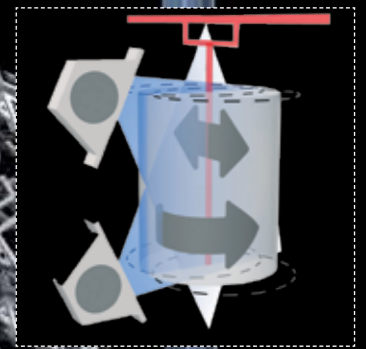
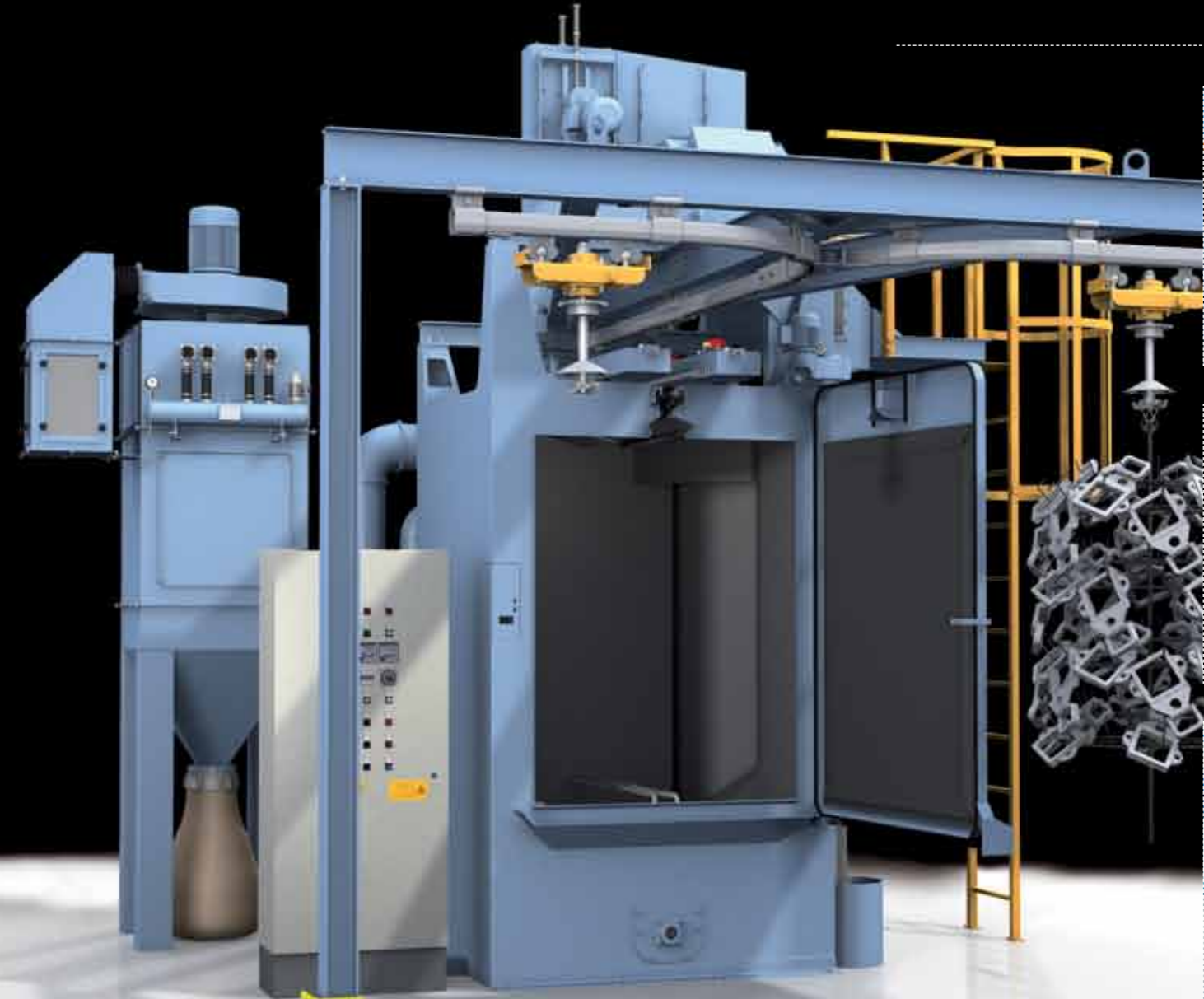




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# Overhead rail shot blast machines



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Noricran Group is the parent company of DISA and Wheelabrator.

# Overhead rail shot blast machines



### Type HB

- 1 Workpiece cluster
- 2 Y-track
- 3 Blast wheel
- 4 Trailing and rotating device
- 5 Screw conveyor
- 6 Windsifter
- 7 Bucket elevator
- 8 Switch box
- 9 Safety filter
- 10 Cartridge filter



Wheelabrator overhead rail shot blast machines can be used for a wide spectrum of applications and workpiece shapes and sizes.

Applications include blast cleaning welded steel fabrications, deburring and homogenising diecast parts, and peening dynamically stressed components. Batches of small components or singular large, heavy workpieces can be treated.

