



HR Blowers specialises in the manufacture of positive displacement industrial air blowers, based on the renowned Holmes Roots design, which have been in production for over 40 years and have a global reputation for reliability, efficiency and long service life.

Our engineers have many years of combined experience in the manufacture of Holmes Roots type blowers, most of whom worked originally at WC Holmes, who then became Peabody Holmes and finally Dresser-Roots in Huddersfield, before the entire production, including specialist machinery was moved to HR Blowers in Holmfirth.

We are currently undertaking two, three year KTP's (Knowledge Transfer Projects) with Huddersfield University:

- To design and develop new methodology and modelling techniques for pneumatic conveying in bulk handling systems.
- To design and develop a new range of high efficiency and high pressure positive displacement blowers.

Scirocco (tri-lobe) blowers

Tri-lobe design for higher efficiency and reduced noise levels in the Water Industry

The Scirocco blower is designed specifically for the water industry to reduce noise and power loss by utilising an exclusive wrap-around plenum and proprietary double-jet feature to control pressure equalisation and increase reliability.

The proven design concepts of the 3-lobe impeller profile, together with the double-jet feature combine to produce such low pulsation levels that inlet and discharge silencers are no longer required to control in-pipe noise and pulsation. This in turn allows for an extremely compact and cost competitive package unit design.



Specification summary:

- Lowest in-pipe pulsation and noise levels
- Based on proven designs
- Oil lubricated at both ends
- Smooth running, longer life
- Lower power consumption
- Guaranteed oil-free delivered air (since no internal lubrication is necessary)
- Vertical and horizontal mounting options, provide maximum flexibility and reduce installation costs
- Clockwise and anti-clockwise drive shaft rotation

Construction

- Cylinder and headplates manufactured from cast iron
- Dynamically balanced impellers have integral shafts and are made from ductile iron
- Bearings at the drive end are spherical roller type, generously proportioned to give long operational life
- Parallel roller bearings at the gear end, splash lubricated by oil from the gears
- Timing gears are hardened and precision ground spur gears, manufactured from high grade alloy steel

Applications

- Water and sewage treatment (Aeration, air scour, biological and mixing processes)
- Material handling (Lean and medium phase conveying, fluidisation and blending processes)
- Soil remediation (Solvent and contaminant removal)
- General industrial (petrochemical, chemical and industrial processes)

HR Rotary Blowers

Built-to-last positive displacement blowers

Our HR series blowers are based closely on the original design of Holmes-Roots type blower, with their renowned reliability, efficiency and life expectancy.

Specification summary:

- Cast iron cylinder and headplates.
Aluminium gearcase.



- Impellers are made from SG iron and are cast with integral shafts or pressed in steel shafts
- Precision ground and hardened steel spur gears, taper mounted onto the impeller shafts
- Oversize bearings for long operational life. Grease lubricated double row bearings or spherical roller bearings (size dependent)
- New - oil-oil lubricated versions available in size 3 and 4

Applications

- Waste Water Treatment (Aeration, air scour, biological and mixing processes)
- Material handling (e.g. Fluidisation and blending processes)
- General industrial (Petrochemical and industrial processes)

Sizes and capacities

Model no.	Volume flow m ³ /hr	Max pressure mbarg
Size 1	169 - 1,244	300 - 1000
Size 2	356 - 1,792	300 - 1000
Size 3	696 - 2,168	300 - 1000
Size 4	1,842 - 3,878	300 - 1000
Size 5	2,376 - 12,936	300 - 1000
Size 6	7,663 - 21,500	300 - 700
Size 7	7,728 - 36,286	300 - 1000

Standard blower packages

HR Blowers have a range of cost-effective, standard blower packages which can be modified to suit your needs. Our packages typically include:

- A blower unit from our extensive size range
- Electric motor and direct v-belt drive, with belt tensioning system
- Inlet air filter with filter restriction indicator
- Silencer unit
- Mounted on a base frame and supplied fully assembled, ready to install in your process
- With or without acoustic chamber



In the example pictured, an HR23 blower unit (1,340 m³/h, 550 mbarg) has been combined with a Brook Crompton 30 kW motor in a ready-to-go package for pneumatic conveying of stone dust in mining operations in South Africa.

Custom blower packages

We can also offer a design and build service for custom and high-spec blower applications, in collaboration with our Norwegian partners Kemostal.

HV (High Vacuum) Boosters

Based on Success

HR Blowers are one of the world's leading air blower manufacturers and have acquired a reputation for quality, innovation and service. The HV Series Vacuum Booster Pumps have been developed from the highly successful HR Blowers range of Roots type positive displacement air blowers, of which thousands are giving excellent service throughout the world.



