Turcon® Stepseal® 2K

Single-acting

Rubber-energized plastic-faced seal

Material:
Turcon®, Zurcon® and Elastomer

Turcon® Stepseal® 2K*

Description

Under all operating conditions, dynamic rod seals must not exhibit any leakage to the atmosphere side and must be 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 build-up of intermediate pressure. The single-acting seal element is made of high-grade Turcon® or Zurcon® materials with outstanding sliding and wear resistance properties. It is installed in Trelleborg Sealing Solutions standard Stepseal® grooves as well as ISO 7425-2 seal housing, using an O-Ring as an energizing element.

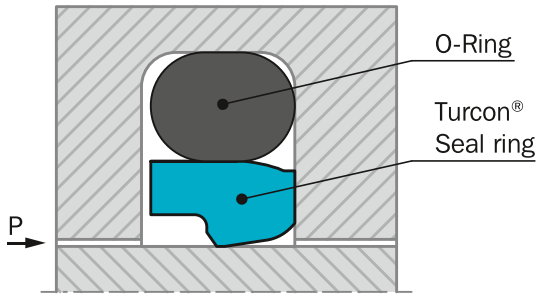

Figure 17: Turcon® Stepseal® 2K

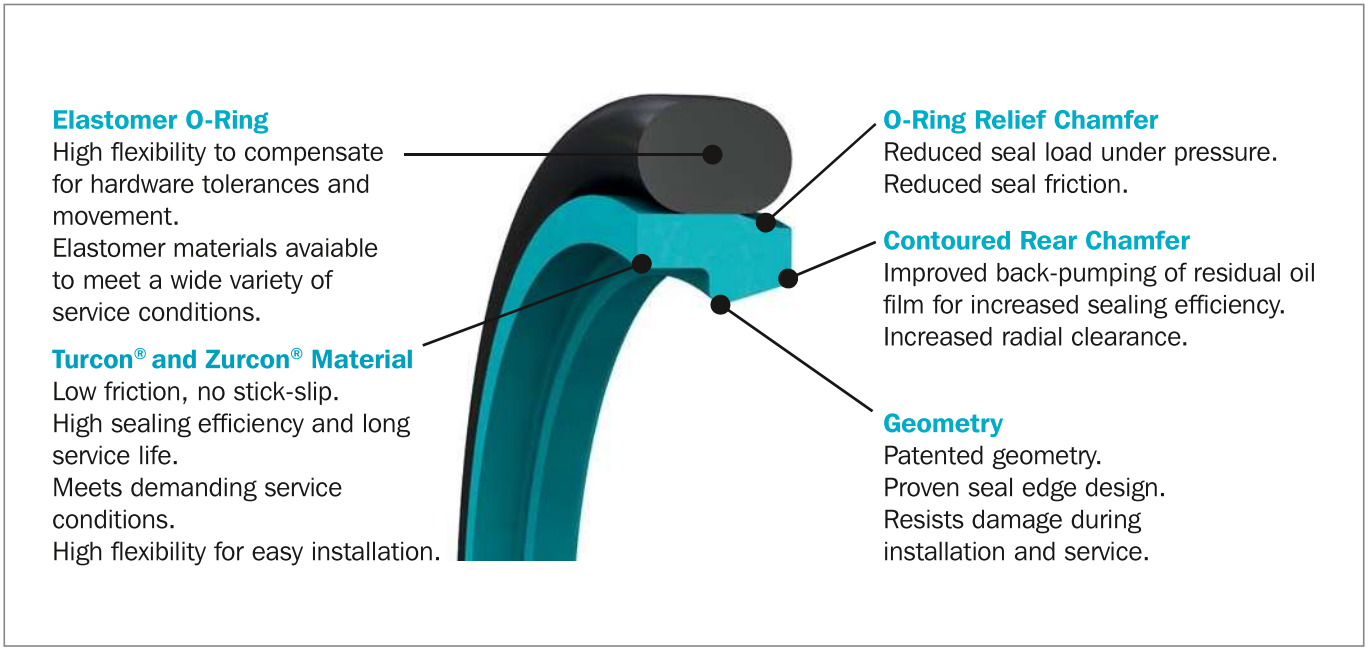

Figure 18: Turcon® Stepseal® 2K design features

* Patented geometry

METHOD OF OPERATION

The sealing performance of Turcon® Stepseal® 2K (Figure 17) results from its hydrodynamic properties. The classic Stepseal® seal edge creates a steep contact pressure gradient on the high pressure side and a shallow contact pressure gradient on the low pressure side. The controlled pressure gradients minimize fluid adherence to the piston rod during the extending stroke, and enables residual fluid film on the rod to be returned into the system on the return stroke. This is united with patented design features which further improve the performance of Stepseal® 2K under severe service conditions.

