



Made for Motion



Hydraulic Components

- Bellhousings
- Damping elements
- Cooling systems
- Oil tanks

FUTURE WITH A SYSTEM.

KTR have consistently continued to extend their expertise in building systems over the past few decades. Today we are a leading manufacturer providing solutions with highest quality standards in the fields of drive technology, brake and cooling systems as well as hydraulic components to our global business partners.

So what would be more obvious than adapting our company name to this development? KTR Kupplungstechnik GmbH has become KTR Systems GmbH.

The change of name takes account of the growing diversity of our performance range demonstrating the global markets and our customers that we are prepared to take over just more responsibility in machines and plants.

STANDING THE PRESSURE: HYDRAULIC COMPONENTS BY KTR.

The power of hydraulics has moved mountains since the 1960s. Since the rapid development in hydraulic technology had finally reached mechanical and plant engineering as well. KTR took part in this development from the very

beginning. Thanks to the high processing quality of components and our design engineers' expertise, this industry soon became a second pillar for KTR besides mechanical drive technology.

"These products combine everything you need: accurate selection, top processing, fast availability and low prices."

Christoph Bettmer, Product Manager Hydraulics





As powerful as necessary - as accurate as possible!

Up and down, open and closed, forth and back: No matter as to which motions your machines are to perform, this will work powerfully, accurately and reliably with KTR hydraulic components.

Just as manifold as the motions are the applications of customers trusting in the quality of KTR hydraulic components. No matter if mobile or stationary hydraulics are concerned - KTR can provide the right components for every application. The huge selection will allow you to find the suitable bell-housings, foot flanges, cooling systems and many more. In other words: Everything is available by one-stop shopping. And this is a way of shopping that even men like.

A specialist - also for custom-made designs

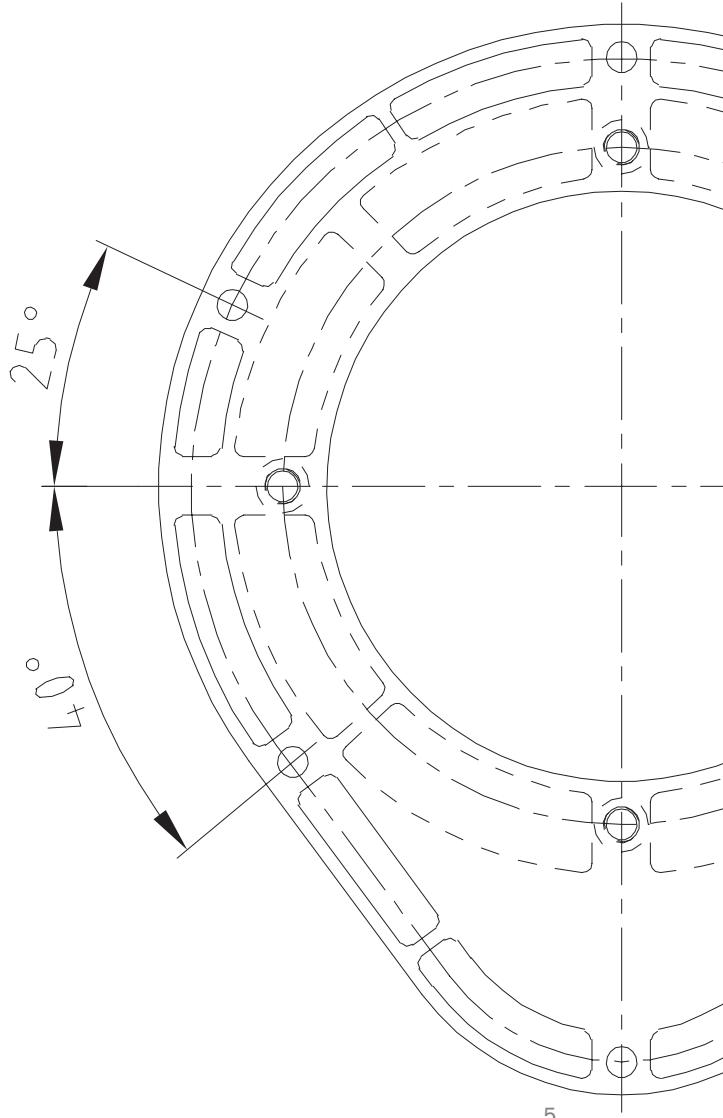
The standard programme already covers all demands: bell-housings and couplings, foot flanges, damping elements, oil/air and oil/water coolers, tank heaters, oil tanks, control and monitoring. Supplying standard products only does not meet with our standard. That is why we surely supply special sizes and designs. Whatever you like. Tailor-made. It goes without saying that you can specify the parameters of your product yourselves either by drawing, computer graphics or manual sketch - we will be pleased to support you with optimizing your product.

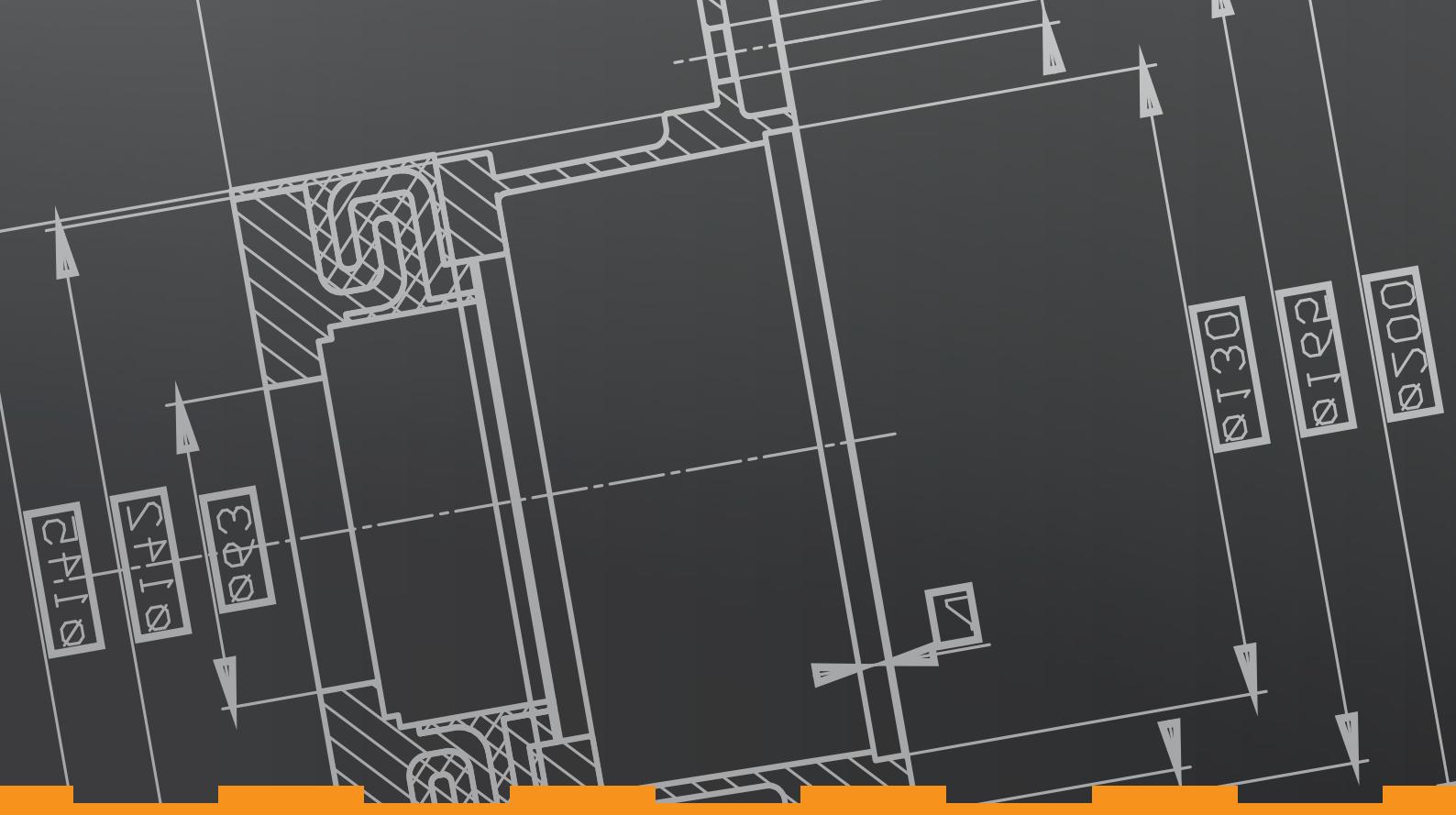
Competence under one roof

Another option is to have your special design developed by our design engineers in the new Power Transmission Center (PTC). It was opened in Rheine, the location of KTR's headquarters, in April 2015, combining the fields of research & development, quality management, mechatronics and assembly under one roof.

To have enough space for good ideas, KTR built one of the latest R & D centers in North Rhine-Westphalia on a total surface of approx. 8,800 square metres. Among others hydraulic components such as bellhousings and damping elements for global use are developed, designed and optimized here.

It is obvious that the components shall operate smoothly. To ensure a smooth operation, the products are continuously tested and further developed by KTR. For this purpose more than 25 hydraulic and electric test benches are available to the engineers in the PTC. In this context we test our products under realistic conditions - since nothing is harder than reality.





A short touch of a button assists you when you are pressed for time.

We all know this: During the selection stage the importance of hydraulic components is sometimes undervalued. ,Then you suddenly realize that the basis of power supply for the machine was left out of consideration - now a prompt reaction is vital. But even if you are pressed for time KTR is the right partner. Since with KTR many solutions require a touch of a button only.

Support with designing: the 3D-SpaceCenter

Those who have no time to waste above all have no time for errors. Since drawings are often made under deadline pressure, you should play safe. The best is to visit the KTR 3D-SpaceCenter. The Internet provides for an extensive choice of couplings and hydraulic components supporting you optimally with your designing work. A user guidance with a simple structure allows for a quick selection of the models required. The 3D files are sent to you by e-mail by return and free of charge. It is no longer necessary to revise a component. This will save a lot of time and efforts - and above all errors which are unnecessary.



A matter of selection: the functional online configuration

A few clicks only will guide you to the aim: KTR is the only manufacturer of couplings providing for an extensive online selection program for hydraulic components. The operation is quite simple: First you define the pump manufacturer, type of pump and electric motor. In a matter of seconds the program provides a selection of suitable couplings and bellhousings. Depending on the application you can select extra components such as damping ring or foot flange. Afterwards the components selected can be displayed true to scale via Webviewer or as a PDF file. Having completed the selection you can order your individual online offer or order the components required directly in the KTR shop. This is functional— taking pressure off the timetable.

Made for Motion **KTR**

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Ihr technischer Zeichner wird sich freuen: KTR hilft mit einer umfangreichen Auswahl von Konstruktionsarbeiten. Dank der einfach strukturierten Benutzungsführung können Sie die benötigten Komponenten auswählen. Dann gibt's das 3D-Daten als ZIP-Archiv ruckzuck per E-Mail oder ZIP.

Her geht es ZUF 3D-CAD-Bibliothek.

Die 2D-CAD-Modelle finden Sie HIER.

