Turcon® Glyd Ring®

Double Acting
Rubber Energized Plastic Faced Seal

Material:
Turcon®, Zurcon® and Elastomer
**Turcon® Glyd Ring®**

**Description**
Successfully used for decades, the Turcon® Glyd Ring® is a very effective and reliable low frictional seal. It is particularly suitable as a piston seal in both high and low pressure systems.

The double acting Turcon® Glyd Ring® is a combination of a Turcon based slipper seal and an energising O-Ring. It is produced with an interference fit which together with the squeeze of the O-Ring ensures a good sealing effect even at low pressure. At higher system pressures, the O-Ring is energised by the fluid, pushing the Turcon® Glyd Ring® against the sealing face with increased force.

![Figure 12 Turcon® Glyd Ring®](image1)

The geometry of the Turcon® Glyd Ring® ensures a good static sealing and allows the lubricating hydrodynamic oil film to be build under the seal in reciprocating applications.

**Notches**
To assure that a rapid energising of the seal takes place at sudden changes of pressure and direction of motion, radial “notches” are machined on both sides of the seal.

![Figure 13 Turcon® Glyd Ring® with notches](image2)

Notches are standard on the following series and diameters:
- PG 42 for bore dia. > 30 mm
- PG 44 for bore dia. > 20 mm
- PG 46 for bore dia. > 40 mm

**Advantages**
- No stick-slip effect when starting for smooth operation
- Minimum static and dynamic friction coefficient for a minimum energy loss and operating temperature
- Suitable for non lubricating fluids depending on seal material for optimum design flexibility
- High wear resistance ensures long service life
- Installation grooves acc. to ISO 7425/1
- No adhesive effect to the mating surface during long period of inactivity or storage
- Suitable for most hydraulic fluids in relation with most modern hardware materials and surface finish depending on material selected.
- Suitable for new environmentally safe hydraulic fluids
- Available for all cylinder diameters up to 2.700 mm.

**Application Examples**
Over several decades the Turcon® Glyd Ring® has been successfully implemented in a large variety of applications as double acting Piston seals of hydraulic components such as:
- Injection moulding machines
- Machine tools
- Presses
- Excavators
- Forklifts & handling machinery
- Agriculture equipment
- Valves for hydraulic & pneumatic circuits
- Servo equipment
- Pressure intensifiers
- Jacks
### Technical Data

**Operating conditions:**

The Turcon® Glyd Ring® is recommended for reciprocating (with a length of stroke at least twice the groove width) and helical movements.

- **Pressure:** Up to 60 MPa
- **Speed:** Up to 15 m/s
- **Frequency:** Up to 5 Hz.
- **Temperature:** -45 °C to +200 °C (*)
  (depending on O-Ring Material)
- **Media:** Mineral oil based hydraulic fluids, flame retardant hydraulic fluids, environmentally safe hydraulic fluids (bio-oils), phosphate ester, water and others, depending on the seal and O-Ring material compatibility (see Table X)
- **Clearance:** The maximum permissible radial clearance $S_{max}$ is shown in the Table XI as a function of the operating pressure and functional diameter.

**Important Note:**

The above data are maximum values and cannot be used at the same time. E.g., the maximum operating speed depends on material type, pressure, temperature and gap value. Temperature range also dependent on medium.

(*) In the case of unpressurized applications in temperatures below 0°C please contact our application engineers for assistance!

### Materials

The following material combinations have proven effective for hydraulic applications:

**For light to heavy applications with reciprocating movements in mineral oils and other media with good lubrication:**

All round material for hydraulic applications with reciprocating, short stroke or helical movements in mineral oils, flame retardant hydraulic fluids HFC, phosphate ester, bio-oils or fluids having less satisfactory lubricating properties:

- **Turcon® Glyd Ring®:** Turcon® M12
- **O-Ring:**
  - NBR, 70 Shore A  N
  - FKM, 70 Shore A  V
- **Set code:** M12N or M12V

**For medium to heavy applications with reciprocating movements in mineral oils and other media with good lubrication:**

- **Turcon® Glyd Ring®:** Turcon® T46
- **O-Ring:**
  - NBR, 70 Shore A  N
  - FKM, 70 Shore A  V
- **Set code:** T46N or T46V

