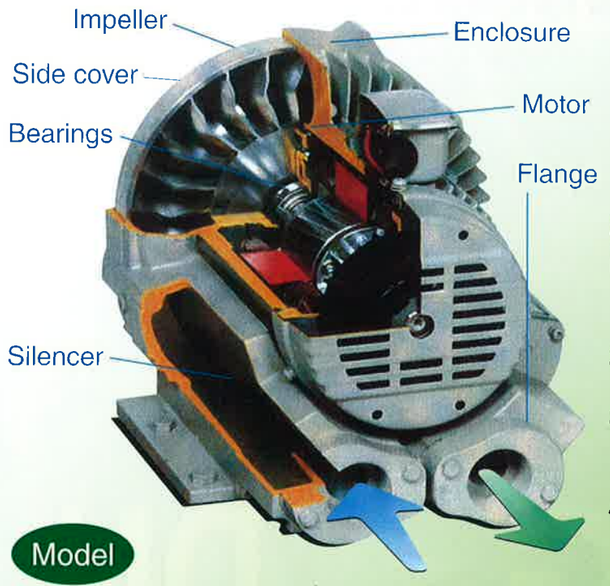
HITACHI
Inspire the Next

HITACHI High-Pressure Blower
Vortex Blower

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

Hitachi Industrial Equipment Systems Co.,Ltd.

Hitachi Vortex Blower demonstrares its power in a wide range of application either in suction (negative pressure) or discharge (positive pressure).



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

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 0.4W~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 0.4W~2.0kW

High-Pressure 2-Stage Type

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

- Suitable for long piping at high pressure

Output 4.0W~8.0kW

Large-Volume Twin Type E Series

For feeding air during tunnel construction

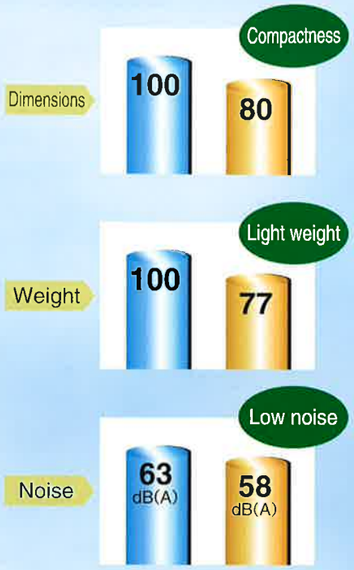
- Suitable for long piping at high pressure

Output 22kW

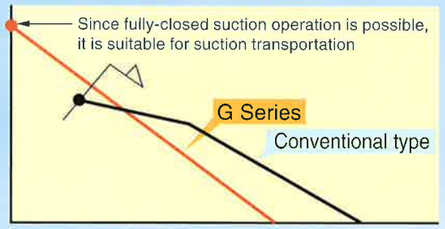
Wide lineup of products meets customers needs

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

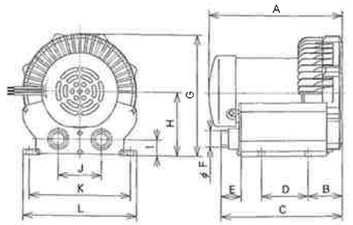
G SERIES

High-pressure compact Type

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

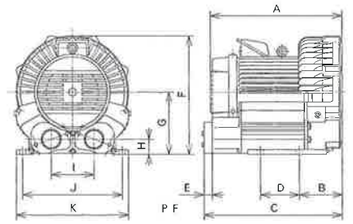
Dimensional outline drawing

VB-70W (S) -G～VB-003 (S) -G



MODEL	A	B	C	D	E	F	G	H	I	J	K	L
VB-70W (S) -G	216.5	83	201	—	28	32	185	102.5	30	75	165	138
VB-001 (S) -G	223	92	205	—	43	25.5	185	98.5	35	75	165	159
VB-002 (S) -G	240	70.5	220	76	43	32.5	211	113	35	80	180	215
VB-003 (S) -G	249.5	79	223	76	43	40.5	223.5	119.5	35	70	190	215