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Bellhousings



Coolers



Tanks



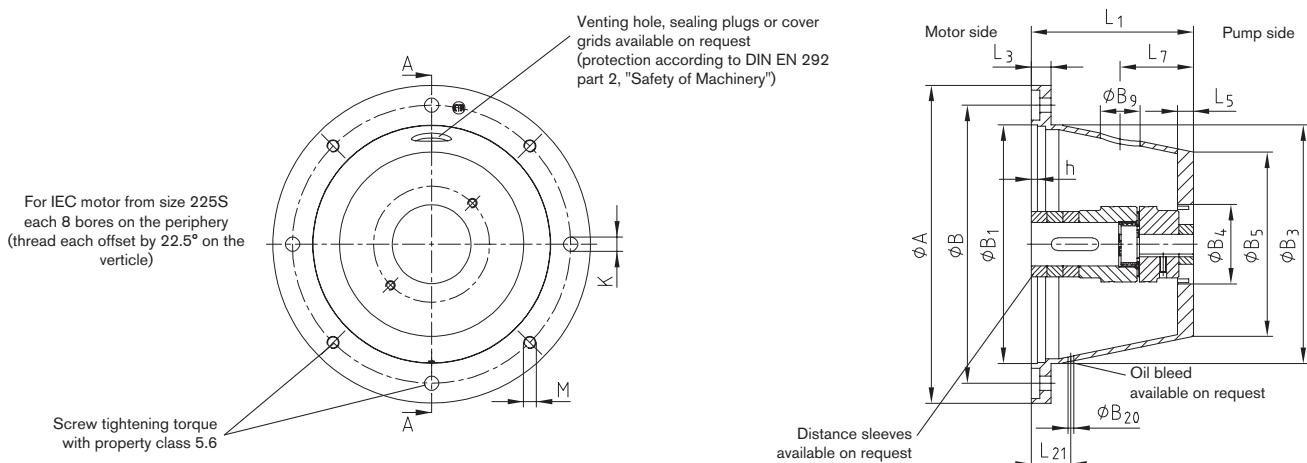
Tank heaters



BELLOUSINGS

HYDRAULIC COMPONENTS

Bellhousings made of aluminium



Please specify in the order if the bellhousing is needed in oilproof design (extra charge)!

Bellhousings according to VDMA 24561 type A																				
IEC motor size (shaft end) d ₁ x l ₃	kW with n = 1500 rpm	Bellhousing size	Gasket DP size	Foot flange PTFL/PTFS	Dimensions [mm]											Min.	Venting hole	Oil bleed		
					A	B	B ₁	B ₃	h	K	M	L ₁	L ₃	L ₅ ¹⁾	B ₅	B ₄	B ₉	L ₇	B ₂₀	L ₂₁
71 (14 x 30)	0.25 / 0.37	PK 160/5/.. PL 160/5/..	160	160	160	130	110	110	4	9	M8	80 90	13	8	105 102	29 29	25 25	33 38	7.5	28
80 (19 x 40)	0.55 / 0.75	PK 200/3/.. PL 200/3/..	200	200	200	165	130	145	4	11	M10	100 110 124 140	16	12	124 140 143 180	40 37 40 47	36 36	43 47 60 62	7.5	36
90S/90L (24 x 50)	1.1	PL 200/8/..																		
	1.5	PFL 200/6/..																		
		PK 250/6/..																		
100L/112M (28 x 60)	2.2	PL 250/3/..	250	250	250	215	180	190	5	14	M12	120 124 135 148 175	19 18	12	177 126 180 180 250	49 42 40 76 77	40	54 52 57 64 77	7.5	43
	3	PL 250/6/..																		
	4	PL 250/4/..																		
		PFL 250/18/..																		
		PK 300/5/..																		
132S/132M (38 x 80)	5.5	PL 300/15/..	300	300	300	265	230	234	5	14	M12	144 150 155 168 196			205 221 205 220	57 78 56 57 57		63 66 68 74 84	7.5	45
	7.5	PK 300/4/..																		
		PL 300/4/..																		
		PL 300/7/..																		
160M/160L (42 x 110)	11	PK 350/4/..																		
	15	PK 350/6/..	350	350	350	300	250	260	6	17	M16	188 204 228 256			225 56 248 255	59 56 97 88	50	82 87 102 115	7.5	51
180M/180L (48 x 110)	18.5	PK 350/10/..																		
	22	PL 350/7/..																		
		PK 400/4/..																		
200L (55 x 110)	30	PK 400/5/..	400	400	400	350	300	300	6	17	M16	204 228 256	26	20	230 279 290	75 95 97	50	92 104 118	7.5	51
		PL 400/5/..																		
		PK 450/2/..																		
225S/225M (60 x 140)	37	PK 450/3/..	450	450	450	400	350	350	6	17	M16	234 262 285	25		260			107		
	45	PL 450/3/..														315 325	97 121	7.5	51	
		PL 550/8/..																		
250M (65 x 140)	55	PL 550/1/..																		
	75	PK 550/3/..	550	550	550	500	450	450 ²⁾	6	17	M16	248 265 275	25		340	97	50	116		
280S/280M (75 x 140)	90	PL 550/3/..														360 360	120 123	125		
		PL 550/2/..														400	150	135		
		PK 660/2/..														410 400	120 174	147 157		
315S/315M (80 x 170)	110	PL 660/5/..	660	660	660	600	550	550 ²⁾	8	22	M20	310 330 343	32	30	400	174	50	157 163	7.5	60
	160	PL 660/2/..														500	197	190		
	200	PL 660/4/..														500	197	190		
355L/400M (100 x 210)	355	PL 800/1/..	880	800	800	740	680	680 ²⁾	8	22	M20	370 395	40	36	500 487	148	50	135 160	7.5	70
	710	PK 800/3/..																		

		Other types of bellhousings																			
IEC motor size (shaft end) $d_1 \times l_3$	kW with $n = 1500$ rpm	Bellhousing size	Gasket DP size	Foot flange PTFL/PTFS *)	Dimensions [mm]														Min.		
					A	B	B ₁	B ₃	h	K	M	L ₁	L ₃	L ₅ ¹⁾	B ₅	B ₄	B ₉	L ₇	B ₂₀	L ₂₁	
71 (14 x 30)	0.25	PFK 160/6/..	160	160	160	130	110	110	4	9	M8	79	13	13	140	30	25	35	7.5	28	
	0.37	PFL 160/6/..										101				60		46			
80 (19 x 40)	0.55	PK 200/11/..	200	200	200	165	130	145	4	11	M10	45	10	144	97	10	15	30	30		
	0.75	PL 200/11/..										55				12	30	36	71	7.5	
90S/90L (24 x 50)	1.1	PK 200/13/..	250	250	250	215	180	190	5	14	M12	152	16	12	142	37	25	30	36		
	1.5	PL 200/30/..										79				127		37			
100L/112M (28 x 60)	2.2	PK 250/13/..	300	300	300	265	230	234	5	14	M12	159	18	12	186	77	40	69	7.5	43	
	3	PL 250/15/..										61				79		187	97	10	20
	4	PK 250/17/..										100	18	12	186	74	40	39			
																100					
132S/132M (38 x 80)	5.5	PK 300/8/..	350	350	350	300	265	230	234	5	14	M12	110	20	15	231	97	225	95	45	
	7.5	PK 300/9/..										85	99			40		37	7.5	45	
160M/160L (42 x 110)	11	PL 300/9/..	400	400	400	350	300	250	260	6	17	M16	210	20	15	57	50	57	50	57	
	15	PL 350/11/..										130	146			244		77	67		
180M/180L (48 x 110)	18.5	PL 350/11/..	450	450	450	400	350	300	350	6	17	M16	184			184		252	52	51	
	22	PK 350/18/..										204	25	15	259	53	90				
200L (55 x 110)	30	PL 400/3/..	550	550	550	500	450	400	350	300	6	17	M16	165	25	20	290	97	73	51	
		PL 400/12/..										170	184	260		95		50	82		
225S/225M (60 x 140)	37	PK 450/5/..	550	550	550	500	450	400	350	350	6	17	M16	165	20	25	260	120	73	51	
	45	PL 450/5/..										185	176	259		98		50	83		
250M (65 x 140)	55	PK 450/6/..	660	660	660	600	550	500	450	450 ²⁾	8	22	M20	190/192	26	26	320	124	96	88	
		PFL 450/9/..										207	217	340		97		50	100		
280S/280M (75 x 140)	75	PK 450/12/..	760	760	760	700	650	600	550	550 ²⁾	6	17	M16	204		260	97				
	90	PK 550/4/..										207	26	25	370	137	116				
315S/315M (80 x 170)	110-	PK 550/4/..	800	800	800	740	680	630	580 ²⁾	8	22	M20	247	32	30	465	80	50	115	60	
	160	PL 660/3/..										260	260			340		156	122	7.5	
355L/400M (100 x 210)	355	PK 800/1/..	710	710	710	650	600	550	500	500 ²⁾	8	22	M20	335	37	38	520	149	50	140	7.5
		P 800/3/..										443	443	500		305		206	70		

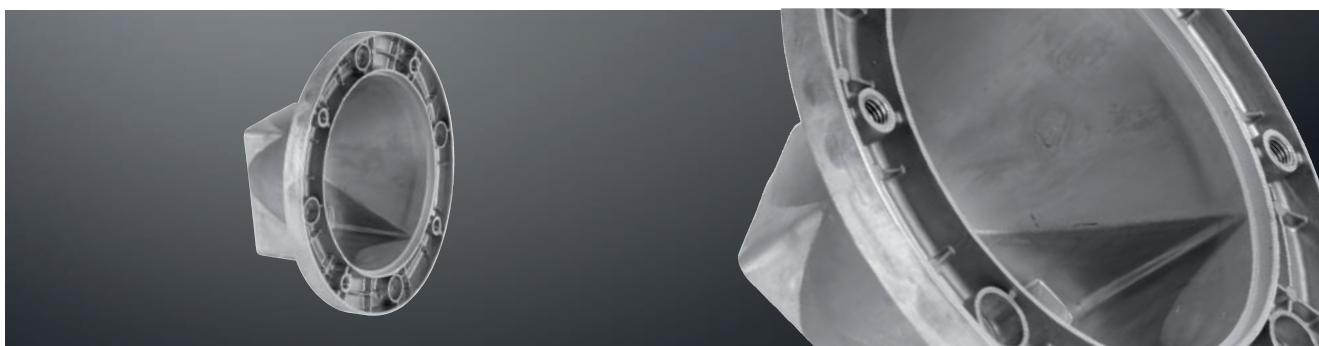
Venting hole and sealing plugs available on request.
(Protection according to DIN EN 292 part 2, „Safety of Machinery“)

Ordering example:
PL Bellhousing type, long PK Bellhousing type, short P Former bellhousing type 450 Flange diameter of IEC Motor 3 Serial model code 8 In-house modification code

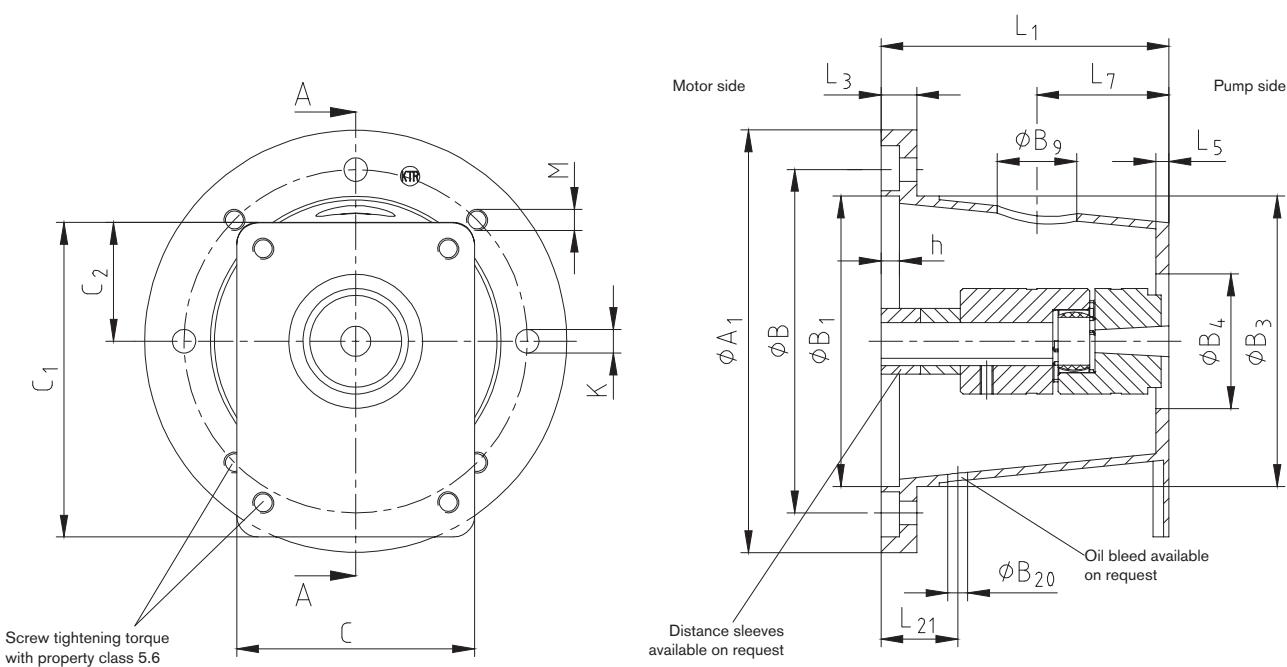
BELLOUSINGS

HYDRAULIC COMPONENTS

Bellhousings with rectangular flange



Bellhousings with rectangular flange



Please specify in the order if the bellhousing is needed in oilproof design (extra charge)!

