4	0.6 /0.78	13.0/13.1	0.65 / 0.85	2.2/2.5	20.0
VB-004-DN	3	220/380	2	11.1/12.7	0.36 /0.51	11.8/13.1	0.41 / 0.56	1.4/1.8	11.5
VB-007-DN	3	220/380	2	12.6/13.4	0.6 /0.78	13.0/13.1	0.65 / 0.85	2.2/2.5	15.0
VB-020-DN	3	220/380	2	18.0/20.0	1.5 /2.0	21.1/22.1	1.7 /2.2	3.5/4.1	31.0

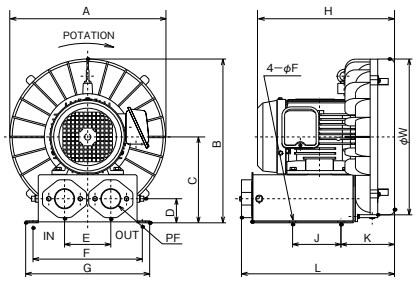
E SERIES

Low-Noise Type E Series

For installation environment where low noise is required.

Dimensional outline drawing

VBL-004-E3～VBL-030-EN2



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	PF
VBL-004-E3	280	300	161	46	85	205	232	272	25	83	101	287	G1 1/4
VBL-007-E3	313	336	180	51	95	225	257	292	25	95	113.5	323	G1 1/2
VBL-020-EN2	371	390	204	57	110	260	295	325	25	115	127	363	G1 1/2
VBL-030-EN2	398	426	226	60	116	290	325	335	30	140	126	390	G2

Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max. capacity (m^3/min.)	Noise dB (A)
				Max. operating					
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
VBL-004-E3	3	220/380	2	8.0/ 10.3	0.3 /0.46	9.2/ 11.2	0.33 /0.48	1.7/2.0	54/58
VBL-007-E3	3	220/380	2	9.8/ 12.5	0.54 /0.82	10.6/ 13.2	0.6 /0.88	2.6/3.1	59/63
VBL-020-EN2	3	220/380	2	13.0/16.0	1.2 /1.8	14.0/ 18.5	1.3 /2.1	4.0/4.9	66/69
VBL-030-EN2	3	220/380	2	14.0/ 17.0	1.4 /2.1	16.0/ 20.0	1.6 /2.4	4.6/5.5	66/69.5

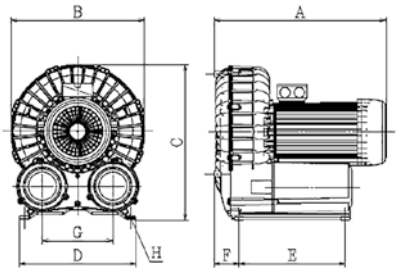
VBW SERIES

High-Pressure 2-Stage Type

For underwater blowing in plating tank, purifying tank, etc.

Dimensional outline drawing

VBW-040～090



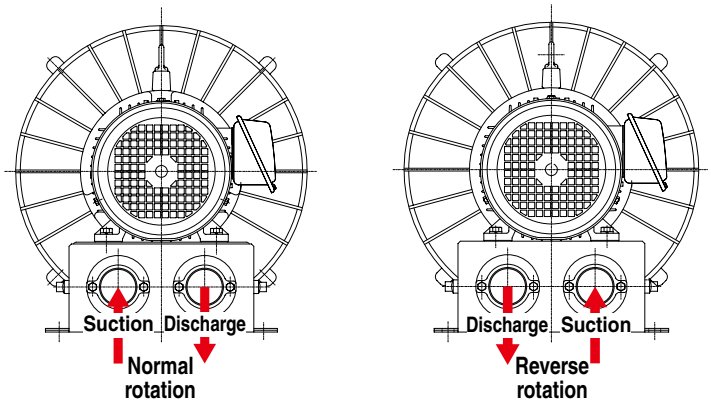
MODEL	A	B	C	D	E	F	G	H
VBW-040	502	390	454	310	310	73	206	G3
VBW-075	530	474	523	310	310	69	220	G3
VBW-090	614	496	596	400	350	155	188	G4

Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max. capacity (m^3/min.)	Weight (Kg)
				Max. operating					
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
VBW-040	3	200	2	44/44	3.0/3.8	53/50	3.7/4.5	3.2/3.9	54/54
VBW-075	3	200	2	41/40	3.8/4.7	48/53	4.8/6.4	4.3/5.0	67.5/69.5
VBW-090	3	200	2	42/42	5.8/7.1	50/47	7.2/8.8	6.1/7.3	112/112

SPEC 1 Same Operational Quality Ensured for Normal and Reverse Runs

Reversed blower offers the same level of performance as normal operation. Suction and discharge do not need to be switched by operating a valve.



