

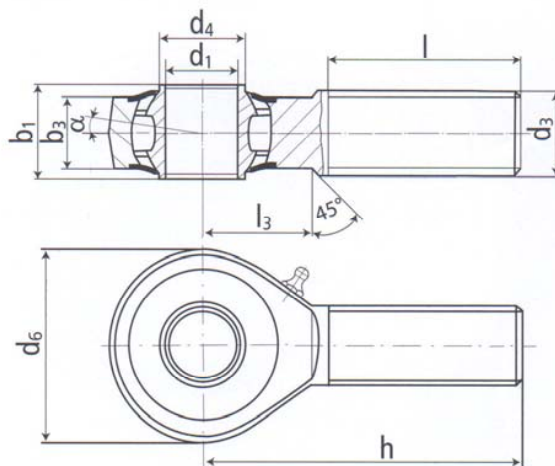
DURBAL® BRTM



male thread;
long-term
lubrication,
low maintenance,
shields,
adapter sizes
according to
DIN ISO 12240-4,
series K



DURBAL® heavy-duty rod ends with integral self-aligning roller bearing



rod end housing:
forged steel, case-hardened bearing race,
superfinished, rolled thread, surface gal-
vanized, free of Cr VI

inner ring:
ball bearing steel, hardened,
superfinished

lubrication:
aluminium-complex-soap-grease,
temperature range -45 °C to +120 °C,
approval according to USDA H1

lubrication fitting:
DIN 71 412 H1

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10

type	order number		measurements [mm]					
	right hand thread	left hand thread	d ₁	d ₃	d ₄	d ₆	b ₁	b ₃
BRTM 12 -01	-501	-502	12	M 12	14,5	32	16	12
BRTM 16 -03	-501	-502	16	M 16	19,0	42	21	15
BRTM 20 -00	-501	-502	20	M 20 x 1,5	24,5	50	25	18
BRTM 25 -00	-501	-502	25	M 24 x 2	29,5	64	31	22
BRTM 30 -00	-501	-502	30	M 30 x 2	34,5	70	37	25

type	measurements [mm]				weight [kg]	rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	h	l	l ₃	α [°]			dyn. C [N]	stat. C ₀ [N]
BRTM 12	54	33	19	7,5	0,088	1125	10250	6600
BRTM 16	66	40	22	7,0	0,185	975	13300	8900
BRTM 20	78	47	28	7,0	0,340	825	17000	11700
BRTM 25	94	57	30	5,0	0,596	600	24900	18500
BRTM 30	110	66	35	7,5	0,912	450	32500	24850



DURBAL® BRTF

rod end housing:
forged steel, case-hardened bearing race, superfinished, surface galvanized, free of Cr VI

inner ring:
ball bearing steel, hardened, superfinished

lubrication:
aluminium-complex-soap-grease, temperature range -45 °C to +120 °C, approval according to USDA H1

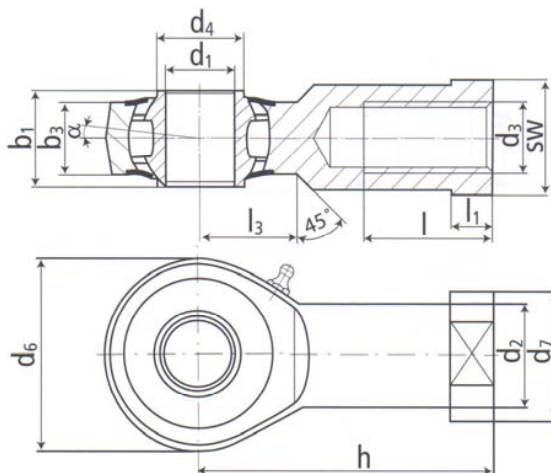
lubrication fitting:
DIN 71 412 H1

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral self-aligning roller bearing

female thread;
long-term lubrication, low maintenance, shields, adapter sizes according to DIN ISO 12240-4, series K



type	order number		measurements [mm]							
	right hand thread	left hand thread	d ₁	d ₂	d ₃	d ₄	d ₆	d ₇	b ₁	b ₃
BRTF 12 -04	-501	-502	12	17,5	M 12	14,5	32	22	16	12
BRTF 16 -03	-501	-502	16	22,0	M 16	19,0	42	27	21	15
BRTF 20 -00	-501	-502	20	27,5	M 20 x 1,5	24,5	50	34	25	18
BRTF 25 -00	-501	-502	25	30,0	M 24 x 2	29,5	64	35	31	22
BRTF 30 -01	-501	-502	30	40,0	M 30 x 2	34,5	70	50	37	25

type	measurements [mm]						weight [kg]	rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	h	l	l ₁	l ₃	SW	α [°]			dyn. C [N]	stat. C ₀ [N]
BRTF 12	50	22	6,5	16	19	7,5	0,109	1125	10250	6600
BRTF 16	64	28	8,0	22	22	7,0	0,220	975	13300	8900
BRTF 20	77	33	10,0	26	30	7,0	0,361	825	17000	11700
BRTF 25	94	42	10,0	32	30	5,0	0,565	600	24900	18500
BRTF 30	110	51	15,0	35	41	7,5	1,000	450	32500	24850

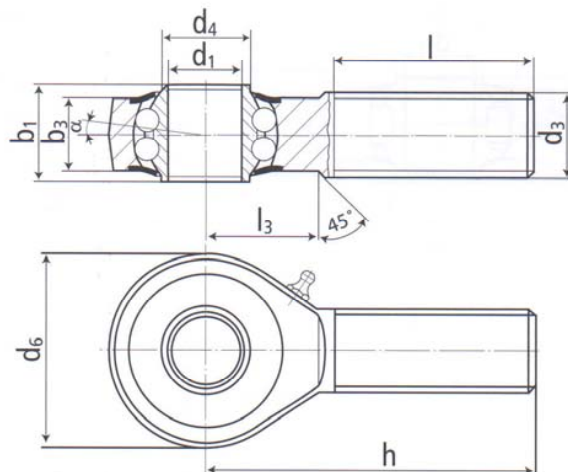
DURBAL® BRM



male thread;
long-term
lubrication,
low maintenance,
shields,
adapter sizes
according to
DIN ISO 12240-4,
series K



DURBAL® heavy-duty rod ends with integral self-aligning ball bearing



rod end housing:
forged steel, case-hardened bearing race,
superfinished, rolled thread, surface gal-
vanized, free of Cr VI

inner ring:
ball bearing steel, hardened,
superfinished

lubrication:
aluminium-complex-soap-grease,
temperature range -45 °C to +120 °C,
approval according to USDA H1

lubrication fitting:
DIN 3405 D1/A (sizes 6 to 10)
DIN 71 412 H1 (sizes 12 to 30)

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10

order number			measurements [mm]						
type	right hand thread	left hand thread	d ₁	d ₃	d ₄	d ₆	b ₁	b ₃	h
BRM 06	-00	-501	6	M 6	9,0	20	9	6,75	36
BRM 08	-00	-501	8	M 8	10,5	24	12	9,0	42
BRM 10	-00	-501	10	M 10	12,0	28	14	10,5	48
BRM 12	-00	-501	12	M 12	14,5	32	16	12,0	54
BRM 14	-00	-501	14	M 14	17,0	36	19	13,5	60
BRM 16	-00	-501	16	M 16	19,0	42	21	15,0	66
BRM 18	-00	-501	18	M 18 x 1,5	21,5	46	23	16,5	72
BRM 20	-00	-501	20	M 20 x 1,5	24,5	50	25	18,0	78
BRM 22	-00	-501	22	M 22 x 1,5	26,0	54	28	20,0	84
BRM 25	-00	-501	25	M 24 x 2	29,5	64	31	22,0	94
BRM 30	-00	-501	30	M 30 x 2	34,5	70	37	25,0	110

type	measurements [mm]		α [°]	weight [kg]	calculation- factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating dyn. stat.	
	l	l ₃			Y	Y ₀		C [N]	C ₀ [N]
BRM 06	22	12	8,0	0,019	2,09	2,19	1350	2750	650
BRM 08	25	15	8,5	0,036	1,80	1,89	1300	4000	1000
BRM 10	29	15	8,0	0,060	1,90	1,81	1225	4450	1450
BRM 12	33	19	7,5	0,087	1,74	1,82	1125	4950	1800
BRM 14	36	20	6,0	0,135	2,36	2,48	1025	5600	2000
BRM 16	40	22	8,0	0,190	2,24	2,35	975	6250	2350
BRM 18	44	25	8,5	0,270	2,21	2,31	900	7100	2900
BRM 20	47	28	7,0	0,338	2,46	2,58	825	7900	3450
BRM 22	51	26	8,0	0,450	2,35	2,24	725	9300	3980
BRM 25	57	30	5,0	0,602	2,02	2,12	600	11030	5680
BRM 30	66	35	7,5	0,922	2,24	2,35	450	14150	7450



DURBAL® BRF

rod end housing:

forged steel, case-hardened bearing race, superfinished, surface galvanized, free of Cr VI

inner ring:

ball bearing steel, hardened, superfinished

lubrication:

aluminium-complex-soap-grease, temperature range -45 °C to +120 °C, approval according to USDA H1

lubrication fitting:

DIN 3405 D1/A (sizes 6 to 10)
DIN 71 412 H1 (sizes 12 to 30)

bearing clearance:

