Bell housing
Accessories

FLEXIBLE DRIVE (SPIDER) COUPLINGS
Features
Model code
Dimensions

CURVED-TOOTH GEAR COUPLINGS
Features
Model code
Dimensions

BELL HOUSING FOOT BRACKETS
Light-duty range
Heavy-duty range

BELL HOUSING MOUNTING PLATE
Bell housing mounting plate
Seal for bell housing mounting plate

DAMPING RAILS
Damping rails for motors
Damping rails for bell housing foot brackets

DAMPING RINGS
Application
Dimensions

Flexible drive (spider) couplings

FEATURES

- Torsionally flexible and vibration-damping due to elastomer toothed insert (spider) with 98 Shore A (polyurethane) (standard)
- Elastomer is only subjected to compression loading
- Axial plug-in
- Failsafe as a result of positive-fit power transmission
- Maintenance-free
- Axial, radial and angular misalignment compensation
- Available in aluminium (Al), cast iron (GG/GGG) or steel (St)
- Temperature range: -30 °C to +90 °C for continuous operation, -40 °C to +120 °C for short-term operation

MODEL CODE

(Also order example)

Kupplung | **24/28** | – | **28** | / | **22,22 F** | **ALU**

Coupling size

Version of motor hub

28	=	28H7 cylindrical hole with key to DIN 6885

Version of pump hub

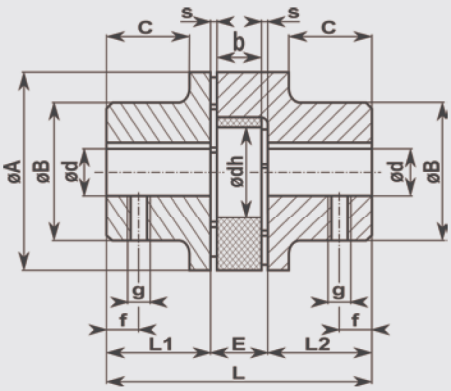
22,22F	=	22.22 code F imperial hole *
B17...TN2A	=	tapered holes *
SAE ...	=	profiled holes / spline shafts *

Special design

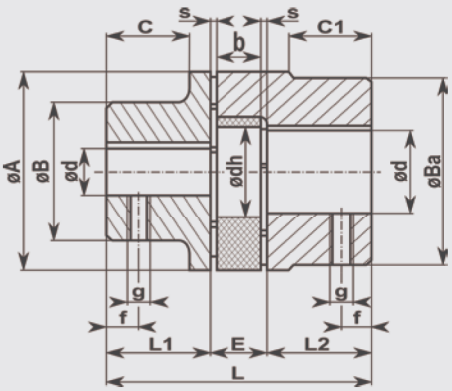
...	=	coupling in cast iron or steel (no details required)
ALU	=	coupling in aluminium
ATEX	=	with ATEX approval

* See holes table

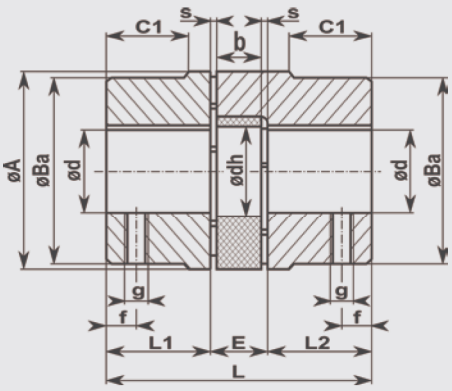
DIMENSIONS



Hub combination A/A
e.g. Coupling 28 – 28/20



Hub combination A/B
e.g. Coupling 28/38 – 28/35



Hub combination B/B
e.g. Coupling 28/38 – 38/38

Coupling hubs in aluminium
Order example: Kupplung 19/24-24/14 ALU

Type	max. kW at 1000 rpm	max. kW at 1500 rpm	Holes						Dimensions [mm]														Weight [kg]
			A-hub			B-hub																	
			Pilot hole	Finished hole Ø d		Pilot hole	Finished hole Ø d																
				min	max		min	max	A	B	OM	L	L1+ L2	E	s	b	C	C1	dh	g	f		
19/24	1.1	1.5	5	6	19	18	19	24	40	32	39	66	25	16	2	12	20	21	18	M5	10		0.13
24/28	2.2	4	7	8	24	15	16	32	55	40	53	78	30	18	2	14	24	26	27	M5	10		0.26
28/38	5.5	7.5	8	10	28	25	28	38	65	48	63	90	35	20	3	15	28	29	30	M6	15		0.46
38/45	11	15	13	14	38	35	38	45	80	66	79	114	45	24	3	18	37	39	38	M8	15		0.9
42/55	22	30	13	19	42	40	42	55	95	75	94	126	50	26	3	20	40	41	46	M8	20		1.39
48/60	30	45	18	19	48	46	48	60	105	85	104	140	56	28	4	21	45	46	51	M8	20		1.86

