



Low Pressure Technologies



A brief overview of the different Low Pressure and Vacuum technologies and typical applications where these types of equipment may be found.

Rotary Lobe Blower (Roots)

Operating Pressure Range: 400 – 1200mbar

A rotary lobe blower is a positive displacement blower that utilizes two parallel rotary pistons mounted within a housing that rotate in opposite directions. The pumped medium is sealed in the space between the rotors and housing. These units are Commonly referred to as a “Roots Blower”

Industrial applications:

Light phase conveying (cement), product drying, combustion air & aeration



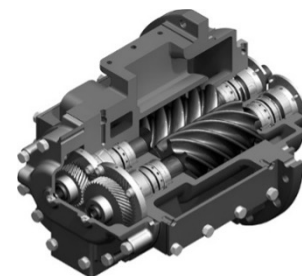
Rotary Screw Blower

Operating Pressure Range: 400-2500mbar

Rotary-screw compressors use two very closely meshing helical screws, known as rotors. The meshing rotors force the gas (air) through the compressor, and the gas (air) exits at the end of the screws.

Industrial applications

Light and heavy industrial uses with oil free variations available for food and pharmaceutical applications.



Rotary Claw Blower

Operating Pressure Range: 0-2500mbar

A rotary pump with two claw-shaped rotors. The claws turn in opposite directions in the housing, they do not touch but the clearance is minimal.

Industrial applications:

Used at point of use applications in food processing, general production, light conveying and mixing.



High Speed Turbo (Centrifugal) Single Stage Blower

Operating Pressure Range : 200-1400mbar

Turbo blowers use high-speed PMSM (permanent magnet synchronous motors). Utilising PMSM, provides higher power output to compression ratio. Generally direct drive, single shaft in design with impeller provides zero power loss during transmission whilst operating at speeds in excess 40,000rpm

Industrial applications:

100% oil free in design they are used in critical applications where large air flow demands are required.

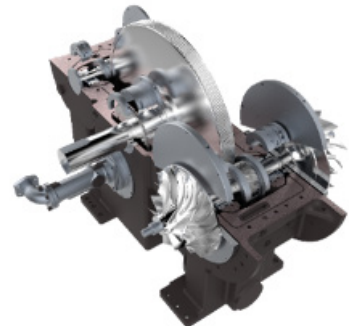


**Multi-stage Centrifugal Blowers****Operating Pressure Range: 1000-4000mbar**

Multi-stage centrifugal blowers are rotating machines used to increase the pressure of ambient air or gas mixtures. Achieved by means of the centrifugal force created through a multi-stage process. Usually powered using electric motors through a gearbox / transmission that drives the multi-stages from a central point.

Industrial applications:

Used in industrial applications where large volumes of air or gas are required.

**Side Channel Blowers****Operating Pressure Range: 200-800mbar**

A side channel blower transports air or gas by rotating a multi blade fan at high speed through a close narrow fitting pump house. The pressure in the channel is intensified by a turbulent stream in the radial channel. These units are often referred to as radial blowers.

Industrial applications

Typical applications are at point of use where small air flows are required.

**Rotary Vane Blowers****Operating Pressure Range: 400-800mbar**

The rotor vane blower has a bias rotated shaft with the vane going in and out inside the slots. The vanes are compelled to attach the inside surface of casing, so that air is absorbed from inlet and compressed in the direction of the outlet. These units can be classed as continuous flow in design.

Industrial applications:

Typically used for point of use applications similar to side channels blowers.

