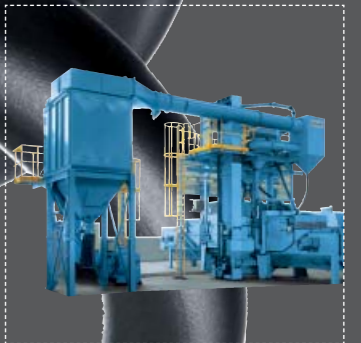
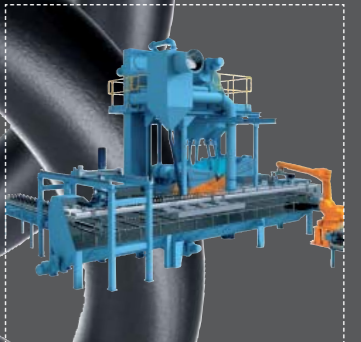




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# RDS - Rotary throughfeed shot peening systems



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Norican Group is the parent company of DISA and Wheelabrator.

## Shot peening systems



Coil springs shot peening system with 4 blast wheels.



Shot peening and exhaust system at manufacturer's works



Leaf spring stress peening system.

### Shot peening systems RDS for suspension, valve and leaf springs

#### Modern manufacturing technology for innovative products

Shot peening is an established technology which is optimally designed to enhance the fatigue strength of components which are subject to high alternating stress. Shot peening makes for lighter components which, optimised with respect to weight and cost / benefit, can be loaded up to the limits of their properties. Shot peening is cost effective and reliable. It is often the sole treatment method or substitutes complicated, cost-intensive procedures and

can be applied practically, regardless of shape and size of the workpieces – thus permitting a wide field of application. Wheelabrator shot peening systems offer all prerequisites for the reliable process-safe treatment of workpieces of all geometries, sizes and qualities.

Systems made by Wheelabrator are flexible, in particular if process or production requirements change and thus offer long-term investment security.

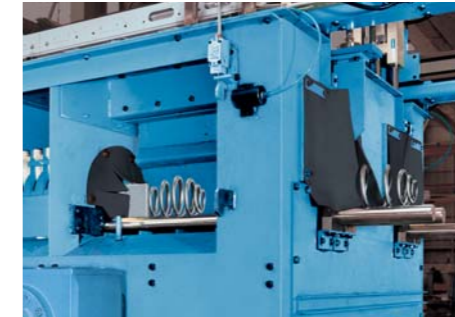
#### The program comprises systems for:

- Springs (suspension, valve and leaf springs, disc and clutch springs)
- Components for the automotive, machinery and aircraft industries
- Components for the mining industry
- Special parts
- Small parts in batches (without defined process reliability)

## Process-safe shot peening



Transport system for coil springs



Machine outlet coil springs



System for stress peening leaf springs

### Fully automatic operation in consistent quality

#### The working principle

With RDS Shot Peening Systems, coil springs (axial and valve springs) of 20 – 250 mm in diameter and lengths of 30 – 600 mm are shot peened in longitudinal, rotary throughput principle. Flowrate: up to 1200 axial springs and up to 5800 valve springs per hour. Wheelabrator also offers systems for shot and stress peening of leaf springs. Coil springs are fed through the blasting zone on horizontally rotating carrier rollers. The axial shift is implemented via carriers which are attached to an endless transport chain. The transport speed is variable within certain limits. The blast parameters (quantity of abrasive, throwing and blast wheel speed, workpiece movements and dwell time) are adjusted according to the specific part being processed.

#### Advantages

- Blasting in throughput operation is simple and safe. It allows process-safe shot peening with part tracking and is ideally suitable for automatic production lines with continuous flow of parts without intermediate buffering.
- Adjustable dwell times and throughput speeds ensure process safe defined peening in uniform quality.
- Automatic systems with high performance and manufacturing consistency reduce production costs.

#### RDS Shot Peening Systems comprise the following components:

- Machine housing with inlet and outlet shot barriers
- Carrier rollers, transport system (drives)
- Blast wheel units
- Abrasive circuit and separation system
- Exhaust system, sound insulation (optional) Individual peripheral equipment for loading and unloading supplement the systems and ensure a high performance and cost efficiency.