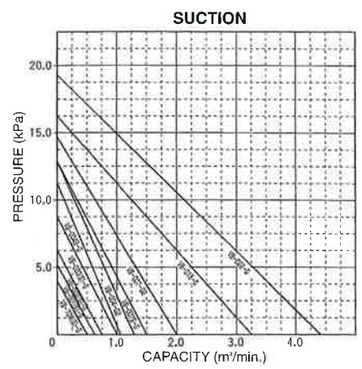
VB-004 (S) -G～VB-002 (S) -G



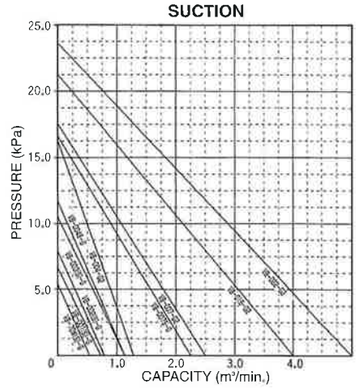
MODEL	A	B	C	D	E	F	G	H	I	J	K	L
VB-004 (S) -G (2)	263	99	285	83	20	241	128	35	65	205	230	PF 1 1/4
VB-007 (S) -G (2)	310	112	319	95	20	270	143	45	95	225	255	PF 1 1/2
VB-015-G2	345	127	362.8	115	20	313	163.5	45	110	260	295	PF 1 1/2
VB-022-G2	365	126	390	140	25	339	179	50	116	280	324	PF 1 1/2

Characteristic drawing

50Hz



60Hz



Standard specifications

Model	Phase	Voltage (V)	Poles	Suction Max. operating Pressure (kPa)	Suction Max. operating Output (kW)	Discharge Max. operating Pressure (kPa)	Discharge Max. operating Output (kW)	Max. capacity (m^3/min.)	Noise dB (A)
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
VB-70WS-G	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-G	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-G	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-G	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-G	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-G	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-G	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-G	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

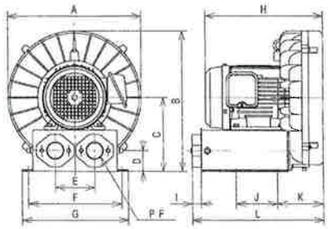
E SERIES

Volume Type

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

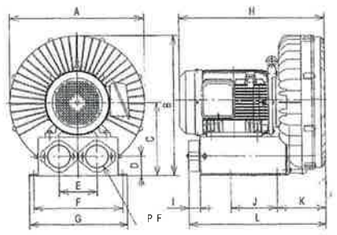
Dimensional outline drawing

VB-004～040-E2・EN



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	PF
VB-004-E3	281	304	161	46	65	205	230	256	25	83	101	267	PF1/4
VB-007-E3	316	338	180	51	95	225	255	286	25	95	113.5	298.5	PF1/2
VB-020-E2	371	393	204	57	110	260	295	326	25	115	127	338	PF1/2
VB-030-EN	398	428	226	60	116	290	325	353	30	140	126	390	PF2
VB-040-EN	424	453	241	64	125	300	335	375	30	140	151	415	PF2

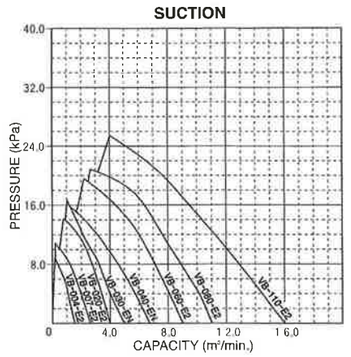
VB-060～110-E2

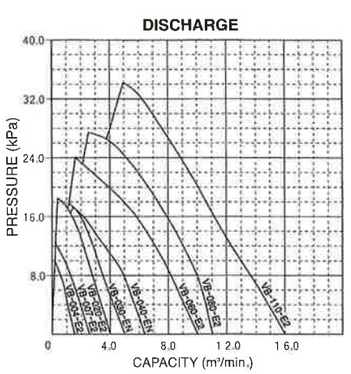


MODEL	A	B	C	D	E	F	G	H	I	J	K	L	PF
VB-060-E2	475	518	261	74	145	340	375	492	30	140	179	492	PF1/2
VB-080-E2	515	538	281	74	145	340	375	556	40	176	165	520	PF3
VB-110-E2	565	606	324	81	160	375	410	643	40	210	210	634	PF3