For specific applications, all Turcon® materials are available. Other viable material combinations are listed in Table IX.
# Table IX  Turcon® and Zurcon® Materials for Glyd Ring®

|-----------------------------------|------|--------------------------|------|-----------------------------|-------------------------|------------------|
| **Turcon® M12**  
First material choice for seals in linear motion  
Overall improved properties  
For new constructions and updating  
For all commonly applied hydraulic fluids including fluids with low lubrication performance  
Lowest friction and best sliding properties  
Lowest wear on seals  
Improved absorption of abrasive contaminants  
No wear or abrasion of counter surface  
Mineral fibre and Additives filled  
Colour: Dark grey | M12  
NBR - 70  
NBR - 70 Low temp.  
FKM - 70 | N  
T  
V | -30 to +100  
-45 to +80  
-10 to +200 | Steel hardened  
Steel chrome plated (rod)  
Steel plated (rod)  
Cast Iron  
Stainless steel  
Titanium | 50 |
| **Turcon® T05**  
For lubricating fluids  
Also for gas service  
Very low friction  
Very good sliding and sealing properties  
Colour: Turquoise | T05  
NBR - 70  
NBR - 70 Low temp.  
FKM - 70 | N  
T  
V | -30 to +100  
-45 to +80  
-10 to +200 | Steel hardened  
Steel chrome plated (rod) | 20 |
| **Turcon® T08**  
For lubricating fluids and linear motion  
**Very high compressive strength and extrusion resistance**  
Hard counter surfaces is recommended  
Bronze filled  
Colour: Light to dark brown, which may have variations in shading | T08  
NBR - 70  
NBR - 70 Low temp.  
FKM - 70 | N  
T  
V | -30 to +100  
-45 to +80  
-10 to +200 | Steel hardened  
Steel chrome plated (rod)  
Cast iron | 60 |
| **Turcon® T10**  
For hydraulic and pneumatic  
For lubricating and non-lubricating fluids  
High extrusion resistance  
Good chemical resistance  
Not for electrically conducting fluids  
BAM tested  
Carbon, graphite filled  
Colour: Black | T10  
NBR - 70  
NBR - 70 Low temp.  
FKM - 70  
EPDM-70 | N  
T  
V  
E** | -30 to +100  
-45 to +80  
-10 to +200  
-45 to +145 | Steel hardened  
Steel chrome plated (rod)  
Stainless steel | 40 |
| **Turcon® T29**  
For lubricating and non-lubricating fluids  
Good extrusion resistance  
Surface texture is not suitable for gas sealing  
Not for electrically conducting fluids  
Carbon fibre filled  
Colour: Grey | T29  
NBR - 70  
NBR - 70 Low temp.  
FKM - 70  
EPDM-70 | N  
T  
V  
E** | -30 to +100  
-45 to +80  
-10 to +200  
-45 to +145 | Steel hardened  
Steel chrome plated (rod)  
Cast iron  
Stainless steel | 30 |
| **Turcon® T40**  
For lubricating and non-lubricating fluids  
High frequency and short strokes  
**Water hydraulics**  
Surface texture is not suitable for gas sealing  
Carbon fibre filled  
Colour: Grey | T40  
NBR - 70  
NBR - 70 Low temp.  
FKM - 70  
EPDM-70 | N  
T  
V  
E** | -30 to +100  
-45 to +80  
-10 to +200  
-45 to +145 | Steel hardened  
Steel chrome plated (rod)  
Cast iron  
Stainless steel  
Aluminium | 25 |

