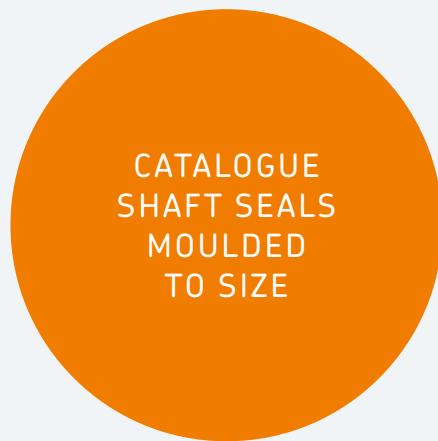


# Reinforced shaft seals

Catalogue radial shaft seals for heavy duty industrial applications



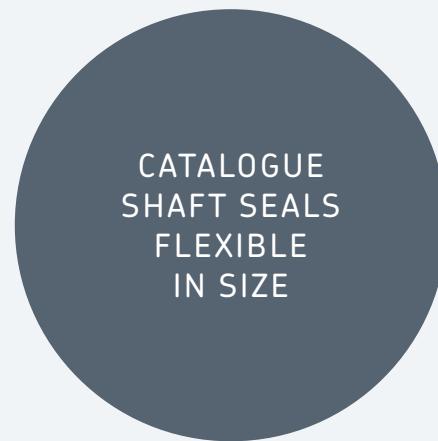
# Radial shaft seals for heavy industrial applications



CATALOGUE  
SHAFT SEALS  
MOULDED  
TO SIZE

Rubber fabric seals

Rubber metal seals

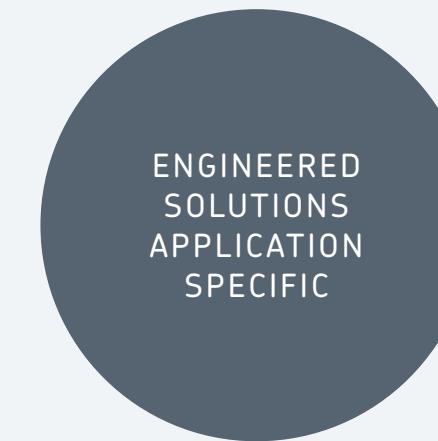


CATALOGUE  
SHAFT SEALS  
FLEXIBLE  
IN SIZE

All rubber seals

Metal-cased rubber seals

Machined seals



ENGINEERED  
SOLUTIONS  
APPLICATION  
SPECIFIC

Rubber fabric seals

Rubber metal seals

Machined seals



## Foreword

### From catalogue to engineered solutions

SKF created a complete Heavy Industrial Seals (HIS) offer to meet our customer needs. This brochure provides an overview on SKF catalogue heavy industrial shaft seals. The brochure is a guide to seal selection. It provides an introduction to the most important factors to be considered.

The catalogue seal offer has been expanded by complementary offers with size flexibility, customization and engineering services.

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#### Catalogue seals and expanded offer

- HIS flexible in size
- Express service
- Engineered solutions

#### Catalogue seals for easy retrofit

*Catalogue shaft seals moulded to size* are manufactured in an efficient moulding process for mid and higher volumes. Please refer to the enclosed size tables in this catalogue. On request SKF tools up additional sizes.

#### Express service with flexible manufacturing processes

*Catalogue shaft seals flexible in size* are available in customized main dimensions with minimum order quantity of just one seal and optional express service. Please refer to shaft seals flexible in size.

#### Engineering service to exceed limits in extreme conditions

*Engineered solutions application specific* demands are relevant where operating parameters are exceeding the limits of catalogue seals. Please refer to engineered solutions.

#### SKF heavy industrial seals

- Availability, matching your needs schedule and express service
- Unlimited size range, not limited to listed catalogue part numbers
- Fast and simple installation, reduces risk of failure and resulting downtime
- Highly flexible design options, configured to your requirements
- Improve rotating equipment performance

Heavy duty industrial applications, like in construction equipment, metal, mining, paper, oil drilling or wind turbines can be very challenging for radial shaft seals. In operation, the seals are exposed to a wide range of temperatures, speeds and abrasive contaminants. Besides their generally sturdy designs and often large size, seals for these applications come with some special features to help improve seal performance, reliability and handling.

#### Typical applications

- Steel and aluminium rolling
- Pulp and paper feeders and paper machine wet section
- Mining and cement machinery
- Traditional energy – coal grinding mills
- Wind turbines
- Tunnel boring machines
- Heavy duty gearboxes
- Special purpose machinery
- Construction machinery

Designed to the  
toughest operating  
conditions



# Catalogue shaft seals moulded to size

Catalogue shaft seals moulded to size are manufactured in an efficient moulding process for mid and higher volumes. Typical applications in rough environment in heavy duty operations for large machinery.

Seal capabilities	
Size	from 25 to 2 350 mm (from 0.98 to 92.52 in.)
Pressure	max. 0,5 bar (max. 7.25 psi)
TIR	max. $\pm$ 1,025 mm (max. $\pm$ 0.04 in.)
Speed	max. 25 m/s (max. 4 900 ft/min)
Temperature	from -25 to +200 °C (from -13 to +392 °F)
Materials	NBR HNBR FKM

Selection criteria are the internal and external application environment, seal housing designs and the operating parameters such as media, rotating speed, DRO (Dynamic runout) and mis-alignment, operating temperature and pressure. For the seal-system performance it is important to have the right seal, seal counterface conditions, effective lubrication and installation procedures.

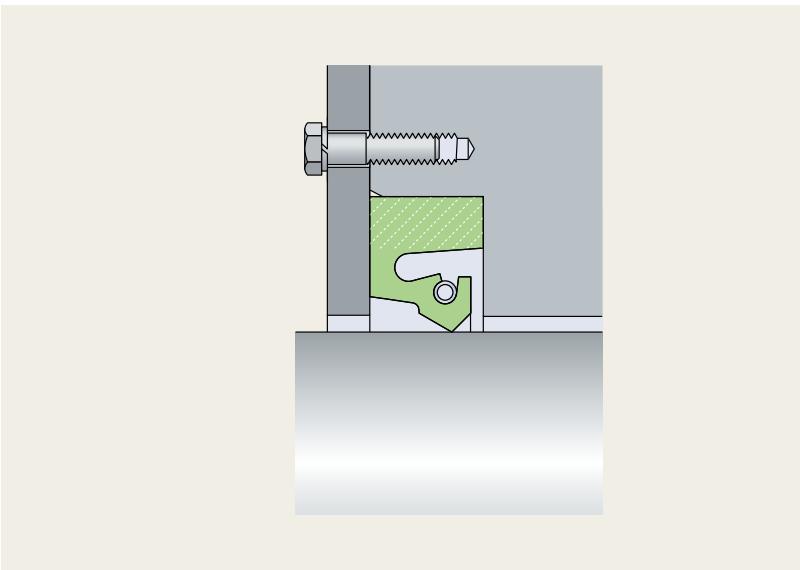
Shaft seals – moulded to size by SKF is a range of seal designs for easy retrofit. The size tables include a selection of available sizes. On request SKF tools up additional sizes. For seals with full size flexibility and express service – even for just one seal – please refer to [page 54 catalogue shaft seals flexible in size](#).

For seals with capabilities exceeding the limits ([→ table 1](#)) or special customer requirements please refer to [engineered solutions application specific](#) on [page 56](#).

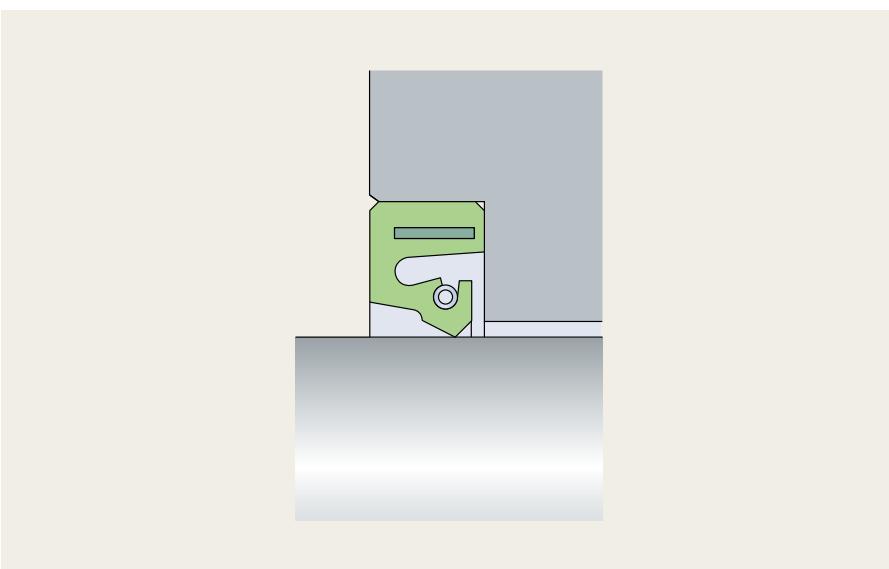
EASY  
RETROFIT!

# Seal selection

The most important factors to consider for seal selection are:



Housing with cover plate, seal axially clamped



Open housing, seal self-retaining

## 1. Seal housing designs

The two common housing designs determine the seal selection. Housings with cover plate ensure proper stability by axial clamping for rubber fabric seals. Open housings require a metal reinforced self-retaining seal.

### Rubber fabric reinforced (solid + split)

The fabric reinforced rubber seals are available in solid and split executions. The seals are finished oversized to the housing bore to allow proper compression and stability. A cover plate is required to compress the seal within the housing, helping to stabilize the seal. The split seal execution allows seal replacement without shaft removal or dismounting of other machine components.

### Rubber metal reinforced

The seals are self-retaining in open housing bores without the use of a cover plate. The metal reinforcement provides the required stability in the housing bore. The L-shape metal reinforcement further increases seal stability e.g. in case of vibrations in the system.

## 2. Lip features

A garter or finger spring provides the appropriate radial load against the shaft. To avoid the potential risk of losing a spring in blind installations SKF seals feature an optional moulded-in garter spring or the finger spring execution.

## 3. Re-lubrication features

All seals of the range can be equipped with lubrication grooves at the back of the seal to allow the re-greasing between the sealing lips in back-to-back or tandem installations of two seals. For metal reinforced seals spacer lugs in customized dimensions are available on request.

## 4. Auxiliary lip

The auxiliary lip on radial shaft seals is an optional feature for increased protection against contaminants. Auxiliary lips are meant for applications in slightly contaminated environment. In an environment with heavy contamination an additional seal with excluding function is highly recommended.

## 5. Main lip materials

Material selection has a significant impact on seal performance and reliability. Important material properties are resistance to swelling, elasticity, chemical resistance, thermal resistance and low temperature behaviour. Seals are available in nitrile rubber (NBR), hydrogenated nitrile rubber (HNBR) and fluoro rubber (FKM).

The recommended maximum rotating speed for a seal is linked to the thermal resistance of the sealing lip material. Radial force and friction causes elevated temperatures under the sealing lip, which may require increased thermal resistance of the sealing material.

Details about the chemical resistance of the sealing material against the various media can be found in the section "chemical resistance" of SKF publication "10919-Industrial shaft seals".

NBR is a general purpose sealing material with good resistance to most mineral oils and greases, normal fuels such as gasoline, diesel and light heating oils, animal and vegetable oils and hot water. The permissible operating temperature range is +30 to +100 °C (+22 to +210 °F) for brief periods temperatures of up to +120 °C (+250 °F) can be tolerated.

HNBR combines increased wear resistance with increased high-temperature resistance. HNBR additionally features increased resistance to chemical attack, weather, ageing and ozone. Mixtures of oil in air may have a negative effect. The upper operating temperature limit is +150 °C (+300 °F).

FKM features a very good thermal and chemical resistance with very good ageing, weather, UV light and ozone resistance. The upper operating temperature limit is +200 °C (+390 °F).



Rubber fabric reinforced (solid + split), seal axially clamped



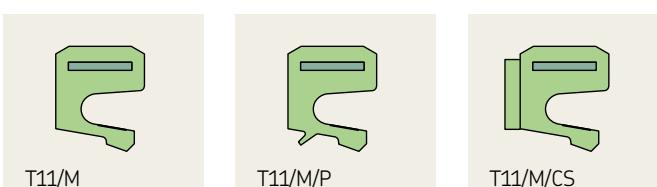
Rubber metal reinforced, self retaining seal with auxiliary lip

# Design overview

## Tenute seals – rubber fabric reinforced



## Tenute seals – rubber metal reinforced



## Operating parameters

Material Seal	Temperature		Pressure		Rotating speed			
	from	to	from	to	max.	max.		
	°C	°F		MPa	psi	m/s	ft/min	
NBR	-25	+100	-13	+212	0,05	7,25	15	2 950
HNBR	-25	+150	-13	+302	0,05	7,25	20	3 950
FKM	-15	+200	-5	+392	0,05	7,25	25	4 900

High pressure and high speed seals are available as engineered solutions

## Seal design options

Seal	Feature	Design code
Main seal construction	Fabric split	SPL
	Metal band	M
	L shap metal band	ML
Main lip features	No spring	WS
	Garter spring – moulded-in	VGD
Re-lub features	Lub groove	CS
	Lugs	D
Auxiliary lip	Dust lip	P
Main lip material	NBR (R)	R
	HNBR (H)	H
	FKM (V)	V

## Designation examples metric and imperial

**50x75x10 TR/3/P V**

The metric seal designation shows the dimensions, the seal design and the material.

**208-316-32 TR/3/P R**

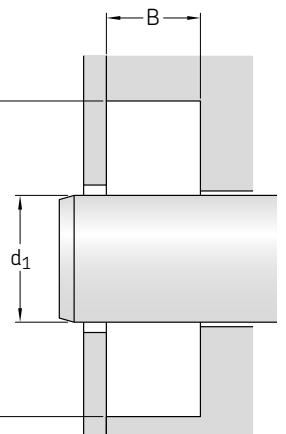
Inch dimensions are coded and separated with an hyphen.  
See product tables at the following pages.

## TR/3 seals – rubber fabric reinforced

d<sub>1</sub> 25–80 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



### Dimensions Dimensions Mater- SKF Designation

d<sub>1</sub> D B d<sub>1</sub> D B

mm in.

25 38 8 0.984 1.496 0.315 NBR 25x38x8 TR/3 R  
HNBR 25x38x8 TR/3 H  
FKM 25x38x8 TR/3 V

25 50 10 0.984 1.969 0.394 NBR 25x50x10 TR/3 R  
HNBR 25x50x10 TR/3 H  
FKM 25x50x10 TR/3 V

28 50 10 1.102 1.969 0.394 NBR 28x50x10 TR/3 R  
HNBR 28x50x10 TR/3 H  
FKM 28x50x10 TR/3 V

30 48 8 1.181 1.890 0.315 NBR 30x48x8 TR/3 R  
HNBR 30x48x8 TR/3 H  
FKM 30x48x8 TR/3 V

30 50 10 1.181 1.969 0.394 NBR 30x50x10 TR/3 R  
HNBR 30x50x10 TR/3 H  
FKM 30x50x10 TR/3 V

30 52 10 1.181 2.047 0.394 NBR 30x52x10 TR/3 R  
HNBR 30x52x10 TR/3 H  
FKM 30x52x10 TR/3 V

30,16 47,72 9,52 1.187 1.879 0.375 NBR 112-156-24 TR/3 R  
HNBR 112-156-24 TR/3 H  
FKM 112-156-24 TR/3 V

35 60 10 1.378 2.362 0.394 NBR 35x60x10 TR/3 R  
HNBR 35x60x10 TR/3 H  
FKM 35x60x10 TR/3 V

38,1 53,98 11,11 1.500 2.125 0.437 NBR 132-208-28 TR/3 R  
HNBR 132-208-28 TR/3 H  
FKM 132-208-28 TR/3 V

42 65 10 1.654 2.559 0.394 NBR 42x65x10 TR/3 R  
HNBR 42x65x10 TR/3 H  
FKM 42x65x10 TR/3 V

44,4 73,1 10 1.748 2.878 0.394 NBR 44,4x73,1x10 TR/3 R  
HNBR 44,4x73,1x10 TR/3 H  
FKM 44,4x73,1x10 TR/3 V

45 60 7 1.772 2.362 0.276 NBR 45x60x7 TR/3 R  
HNBR 45x60x7 TR/3 H  
FKM 45x60x7 TR/3 V

### Dimensions Dimensions Mater- SKF Designation

d<sub>1</sub> D B d<sub>1</sub> D B

mm in.

45 62 12 1.772 2.441 0.472 NBR 45x62x12 TR/3 R  
HNBR 45x62x12 TR/3 H  
FKM 45x62x12 TR/3 V

45 62 8 1.772 2.441 0.315 NBR 45x62x8 TR/3 R  
HNBR 45x62x8 TR/3 H  
FKM 45x62x8 TR/3 V

45 62 9 1.772 2.441 0.354 NBR 45x62x9 TR/3 R  
HNBR 45x62x9 TR/3 H  
FKM 45x62x9 TR/3 V

45 72 10 1.772 2.835 0.394 NBR 45x72x10 TR/3 R  
HNBR 45x72x10 TR/3 H  
FKM 45x72x10 TR/3 V

50 70 10 1.969 2.756 0.394 NBR 50x70x10 TR/3 R  
HNBR 50x70x10 TR/3 H  
FKM 50x70x10 TR/3 V

50 72 10 1.969 2.835 0.394 NBR 50x72x10 TR/3 R  
HNBR 50x72x10 TR/3 H  
FKM 50x72x10 TR/3 V

50 72 8 1.969 2.835 0.315 NBR 50x72x8 TR/3 R  
HNBR 50x72x8 TR/3 H  
FKM 50x72x8 TR/3 V

50,8 69,85 12,7 2.000 2.750 0.5 NBR 200-248-32 TR/3 R  
HNBR 200-248-32 TR/3 H  
FKM 200-248-32 TR/3 V

54 74,6 9,5 2.126 2.937 0.374 NBR 54x74,6x9,5 TR/3 R  
HNBR 54x74,6x9,5 TR/3 H  
FKM 54x74,6x9,5 TR/3 V

54 79,4 11 2.126 3.126 0.433 NBR 54x79,4x11 TR/3 R  
HNBR 54x79,4x11 TR/3 H  
FKM 54x79,4x11 TR/3 V

55 70 8 2.165 2.756 0.315 NBR 55x70x8 TR/3 R  
HNBR 55x70x8 TR/3 H  
FKM 55x70x8 TR/3 V

55 72 8 2.165 2.835 0.315 NBR 55x72x8 TR/3 R  
HNBR 55x72x8 TR/3 H  
FKM 55x72x8 TR/3 V

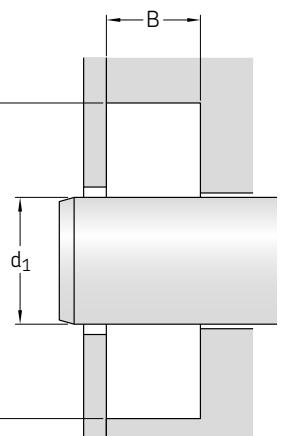
Dimensions	Dimensions	Mat- rial	SKF Designation						
			d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	
mm in.									
55	76	12	2.165	2.992	0.472	NBR	55x76x12 TR/3 R		
						HNBR	55x76x12 TR/3 H		
						FKM	55x76x12 TR/3 V		
55	80	11	2.165	3.150	0.433	NBR	55x80x11 TR/3 R		
						HNBR	55x80x11 TR/3 H		
						FKM	55x80x11 TR/3 V		
55	80	12	2.165	3.150	0.472	NBR	55x80x12 TR/3 R		
						HNBR	55x80x12 TR/3 H		
						FKM	55x80x12 TR/3 V		
58,7	79,4	9,5	2.313	3.125	0.375	NBR	220-308-24 TR/3 R		
						HNBR	220-308-24 TR/3 H		
						FKM	220-308-24 TR/3 V		
60	80	10	2.362	3.150	0.394	NBR	60x80x10 TR/3 R		
						HNBR	60x80x10 TR/3 H		
						FKM	60x80x10 TR/3 V		
60	85	11	2.362	3.346	0.433	NBR	60x85x11 TR/3 R		
						HNBR	60x85x11 TR/3 H		
						FKM	60x85x11 TR/3 V		
60	86	10	2.362	3.386	0.394	NBR	60x86x10 TR/3 R		
						HNBR	60x86x10 TR/3 H		
						FKM	60x86x10 TR/3 V		
60	90	13	2.362	3.543	0.512	NBR	60x90x13 TR/3 R		
						HNBR	60x90x13 TR/3 H		
						FKM	60x90x13 TR/3 V		
60,33	79,38	9,53	2.375	3.125	0.375	NBR	224-308-24 TR/3 R		
						HNBR	224-308-24 TR/3 H		
						FKM	224-308-24 TR/3 V		
62,5	95	10	2.461	3.740	0.394	NBR	62,5x95x10 TR/3 R		
						HNBR	62,5x95x10 TR/3 H		
						FKM	62,5x95x10 TR/3 V		
62,5	95	10	2.559	3.346	0.394	NBR	65x85x10 TR/3 R		
						HNBR	65x85x10 TR/3 H		
						FKM	65x85x10 TR/3 V		
65	85	10	2.559	3.346	0.394	NBR	65x85x10 TR/3 R		
						HNBR	65x85x10 TR/3 H		
						FKM	65x85x10 TR/3 V		
65	90	11	2.559	3.543	0.433	NBR	65x90x11 TR/3 R		
						HNBR	65x90x11 TR/3 H		
						FKM	65x90x11 TR/3 V		
65	95	10	2.559	3.740	0.394	NBR	65x95x10 TR/3 R		
						HNBR	65x95x10 TR/3 H		
						FKM	65x95x10 TR/3 V		
66,67	82,55	7,95	2.625	3.250	0.313	NBR	240-316-20 TR/3 R		
						HNBR	240-316-20 TR/3 H		
						FKM	240-316-20 TR/3 V		
69,8	85,7	7,9	2.750	3.375	0.313	NBR	248-324-20 TR/3 R		
						HNBR	248-324-20 TR/3 H		
						FKM	248-324-20 TR/3 V		
69,85	95,25	12,7	2.750	3.750	0.5	NBR	248-348-32 TR/3 R		
						HNBR	248-348-32 TR/3 H		
						FKM	248-348-32 TR/3 V		
80	100	10	3.150	3.937	0.394	NBR	80x100x10 TR/3 R		
						HNBR	80x100x10 TR/3 H		
						FKM	80x100x10 TR/3 V		
80	100	13	3.150	3.937	0.512	NBR	80x100x13 TR/3 R		
						HNBR	80x100x13 TR/3 H		</td

## TR/3 seals – rubber fabric reinforced

$d_1$  80–110 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm					
in.					