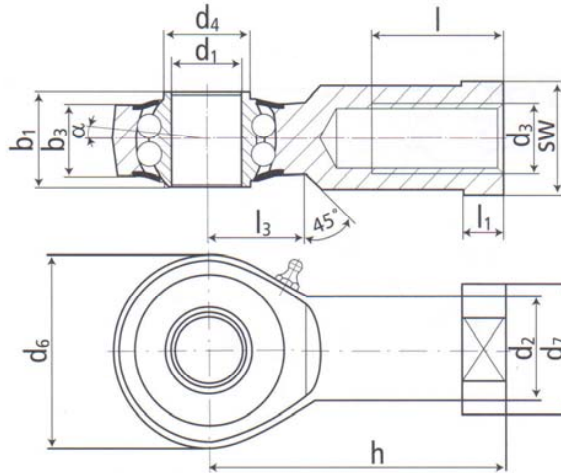
10 - 30 µm radial

tolerances:

see page 10

DURBAL® heavy-duty rod ends with integral self-aligning ball bearing

female thread;
long-term lubrication,
low maintenance, shields,
adapter sizes according to
DIN ISO 12240-4, series K



order number				measurements [mm]								
type	right hand thread	left hand thread		d ₁	d ₂	d ₃	d ₄	d ₆	d ₇	b ₁	b ₃	h
BRF 06	-00	-501	-502	6	10,0	M 6	9,0	20	13	9	6,75	30
BRF 08	-00	-501	-502	8	12,5	M 8	10,5	24	16	12	9,0	36
BRF 10	-00	-501	-502	10	15,0	M 10	12,0	28	19	14	10,5	43
BRF 12	-00	-501	-502	12	17,5	M 12	14,5	32	22	16	12,0	50
BRF 14	-00	-501	-502	14	20,0	M 14	17,0	36	25	19	13,5	57
BRF 16	-00	-501	-502	16	22,0	M 16	19,0	42	27	21	15,0	64
BRF 18	-00	-501	-502	18	25,0	M 18 x 1,5	21,5	46	31	23	16,5	71
BRF 20	-00	-501	-502	20	27,5	M 20 x 1,5	24,5	50	34	25	18,0	77
BRF 22	-00	-501	-502	22	30,0	M 22 x 1,5	26,0	54	38	28	20,0	84
BRF 25	-00	-501	-502	25	30,0	M 24 x 2	29,5	64	35	31	22,0	94
BRF 30	-00	-501	-502	30	40,0	M 30 x 2	34,5	70	50	37	25,0	110

type	measurements [mm]			SW	α [°]	weight [kg]	calculation-factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating stat.	
	l	l ₁	l ₃				Y	Y ₀		C [N]	C ₀ [N]
BRF 06	12	5,0	10	11	8,0	0,024	2,09	2,19	1350	2750	650
BRF 08	16	5,0	12	14	8,5	0,044	1,80	1,89	1300	4000	1000
BRF 10	20	6,5	15	17	8,0	0,072	1,90	1,81	1225	4450	1450
BRF 12	22	6,5	16	19	7,5	0,107	1,74	1,82	1125	4950	1800
BRF 14	25	8,0	20	22	6,0	0,160	2,36	2,48	1025	5600	2000
BRF 16	28	8,0	22	22	8,0	0,224	2,24	2,35	975	6250	2350
BRF 18	32	10,0	24	27	8,5	0,293	2,21	2,31	900	7100	2900
BRF 20	33	10,0	26	30	7,0	0,367	2,46	2,58	825	7900	3450
BRF 22	37	12,0	26	32	8,0	0,480	2,35	2,24	725	9300	3980
BRF 25	42	10,0	32	30	5,0	0,572	2,02	2,12	600	11030	5680
BRF 30	51	15,0	35	41	7,5	0,978	2,24	2,35	450	14150	7450

Technical changes reserved.

DURBAL® PM



male thread;
long-term
lubrication,
low maintenance,
shields

DURBAL® heavy-duty rod ends with integral self-aligning ball bearing

rod end housing:
forged steel, case-hardened bearing race,
superfinished, rolled thread, surface gal-
vanized, free of Cr VI

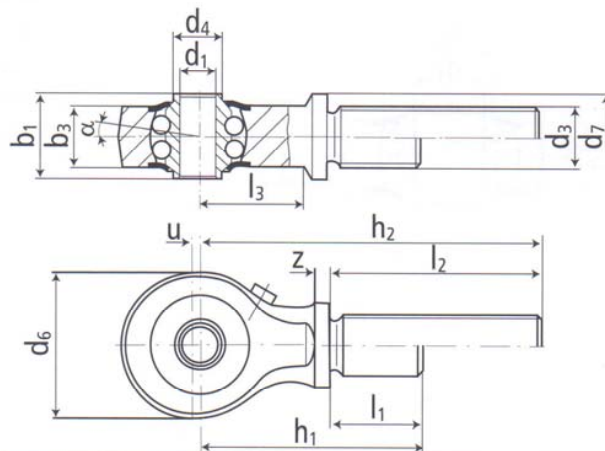
inner ring:
ball bearing steel, hardened,
superfinished

lubrication:
aluminium-complex-soap-grease,
temperature range -45 °C to +120 °C,
approval according to USDA H1

lubrication fitting:
DIN 3405 D1/A

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10



order number			measurements [mm]						
type	right hand thread	left hand thread	d ₁	d ₃	d ₄	d ₆	d ₇	b ₁	b ₃
PM 05 -00	-501	-502	5	M 8 x 1	7,5	19	12	12	8
PM 05 -01	-501	-502	5	M 8 x 1	7,5	19	12	12	8
PM 06 -00	-501	-502	6	M 10 x 1	8,5	24	14	14	10
PM 06 -02	-501	-502	6	M 10 x 1	8,5	24	14	14	10
PM 08 -00	-501	-502	8	M 12 x 1,5	11,0	30	17	15	10
PM 08 -02	-501	-502	8	M 12 x 1,5	11,0	30	17	15	10
PM 10 -00	-501	-502	10	M 14 x 1,5	13,5	36	19	20	14
PM 10 -03	-501	-502	10	M 14 x 1,5	13,5	36	19	20	14
PM 12 -00	-501	-502	12	M 16 x 1,5	15,0	40	21	20	14
PM 12 -02	-501	-502	12	M 16 x 1,5	15,0	40	21	20	14
PM 15 -00	-501	-502	15	M 20 x 1,5	18,5	42	26	20	14
PM 15 -02	-501	-502	15	M 20 x 1,5	18,5	42	26	20	14
PM 17 -00	-501	-502	17	M 20 x 1,5	21,0	48	26	22	16
PM 17 -01	-501	-502	17	M 20 x 1,5	21,0	48	26	22	16
PM 20 -00	-501	-502	20	M 24 x 1,5	24,0	56	30	24	18
PM 20 -02	-501	-502	20	M 24 x 1,5	24,0	56	30	24	18

type	measurements [mm]								weight [kg]	calculation- factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating dyn. stat.	
	l ₁	l ₂	l ₃	h ₁	h ₂	u	z	α [°]		Y	Y ₀		C [N]	C ₀ [N]
PM 05		39,5	13		57	1,5	2,5	7,0	0,037	1,51	1,58	1350	1610	480
PM 05	16		13	33,5		1,5	2,5	7,0	0,033	1,51	1,58	1350	1610	480
PM 06		42,5	17		64	1,5	2,5	10,5	0,062	1,28	1,34	1300	2445	765
PM 06	19		17	40,5		1,5	2,5	10,5	0,057	1,28	1,34	1300	2445	765
PM 08		46,5	20		72	2,0	2,5	8,5	0,097	1,9	1,81	1225	2605	985
PM 08	23		20	48,5		2,0	2,5	8,5	0,088	1,9	1,81	1225	2605	985
PM 10		49,5	28		82	2,5	2,5	9,5	0,168	1,69	1,77	1100	5120	1905
PM 10	26		28	58,5		2,5	2,5	9,5	0,154	1,69	1,77	1100	5120	1905
PM 12		53,5	31		90	3,0	2,5	7,5	0,226	1,81	1,90	1050	5345	2065
PM 12	29		31	65,5		3,0	2,5	7,5	0,204	1,81	1,90	1050	5345	2065
PM 15		62,5	30		100	3,0	2,5	6,5	0,310	2,07	2,17	975	5485	3270
PM 15	36		30	73,5		3,0	2,5	6,5	0,273	2,07	2,17	975	5485	3270
PM 17		62,5	36		105	3,5	2,5	7,0	0,401	2,35	2,46	875	5575	2680
PM 17	36		36	78,5		3,5	2,5	7,0	0,354	2,35	2,46	875	5575	2680
PM 20		68,5	41		117	3,5	3,0	5,5	0,587	2,76	2,90	775	6165	3140
PM 20	41		41	89,5		3,5	3,0	5,5	0,519	2,76	2,90	775	6165	3140



DURBAL® PF

rod end housing:
forged steel, case-hardened bearing race, superfinished, surface galvanized, free of Cr VI

inner ring:
ball bearing steel, hardened, superfinished

lubrication:
aluminium-complex-soap-grease, temperature range -45 °C to +120 °C, approval according to USDA H1

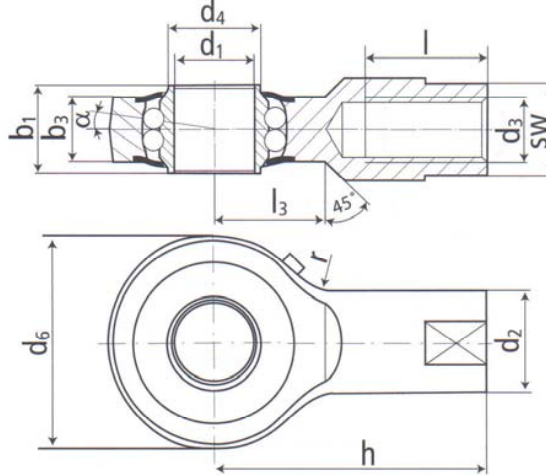
lubrication fitting:
DIN 3405 D1/A

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral self-aligning ball bearing

female thread;
long-term lubrication,
low maintenance,
shields



order number	measurements [mm]									
	type	right hand thread	left hand thread	d ₁	d ₂	d ₃	d ₄	d ₆	b ₁	b ₃
PF 10 -00 -501 -502				10	15	M 8	13,0	30	13,0	9
PF 15 -00 -501 -502				15	19	M 12	17,5	40	16,5	12
PF 20 -00 -501 -502				20	22	M 16	24,0	48	20,5	15

