Long-life Multi-option Sm@rt blasting wheel




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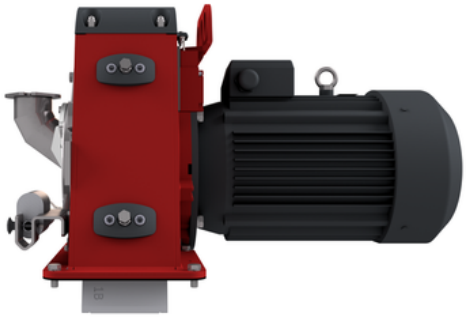
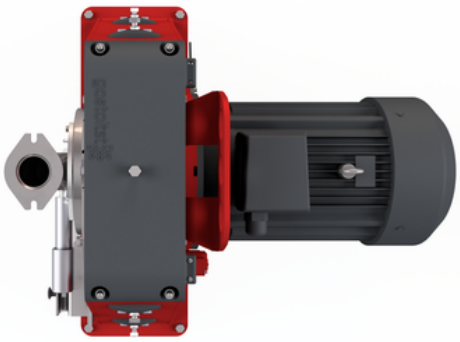
ir long-life multi-option blasting wheel





Multi-option characteristics

3 quality levels (Basic, Standard, Superior)
Multi-technology options
Universality of parts

Customer-defined characteristics

Increased speed of abrasive
Improved blasting / shot-peening results
Jet width adaptable to different applications

Special applications

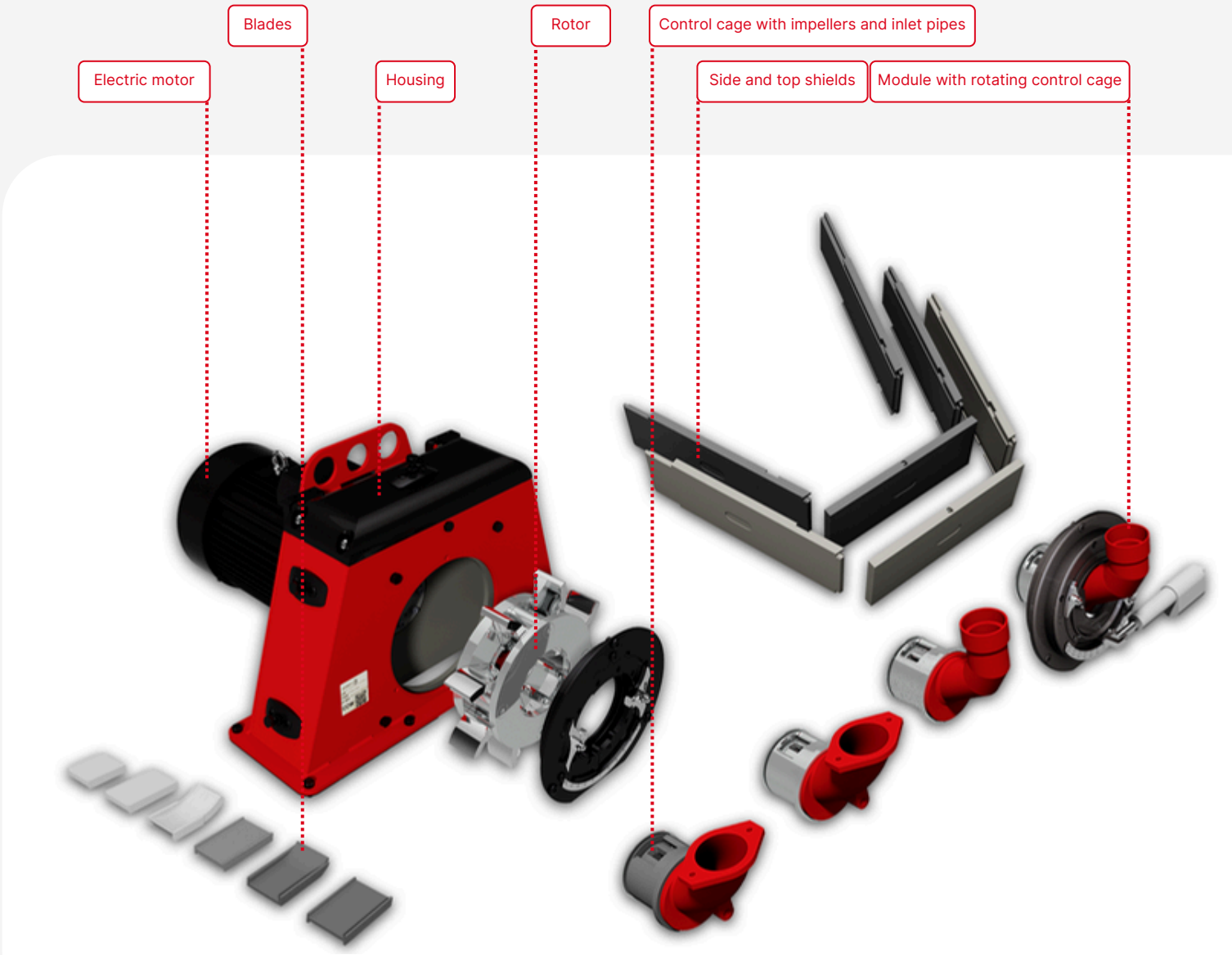
Module with rotating control cage
Supply filter
Reduction housing
Reversibility
Wear monitoring sensors
Vibration sensor
Mass flow regulation

