



TECHNICAL INFORMATION

Piston Seals | Turcon® Stepseal® 2K

Description

The Stepseal® 2K is a single-acting seal element consisting of a seal ring of high-grade Turcon® materials and an O-Ring as energizing element. The Stepseal® 2K was originally developed and patented by Trelleborg Sealing Solutions as a

rod seal. Due to its outstanding properties, however, it is equally well suited as a single-acting piston seal where high demands are made on positional accuracy and free movement.

Advantages

- High static and dynamic sealing effect
- Stick-slip free operation for precise control
- High abrasion resistance and high resistance to extrusion
- Long service life
- Simple groove design, one-piece piston possible
- 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 many diameters from 10 to 250 mm
- Low friction



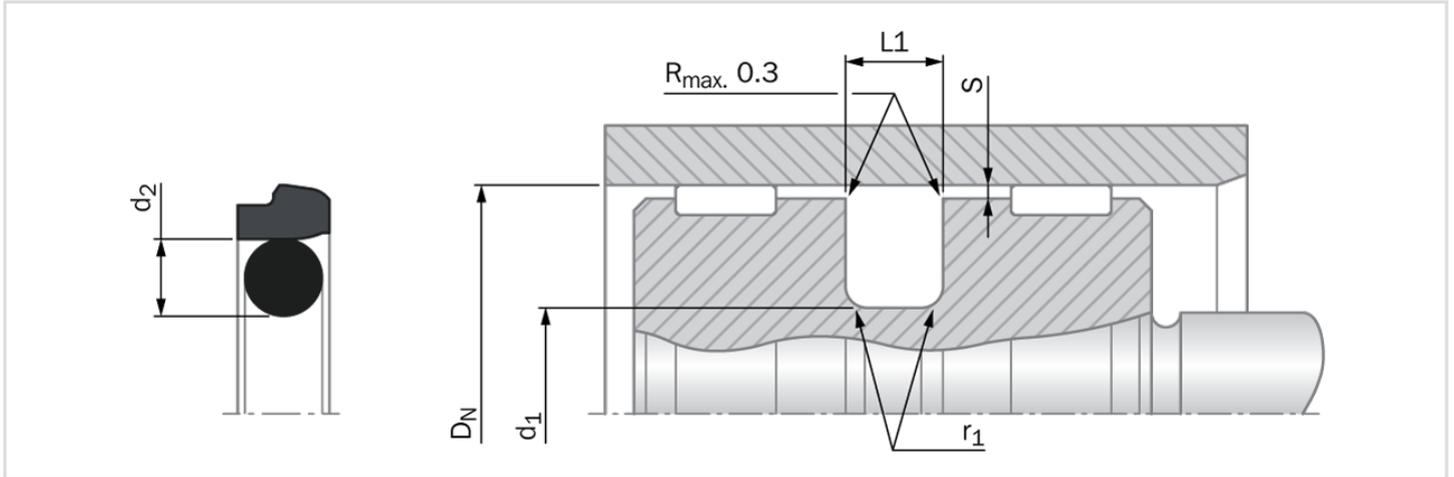
Technical Data

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 seal, O-Ring Seal 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.



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Installation dimensions - Standard recommendations

Series No.	Rod Diameter D_N 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	
PSK0	8 - 16.9	17 - 26.9	-	$D_N - 4.9$	2.2	0.4	0.30	0.20	0.15	1.78
PSK1	17 - 26.9	27 - 59.9	-	$D_N - 7.3$	3.2	0.6	0.40	0.25	0.15	2.62
PSK2	27 - 59.9	60 - 199.9	17 - 26.9	$D_N - 10.7$	4.2	1.0	0.50	0.30	0.20	3.53
PSK3	60 - 199.9	200 - 255.9	27 - 59.9	$D_N - 15.1$	6.3	1.3	0.70	0.40	0.25	5.33
PSK4	200 - 255.9	256 - 669.9	60 - 199.9	$D_N - 20.5$	8.1	1.8	0.80	0.60	0.35	7.00
PSK8	256 - 669.9	670 - 999.9	200 - 255.9	$D_N - 24.0$	8.1	1.8	0.90	0.70	0.40	7.00
PSK5	670 - 999.9	-	256 - 669.9	$D_N - 28.0$	9.5	2.5	1.00	0.80	0.60	8.40
PSK5X	-	1000 - 1200	-	$D_N - 28.0$	9.5	2.5	1.00	0.80	0.60	8.40
PSK6**	-	-	670 - 999.9	$D_N - 38.0$	13.8	3.0	1.20	0.90	0.60	12.00
PSK6X**	1000 - 2700	-	-	$D_N - 38.0$	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 S.

** 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.