

# Rotoclear S3



I see!

Discover the leading self-cleaning spinning window.



Insights in sight.



At Rotoclear, we've made it our business to overcome the limits of the senses. Our products create clear insights into your machining processes where you would otherwise be unable to see through liquids or particles.

## → Clear insights for continuous improvement

Whether it's the self-cleaning spinning windows or high-tech cameras, Rotoclear's optical solutions accelerate start-up, help prevent crashes or collisions and enable you to continuously optimize processes.

This is because the newly acquired visual information provides the basis for valuable insights for making your processes safer, more reliable and efficient.

In this brochure, you will learn how the Rotoclear S3 self-cleaning spinning window helps to optimize machine processes.

You will also get important information on how to configure and install the product – as well as information on the appropriate accessories.

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What is the  
Rotoclear S3?



The Rotoclear S3 is a self-cleaning see through window that employs centrifugal force to create a permanently clear view of machining processes.

→ The leading self-cleaning spinning window

The clever design of the Rotoclear S3 makes it the world's only self-cleaning spinning window to offer unobstructed views, without an irritating bar getting in the way.

→ What the Rotoclear S3 offers you

It offers you continuous visual monitoring; makes start-up much easier, faster, safer and more efficient; a clear view of your processes which allows you to minimize scrap costs. It also significantly reduces the amount of time-consuming cleaning required.

The patented drive concept of the Rotoclear S3 also ensures very short maintenance times, as the rotor can be replaced in a short amount of time.

# All the benefits at a glance



## Increased convenience and a better overview

The Rotoclear S3 enables convenient visual monitoring of machining activities – without the need to open any doors. Because there's no bar to obstruct the view, users always have a perfect overview of all the processes inside the machine. The self-cleaning function also minimizes the amount of time-consuming cleaning required. In short, clear views at all times, without the need for much cleaning.



## Greater work safety

Each time a machine operator opens the door, they put their safety at risk. The Rotoclear S3 eliminates these risks. Because there is less need to clean, users also have much less contact with cooling lubricants.

The clever design of the spinning window also plays a key safety role for maintenance technicians: once the center screw is loosened, the technician can remove the screw with just one hand, while the rotor stays in its position. Now the rotor can be easily removed. This removal method can help in avoiding injuries from falling inside a slippery machine interior.



## Basis for continuous improvement

You need to identify the relevant parameters if you want to improve something. The Rotoclear S3 provides users with valuable insights into their machining processes: key visual information as a foundation for potential process optimization. After all, you cannot exploit the potential for improvement if you don't know where it is.

The Rotoclear S3 provides more than just clear insights into all machining processes. We have summarized the key benefits for you.



## Higher productivity

Fewer disruptions from having to open the door, a significant reduction in maintenance, and increased productivity, the Rotoclear S3 offers you so much more than just improved visual monitoring.



## Cost minimization

Visual monitoring reduces the number of collisions – and thus minimizes scrap costs.

You have the option of using coolant for the first run which reduces material and tool costs, while at the same time the self-cleaning function lowers cleaning costs.

The Rotoclear S3 has been optimized to improve efficiency in order to minimize operating costs.



## Minimal maintenance

Every product needs to be serviced at some time or another. But, the Rotoclear S3 was designed in such a way that a window or rotor can be replaced in just a few steps, so the machine can be up and running again in a short amount of time.



## Maximum installation flexibility

Due to its compact thickness of just 33.5mm, the Rotoclear S3 offers greater installation flexibility which allows it to be used in smaller installation spaces.

# The features of the Rotoclear S3



## Large field of view without irritating bar

Unique the world over: the revolutionary drive concept of the Rotoclear S3, without a bar for the cable duct, ensures a 360° view of the tool and workpiece.



## Minimalist design

Less is more: the Rotoclear S3 was designed to be unobtrusive enough to fit perfectly into the machine – and thus enhance the overall aesthetics.



## Quick window replacement

It couldn't be any simpler: the clever design ensures ultra-fast replacement of the window and rotor. Remove just one screw, replace the window and then put the screw back in and tighten it. Sounds simple? That's because it is!



## Minimal thickness

With a thickness of just 33.5 mm, the Rotoclear S3 can easily be integrated into all conventional door systems on the market. Despite its streamlined design, the Rotoclear S3 spinning window fulfills all standard safety requirements.