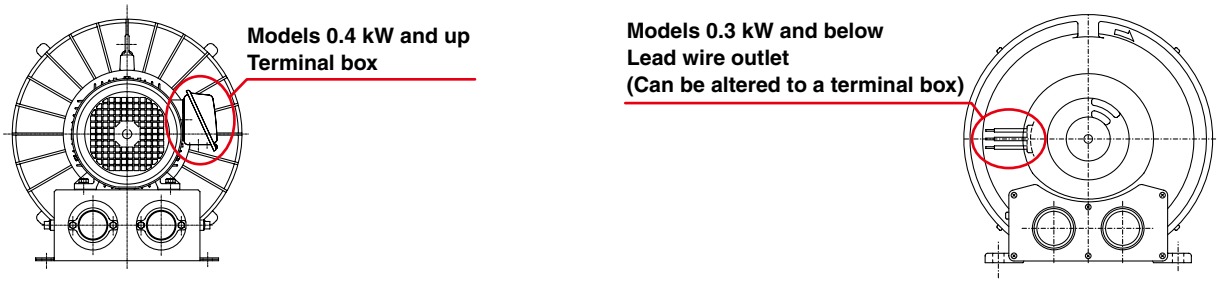
■ **Available Models: All models of the three-phase E series**

* Blower must be stopped before switching the rotation directions.
  (Reversing while the blower is operating can cause damage to the blower.)
* G series and DN series do not support reverse operation; Performance will be significantly reduced when reverse rotation is used.

SPEC 2 Terminal Box Equipped as Standard Feature

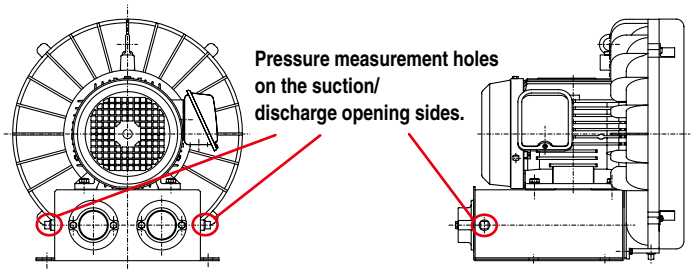
Models for 0.4 kW (VB-004) and up are provided with a terminal box as standard.

* Lead wire outlet is the standard for models using 0.3 kW (VB-003) and below, but alteration to incorporate a terminal box is also available.



SPEC 3 Pressure Measurement Holes

Models using 0.4 kW (VB-004) and up have holes for mounting a pressure gauge, saving you from extra installation processing.

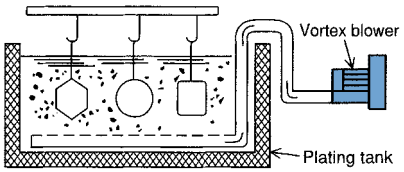


Safety Precautions

- Always use power supply of the specifications given on the nameplate of the blower. Otherwise, the motor may be damaged or it may cause a fire.
- Never use the blower in locations where corrosive liquids, such as acids, alkalis and corrosive gases are used. Also, do not use the blower in locations with inflammable or explosive gases such as hydrogen, methane, and gasoline. If combustible particles and dust, or exclusive metallic particles are handled, make sure you install a filter and ensure that particles do not enter the blower. If you operate the blower when a large quantity of these particles has entered it and formed sediment, there is a risk of fire or an explosion. This is because heat develops due to friction with the sedimentary particles or because of accumulation of heat that is the blower unit.
  For details, refer to Factory Electric Equipment Protection guidelines.
- Avoid using the blower in small, sealed room because the blower generates heat. Also, do not touch the blower casing because it is heated to a high temperature during operation.
- If the suction/discharge ports are blocked by dirt or foreign matter so that the operation almost becomes a closed operation, the temperature in the blower may rise suddenly. Therefore, do not cover the blower with combustible materials such as wood. Strictly avoid storing or using combustible materials near the blower as this may read to fire. You must take precautions because the air discharged is at very high temperature also. (See graph on page 4.)
- Always install protection equipment in the power supply circuit of the vortex blower to prevent damage to the motor due to burnout or fire during an abnormality. (See page 8.)
- Always install a ground connection before usage. This prevents accidents because of current leakage when the electric insulation has deteriorated. Also, to improve safety during usage, install an earth leakage breaker. (See page 10.)
- Make sure that the vortex blower does not suck in water or rain water. Otherwise, this may lead to abnormalities such as current leaks, electric shocks, rusting or bearing damage.
- Always switch off the power before you dissemble or repair the blower.