Coupling hubs in steel / cast iron
Order example: Kupplung 24/28-20/24

Type	max. kw at 1000 rpm	max. kW at 1500 rpm	Holes						Dimensions [mm]														Weight [kg]
			A-hub			B-hub																	
			Pilot hole	Finished hole Ø d		Pilot hole	Finished hole Ø d																
				min	max		min	max	A	B	OM	L	L1+ L2	E	s	b	C	C1	dh	g	f		
19/24	1.1	1.5	–	6	19	–	12	24	40	32	39	66	25	16	2	12	20	21	18	M5	10		0.35
24/28	2.2	4	–	10	24	–	14	32	55	40	52	78	30	18	2	14	24	26	27	M5	10		1
28/38	5.5	7.5	–	12	28	22	24	38	65	45	62	90	35	20	2.5	15	28	29	30	M6	15		1.6
38/45	11	15	–	14	38	30	38	45	80	66	77	114	45	24	3	18	37	37	38	M8	15		2.3
42/55	22	30	–	19	42	15	42	55	95	75	94	126	50	26	3	20	40	40	46	M8	20		3.6
48/60	30	45	–	19	48	15	48	60	105	85	102	140	56	28	3.5	21	45	45	51	M8	20		4.8
55/70	37	55	–	19	55	47	55	70	120	98	118	160	65	30	4	22	52	52	60	M10	20		7.4
65/75	55	90	–	22	65	57	65	75	135	115	132	185	75	35	4.5	26	61	59	68	M10	20		10.9
75/90	90	132	–	30	75	50	75	90	160	135	158	210	85	40	5	30	69	65	80	M10	25		17.7
90/100	250	315	29	40	90	79	90	100	200	160	180	245	100	45	5.5	34	81	81	100	M10	25		29.5
100/110	315	315	–	–	–	40	55	110	225	–	200	270	110	50	6	38	–	89	113	M12	30		43.5

IMPERIAL BORES

Order Code	Ø d mm	Ø d Inch	Groove b+0.05	Groove t2+0.2
9,5 TB	9.5	3/8	3.17	11.1
11,11 DNB	11.11	7/16	2.4	12.5
12,69 T	12.69	1/2	4.75	14.6
12,7 TA	12.7	1/2	3.17	14.3
13,45 DNC	13.45	17/32	3.17	14.9
14,29 DO	14.29	9/16	3.17	15.6
15,87 E	15.87	5/8	3.17	17.5
15,87 S	15.87	5/8	3.97	17.9
15,88 ES	15.88	5/8	4.0	17.7
15,85 DND	15.852	5/8	4.75	18.1
15,87 ED	15.87	5/8	4.75	18.1
17,47 DNH	17.465	11/16	4.75	19.6
19,02 AD	19.02	3/4	3.17	20.7
19,02 AS	19.02	3/4	4.78	21.3
19,05 A	19.05	3/4	4.78	21.3
22,2 FA	22.2	7/8	6.35	25.2
22,23 DNI	22.228	7/8	6.35	25.0
22,22 GS	22.22	7/8	4.78	24.4
22,22 G	22.22	7/8	4.75	24.7
22,22 GB	22.22	7/8	4.78	25.5
22,22 F	22.22	7/8	6.38	25.2
22,225 GD	22.225	7/8	4.76	24.7
23,8 GF	23.8	15/16	6.35	26.8
25,0 HB	25.0	63/64	6.35	28.7
25,38 BA	25.38	1	6.35	27.6
25,38 BS	25.38	1	6.37	28.3
25,4 H	25.4	1	4.78	27.8
25,4 HS	25.4	1	6.35	28.7
26,95 R	26.95	1 1/16	4.78	29.3
28,58 SA	28.575	1 1/8	6.35	31.7
28,58 SB	28.58	1 1/8	6.35	31.5
28,58 SD	28.58	1 1/8	7.93	32.1
31,7 JA	31.7	1 1/4	7.93	34.4
31,71 JC	31.71	1 1/4	7.93	35.3
31,75 JS	31.75	1 1/4	6.35	34.6
31,75 K	31.75	1 1/4	7.93	35.5
31,75 KS	31.75	1 1/4	7.93	36.6
31,76 DNK	31.755	1 1/4	7.93	35.3
34,93 MA	34.925	1 3/8	7.93	38.7
34,92 M	34.92	1 3/8	7.93	38.6
34,93 RH1	34.93	1 3/8	9.55	37.8
36,5 CB	36.5	1 7/16	9.55	40.9
38,07 CA	38.07	1 1/2	7.93	42.0
38,07 C	38.07	1 1/2	9.55	42.5
41,25 N	41.25	1 5/8	9.55	46.1
41,28 NB	41.275	1 5/8	9.55	45.8
44,42 LS	44.42	1 3/4	9.55	48.8
44,45 LA	44.45	1 3/4	11.0	48.1
44,45 L	44.45	1 3/4	11.11	49.4
47,63 LU	47.625	1 7/8	12.7	53.5
49,2 DA	49.2	1 15/16	12.7	55.0
50,77 DS	50.77	2	12.7	56.4
50,8 D	50.8	2	12.7	55.1
53,95 P	53.95	2 1/8	12.7	59.6
53,98 PA	53.975	2 1/8	12.7	60.0
57,1 U	57.1	2 1/4	12.73	62.9
60,33 UB	60.325	2 3/8	15.875	67.6
73,03 WA	73.025	2 7/8	19.05	81.7
85,73 WD	85.725	3 3/8	22.225	95.8
92,08 WF	92.075	3 5/8	22.225	101.9

