

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 self-cleaning spinning windows or high-tech cameras: Rotoclear's optical solutions accelerate start-up, help prevent 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 more 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 employs centrifugal force to create a permanently clear view of machining processes.



→ The leading self-cleaning spinning window

Its clever design makes the Rotoclear S3 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

The option of continuous visual monitoring makes start-up much easier, faster, safer and more efficient. A clear view of your processes also allows you to minimize scrap costs, while the Rotoclear S3 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 no time at all if necessary.

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 machine operators open 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 role in safety for maintenance technicians: just one screw needs to be loosened for maintenance, which can be done with one hand. You can always support yourself with the other hand – and thus avoid injury from falls inside the 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 and a significant reduction in maintenance: the Rotoclear S3 offers you so much more than just improved visual monitoring. It also noticeably increases productivity every day.

→ Cost minimization

How does installing a Rotoclear S3 significantly reduce costs over the long term? Visual monitoring reduces the number of collisions – and thus minimizes scrap costs. The option to produce using coolant from the first part also reduces material and tool costs, while the self-cleaning function lowers cleaning costs. And product efficiency has been increased to minimize operating costs (most notably sealing air).

→ 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 no time.

→ Maximum installation flexibility

No restrictions: the compact dimensions of just 33.5 mm increase installation flexibility, as the spinning window can also 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 allows us to go without a bar for the cable duct – ensuring a 360° view of the tool and workpiece.



Minimalist design

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



100% sealed

Optimized contours, a sophisticated labyrinth seal and the efficient use of sealing air: we continued our optimization efforts until the S3 was perfectly sealed with minimal air consumption even under the harshest conditions.



Low installation height

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



Concept for quick window replacement

It couldn't be any simpler: the clever design ensures ultra-fast replacement of the window and rotor. Loosen just one screw, replace the window and then tighten the screw again. Sound simple? That's because it is.



Tried-and-tested safety for milling machines and lathes

User safety must always come first 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 the DIN EN 12417 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. If you want to find out more details about any of these features, you can of course contact us directly at any time.

Insights without restrictions

The Rotoclear S3 is available as a bonding version and a screw 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.

The low installation height enables installation in all common door systems.

Always a completely unobstructed view – without an irritating bar.