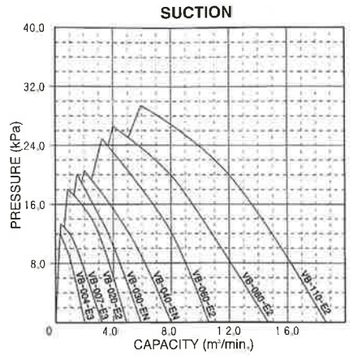
Characteristic drawing

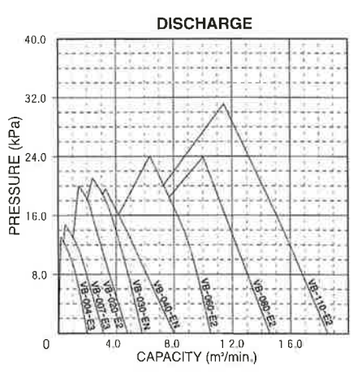
50Hz





60Hz





Standard specifications

Model	Phase	Voltage (V)	Poles	Suction Max. operating Pressure (kPa)	Suction Max. operating Output (kW)	Discharge Max. operating Pressure (kPa)	Discharge Max. operating Output (kW)	Max. capacity (m^3/min.)	Weight (Kg)
				50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
VB-004-E3	3	220/380	2	9.2/12.2	0.33/ 0.48	10.2/12.7	0.38/ 0.56	1.7/ 2.0	15.5
VB-007-E3	3	220/380	2	10.8/13.3	0.59/ 0.78	12.3/13.5	0.67/ 0.9	2.6/ 3.1	19.5
VB-020-E2	3	220/380	2	15.2/19.1	1.3 / 2.0	18.6/20.1	1.7 / 2.2	4.0/ 4.9	30.0
VB-030-EN	3	220/380	2	17.2/20.1	1.8 / 2.7	19.4/21.1	2.0 / 2.8	5.0/ 5.8	40.0
VB-040-EN	3	220/380	2	16.2/20.6	2.1 / 3.3	18.0/19.6	2.4 / 3.5	6.7/ 8.0	50.5
VB-060-E2	3	220/380	2	19.6/25.0	4.0 / 6.2	24.0/24.0	5.0 / 6.8	9.6/10.5	84.0
VB-080-E2	3	220/380	2	21.1/25.5	5.7 / 8.8	27.4/24.5	7.2 / 9.0	11.0/14.5	109
VB-110-E2	3	220/380	2	25.5/29.4	8.8 /12.5	33.3/31.4	11.6 /14.8	16.0/18.5	147

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.

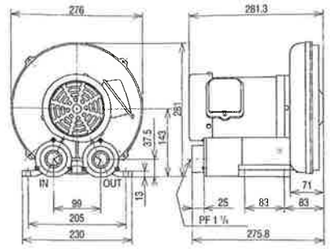
DN SERIES

Wear-Resistant Type

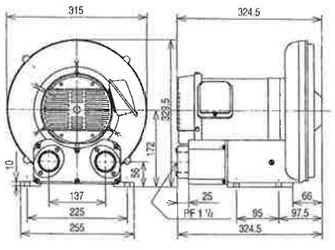
New structural design is highly wear-resistant in dusty or dirty sites, and suitable for a wide range of applications.