### Guaranteed 100% sealed

The optimized outer contour and labyrinth seal minimize the consumption of sealing air. We also guarantee that the Rotoclear S3 will always be sealed when sealing air is used – even under the harshest conditions. We call it the Rotoclear Seal Guarantee.



### Tried-and-tested safety for milling machines and lathes

User safety is a must, even in the harshest of conditions, which is why we have conducted ballistic tests to demonstrate the retention capacity of the Rotoclear S3 for use in machining centers and lathes in accordance with DIN EN ISO 16090-1 and DIN EN ISO 23125 standards.

As the world leader in technology for self-cleaning spinning windows, the Rotoclear S3 impresses with numerous unique features. To find out more, contact us directly.

# Insights without restrictions

The Rotoclear S3 is available as an adhesive and a screw-on version. These two versions are designed for use in different environments and for installation in different types of windows.

A single screw ensures fast rotor replacement.

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Minimal thickness enables installation in all common door systems.

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A completely unobstructed view – without an irritating bar.

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Discover the Rotoclear S3  
online → [rotoclear.com/en/S3](https://rotoclear.com/en/S3)



ROTO CLEAR

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# The adhesive version of the Rotoclear S3

In the adhesive version, the flange is glued to the window from the inside. The device is then mounted on this firmly adhesively bonded flange.

