

Vortex Blowers

HITACHI
Inspire the Next

E series & G series

Safety Precautions

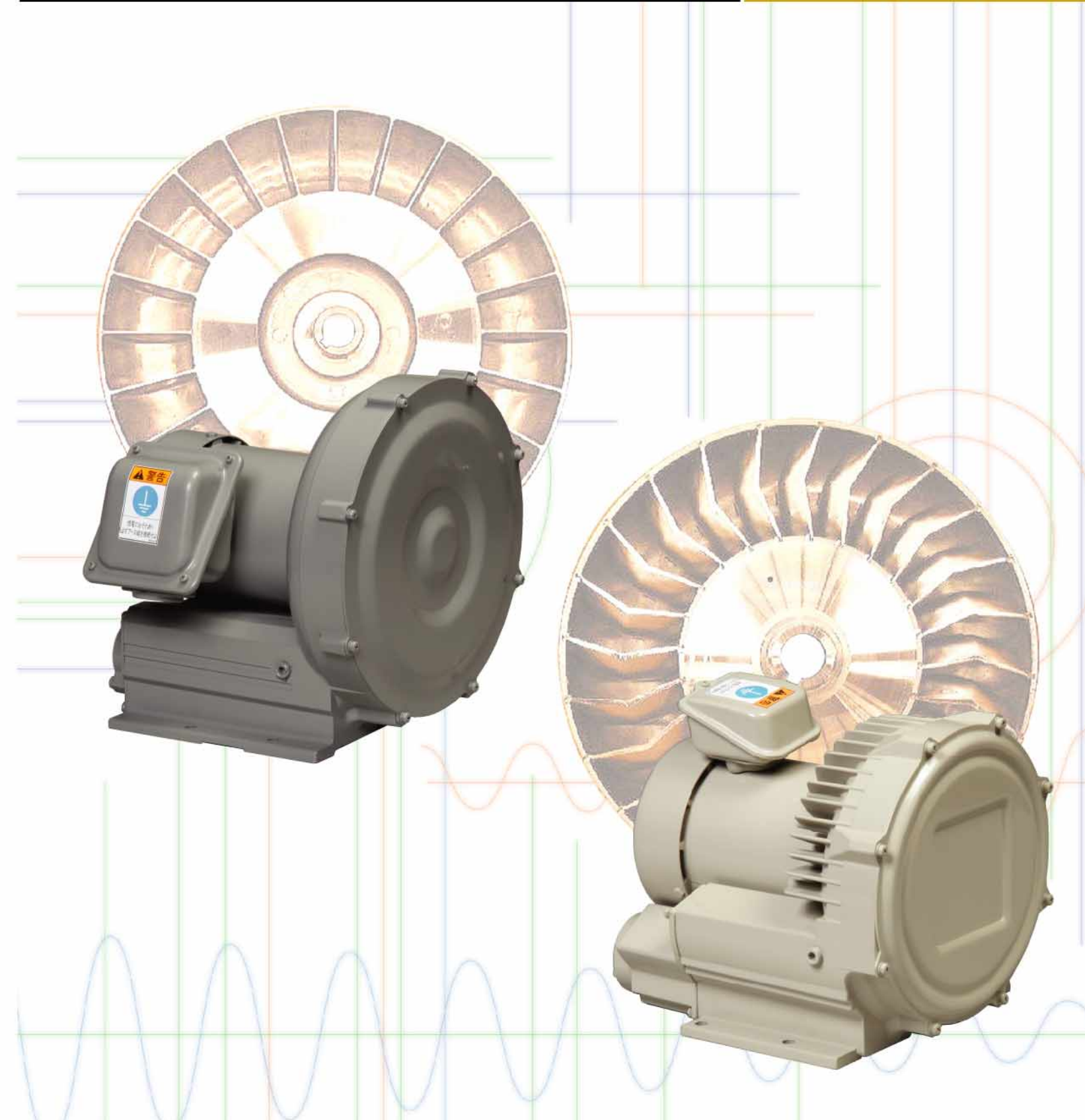
- 1 Before use, be sure to read the instruction manual thoroughly for correct use of the blower - Improper use could result in damage or malfunction.
- 2 Do not modify the blower or its components - this could result in electric shock to persons or injury to persons or damage or malfunction.
- 3 "Carry out installation work and electric work by professional according to the local standard. Improper work could result in abnormal vibration or machine toppled or electric shock to persons or fire to machine."
- 4 Avoid using the blower in small, sealed room because the blower generates heat. Do not touch the blower casing because it is heated to a high temperature during operation.
- 5 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 lead to fire. You must take precautions because the air discharged is at very high temperature also.
- 6 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. And do not use the blower in locations with inflammable or explosive dust such as magnesium, aluminum, iron, wheat, and rubber. 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.

