

**HITACHI**  
Inspire the Next

# HITACHI High-Pressure Blower Vortex Blower

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

**E**  
**SERIES**  
Volume Type



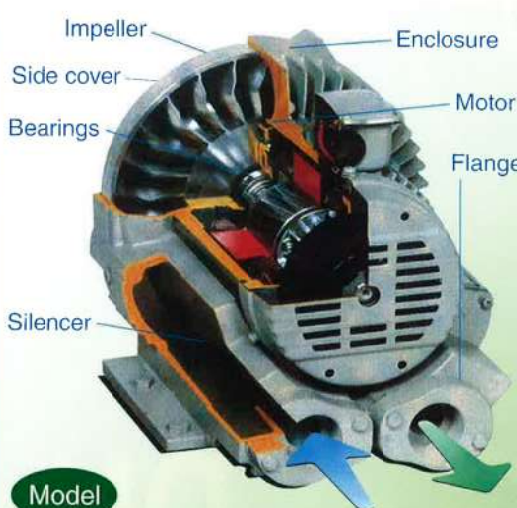
**G**  
**SERIES**  
High-Pressure  
Compact Type



**DN**  
**SERIES**  
Wear-Resistant  
Type




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



**Structure and Characteristics;**

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

**Model**



### 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 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**




### 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**




### 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**



### 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

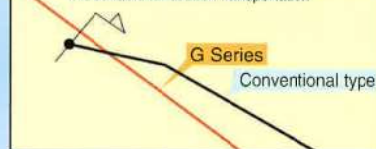


Compactness and high pressure thanks to the adoption of three-dimensional blade impeller



### Fully-closed suction operation

Since fully-closed suction operation is possible, it is suitable for suction transportation



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

## ESERIES



- 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

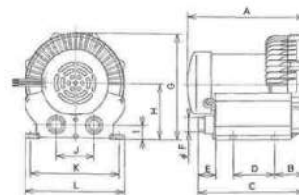


### High-pressure compact Type

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

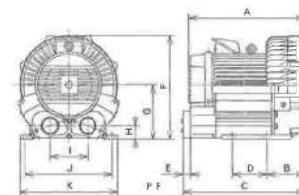
#### Dimensional outline drawing

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	100	80	100	100	100	100	100	100	100	100	100	100
VB-90 (S) -G	100	80	100	100	100	100	100	100	100	100	100	100
VB-100 (S) -G	100	80	100	100	100	100	100	100	100	100	100	100
VB-003 (S) -G	100	80	100	100	100	100	100	100	100	100	100	100

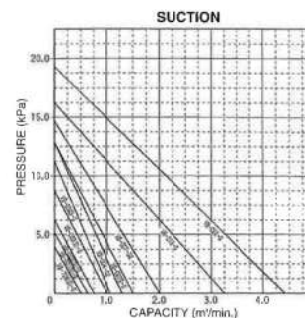
VB-004 (S) -G~VB-002 (S) -G



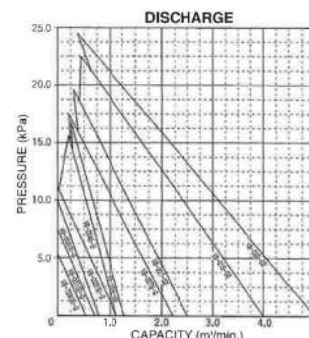
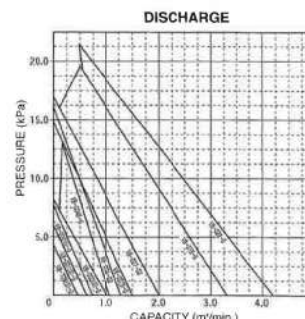
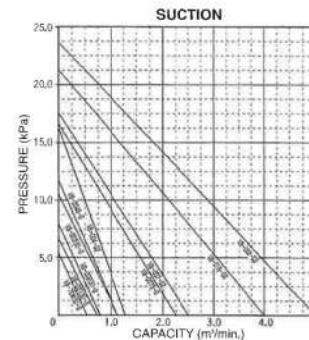
MODEL	A	B	C	D	E	F	G	H	I	J	K	L
VB-004 (S) -G	250	190	80	100	100	100	100	100	100	100	100	100
VB-002 (S) -G	250	190	80	100	100	100	100	100	100	100	100	100
VB-015 -G2	250	190	80	100	100	100	100	100	100	100	100	100
VB-022 -G2	250	190	80	100	100	100	100	100	100	100	100	100

