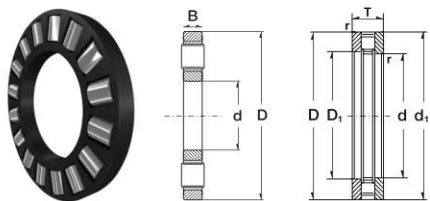


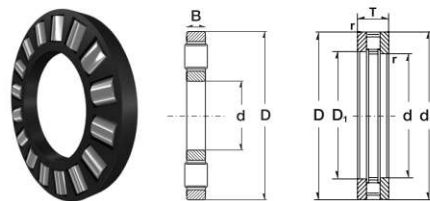
# Axial-Zylinderrollenlager / Axial Cylindrical Roller Bearings



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Designation /Type	Weight (kg) approx.	Complete Bearing Designation	Weight (kg) approx.	Housing location washer	Shaft locating washer	Bearing Washer	Dimension (mm)			*Load Rating		*Limiting Speed (rpm)
							d	D	B	C, dyn. N	C, stat. N	
K81102-TV	0.006	81102-TV	0.024	GS81102	WS81102	LS1528	15.0	28.0	3.5	14400	28500	13400
K81103-TV	0.009	81103-TV	0.027	GS81103	WS81103	LS1730	17.0	30.0	3.5	15900	33500	12300
K81104-TV	0.013	81104-TV	0.037	GS81104	WS81104	LS2035	20.0	35.0	4.5	24900	53000	10500
K81105-TV	0.015	81105-TV	0.053	GS81105	WS81105	LS2542	25.0	42.0	5.0	33500	76000	8600
K81106-TV	0.017	81106-TV	0.057	GS81106	WS81106	LS3047	30.0	47.0	5.0	35500	86000	7500
K81206-TV	0.033	81206-TV	0.123	GS81206	WS81206	-	30.0	52.0	7.5	64000	141000	7000
K89306-TV	0.04	89306-TV	0.24	GS89306	WS89306	-	30.0	60.0	5.5	69000	197000	6400
K81107-TV	0.019	81107-TV	0.073	GS81107	WS81107	LS3552	35.0	52.0	5.0	39000	101000	6600
K81207-TV	0.043	81207-TV	0.195	GS81207	WS81207	-	35.0	62.0	7.5	80000	199000	5900
K89307-TV	0.053	89307-TV	0.34	GS89307	WS89307	-	35.0	68.0	6.0	80000	237000	5600
K81108-TV	0.031	81108-TV	0.105	GS81108	WS81108	LS4060	40.0	60.0	6.0	56000	148000	5800
K81208-TV	0.081	81208-TV	0.249	GS81208	WS81208	-	40.0	68.0	9.0	107000	265000	5300
K89308-TV	0.098	89308-TV	0.484	GS89308	WS89308	-	40.0	78.0	7.0	122000	385000	4900
K81109-TV	0.035	81109-TV	0.13	GS81109	WS81109	LS4565	45.0	65.0	6.0	59000	163000	5200
K81209-TV	0.085	81209-TV	0.287	GS81209	WS81209	-	45.0	73.0	9.0	105000	265000	4900
K89309-TV	0.121	89309-TV	0.615	GS89309	WS89309	-	45.0	85.0	7.5	139000	445000	4450
K81110-TV	0.038	81110-TV	0.14	GS81110	WS81110	LS5070	50.0	70.0	6.0	61000	177000	4800
K81210-TV	0.098	81210-TV	0.356	GS81210	WS81210	-	50.0	78.0	9.0	117000	315000	4500
K89310-TV	0.175	89310-TV	0.887	GS89310	WS89310	-	50.0	95.0	8.0	167000	560000	3950
K81111-TV	0.045	81111-TV	0.218	GS81111	WS81111	LS5578	55.0	78.0	6.0	90000	300000	4350
K81211-TV	0.166	81211-TV	0.568	GS81211	WS81211	-	55.0	90.0	11.0	154000	405000	3950
K89311-TV	0.195	89311-TV	1.18	GS89311	WS89311	-	55.0	105.0	9.0	184000	600000	3600
K81112-TV	0.082	81112-TV	0.266	GS81112	WS81112	LS6085	60.0	85.0	7.5	103000	315000	3950
K81212-TV	0.176	81212-TV	0.642	GS81212	WS81212	-	60.0	95.0	11.0	172000	480000	3700
K89312-TV	0.210	89312-TV	1.26	GS89312	WS89312	-	60.0	110.0	9.0	196000	670000	3400