Operating costs

Extremely long service life
Exceptional wear resistance
Extended lifetime

Long service life, wear resistance

Lower energy consumption
Reduced abrasive usage
Cost-competitive blasting wheels and spare parts
Fast replacement, easy maintenance and full accessibility
Minimized wear, vibrations and noise
Faster processing time



Characteristics				Electric motor power												Blades				
Wheel dimensions	Number of blades	D (rotor diameter)	B (width of blades)	kW (IE2 or IE3, motor with flange type B5)												i (straight)			r (curved)	
		mm	mm	kW 5,5	kW 7,5	kW 11	kW 15	kW 18,5	kW 22	kW 30	kW 37	kW 45	kW 55	kW 75	kW 90	Cast	OCR	Widia	OCR	Widia
320	8	320	40																	
380	8	325	66																	
		380	66																	
500	8	400	100																	
		450	100																	
		500	100																	

Package BASIC: cast blades, cast control cage and impeller (alternative OCR), hardened steel shields (alternative OCR)
Package STANDARD: OCR blades, OCR control cage and impeller, OCR shields
Package SUPERIOR: Widia blades, Widia control cage and impeller, Widia shields
Cast = Wear resistant cast steel, OCR = Tool steel, Widia = Tungsten carbide

Options

3 quality levels

The basis of the ir sm@rt blasting wheel remains the same across all quality levels. The main difference is in the service life time of the wear components. Each quality level is defined by a complete set of wear parts, designed to ensure a specific service life of the blasting wheel without maintenance. Customers can choose from three available quality levels, depending on their production needs and operating conditions.

Basic	The wear parts of the blasting wheel ensure a standard service life.	**Ba**
Standard	The wear parts of the blasting wheel ensure a long service life.	**St**
Superior	The wear parts of the blasting wheel ensure an extremely long service life.	**Su**

Multi-technology option

The ir sm@rt blasting wheel design supports the installation of various blade, impeller, control cage and shield types. This flexibility allows you to configure the blasting wheel to best match your required technical performance, service life and budget. All components are fully interchangeable and compatible.

