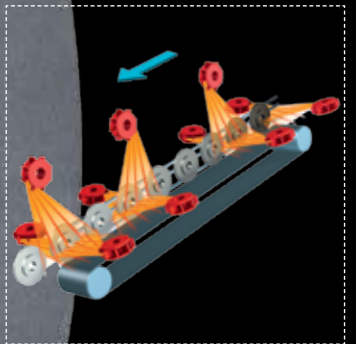




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# IBC Inclined belt conveyor shot blast machine



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## IBC Inclined belt conveyor shot blast machine



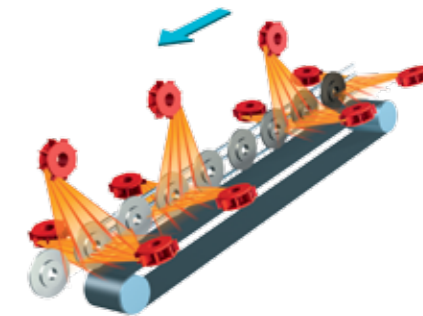
Inclined belt conveyor shot blast machine with 12 x 37kW blast wheels. Throughput up to 1400 break discs per hour.

Castings such as brake discs, brake drums and wheel rims need to comply with stringent quality standards, making them vulnerable to shock and impact in the surface preparation process. The Wheelabrator Inclined belt machine ensures shock-free transport while effectively exposing all surfaces to the blast stream, this reduces the cost per part by eliminating damage and waste, at the same time as improving the quality of the finish.

### Individual treatment

In surface treatment processes in which the movement of individual parts is not controlled, shock caused by contact between parts can damage surfaces. This, together with the inability to ensure consistent exposure to the blast medium and thus sufficient control of the finishing quality of individual parts, results in a higher than necessary scrap rate.

Suitable for single part weights of between 5 and 75 kg, the Wheelabrator Inclined belt machine has enabled many automotive parts producers to benefit from quality improvements and cost savings by protecting sensitive metallic parts while increasing productivity. With individual treatment processes, parts can be designed to be thinner and lighter in order to achieve higher performance results.



### Shock-free blast cleaning, consistent quality and process security

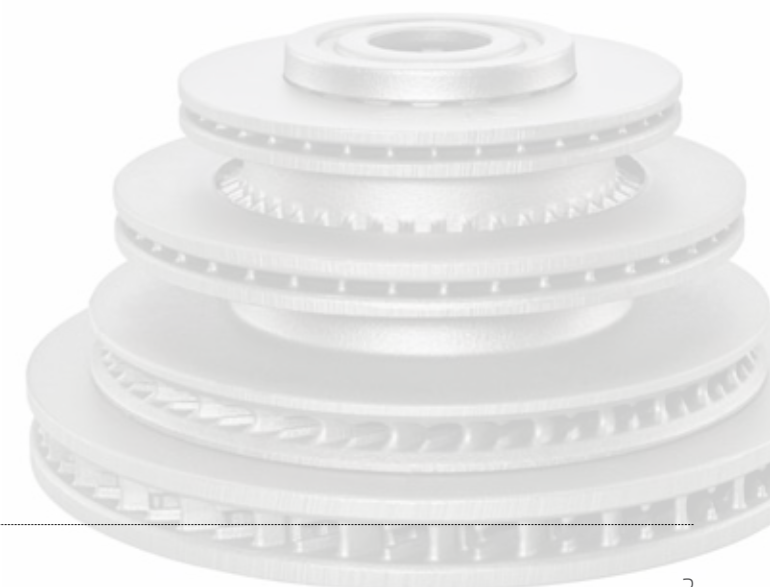
After cooling and the removal of the gating system, the lined-up workpieces pass on to a conveyor system leading to the shot blast machine where they move from a horizontal to an inclined position and enter the shot blast machine individually.

The system is of modular design and, depending on capacity requirements, can be equipped with 7, 12 or 14 blast wheels placed on three sides of the machine body.

The workpieces, with their rims lying on the belt and the flat side leaning against additional side rails, pass through the machine on a continuous, wear-resistant rubber belt. Spindle-type lifting elements, positioned perpendicular to the direction of transport, can be adjusted to minimize belt wear.

Another guide rail on the opposite side completes the guidance of the workpieces. Belt feed and frictional resistance on the guide rails cause the workpieces to rotate continuously to ensure even exposure to the blast medium and consistent finishing. Even the ventilations (in ventilated discs) are treated at a high standard. The passage speed of the workpieces is controlled by the belt speed which is variable within a predefined range. A workpiece scanning system allows for specific treatment of individual parts.

Both lateral faces and the rims of the workpieces undergo focused blast cleaning without blasting interference. Treatment of individual parts in continuous passage (FIFO principle) provides consistent compliance with quality standards and process security. After passing through baffle and guide plates, the contaminants removed during shot blasting pass to a system where sand, scale and undersized abrasive grains are separated. On the outlet side, vibrating or roller conveyors can be provided to transport the workpieces to the next process, according to your requirements.