# Axial-Zylinderrollenlager / Axial Cylindrical Roller Bearings

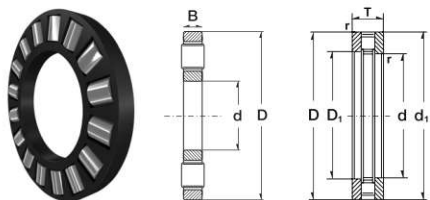


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Designation /Type	Weight (kg) approx.	Designation /Type	Weight (kg) approx.	Housing location washer	Shaft locating washer	Bearing Washer	Dimension (mm)			*Load Rating		*Limiting Speed (rpm)
							d	D	B	C, dyn. N	C, stat. N	
K89412-TV	0.538	89412-TV	2.818	GS89412	WS89412	-	60.0	130.0	14.0	390000	1220000	3050
K81113-TV	0.09	81113-TV	0.31	GS81113	WS81113	LS6590	65.0	90.0	7.5	107000	340000	3700
K81213-TV	0.185	81213-TV	0.721	GS81213	WS81213	-	65.0	100.0	11.0	177000	500000	3500
K89313-TV	0.21	89313-TV	1.33	GS89313	WS89313	-	65.0	115.0	9.0	194000	670000	3200
K89413-TV	0.72	89413-TV	3.52	GS89413	WS89413	-	65.0	140.0	15.0	445000	1410000	2800
K81114-TV	0.092	81114-TV	0.332	GS81114	WS81114	LS7095	70.0	95.0	7.5	111000	365000	3500
K81214-TV	0.212	81214-TV	0.768	GS81214	WS81214	-	70.0	105.0	11.0	187000	550000	3300
K89314-TV	0.29	89314-TV	1.82	GS89314	WS89314	-	70.0	125.0	10.0	239000	830000	2950
K89414-TV	0.76	89414-TV	4.18	GS89414	WS89414	-	70.0	150.0	16.0	475000	1500000	2600
K81115-TV	0.096	81115-TV	0.393	GS81115	WS81115	LS75100	75.0	100.0	7.5	107000	350000	3300
K81215-TV	0.195	81215-TV	0.8	GS81215	WS81215	-	75.0	110.0	11.0	172000	500000	3100
K89315-TV	0.375	89315-TV	2.23	GS89315	WS89315	-	75.0	135.0	11.0	285000	1010000	2750
K89415-M	1.78	89415-M	5.96	GS89415	WS89415	-	75.0	160.0	17.0	500000	1580000	2450
K81116-TV	0.095	81116-TV	0.4	GS81116	WS81116	LS80105	80.0	105.0	7.5	106000	350000	3100
K81216-TV	0.234	81216-TV	0.9	GS81216	WS81216	-	80.0	115.0	11.0	201000	630000	2950
K89316-TV	0.42	89316-TV	2.37	GS89316	WS89316	-	80.0	140.0	11.0	305000	1110000	2600
K89416-M	2.04	89416-M	7.04	GS89416	WS89416	-	80.0	170.0	18.0	560000	1770000	2300
K81117-TV	0.118	81117-TV	0.42	GS81117	WS81117	LS85110	85.0	110.0	7.5	112000	385000	2950
K81217-TV	0.28	81217-TV	1.26	GS81217	WS81217	-	85.0	125.0	12.0	217000	660000	2750
K89317-M	0.93	89317-M	3.39	GS89317	WS89317	-	85.0	150.0	12.0	325000	1140000	2450
K89417-M	2.71	89417-M	8.65	GS89417	WS89417	-	85.0	180.0	19.0	620000	1980000	2170
K81118-TV	0.15	81118-TV	0.62	GS81118	WS81118	LS90120	90.0	120.0	9.0	141000	465000	2750
K81218-TV	0.54	81218-TV	1.77	GS81218	WS81218	-	90.0	135.0	14.0	290000	890000	2550
K89318-M	0.97	89318-M	3.63	GS89318	WS89318	-	90.0	155.0	12.0	335000	1200000	2350
K89418-M	3.04	89418-M	9.94	GS89418	WS89418	-	90.0	190.0	20.0	680000	2200000	2060



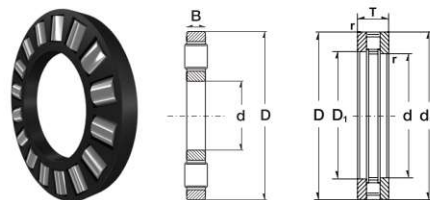
# Axial-Zylinderrollenlager / Axial Cylindrical Roller Bearings