IEC motor size	kW with n = 1500 rpm	Bellhousing size	Gasket DP size	Foot flange PTFL/PTFS	Dimensions [mm]														Venting hole		Oil bleed	
					A ₁	B	B ₁	B ₃	h	K	M	L ₁	L ₃	L ₅	C	C ₁	C ₂	B ₄	B ₉	L ₇	B ₂₀	L ₂₁
71	0.25	PL 160/1/..										70		8	70	91	35	20	16	27		
	0.37	PL 160/4/..	160	160	160	130	110	110	4	9	M8	110	13	12	90	120	45	22	25	50	7.5	28
		PK 160/4/..										95									43	
80	0.55	PL 200/1/..										90		16	12	70	91	35	22	25	37	
	90S/90L - 1.5	PL 200/2/..	200	200	200	165	130	145	4	11	M10	100		90	120	45	22		42		7.5	36
100L/112M	2.2	PL 250/1/..										110			90	120	45	22			45	
	3	PL 250/2/..	250	250	250	215	180	190	5	14	M12	115		18	12	120	150	53	47	36	47	
	4	PL 250/7/..										125			145	180	64	46			52	
132S/132M	5.5	PL 300/1/..										132		20	15	120	150	53	33	50	56	
	7.5	PK 300/2/..										137			145	180	64	33		59		7.5
160M/160L	11	PL 350/1/..										171		26	15	120	156	59	33	50	73	
	180M/180L - 22	PL 350/2/..	350	350	350	300	250	260	6	18	M16	181	25	15	145	180	64	31		78		7.5

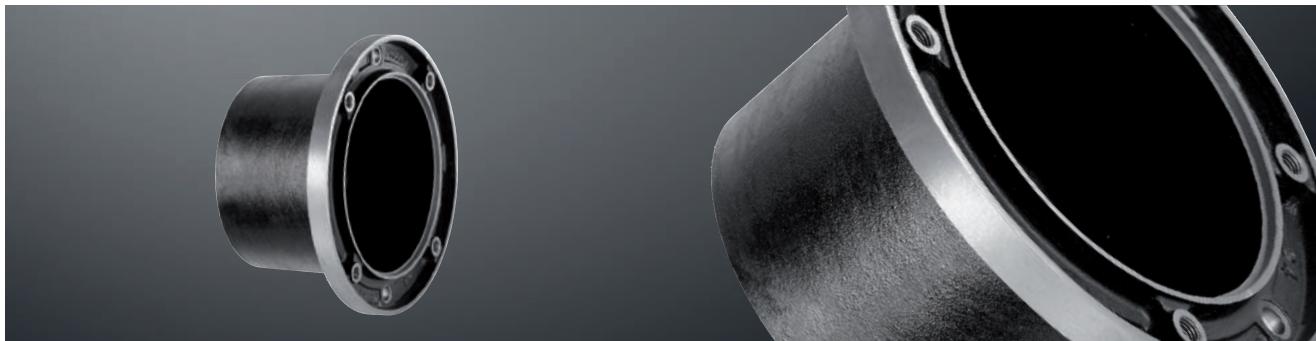
If venting holes or oil bleeds are required, please specify in your order.

Ordering example:	PL	PK	250	2	8
	Bellhousing type, long	Bellhousing type, short	Flange diameter of IEC Motor	Serial model code	In-house modification code

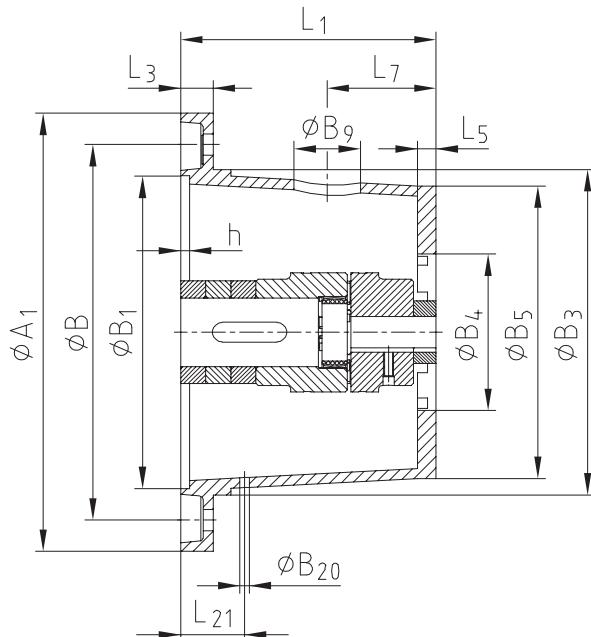
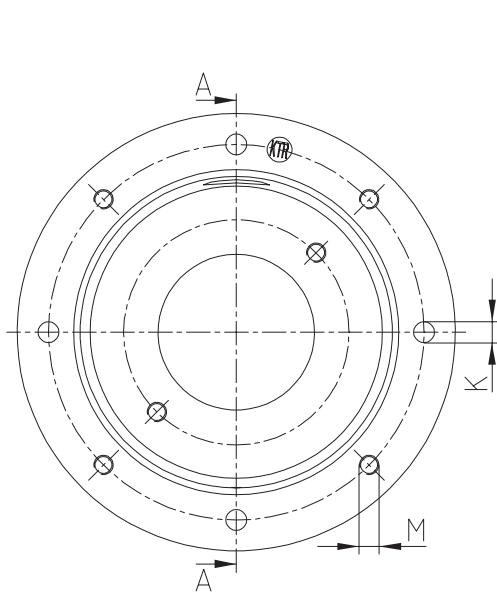
BELLHOUSINGS

HYDRAULIC COMPONENTS

Bellhousings PG made of cast iron



Bellhousings made of cast iron (type PG)



Please specify in the order if the bellhousing is needed in oilproof design (extra charge)!

IEC motor size	kW with n = 1500 rpm	Bellhousing size	Gasket DP size	Foot flange PTFL/PTFS	Bellhousings made of cast iron															
					Dimensions [mm]															
					A ₁	B	B ₁	B ₃	h	K	M	L ₁	L ₃	L ₅	B ₅	B ₄	B ₉	L ₇	B ₂₀	L ₂₁
132S/132M	5.5 7.5	PG 300/5/..	300	300	300	265	230	234	5	14	M12	144	20	15	215	30	50	63	7.5	45
160M/160L	11 -	PG 350/4/..	350	350	350	300	250	260	7	17	M16	188	26	15	242	76	50	82	7.5	51
180M/180L	22	PG 350/6/..			PG 400/2/..	300	350	300	300	7		204								
200L	30	PG 400/4/..	400	400	PG 400/2/..	400	400	350	300	300	M16	256	26	20	280	97	50	118	7.5	51
		PG 400/5/..			PG 400/4/..	400	400	350	300	300		262								
		PG 450/2/..			PG 450/3/..	450	450	450	400	350		256								
225S/225M	37	PG 450/2/..	450	450	PG 450/3/..	450	450	450	400	350	M16	234	26	24	289	97	50	107	7.5	51
		PG 450/3/..			PG 450/2/..	450	450	450	400	350		262								
		PG 550/1/..			PG 550/2/..	550	550	550	500	450		256								
250M	55, 75	PG 550/1/..	550	550	PG 550/2/..	550	550	550	500	450	M16	265	26	25	360	97	50	125	7.5	51
		PG 550/8/..			PG 550/7/..	500	500	500	450	450		248								
280S/280M	90	PG 550/8/..	550	550	PG 550/7/..	550	550	550	500	450	M16	315	349	91	116	50	125	7.5	51	51
		PG 550/1/..			PG 550/2/..	500	500	500	450	450		349								
315S/315M	110 -	PG 660/3/..	660	660	PG 660/5/..	660	660	660	600	550	M20	279	32	33	425	119	50	157	7.5	60
		PG 660/5/..			PG 660/3/..	660	660	660	600	550		330								

If venting holes or oil bleeds are required, please specify in your order.

Ordering example:	PG	250	1	4
	Bellhousing type made of cast iron	Flange diameter of IEC Motor	Serial model code	In-house modification code

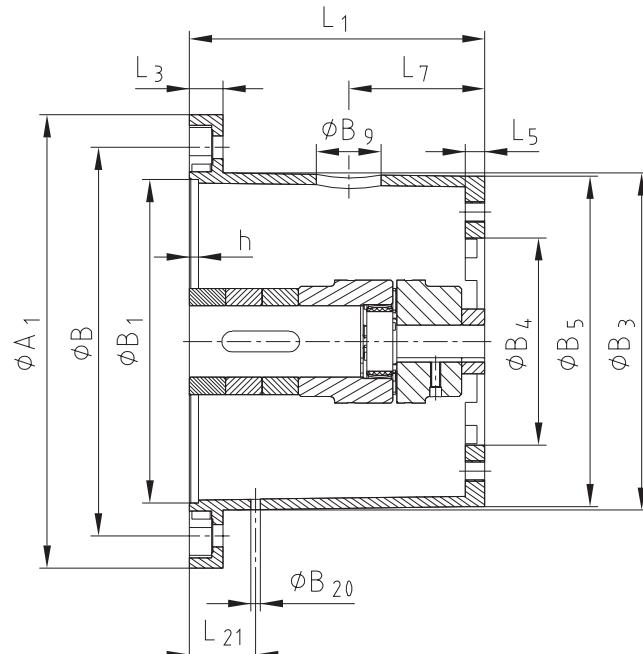
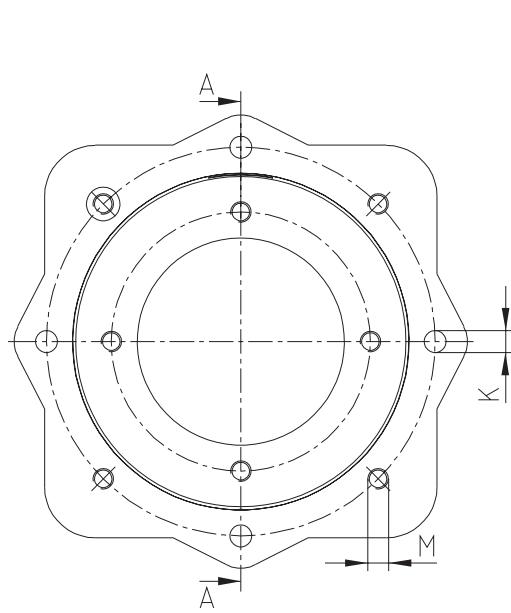
BELLHOUSINGS

HYDRAULIC COMPONENTS

Bellhousings PSG made of cast iron for servo motors



Bellhousings made of cast iron for servo motors (type PSG)



Please specify in the order if the bellhousing is needed in oilproof design (extra charge)!