PROFILE BORES

Profile spline DIN 5480	Profile DIN 5482	Profile SAE
N 20 x 1.25 x 14 x 9 G	A 17 x 14	SAE 5/8" – 16/32 – Z9
N 25 x 1.25 x 18 x 9 G	A 22 x 19	SAE 3/4" – 16/32 – Z11
N 30 x 2 x 14 x 9 G	A 28 x 25	SAE 7/8" – 16/32 – Z13
N 35 x 2 x 16 x 9 G	A 30 x 27	SAE 1" – 16/32 – Z15
N 40 x 2 x 18 x 9 G	A 35 x 31	SAE 1-1/8" – 16/32 – Z17
N 45 x 2 x 21 x 9 G	A 40 x 36	SAE 1-1/4" – 12/24 – Z14
N 50 x 2 x 24 x 9 G	A 45 x 41	SAE 1-3/8" – 16/32 – Z21
N 55 x 2 x 24 x 9 G	A 48 x 44	SAE 1-1/2" –12/24 – Z17
N 60 x 2 x 28 x 9 G	A 50 x 45	SAE 1-1/2" – 16/32 – Z23
N 70 x 3 x 22 x 9 G	A 58 x 53	SAE 1-3/4" – 16/32 – Z27
N 80 x 3 x 25 x 9 G	A 70 x 64	SAE 1-3/4" – 8/16 – Z13
N 90 x 3 x 28 x 9 G		SAE 2" – 8/16 – Z15
		SAE 2-1/4" – 8/16 – Z17

TAPER BORES

Order code	Cone 1:8 Ø d	b	t2	l
TN1	9.75	2.40	10.70	17.00
TN1C	11.60	3.00	12.90	16.50
TN1E	13.00	2.40	13.80	21.00
TN1D	14.00	3.00	15.50	17.50
TN1B	14.30	3.20	15.70	19.50
TN2	17.20	3.20	18.30	24.00
TN2A	17.29	4.00	18.94	24.00
TN2B	17.20	3.00	18.30	24.00
TN3	22.00	4.00	23.40	28.00
TN4	25.46	4.78	27.80	36.00
TN4B	25.46	5.00	28.20	36.00
TN4A	27.00	4.78	28.80	32.50
TN4G	28.45	6.00	29.30	38.50
TN5	33.17	6.38	35.40	44.00
TN5A	33.17	7.00	35.40	44.00
TN6	43.06	7.95	46.46	51.00
TN6A	41.15	8.00	44.25	42.00

Order code	Cone 1:5 Ø d	b	t2	l
A10	9.85	2.00	10.90	11.50
As12	11.85	3.00	13.65	16.50
B17	16.85	3.00	18.90	18.50
C20	19.85	4.00	22.00	21.50
Cs22	21.95	3.00	23.80	21.50
D25	24.85	5.00	27.90	26.50
E30	29.85	6.00	32.50	31.50
F35	34.85	6.00	37.50	36.50
G40	39.85	6.00	45.50	41.50