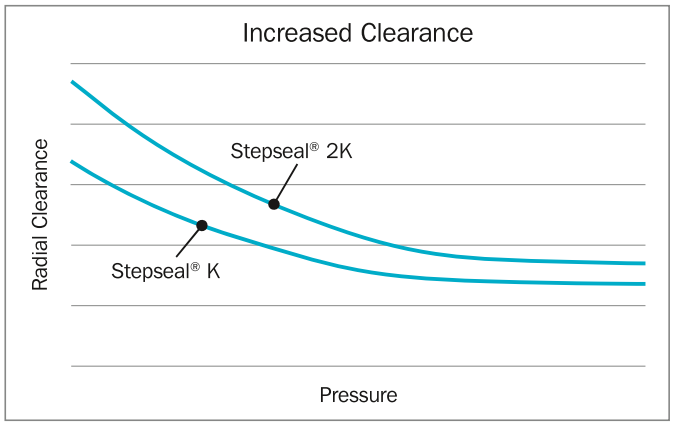

Figure 19: Turcon® Stepseal® 2K possesses superior extrusion resistance and allows increased hardware clearance

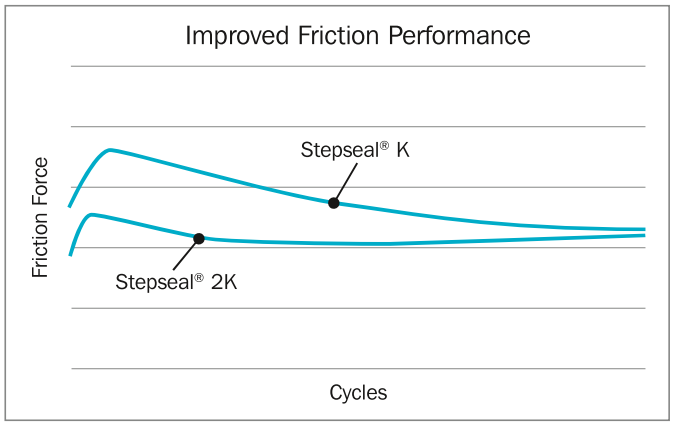

Figure 20: Turcon® Stepseal® 2K offers a uniform, low-friction characteristic

The O-Ring relief chamfer reduces pressure loading on the seal, whereby contact with the rod is optimised and sealing performance is improved at high service pressures. The special high-lift rear chamfer combines a smooth downstream sealing face with the ability to meet large radial clearances and hardware tolerances.

Stepseal® 2K gives high static and dynamic sealing performance, and the build-up of intermediate pressure often found with tandem seal configurations (Figure 21) is efficiently suppressed.

ADVANTAGES

- High static and dynamic sealing effect
- High extrusion resistance, allowing large hardware clearances
- Low friction, high efficiency
- Stick-slip free operation
- 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 2,600 mm rod diamter
- Fits standard Stepseal® 2K groove dimensions as well as ISO 7425 seal housings

APPLICATION EXAMPLES

- Mobile hydraulics
- Construction equipment
- Mining
- Standard cylinders
- Machine tools
- Injection molding machines
- Presses
- Clamp cylinders
- Wind turbines
- Automotive industry
- Shock absorbers
- Hydraulic hammers
- Servo hydraulics

OPERATING CONDITIONS

Pressure:	Up to 60 MPa
Speed:	Up to 15 m/s with reciprocating movements, 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 friendly hydraulic fluids (bio-oils), phosphate ester, water and others, depending on the O-Ring material compatibility (see Table 12)
Clearance:	The maximum permissible radial clearance S_{max} is shown in Table 13, 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 depends on media.

SERIES

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

Table 13 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 without exceptional operating conditions.
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 11: Available Range

Series No.	Rod Diameter d_N f8/h9
RSK00	1.5 - 130.0
RSK10	6.0 - 250.0
RSK20	8.0 - 450.0
RSK30	12.0 - 650.0
RSK40	38.0 - 650.0
RSK80	140.0 - 999.9
RSK50	180.0 - 999.9
RSK5X	1,000.0 - 1,200.0
RSK60	650.0 - 999.9
RSK6X	1,000.0 - 2,600.0

For the Standard Recommendations Application range see Table 13.

ISO GROOVE

Stepseal® 2K is installed in Trelleborg Sealing Solutions standard Stepseal® grooves or according to ISO 7425-2 seal housing.

REDUNDANT SEALING SYSTEM

In many applications, secondary seal systems are required. Figure 21 shows a tandem configuration with the Stepseal® 2K.

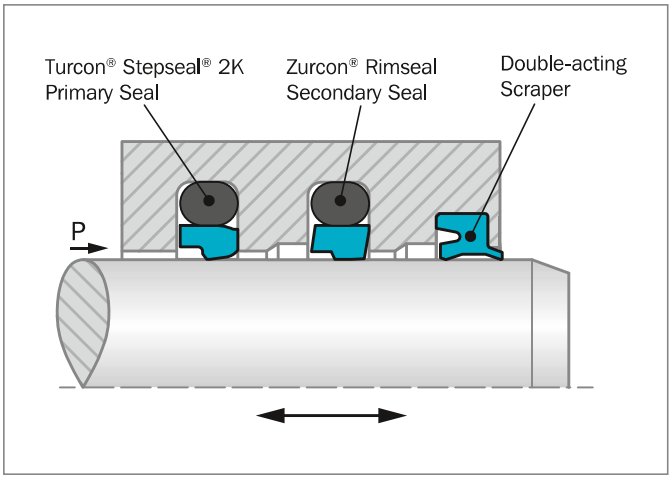

Figure 21: Turcon® Stepseal® 2K and Zurcon® Rimseal in tandem configuration

In this configuration it must be noted that a sufficiently large space is formed between the seals to take the hydraulic fluid, as shown in the figure.

