

Roots type (Trilobe) blowers are positive displacement machines (low pressure and high flow). They can work in compression process (as a blower) or sucking process (as a vacuum pump). Blowers are intended for continuous generation of overpressure or vacuum of air and inert gases. They are used whenever the carrier of transported material must be free from oil impurities.

Production program

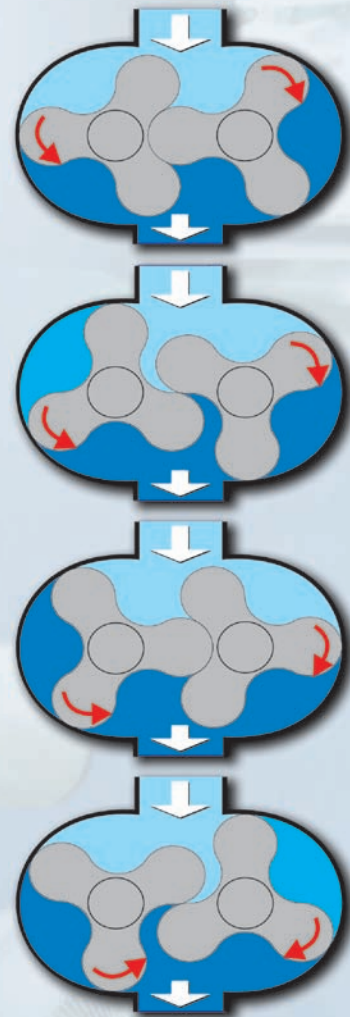
FP SPOMAX can supply just bareshaft bodies (no motor etc) as well as complete blower packages. We offer 15 standard sizes of blowers with output from 6,6 to 9480 m³/h (other sizes available on request) and compression up to 1200 mbar and a variety of versions and finishes.

The basic element of a blower is the compression unit. It is a high precision positive displacement pump with two interlocking rotors (pistons) inside – each with three 'lobes'. A gear synchronizes pistons movement. During one rotor movement, the air/gas is forced through six times. During operation a very small and constant gap is maintained between the two rotors and the machine body. Thanks to this the machine works without lubrication of working parts and it is possible to obtain absolute purity of forced air/gas.





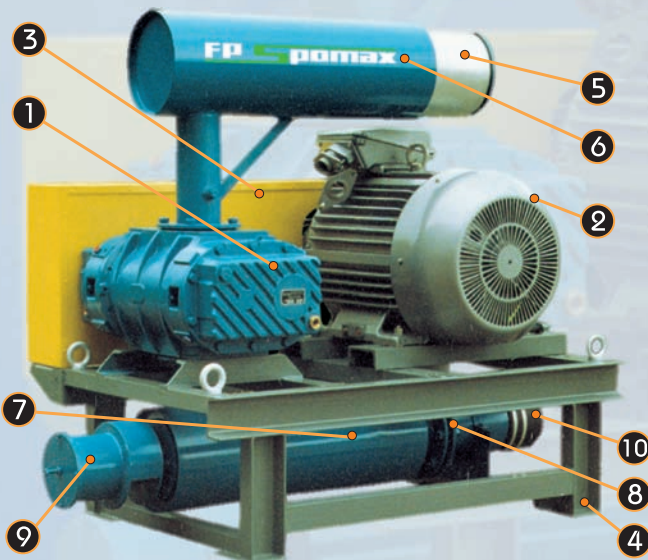
Principle of operation of Root's type blower



Additional equipment

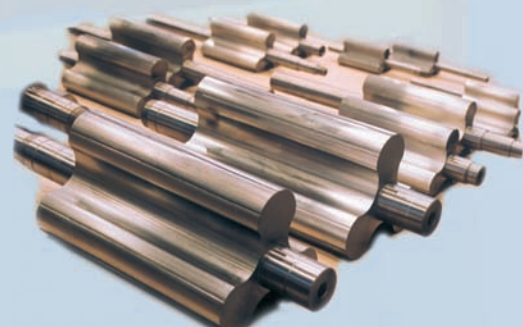
- **Acoustic hood** – reduces the noise by 15 (+/-2) dBA
- **Inverter** – allows to regulate the blower output through fluent change of motor resolutions
- **Multiple-speed motor** – allows to regulate the blower output through stepwise change of motor rotational speed
- **Suction unloader** – an additional element (reducing peak power consumed) during start up of blower
- **Resonance silencer** – eliminate the phenomenon of resonance in the compressed air net

We also supply blower packages, which can work in applications where there is a risk of an explosion.



Basic elements of blower package:

1. Roots type blower
2. Motor
3. Coupling unit
4. Support Frame
5. Air filter
6. Inlet silencer
7. Outlet silencer
8. Non-return valve
9. Over-load valve
10. Connector





Special manufacturing of blower packages

1. Blower package for explosive gases

Designed for the suction (negative pressure) or forcing (positive pressure) gases such as: methane, hydrogen, biogas. The blower is manufactured as an explosion-proof version and equipped with special solutions of compression chamber seals, piston outlet and connections.

2. Blower package with air injection

With this system a blower can generate a 90% vacuum. Blower can be used during drying process, distillation, liquid waste removal, vacuum pneumatic conveying.

