

Turcon[®] Roto Glyd Ring[®] V



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The Rotary seal that allows equipment to run faster at a high pressure for longer

Customers are demanding increased performance from rotary seals that challenge the PV values of current seals.

To meet these demands, Trelleborg Sealing Solutions set out to develop a rotary seal that could run at higher speeds combined with higher pressures. The result was the unique Turcon[®] Roto Glyd Ring[®] V, which not only achieves these needs but also, by virtue of lower heat generation, offers a significantly extended seal life.



PERFORMANCE AND RELIABILITY IN EXTREME SITUATIONS

Turcon[®] Roto Glyd Ring[®] V is a premium double-acting rotary seal with outstanding performance and reliability in rotary applications.

Reduced contact surfaces under all operating conditions significantly improve friction and wear characteristics without compromising sealing performance.

Designed for continuous service at high and low PV values, the seal also gives improved performance in oscillating conditions or where there are frequent changes in pressure and/or velocity.

Turcon® Roto Glyd Ring® V



EFFECTIVE SEAL OPERATION

Like other O-Ring activated Slipper Seals, the initial squeeze of the O-Ring ensures sufficient contact pressure between seal and mating surface to provide tightness at low pressure.

With increasing system pressure, the O-Ring and the seal body have a direct contact force on the sealing surface to ensure sealing efficiency at all pressures.

Turcon® Roto Glyd Ring® V has a built in valve function. Valve ports are made from both sides of the Turcon® ring profile to the space in the center, which is the lubricating groove.

A Quad Ring® is installed in the lubricating groove to prevent static leakage through the ports.

When Turcon® Roto Glyd Ring® V is pressurized from one or the other side, the Quad Ring® opens the port on the pressure side and equalizes the pressure beneath the elastomer ring – pressure balancing the seal by more than half.

Shifting pressurization through the ports also renews the fluid in the space between the “legs”, improving lubrication under the seal.

Extensive testing proves seal efficiency

Turcon® Roto Glyd Ring® V was extensively tested within Trelleborg's in-house research and development facilities on test rigs specifically engineered for the purpose. The seals underwent a number of stringent test regimes to measure performance in a variety of sealing parameters critical to the effective performance of seals within rotary hydraulic.

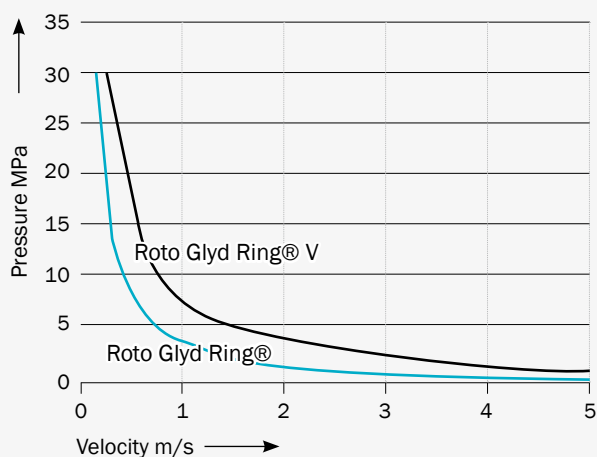
Comparisons were made with other Trelleborg Sealing Solutions premium bi-directional seals, which though effective in most rotary applications, were found to reach their limits specifically in applications where there were high speeds combined with high pressures.

Test results show that Turcon® Roto Glyd Ring® V runs with low frictional torque at all pressures from 0.5 MPa / 72.5 psi and above with low sensitivity to pressure increases from 0.5 to 20 MPa / 72.5 to 2900 psi.

It achieved a PV twice as high as other bi-directional seals and demonstrated 50% lower friction. Furthermore, wear of the seal and O-Ring was so low that it could not be measured.