#### Characteristic drawing

50Hz



60Hz



#### Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max capacity (m <sup>3</sup> /min.)	Noise dB (A)
				Max. operating		Max. operating			
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
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 /0.1	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

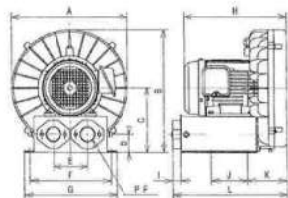
Notes)

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

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

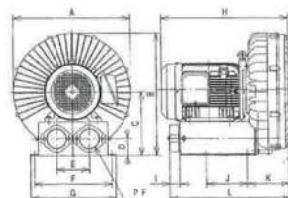
Dimensional outline drawing

VB-004~040-E2·EN



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	P	PF
VB-004-E2	191	201	181	46	85	203	218	154	51	83	107	127	PP10	
VB-007-E2	271	276	261	61	95	225	254	174	63	95	119	139	PP12	
VB-020-E2	371	385	361	87	130	280	320	224	85	135	157	173	PP16	
VB-030-E2	384	405	386	61	138	300	335	233	85	140	162	185	PP12	
VB-040-E2	454	474	454	81	151	320	355	270	90	140	162	185	PP12	

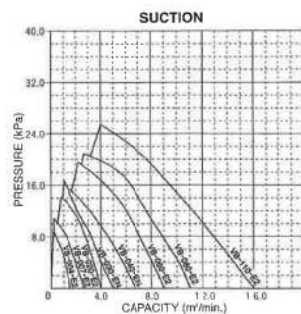
VB-060~110-E2



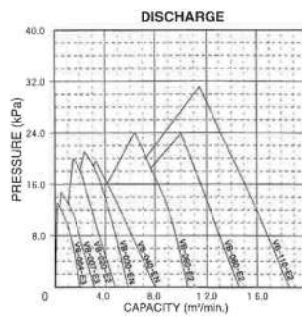
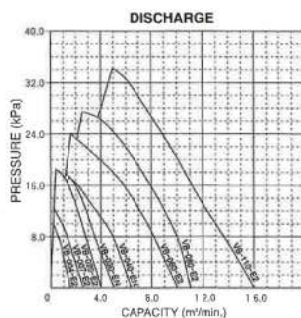
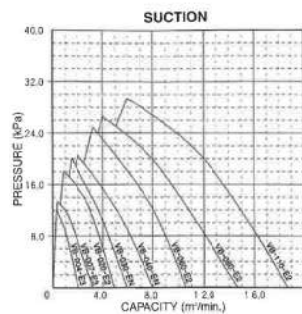
MODEL	A	B	C	D	E	F	G	H	I	J	K	L	P	PF
VB-060-E2	475	498	481	70	118	340	375	260	100	140	170	190	PP16	
VB-080-E2	518	538	521	81	135	360	370	258	105	150	180	200	PP12	
VB-110-E2	595	618	604	81	150	370	410	280	110	160	190	210	PP12	

Characteristic drawing

50Hz



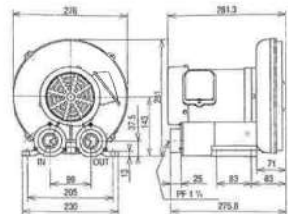
60Hz



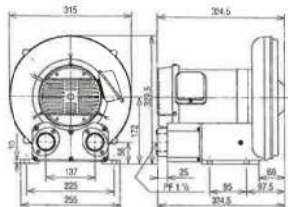
New structural design is highly wear-resistant in dusty or dirty sites, and suitable for a wide range of applications.