Universality of parts

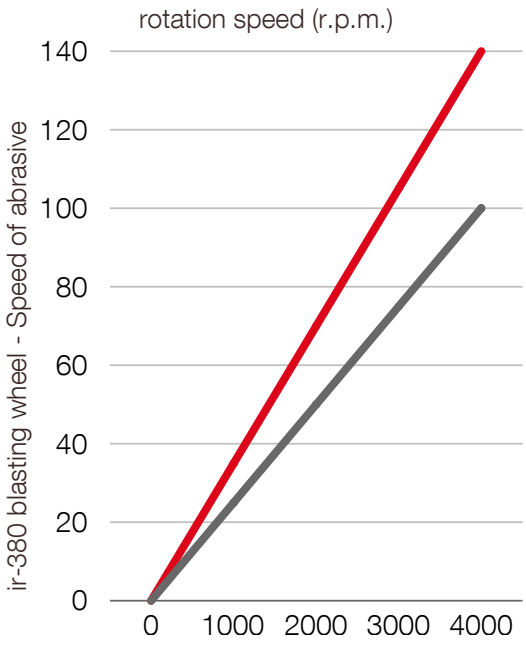
The ir sm@rt blasting wheel offers a wide selection of components, available in different quality levels and technical specifications. All parts are fully interchangeable. For example, a straight “i” blade made of wear-resistant cast steel can later be replaced with a curved “r” blade made of tungsten carbide, delivering up to 30% higher outlet speed and an 8-16x longer service life.

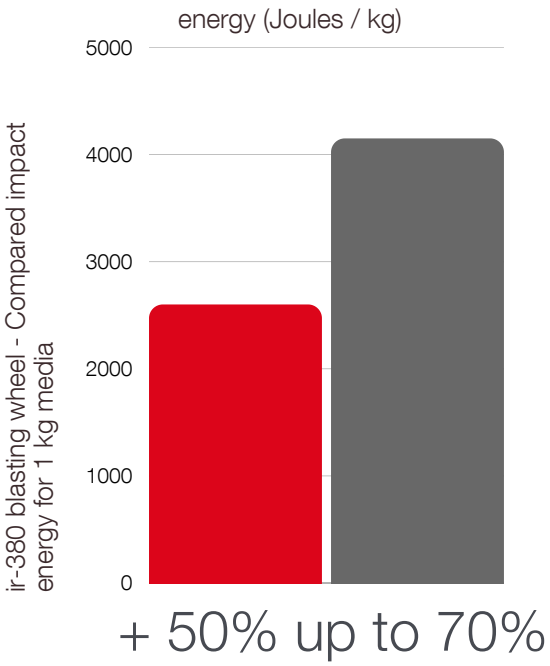
Control cage and impeller							Other							Sensors			Accessories			
Control cage and impeller (narrow jet)		Control cage and impeller (normal jet)			Control cage and impeller (wide jet)		Shields				Inlet pipe		Rotating control cage	ir sm@rt			Abrasive valve			Angle of the blasting wheel
OCR	Widia (+ inlet pipe with increased hardness)	Cast	OCR	Widia (+ inlet pipe with increased hardness)	OCR	Widia (+ inlet pipe with increased hardness)	OCR	OCR extended	Widia	Widia extended	Cast or welded	Hardened steel	Electric actuator	Shields with sensors	Vibrations	QR code	On / off	Remote control	ir sm@rt valve-automatic control	Blasting wheel box

Customer-defined characteristics

Incresed abrasive speed, Improved blasting /shot-peening results

By selecting different blade types, you can adjust the outlet speed of the abrasive. Curved “r” blades deliver an outlet speed 27-30% higher than straight “i” blades. On the other hand, shorter straight blades provide a lower outlet speed but a higher mass flow at the same motor power, ensuring optimal performance for different applications.





Blast pattern is adaptable to customer application’s

The blast pattern can precisely adjusted to match the customer’s application - whether for blasting workpieces, large constructions, or shot peening.
By modifying the geometry of the control cage, the desired blast pattern is easily achieved.
This ensures better cleaning results and reduces energy consumption.