Depending on the application and the operating conditions, the combination of different materials offers a further improvement in the sealing efficiency and the service life of the system, e.g. in hydraulic cylinders subject to high loads and under rough operating conditions, the primary seal should be made of Turcon® and the secondary seal of Zurcon®.

Stepseal® 2K elements should always be used in combination with a double-acting scraper to provide optimum sealing effect.

The scrapers Turcon® Excluder® 2, Turcon® Excluder® 5, Turcon® Excluder® F, Zurcon® Excluder® 500, DA17, DA22 and DA24 are well suited to such applications. For further details, please refer to the Scrapers section in this catalog.

INSTALLATION INSTRUCTIONS

Stepseal® 2K is installed according to information on page 37 and 38.

Closed groove installation according to dimensions in Table 6 on page 38.

RECOMMENDED MATERIALS

The following material combinations have proven effective for hydraulic applications:

Turcon® Stepseal® 2K in Turcon® M12
All round material for light to heavy hydraulic applications with linear, short stroke or helical movements in mineral oils, flame retardant hydraulic fluids, phosphate ester, bio-oils or fluids having low lubricating properties:

O-Ring	NBR 70 Shore A	N
	FKM 70 Shore A	V
Set Code:	M12N or M12V	

Turcon® Stepseal® 2K in Turcon® T46
For medium to heavy applications with linear movements in mineral oils and other media with good lubrication:

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 material combinations are listed in Table 12.

Table 12: Turcon® and Zurcon® Materials for Stepseal® 2K

Material, Applications, Properties	Code	O–Ring Material Shore A	Code	O-Ring Operating Temp.* °C	Mating Surface Material	MPa max. Dyna-mic
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 Low wear or abrasion of counter surface BAM tested Mineral fiber and additives filled Color: Dark gray	M12	NBR 70	N	-30 to +100	Steel Steel hardened Steel chrome plated (rod) Steel plated (rod) Cast iron Stainless steel Titanium	50
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
Turcon® T05 For lubricating fluids Also for gas service Very low friction Very good sliding and sealing properties Color: Turquoise	T05	NBR 70	N	-30 to +100	Steel Steel hardened Steel chrome plated (rod)	20
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
Turcon® T08 For lubricating fluids and linear motion Very high compressive strength and extrusion resistance Hard counter surfaces is recommended Bronze filled Color: Light to dark brown, which may have variations in shading	T08	NBR 70	N	-30 to +100	Steel hardened Steel chrome plated (rod) Cast iron	60
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
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 Color: Black	T10	NBR 70	N	-30 to +100	Steel Steel hardened Steel chrome plated (rod) Stainless steel	40
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
		EPDM 70	E**	-45 to +145		
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 fiber filled Color: Gray	T29	NBR 70	N	-30 to +100	Steel Steel hardened Steel chrome plated (rod) Cast iron Stainless steel	30
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
		EPDM 70	E**	-45 to +145		

Table continues on next page

Material, Applications, Properties	Code	O–Ring Material Shore A	Code	O-Ring Operating Temp.* °C	Mating Surface Material	MPa max. Dyna-mic
Turcon® T40 For lubricating and non-lubricating fluids High frequency and short strokes Water hydraulics Surface texture is not suitable for gas sealing Carbon fiber filled Color: Gray	T40	NBR 70	N	-30 to +100	Steel Steel hardened Steel chrome plated (rod) Cast iron Stainless steel Aluminum	25
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
		EPDM 70	E**	-45 to +145		
Turcon® T46 For lubricated hydraulics in linear motion High compressive strength High extrusion resistance Very good sliding and wear properties BAM tested Bronze filled Color: Light to dark brown, which may have variations in shading	T46	NBR 70	N	-30 to +100	Steel hardened Steel chrome plated (rod) Cast iron	50
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
Zurcon® Z53*** For mineral oil based fluids Very high abrasion and extrusion resistance For counter surfaces with rougher surface finish Limited chemical resistance Max. working temperature +110 °C Cast polyurethane Color: Yellow to light-brown	Z53	NBR 70	N	-30 to +100	Steel Steel hardened Steel chrome plated (rod) Cast iron Stainless steel Ceramic coating	60
		NBR 70 Low temp.	T	-45 to +80		
Zurcon® Z80 For lubricating and non-lubricating fluids Water based fluids, air and gases Dry air pneumatics High abrasion and extrusion resistance For service in abrasive conditions and media with particles Good chemical resistance Limited temperature capability (-60 to +80 °C) UHMWPE (Ultra High Molecular Weight Polyethylene) Color: White to off-white	Z80	NBR 70	N	-30 to (+100)	Steel Steel hardened Steel chrome plated (rod) Stainless steel Aluminum 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).