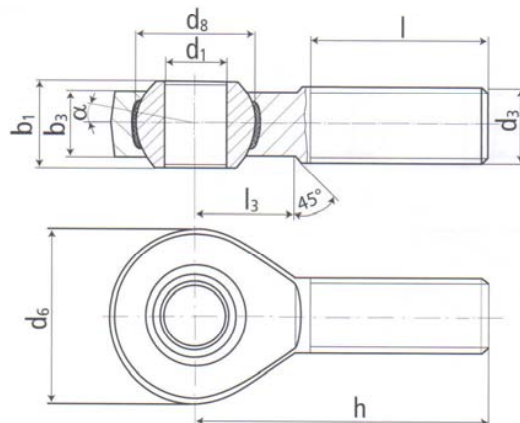
type	measurements [mm]					weight [kg]	calculation-factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	h	l	l ₃	r	SW		Y	Y ₀		dyn. C [N]	stat. C ₀ [N]
PF 10	38	17	14,5	10	13	0,063	1,90	1,81	1225	2605	985
PF 15	51	24	20,0	15	17	0,140	2,30	2,41	1025	5000	1890
PF 20	65	32	22,0	20	19	0,223	2,34	2,45	850	6105	2955

DURBAL® BEM



male thread;
maintenance free,
adapter sizes
according to
DIN ISO 12240-4,
series K

DURBAL® heavy-duty rod ends with integral spherical plain bearing



rod end housing:
forged steel, tempered, rolled thread,
surface galvanized, free of Cr VI

joint ball:
ball bearing steel, hardened and ground,
surface superfinished and chromium
plated

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10

order number			measurements [mm]						
type	right hand thread	left hand thread	d ₁	d ₃	d ₆	d ₈	b ₁	b ₃	
BEM 05	-20	-501	5	M 5	18	11,06	8	6,0	
BEM 06	-20	-501	6	M 6	20	12,65	9	6,75	
BEM 08	-20	-501	8	M 8	24	15,82	12	9,0	
BEM 10	-20	-501	10	M 10	28	19,00	14	10,5	
BEM 12	-20	-501	12	M 12	32	22,17	16	12,0	
BEM 14	-20	-501	14	M 14	36	25,35	19	13,5	
BEM 16	-20	-501	16	M 16	42	28,52	21	15,0	
BEM 18	-20	-501	18	M 18 x 1,5	46	31,70	23	16,5	
BEM 20	-20	-501	20	M 20 x 1,5	50	34,87	25	18,0	
BEM 22	-20	-501	22	M 22 x 1,5	54	38,05	28	20,0	
BEM 25	-20	-501	25	M 24 x 2	60	42,80	31	22,0	
BEM 30	-20	-501	30	M 30 x 2	70	50,75	37	25,0	

type	measurements [mm]			weight		basic load rating		
	h	l	l ₃	α ₁ ¹⁾ [°]	α ₂ ¹⁾ [°]	C dyn. [N]	C ₀ stat. [N]	
BEM 05	33	20	9	13,0	7,5	0,014	3910	5600
BEM 06	36	22	12	13,0	6,5	0,020	4590	7800
BEM 08	42	25	15	14,5	7,5	0,038	6965	14300
BEM 10	48	29	15	13,5	8,0	0,060	10420	22600
BEM 12	54	33	19	13,0	8,0	0,092	12425	32800
BEM 14	60	36	20	16,0	9,5	0,127	15440	41300
BEM 16	66	40	22	15,5	8,5	0,202	22410	56600
BEM 18	72	44	25	15,0	9,5	0,250	26325	69700
BEM 20	78	47	28	14,5	9,0	0,327	30805	82200
BEM 22	84	51	26	15,5	10,0	0,440	38230	95600
BEM 25	94	57	30	15,0	10,0	0,630	45350	118600
BEM 30	110	66	35	17,0	10,5	1,015	55010	145600



DURBAL® BEF

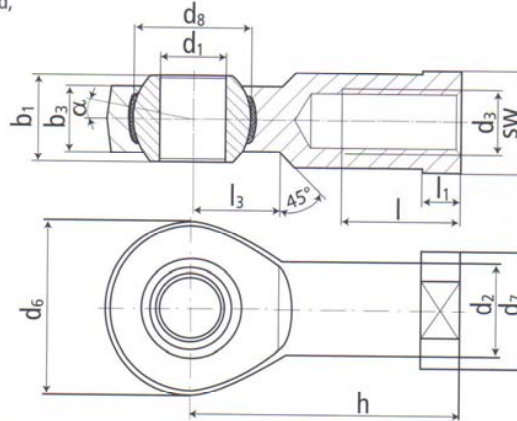
rod end housing:
forged steel, tempered, surface galvanized, free of Cr VI

joint ball:
ball bearing steel, hardened and ground, surface superfinished and chromium plated

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral spherical plain bearing



female thread;
maintenance free,
adapter sizes
according to
DIN ISO 12240-4,
series K,
thread according to
ISO 8139



type	order number			measurements [mm]								
	right hand thread	left hand thread		d ₁	d ₂	d ₃	d ₆	d ₇	d ₈	b ₁	b ₃	
BEF 05	-20	-501	-502	5	9,0	M 5	18	11	11,06	8	6,0	
BEF 05 SO	-22	-501	-502	5	9,0	M 4	18	11	11,06	8	6,0	
BEF 06	-20	-501	-502	6	10,0	M 6	20	13	12,65	9	6,75	
BEF 08	-20	-501	-502	8	12,5	M 8	24	16	15,82	12	9,0	
BEF 10	-20	-501	-502	10	15,0	M 10	28	19	19,00	14	10,5	
BEF 10 SO	-21	-501	-502	10	15,0	M 10 x 1,25	28	19	19,00	14	10,5	
BEF 12	-20	-501	-502	12	17,5	M 12	32	22	22,17	16	12,0	
BEF 12 SO	-22	-501	-502	12	17,5	M 12 x 1,25	32	22	22,17	16	12,0	
BEF 14	-20	-501	-502	14	20,0	M 14	36	25	25,35	19	13,5	
BEF 16	-20	-501	-502	16	22,0	M 16	42	27	28,52	21	15,0	
BEF 16 SO	-21	-501	-502	16	22,0	M 16 x 1,5	42	27	28,52	21	15,0	
BEF 18	-20	-501	-502	18	25,0	M 18 x 1,5	46	31	31,70	23	16,5	
BEF 20	-20	-501	-502	20	27,5	M 20 x 1,5	50	34	34,87	25	18,0	
BEF 22	-20	-501	-502	22	30,0	M 22 x 1,5	54	38	38,05	28	20,0	
BEF 25	-20	-501	-502	25	33,5	M 24 x 2	60	42	42,80	31	22,0	
BEF 30	-20	-501	-502	30	40,0	M 30 x 2	70	50	50,75	37	25,0	
BEF 30 SO	-22	-501	-502	30	40,0	M 27 x 2	70	50	50,75	37	25,0	

type	measurements [mm]				SW	weight		basic load rating		
	h	l	l ₁	l ₃		[kg]	C	C ₀		
						α ₁ ¹⁾	α ₂ ¹⁾	[N]	[N]	
						[°]	[°]			
BEF 05	27	10	4,0	10	9	13,0	7,5	0,018	3910	10800
BEF 05 SO	27	10	4,0	10	9	13,0	7,5	0,018	3910	10800
BEF 06	30	12	5,0	10	11	13,0	6,5	0,024	4590	12800
BEF 08	36	16	5,0	12	14	14,5	7,5	0,045	6965	19200
BEF 10	43	20	6,5	15	17	13,5	8,0	0,074	10420	27400
BEF 10 SO	43	20	6,5	15	17	13,5	8,0	0,074	10420	27400
BEF 12	50	22	6,5	16	19	13,0	8,0	0,109	12425	33400
BEF 12 SO	50	22	6,5	16	19	13,0	8,0	0,109	12425	33400
BEF 14	57	25	8,0	20	22	16,0	9,5	0,155	15440	41300
BEF 16	64	28	8,0	22	22	15,5	8,5	0,233	22410	59600
BEF 16 SO	64	28	8,0	22	22	15,5	8,5	0,233	22410	59600
BEF 18	71	32	10,0	24	27	15,0	9,5	0,310	26325	69700
BEF 20	77	33	10,0	26	30	14,5	9,0	0,386	30805	82200
BEF 22	84	37	12,0	26	32	15,5	10,0	0,520	38230	95600
BEF 25	94	42	12,0	30	36	15,0	10,0	0,705	45350	118600
BEF 30	110	51	15,0	35	41	17,0	10,5	1,084	55010	145600
BEF 30 SO	110	51	15,0	35	41	17,0	10,5	1,084	55010	145600

Technical changes reserved.