= Standard

Curved-tooth gear couplings

FEATURES

- Flexible shaft connection
- Axial, radial and angular misalignment compensation
- Coupling hub in steel, coupling sleeve in polyamide
- Torque transmission without radial stress due to double Cardan construction
- Temperature range: -25 °C to +80 °C for continuous operation

MODEL CODE

(Also order example)

Kupplung B 24 24H7 / 20H7

Curved-tooth gear coupling

Coupling size

Version of motor hub

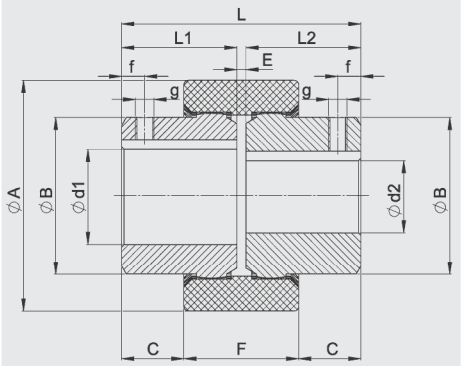
24H7 = cylindrical hole with key to DIN 6885

Version of pump hub

20H7 = cylindrical hole with key to DIN 6885
22.22F = 22.22 Code F (7/8") imperial hole*
B17/TN2A = tapered hole*

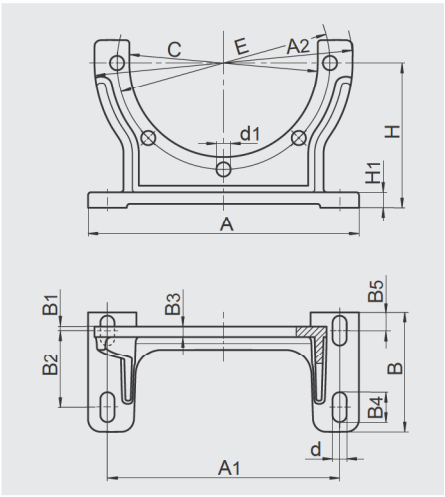
* see tables under flexible drive couplings

DIMENSIONS



Type	max. kw for 1000 rpm	max. kw for 1500 rpm	Pilot hole	Finished bores d [mm]		Dimensions [mm]									Weight
				Min.	Max.	A	B	L	L1 + L2	E	C	F	g	f	[kg]
B 14	0.25	0.37	5	6	14	40	25	50	23	4	6.50	37	M5	6	0.175
B 19	0.55	0.75	8	9	19	48	30	54	25	4	8.50	37	M5	6	0.320
B 24	1.10	1.50	9	10	24	52	36	56	26	4	7.50	41	M5	6	0.316
B 28	2.20	4.00	9	10	28	66	44	84	40	4	19.00	46	M8	10	0.739
B 32	4.00	5.50	11	12	32	76	50	84	40	4	18.00	48	M8	10	0.950
B 38	5.50	7.50	12	14	38	83	58	84	40	4	18.00	48	M8	10	1.220
B 42	11.00	15.00	16	20	42	92	65	88	42	4	19.00	50	M8	10	1.490
B 48	15.00	22.00	16	20	48	100	68	104	50	4	27.00	50	M8	10	1.810
B 55	22.00	30.00	-	25	55	125	83	124	60	4	29.50	65	M10	20	3.450
B 65	37.00	55.00	0/30	10/32	65	140	96	144	70	4	36.00	72	M10	20	5.180
B 80	75.00	110.00	-	30	80	175	124	186	90	6	46.50	93	M10	20	11.500
B 100	132.00	200.00	35	40	100	210	152	228	110	8	63.00	102	M12	30	20.500

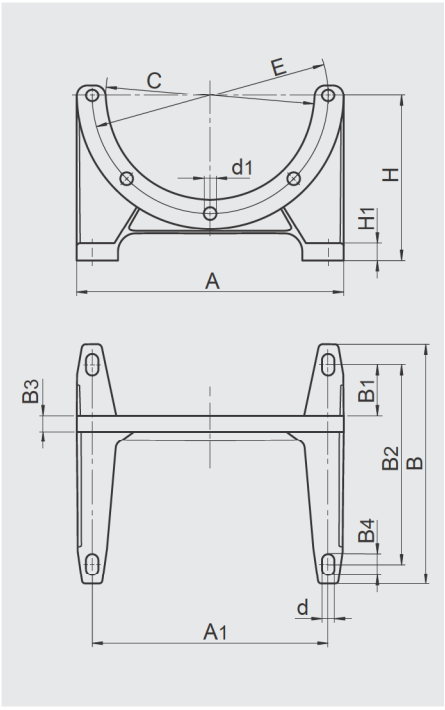
Bell housing foot brackets
for PT, PTK, PTS