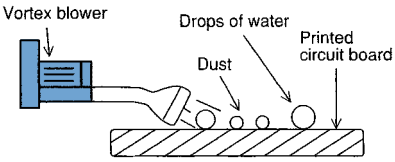
Application

Tape end processing



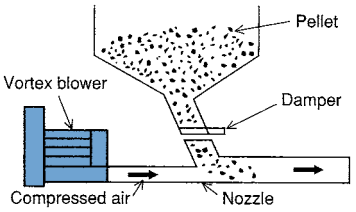
Feeds air into the tank to circulate electrolyte for improved plating quality.

Dust cleaner



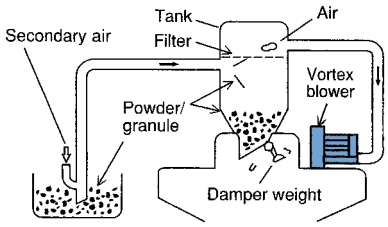
The vortex blower removes fine particles (dust and drops of water) on the printed circuit board by air-blowing.

Transportation of powder/granule



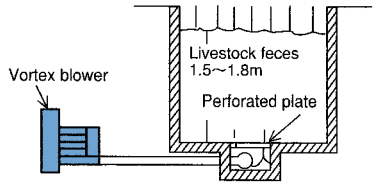
Used for pneumatic transportation of pellet material such as PVC and polyethylene. (Suction type is also available)

Transportation of powder/granule



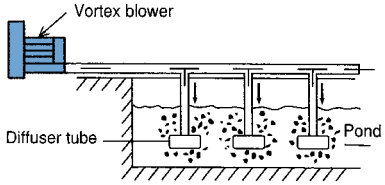
Suitable for transporting PVC, polyethylene, plastic resin, etc.

Composting through fermentation of livestock feces



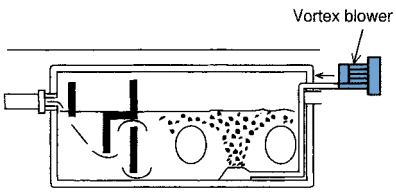
Used for promote fermentation by sending air.

Oxygen supply for cultivating pond



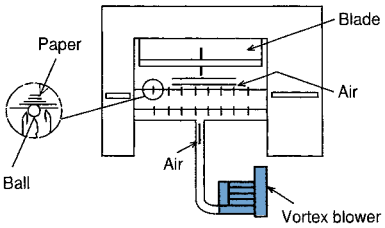
Used for underwater oxygen supply in a relatively shallow pond.

Purifying tank



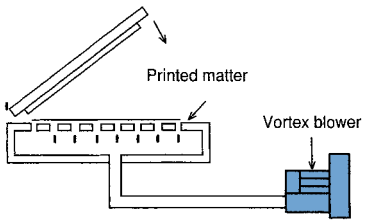
Used for stirring deposit or for purifying water in a relatively shallow water treatment plant.

Paper cutting machine



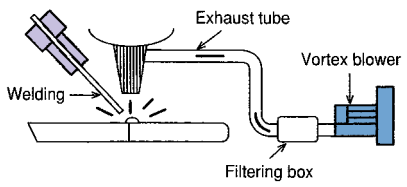
Used as air cushion for facilitating positioning or moving of stacked paper when paper is cut.

Screen plate printer



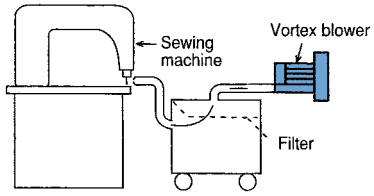
41 Suction pressure is used to fix the material, facilitating the printing process.