## Benefits of the IBC system



### Process safe blast cleaning of rotation-symmetric workpieces:

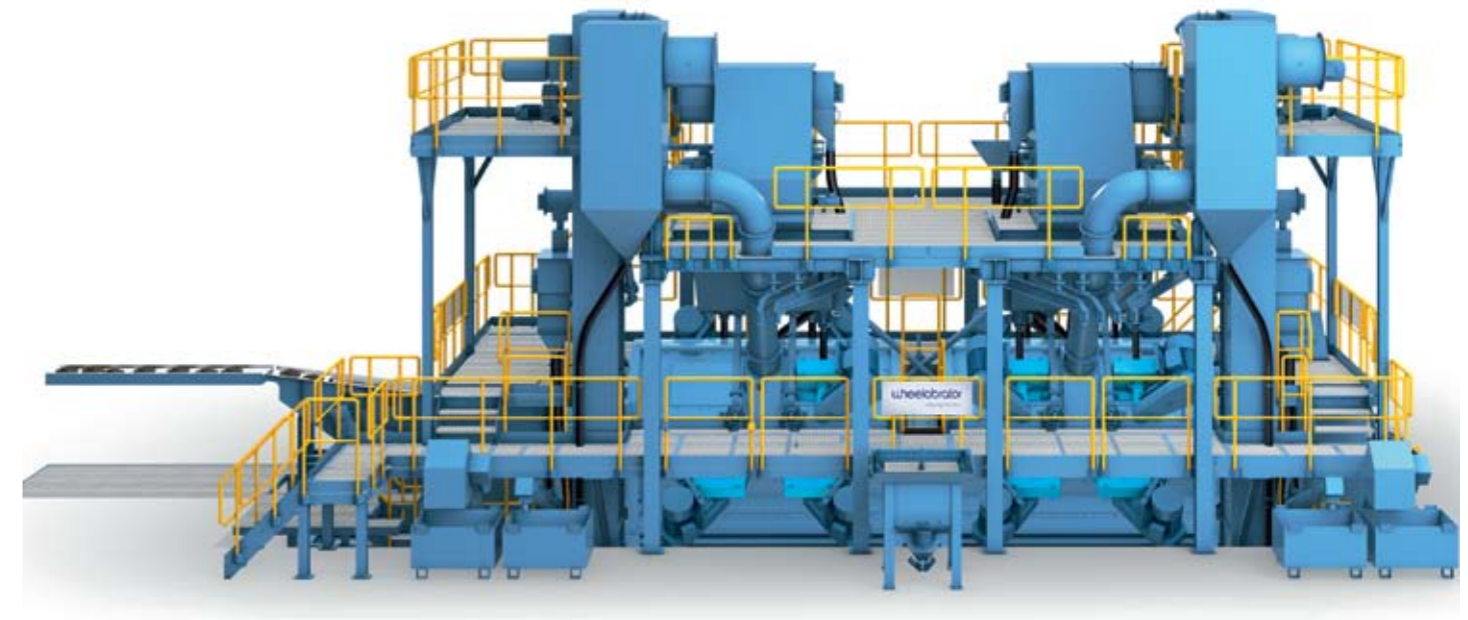
- Sand removal
- Descaling of iron workpieces
- Dimensions of individual workpieces: Ø min / max: 160 – 500 mm / 60 – 200 mm width
- Unit weights: min / max 5 – 75 kg
- Other applications upon request

### Constant blast cleaning effect, minimum wear and energy consumption - benefits of the IBC system:

- Smooth and shock-free transport of workpieces in continuous rotation – no part-on-part impact
- Simple and safe workpiece transport, automatic material flow control
- Efficient blast cleaning of individual components in the hot spot, reduced shot consumption and wear
- High degree of well-defined process reliability, consistent finish quality

- Fully automatic, continuous blast cleaning
- Possibility of an automatic scanning system for part specific blast cleaning programmes (passage speed, dwelling time and blast cleaning intensity)
- Minimum operator assistance (periodic inspections)
- Elimination of damages on parts and waste, reduction of cost per part
- Reduction of operating costs by possible integration of the blast cleaning process into existing automatic production lines without intermediate storage of workpieces to be processed