LIGHT-DUTY RANGE TO VDMA 24561

Size	Part no.	A	A1	A2	B	B1	B2	B3	B4	B5	H	H1	d	C	E	d1
PF-160/3	3130712	160	140	–	80	15	50	7	12	–	100	10	9	110	130	9
PF-200/3	953938	210	180	200	93	14	60	3	8	23	112	12	11	146	165	11
PF-250/3 for PT, PTS	3326868	250	220	–	110	20	60	21	19	–	132	15	14	190	215	14
PF-250/3 for PTK*	3290117	250	220	–	110	20	60	21	19	–	132	15	14	190	215	14
PF-300/3	953710	290	260	300	120	19	80	19	15	32	160	15	14	240	265	14

* additional countersink for use with countersunk screws



HEAVY-DUTY RANGE TO VDMA 24561

Size	Part no.	A	A1	B	B1	B2	B3	B4	H	H1	d	C	E	d1
PF-350/3*	953942	350	300	305	70	265	18	22	180	18	18	265	300	18
PF-250/4	3045399	250	215	260	60	185	15	24	155	15	14	190.3	215	14
PF-300/4	3043132	300	265	270	57	225	18	24	185	18	14	234.5	265	14
PF-350/4	3045259	350	300	305	90	265	18	30	235	18	18	260	300	18
PF-400/4	3044298	400	350	350	80	300	20	30	260	20	18	302	350	18
PF-450/4	3044299	450	400	385	110	335	22	30	295	20	18	352	400	18
PF-550/4	3030682	550	500	465	140	415	25	30	350	25	18	452	500	18
PF-660/4	3044300	660	600	555	165	495	30	40	380	30	22	552	600	22

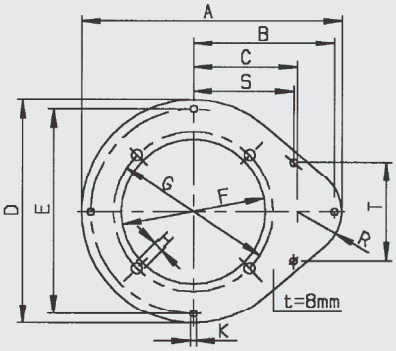
* PF-350/3 is part of the light-duty range but has dimensions according to drawing on left

Bell housing mounting plate
for bell housings type PT, PTK, PTS

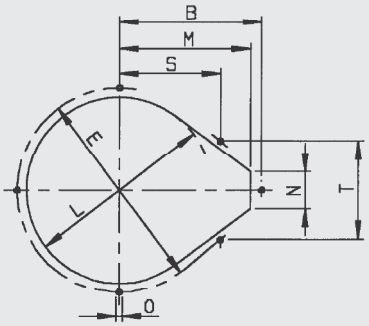
FEATURES

- Enables the complete motor-pump unit to be fitted and removed from outside the tank
- Simplifies cleaning and maintenance
- Bell housing mounting plate in aluminium, seal in NBR rubber (mineral oil resistant)

Bell housing mounting plate

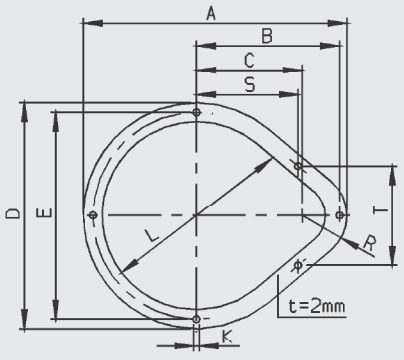


Oil tank cut-out



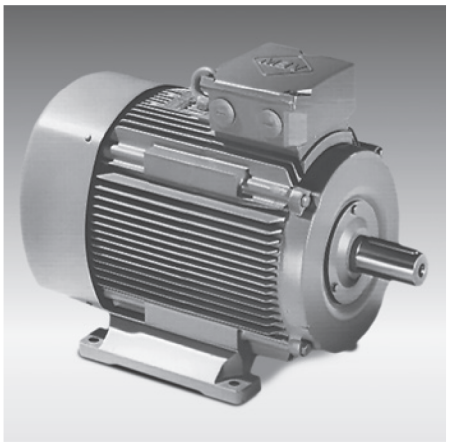
Size	Part no.	A	B	C	D	E	F	G	H	K	R	L	M	N	O	S	T
PP 200	273931	325	190	140	250	225	146	165	11	9.5	60	200	175	50	M8	84	168
PP 250	272058	350	190	140	300	275	194	215	14	9.5	60	250	175	50	M8	135	134
PP 300	272059	423	225	150	350	330	246	265	14	14.5	98	300	200	100	M12	160	190
PP 350	637939	475	225	160	410	380	262	300	18	14	110	350	200	136	M12	112	307.5

