

URB GROUP



***BEARINGS FOR
METALLURGICAL INDUSTRY***



Technical Information



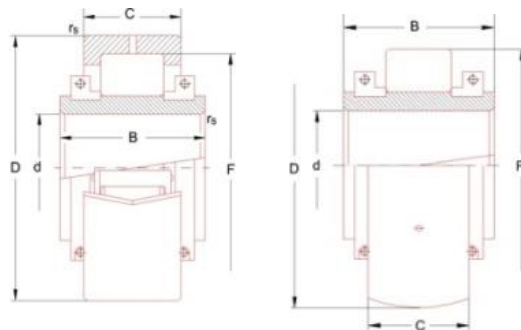
Require high precision, large rated moving load, and high maximum rotation speed. By adopting the new technology of material processing, URB has successfully manufactured bearings of long service life that are highly fatigue resistant and impact resistant.

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, mm						Basic radial Dyn.	Static	Speed limit Grease	Designation
d	D	B	C	F	E	C _r kN	C _{0r} kN	min ⁻¹	
127	254	114.3	63.5	193		570	745	850	NUBS5125 MA
130	222.25	98.5	54	180		367	503	2400	NBS5126 M
145	250	80	117.5		225	891	1612		493829 C4NAS1V
220	393.757	156	90.5	324.2		1156	1680	530	NUBS5144 MA
300	438	143	74.5		404	850	1549	1200	NBS5160 MC3NA



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.



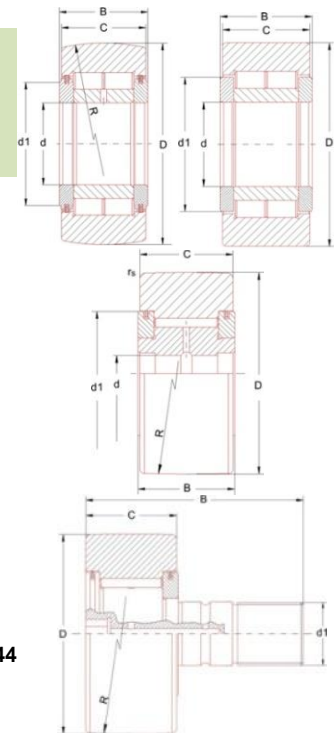
Requirements The bearings supporting the rollers or unit rollers are subjected to:

- high radial loads
- high temperatures
- misalignment
- contamination (water spray, water vapor, scale).

Unit rollers.

Note: While operating, these rollers wear and their outside surface is grinded.

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		
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		
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		
62	30	39.6	29	28	1	0.3	58.7	76.3	41	53.5	3200	NUTR30	NNUP5106 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		
72	35	47.3	29	28	1.1	0.3	67.3	101.4			3300	NUTR35	
80	40	52	32	30	1	1	87.7	124.6			8000		NNUP5108 V
80	40	55.3	32	30	1.1	0.3	83.3	126			3000	NUTR40	
90	40	52	32	30	1	1	87.7	124.6			8000		NNUP5208 V
90	40	55	32	30	1.1	0.3	86.5	123	60.5	86	2400	NUTR4090-2Z	
100	45	55	32	30	2	1	95.1	144.4			7000		NNUP5109 V
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	836	1627			950	NUTR140-2RS	NNUP5228 VC3
300	150	211	120	120		4.5	985	1645			850	NUTR150-2RS	NNUP5130 VC3W44



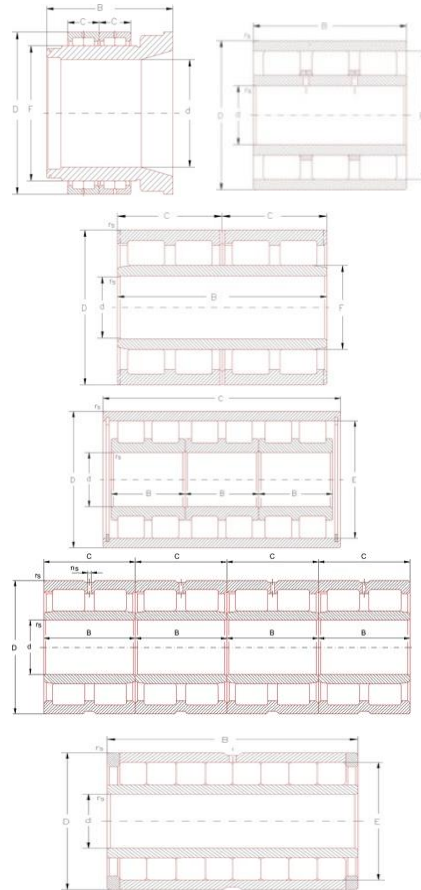
Rolling mill support rollers with, two row, three row, four row and multiple row cylindrical roller bearing.