Dimensional outline drawing

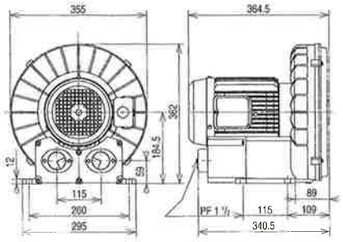
VB-004(S)-DN



VB-007(S)-DN

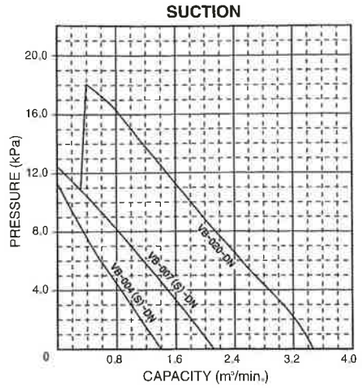


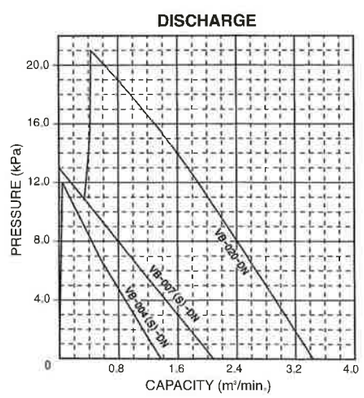
VB-020-DN



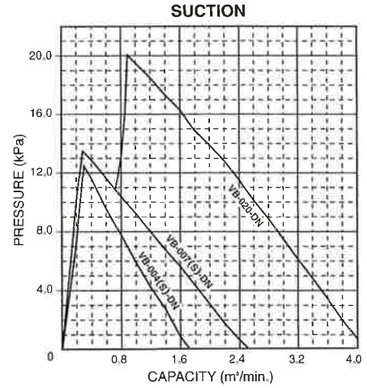
Characteristic drawing

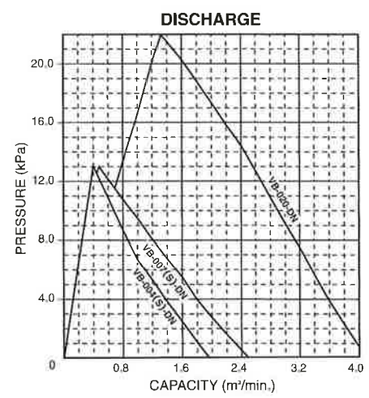
50Hz





60Hz





Standard specifications

Model	Phase	Voltage (V)	Poles	Suction Max. operating Pressure (kPa)	Suction Max. operating Output (kW)	Discharge Max. operating Pressure (kPa)	Discharge Max. operating Output (kW)	Max. capacity (m^3/min.)	Weight (Kg)
				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

SPEC 1 Voltage Alteration

We also custom-make products according to your voltage requirements.

■ **Available Models**

Single-phase models: 200 V class (excluding UL-certified products)
Three-phase models: 400 V class (excluding UL-certified products)

Model	Voltage	220 V class
		200,220,230
Single-phase	VB-70WS-G	△
	VB-001S-G,E	△
	VB-002S-G,E	△
	VB-003S-G,E	△
	VB-004S-G,E	○
	VB-007S-G,E	○

○ : Standard production
△ : Custom-order production

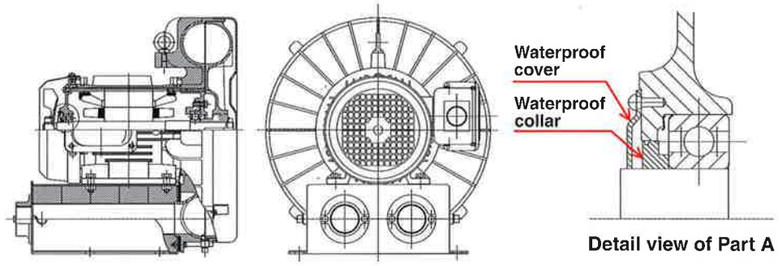
* We also manufacture products with voltages other than those listed. Please consult with us about your requirements.

Supported Voltages (at 50/60 Hz)

Model	Voltage	200 V class	400 V class	400 V class	500 V class
		200,220	380,400,415/ 400,440	460,480	500/500,575
Three-phase	VB-70W-G	○	△	△	△
	VB-001-G	○	△	△	△
	VB-002-G	○	△	△	△
	VB-003-G	○	△	△	△
	VB-004-G,E2	○	○	△	△
	VB-007-G,E2	○	○	△	△
	VB-015-G	○	○	△	△
	VB-020-E2	○	○	△	△
	VB-022-G	○	○	△	△
	VB-030-EN	○	○	△	△
	VB-040-EN	○	○	△	△
	VB-060-E2	○	○	△	△
	VB-080-E2	○	○	△	△
	VB-110-E2	○	○	△	△
	VB-004DN	○	△	△	△
	VB-007DN	○	△	△	△
	VB-020DN	○	△	△	△

SPEC 2 Outdoor Use

Outdoor installation types are also available. (Please seal the pipe connections so that rainwater and other forms of moisture do not enter.)



