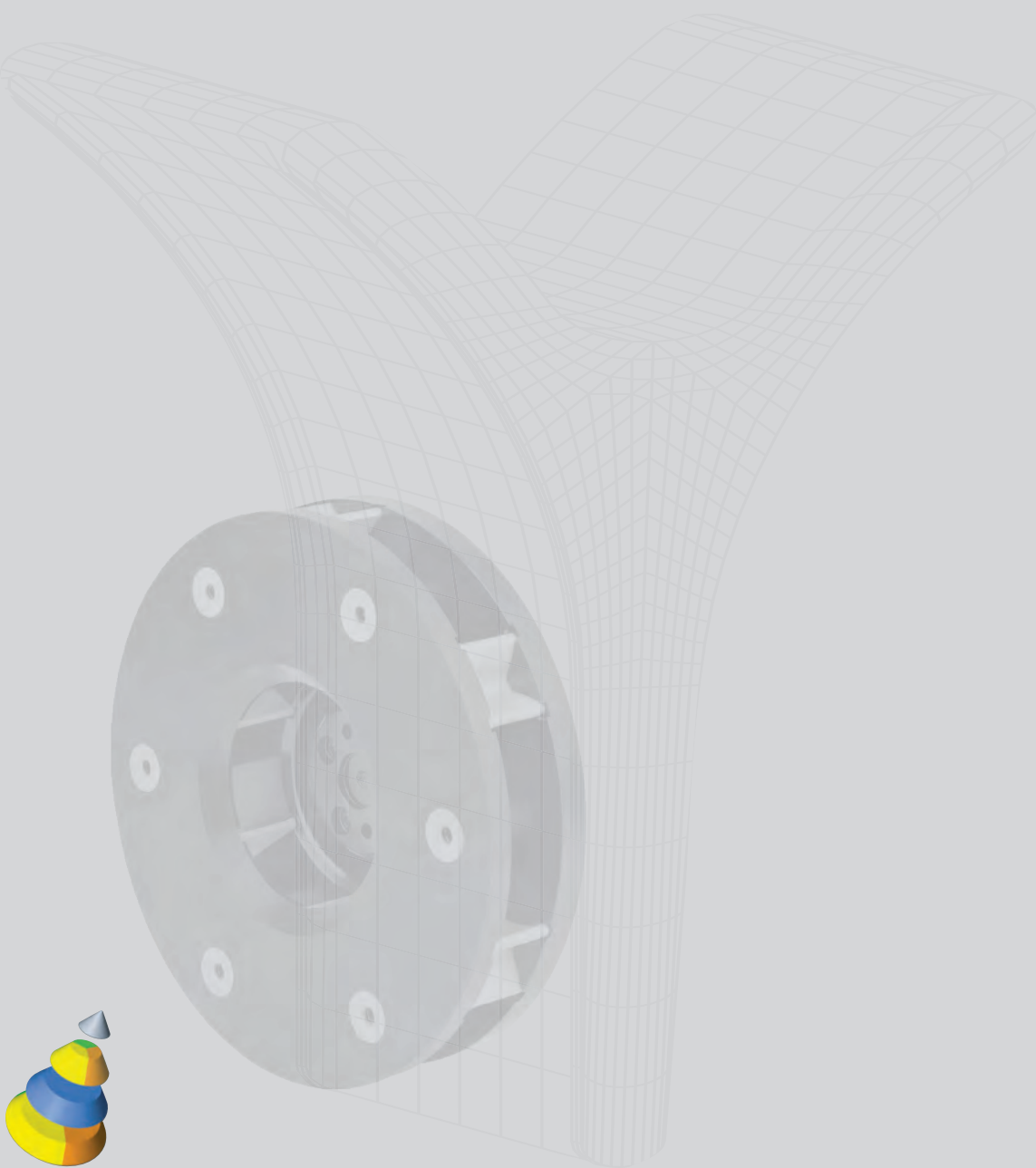
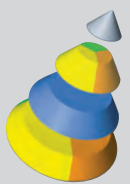