## Blast wheel



### The blast wheels: Highly efficient and precise

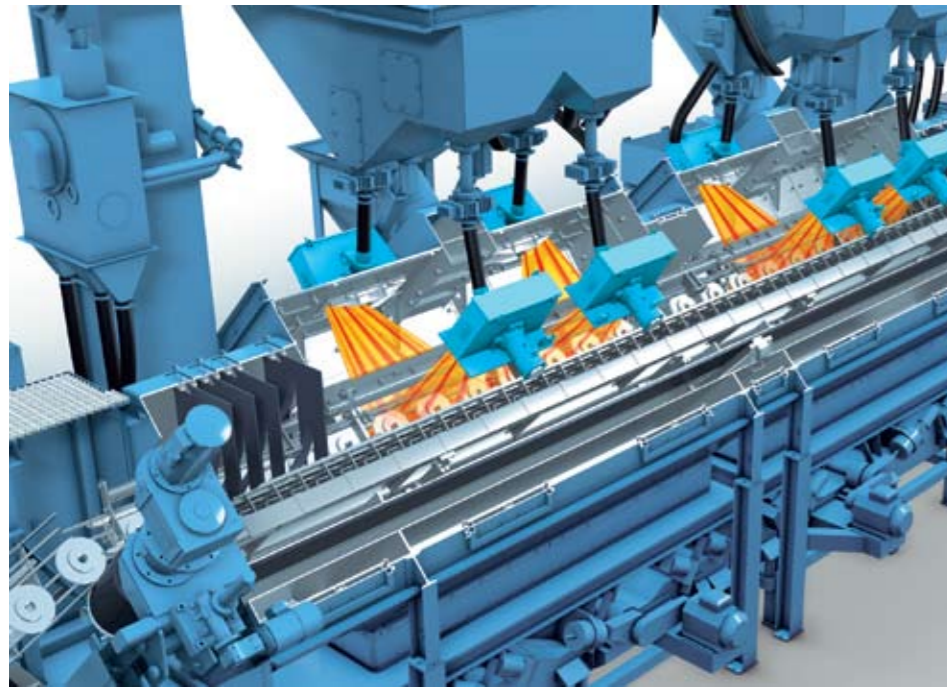
Wheelabrator blast wheels are available in different sizes to meet individual requirements. The throwing power of the wheels and shot impact are fine-tuned to suit specific applications and to ensure optimal energy efficiency. The amount of abrasive can be adjusted from the operator panel. The abrasive is mechanically pre-accelerated and delivered to the blast wheel in a continuous stream, fully utilising the drive power of the motors to achieve the best blast cleaning effect.

The careful arrangement of the blast wheels plus the ability to adjust the throwing angle of the abrasive, assure that workpieces are always blast cleaned in the hot spot. Machine components within the throwing range of the blast wheels are made of highly wear-resistant material to avoid excessive wear.



- ① Wheel body
- ② Control cage
- ③ Impeller
- ④ Blade

## Features and benefits



### Reconditioning of abrasive, dust collection

Clean workpieces are reliant on clean abrasive: Abrasive contaminated by moulding or core sand will considerably reduce the cleaning capacity of any shot blast machine. It will, moreover, increase wear and cause deposit built-up on the workpieces. Sand, metal particles, heavy dust, fines and undersized abrasive have to be effectively removed. Taking the type and possible degree of impurities into account, Wheelabrator uses proven magnetic separators with final pneumatic cleaning to efficiently clean heavily contaminated abrasive (generated in combined shot blasting, decoring, and desanding plants).

The dust produced is completely separated using appropriate filters. Continuous dust collection assures an efficient and environmentally responsible operation and perfect functioning of the abrasive separators.

### Optimum process and economy with high safety and low maintenance

Shot blast machines are exposed to increased wear because of the abrasion intrinsic in the process. To counteract this, Wheelabrator equipment includes the following efficient, wear-preventive features:

- Proven wear-resistant materials are used for the blast housing, liners and blast wheels to ensure a long service life
- Dwell periods and abrasive throughput are precisely controlled in relation to the type of workpiece being processed
- Efficient abrasive cleaning/reconditioning systems are used for the reliable removal of sand, dust and flashes from the abrasive

Original Wheelabrator Plus spare parts guarantee a perfect fit, the use of high-quality material and design tailored to a specific application. Simple but effective sealing elements prevent

escape of shot particles. Integrated platforms and large service doors facilitate access and rapid maintenance work. Operation of the machine will only require periodic inspections to keep operator assistance to a minimum. With the machine integrated into fully automatic production lines, operators will not need to touch the workpieces before they come out of the machine, perfectly clean.

## Technical Data

Machine Type <sup>1)</sup>		IBC-7/37-518-43	IBC-12/37-518-432	IBC-14/37-518-432
<b>Type of workpieces:</b>				
Outside diameter	mm	160 - 500	160 - 500	160 - 500
Width	mm	60 - 200	60 - 200	60 - 200
Weight	kg	5 - 75	5 - 75	5 - 75
Process rate <sup>2)</sup>	Parts/h	500 - 750	1 000 - 1 500	1 000 - 1 800
<b>Blast wheels:</b>				
Number of blast wheels		7	11 (12)	14
Power per blast wheel	kW	37	37	37
Sand removal capacity	kg/min	25	50	50
<b>Approx. overall dimensions<sup>3)</sup></b>				
Length L	mm	13 430	16 130	19 330
Width B	mm	8 900	8 900	8 900
Height H	mm	9 050	9 050	9 050

*The technical data is not binding and may be subject to change.*

*1) Other types available upon request*

*2) Processing rate depends on the weight and dimensions of the workpieces and on customers' surface quality requirements*

*3) Measurement indications are indicative values (outside dimension including access platforms) and can be adapted to customer specific requirements*