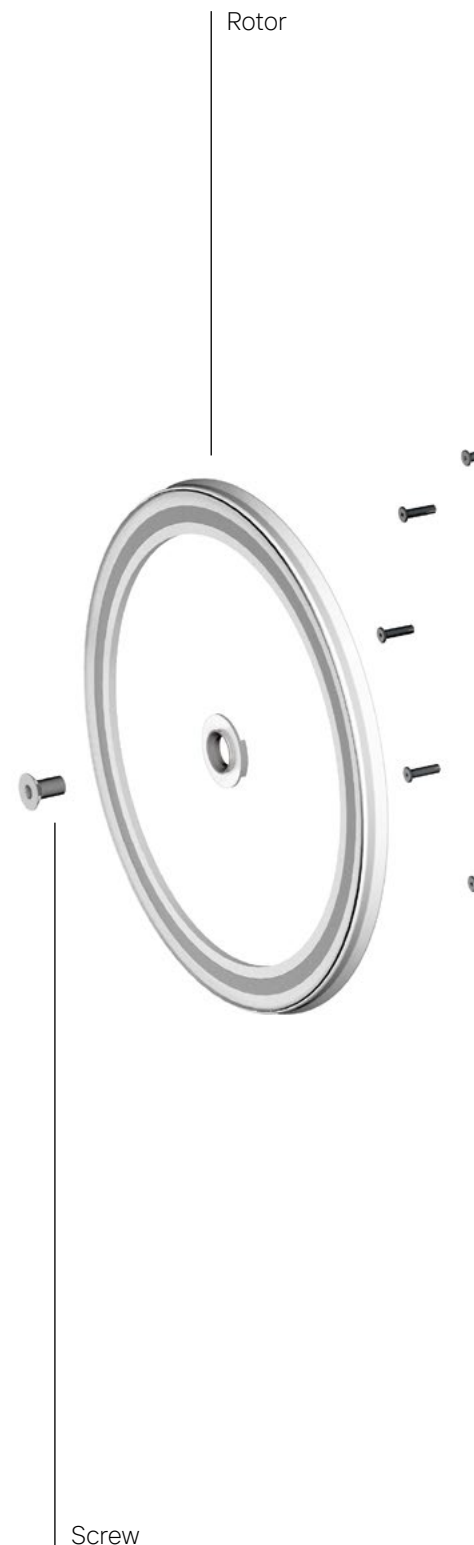
## → Applications

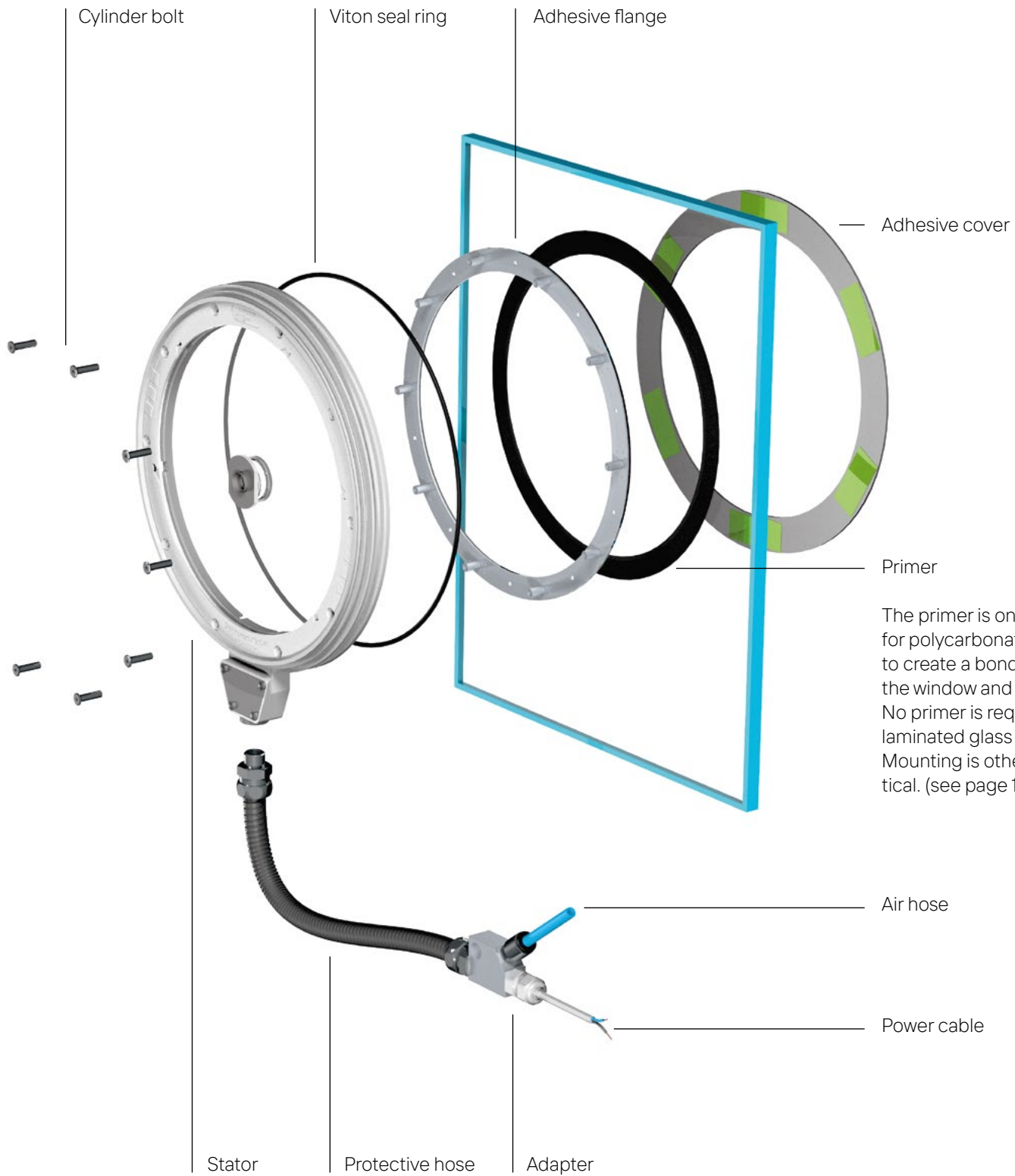
The adhesive version of the Rotoclear S3 is our all-rounder:

- It can be used on laminated safety glass or polycarbonate windows.
- Suitable for use in milling machines, lathes and milling-turning centers (DIN EN 16090-1 and DIN EN ISO 23125).

## → Benefits

- The adhesive flange allows installation without drilling. That is why the adhesive version is also the only choice when it comes to laminated glass windows.
- The adhesive version can be installed in a vertical position so that the door or window does not have to be removed for mounting.
- The bonding process is simple and safe, so no specially trained personnel is required. All the materials needed for the bonding process are included.





The primer is only used for polycarbonate windows to create a bond between the window and the adhesive. No primer is required for laminated glass windows. Mounting is otherwise identical. (see page 15)

# Mounting the adhesive version

When installing the adhesive version, mounting on laminated safety glass differs slightly from mounting on polycarbonate windows. We have listed the specific mounting steps for each version in this overview.