80	112	12,5	3.150	4.409	0.492	NBR 80x112x13 TR/3 R HNBR 80x112x13 TR/3 H FKM 80x112x13 TR/3 V
80	115	10	3.150	4.528	0.394	NBR 80x115x10 TR/3 R HNBR 80x115x10 TR/3 H FKM 80x115x10 TR/3 V
82,6	110	12	3.250	4.331	0.472	NBR 82,6x110x12 TR/3 R HNBR 82,6x110x12 TR/3 H FKM 82,6x110x12 TR/3 V
85	102	13	3.346	4.016	0.512	NBR 85x102x13 TR/3 R HNBR 85x102x13 TR/3 H FKM 85x102x13 TR/3 V
85	105	10	3.346	4.134	0.394	NBR 85x105x10 TR/3 R HNBR 85x105x10 TR/3 H FKM 85x105x10 TR/3 V
85	109	12	3.346	4.291	0.472	NBR 85x109x12 TR/3 R HNBR 85x109x12 TR/3 H FKM 85x109x12 TR/3 V
85	110	12,5	3.346	4.331	0.492	NBR 85x110x13 TR/3 R HNBR 85x110x13 TR/3 H FKM 85x110x13 TR/3 V
85	117	12,5	3.346	4.606	0.492	NBR 85x117x13 TR/3 R HNBR 85x117x13 TR/3 H FKM 85x117x13 TR/3 V
85,6	106,4	8,7	3.370	4.188	0.341	NBR 85,6x106,4x8,7 TR/3 R HNBR 85,6x106,4x8,7 TR/3 H FKM 85,6x106,4x8,7 TR/3 V
88	126	12	3.465	4.961	0.472	NBR 88x126x12 TR/3 R HNBR 88x126x12 TR/3 H FKM 88x126x12 TR/3 V
88,9	111,1	9,5	3.500	4.375	0.375	NBR 332-424-24 TR/3 R HNBR 332-424-24 TR/3 H FKM 332-424-24 TR/3 V
88,9	114,3	12,7	3.500	4.500	0.5	NBR 332-432-32 TR/3 R HNBR 332-432-32 TR/3 H FKM 332-432-32 TR/3 V

Dimensions							Dimensions			Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	mm	in.				
mm						in.					

Dimensions in mm and inches.

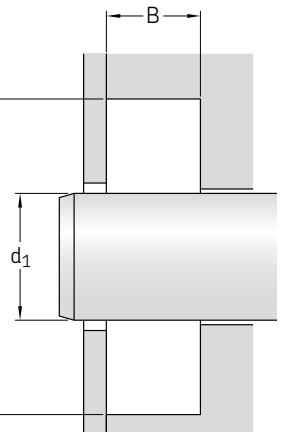
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation	
$d_1$	D	B	$d_1$	D	B	mm	in.			mm	in.	
95	115	10	3.740	4.528	0.394	NBR 95x115x10 TR/3 R HNBR 95x115x10 TR/3 H FKM 95x115x10 TR/3 V						
95	120	10	3.740	4.724	0.394	NBR 95x120x10 TR/3 R HNBR 95x120x10 TR/3 H FKM 95x120x10 TR/3 V						
95	120	13	3.740	4.724	0.512	NBR 95x120x13 TR/3 R HNBR 95x120x13 TR/3 H FKM 95x120x13 TR/3 V						
95	127	12,5	3.740	5.000	0.492	NBR 95x127x13 TR/3 R HNBR 95x127x13 TR/3 H FKM 95x127x13 TR/3 V						
95,25	127	15,88	3.750	5.000	0.625	NBR 348-500-40 TR/3 R HNBR 348-500-40 TR/3 H FKM 348-500-40 TR/3 V						
98	115	9	3.858	4.528	0.354	NBR 98x115x9 TR/3 R HNBR 98x115x9 TR/3 H FKM 98x115x9 TR/3 V						
98	125	13	3.858	4.921	0.512	NBR 98x125x13 TR/3 R HNBR 98x125x13 TR/3 H FKM 98x125x13 TR/3 V						
98,4	123,88	12,7	3.875	4.875	0.5	NBR 356-456-32 TR/3 R HNBR 356-456-32 TR/3 H FKM 356-456-32 TR/3 V						
98,4	136,4	12,7	3.875	5.370	0.5	NBR 98,4x136,4x12,7 TR/3 R HNBR 98,4x136,4x12,7 TR/3 H FKM 98,4x136,4x12,7 TR/3 V						
99,5	127	12,7	3.917	5.000	0.5	NBR 99,5x127x12,7 TR/3 R HNBR 99,5x127x12,7 TR/3 H FKM 99,5x127x12,7 TR/3 V						
90	110	10	3.543	4.331	0.472	NBR 90x110x10 TR/3 R HNBR 90x110x10 TR/3 H FKM 90x110x10 TR/3 V						
90	110	12	3.543	4.331	0.472	NBR 90x110x12 TR/3 R HNBR 90x110x12 TR/3 H FKM 90x110x12 TR/3 V						
100	120	10	3.937	4.724	0.394	NBR 100x120x10 TR/3 R HNBR 100x120x10 TR/3 H FKM 100x120x10 TR/3 V						
100	125	10	3.937	4.921	0.394	NBR 100x125x10 TR/3 R HNBR 100x125x10 TR/3 H FKM 100x125x10 TR/3 V						
100	127	13	3.937	5.000	0.512	NBR 100x127x13 TR/3 R HNBR 100x127x13 TR/3 H FKM 100x127x13 TR/3 V						
100	128,5	9,5	3.937	5.059	0.374	NBR 100x128,5x9,5 TR/3 R HNBR 100x128,5x9,5 TR/3 H FKM 100x128,5x9,5 TR/3 V						
100	130	12	3.937	5.118	0.472	NBR 100x130x12 TR/3 R HNBR 100x130x12 TR/3 H FKM 100x130x12 TR/3 V						
100	130	13	3.937	5.118	0.512	NBR 100x130x13 TR/3 R HNBR 100x130x13 TR/3 H FKM 100x130x13 TR/3 V						
100	130	16	3.937	5.118	0.63	NBR 100x130x16 TR/3 R HNBR 100x130x16 TR/3 H FKM 100x130x16 TR/3 V						
100	130	19	3.937	5.118	0.748	NBR 100x130x19 TR/3 R HNBR 100x130x19 TR/3 H FKM 100x130x19 TR/3 V						
100	145	15	4.331	5.118	0.591	NBR 110x140x15 TR/3 R HNBR 110x140x15 TR/3 H FKM 110x140x15 TR/3 V						
100	152	15	4.331	5.984	0.591	NBR 110x152x15 TR/3 R HNBR 110x152x15 TR/3 H FKM 110x152x15 TR/3 V						

## TR/3 seals – rubber fabric reinforced

$d_1$  112,7–148 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



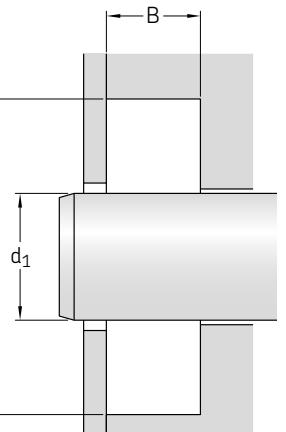
Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm                      in.					
mm                      in.					
112,72	139,7	14,27	4.438	5.500	0.563
				NBR	428-532-36 TR/3 R
				HNBR	428-532-36 TR/3 H
				FKM	428-532-36 TR/3 V
113	140	13	4.449	5.512	0.512
				NBR	113x140x13 TR/3 R
				HNBR	113x140x13 TR/3 H
				FKM	113x140x13 TR/3 V
114,29	139,69	9,52	4.500	5.500	0.375
				NBR	432-532-24 TR/3 R
				HNBR	432-532-24 TR/3 H
				FKM	432-532-24 TR/3 V
114,3	152,41	15,88	4.500	6.000	0.625
				NBR	432-600-40 TR/3 R
				HNBR	432-600-40 TR/3 H
				FKM	432-600-40 TR/3 V
115	135	10	4.528	5.315	0.394
				NBR	115x135x10 TR/3 R
				HNBR	115x135x10 TR/3 H
				FKM	115x135x10 TR/3 V
115	137	9	4.528	5.394	0.354
				NBR	115x137x9 TR/3 R
				HNBR	115x137x9 TR/3 H
				FKM	115x137x9 TR/3 V
115	140	12	4.528	5.512	0.472
				NBR	115x140x12 TR/3 R
				HNBR	115x140x12 TR/3 H
				FKM	115x140x12 TR/3 V
120,65	152,43	14,3	4.750	6.000	0.563
				NBR	448-600-36 TR/3 R
				HNBR	448-600-36 TR/3 H
				FKM	448-600-36 TR/3 V
115	150	10	4.528	5.906	0.394
				NBR	115x150x10 TR/3 R
				HNBR	115x150x10 TR/3 H
				FKM	115x150x10 TR/3 V
123,8	149,2	12,7	4.875	5.875	0.5
				NBR	456-556-32 TR/3 R
				HNBR	456-556-32 TR/3 H
				FKM	456-556-32 TR/3 V
115	155	16	4.528	6.102	0.63
				NBR	115x155x16 TR/3 R
				HNBR	115x155x16 TR/3 H
				FKM	115x155x16 TR/3 V
117,48	146,08	14,3	4.625	5.750	0.563
				NBR	440-548-36 TR/3 R
				HNBR	440-548-36 TR/3 H
				FKM	440-548-36 TR/3 V
117,48	152,4	12,7	4.625	6.000	0.5
				NBR	440-600-32 TR/3 R
				HNBR	440-600-32 TR/3 H
				FKM	440-600-32 TR/3 V
117,5	142,5	12,5	4.626	5.610	0.492
				NBR	117,5x142,5x12,5 TR/3 R
				HNBR	117,5x142,5x12,5 TR/3 H
				FKM	117,5x142,5x12,5 TR/3 V

Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B
mm                      in.						mm                      in.					
mm                      in.						mm                      in.					
125,43	158,75	12,7	4.938	6.250	0.5	NBR	460-616-32 TR/3 R				
						HNBR	460-616-32 TR/3 H				
						FKM	460-616-32 TR/3 V				
126	160	15	4.961	6.299	0.591	NBR	126x160x15 TR/3 R				
						HNBR	126x160x15 TR/3 H				
						FKM	126x160x15 TR/3 V				
127	152,4	9,5	5.000	6.000	0.375	NBR	500-600-24 TR/3 R				
						HNBR	500-600-24 TR/3 H				
						FKM	500-600-24 TR/3 V				
127	171,5	15,9	5.000	6.752	0.626	NBR	127x171,5x15,9 TR/3 R				
						HNBR	127x171,5x15,9 TR/3 H				
						FKM	127x171,5x15,9 TR/3 V				
130	155	12,5	5.118	6.102	0.492	NBR	130x155x12,5 TR/3 R				
						HNBR	130x155x12,5 TR/3 H				
						FKM	130x155x12,5 TR/3 V				
130	155	15,5	5.118	6.102	0.61	NBR	130x155x15,5 TR/3 R				
						HNBR	130x155x15,5 TR/3 H				
						FKM	130x155x15,5 TR/3 V				
130	160	15	5.118	6.299	0.591	NBR	130x160x15 TR/3 R				
						HNBR	130x160x15 TR/3 H				
						FKM	130x160x15 TR/3 V				
130	170	10	5.118	6.693	0.394	NBR	130x170x10 TR/3 R				
						HNBR	130x170x10 TR/3 H				
						FKM	130x170x10 TR/3 V				
133,36	171,46	15,88	5.250	6.750	0.625	NBR	516-628-40 TR/3 R				
						HNBR	516-628-40 TR/3 H				
						FKM	516-628-40 TR/3 V				
135	155	12	5.315	6.102	0.472	NBR	135x155x12 TR/3 R				
						HNBR	135x155x12 TR/3 H				
						FKM	135x155x12 TR/3 V				
135	155	12	5.315	6.496	0.472	NBR	135x155x12 TR/3 R				
						HNBR	135x155x12 TR/3 H				
						FKM	135x155x12 TR/3 V				
135	165	10	5.630	6.496	0.394	NBR	143x165x10 TR/3 R				
						HNBR	143x165x10 TR/3 H				
						FKM	143x165x10 TR/3 V				
143	165	12	5.630	6.496	0.472	NBR	143x165x12 TR/3 R				
						HNBR	143x165x12 TR/3 H				
						FKM	143x165x12 TR/3 V				
143	165	14	5.709	6.850	0.551	NBR	145x174x14 TR/3 R				

$d_1$  150–190 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions				Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	rial	
mm						<i>in.</i>	
150	190	16	5.906	7.480	0.63	NBR HNBR FKM	150x190x16 TR/3 R 150x190x16 TR/3 H 150x190x16 TR/3 V
150,81	177,8	14,28	5.938	7.000	0.563	NBR HNBR FKM	560-700-36 TR/3 R 560-700-36 TR/3 H 560-700-36 TR/3 V
152	181	12,5	5.984	7.126	0.492	NBR HNBR FKM	152x181x12,5 TR/3 R 152x181x12,5 TR/3 H 152x181x12,5 TR/3 V
152,4	181	12,7	6.000	7.125	0.5	NBR HNBR FKM	600-708-32 TR/3 R 600-708-32 TR/3 H 600-708-32 TR/3 V
155	180	12,5	6.102	7.087	0.492	NBR HNBR FKM	155x180x13 TR/3 R 155x180x13 TR/3 H 155x180x13 TR/3 V
155	190	15	6.102	7.480	0.591	NBR HNBR FKM	155x190x15 TR/3 R 155x190x15 TR/3 H 155x190x15 TR/3 V
155	195	16	6.102	7.677	0.63	NBR HNBR FKM	155x195x16 TR/3 R 155x195x16 TR/3 H 155x195x16 TR/3 V
155	215	20	6.102	8.465	0.787	NBR HNBR FKM	155x215x20 TR/3 R 155x215x20 TR/3 H 155x215x20 TR/3 V
156	200	16	6.142	7.874	0.63	NBR HNBR FKM	156x200x16 TR/3 R 156x200x16 TR/3 H 156x200x16 TR/3 V
158	180	15	6.220	7.087	0.591	NBR HNBR FKM	158x180x15 TR/3 R 158x180x15 TR/3 H 158x180x15 TR/3 V
160	185	10	6.299	7.283	0.394	NBR HNBR FKM	160x185x10 TR/3 R 160x185x10 TR/3 H 160x185x10 TR/3 V
160	188	21	6.299	7.402	0.827	NBR HNBR FKM	160x188x21 TR/3 R 160x188x21 TR/3 H 160x188x21 TR/3 V

Dimensions			Dimensions			Material	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B		
mm						<i>in.</i>	
160	190	15	6.299	7.480	0.591	NBR	160x190x15 TR/3 R
						HNBR	160x190x15 TR/3 H
						FKM	160x190x15 TR/3 V
160	190	16	6.299	7.480	0.63	NBR	160x190x16 TR/3 R
						HNBR	160x190x16 TR/3 H
						FKM	160x190x16 TR/3 V
160	200	15	6.299	7.874	0.591	NBR	160x200x15 TR/3 R
						HNBR	160x200x15 TR/3 H
						FKM	160x200x15 TR/3 V
160	200	16	6.299	7.874	0.63	NBR	160x200x16 TR/3 R
						HNBR	160x200x16 TR/3 H
						FKM	160x200x16 TR/3 V
162	190	12	6.378	7.480	0.472	NBR	162x190x12 TR/3 R
						HNBR	162x190x12 TR/3 H
						FKM	162x190x12 TR/3 V
162	202	16	6.378	7.953	0.63	NBR	162x202x16 TR/3 R
						HNBR	162x202x16 TR/3 H
						FKM	162x202x16 TR/3 V
165	190	13	6.496	7.480	0.512	NBR	165x190x13 TR/3 R
						HNBR	165x190x13 TR/3 H
						FKM	165x190x13 TR/3 V
165	190	15	6.496	7.480	0.591	NBR	165x190x15 TR/3 R
						HNBR	165x190x15 TR/3 H
						FKM	165x190x15 TR/3 V
165	200	15	6.496	7.874	0.591	NBR	165x200x15 TR/3 R
						HNBR	165x200x15 TR/3 H
						FKM	165x200x15 TR/3 V
165	205	16	6.496	8.071	0.63	NBR	165x205x16 TR/3 R
						HNBR	165x205x16 TR/3 H
						FKM	165x205x16 TR/3 V
165,1	203,2	19,1	6.500	8.000	0.75	NBR	632-800-48 TR/3 R
						HNBR	632-800-48 TR/3 H
						FKM	632-800-48 TR/3 V
168	196,9	19,1	6.614	7.750	0.75	NBR	168x196,9x19,1 TR/3 R
						HNBR	168x196,9x19,1 TR/3 H
						FKM	168x196,9x19,1 TR/3 V