¹⁾ angle of tilt, see page 5

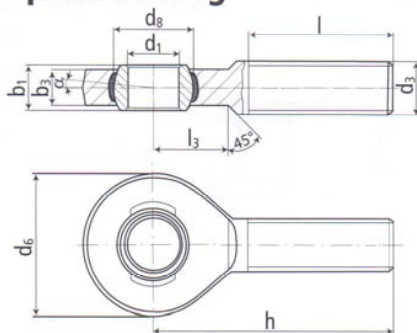
DURBAL® EM



male thread;
maintenance free,
adapter sizes
according to
DIN ISO 12240-4,
series E / EH



DURBAL® heavy-duty rod ends with integral spherical plain bearing



rod end housing:
forged steel, tempered, rolled thread,
surface galvanized, free of Cr VI

joint ball:
ball bearing steel, hardened and ground,
surface superfinished and chromium
plated

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10

type	order number			measurements [mm]						
	right hand thread	left hand thread		d ₁	d ₃	d ₆	d ₈	b ₁	b ₃	h
EM 06	-20	-501	-502	6	M 6	20	10,0	6	4	36
EM 08	-20	-501	-502	8	M 8	23	13,0	8	5	42
EM 10	-20	-501	-502	10	M 10	28	16,0	9	6	48
EM 12	-20	-501	-502	12	M 12	32	18,0	10	7	54
EM 15	-20	-501	-502	15	M 14	38	22,0	12	9	63
EM 17	-20	-501	-502	17	M 16	44	25,0	14	10	69
EM 20	-20	-501	-502	20	M 20 x 1,5	51	29,0	16	12	78
EM 25	-20	-501	-502	25	M 24 x 2	62	35,5	20	16	94
EM 30	-20	-501	-502	30	M 30 x 2	70	40,7	22	18	110
EM 35	-20	-501	-502	35	M 36 x 3	82	47,0	25	20	140
EM 40	-20	-501	-502	40	M 42 x 3	92	53,0	28	22	145
EM 40 SO	-21	-501	-502	40	M 39 x 3	92	53,0	28	22	150
EM 45	-20	-501	-502	45	M 45 x 3	102	60,0	32	25	165
EM 45 SO	-22	-501	-502	45	M 42 x 3	102	60,0	32	25	163
EM 50	-20	-501	-502	50	M 52 x 3	112	66,0	35	28	195
EM 50 SO	-22	-501	-502	50	M 45 x 3	112	66,0	35	28	185
EM 60	-20	-501	-502	60	M 60 x 4	135	80,0	44	36	225
EM 60 SO	-21	-501	-502	60	M 52 x 3	135	80,0	44	36	210

type	measurements [mm]		weight		basic load rating dyn. stat.		
	l	l ₃	α ₁ ¹⁾ [°]	α ₂ ¹⁾ [°]	C [N]	C ₀ [N]	
EM 06	22	11	13,0	6,5	0,014	2500	6400
EM 08	25	12	15,0	8,0	0,024	4200	11000
EM 10	29	15	12,0	6,0	0,041	6400	16800
EM 12	33	15	10,5	5,0	0,067	9200	23000
EM 15	36	18	8,5	4,5	0,110	13400	39600
EM 17	40	23	10,0	5,5	0,163	19200	54100
EM 20	47	25	9,0	4,5	0,270	25200	76700
EM 25	57	32	7,5	3,5	0,508	42400	119100
EM 30	66	35	6,0	3,0	0,785	54000	141800
EM 35	92	38	6,5	3,5	1,330	70400	180800
EM 40	94	42	7,0	3,5	1,890	86000	222600
EM 40 SO	99	42	7,0	3,5	1,785	86000	222600
EM 45	100	50	7,5	4,0	2,620	107000	276200
EM 45 SO	98	50	7,5	4,0	2,430	107000	276200
EM 50	120	60	6,5	3,0	3,865	132000	339200
EM 50 SO	110	60	6,5	3,0	3,225	132000	339200
EM 60	140	70	6,5	3,5	6,400	208000	532100
EM 60 SO	125	70	6,5	3,5	5,430	208000	532100



DURBAL® EF

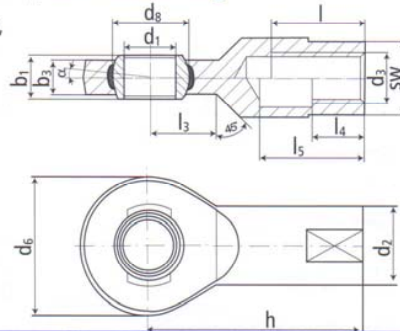
rod end housing:
forged steel, tempered, surface galvanized, free of Cr VI

joint ball:
ball bearing steel, hardened and ground, surface superfinished and chromium plated

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral spherical plain bearing



female thread;
maintenance free,
adapter sizes
according to
DIN ISO 12240-4,
series E / EH



type	order number			measurements [mm]								
	right hand thread	left hand thread		d ₁	d ₂	d ₃	d ₆	d ₈	b ₁	b ₃	h	
EF 06	-20	-501	-502	6	10	M 6	20	10,0	6	4	30	
EF 08	-20	-501	-502	8	13	M 8	23	13,0	8	5	36	
EF 10	-20	-501	-502	10	16	M 10	28	16,0	9	6	43	
EF 10 SO	-22	-501	-502	10	16	M 10 x 1,25	28	16,0	9	6	43	
EF 12	-20	-501	-502	12	19	M 12	32	18,0	10	7	50	
EF 12 SO	-22	-501	-502	12	19	M 12 x 1,25	32	18,0	10	7	50	
EF 15	-20	-501	-502	15	22	M 14	38	22,0	12	9	61	
EF 17	-20	-501	-502	17	25	M 16	44	25,0	14	10	67	
EF 20	-20	-501	-502	20	28	M 20 x 1,5	51	29,0	16	12	77	
EF 25	-20	-501	-502	25	35	M 24 x 2	62	35,5	20	16	94	
EF 30	-20	-501	-502	30	42	M 30 x 2	70	40,7	22	18	110	
EF 35	-20	-501	-502	35	50	M 36 x 3	82	47,0	25	20	125	
EF 35 SO	-22	-501	-502	35	50	M 36 x 2	82	47,0	25	20	130	
EF 40	-20	-501	-502	40	58	M 42 x 3	92	53,0	28	22	145	
EF 40 SO	-22	-501	-502	40	52	M 39 x 3	92	53,0	28	22	142	
EF 45	-20	-501	-502	45	67	M 45 x 3	102	60,0	32	25	165	
EF 45 SO	-21	-501	-502	45	58	M 42 x 3	102	60,0	32	25	145	
EF 50	-20	-501	-502	50	70	M 52 x 3	112	66,0	35	28	195	
EF 50 SO	-21	-501	-502	50	62	M 45 x 3	112	66,0	35	28	160	
EF 60	-20	-501	-502	60	82	M 60 x 4	135	80,0	44	36	225	
EF 60 SO	-21	-501	-502	60	71	M 52 x 3	135	80,0	44	36	175	

type	measurements [mm]				SW	$\alpha_1^{1)}$ [°]	$\alpha_2^{1)}$ [°]	weight [kg]	basic load rating dyn. stat.	
	l	l ₃	l ₄	l ₅					C [N]	C ₀ [N]
EF 06	12	11			9	13,0	6,5	0,017	2500	10600
EF 08	16	12			11	15,0	8,0	0,031	4200	13100
EF 10	20	13			14	12,0	6,0	0,054	6400	18800
EF 10 SO	20	13			14	12,0	6,0	0,054	6400	18800
EF 12	22	15			17	10,5	5,0	0,086	9200	28000
EF 12 SO	22	15			17	10,5	5,0	0,086	9200	28000
EF 15	25	18			19	8,5	4,5	0,142	13400	41000
EF 17	28	20			22	10,0	5,5	0,208	19200	57900
EF 20	33	23			24	9,0	4,5	0,290	25200	76700
EF 25	42	30			30	7,5	3,5	0,573	42400	119100
EF 30	51	32			36	6,0	3,0	0,908	54000	141800
EF 35		38	36	61	41	6,5	3,5	1,230	70400	180800
EF 35 SO		38	41	66	41	6,5	3,5	1,230	70400	180800
EF 40		42	42	71	50	7,0	3,5	2,075	86000	222600
EF 40 SO		42	39	66	46	7,0	3,5	1,880	86000	222600
EF 45		50	45	76	55	7,5	4,0	3,085	107000	276200
EF 45 SO		50	42	66	50	7,5	4,0	2,500	107000	276200
EF 50		60	52	89	60	6,5	3,0	3,975	132000	339200
EF 50 SO		60	45	69	55	6,5	3,0	3,200	132000	339200
EF 60		70	60	103	70	6,5	3,5	7,300	208000	532100
EF 60 SO		70	52	71	60	6,5	3,5	5,900	208000	532100

Technical changes reserved.

¹⁾ angle of tilt, see page 5

DURBAL® BRM

New
available
3rd quarter
2005

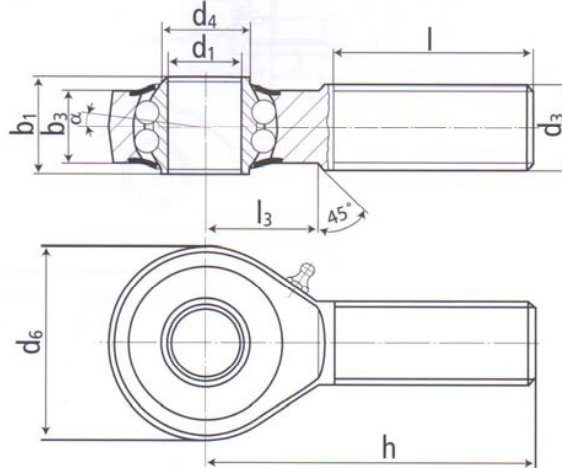
stainless steel



male thread;
long-term
lubrication,
low maintenance,
shields,
adapter sizes
according to
DIN ISO 12240-4,
series K



DURBAL® heavy-duty rod ends with integral self-aligning ball bearing in stainless steel



rod end housing:
stainless steel 1.4034, hardened, bearing
race superfinished, rolled thread

inner ring:
stainless steel, hardened,
surface superfinished

lubrication:
aluminium-complex-soap-grease,
temperature range -45 °C to +120 °C,
approval according to USDA H1

lubrication fitting:
DIN 3405 D1/A (sizes 6 to 10)
DIN 71 412 H1 (sizes 12 to 20)

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10

type	order number		measurements [mm]						
	right hand thread	left hand thread	d ₁	d ₃	d ₄	d ₆	b ₁	b ₃	h
BRM 06	-60 -501	-502	6	M 6	9,0	20	9	6,75	36
BRM 08	-60 -501	-502	8	M 8	10,5	24	12	9,0	42
BRM 10	-60 -501	-502	10	M 10	12,0	28	14	10,5	48
BRM 12	-60 -501	-502	12	M 12	14,5	32	16	12,0	54
BRM 16	-60 -501	-502	16	M 16	19,0	42	21	15,0	66
BRM 20	-60 -501	-502	20	M 20 x 1,5	24,5	50	25	18,0	78

type	measurements [mm]			weight [kg]	calculation- factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	l	l ₃	α [°]		Y	Y ₀		C [N]	C ₀ [N]
BRM 06	22	12	8,0	0,019	2,09	2,19	1350	1900	450
BRM 08	25	15	8,5	0,036	1,80	1,89	1300	2800	700
BRM 10	29	15	8,0	0,060	1,90	1,81	1225	3100	1000
BRM 12	33	19	7,5	0,087	1,74	1,82	1125	3450	1250
BRM 16	40	22	8,0	0,190	2,24	2,35	975	4250	1600
BRM 20	47	28	7,0	0,338	2,46	2,58	825	5350	2300



stainless steel

New
available
3rd quarter
2005

DURBAL® BRF

rod end housing:
stainless steel 1.4034, hardened, bearing race superfinished

inner ring:
stainless steel, hardened, surface superfinished

lubrication:
aluminium-complex-soap-grease, temperature range -45 °C to +120 °C, approval according to USDA H1