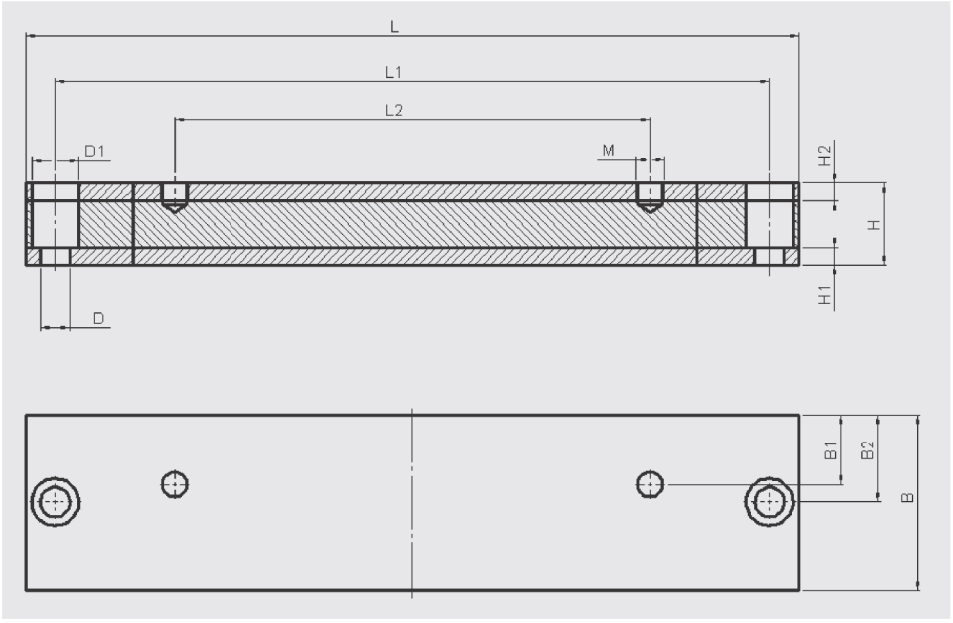
Seal for bell housing mounting plate



Size	Part no.	A	B	C	D	E	K	R	L	S	T
PPD 200	952788	325	190	140	250	225	10	60	200	84	168
PPD 250	952789	350	190	140	300	275	10	60	250	135	134
PPD 300	952812	420	225	150	360	330	15	90	300	160	190
PPD 350	3159093	475	225	160	410	380	20	110	350	112	307.5

Damping rails
for electric motors mounting-type IMB35





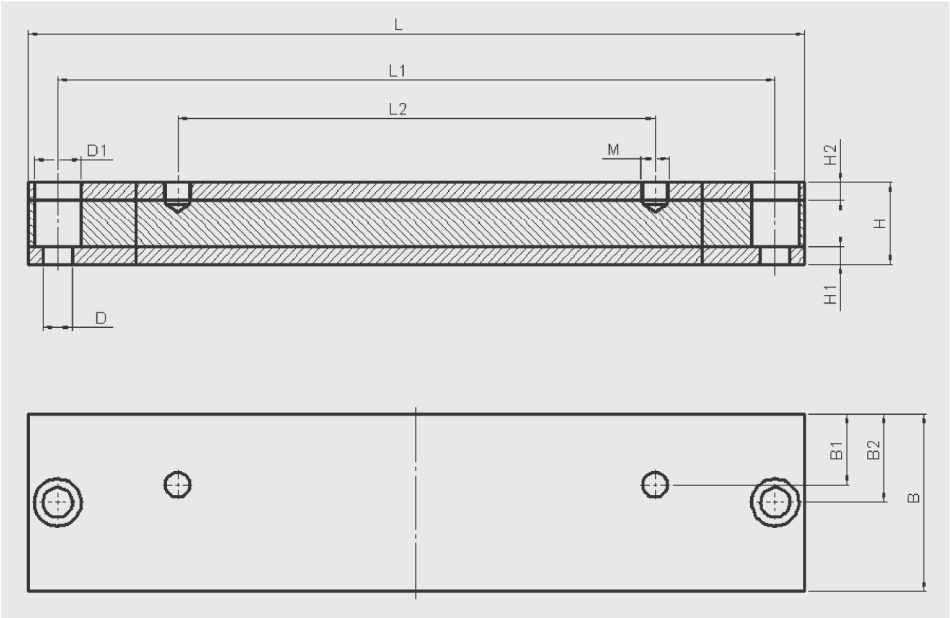
FEATURES

- Horizontal base mounting (not overhead mounted)
- Machined ready for IMB 35 motors
- Noise reduction due to decoupling
- Resistant to mineral oil due to NBR rubber compound, 60±5 shore A
- Special lengths and models are possible on request

