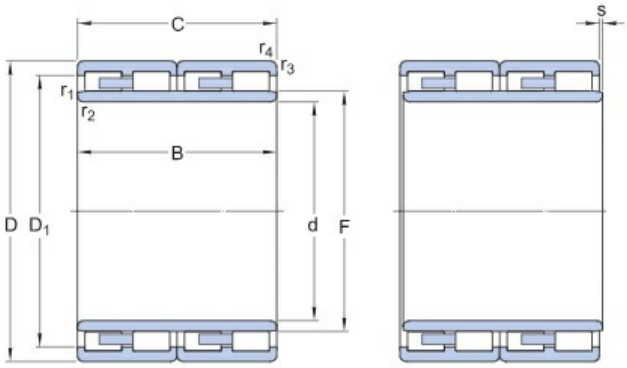
313822

Four-row cylindrical roller bearing for rolling mills



Technical sheet of 313822

Type :		Four-row cylindrical roller bearings
Model :		313822
Main demensions :	280 mm × 390 mm × 220 mm	Bore Dia × Outside Dia × Width Dia
M kg:	87.2	Mass
HS Code :	8482500090	Bearing customs code
d mm:	280	inner ring diameter
D mm:	390	Outer ring diameter
B(T) mm:	220	Overall Width
Cr kN:	2797.848	Radial dynamic load rating
C0r kN:	4998.43	Radial static load rating
Grease r/min:	1182	Reference speed
Oil r/min:	1689	Limiting speed

Detailed parameters and installation dimensions:

Part Number	313822
Bore Type	Cylindrical bore
Design variant	BC4.1/WO
Series	3138..

Coating	No
Dimension Inside - d φ	280 mm | 11.024 inch
Dimension Outside - D Φ	390 mm | 15.354 inch
Units	Metric
Seal	Open
Radial Dynamic Capacity - C_r	2797848 N | 628956 lbf
Rows NO.	Four
Bearing Mass - m	87.2 kg | 192.241 lb
Radial Static Capacity - C_{0r}	4998430 N | 1123647 lbf
Equivalent	507339B , FC5678220 , BC4-0107
Speed ratings (grease) - n_B	1182 min^{-1}
Heat stabilized	150 °C(300 °F)
Roller Material	GCr15SiMn
Dimension Inner - B	220 mm | 8.661 inch
Dimension Outer - C	220 mm | 8.661 inch
Speed ratings (oil) - n_G	1689 min^{-1}
Lubricant	No
Fatigue load limit - P_u	487795 N | 109656 lbf
Manufacturer Part Code	313822
Dimension - D_1	352 mm | 13.858 inch
Dimension - F	312 mm | 12.283 inch
Ring Material	GCr15SiMn
RIC	C4
Dimension - r_1, r_2(min.)	3 mm
Dimension - r_3, r_4(min.)	3 mm
Bearing part	Complete
Ring	outer ring(5),inner ring(0)
Flange	No
Permissible axial displacement - s	3 mm | 0.118 inch
Cage	Machined brass cage
Bearing Type	Four-row cylindrical roller bearing for rolling mills
Separable bearing ring	LBC4-0107
Bearing ring with roller and cage assembly	RBC4-0107
Relubrication	No

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313822 features:
Extremely High Radial Load Capacity and Rigidity (Core Advantages)
Maximized Load Density: The four rows of rollers arranged side-by-side can withstand the highest pure radial load of any type of rolling bearing.
High Rigidity: The multi-row rollers provide extremely high radial rigidity, effectively suppressing bending deformation of the rolls under enormous rolling forces and ensuring rolling accuracy.
High-Speed Operation Capability: Compared to self-aligning roller bearings of the same size, cylindrical

rollers have line contact with the raceway, resulting in less rolling friction and thus allowing for higher limiting speeds, making them suitable for modern high-speed rolling mills.
Precise Radial Guidance: Cylindrical rollers provide precise radial motion guidance, helping to maintain the rotational accuracy of the roll system.
Axial Free Floating: As a standard floating-end bearing, its inner and outer rings can be designed with or without flanges (such as the FC type), allowing the shaft to move axially within the bearing due to thermal expansion without generating additional internal stress.

313822 application:
Rolling Mills Support Rolls Bearings: In hot and cold rolling mills for sheet and strip, they withstand enormous rolling forces. Their high rigidity ensures the thickness accuracy of the steel sheet.
Rolling Mills Support Roll Bearings: On four-high or six-high mills, the support rolls are larger and bear greater loads.
Rolling Mill Profiles (Universal Mills): Horizontal roll supports used in the production of H-beams, rails, and other profiles.
Other Extremely Heavy-Duty Rolling Equipment: Equipment requiring similar load characteristics, such as calendering rolls in large paper machines, heavy-duty rubber calenders, and grinding rolls in the cement industry.

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