TECNAMIC
Dynamic Drive Technology

Drive Components

Bearings nach DIN 502 bis 506

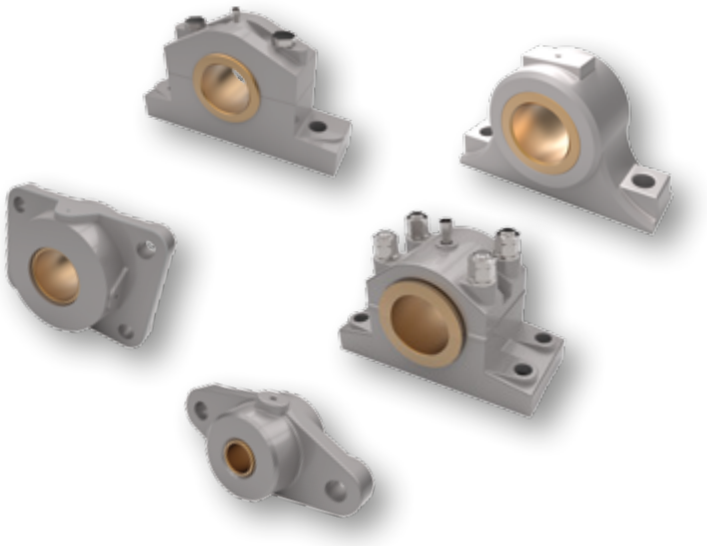
Greased friction bearings

Friction bearings according to DIN 502 to 506 are suitable for many different areas of use, such the timber and steel industry, chemical plants and the food industry. Depending on the operating conditions they can be used at sliding speeds of up to approx. 1.5 m/s.

For use on
cutting head excavators and for ships' engines we supply guide bearings up to a diameter of 630mm. Further details can be obtained on request.
The housings are made of high-grade grey cast iron EN-GJL (GG). The structural design guarantees high durability.

The bearings DIN 502 to DIN 504 can also be used if required with bearing shells of bronze with grease lubricant (maintenance-free up to 0.6 m/s).

The bearing bores are supplied in the case of friction bearings with bearing shells or bushes with a D10 tolerance. If flange bearings and eye-type bearings without bush are used, the bearing bore has a D7 tolerance.



Bearing types

- DIN 502, 503
- DIN 504
- DIN 505 L, 506

Lubrication

Lubricant greases at bearing temperatures up to approx. 110°C. Solid lubricants up to approx. 450°C.

Lubricant feed through lubricating nipple and manual grease press, Stauffer grease box, spring bushing, central lubrication system. The lubricant is pressed through a lubricating groove into the unladen zone of the bearing gap. The lubricating groove is normally located in the top of the bearing shell.

The direction of load must always be given when ordering if the direction of load deviates more than 40° from the vertical to the bearing base. Under normal conditions the grease consumption is approximately 20 g/m2h. The whole bearing running surface must be used here as the bearing surface.

Allowable compaction pressures

The level of maximum allowable compaction pressures depends on many conditions, such as:

- matching of sliding materials
- roughness of the friction surfaces
- surface hardness of the shafts
- dimension of bearing play
- quality of the alignment of the bearing to the shaft
- direction of load
- lubricating state
- bearing temperature
- expected service life

The guide values for specific compaction pressures in the table below should not be exceeded in the design of friction bearings under normal operating conditions.

Normal operating conditions should be taken to be the following:

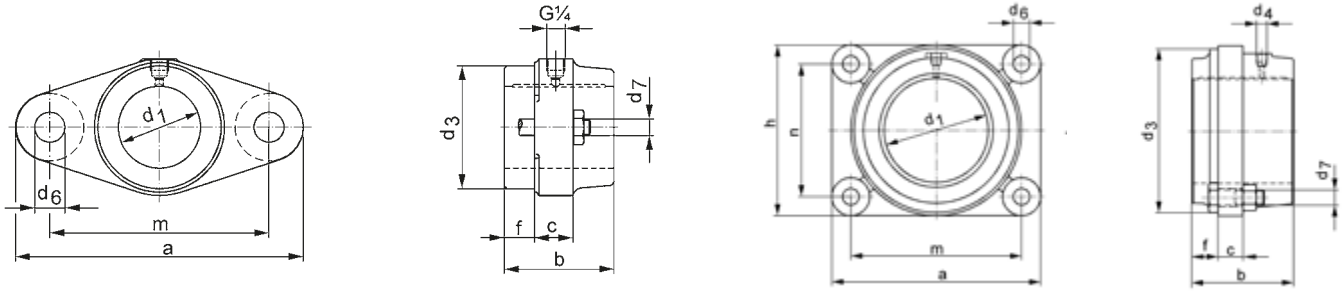
- shaft material, e.g. St 50, St 60, C 45, 42 CrMo4
- shaft diameter in the tolerance zone h9
- friction surfaces of the shafts ≤ RZ 5µm
- good supply of lubricant

The values apply in the case of cap bearings for loads vertical ±40° to the bearing base.
Under particularly favourable operating conditions higher loads are possible: e.g. hardened and ground running surface of the shaft, very good lubricant supply and careful alignment.
max. sliding speed v= 1.5 m/s.

