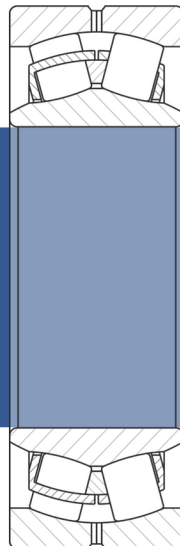




Spherical Roller Bearings



Version: 6/2021

Every care has been taken to ensure the correctness of the information contained in this document but no liability can be accepted for any errors or omissions. Subject to change without prior notice.

GSWC Spherical Roller Bearings

GSWC offers open and sealed Spherical Roller Bearings in several versions:

T200 – The GSWC Standard

Every T200 bearing comprises the following properties:

- Heat treatment of the bearing up to 200°C
- Sheet steel cage
- Open version:
 - Bore:
 - Cylindrical with radial clearance CN or C3
 - Tapered with radial clearance C3
 - Optional: High-quality lubricant (suitable up to 200°C)
- Sealed version:
 - Cylindrical bore with radial clearance CN
 - High-quality lubricant (suitable up to 200°C)
 - Viton seals (2VSR)



T250 – The Upgrade

Every T250 bearing comprises the following properties:

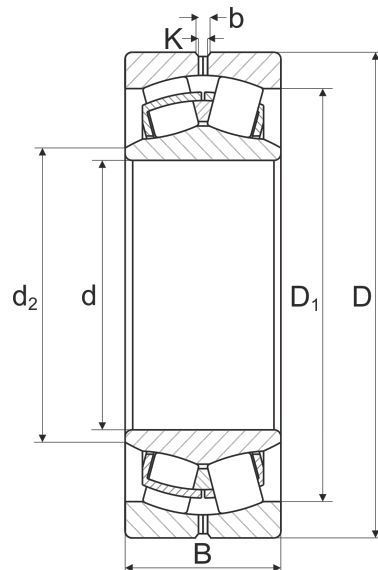
- Heat treatment of the bearing up to 250°C
- Sheet steel cage
- Open version:
 - Bore:
 - Cylindrical with radial clearance CN or C3
 - Tapered with radial clearance C3
 - Optional: High-quality lubricant (suitable up to 250°C)
- Sealed version:
 - Cylindrical bore with radial clearance CN
 - High-quality lubricant (suitable up to 250°C)
 - Viton seals (2VSR)



Available on request:

- Different types of cages (for open version only)
- Other designs or radial clearance values

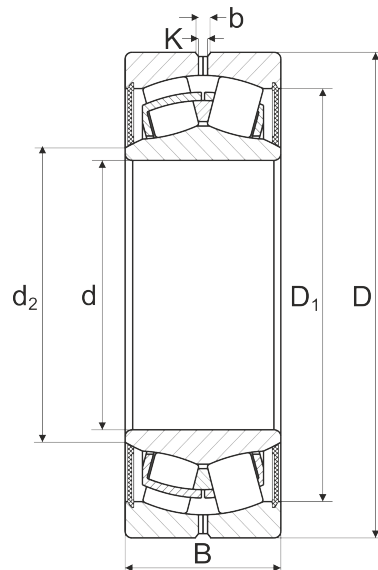
Open Spherical Roller Bearings 222xx



Code	Dimensions							Load Ratings and Factors						Weight ≈ [kg]
	d [mm]	D [mm]	B [mm]	D ₁ [mm]	d ₂ [mm]	b [mm]	K [mm]	C ₀ [kN]	C _{dyn} [kN]	e	Y ₁	Y ₂	Y ₀	
22208	40	80	23	69,4	50,3	5,5	3,0	80,7	90,7	0,29	2,35	3,50	2,30	0,536
22209	45	85	23	73,6	54,5	5,5	3,0	84,2	97,6	0,27	2,50	3,72	2,44	0,597
22210	50	90	23	78,8	59,7	5,5	3,0	86,7	103,5	0,25	2,71	4,04	2,65	0,641
22211	55	100	25	88,0	65,9	5,5	3,0	102,0	119,0	0,26	2,64	3,93	2,58	0,849
22212	60	110	28	96,5	72,6	5,5	3,0	127,0	154,0	0,25	2,71	4,04	2,65	1,200
22213	65	120	31	104,0	78,4	5,5	3,0	151,0	188,0	0,27	2,49	3,71	2,43	1,610
22214	70	125	31	109,6	83,3	5,5	3,0	161,0	204,0	0,24	2,83	4,21	2,77	1,680
22215	75	130	31	114,9	88,2	5,5	3,0	167,0	215,0	0,25	2,74	4,08	2,68	1,770
22216	80	140	33	122,8	95,1	5,5	3,0	181,0	237,0	0,22	3,01	4,48	2,94	2,200
22217	85	150	36	131,8	100,3	5,5	3,0	216,0	277,0	0,23	2,95	4,40	2,89	2,730
22218	90	160	40	141,0	108,0	5,5	3,0	252,0	332,0	0,23	2,90	4,31	2,83	3,470
22219	95	170	43	148,5	113,5	8,3	4,5	285,0	380,0	0,26	2,64	3,93	2,58	4,320
22220	100	180	46	158,1	120,5	8,3	4,5	317,0	423,0	0,26	2,55	3,80	2,50	5,100
22222	110	200	53	173,8	132,5	8,3	4,5	414,0	574,0	0,26	2,55	3,80	2,50	7,690

The values in the table apply independent of radial clearance and bore.
Information on other designs available on request.

