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MB Tumblast machines



Wheelabrator will continue to support you once your equipment is installed and operating. Wheelabrator Plus offers the largest replacement wear parts supply, technical support, equipment servicing and upgrades for the surface preparation industry globally. Our service can be developed to fit your specific needs to ensure you have minimum downtime whilst achieving maximum productivity. Visit www.wheelabratorplus.com for more information or speak to a member of the team using the contact details above.

Noricran Group is the parent company of DISA and Wheelabrator.

wheelabrator
shaping industry

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MB Tumbblast machines



MB Tumbblast machine with hydraulic loader and dust removal system

Wheelabrator offers a full range of tumbblast machines with both rubber and steel belts for a variety of applications and processes. The range is not limited to the machines shown in this brochure, other models and sizes are available upon request with volumes up to 2.5 m³ and load capacities up to 5 tonnes.

Flexible, economical, reliable

The concept of the MB tumbblast series is an evolution of the well proven Wheelabrator barrel-type shot blast machines. This range of machines offers reliable process technology coupled with a high degree of flexibility and adaptability to specific needs, including economical aspects. For the surface treatment of tumble-proof parts, there are multiple options for the cost-conscious user to choose from. Small components are cleaned with the same reliability as larger components. Batch weights start from 150 kg (MB 100G) and go up to 2500 kg (MB 1200 S). Wheelabrator machines are designed specifically to minimise the height from which parts are dropped at loading and unloading in order to reduce damage to sensitive parts.

Features

- Compact design, simple operating principle
- Forced but gentle turning and tumbling of the parts for all-round shot impingement
- Targeted high performance shot blasting for specific applications
- Continuous and thorough shot removal

Applications

- Descaling of forged or heat treated parts
- Desanding of ferrous and non-ferrous metal castings
- Deburring of metallic and non-metallic parts
- Shot peening (specific versions with 2 bi-directional wheels and automatic control cage adjustment)

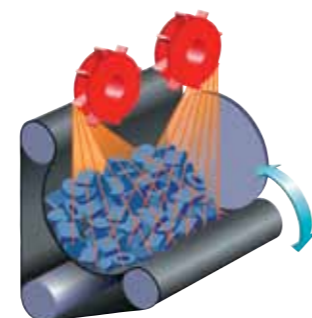


High blasting performance, reliable operation



Hydraulic loading, discharge via vibratory conveyor

- 1 Shot blast machine
- 2 Blast wheel
- 3 Trough belt
- 4 Hydraulic loader
- 5 Vibratory conveyor
- 6 Filter
- 7 Control system



Design and sequence of operation



Wheelabrator tumbblast machines are proven in hundreds of applications, for desanding, descaling, shot peening

Wheelabrator tumbblast machines are designed for batch operations. Appropriate loading and unloading devices can be used to integrate the shot blast machine into an existing production plant to create a continuous work flow.

The loading device delivers the workpieces to the trough-shaped shot blast chamber consisting of a continuous rubber conveyor belt or a steel apron conveyor and adjustable lateral disks. Shot, burrs, flashes or scale and sand deposits are removed by the lower vibrating deck before the separator (optional on smaller machines). Belt speeds can be adapted to the tumbling behaviour of the workpieces, thereby allowing for individual dwell times during the blasting sequence. With the belt running in the reverse direction, the workpieces are unloaded from the machine to be placed in containers or on conveyor belts.

Loading / unloading is aligned with production requirements: Manual, mechanic or automatic loading allows integration of Wheelabrator tumbblast machines in continuous production sequences.

Optimised shot blast effect

During shot blasting, the workpieces, regardless of size and shape, are evenly and continuously tumbled. This is necessary for the effective and uniform treatment of all surfaces.

- During tumbling, the workpieces continually undergo shot removal, enabling workpiece interiors and cavities to be perfectly cleaned
- For the complete removal of all shot, the final tumbling time that follows the shot blast sequence can be regulated to suit the type of workpieces being blast cleaned
- The tightly sealed, leak-proof blast chamber minimises shot consumption



Prepared for performance



Shot blast machines in a foundry



Tumblast machine with rubber belt



Loading /unloading of heavy parts in a foundry

Wheelabrator blast wheels: Improve your blast performance

Blast wheels from Wheelabrator will increase efficiency through an improved blast pattern, reduced shot and energy consumption and minimised downtime. In turn, this will improve the product quality and consistency, reduce production bottlenecks, increase on-time deliveries and improve customer satisfaction.

