

Turcon® Roto VL Seal®



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■ Turcon® Roto VL Seal®

■ General Description

Turcon® Roto VL Seal® is a single-acting rotary seal with the same groove dimensions as standard O-Rings (see Figure 151).

The design is optimized for friction, leakage and service life.

Turcon® Roto VL Seal® offers improved performance in terms of high dynamic seal efficiency, low friction and static sealing by using an elastomer component.

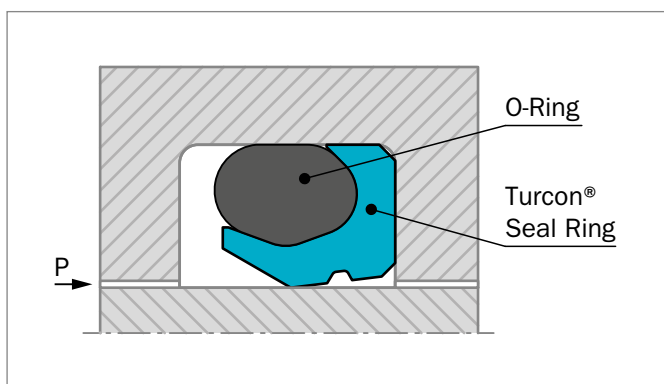


Figure 151: Turcon® Roto VL Seal®

Turcon® Roto VL Seal® covers both shaft and bore installations.

The seal is a combination of a Turcon® based slipper seal and an energizing O-Ring. It has 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 energized by the fluid pushing Turcon® Roto VL Seal® against the sealing face with increased force.

Turcon® Roto VL Seal® has a very high static sealing ability provided by the O-Ring, which is protected from damage under pressure cycles by the supporting concave seal back and keeps it in position at high working pressure.

FEATURES AND BENEFITS

- Standard O-Ring groove dimensions, ISO 6194 and AS 4716
- For rotary, turning and helical movements
- Low to high pressure
- Low friction
- Stick-slip-free starting, no sticking in operation

- High static sealing effect
- High dimensional stability
- Lubricant reservoir
- Available in Turcon® and Zurcon® materials
- Available in most materials and in all sizes up to 2,600 mm for shaft seals and to 2,700 mm for bore seals

APPLICATION EXAMPLES

The seal is used in hydraulics and general machine construction as an alternative to other single-acting seals according to their individual advantages in:

- Rolling Mills: Bearing Grease Seals
- Tool Machine Industry: Mainly Machining Centres
- Hydraulic Swivels
- Injection Molding Machines: Rotary Injection Unit
- Valve Spindles
- Food Processing: Blender and Mixers
- Hydraulic Steering Units
- Hydraulic Rotator: Forest machines
- Rotator for Handling Devices
- Vane Actuators / Motors
- Hydraulic Motors
- Hydraulic Pumps
- Propeller Thrusters
- ROV (Remotely Operated Vehicle)

OPERATING CONDITIONS

Seal performance is influenced by such factors as lubrication capability of the sealed media and heat dissipation in the hardware. Therefore testing should always be carried out. With good lubrication, the following values can be used:

Movement:	Rotary and oscillating or helical
Pressure:	Up to 30 MPa at slow turning motion 20 MPa recommended max. at continuous rotation
Speed:	Up to 2 m/s and/or 1,000 rpm according to seal material



Temperature:	Turcon® materials: -40 to +120 °C * (+150 °C at slow turning) according to O-Ring material
	Zurcon® Z54: -40 to +80 °C * (+100 °C at slow turning) according to O-Ring material
	Zurcon® Z80: -40 to +60 °C * (+80 °C at slow turning) according to O-Ring material
Media:	Mineral oil-based hydraulic fluids, flame-retardant hydraulic fluids, environmentally friendly hydraulic fluids (bio-oils), water and others, depending on seal and elastomer material.
Availability:	Shaft diameters from 6 to 2,600 mm (2,200 for Zurcon® Z54)
	Bore diameters from 10 to 2,700 mm (2,300 for Zurcon® Z54)
Caution with:	Operating at temperatures above +80 °C, use O-Rings in HNBR or FKM
	Rotary service on shafts and bores with poor heat dissipation
	Shaft and bores with hardness below 50 HRC
	Constant rotation for Zurcon® materials

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.