	Bellhousing size	Gasket DP size	Foot flange PTFL/ PTFS	Bellhousings made of cast iron for servo motors															
				Dimensions [mm]															
				A1	B	B1	B3	h	K	M	L1	L3	L5	B5	Min. B4	Venting hole	Oil bleed		
For servo and IEC motors	PSG 200/1/..	200	200	200	165	130	145	7	11	M10	124	16	12	170	55	36	60	7.5	36
	PSG 250/1/..	250	250	250	215	180	190	7	13.5	M12	175	19	12	225	70	40	77	7.5	43
	PSG 250/2/..	250	250	250	215	180	190	7	13.5	M12	155	19	14	180	69	40	65	7.5	43
	PSG 350/10/..	350	350	350	300	250	260	7	17.5	M16	228	26	17	255	95	50	102	7.5	51
	PSG 350/16/..	350	350	350	300	250	260	7	17.5	M16	204	26	17	350	139	50	87	7.5	51

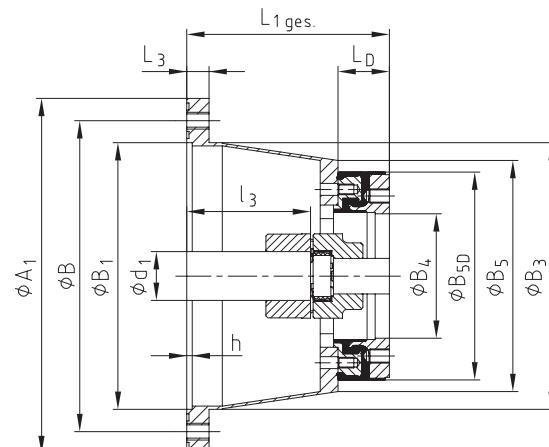
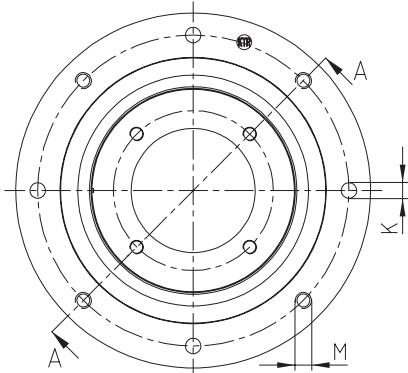
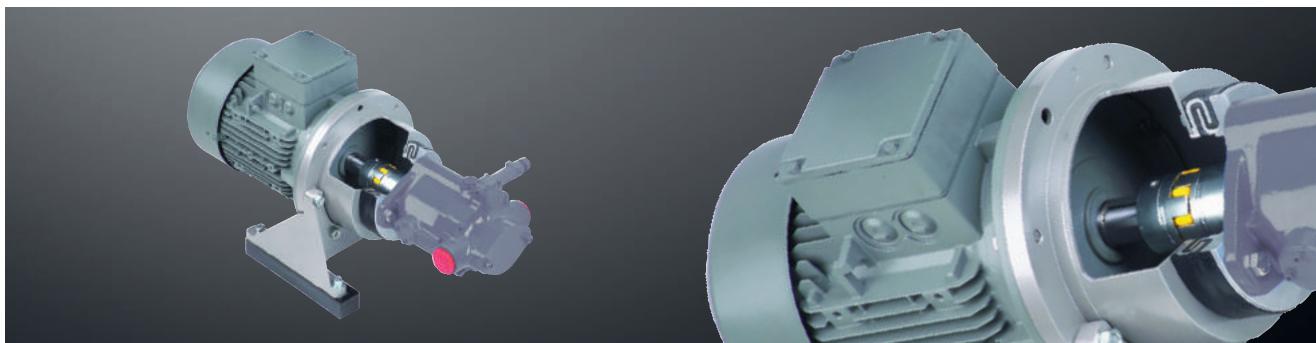
If venting holes or oil bleeds are required, please specify in your order.

Ordering example:	PSG	250	1	4
	Bellhousing type for servo drives	Flange diameter of IEC Motor	Serial model code	In-house modification code

DAMPING RINGS

HYDRAULIC COMPONENTS

Damping rings in combination with bellhousings



For IEC motor from size
225S/225M each 8 tapped
holes and through holes on the
periphery (thread each offset by
22.5° on the vertical)

Please specify in your order if a
design with or without venting
holes or oil bleeds is requested.
For dimensions see page 10
and 11.

Please specify in the order if the bellhousing is needed in oilproof design (extra charge)!

Damping rings D in combination with bellhousings ¹⁾																			
IEC motor size (shaft end) d ₁ x l ₃ with n = 1500 rpm	kW with n = 1500 rpm	Bellhousing size	Damping ring size	Foot flange size	Dimensions [mm]											Min.	Max.	B ₅	B _{5D}
					A ₁	B	B ₁	L _{1 total}	L ₃	K	M	h	L _D	B ₃	B ₄				
90S/90L (24 x 50)	1.1	PK 200/11/.. PL 200/11/.. PK 200/30/..	D 150/.. PTFL 200	200	165	130	90	100	16	11	M10	4	45	145	18	83	145	148	
	1.5							124											
								106											
100L/112M (28 x 60)	2.2	PK 250/15/.. PL 250/15/.. PK 250/17/.. PK 250/15/.. PL 250/15/.. PK 250/17/..	D 150/.. PTFL 250 D 190/..	250	215	180	106	124								18	83	148	
								145	18	14	M12	5	45	190			187		
								106								30	121	190	
								124											
								145											
132S/132M (38 x 80)	5.5	PK 300/8/.. PK 300/9/.. PL 300/9/.. PK 300/15/.. PL 300/15/..	D 150/.. PTFL 300 D 190/..	300	265	230	155										225		
							130												
							144								45	18	83	231	
							183											148	
							195												
	7.5	PK 300/8/.. PK 300/9/.. PL 300/9/.. PK 300/15/.. PL 300/15/..	PTFL 300 D 190/.. D 230/..	300	265	230	155										225		
							130												
							144	20	14	M12	5	45	234	30	121	231	190		
							183												
							195												
160M/160L (42 x 110)	11	PK 350/11/.. PL 350/11/.. PK 350/18/.. PL 350/18/.. PK 350/11/..	D 150/.. PTFL 350/.. D 190/..	350	300	250	175	25								18	83	252	
							190	26									244	148	
							204										252		
							204	25							45		244		
							229										252		
	15	PK 350/18/.. PL 350/18/.. PK 350/11/.. PL 350/11/.. PK 350/18/..	PTFL 350/.. PTFS 350 D 230/..	350	300	250	175										244		
							229	25									252		
							188										244		
							204										252		
							188	25									244		
180M/180L (48 x 110)	18.5	PK 350/11/.. PL 350/11/.. PK 350/18/..	D 230/..	350	300	250	204	26								97	143	252	
							229										244		
							188										244		
	22	PK 350/11/.. PL 350/11/.. PK 350/18/..	D 230/..	350	300	250	204	26									244		
							217										244		
							242	25									252		

DAMPING RINGS

HYDRAULIC COMPONENTS

Damping rings in combination with bellhousings

Damping rings D in combination with bellhousings ¹⁾																			
IEC motor size (shaft end) d ₁ x l n = 1500 rpm	kW with n = 1500 rpm	Bellhousing size	Damping ring size	Foot flange size	Dimensions [mm]										Min.	Max.	B ₅	B _{5D}	
					A ₁	B	B ₁	L _{1 total}	L ₃	K	M	h	L _D	B ₃					
160M/160L (42 x 110)	11	PK 350/11/..						188	25										
	15	PL 350/11/..						204	26										
180M/180L (48 x 110)	18.5	PK 350/18/..	D 260/..	PTFL 350/ PTFS 350	350	300	250	217		17	M16	6	58	260	97	143	252	264	
	22	PL 350/18/..						242	25										
200L (55 x 110)		PL 350/48/98						247											
		PL 400/3/..						210									290		
200L (55 x 110)		PK 400/12/..	D 190/..					215								30	121		
		PL 400/12/..						229										190	
200L (55 x 110)	30	PK 400/12/..	D 230/..	PTFS 400	400	350	300	228		20	17	M16	6				143	260	
		PL 400/12/..						242										264	
225S/225M (60 x 140)		PK 400/12/..	D 260/..					228											
		PL 400/12/..						242									164		
225S/225M (60 x 140)	37	PL 400/12/98						247											
	45	PL 450/5/94	D 190/..					230									325		
225S/225M (60 x 140)		PK 450/12/94						249									260	190	
		PL 450/5/96						243									325		
225S/225M (60 x 140)		PK 450/6/96	D 230/..	PTFS 450	450	400	350	234									143	260	
		PK 450/12/96						262	25	17	M16	6	58		97		325	234	
225S/225M (60 x 140)		PK 450/5/98						243									164	260	
		PK 450/6/98	D 260/..					234									325	265	
225S/225M (60 x 140)		PK 450/12/98						262									164	260	
		PL 450/5/..	D 330/..					268								83	120	208	
250M (65 x 140)		PK 550/4/94						237									355		
		PL 550/4/94	D 190/..					252									30	121	
250M (65 x 140)		PK 550/8/94						262									330	190	
		PK 550/4/96						248									340		
250M (65 x 140)	55	PL 550/4/96	D 230/..	PTFS 550	550	500	450	265									355		
		PK 550/8/96						275									143	330	
280S/280M (75 x 140)	75	PK 550/4/98						248		26	17	M16	6	58	450	97	355		
	90	PL 550/4/98	D 260/..					265									164	330	
280S/280M (75 x 140)		PK 550/8/98						275									340		
		PK 550/4/..						275									355		
315S/315M (80 x 170)	110	PL 550/4/..	D 330/..					290									120	208	
	132	PK 550/8/..						300									330	330	
315S/315M (80 x 170)	160	PK 660/3/..	D 260/..	PTFS 660	660	600	550	310									500		
	200	PL 660/3/..						318									340	264	
(85 x 170)		PK 660/3/..	D 125/..					330	32	22	M20	8				83	120	208	
		PL 660/3/..						343									500	340	
(85 x 170)		PK 660/3/..						372									260	320	
		PL 660/3/..															500	484	

¹⁾ Preferred combinations with short bellhousings, other combinations on request (see page 10 and 11). Phone: +49 5971 798-0

* Passing from dimension B3 to flange radius R = 5

● Make sure your power pack provides for a separation of piping, e. g. by hoses or elastic flanges (see page 22).

● As another measure for noise reduction we recommend to use damping rods (from page 25) or DT/DTV rings (see page 24).

For the detailed order designation please refer to our PC/Internet selection program or specify the IEC motor size and detailed pump type for selection.

Ordering example:	PL	PK	250	15	92	D	150	23
	Bellhousing type, long	Bellhousing type, short	Flange diameter of IEC Motor	Serial model code	In-house modification code	Damping ring	Size	In-house modification code