Dimensions			Dimensions			Material	SKF Designation	
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B			
mm			in.					
168,3	206,4	17,5	6.625	8.125	0.688	NBR	640-808-44 TR/3 R	
						HNBR	640-808-44 TR/3 H	
						FKM	640-808-44 TR/3 V	
170	200	12	6.693	7.874	0.472	NBR	170x200x12 TR/3 R	
						HNBR	170x200x12 TR/3 H	
						FKM	170x200x12 TR/3 V	
170	200	15	6.693	7.874	0.591	NBR	170x200x15 TR/3 R	
						HNBR	170x200x15 TR/3 H	
						FKM	170x200x15 TR/3 V	
170	200	16	6.693	7.874	0.63	NBR	170x200x16 TR/3 R	
						HNBR	170x200x16 TR/3 H	
						FKM	170x200x16 TR/3 V	
170	210	16	6.693	8.268	0.63	NBR	170x210x16 TR/3 R	
						HNBR	170x210x16 TR/3 H	
						FKM	170x210x16 TR/3 V	
170,26	202	12,7	6.703	7.953	0.5	NBR	645-761-32 TR/3 R	
						HNBR	645-761-32 TR/3 H	
						FKM	645-761-32 TR/3 V	
171,5	197	17,5	6.750	7.756	0.689	NBR	171,5x197x17,5 TR/3 R	
						HNBR	171,5x197x17,5 TR/3 H	
						FKM	171,5x197x17,5 TR/3 V	
175	213,1	19,1	6.890	8.390	0.75	NBR	175x213,1x19,1 TR/3 R	
						HNBR	175x213,1x19,1 TR/3 H	
						FKM	175x213,1x19,1 TR/3 V	
177,81	209,55	19,1	7.000	8.250	0.75	NBR	700-816-48 TR/3 R	
						HNBR	700-816-48 TR/3 H	
						FKM	700-816-48 TR/3 V	
177,81	215,91	15,88	7.000	8.500	0.625	NBR	700-832-40 TR/3 R	
						HNBR	700-832-40 TR/3 H	
						FKM	700-832-40 TR/3 V	
178	205	11	7.008	8.071	0.433	NBR	178x205x11 TR/3 R	
						HNBR	178x205x11 TR/3 H	
						FKM	178x205x11 TR/3 V	
179	219	16	7.047	8.622	0.63	NBR	179x219x16 TR/3 R	
						HNBR	179x219x16 TR/3 H	
						FKM	179x219x16 TR/3 V	
179,38	219,06	15,88	7.063	8.625	0.625	NBR	704-840-40 TR/3 R	
						HNBR	704-840-40 TR/3 H	
						FKM	704-840-40 TR/3 V	
180	200	15	7.087	7.874	0.591	NBR	180x200x15 TR/3 R	
						HNBR	180x200x15 TR/3 H	
						FKM	180x200x15 TR/3 V	
180	200	16	7.087	7.874	0.63	NBR	180x200x16 TR/3 R	
						HNBR	180x200x16 TR/3 H	
						FKM	180x200x16 TR/3 V	
180	205	11	7.087	8.071	0.433	NBR	180x205x11 TR/3 R	
						HNBR	180x205x11 TR/3 H	
						FKM	180x205x11 TR/3 V	
180	210	12	7.087	8.268	0.472	NBR	180x210x12 TR/3 R	
						HNBR	180x210x12 TR/3 H	
						FKM	180x210x12 TR/3 V	

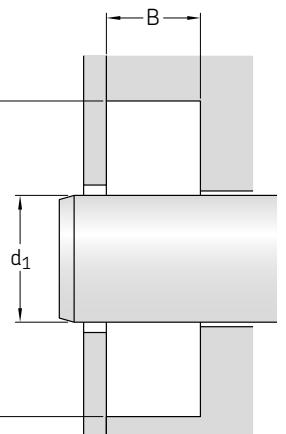
Dimensions		Dimensions			Mate-	SKF Designation	
	D	B	d <sub>1</sub>	D	B	rial	
mm	<i>in.</i>						
80	210	14	7.087	8.268	0.551	NBR	<b>180x210x14 TR/3 R</b>
						HNBR	<b>180x210x14 TR/3 H</b>
						FKM	<b>180x210x14 TR/3 V</b>
80	210	15	7.087	8.268	0.591	NBR	<b>180x210x15 TR/3 R</b>
						HNBR	<b>180x210x15 TR/3 H</b>
						FKM	<b>180x210x15 TR/3 V</b>
80	210	16	7.087	8.268	0.63	NBR	<b>180x210x16 TR/3 R</b>
						HNBR	<b>180x210x16 TR/3 H</b>
						FKM	<b>180x210x16 TR/3 V</b>
80,98	209,55	19,1	7.125	8.250	0.75	NBR	<b>708-816-48 TR/3 R</b>
						HNBR	<b>708-816-48 TR/3 H</b>
						FKM	<b>708-816-48 TR/3 V</b>
81	219	15	7.126	8.622	0.591	NBR	<b>181x219x15 TR/3 R</b>
						HNBR	<b>181x219x15 TR/3 H</b>
						FKM	<b>181x219x15 TR/3 V</b>
84,15	215,9	19,1	7.250	8.500	0.75	NBR	<b>716-832-48 TR/3 R</b>
						HNBR	<b>716-832-48 TR/3 H</b>
						FKM	<b>716-832-48 TR/3 V</b>
88	215	16	7.402	8.465	0.63	NBR	<b>188x215x16 TR/3 R</b>
						HNBR	<b>188x215x16 TR/3 H</b>
						FKM	<b>188x215x16 TR/3 V</b>
90	220	15	7.480	8.661	0.591	NBR	<b>190x220x15 TR/3 R</b>
						HNBR	<b>190x220x15 TR/3 H</b>
						FKM	<b>190x220x15 TR/3 V</b>
90	220,4	12,7	7.480	8.677	0.5	NBR	<b>190x220,4x12,7 TR/3 R</b>
						HNBR	<b>190x220,4x12,7 TR/3 H</b>
						FKM	<b>190x220,4x12,7 TR/3 V</b>
90	225	16	7.480	8.858	0.63	NBR	<b>190x225x16 TR/3 R</b>
						HNBR	<b>190x225x16 TR/3 H</b>
						FKM	<b>190x225x16 TR/3 V</b>
90	225	18	7.480	8.858	0.709	NBR	<b>190x225x18 TR/3 R</b>
						HNBR	<b>190x225x18 TR/3 H</b>
						FKM	<b>190x225x18 TR/3 V</b>
90	230	16	7.480	9.055	0.63	NBR	<b>190x230x16 TR/3 R</b>
						HNBR	<b>190x230x16 TR/3 H</b>
						FKM	<b>190x230x16 TR/3 V</b>
90	230	17	7.480	9.055	0.669	NBR	<b>190x230x17 TR/3 R</b>
						HNBR	<b>190x230x17 TR/3 H</b>
						FKM	<b>190x230x17 TR/3 V</b>
90	235	16	7.480	9.252	0.63	NBR	<b>190x235x16 TR/3 R</b>
						HNBR	<b>190x235x16 TR/3 H</b>
						FKM	<b>190x235x16 TR/3 V</b>
90,5	215,9	15,7	7.500	8.500	0.618	NBR	<b>190,5x215,9x15,7 TR/3 R</b>
						HNBR	<b>190,5x215,9x15,7 TR/3 H</b>
						FKM	<b>190,5x215,9x15,7 TR/3 V</b>
95	233,1	19,1	7.677	9.177	0.752	NBR	<b>195x233,1x19,1 TR/3 R</b>
						HNBR	<b>195x233,1x19,1 TR/3 H</b>
						FKM	<b>195x233,1x19,1 TR/3 V</b>
95	235	16	7.677	9.252	0.63	NBR	<b>195x235x16 TR/3 R</b>
						HNBR	<b>195x235x16 TR/3 H</b>
						FKM	<b>195x235x16 TR/3 V</b>

## TR/3 seals – rubber fabric reinforced

$d_1$  190–239,71 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**

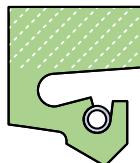


Dimensions		Dimensions		Mate-	SKF Designation	
$d_1$	D	B	$d_1$	D	B	
mm      in.						
mm      in.						
195,26	234,94	15,88	7,688	9,250	0,625	NBR 744-916-40 TR/3 R HNBR 744-916-40 TR/3 H FKM 744-916-40 TR/3 V
200,02	239,7	15,88	7,875	9,438	0,625	NBR 756-928-40 TR/3 R HNBR 756-928-40 TR/3 H FKM 756-928-40 TR/3 V
196,85	238,12	15,88	7,750	9,375	0,625	NBR 748-924-40 TR/3 R HNBR 748-924-40 TR/3 H FKM 748-924-40 TR/3 V
200,08	238,12	17,45	7,875	9,375	0,688	NBR 756-924-44 TR/3 R HNBR 756-924-44 TR/3 H FKM 756-924-44 TR/3 V
197	236	16	7,756	9,291	0,63	NBR 197x236x16 TR/3 R HNBR 197x236x16 TR/3 H FKM 197x236x16 TR/3 V
205	245	16	8,071	9,646	0,63	NBR 205x245x16 TR/3 R HNBR 205x245x16 TR/3 H FKM 205x245x16 TR/3 V
200	225	15	7,874	8,858	0,591	NBR 200x225x15 TR/3 R HNBR 200x225x15 TR/3 H FKM 200x225x15 TR/3 V
209,5	235	15,8	8,248	9,252	0,622	NBR 209,5x235x15,8 TR/3 R HNBR 209,5x235x15,8 TR/3 H FKM 209,5x235x15,8 TR/3 V
200	230	16	7,874	9,055	0,63	NBR 200x230x16 TR/3 R HNBR 200x230x16 TR/3 H FKM 200x230x16 TR/3 V
209,55	250,03	15,88	8,250	9,844	0,625	NBR 816-954-40 TR/3 R HNBR 816-954-40 TR/3 H FKM 816-954-40 TR/3 V
200	231,74	15,88	7,875	9,125	0,625	NBR 756-908-40 TR/3 R HNBR 756-908-40 TR/3 H FKM 756-908-40 TR/3 V
210	240	12	8,268	9,449	0,472	NBR 210x240x12 TR/3 R HNBR 210x240x12 TR/3 H FKM 210x240x12 TR/3 V
200	238	19	7,874	9,370	0,748	NBR 200x238x19 TR/3 R HNBR 200x238x19 TR/3 H FKM 200x238x19 TR/3 V
210	240	15	8,268	9,449	0,591	NBR 210x240x15 TR/3 R HNBR 210x240x15 TR/3 H FKM 210x240x15 TR/3 V
200	238,1	18	7,874	9,375	0,709	NBR 200x238,1x18 TR/3 R HNBR 200x238,1x18 TR/3 H FKM 200x238,1x18 TR/3 V
210	245	18	8,268	9,646	0,709	NBR 210x245x18 TR/3 R HNBR 210x245x18 TR/3 H FKM 210x245x18 TR/3 V
200	240	16	7,874	9,449	0,63	NBR 200x240x16 TR/3 R HNBR 200x240x16 TR/3 H FKM 200x240x16 TR/3 V
210	250	16	8,268	9,843	0,63	NBR 210x250x16 TR/3 R HNBR 210x250x16 TR/3 H FKM 210x250x16 TR/3 V
200	240	20	7,874	9,449	0,787	NBR 200x240x20 TR/3 R HNBR 200x240x20 TR/3 H FKM 200x240x20 TR/3 V
210	250	20	8,268	9,843	0,787	NBR 210x250x20 TR/3 R HNBR 210x250x20 TR/3 H FKM 210x250x20 TR/3 V
200	260	16	7,874	10,236	0,63	NBR 200x260x16 TR/3 R HNBR 200x260x16 TR/3 H FKM 200x260x16 TR/3 V
212,7	247,6	15,8	8,374	9,748	0,622	NBR 212,7x247,6x15,8 TR/3 R HNBR 212,7x247,6x15,8 TR/3 H FKM 212,7x247,6x15,8 TR/3 V
212,72	250,82	15,88	8,375	9,875	0,625	NBR 824-956-40 TR/3 R HNBR 824-956-40 TR/3 H FKM 824-956-40 TR/3 V

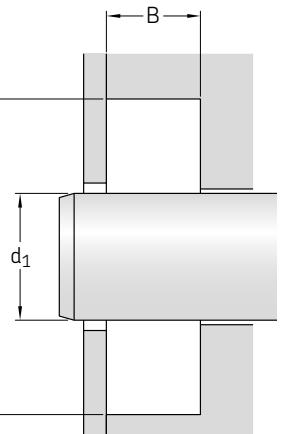
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation		
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B		
mm      in.						mm      in.							
mm      in.						mm      in.							
215	240	12	8,465	9,449	0,472	NBR 215x240x12 TR/3 R HNBR 215x240x12 TR/3 H FKM 215x240x12 TR/3 V	225	265	16	8,858	10,433	0,63	NBR 225x265x16 TR/3 R HNBR 225x265x16 TR/3 H FKM 225x265x16 TR/3 V
215	248	15	8,465	9,764	0,591	NBR 215x248x15 TR/3 R HNBR 215x248x15 TR/3 H FKM 215x248x15 TR/3 V	226	250	12,5	8,898	9,843	0,492	NBR 226x250x13 TR/3 R HNBR 226x250x13 TR/3 H FKM 226x250x13 TR/3 V
215	250	16	8,465	9,843	0,63	NBR 215x250x16 TR/3 R HNBR 215x250x16 TR/3 H FKM 215x250x16 TR/3 V	226,1	270	16	8,902	10,630	0,63	NBR 226,1x270x16 TR/3 R HNBR 226,1x270x16 TR/3 H FKM 226,1x270x16 TR/3 V
215,8	247,6	19	8,496	9,748	0,748	NBR 215,8x247,6x19 TR/3 R HNBR 215,8x247,6x19 TR/3 H FKM 215,8x247,6x19 TR/3 V	229	267	19	9,016	10,512	0,748	NBR 229x267x19 TR/3 R HNBR 229x267x19 TR/3 H FKM 229x267x19 TR/3 V
215,9	254	15,88	8,500	10,000	0,625	NBR 832-1000-40 TR/3 R HNBR 832-1000-40 TR/3 H FKM 832-1000-40 TR/3 V	230	260	12,5	9,055	10,236	0,492	NBR 230x260x13 TR/3 R HNBR 230x260x13 TR/3 H FKM 230x260x13 TR/3 V
215,9	254	19,1	8,500	10,000	0,75	NBR 832-1000-48 TR/3 R HNBR 832-1000-48 TR/3 H FKM 832-1000-48 TR/3 V	230	260	15	9,055	10,236	0,591	NBR 230x260x15 TR/3 R HNBR 230x260x15 TR/3 H FKM 230x260x15 TR/3 V
216	254	16	8,504	10,000	0,63	NBR 216x254x16 TR/3 R HNBR 216x254x16 TR/3 H FKM 216x254x16 TR/3 V	230	262	15	9,055	10,315	0,591	NBR 230x262x15 TR/3 R HNBR 230x262x15 TR/3 H FKM 230x262x15 TR/3 V
219	250	12	8,622	9,843	0,472	NBR 219x250x12 TR/3 R HNBR 219x250x12 TR/3 H FKM 219x250x12 TR/3 V	230	265	20	9,055	10,433	0,787	NBR 230x265x20 TR/3 R HNBR 230x265x20 TR/3 H FKM 230x265x20 TR/3 V
220	225	18	8,661	8,858	0,709	NBR 220x225x18 TR/3 R HNBR 220x225x18 TR/3 H FKM 220x225x18 TR/3 V	230	270	20	9,055	10,630	0,787	NBR 230x270x20 TR/3 R HNBR 230x270x20 TR/3 H FKM 230x270x20 TR/3 V
220	240	16	8,661	9,449	0,63	NBR 220x240x16 TR/3 R HNBR 220x240x16 TR/3 H FKM 220x240x16 TR/3 V	230	280	20	9,055	11,024	0,787	NBR 230x280x20 TR/3 R HNBR 230x280x20 TR/3 H FKM 230x280x20 TR/3 V
220	250	12	8,661	9,843	0,472	NBR 220x250x12 TR/3 R HNBR 220x250x12 TR/3 H FKM 220x250x12 TR/3 V	235	267	15	9,252	10,512	0,591	NBR 235x267x15 TR/3 R HNBR 235x267x15 TR/3 H FKM 235x267x15 TR/3 V
220	250	15	8,661	9,843	0,591	NBR 220x250x15 TR/3 R HNBR 220x250x15 TR/3 H FKM 220x250x15 TR/3 V	239,71	274,63	17,85	9,438	10,813	0,703	NBR 928-1052-45 TR/3 R HNBR 928-1052-45 TR/3 H FKM 928-1052-45 TR/3 V
220	250	16	8,661	9,843	0,63	NBR 220x250x16 TR/3 R HNBR 220x250x16 TR/3 H FKM 220x250x16 TR/3 V	240	265	12,5	9,449	10,433	0,492	NBR 240x265x13 TR/3 R HNBR 240x265x13 TR/3 H FKM 240x265x13 TR/3 V
220	255	18	8,661	10,039	0,709	NBR 220x255x18 TR/3 R HNBR 220x255x18 TR/3 H FKM 220x255x18 TR/3 V	240	270	13,5	9,449	10,630	0,531	NBR 240x270x14 TR/3 R HNBR 240x270x14 TR/3 H FKM 240x270x14 TR/3 V

## TR/3 seals – rubber fabric reinforced

$d_1$  240–279,4 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm					
in.					

241	279	19	9.488	10.984	0.748
			NBR	241x279x19 TR/3 R	
			HNBR	241x279x19 TR/3 H	
			FKM	241x279x19 TR/3 V	

241,3	273	15,8	9.500	10.748	0.622
			NBR	241,3x273x15,8 TR/3 R	
			HNBR	241,3x273x15,8 TR/3 H	
			FKM	241,3x273x15,8 TR/3 V	

241,3	279,4	15,88	9.500	11.000	0.625
			NBR	932-1100-40 TR/3 R	
			HNBR	932-1100-40 TR/3 H	
			FKM	932-1100-40 TR/3 V	

241,31	279,41	17,46	9.500	11.000	0.688
			NBR	932-1100-44 TR/3 R	
			HNBR	932-1100-44 TR/3 H	
			FKM	932-1100-44 TR/3 V	

241,3	279,4	19,1	9.500	11.000	0.75
			NBR	932-1100-48 TR/3 R	
			HNBR	932-1100-48 TR/3 H	
			FKM	932-1100-48 TR/3 V	

245	285	16	9.646	11.220	0.63
			NBR	245x285x16 TR/3 R	
			HNBR	245x285x16 TR/3 H	
			FKM	245x285x16 TR/3 V	

245	288	16	9.646	11.339	0.63
			NBR	245x288x16 TR/3 R	
			HNBR	245x288x16 TR/3 H	
			FKM	245x288x16 TR/3 V	

249,23	289,71	15,88	9.813	11.406	0.625
			NBR	952-1126-40 TR/3 R	
			HNBR	952-1126-40 TR/3 H	
			FKM	952-1126-40 TR/3 V	

250	275,4	12,7	9.844	10.844	0.5
			NBR	954-1054-32 TR/3 R	
			HNBR	954-1054-32 TR/3 H	
			FKM	954-1054-32 TR/3 V	

250	280	12	9.843	11.024	0.472
			NBR	250x280x12 TR/3 R	
			HNBR	250x280x12 TR/3 H	
			FKM	250x280x12 TR/3 V	

250	280	15	9.843	11.024	0.591
			NBR	250x280x15 TR/3 R	
			HNBR	250x280x15 TR/3 H	
			FKM	250x280x15 TR/3 V	

250	285	18	9.843	11.220	0.709
			NBR	250x285x18 TR/3 R	
			HNBR	250x285x18 TR/3 H	
			FKM	250x285x18 TR/3 V	

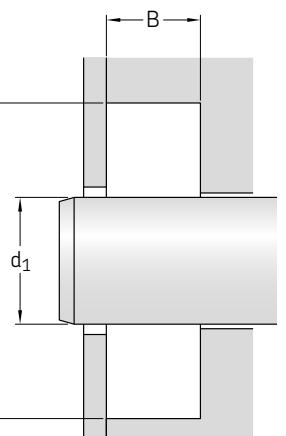
Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm					
in.					
260	298	17	10.236	11.732	0.669
			NBR	260x298x17 TR/3 R	
			HNBR	260x298x17 TR/3 H	
			FKM	260x298x17 TR/3 V	
260	300	14,4	10.236	11.811	0.567
			NBR	260x300x14,4 TR/3 R	
			HNBR	260x300x14,4 TR/3 H	
			FKM	260x300x14,4 TR/3 V	
260	300	18	10.236	11.811	0.709
			NBR	260x300x18 TR/3 R	
			HNBR	260x300x18 TR/3 H	
			FKM	260x300x18 TR/3 V	
260	300	20	10.236	11.811	0.787
			NBR	260x300x20 TR/3 R	
			HNBR	260x300x20 TR/3 H	
			FKM	260x300x20 TR/3 V	
260	304	19,1	10.236	11.969	0.75
			NBR	260x304x19 TR/3 R	
			HNBR	260x304x19 TR/3 H	
			FKM	260x304x19 TR/3 V	
260	304	20	10.236	11.969	0.787
			NBR	270x314x20 TR/3 R	
			HNBR	270x314x20 TR/3 H	
			FKM	270x314x20 TR/3 V	
272	304	16	10.709	11.969	0.63
			NBR	272x304x16 TR/3 R	
			HNBR	272x304x16 TR/3 H	