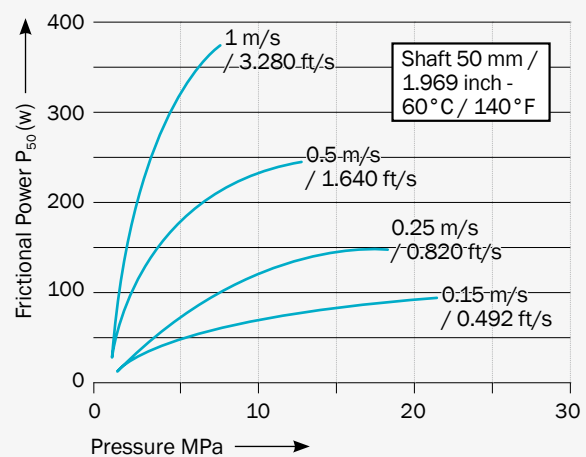


PV-Values



Turcon® Roto Glyd Ring® V has a PV value significantly higher than a standard Turcon® Roto Glyd Ring®.

Friction at constant rotation

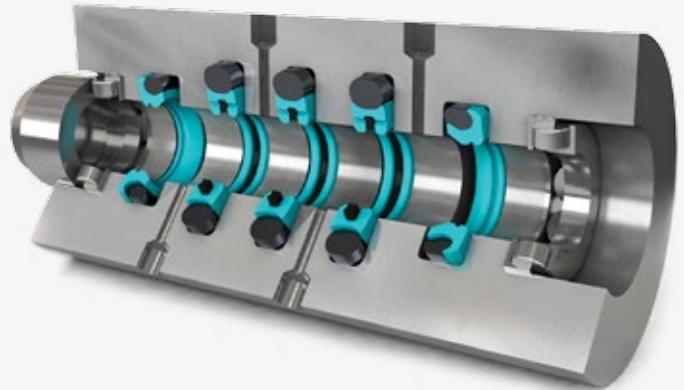


Turcon® Roto Glyd Ring® V has low sensitivity to pressure increases from 0.5 to 20 MPa / 72.5 to 2900 psi.

Making difficult applications seem easy

Turcon® Roto Glyd Ring® V is ideal for equipment for which a long service life is required in demanding service conditions.

Typical examples are machining centers, hydraulic swivels, lead-throughs, rotary connections with swivel movements, excavators, forestry machinery, hydraulic rotators, robots, manipulators, indexing tables, pivoting motors, hydraulic motors, blow molding machines, top drives and core cutting equipment.



TECHNICAL INFORMATION

Movement	Constant rotation, oscillating or helical
Pressure P	Up to 30 MPa / 4,350 psi
Velocity V	Up to 2.0 m/s / 78.7 inch/s according to seal material and pressure
PV	Up to 10 MPa x m/s / 1,450 psi x inch/s depending on size, temperature and working cycle
Temperature	-30 °C to +120 °C / -22 °F to +248 °F as standard with NBR elastomers -30 °C to +150 °C / -22 °F to +302 °F with HNBR or -10 °C to +150 °C / -14 °F to +302 °F FKM Maximum recommended operating temperature: +100 °C / +212 °F
Medium	Hydraulic fluids with good lubricating behavior based on mineral oil or esters Water based Hydraulic fluids, cooling / lubricating fluids, depends on seal material
Availability	Turcon® Roto Glyd Ring® V is manufactured by machining and is available for, shaft diameters from 35 to 500 mm / 1.377 to 19.685 inches and bore diameters from 22 to 500 mm / 1.377 to 19.685 inches in recommended materials Turcon® M15, M30, M04, T40, and Zurcon® Z53, Z54, Z80 and other applicable Turcon® and Zurcon® materials

A patent application has been submitted.