Focused blast

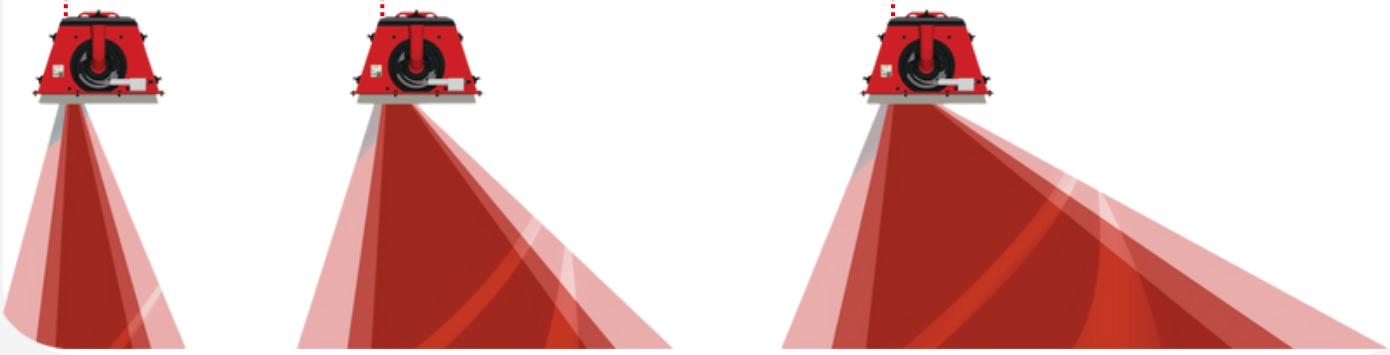
Narrow structures
Shot peening
Rolling mill rods

Normal blast

Foundries
Metal structures
General applications

Wide blast

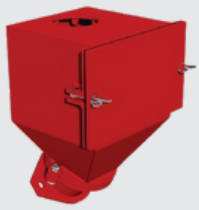
Sheet metal
Wide flat structures



Special applications

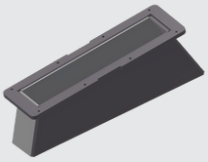
Module with rotating control cage

For blasting workpieces of varying dimensions, the blasting wheel can be equipped with a module with rotating control cage.



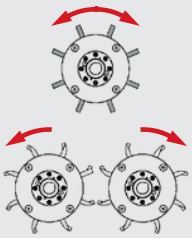
Supply filter

The filter is equipped with a steel mesh that protects the blasting wheel from particles that could cause damage. It is mounted between the supply valve and the inlet pipe. Maintenance is simple - just remove the front cover and clean out the larger particles.



Blasting wheel box

For specific applications, the blasting wheel can be mounted at an angle. A custome-designed blasting wheel box is produced and welded to the machine, ensuring optimal positioning and blasting performance.



Reversibility

Rotor is suitable for rotation in both directions. However, special attention is required when using curved blades, as they must be installed in the right direction to ensure proper performance.

Frequency converter

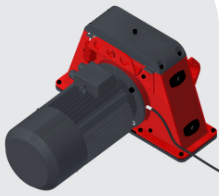
It enables precise adjustment of blasting wheel speed and power. This feature is particularly useful when processing workpieces that are sensitive to deformation and for achieving superior blasting results.

QR code

The blasting wheel is equipped with a QR code that gives you direct access to an application with useful information about the blasting wheel and the machine - including service book manuals, and wear data of parts. The application also enables quick and easy ordering of spare parts.

Sensors

Sm@rt sensors provide real-time monitoring of blasting wheel condition, helping to reduce spare parts stock, lower maintenance costs, and guarantee consistent blasting quality. With integrated wear sensors on the side shields, you always stay in control of your process.



Vibration sensor

The integrated vibration sensor continuously monitors blasting wheel performance. Vibration analysis provides insights into bearing condition and blade wear, ensuring early detection of issues and improved process reliability.

Regulation abrasive flow valve

The modular regulation abrasive flow valve ensures a controlled constant flow of abrasive, without hysteresis. The base valve has manual stroke adjustment from 0% to 100%. In the event of a power or compressed air interruption, the valve automatically closes. For greater flexibility, the basic valve can be upgraded with an automatic module for abrasive flow control.