**RÖSLER**<sup>®</sup>  
*finding a better way ...*










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*Long Life  
Turbines*



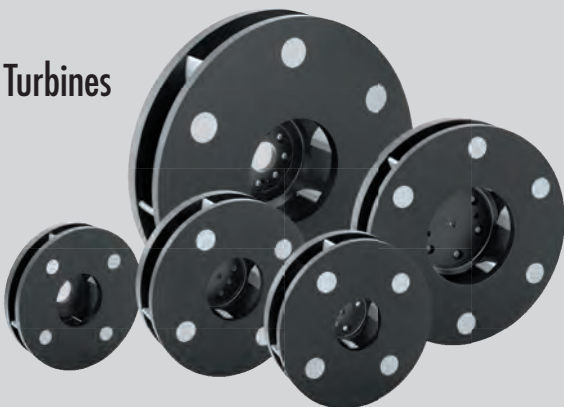
# *Rutten<sup>®</sup>-Turbines, world leading for over 20 years in the area of Long Life Shotblasting Turbines*

-  *Increased abrasive projection speed*
-  *Exceptional wear resistance*
-  *Reduction of energy consumption*
-  *Extreme long service life*
-  *Adaptable blast pattern*
-  *Improved shotblasting results*
-  *Reduced shot consumption*
-  *Very low consumption of spare parts*
-  *Reversible turbines, blast pattern regulator and pre-accelerator (Gamma-Y<sup>®</sup>-Turbine)*

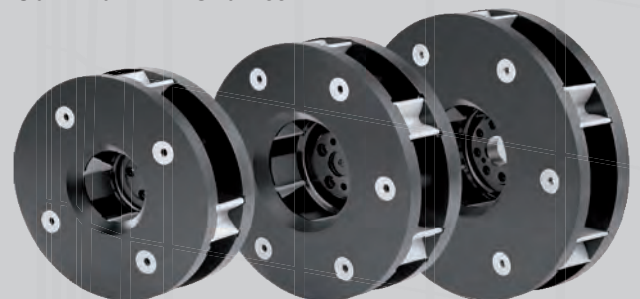
## *Marked increase in projection speed*

The very fluid movement of the abrasive allows greatly increased throughput. This dramatically benefits certain applications, such as the continuous blasting of plates which allows you to obtain a faster process speed and therefore increase your throughput. Given a similar rotation speed and identical blast wheel diameter, C-Turbines provide an extra 24 % up to 30 %, Gamma-Y<sup>®</sup>-Turbines produce a 25 % higher abrasive projection speed. Thanks to this increased speed and the fluidity of the outflow, the shotblasting quality and capacity are noticeably enhanced. The media impact energy media increases up to 70 % against conventional blast wheels.