** Material not suitable for mineral oils.

*** Max. diameter 2,200 mm.

BAM: Tested by “Bundesanstalt Materialprufung, Germany”.

Highlighted materials are recommended.

Installation Recommendation

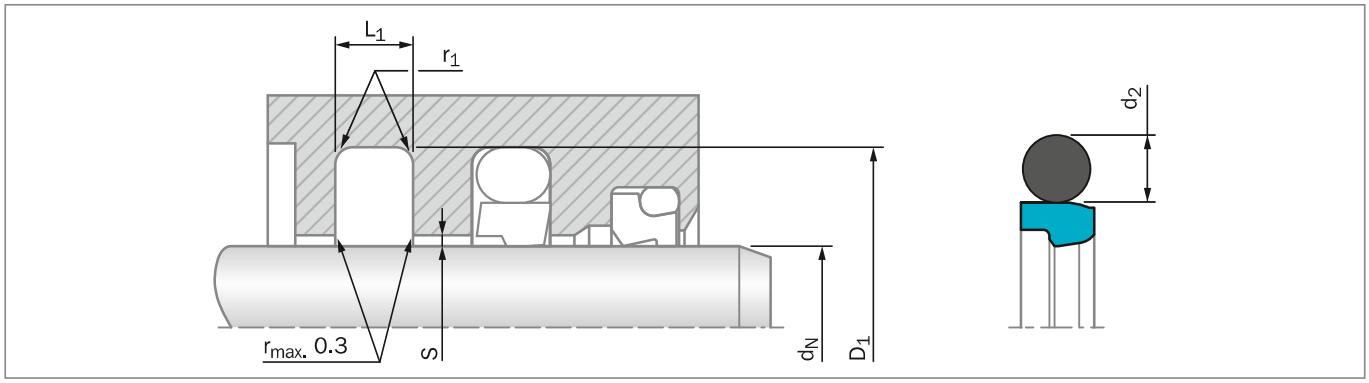

Figure 22: Installation Drawing

Table 13: Installation Dimensions – Standard Recommendations

Series No.	Rod Diameter d_N f8/h9			Groove Diameter	Groove Width	Radius	Radial Clearance S_{max}*			O-Ring Cross Section
	Standard Application	Light Application**	Heavy Duty Application	D_1 H9	L_1 +0.2	r_1 max	10 MPa	20 MPa	40 MPa	d_2
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	-	1,000 - 1,200	-	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***	1,000 - 2,600	-	-	d_N + 38.0	13.8	3.0	1.20	0.90	0.60	12.00

* At pressures > **40 MPa** use diameter tolerance H8/f8 (bore/rod) in the area behind seal or consult your local Customer Solution Center for alternative material or profiles.
Slydring® / Wear Rings are not applicable at very small radial clearances, please consult the Slydring® section in this catalog.

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

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

ORDERING EXAMPLE

Turcon® Stepseal® 2K complete with O-Ring, standard application:

Series:	RSK4 from Table 13
Rod diameter:	d_N = 250.0 mm
TSS Part No.:	RSK402500 from Table 14

Select the material from Table 12. The corresponding code numbers are appended to the TSS Part No. Together these form the TSS Article Number. The TSS Article Number for all intermediate sizes can be determined by following the example:

TSS Article No. RSK4 0 2500 - M12 N

- RSK4 — TSS Series No.
- 0 — Type (Standard)
- 2500 — Rod Diameter x 10****
- M12 — Quality Index (Standard)
- N — Material Code (Seal Ring)
- Material code (O-Ring)

**** For diameters $d_n \geq$ 1,000.0 mm multiply only by factor 1.
Example: RSK6 for diameter d_n = 1,200.0 mm.
TSS Article No.: RSK6**X1200**-M12N.

Table 14: Installation Dimensions / TSS Part No.