Dimensional outline drawing

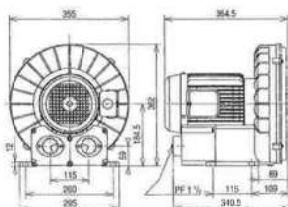
VB-004(S)-DN



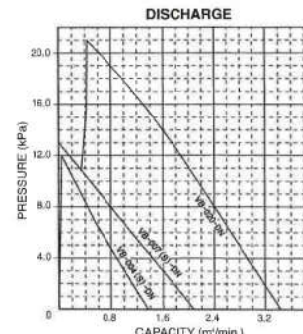
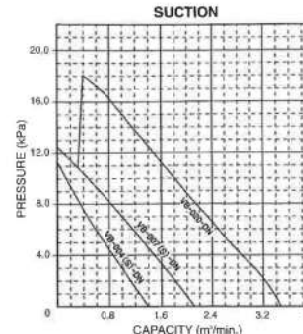
VB-007(S)-DN



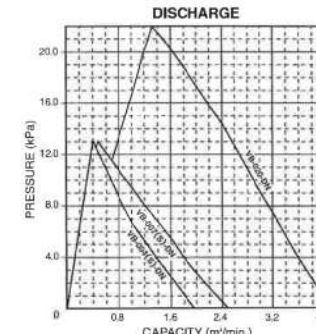
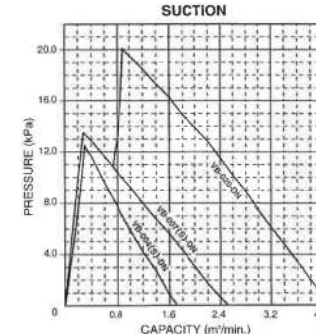
VB-020-DN



50Hz



60Hz



Standard specifications

Model	Phase	Voltage (V)	Poles	Suction		Discharge		Max. capacity (m <sup>3</sup> /min.)	Weight (Kg)
				Max. operating					
				Pressure (kPa)	Output (kW)	Pressure (kPa)	Output (kW)		
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-E2	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°C and 1,013hPa  
 2) Name plate value = Suction data  
 3) Specifications are subject to change without notice. \*Mark is design value.

Standard specifications

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

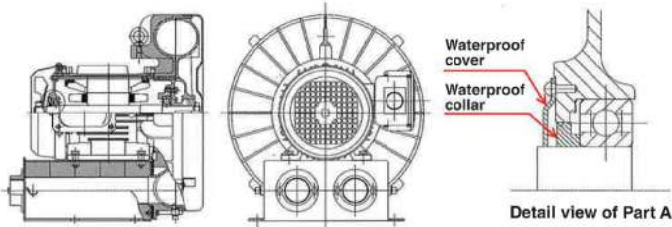
### Supported Voltages

(at 50/60 Hz)

Model	Voltage				
	200 V class	400 V class	400 V class	500 V class	500 V class
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.)

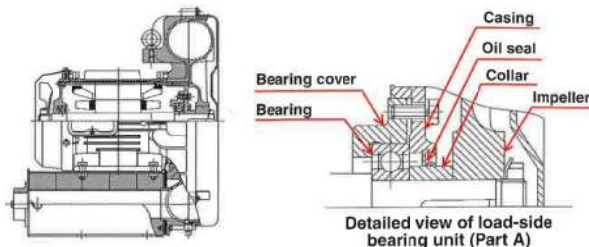


### Available Models

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.)

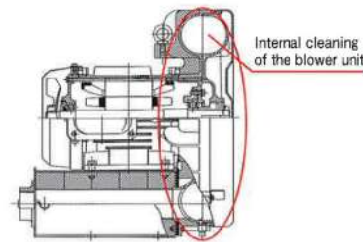


### Available Models

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

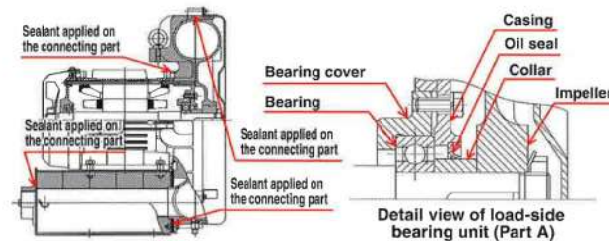
Model	Model
VB-004-E3	VB-040-EN
VB-007-E3	VB-060-E2
VB-020-E2	VB-080-E2
VB-030-EN	VB-110-E2

### 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.



### 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

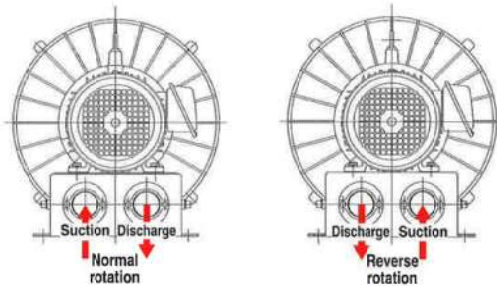
Class F insulation is available for motors operating on Class B temperature rise.