* The O-Ring Operation Temperature is only valid in mineral hydraulic oil (except EPDM). ** Material not suitable for mineral oils.  
*** max. Ø 2300 mm  
BAM: Tested by "Bundesanstalt Materialprüfung, Germany".  
Highlighted materials are standard.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Turcon® T46</strong></td>
<td>T46</td>
<td>NBR - 70</td>
<td>N</td>
<td>-30 to +100</td>
<td>Steel hardened</td>
<td>50</td>
</tr>
<tr>
<td>For lubricated hydraulics in linear motion</td>
<td></td>
<td>Low temp.</td>
<td>T</td>
<td>-45 to +80</td>
<td>Steel chrome plated (rod)</td>
<td></td>
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<tr>
<td>High compressive strength</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cast iron</td>
<td></td>
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<tr>
<td>High extrusion resistance</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very good sliding and wear properties</td>
<td></td>
<td>FKRM - 70</td>
<td>V</td>
<td>-10 to +200</td>
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<td></td>
</tr>
<tr>
<td>BAM tested</td>
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<td></td>
</tr>
<tr>
<td>Bronze filled</td>
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<td></td>
<td></td>
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</tr>
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<td>Colour: Light to dark brown, which may have variations in shading</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Zurcon® Z51</strong>*</td>
<td>Z51</td>
<td>NBR - 70</td>
<td>N</td>
<td>-30 to 100</td>
<td>Steel hardened</td>
<td>60</td>
</tr>
<tr>
<td>For mineral oil based fluids</td>
<td></td>
<td>Low temp.</td>
<td>T</td>
<td>-45 to +80</td>
<td>Steel chrome plated (rod)</td>
<td></td>
</tr>
<tr>
<td>Very high abrasion and extrusion resistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stainless steel Ceramic coating</td>
<td></td>
</tr>
<tr>
<td>For counter surface with rougher surface finish</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited chemical resistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. working temperature 110 °C</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cast polyurethane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour: Yellow to light-brown</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Zurcon® Z80</strong></td>
<td>Z80</td>
<td>NBR - 70</td>
<td>N</td>
<td>-30 to +100</td>
<td>Steel hardened</td>
<td>35</td>
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<tr>
<td>For lubricating and non-lubricating fluids</td>
<td></td>
<td>Low temp.</td>
<td>T</td>
<td>-45 to +80</td>
<td>Steel chrome plated (rod)</td>
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<tr>
<td>Water based fluids, air and gases</td>
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<td></td>
<td></td>
<td>Stainless steel Ceramic coating</td>
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<td>Dry air pneumatics</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High abrasion and extrusion resistance</td>
<td></td>
<td>EPDM- 70</td>
<td>E**</td>
<td>-45 to +145</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For service in abrasive conditions and media with particles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good chemical resistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited temperature capability (-60 to +80 °C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>UHMWPE (Ultra High Molecular Weight Polyethylene)</td>
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<td></td>
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<tr>
<td>Colour: White to off-white</td>
<td></td>
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<td></td>
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</tbody>
</table>

* The O-Ring Operation Temperature is only valid in mineral hydraulic oil (except EPDM). ** Material not suitable for mineral oils.

*** max. Ø 2300 mm     BAM: Tested by “Bundesanstalt Materialprüfung, Germany”.  Highlighted materials are standard.
### Installation Recommendation