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Designation /Type	Weight (kg) approx.	Designation /Type	Weight (kg) approx.	Housing location washer	Shaft locating washer	Bearing Washer	Dimension (mm)			*Load Rating		*Limiting Speed (rpm)
							d	D	B	C, dyn. N	C, stat. N	
K81120-TV	0.25	81120-TV	0.95	GS81120	WS81120	LS100135	100.0	135.0	11.0	199000	650000	2450
K81220-M	0.6	81220-TV	2.2	GS81220	WS81220	-	100.0	150.0	15.0	340000	1080000	2300
K89320-M	1.18	89320-M	4.56	GS89320	WS89320	-	100.0	170.0	13.0	380000	1400000	2130
K89420-M	3.92	89420-M	13.4	GS89420	WS89420	-	100.0	210.0	22.0	850000	2850000	1860
K81122-TV	0.27	81122-TV	1.04	GS81122	WS81122	LS110145	110.0	145.0	11.0	207000	700000	2260
K81222-TV	0.53	81222-TV	2.29	GS81222	WS81222	-	110.0	160.0	15.0	325000	1030000	2130
K89322-M	1.83	89322-M	6.7	GS89322	WS89322	-	110.0	190.0	15.0	500000	1870000	1920
K89422-M	5.11	89422-M	17.4	GS89422	WS89422	-	110.0	230.0	24.0	1000000	3400000	1690
K81124-TV	0.29	81124-TV	1.12	GS81124	WS81124	LS120155	120.0	155.0	11.0	214000	760000	2090
K81224-TV	0.58	81224-TV	2.54	GS81224	WS81224	-	120.0	170.0	15.0	340000	1120000	1990
K89324-M	2.64	89324-M	9.44	GS89324	WS89324	-	120.0	210.0	17.0	640000	2420000	1750
K89424-M	6.37	89424-M	21.9	GS89424	WS89424	-	120.0	250.0	26.0	1160000	4000000	1560
K81126-TV	0.38	81126-TV	1.67	GS81126	WS81126	LS130170	130.0	170.0	12.0	250000	900000	1920
K81226-TV	0.92	81226-TV	3.98	GS81226	WS81226	-	130.0	190.0	19.0	480000	1520000	1800
K89326-M	2.09	89326-M	11.2	GS89326	WS89326	-	130.0	225.0	18.0	710000	2700000	1620
K89426-M	7.96	89426-M	27.1	GS89426	WS89426	-	130.0	270.0	28.0	1330000	4600000	1440
K81128-TV	0.4	81128-TV	1.9	GS81128	WS81128	LS140180	140.0	180.0	12.0	260000	960000	1800
K81228-M	1.8	81228-M	5.07	GS81228	WS81228	-	140.0	200.0	19.0	455000	1450000	1690
K89328-M	2.57	89328-M	13.2	GS89328	WS89328	-	140.0	240.0	19.0	820000	3200000	1520
K89428-M	8.53	89428-M	29.8	GS89428	WS89428	-	140.0	280.0	28.0	1380000	4950000	1370
K81130-TV	0.43	81130-TV	2.2	GS81130	WS81130	LS150190	150.0	190.0	12.0	270000	1020000	1690
K81230-M	2.81	81230-M	7.17	GS81230	WS81230	-	150.0	215.0	21.0	590000	1940000	1580
K89330-M	3.75	89330-M	13.9	GS89330	WS89330	-	150.0	250.0	19.0	840000	3350000	1440
K89430-M	10.4	89430-M	35.4	GS89430	WS89430	-	150.0	300.0	30.0	1570000	5700000	1280
K81132-TV	0.44	81132-TV	2.12	GS81132	WS81132	LS160200	160.0	200.0	12.0	260000	990000	1600

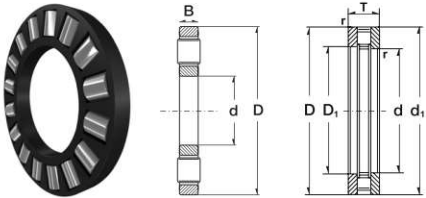
# Axial-Zylinderrollenlager / Axial Cylindrical Roller Bearings