Damping rails	For type	Part no.	L	L1	L2	H	H1	H2	B	B1	B2	D	D1	M
MDS 080	80	3134999	176	146	100	40	8	12	50	22	25	14	20	M8
MDS 090S	90S	721987	196	156	100	40	8	12	50	22	25	14	20	M8
MDS 090L	90L	721988	240	205	125	40	8	12	50	24	25	14	20	M8
MDS 100L	100L	721989	240	205	140	40	8	12	50	24	25	14	20	M10
MDS 112M	112M	3065818	240	205	140	40	8	12	50	20	25	14	20	M10
MDS 132S	132S	721990	285	245	140	45	8	12	50	20	25	14	20	M10
MDS 132M	132M	721991	285	245	178	45	8	12	50	20	25	14	20	M10
MDS 160M	160M	721992	340	300	210	60	15	15	70	28	35	18	26	M12
MDS 160L	160L	3128252	416	370	254	60	15	15	70	28	35	18	26	M12
MDS 180M	180M	3234395	416	370	241	60	15	15	70	35	35	18	26	M12
MDS 180L	180L	721995	446	400	279	60	15	15	70	35	35	18	26	M12
MDS 200L	200L	724279	496	430	305	60	15	15	70	35	35	22	32	M16
MDS 225S	225S	3042916	496	430	286	60	15	15	70	35	35	22	32	M16
MDS 225M	225M	723832	496	445	311	60	15	15	70	35	35	22	32	M16
MDS 250M	250M	722801	496	445	349	60	15	15	100	50	50	25	40	M20
MDS 280S	280S	3042928	580	530	368	60	15	15	100	50	50	25	40	M20
MDS 280M	280M	3042929	580	530	419	60	15	15	100	50	50	25	40	M20
MDS 315S	315S	3026755	660	610	406	70	15	15	150	60	75	25	40	M24
MDS 315M	315M	3026452	660	610	457	70	15	15	150	60	75	25	40	M24
MDS 315L	315L	3065559	720	670	508	70	15	15	150	60	75	25	40	M24

EN 5.616.5/10.19

Damping rails
for bell housing foot brackets



FEATURES

- Horizontal base mounting (not overhead mounted)
- Ready machined for bell housing foot brackets
- Noise reduction due to decoupling
- Resistant to mineral oil due to NBR rubber compound, 60±5 shore A
- Special lengths and models are possible on request

Damping rails *	For type	Part no.	L	L1	L2	H	H1	H2	B	B1	B2	D	D1	M
FDS 160/3	PF160/3	3156788	166	120	50	40	8	12	50	19	25	14	20	M8
FDS 200/3	PF200/3	721983	190	150	60	40	8	12	50	21	25	14	20	M10
FDS 250/3	PF250/3	721984	225	185	60	40	8	12	50	21	25	14	20	M12
FDS 300/3	PF300/3	721985	285	245	80	45	8	12	50	21	25	14	20	M12
FDS 350/3	PF350/3	721986	380	340	265	60	8	12	70	29	35	18	26	M16
FDS 300/4	PF300/4	3169191	350	300	225	40	8	12	50	25	20	14	20	M12
FDS 350/4	PF350/4	3169192	375	340	265	60	15	15	70	29	35	18	26	M16
FDS 400/4	PF400/4	3044302	420	385	300	60	15	15	70	30	35	18	26	M16
FDS 450/4	PF450/4	3044304	455	420	335	60	15	15	70	30	35	18	26	M16
FDS 550/4	PF550/4	3044305	535	500	415	60	15	15	70	30	35	18	26	M16
FDS 660/4	PF660/4	3044306	660	610	495	60	15	15	70	30	35	22	32	M20