#### Figure 14  Installation drawing

#### Table X  Installation dimensions

<table>
<thead>
<tr>
<th>Series No. PG 44</th>
<th>Series No. PG 46</th>
<th>Series No. PG 42</th>
<th>Bore Diameter $D_n$</th>
<th>Groove Diameter</th>
<th>Groove Width</th>
<th>Radius</th>
<th>Radial Clearance $S$ max.*</th>
<th>O-Ring Cross-Section</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$h^9$</td>
<td></td>
<td></td>
<td>$r_1$</td>
<td>$10$ MPa</td>
<td>$20$ MPa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d_1$</td>
<td>$L_1 + 0.2$</td>
<td>$r_1$</td>
<td>$10$ MPa</td>
<td>$20$ MPa</td>
<td>$40$ MPa</td>
</tr>
<tr>
<td>8 - 14.9</td>
<td>15 - 39.9</td>
<td>-</td>
<td>$D_n$ - 4.9</td>
<td>2.2</td>
<td>0.4</td>
<td>0.30</td>
<td>0.20</td>
<td>0.15</td>
</tr>
<tr>
<td>15 - 39.9</td>
<td>40 - 79.9</td>
<td>-</td>
<td>$D_n$ - 7.5</td>
<td>3.2</td>
<td>0.6</td>
<td>0.40</td>
<td>0.25</td>
<td>0.15</td>
</tr>
<tr>
<td>40 - 79.9</td>
<td>80 - 132.9</td>
<td>15 - 39.9</td>
<td>$D_n$ - 11.0</td>
<td>4.2</td>
<td>1.0</td>
<td>0.40</td>
<td>0.25</td>
<td>0.20</td>
</tr>
<tr>
<td>80 - 132.9</td>
<td>133 - 329.9</td>
<td>40 - 79.9</td>
<td>$D_n$ - 15.5</td>
<td>6.3</td>
<td>1.3</td>
<td>0.50</td>
<td>0.30</td>
<td>0.20</td>
</tr>
<tr>
<td>133 - 329.9</td>
<td>330 - 669.9</td>
<td>80 - 132.9</td>
<td>$D_n$ - 21.0</td>
<td>8.1</td>
<td>1.8</td>
<td>0.60</td>
<td>0.35</td>
<td>0.25</td>
</tr>
<tr>
<td>330 - 669.9</td>
<td>670 - 999.9</td>
<td>133 - 329.9</td>
<td>$D_n$ - 24.5</td>
<td>8.1</td>
<td>1.8</td>
<td>0.60</td>
<td>0.35</td>
<td>0.25</td>
</tr>
<tr>
<td>670 - 999.9</td>
<td>$\geq$ 1000</td>
<td>330 - 669.9</td>
<td>$D_n$ - 28.0</td>
<td>9.5</td>
<td>2.5</td>
<td>0.70</td>
<td>0.50</td>
<td>0.30</td>
</tr>
<tr>
<td>$\geq$ 1000</td>
<td>$\geq$ 1000</td>
<td>$\geq$ 1000</td>
<td>$D_n$ - 38.0</td>
<td>13.8</td>
<td>3.0</td>
<td>1.00</td>
<td>0.70</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*At pressures $> 40$ MPa use diameter tolerance H8/f8 (bore/piston) in area of the seal or consult TSS for alternative material or profiles. TSS Slydring® / Wear Rings are not applicable at very small radial clearance $S$. Please consult the Slydring® catalog. O-Rings with 12 mm cross section are delivered as special profilering.
Ordering Example

Turcon® Glyd Ring®, complete with O-Ring, standard application, Series PG44 (from Table X).
Bore diameter: \( D_N = 80.0 \) mm
TSS Part No.: PG4400800 (from Table XI)

Select the material from Table IX. The corresponding code numbers are appended to the TSS Part No. Preferred Series (Table XI).
Together they form the TSS Article Number. The TSS Article Number for all intermediate sizes not shown in Preferred Series (Table XI) can be determined following the example opposite.

Table XI  Installation dimensions / TSS Part No.

<table>
<thead>
<tr>
<th>Bore Dia.</th>
<th>Groove Dia.</th>
<th>Groove Width</th>
<th>TSS Part No.</th>
<th>O-Ring Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>( D_N H9 )</td>
<td>( d_1 h9 )</td>
<td>( L_1 + )0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td>3.1</td>
<td>2.2</td>
<td>PG4400080</td>
<td>2.90 x 1.78</td>
</tr>
<tr>
<td>10.0</td>
<td>5.1</td>
<td>2.2</td>
<td>PG4400100</td>
<td>4.80 x 1.8</td>
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<tr>
<td>12.0</td>
<td>7.1</td>
<td>2.2</td>
<td>PG4400120</td>
<td>6.70 x 1.8</td>
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<tr>
<td>14.0</td>
<td>9.1</td>
<td>2.2</td>
<td>PG4400140</td>
<td>8.75 x 1.8</td>
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<td>7.5</td>
<td>3.2</td>
<td>PG4400150</td>
<td>7.59 x 2.62</td>
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<tr>
<td>16.0</td>
<td>11.1</td>
<td>2.2</td>
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<td>10.82 x 1.78</td>
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<tr>
<td>16.0</td>
<td>8.5</td>
<td>3.2</td>
<td>PG4400160</td>
<td>7.59 x 2.62</td>
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<td>PG4400180</td>
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<td>15.1</td>
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<td>PG4600200</td>
<td>14.00 x 1.78</td>
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<td>20.0</td>
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<td>3.2</td>
<td>PG4600200</td>
<td>12.37 x 2.62</td>
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<tr>
<td>21.0</td>
<td>13.5</td>
<td>3.2</td>
<td>PG4400210</td>
<td>12.37 x 2.62</td>
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<tr>
<td>22.0</td>
<td>17.1</td>
<td>2.2</td>
<td>PG4600220</td>
<td>17.17 x 1.78</td>
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<td>22.0</td>
<td>14.5</td>
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<td>PG4400220</td>
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<td>24.0</td>
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<td>3.2</td>
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<td>3.2</td>
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<td>24.0</td>
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<td>PG4200350</td>
<td>23.40 x 3.53</td>
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</table>

| TSS Article No. | PG44 0 0800 - M12 N |
| Type (Standard) |
| Bore diameter x 10* |
| Quality Index (Standard) |
| Material code (O-Ring) |
| Material code (Seal ring) |