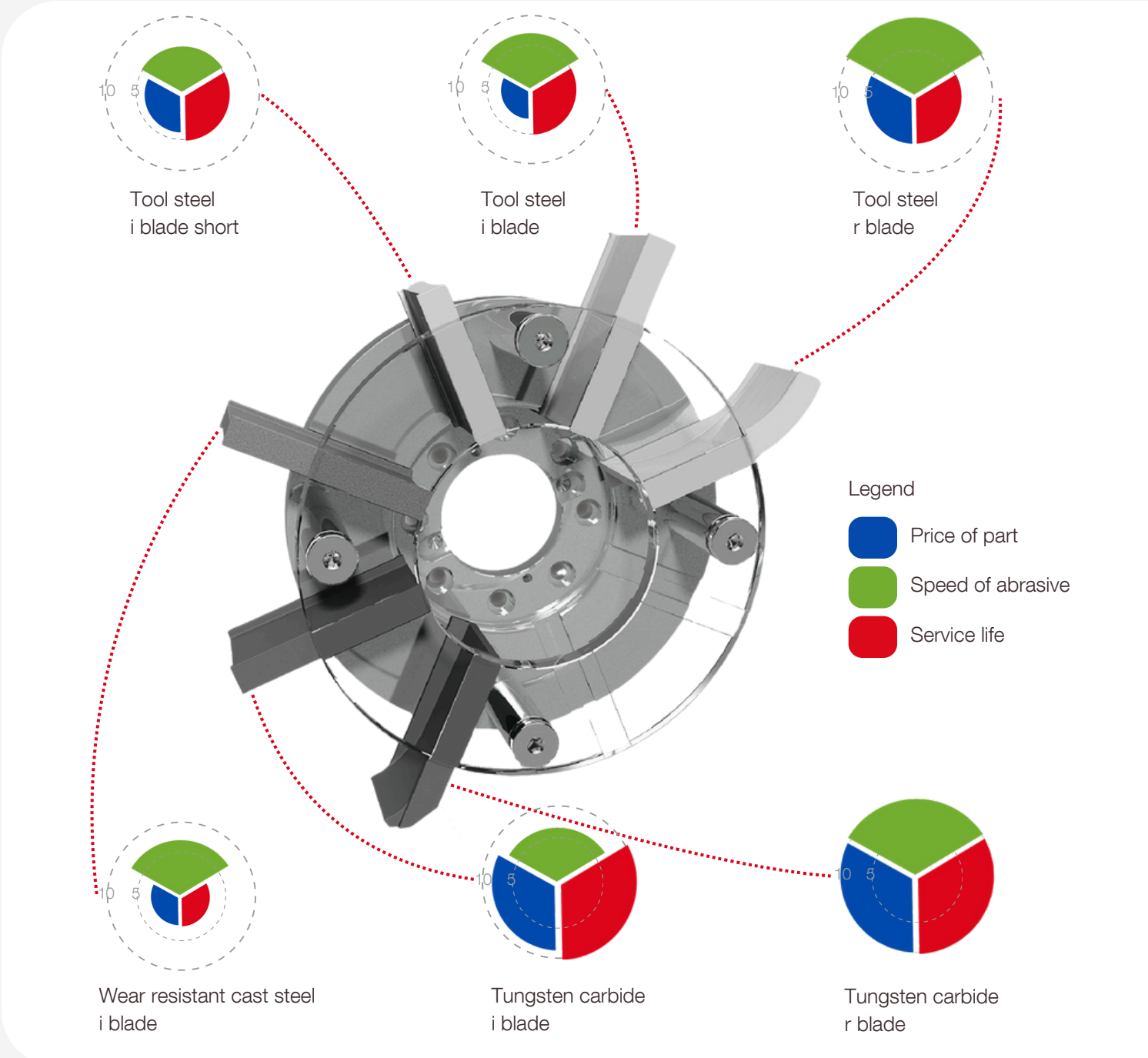
Long-life, wear resistance

- Extreme long service life, Exceptional wear resistance, Improved lifetime

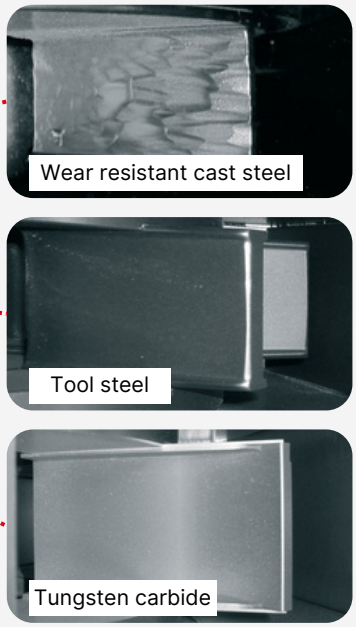
In the Basic quality level wear parts are made of high-quality wear resistant cast steel, providing basic service life.

