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# DTC Batch-Type blast cleaning machine



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Norican Group is the parent company of DISA and Wheelabrator.

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## DTC Blast cleaning machine



### Sequence of operations

The loading system delivers parts to be cleaned to the polygon shaped trough which rocks back and forth about its longitudinal axis through  $120^\circ$  ensuring gentle but thorough tumbling of the parts being cleaned. The swing speed is adjustable and can be set in accordance with part size, shape and configuration. The blast wheels are located directly above the workload and focus the abrasive stream on the work-pieces. The wheels are arranged lengthwise – one behind the other - which ensures optimum blast cleaning and maximum energy utilisation during blast cleaning. Abrasive, burrs, scale and sand deposits drop through the perforated section of the drum onto a conveyor which then removes coarse particles.

After blast cleaning, the polygon trough which is made of highly wear-resistant material turns about  $180^\circ$  and releases clean parts onto a vibratory conveyor and onwards to a transport bin or belt.

## Technical features and advantages



- Simple operating principle, compact design
- Blast cleaning of mixed production
- High cleaning capacity due to short loading and unloading times
- Optimum location of blast wheels throughout the trough, optimum utilisation of the abrasive energy
- Full exposure of all work-piece surfaces to the blast stream
- Short blasting times due to a long blasting zone and low density of parts
- No moving plant components within the blasting zone, therefore no work-piece jamming
- Small drop heights at loading / unloading, resulting in less impact damage.
- Easy maintenance set up
- Easy integration into existing production lines

### Batch-type blast cleaning machine

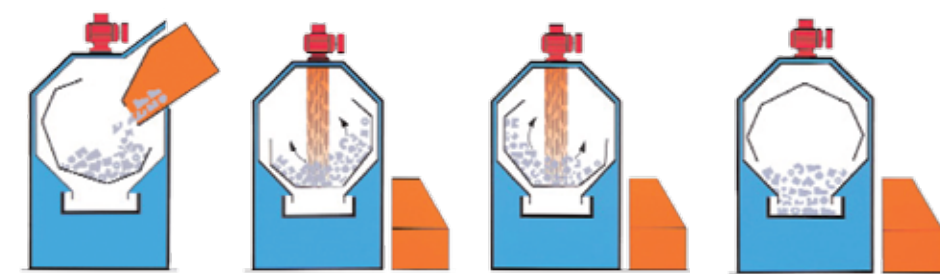
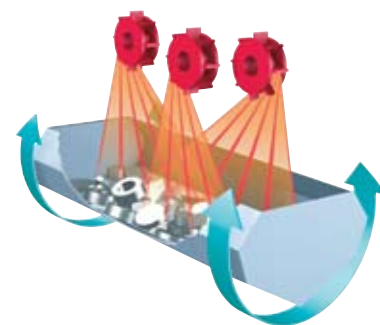
Batch barrel blast cleaning machines are proven in thousands of applications and constitute reliable process technology, high efficiency and flexibility. DTC batch-barrel machines are especially suitable for descaling of forgings and for desanding of tumble-proof grey iron-, steel-, ductile and malleable iron castings.

With an integrated magnetic separator, the machines are also suitable for decorating. Small parts can be as reliably cleaned as large and heavy components. Although the machines are basically designed for blast cleaning

work-pieces in batch quantities, they are still adaptable to other requirements and can accommodate a variety of equipment for loading, unloading and transportation. They can be easily integrated into production lines and ensure a virtually continuous production flow.

Application examples:

- Desanding and decorating of castings
- Descaling of castings, forgings and heat treated parts
- Shot peening (without process security)



Loading by hoist or similar loading equipment.

Blast cleaning in the polygon-shaped trough rocking back and forth about its longitudinal axis through about  $120^\circ$

Unloading from the trough after it has turned into unloading position. The empty trough then continues to turn into loading position.

## 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's 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 work-pieces 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.

### Optimum blast effect, economy in shot consumption

During shot blasting the work-pieces are turned over evenly and consistently, independent of their shape and size. This is a precondition for efficient and uniform treatment. During tumbling the abrasive is continuously removed so that even the cavities can be thoroughly cleaned. Complete abrasive removal (tumbling time after blast cleaning is adapted to the type of the work-pieces) and the tightly sealed shot blast chamber help to minimize abrasive consumption.



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



DTC blast cleaning machines are especially suitable for cleaning, decorating or descaling of tumbleproof work-pieces (forgings, castings). The polygon shaped drum ensures complete turning of the work-pieces for an optimal

exposure of all surfaces to the blast stream. The intensity with which the parts are turned for thorough shot removal is the same as for blasting.

The arrangement of the blast wheels ensures optimum blast cleaning and maximum utilisation of the abrasive energy.

# Features, benefits



## Reconditioning of abrasive, dust collection

Clean work-pieces are dependent on clean abrasive: Sand, scale, heavy dust and fines and undersized abrasive have to be reliably removed. Taking the type and possible degree of impurities, into account, Wheelabrator uses proven separation systems for this purpose:

- Magnetic separators with final pneumatic cleaning for heavily contaminated abrasive (generated in combined shot blasting , decoring, and desanding plants)
- Pneumatic separators for other applications

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

## Advanced ecology, easy maintenance, high operation safety

In view of today's heavy workloads, long maintenance intervals and minimal maintenance expenses are vital. Suitable measures provide good wear properties and absolute ease of maintenance.

Simple but effective sealing elements prevent leakage of shot. An effective dust collector and a closed-loop abrasive transport system within the machine ensure eco-friendly operation. The unique machine structure and easily accessible service platforms facilitate visual inspections and routine maintenance work. Safety elements make sure that access to the shot blast chamber is only possible when the machine is switched off and the blast wheels are no longer rotating.

Original wear and spare parts along with Wheelabrator servicing are, of course, best prerequisites to keep the blast cleaning system in perfect operating condition.

# Technical Data

| Type                             |      | DTC 1   | DTC 2    | DTC 3    |
|----------------------------------|------|---------|----------|----------|
| Max. load weight                 | kg   | 1500    | 2500     | 3000     |
| Max. load capacity               | dm³  | 500     | 800      | 1000     |
| Max. workpiece weight            | kg   | 80      | 80       | 80       |
| Max. workpiece diagonal          | mm   | 700     | 700      | 700      |
| Number of blast wheels           |      |         |          |          |
| Ø 380 mm                         |      | 2       | 3        | 4        |
| Ø 500 mm                         |      | -       | 2        | 3        |
| Power per blast wheel            | kW   | 22      | 22 to 37 | 22 to 37 |
| Air required for dust collection | m³/h | 120-140 | 165-200  | 220-250  |
| Dimensions                       | A    | mm      | 6640     | 6640     |
|                                  | B    | mm      | 5370     | 6140     |
| - without magnetic drum          | C    | mm      | 7150     | 7190     |
| - with magnetic drum             | C    | mm      | 7850     | 7890     |

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