# Mounting steps

## Installation on laminated safety glass

Determine the position and alignment of the Rotoclear S3 on the machine window

Degrease and clean the inside of the machine window over a large area without leaving any residues

Unpack the adhesive flange and remove the protective film

Place the adhesive flange exactly in the desired position and then press it firmly

Fill the two-component adhesive using the dosing gun into the adhesive pockets provided

Allow the adhesive to harden

Place the stator of the Rotoclear S3 on the adhesive flange and screw it tight

Clean the outside of the machine glass and glue on the cover

Connect the power supply and sealing air supply (for the Rotoclear Seal Guarantee).

## Additional mounting steps for polycarbonate windows

Mark the exact position on the machine window

Glue on the position template

Peel off the film on the ring surface of the position template

Apply the primer and let it dry

Remove the position template



For more detailed installation steps, please refer to the Rotoclear S3 operating manual see also → [rotoclear.com/en/S3-downloads](http://rotoclear.com/en/S3-downloads)

# The screw-on version of the Rotoclear S3

For the screw-on version, the flange is inserted through the window from the outside. The device is then screwed to the flange.

## → Applications

Due to this type of fastening, the screw-on version is primarily suitable in cases where you can easily drill through the window:

- Usually used on polycarbonate windows.
- Only suitable for use in milling machines.