* IMPORTANT NOTE FOR BORE VERSION:

In case of unpressurized applications in temperatures below 0 °C, please contact your local Customer Solution Center for more information.

RADIAL NOTCH

Turcon® Roto VL Seal® can be delivered with radial notches on the “back side” (low pressure side). This is an advantage if the seal is used in rotary applications. If pressurized fluid is trapped between the seal and groove corner, notches can prevent the seal from rotating in the groove. (See ordering examples).

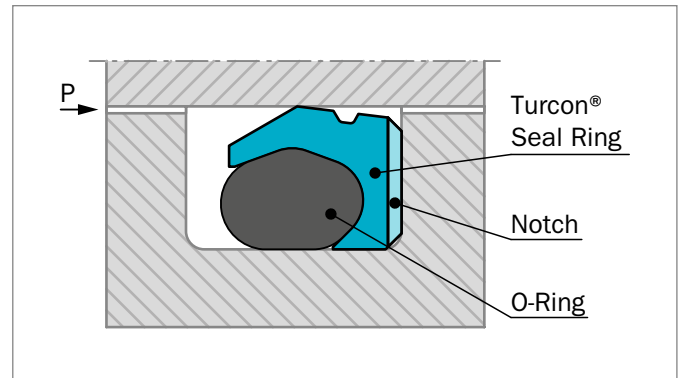


Figure 152: Turcon® Roto VL Seal® with radial notch

FRICTIONAL POWER

Guide values for the frictional power (P) can be determined from the graph in Figure 153. They are shown as a function of the sliding speed and operating pressure for a shaft diameter of 50 mm with an oil temperature of +60 °C. At higher temperatures, these application limits must be reduced.

Formula for other diameters d:

$$P = \frac{P_{50} \times (d)}{(50 \text{ mm})} \text{ [W]}$$

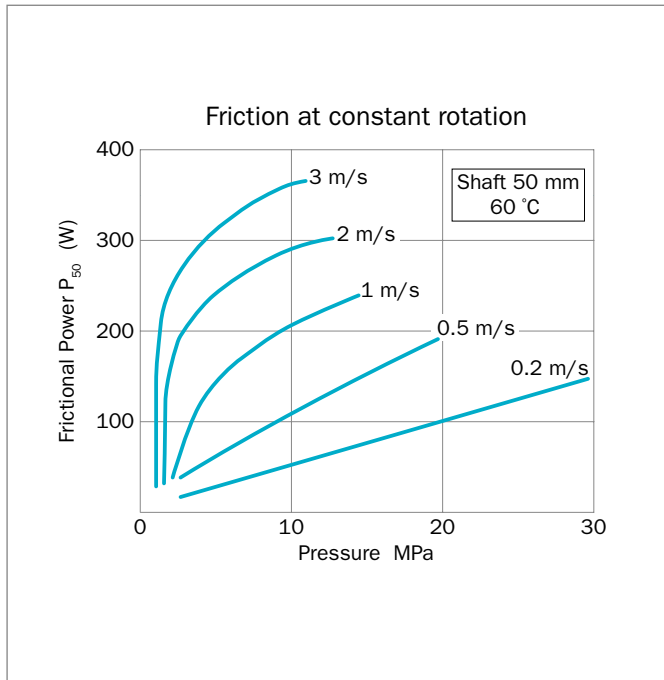


Figure 153: Frictional power for Turcon® Roto VL Seal®

The guide values apply for constant operating conditions. Pressure fluctuations or alternating directions of shaft rotation can result in considerably higher friction values.

INSTALLATION INSTRUCTIONS

Turcon® Roto VL Seal® is installed according to information on Seite 315.

Closed groove installation according to dimensions in Table 104 on Seite 294.

O-RING SIZE

O-Rings for Turcon® Roto VL Seal® are selected to suit the groove diameter.

For shaft seals the O-Ring should have OD equal to or smaller than groove diameter, for bore seals the O-Ring should have ID equal to or smaller than groove diameter.