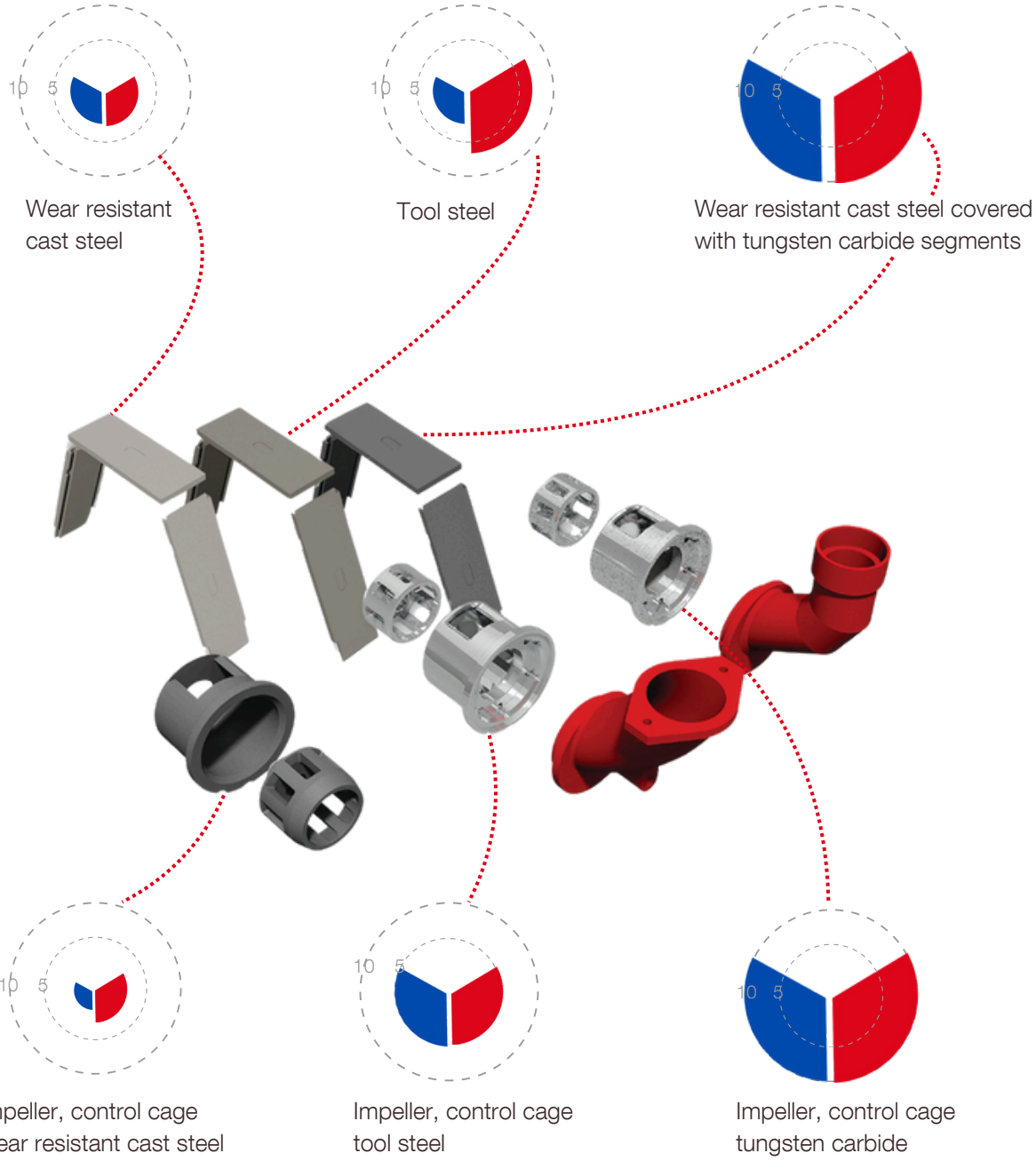
In the Standard quality level the blades, control cage and impeller are made of tool steel, extending the service interval by 2-3 times compared to the basic version.