**C - Turbines**



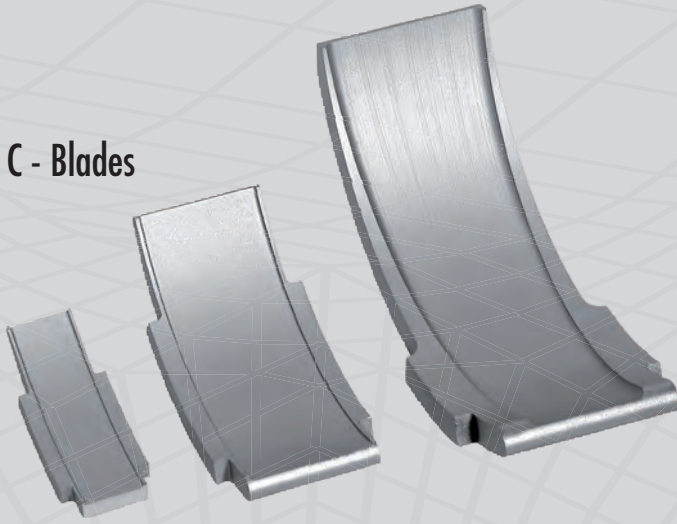
**Gamma-Y<sup>®</sup>-Turbines**



## ▶ Exceptional Wear-Resistance

Thanks to the use of extremely strong alloys, Ruten turbines are proven to have wear resistance 8 times greater than the service life of conventional blast wheels. Ruten's constant aim has been to further improve this performance: Gamma-Y®-Turbines, equipped with active double bladings, will make it possible to attain useful service lives from 8 to 16 times those of conventional blast wheels. The blades are available in different composite qualities, aligned with the special application.

### C - Blades



### Gamma-Y®-Blades

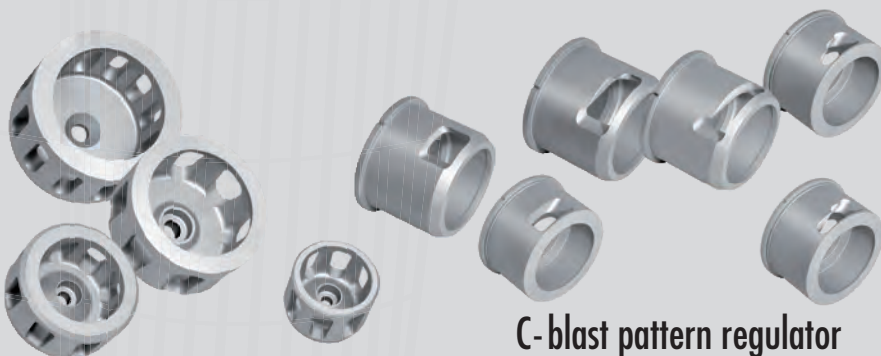


## ▶ Reduction of energy consumption

The use of high-strength alloys and surface treatment of the blades (in conjunction with a drastic reduction in the abrasive impact on the blade root) lead to a marked increase in shot-blasting speed. Due to the turbine discs extending to the outside diameter of the Gamma blades there is a significant increase of the blasting angle. This leads to energy savings in the order of 10 % (Gamma-Y®-Turbine) and accordingly 15 % (C-Turbine).

## ▶ Designed for extremely long service life: pre-accelerator and blast pattern regulator made of composite metal

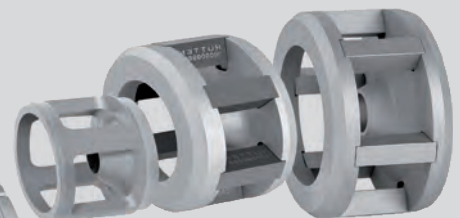
To achieve our objective to increase the service life of materials for shotblasting, the blast pattern regulator and the pre-accelerator are made of two materials. The wear zones of the blast pattern regulator are fitted with high-strength alloy bars. For the same reason, the pre-accelerator arms are replaced by changeable wear pieces also made of high-strength alloy. The service life of these parts is comparable to the life of the Gamma-Y®-Blades.



### C-pre-accelerator

### C-blast pattern regulator

### Y-pre-accelerator



### Y-blast pattern regulator

## ▶ Adapting the blast pattern to the client's applications

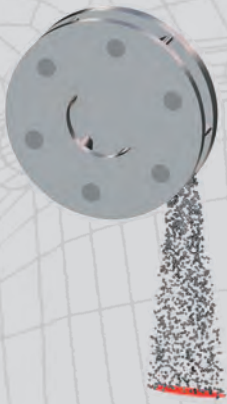
Precise knowledge of projection kinematics allows us to offer blast pattern regulators with a calibrated opening that varies according to the particular applications. There are calibrated openings for every turbine type: it is thus possible to spread the abrasive spray over a large surface (sheet-metal shotblasting and metal construction), or to the contrary, to concentrate it as with shotpeening or shotblasting rolling mill cylinders.