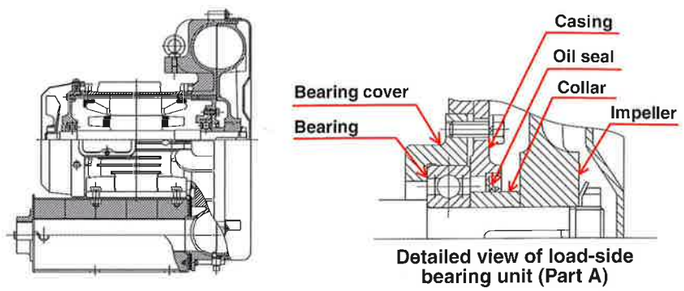
Detail view of Part A

■ **Available Models**

Model	Model
VB-004-E3	VB-040-EN
VB-007-E3	VB-060-E2
VB-020-E2	VB-080-E2
VB-030-EN	VB-110-E2

SPEC 3 Bearing Waterproofing

This structure features an oil seal on the blower-side bearing. (Please avoid deliberate exposure to water.)



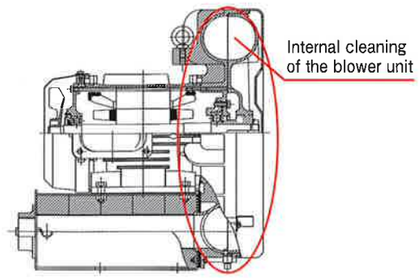
Detailed view of load-side bearing unit (Part A)

■ **Available Models**

Model	Model
VB-004-E3	VB-080-E2
VB-007-E3	VB-110-E2
VB-020-E2	VB-004DN
VB-030-EN	VB-007DN
VB-040-EN	VB-020DN
VB-060-E2	

SPEC 4 Blower Unit Degreasing (Internal cleaning)

The inside of the blower can be degreased to supply cleaner air.



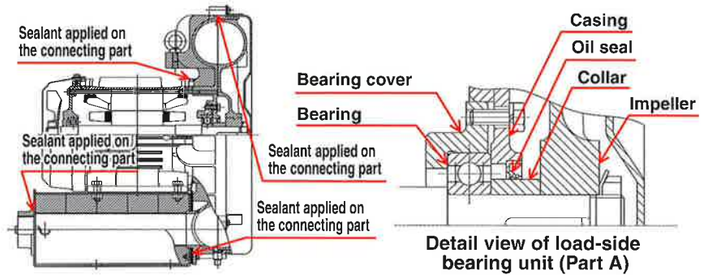
■ **Available Models**

Model	Model
VB-004-E3	VB-040-EN
VB-007-E3	VB-060-E2
VB-020-E2	VB-080-E2
VB-030-EN	VB-110-E2

■ **Inside coating is also available.**
• Improves resistance to acid and alkali and abrasion.

SPEC 5 Reduced Air Leakage

The oil seal used in the spindle penetration unit and the sealant applied on the connecting part reduce air leakage.



Detail view of load-side bearing unit (Part A)

■ **Available Models**

Model	Model
VB-004-E3	VB-060-E2
VB-007-E3	VB-080-E2
VB-020-E2	VB-110-E2
VB-030-EN	VB-004-G2
VB-040-EN	VB-007-G2

* This modification is intended to reduce air leakage, but does not provide for complete air-tightness.

SPEC 6 Class F Insulation

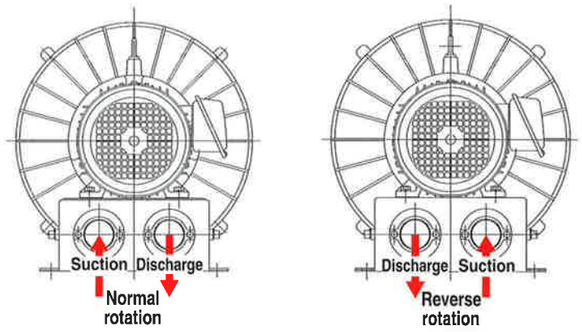
Class F insulation is available for motors operating on Class B temperature rise.

■ **Available Models**

Model	Model
VB-004-E3	VB-040-EN
VB-007-E3	VB-060-E2
VB-020-E2	VB-080-E2
VB-030-EN	VB-110-E2

SPEC 7 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.