Material Spotlight



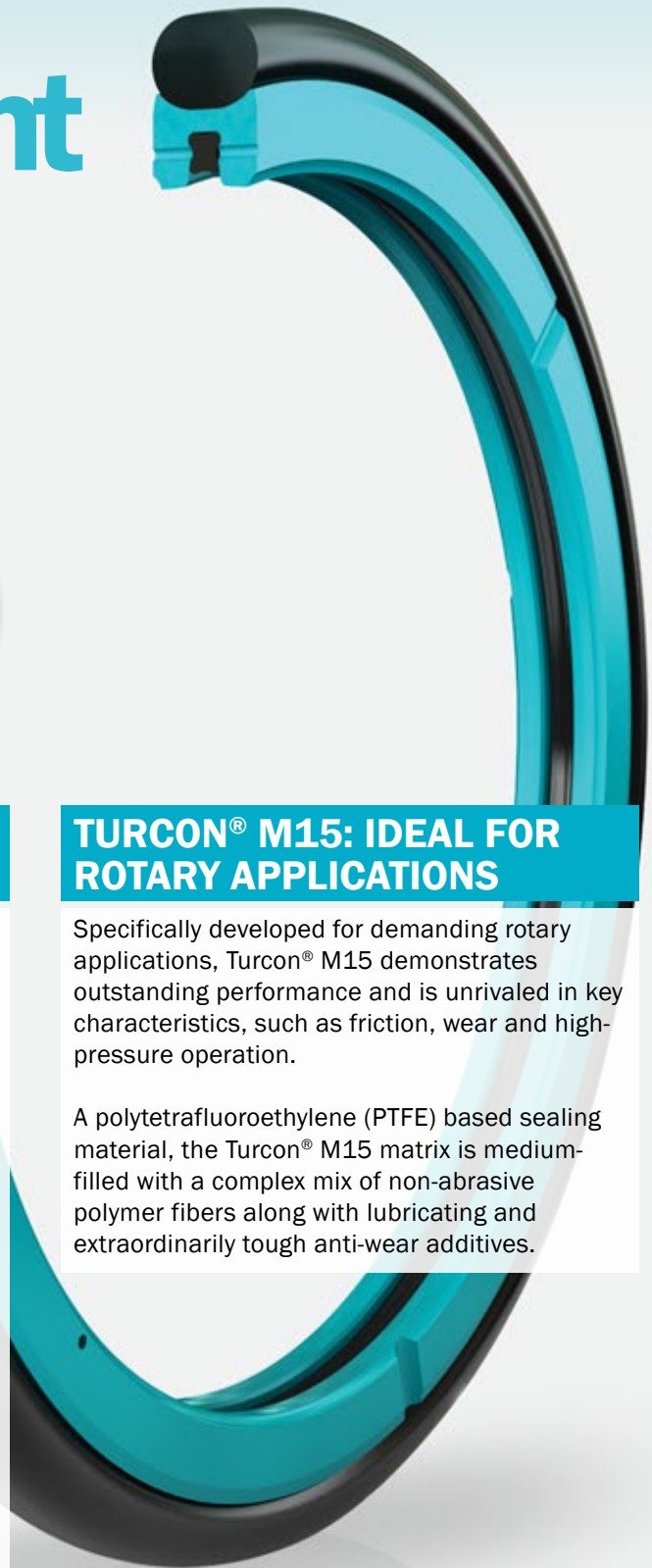
FEATURES AND BENEFITS OF TURCON® M15:

- Resistant to virtually all media including a broad range of lubricants
- Outstanding wear resistance and friction characteristics
- Provides extended seal life
- Operates in wide temperature, pressure and velocity ranges
- Minimal abrasion of hardware, preventing damage to counter surfaces
- Robust for harsh environments
- Good resistance to extrusion
- Reduced environmental impact as it does not include harmful fillers
- Preferred sealing material for use in rotary hydraulic applications
- Cost-effective solution
- Recommended operating temperatures of -30°C to +120°C / -22°F to +248 °F