## TR/3 seals – rubber fabric reinforced

$d_1$  279,4–331 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm                      in.					
mm                      in.					
280	340	15	11.024	13.386	0.591
	NBR	280x340x15 TR/3 R			
	HNBR	280x340x15 TR/3 H			
	FKM	280x340x15 TR/3 V			
280,2	320	16	11.031	12.598	0.63
	NBR	280,2x320x16 TR/3 R			
	HNBR	280,2x320x16 TR/3 H			
	FKM	280,2x320x16 TR/3 V			
285	325	16	11.220	12.795	0.63
	NBR	285x325x16 TR/3 R			
	HNBR	285x325x16 TR/3 H			
	FKM	285x325x16 TR/3 V			
285	325	20	11.220	12.795	0.787
	NBR	285x325x20 TR/3 R			
	HNBR	285x325x20 TR/3 H			
	FKM	285x325x20 TR/3 V			
289	327	19	11.378	12.874	0.748
	NBR	289x327x19 TR/3 R			
	HNBR	289x327x19 TR/3 H			
	FKM	289x327x19 TR/3 V			
290	315,4	12,7	11.417	12.417	0.5
	NBR	290x315,4x12,7 TR/3 R			
	HNBR	290x315,4x12,7 TR/3 H			
	FKM	290x315,4x12,7 TR/3 V			
290	320	15	11.417	12.598	0.591
	NBR	290x320x15 TR/3 R			
	HNBR	290x320x15 TR/3 H			
	FKM	290x320x15 TR/3 V			
290	330	16	11.417	12.992	0.63
	NBR	290x330x16 TR/3 R			
	HNBR	290x330x16 TR/3 H			
	FKM	290x330x16 TR/3 V			
290	330	20	11.417	12.992	0.787
	NBR	290x330x20 TR/3 R			
	HNBR	290x330x20 TR/3 H			
	FKM	290x330x20 TR/3 V			
290	334	20	11.417	13.150	0.787
	NBR	290x334x20 TR/3 R			
	HNBR	290x334x20 TR/3 H			
	FKM	290x334x20 TR/3 V			
290	340	20	11.417	13.386	0.787
	NBR	290x340x20 TR/3 R			
	HNBR	290x340x20 TR/3 H			
	FKM	290x340x20 TR/3 V			
292,1	330,19	17,85	11.500	13.000	0.703
	NBR	1132-1300-45 TR/3 R			
	HNBR	1132-1300-45 TR/3 H			
	FKM	1132-1300-45 TR/3 V			

Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B
mm                      in.						mm                      in.					
mm                      in.						mm                      in.					
300	350,8	19,1	11.811	13.811	0.75	NBR	300x350,8x19,1 TR/3 R				
	HNBR	300x350,8x19,1 TR/3 H				FKM	300x350,8x19,1 TR/3 V				
300	360	25	11.811	14.173	0.984	NBR	300x360x25 TR/3 R				
	HNBR	300x360x25 TR/3 H				FKM	300x360x25 TR/3 V				
300,03	331,77	15,88	11.813	13.063	0.625	NBR	1152-1304-40 TR/3 R				
	HNBR	1152-1304-40 TR/3 H				FKM	1152-1304-40 TR/3 V				
310	354	20	12.205	13.937	0.787	NBR	310x354x20 TR/3 R				
	HNBR	310x354x20 TR/3 H				FKM	310x354x20 TR/3 V				
310	355,6	20	12.205	14.000	0.787	NBR	310x355,6x20 TR/3 R				
	HNBR	310x355,6x20 TR/3 H				FKM	310x355,6x20 TR/3 V				
311	345	18	12.244	13.583	0.709	NBR	311x345x18 TR/3 R				
	HNBR	311x345x18 TR/3 H				FKM	311x345x18 TR/3 V				
315	345	14	12.402	13.583	0.551	NBR	315x345x14 TR/3 R				
	HNBR	315x345x14 TR/3 H				FKM	315x345x14 TR/3 V				
315	347	13	12.402	13.661	0.512	NBR	315x347x13 TR/3 R				
	HNBR	315x347x13 TR/3 H				FKM	315x347x13 TR/3 V				
315	355	20	12.402	13.976	0.787	NBR	315x355x20 TR/3 R				
	HNBR	315x355x20 TR/3 H				FKM	315x355x20 TR/3 V				
315	359	22	12.402	14.134	0.866	NBR	315x359x22 TR/3 R				
	HNBR	315x359x22 TR/3 H				FKM	315x359x22 TR/3 V				
330,2	368,3	17,45	13.000	14.500	0.688	NBR	1300-1432-44 TR/3 R				
	HNBR	1300-1432-44 TR/3 H				FKM	1300-1432-44 TR/3 V				
331	371	14	13.031	14.606	0.551	NBR	331x371x14 TR/3 R				
	HNBR	331x371x14 TR/3 H				FKM	331x371x14 TR/3 V				
331	371	15	13.031	14.606	0.591	NBR	331x371x15 TR/3 R				
	HNBR	331x371x15 TR/3 H				FKM	331x371x15 TR/3 V				
331	371	16	13.031	14.606	0.63	NBR	331x371x16 TR/3 R				
	HNBR	331x371x16 TR/3 H				FKM	331x371x16 TR/3 V				
335	375	15	13.189	14.764	0.591	NBR	335x375x15 TR/3 R				
	HNBR	335x375x15 TR/3 H				FKM	335x375x15 TR/3 V				
335	395	16	13.189	15.551	0.63	NBR	335x395x16 TR/3 R				
	HNBR	335x395x16 TR/3 H				FKM	335x395x16 TR/3 V				
336	380	20	13.228	14.961	0.787	NBR	336x380x20 TR/3 R				
	HNBR	336x380x20 TR/3 H				FKM	336x380x20 TR/3 V				
340	370	18	13.386	14.567	0.709	NBR	340x370x18 TR/3 R				
	HNBR	340x370x18 TR/3 H				FKM	340x370x18 TR/3 V				

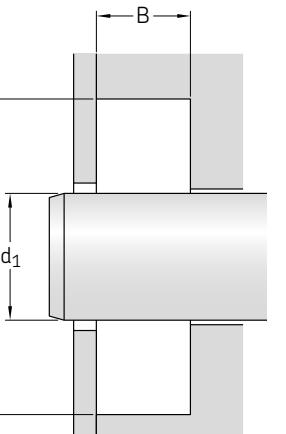
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## TR/3 seals – rubber fabric reinforced

d<sub>1</sub> 331–393,7 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B
mm					
in.					

340	372	16	13.386	14.646	0.63
			NBR	340x372x16 TR/3 R	
			HNBR	340x372x16 TR/3 H	
			FKM	340x372x16 TR/3 V	

340	380	18	13.386	14.961	0.709
			NBR	340x380x18 TR/3 R	
			HNBR	340x380x18 TR/3 H	
			FKM	340x380x18 TR/3 V	

340	380	20	13.386	14.961	0.787
			NBR	340x380x20 TR/3 R	
			HNBR	340x380x20 TR/3 H	
			FKM	340x380x20 TR/3 V	

340	384	20	13.386	15.118	0.787
			NBR	340x384x20 TR/3 R	
			HNBR	340x384x20 TR/3 H	
			FKM	340x384x20 TR/3 V	

342,9	381	17,4	13.500	15.000	0.688
			NBR	1332-1500-44 TR/3 R	
			HNBR	1332-1500-44 TR/3 H	
			FKM	1332-1500-44 TR/3 V	

342,9	381	19,1	13.500	15.000	0.75
			NBR	1332-1500-48 TR/3 R	
			HNBR	1332-1500-48 TR/3 H	
			FKM	1332-1500-48 TR/3 V	

342,9	393,7	20,7	13.500	15.500	0.813
			NBR	1332-1532-52 TR/3 R	
			HNBR	1332-1532-52 TR/3 H	
			FKM	1332-1532-52 TR/3 V	

345	395	20	13.583	15.551	0.787
			NBR	345x395x20 TR/3 R	
			HNBR	345x395x20 TR/3 H	
			FKM	345x395x20 TR/3 V	

350	380	15	13.780	14.961	0.591
			NBR	350x380x15 TR/3 R	
			HNBR	350x380x15 TR/3 H	
			FKM	350x380x15 TR/3 V	

350	380	20	13.780	14.961	0.787
			NBR	350x380x20 TR/3 R	
			HNBR	350x380x20 TR/3 H	
			FKM	350x380x20 TR/3 V	

350	390	18	13.780	15.354	0.709
			NBR	350x390x18 TR/3 R	
			HNBR	350x390x18 TR/3 H	
			FKM	350x390x18 TR/3 V	

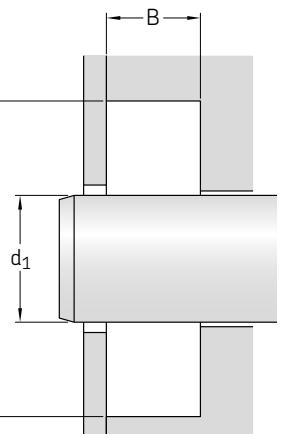
350	391	16	13.780	15.394	0.63
			NBR	350x391x16 TR/3 R	
			HNBR	350x391x16 TR/3 H	
			FKM	350x391x16 TR/3 V	

Dimensions		Dimensions		Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B
mm					
in.					
362	400	20	14.252	15.748	0.787
			NBR	362x400x20 TR/3 R	
			HNBR	362x400x20 TR/3 H	
			FKM	362x400x20 TR/3 V	
362	406	20	14.252	15.984	0.787
			NBR	362x406x20 TR/3 R	
			HNBR	362x406x20 TR/3 H	
			FKM	362x406x20 TR/3 V	
365	405	20	14.370	15.945	0.787
			NBR	365x405x20 TR/3 R	
			HNBR	365x405x20 TR/3 H	
			FKM	365x405x20 TR/3 V	
365,12	404,8	19,84	14.375	15.938	0.781
			NBR	1424-1560-50 TR/3 R	
			HNBR	1424-1560-50 TR/3 H	
			FKM	1424-1560-50 TR/3 V	
368,3	419,1	20,6	14.500	16.500	0.813
			NBR	1432-1632-52 TR/3 R	
			HNBR	1432-1632-52 TR/3 H	
			FKM	1432-1632-52 TR/3 V	
370	410	18	14.567	16.142	0.709
			NBR	370x410x18 TR/3 R	
			HNBR	370x410x18 TR/3 H	
			FKM	370x410x18 TR/3 V	
370	414	20	14.567	16.299	0.787
			NBR	370x414x20 TR/3 R	
			HNBR	370x414x20 TR/3 H	

## TR/3 seals – rubber fabric reinforced

d<sub>1</sub> 393,7–480 mm

The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



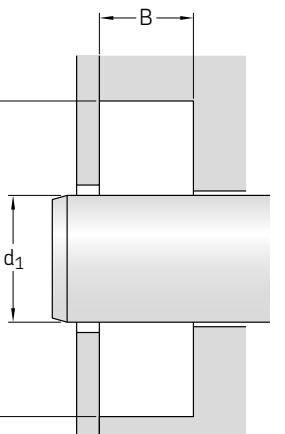
Dimensions		Dimensions		Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B
mm                      in.					
404,81	455,61	22,22	15.938	17.938	0.875
	NBR	1560-1760-56 TR/3 R			
	HNBR	1560-1760-56 TR/3 H			
	FKM	1560-1760-56 TR/3 V			
405	455	22	15.945	17.913	0.866
	NBR	405x455x22 TR/3 R			
	HNBR	405x455x22 TR/3 H			
	FKM	405x455x22 TR/3 V			
406,2	445,5	17	15.992	17.539	0.669
	NBR	406,2x445,5x17 TR/3 R			
	HNBR	406,2x445,5x17 TR/3 H			
	FKM	406,2x445,5x17 TR/3 V			
406,4	457,2	19	16.000	18.000	0.748
	NBR	406,4x457,2x19 TR/3 R			
	HNBR	406,4x457,2x19 TR/3 H			
	FKM	406,4x457,2x19 TR/3 V			
406,4	457,2	20,6	16.000	18.000	0.813
	NBR	1600-1800-52 TR/3 R			
	HNBR	1600-1800-52 TR/3 H			
	FKM	1600-1800-52 TR/3 V			
406,4	457,2	21,2	16.000	18.000	0.835
	NBR	406,4x457,2x21,2 TR/3 R			
	HNBR	406,4x457,2x21,2 TR/3 H			
	FKM	406,4x457,2x21,2 TR/3 V			
406,4	457,2	28,6	16.000	18.000	1.125
	NBR	1600-1800-108 TR/3 R			
	HNBR	1600-1800-108 TR/3 H			
	FKM	1600-1800-108 TR/3 V			
410	445	12	16.142	17.520	0.472
	NBR	410x445x12 TR/3 R			
	HNBR	410x445x12 TR/3 H			
	FKM	410x445x12 TR/3 V			
412,74	450,84	17,46	16.250	17.750	0.688
	NBR	1616-1748-44 TR/3 R			
	HNBR	1616-1748-44 TR/3 H			
	FKM	1616-1748-44 TR/3 V			
412,74	450,84	22,22	16.250	17.750	0.875
	NBR	1616-1748-56 TR/3 R			
	HNBR	1616-1748-56 TR/3 H			
	FKM	1616-1748-56 TR/3 V			
413	463	22	16.260	18.228	0.866
	NBR	413x463x22 TR/3 R			
	HNBR	413x463x22 TR/3 H			
	FKM	413x463x22 TR/3 V			
419	451	19	16.496	17.756	0.748
	NBR	419x451x19 TR/3 R			
	HNBR	419x451x19 TR/3 H			
	FKM	419x451x19 TR/3 V			

Dimensions		Dimensions		Mate-	SKF Designation	Dimensions	Dimensions		Mate-	SKF Designation	
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	Mate-	SKF Designation	
mm                      in.						mm                      in.					
430	480	25	16.929	18.898	0.984	NBR	430x480x25 TR/3 R				
						HNBR	430x480x25 TR/3 H				
						FKM	430x480x25 TR/3 V				
430	480	27,5	16.929	18.898	1.083	NBR	430x480x27,5 TR/3 R				
						HNBR	430x480x27,5 TR/3 H				
						FKM	430x480x27,5 TR/3 V				
431,8	482,6	20,6	17.000	19.000	0.813	NBR	1700-1900-52 TR/3 R				
						HNBR	1700-1900-52 TR/3 H				
						FKM	1700-1900-52 TR/3 V				
435	485	22	17.126	19.094	0.866	NBR	435x485x22 TR/3 R				
						HNBR	435x485x22 TR/3 H				
						FKM	435x485x22 TR/3 V				
439,73	484,23	19,1	17.313	19.063	0.75	NBR	1720-1904-48 TR/3 R				
						HNBR	1720-1904-48 TR/3 H				
						FKM	1720-1904-48 TR/3 V				
440	480	20	17.323	18.898	0.787	NBR	440x480x20 TR/3 R				
						HNBR	440x480x20 TR/3 H				
						FKM	440x480x20 TR/3 V				
440	484,3	19	17.323	19.067	0.748	NBR	440x484,3x19 TR/3 R				
						HNBR	440x484,3x19 TR/3 H				
						FKM	440x484,3x19 TR/3 V				
440	490	22	17.323	19.291	0.866	NBR	440x490x22 TR/3 R				
						HNBR	440x490x22 TR/3 H				
						FKM	440x490x22 TR/3 V				
444,5	508	19,1	17.500	20.000	0.75	NBR	1732-2000-48 TR/3 R				
						HNBR	1732-2000-48 TR/3 H				
						FKM	1732-2000-48 TR/3 V				
445	485	18	17.520	19.094	0.709	NBR	445x485x18 TR/3 R				
						HNBR	445x485x18 TR/3 H				
						FKM	445x485x18 TR/3 V				
445	495	22	17.520	19.488	0.866	NBR	445x495x22 TR/3 R				
						HNBR	445x495x22 TR/3 H				
						FKM	445x495x22 TR/3 V				
446	486	16	17.559	19.134	0.63	NBR	446x486x16 TR/3 R				
						HNBR	446x486x16 TR/3 H				
						FKM	446x486x16 TR/3 V				
450	480	20	17.717	18.898	0.787	NBR	450x480x20 TR/3 R				
						HNBR	450x480x20 TR/3 H				
						FKM	450x480x20 TR/3 V				
450	485,1	19,1	16.535	19.098	0.75	NBR	420x485x19 TR/3 R				
						HNBR	420x485x19 TR/3 H				
						FKM	420x485x19 TR/3 V				
450	500	20	17.717	19.685	0.787	NBR	450x500x20 TR/3 R				
						HNBR	450x500x20 TR/3 H				
						FKM	450x500x20 TR/3 V				
450	483	23	16.732	19.016	0.906	NBR	425x483x23 TR/3 R				
	</										

d<sub>1</sub> 480–580 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions			Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	rial
mm						in.
500	540	20	19.685	21.260	0.787	NBR    500x540x20 TR/3 R HNBR    500x540x20 TR/3 H FKM    500x540x20 TR/3 V
500	540	22	19.685	21.260	0.866	NBR    500x540x22 TR/3 R HNBR    500x540x22 TR/3 H FKM    500x540x22 TR/3 V
500	544	20	19.685	21.417	0.787	NBR    500x544x20 TR/3 R HNBR    500x544x20 TR/3 H FKM    500x544x20 TR/3 V
500	544	22	19.685	21.417	0.866	NBR    500x544x22 TR/3 R HNBR    500x544x22 TR/3 H FKM    500x544x22 TR/3 V
500	545	20	19.685	21.457	0.787	NBR    500x545x20 TR/3 R HNBR    500x545x20 TR/3 H FKM    500x545x20 TR/3 V
500	545	20,5	19.685	21.457	0.807	NBR    500x545x21 TR/3 R HNBR    500x545x21 TR/3 H FKM    500x545x21 TR/3 V
500	550	20	19.685	21.654	0.787	NBR    500x550x20 TR/3 R HNBR    500x550x20 TR/3 H FKM    500x550x20 TR/3 V
500	550	22	19.685	21.654	0.866	NBR    500x550x22 TR/3 R HNBR    500x550x22 TR/3 H FKM    500x550x22 TR/3 V
500,05	544,49	22,22	19.688	21.438	0.875	NBR    1944-2128-56 TR/3 R HNBR    1944-2128-56 TR/3 H FKM    1944-2128-56 TR/3 V
508	558,8	20,63	20.000	22.000	0.813	NBR    2000-2200-52 TR/3 R HNBR    2000-2200-52 TR/3 H FKM    2000-2200-52 TR/3 V
510	560	22	20.079	22.047	0.866	NBR    510x560x22 TR/3 R HNBR    510x560x22 TR/3 H FKM    510x560x22 TR/3 V
510	560	25	20.079	22.047	0.984	NBR    510x560x25 TR/3 R HNBR    510x560x25 TR/3 H FKM    510x560x25 TR/3 V

Dimensions			Dimensions			Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	rial	
mm						<i>in.</i>	
520	570	22	20.472	22.441	0.866	NBR	520x570x22 TR/3 R
						HNBR	520x570x22 TR/3 H
						FKM	520x570x22 TR/3 V
520	570	25	20.472	22.441	0.984	NBR	520x570x25 TR/3 R
						HNBR	520x570x25 TR/3 H
						FKM	520x570x25 TR/3 V
520,7	558,8	19,1	20.500	22.000	0.75	NBR	2032-2000-48 TR/3 R
						HNBR	2032-2000-48 TR/3 H
						FKM	2032-2000-48 TR/3 V
520,7	558,8	24,2	20.500	22.000	0.953	NBR	2032-2200-61 TR/3 R
						HNBR	2032-2200-61 TR/3 H
						FKM	2032-2200-61 TR/3 V
525	569	20	20.669	22.402	0.787	NBR	525x569x20 TR/3 R
						HNBR	525x569x20 TR/3 H
						FKM	525x569x20 TR/3 V
525	575	22	20.669	22.638	0.866	NBR	525x575x22 TR/3 R
						HNBR	525x575x22 TR/3 H
						FKM	525x575x22 TR/3 V
528	578	22	20.787	22.756	0.866	NBR	528x578x22 TR/3 R
						HNBR	528x578x22 TR/3 H
						FKM	528x578x22 TR/3 V
530	580	20	20.866	22.835	0.787	NBR	530x580x20 TR/3 R
						HNBR	530x580x20 TR/3 H
						FKM	530x580x20 TR/3 V
530	580	22	20.866	22.835	0.866	NBR	530x580x22 TR/3 R
						HNBR	530x580x22 TR/3 H
						FKM	530x580x22 TR/3 V
530	580	24,2	20.866	22.835	0.953	NBR	530x580x24,2 TR/3 R
						HNBR	530x580x24,2 TR/3 H
						FKM	530x580x24,2 TR/3 V
535	585	22	21.063	23.031	0.866	NBR	535x585x22 TR/3 R
						HNBR	535x585x22 TR/3 H
						FKM	535x585x22 TR/3 V
540	590	22	21.260	23.228	0.866	NBR	540x590x22 TR/3 R
						HNBR	540x590x22 TR/3 H
						FKM	540x590x22 TR/3 V