Rod Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.2	TSS Part No.	O-Ring Size
3.0	7.9	2.2	RSK000030	4.80 x 1.80
4.0	**8.9**	**2.2**	**RSK000040**	**5.60 x 1.80**
5.0	**9.9**	**2.2**	**RSK000050**	**6.70 x 1.80**
6.0	**10.9**	**2.2**	**RSK000060**	**7.65 x 1.78**
7.0	11.9	2.2	RSK000070	8.75 x 1.80
8.0	**12.9**	**2.2**	**RSK000080**	**9.50 x 1.80**
8.0	**15.3**	**3.2**	**RSK100080**	**10.77 x 2.62**
9.0	13.9	2.2	RSK000090	10.82 x 1.78
9.0	16.3	3.2	RSK100090	10.77 x 2.62
10.0	**14.9**	**2.2**	**RSK000100**	**11.80 x 1.80**
10.0	**17.3**	**3.2**	**RSK100100**	**12.37 x 2.62**
12.0	**16.9**	**2.2**	**RSK000120**	**14.00 x 1.78**
12.0	**19.3**	**3.2**	**RSK100120**	**14.50 x 2.65**
12.7	17.6	2.2	RSK000127	14.00 x 1.78
12.7	20.0	3.2	RSK100127	15.54 x 2.62
14.0	**18.9**	**2.2**	**RSK000140**	**15.60 x 1.78**
14.0	**21.3**	**3.2**	**RSK100140**	**17.12 x 2.62**
15.0	19.9	2.2	RSK000150	17.17 x 1.78
15.0	22.3	3.2	RSK100150	18.00 x 2.65
16.0	**20.9**	**2.2**	**RSK000160**	**17.17 x 1.78**
16.0	**23.3**	**3.2**	**RSK100160**	**18.72 x 2.62**
17.0	21.9	2.2	RSK000170	18.77 x 1.78
18.0	**22.9**	**2.2**	**RSK000180**	**20.35 x 1.78**
18.0	**25.3**	**3.2**	**RSK100180**	**20.29 x 2.62**
19.0	29.7	4.2	RSK200190	23.40 x 3.53
20.0	**27.3**	**3.2**	**RSK100200**	**21.89 x 2.62**
20.0	**30.7**	**4.2**	**RSK200200**	**25.00 x 3.53**
22.0	**29.3**	**3.2**	**RSK100220**	**25.07 x 2.62**
22.0	**32.7**	**4.2**	**RSK200220**	**26.58 x 3.53**
24.0	31.3	3.2	RSK100240	26.64 x 2.62
25.0	**32.3**	**3.2**	**RSK100250**	**28.24 x 2.62**
25.0	**35.7**	**4.2**	**RSK200250**	**29.75 x 3.53**
25.4	32.7	3.2	RSK100254	28.24 x 2.62
25.4	36.1	4.2	RSK200254	29.75 x 3.53
26.0	33.3	3.2	RSK100260	28.24 x 2.62
26.0	36.7	4.2	RSK200260	29.75 x 3.53
28.0	**35.3**	**3.2**	**RSK100280**	**29.82 x 2.62**
28.0	**38.7**	**4.2**	**RSK200280**	**32.92 x 3.53**
28.575	35.875	3.2	RSK100286	31.42 x 2.62
30.0	37.3	3.2	RSK100300	32.99 x 2.62
30.0	40.7	4.2	RSK200300	34.52 x 3.53

Rod Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.2	TSS Part No.	O-Ring Size
32.0	**39.3**	**3.2**	**RSK100320**	**34.59 x 2.62**
32.0	**42.7**	**4.2**	**RSK200320**	**36.09 x 3.53**
34.0	44.7	4.2	RSK200340	37.69 x 3.53
35.0	42.3	3.2	RSK100350	37.77 x 2.62
35.0	45.7	4.2	RSK200350	37.69 x 3.53
36.0	**43.3**	**3.2**	**RSK100360**	**39.34 x 2.62**
36.0	**46.7**	**4.2**	**RSK200360**	**40.87 x 3.53**
37.0	44.3	3.2	RSK100370	39.34 x 2.62
37.0	47.7	4.2	RSK200370	40.87 x 3.53
38.0	48.7	4.2	RSK200380	40.87 x 3.53
38.0	53.1	6.3	RSK300380	43.82 x 5.33
40.0	**50.7**	**4.2**	**RSK200400**	**44.04 x 3.53**
40.0	**55.1**	**6.3**	**RSK300400**	**43.82 x 5.33**
42.0	52.7	4.2	RSK200420	47.22 x 3.53
42.0	57.1	6.3	RSK300420	46.99 x 5.33
43.0	53.7	4.2	RSK200430	47.22 x 3.53
44.4	59.5	6.3	RSK300444	50.17 x 5.33
45.0	**55.7**	**4.2**	**RSK200450**	**50.39 x 3.53**
45.0	**60.1**	**6.3**	**RSK300450**	**50.17 x 5.33**
48.0	58.7	4.2	RSK200480	53.57 x 3.53
48.0	63.1	6.3	RSK300480	53.34 x 5.33
50.0	**60.7**	**4.2**	**RSK200500**	**53.57 x 3.53**
50.0	**65.1**	**6.3**	**RSK300500**	**56.52 x 5.33**
50.8	61.5	4.2	RSK200508	53.57 x 3.53
50.8	65.9	6.3	RSK300508	56.52 x 5.33
52.0	62.7	4.2	RSK200520	56.74 x 3.53
52.0	67.1	6.3	RSK300520	56.52 x 5.33
54.0	69.1	6.3	RSK300540	59.69 x 5.33
55.0	65.7	4.2	RSK200550	59.92 x 3.53
55.0	70.1	6.3	RSK300550	59.69 x 5.33
56.0	**66.7**	**4.2**	**RSK200560**	**59.92 x 3.53**
56.0	**71.1**	**6.3**	**RSK300560**	**62.87 x 5.33**
56.0	**76.5**	**8.1**	**RSK400560**	**64 x 7.00**
57.0	72.1	6.3	RSK300570	62.87 x 5.33
59.0	69.7	4.2	RSK200590	63.09 x 3.53
60.0	70.7	4.2	RSK200600	63.09 x 3.53
60.0	75.1	6.3	RSK300600	66.04 x 5.33
63.0	**73.7**	**4.2**	**RSK200630**	**66.27 x 3.53**
63.0	**78.1**	**6.3**	**RSK300630**	**69.22 x 5.33**
63.5	78.6	6.3	RSK300635	69.22 x 5.33
65.0	75.7	4.2	RSK200650	69.44 x 3.53