The blast pattern regulators are entirely machined from highly abrasion-resistant steel. Wear zones are equipped with extra-hard alloy barrettes. The choice of this barrettes defines the size of the notch and therefore the blast pattern.

### C - Turbines

#### Strongly Concentrated Blast

- Laminating



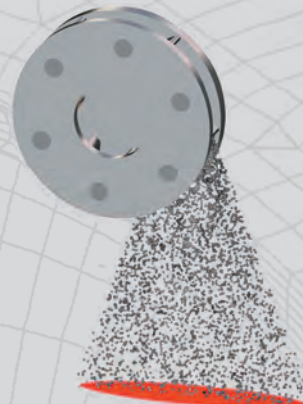
#### Focused Blast

- Shotpeening
- Hardening Blasting



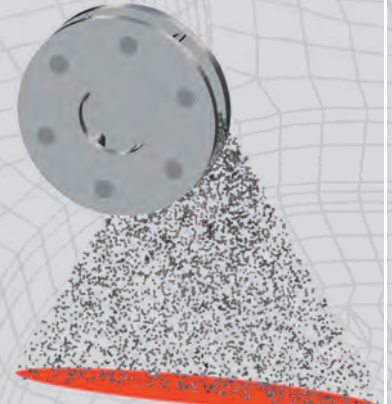
#### Normal Blast

- Foundries
- Metal Construction



#### Wide Blast

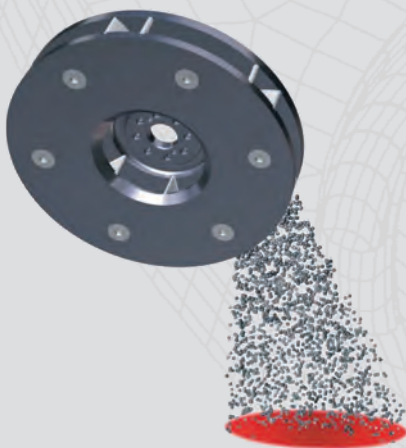
- Radiating Plates



### Gamma-Y®-Turbines

#### Concentrated Blast

- Shotpeening
- Rolling mill rolls



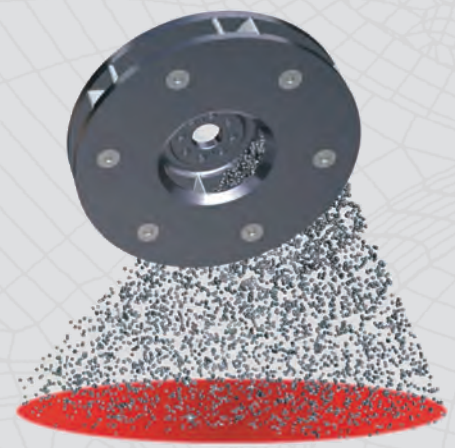
#### Normal Blast

- Foundries
- Metal Construction
- Common



#### Wide Blast

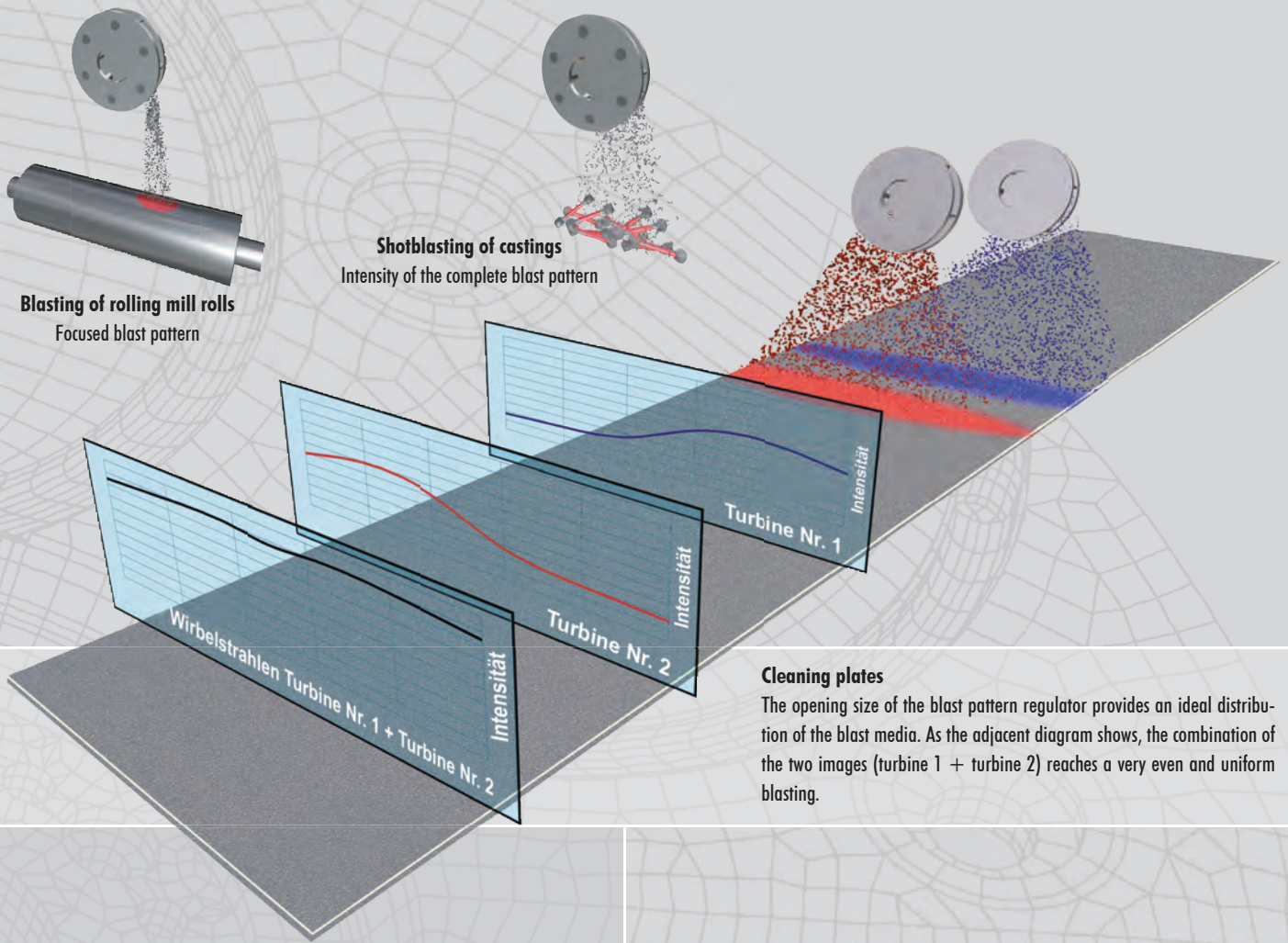
- Radiating plates



## ▶ Reduced shot consumption

For equal power consumed, a reduction of the power to weight ratio results in an increase in the projection speed. From experience, we know that a projection speed that is superior to those practiced by conventional blast wheels (+10 up to 15%) which markedly improves the quality as well as the capacity of the blasting process.

## Application Examples



**Blasting of rolling mill rolls**  
Focused blast pattern

**Shotblasting of castings**  
Intensity of the complete blast pattern

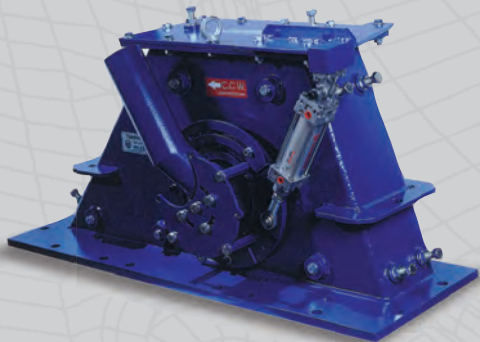
### Cleaning plates

The opening size of the blast pattern regulator provides an ideal distribution of the blast media. As the adjacent diagram shows, the combination of the two images (turbine 1 + turbine 2) reaches a very even and uniform blasting.