Dimensions			Dimensions			Material	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B		
mm						in.	
540	590	25	21.260	23.228	0.984	NBR	540x590x25 TR/3 R
						HNBR	540x590x25 TR/3 H
						FKM	540x590x25 TR/3 V
540	590	27,5	21.260	23.228	1.083	NBR	540x590x27,5 TR/3 R
						HNBR	540x590x27,5 TR/3 H
						FKM	540x590x27,5 TR/3 V
541,33	577,83	17,85	21.313	22.750	0.703	NBR	2120-2248-45 TR/3 R
						HNBR	2120-2248-45 TR/3 H
						FKM	2120-2248-45 TR/3 V
542	578	18	21.339	22.756	0.709	NBR	542x578x18 TR/3 R
						HNBR	542x578x18 TR/3 H
						FKM	542x578x18 TR/3 V
549,27	600,07	21,82	21.625	23.625	0.859	NBR	2140-2340-55 TR/3 R
						HNBR	2140-2340-55 TR/3 H
						FKM	2140-2340-55 TR/3 V
550	590	20	21.654	23.228	0.787	NBR	550x590x20 TR/3 R
						HNBR	550x590x20 TR/3 H
						FKM	550x590x20 TR/3 V
550	600	22	21.654	23.622	0.866	NBR	550x600x22 TR/3 R
						HNBR	550x600x22 TR/3 H
						FKM	550x600x22 TR/3 V
550	600	23,5	21.654	23.622	0.925	NBR	550x600x23,5 TR/3 R
						HNBR	550x600x23,5 TR/3 H
						FKM	550x600x23,5 TR/3 V
558,8	596,9	19,1	22.000	23.500	0.75	NBR	2200-2332-48 TR/3 R
						HNBR	2200-2332-48 TR/3 H
						FKM	2200-2332-48 TR/3 V
558,8	609,6	22,22	22.000	24.000	0.875	NBR	2200-2400-56 TR/3 R
						HNBR	2200-2400-56 TR/3 H
						FKM	2200-2400-56 TR/3 V
559	597	19	22.008	23.504	0.748	NBR	559x597x19 TR/3 R
						HNBR	559x597x19 TR/3 H
						FKM	559x597x19 TR/3 V
560	604	20	22.047	23.780	0.787	NBR	560x604x20 TR/3 R
						HNBR	560x604x20 TR/3 H
						FKM	560x604x20 TR/3 V
560	610	22	22.047	24.016	0.866	NBR	560x610x22 TR/3 R
						HNBR	560x610x22 TR/3 H
						FKM	560x610x22 TR/3 V
565	615	22	22.244	24.213	0.866	NBR	565x615x22 TR/3 R
						HNBR	565x615x22 TR/3 H
						FKM	565x615x22 TR/3 V
565,15	615,95	22,23	22.250	24.250	0.875	NBR	2216-2416-56 TR/3 R
						HNBR	2216-2416-56 TR/3 H
						FKM	2216-2416-56 TR/3 V
570	616	19	22.441	24.252	0.748	NBR	570x616x19 TR/3 R
						HNBR	570x616x19 TR/3 H
						FKM	570x616x19 TR/3 V
570	620	22	22.441	24.409	0.866	NBR	570x620x22 TR/3 R
						HNBR	570x620x22 TR/3 H
						FKM	570x620x22 TR/3 V

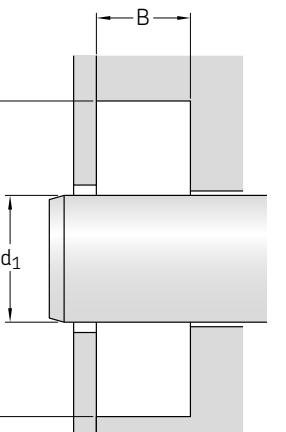
Dimensions			Dimensions			Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	rial	
mm	in.						
570	620	25	22.441	24.409	0.984	NBR	570x620x25 TR/3 R
						HNBR	570x620x25 TR/3 H
						FKM	570x620x25 TR/3 V
571,5	615,95	22,22	22.500	24.250	0.875	NBR	2232-2416-56 TR/3 R
						HNBR	2232-2416-56 TR/3 H
						FKM	2232-2416-56 TR/3 V
571,5	615,95	25	22.500	24.250	0.984	NBR	2232-2416-63 TR/3 R
						HNBR	2232-2416-63 TR/3 H
						FKM	2232-2416-63 TR/3 V
571,52	622,32	20,64	22.500	24.500	0.813	NBR	2232-2432-52 TR/3 R
						HNBR	2232-2432-52 TR/3 H
						FKM	2232-2432-52 TR/3 V
579,43	615,93	15,88	22.813	24.250	0.625	NBR	2252-2416-40 TR/3 R
						HNBR	2252-2416-40 TR/3 H
						FKM	2252-2416-40 TR/3 V
580	615	20	22.835	24.213	0.787	NBR	580x615x20 TR/3 R
						HNBR	580x615x20 TR/3 H
						FKM	580x615x20 TR/3 V
580	616	16	22.835	24.252	0.63	NBR	580x616x16 TR/3 R
						HNBR	580x616x16 TR/3 H
						FKM	580x616x16 TR/3 V
580	616	17	22.835	24.252	0.669	NBR	580x616x17 TR/3 R
						HNBR	580x616x17 TR/3 H
						FKM	580x616x17 TR/3 V
580	620	20	22.835	24.409	0.787	NBR	580x620x20 TR/3 R
						HNBR	580x620x20 TR/3 H
						FKM	580x620x20 TR/3 V
580	620	25	22.835	24.409	0.984	NBR	580x620x25 TR/3 R
						HNBR	580x620x25 TR/3 H
						FKM	580x620x25 TR/3 V
590	640	20	23.228	25.197	0.787	NBR	590x640x20 TR/3 R
						HNBR	590x640x20 TR/3 H
						FKM	590x640x20 TR/3 V
590	640	22	23.228	25.197	0.866	NBR	590x640x22 TR/3 R
						HNBR	590x640x22 TR/3 H
						FKM	590x640x22 TR/3 V
600	650	22	23.622	25.591	0.866	NBR	600x650x22 TR/3 R
						HNBR	600x650x22 TR/3 H
						FKM	600x650x22 TR/3 V
600	660	22,2	23.622	25.984	0.875	NBR	600x660x22,2 TR/3 R
						HNBR	600x660x22,2 TR/3 H
						FKM	600x660x22,2 TR/3 V
600	660	25	23.622	25.984	0.984	NBR	600x660x25 TR/3 R
						HNBR	600x660x25 TR/3 H
						FKM	600x660x25 TR/3 V
605	645	18	23.819	25.394	0.709	NBR	605x645x18 TR/3 R
						HNBR	605x645x18 TR/3 H
						FKM	605x645x18 TR/3 V
605	655	22	23.819	25.787	0.866	NBR	605x655x22 TR/3 R
						HNBR	605x655x22 TR/3 H
						FKM	605x655x22 TR/3 V

## TR/3 seals – rubber fabric reinforced

$d_1$  580–750 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	Material
mm					
in.					
610	674	22	24.016	26.535	0.866
	NBR	610x674x22 TR/3 R			
	HNBR	610x674x22 TR/3 H			
	FKM	610x674x22 TR/3 V			
610	674	25	24.016	26.535	0.984
	NBR	610x674x25 TR/3 R			
	HNBR	610x674x25 TR/3 H			
	FKM	610x674x25 TR/3 V			
616	666,8	22	24.252	26.252	0.866
	NBR	616x666,8x22 TR/3 R			
	HNBR	616x666,8x22 TR/3 H			
	FKM	616x666,8x22 TR/3 V			
620	684	25	24.409	26.929	0.984
	NBR	620x684x25 TR/3 R			
	HNBR	620x684x25 TR/3 H			
	FKM	620x684x25 TR/3 V			
625	670	20	24.606	26.378	0.787
	NBR	625x670x20 TR/3 R			
	HNBR	625x670x20 TR/3 H			
	FKM	625x670x20 TR/3 V			
630	680	25	24.803	26.772	0.984
	NBR	630x680x25 TR/3 R			
	HNBR	630x680x25 TR/3 H			
	FKM	630x680x25 TR/3 V			
630	694	25	24.803	27.323	0.984
	NBR	630x694x25 TR/3 R			
	HNBR	630x694x25 TR/3 H			
	FKM	630x694x25 TR/3 V			
639,75	682,63	19,1	25.188	26.875	0.75
	NBR	2512-2656-48 TR/3 R			
	HNBR	2512-2656-48 TR/3 H			
	FKM	2512-2656-48 TR/3 V			
640	684	20	25.197	26.929	0.787
	NBR	640x684x20 TR/3 R			
	HNBR	640x684x20 TR/3 H			
	FKM	640x684x20 TR/3 V			
640	688	20	25.197	27.087	0.787
	NBR	640x688x20 TR/3 R			
	HNBR	640x688x20 TR/3 H			
	FKM	640x688x20 TR/3 V			
640	690	22	25.197	27.165	0.866
	NBR	640x690x22 TR/3 R			
	HNBR	640x690x22 TR/3 H			
	FKM	640x690x22 TR/3 V			
640	704	25	25.197	27.717	0.984
	NBR	640x704x25 TR/3 R			
	HNBR	640x704x25 TR/3 H			
	FKM	640x704x25 TR/3 V			

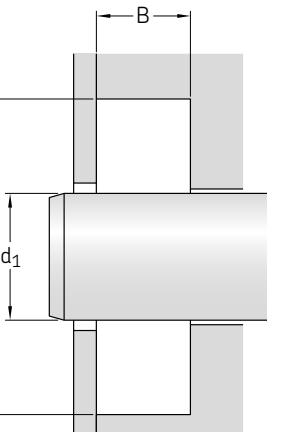
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	Material
mm						in.					
in.						in.					
685	749	25	26.969	29.488	0.984	NBR	685x749x25 TR/3 R				
	HNBR	685x749x25 TR/3 H									
	FKM	685x749x25 TR/3 V									
685,8	736,6	22,22	27.000	29.000	0.875	NBR	2700-2900-56 TR/3 R				
	HNBR	2700-2900-56 TR/3 H									
	FKM	2700-2900-56 TR/3 V									
690	740	25	27.165	29.134	0.984	NBR	690x740x25 TR/3 R				
	HNBR	690x740x25 TR/3 H									
	FKM	690x740x25 TR/3 V									
700	750	25	27.559	29.528	0.984	NBR	700x750x25 TR/3 R				
	HNBR	700x750x25 TR/3 H									
	FKM	700x750x25 TR/3 V									
700	760	30	27.559	29.921	1.181	NBR	700x760x30 TR/3 R				
	HNBR	700x760x30 TR/3 H									
	FKM	700x760x30 TR/3 V									
700	764	25	27.559	30.079	0.984	NBR	700x764x25 TR/3 R				
	HNBR	700x764x25 TR/3 H									
	FKM	700x764x25 TR/3 V									
710	760	20	27.953	29.921	0.787	NBR	710x760x20 TR/3 R				
	HNBR	710x760x20 TR/3 H									
	FKM	710x760x20 TR/3 V									
710	760	22	27.953	29.921	0.866	NBR	710x760x22 TR/3 R				
	HNBR	710x760x22 TR/3 H									
	FKM	710x760x22 TR/3 V									
710	760	25	27.953	29.921	0.984	NBR	710x760x25 TR/3 R				
	HNBR	710x760x25 TR/3 H									
	FKM	710x760x25 TR/3 V									
710	770	25	27.953	30.315	0.984	NBR	710x770x25 TR/3 R				
	HNBR	710x770x25 TR/3 H									
	FKM	710x770x25 TR/3 V									
710	774	25	27.953	30.472	0.984	NBR	710x774x25 TR/3 R				
	HNBR	710x774x25 TR/3 H									
	FKM	710x774x25 TR/3 V									
711	775	25	27.992	30.512	0.984	NBR	711x775x25 TR/3 R				
	HNBR	711x775x25 TR/3 H									
	FKM	711x775x25 TR/3 V									
711,19	774,69	25	28.000	30.500	0.984	NBR	2800-3032-63 TR/3 R				
	HNBR	2800-3032-63 TR/3 H									
	FKM	2800-3032-63 TR/3 V									
720	780	25	28.346	30.709	0.984	NBR	720x780x25 TR/3 R				
	HNBR	720x780x25 TR/3 H									
	FKM	720x780x25 TR/3 V									
720	784	25	28.346	30.866	0.984	NBR	720x784x25 TR/3 R				
	HNBR	720x784x25 TR/3 H									
	FKM	720x784x25 TR/3 V									

## TR/3 seals – rubber fabric reinforced

$d_1$  750–990 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm					
in.					
774,7	838,2	22,22	30.500	33.000	0.875
	NBR	3032-3300-56 TR/3 R			
	HNBR	3032-3300-56 TR/3 H			
	FKM	3032-3300-56 TR/3 V			
775	825	25	30.512	32.480	0.984
	NBR	775x825x25 TR/3 R			
	HNBR	775x825x25 TR/3 H			
	FKM	775x825x25 TR/3 V			
780	844	25	30.709	33.228	0.984
	NBR	780x844x25 TR/3 R			
	HNBR	780x844x25 TR/3 H			
	FKM	780x844x25 TR/3 V			
787,4	838,2	22,22	31.000	33.000	0.875
	NBR	3100-3300-56 TR/3 R			
	HNBR	3100-3300-56 TR/3 H			
	FKM	3100-3300-56 TR/3 V			
790	854	25	31.102	33.622	0.984
	NBR	790x854x25 TR/3 R			
	HNBR	790x854x25 TR/3 H			
	FKM	790x854x25 TR/3 V			
800	840	25	31.496	33.071	0.984
	NBR	800x840x25 TR/3 R			
	HNBR	800x840x25 TR/3 H			
	FKM	800x840x25 TR/3 V			
800	864	25	31.496	34.016	0.984
	NBR	800x864x25 TR/3 R			
	HNBR	800x864x25 TR/3 H			
	FKM	800x864x25 TR/3 V			
800	870	30	31.496	34.252	1.181
	NBR	800x870x30 TR/3 R			
	HNBR	800x870x30 TR/3 H			
	FKM	800x870x30 TR/3 V			
800	874	25	31.496	34.409	0.984
	NBR	800x874x25 TR/3 R			
	HNBR	800x874x25 TR/3 H			
	FKM	800x874x25 TR/3 V			
805	869	25	31.693	34.213	0.984
	NBR	805x869x25 TR/3 R			
	HNBR	805x869x25 TR/3 H			
	FKM	805x869x25 TR/3 V			
809,61	873,11	25	31.875	34.375	0.984
	NBR	3156-3424-63 TR/3 R			
	HNBR	3156-3424-63 TR/3 H			
	FKM	3156-3424-63 TR/3 V			
810	860	25	31.890	33.858	0.984
	NBR	810x860x25 TR/3 R			
	HNBR	810x860x25 TR/3 H			
	FKM	810x860x25 TR/3 V			

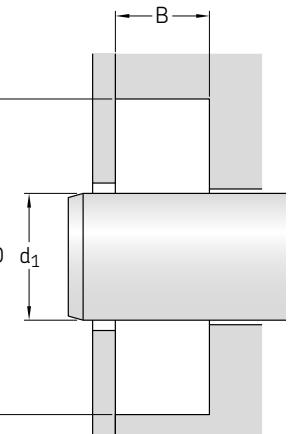
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B
mm						in.					
in.						in.					
850	910	25	33.465	35.827	0.984	NBR	850x910x25 TR/3 R				
						HNBR	850x910x25 TR/3 H				
						FKM	850x910x25 TR/3 V				
850	914	25	33.465	35.984	0.984	NBR	850x914x25 TR/3 R				
						HNBR	850x914x25 TR/3 H				
						FKM	850x914x25 TR/3 V				
850	924	25	33.465	36.378	0.984	NBR	850x924x25 TR/3 R				
						HNBR	850x924x25 TR/3 H				
						FKM	850x924x25 TR/3 V				
850,9	900,1	19,84	33.500	35.438	0.781	NBR	3332-3528-50 TR/3 R				
						HNBR	3332-3528-50 TR/3 H				
						FKM	3332-3528-50 TR/3 V				
860	920	25	33.858	36.220	0.984	NBR	860x920x25 TR/3 R				
						HNBR	860x920x25 TR/3 H				
						FKM	860x920x25 TR/3 V				
860	924	25	33.858	36.378	0.984	NBR	860x924x25 TR/3 R				
						HNBR	860x924x25 TR/3 H				
						FKM	860x924x25 TR/3 V				
880	944	25	34.646	37.165	0.984	NBR	880x944x25 TR/3 R				
						HNBR	880x944x25 TR/3 H				
						FKM	880x944x25 TR/3 V				
880	944	25,6	34.646	37.165	1.008	NBR	880x944x25,6 TR/3 R				
						HNBR	880x944x25,6 TR/3 H				
						FKM	880x944x25,6 TR/3 V				
890	954	25	35.039	37.559	0.984	NBR	890x954x25 TR/3 R				
						HNBR	890x954x25 TR/3 H				
						FKM	890x954x25 TR/3 V				
900	960	30	35.433	37.795	1.181	NBR	900x960x30 TR/3 R				
						HNBR	900x960x30 TR/3 H				
						FKM	900x960x30 TR/3 V				
900	964	25	35.433	37.953	0.984	NBR	900x964x25 TR/3 R				
						HNBR	900x964x25 TR/3 H				
						FKM	900x964x25 TR/3 V				
900	980	23	35.433	38.583	0.906	NBR	900x980x23 TR/3 R				
						HNBR	900x980x23 TR/3 H				
						FKM	900x980x23 TR/3 V				
910	974	25	35.827	38.346	0.984	NBR	910x974x25 TR/3 R				
						HNBR	910x974x25 TR/3 H				
						FKM	910x974x25 TR/3 V				
930	980	20	36.614	38.583	0.787	NBR	930x980x20 TR/3 R				
						HNBR	930x980x20 TR/3 H				
						FKM	930x980x20 TR/3 V				
930	994	25	36.614	39.134	0.984	NBR	930x994x25 TR/3 R				
						HNBR	930x994x25 TR/3 H				
						FKM	930x994x25 TR/3 V				
930	1000										

## TR/3 seals – rubber fabric reinforced

d<sub>1</sub> 990–2 350 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions			Dimensions			Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B	rial	
mm						<i>in.</i>	

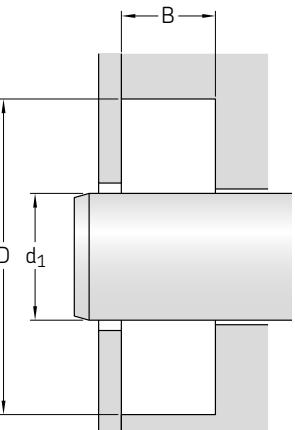
Dimensions	D	B	d <sub>1</sub>	D	B	Mate-	SKF Designation
d <sub>1</sub>			d <sub>1</sub>			rial	
mm						<i>in.</i>	
1310	1374	25	51.575	54.094	0.984	NBR	1310x1374x25 TR/3 R
						HNBR	1310x1374x25 TR/3 H
						FKM	1310x1374x25 TR/3 V
1320	1370	20	51.969	53.937	0.787	NBR	1320x1370x20 TR/3 R
						HNBR	1320x1370x20 TR/3 H
						FKM	1320x1370x20 TR/3 V
1330	1394	25	52.362	54.882	0.984	NBR	1330x1394x25 TR/3 R
						HNBR	1330x1394x25 TR/3 H
						FKM	1330x1394x25 TR/3 V
1385	1435	25	54.528	56.496	0.984	NBR	1385x1435x25 TR/3 R
						HNBR	1385x1435x25 TR/3 H
						FKM	1385x1435x25 TR/3 V
1435	1499	25	56.496	59.016	0.984	NBR	1435x1499x25 TR/3 R
						HNBR	1435x1499x25 TR/3 H
						FKM	1435x1499x25 TR/3 V
1447,8	1524	19,1	57.000	60.000	0.75	NBR	5700-6000-48 TR/3 R
						HNBR	5700-6000-48 TR/3 H
						FKM	5700-6000-48 TR/3 V
1550	1614	25	61.024	63.543	0.984	NBR	1550x1614x25 TR/3 R
						HNBR	1550x1614x25 TR/3 H
						FKM	1550x1614x25 TR/3 V
1556	1620	25	61.260	63.780	0.984	NBR	1556x1620x25 TR/3 R
						HNBR	1556x1620x25 TR/3 H
						FKM	1556x1620x25 TR/3 V
1600	1664	25,3	62.992	65.512	0.996	NBR	1600x1664x25,3 TR/3 R
						HNBR	1600x1664x25,3 TR/3 H
						FKM	1600x1664x25,3 TR/3 V
1610	1660	20	63.386	65.354	0.787	NBR	1610x1660x20 TR/3 R
						HNBR	1610x1660x20 TR/3 H
						FKM	1610x1660x20 TR/3 V
1610	1670	20	63.386	65.748	0.787	NBR	1610x1670x20 TR/3 R
						HNBR	1610x1670x20 TR/3 H
						FKM	1610x1670x20 TR/3 V
1620	1684	25	63.780	66.299	0.984	NBR	1620x1684x25 TR/3 R
						HNBR	1620x1684x25 TR/3 H
						FKM	1620x1684x25 TR/3 V