RECOMMENDED MATERIALS

The following material combinations have proven effective for rotary applications:

Turcon® Roto VL Seal® in Turcon® T40

All-round material choice in oil hydraulics, water and other fluids with limited lubrication:

O-Ring:	NBR 70 Shore A	N
	FKM 70 Shore A	V
	HNBR 70 Shore A	H

Set code: T40N, T40V or T40H

Turcon® Roto VL Seal® in Turcon® M15

Material with high sealing effect for light to medium applications in fluids with good lubrication:

O-Ring:	NBR 70 Shore A	N
	FKM 70 Shore A	V
	HNBR 70 Shore A	H

Set code: M15N, M15V or M15H

Turcon® Roto VL Seal® in Zurcon® Z80

For slow turning applications fluid, with air, gases and/or risk of high abrasive wear.

Temperature limit -45 °C to +80 °C:

O-Ring:	NBR 70 Shore A	N
	FKM 70 Shore A	V
	(according to media)	

Set code: Z80N or Z80V

Z80 is not for constant rotation.

For specific applications, other Turcon® and Zurcon® materials are available.


Table 103: Turcon® Roto VL Seal®

Material, Applications, Properties	Code	O-Ring Material Shore A	Code	Service Temp.* °C	Mating Surface Material	MPa max. Dynamic
Turcon® M04 For lubricating and non-lubricating fluids and gases Smooth and tight surface texture Good sealing performance Suitable for softer mating surfaces High extrusion resistance For swiveling and low velocity rotary service only Carbon filled Color: Black	M04	NBR 70	N	-30 to +100	Steel	30
		NBR 70 Low temp.	T	-45 to +80	Hardened steel	
		FKM 70	V	-10 to +200		
		HNBR 70	H	-30 to +150		
Turcon® M15 Recommended material for rotary motion For lubricating fluids Tight surface texture Good sealing performance Very good wear properties Low friction Good extrusion resistance Suited to softer mating surfaces Polyaramide, mineral fiber, lubricant, graphite and Turcon® filled Color: Dark gray	M15	NBR 70	N	-30 to +100	Hardened steel	30
		NBR 70 Low temp.	T	-45 to +80		
		FKM 70	V	-10 to +200		
		HNBR 70	H	-30 to +150		
Turcon® M30 For lubricating and non-lubricating fluids and gases Good wear and extrusion resistance Suited to high temperature service Tight surface structure Good sealing performance Suited to softer surfaces For swiveling and low velocity rotary service only Aromatic polymer, graphite, Turcon® filled Color: Dark green-gray.	M30	NBR 70	N	-30 to +100	Steel	30
		NBR 70 Low temp.	T	-45 to +80	Hardened steel	
		FKM 70	V	-10 to +200	Stainless steel	
		HNBR 70	H	-30 to +150	Titanium HVOF Tungsten carbide	
Turcon® T40 All-round material for rotary and turning movements. For lubricating and non-lubricating fluids. Good wear resistance and service life also with non-lubricating fluids. Surface texture less suited for gas sealing. Carbon fiber filled Color: Gray.	T40	NBR 70	N	-30 to +100	Hardened steel	30
		NBR 70 Low temp.	T	-45 to +80	Hard Alloys	
		FKM 70	V	-10 to +200		
		HNBR 70	H	-30 to +150		

Table is continued on next page



Material, Applications, Properties	Code	O-Ring Material Shore A	Code	Service Temp. * °C	Mating Surface Material	MPa max. Dynamic
Zurcon® Z53** For lubricating hydraulic fluids Very high abrasion and extrusion resistance Good sealing performance Well suited to abrasive mating surfaces For swiveling and intermittent low-velocity rotary service only Limited chemical resistance Maximum service temperature: +110 °C Cast polyurethane Color: Yellow to light brown	Z53	NBR 70	N	-30 to +100	Hardened steel	40
		NBR 70 Low temp.	T	-45 to +80	Chrome-plated steel (shaft) Ceramic coatings Stainless steel	
Zurcon® Z54** For lubricating hydraulic fluids Very high abrasion resistance Good sealing performance Well suited to abrasive mating surfaces. For swiveling and intermittent low-velocity rotary service only Maximum service temperature: +110 °C Cast polyurethane Color: Turquoise	Z54	NBR 70	N	-30 to +100	Steel	25
		NBR 70 Low temp.	T	-45 to +80	Hardened steel Chrome-plated steel (shaft) Ceramic coatings Stainless steel	
Zurcon® Z80 For lubricating and non-lubricating fluids and gases High abrasion and extrusion resistance Well suited to abrasive mating surfaces and fluids For swiveling and intermittent low-velocity rotary service only Good chemical resistance Ultra-high molecular weight polyethylene Color: White to off-white	Z80	NBR 70	N	-30 to +80	Steel	30
		NBR 70 Low temp.	T	-45 to +80	Hardened steel Ceramic coatings HVOF Tungsten carbide	

* Service temperatures are only valid when using hydraulic mineral oil. Note that frictional heat may cause increased temperatures at the seal.