## Special applications,

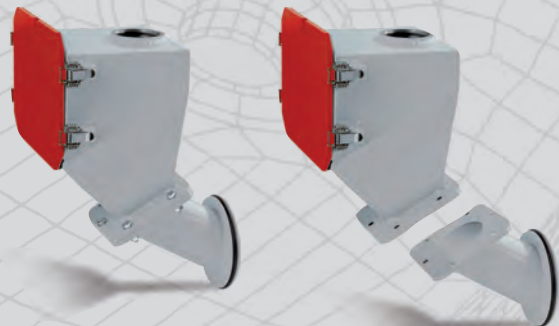
### Housing with motor control of the blast pattern regulator

In some applications it is imperative to adjust the shot according to the required impact strength. This is especially the case with turbine shotblasting systems, in which the widths of the components to be treated are very different. This special version of the drive is only available with turbines C-380, Y-400 and Y-520.



## Supply filter

As for all turbines, the intrusion of foreign bodies such as nuts and bolts or pieces of metal constitutes a real damage risk and can even lead to the complete destruction of the turbine. This filter reduces the risk of this eventuality. It is placed above the turbine, between the supply valve and the spout. Cleaning is easy; just undo the front cover to access the filtering sieve and proceed with the cleaning.



## ► Innovation in the service of maintenance

The housings may be assembled with the motor direct coupled or indirect with a shaft. The housing is complete with treated armour plating which is easily disassembled. When direct coupled, the motors are somewhat transformed. Each motor is equipped with a special seal on the turbine side.

Development of new turbines must take the housings into consideration, as it is an essential component of the overall equipment. In this regard, development efforts have focused on the "ease" of assembly and disassembly of the turbines.

As the example below demonstrates, the housings permit assembly and disassembly of the turbines from the upper cover. Obviously, the turbines may also be assembled or disassembled from the underneath, but the ability to access them from the upper cover is a real advantage.

### Turbine Models



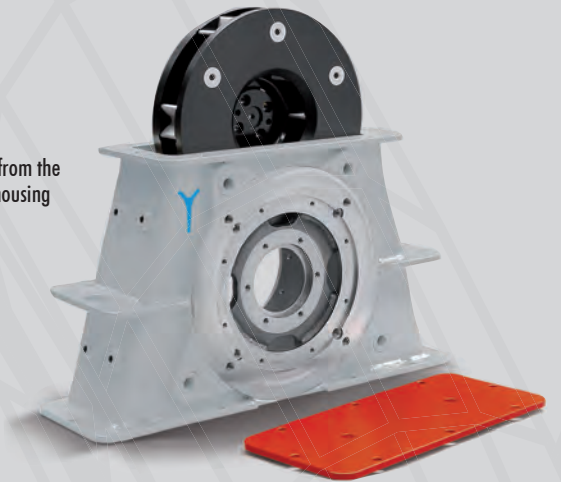
Turbine, driven directly

#### Quick and easy interventions

Assembly and disassembly of the turbines from the upper cover or from the lower side of the housing