Specification summary:

- A wide range of sizes
- Compatible with all types of backing pump
- Ultimate pressure better than 5×10^{-3} millibars
- Horizontal or vertical flow
- Compact robust design
- Flange mounted motor or vee-belt drive
- 50Hz or 60Hz operation

Sizes and capacities

There are 8 models in the HV range, from the HV500 to the HV5000, with volume flows from 500 to 6000 M³/hr.

Applications

- Vacuum Packaging
- Metalizing
- Metal Casting
- Vapour Recovery
- Industrial Lasers
- Distillation
- Process Engineering
- Solvent Recovery

HRBV vehicle (truck) mount blowers

Positive displacement truck blowers, designed for mounting on bulk transport vehicles



Specification summary:

Our truck mount, Roots type blowers are engineered for high performance and long service life:

- A range of 3 sizes
- Impellers made from SG iron and cast with integral shafts or pressed in steel shafts
- Precision ground spur gears, taper mounted onto the impeller shafts
- Oversize bearings for long operational life
- Grease lubricated double row bearings or spherical roller bearings (size dependent)
- Oil lubricated versions for increased service life and higher ambient operating temperature, without loss of lubrication, the Oil-lube HRBV is a natural progression on the original grease lubricated version.

Sizes and capacities

- Capacities from 220 to 2300 m³/hr
- Pressures to 1240 mbarg
- Vacuums to 475 mbarg

Applications

- Truck mounting for vehicle tank extraction
- Dry bulk conveying of powders, animal feeds etc.
- Land based pneumatic conveying systems
- Vacuum as well as positive pressure operation

Pressure air recirculating valves

A range of pressure air recirculating valves, designed to protect your blower against excessive back pressure, which can cause overheating, reduced performance and service life.

Prolonged periods operating at over 1 bar (15 psi), for example due to a downstream blockage in a pneumatic conveying system, can lead to overheating of the blower, leading to accelerated rotor wear and in some cases catastrophic failure.

Our new valve range has been redesigned to be compact, and uses fewer components for improved reliability and cost efficiency. They are available with factory pre-set relief pressures (see below), but we can provide valves set to your specification if required. Valves are normally available from stock.



Materials

- Aluminium tube casing
- Brass valve bell
- Stainless steel spindle
- Zinc plated mild steel spring

Sizes and connections

Nominal diameter	Connection*	Typical Capacity m ³ /hr at 500mbg	Typical Capacity m ³ /hr at 1000mbg	Blower application
80mm	3" BSP	850	1100	HRBV, HR Size 10 & 11
100mm	4" BSP	1300	1700	HR Size 12, 13, 20 & 21
125mm	5" BSP	2000	2700	HR Size 22, 23 & 31
150mm	6" BSP	2900	3800	HR Size 32, 33, 41, 42 & 43

*Optional BS404: NP10 flange connection available to order.

Valves for HRBV truck mount blowers

We supply the 80 mm valve for our HRBV blowers with a factory pre-set relief pressure of up to 1240 mbar, to your specification. A 3" to 2" BSP adaptor may also be required for this application.

Valves for HR Rotary blowers

The valve size required will vary with the blower size (see table above). Factory pre-set relief pressures of up to 1140 mbar are available, as required.

Vacuum relief valves

Coming soon: We will soon be able to supply relief valves for use with our high vacuum range of blowers.

Service and repairs

We provide a full repair and reconditioning service for Holmes-Roots type blowers, including:

- Bearing and seal replacement
- Rotor repair and re-machining
- Gears
- Casings

All our work carries a 6 month guarantee.



Spares in stock and to order

We carry replacement parts for HR Blowers, Scirocco blowers, HV vacuum boosters and XLP (Whispair) type blowers, including:

- Impellers
- Gears
- Bearings
- Casings

Pneumatic conveying system design

Our engineers can provide a full design service for your pneumatic conveying system

From the silo to the production line HR Blowers has the expertise and experience to help you move your bulk powder or granular product to where you need it. We can design pneumatic conveying packages based on our reliable, high performance range of blower, from calculations of your conveying needs. Our engineers have experience with a wide range of products and applications, including

- Animal Feed Production
- Ash Conveying
- Alternative Fuel Plants



- Bakeries
- Cereal Plants
- Cement and Plaster Manufacturing
- Coal Power Plants
- Cement and plaster manufacturing
- Coal power plants
- Plastic compound manufacture
- Blower film applications
- Primary furnace air
- Synthetic wood production
- Waste water and effluent water treatment works
- Within central vacuum plants
- Wood chip conveying

Many years of practice in the field of pneumatic conveying, mean that HR Blowers are able to draw from our wide experience to offer customers assistance with the selection of suitable blower packages and rotary valve combinations. Our engineers can also address noise level limitations, pressure limits and energy efficiency in the design of your package.

Contact us to find out more about our pneumatic conveying package design service.

Contact

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