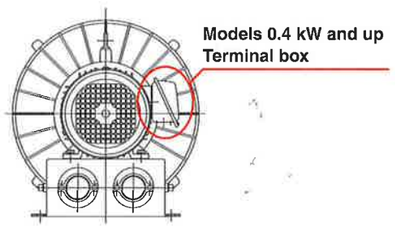
■ **Available Models: All models of the three-phase E series**

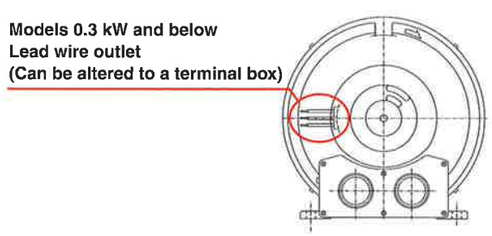
* Blower must be stopped before switching the rotation directions.
  (Reversing while the blower is operating can cause damage to the blower.)
* G series and DN series do not support reverse operation; Performance will be significantly reduced when reverse rotation is used.

SPEC 8 Terminal Box Equipped as Standard Feature

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

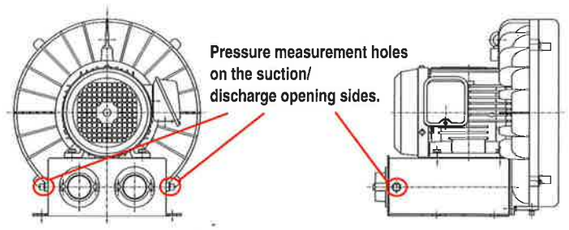
* Lead wire outlet is the standard for models using 0.3 kW (VB-003) and below, but alteration to incorporate a terminal box is also available.





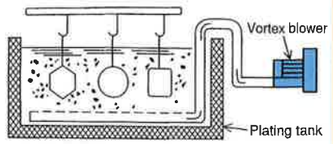
SPEC 9 Pressure Measurement Holes

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



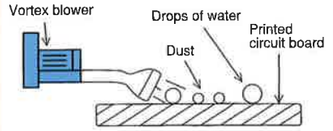
Application

Tape end processing



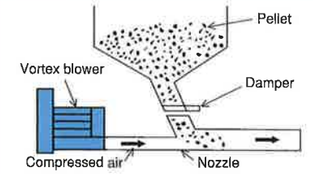
Feeds air into the tank to circulate electrolyte for improved plating quality.

Dust cleaner



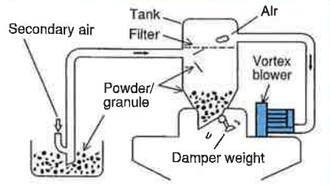
The vortex blower removes fine particles (dust and drops of water) on the printed circuit board by air-blowing.

Transportation of powder/granule



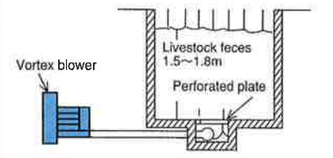
Used for pneumatic transportation of pellet material such as PVC and polyethylene. (Suction type is also available)

Transportation of powder/granule



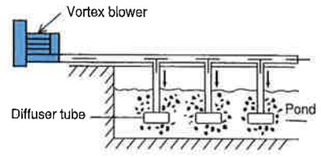
Suitable for transporting PVC, polyethylene, plastic resin, etc.

Composting through fermentation of livestock feces



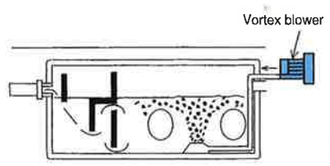
Used for promote fermentation by sending air.

Oxygen supply for cultivating pond



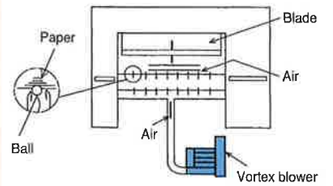
Used for underwater oxygen supply in a relatively shallow pond.

Purifying tank



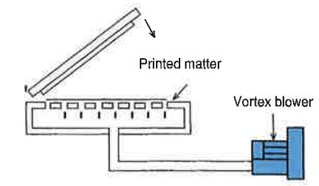
Used for stirring deposit or for purifying water in a relatively shallow water treatment plant.

Paper cutting machine



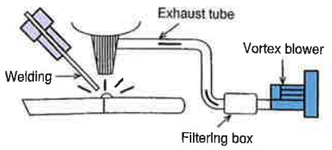
Used as air cushion for facilitating positioning or moving of stacked paper when paper is cut.