This flexibility is achieved by several special features:

- **Blast wheels**  
TITAN blast wheels provide a very efficient abrasive pre-acceleration, which allows for short treatment times, high performance and a superior blast process.

#### • Rotation and oscillation

To achieve complete coverage, the workpiece carrying hooks rotate and stop automatically at three different points in the blast cabinet. This rotation and oscillation process means that even highly complex workpieces, with hard to reach surfaces, can be safely and accurately treated. (See picture of rotation and oscillation on the right).

#### • Hook and hoist options

The transport system can be designed for different weights. As an option, carrying hooks are available with integrated chain hoists for operational ease and safety.

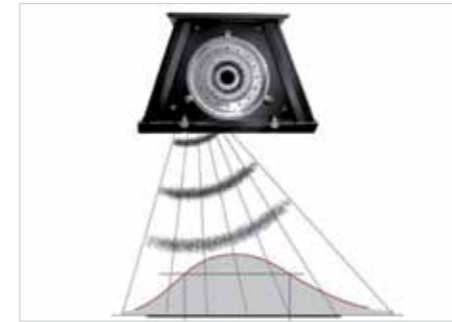
#### Characteristics

- Versatile transport technology
- Highly efficient blast wheels
- Multiple machine sizes and variations available

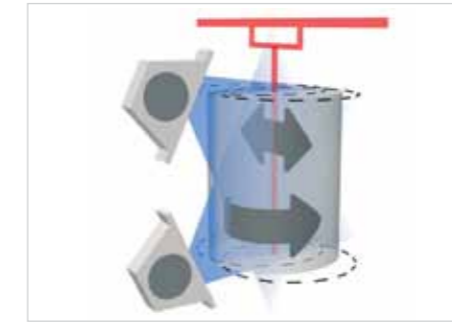
#### Applications

- Removal of moulding sand
- Removal of mill and forge scale as well as rust
- Removal of burrs and scales
- Increase of surface roughness
- Shot peening to increase fatigue strength

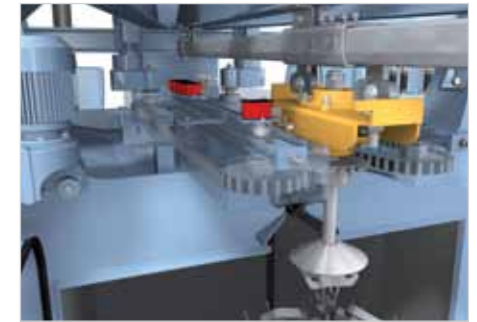
# Technical data



TITAN blast wheel



Rotation and oscillation

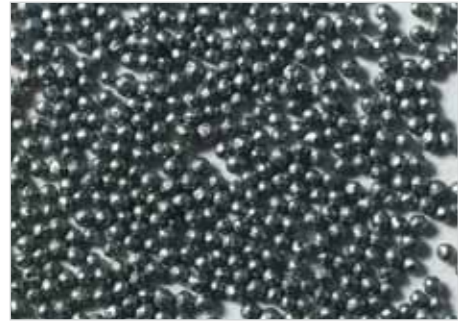


Automatic workpiece feed

Overhead rail shot blast machine		HB 10/12	HB 12/16	HB 12/20	HB 16/16	HB 16/22	HB 16/26
Max. diameter of workpiece cluster	mm	1000	1200	1200	1600	1600	1600
Max. workpiece height	mm	1200	1600	2000	1600	2200	2600
Max. workpiece weight	kg	800	800	800	800	800	800
Number of wheels x power	kW	2 x 7.5	2 x 7.5	3 x 7.5	2 x 7.5	3 x 7.5	3 x 7.5
Wheel variants	kW	2 x 11	2 x 11	3 x 11	2 x 11	3 x 11	3 x 11
Machine footprint (incl. Y-overhead rail system, without filter)	mm	4080 x 3500	4680 x 4200	4680 x 4200	5380 x 5650	5450 x 5650	4650 x 5650
Foundation pit or electric chain hoist recommended		no	yes	yes	yes	yes	yes
<b>Installation without foundation pit</b>							
Machine height	mm	4140	4845	5690	5025	6100	6510
Bottom/top workpiece edge	mm	760/1960	880 x 2480	955 x 2955	1100 x 2700	1175 x 3375	1175 x 3775
<b>Installation with foundation pit</b>							
Depth of foundation pit	mm	500	700	780	925	1000	1000
Machine height	mm	3640	4145	4910	4100	5100	5510
Bottom/top workpiece edge	mm	260/1460	180/1780	175/2175	175/1775	175/2375	175/2775

If you can't see a machine that will fit your specification, we will be pleased to offer you individual and customised variants and options.

## Special features and options



Media



Manually operated monorail



Lifting gears

### The Process

The workpieces are transported manually on rotating hooks or automatically on an overhead rail system into the blast cabinet. The blast cycle runs in accordance with the preset programme and blast time.