** Maximum diameter 2,200 mm

 Recommended material.

Note:

Rotary seals exert high loads on mating surfaces and mild steels are best suited for slow or swiveling service.

As a basic principle, the hardness of the mating surface should increase with the peripheral speed, and a hardness of 60 HRC is recommended for velocities above 1 m/s. Due to the mechanical stresses imposed, a hardness depth of 0.5 mm or more is recommended to limit dimensional changes to the mating surface.



■ Installation Recommendation for Shaft

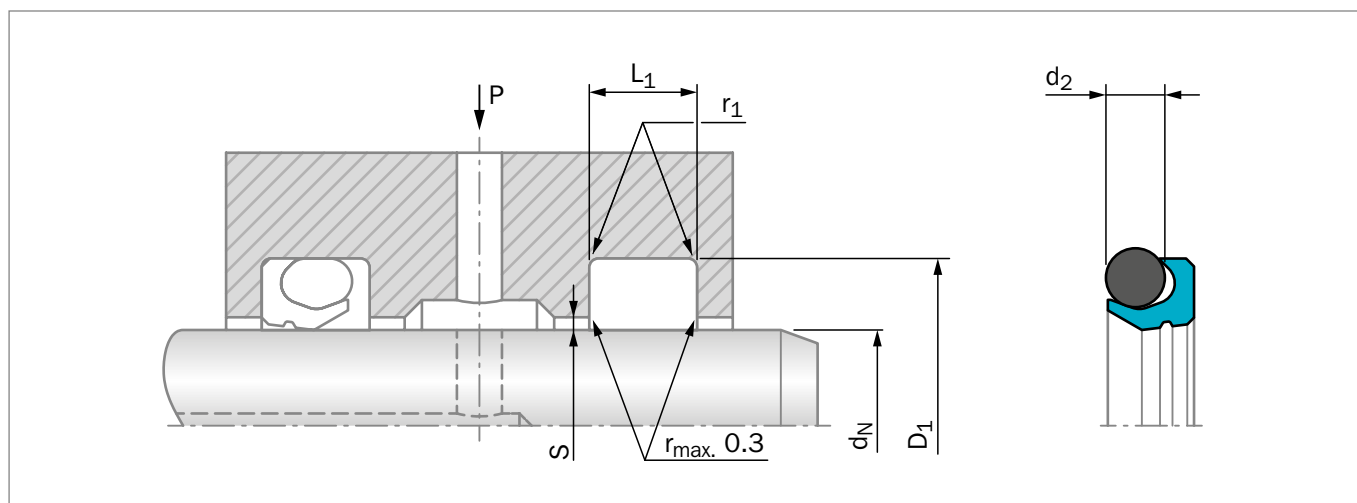


Figure 154: Installation Drawing

Table 104: Installation Dimensions – Standard Recommendations

Series Number	Shaft 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-Ø d_2
	Recommended Range	Available Range				10 MPa	20 MPa	30 MPa	
TE110	10 - 19.9	6 - 100.0	$d_N + 4.5$	3.6	0.4	0.20	0.15	-	1.78
TE120	20 - 39.9	10 - 200.0	$d_N + 6.2$	4.8	0.6	0.25	0.20	0.15	2.62
TE130	40 - 119.9	20 - 400.0	$d_N + 9.4$	7.1	0.8	0.30	0.25	0.20	3.53
TE140	120 - 399.9	35 - 650.0	$d_N + 12.2$	9.5	0.8	0.35	0.30	0.25	5.33
TE150	400 - 649.9	125 - 999.9	$d_N + 15.9$	12.2	0.8	0.40	0.35	0.30	7.00
TE160	650 - 999.9	400 - 999.9	$d_N + 19.0$	15.0	0.8	0.45	0.40	0.35	8.40
TE16X	1,000 - 2,600	-	$d_N + 19.0$	15.0	0.8	0.45	0.40	0.35	8.40

* At pressures > 30 MPa: Use diameter tolerance H8/f8 (bore / shaft) in area of seal.