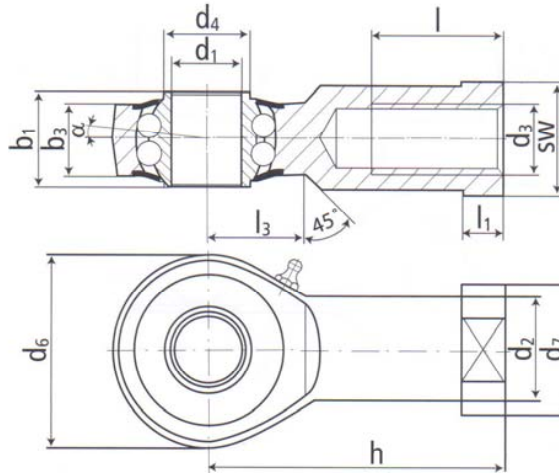
lubrication fitting:
DIN 3405 D1/A (sizes 6 to 10)
DIN 71 412 H1 (sizes 12 to 20)

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral self-aligning ball bearing in stainless steel

female thread;
long-term lubrication,
low maintenance,
shields,
adapter sizes according to
DIN ISO 12240-4,
series K



order number				measurements [mm]								
type	right hand thread	left hand thread		d ₁	d ₂	d ₃	d ₄	d ₆	d ₇	b ₁	b ₃	h
BRF 06	-60	-501	-502	6	10,0	M 6	9,0	20	13	9	6,75	30
BRF 08	-60	-501	-502	8	12,5	M 8	10,5	24	16	12	9,0	36
BRF 10	-60	-501	-502	10	15,0	M 10	12,0	28	19	14	10,5	43
BRF 12	-60	-501	-502	12	17,5	M 12	14,5	32	22	16	12,0	50
BRF 16	-60	-501	-502	16	22,0	M 16	19,0	42	27	21	15,0	64
BRF 20	-60	-501	-502	20	27,5	M 20 x 1,5	24,5	50	34	25	18,0	77

type	measurements [mm]			SW	α [°]	weight [kg]	calculation-factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	l	l ₁	l ₃				Y	Y ₀		C [N]	C ₀ [N]
BRF 06	12	5,0	10	11	8,0	0,024	2,09	2,19	1350	1900	450
BRF 08	16	5,0	12	14	8,5	0,044	1,80	1,89	1300	2800	700
BRF 10	20	6,5	15	17	8,0	0,072	1,90	1,81	1225	3100	1000
BRF 12	22	6,5	16	19	7,5	0,107	1,74	1,82	1125	3450	1250
BRF 16	28	8,0	22	22	8,0	0,224	2,24	2,35	975	4250	1600
BRF 20	33	10,0	26	30	7,0	0,367	2,46	2,58	825	5350	2300

DURBAL® BEM stainless steel



male thread;
maintenance free,
adapter sizes
according to
DIN ISO 12240-4,
series K

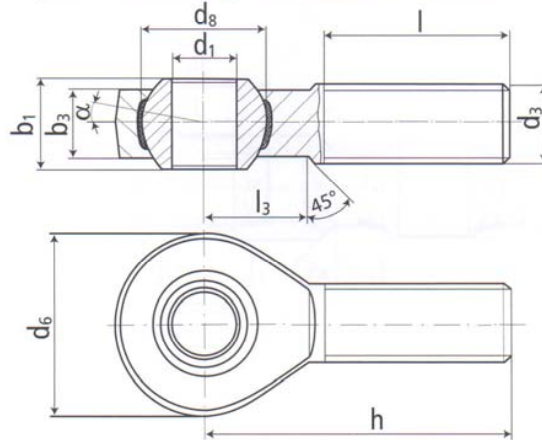
DURBAL® heavy-duty rod ends with integral spherical plain bearing in stainless steel

rod end housing:
stainless steel 1.4034, rolled thread,
surface with pickling treatment

joint ball:
stainless steel, hardened and ground,
surface superfinished

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10



type	order number		measurements [mm]						
	right hand thread	left hand thread	d ₁	d ₃	d ₆	d ₈	b ₁	b ₃	
BEM 05	-60	-501	-502	5	M 5	18	11,06	8	6,0
BEM 06	-60	-501	-502	6	M 6	20	12,65	9	6,75
BEM 08	-60	-501	-502	8	M 8	24	15,82	12	9,0
BEM 10	-60	-501	-502	10	M 10	28	19,00	14	10,5
BEM 12	-60	-501	-502	12	M 12	32	22,17	16	12,0
BEM 14	-60	-501	-502	14	M 14	36	25,35	19	13,5
BEM 16	-60	-501	-502	16	M 16	42	28,52	21	15,0
BEM 18	-60	-501	-502	18	M 18 x 1,5	46	31,70	23	16,5
BEM 20	-60	-501	-502	20	M 20 x 1,5	50	34,87	25	18,0
BEM 22	-60	-501	-502	22	M 22 x 1,5	54	38,05	28	20,0
BEM 25	-60	-501	-502	25	M 24 x 2	60	42,80	31	22,0
BEM 30	-60	-501	-502	30	M 30 x 2	70	50,75	37	25,0

type	measurements [mm]			weight		basic load rating		
	h	l	l ₃	α ₁ ¹⁾ [°]	α ₂ ¹⁾ [°]	dyn. C [N]	stat. C ₀ [N]	
BEM 05	33	20	9	13,0	7,5	0,014	2400	3500
BEM 06	36	22	12	13,0	6,5	0,020	2820	4900
BEM 08	42	25	15	14,5	7,5	0,038	4280	8800
BEM 10	48	29	15	13,5	8,0	0,060	6400	14000
BEM 12	54	33	19	13,0	8,0	0,092	7600	20300
BEM 14	60	36	20	16,0	9,5	0,127	9480	27600
BEM 16	66	40	22	15,5	8,5	0,202	13760	37700
BEM 18	72	44	25	15,0	9,5	0,250	16160	46500
BEM 20	78	47	28	14,5	9,0	0,327	18960	54800
BEM 22	84	51	26	15,5	10,0	0,440	23480	63600
BEM 25	94	57	30	15,0	10,0	0,630	27860	79100
BEM 30	110	66	35	17,0	10,5	1,015	33800	97100



stainless steel DURBAL® BEF

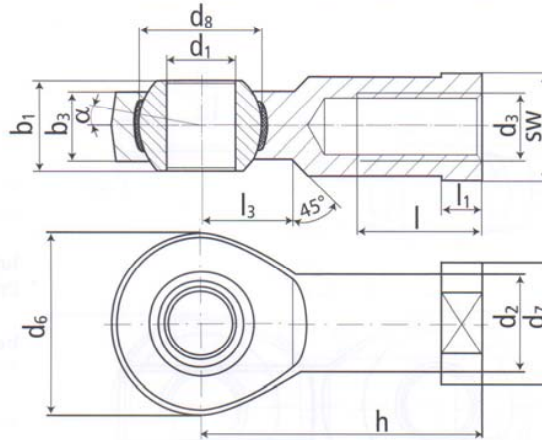
rod end housing:
stainless steel 1.4034, rolled thread,
surface with pickling treatment

joint ball:
stainless steel, hardened and ground,
surface superfinished

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral spherical plain bearing in stainless steel



female thread;
maintenance free,
adapter sizes
according to
DIN ISO 12240-4,
series K,
thread according to
ISO 8139



type	order number		measurements [mm]								
	right hand thread	left hand thread	d ₁	d ₂	d ₃	d ₆	d ₇	d ₈	b ₁	b ₃	
BEF 05	-60	-501	-502	5	9,0	M 5	18	11	11,06	8	6,0
BEF 05 SO	-61	-501	-502	5	9,0	M 4	18	11	11,06	8	6,0
BEF 06	-60	-501	-502	6	10,0	M 6	20	13	12,65	9	6,75
BEF 08	-60	-501	-502	8	12,5	M 8	24	16	15,82	12	9,0
BEF 10	-60	-501	-502	10	15,0	M 10	28	19	19,00	14	10,5
BEF 10 SO	-61	-501	-502	10	15,0	M 10 x 1,25	28	19	19,00	14	10,5
BEF 12	-60	-501	-502	12	17,5	M 12	32	22	22,17	16	12,0
BEF 12 SO	-61	-501	-502	12	17,5	M 12 x 1,25	32	22	22,17	16	12,0
BEF 14	-60	-501	-502	14	20,0	M 14	36	25	25,35	19	13,5
BEF 16	-60	-501	-502	16	22,0	M 16	42	27	28,52	21	15,0
BEF 16 SO	-61	-501	-502	16	22,0	M 16 x 1,5	42	27	28,52	21	15,0
BEF 18	-60	-501	-502	18	25,0	M 18 x 1,5	46	31	31,70	23	16,5
BEF 20	-60	-501	-502	20	27,5	M 20 x 1,5	50	34	34,87	25	18,0
BEF 22	-60	-501	-502	22	30,0	M 22 x 1,5	54	38	38,05	28	20,0
BEF 25	-60	-501	-502	25	33,5	M 24 x 2	60	42	42,80	31	22,0
BEF 30	-60	-501	-502	30	40,0	M 30 x 2	70	50	50,75	37	25,0
BEF 30 SO	-61	-501	-502	30	40,0	M 27 x 2	70	50	50,75	37	25,0