Collection of waste gas from welding



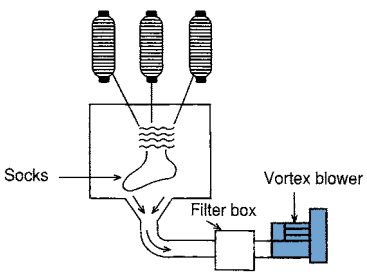
The fume and dust produced during welding can be discharged in vacuum to the other place, ensuring the safety and health of a welding operator.

Industrial sewing machine



The Vortex Blower automatically sucks lots of residual threads producing during operation of industrial sewing machine.

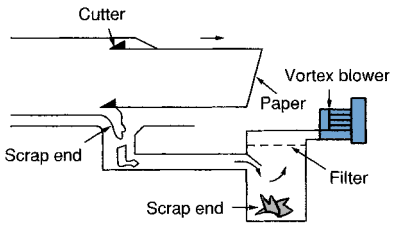
Hosiery machine



Suction force of the blower correctly holds socks and prevents tangling.

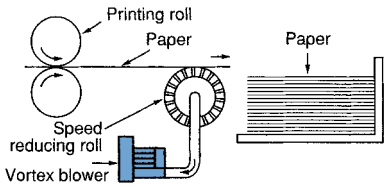
Application

Tape end processing



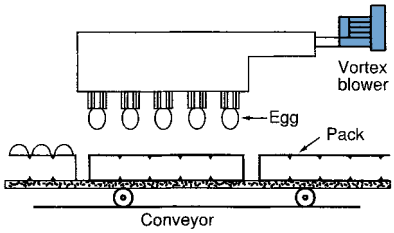
Used for removing scrap ends of tape of automatic packaging machine.

Paper feeding of printing machine



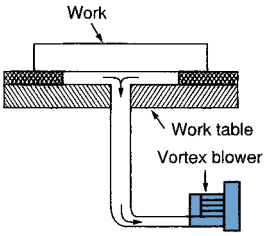
The paper printed by a high-speed press is reduced in speed before stacking, and the Vortex Blower is used for holding the paper with the speed reducing roller.

Egg suction machine



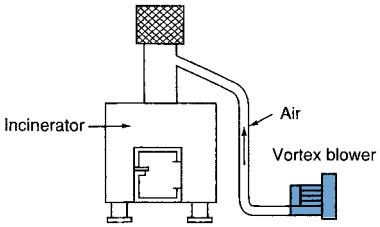
Fragile objects such as egg can be safely picked up by means of suction characteristic without pulsating.

Holding of works



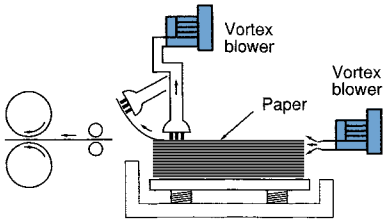
Nonmagnetic matters such as wood pieces, paint, etc. can be fixed on the work table without any fixation tools, thanks to suction function of the vortex blower.

Incinerator



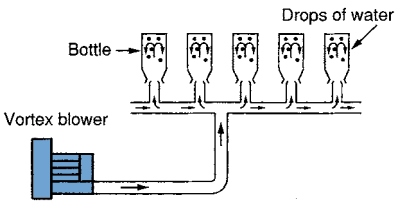
The Vortex Blower can assist combustion effect or promote removal of exhaust gas.

Paper feeding of printing machine



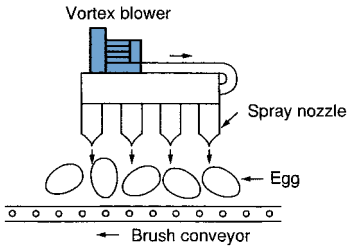
Discharged air facilitates paper separating, paper aligning, and distributing.

Bottle washing machine



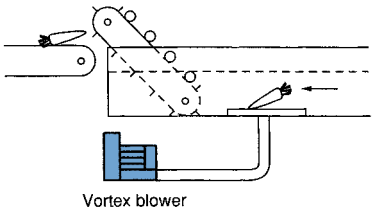
Used for removing drops of water remaining inside bottles after washing.

Egg washing machine



Used for automatic egg washing machine.

Vegetable washing machine



Used for vegetable washing machine.

Safety precautions

Please refer to the instruction manual carefully for instllation, maintenance, and inspection of the HITACHI VORTEX BLOWER. Incorrect use may cause the accident or the damage.

Hitachi Industrial Equipment Systems Co., Ltd.

URL http://www.hitachi-ies.co.jp

Printed in Japan (DS) 2022.01