Discover the Rotoclear S3
online → rotoclear.com/en/S3



The bonding version of the Rotoclear S3

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

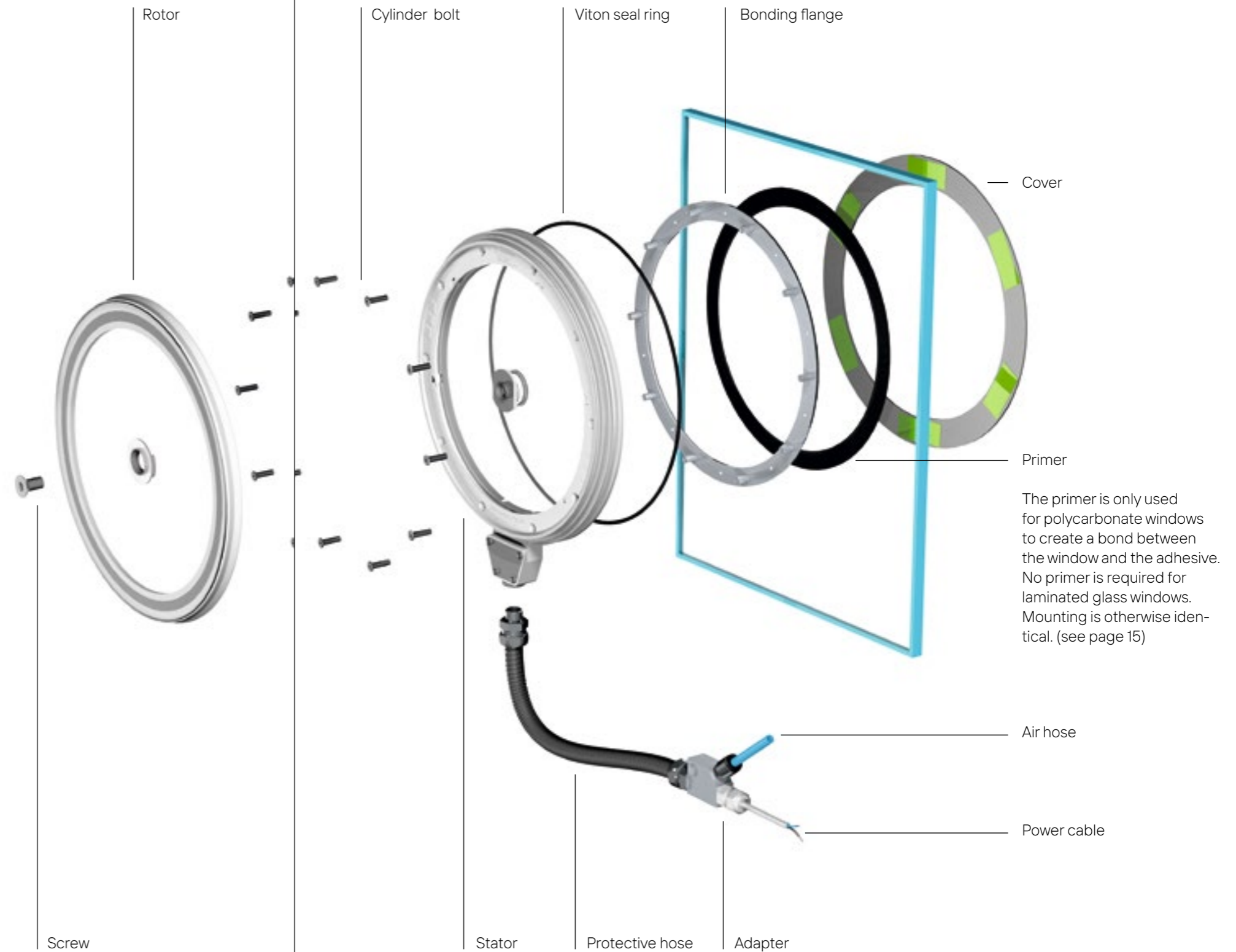
→ Applications

The bonding 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 12417 and DIN EN ISO 23125).

→ Benefits

- The bonding flange means that the window does not need to be drilled for installation. That is why the bonding version is also the only choice when it comes to laminated glass windows.
- The bonding 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 accessories for the bonding process are included.



Mounting the bonding version

When installing the bonding 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

Clean and degrease the inside of the machine window over a large area without leaving any residues

Unpack the bonding flange and remove the protective film

Place the bonding 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 bonding flange and screw it tight

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

Connect sealing air and power

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 flash off

Remove the position template

→ 0.5 hr

→ 6 hr

→ 0.5 hr



For all other installation steps, please refer to the RotoClear S3 operating manual (see also → roto-clear.com/en/S3-downloads)

The screw version of the Rotoclear S3

In the screw version, a screw flange is inserted through the window from the outside. The device is then screwed to the flange.