Specifications in this catalog are subject to change with or without notice, as Hitachi continues to develop the latest technologies and products for its customers.

 **Hitachi Industrial Equipment Systems Co., Ltd.**
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 **Hitachi Industrial Equipment Systems Co., Ltd.**

History of HITACHI Air Technology

1910

1930

1950

1970

1980

1990

2000



●1911: 75kW Reciprocating First Compressor in Japan



●1954: Oil Free 22kW Reciprocating



●1946: First Bebicon*1



●1967: Oil Free Bebicon*1



●1969: First Vortex Blower



●1981: Vortex Blower E Series

●1977: Smallest 5.5kW Oil Injected Rotary Screw

●1976: Oil Injected Packaged Rotary Screw Series

●1968: First Oil Free Rotary Screw DS series

●1982: World's Smallest Single Stage Oil Free Rotary



●1980: First DSP Series Oil Free Rotary Screw



●1986: World's Smallest Air Cooled Oil Free Rotary

●1984: World's Smallest Single Stage Oil Free Rotary



●1985: World's First Oil Injected Scroll Bebicon*1



●1995: Oil Free Scroll SRL Series



●1992: Vortex Blower G Series



●1999: New Generation Oil Free Rotary Screw DSP Series

●2000: World's First Variable Speed Drive Oil Free Rotary



●2001: Package Scroll Bebicon*1



●2002: New Generation Oil Injected HISCREW2000*2 Series



●2005: New Oil Free Scroll SRL Series

*1: Brand Name of Small Compressors

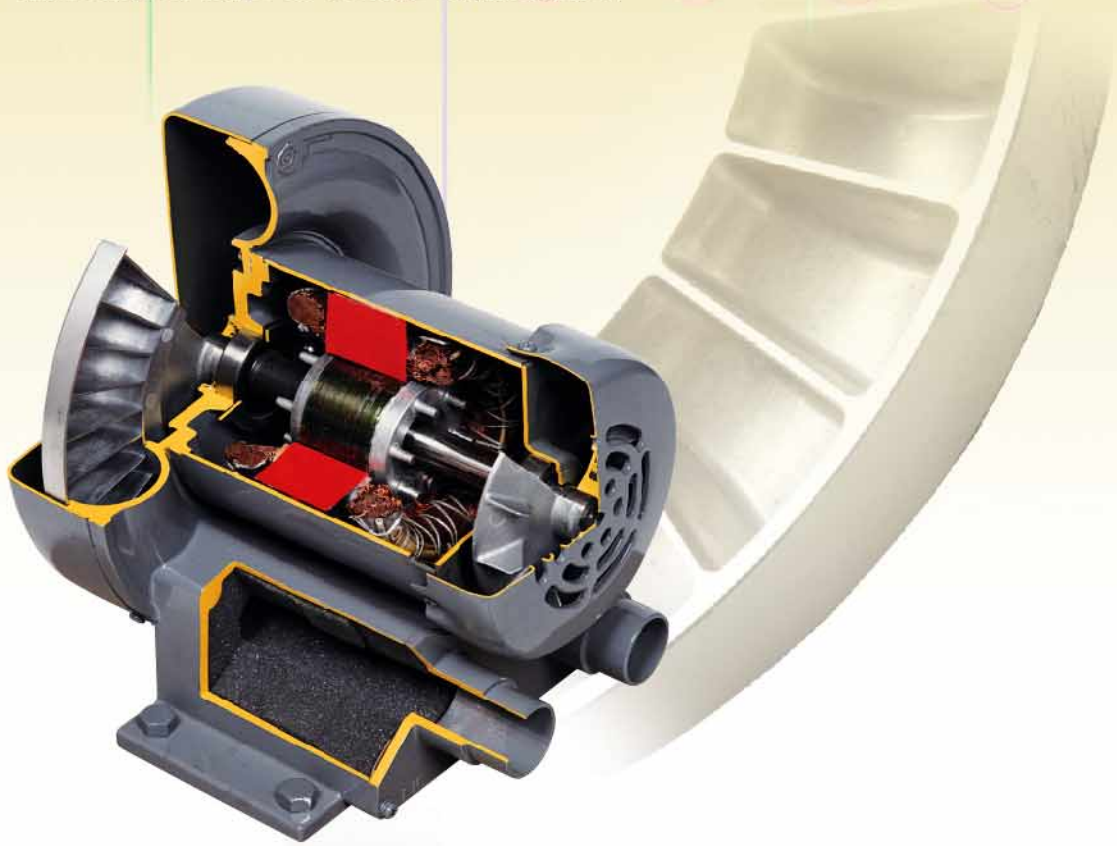
*2: Series Name of Oil Injected Rotary Screw Compressors