## Efficient and profitable



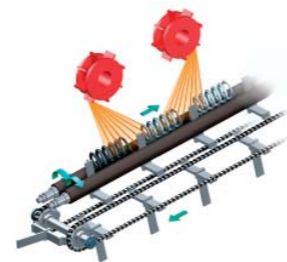
### Wheelabrator Blast Wheels

The blast wheels are arranged in such a way that the parts are always processed evenly in the „Hot Spot“ of the blast stream, at a position where the effect is optimal. The discharge speed of the steel shot can be set by means of a frequency converter (optional) via the blast wheel speed.

### High blasting performance

Wheelabrator blast wheels utilise the energy applied to the maximum capacity and transform it into blasting effect. The steel

shot 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. The amount of steel shot can be adjusted from the operator's panel by means of remote control (optional) depending on the respective programme in operation. Blast wheels in various power ratings ensure a high degree of flexibility. High wear resistant materials ensure maximum service life of the blast wheel, and unique design features allow for rapid and simple replacement of the wear parts.



Shot peening of axial and valve springs in longitudinal, single or double strand operation principle in through-feed operation. On horizontal rotating rollers the springs are fed past the blast zone in a continuously rotating operation.



Blasting zone



Valve springs before shot peening



Valve springs after shot peening

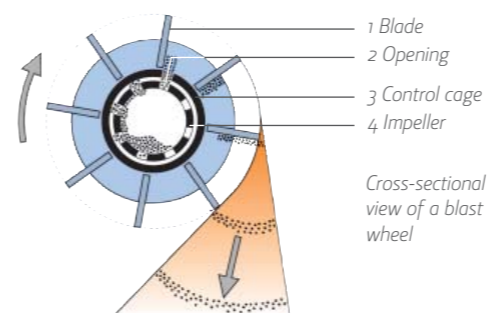
## Reliable in a multitude of applications

### Always the right shot

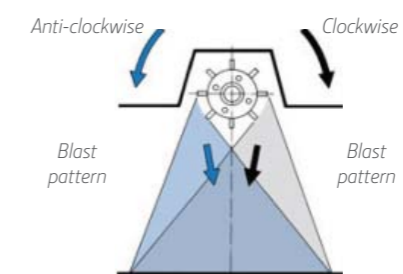
Use of the right shot is essential for proper shot peening: undersized shot reduces the blasting effect, oversized shot impairs the degree of coverage. The consequence: dust and undersized shot have to be removed. These requirements are met reliably by the Wheelabrator separation system. It ensures that the mixture used always lies in the desired grain size to ensure optimum results. New shot is fed into the cycle according to the volume of shot removed from the system via an electronically controlled replenisher.

