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Norican Group is the Holding of DISA and Wheelabrator.

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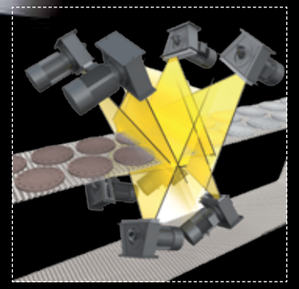
# Mesh belt shot blast machines

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# Mesh belt shot blast machines


Wheelabrator mesh belt shot blast machines efficiently blast flat and very complex parts in a pass-through process.

To achieve excellent blast results the 4 or 8 blast wheels are arranged at horizontal and vertical axes, inclined to face the belt direction, to achieve complete coverage of workpieces such as: gearboxes, gears, gear wheels, diecastings, castings, formed and forged parts.

The width of the mesh belt can be adapted to smoothly and safely transport a wide variety of workpiece sizes, including small parts.
The machine is particularly well-suited to the treatment of flat parts, and parts susceptible to shock/impact, but is not ideally suited to parts that will roll.

### Typical applications

- Rust and heat scale removal
- Deburring of cast flanges
- Sand removal from oil sumps
- Improvement of surface roughness
- Shot peening for fatigue improvement

### Features

- Continuous blast process
- Highly efficient blast wheels
- Mesh belt made from hardened manganese steel
- Many different workpiece shapes can be blasted
- High process reliability
- Easy integration in the production process
- Versatile machine sizes and variants

### Mesh belt shot blast machines

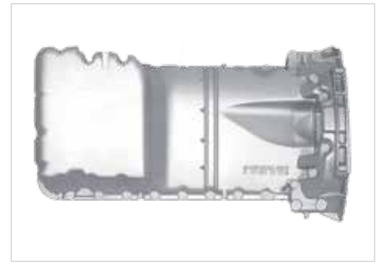
1. Maintenance platform
2. Blow-off station
3. Control units
4. Abrasive silo
5. Magnetic wind sifter
6. Bucket elevator
7. Impact separator
8. Blast wheel
9. Mesh belt
10. Vibrating conveyor



# Technical Data

Gear wheel flange

Casted flange

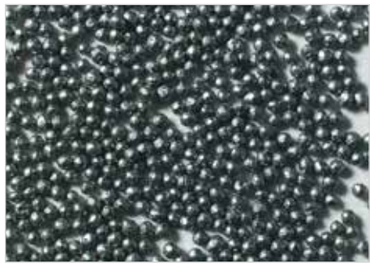


Oil sump

| Mesh belt shot blast machines | | LBS 750 | LBS 1000 | LBS 1500 | LBS 1000 | LBS 1250 |
|---|---|---|---|---|---|---|
| | | 4 blast wheels | | | 8 blast wheels | |
| Max. workpiece width | mm | 750 | 1000 | 1500 | 1000 | 1250 |
| Max. workpiece height | mm | 250 | 500 | 500 | 500 | 500 |
| Number of blast wheels x power | kW | 4 x 7.5 | 4 x 7.5 | 4 x 11 | 8 x 7.5 | 8 x 18.5 |
| Blast wheel variants | kW | 4 x 11 | 4 x 11 | 4 x 15 | 8 x 11 | 8 x 22 |
| **Installation with foundation pit** | | | | | | |
| Belt height | mm | 900 | 900 | 900 | 900 | 900 |
| Machine height | mm | 4700 | 5600 | 5100 | 6000 | 7100 |
| Machine height with magnetic windsifter | mm | 5700 | 6600 | 6100 | 7000 | 8100 |
| Depth of the foundation pit | mm | 330 | 300 | 1100 | 600 | 1700 |
| **Installation without foundation pit** | | | | | | |
| Belt height | mm | 1230 | 1200 | 2000 | 1500 | 2600 |
| Machine height | mm | 5030 | 5900 | 6200 | 6600 | 8800 |
| Machine height with magnetic windsifter | mm | 6030 | 6900 | 7200 | 7600 | 9800 |

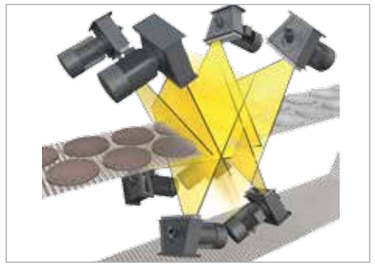
Can’t find a suitable machine? Contact us for individual and customised variants and options.