For diameters \( D_N \geq 1000.0 \) mm multiply only by factor 1. Example: PG44 for diameter \( D_N \) 1200.0 mm. TSS Article No.: PG44X1200 - M12N.
### Turcon® Glyd Ring®

<table>
<thead>
<tr>
<th>Bore Dia.</th>
<th>Groove Dia.</th>
<th>Groove Width</th>
<th>TSS Part No.</th>
<th>O-Ring Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
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<th>O-Ring Dimensions</th>
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Latest information available at www.tss.trelleborg.com

Trellberg Sealing Solutions
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<td>2660 x 12.0</td>
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</table>

All dimensions in bold type are suitable for installation in grooves to ISO 7425/1, bore dia. in accordance with ISO 3320. Other dimensions and all intermediate sizes up to 2700 mm dia. including inch sizes can be supplied.

All O-Rings with 12 mm cross section are delivered as special Profiling.
Turcon® Glyd Ring® T

Double Acting
Rubber Energized Plastic Faced Seal

Material:
Turcon®, Zurcon® and Elastomer
**Turcon® Glyd Ring® T**

*Description*

Turcon® Glyd Ring® T is a further technical development of the Turcon® Glyd Ring® seal which has been successfully used for decades. It is fully interchangeable with the earlier Glyd Ring® seals in all new applications. Glyd Ring® T meets all the market demands for a function-specific seal solution, observing economic and ecological aspects.

The benefits of the patented seal concept are provided by the innovative functional principle of the trapezoidal profile cross-section.

Both lateral profile flanks are inclined so that the seal profile tapers towards the seal surface. The profile can thus retain the robust and compact form typical of piston seals without losing any of the flexibility required to achieve a pressure-related maximum compression (Figure 15).

The edge angle created by the special Glyd Ring® T crosssectional form permits an additional degree of freedom and enables a slight tilting movement of the seal. The maximum compression is thus always shifted towards the area of the seal edge directly exposed to the pressure. On the low-pressure edge of the seal, on the other hand, the Glyd Ring® T exhibits only zones with neutral strains without compressive or shearing loads, thus effectively reducing the danger of gap extrusion. The resulting benefits for the user can be seen in the following list.

**Advantages**

The benefits offered to date by the Glyd Ring® are still retained in full, and are now complemented by a number of further important advantages:
- Very good static leak-tightness
- Increased clearance possible (approx. +50%), depending on the operating conditions
- Due to the larger extrusion gap, safe use even with soiled media
- Low friction, no stick-slip effect
- Simple groove design, one-piece pistons possible
- Installation grooves to ISO 7425/1
- Adaptable to the operating conditions due to a wide range of possible materials (Turcon®, Zurcon®)
- Suitable for new environmentally safe hydraulic fluids
- Available for all cylinder diameters up to 2.700 mm.

**Application Examples**

The Turcon® Glyd Ring® T is the recommended sealing element for double acting pistons of hydraulic components such as:
- Injection moulding machines
- Machine tools
- Presses
- Excavators
- Forklifts & handling machinery
- Agriculture
- Valves for hydraulic & pneumatic circuits.
- Servo equipment
- Pressure intensifiers
- Jacks

It is particularly recommended for heavy duty and large diameter applications.

![Figure 15 Turcon® Glyd Ring® T](image1)

![Figure 16 Dynamic leakage Turcon® Glyd Ring® T](image2)

* Patent No.:
  - DE 4140833C3
  - EP 0582593
  - Japan 2799367
  - USA 5,433,452
Turcon® Glyd Ring® T

Technical Data

Operating conditions
Pressure: Up to 60 MPa
Speed: Up to 15 m/s
Temperature: -45 °C to +200 °C (*) (depending on O-Ring material).
Media: Mineral oil-based hydraulic fluids, flame retardant hydraulic fluids, environmentally safe hydraulic fluids (bio-oils), phosphate ester, water, air and others, depending on the seal and O-Ring material compatibility (see Table XIII)
Clearance: The maximum permissible radial clearance $s_{max}$ is shown in Table XIV, as a function of the operating pressure and functional diameter.