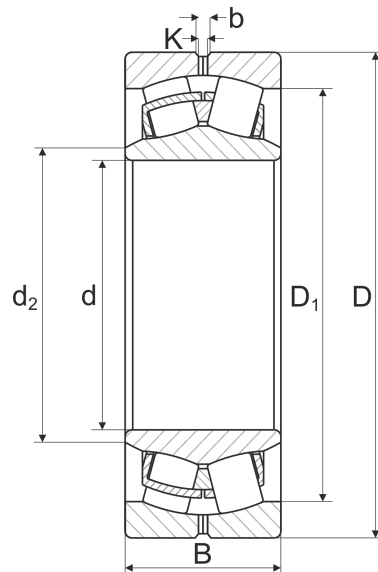
Sealed Spherical Roller Bearings BS222xx



Code	Dimensions							Load Ratings and Factors						Weight ≈ [kg]
	d [mm]	D [mm]	B [mm]	D ₁ [mm]	d ₂ [mm]	b [mm]	K [mm]	C ₀ [kN]	C _{dyn} [kN]	e	Y ₁	Y ₂	Y ₀	
BS22208	40	80	28	72,0	48,4	5,5	3,0	80,7	90,7	0,29	2,35	3,50	2,30	0,570
BS22209	45	85	28	77,6	52,8	5,5	3,0	84,2	97,6	0,27	2,50	3,72	2,44	0,660
BS22210	50	90	28	82,5	57,7	5,5	3,0	86,7	103,5	0,25	2,71	4,04	2,65	0,700
BS22211	55	100	31	92,1	63,8	5,5	3,0	102,0	119,0	0,26	2,64	3,93	2,58	1,000
BS22212	60	110	34	99,8	71,2	5,5	3,0	127,0	154,0	0,25	2,71	4,04	2,65	1,300
BS22213	65	120	38	110,0	77,3	5,5	3,0	151,0	188,0	0,27	2,49	3,71	2,43	1,600
BS22214	70	125	38	115,0	81,9	5,5	3,0	161,0	204,0	0,24	2,83	4,21	2,77	1,800
BS22215	75	130	38	120,0	87,0	5,5	3,0	167,0	215,0	0,25	2,74	4,08	2,68	2,100
BS22216	80	140	40	129,0	93,0	5,5	3,0	181,0	237,0	0,22	3,01	4,48	2,94	2,400
BS22217	85	150	44	136,5	97,2	8,3	4,5	216,0	277,0	0,23	2,95	4,40	2,89	3,000
BS22218	90	160	48	149,0	104,0	8,3	4,5	252,0	332,0	0,23	2,90	4,31	2,83	3,700
BS22219	95	170	51	154,4	110,4	8,3	4,5	285,0	380,0	0,26	2,64	3,93	2,58	4,650
BS22220	100	180	55	165,5	117,2	8,3	4,5	317,0	423,0	0,26	2,55	3,80	2,50	5,350
BS22222	110	200	63	182,5	128,8	8,3	4,5	414,0	574,0	0,26	2,55	3,80	2,50	7,600

The values in the table apply independent of radial clearance and bore.
Information on other designs available on request.