Screen plate printer



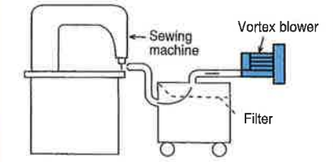
41 Suction pressure is used to fix the material, facilitating the printing process.

Collection of waste gas from welding



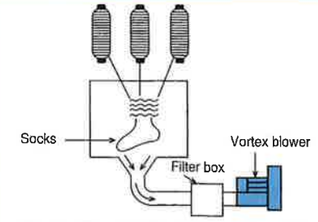
The fume and dust produced during welding can be discharged in vacuum to the other place, ensuring the safety and health of a welding operator.

Industrial sewing machine



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

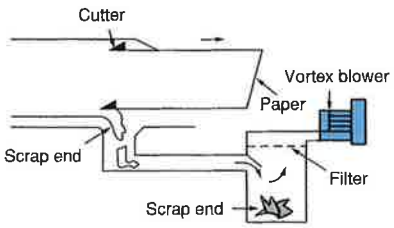
Hosiery machine



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

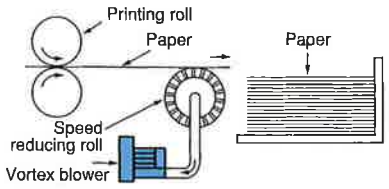
Application

Tape end processing



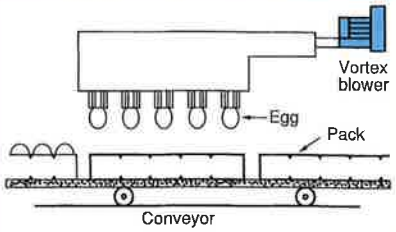
Used for removing scrap ends of tape of automatic packaging machine.

Paper feeding of printing machine



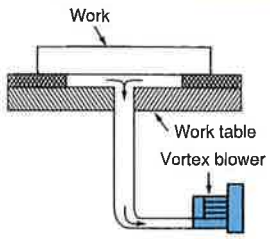
The paper printed by a high-speed press is reduced in speed before stacking, and the Vortex Blower is used for holding the paper with the speed reducing roller.

Egg suction machine



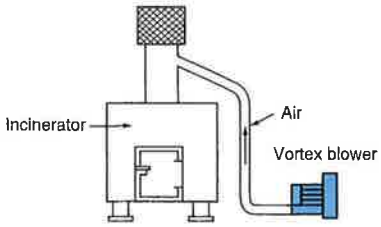
Fragile objects such as egg can be safely picked up by means of suction characteristic without pulsating.

Holding of works



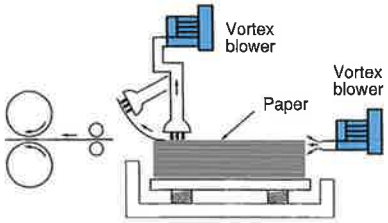
Nonmagnetic matters such as wood pieces, paint, etc. can be fixed on the work table without any fixation tools, thanks to suction function of the vortex blower.

Incinerator



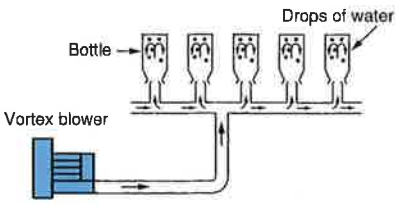
The Vortex Blower can assist combustion effect or promote removal of exhaust gas.

Paper feeding of printing machine



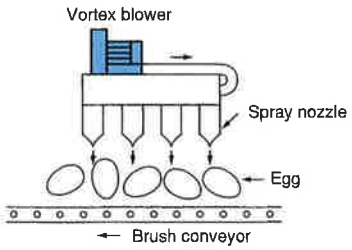
Discharged air facilitates paper separating, paper aligning, and distributing.

Bottle washing machine



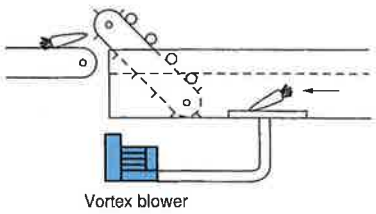
Used for removing drops of water remaining inside bottles after washing.

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

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