Establishment in 1910 as a machine repair shop, HITACHI has evolved in providing a variety of Innovative, Technologically Superior, and Value Oriented products for our customers. Founded in Harmony, Sincerity and a Pioneering Spirit, our ongoing mission is to "Contribute to Society through Technology". The Past, Present, and Future of Hitachi Air Technology Group Products represent our passion for continuing this mission.

E Series High Volume Vortex Blower

High Volume Design

Hitachi's Cup Shape Impeller generates air by non-interference, single path air compression. This enables the E-Series Vortex Blower greater efficiency for large air volume applications.



Flexible Installation

Hitachi's E-Series Vortex Blower can be used in variety of applications. The HITACHI Radial Vane Impeller Design enables operation in either direction with the same efficiency.



Manufacturing Excellence

- Hitachi Motors (since 1910)
- Hitachi Compressors (since 1911)
- Hitachi Vortex Blowers (since 1969)

Industry Leading Sound

- Levels as low as 47 dbA
- Enables Application in Various Locations

Versatility of Design

- Suction & Discharge Application Flow
- Non-Pulsating Air Flow

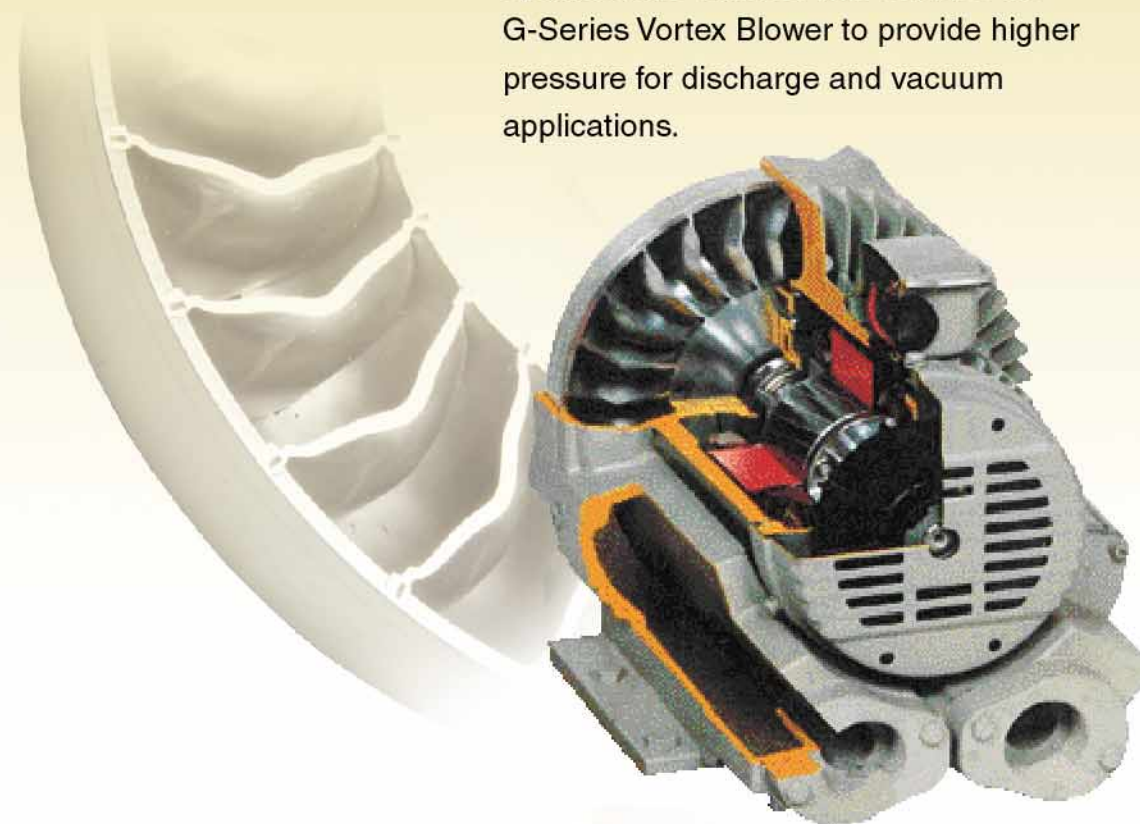
Oil-Less Design

- Oil-Free Air Flow
- Zero Harmful Emissions

G Series High Pressure Vortex Blower

High Pressure Design

(Patent USP 5395210)
Hitachi's Patented Three Dimension Impeller generates high-speed air via maintaining an optimal vane surface. This enables the G-Series Vortex Blower to provide higher pressure for discharge and vacuum applications.