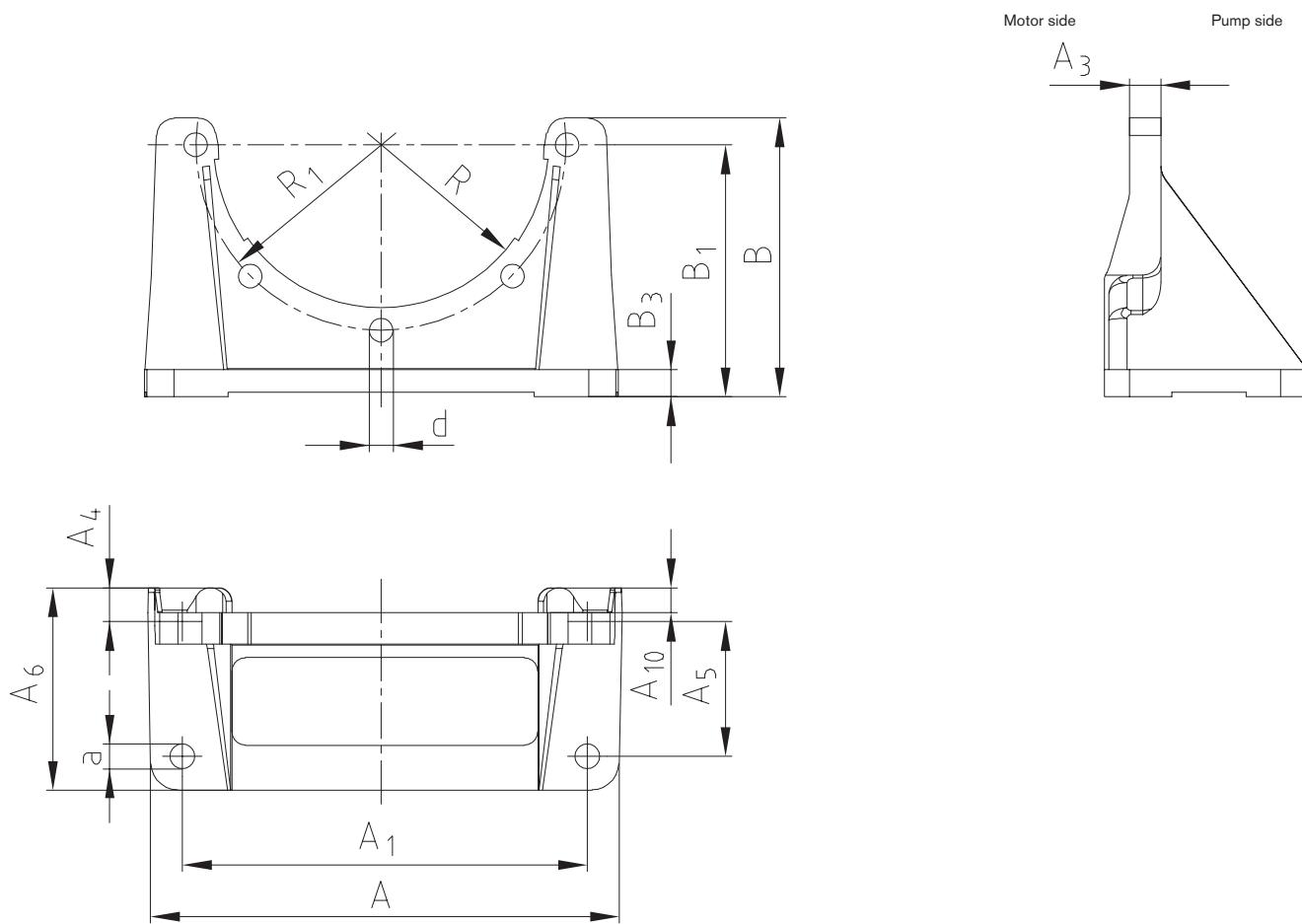
FOOT FLANGES PTFL

HYDRAULIC COMPONENTS

Foot flange PTFL



Foot flange PTFL *



* according to VDMA standard 24561 part 1

Foot flange size	For bellhousing size	Foot flange type PTFL made of aluminium (Al)													
		Dimensions [mm]													
		A	A1	A3	A6	A4	A5	A10	B	B1	B3	R	R1	d	a
PTFL 160	160	160	140	12	80	15	50	8	110	100	10	55	65	9	9
PTFL 200	200	210	180	14	90	15	60	11	124	112	12	72.5	82.5	11	11
PTFL 250	250	250	220	16	97	21	60	—	145	132	15	95	107.5	13	13
PTFL 300	300	290	260	18	116	20	80	—	175	160	18	117	132.5	13	13
PTFL 350	350	340	300	20	150	20	110	—	195	180	22	130	150	18	16

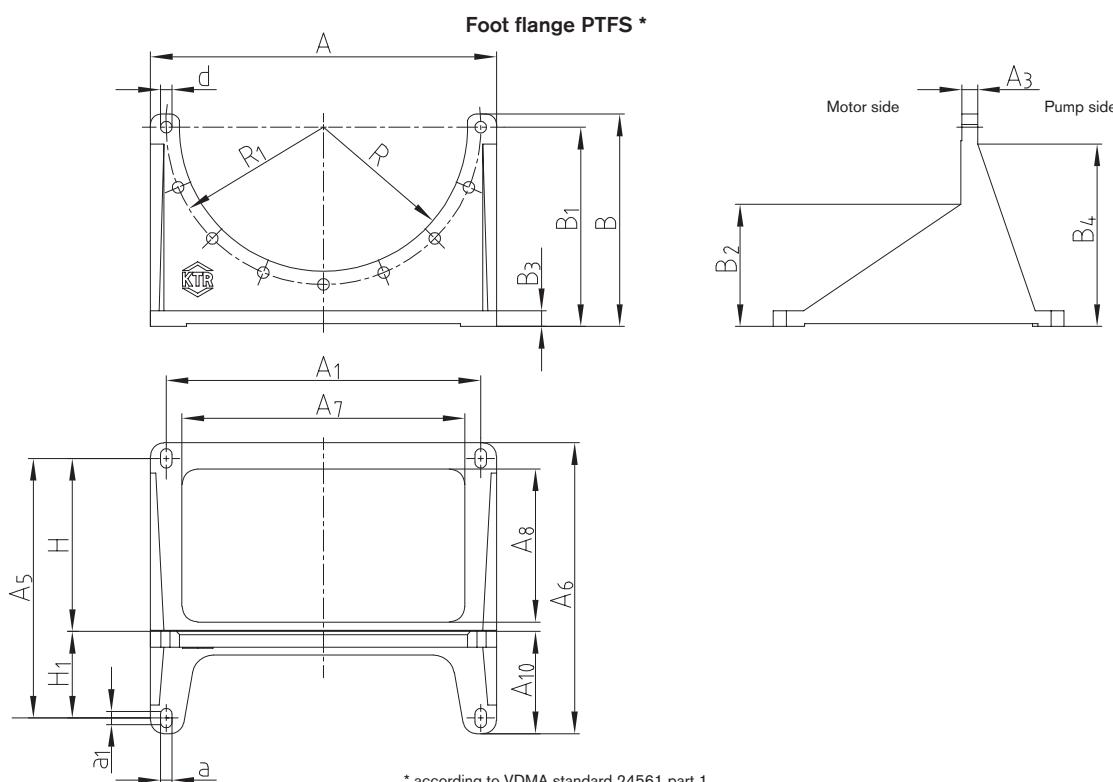
In order to reach the full loading capacity of foot flanges, all fastening holes have to be screwed to the bellhousing.

Ordering example:	PTFL	350	Al
	Foot flange type	Size	Material

FOOT FLANGES PTFS

HYDRAULIC COMPONENTS

Foot flange PTFS



Foot flange size	For bellhousing size	Dimensions [mm]																			
		A	A ₁	A ₃	A ₅	A ₆	A ₇	A ₈	A ₁₀	B	B ₁	B ₂	B ₃	B ₄	R	R ₁	a	a ₁	d	H	H ₁
PTFS 250	250	250	215	18	185	230	190	127	82	165	155	120	16	150	95	107.5	14	10	14	125	60
PTFS 300	300	300	265	20	225	270	240	152	92	200	185	149	19	184	117	132.5	14	10	14	150	75
PTFS 350	350	350	300	25	265	305	260	160	110	252	235	188	18	228	130	150	18	12	18	175	90
PTFS 400	400	400	350	20	300	350	300	185	125	277	260	193	20	241	150	175	18	12	18	200	100
PTFS 450	450	450	400	25	335	385	350	207	138	312	295	232	20	290	175	200	18	12	18	225	110

Foot flange size	For bellhousing size	Dimensions [mm]																			
		A	A ₁	A ₃	A ₅	A ₆	A ₇	A ₈	A ₁₀	B	B ₁	B ₂	B ₃	B ₄	R	R ₁	a	a ₁	d	H	H ₁
PTFS 200 GGG	200	200	165	12	150	185	130	85	68	138	125	90	15	120	72.5	82.5	11	8	11.5	100	50
PTFS 250 GGG	250	250	215	17	185	230	190	—	82	165	155	120	15	150	95	107.5	14	10	14	125	60
PTFS 350 GGG	350	350	300	20	265	305	260	160	110	252	235	193	22	232	130	150	18	12	18	175	90
PTFS 400 GGG	400	405	350	20	300	350	300	192	125	277	260	220	22	175	150	175	18	12	18	200	100
PTFS 450 GGG	450	450	400	25	335	385	350	214	138	312	295	234	22	290	175	200	18	12	18	225	110
PTFS 550 GGG	550	550	500	25	415	465	440	240	165	370	350	233	25	318	225	250	18	12	18	275	140
PTFS 660 GGG	660	660	600	30	495	555	540	292	195	405	380	233	30	348	275	300	22	15	22	330	165

PTFS 800 made of steel on request

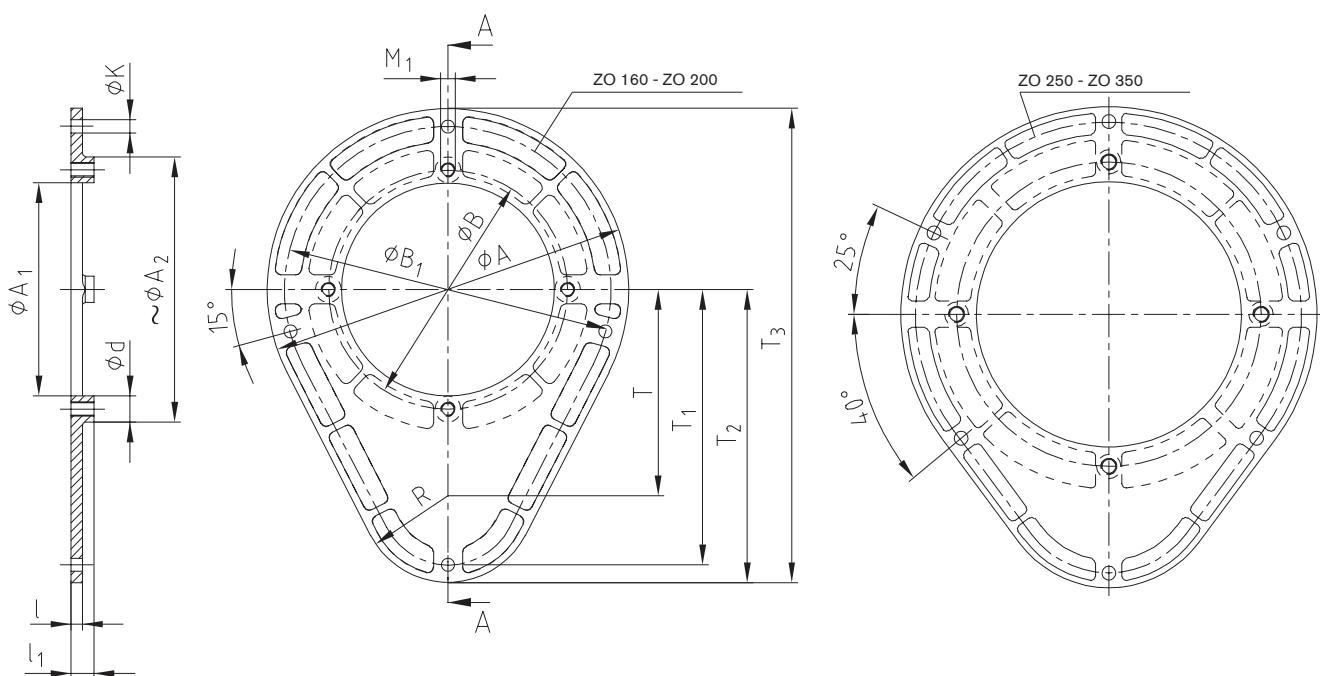
In order to reach the full loading capacity of foot flanges, all fastening holes have to be screwed to the bellhousing.

