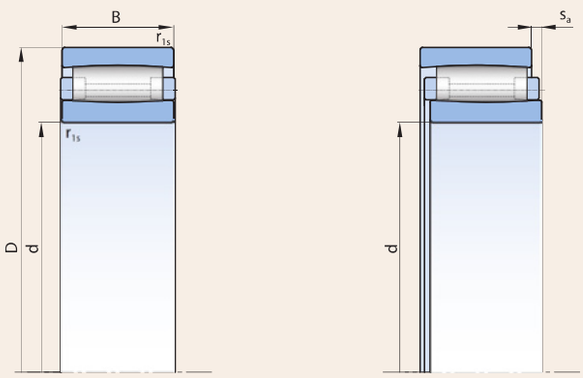
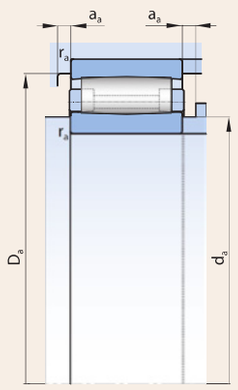
TOROIDAL ROLLER BEARINGS



Dimensions					Basic Load Ratings		Limited Speed for Lubrication		Bearing Designation	Weight
d	D	B	r_{1s} min	s_a [1] ~	C_r dyn.	C_{0r} stat.	with grease	with oil	PSL	
		[mm]			[kN]		[min^{-1}]			[kg]
1000	1420	308	7.5	30	12540	29990	160	200	**TB30/1000MB C3M**	1640
1500	1950	335	7.5	35	19870	48050	100	130	**TB39/1500MB LB**	2692
1600	2060	462	9.5	40	23230	72280	90	120	**TB49/1600MB C2M**	4092

1) Permissible axial displacement of the bearing rings from the normal position



Abutment and Fillet Dimensions

d	d_a max	d_a max	D_a min	D_a max	a_a min	r_a max
			[mm]			
1000	1036	1110	1314	1384	27	6
1500	1536	1622	1840	1914	31.5	6
1600	1644	1730	1933	2016	36	8

Toroidal roller bearings are single-row radial bearings with line contact between rolling elements and raceways. A design of toroidal roller bearing offers a proper combination of advantages typical for spherical and cylindrical roller bearing design schemes, namely self-aligning and axial displacement of the bearing rings.
Rollers are of a long barrel shaped form. An internal design is characterised by uniform load distribution between rollers and raceways alongside the whole contact line at any position of bearing rings in operation. As a result a high load capacity can be achieved even in cases of relative high angular misalignment and axial displacement.
Besides their ability to accommodate high radial loads the toroidal roller bearings are not suitable to bear axial loads. Advantages they provide can be most efficiently utilised as axially free bearings in arrangements at industrial applications where accommodation of high radial loads is required simultaneously with compensation of shaft deflection and thermal expansions, e. g. at rolling mills, paper machines, planetary gearboxes, wind turbines as main shaft bearings.

Suffixes

C2	– Radial clearance less than normal
C3	– Radial clearance greater than normal
C2M, C3M	– Shifted radial clearance, middle area ±25% around average value of C2 (resp. C3)
LB	– Black oxide coating of bearing rings and rollers
MB	– Machined brass cage guided on the inner ring

Radial equivalent load:

- dynamic: $P_r = F_r$ [kN]
- static: $P_{0r} = F_{0r}$ [kN]