Wheelabrator blast wheels come in various power ratings, so that the perfect blast wheel for a specific application and production process can be defined. The abrasive is mechanically pre-accelerated and delivered to the blast wheel in a continuous stream. This ensures optimal

utilisation of the power from the drive motors. As an option, the amount of abrasive can be adjusted from the operator panel. Highly wear resistant material ensures maximum service life of the blast wheel. Unique design features allow for quick and easy maintenance and for rapid and simple replacement of wear parts. The careful arrangement of the blast wheels assures 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.

Benefits



Solutions for every application: Machine features of the MB series

- Barrel-type shot blast machines in 8 sizes for batch volumes of 100 to 1200 liters
- Steel conveyor or rubber belt conveyor (depending on machine size and application)
- "Plug and play" characteristics, i.e. the machines can be installed and put into operation in the shortest possible time
- Space-saving, ergonomic design
- Distortion-resistant rigid housing
- Process-appropriate blast chamber shielded with large, smooth, and highly wear resistant liners especially designed to withstand abrasion by shot impact
- Pneumatic or pneumatic / magnetic separation systems
- Modular design allowing for optional equipment to be retrofitted or exchanged to accommodate production changes
- Special design for use of aluminium abrasive

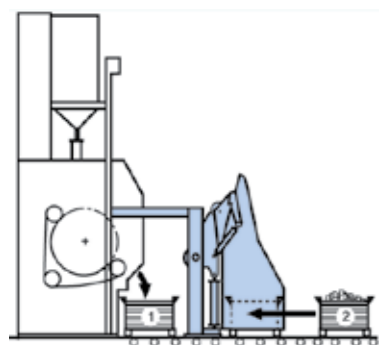
- Removal of shot, sand, or scale via vibrating conveyor
- Frequency converter for the drive units of the blast wheels or the belt conveyor
- Magna valves (optional)
- Ergonomic maintenance platforms
- Adequate loading / unloading systems
- Dust removal system
- Safety fence

Steel or rubber belts?

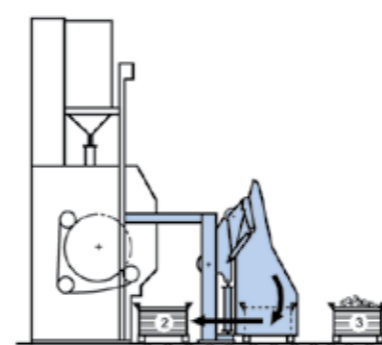
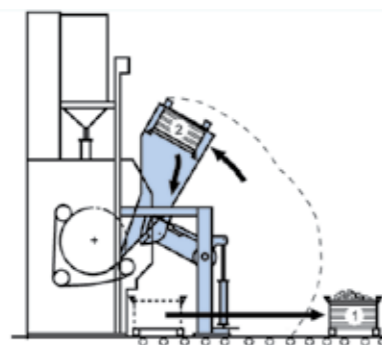
All machines of the MB100G to MB400G series are equipped with wear resistant rubber belts. These machines are also suitable for processing light alloy parts. Larger machines – MB500S up to MB 1200S - used for blast cleaning heavy parts, are equipped with a steel belt or with special Mn wear resistant slats for heavy duty or specific requirements and for outstanding lifetime requirements.



Shot reconditioning, loading/unloading



Automatic loading and bin transfer:
1 Clean workpieces, 2 Uncleaned workpieces



Shot reconditioning, dust collection

Clean workpieces rely upon clean abrasive. Sand, scale, burrs and undersized shot must be separated from the abrasive mix before reuse. There are several practice-proven separators available to cope with different degrees of impurities:

- Magnetic separators, with final pneumatic cleaning, for severe shot contamination likely to occur during desanding
- Pneumatic separators for cleaning shot containing less aggressive impurities

A proven filter system thoroughly separates the dust generated during shot blasting. Continuous dust collection ensures a clean and ecologically responsible plant environment and trouble-free operation of the shot blast machine and the separator.