Frictional power:
$PR = F \cdot v \cdot \mu$ (W)
F = bearing load (N)
v = sliding speed (m/s)
µ = coefficient of friction

Guide values for allowable loads

Articles on stock	Red bronze (RG 7) G-CuSn 7 ZnPb		Cast bronze G-CuSn 12	
DIN	p $\left(\frac{N}{cm^2}\right)$	$p \cdot v$ $\left(\frac{N}{cm^2}\right) \cdot \left(\frac{m}{s}\right)$	p $\left(\frac{N}{cm}\right)$	$p \cdot v$ $\left(\frac{N}{cm^2}\right) \cdot \left(\frac{m}{s}\right)$
502	350	180	450	260
503	350	180	450	260
504	350	180	450	260
505 L	450	250	–	–
506	250	120	350	210



DIN 502 DIN 503

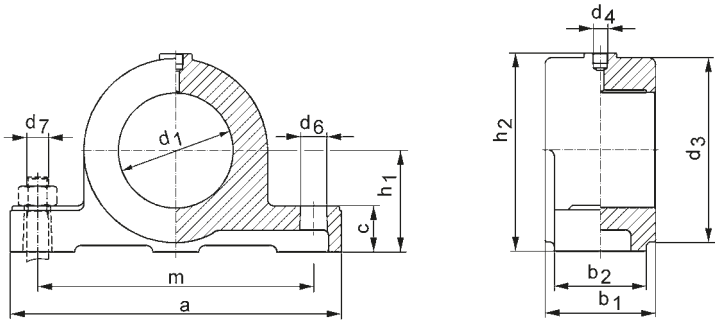
Flange bearing DIN 502

Form A with bush d_1 (D10) mm	Form B without bush d_1 (D7) mm	a mm	b mm	c mm	d_3 (h9) mm	d_6 mm	d_7 mm	f mm	m mm	Weight kg
–	**25**	135	60	20	50	14	M 12	20	100	1,2
–	**30**									
25	**35**	155	60	20	65	14	M 12	20	120	1,4
30	**40**									
35	**45**	180	70	25	80	18	M 16	20	140	3,0
40	**50**									
45	**55**	210	80	30	90	22	M 20	20	160	4,2
50	**60**									
55	**65**	240	90	30	110	22	M 20	25	190	5,8
60	**70**									
–	**75**	275	100	35	130	26	M 24	25	220	9,0
70	**80**									

Flange bearing DIN 503

Form A with bush d_1 (D10) mm	Form B without bush d_1 (D7) mm	a mm	b mm	c mm	d_3 (h9) mm	d_4 mm	d_6 mm	d_7 mm	f mm	h mm	m mm	n mm	Weight kg
35	**45**	145	70	20	80	G ¼"	14	M 12	20	85	110	50	3,1
40	**50**												
45	**60**	175	80	25	100		18	M 16	20	105	130	60	5,5
50													
55	**70**	195	90	25	120		18	M 16	25	125	150	80	8,1
60													
70	**80**	220	100	30	140		22	M 20	25	150	170	100	12,2
80	**90**	240	100	30	160		22	M 20	30	170	190	120	14,9
90	**100**	260	120	30	180		22	M 20	30	190	210	140	26,6
100	–	285	120	35	200	G ⅜"	26	M 24	40	215	230	160	32,0