ORDERING EXAMPLE

Turcon® Roto VL Seal® complete with O-Ring, standard application:

Series: TE130 (from Table 104)

Shaft diameter: $d_N = 75.0$ mm

TSS Part No.: TE1300750 (from Table 105)

Select the material from Table 103. The corresponding code numbers are appended to the TSS Part No. Together they form the TSS Article No. The TSS Article No. for all intermediate sizes not shown in Table 105 can be determined following the example opposite.

TSS Article No. **TE13 0 0750 - T40 N**

Series No. _____

Type (Standard)*** _____

Shaft Diameter x 10** _____

Quality Index (Standard) _____

Material Code (Seal Ring) _____

Material Code (O-Ring) _____

** For diameters $\geq 1,000.0$ mm multiply only by factor 1.

Example: TE16X for diameter 1,200.0 mm

TSS Article No.: TE16X**1200**-T40N

*** Use suffix "N" for seals with radial notches, for diameter $d_N < 1,000$ mm (Figure 152).

(Radial notches for diameter $d_N \geq 1,000$ mm TSS Special Article Number is required).



Table 105: Standard Installation Dimensions / TSS Part Number

Shaft Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.20	TSS Part No.	O-Ring Dimensions	Shaft Dia. d_N f8/h9	Groove Dia. D_1 H9	Groove Width L_1 +0.20	TSS Part No.	O-Ring Dimensions
6.0	10.5	3.6	TE1100060	7.10 x 1.80	150.0	162.2	9.5	TE1401500	151.77 x 5.33
8.0	12.5	3.6	TE1100080	9.25 x 1.78	160.0	172.2	9.5	TE1401600	158.12 x 5.33
10.0	14.5	3.6	TE1100100	11.20 x 1.80	170.0	182.2	9.5	TE1401700	170.82 x 5.33
12.0	16.5	3.6	TE1100120	13.20 x 1.80	180.0	192.2	9.5	TE1401800	183.52 x 5.33
14.0	18.5	3.6	TE1100140	15.60 x 1.78	190.0	202.2	9.5	TE1401900	189.87 x 5.33
15.0	19.5	3.6	TE1100150	15.60 x 1.78	200.0	212.2	9.5	TE1402000	202.57 x 5.33
16.0	20.5	3.6	TE1100160	17.17 x 1.78	210.0	222.2	9.5	TE1402100	208.92 x 5.33
18.0	22.5	3.6	TE1100180	19.00 x 1.80	220.0	232.2	9.5	TE1402200	221.62 x 5.33
20.0	26.2	4.8	TE1200200	21.89 x 2.62	230.0	242.2	9.5	TE1402300	227.97 x 5.33
22.0	28.2	4.8	TE1200220	23.47 x 2.62	240.0	252.2	9.5	TE1402400	240.67 x 5.33
25.0	31.2	4.8	TE1200250	26.64 x 2.62	250.0	262.2	9.5	TE1402500	253.37 x 5.33
28.0	34.2	4.8	TE1200280	29.82 x 2.62	280.0	292.2	9.5	TE1402800	278.77 x 5.33