Important Note:
The above data are maximum values and cannot be used at the same time. e.g. the maximum operating speed depends on material type, pressure, temperature and gap value. Temperature range also dependent on medium.

*) In the case of unpressurized applications in temperatures below 0°C please contact our application engineers for assistance!

Materials

The following material combinations have proven effective for hydraulic applications:

All round material for hydraulic applications with reciprocating or short stroke in mineral oils, flame retardant hydraulic fluids HFC, phosphate ester, bio-oils or fluids having less satisfactory properties.

Turcon® Glyd Ring® T: Turcon® M12
O-Ring: NBR, 70 Shore A N
FKM, 70 Shore A V
Set code: M12N or M12V

For medium to heavy applications with reciprocating movements in mineral oils and other media with good lubrication:

Turcon® Glyd Ring® T: Turcon® T46
O-Ring: NBR, 70 Shore A N
FKM, 70 Shore A V
Set code: T46N or T46V

For specific applications, other viable material combinations are listed in Table XIII.

Series

Different cross-section sizes are recommended as a function of the seal diameters.

Table XII, shows the relationship between the series number according to the seal diameter range and the different application class sizes. These application classes are:

Standard application: General applications in which no exceptional operating conditions exist.
Light application: Applications with demands for reduced friction or for smaller grooves.
Heavy-duty application: For exceptional operating loads such as high pressures, pressure peaks, etc.

Table XII - Available range

<table>
<thead>
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<th>Series No.</th>
<th>Piston Diameter $D_N$ H9</th>
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<tr>
<td>PT01</td>
<td>8.0 - 200.0</td>
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<tr>
<td>PT02</td>
<td>16.0 - 380.0</td>
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<tr>
<td>PT03</td>
<td>40.0 - 480.0</td>
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<tr>
<td>PT04</td>
<td>80.0 - 700.0</td>
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<td>PT05</td>
<td>133.0 - 999.9</td>
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<tr>
<td>PT05X</td>
<td>310.0 - 999.9</td>
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<tr>
<td>PT06</td>
<td>1000.0 - 1200.0</td>
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<tr>
<td>PT06X</td>
<td>1000.0 - 2700.0</td>
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For the recommended range see Table XIV.
# Table XIII Turcon® and Zurcon® Materials for Glyd Ring® T

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<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Turcon® M12</strong>&lt;br&gt; First material choice for seals in linear motion&lt;br&gt; Overall improved properties&lt;br&gt; For new constructions and updating&lt;br&gt; For all commonly applied hydraulic fluids including fluids with low lubrication performance&lt;br&gt; Lowest friction and best sliding properties&lt;br&gt; Lowest wear on seals&lt;br&gt; Improved absorption of abrasive contaminants&lt;br&gt; No wear or abrasion of counter surface&lt;br&gt; Mineral fibre and Additives filled&lt;br&gt; Colour: Dark grey</td>
<td>M12</td>
<td>NBR - 70</td>
<td>N</td>
<td>-30 to +100</td>
<td>Steel hardened&lt;br&gt; Steel chrome plated (rod)&lt;br&gt; Cast iron&lt;br&gt; Stainless steel&lt;br&gt; Titanium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBR - 70 Low temp.</td>
<td>T</td>
<td>-45 to +80</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FKM - 70</td>
<td>V</td>
<td>-10 to +200</td>
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</tbody>
</table>

**Turcon® T40**<br> For lubricating and non-lubricating fluids<br> High frequency and short strokes<br> **Water hydraulics**<br> Surface texture is not suitable for gas sealing<br> Carbon fibre filled<br> Colour: Grey | T40  | NBR - 70 | N | -30 to +100 | Steel hardened<br> Steel chrome plated (rod)<br> Cast iron<br> Stainless steel<br> Aluminium | 25 |
|  |  | NBR - 70 Low temp. | T | -45 to +80 |  |
|  |  | FKM - 70 | V | -10 to +200 |  |