Long service life, ease of maintenance

Wheelabrator tumblast machines have proven to be real "marathon runners" in hundreds of applications. They stand out for their high degree of wear resistance, exceedingly long running periods between maintenance intervals, high maintenance comfort and reduced maintenance costs. These remarkable characteristics are due to unique features:

- High quality material, long service life
- Suitable and proven liners to minimise the abrasive effect of the shot
- Precisely guided apron conveyors and minimum play between mobile components inside the shot blast chamber assure trouble-free machine operation
- Safety elements make sure that access to the shot blast chamber is only possible when the blast wheels are switched off and not rotating
- Spacious service platforms for convenient fast and safe access to wear parts

Loading and unloading of workpieces

All machines of the MB series can be loaded and unloaded using any of the following systems:

- Conventional hydraulic loaders in combination with vibrating conveyors
- Soft loaders in combination with vibrating conveyors
- Belt conveyors in combination with vibrating conveyors

Hydraulic loaders can receive the parts to be cleaned directly or using separate transport bins. The loaders can be configured to allow for integrating tumblast machines in continuous production lines. There are the following systems to choose from:

- Conventional tilting loaders in combination with charging boxes, vibrating or belt conveyors
- Continuous loaders with automatic delivery of parts on roller conveyors - the unloaded bins are taken to the front of the blast cleaning machine to receive the cleaned parts. This allows parts to be tracked (see figure).

Technical Data

Type		MB100G	MB200G	MB300G	MB400G	MB500S	MB700S	MB900S	MB1200S
Technical:									
Max volume charge	dm ³	100	200	300	400	500	700	900	1200
Max advised load	kg	250	500	800	1000	1500	2000	2500	2500
Max single piece weight	kg	5	5	5	5	100	100	150	200
Max piece diagonal	mm	300	350	450	500	500	600	650	650
Drum diameter	mm	600	750	900	1000	1200	1200	1300	1300
Drum length	mm	850	1200	1200	1200	1050	1500	1600	2250
Wheels		1	1(2)	1(2)	2	1	2	2	3
Wheel power	kW	7,5 (11)	11/15 (2x11)	11/15 (2x11)	11	22/30	22/30	30	2x22/1x30
Total shot flow	kg/min	120 (160)	160/220 (320)	160/220 (320)	320	330/440	660/880	880	1210
Total installed power	kW	12 (16)	18/22 (30)	18/22 (30)	30	30/39	56/85	85	94
Basic components concept:									
Lower abrasive transport		Gravity	Screw/VS	Screw/VS	Screw/VS	VS	VS	VS	VS
Upper abrasive transport		P	P	P	P	PM	PM	PM	PM
Cabinet door		manual	H	H	H	H	H	H	H
Skip loader		-	H	H	H	H	H	H	H
Conveyor belt		rubber	rubber	rubber	rubber	metal slats	metal slats	metal slats	metal slats
Available options:									
Lower vibrating sieve		—	✓	✓	✓	◆	◆	◆	◆
Magnetic separator		—	✓	✓	✓	✓	✓	✓	✓
Metal slats conveyor		—	—	—	—	◆	◆	◆	◆
Special Mn slats conveyor		—	—	—	—	✓	✓	✓	✓
Unloading belt conveyor		✓	✓	✓	✓	✓	—	—	—
Unloading vibrating conveyor		✓	✓	✓	✓	✓	✓	✓	✓
Frequency converter on wheel(s)		✓	✓	✓	✓	✓	✓	✓	✓
Replenisher (new shot adder)		✓	✓	✓	✓	✓	✓	✓	✓
Skip loader and safety fences		✓	✓	✓	✓	✓	✓	✓	✓
Cartridge dust collector inclusive 5m piping		✓	✓	✓	✓	✓	✓	✓	✓

- Not available
- ✓ Available on request
- ◆ Standard equipment
- VS Vibrating sieve
- P Pneumatic
- PM Pneumatic / magnetic
- H Hydraulic