30.0	36.2	4.8	TE1200300	31.42 x 2.62	300.0	312.2	9.5	TE1403000	304.17 x 5.33
32.0	38.2	4.8	TE1200320	32.99 x 2.62	320.0	332.2	9.5	TE1403200	304.17 x 5.33
35.0	41.2	4.8	TE1200350	36.17 x 2.62	350.0	362.2	9.5	TE1403500	354.97 x 5.33
36.0	42.2	4.8	TE1200360	37.77 x 2.62	360.0	372.2	9.5	TE1403600	354.97 x 5.30
40.0	49.4	7.1	TE1300400	40.87 x 3.53	400.0	415.9	12.2	TE1504000	405.26 x 7.00
42.0	51.4	7.1	TE1300420	44.04 x 3.53	500.0	515.9	12.2	TE1505000	494.16 x 7.00
45.0	54.4	7.1	TE1300450	47.22 x 3.53	600.0	615.9	12.2	TE1506000	608.08 x 7.00
48.0	57.4	7.1	TE1300480	50.39 x 3.53	700.0	719.0	15.0	TE1607000	703.90 x 8.40*
50.0	59.4	7.1	TE1300500	51.50 x 3.53	800.0	819.0	15.0	TE1608000	803.90 x 8.40*
52.0	61.4	7.1	TE1300520	53.57 x 3.53	900.0	919.0	15.0	TE1609000	903.90 x 8.40*
55.0	64.4	7.1	TE1300550	56.74 x 3.53	1,000.0	1,019.0	15.0	TE16X1000	1,003.90 x 8.40*
56.0	65.4	7.1	TE1300560	56.74 x 3.53	1,500.0	1,519.0	15.0	TE16X1500	1,503.90 x 8.40*
60.0	69.4	7.1	TE1300600	63.09 x 3.53	2,000.0	2,019.0	15.0	TE16X2000	2,003.90 x 8.40*
63.0	72.4	7.1	TE1300630	66.27 x 3.53	2,200.0	2,219.0	15.0	TE16X2200	2,203.90 x 8.40*
65.0	74.4	7.1	TE1300650	66.27 x 3.53	2,600.0	2,619.0	15.0	TE16X2600	2,603.90 x 8.40*
70.0	79.4	7.1	TE1300700	72.62 x 3.53	The shaft diameters in bold type correspond to the recommendations of ISO 3320.				
75.0	84.4	7.1	TE1300750	75.79 x 3.53					
80.0	89.4	7.1	TE1300800	82.14 x 3.53	Other dimensions and all intermediate sizes up to 2,600 mm diameter including imperial (inch) sizes can be supplied.				
85.0	94.4	7.1	TE1300850	88.49 x 3.53					
90.0	99.4	7.1	TE1300900	91.67 x 3.53	* Theoretical ideal O-Ring size				
95.0	104.4	7.1	TE1300950	98.02 x 3.53					
100.0	109.4	7.1	TE1301000	101.19 x 3.53					
105.0	114.4	7.1	TE1301050	107.54 x 3.53					
110.0	119.4	7.1	TE1301100	110.72 x 3.53					
115.0	124.4	7.1	TE1301150	117.07 x 3.53					
120.0	132.2	9.5	TE1401200	123.19 x 5.33					
125.0	137.2	9.5	TE1401250	126.37 x 5.33					
130.0	142.2	9.5	TE1401300	132.72 x 5.33					
135.0	147.2	9.5	TE1401350	135.89 x 5.33					
140.0	152.2	9.5	TE1401400	142.24 x 5.33					