**Turcon® T46**<br> For lubricated hydraulics in linear motion<br> High compressive strength<br> High extrusion resistance<br> Very good sliding and wear properties<br> BAM tested<br> Bronze filled<br> Colour: Light to dark brown, which may have variations in shading | T46  | NBR - 70 | N | -30 to +100 | Steel hardened<br> Steel chrome plated (rod)<br> Cast iron | 50 |
|  |  | NBR - 70 Low temp.| T | -45 to +80 |  |
|  |  | FKM - 70 | V | -10 to +200 |  |

**Zurcon® Z51***<br> For mineral oil based fluids<br> Very high abrasion and extrusion resistance<br> For counter surface with rougher surface finish<br> Limited chemical resistance<br> Max. working temperature 110 °C<br> Cast polyurethane<br> Colour: Yellow to light-brown | Z51  | NBR - 70 | N | -30 to +100 | Steel hardened<br> Steel chrome plated (rod)<br> Cast iron<br> Stainless steel<br> Ceramic coating | 60 |
|  |  | NBR - 70 Low temp. | T | -45 to +80 |  |

**Zurcon® Z80**<br> For lubricating and non-lubricating fluids<br> Water based fluids, air and gases<br> Dry air pneumatics<br> High abrasion and extrusion resistance<br> For service in abrasive conditions and media with particles<br> Good chemical resistance<br> Limited temperature capability (-60 to +80 °C)<br> UHMWPE (Ultra High Molecular Weight Polyethylene)<br> Colour: White to off-white | Z80  | NBR - 70 | N | -30 to (+100) | Steel hardened<br> Steel chrome plated (rod)<br> Stainless steel<br> Aluminium<br> Ceramic coating | 35 |
|  |  | NBR - 70 Low temp. | T | -45 to +80 |  |
|  |  | EPDM- 70 | E** | -45 to (+145) |  |

* The O-Ring Operation Temperature is only valid in mineral hydraulic oil (except EPDM).<br> ** Material not suitable for mineral oils.<br> *** max. Ø 2300 mm <br> BAM: Tested by "Bundesanstalt Materialprüfung, Germany". |
Turcon® Glyd Ring® T

Installation Recommendation

Figure 17  Installation drawing

Table XIV  Installation Dimensions – Standard recommendations

<table>
<thead>
<tr>
<th>Series-No.</th>
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<th>Groove Diameter d₁, h9</th>
<th>Groove Width L₁ +0.2</th>
<th>Radius r₁</th>
<th>Radial Clearance S max.*</th>
<th>O-Ring Cross-Sec. d₂</th>
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<td>8 - 14.9</td>
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<td>133 - 329.9</td>
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* At pressures > 40 MPa use diameter tolerance H8/f8 (bore/piston) in area of the seal or consult TSS for alternative material or profiles. TSS Slydring® / Wear Rings are not applicable at very small radial clearance S. Please consult the Slydring® catalog.

** O-Rings with 12 mm cross section are delivered as special profilring.
### Ordering example

Turcon® Glyd Ring® T, complete with O-Ring, standard application, series PT03 (from Table XIV).

Bore diameter: \(D_N = 80.0 \text{ mm}\)

TSS Part No.: PT0300800 (from Table XV)

Select the material from Table XIII. The corresponding code numbers are appended to the TSS Part No. (from Table XV). Together they form the TSS Article No.

For all intermediate sizes not shown in Table XV, the TSS Article No. can be determined from the example opposite.

*** For diameters \(\geq 1000.0 \text{ mm}\) multiply only by factor 1.

Example: PT06 for diameter 1200.0 mm.

TSS Article No.: PT06X1200 - M12N.

---

#### Table XV  Installation dimensions / TSS Part No.

<table>
<thead>
<tr>
<th>Bore Dia.</th>
<th>Groove Dia.</th>
<th>Groove Width</th>
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<th>O-Ring Dimensions</th>
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Turcon® Glyd Ring® T
## Turcon® Glyd Ring® T

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All dimensions in **bold** type are suitable for installation in grooves to ISO 7425/1, bore dia. in accordance with ISO 3320. Other dimensions and all intermediate sizes up to 2700 mm dia. including inch sizes can be supplied.

All O-Rings with 12 mm cross section are delivered as special profilring.