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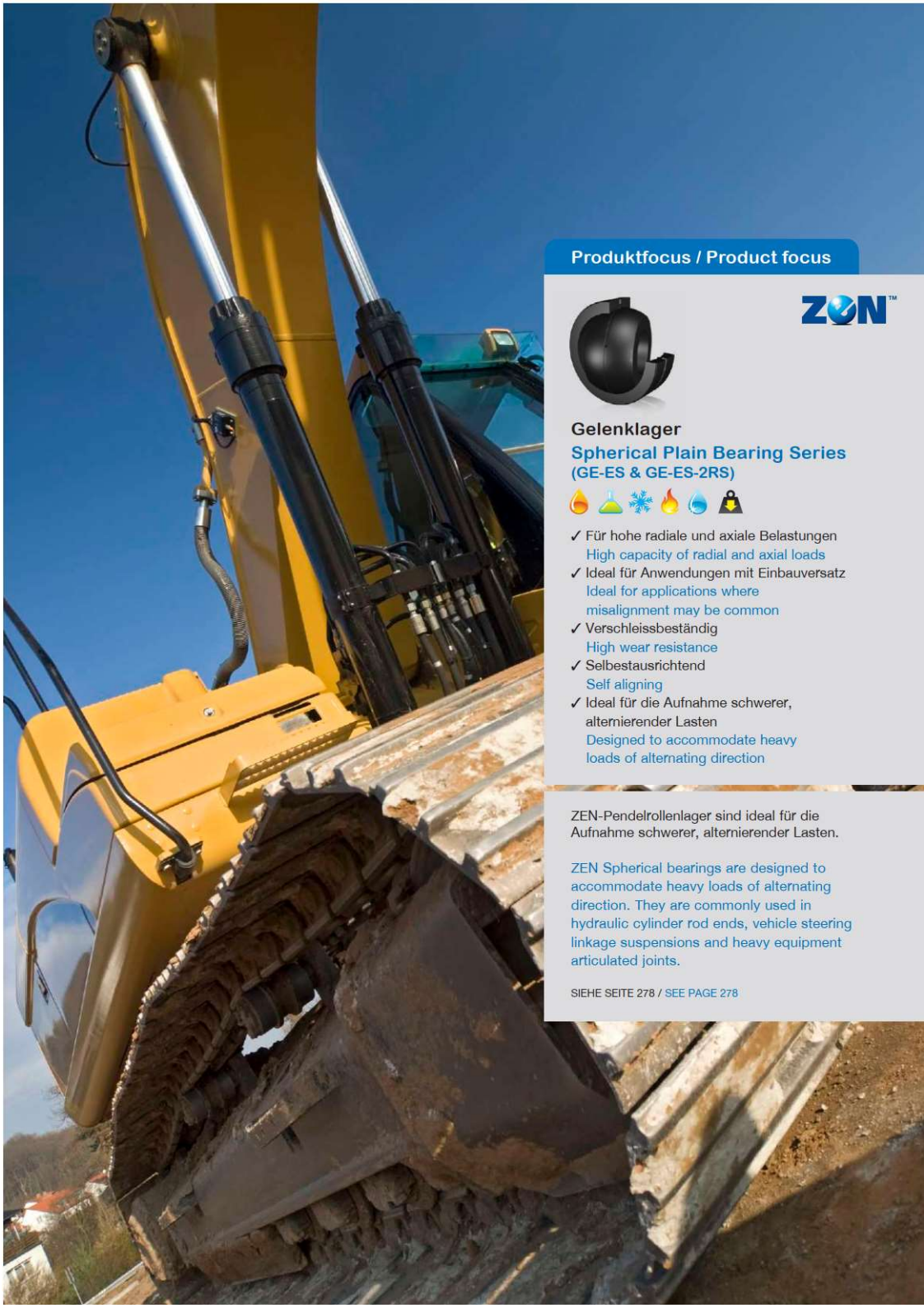
Designation /Type	Weight (kg) approx.	Designation /Type	Weight (kg) approx.	Housing location washer	Shaft locating washer	Bearing Washer	Dimension (mm)			*Load Rating		*Limiting Speed (rpm)
							d	D	B	C, dyn. N	C, stat. N	
K81232-M	3.01	81232-M	7.6	GS81232	WS81232	-	160.0	225.0	21.0	600000	2030000	1500
K89432-M	12.4	89432-M	42	GS89432	WS89432	-	160.0	320.0	32.0	1780000	6500000	1200
K81134-TV	0.66	81134-TV	2.41	GS81134	WS81134	-	170.0	215.0	14.0	360000	1380000	1500
K81234-M	3.5	81234-M	9.3	GS81234	WS81234	-	170.0	240.0	22.0	680000	2340000	1400
K89434-M	14.9	89434-M	51.9	GS89434	WS89434	-	170.0	340.0	34.0	1990000	7400000	1130
K81136-M	1.46	81136-M	3.3	GS81136	WS81136	-	180.0	225.0	14.0	340000	1300000	1420
K81236-M	3.67	81236-M	9.9	GS81236	WS81236	-	180.0	250.0	22.0	690000	2440000	1340
K89436-M	17.6	89436-M	60	GS89436	WS89436	-	180.0	360.0	36.0	2210000	8200000	1070
K81138-M	1.84	81138-M	1.74	GS81138	WS81138	-	190.0	240.0	15.0	385000	1500000	1340
K81238-M	5.17	81238-M	12.8	GS81238	WS81238	-	190.0	270.0	26.0	880000	3000000	1250
K89438-M	20.9	89438-M	72.1	GS89438	WS89438	-	190.0	380.0	38.0	2450000	9200000	1100
K81140-M	1.93	81140-M	4.95	GS81140	WS81140	-	200.0	250.0	15.0	390000	1550000	1280
K81240-M	5.4	81240-M	14.2	GS81240	WS81240	-	200.0	280.0	26.0	900000	3150000	1200
K89440-M	24	89440-M	82.6	GS89440	WS89440	-	200.0	400.0	40.0	2700000	10200000	960
K81144-M	2.04	81144-M	5.22	GS81144	WS81144	-	220.0	270.0	15.0	420000	1730000	1180
K81244-M	5.8	81244-M	15.3	GS81244	WS81244	-	220.0	300.0	26.0	940000	3450000	1110
K89444-M	25.7	89444-M	90.1	GS89444	WS89444	-	220.0	420.0	40.0	2900000	11500000	900
K81148-M	3.32	81148-M	8.45	GS81148	WS81148	-	240.0	300.0	18.0	600000	2500000	1070
K81248-M	9.94	81248-M	26.2	GS81248	WS81248	-	240.0	340.0	32.0	1370000	5000000	990
K89448-M	27.3	89448-M	95.9	GS89448	WS89448	-	240.0	440.0	40.0	3000000	12200000	850
K81152-M	3.55	81152-M	9.08	GS81152	WS81152	-	260.0	320.0	18.0	620000	2650000	990
K81252-M	10.8	81252-M	28.6	GS81252	WS81252	-	260.0	360.0	32.0	1441000	5400000	930
K89452-M	36.8	89452-M	125	GS89452	WS89452	-	260.0	480.0	44.0	3600000	14700000	780
K81156-M	5.31	81156-M	12.6	GS81156	WS81156	-	280.0	350.0	22.0	860000	3650000	910
K81256-M	11.5	81256-M	31	GS81256	WS81256	-	280.0	380.0	32.0	1460000	5600000	870