In the Superior quality level the blades are manufactured from tungsten carbide, while the impeller, control cage and shields combine tungsten carbide segments with a high-quality tool steel base. The inlet pipe is also specially designed with increased hardness. This configuration extends the service interval of wear parts by 8-16 times.



- Comparisson of wear on the blades at a variety of materials





Operating costs

- ## Reduced energy consumption

  Energy consumption is reduced by up to 10% - 25%* thanks to the optimal design of internal elements, the use of high-quality materials, minimized friction at sealing of rotor using non-contact centrifugal seal, and the application of high-efficiency electrical motors.

- ## Reduced abrasive consumption

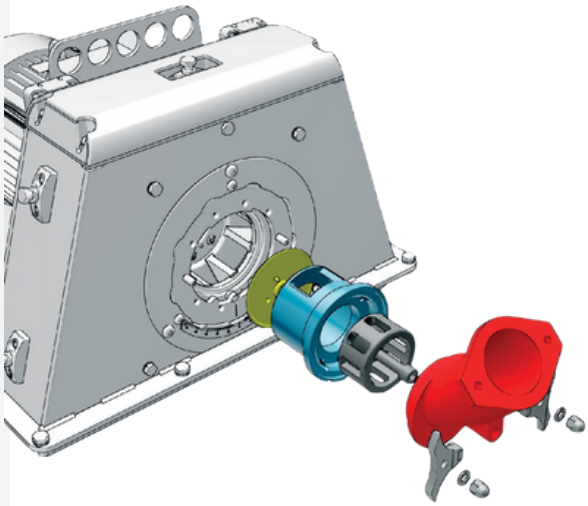
  Reduced abrasive consumption is achieved through the use of high-quality sm@rt blasting wheel materials, consistency of the hot spot zone, and increased abrasive speed, which provides flexibility in blasting and peening process. This results in up to 25 % savings on media costs!*

- ## Competitive prices of blasting wheel and spare parts

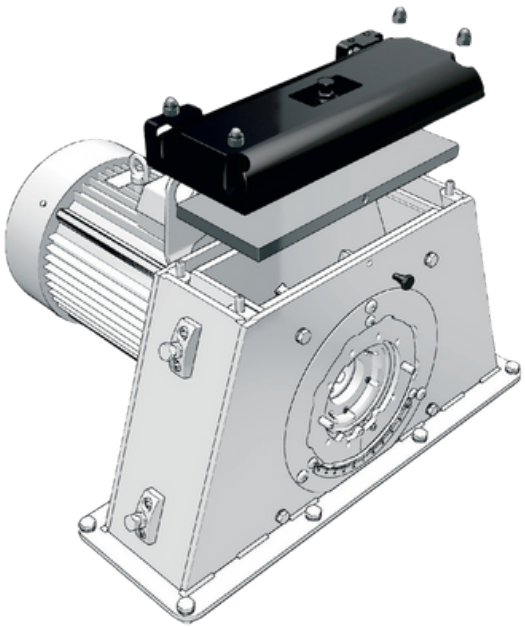
  We provide the best balance between price, quality, and efficiency. In addition, our technicians can support you in modernizing your existing shot blasting machine with the new ir sm@rt blasting wheel, helping you achieve higher performance at optimal cost.

- ## Quick change, easy maintenance and access to parts

  The blasting wheel is designed for fast replacement of the most exposed wear parts - such as blades, control cage, impeller, and inlet pipe - in approximately 15 minutes. The front side of the wheel is covered with an enlarged flange, providing easy access to internal parts and simplifying rotor removal. Replacement of trapezoid shields and the electric motor is also quick and straightforward.