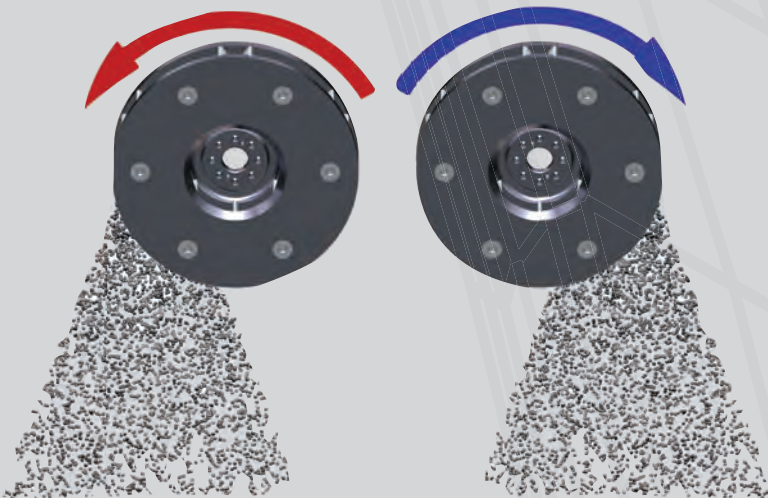


Turbine, driven indirectly



## ► The turbine for two-way rotation: The Gamma-Y®-Turbine

There are several specific applications better suited to a two-way rotation. Often these involve very broad-sweeping shotblasting where the change in rotation, accompanied by motorized adjustment of the blast pattern regulator, facilitates exceptional coverage of the surface to be treated. These two-way rotation turbines may of course be equipped with manually adjustable blast pattern regulators if the regulators in direction are infrequent.



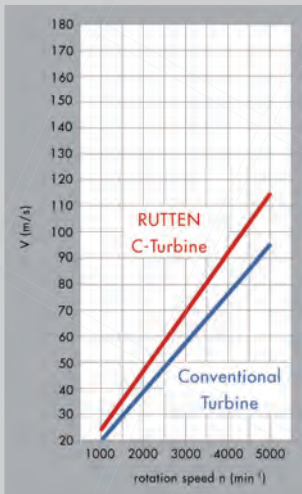
*The Gamma-Y®-Turbines are completely reversible, including blast pattern regulator and pre-accelerator, providing in this way for:*

- A reduction in stock
- The possibility of reversing the direction of the rotation to extend the blast pattern
- Complete elimination of the risks of incorrect assembly
- The possibility, during maintenance operation, of exchange of the turbines on wheel machines with left and right turbines

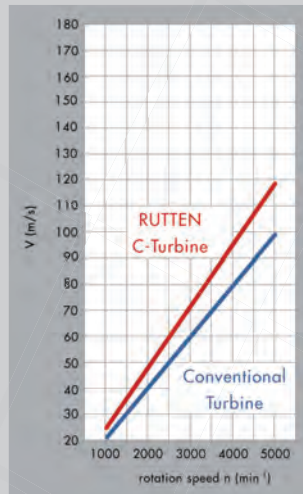
## Parameter of the Rutten Long Life C-Turbine