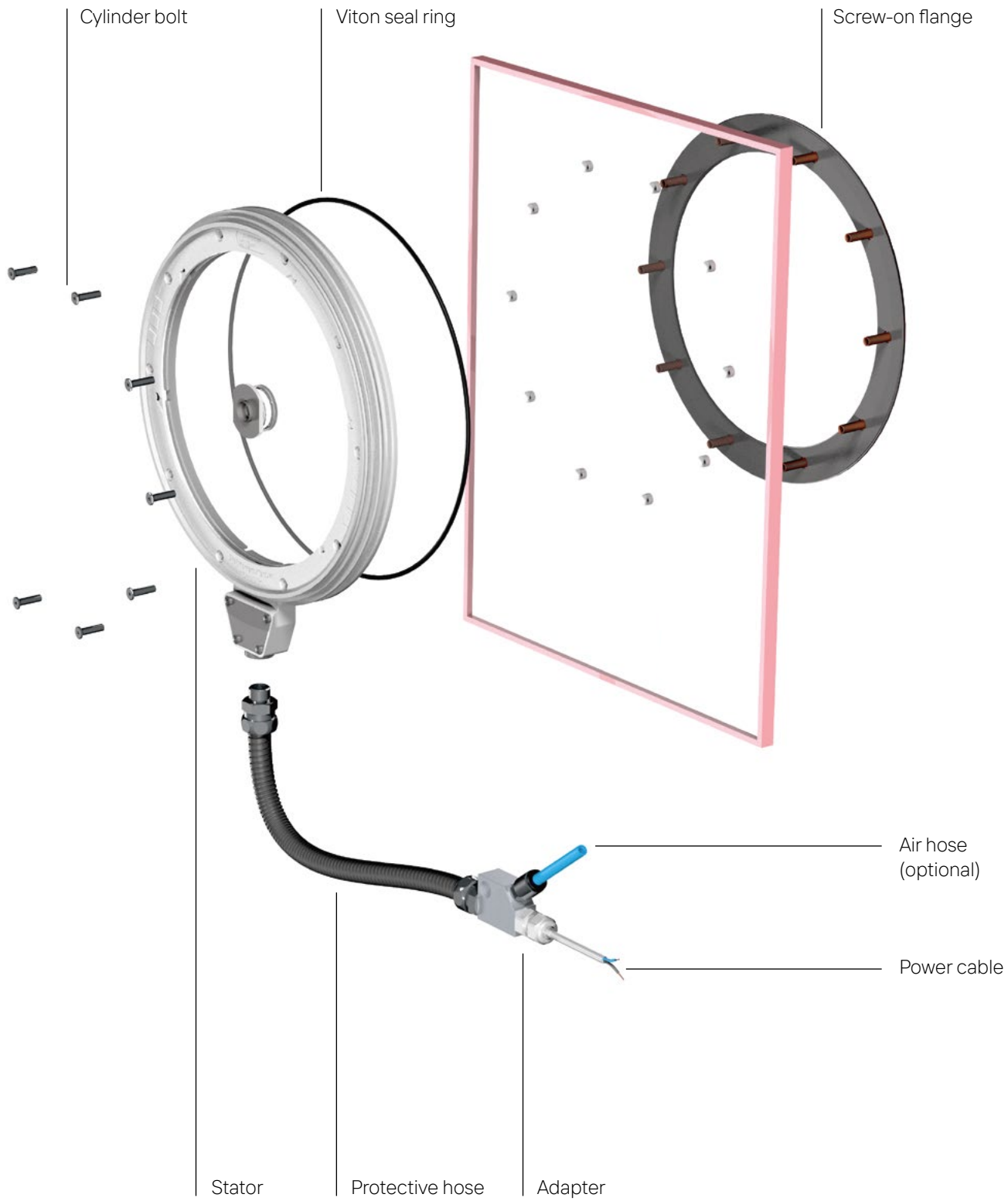
## → Benefits

In the context of suitable applications, the screw-on version offers a number of advantages:

- Mounting of the screw-on version is somewhat faster than mounting the adhesive version – we do, however, recommend specialist personnel for this.
- Since there is no need for the adhesive to harden, the machine does not have to be at a standstill for as long with the screw-on version.
- The window does not have to be removed beforehand for installation. It can be installed vertically with the window in place.
- The screw-on version costs slightly less than the adhesive version.







# Mounting the screw-on version

Mounting the screw-on version is somewhat faster than mounting the adhesive version. However, it is important to note that drilling and clamping can affect the retention capability of the polycarbonate window.

The following applies in particular to the screw-on version:

- Installation should be carried out by qualified personnel.
- The tightening torques must be adhered to.
- In the case of old windows or after a long period of use, watch out for cracks and clouding – and replace the window in due time.

## Mounting steps

Determine the position and alignment of the Rotoclear S3 on the machine window

Position and affix the drilling template on the outside of the machine window

Use the drilling template to drill the holes in the polycarbonate window from outside

Clean an extended area inside the machine where the window will be installed

Insert the screw-on flange into the holes from the outside

Screw the stator of the Rotoclear S3 onto the inserted screw-on flange on the inside of the polycarbonate window

Connect the power supply and optional sealing air supply (for the Rotoclear Seal Guarantee)



For more detailed installation steps, please refer to the Rotoclear S3 operating manual see also → [rotoclear.com/en/S3-downloads](https://rotoclear.com/en/S3-downloads)

### → Special installations

In addition to the adhesive and screw-on versions, we have also developed special installation options for special cases such as:

- Installation in curved windows
- Installation in sheet metal walls
- Replacing former Rotoclear models using adapters (e.g. S2)

### → Custom installation solutions

We offer custom development and installation solutions.

Get in touch with us. Together we will find a solution.

# All technical data at a glance

Whether installation dimensions, connection media or scope of delivery, here is where you will find all technical data for the Rotoclear S3. In addition, if you have any questions about dimensions and details, please feel free to contact us at any time.

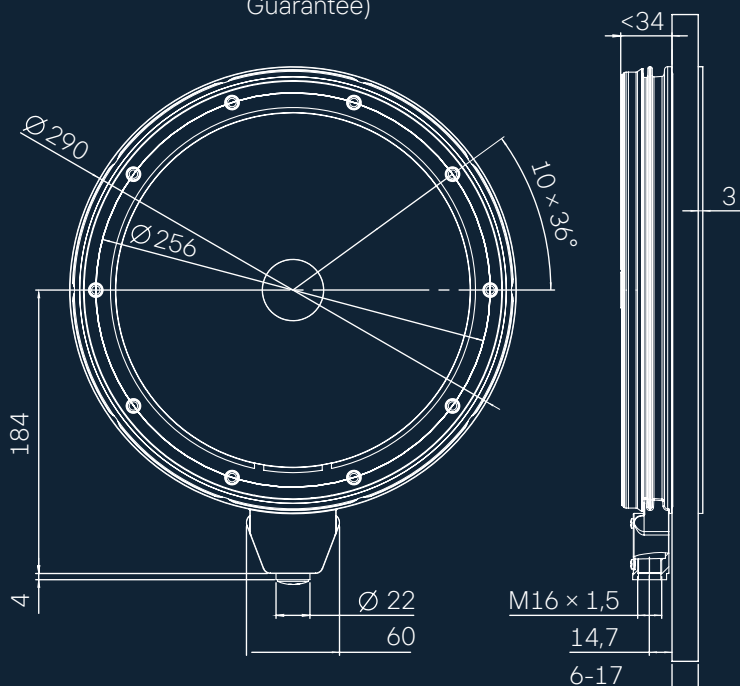
## → Installation dimensions

The Rotoclear S3 is 33.5 mm thick and has a diameter of 290 mm. However, you should allow at least 34 mm of space at the inner edge of the window so that the viewing window does not collide with anything when the machine door is opened.