Rod Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.2	TSS Part No.	O-Ring Size
65.0	80.1	6.3	RSK300650	69.22 x 5.33
67.0	77.7	4.2	RSK200670	72.62 x 3.53
69.0	84.1	6.3	RSK300690	75.57 x 5.33
70.0	**80.7**	**4.2**	**RSK200700**	**75.79 x 3.53**
70.0	**85.1**	**6.3**	**RSK300700**	**75.57 x 5.33**
70.0	**90.5**	**8.1**	**RSK400700**	**78 x 7.00**
72.0	82.7	4.2	RSK200720	75.79 x 3.53
73.0	88.1	6.3	RSK300730	78.74 x 5.33
75.0	85.7	4.2	RSK200750	78.97 x 3.53
75.0	90.1	6.3	RSK300750	81.92 x 5.33
76.2	91.3	6.3	RSK300762	81.92 x 5.33
78.0	93.1	6.3	RSK300780	85.09 x 5.33
80.0	**90.7**	**4.2**	**RSK200800**	**85.32 x 3.53**
80.0	**95.1**	**6.3**	**RSK300800**	**85.09 x 5.33**
80.0	**100.5**	**8.1**	**RSK400800**	**88 x 7.00**
82.5	97.6	6.3	RSK300825	88.27 x 5.33
83.0	93.7	4.2	RSK200830	88.49 x 3.53
85.0	95.7	4.2	RSK200850	88.49 x 3.53
85.0	100.1	6.3	RSK300850	91.44 x 5.33
85.0	105.5	8.1	RSK400850	93 x 7.00
89.0	104.1	6.3	RSK300890	94.62 x 5.33
90.0	**100.7**	**4.2**	**RSK200900**	**94.84 x 3.53**
90.0	**105.1**	**6.3**	**RSK300900**	**94.62 x 5.33**
90.0	**110.5**	**8.1**	**RSK400900**	**98 x 7.00**
92.0	102.7	4.2	RSK200920	98.02 x 3.53
92.0	107.1	6.3	RSK300920	97.79 x 5.33
95.0	105.7	4.2	RSK200950	101.19 x 3.53
95.0	110.1	6.3	RSK300950	100.97 x 5.33
100.0	**110.7**	**4.2**	**RSK201000**	**104.37 x 3.53**
100.0	**115.1**	**6.3**	**RSK301000**	**107.32 x 5.33**
100.0	**120.5**	**8.1**	**RSK401000**	**108 x 7.00**
101.6	116.7	6.3	RSK301016	107.32 x 5.33
104.7	119.8	6.3	RSK301047	110.49 x 5.33
105.0	120.1	6.3	RSK301050	110.49 x 5.33
105.0	125.5	8.1	RSK401050	113.67 x 7.00
110.0	**120.7**	**4.2**	**RSK201100**	**113.89 x 3.53**
110.0	**125.1**	**6.3**	**RSK301100**	**116.84 x 5.33**
110.0	**130.5**	**8.1**	**RSK401100**	**116.84 x 7.00**
115.0	130.1	6.3	RSK301150	120.02 x 5.33
120.0	135.1	6.3	RSK301200	126.37 x 5.33
120.0	140.5	8.1	RSK401200	129.54 x 7.00