# Special features and options



The process

TITAN blast wheel



Blast pattern

## The process

Wheelabrator mesh belt shot blast machines can be optimally integrated into your production process. The workpiece can be taken directly from your conveyor and blasted in continuous operation. An adapted mesh belt made from manganese steel transports it into the blast chamber. The powerful blast wheels are arranged at an angle to the direction of the workpiece, so even complex formed parts can be safely blasted in a pass-through operation.

The number and the power of the blast wheels, and the passage speed of the parts, are selected according to your required blast results, at a process speed to integrate smoothly with your existing production line.

## TITAN blast wheel

The blast wheel is the heart of the shot blast machine. Its design defines the performance and efficiency of the machine. In this mesh belt machine, TITAN blast wheels are installed as standard.

In addition to excellent blast results and unbeatable service life of the main components, made from hardened tool steel, the TITAN blast wheel, when compared with other wheels, has thicker wear liners, a hermetically sealed housing within the blast wheel enclosure, and is easy to maintain.

Lots of variants are available for the TITAN blast wheel so that it can be ideally adapted to your application.

To achieve excellent results and complete coverage of complex parts, the blast wheels are inclined to the belt direction to create an X-shape blast pattern.

## Blast pattern

The blast cabinet of this machine is completely made of manganese steel. The advantage of Manganese steel: it is hardened by the impact of round abrasive from 35 HRC to more than 50 HRC, so it has extremely good wear characteristics.

In the "hot spot" of direct abrasive impact, the cabinet is additionally lined with 10mm thick manganese hard steel wear plates to create almost an additional interior chamber. The plates are easily exchanged, and can be fixed in a variety of ways (screwing, attaching, hanging, etc.)

To avoid abrasive escape from the machine several rubber layers of curtains are installed. In the "hot spot", Vulkolan curtains are used. The curtains are pushed into V-rails and easily exchangeable.



# Special features and options

Mesh belt

Abrasive removal station

Abrasive removal

## Mesh belt

An advantage of the mesh belt is that a wide variety of sizes of parts can be continuously transported and processed. Wheelabrator uses manganese hard steel belts as standard.

Special feature: the manganese hard steel is very wear resistant and ensures longer maintenance intervals and exchange cycles. Different mesh widths adapted to the workpiece and the blasting process are used. Due to fully automatic and pneumatic tensioning of the belt, the necessary tension is maintained during its entire service life, without intervention.

## Abrasive removal station

As an option, an abrasive removal station can be installed before the workpiece is transferred to the subsequent production process.

At the station, the blasted parts are picked and rotated 360° to remove any abrasive stuck in pockets or recesses. The abrasive is collected and returned to the blast machine. The parts are then transported onto a chute and unloaded or delivered to the next process. Integration into fully-automatic processes is possible.

## Abrasive removal

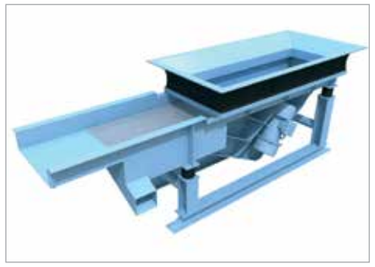
During the blast process, dust, broken abrasive and other solid particles or contaminants (fines), are generated by the rust and scale removed from the workpieces. The fines are separated in the abrasive reclamation unit which is adjustable to the different types and sizes of blast media.

The Abrasive reclamation unit consists of an impact separator and a cartridge filter. The impact separator removes the fines from the abrasive, and serves as a certified spark extinguisher and meets all ATEX regulations.

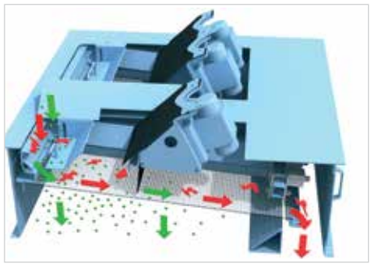
The cartridge filter provides the necessary negative pressure to remove dust. It can be installed separately beside the shot blast machine. The filter is automatically cleansed by compressed air pulses which are adjustable in intensity and duration. All elements of the filter unit are free from ignition sources.

