



PRODUCT CATALOG

SPHERICAL ROLLER BEARING VIBRATING SCREEN

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Spherical Roller Bearing

VIBRATING SCREEN

DESIGN | CHARACTERISTICS | APPLICATIONS

The vibrating screen spherical roller bearing is designed to accommodate vibrating.

The small size bearings have a single piece brass cage, guided on the outer ring raceway (VS).

The large size bearings have a 2 piece brass cage, guided on the outer ring raceway (MA).

These designs improve the cage wear against vibrations.



VS



MA

ANGULAR MISALIGNMENT

The following is an approximate guide to the misalignment that can be accommodated in a vibrating screen spherical roller bearing:

Bearing Series	Permissible angular misalignment degrees
223	2.0

ISO SPECIFICATIONS

- Dimensions in accordance with ISO 15 (latest version)
- Precision class and radial clearance in accordance with the C4F80 table.

SERIES

The vibration screen is only available in 223 series.

NOMENCLATURE

Suffixes:

VS C4 F80 : Vibration screen (d = 40mm - 150mm)

MA C4 F80 : Vibration screen (d = 160mm - 240mm)

W33 : Lubrication groove and 3 lubrication holes on the outside ring



EQUIVALENT LOAD EQUATIONS

Equivalent dynamic load P_e

$$P = F_r + Y_1 F_a \quad \text{when } F_a/F_r \leq e$$

$$P = 0.67 \cdot F_r + Y_2 \cdot F_a \quad \text{when } F_a/F_r > e$$

Values for Y_1 , Y_2 and e are given in the bearing tables.

Equivalent static load P_o

$$P_o = F_r + Y_o F_a$$

Values for Y_o are given in the bearing tables.

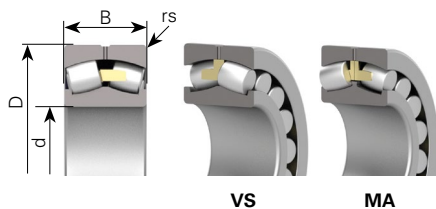
C4 F80 CLEARANCE AND PRECISION TABLES

The below table shows the clearance (C4) and tolerances (F80).

Tolerance						Radial Clearance		
Bore			OD					
d	Min.	Max.	D	Min.	Max.	D	Min.	Max.
40	0	-0.007	90	-0.005	-0.013	40	0.085	0.100
45			100			45		
50			110			50		
55		-0.009	120			55	0,100	0,120
60			130			60		
65			140			65		
70			150			70	0,120	0,145
75			160			75		
80			170		-0.018	80	0,120	0,145
85			180			85		
90		-0.012	190	-0.010	-0.023	90	0,150	0,180
95			200			95		
100			215			100		
110			240			110	0,180	0,210
120			260			120		
130		-0.015	280			130	0,205	0,240
140			300			140		
150			320		-0.013	150	0,240	0,280
160			340			160		
170			360			170	0,260	0,310
180			380			180		
190		-0.018	400			190	0,285	0,340

Spherical Roller Bearing

DATA TABLE - VIBRATING SCREEN



Part number	Principal dimensions			Basic load ratings			Speed limits		Radius rs min.	Weight	Calculation factors			
	d	D	B	Dynamic	Static	Fatigue	Grease	Oil			e	Y1	Y2	Yo
				Cr	Cor	Pu	rpm							
	mm			kN			1 min ⁻¹		mm	Kg	mm			
22308 VS C4 F80	40	90	33	125,0	135,0	16,5	5300	6300	1,5	1,054	0,39	1,80	2,60	1,70
22309 VS C4 F80	45	100	36	153,0	179,0	21,8	4800	5800	1,5	1,406	0,37	1,80	2,70	1,80
22310 VS C4 F80	50	110	40	193,0	226,0	27,6	4600	5600	2	1,911	0,37	1,80	2,70	1,80
22311 VS C4 F80	55	120	43	226,0	268,0	32,7	4000	4800	2	2,374	0,36	1,90	2,80	1,80
22312 VS C4 F80	60	130	46	262,0	313,0	38,2	3800	4400	2,1	2,942	0,36	1,90	2,80	1,80
22313 VS C4 F80	65	140	48	285,0	330,0	39,9	3600	4200	2,1	3,672	0,35	1,90	2,90	1,90
22314 VS C4 F80	70	150	51	340,0	420,0	49,8	3600	4000	2,1	4,392	0,34	2,00	2,90	1,90
22315 VS C4 F80	75	160	55	380,0	475,0	55,2	3000	3600	2,1	5,352	0,35	2,00	2,90	1,90
22316 VS C4 F80	80	170	58	420,0	535	61,0	2800	3400	2,1	6,411	0,34	2,00	2,90	1,90
22317 VS C4 F80	85	180	60	462,0	591	66,2	2500	3200	3	7,467	0,34	2,00	3,00	2,00
22318 VS C4 F80	90	190	64	588	677	74,6	2600	3000	3	8,563	0,34	2,00	3,00	2,00
22319 VS C4 F80	95	200	67	568	744	80,7	2200	2800	3	10,305	0,34	2,00	3,00	2,00
22320 VS C4 F80	100	215	73	670	880	93,6	2200	2600	3	13,208	0,34	2,00	2,90	1,90
22322 VS C4 F80	110	240	80	800	1060	109,3	1800	2200	3	18,013	0,35	2,00	2,90	1,90
22324 VS C4 F80	120	260	86	930	1230	123,7	1700	2000	3	22,489	0,34	2,00	3,00	2,00
22326 VS C4 F80	130	280	93	1170	1458	143,4	1600	1900	4	27,633	0,33	2,00	3,00	2,00
22328 VS C4 F80	140	300	102	1240	1720	165,6	1400	1500	4	35,918	0,35	2,00	2,90	1,90
22330 VS C4 F80	150	320	108	1400	1940	183,1	1000	1300	4	44,3	0,38	2,00	2,90	1,90
22332 MA C4 F80	160	340	114	1520	2160	200,1	900	1200	4	50,5	0,38	1,78	2,64	1,80
22334 MA C4 F80	170	360	120	1690	2380	216,7	850	1100	4	60,2	0,38	1,78	2,64	1,80
22336 MA C4 F80	180	380	126	1900	2700	241,8	850	1100	4	68,2	0,38	1,78	2,64	1,80
22338 MA C4 F80	190	400	132	1610	2640	232,7	750	1000	4	48,8	0,36	1,90	2,80	1,80