### 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.



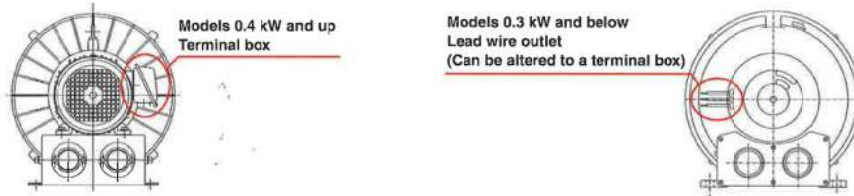
### Available Models: All models of the three-phase E series

- \* 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

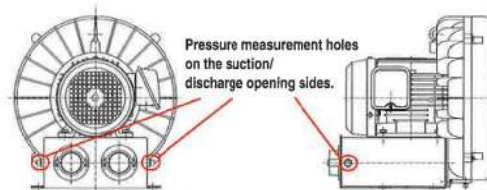
Models for 0.4 kW (VB-004) and up are provided with a terminal box as standard.

\* 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.



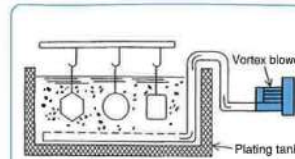
## SPEC 9 Pressure Measurement Holes

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



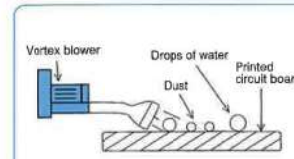
## Application

### Tape end processing



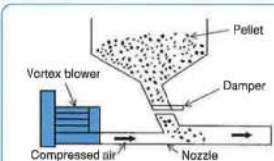
Feeds air into the tank to circulate electrolyte for improved plating quality.

### Dust cleaner



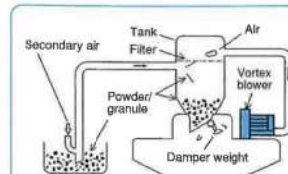
The vortex blower removes fine particles (dust and drops of water) on the printed circuit board by air-blowing.

### Transportation of powder/granule



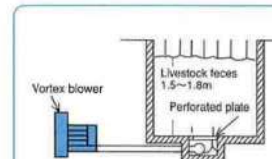
Used for pneumatic transportation of pellet material such as PVC and polyethylene. (Suction type is also available)

### Transportation of powder/granule



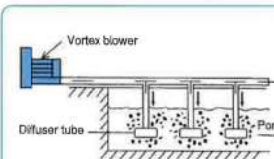
Suitable for transporting PVC, polyethylene, plastic resin, etc.

### Composting through fermentation of livestock feces



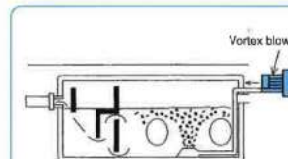
Used for promote fermentation by sending air.

### Oxygen supply for cultivating pond



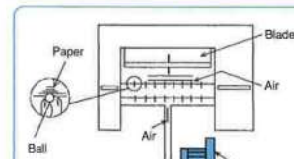
Used for underwater oxygen supply in a relatively shallow pond.

### Purifying tank



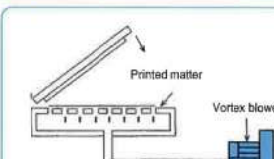
Used for stirring deposit or for purifying water in a relatively shallow water treatment plant.

### Paper cutting machine



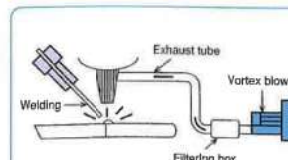
Used as air cushion for facilitating positioning or moving of stacked paper when paper is cut.