Projection speed of the media

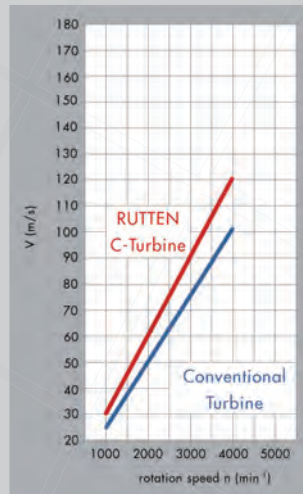
LL - C300



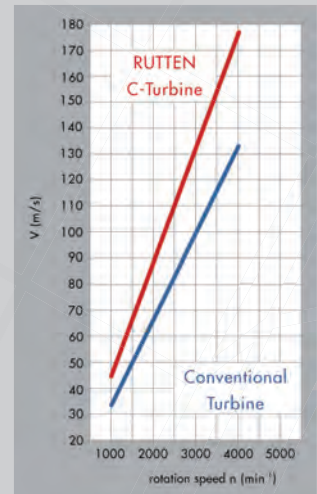
LL - C320



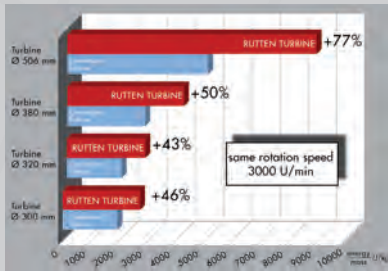
LL - C380



LL - C506



Compared impact energy for 1kg media projected



Technical Data

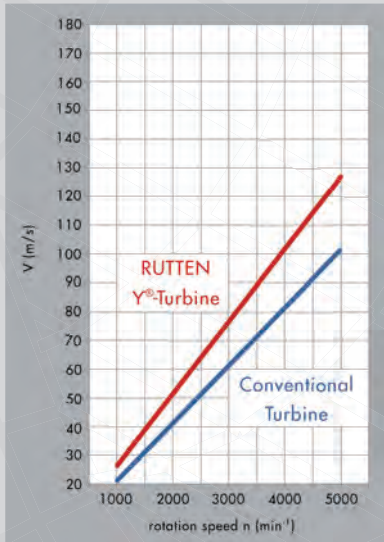
Model	Turbine Ø in mm	Turbine width in mm / blade width in mm	Number of blades	rpm maximal	Maximum power in KW
LL - C300	300	80/40	4	4.800	15
LL - C320	320	80/40	4	4.800	18
LL - C380	380	86/40	6	4.200	30
LL - C506	506	103/56	6 or 8	3.000	90

effective 05/2012

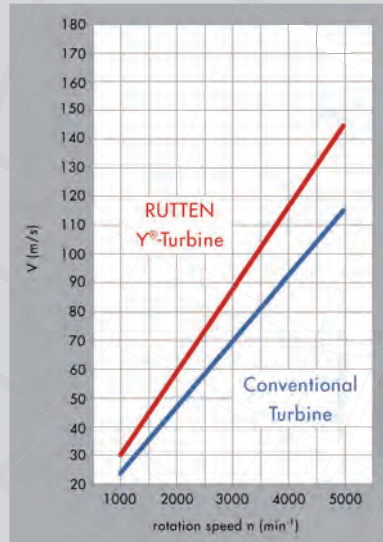
## Parameter of the Rutten Long Life Gamma-Y<sup>®</sup>-Turbine

Projection speed of the media

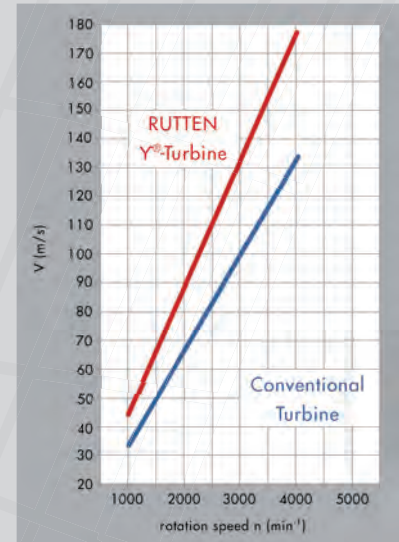
LL - Y330



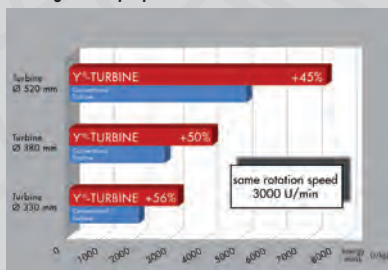
LL - Y400



LL - Y520



Compared impact energy for 1kg media projected



Technical Data

Model	Turbine Ø in mm	Turbine width in mm / blade width in mm	Number of blades	rpm maximal	Maximum power in KW
LL - Y330	330	84/44	4	4.800	18.5
LL - Y400	380	84/44	6	4.300	37
LL - Y520	520	96/51	6 or 8	3.200	90

effective 05/2012



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