→ Applications

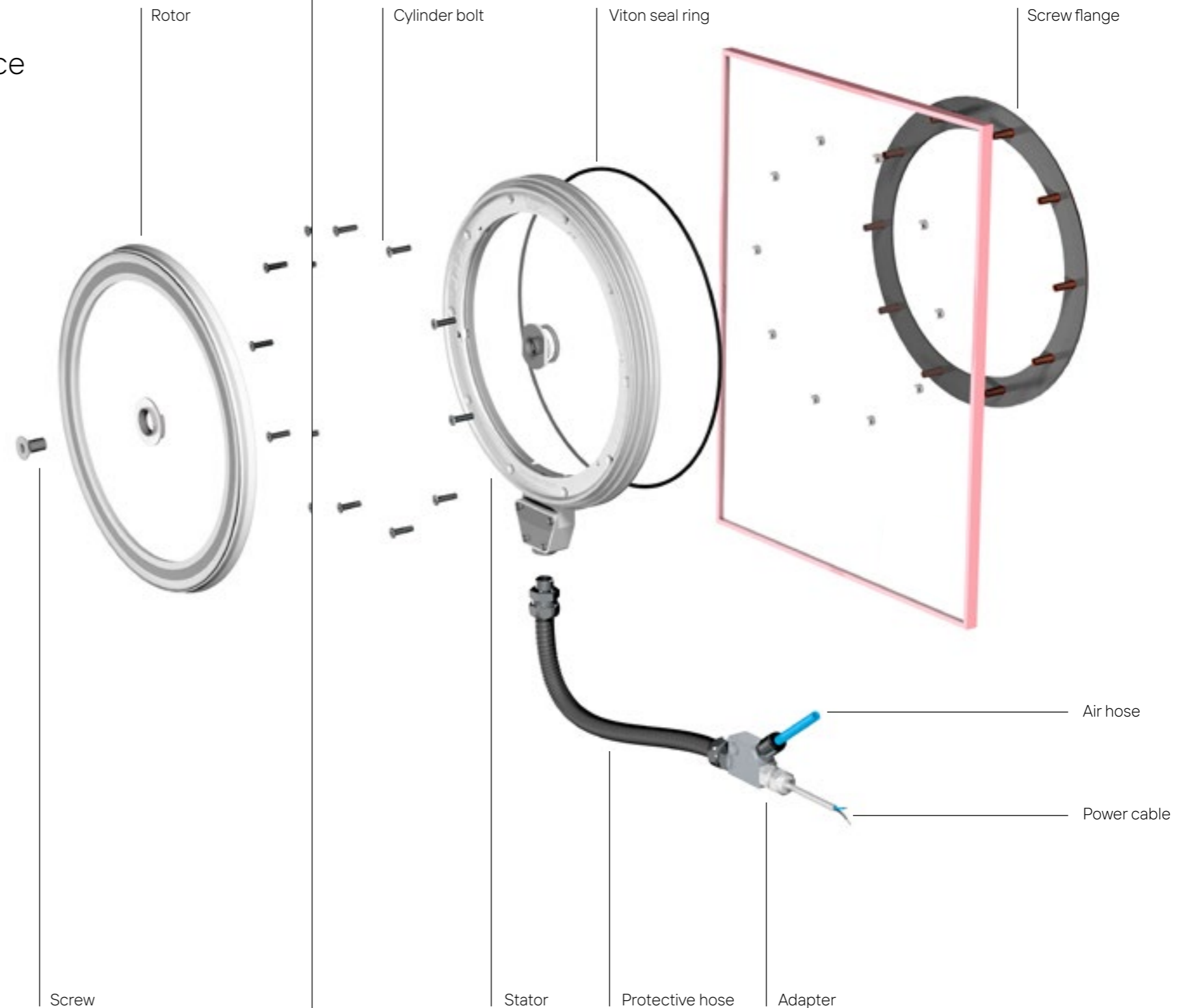
Due to this type of fastening, the screw version is primarily suitable in cases where you can easily drill through the window:

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

→ Benefits

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

- Mounting of the screw version is somewhat faster than mounting the bonding 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 version.
- Even with the screw version, the window does not have to be removed beforehand. It can be installed vertically with the window in place.
- The screw version costs slightly less than the bonding version.



Mounting the screw version

Mounting the screw 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 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 good 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 a circle of holes in the polycarbonate window from outside.

Clean the inside of the machine window over a large area

Insert the screw flange into the holes from the outside

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

Connect sealing air and power

→ 0.5 hr

→ 0.5 hr



For all other installation steps, please refer to the Rotoclear S3 operating manual (see also → rotoclear.com/en/S3-downloads)

→ Special installations

In addition to the solutions shown here, we have also developed special installation solutions for our customers for special cases.

- Installation in curved windows
- Installation in sheet metal walls
- Adapters for replacing former Rotoclear models (e.g. S2)

→ Custom installation solutions

Are you facing a new installation challenge that has not yet been mentioned here? No problem!

Just 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: This 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.