› 1) Red bronze bush Rg7



Eye-type bearing DIN 504

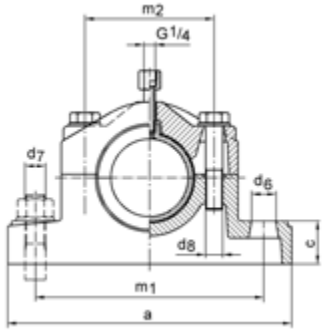
Form A with bush d_1 (D10) mm	Form B without bush d_1 (D7) mm	a mm	b_1 mm	b_2 mm	c mm	d_3 mm	d_4 mm	d_6 mm	d_7 mm	h_1 mm	h_2 mm	m mm	Weight kg
–	**20**	110	50	35	18	45		12	M 10	30	56	75	1,3
–	**25** **30**	140	60	40	25	60		15	M 12	40	75	100	2,0
25 **30**	**35** **40**	160	60	45	25	80		15	M 12	50	95	120	3,0
35 **40**	**45** **50**	190	70	50	30	90	G ¼"	19	M 16	60	110	140	4,2
45 **50**	**55** **60**	220	80	55	35	100		24	M 20	70	125	160	5,5
60	**70**	240	90	60	35	120		24	M 20	80	145	180	8,3
70	**80**	270	100	70	45	140		28	M 24	90	165	210	11,6
80	**90**	300	100	80	45	160		28	M 24	100	185	240	17,0
90	**100**	330	120	90	45	180		28	M 24	100	195	270	22,0
100	–	360	120	100	50	200	G ⅜"	28	M 24	110	215	300	35,0

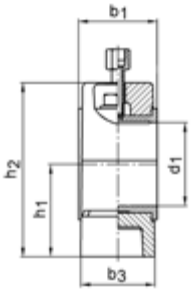
› 1) Red bronze bush Rg7

Stauffer lubrication boxes

Size	Thread Ø	DIN 502 A with bush	DIN 502 B without bush	DIN 503 A with bush	DIN 503 B without bush	DIN 504 A with bush	DIN 504 B without bush	DIN 505 L	DIN 506 A
3	G ¼"	–	25 - 40	–	–	25 - 30	25 - 40	25 - 50	–
4	G ¼"	25 - 40	45 - 50	35 - 50	45 - 60	35 - 50	45 - 60	55 - 80	–
5	G ¼"	45 - 60	55 - 70	55 - 70	65 - 80	55 - 70	65 - 80	85 - 110	–
6	G ¼"	65 - 70	75 - 80	75 - 90	85 - 110	75 - 90	85 - 110	120 - 150	80 - 110

Cap bearings DIN 505 L

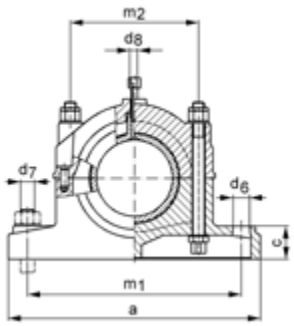


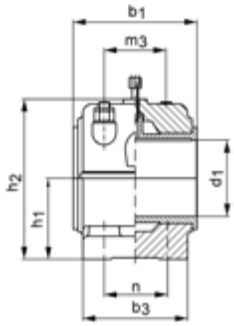


d_1 (D10) mm	a mm	b_1 mm	b_3 mm	c mm	d_6 mm	d_7 mm	d_8 mm	h_1 mm	h_2 mm	m_1 mm	m_2 mm	Weight kg
25 **30**	165	45	40	22	15	M 12	M 10	40	78	125	65	1,6
35 **40**	180	50	45	25	15	M 12	M 10	50	95	140	75	3,0
45 **50**	210	55	50	30	19	M 16	M 12	60	114	160	90	3,0
55 **60**	225	60	55	35	19	M 16	M 12	70	132	175	100	4,0
70	270	65	60	40	24	M 20	M 16	80	154	210	120	7,1
80	290	75	70	45	24	M 20	M 16	90	170	230	130	10,2
90	330	85	80	50	28	M 24	M 20	100	188	265	150	13,4
100 **110**	355	95	90	55	28	M 24	M 20	110	210	290	170	19,0
125	420	110	100	60	35	M 30	M 24	130	250	340	200	29,2
140 **150**	440	125	120	65	35	M 30	M 24	150	280	360	220	39,0

› with bearing shells of red bronze: Rg7

Cap bearings DIN 506





d_1 (D10) mm	a mm	b_1 mm	b_3 mm	c mm	d_6 mm	d_7 mm	d_8 mm	h_1 mm	h_2 mm	m_1 mm	m_2 mm	m_3 mm	n mm	Weight kg
80	300	140	130	50	24	M 20	G ¼"	100	185	240	130	65	70	21
90	330	160	140	50	24	M 20		100	190	270	145	80	80	26
100 **110**	360	180	160	55	28	M 24		110	210	300	170	80	90	36
125 **130**	400	200	170	60	28	M 24	G ⅜"	120	240	330	200	100	100	48
140 **150**	440	220	190	65	35	M 30		130	255	360	215	110	110	59
160 **180**	530	260	220	70	35	M 30		170	330	450	270	130	130	115
200 **220**	680	300	260	80	35	M 30		240	443	580	330	160	160	234
110 **125**	750	355	300	100	42	M 36		265	505	630	380	180	180	440
280 **300**	850	400	335	120	48	M 42		315	600	700	420	200	200	540

› with bearing shells of red bronze: Rg7

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