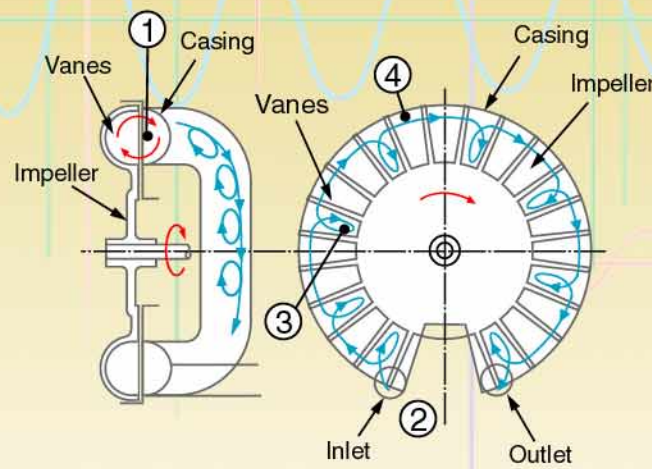


Closed Suction Operation

Hitachi's Innovative cooling system for the G-Series enables Fully Closed suction operation for a variety of vacuum applications.



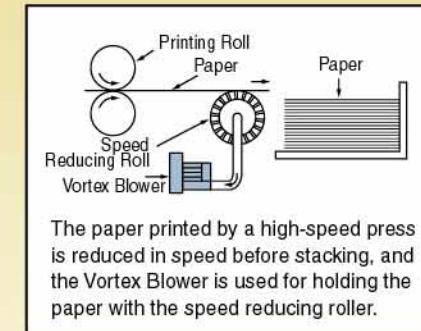
Vortex Blower Operation Principle



Vortex Blower principles of operation utilize the casing and impeller to form compression pockets ①. To operate, air is drawn through the inlet by the rotating impeller ②. Air moves outward radially in the casing (by centrifugal force) to form what is called "Vortex Flow" ③. During this rotation, amounts of air progress from one compression pocket to the next ④. This process is repetitive as shown in left Figure, and results in creation of Vacuum or Pressure

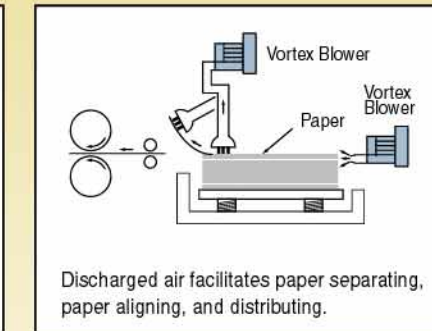
Wide Application in Industries

Paper Feeding of Printing Machine



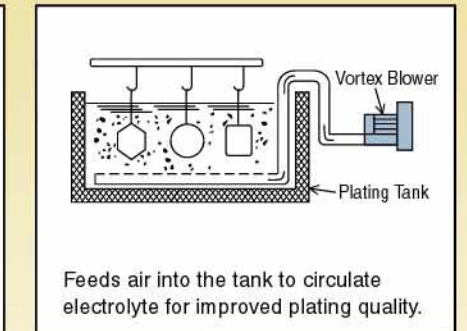
The paper printed by a high-speed press is reduced in speed before stacking, and the Vortex Blower is used for holding the paper with the speed reducing roller.

Paper Feeding of Printing Machine



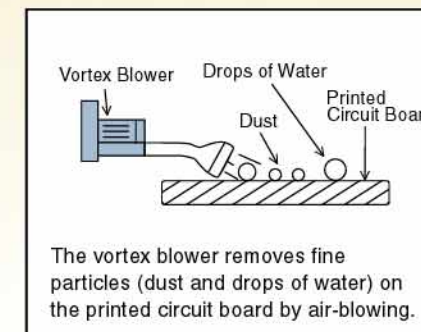
Discharged air facilitates paper separating, paper aligning, and distributing.