## → Connection media

The use of sealing air is optional. However, we recommend using purge air to guarantee that the window is 100% sealed.

Power 24 V DC (16–28 V)  
Sealing air 2–5 mbar  
(for the Rotoclear Seal Guarantee)



## → Delivery contents

Both versions include

- 1 × Rotoclear S3 – Basic unit (rotor and stator)
- 1 × Protective hose (including 2 × hose fitting)
- 1 × Air hose (8 m)
- 1 × Power cable (10 m)
- 1 × Adapter electric-pneumatic for protective hose
- 1 × Elbow fitting
- 1 × Operating manual (de/en)
- 10 × Cylinder bolt

The adhesive version also includes

- 1 × Adhesive flange with cover
- 1 × Two component adhesive
- 1 × Cleaning cloth
- 1 × Dosing gun for two component adhesive

The screw-on version also includes

- 1 × Position template (screw-on version)
- 1 × Screw-on flange (6 – 16 mm clamping range)

## → CAD-Data?

Do you need CAD data to include the Rotoclear S3 in your design? Contact us. We will be happy to send you access to the relevant data on request.



Illustration 1:1 cropped

# Accessories and spare parts for the Rotoclear S3

In addition to the components included in the delivery contents of the Rotoclear S3, we offer practical accessories that facilitate operation and maintenance or even enhance the product with additional functions.

## Replacement window – with optional Dual-Shield coating

Very harsh conditions are often prevalent in the machine tool. Even tempered safety glass cannot withstand continuous chip impact indefinitely. We offer two different replacement windows for the Rotoclear S3. In addition to our standard windows, we also carry replacement windows made from Dual-Shield glass. The coating on the tempered glass makes it even more resistant and durable.

Whether Dual-Shield glass or standard replacement glass, our patented system makes replacing the window fast and easy: just remove the single screw, replace the rotor window, put the screw back in and tighten it.





### Manometer

Do you want to benefit from the Rotoclear Seal Guarantee? Then it is essential to connect a sealing air supply and know the correct sealing air pressure.

The spinning window is guaranteed to be 100% sealed even at the low pressure of just 2 mbar. This also keeps down your operating costs.

Use our manometer to control the pressure with precision.



### Straight-way valve

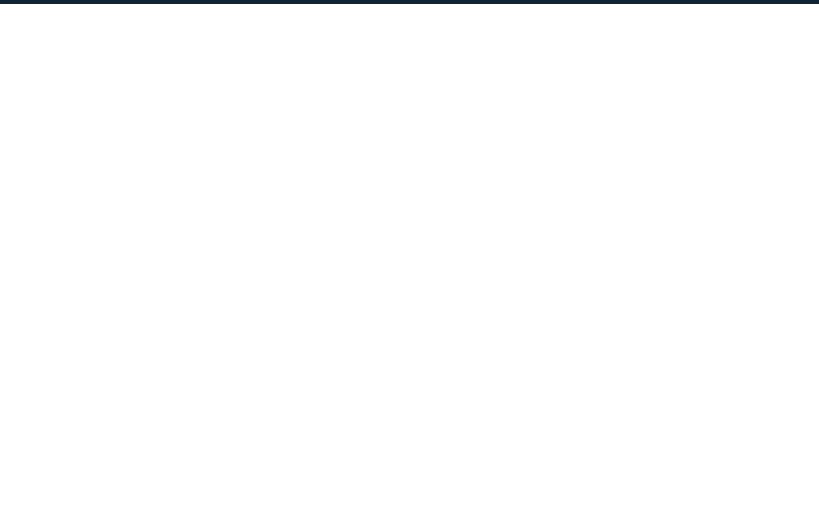
The straight-way valve is used to adjust the sealing air pressure in the stator with great precision. Used in combination with a manometer, the straight-way valve lets you accurately adjust the pressure of the sealing air.

The result is a system that is guaranteed to be 100% sealed and to have low operating costs.



Inquire and order directly  
 → [rotoclear.com/en/accessories](https://rotoclear.com/en/accessories)

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