■ Installation Recommendation for Bore

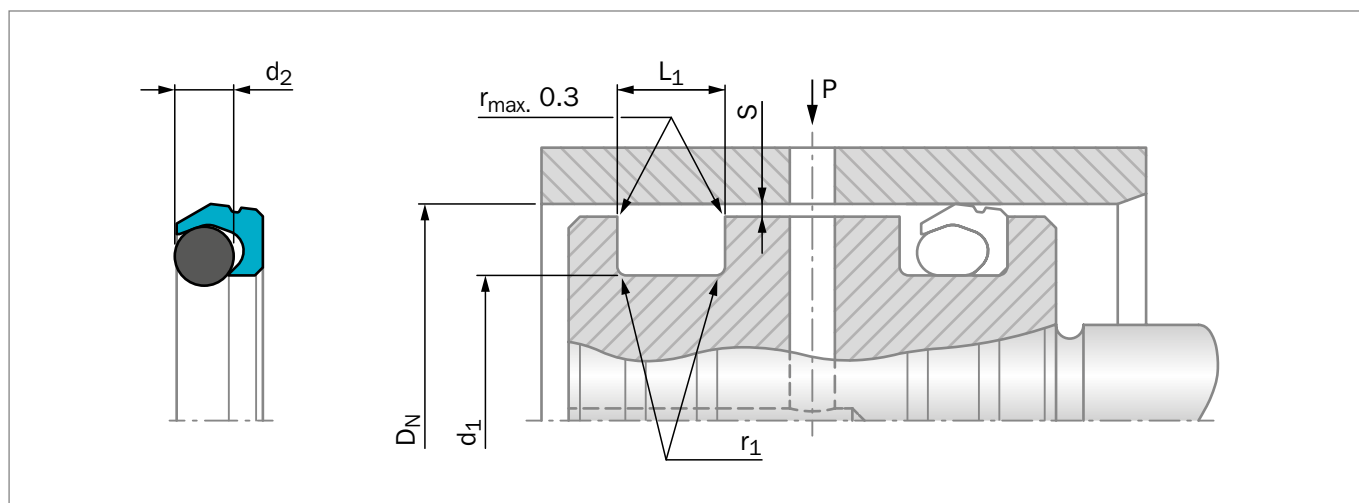


Figure 155: Installation Drawing

Table 106: Installation Dimensions – Standard Recommendations

Series Number	Bore Diameter D_N H9		Groove Diameter	Groove Width	Radius	Radial Clearance S_{max}^*			O-Ring Cross-Section-Ø
	Recommended Range	Available Range	d_1 h9	$L_1 +0.2$	r_1	10 MPa	20 MPa	30 MPa	d_2
TE210	14 - 24.9	10 - 100.0	$D_N - 4.5$	3.6	0.4	0.20	0.15	-	1.78
TE220	25 - 45.9	16 - 200.0	$D_N - 6.2$	4.8	0.6	0.25	0.20	0.15	2.62
TE230	46 - 124.9	28 - 400.0	$D_N - 9.4$	7.1	0.8	0.30	0.25	0.20	3.53
TE240	125 - 399.9	45 - 650.0	$D_N - 12.2$	9.5	0.8	0.35	0.30	0.25	5.33
TE250	400 - 649.9	125 - 999.9	$D_N - 15.9$	12.2	0.8	0.40	0.35	0.30	7.00
TE260	650 - 999.9	400 - 999.9	$D_N - 19.0$	15.0	0.8	0.45	0.40	0.35	8.40
TE26X	1,000 - 2,700	-	$D_N - 19.0$	15.0	0.8	0.45	0.40	0.35	8.40

* At pressures > 30 MPa: Use diameter tolerance H8/f8 (bore / shaft) in area of seal.

ORDERING EXAMPLE

Turcon® Roto VL Seal® complete with O-Ring, standard application:

Series: TE240 (from Table 106)

Bore diameter: $D_N = 250.0$ mm

TSS Part No.: TE2402500 (from Table 107)

Select the material from Table 103 The corresponding code numbers are appended to the TSS Part No. Together they form the TSS Article No. The TSS Article No. for all intermediate sizes not shown in Table 107 can be determined following the example opposite.

TSS Article No. **TE24 0 2500 - T40 N**

Series No. _____

Type (Standard)*** _____

Bore Diameter x 10** _____

Quality Index (Standard) _____

Material Code (Seal Ring) _____

Material Code (O-Ring) _____

** For diameters $\geq 1,000.0$ mm multiply only by factor 1.
Example: TE26X for diameter $D_N = 1,200.0$ mm
TSS Article No.: TE26X**1200**-T40N

*** Use suffix "N" for seals with radial notches, for diameter $D_N < 1,000$ mm (Figure 152).
(Radial notches for diameter $D_N \geq 1,000$ mm TSS Special Article Number is required).