Ordering example:	PTFL	350	AI
	Foot flange type	Size	Material

ACCESSORIES FOR BELLHOUSINGS

HYDRAULIC COMPONENTS

Mounting flange type ZO



Size	Mounting flange type ZO															Gasket DZ size	Gasket DP size		
	Dimensions [mm]																		
	A	A1	~A2	B	B1	K	M1	R	T	T1	T2	T3	d	I	I1				
ZO 160	210	112	150	130	185	9	M8	60	97.5	145	157.5	262.5	18	7	15	DZ 160	DP 160		
ZO 200	250	147	187	165	225	9	M10	60	142.5	190	202.5	327.5	18	8	16	DZ 200	DP 200		
ZO 250	300	192	239	215	275	9	M12	60	142.5	190	202.5	352.5	20	8	16	DZ 250	DP 250		
ZO 300	360	236	289	265	330	14	M12	60	150	225	240	420	20	10	18	DZ 300	DP 300		
ZO 350	410	262	332	300	380	14	M16	110	160	255	270	475	24	12	20	DZ 350	DP 350		

Ordering example:

ZO 300

Mounting flange size

ACCESSORIES FOR BELLHOUSINGS

HYDRAULIC COMPONENTS

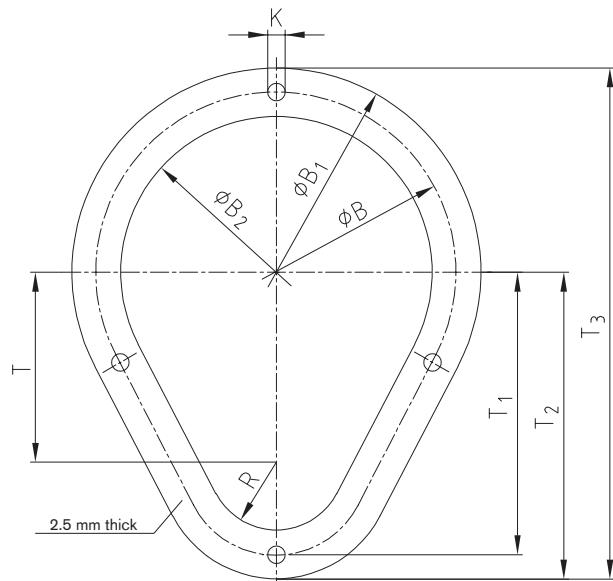
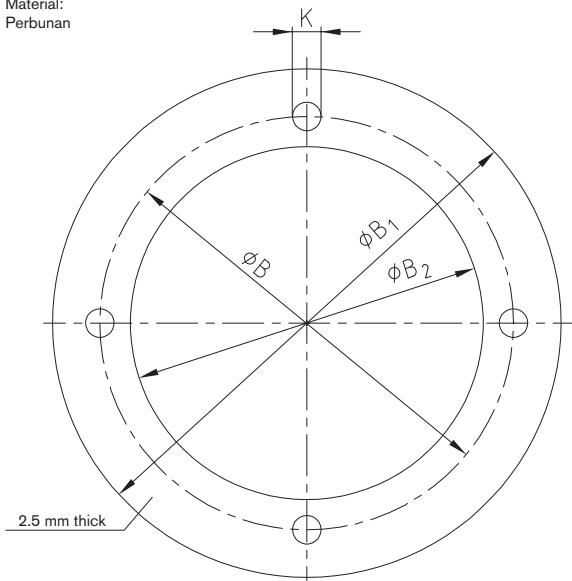
Gaskets DP and DZ for mounting flange ZO



Gasket DP

Gasket DZ

Material:
Perbunan



Gaskets for bellhousings and mounting flanges

Size	Dimensions [mm]								
	B	B ₁	B ₂	T	T ₁	T ₂	T ₃	K	R
DP 160	130	160	111	—	—	—	—	4 x 9	—
DP 200	165	200	146	—	—	—	—	4 x 11	—
DP 250	215	250	191	—	—	—	—	4 x 13	—
DP 300	265	300	235	—	—	—	—	4 x 13	—
DP 350	300	350	261	—	—	—	—	4 x 17	—
DP 400	350	400	301	—	—	—	—	4 x 17	—
DP 450	400	450	351	—	—	—	—	4 x 17	—
DP 550	500	550	451	—	—	—	—	4 x 17	—
DZ 160	185	210	160	97.5	145	157.5	262.5	4 x 9	35
DZ 200	225	250	200	142.5	190	202.5	327.5	4 x 9	35
DZ 250	275	300	250	142.5	190	202.5	352.5	6 x 9	35
DZ 300	330	360	300	150	225	240	420	6 x 14	60
DZ 350	380	410	350	160	255	270	475	6 x 14	80

Ordering
example:

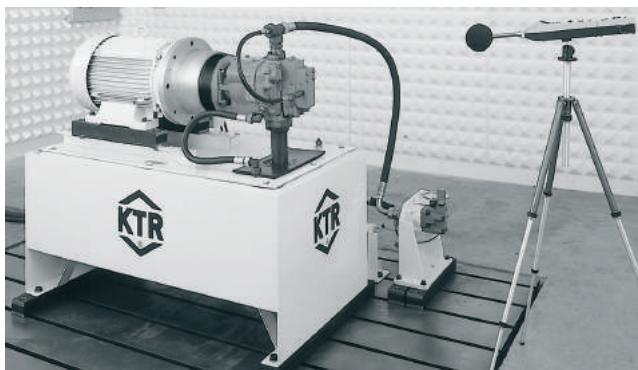
DP 300

Type and size of gasket

DAMPING ELEMENTS

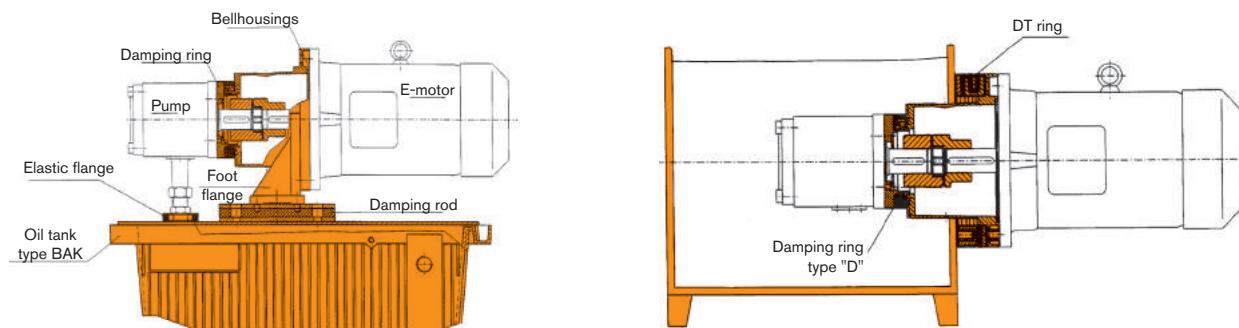
HYDRAULIC COMPONENTS

Damping elements



KTR has a sound measuring room integrated in the R&D test center allowing for low-reflecting testing conditions. Comparative measurements are performed on a realistic hydraulic power pack to test and optimize the efficiency of KTR damping elements. In addition to stationary measuring in the laboratory the efficiency of the damping measures used can be proven locally.

Examples of application:



Potential noise reductions compared to the rigid arrangement:

- | | |
|--|------------|
| a) Damping ring only: | 3 - 6 dBA |
| b) Damping rod only: | 3 - 4 dBA |
| c) Damping ring and damping rod: | 6 - 8 dBA |
| d) Damping ring, damping rod and elastic flange: | 7 - 10 dBA |
| e) Damping ring type DT/DTV: | 3 - 6 dBA |
| f) Damping ring type DT/DTV and damping ring: | 6 - 8 dBA |

Mode of operation:

The efficiency of the KTR damping elements is based on the reflection of the structure-borne noise vibrations by means of the vulcanized, non-prestressed rubber layer in the acoustic frequency range from about 200 Hz. The reduction of the structure-borne noise vibrations causes a reduced radiation of the airborne noise generated by the power pack.

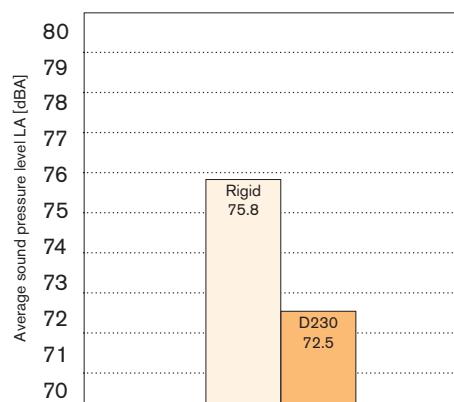
Result of a noise measurement:

Test data:

Electric motor: Rotary current asynchronous 180M
 18.5 kW, n = 1450 rpm
 Type B3/B5

Pump: Axial piston pump

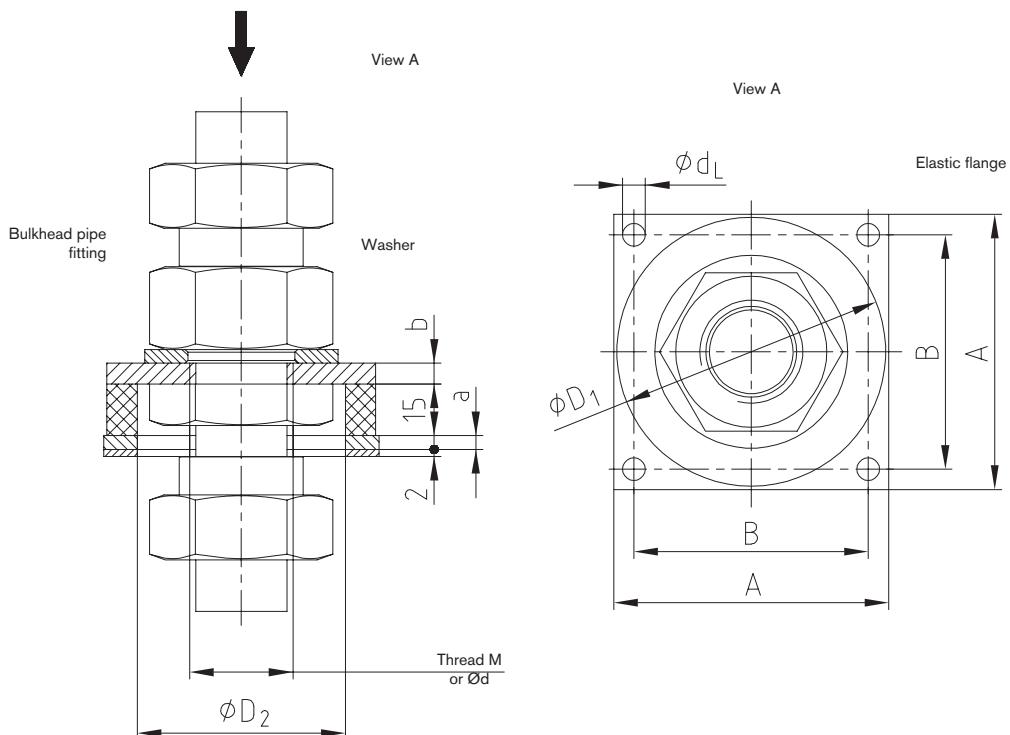
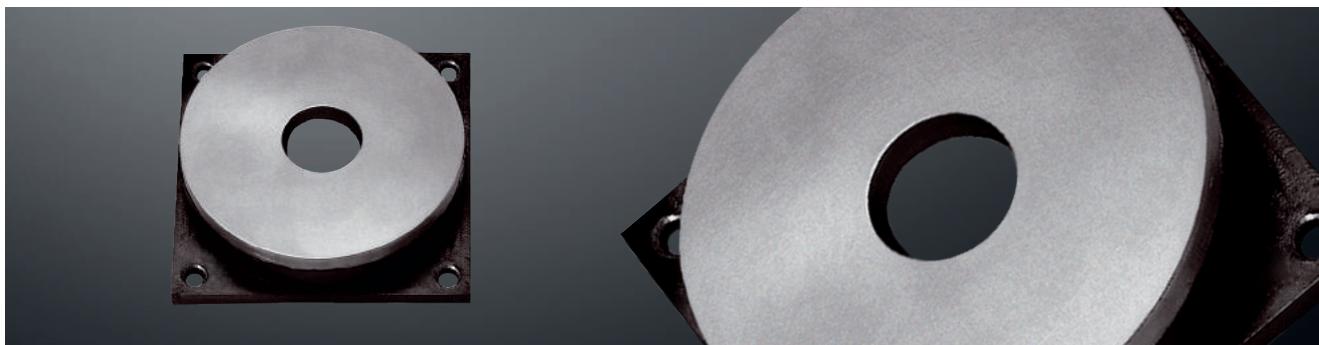
Coupling: ROTEX® 42 - 92 Shore A



DAMPING ELEMENTS

HYDRAULIC COMPONENTS

Elastic flange



Elastic flange								Remark				
Size	A	B	a	b	D ₁	D ₂	d _L	Type L light-weight	Type S heavy-weight	Thread M	Pilot bore for Ød	
80-2.11								SV 28-L	SV 25-S	M36 x 2	Ø34	
80-2.10								SV 22-L	SV 20-S	M30 x 2	Ø28	
80-2.9								SV 18-L	—	M26 x 1.5	Ø24.5	
80-2.8								—	SV 16-S	M24 x 1.5	Ø22.5	
80-2.7								SV 15-L	—	M22 x 1.5	Ø20.5	
80-2.6	80	68	4	6	78	60	6.6	—	SV 12-S	M20 x 1.5	Ø18.5	
80-2.5								SV 12-L	SV 10-S	M18 x 1.5	Ø16.5	
80-2.4								SV 10-L	SV 8-S	M16 x 1.5	Ø14.5	
80-2.3								SV 8-L	SV 6-S	M14 x 1.5	Ø12.5	
80-2.2								SV 6-L	—	M12 x 1.5	Ø10.5	
80-2.1								—	—	—	Ø10	Standard design
100-2.5								SV 42-L **)	SV 38-S **)	M52 x 2	Ø50	
100-2.4								—	SV 30-S	M42 x 2	Ø40	
100-2.3	100	82	5	8	95	65	9	SV 28-L	SV 25-S	M36 x 2	Ø34	
100-2.2								SV 22-L	SV 20-S	M30 x 2	Ø28	
100-2.1								—	—	—	Ø25	Standard design
130-2.4								SV 42-L	SV 38-S	M52 x 2	Ø50	
130-2.3	130	110	6	10	125	95	9	SV 35-L	—	M45 x 2	Ø43	
130-2.2								—	SV 30-S	M42 x 2	Ø40	
130-2.1								—	—	—	Ø35	Standard design

■ Available from stock

*) Bulkhead pipe fitting and washer do not form part of our scope of delivery.