## Reinforced rubber seals – TR/3/P

$d_1$  50–2 000 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**

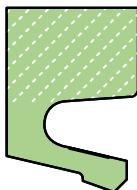


Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	Material
mm      in.					
50	75	10	1.969	2.953	0.394
					NBR 50x75x10 TR/3/P R
					HNBR 50x75x10 TR/3/P H
					FKM 50x75x10 TR/3/P V
54,0	82,6	12,7	2.125	3.250	0.500
					NBR 208-316-32 TR/3/P R
					HNBR 208-316-32 TR/3/P H
					FKM 208-316-32 TR/3/P V
60	85	11	2.362	3.346	0.433
					NBR 60x85x11 TR/3/P R
					HNBR 60x85x11 TR/3/P H
					FKM 60x85x11 TR/3/P V
69,9	108,0	14,3	2.750	4.250	0.563
					NBR 248-416-36 TR/3/P R
					HNBR 248-416-36 TR/3/P H
					FKM 248-416-36 TR/3/P V
70	90	12	2.756	3.543	0.472
					NBR 70x90x12 TR/3/P R
					HNBR 70x90x12 TR/3/P H
					FKM 70x90x12 TR/3/P V
70	102	12,5	2.756	4.016	0.492
					NBR 70x102x12.5 TR/3/P R
					HNBR 70x102x12.5 TR/3/P H
					FKM 70x102x12.5 TR/3/P V
75	95	12	2.953	3.740	0.472
					NBR 75x95x12 TR/3/P R
					HNBR 75x95x12 TR/3/P H
					FKM 75x95x12 TR/3/P V
75	100	11	2.953	3.937	0.433
					NBR 75x100x11 TR/3/P R
					HNBR 75x100x11 TR/3/P H
					FKM 75x100x11 TR/3/P V
100	120	12	3.937	4.724	0.472
					NBR 100x120x12 TR/3/P R
					HNBR 100x120x12 TR/3/P H
					FKM 100x120x12 TR/3/P V
105	130	12	4.134	5.118	0.472
					NBR 105x130x12 TR/3/P R
					HNBR 105x130x12 TR/3/P H
					FKM 105x130x12 TR/3/P V
110	130	12	4.331	5.118	0.472
					NBR 110x130x12 TR/3/P R
					HNBR 110x130x12 TR/3/P H
					FKM 110x130x12 TR/3/P V
115	140	12	4.528	5.512	0.472
					NBR 115x140x12 TR/3/P R
					HNBR 115x140x12 TR/3/P H
					FKM 115x140x12 TR/3/P V

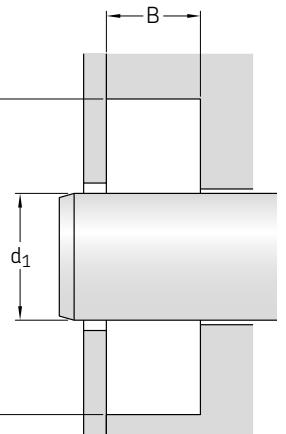
Dimensions			Dimensions			Mate-	SKF Designation	Dimensions	Dimensions			Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	rial		$d_1$	D	B	rial	SKF Designation	
mm      in.													
250	280	15	9.843	11.024	0.591	NBR	250x280x15 TR/3/P R	590	640	22	23.228	25.197 0.866	
						HNBR	250x280x15 TR/3/P H					HNBR 590x640x22 TR/3/P H	
						FKM	250x280x15 TR/3/P V					FKM 590x640x22 TR/3/P V	
250	290	16	9.843	11.417	0.630	NBR	250x290x16 TR/3/P R	600	650	22	23.622	25.591 0.866	
						HNBR	250x290x16 TR/3/P H					HNBR 600x650x22 TR/3/P H	
						FKM	250x290x16 TR/3/P V					FKM 600x650x22 TR/3/P V	
270	310	20	10.630	12.205	0.787	NBR	270x310x20 TR/3/P R	735	799	25	28.937	31.457 0.984	
						HNBR	270x310x20 TR/3/P H					HNBR 735x799x25 TR/3/P H	
						FKM	270x310x20 TR/3/P V					FKM 735x799x25 TR/3/P V	
279,4	311,2	15,9	11.000	12.250	0.625	NBR	1100-1216-40 TR/3/P R	918	982	25	36.142	38.661 0.984	
						HNBR	1100-1216-40 TR/3/P H					HNBR 918x982x25 TR/3/P H	
						FKM	1100-1216-40 TR/3/P V					FKM 918x982x25 TR/3/P V	
280	310	14	11.024	12.205	0.551	NBR	280x310x14 TR/3/P R	940	1 000	25	37.008	39.370 0.984	
						HNBR	280x310x14 TR/3/P H					HNBR 940x1000x25 TR/3/P H	
						FKM	280x310x14 TR/3/P V					FKM 940x1000x25 TR/3/P V	
288,9	342,9	31,8	11.375	13.500	1.250	NBR	1124-1332-116 TR/3/P R	2 000	2 050	20	78.740	80.709 0.787	
						HNBR	1124-1332-116 TR/3/P H					HNBR 2 000x2050x20 TR/3/P H	
						FKM	1124-1332-116 TR/3/P V					FKM 2 000x2050x20 TR/3/P V	
290	330	16	11.417	12.992	0.630	NBR	290x330x16 TR/3/P R						
						HNBR	290x330x16 TR/3/P H						
						FKM	290x330x16 TR/3/P V						
290	334	20	11.417	13.150	0.787	NBR	290x334x20 TR/3/P R						
						HNBR	290x334x20 TR/3/P H						
						FKM	290x334x20 TR/3/P V						
330	360	14	12.992	14.173	0.551	NBR	330x360x14 TR/3/P R						
						HNBR	330x360x14 TR/3/P H						
						FKM	330x360x14 TR/3/P V						
330	370	20	12.992	14.567	0.787	NBR	330x370x20 TR/3/P R						
						HNBR	330x370x20 TR/3/P H						
						FKM	330x370x20 TR/3/P V						
330	374	20	12.992	14.724	0.787	NBR	330x374x20 TR/3/P R						
						HNBR	330x374x20 TR/3/P H						
						FKM	330x374x20 TR/3/P V						
335	390	20,6	13.189	15.354	0.811	NBR	335x390x20,6 TR/3/P R						
						HNBR	335x390x20,6 TR/3/P H						
						FKM	335x390x20,6 TR/3/P V						
340	380	20,3	13.386	14.961	0.799	NBR	340x380x20,3 TR/3/P R						
						HNBR	340x380x20,3 TR/3/P H						
						FKM	340x380x20,3 TR/3/P V						
370	410	20	14.567	16.142	0.787	NBR	370x410x20 TR/3/P R						

## T11 seals – rubber fabric reinforced

$d_1$  37–540 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**

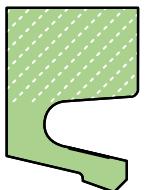


Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm					
in.					
37	55	10	1.457	2.165	0.394
				NBR	37x55x10 T11 R
				HNBR	37x55x10 T11 H
				FKM	37x55x10 T11 V
47,6	66,7	11,1	1.875	2.625	0.438
				NBR	156-240-28 T11 R
				HNBR	156-240-28 T11 H
				FKM	156-240-28 T11 V
73,0	98,4	9,5	2.875	3.875	0.375
				NBR	256-35624 T11 R
				HNBR	256-35624 T11 H
				FKM	256-35624 T11 V
90	122	12,5	3.543	4.803	0.492
				NBR	90x122x12,5 T11 R
				HNBR	90x122x12,5 T11 H
				FKM	90x122x12,5 T11 V
98	120	13	3.858	4.724	0.512
				NBR	98x120x13 T11 R
				HNBR	98x120x13 T11 H
				FKM	98x120x13 T11 V
100	132	12,5	3.937	5.197	0.492
				NBR	100x132x12,5 T11 R
				HNBR	100x132x12,5 T11 H
				FKM	100x132x12,5 T11 V
110	140	15	4.331	5.512	0.591
				NBR	110x140x15 T11 R
				HNBR	110x140x15 T11 H
				FKM	110x140x15 T11 V
120	160	12	4.724	6.299	0.472
				NBR	120x160x12 T11 R
				HNBR	120x160x12 T11 H
				FKM	120x160x12 T11 V
120	160	16	4.724	6.299	0.630
				NBR	120x160x16 T11 R
				HNBR	120x160x16 T11 H
				FKM	120x160x16 T11 V
123,8	158,8	12,7	4.875	6.250	0.500
				NBR	456-616-32 T11 R
				HNBR	456-616-32 T11 H
				FKM	456-616-32 T11 V
135	170	15	5.315	6.693	0.591
				NBR	135x170x15 T11 R
				HNBR	135x170x15 T11 H
				FKM	135x170x15 T11 V
140	160	13	5.512	6.299	0.512
				NBR	140x160x13 T11 R
				HNBR	140x160x13 T11 H
				FKM	140x160x13 T11 V

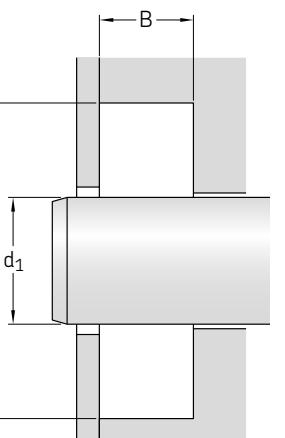
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B
mm						in.					
in.						in.					
285	310	16	11.220	12.205	0.630	NBR	285x310x16 T11 R				
						HNBR	285x310x16 T11 H				
						FKM	285x310x16 T11 V				
285,8	323,9	19,1	11.250	12.750	0.750	NBR	1116-1248-48 T11 R				
						HNBR	1116-1248-48 T11 H				
						FKM	1116-1248-48 T11 V				
288,5	349,3	22,2	11.359	13.750	0.875	NBR	1123-1348-56 T11 R				
						HNBR	1123-1348-56 T11 H				
						FKM	1123-1348-56 T11 V				
298,5	330,2	19,1	11.750	13.000	0.750	NBR	1148-1300-48 T11 R				
						HNBR	1148-1300-48 T11 H				
						FKM	1148-1300-48 T11 V				
300	330	15	11.811	12.992	0.591	NBR	300x330x15 T11 R				
						HNBR	300x330x15 T11 H				
						FKM	300x330x15 T11 V				
300	340	16,5	11.811	13.386	0.650	NBR	300x340x16,5 T11 R				
						HNBR	300x340x16,5 T11 H				
						FKM	300x340x16,5 T11 V				
300	340	20	11.811	13.386	0.787	NBR	300x340x20 T11 R				
						HNBR	300x340x20 T11 H				
						FKM	300x340x20 T11 V				
300	360	30	11.811	14.173	1.181	NBR	300x360x30 T11 R				
						HNBR	300x360x30 T11 H				
						FKM	300x360x30 T11 V				
310	340	15	12.205	13.386	0.591	NBR	310x340x15 T11 R				
						HNBR	310x340x15 T11 H				
						FKM	310x340x15 T11 V				
316	360	20	12.441	14.173	0.787	NBR	316x360x20 T11 R				
						HNBR	316x360x20 T11 H				
						FKM	316x360x20 T11 V				
317,5	349,3	19,1	12.500	13.750	0.750	NBR	1232-1348-48 T11 R				
						HNBR	1232-1348-48 T11 H				
						FKM	1232-1348-48 T11 V				
318	368	25	12.520	14.488	0.984	NBR	318x368x25 T11 R				
						HNBR	318x368x25 T11 H				
						FKM	318x368x25 T11 V				
320	350	15	12.598	13.780	0.591	NBR	320x350x15 T11 R				
						HNBR	320x350x15 T11 H				
						FKM	320x350x15 T11 V				
350	380	16	13.780	14.961	0.630	NBR	350x380x16 T11 R				
						HNBR	350x380x16 T11 H				
						FKM	350x380x16 T11 V				
350	390	18	13.780	15.354	0.709	NBR	350x390x18 T11 R				
						HNBR	350x390x18 T11 H				
						FKM	350x390x18 T11 V				
355,6	393,7	19,1	14.000	15							

## T11 seals – rubber fabric reinforced

d<sub>1</sub> 580–1 163 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B
mm                            in.					
580	615	20	22.835	24.213	0.787
			NBR	<b>580x615x20 T11 R</b>	
			HNBR	<b>580x615x20 T11 H</b>	
			FKM	<b>580x615x20 T11 V</b>	
609,6	673,1	25,4	24.000	26.500	1.000
			NBR	<b>2400-2632-64 T11 R</b>	
			HNBR	<b>2400-2632-64 T11 H</b>	
			FKM	<b>2400-2632-64 T11 V</b>	
640	700	25	25.197	27.559	0.984
			NBR	<b>640x700x25 T11 R</b>	
			HNBR	<b>640x700x25 T11 H</b>	
			FKM	<b>640x700x25 T11 V</b>	
670	710	20	26.378	27.953	0.787
			NBR	<b>670x710x20 T11 R</b>	
			HNBR	<b>670x710x20 T11 H</b>	
			FKM	<b>670x710x20 T11 V</b>	
707,3	758,0	22,2	27.844	29.844	0.875
			NBR	<b>2754-2954-56 T11 R</b>	
			HNBR	<b>2754-2954-56 T11 H</b>	
			FKM	<b>2754-2954-56 T11 V</b>	
720	770	20	28.346	30.315	0.787
			NBR	<b>720x770x20 T11 R</b>	
			HNBR	<b>720x770x20 T11 H</b>	
			FKM	<b>720x770x20 T11 V</b>	
745	795	30	29.331	31.299	1.181
			NBR	<b>745x795x30 T11 R</b>	
			HNBR	<b>745x795x30 T11 H</b>	
			FKM	<b>745x795x30 T11 V</b>	
750	800	22	29.528	31.496	0.866
			NBR	<b>750x800x22 T11 R</b>	
			HNBR	<b>750x800x22 T11 H</b>	
			FKM	<b>750x800x22 T11 V</b>	
850	910	25	33.465	35.827	0.984
			NBR	<b>850x910x25 T11 R</b>	
			HNBR	<b>850x910x25 T11 H</b>	
			FKM	<b>850x910x25 T11 V</b>	
860	910	22	33.858	35.827	0.866
			NBR	<b>860x910x22 T11 R</b>	
			HNBR	<b>860x910x22 T11 H</b>	
			FKM	<b>860x910x22 T11 V</b>	
920	970	20	36.220	38.189	0.787
			NBR	<b>920x970x20 T11 R</b>	
			HNBR	<b>920x970x20 T11 H</b>	
			FKM	<b>920x970x20 T11 V</b>	
980	1 054	25	38.583	41.496	0.984
			NBR	<b>980x1054x25 T11 R</b>	
			HNBR	<b>980x1054x25 T11 H</b>	
			FKM	<b>980x1054x25 T11 V</b>	

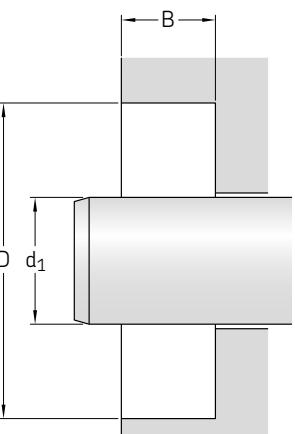


## TR/3/M seals – rubber metal reinforced

$d_1$  50–165,1 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions						Dimensions						Mate-	SKF Designation	
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	rial		
mm			mm			mm			mm					
50	70	10	1.969	2.756	0.394	NBR	50x70x10 TR/3/M R		88,9	114,3	12,7	3.500	4.500	0.500
						HNBR	50x70x10 TR/3/M H							
						FKM	50x70x10 TR/3/M V							
55	80	10	2.165	3.150	0.394	NBR	55x80x10 TR/3/M R		88,9	114,3	13	3.500	4.500	0.512
						HNBR	55x80x10 TR/3/M H							
						FKM	55x80x10 TR/3/M V							
60	80	8	2.362	3.150	0.315	NBR	60x80x8 TR/3/M R		88,9	127,0	11,9	3.500	5.000	0.469
						HNBR	60x80x8 TR/3/M H							
						FKM	60x80x8 TR/3/M V							
65	90	12	2.559	3.543	0.472	NBR	65x90x12 TR/3/M R		90	110	12	3.543	4.331	0.472
						HNBR	65x90x12 TR/3/M H							
						FKM	65x90x12 TR/3/M V							
65	100	13	2.559	3.937	0.512	NBR	65x100x13 TR/3/M R		90	115	15	3.543	4.528	0.591
						HNBR	65x100x13 TR/3/M H							
						FKM	65x100x13 TR/3/M V							
70	95	12	2.756	3.740	0.472	NBR	70x95x12 TR/3/M R		90	120	12	3.543	4.724	0.472
						HNBR	70x95x12 TR/3/M H							
						FKM	70x95x12 TR/3/M V							
75	95	10	2.953	3.740	0.394	NBR	75x95x10 TR/3/M R		90	122	12,5	3.543	4.803	0.492
						HNBR	75x95x10 TR/3/M H							
						FKM	75x95x10 TR/3/M V							
75	95	12,5	2.953	3.740	0.492	NBR	75x95x12,5 TR/3/M R		90	140	11	3.543	5.512	0.433
						HNBR	75x95x12,5 TR/3/M H							
						FKM	75x95x12,5 TR/3/M V							
76	102	10	2.992	4.016	0.394	NBR	76x102x10 TR/3/M R		95,3	120,7	12,7	3.750	4.750	0.500
						HNBR	76x102x10 TR/3/M H							
						FKM	76x102x10 TR/3/M V							
80	100	10	3.150	3.937	0.394	NBR	80x100x10 TR/3/M R		100	120	13	3.937	4.724	0.512
						HNBR	80x100x10 TR/3/M H							
						FKM	80x100x10 TR/3/M V							
85	110	12	3.346	4.331	0.472	NBR	85x110x12 TR/3/M R		100	130	12	3.937	5.118	0.472
						HNBR	85x110x12 TR/3/M H							
						FKM	85x110x12 TR/3/M V							
85	110	12,5	3.346	4.331	0.492	NBR	85x110x12,5 TR/3/M R		100	132	12,5	3.937	5.197	0.492
						HNBR	85x110x12,5 TR/3/M H							
						FKM	85x110x12,5 TR/3/M V							

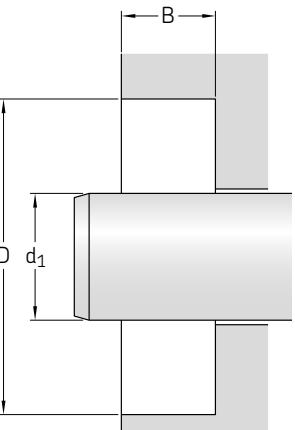
Dimensions						Dimensions						Mate-	SKF Designation		Dimensions	Dimensions						Mate-	SKF Designation			
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	rial			$d_1$	D	B	$d_1$	D	B	rial					
mm			mm			mm			mm						mm			mm			mm					
105	130	12	4.134	5.118	0.472	NBR	105x130x12 TR/3/M R		105	130	13	4.134	5.118	0.512	NBR	105x130x13 TR/3/M R		140	165	12	5.512	6.496	0.472	NBR	140x165x12 TR/3/M R	
						HNBR	105x130x12 TR/3/M H							HNBR	105x130x12 TR/3/M H							HNBR	140x165x12 TR/3/M H			
						FKM	105x130x12 TR/3/M V							FKM	105x130x12 TR/3/M V							FKM	140x165x12 TR/3/M V			
105	130	13	4.134	5.118	0.512	NBR	105x130x13 TR/3/M R		110	130	13	4.331	5.118	0.472	NBR	110x130x13 TR/3/M R		140	170	15	5.512	6.693	0.591	NBR	140x170x15 TR/3/M R	
						HNBR	105x130x13 TR/3/M H							HNBR	105x130x13 TR/3/M H							HNBR	140x170x15 TR/3/M H			
						FKM	105x130x13 TR/3/M V							FKM	105x130x13 TR/3/M V							FKM	140x170x15 TR/3/M V			
105	131	13	4.134	5.157	0.512	NBR	105x131x13 TR/3/M R		115	130	13	4.331	5.118	0.512	NBR	110x130x13 TR/3/M R		145	160	15	5.709	6.299	0.591	NBR	145x160x15 TR/3/M R	
						HNBR	105x131x13 TR/3/M H							HNBR	110x130x13 TR/3/M H							HNBR	145x160x15 TR/3/M H			
						FKM	105x131x13 TR/3/M V							FKM	110x130x13 TR/3/M V							FKM	145x160x15 TR/3/M V			
110	130	13	4.331	5.118	0.512	NBR	110x130x13 TR/3/M R		118	130	12	4.331	5.118	0.472	NBR	110x130x12 TR/3/M R		146	177,8	15,8	5.748	7.000	0.622	NBR		