3. Two-units blower package

Thanks to application of two compression units, the compression reaches 2 bars.

4. Two (three) stage blower package

It is possible to build a package consisting of two or three devices. The multi story blowers can be equipped with the appropriate sound-absorbing enclosures.

5. Truck mounted blowers

Used as a positive- or negative pressure station while pneumatic loading and unloading tank trucks; used for transportation of flour, grain, feed, etc.

6. Suction-pressure blower package

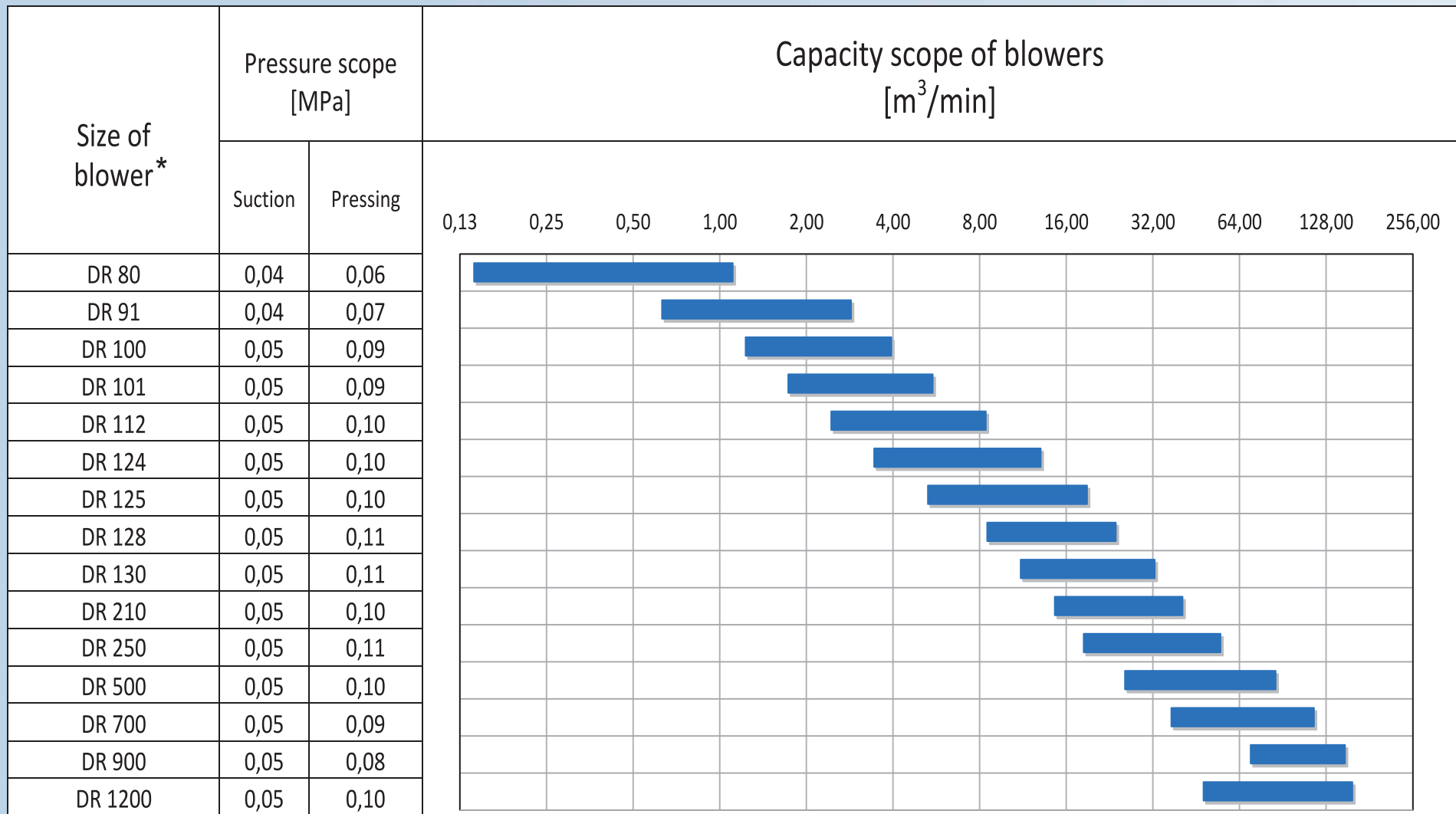
A blower package can be designed to generate alternatively positive and negative pressure and provide pressurised air to one or two independent pipelines. The blower is applied for technological processes required positive- and negative pressure.



Examples of blowers' applications

- Aeration of active sludge chambers in sewage treatment plants
- "Mammoth" type pumps
- Sand trap / de-sander aeration
- Fish ponds aeration
- Water treatment devices (rapid filter)
- Air supply to metallurgical furnaces and lime burning
- Aeration of loose materials and fluid beds
- Low-pressure pneumatic conveying (pressure and suction) of loose materials (flour, cement, lime, plastic pellets, ash, etc.)
- Central de-dusting systems
- Vacuum systems sets in paper-making machines
- Vacuum pumps in multi-pump systems
- Suction-pressure systems of inert gases (in case of special versions also hazardous gases)





*other sizes available on request

Manufacturer reserves the right for modifications of parameters and device appearance in the course of its improvement.