### Screen plate printer



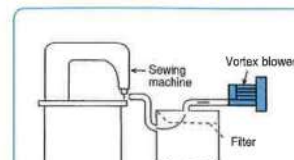
41 Suction pressure is used to fix the material, facilitating the printing process.

### Collection of waste gas from welding



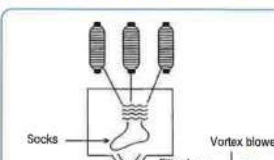
The fume and dust produced during welding can be discharged in vacuum to the other place, ensuring the safety and health of a welding operator.

### Industrial sewing machine



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

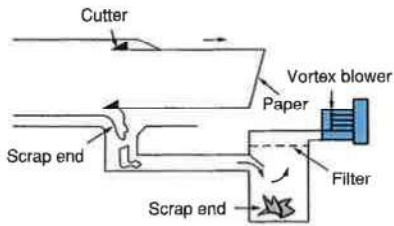
### Hosiery machine



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

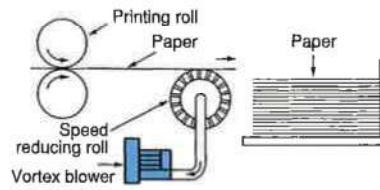
# Application

## Tape end processing



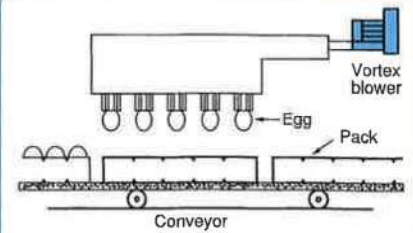
Used for removing scrap ends of tape of automatic packaging machine.

## Paper feeding of printing machine



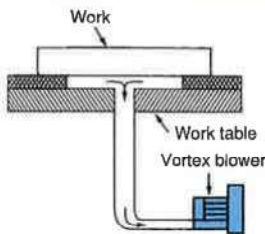
The paper printed by a high-speed press is reduced in speed before stacking, and the Vortex Blower is used for holding the paper with the speed reducing roller.

## Egg suction machine



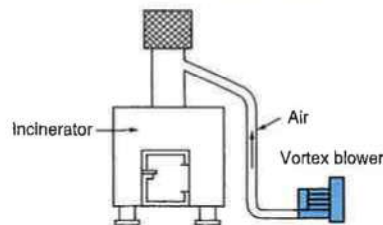
Fragile objects such as egg can be safely picked up by means of suction characteristic without pulsating.

## Holding of works



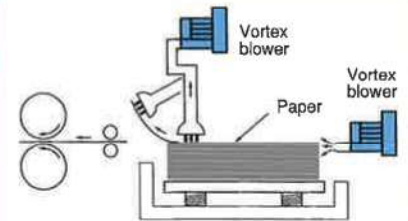
Nonmagnetic matters such as wood pieces, paint, etc. can be fixed on the work table without any fixation tools, thanks to suction function of the vortex blower.

## Incinerator



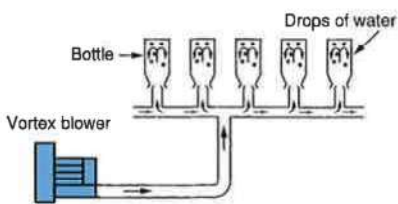
The Vortex Blower can assist combustion effect or promote removal of exhaust gas.

## Paper feeding of printing machine



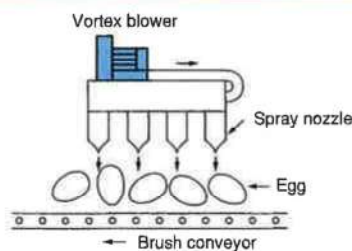
Discharged air facilitates paper separating, paper aligning, and distributing.

## Bottle washing machine



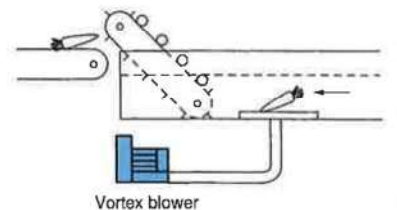
Used for removing drops of water remaining inside bottles after washing.

## 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 installation, maintenance, and inspection of the HITACHI VORTEX BLOWER. Incorrect use may cause the accident or the damage.