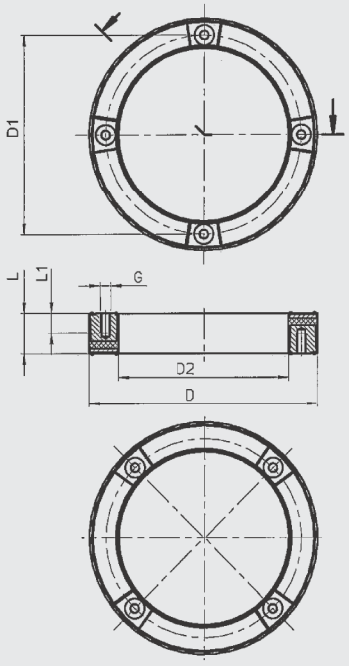
*FDS .../3 for bell housing foot brackets for the light-duty range
FDS .../4 for bell housing foot brackets for heavy-duty range

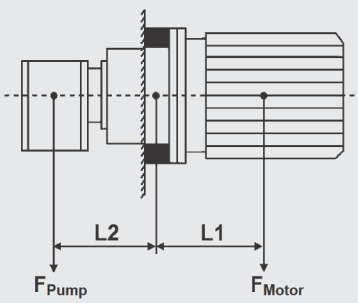
Damping rings

APPLICATION

- For vertical and horizontal mounting
- Cost-effective noise reduction due to decoupling
- Resistant to mineral oil through the use of NBR rubber compound
- Vulcanized seal lip, no additional seal required
- Version DFR...-VS with countersinks to simplify IM V1 installation

Standard design





DIMENSIONS

Damping ring type	IEC motor size	Part no.	Dimensions [mm]							
			D	D1	D2	G	L1	L	d	d_1
DFR-V1/B5 200	80, 90S / 90L	3026885	200	165	146	4xM10	18	40	-	-
DFR-V1/B5 250	100L / 112M	3026886	250	215	191	4xM12	22	45	-	-
DFR-V1/B5 300	132S / 132M	3026887	300	265	235	4xM12	22	50	-	-
DFR-V1/B5 350	160M / 160L 180M / 180L	3210971	350	300	261	4xM16	28	60	-	-
DFR-V1/B5 400	200L	3210987	400	350	301	4xM16	29	50	-	-
DFR-V1/B5 450	225S / 225M	1151180	450	400	352	8xM16	32	60	-	-
DFR-V1/B5 550	250M 280S / 280M	1151181	550	500	452	8xM16	32	60	-	-
DFR-V1/B5 660	315S / 315M	3041666	660	600	552	8xM20	33	65	-	-
DFR-V1/B5-350-VS	160M / 160L 180M / 180L	3870296	350	300	261	4xM16	22	60	4 x 18	4 x 26
DFR-V1/B5-400-VS	200L	3870297	400	350	301	4xM16	29	50	4 x 18	4 x 26
DFR-V1/B5-450-VS	225S / 225M	3870298	450	400	352	8xM16	32	60	4 x 18	4 x 26

Permitted radial weight load and bending stress, allowing for an operating temperature of +60 °C:

Maximum permitted force: $F_{pump} + F_{motor} \leq F_{perm.}$

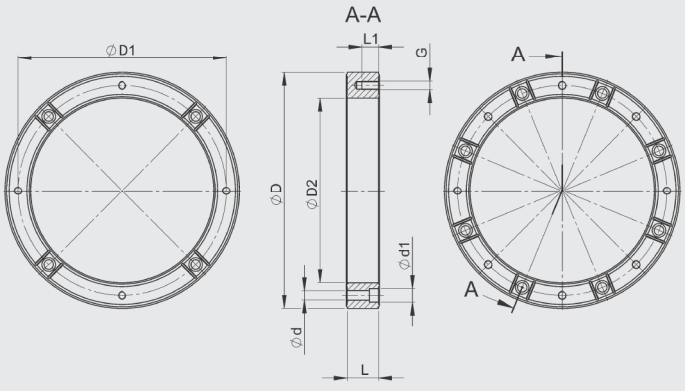
Maximum permitted bending moment: $F_{motor} \times L1 - F_{pump} \times L2 \leq Mb_{perm.}$

Damp. ring type	200	250	300	350	400	450	550	660
$F_{perm.}$ [N]	385	755	1520	3780	5040	6800	13390	24720
$Mb_{perm.}$ [Nm]	32	68	184	770	1135	1650	4530	9270

VS version

up to size 400

size 450 and above



Notice: for size 450 and above, the number increases to eight holes.

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department.

The operator is always responsible for determining the product suitability for the specific application. Quantified values for product characteristics are average values for a new product that undergo a time deterioration process.

Subject to technical modifications and errors.