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Designation /Type	Weight (kg) approx.	Designation /Type	Weight (kg) approx.	Housing location washer	Shaft locating washer	Bearing Washer	Dimension (mm)			*Load Rating		*Limiting Speed (rpm)
							d	D	B	C, dyn. N	C, stat. N	
K89456-M	47.5	89456-M	159	GS89456	WS89456		280.0	520.0	48.0	4200000	17600000	720
K81160-M	7.6	81160-M	19.4	GS81160	WS81160		300.0	380.0	25.0	1060000	4500000	850
K81260-M	17.8	81260-M	48.25	GS81260	WS81260		300.0	420.0	38.0	1930000	7300000	800
K89460-M	49.8	89460-M	170	GS89460	WS89460		300.0	540.0	48.0	4350000	18500000	690
K81164-M	8.04	81164-M	20.7	GS81164	WS81164		320.0	400.0	25.0	1100000	4750000	800
K89464-M	80.3	89464-M	203	GS89464	WS89464		320.0	580.0	68.0	5500000	19900000	640



Produktfokus / Product focus



ZON™

Gelenklager  
 Spherical Plain Bearing Series  
 (GE-ES & GE-ES-2RS)



- ✓ Für hohe radiale und axiale Belastungen  
High capacity of radial and axial loads
- ✓ Ideal für Anwendungen mit Einbauversatz  
Ideal for applications where misalignment may be common
- ✓ Verschleissbeständig  
High wear resistance
- ✓ Selbstausrichtend  
Self aligning
- ✓ Ideal für die Aufnahme schwerer, alternierender Lasten  
Designed to accommodate heavy loads of alternating direction

ZEN-Pendelrollenlager sind ideal für die Aufnahme schwerer, alternierender Lasten.

ZEN Spherical bearings are designed to accommodate heavy loads of alternating direction. They are commonly used in hydraulic cylinder rod ends, vehicle steering linkage suspensions and heavy equipment articulated joints.

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