These bearings allows very good precision and high load capacity. In case of dynamic operating conditions, dynamic loads does not exceed 0.5 C_r, and static load does not exceed 0.75 C_{0r}.

Four Row Cylindrical Roller Bearing is also called rolling mill bearing. Its main application is in rolling mill for the production of steel plates, sheets, channels, H-beam, angles, flats, round bars, deformed bars, wires, coils and rails, also for stainless steel, aluminum and copper products.



Dimensions						Basic radial Dyn. Static		Speed limit		Designation	
d	D	B	r _s min	r _{1s} min	F	E	C _r kN	C _{0r} kN	Grease min ⁻¹		Oil
65.019	110	140	1.5	1	86.9		214	474	5700	7200	CR0113.13 V
80	125	80	1.1	1	94.5		355	833	1700	2100	NNU6016 VC3
90	125	68	1.5	1.5		115	257	602	1500	1900	4NNU5118 VW33
100	140	90	2		110		327	713			491420 M
130	182	81.5	2	2		170.4	505	1084			3NN5226 VP5
130	300	172.65	3.5	3.5	159.5		1457	2613	2200	2600	3NN5126 P6NAS1W26
140	215	100	3	3	160.1		756	1589	2200	2600	3NNU5128 V
145	210	155	2	2	166		790	1930			4NNU5129 PMC4W8
160	230	168	1.5	1.5	179		896	2202	2400	3000	4NNU5232 PMC3
160	230	168	1.5	1.5	179		896	2202	2400	3000	4NNU5232 PMW8
160	230	168	1.5	1.5	182		850	2215	2400	3000	4NNU5232 PMC4W8F182
170	230	180	1.5	1.5		215	999	2847	750	900	3NN5234 C3
180	260	168	2.1	2.1	202		1105	2563	1700	2000	4NNU5136 PMW8
190	260	101	2	2		240.5	774	1933	750	900	3NN5138 VC3W33
190	270	200	2.1	2.1	212		1330	3296	1600	2000	4NNU5138 PMW8
200	280	116	2.1	2.1		259.2	903	2216			3NN5140 VC3W33
200	280	116	2.1	2.1		259.2	903	2216			3NNC5140 VW33
200	280	152	2.1	2.1		259.2	1190	3015	700	850	4NNU5240 VC3W8
200	280	152	2.1	2.1		259.2	1190	3015	700	850	4NNU5240 VC3W8
200	290	192	2.1	2.1	226		1403	3387	1500	1800	4NNU5140 PMC3W8
220	300	116	2.1	2.1		276.4	939	2387			3NN5144 VC3W33
230	330	206	2.1	2.1	260		1625	4014	1300	1600	4NNU5146 PMC4
260	370	220	3	3	292		2018	5241	300	500	4NNU5152 PMC4
280	380	146	2.1	2.1		353	1527	4067			3NN5156VC3W33
280	390	220	3	3	312		2058	5470			4NNU5156 PMC3W8
300	420	118	3		339		2036	5886	1200	1700	2xNNU4960 MC3W33
300	420	118	3		339		2772	8829	1200	1700	3xNNU4960 MC3W33
320	440	118	3		359		2115	6220	1100	1600	2xNNU4964 MC3W33
420	560	140	4		466		5155	20264	900	1300	4xNNU4984 MC3W33



Spherical bearings

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

Rolling mill, travelling 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



URB GROUP

320 Republicii Street, Code 731108, Barlad, ROMANIA

phone: +40 235 / 411120, 412120 fax: +40 235 / 413838, 308200

e-mail: sales@urb.ro web: <http://www.urbgroup.com>