1 Remove the inlet pipe, impeller, control cage and rotor washer.



2 Remove the top cover and safety rod.

Reduced wear, vibrations and noise level

Across all quality levels - Basic, Standard and Superior - the service life of wear parts is harmonized, which means blasting wheel servicing is kept to a minimum. In the Superior quality level, the service interval of wear parts is extended by 8 to 16 times.

Service issues are often caused by screw defects, leading to delays. To prevent this, the sm@rt blasting wheel uses high-strength studs, screws, and a cup nut with sealed threads, protecting them against solid particles and ensuring significantly longer durability. Screws securing the side shields are additionally sealed for enhanced reliability.

The sm@rt blasting wheel housing is fully protected by side shields and trapezoid shields. Overlaping elements are designed with double labyrinths, preventing abrasive jet breakthrough into the housing.

Thanks to modern CNC manufacturing, advanced materials, and innovative heat treatment, all components are produced with narrow tolerances. The result is smoother operation, reduced vibrations, and quieter performance.

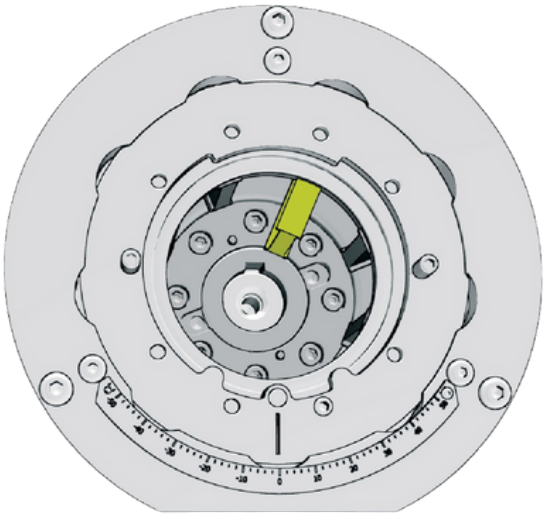
Reduced processing time

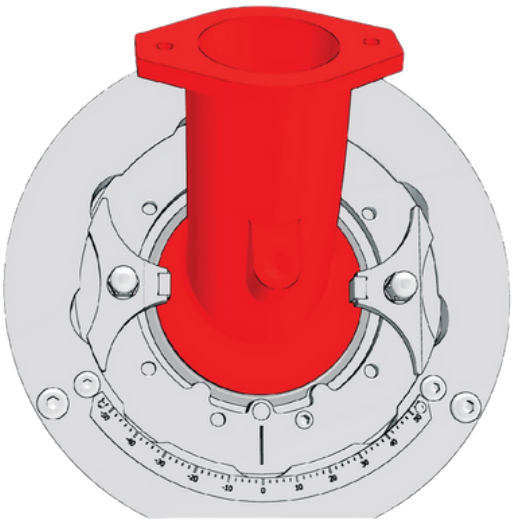
With up to 70% higher impact energy, the processing time is significantly reduced, ensuring faster and more efficient blasting results.

Technical data

The blasting wheel's technical file is a key document containing all technical data and measurements carried out during its development and production. It includes detailed information on design, materials, performance, and precise measurement results, ensuring compliance with specifications and high quality standards. With this technical file, we provide our customers with accurate and verified data.

* *In comparison to conventional blasting wheels.*





3 Remove blades from the rotor and replace with the new one.

4 The blasting wheel features a degree scale and set screw, ensuring accurate blast pattern re-setting and correct control cage positioning during replacement.

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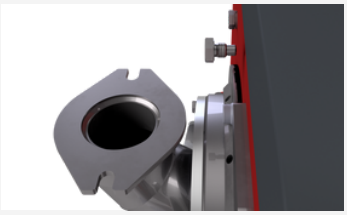

Gostol TST d.d.
Čiginj 63
5220 Tolmin
Slovenia
T: 00386 5 380 12 80
E: info@gostol-tst.eu
www.gostol-tst.eu