## TR/3/M seals – rubber metal reinforced

$d_1$  170–310 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm					
in.					
170	200	15	6.693	7.874	0.591
	NBR	170x200x15 TR/3/M R			
	HNBR	170x200x15 TR/3/M H			
	FKM	170x200x15 TR/3/M V			
170	210	16	6.693	8.268	0.630
	NBR	170x210x16 TR/3/M R			
	HNBR	170x210x16 TR/3/M H			
	FKM	170x210x16 TR/3/M V			
175	200	15	6.890	7.874	0.591
	NBR	175x200x15 TR/3/M R			
	HNBR	175x200x15 TR/3/M H			
	FKM	175x200x15 TR/3/M V			
175	215	15	6.890	8.465	0.591
	NBR	175x215x15 TR/3/M R			
	HNBR	175x215x15 TR/3/M H			
	FKM	175x215x15 TR/3/M V			
180	210	15	7.087	8.268	0.591
	NBR	180x210x15 TR/3/M R			
	HNBR	180x210x15 TR/3/M H			
	FKM	180x210x15 TR/3/M V			
180	220	12	7.087	8.661	0.472
	NBR	180x220x12 TR/3/M R			
	HNBR	180x220x12 TR/3/M H			
	FKM	180x220x12 TR/3/M V			
181,0	209,6	19,1	7.125	8.250	0.750
	NBR	708-816-48 TR/3/M R			
	HNBR	708-816-48 TR/3/M H			
	FKM	708-816-48 TR/3/M V			
182	215	16	7.165	8.465	0.630
	NBR	182x215x16 TR/3/M R			
	HNBR	182x215x16 TR/3/M H			
	FKM	182x215x16 TR/3/M V			
190	220	16	7.480	8.661	0.630
	NBR	190x220x16 TR/3/M R			
	HNBR	190x220x16 TR/3/M H			
	FKM	190x220x16 TR/3/M V			
190	220	15	7.480	8.661	0.591
	NBR	190x220x15 TR/3/M R			
	HNBR	190x220x15 TR/3/M H			
	FKM	190x220x15 TR/3/M V			
200	230	15	7.874	9.055	0.591
	NBR	200x230x15 TR/3/M R			
	HNBR	200x230x15 TR/3/M H			
	FKM	200x230x15 TR/3/M V			
200	240	15	7.874	9.449	0.591
	NBR	200x240x15 TR/3/M R			
	HNBR	200x240x15 TR/3/M H			
	FKM	200x240x15 TR/3/M V			

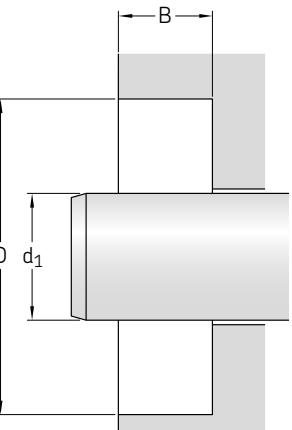
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B
mm						in.					
in.						mm					
230	260	15	9.055	10.236	0.591	NBR	230x260x15 TR/3/M R				
						HNBR	230x260x15 TR/3/M H				
						FKM	230x260x15 TR/3/M V				
230	260	16	9.055	10.236	0.630	NBR	230x260x16 TR/3/M R				
						HNBR	230x260x16 TR/3/M H				
						FKM	230x260x16 TR/3/M V				
240	270	15	9.449	10.630	0.591	NBR	240x270x15 TR/3/M R				
						HNBR	240x270x15 TR/3/M H				
						FKM	240x270x15 TR/3/M V				
240	270	17	9.449	10.630	0.669	NBR	240x270x17 TR/3/M R				
						HNBR	240x270x17 TR/3/M H				
						FKM	240x270x17 TR/3/M V				
240	280	16	9.449	11.024	0.630	NBR	240x280x16 TR/3/M R				
						HNBR	240x280x16 TR/3/M H				
						FKM	240x280x16 TR/3/M V				
240	280	15	9.449	11.024	0.591	NBR	240x280x15 TR/3/M R				
						HNBR	240x280x15 TR/3/M H				
						FKM	240x280x15 TR/3/M V				
241,3	292,1	19,1	9.500	11.500	1.000	NBR	932-1132-64 TR/3/M R				
						HNBR	932-1132-64 TR/3/M H				
						FKM	932-1132-64 TR/3/M V				
250,0	281,7	15,9	9.844	11.094	0.625	NBR	954-1106-40 TR/3/M R				
						HNBR	954-1106-40 TR/3/M H				
						FKM	954-1106-40 TR/3/M V				
250	290	16	9.843	11.417	0.630	NBR	250x290x16 TR/3/M R				
						HNBR	250x290x16 TR/3/M H				
						FKM	250x290x16 TR/3/M V				
250	290	19	10.236	11.417	0.748	NBR	260x290x19 TR/3/M R				
						HNBR	260x290x19 TR/3/M H				
						FKM	260x290x19 TR/3/M V				
260	290	16	10.236	11.417	0.630	NBR	260x290x16 TR/3/M R				
						HNBR	260x290x16 TR/3/M H				
						FKM	260x290x16 TR/3/M V				
260	290	20	10.236	11.417	0.787	NBR	260x290x20 TR/3/M R				
						HNBR	260x290x20 TR/3/M H				
						FKM	260x290x20 TR/3/M V				
260	290	20	10.236	11.417	0.787	NBR	260x290x20 TR/3/M R				
						HNBR	260x290x20 TR/3/M H				
						FKM	260x290x20 TR/3/M V				
260	290	15	10.236	11.811	0.591	NBR	260x300x15 TR/3/M R				
						HNBR	260x300x15 TR/3/M H				
						FKM	260x300x15 TR/3/M V				
260	290	15	10.630	11.811	0.591	NBR	270x300x15 TR/3/M R				
						HNBR	270x300x15 TR/3/M H				
						FKM	270x300x15 TR/3/M V				

## TR/3/M seals – rubber metal reinforced

$d_1$  312–645 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm                      in.					
mm                      in.					
312	356	20	12.283	14.016	0.787
	NBR	312x356x20 TR/3/M R			
	HNBR	312x356x20 TR/3/M H			
	FKM	312x356x20 TR/3/M V			
320	360	20	12.598	14.173	0.787
NBR	320x360x20 TR/3/M R				
HNBR	320x360x20 TR/3/M H				
FKM	320x360x20 TR/3/M V				
324,7	354	15	12.783	13.937	0.591
NBR	325x354x15 TR/3/M R				
HNBR	325x354x15 TR/3/M H				
FKM	325x354x15 TR/3/M V				
325	365	18	12.795	14.370	0.709
NBR	325x365x18 TR/3/M R				
HNBR	325x365x18 TR/3/M H				
FKM	325x365x18 TR/3/M V				
330	370	20	12.992	14.567	0.787
NBR	330x370x20 TR/3/M R				
HNBR	330x370x20 TR/3/M H				
FKM	330x370x20 TR/3/M V				
335	375	22	13.189	14.764	0.866
NBR	335x375x22 TR/3/M R				
HNBR	335x375x22 TR/3/M H				
FKM	335x375x22 TR/3/M V				
340	372	16	13.386	14.646	0.630
NBR	340x372x16 TR/3/M R				
HNBR	340x372x16 TR/3/M H				
FKM	340x372x16 TR/3/M V				
340	378	16	13.386	14.882	0.630
NBR	340x378x16 TR/3/M R				
HNBR	340x378x16 TR/3/M H				
FKM	340x378x16 TR/3/M V				
350	390	16	13.780	15.354	0.630
NBR	350x390x16 TR/3/M R				
HNBR	350x390x16 TR/3/M H				
FKM	350x390x16 TR/3/M V				
350	390	18	13.780	15.354	0.709
NBR	350x390x18 TR/3/M R				
HNBR	350x390x18 TR/3/M H				
FKM	350x390x18 TR/3/M V				
350	394	20	13.780	15.512	0.787
NBR	350x394x20 TR/3/M R				
HNBR	350x394x20 TR/3/M H				
FKM	350x394x20 TR/3/M V				
355	395	20	13.976	15.551	0.787
NBR	355x395x20 TR/3/M R				
HNBR	355x395x20 TR/3/M H				
FKM	355x395x20 TR/3/M V				

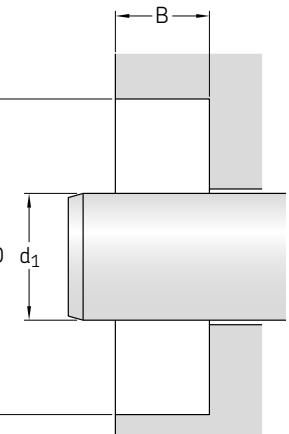
Dimensions		Dimensions		Mate-	SKF Designation	Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B
mm                      in.						mm                      in.					
mm                      in.						mm                      in.					
440	480	20	17.323	18.898	0.787	NBR	440x480x20 TR/3/M R				
						HNBR	440x480x20 TR/3/M H				
						FKM	440x480x20 TR/3/M V				
445	485	20	17.520	19.094	0.787	NBR	445x485x20 TR/3/M R				
						HNBR	445x485x20 TR/3/M H				
						FKM	445x485x20 TR/3/M V				
445	485	20	17.520	19.094	0.787	NBR	445x485x20 TR/3/M R				
						HNBR	445x485x20 TR/3/M H				
						FKM	445x485x20 TR/3/M V				
450	500	25	17.717	19.685	0.984	NBR	450x500x25 TR/3/M R				
						HNBR	450x500x25 TR/3/M H				
						FKM	450x500x25 TR/3/M V				
450	500	25	17.717	19.685	0.984	NBR	450x500x25 TR/3/M R				
						HNBR	450x500x25 TR/3/M H				
						FKM	450x500x25 TR/3/M V				
455	505	25	17.913	19.882	0.984	NBR	455x505x25 TR/3/M R				
						HNBR	455x505x25 TR/3/M H				
						FKM	455x505x25 TR/3/M V				
460	500	20	18.110	19.685	0.787	NBR	460x500x20 TR/3/M R				
						HNBR	460x500x20 TR/3/M H				
						FKM	460x500x20 TR/3/M V				
460	510	22	18.110	20.079	0.866	NBR	460x510x22 TR/3/M R				
						HNBR	460x510x22 TR/3/M H				
						FKM	460x510x22 TR/3/M V				
460	510	22	18.110	20.079	0.866	NBR	460x510x22 TR/3/M R				
						HNBR	460x510x22 TR/3/M H				
						FKM	460x510x22 TR/3/M V				
470	510	20	18.504	20.079	0.787	NBR	470x510x20 TR/3/M R				
						HNBR	470x510x20 TR/3/M H				
						FKM	470x510x20 TR/3/M V				
470	520	22	18.504	20.472	0.866	NBR	470x520x22 TR/3/M R				
						HNBR	470x520x22 TR/3/M H				
						FKM	470x520x22 TR/3/M V				
470	520	23	18.504	20.472	0.906	NBR	470x520x23 TR/3/M R				
						HNBR	470x520x23 TR/3/M H				
						FKM	470x520x23 TR/3/M V				
480	524	25	18.898	20.630	0.984	NBR	480x524x25 TR/3/M R				
						HNBR	480x524x25 TR/3/M H				
						FKM	480x524x25 TR/3/M V				
482,6	520,7	26,2	19.000	20.500	1.031	NBR	1900-2032-102 TR/3/M R				
						HNBR	1900-2032-102 TR/3/M H				
						FKM	1900-2032-102 TR/3/M V				
485	535	22	19.094	21.063	0.866	NBR	485x535x22 TR/3/M R				
						HNBR	485x535x22 TR/3/M H				
						FKM	485x5				

### TR/3/M seals – rubber metal reinforced

$d_1$  650–1 496,6 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm			in.		

650	700	20	25.591	27.559	0.787	NBR	650x700x20 TR/3/M R
						HNBR	650x700x20 TR/3/M H
						FKM	650x700x20 TR/3/M V

650	700	20	25.591	27.559	0.787	NBR	650x700x20 TR/3/M R
						HNBR	650x700x20 TR/3/M H
						FKM	650x700x20 TR/3/M V

685,8	736,6	22,2	27.000	29.000	0.875	NBR	2700-2900-56 TR/3/M R
						HNBR	2700-2900-56 TR/3/M H
						FKM	2700-2900-56 TR/3/M V

692	732	15	27.244	28.819	0.591	NBR	692x732x15 TR/3/M R
						HNBR	692x732x15 TR/3/M H
						FKM	692x732x15 TR/3/M V

700	750	20	27.559	29.528	0.787	NBR	700x750x20 TR/3/M R
						HNBR	700x750x20 TR/3/M H
						FKM	700x750x20 TR/3/M V

710	760	25	27.953	29.921	0.984	NBR	710x760x25 TR/3/M R
						HNBR	710x760x25 TR/3/M H
						FKM	710x760x25 TR/3/M V

780	830	25	30.709	32.677	0.984	NBR	780x830x25 TR/3/M R
						HNBR	780x830x25 TR/3/M H
						FKM	780x830x25 TR/3/M V

780	844	25	30.709	33.228	0.984	NBR	780x844x25 TR/3/M R
						HNBR	780x844x25 TR/3/M H
						FKM	780x844x25 TR/3/M V

780	844	25	30.709	33.228	0.984	NBR	780x844x25 TR/3/M R
						HNBR	780x844x25 TR/3/M H
						FKM	780x844x25 TR/3/M V

816	866,8	22,5	32.126	34.126	0.886	NBR	816x866,8x22,5 TR/3/M R
						HNBR	816x866,8x22,5 TR/3/M H
						FKM	816x866,8x22,5 TR/3/M V

825,5	876,3	22,2	32.500	34.500	0.875	NBR	3232-3432-56 TR/3/M R
						HNBR	3232-3432-56 TR/3/M H
						FKM	3232-3432-56 TR/3/M V

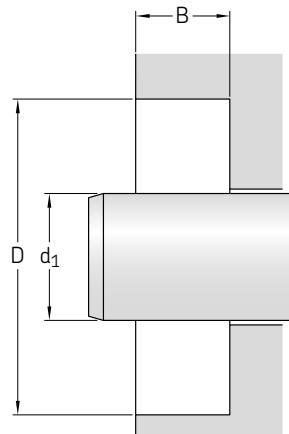
860	924	25	33.858	36.378	0.984	NBR	860x924x25 TR/3/M R
						HNBR	860x924x25 TR/3/M H
						FKM	860x924x25 TR/3/M V

### TR/3/M/P seals – rubber metal reinforced

$d_1$  90–1 100 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



Dimensions		Dimensions		Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B
mm			in.		

90	120	13	3.543	4.724	0.512	NBR	90x120x13 TR/3/M/P R
						HNBR	90x120x13 TR/3/M/P H
						FKM	90x120x13 TR/3/M/P V

260	290	19	10.236	11.417	0.748	NBR	260x290x19 TR/3/M/P R

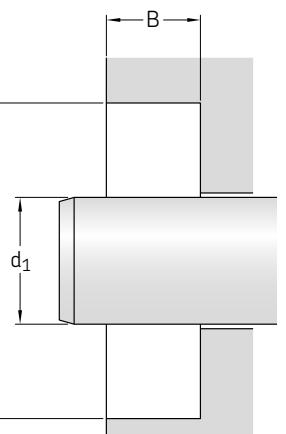
## TR/3/ML seals – rubber metal reinforced

$d_1$  38,1–275 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**

Dimensions						Dimensions						Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	rial	
mm		in.	mm		in.	mm		in.	mm		in.		
38,1	57,2	9,5	1.500	2.250	0.375	NBR	132-216-24	TR/3/ML R					
						HNBR	132-216-24	TR/3/ML H					
						FKM	132-216-24	TR/3/ML V					
40	60	10	1.575	2.362	0.394	NBR	40x60x10	TR/3/ML R					
						HNBR	40x60x10	TR/3/ML H					
						FKM	40x60x10	TR/3/ML V					
50	65	8	1.969	2.559	0.315	NBR	50x65x8	TR/3/ML R					
						HNBR	50x65x8	TR/3/ML H					
						FKM	50x65x8	TR/3/ML V					
55	72	10	2.165	2.835	0.394	NBR	55x72x10	TR/3/ML R					
						HNBR	55x72x10	TR/3/ML H					
						FKM	55x72x10	TR/3/ML V					
60	75	8	2.362	2.953	0.315	NBR	60x75x8	TR/3/ML R					
						HNBR	60x75x8	TR/3/ML H					
						FKM	60x75x8	TR/3/ML V					
60	80	10	2.362	3.150	0.394	NBR	60x80x10	TR/3/ML R					
						HNBR	60x80x10	TR/3/ML H					
						FKM	60x80x10	TR/3/ML V					
74	95	10	2.913	3.740	0.394	NBR	74x95x10	TR/3/ML R					
						HNBR	74x95x10	TR/3/ML H					
						FKM	74x95x10	TR/3/ML V					
82	105	12	3.228	4.134	0.472	NBR	82x105x12	TR/3/ML R					
						HNBR	82x105x12	TR/3/ML H					
						FKM	82x105x12	TR/3/ML V					
82	130	13	3.228	5.118	0.512	NBR	82x130x13	TR/3/ML R					
						HNBR	82x130x13	TR/3/ML H					
						FKM	82x130x13	TR/3/ML V					
88,9	114,3	12,7	3.500	4.500	0.500	NBR	332-432-32	TR/3/ML R					
						HNBR	332-432-32	TR/3/ML H					
						FKM	332-432-32	TR/3/ML V					
90	120	10	3.543	4.724	0.394	NBR	90x120x10	TR/3/ML R					
						HNBR	90x120x10	TR/3/ML H					
						FKM	90x120x10	TR/3/ML V					
90	140	13	3.543	5.512	0.512	NBR	90x140x13	TR/3/ML R					
						HNBR	90x140x13	TR/3/ML H					
						FKM	90x140x13	TR/3/ML V					



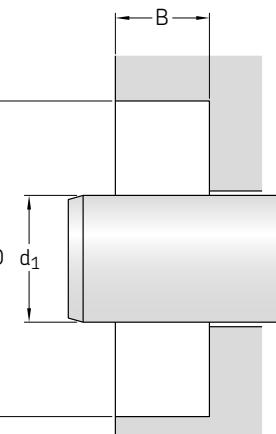
Dimensions						Dimensions						Mate-	SKF Designation	Dimensions						Dimensions						Mate-	SKF Designation
$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	rial		$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	$d_1$	D	B	rial	
mm		in.	mm		in.	mm		in.	mm		in.			mm		in.	mm		in.	mm		in.	mm		in.		
145	170	13	5.709	6.693	0.512	NBR	145x170x13	TR/3/ML R						222,3	260,4	14,3	8.750	10.250	0.563	NBR	848-1016-36	TR/3/ML R					
						HNBR	145x170x13	TR/3/ML H																		HNBR 848-1016-36 TR/3/ML H	
						FKM	145x170x13	TR/3/ML V																		FKM 848-1016-36 TR/3/ML V	
145	175	15	5.709	6.890	0.591	NBR	145x175x15	TR/3/ML R						230	260	20	9.055	10.236	0.787	NBR	230x260x20	TR/3/ML R					
						HNBR	145x175x15	TR/3/ML H																		HNBR 230x260x20 TR/3/ML H	
						FKM	145x175x15	TR/3/ML V																		FKM 230x260x20 TR/3/ML V	
149,2	174,6	12,7	5.875	6.875	0.500	NBR	556-656-32	TR/3/ML R						231,8	269,9	14,3	9.125	10.625	0.563	NBR	908-1040-36	TR/3/ML R					
						HNBR	556-656-32	TR/3/ML H																		HNBR 908-1040-36 TR/3/ML H	
						FKM	556-656-32	TR/3/ML V																		FKM 908-1040-36 TR/3/ML V	
155,3	181	15,9	6.113	7.125	0.625	NBR	155,3x181x15,9	TR/3/ML R						235	275	15	9.252	10.827	0.591	NBR	235x275x15	TR/3/ML R					
						HNBR	155,3x181x15,9	TR/3/ML H																	HNBR 235x275x15 TR/3/ML H		
						FKM	155,3x181x15,9	TR/3/ML V																	FKM 235x275x15 TR/3/ML V		
155,6	181	12,7	6.125	7.125	0.500	NBR	156x181x12,7	TR/3/ML R						240	270	15	9.449	10.630	0.591	N							

