



VEERMANI
ENGINEERING CO.

Authorized Distributer of



METALLURGICAL INDUSTRY



Technical Information

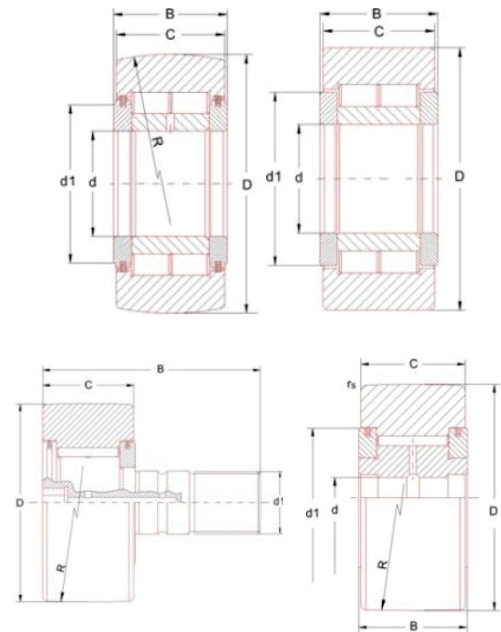


Require high precision, large rated moving load, and high maximum rotation speed. By adopting the new technology of material processing, URB has successfully manufactured bearings of long service life that are highly fatigue resistant and impact resistant. The types of bearings made by URB for the metallurgical rolling mills are: split bearings; unit rollers; support roller bearings; single row, double row, three row, four row cylindrical roller bearings, fully-loaded cylindrical roller bearings, spherical roller bearings.

Split bearings

The use of split bearings appreciably facilitates assembly and repair operations compared to the use of no split (Conventional) bearings. It does away with the need for the disassembly and subsequent assembly of intermediate parts and mechanisms, which is required when replacing conventional bearings. It also reduces costs and production losses. If provided with efficient cooling, reliable lubrication and proper sealing, the use of split-bearing components that are designed for service under severe conditions and in aggressive media (with substantial loads and high temperatures). It makes possible to design elements for the supports of rollers conveyors (groups of support rollers) used on continuous casters.

| Dimensions | | Basic radial load | | | | Speed limit | Designation | | | | | | |
|------------|-----|-------------------|-----|--------|-----------------------|------------------------|---------------------------|------------------------------|----------------------------|-------------------------------|--------|----------------------|------------------------|
| | | Bearing | | Roller | | | | | | | | | |
| D | d | d ₁ | B | C | r _s min | r _{1s} min | Dyn. C _r kN | Static C _{0r} kN | Dyn. C _{rc} kN | Static C _{0rc} kN | Grease | Convex surface | Cylindrical surface |
| 47 | 20 | 25.6 | 25 | 24 | 1 | 0.6 | 40.6 | 51.7 | | | 5000 | | NNUP5104 V |
| 47 | 20 | 28.2 | 25 | 24 | 1 | 0.3 | 31 | 54 | 22 | 39 | 4500 | NUTR20 | NNUP5105 V |
| 52 | 25 | 30.25 | 25 | 24 | 1 | 0.6 | 44.9 | 61.5 | | | 12000 | | NNUP5106 V |
| 52 | 25 | 33.9 | 25 | 24 | 1 | 0.6 | 44.5 | 60.7 | 31 | 42 | 4500 | NUTR25F | NNUP5205 V |
| 62 | 25 | 30.3 | 25 | 24 | 2 | 1.5 | 95.1 | 144.4 | | | 7000 | | NNUP5206 V |
| 62 | 25 | 33.9 | 25 | 24 | 1 | 0.3 | 49.4 | 62 | | | 4000 | NUTR2562 | NNUP5206 V |
| 62 | 30 | 35.15 | 29 | 28 | 1 | 1 | 59.2 | 77.2 | | | 10000 | | NNUP5107 V |
| 62 | 30 | 39.6 | 29 | 28 | 1 | 0.3 | 58.7 | 76.3 | 41 | 53.5 | 3200 | NUTR30 | NNUP5108 V |
| 72 | 30 | 35.15 | 29 | 28 | 1 | 1 | 59.2 | 77.2 | | | 8800 | | NNUP5107 V |
| 72 | 30 | 41.5 | 29 | 28 | 1 | 1 | 64.9 | 91 | | | 9600 | | NNUP5108 V |
| 72 | 35 | 47.3 | 29 | 28 | 1.1 | 0.3 | 67.3 | 101.4 | | | 3300 | NUTR35 | NNUP5108 V |
| 80 | 40 | 52 | 32 | 30 | 1 | 1 | 87.7 | 124.6 | | | 8000 | | NNUP5208 V |
| 80 | 40 | 55.3 | 32 | 30 | 1.1 | 0.3 | 83.3 | 126 | | | 3000 | NUTR40 | NNUP5208 V |
| 90 | 40 | 52 | 32 | 30 | 1 | 1 | 87.7 | 124.6 | | | 8000 | | NNUP5109 V |
| 90 | 40 | 55 | 32 | 30 | 1.1 | 0.3 | 86.5 | 123 | 60.5 | 86 | 2400 | NUTR4090-2Z | NNUP5109 V |
| 100 | 45 | 55 | 32 | 30 | 2 | 1 | 95.1 | 144.4 | | | 7000 | | |
| 100 | 45 | 61 | 32 | 30 | 1.1 | 0.3 | 94.7 | 143 | 66.3 | 100 | 2000 | NUTR45100-2Z | |
| 160 | 80 | 101.8 | 72 | 70 | 2 | 2 | 330 | 535 | | | 1400 | NUTR80x160x72 | |
| 250 | 140 | 165 | 114 | 114 | 4 | 4 | 836 | 1627 | | | 950 | NUTR140-2RS | NNUP5228 VC3 |
| 300 | 150 | 211 | 120 | 120 | 4.5 | 4.5 | 985 | 1645 | | | 850 | NUTR150-2RS | NNUP5130 VC3W44 |



Bearings supporting the rollers or unit rollers

Bearing arrangement of rollers in the bending zone of a continuous casting machine.

Continuous casting machines can produce solid or hollow section strands that are many times longer than the water-cooled mould itself. ⇒

The molten steel flows into the top of the stationary continuous mould. This cools the surface of the steel to give a strand with a sufficiently rigid skin and a glowing core. In preparation for the cooling and straightening line, the strand is guided in the bending zone from the vertical to the horizontal plane by means of water-cooled rollers supported by rolling bearings.



Spherical bearings

Spherical roller bearings operate in arduous conditions, such as: high temperature, high loads, misalignment, poor lubrication.

Rolling mill, traveling crane, gearbox, furnace crane rail are some typical application of spherical bearings for metallurgical industry.

| Designation | d | D | B | Application |
|------------------------|-----|-----|-----|--------------------|
| 22220 MBKW33 | 100 | 180 | 46 | Travelling crane |
| 22236 CC5S3W33 | 180 | 320 | 86 | Rolling mill |
| 22318 MBC5S3W33 | 90 | 190 | 64 | Furnace crane rail |
| 22315 CW33 | 75 | 160 | 55 | Gearbox |
| T 21148 MBC5W33 | 240 | 400 | 160 | Rolling mill |
| T 22236 CAC3W33 | 180 | 320 | 86 | Rolling mill |

MB = central fixed rib and machined brass cages guided on the inner ring rib.
 C = central guide rib floating on the inner ring, pressed sheet cage;
 K = Taper bore, taper 1:12;
 W33 = Annular lubrication groove and oil holes in outer ring;
 C5 = Radial clearance greater than normal;
 S3 = Special heat treatment for operating temperature up to 300°C



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