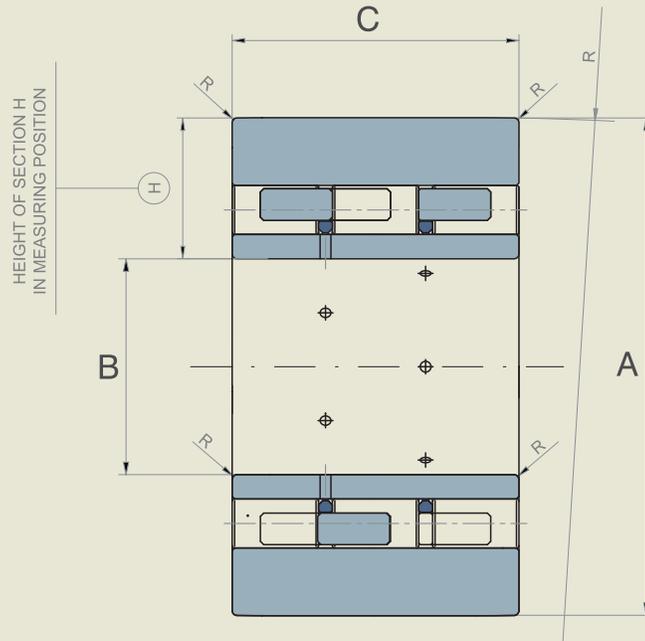


SHOULDER BEARINGS FOR SENDZIMIR STEEL MILLS

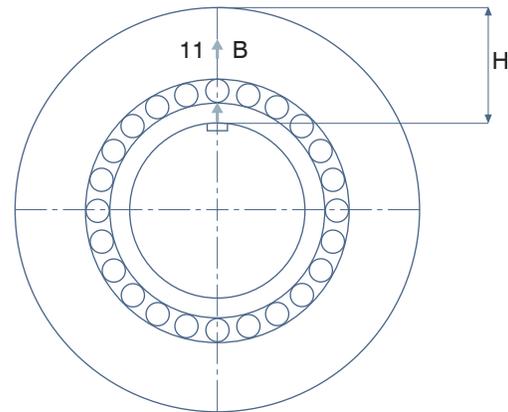


Shoulder bearings are designed and produced specifically for Sendzimir cold steel mills but they can also be used in straightening or flattening machines. Shoulder bearings are made in different designs in order to fulfil several application requirements. Cylindrical roller shoulder bearings can have up to 4 rows of rollers, with cages or without cages. They have the advantage of having a simple design and a high radial load capacity. Some series are manufactured with entire edges contacting the outer ring, other series use distance rings and lateral thrust rings.



Outer diameter (mm)	from 110 to 406,42
Inner diameter (mm)	from 50 to 180
Thickness (mm)	from 52 to 224

Section height groups	Tolerances on section height "H"(mm)	
A	0	- 0.005
B	- 0.005	- 0.010
C	- 0.010	- 0.015
4	0	- 0.002
3	- 0.002	- 0.004
2	- 0.004	- 0.006
1	- 0.006	- 0.008
0	- 0.008	- 0.010



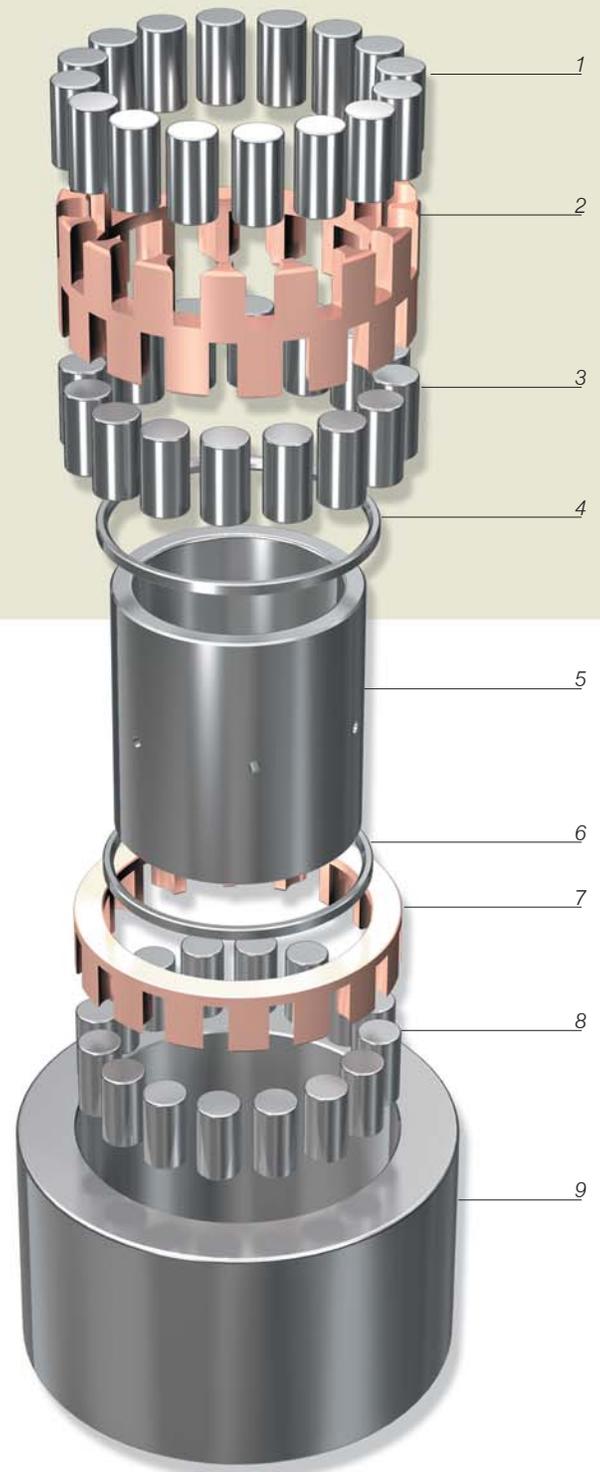
- ↑ = Point of maximum thickness of the ring
- 11 = Order nr. (example)
- B = Section height group (example)





SHOULDER BEARINGS FOR SENDZIMIR STEEL MILLS

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1. *CYLINDRICAL ROLLERS*
 2. *CAGE*
 3. *CYLINDRICAL ROLLERS*
 4. *DISTANCE RING*
 5. *INNER RING*
 6. *DISTANCE RING*
 7. *CAGE*
 8. *CYLINDRICAL ROLLERS*
 9. *OUTER RING*
-



Shoulder cylindrical roller bearings have the following technical characteristics:

- Outer and inner rings are mainly supplied in UNI 100Cr6/100CrMo7 core hardened steel; some series can be supplied with outer rings in case hardened UNI 18NiCrMo5 steel, with 60 ± 2 HRC hardness degree.
- Lateral thrust rings and distance rings are made in UNI 100Cr6/100CrMo7 steel too. The cages are made in bronze and have high thickness which
- guarantees resistance against high pressures. Shoulder bearings are manufactured with higher rotation precision than class P4 and with reduced tolerances as far as the height between the inner diameter and the outer diameter is concerned. They are classified in three groups, in which the difference between the heights is 5μ , or in 5 groups in which the difference is 2μ . The point of maximum thickness of the rings is indicated with an arrow stamped on their surface, where the group of height "H" is marked.
- Shoulder bearings are usually oil lubricated and have different lubrication holes on the inner ring.
- In some series, some elastic no-shearing layered seals are foreseen.