### The almentest reveals: RDS shot peening machines keep our promises

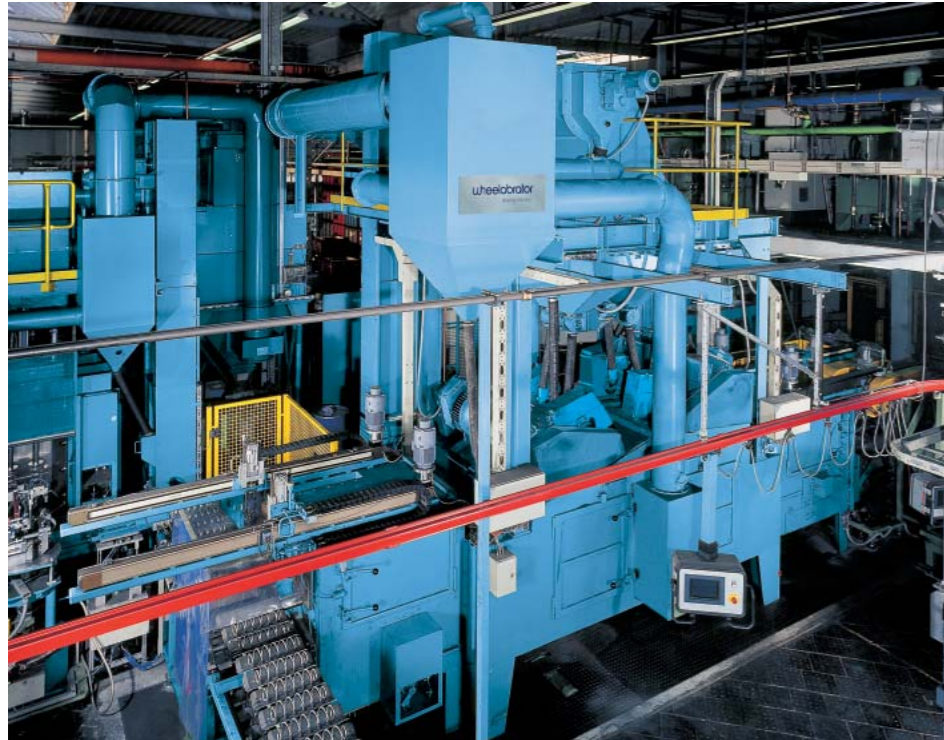
In the shot peening process, reliability is crucial. Each part will undergo a defined treatment. The blasting intensity can be controlled by determining the Almen value and coverage. Due to the fact that all parameters (throughput speed, blasting time, discharge speed, shot size and distribution) in RDS Shot Peening Systems are defined exactly, it is possible to adjust and examine the Almen intensity and coverage.



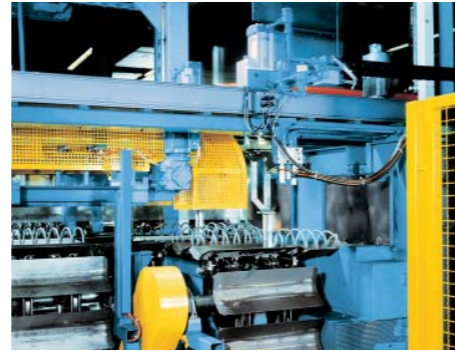
Cross-sectional view of a blast wheel



## Maintenance-friendly, safe and reliable



Fully automatic blasting of springs.



Linear feed unit.



Unloading side of the shot peening system.

### Reliability and long life cycle

Wheelabrator shot peening machines have a compact design and require only minimal space. They can therefore be easily integrated into existing production lines. Once integrated into automatic procedures the installation only requires periodical inspection, and operating expenses can be reduced. The components within the blasting zone (housing, blast wheels) are made of high wear resistant material or protected against the abrasive effect of steel shot, thus extending the operating life and reducing costs.

Simple but efficient sealing elements prevent stray abrasive. Specific design measures and close tolerances enable easy replacement of wear parts. One aspect that applies in particular in this respect: The original part fits and has been tuned carefully to the field of application with regard to material selection and design. Maintenance operations can be executed conveniently and quickly thanks to integrated platforms and optimum accessibility via large maintenance doors.

### Adaptable peripheral equipment

The concept of peripheral equipment corresponds to the various requirements: Loading and unloading can be either manual, via feed modules, manipulators or with industrial robots. Automatic rotating of parts is also possible.

Performance made-to-measure: RDS shot peening systems can be equipped in single-strand or double-strand design with 2 or 4 roof mounted blast wheels.

## Technical data

Type		RDS-2	RDS-4
Outer workpiece diameter	mm	80 - 250	80 - 250
Workpiece length	mm	max. 600	max. 600
Blast wheels		2	4
Power per wheel	kW	45	45
Blast wheel speed	rpm	max. 2 600	max. 2 600
Throwing speed	m/sec	max. 90	max. 90
Length L	mm	9 050	11 500
Width B	mm	5 250	6 600
Height H	mm	6 450	7 200
Input / output height	mm	1 800	1 970
Transport rollers number/ø	mm	2 / 165	4 / 165
Speed of rollers max.	rpm	25 - 60	30 - 65
Feed system		drives	drives
Feed speed	m/min	5 - 12	5 - 18
Power requirement	kW	110	200
Dust collecting capacity	Nm <sup>3</sup> /h	7 500	15 000