Rod Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.2	TSS Part No.	O-Ring Size
125.0	**140.1**	**6.3**	**RSK301250**	**129.54 x 5.33**
125.0	**145.5**	**8.1**	**RSK401250**	**132.72 x 7.00**
125.4	140.5	6.3	RSK301254	132.72 x 5.33
127.0	142.1	6.3	RSK301270	132.72 x 5.33
130.0	145.1	6.3	RSK301300	135.89 x 5.33
130.0	150.5	8.1	RSK401300	139.07 x 7.00
132.0	147.1	6.3	RSK301320	139.07 x 5.33
135.0	145.7	4.2	RSK201350	139.29 x 3.53
135.0	150.1	6.3	RSK301350	142.24 x 5.33
137.0	152.1	6.3	RSK301370	142.24 x 5.33
138.0	153.1	6.3	RSK301380	142.24 x 5.33
140.0	150.7	4.2	RSK201400	145.64 x 3.53
140.0	**155.1**	**6.3**	**RSK301400**	**145.42 x 5.33**
140.0	160.5	8.1	RSK401400	148.59 x 7.00
140.5	155.6	6.3	RSK301405	145.42 x 5.33
145.0	160.1	6.3	RSK301450	151.77 x 5.33
145.0	165.5	8.1	RSK401450	151.77 x 7.00
150.0	165.1	6.3	RSK301500	158.12 x 5.33
150.0	170.5	8.1	RSK401500	158.12 x 7.00
153.0	168.1	6.3	RSK301530	158.12 x 5.33
155.0	170.1	6.3	RSK301550	158.12 x 5.33
160.0	**175.1**	**6.3**	**RSK301600**	**164.47 x 5.33**
160.0	**180.5**	**8.1**	**RSK401600**	**170.82 x 7.00**
165.0	180.1	6.3	RSK301650	170.82 x 5.33
170.0	185.1	6.3	RSK301700	177.17 x 5.33
170.0	190.5	8.1	RSK401700	177.17 x 7.00
173.0	188.1	6.3	RSK301730	177.17 x 5.33
175.0	190.1	6.3	RSK301750	183.52 x 5.33
180.0	**195.1**	**6.3**	**RSK301800**	**183.52 x 5.33**
180.0	**200.5**	**8.1**	**RSK401800**	**189.87 x 7.00**
185.0	200.1	6.3	RSK301850	189.87 x 5.33
185.0	205.5	8.1	RSK401850	196.22 x 7.00
190.0	205.1	6.3	RSK301900	196.22 x 5.33
190.0	210.5	8.1	RSK401900	196.22 x 7.00
195.0	210.1	6.3	RSK301950	202.57 x 5.33
200.0	**215.1**	**6.3**	**RSK302000**	**208.92 x 5.33**
200.0	**220.5**	**8.1**	**RSK402000**	**208.90 x 7.00**
205.0	225.5	8.1	RSK402050	215.27 x 7.00
210.0	230.5	8.1	RSK402100	215.27 x 7.00
211.0	231.5	8.1	RSK402110	215.27 x 7.00
212.0	232.5	8.1	RSK402120	227.97 x 7.00

Rod Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.2	TSS Part No.	O-Ring Size
215.0	235.5	8.1	RSK402150	227.97 x 7.00
220.0	**240.5**	**8.1**	**RSK402200**	**227.97 x 7.00**
225.0	245.5	8.1	RSK402250	240.67 x 7.00
230.0	245.1	6.3	RSK302300	234.32 x 5.33
230.0	250.5	8.1	RSK402300	240.67 x 7.00
235.0	255.5	8.1	RSK402350	240.67 x 7.00
240.0	260.5	8.1	RSK402400	253.37 x 7.00
245.0	265.5	8.1	RSK402450	253.37 x 7.00
250.0	**270.5**	**8.1**	**RSK402500**	**266.07 x 7.00**
260.0	284.0	8.1	RSK802600	266.07 x 7.00
265.0	289.0	8.1	RSK802650	278.77 x 7.00
270.0	290.5	8.1	RSK402700	278.77 x 7.00
270.0	294.0	8.1	RSK802700	278.77 x 7.00
275.0	299.0	8.1	RSK802750	291.47 x 7.00
280.0	**304.0**	**8.1**	**RSK802800**	**291.47 x 7.00**
285.0	309.0	8.1	RSK802850	291.47 x 7.00
290.0	314.0	8.1	RSK802900	304.17 x 7.00
295.0	319.0	8.1	RSK802950	304.17 x 7.00
300.0	320.5	8.1	RSK403000	304.17 x 7.00
300.0	324.0	8.1	RSK803000	316.87 x 7.00
310.0	334.0	8.1	RSK803100	316.87 x 7.00
320.0	**344.0**	**8.1**	**RSK803200**	**329.57 x 7.00**
330.0	354.0	8.1	RSK803300	342.27 x 7.00
340.0	364.0	8.1	RSK803400	354.97 x 7.00
350.0	370.5	8.1	RSK403500	354.97 x 7.00
350.0	374.0	8.1	RSK803500	367.67 x 7.00
360.0	**384.0**	**8.1**	**RSK803600**	**367.67 x 7.00**
365.0	389.0	8.1	RSK803650	380.37 x 7.00
370.0	394.0	8.1	RSK803700	380.37 x 7.00
375.0	399.0	8.1	RSK803750	393.07 x 7.00
380.0	404.0	8.1	RSK803800	393.07 x 7.00
390.0	414.0	8.1	RSK803900	405.26 x 7.00
400.0	424.0	8.1	RSK804000	417.96 x 7.00
410.0	434.0	8.1	RSK804100	417.96 x 7.00
420.0	444.0	8.1	RSK804200	430.66 x 7.00
430.0	454.0	8.1	RSK804300	443.36 x 7.00
435.0	459.0	8.1	RSK804350	443.36 x 7.00
440.0	464.0	8.1	RSK804400	456.06 x 7.00
450.0	474.0	8.1	RSK804500	468.76 x 7.00
460.0	484.0	8.1	RSK804600	468.76 x 7.00
470.0	494.0	8.1	RSK804700	481.38 x 7.00

