

Image may differ from product. See technical specification for details.

HK 4020

Drawn cup needle roller bearing with open ends

Drawn cup needle roller bearings are typically used in applications where the housing bore cannot be used as a raceway for a needle roller and cage assembly, but where a very compact and economical bearing arrangement is required. Owing to their large number of rollers, the bearings have a high load carrying capacity and stiffness.

- High radial load carrying capacity
- High stiffness
- Very low cross-sectional height

Overview

Dimensions

Bore diameter of needle roller complement	40 mm
Outside diameter	47 mm
Width	20 mm

Performance

Basic dynamic load rating	24.2 kN
Basic static load rating	53 kN
Reference speed	6 300 r/min
Limiting speed	7 000 r/min

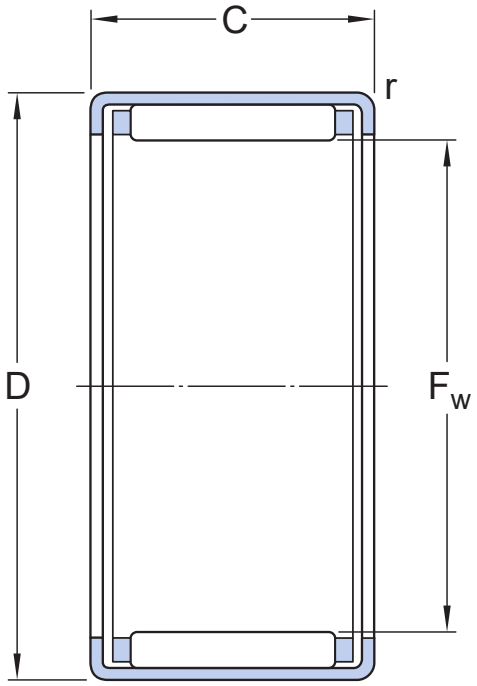
Properties

Bearing part	Bearing without inner ring
Number of rows	1
Outer ring type	Drawn cup with open ends
Aligning feature	Without
Cage	Sheet steel
Number of flanges, outer ring	2
Tolerance class	Normal
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without
Indicative carbon footprint for new product	0.18 kg CO_2e

Logistics

Product net weight	0.0494 kg
eClass code	23-05-09-03
UNSPSC code	31171512

Technical specification



Dimensions

F_w	40 mm	Diameter under rollers
D	47 mm	Outside diameter
C	20 mm	Width
r	min. 0.8 mm	Chamfer dimension drawn cup (outer ring)

Calculation data

Basic dynamic load rating	C	24.2 kN
Basic static load rating	C_0	53 kN
Fatigue load limit	P_u	6.4 kN
Reference speed		6 300 r/min
Limiting speed		7 000 r/min

Associated products

Inner ring IR series	IR 35x40x20.5
Inner ring LR series	LR 35x40x20.5
Radial shaft seal with a low cross-sectional height, single lip	G 40x47x4
Radial shaft seal with a low cross-sectional height, double lip	SD 40x47x4

Tolerances and clearances

GENERAL BEARING SPECIFICATIONS

- Tolerances: table

DESIGN CONSIDERATIONS

- Shaft and housing tolerances: table

Compatible products

Recommended product

Inner ring for needle roller bearings, IR series	IR 35X40X20.5
Inner ring for needle roller bearings, LR series	LR 35X40X20.5
Radial shaft seal with low cross-sectional height for needle roller bearings, G design	G 40X47X4
Radial shaft seal with low cross-sectional height for needle roller bearings, SD design	SD 40X47X4

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