Table 107: Standard Installation Dimensions / TSS Part Number

Bore Dia.	Groove Dia.	Groove Width	TSS Part No.	O-Ring Dimension	Bore Dia.	Groove Dia.	Groove Width	TSS Part No.	O-Ring Dimension
D _N H9	d ₁ h9	L ₁ +0.20			D _N H9	d ₁ h9	L ₁ +0.20		
10.0	5.5	3.6	TE2100100	5.28 x 1.78	170.0	157.8	9.5	TE2401700	158.12 x 5.33
12.0	7.5	3.6	TE2100120	7.10 x 1.80	180.0	167.8	9.5	TE2401800	164.47 x 5.33
14.0	9.5	3.6	TE2100140	9.25 x 1.78	190.0	177.8	9.5	TE2401900	177.17 x 5.33
15.0	10.5	3.6	TE2100150	9.50 x 1.80	200.0	187.8	9.5	TE2402000	189.87 x 5.33
16.0	11.5	3.6	TE2100160	11.20 x 1.80	210.0	197.8	9.5	TE2402100	196.22 x 5.33
18.0	13.5	3.6	TE2100180	13.20 x 1.80	220.0	207.8	9.5	TE2402200	208.92 x 5.33
20.0	15.5	3.6	TE2100200	15.60 x 1.78	230.0	217.8	9.5	TE2402300	215.27 x 5.33
22.0	17.5	3.6	TE2100220	17.17 x 1.78	240.0	227.8	9.5	TE2402400	227.97 x 5.33
25.0	18.8	4.8	TE2200250	18.00 x 2.65	250.0	237.8	9.5	TE2402500	234.32 x 5.33
28.0	21.8	4.8	TE2200280	21.89 x 2.62	280.0	267.8	9.5	TE2402800	266.07 x 5.33
30.0	23.8	4.8	TE2200300	23.47 x 2.62	300.0	287.8	9.5	TE2403000	291.47 x 5.33
32.0	25.8	4.8	TE2200320	25.07 x 2.62	320.0	307.8	9.5	TE2403200	304.17 x 5.33
35.0	28.8	4.8	TE2200350	28.24 x 2.62	350.0	337.8	9.5	TE2403500	329.57 x 5.33
40.0	33.8	4.8	TE2200400	32.99 x 2.62	400.0	384.1	12.2	TE2504000	380.37 x 7.00
42.0	35.8	4.8	TE2200420	34.59 x 2.62	420.0	404.1	12.2	TE2504200	405.26 x 7.00
45.0	38.8	4.8	TE2200450	37.77 x 2.62	450.0	434.1	12.2	TE2504500	430.66 x 7.00
48.0	38.6	7.1	TE2300480	37.69 x 3.53	480.0	464.1	12.2	TE2504800	468.76 x 7.00
50.0	40.6	7.1	TE2300500	40.87 x 3.53	500.0	484.1	12.2	TE2505000	481.38 x 7.00
52.0	42.6	7.1	TE2300520	40.87 x 3.53	600.0	584.1	12.2	TE2506000	582.68 x 7.00
55.0	45.6	7.1	TE2300550	44.04 x 3.53	700.0	681.0	15.0	TE2607000	679.30 x 8.40*
56.0	46.6	7.1	TE2300560	44.04 x 3.53	800.0	781.0	15.0	TE2608000	779.30 x 8.40*
60.0	50.6	7.1	TE2300600	50.39 x 3.53	900.0	881.0	15.0	TE2609000	879.30 x 8.40*
63.0	53.6	7.1	TE2300630	53.57 x 3.53	1,000.0	981.0	15.0	TE26X1000	979.30 x 8.40*
65.0	55.6	7.1	TE2300650	53.57 x 3.53	1,500.0	1,481.0	15.0	TE26X1500	1,479.30 x 8.40*
70.0	60.6	7.1	TE2300700	59.92 x 3.53	2,000.0	1,981.0	15.0	TE26X2000	1,979.30 x 8.40*
75.0	65.6	7.1	TE2300750	66.27 x 3.53	2,700.0	2,681.0	15.0	TE26X2700	2,679.30 x 8.40*
80.0	70.6	7.1	TE2300800	69.44 x 3.53	The bore diameters in bold type comply with the recommendations of ISO 3320.				
85.0	75.6	7.1	TE2300850	75.79 x 3.53					
90.0	80.6	7.1	TE2300900	78.97 x 3.53	Other dimensions and all intermediate sizes up to 2,700 mm diameter including imperial (inch) sizes can be supplied.				
95.0	85.6	7.1	TE2300950	85.32 x 3.53					
100.0	90.6	7.1	TE2301000	91.67 x 3.53	* Theoretical ideal O-Ring size				
110.0	100.6	7.1	TE2301100	101.19 x 3.53					
115.0	105.6	7.1	TE2301150	104.37 x 3.53					
120.0	110.6	7.1	TE2301200	110.72 x 3.53					
125.0	112.8	9.5	TE2401250	113.67 x 5.33					
130.0	117.8	9.5	TE2401300	116.84 x 5.33					
135.0	122.8	9.5	TE2401350	123.19 x 5.33					
140.0	127.8	9.5	TE2401400	126.37 x 5.33					
150.0	137.8	9.5	TE2401500	135.89 x 5.33					
160.0	147.8	9.5	TE2401600	145.42 x 5.33					

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