ROTODISK S
Rotary union with axial mechanical seal

- Housing design made of anodized aluminum or stainless steel
- Contact sealing discs made of silicon carbide or carbon graphite
- Mechanically locked contact seals for aggressive media
- Triple spindle (SP) or hybrid (HY) bearings for high rotational speeds
- Dual leak chamber for leakage monitoring
- Protection of bearing packages against compressed air (BPS)
- Suitable for cryogenic machining and diamond/glass processing

Setting ideas in motion.
ROTODISK S

Rotary union with axial mechanical seal

ROTODISK rotary unions are used wherever media such as emulsion, oil, air, or oil-air mixtures need to be reliably transferred into a rotating system. In addition to the large number of standard designs, we offer custom-made solutions that are optimally tailored to your applications and installation conditions. GAT Bearing-Protection-Seals (BPS) protect bearing packages against compressed air used to blow out chips, complementing the overall package of our product technology.

| Media purity                  | ISO 4406-17/15/12, NAS 1638-6, SAE 749-3 |
| Filtration grade              | max. 50 µm                                  |
| Operating temperature         | -20° C to +80° C                            |
| Dry-running properties        | unlimited for all designs of model line S   |

Standard designs

Shaft variants

- Threaded shaft ≤ 10,000 rpm
- Plug-type shaft > 10,000 rpm
System designs

**STD (standard)**
- ✔ Minimal leak pulse at tool change
- ✔ Reliable coolant transfer at high pressure

**GGL (enclosed mechanical seal disc)**
- ✔ No leak pulse at tool change
- ✔ Optimal for low pressures
- ✔ Leak-free air transfer

**AKM (all media)**
- ✔ Combines all benefits of the STD and GGL designs

<table>
<thead>
<tr>
<th>Design</th>
<th>STD</th>
<th>GGL</th>
<th>AKM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. emulsion pressure [bar]</td>
<td>120</td>
<td>40/80***</td>
<td>120</td>
</tr>
<tr>
<td>Max. IMMS pressure [bar]</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Max. air pressure [bar]</td>
<td>20**</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

**At standstill only; ***optional, dry-running not possible. Please inquire for further media or higher pressures.**

Bearing designs

<table>
<thead>
<tr>
<th>Design</th>
<th>SP</th>
<th>HY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. rotational speed [rpm]</td>
<td>32,000</td>
<td>42,000</td>
</tr>
</tbody>
</table>

Sizes

<table>
<thead>
<tr>
<th>Sizes</th>
<th>S00</th>
<th>S0</th>
<th>S1</th>
<th>S2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal widths</td>
<td>DN 3</td>
<td>DN 5</td>
<td>DN 8</td>
<td>DN 11</td>
</tr>
</tbody>
</table>

Flow diagram

Pressure drop without check valve

**Medium: Emulsion**

Recommended limits for emulsion flow: S00 = 12 l/min; S0 = 30 l/min; S1 = 70 l/min; S2 = 120 l/min
Standardized installation specifications

Counterpart ROTODISK S0

[19884] DN 5

Counterpart ROTODISK S1

[23816] DN 8
Custom solutions

ROTODISK S for customer-specific applications

Application example

Integration of a rotary union in a spindle

**Condition monitoring**

We offer smart ROTODISK S rotary unions for the monitoring of current operating parameters and the analysis of operating states. This facilitates optimal planning of service intervals and prepares the ground for automated service processes.
Installation sets

Installation sets (EBS) are available in various designs

Installation set: ROTODISK S0

Installation set: ROTODISK S1

Installation set features

- Integration in existing systems
- Optional with customer-specific housing parts
- Use of bearings provided by customers

Operating information

Specific operating conditions

- Enclosed tool
- Tools with small cooling channels (IKZ bore < ø 0.1 mm)
- Operating conditions > 80° C
- Air at speeds > 24,000 rpm

Questions?

Our team of qualified consulting engineers and product specialists will assist you in quickly finding an optimal solution for you.

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