Rod Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.2	TSS Part No.	O-Ring Size
480.0	504.0	8.1	RSK804800	494.16 x 7.00
485.0	509.0	8.1	RSK804850	494.16 x 7.00
490.0	514.0	8.1	RSK804900	506.86 x 7.00
500.0	524.0	8.1	RSK805000	506.86 x 7.00
510.0	534.0	8.1	RSK805100	532.26 x 7.00
520.0	544.0	8.1	RSK805200	532.26 x 7.00
525.0	549.0	8.1	RSK805250	532.26 x 7.00
530.0	554.0	8.1	RSK805300	557.66 x 7.00
540.0	564.0	8.1	RSK805400	557.66 x 7.00
550.0	574.0	8.1	RSK805500	557.66 x 7.00
560.0	584.0	8.1	RSK805600	582.68 x 7.00
570.0	594.0	8.1	RSK805700	582.68 x 7.00
580.0	604.0	8.1	RSK805800	608.08 x 7.00
585.0	609.0	8.1	RSK805850	608.08 x 7.00
590.0	614.0	8.1	RSK805900	608.08 x 7.00
600.0	624.0	8.1	RSK806000	608.08 x 7.00
610.0	634.0	8.1	RSK806100	633.48 x 7.00
620.0	644.0	8.1	RSK806200	633.48 x 7.00
630.0	654.0	8.1	RSK806300	658.88 x 7.00
640.0	664.0	8.1	RSK806400	658.88 x 7.00
650.0	677.3	9.5	RSK506500	663.00 x 8.40
656.0	683.3	9.5	RSK506560	669.00 x 8.40
660.0	687.3	9.5	RSK506600	673.00 x 8.40
680.0	707.3	9.5	RSK506800	693.00 x 8.40
685.0	712.3	9.5	RSK506850	698.00 x 8.40
700.0	724.0	8.1	RSK807000	712.00 x 7.00
700.0	727.3	9.5	RSK507000	713.00 x 8.40
710.0	737.3	9.5	RSK507100	723.00 x 8.40
730.0	757.3	9.5	RSK507300	743.00 x 8.40
760.0	787.3	9.5	RSK507600	773.00 x 8.40
765.0	792.3	9.5	RSK507650	778.00 x 8.40
780.0	807.3	9.5	RSK507800	793.00 x 8.40
790.0	817.3	9.5	RSK507900	803.00 x 8.40
800.0	827.3	9.5	RSK508000	813.00 x 8.40
810.0	837.3	9.5	RSK508100	823.00 x 8.40
820.0	847.3	9.5	RSK508200	833.00 x 8.40
830.0	857.3	9.5	RSK508300	843.00 x 8.40
850.0	877.3	9.5	RSK508500	863.00 x 8.40
870.0	897.3	9.5	RSK508700	883.00 x 8.40
880.0	907.3	9.5	RSK508800	893.00 x 8.40
885.0	912.3	9.5	RSK508850	898.00 x 8.40

Rod Dia.	Groove Dia.	Groove Width	TSS Part No.	O-Ring Size
d_N f8/h9	D_1 H9	L_1 +0.2		
890.0	917.3	9.5	RSK508900	903.00 x 8.40
930.0	957.3	9.5	RSK509300	943.00 x 8.40
955.0	982.3	9.5	RSK509550	968.00 x 8.40
1,000.0	1,038.0	13.8	RSK6X1000	1,016.00 x 12.00
1,035.0	1,073.0	13.8	RSK6X1035	1,051.00 x 12.00
1,040.0	1,067.3	9.5	RSK5X1040	1,052.00 x 8.40
1,040.0	1,078.0	13.8	RSK6X1040	1,056.00 x 12.00
1,050.0	1,077.3	9.5	RSK5X1050	1,062.00 x 8.40
1,050.0	1,088.0	13.8	RSK6X1050	1,066.00 x 12.00
1,100.0	1,138.0	13.8	RSK6X1100	1,116.00 x 12.00
1,120.0	1,147.3	9.5	RSK5X1120	1,132.00 x 8.40
1,120.0	1,158.0	13.8	RSK6X1120	1,136.00 x 12.00
1,200.0	1,227.3	9.5	RSK5X1200	1,212.00 x 8.40
1,200.0	1,238.0	13.8	RSK6X1200	1,216.00 x 12.00
1,330.0	1,368.0	13.8	RSK6X1330	1,346.00 x 12.00
1,500.0	1,538.0	13.8	RSK6X1500	1,516.00 x 12.00
1,600.0	1,638.0	13.8	RSK6X1600	1,616.00 x 12.00
2,000.0	2,038.0	13.8	RSK6X2000	2,016.00 x 12.00
2,600.0	2,638.0	13.8	RSK6X2600	2,616.00 x 12.00

The rod diameters in **bold** type are in accordance with the recommendations of ISO 3320.

Other dimensions and all intermediate sizes up to 2,600 mm diameter including imperial (inch) sizes can be supplied.

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