Alternatively, wet filter units can be used for the necessary dust removal. This is often applied in aluminium die casting.

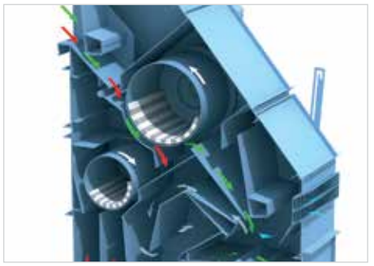
# Special features and options



Vibro conveyor



Vibro sieve



Magnetic separator

## Vibro conveyor

In place of the standard screw conveyor, a vibro conveyor can be used to transport abrasive from the blast cabinet to the bucket elevator. The sieve installed in the vibro conveyor separates coarse fines from the abrasive.

For dust removal, the conveyor is linked to the dust filter of the central machine.

## Vibro sieve

For a blast process without interruption, a vibro sieve is used to clean abrasive.

The vibro sieve is used after the abrasive reclamation unit and **sieves coarse particles** like flashes from aluminium die casting workpieces out of the abrasive so that they do not affect the blast process.

The sieve is installed above the silo. It is driven by two vibro-motors and set in motion similar to a shaker sieve. A **targeted sieving of unwanted fines** is achieved with the mesh size adapted to the process. Fines are fed into a bin via a downhose.

Lateral **flaps** allow easy access to the sieve for **ease of maintenance**.

## Magnetic separator

The magnetic separator increases your profitability by reducing machine wear and reducing abrasive consumption.

Moulding and core sand on castings is removed during the blast process. As they cause high abrasion they must be separated from the ferro-magnetic abrasive **quickly and efficiently.** This is performed in the magnetic separator.

Two rollers with adjustable magnetic fields and a sieving box separate the moulding and core sand and fines from the reusable abrasive, in this way only 0.2% of the weight remains.

This **reduces wear** and abrasive consumption and leads to **higher profitability** for you.



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# About Wheelabrator and Wheelabrator Plus


As the world's leading surface preparation company, **Wheelabrator** offers a complete range of equipment, replacement parts and services.

For more than 100 years, companies from the foundry, automotive, aerospace, energy, shipbuilding, railway, engineering and many other industries have been using the products and services of Wheelabrator Group. Using insight gained from thousands of different applications, Wheelabrator's technical experts work in close cooperation with customers to design specific solutions to meet their operating needs, and to increase their productivity and profitability.

With approximately **15000 active customers** in more than **100 countries**, and nearly **30000 machines installed throughout the world**, Wheelabrator continues to use the experience of having the largest installed base in the industry to deliver the best solution for the customer.

This approach has been so well received by the market that approximately two thirds of Wheelabrator's surface preparation equipment sales are custom-engineered to the precise specifications of the customer. The remaining third consists of standard machines which incorporate the same level of Wheelabrator quality and reliability, but can be delivered more quickly at a competitive price.

Wheelabrator is part of the Norican Group, and offers together with its sister company DISA, a global service from moulding, to wheel- and air blasting, to coating applications.

- **6 Technology Centres** in Canada, France, Germany, Switzerland, India and China
- **6 Manufacturing site**s in India, China, USA, Mexico, the Czech Republic and Poland plus a global service support network
- More than 100 years of experience in air and wheel blasting machines
- Nearly 30000 machines operating in the field
- Broadest range of products available on the market
- Quality products which provide flexible solutions to deliver consistent performance
- Full service from product development and installation, through to continued service and maintenance delivered by the global **Wheelabrator Plus** team

**Wheelabrator Plus** offers the largest aftermarket parts, supply, service and technical support for the surface preparation industry globally. With the capability of maintaining and upgrading surface preparation equipment from both Wheelabrator and most other brands within the industry, Wheelabrator Plus continually strives to help you to profitably meet or even exceed your customer's requirements.

Our service can be developed to fit your specific needs to ensure you have minimum downtime whilst achieving maximum productivity. Services include:

- Replacement parts
- Service contracts and inspections
- Machine maintenance
- Equipment modernisation and upgrades
- Technical support
- Training
- Equipment relocation