

# Seals for Needle Roller Bearings

## Features

IKO Seals for Needle Roller Bearings have a low sectional height and consist of a sheet metal ring and special synthetic rubber.

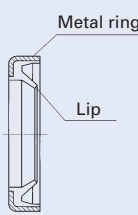
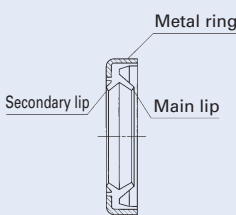
As these seals are manufactured to the same sectional height as IKO Needle Roller Bearings, grease leakage and the penetration of foreign particles can be effectively prevented by fitting them directly to the sides of combinable bearings shown in the dimension table.

When fitting seals to needle roller bearings with inner ring, wide inner rings (see page H2) must be used, as shown in the mounting examples.

## Types

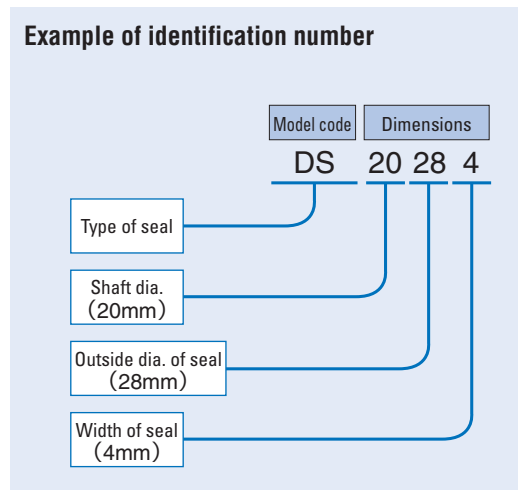
Seals for Needle Roller Bearings are available as shown in Table 1.

Table 1 Seal type

Type	Single lip	Double lips
Structure		
Model code	OS	DS

## Identification Number

The identification number of Seals for Needle Roller Bearings consists of a model code and dimensions. An example of an identification number is shown as follows.



## Accuracy

Tolerances of Seals for Needle Roller Bearings are based on JIS B 2402:1996.

Tolerances of outside diameter and width are based on Tables 2 and 3, respectively.

Table 2 Tolerance of outside diameter unit: mm

Nominal outside diameter		Tolerance	
Over	Incl.	High	Low
—	30	+ 0.09	+ 0.04
30	50	+ 0.11	+ 0.05
50	80	+ 0.14	+ 0.06
80	120	+ 0.17	+ 0.08

Table 3 Tolerance of width unit: mm

Nominal size of width		Tolerance	
Over	Incl.	High	Low
—	6	+ 0.2	- 0.2
6	10	+ 0.3	- 0.3

## Precautions for Use

① For the single lip OS type, the lip has to face inward when using the seal to prevent grease leakage, and outward to prevent the penetration of foreign particles. The DS type of double-lips is effective for prevention of grease leakage and dust penetration. However, when the main purpose is to prevent grease leakage, the main lip should face inward, and when used mainly to prevent dust penetration, it should face outward.

② The permissible temperature range is -20 ~ +120°C.

For use at higher or lower temperatures, a special seal is required. Please contact IKO for further information.

③ The limiting peripheral speed of shaft depends on the conditions of use, but is normally 6 to 8 m/s. Double this speed is possible if the conditions (lubrication, temperature, shaft finish, etc.) are good.

## Mounting

When inserting the shaft, damage to the lip should be prevented by chamfering the end of the shaft, as shown in the upper part of Fig. 1. When this cannot be performed, a mounting bushing should be used, as shown in the lower part of Fig. 1.

When press fitting the seal to the housing, do not strike it directly, but fit it gently, using a suitable tool.

To prevent early wear and heat generation at the seal surface, it is necessary to thickly coat the tip of the lip for the OS type, or to fill the space between the two lips for the DS type, with bearing grease.