## TR/3/ML seals – rubber metal reinforced

d<sub>1</sub> 280–1 350 mm



The size tables include a selection of available sizes. **On request SKF tools up additional sizes.** For seals with full size flexibility and express service – even for just one seal – refer to **page 54 catalogue shaft seals flexible in size.**



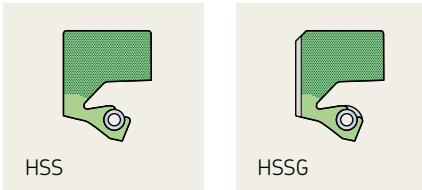
Dimensions		Dimensions		Mate-	SKF Designation
d <sub>1</sub>	D	B	d <sub>1</sub>	D	B
mm					
in.					
280	310	15	11.024	12.205	0.591
			NBR	280x310x15 TR/3/ML R	
			HNBR	280x310x15 TR/3/ML H	
			FKM	280x310x15 TR/3/ML V	
280	320	18	11.024	12.598	0.709
			NBR	280x320x18 TR/3/ML R	
			HNBR	280x320x18 TR/3/ML H	
			FKM	280x320x18 TR/3/ML V	
290	330	18	11.417	12.992	0.709
			NBR	290x330x18 TR/3/ML R	
			HNBR	290x330x18 TR/3/ML H	
			FKM	290x330x18 TR/3/ML V	
300	340	18	11.811	13.386	0.709
			NBR	300x340x18 TR/3/ML R	
			HNBR	300x340x18 TR/3/ML H	
			FKM	300x340x18 TR/3/ML V	
300	340	15	11.811	13.386	0.591
			NBR	300x340x15 TR/3/ML R	
			HNBR	300x340x15 TR/3/ML H	
			FKM	300x340x15 TR/3/ML V	
315	355,6	16	12.402	14.000	0.630
			NBR	315x355,6x16 TR/3/ML R	
			HNBR	315x355,6x16 TR/3/ML H	
			FKM	315x355,6x16 TR/3/ML V	
320	360	18	12.598	14.173	0.709
			NBR	320x360x18 TR/3/ML R	
			HNBR	320x360x18 TR/3/ML H	
			FKM	320x360x18 TR/3/ML V	
320	360	25	12.598	14.173	0.984
			NBR	320x360x25 TR/3/ML R	
			HNBR	320x360x25 TR/3/ML H	
			FKM	320x360x25 TR/3/ML V	
324,7	354	15	12.783	13.937	0.591
			NBR	324,7x354x15 TR/3/ML R	
			HNBR	324,7x354x15 TR/3/ML H	
			FKM	324,7x354x15 TR/3/ML V	
330	370	20	12.992	14.567	0.787
			NBR	330x370x20 TR/3/ML R	
			HNBR	330x370x20 TR/3/ML H	
			FKM	330x370x20 TR/3/ML V	
335	375	22	13.189	14.764	0.866
			NBR	335x375x22 TR/3/ML R	
			HNBR	335x375x22 TR/3/ML H	
			FKM	335x375x22 TR/3/ML V	
340	372	16	13.386	14.646	0.630
			NBR	340x372x16 TR/3/ML R	
			HNBR	340x372x16 TR/3/ML H	
			FKM	340x372x16 TR/3/ML V	

Dimensions	Dimensions	Mate- rial	SKF Designation				
			d <sub>1</sub>	D	B		
mm							
in.							
500	550	25	19.685	21.654	0.984		
			NBR	500x550x25 TR/3/ML R			
			HNBR	500x550x25 TR/3/ML H			
			FKM	500x550x25 TR/3/ML V			
510	550	25	20.079	21.654	0.984		
			NBR	510x550x25 TR/3/ML R			
			HNBR	510x550x25 TR/3/ML H			
			FKM	510x550x25 TR/3/ML V			
560	610	20	22.047	24.016	0.787		
			NBR	560x610x20 TR/3/ML R			
			HNBR	560x610x20 TR/3/ML H			
			FKM	560x610x20 TR/3/ML V			
565,2	616,0	22,2	22.250	24.250	0.875		
			NBR	2216-2416-56 TR/3/ML R			
			HNBR	2216-2416-56 TR/3/ML H			
			FKM	2216-2416-56 TR/3/ML V			
647,7	699	21,8	25.500	27.520	0.858		
			NBR	647,7x699x21,8 TR/3/ML R			
			HNBR	647,7x699x21,8 TR/3/ML H			
			FKM	647,7x699x21,8 TR/3/ML V			
740,5	790,8	21,8	29.154	31.134	0.858		
			NBR	740,5x790,8x21,8 TR/3/ML R			
			HNBR	740,5x790,8x21,8 TR/3/ML H			
			FKM	740,5x790,8x21,8 TR/3/ML V			
800	850	25	31.496	33.465	0.984		
			NBR	800x850x25 TR/3/ML R			
			HNBR	800x850x25 TR/3/ML H			
			FKM	800x850x25 TR/3/ML V			
825,5	876,3	22,22	32.500	34.500	0.875		
			NBR	3232-3432-56 TR/3/ML R			
			HNBR	3232-3432-56 TR/3/ML H			
			FKM	3232-3432-56 TR/3/ML V			
876,3	927,1	22,22	34.500	36.500	0.875		
			NBR	3432-3632-56 TR/3/ML R			
			HNBR	3432-3632-56 TR/3/ML H			
			FKM	3432-3632-56 TR/3/ML V			
914,4	977,9	25,4	36.000	38.500	1.000		
			NBR	3600-3832-64 TR/3/ML R			
			HNBR	3600-3832-64 TR/3/ML H			
			FKM	3600-3832-64 TR/3/ML V			
1350	1415	25	53.150	55.709	0.984		
			NBR	1350x1415x25 TR/3/ML R			
			HNBR	1350x1415x25 TR/3/ML H			
			FKM	1350x1415x25 TR/3/ML V			

E

# Catalogue shaft seals flexible in size

The catalogue seal offer with the highest availability in customized dimensions



These SKF seals are manufactured in flexible sizing processes.

The highest flexibility for customized main dimensions is available with minimum order quantity of one seal only, even for a new size.

Innovative manufacturing processes do not require moulds and machine set up enabling optional express service.

The assortment includes heavy duty all rubber seals and metal cased rubber seals in NBR, HNBR and FKM.

Seal design and material selection follows the same criteria as for the *catalogue shaft seals moulded to size*.

HSS, R01 and HDS seals

## Seal design options

### All rubber seals (solid + split)

The all rubber seals HS, HSS and R01 are available in solid and split executions. The seals are finished oversized to the housing bore. A cover plate is required to ensure proper compression and stability within the housing. The optional split seal execution allows seal replacement without shaft removal or dismounting of other machine components.

HSS features an all rubber reinforcement of the outer diameter further stabilizing the seal in the housing bore. Lubrication grooves at the back of the seal are optional to allow the re-greasing between the sealing lips in back-to-back or tandem installations of two seals.

R01 is a machined seal available from local manufacturing in many countries around the globe. R01 features an optional auxiliary lip for contamination exclusion.

### Metal cased rubber seals

The seals are self retaining in open housing bores without the use of a cover plate. The metal casing provides the required stability in the housing bore.

Spacer lugs are optional to provide space for grease lubrication in between 2 seals in tandem or back to back installations.

HDS7 features a sealing lip without spring, optimized for excluding contaminations in grease purge applications.

### Spring activated sealing lips

HS, HSS and HDS seals feature the same heavy duty spring activated lip design. The seals are equipped with stainless garter springs. The SKF Springfix for HSS and HDS seals is an optional feature for blind installations, where spring displacement may go undetected.

For this range catalogue size tables are obsolete. The seals are configured by the customer with the full size flexibility within the range of the offering (→ fig. 1, 2, 3).

Please refer to the SKF seal configuration tools or contact SKF.

Fig. 1

#### HS and HSS nominal housing dimensions

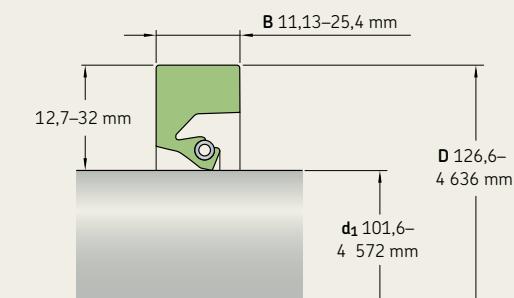


Fig. 2

#### R01 nominal housing dimensions

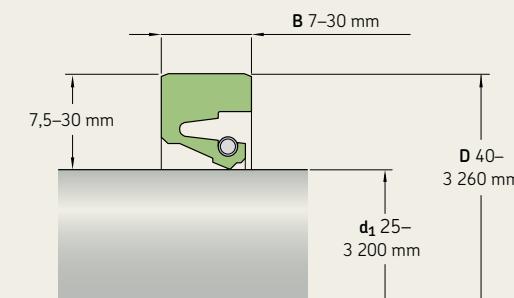
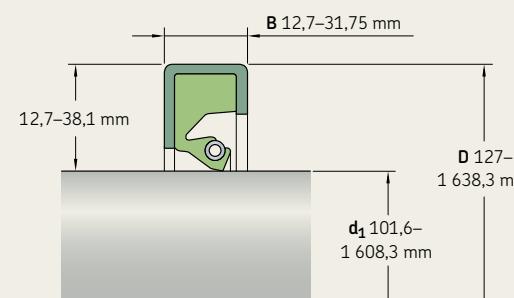


Fig. 3

#### HDS nominal housing dimensions



# Engineered solutions application specific

Engineered solutions is the service offer by SKF to exceed the limits of catalogue seals

Customer requirements and experience indicate the need for advanced seal engineering.

Proprietary SKF seal design and material competences, innovative manufacturing processes and the vast SKF application experience enable outstanding solutions meeting our customers' demand.



**Customers and SKF engineers cooperate and create solutions meeting the application parameters**

## Seal application parameters

- Type of machine
- Expected seal function
- Environment, contamination
- Contact media
- Pressure (min./max.)
- Temperature (min./max.)
- Application speed
- Misalignment/Runout
- Seal counterface material
- Counterface finish and roughness
- Seal housing design and dimensions



*High pressure grinding rollers*



*Wind turbine*



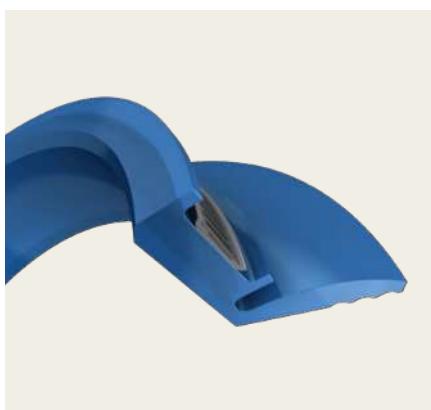
*Aluminium rolling mill*



*Tunnel boring machine*



*Steel wire mill*



*Mining equipment*





Application specific design

# Shaft and bore requirements

## Shaft requirements

### Hardness

The surface hardness of the seal counterface should be at least 40 HRC.

### Lead-in chamfers

The sealing lip must not be damaged during installation. Depending on the installation direction Y or Z, a chamfer or radius on the shaft is recommended first.

If the direction of installation of the shaft is Y the values of **table 2** ( $d_1 - d_2$ ) should be adhered to. If the direction is Z, the shaft end could be either rounded (r) or chamfered ( $d_1 - d_2$ ).

### Surface finish

Depending on the direction of rotation, directionality on the seal counterface may cause a seal to leak. Plunge grinding is the preferred machining method to minimize directionality ( $0 \pm 0,05^\circ$ ) on the seal counterface. When plunge grinding, whole number ratios of the grinding wheel speed to the work piece speed should be avoided.

### Surface roughness

The surface roughness values of the counterface for radial shaft seals, calculated according to methods described in ISO 4288 (DIN 4768), should be kept within the limits specified in **table 3**.

### Tolerances

The diameter of the shaft  $d_1$  at the counterface should be machined to the tolerances provided in **table 4**. Out-of-roundness must be less than 0,005 mm (0.0002 in.) at a maximum of 2 lobes or less than 0,0025 mm (0.0001 in.) at a maximum of 7 lobes.

**Table 2**  
Lead-in chamfers and radii

Shaft diameter Nominal									
$d_1$ over mm	in.	$d_1 - d_2$ min. mm	in.	r min. mm	in.	Seal without auxiliary lip	Seal with auxiliary lip		
–	10	–	0.394	1,5	0.059	0,6	0.024	1	0.039
10	20	0.394	0.787	2	0.079	0,6	0.024	1	0.039
20	30	0.787	1.181	2,5	0.098	0,6	0.024	1	0.039
30	40	1.181	1.575	3	0.118	0,6	0.024	1	0.039
40	50	1.575	1.968	3,5	0.138	0,6	0.024	1	0.039
50	70	1.968	2.756	4	0.157	0,6	0.024	1	0.039
70	95	2.756	3.740	4,5	0.177	0,6	0.024	1	0.039
95	130	3.740	5.118	5,5	0.216	1	0.039	2	0.079
130	240	5.118	9.449	7	0.216	1	0.039	2	0.079
240	500	9.449	19.685	11	0.433	2	0.079	3	0.118
500	–	19.685	–	13	0.512	5	0.197	5	0.197

<sup>1)</sup> If the corner is blended rather than chamfered, the blended section should not be smaller than the difference in diameters  $d_1 - d_2$ .

**Table 3**

Recommended shaft surface roughness values

	Shaft diameter Nominal					
	ISO	DIN	RMA	µm	µin.	µm
$R_a$	0,2–0,5	8–20	0,2–0,8	8–32	0,2–0,43	8–17
$R_z$	1,2–3	48–120	1–5	40–200	1,65–2,9	65–115
$R_{pm}$	N/A	N/A	N/A	N/A	0,5–1,5	20–50

**Table 4**  
Counterface tolerances for metric shafts (ISO)

Shaft diameter Nominal	$d_1$ over mm	incl.	high	low	Diameter tolerance h11 Deviation
6	10	10	0	-90	
10	18	18	0	-110	
18	30	30	0	-130	
30	50	50	0	-160	
50	80	80	0	-190	
80	120	120	0	-220	
120	180	180	0	-250	
180	250	250	0	-290	
250	315	315	0	-320	
315	400	400	0	-360	
400	500	500	0	-400	
500	630	630	0	-440	
630	800	800	0	-500	
800	1 000	1 000	0	-560	
1 000	1 250	1 250	0	-660	
1 250	1 600	1 600	0	-780	
1 600	2 000	2 000	0	-920	
2 000	2 500	2 500	0	-1 100	
2 500	3 150	3 150	0	-1 350	
3 150	4 000	4 000	0	-1 650	
4 000	5 000	5 000	0	-2 000	

**Table 5**  
Counterface tolerances for inch-size shafts (RMA)

Shaft diameter Nominal	$d_1$ over in.	incl.	high	low	Diameter tolerance OS-4 Deviation
–	4	4	+0.003	-0.003	
4	6	6	+0.004	-0.004	
6	10	10	+0.005	-0.005	
10			+0.006	-0.006	

## Housing bore requirements

### Lead-in chamfers

To reduce the risk of seal damage during installation, the housing bore should have a 15 to 30° lead-in chamfer. The chamfer should be free of burrs and the transition radius  $r$  between the seal seat and shoulder should be in accordance with the recommendations in **table 6**.

### Housing bore depth tolerances

For housings with cover plate (axially clamped seals), the bore depth tolerance should be in accordance with the recommendations in **table 8**.

### Housing bore surfaces

The surface roughness (to ISO 4288, DIN 4768 or RMA OS-1-1) of the housing bore should be kept within the limits specified in **table 7**.

Housing bore tolerances							
Housing bore for metric seals (ISO)				Housing bore for inch-size seals (RMA)			
Nominal diameter	Housing bore tolerance (ISO tolerance H8)	Fillet radii	Nominal diameter	Housing bore tolerance	Fillet radii		
D over incl.	high	low	r max.	D over incl.	high	low	r max.
mm	µm		mm	in.	in.	in.	in.
–	3	+14	0	0,3	–	3.000	+0.001 –0.001 0.031
3	6	+18	0	0,3	3.000	7.000	+0.0015 –0.0015 0.031
6	10	+22	0	0,3	7.000	10.000	+0.002 –0.002 0.031
10	18	+27	0	0,3	10.000 <sup>2)</sup>	12.000	+0.002 –0.002 0.031
18	30	+33	0	0,3	12.000 <sup>2)</sup>	20.000	+0.003 –0.003 0.031
30	50	+39	0	0,3	20.000 <sup>2)</sup>	40.000	+0.004 –0.004 0.031
50	80	+46	0	0,4	40.000 <sup>2)</sup>	60.000	+0.006 –0.006 0.031
80	120	+54	0	0,8			
120	180	+63	0	0,8			
180	250	+72	0	0,8			
250	315	+81	0	0,8			
315	400	+89	0	0,8			
400	500	+97	0	0,8			
500	630	+110	0	0,8			
630	800	+125	0	0,8			
800	1 000	+140	0	0,8			
1 000	1 250	+165	0	0,8			
1 250	1 600	+195	0	0,8			
1 600	2 000	+230	0	0,8			
2 000	2 500	+280	0	0,8			
2 500	3 150	+330	0	0,8			
3 150 <sup>1)</sup>	4 000	+410	0	0,8			
4 000	5 000	+500	0	0,8			

<sup>1)</sup> SKF recommended bore specifications not covered in ISO 286-2

<sup>2)</sup> SKF recommended bore specifications not covered in RMA OS-4

Table 6

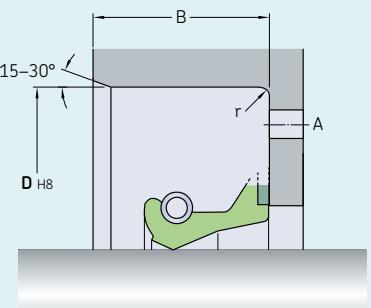
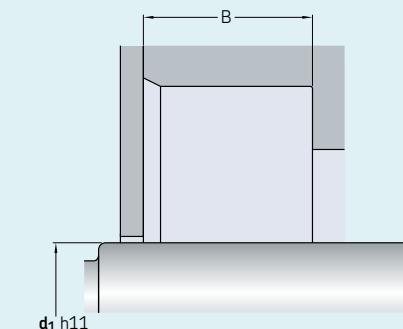


Table 7

### Housing with cover plate, bore depth tolerances



Metric housings (ISO)				Inch-size housings (RMA)			
Nominal shaft diameter	Bore depth B tolerance	Nominal shaft diameter	Bore depth B tolerance				
d <sub>1</sub> over incl.	high	low		d <sub>1</sub> over incl.	high	low	
mm	mm	mm	in.	mm	in.	in.	in.

Table 8

### Recommended housing bore surface roughness values

	ISO <sup>1)</sup>		DIN		RMA <sup>2,3)</sup>	
	µm	µin.	µm	µin.	µm	µin.
R <sub>a</sub>	1,6–3,2	64–128	1,6–3,2	64–128	1–2,5	40–100
R <sub>z</sub>	6,3–12,5	252–500	10–20	400–800	N/A	N/A
R <sub>pm</sub>	N/A	N/A	25	1 000	N/A	N/A

<sup>1)</sup> ISO – The housing bore surface roughness may require lower values when metal-cased seals are used, in which case they should be subject to agreement between the manufacturer and user.

<sup>2)</sup> RMA – If the bore surface texture is greater than 2,5 µm (100 µin.) R<sub>a</sub>, a sealant should be used.

<sup>3)</sup> RMA – Turned bores, where a lubricant head of up to 0,20 bar (3,0 psi) is present at the seal. If this texture is maintained and tool removal marks or bore defects are present, no outside diameter leakage should occur.

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