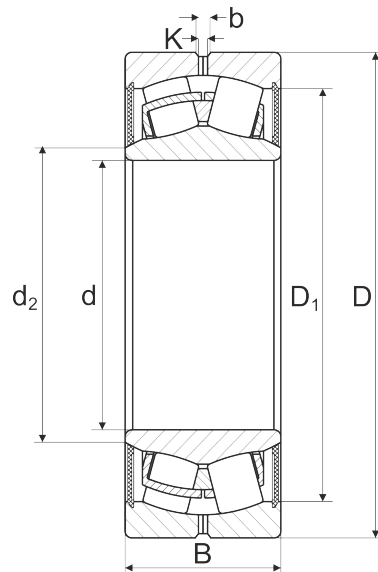
Open Spherical Roller Bearings 223xx



Code	Dimensions							Load Ratings and Factors						Weight ≈ [kg]
	d [mm]	D [mm]	B [mm]	D ₁ [mm]	d ₂ [mm]	b [mm]	K [mm]	C ₀ [kN]	C _{dyn} [kN]	e	Y ₁	Y ₂	Y ₀	
22308	40	90	33	75,2	50,5	5,5	3,0	122,0	132,0	0,39	1,75	2,61	1,71	1,030
22309	45	100	36	83,8	56,8	5,5	3,0	141,0	154,0	0,39	1,71	2,54	1,67	1,430
22310	50	110	40	92,2	62,5	5,5	3,0	173,0	192,0	0,38	1,78	2,65	1,74	1,870
22311	55	120	43	100,5	68,7	5,5	3,0	213,0	248,0	0,37	1,80	2,69	1,76	2,430
22312	60	130	46	109,0	74,8	5,5	3,0	243,0	284,0	0,37	1,80	2,69	1,76	3,010
22313	65	140	48	117,4	81,3	5,5	3,0	266,0	313,0	0,35	1,92	2,86	1,88	3,530
22314	70	150	51	125,9	88,1	8,3	4,5	300,0	362,0	0,35	1,95	2,91	1,91	4,370
22315	75	160	55	133,8	94,5	8,3	4,5	351,0	437,0	0,36	1,87	2,79	1,83	5,500
22316	80	170	58	142,5	100,4	8,3	4,5	396,0	497,0	0,36	1,87	2,79	1,83	6,540

The values in the table apply independent of radial clearance and bore.
Information on other designs available on request.

Sealed Spherical Roller Bearings BS223xx



Code	Dimensions							Load Ratings and Factors						Weight ≈ [kg]
	d [mm]	D [mm]	B [mm]	D ₁ [mm]	d ₂ [mm]	b [mm]	K [mm]	C ₀ [kN]	C _{dyn} [kN]	e	Y ₁	Y ₂	Y ₀	
BS22308	40	90	38	80,2	50,5	5,5	3,0	122,0	132,0	0,39	1,75	2,61	1,71	1,200
BS22309	45	100	42	89,0	55,4	5,5	3,0	141,0	154,0	0,39	1,71	2,54	1,67	1,600
BS22310	50	110	45	98,0	60,8	5,5	3,0	173,0	192,0	0,38	1,78	2,65	1,74	2,100
BS22311	55	120	49	108,0	67,0	5,5	3,0	213,0	248,0	0,37	1,80	2,69	1,76	2,800
BS22312	60	130	53	117,0	72,2	5,5	3,0	243,0	284,0	0,37	1,80	2,69	1,76	3,400
BS22313	65	140	56	126,0	78,2	5,5	3,0	266,0	313,0	0,35	1,92	2,86	1,88	4,150
BS22314	70	150	60	135,5	83,9	8,3	4,5	300,0	362,0	0,35	1,95	2,91	1,91	5,100
BS22315	75	160	64	144,1	91,3	8,3	4,5	351,0	437,0	0,36	1,87	2,79	1,83	6,500
BS22316	80	170	67	153,2	96,9	8,3	4,5	396,0	497,0	0,36	1,87	2,79	1,83	7,200

The values in the table apply independent of radial clearance and bore.
Information on other designs available on request.

Maximum Speed

Open Spherical Roller Bearings

Code	Max. Speed			
	Oil		Grease	
	T200	T250	T200	T250
	[min ⁻¹]	[min ⁻¹]	[min ⁻¹]	[min ⁻¹]
22208	6 900	6 900	5 200	5 200
22209	6 500	6 500	4 900	4 900
22210	6 000	6 000	4 500	4 500
22211	5 400	5 400	4 100	4 100
22212	4 900	4 900	3 700	3 700
22213	4 600	4 600	3 400	3 400
22214	4 300	4 300	3 200	3 200
22215	4 100	4 100	3 100	3 100
22216	3 800	3 800	2 900	2 900
22217	3 600	3 600	2 700	2 700
22218	3 300	3 300	2 500	2 500
22219	3 200	3 200	2 400	2 400
22220	3 000	3 000	2 200	2 200
22222	2 700	2 700	2 000	2 000
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22308	5 300	5 300	4 000	4 000
22309	4 800	4 800	3 600	3 600
22310	4 300	4 300	3 200	3 200
22311	3 900	3 900	3 000	3 000
22312	3 600	3 600	2 700	2 700
22313	3 400	3 400	2 500	2 500
22314	3 100	3 100	2 400	2 400
22315	2 900	2 900	2 200	2 200
22316	2 100	2 100	1 600	1 600

Sealed Spherical Roller Bearings

Code	Max. Speed	
	2VSR	
	T200	T250
GSWC	[min ⁻¹]	[min ⁻¹]
BS22208	2 200	2 200
BS22209	2 000	2 000
BS22210	1 900	1 900
BS22211	1 700	1 700
BS22212	1 600	1 600
BS22213	1 500	1 500
BS22214	1 400	1 400
BS22215	1 300	1 300
BS22216	1 200	1 200
BS22217	1 100	1 100
BS22218	1 000	1 000
BS22219	950	950
BS22220	900	900
BS22222	800	800
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BS22308	1 900	1 900
BS22309	1 500	1 500
BS22310	1 400	1 400
BS22311	1 400	1 400
BS22312	1 100	1 100
BS22313	1 000	1 000
BS22314	900	900
BS22315	950	950
BS22316	800	800