type	measurements [mm]				SW	weight		basic load rating stat.		
	h	l	l ₁	l ₃		α ₁ ¹⁾ [°]	α ₂ ¹⁾ [°]	C [N]	C ₀ [N]	
BEF 05	27	10	4,0	10	9	13,0	7,5	0,018	2400	7200
BEF 05 SO	27	10	4,0	10	9	13,0	7,5	0,018	2400	7200
BEF 06	30	12	5,0	10	11	13,0	6,5	0,024	2820	8500
BEF 08	36	16	5,0	12	14	14,5	7,5	0,045	4280	12800
BEF 10	43	20	6,5	15	17	13,5	8,0	0,074	6400	18300
BEF 10 SO	43	20	6,5	15	17	13,5	8,0	0,074	6400	18300
BEF 12	50	22	6,5	16	19	13,0	8,0	0,109	7600	22300
BEF 12 SO	50	22	6,5	16	19	13,0	8,0	0,109	7600	22300
BEF 14	57	25	8,0	20	22	16,0	9,5	0,155	9480	27600
BEF 16	64	28	8,0	22	22	15,5	8,5	0,233	13760	39700
BEF 16 SO	64	28	8,0	22	22	15,5	8,5	0,233	13760	39700
BEF 18	71	32	10,0	24	27	15,0	9,5	0,310	16160	46500
BEF 20	77	33	10,0	26	30	14,5	9,0	0,386	18960	54800
BEF 22	84	37	12,0	26	32	15,5	10,0	0,520	23480	63600
BEF 25	94	42	12,0	30	36	15,0	10,0	0,705	27860	79100
BEF 30	110	51	15,0	35	41	17,0	10,5	1,084	33800	97100
BEF 30 SO	110	51	15,0	35	41	17,0	10,5	1,084	33800	97100

Technical changes reserved.

¹⁾ angle of tilt, see page 5



DURBAL® BRTM dimensions in inches

male thread;
long-term
lubrication,
low maintenance,
shields,
dimensions in inches

DURBAL® heavy-duty rod ends with integral self-aligning roller bearing

rod end housing:
forged steel, case-hardened bearing race,
superfinished, rolled thread, surface gal-
vanized, free of Cr VI

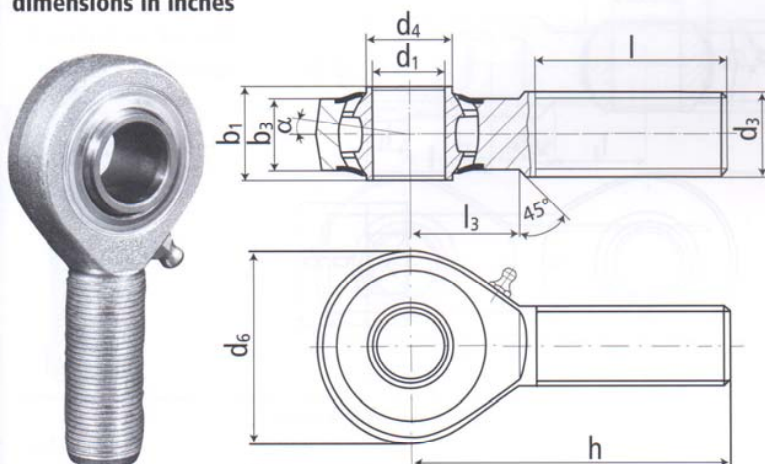
inner ring:
ball bearing steel, hardened,
superfinished

lubrication:
aluminium-complex-soap-grease,
temperature range -45 °C to +120 °C,
approval according to USDA H1

lubrication fitting:
DIN 71 412 H1

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10



type	order number		measurements [inches]					
	right hand thread	left hand thread	d ₁	d ₃ class 2	d ₄	d ₆	b ₁	b ₃
BRTM 1/2	-00	-501	.500	.5000-20 UNF	.574	1.311	.624	.472
BRTM 5/8	-00	-501	.625	.6250-18 UNF	.748	1.653	.826	.590
BRTM 3/4	-00	-501	.750	.7500-16 UNF	.956	1.968	.984	.708
BRTM 1/1	-00	-501	1.000	1.0000-12 UNF	1.161	2.519	1.220	.866
BRTM 1/1	-01	-501	1.000	1.0000-14 UNS	1.161	2.519	1.220	.866

type	measurements [inches]				weight [kg]	rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	h	l	l ₃	α [°]			dyn. C [N]	stat. C ₀ [N]
BRTM 1/2	2.460	1.496	.846	7,5	0,109	1125	10250	6600
BRTM 5/8	2.618	1.574	.944	7,0	0,182	975	13300	8900
BRTM 3/4	3.090	1.850	1.102	7,0	0,341	825	16655	11445
BRTM 1/1	3.720	2.244	1.279	5,0	0,590	600	24900	18500
BRTM 1/1	3.720	2.244	1.279	5,0	0,590	600	24900	18500



dimensions in inches DURBAL® BRTF

rod end housing:

forged steel, case-hardened bearing race, superfinished, surface galvanized, free of Cr VI

inner ring:

ball bearing steel, hardened, superfinished

lubrication:

aluminium-complex-soap-grease, temperature range -45 °C to +120 °C, approval according to USDA H1

lubrication fitting:

DIN 71 412 H1

bearing clearance:

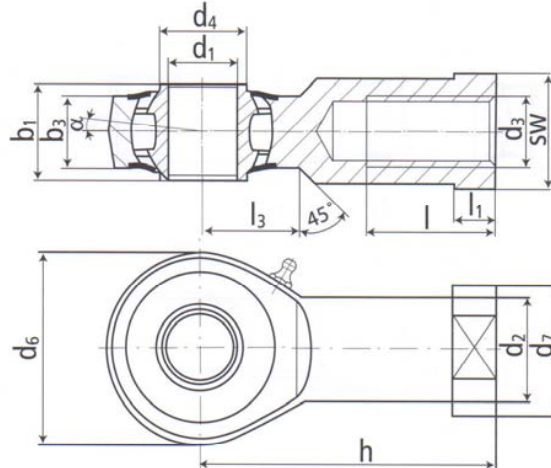
10 - 30 µm radial

tolerances:

see page 10

DURBAL® heavy-duty rod ends with integral self-aligning roller bearing

female thread;
long-term lubrication,
low maintenance,
shields,
dimensions in inches



type	order number		measurements [inches]							
	right hand thread	left hand thread	d ₁	d ₂	d ₃ class 2	d ₄	d ₆	d ₇	b ₁	b ₃
BRTF 1/2	-00	-501	.500	.748	.5000-20 UNF	.574	1.311	.874	.624	.472
BRTF 5/8	-00	-501	.625	.866	.6250-18 UNF	.748	1.653	1.063	.826	.590
BRTF 3/4	-00	-501	.750	1.082	.7500-16 UNF	.956	1.968	1.338	.984	.708
BRTF 1/1	-00	-501	1.000	1.171	1.0000-12 UNF	1.161	2.519	1.377	1.220	.866
BRTF 1/1	-01	-501	1.000	1.171	1.0000-14 UNS	1.161	2.519	1.377	1.220	.866

type	measurements [inches]					α [°]	weight [kg]	rotational speed limit n _{max} [min ⁻¹]	basic load rating	
	h	l	l ₁	l ₃	SW				dyn. C [N]	stat. C ₀ [N]
BRTF 1/2	2.145	1.102	.251	.649	.757	7,5	0,127	1125	10250	6600
BRTF 5/8	2.539	1.110	.350	.885	.866	7,0	0,218	975	13300	8900
BRTF 3/4	3.051	1.299	.409	1.043	1.181	7,0	0,386	825	16655	11445
BRTF 1/1	3.720	1.653	.236	1.279	1.181	5,0	0,568	600	24900	18500
BRTF 1/1	3.720	1.653	.236	1.279	1.181	5,0	0,568	600	24900	18500



DURBAL® BRM dimensions in inches

male thread;
long-term
lubrication,
low maintenance,
shields,
dimensions in inches

DURBAL® heavy-duty rod ends with integral self-aligning ball bearing

rod end housing:
forged steel, case-hardened bearing race,
superfinished, rolled thread, surface gal-
vanized, free of Cr VI

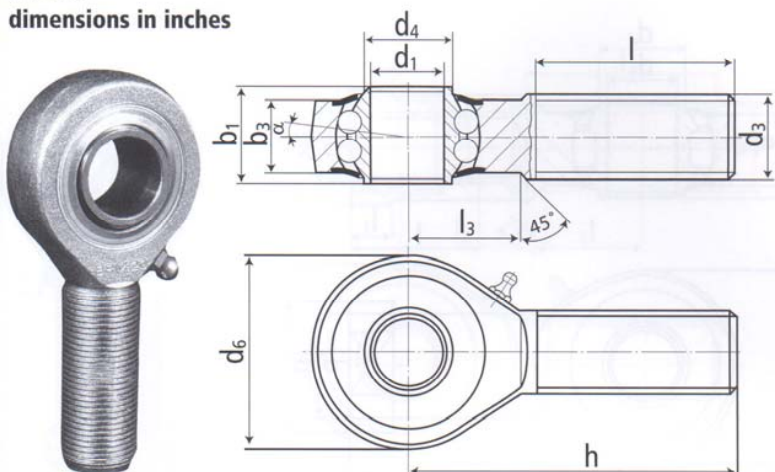
inner ring:
ball bearing steel, hardened,
superfinished

lubrication:
aluminium-complex-soap-grease,
temperature range -45 °C to +120 °C,
approval according to USDA H1

lubrication fitting:
DIN 3405 D1/A (sizes 1/4 und 3/8)
DIN 71 412 H1 (sizes 1/2 und 1/1)