Tape end Processing



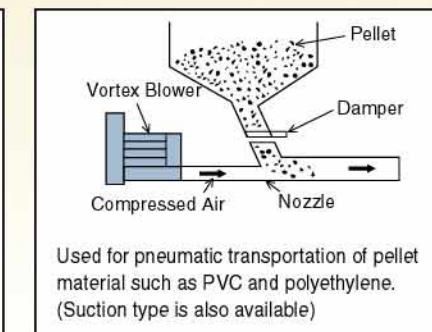
Feeds air into the tank to circulate electrolyte for improved plating quality.

Dust Cleaner



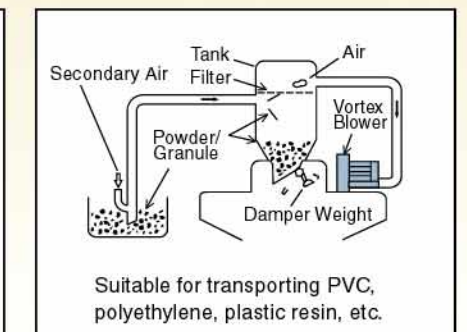
The vortex blower removes fine particles (dust and drops of water) on the printed circuit board by air-blowing.

Transportation of Powder/Granule



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

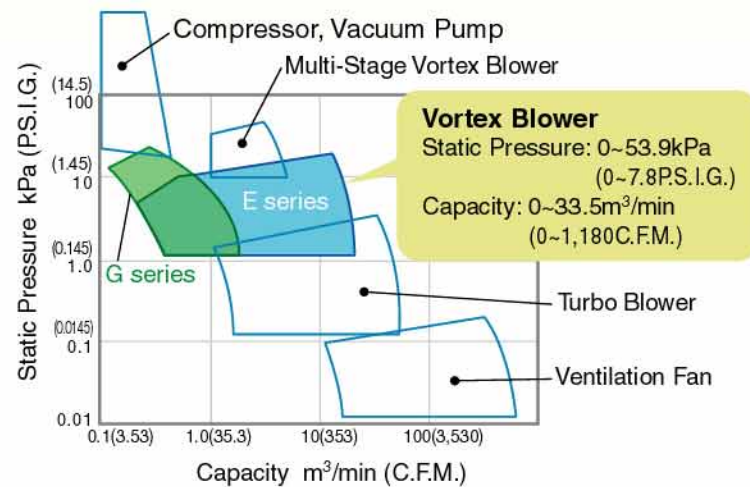
Transportation of Powder/Granule



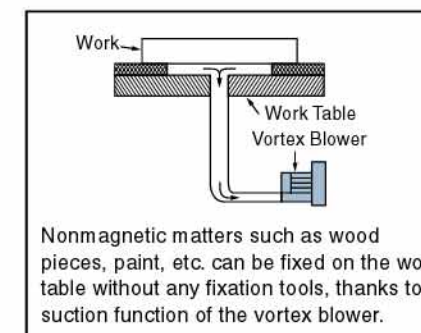
Suitable for transporting PVC, polyethylene, plastic resin, etc.

Application of Blower Technology

Differing technologies are used to fulfill various flow and pressure requirements. HITACHI G-Series and E-Series Vortex Blowers are designed to uniquely fulfill a variety of these needs. This enables the proper application of technology related to the operational requirement.

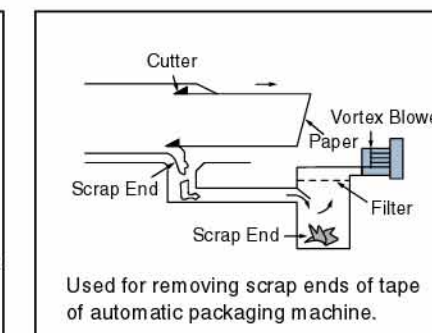


Holding of Works



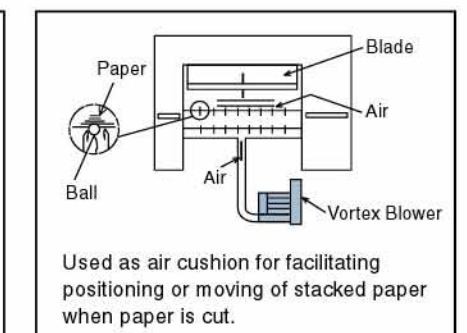
Nonmagnetic matters such as wood pieces, paint, etc. can be fixed on the work table without any fixation tools, thanks to suction function of the vortex blower.

Tape End Processing



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

Paper Cutting Machine



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

We supply high value-added products and solution systems which meet our **customers' needs**, applying our comprehensive abilities to the development, manufacturing, sales, service and engineering. We believe we can contribute to customers' business by creating and providing beneficial value-added solutions with our total competencies.