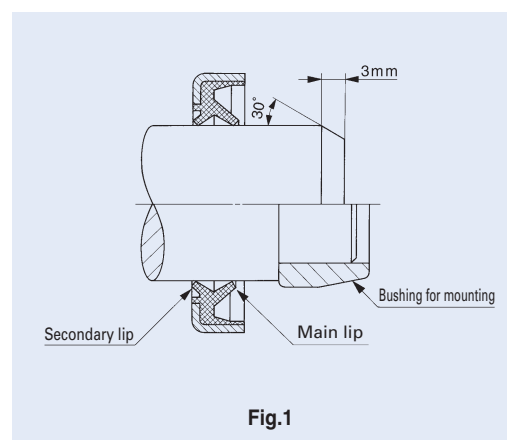


Fig. 1

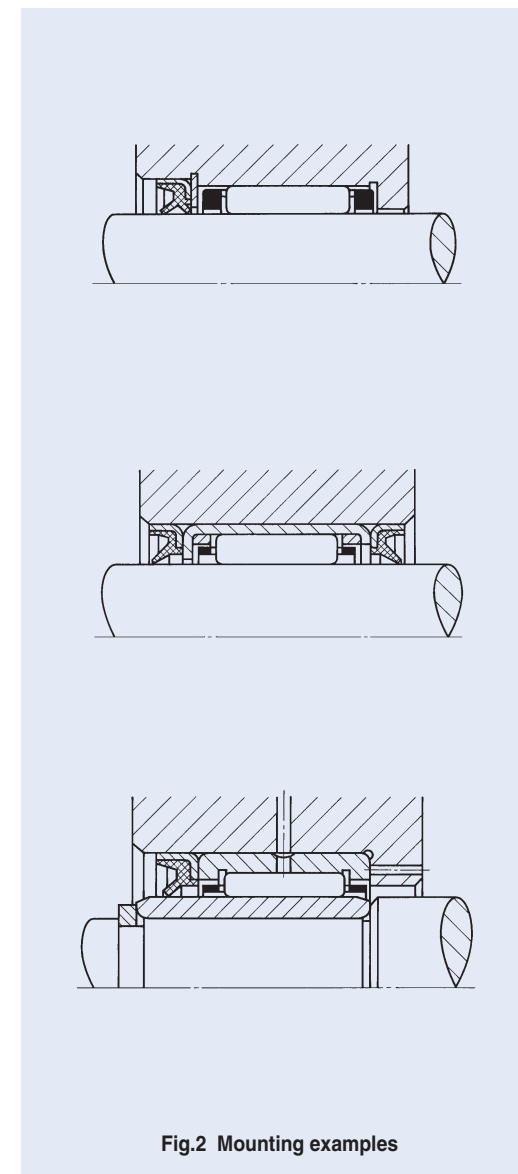
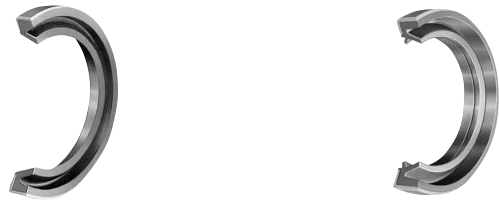


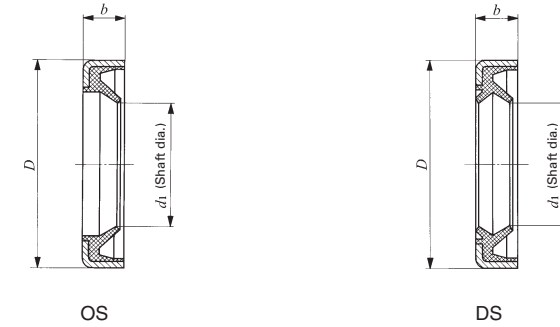
Fig. 2 Mounting examples

SEALS FOR NEEDLE ROLLER BEARINGS



Shaft dia. 6 – 15mm

Shaft dia. mm	Identification number		Boundary dimensions mm			Combinable bearings				
	Single lip	Double lips	d <sub>1</sub>	D	b	TA···Z TLA···Z	YT YTL	RNA TR TAF GTR	RNAF	NAX NBX
6	OS 6102.5	—	6	10	2.5	TLA 69Z	—	—	—	—
7	OS 7112.5	—	7	11	2.5	TLA 79Z	—	—	—	—
8	OS 8123	—	8	12	3	TLA 810Z	—	—	—	—
	OS 8153	—				TA 810Z TA 815Z TA 820Z YT 810	RNA 496 TAF 81512 TAF 81516	RNAF 81510	—	
9	OS 9133	—	9	13	3	TLA 910Z TLA 912Z	—	—	—	—
	OS 9163	—				TA 912Z TA 916Z YT 912	TAF 91612 TAF 91616	—	—	
10	OS 10143	—	10	14	3	TLA 1010Z TLA 1012Z TLA 1015Z	—	—	—	—
	OS 10173	—				TA 1010Z TA 1012Z TA 1015Z TA 1020Z	TAF 101712 TAF 101716	RNAF 101710	—	



Shaft dia. mm	Identification number		Boundary dimensions mm			Combinable bearings				
	Single lip	Double lips	d <sub>1</sub>	D	b	TA···Z TLA···Z	YT YTL	RNA TR TAF GTR	RNAF	NAX NBX
12	OS 12163	—	12	16	3	TLA 1210Z YTL 1210	—	—	—	—
	OS 12183	—				TLA 1212Z	—	—	—	
	OS 12193	—				TA 1212Z TA 1215Z TA 1220Z TA 1225Z YT 1212	TAF 121912 TAF 121916	—	—	
13	OS 13193	—	13	19	3	TLA 1312Z	—	—	—	—
14	OS 14203	DS 14203	14	20	3	TLA 1412Z TLA 1416Z	—	—	—	—
	OS 14223	DS 14223				TA 1416Z TA 1420Z	RNA 4900 TAF 142216 TAF 142220	RNAF 142213 RNAFW 142220	—	
15	OS 15213	DS 15213	15	21	3	TLA 1512Z TLA 1516Z TLA 1522Z	—	—	—	—
	OS 15223	DS 15223				TA 1510Z TA 1512Z TA 1515Z TA 1520Z TA 1525Z	—	—	—	
	OS 15235	DS 15235				—	TAF 152316 TAF 152320	RNAF 152313 RNAFW 152320	—	