#### Standard machine:

Used abrasive and fines fall through the abrasive collection hopper beneath the blast cabinet and are transported via a screw conveyor to a bucket elevator and to the abrasive reclamation unit.

In the reclamation unit, the used abrasive is separated from fines and contaminants and returned to the abrasive silo.

#### Abrasive reclamation options:

For improved abrasive cleansing, e.g. separation of aluminium flashes, a vibro sieve can be installed between the reclamation unit and abrasive silo.

#### Option for foundry/heavy-duty applications:

A vibro conveyor can replace the screw conveyor to provide targeted cleansing/ separating of sand and heavy contaminants from the used abrasive. The conveyor should ideally be installed with a magnetic separator (also optional) to remove sand in order to prolong the service life of the machine. The abrasive then goes to the airwash separator as before.

### Manually operated monorail

As standard, the monorail system is designed in a Y-shape and equipped with two carrying hooks made from manganese steel. As an option, the monorail can be adapted to your individual request, e.g. as branch line or oval system.

The workpiece batches are manually pushed to the door of the shot blast machine where they are automatically taken by a feeding system.

For especially heavy workpieces there is the option to install an automatic transport facility over the whole length of the overhead rail system.

### Lifting gears

Depending on the workpieces to be treated, and the preceding and subsequent processes, it may be advantageous to combine the carrying hooks with a chain hoist so that workpiece batches or heavy parts can be easily picked up. The chain hoist is operated directly at the loading/unloading station of the overhead rail system.

There is another advantage of using lifting gear with large machines: to provide an ergonomic loading/unloading process the machines without lifting gears are often placed in a foundation pit to lower the position of the workpiece carrier. When a lifting gear is used the foundation pit is not necessary.

## Special features and options



TITAN blast wheel



Blast cabinet with wear resistant lining



Abrasive removal

### TITAN blast wheel

The wheel is the heart of the shot blast machine and its design determines the performance and profitability of the machine. In this overhead rail shot blast machine, TITAN blast wheels are used as standard.

In addition to the excellent blast performance and the unbeatable service life of the main wear components due to the use of hardened tool steels, the TITAN blast wheel has a higher wall thickness of the wear liners compared with other wheels. This creates a hermetically sealed casing within the wheel housing and is very easy to maintain.

Many variations are available, making the TITAN blast wheel ideally adaptable to your application.

### Blast cabinet with wear resistant lining

The blast cabinet of this machine is completely made from 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.

Wear plates around the "hot spot" provide additional protection for the cabinet. Made from 10 mm thick manganese steel, they overlap, suspended on a carrying system. To seal the cabinet, a slot seal is integrated in the machine roof to avoid the escape of abrasive from the monorail slot. The sealing system consists of a manganese steel labyrinth with a double rubber lip and additional strip brushes.

### Abrasive removal

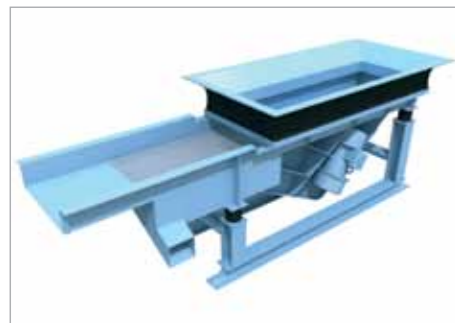
During the blast process, dust, broken abrasive and other solid particles or contaminants (fines) are generated by the rust and scale removed from the workpieces. The fines are separated in the abrasive reclamation unit which is individually adjustable to the different types and sizes of abrasive.

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.

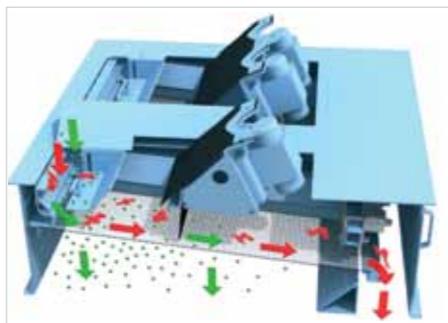
The cartridge filter provides the necessary negative pressure to remove dust. It can be installed separately beside the shot blast machine. The filter is automatically cleansed by compressed air pulses which are adjustable in intensity and duration. All elements of the filter unit are free from ignition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

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

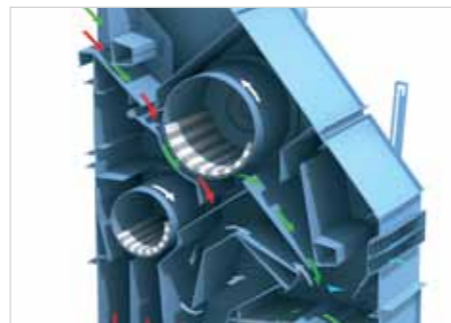
## Special features and options



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, such as flashes from aluminium diecasting workpieces, from 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 automatically 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.

## 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 nearly **100 countries**, and over **35000 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.

- **5 Technology Centres** in Canada, France, Germany, Denmark and Switzerland
- **6 Manufacturing sites** 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
- More than 35000 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