



## TECHNICAL INFORMATION

# Rod Seals | Turcon® Stepseal® 2K

### Description

Rod seals must exhibit no dynamic leakage to the atmosphere side under all operating conditions and must be statically completely leak tight when the machine is at a standstill.

Furthermore, they should achieve a high degree of mechanical efficiency through low friction and be easy to install in small grooves. Costs and service life must meet the high expectations of the operator.

The rod seal Turcon® Stepseal® 2K comes closest to satisfying these ideal demands. Since the first Stepseal® was patented, Trelleborg Sealing Solutions has maintained the series as technically outstanding through continuous

innovation. Turcon® Stepseal® 2K marks the latest development.

The introduction of Stepseal® made it possible to arrange several seals in sequence thus allowing statically and dynamically tight double-acting tandem seal configurations to be created while avoiding disturbing build-up of intermediate pressure. The single-acting seal element is made of high-grade Turcon® materials with outstanding sliding and wear resistance properties. It is installed according to ISO 7425-2 and Trelleborg Sealing Solutions standard grooves, using an O-Ring as energizing element.

### Advantages

- High static and dynamic sealing effect
- High extrusion resistance, meets high hardware clearances
- Low friction, high efficiency
- Stick-slip free starting, no sticking
- High abrasion resistance, high operational reliability
- Wide range of application temperatures and high resistance to chemicals, depending on the choice of O-Ring material
- Simple installation without seal edge deformation
- Available for all diameters up to 250 mm rod diameter



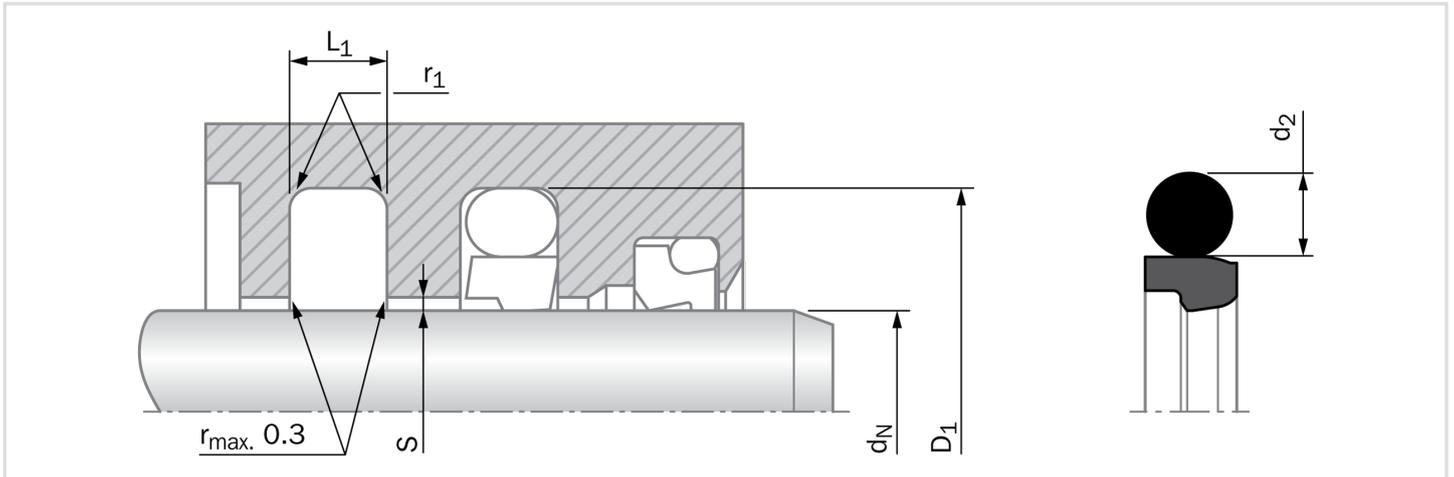
### Technical Data

Pressure	: Up to 50 MPa
Speed	: Up to 15 m/s with reciprocating movements, frequency up to 5 Hz
Temperature	: -30 °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 and others, depending on the O-Ring material compatibility
Clearance	: The maximum permissible radial clearance $S_{max}$ is shown in the table on the next page as a function of the operating pressure and functional diameter.



## TECHNICAL INFORMATION

# Rod Seals | Turcon® Stepseal® 2K



### Installation dimensions - Standard recommendations

Series No.	Rod Diameter $d_N$ f8/h9			Groove Diameter $D_1$ H9	Groove Width $L_1 + 0.2$	Radius $r_1$	Radial Clearance $S_{max.}^*$			O-Ring Cross-Section $d_2$
	Standard Application	Light** Application	Heavy Duty Application				10 MPa	20 MPa	40 MPa	
RSK0	3 - 7.9	8 - 18.9	-	$d_N + 4.9$	2.2	0.4	0.30	0.20	0.15	1.78
RSK1	8 - 18.9	19 - 37.9	-	$d_N + 7.3$	3.2	0.6	0.40	0.25	0.15	2.62
RSK2	19 - 37.9	38 - 199.9	8 - 18.9	$d_N + 10.7$	4.2	1.0	0.50	0.30	0.20	3.53
RSK3	38 - 199.9	200 - 255.9	19 - 37.9	$d_N + 15.1$	6.3	1.3	0.70	0.40	0.25	5.33
RSK4	200 - 255.9	256 - 649.9	38 - 199.9	$d_N + 20.5$	8.1	1.8	0.80	0.60	0.35	7.00
RSK8	256 - 649.9	650 - 999.9	200 - 255.9	$d_N + 24.0$	8.1	1.8	0.90	0.70	0.40	7.00
RSK5	650 - 999.9	-	256 - 649.9	$d_N + 27.3$	9.5	2.5	1.00	0.80	0.50	8.40
RSK5X	-	1000 - 1200	-	$d_N + 27.3$	9.5	2.5	1.00	0.80	0.50	8.40
RSK6***	-	-	650 - 999.9	$d_N + 38.0$	13.8	3.0	1.20	0.90	0.60	12.00
RSK6X***	1000 - 2600	-	-	$d_N + 38.0$	13.8	3.0	1.20	0.90	0.60	12.00

\* For pressures from 40 MPa to the maximum specified, use diameter tolerance H8/f8 (bore/rod) in the area behind the seal.

Slydring®/Wear Rings are not applicable at very small radial clearance.

\*\* For easier installation in closed grooves with small rod diameters (< 40 mm).

\*\*\* All O-Rings with 12 mm cross section are delivered as special profile ring.

### Important Note

Installation suggestions, material recommendations, parameters and further data provided are always subject to the particular field of use and the application in which the seal is intended to be used, in particular the interaction of the seal with other components of the application. Therefore they neither constitute an agreement on the legal and factual nature nor a guarantee of quality. Technical changes and errors remain reserved.