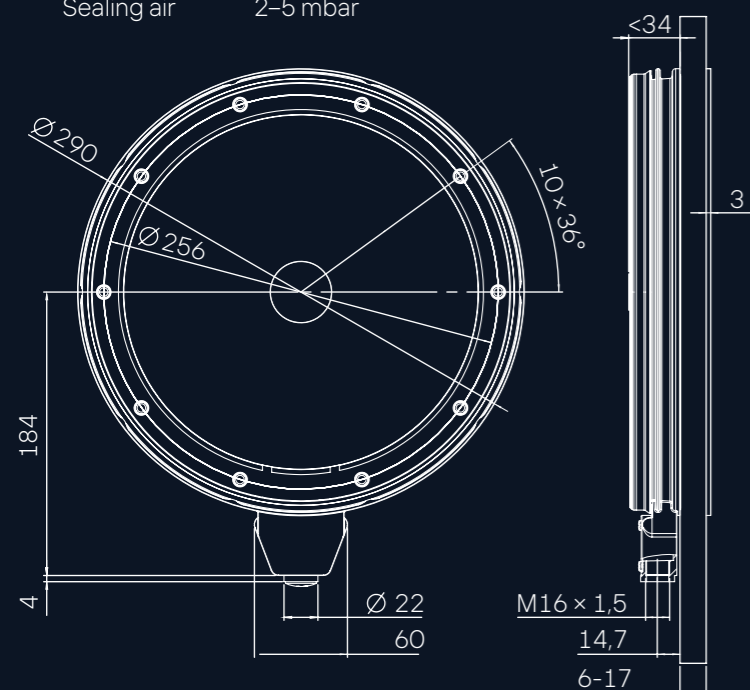
→ Installation dimensions

The Rotoclear S3 is 33.5 mm thick. 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 Rotoclear S3 requires power and sealing air for operation.

Power 24 V DC (16–28 V)
Sealing air 2–5 mbar



→ Scope of delivery

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 bonding version also includes

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

The screw version also includes

- 1 × Position template (screw version)
- 1 × Screw flange (clamping range 6–17mm)

→ CAD-Data?

Do you need CAD data to include the Rotoclear S3 in your design? Just write to 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 scope of delivery of the Rotoclear S3, we offer you practical accessories that facilitate operation and maintenance or even enhance the product with additional functions.

The digital eye for your Rotoclear S3: Rotoclear vision

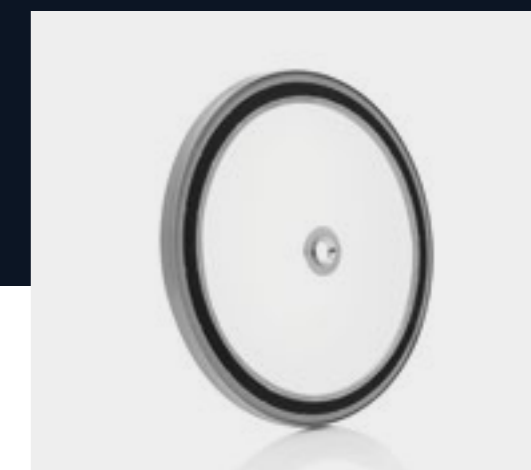
The Rotoclear Vision is a Wi-Fi camera which integrates perfectly into the Rotoclear S3. The camera offers the user the option of reliable visual monitoring, also from a remote location.

Connection is provided by an access point or integration into the in-house network: dedicated software and intuitive user interface manages camera access and control.



Manometer and straight-way valve

A manometer and control valve are available for precise adjustment of the sealing air. This also allows for precise adjustment of the necessary pressure at the stator, which is the optimal requirement for an absolutely sealed system with low operating costs.



Replacement rotor – with optional coating

Very harsh conditions often prevail in the machine tool. Even tempered safety glass cannot withstand continuous chip impact over the long term: the window can go blind over time. In addition, broken tools can damage the window of the Rotoclear S3. Our patented system makes replacing the window as easy as it is fast: just undo a single screw, replace the rotor window, and tighten the screw again. Done!



Inquire and order directly?
→ rotoclear.com/en/accessories

ROTO CLEAR



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