bearing clearance:
10 - 30 µm radial

tolerances:
see page 10



type	order number		measurements [inches]					
	right hand thread	left hand thread	d ₁	d ₃ class 2	d ₄	d ₆	b ₁	b ₃
BRM 1/4 -00	-501	-502	.250	.2500-28 UNF	.356	.787	.354	.265
BRM 3/8 -00	-501	-502	.375	.3750-24 UNF	.468	1.102	.551	.413
BRM 1/2 -00	-501	-502	.500	.5000-20 UNF	.574	1.311	.624	.472
BRM 5/8 -00	-501	-502	.625	.6250-18 UNF	.744	1.653	.826	.590
BRM 3/4 -00	-501	-502	.750	.7500-16 UNF	.956	1.968	.984	.708
BRM 1/1 -00	-501	-502	1.000	1.0000-12 UNF	1.161	2.519	1.220	.866
BRM 1/1 -01	-501	-502	1.000	1.0000-14 UNS	1.161	2.519	1.220	.866

type	measurements [inches]			α [°]	weight [kg]	calculation- factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating dyn. stat.	
	h	l	l ₃			Y	Y ₀		C [N]	C ₀ [N]
BRM 1/4	1.437	.866	.551	8,0	0,022	2,09	2,19	1350	2670	645
BRM 3/8	1.909	1.141	.748	8,0	0,060	1,87	1,83	1225	4360	1425
BRM 1/2	2.460	1.496	.846	7,5	0,109	1,74	1,82	1125	4850	1850
BRM 5/8	2.618	1.574	.944	8,0	0,200	2,24	2,35	975	6250	2350
BRM 3/4	3.090	1.850	1.102	7,0	0,341	2,32	2,43	825	7750	3380
BRM 1/1	3.720	2.244	1.279	5,0	0,590	2,02	2,12	600	11030	5680
BRM 1/1	3.720	2.244	1.279	5,0	0,590	2,02	2,12	600	11030	5680



dimensions in inches DURBAL® BRF

rod end housing:

forged steel, case-hardened bearing race, superfinished, surface galvanized, free of Cr VI

inner ring:

ball bearing steel, hardened, superfinished

lubrication:

aluminium-complex-soap-grease, temperature range -45 °C to +120 °C, approval according to USDA H1

lubrication fitting:

DIN 3405 D1/A (sizes 1/4 und 3/8)
DIN 71 412 H1 (sizes 1/2 und 1/1)

bearing clearance:

10 - 30 µm radial

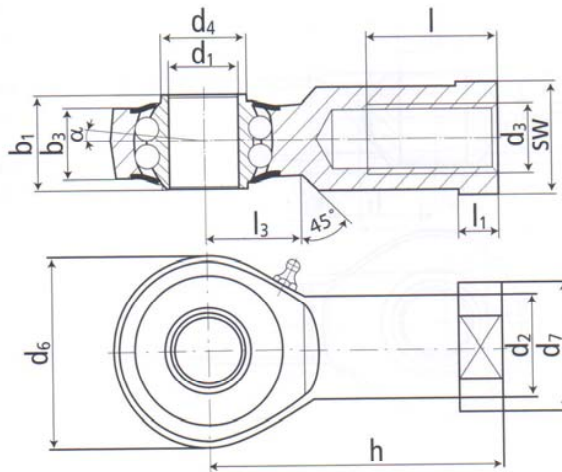
tolerances:

see page 10

DURBAL® heavy-duty rod ends with integral self-aligning ball bearing

female thread;

long-term lubrication, low maintenance, shields, dimensions in inches



type	order number		measurements [inches]							
	right hand thread	left hand thread	d ₁	d ₂	d ₃ class 2	d ₄	d ₆	d ₇	b ₁	b ₃
BRF 1/4 -00	-501	-502	.250	.393	.2500-28 UNF	.356	.787	.511	.354	.265
BRF 3/8 -00	-501	-502	.375	.590	.3750-24 UNF	.468	1.102	.748	.551	.413
BRF 1/2 -00	-501	-502	.500	.748	.5000-20 UNF	.574	1.311	.874	.624	.472
BRF 5/8 -00	-501	-502	.625	.866	.6250-18 UNF	.744	1.653	1.062	.826	.590
BRF 3/4 -00	-501	-502	.750	1.000	.7500-16 UNF	.956	1.750	1.125	.984	.688
BRF 1/1 -00	-501	-502	1.000	1.171	1.0000-12 UNF	1.161	2.519	1.377	1.220	.866
BRF 1/1 -01	-501	-502	1.000	1.171	1.0000-14 UNS	1.161	2.519	1.377	1.220	.866

type	measurements [inches]				SW	α [°]	weight [kg]	calculation-factors		rotational speed limit n _{max} [min ⁻¹]	basic load rating stat.	
	h	l	l ₁	l ₃				Y	Y ₀		C [N]	C ₀ [N]
BRF 1/4	1.200	.472	.240	.452	.433	8,0	0,027	2,09	2,19	1350	2670	645
BRF 3/8	1.712	.787	.299	.590	.669	8,0	0,072	1,87	1,83	1225	4360	1425
BRF 1/2	2.145	1.102	.279	.649	.757	7,5	0,127	1,74	1,82	1125	4850	1850
BRF 5/8	2.539	1.102	.322	.885	.866	8,0	0,220	2,24	2,35	975	6250	2350
BRF 3/4	3.051	1.299	.409	.854	1.007	7,0	0,390	2,32	2,43	825	7750	3380
BRF 1/1	3.720	1.653	.236	1.279	1.181	5,0	0,570	2,02	2,12	600	11030	5680
BRF 1/1	3.720	1.653	.236	1.279	1.181	5,0	0,570	2,02	2,12	600	11030	5680



DURBAL® BEM dimensions in inches

male thread;
maintenance free,
dimensions in inches

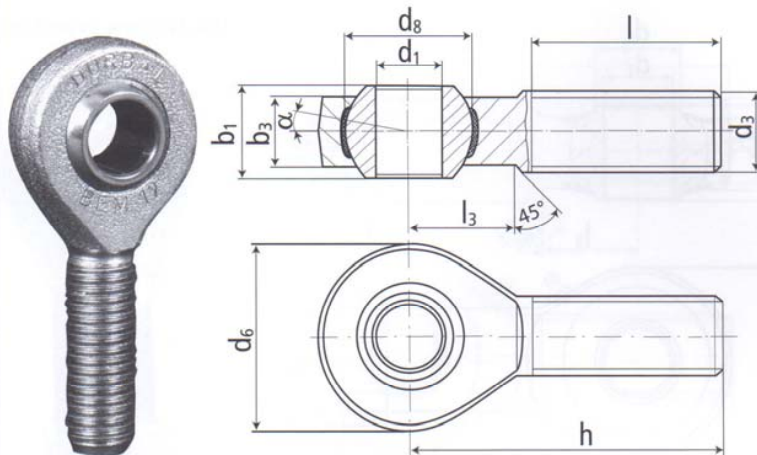
DURBAL® heavy-duty rod ends with integral spherical plain bearing

rod end housing:
forged steel, tempered, rolled thread,
surface galvanized, free of Cr VI

joint ball:
ball bearing steel, hardened and ground,
surface superfinished and chromium
plated

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10



type	order number		measurements [inches]						
	right hand thread	left hand thread	d ₁	d ₃ class 2	d ₆	d ₈	b ₁	b ₃	
BEM 1/4 -20	-501	-502	.250	.2500-28 UNF	.750	.516	.374	.283	
BEM 3/8 -20	-501	-502	.375	.3750-24 UNF	1.000	.719	.499	.405	
BEM 1/2 -20	-501	-502	.500	.5000-20 UNF	1.311	.876	.624	.472	
BEM 5/8 -20	-501	-502	.625	.6250-18 UNF	1.654	1.125	.827	.590	
BEM 3/4 -20	-501	-502	.750	.7500-16 UNF	1.750	1.249	.874	.688	
BEM 1/1 -20	-501	-502	1.000	1.0000-12 UNF	2.362	1.688	1.220	.866	
BEM 1/1 -21	-501	-502	1.000	1.0000-14 UNS	2.362	1.688	1.220	.866	

type	measurements [inches]				α ₁ ¹⁾ [°]	α ₂ ¹⁾ [°]	weight [kg]	basic load rating	
	h	l	l ₃	dyn. C [N]				stat. C ₀ [N]	
BEM 1/4	1.594	1.000	.511	17,5	8,0	0,022	3610	9030	
BEM 3/8	1.948	1.240	.629	9,5	5,5	0,049	7650	19120	
BEM 1/2	2.460	1.500	.846	13,0	9,5	0,109	14649	36624	
BEM 5/8	2.618	1.574	.944	15,5	8,5	0,202	22410	56020	
BEM 3/4	2.893	1.750	1.023	11,0	7,0	0,249	24870	62175	
BEM 1/1	3.720	2.244	1.200	15,5	10,0	0,562	45350	113380	
BEM 1/1	3.720	2.244	1.200	15,5	10,0	0,562	45350	113380	



dimensions in inches DURBAL® BEF

rod end housing:
forged steel, tempered, surface galvanized, free of Cr VI

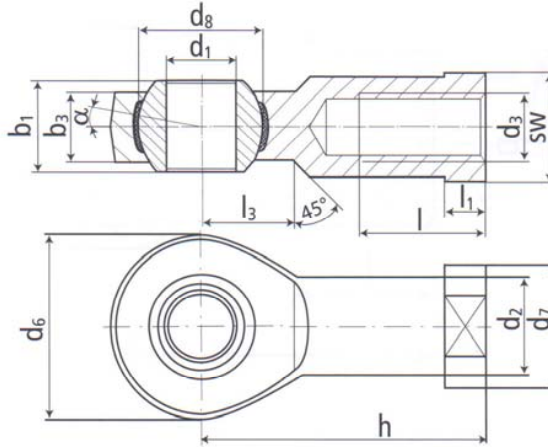
joint ball:
ball bearing steel, hardened and ground, surface superfinished and chromium plated