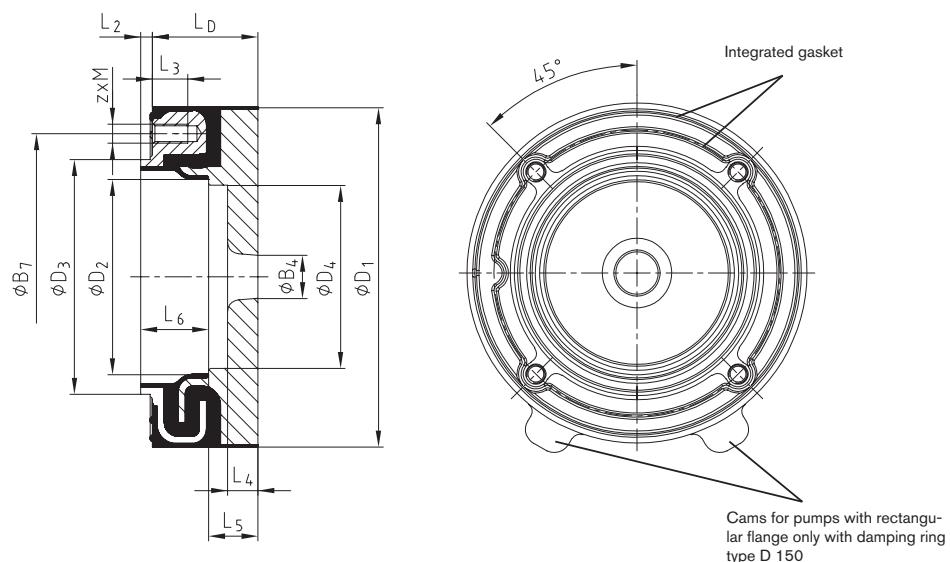
**) Counter nut cannot be assembled!

Ordering example:	ERD	100 - 2.3	
	Elastic flange	Size	Finish bore with thread M36 x 2

DAMPING ELEMENTS

HYDRAULIC COMPONENTS

Damping ring type D



Size	Damping ring type D													
	Dimensions [mm]													
	B ₄		B ₇	D ₁	D ₂	D ₃	D ₄	L _D	L ₂	L ₃	L ₄	L ₅	L ₆	z x M ²⁾
D 150/..	18	83	122	148	83	100	78	45	5	15	13	16	30	4 x M8
D 190/..	30	121	150	190	116	130	100	45	5	15	14	18	33	4 x M10
D 230/..	97	143	195	234	143	160	136	58	5	18	17	23	47	4 x M12
D 260/..	97	164	210	264	164	180	156	58	4	20	18	23	46	4 x M16
D 330/..	120	208	264	330	208	220	201	83	6	35	23	28	64	4 x M20

¹⁾ Pitch circle diameter on request.

²⁾ Tightening torque according to property class 5.6

³⁾ Number of connecting bores on request.

Permissible radial and axial weight load of damping rings based on an ambient temperature of +60 °C					
Size	D 150	D 190	D 230	D 260	D 330
Distance of center of gravity for radial load L [mm]	100	100	100	200	200
Perm. weight F _{max} [N]	650	1800	3000	2300	4100

With a modified distance of center of gravity L_X the permissible weight load is converted. If L_X < L, F_{max} = F_{perm}.

$$F_{\text{perm.}} = F_{\text{max.}} \cdot L / L_X \quad [\text{N}] F_{\text{perm.}}$$

The permissible weight load F_{perm}, must not be exceeded by the existing weight load F_G (neither radially nor axially).

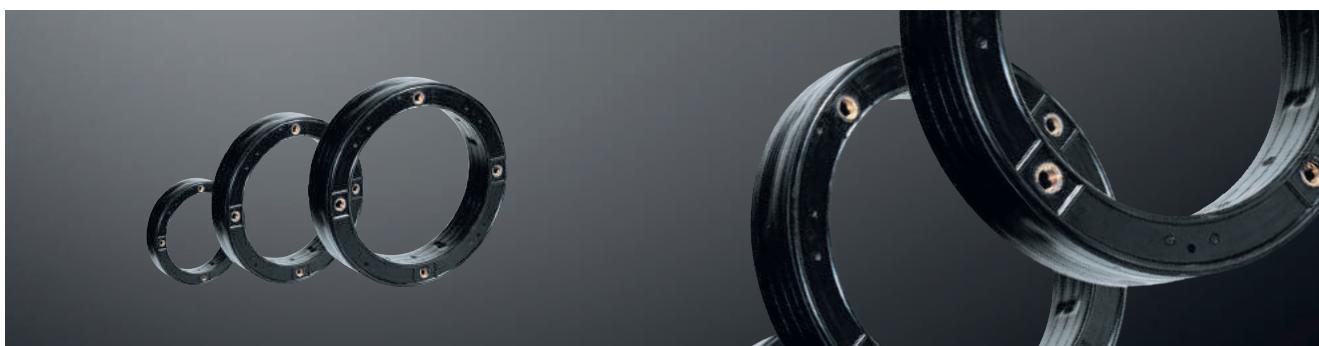
Ordering example:

D	230	14
Damping ring	Size	In-house modification code

DAMPING ELEMENTS

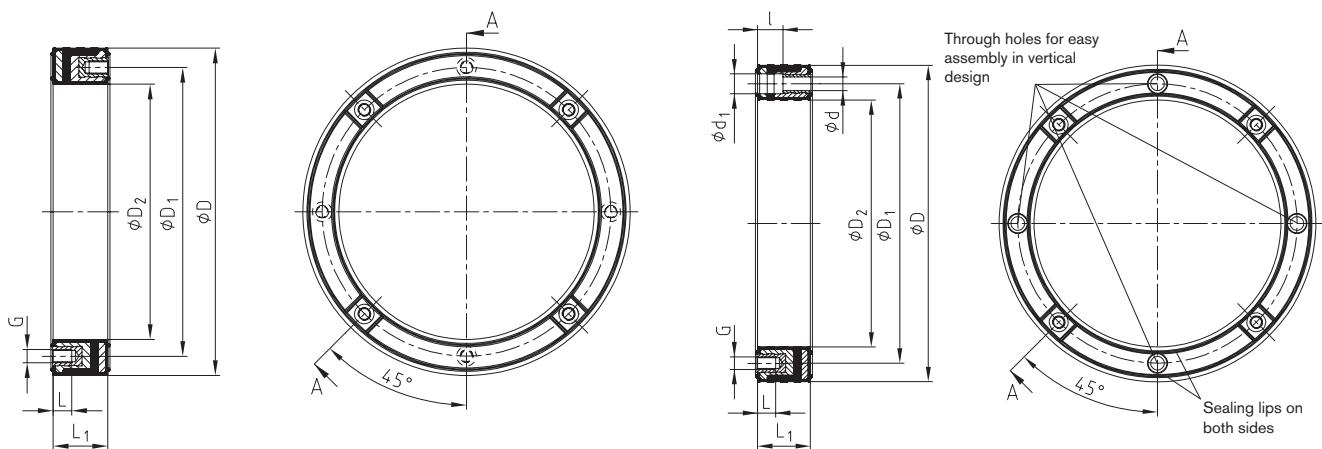
HYDRAULIC COMPONENTS

Damping rings type DT and DT.../2



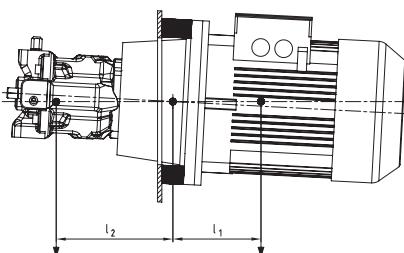
Damping ring type DT

Damping ring type DT.../2



Damping ring type DT (patent pending) and DTV

IEC motor size	Damping ring size	Dimensions [mm]									Screw tightening torque [Nm]
		D	D ₁	D ₂	z x G	L	L ₁	z x d	z x d ₁	I	
71	DTV 160	160	130	111	4 x M8	16.5	35	4 x 9	4 x 14.5	18	12
80, 90S/90L	DT 200	200	165	145.2	4 x M10	20	40	4 x 11	4 x 17.5	20	23
100L/112M	DT 250	250	215	191	4 x M12	17.5	45	4 x 13	4 x 19.5	22	40
132S/132M	DT 300	300	265	235	4 x M12	17.5	50	4 x 13	4 x 19.5	24	40
160M/160L, 180M/180L	DT 350	350	300	261	4 x M16	31	60	4 x 17	4 x 25	26	100
200L	DT 400	400	350	301	4 x M16	31	70	4 x 17	4 x 25	31	100
225S/225M	DT 450	450	400	351	8 x M16	31	80	8 x 17	8 x 25	41	100
250M, 280S/280M	DT 550	550	500	451	8 x M16	30	68	8 x 17	8 x 25	23	210
315S/315M	DT 660	660	600	551	8 x M20	30	68	8 x 22	8 x 33	23	410
355	DTV 800	800	740	681	8 x M20	25	71	—	—	—	410



Permissible weight and bending load of damping rings
considering an ambient temperature of +60 °C

Size	DT 200	DT 250	DT 300	DT 350	DT 400	DT 450	DT 550	DT 660
F _{perm.} [N]	370	720	1450	3600	4800	6600	13000	24000
M _{b perm.} [Nm]	30	65	175	740	1100	1600	4400	9000

$$F_{\text{perm.}} \geq F_P + F_M$$

$$M_{b \text{ perm.}} \geq F_M \cdot l_1 - F_P \cdot l_2$$

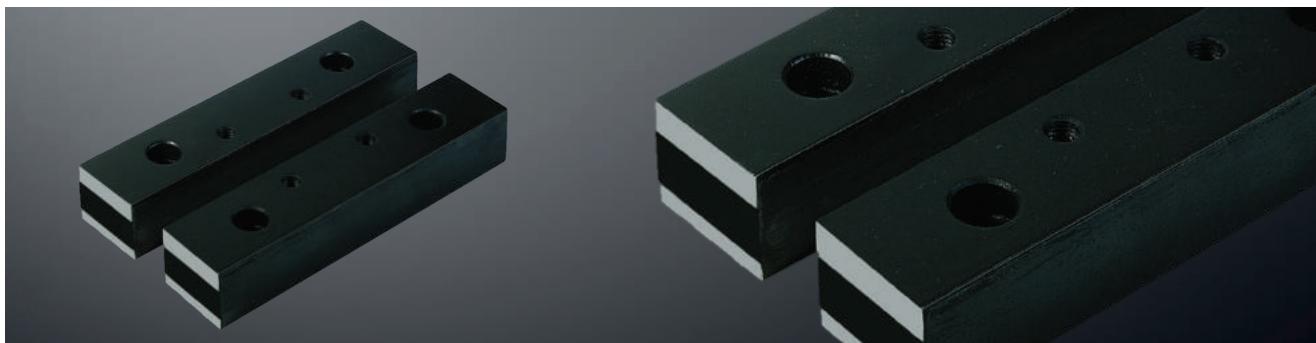
Ordering example:

DT	250
Damping ring	Size

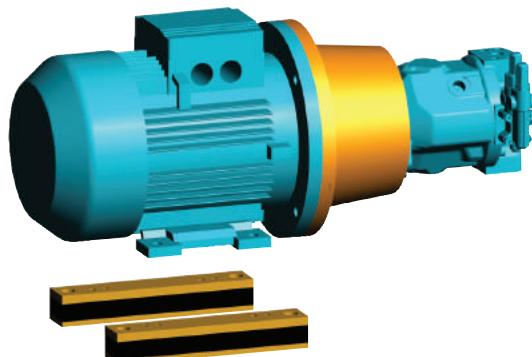
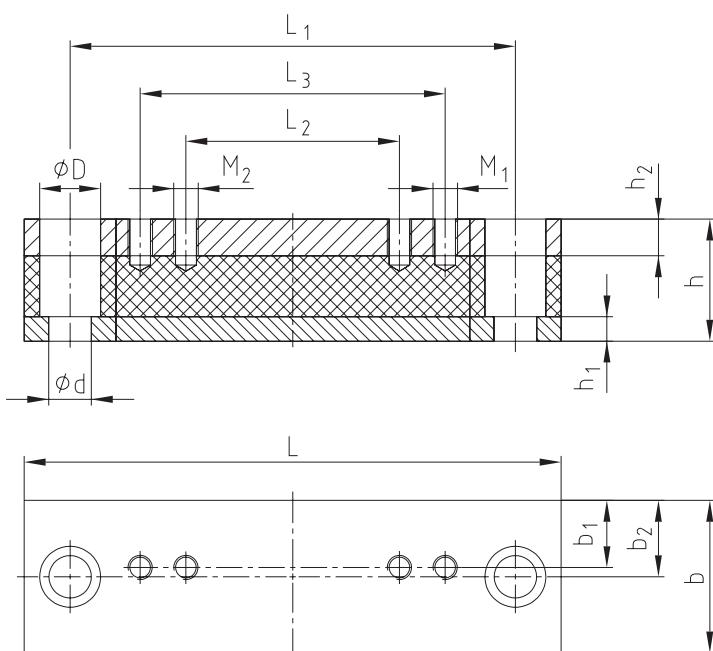
DAMPING ELEMENTS

HYDRAULIC COMPONENTS

Damping rods type DSM



Type DSM



Damping rods type DSM for electric motors type IMB 35, protection class IP54

Damping rod size	For motor size	Dimensions [mm]													
		L	L ₁	L ₂	L ₃	h	h ₁	h ₂	b	b ₁	b ₂	d	D	M ₁	M ₂
DSM 71	71	196	156	90		40	8	12	50	21	25	14	20	M6	
DSM 80	80	176	146	100		40	8	12	50	22	25	14	20	M8	
DSM 90 S	90S	196	156	100		40	8	12	50	24.5	25	14	20	M8	
DSM 90 L	90L	240	205	125		40	8	12	50	24	25	14	20	M8	
DSM 100 L/112 M	100L/112M	240	205	140		40	8	12	50	22	25	14	20	M10	
DSM 132 S/132 M	132S/132M	280	245	140	178	45	8	12	50	20	25	14	20	M10	M10
DSM 160 M	160M	340	300	210		60	15	15	70	28	35	18	26	M12	
DSM 160 L	160L	416	370	254		60	15	15	70	28	35	18	26	M12	
DSM 180 M	180M	416	370	241		60	15	15	70	35	35	18	26	M12	
DSM 180 L	180L	446	400	279		60	15	15	70	35	35	18	26	M12	
DSM 200 L	200L	492	430	305		60	15	15	70	35	35	22	33	M16	
DSM 225 S	225S	492	430	286		60	15	15	70	35	35	22	33	M16	
DSM 225 M	225M	492	445	311		60	15	15	70	35	35	22	33	M16	
DSM 250 M	250M	492	445	349		60	15	15	100	50	50	22	33	M20	
DSM 280 S/280 M	280S/280M	614	570	368	419	60	15	15	100	50	50	22	33	M20	M20
DSM 315 S/315 M	315S/315M	614	570	406	457	60	15	15	120	60	60	22	33	M24	M24
DSM 315 L	315L	704	660	508		60	15	15	120	60	60	22	33	M24	

Other sizes on request

Ordering example:	DSM	100 L/112 M
	Damping rod	Size

DAMPING ELEMENTS

HYDRAULIC COMPONENTS

Damping rods DSFL, DSFS and DSK



Damping rods type DSFL for foot flange type PTFL

Damping rod size	For foot flange	Dimensions [mm]											
		L	L ₁	L ₂	h	h ₁	h ₂	b	b ₁	b ₂	d	D	M
DSFL 160	PTFL 160	176	130	50	40	8	12	50	10	25	14	20	M8
DSFL 200	PTFL 200	176	130	60	40	8	12	50	15	25	14	20	M10
DSFL 250	PTFL 250	230	140	60	40	8	12	50	15	25	14	20	M12
DSFL 300	PTFL 300	270	170	80	40	8	12	50	15	25	14	20	M12
DSFL 350	PTFL 350	305	200	110	60	15	15	70	25	35	18	26	M16

Damping rods type DSFS for foot flange type PTFS

Damping rod size	For foot flange	Dimensions [mm]												
		L	L ₁	L ₂	L ₃	h	h ₁	h ₂	b	b ₁	b ₂	d	D	
DSFS 200L	PTFS 200	245	205	150	—	40	8	12	50	19	25	13	20	M10
DSFS 250	PTFS 250	240	140	185		40	8	12	50	17.5	25	13	20	M12
DSFS 250/300L	PTFS 250/300	340	300	185	225	40	8	12	50	17.5	32.5	13	20	M12
DSFS 300	PTFS 300	280	180	225		40	8	12	50	17.5	25	13	20	M12
DSFS 350	PTFS 350	325	200	265		60	15	15	70	25	35	17	26	M16
DSFS 350/400L	PTFS 350/400	430	390	265	300	60	15	15	70	25	45	18	26	M16
DSFS 400	PTFS 400	350	234	300		60	15	15	70	25	35	17	26	M16
DSFS 450	PTFS 450	385	270	335		60	15	15	70	25	35	17	26	M16
DSFS 450L	PTFS 450	465	425	335		60	15	15	70	25	35	18	26	M16
DSFS 550	PTFS 550	490	350	415		60	15	15	100	25	50	18	26	M16
DSFS 660	PTFS 660	635	415	495		60	15	15	100	30	50	22	33	M20

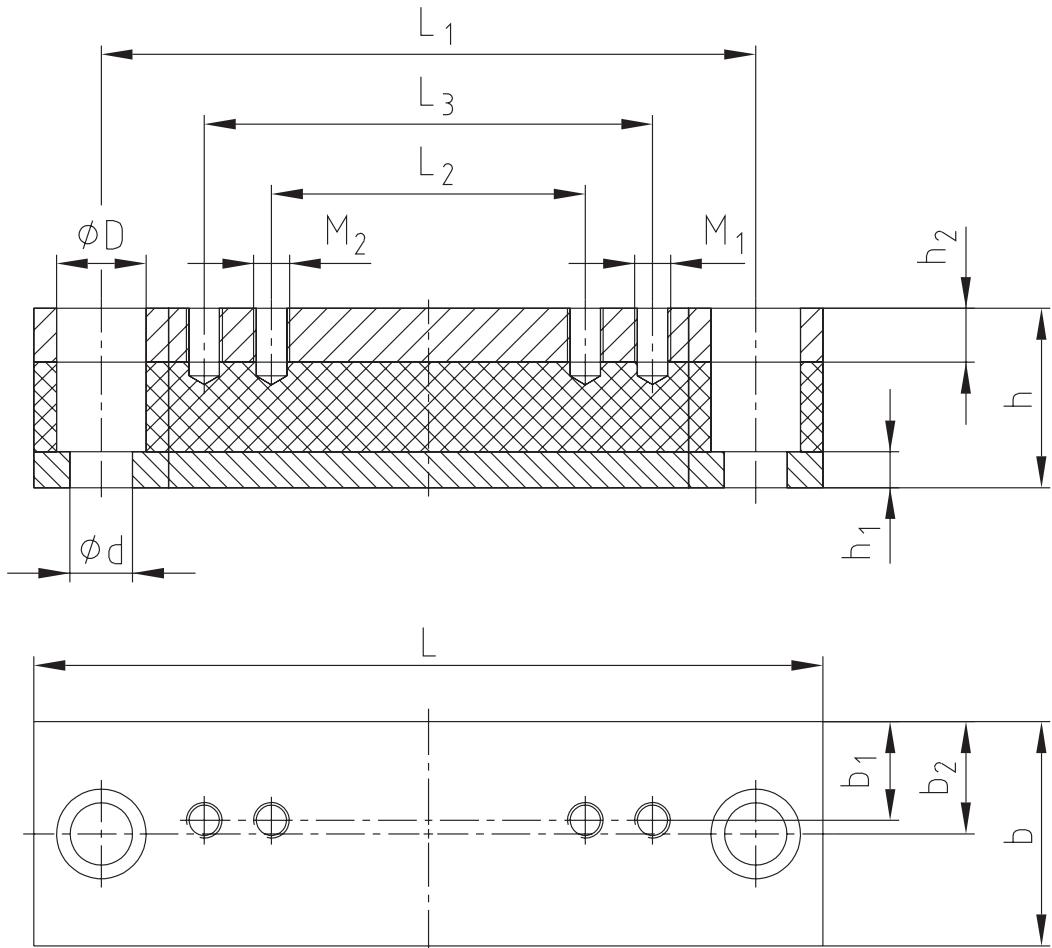
Damping rods type DSK for bellhousings type PIK with integrated oil cooler with feet

Damping rod size	For cooler size	Dimensions [mm]											
		L	L ₁	L ₂	h	h ₁	h ₂	b	b ₁	b ₂	d	D	M
DSK 200	PIK 200	240	210	154.5	40	8	12	50	25	25	14	20	M12
DSK 250	PIK 250	270	240	175.5	40	8	12	50	25	25	14	20	M12
DSK 300	PIK 300	280	250	199.5	45	8	12	50	25	25	14	20	M12
DSK 350	PIK 350	325	295	243.5	60	15	15	70	35	35	14	20	M12

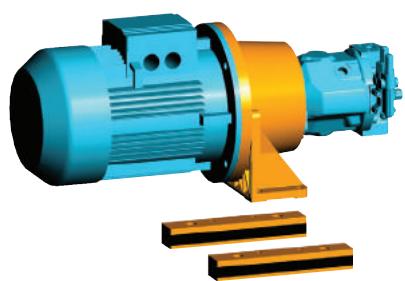


- Damping rods reduce the noise level and dampen vibrations
- Special lengths or types available on request
- Damping rods are made of natural rubber (NR)
- Thrust loading (V1) not permissible
- Available from stock

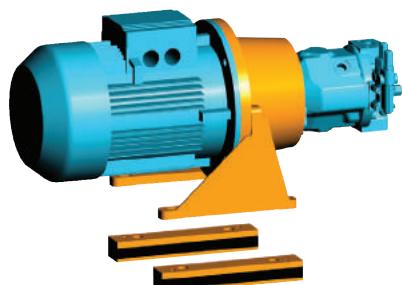
Ordering example:	DSFS	300
	Damping rod	Size



Type DSFL



Type DSFS



Type DSK