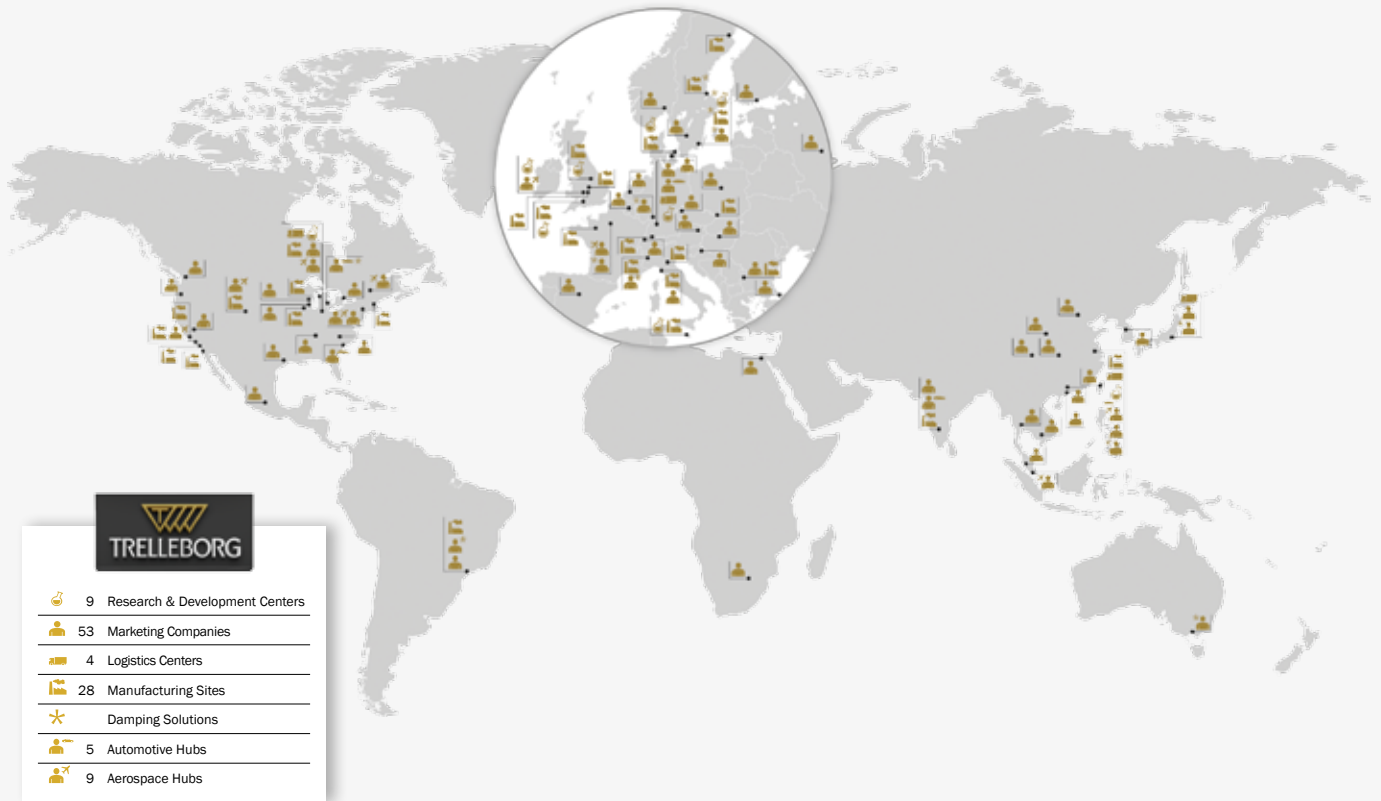
TURCON® M15: IDEAL FOR ROTARY APPLICATIONS

Specifically developed for demanding rotary applications, Turcon® M15 demonstrates outstanding performance and is unrivaled in key characteristics, such as friction, wear and high-pressure operation.

A polytetrafluoroethylene (PTFE) based sealing material, the Turcon® M15 matrix is medium-filled with a complex mix of non-abrasive polymer fibers along with lubricating and extraordinarily tough anti-wear additives.



Local Presence, Global Reach



WORKING WITH TRELLEBORG SEALING SOLUTIONS

With manufacturing and engineering resources in over 40 countries, Trelleborg Sealing Solutions offers the unrivalled ability to provide product development expertise and value added services with a global reach.

- Advanced delivery programs with global stock holding, customized handling and special packaging services
- Engineering expertise from prototype development to market rollout
- Evaluation of application performance through pressure testing and chemical resistance profiling
- Finite element analysis (FEA) for market leading non-linear analysis
- Manufacturing capabilities with custom solution development

MORE INFORMATION



Trelleborg Sealing Solutions offers unmatched levels of local engineering, commercial service and support, combined with the unique resources, experience and capabilities of a global industry leader. Watch our film and read a variety of case stories from different industries that demonstrate how Trelleborg brings unique advantages to customers. Visit www.global-but-local.com.

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AFRICA, CENTRAL ASIA AND MIDDLE EAST

Details available at www.tss.trelleborg.com



Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative engineered solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has local presence in over 40 countries around the world.

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