race:
nylon / teflon / glass fibre compound

tolerances:
see page 10

DURBAL® heavy-duty rod ends with integral spherical plain bearing

female thread;
maintenance free,
dimensions in inches



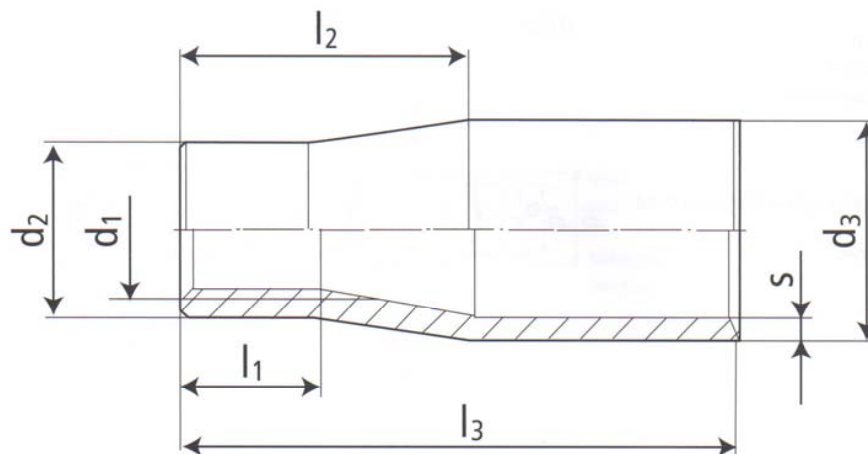
type	order number		measurements [inches]							
	right hand thread	left hand thread	d ₁	d ₂	d ₃ class 2	d ₆	d ₇	d ₈	b ₁	b ₃
BEF 1/4 -20	-501	-502	.250	.374	.2500-28 UNF	.750	.469	.516	.374	.283
BEF 3/8 -20	-501	-502	.375	.567	.3750-24 UNF	1.000	.689	.719	.499	.405
BEF 1/2 -20	-501	-502	.500	.748	.5000-20 UNF	1.311	.874	.876	.624	.472
BEF 5/8 -20	-501	-502	.625	.866	.6250-18 UNF	1.654	1.063	1.125	.826	.590
BEF 3/4 -20	-501	-502	.750	1.000	.7500-16 UNF	1.750	1.126	1.249	.874	.688
BEF 1/1 -20	-501	-502	1.000	1.319	1.0000-12 UNF	2.362	1.654	1.688	1.220	.866
BEF 1/1 -21	-501	-502	1.000	1.319	1.0000-14 UNS	2.362	1.654	1.688	1.220	.866

type	measurements [inches]				SW	α ₁ ¹⁾ [°]	α ₂ ¹⁾ [°]	weight [kg]	basic load rating	
	h	l	l ₁	l ₃					dyn. C [N]	stat. C ₀ [N]
BEF 1/4	1.338	.716	.185	.385	.381	17,5	8,0	0,027	4290	11400
BEF 3/8	1.641	.874	.275	.503	.570	9,5	5,5	0,059	7650	20300
BEF 1/2	2.145	1.161	.279	.649	.757	13,0	9,5	0,127	14649	39000
BEF 5/8	2.539	1.102	.350	.885	.866	15,5	8,5	0,231	22410	69600
BEF 3/4	2.905	1.718	.311	.854	1.007	11,0	7,0	0,229	24870	66200
BEF 1/1	3.720	1.653	.511	1.200	1.417	15,5	10,0	0,663	45350	118600
BEF 1/1	3.720	1.653	.511	1.200	1.417	15,5	10,0	0,663	45350	118600



Threaded links

material:
tube DIN 2391 - St 35 BK



order number			measurements [mm]							breaking load	yield stress
type	right hand thread	left hand thread	d ₁	d ₂	d ₃	l ₁	l ₂	l ₃	s	[N]	[N]
GW08 -00	-001	-002	M 8	12	15	8	17	33	2,5	27725	17250
GW08 -01	-001	-002	M 8 x 1	12	15	8	17	33	2,5	27725	17250
GW10 -00	-001	-002	M 10	14	18	10	24	40	2,5	32265	20700
GW10 -01	-001	-002	M 10 x 1	14	18	10	24	40	2,5	32265	20700
GW12 -00	-001	-002	M 12	16	20	12	27	48	2,5	38815	24155
GW12 -01	-001	-002	M 12 x 1,5	16	20	12	27	48	2,5	38815	24155
GW14 -00	-001	-002	M 14	18	22	14	28	56	2,5	44365	27605
GW14 -01	-001	-002	M 14 x 1,5	18	22	14	28	56	2,5	44365	27605
GW16 -00	-001	-002	M 16	20	25	16	33	64	2,5	49905	31060
GW16 -01	-001	-002	M 16 x 1,5	20	25	16	33	64	2,5	49905	31060
GW20 -00	-001	-002	M 20 x 1,5	24	30	20	41	72	2,5	60995	37950
GW24 -01	-001	-002	M 24 x 2	28	35	24	48	82	3,0	72090	44855
GW30 -00	-001	-002	M 30 x 2	34	42	30	60	102	3,0	87890	54685

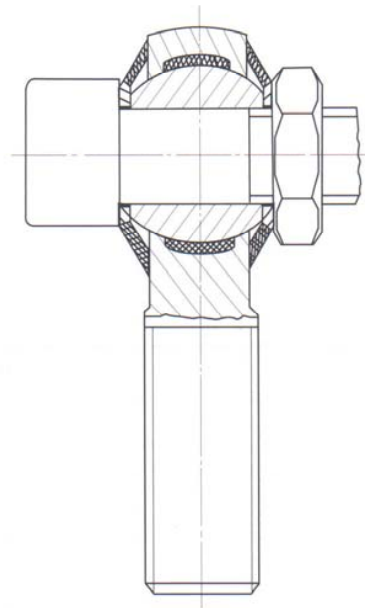
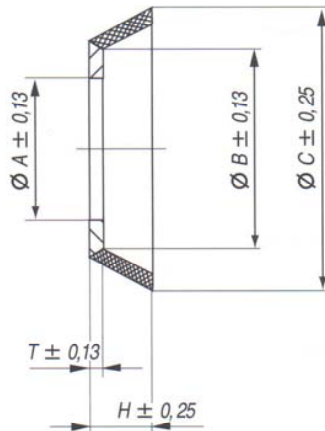


DURBAL® DDG

seal:
neoprene rubber

washer:
stainless steel

Washers



order number type	measurements [mm]				
	A ± 0,13	B ± 0,13	C ± 0,25	H ± 0,25	T ± 0,13
DDG 05 -00 -100	5,25	8,28	11,22	2,41	0,50
DDG 06 -00 -100	6,25	9,53	12,7	3,05	0,69
DDG 08 -00 -100	8,25	12,37	17,78	5,08	1,20
DDG 10 -00 -100	10,25	13,46	20,32	5,59	1,20
DDG 12 -00 -100	12,25	18,54	28,58	6,35	1,20
DDG 14 -00 -100	14,25	20,32	29,21	6,86	1,20
DDG 16 -00 -100	16,25	22,40	31,7	6,80	1,20
DDG 18 -00 -100	18,25	22,60	32,69	8,25	1,20
DDG 20 -00 -100	20,25	25,15	38,10	10,16	1,20
DDG 25 -00 -100	25,25	33,80	53,30	12,70	1,50
DDG 30 -00 -100	30,25	35,56	55,88	13,97	1,53

Technical changes reserved.

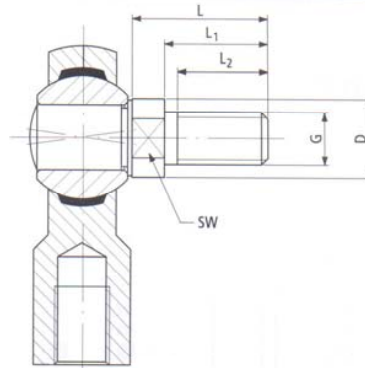
33

DURBAL® threaded bolt & rod linkage



Threaded Bolt

In addition to the DURBAL® heavy-duty rod ends series K DURBAL supplies a threaded bolt. The bolt can be supplied already fixed to the required rod end.



order number		measurements [mm]						weight [g/bolt]
type	size	L	L ₁	L ₂	G	D	SW	
BOK	06	18,5	13	10	M 6	9,0	8	10
BOK	08	23,5	17	13	M 8	10,5	8	12
BOK	10	28,0	21	17	M 10	13,0	12	25
BOK	12	32,5	25	20	M 12	15,0	14	40
BOK	14	37,5	29	22	M 14	17,0	14	65
BOK	16	42,5	33	24	M 16	19,0	17	90

When ordering this constellation please use the catalogue designation of the required rod end along with the type of the fitting threaded bolt.

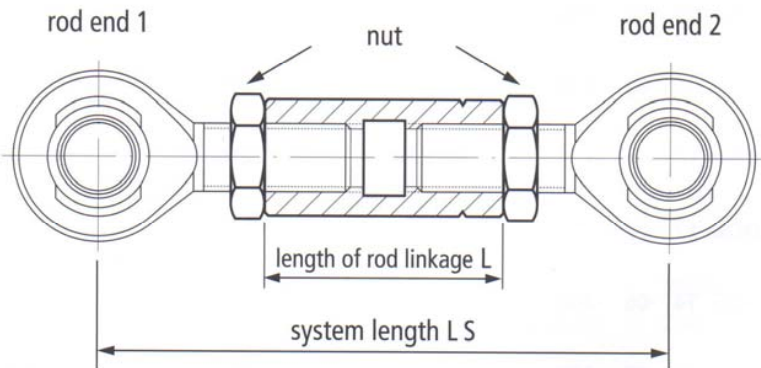
Example: you need a DURBAL® integral spherical plain bearing BEM 10 incl. threaded bolt:

text of order: **BEM 10-20-501 + BOK 10**

Rod Linkage

To simplify installation you can use already mounted rod linkages.

Please define the desired system as described in the table below:



DURBAL® heavy duty rod end 1	length of rod linkage L	system length L _S	DURBAL® heavy duty rod end 2

Upon your request you will receive the rod linkage with male thread respectively pipe construction to reduce weight.