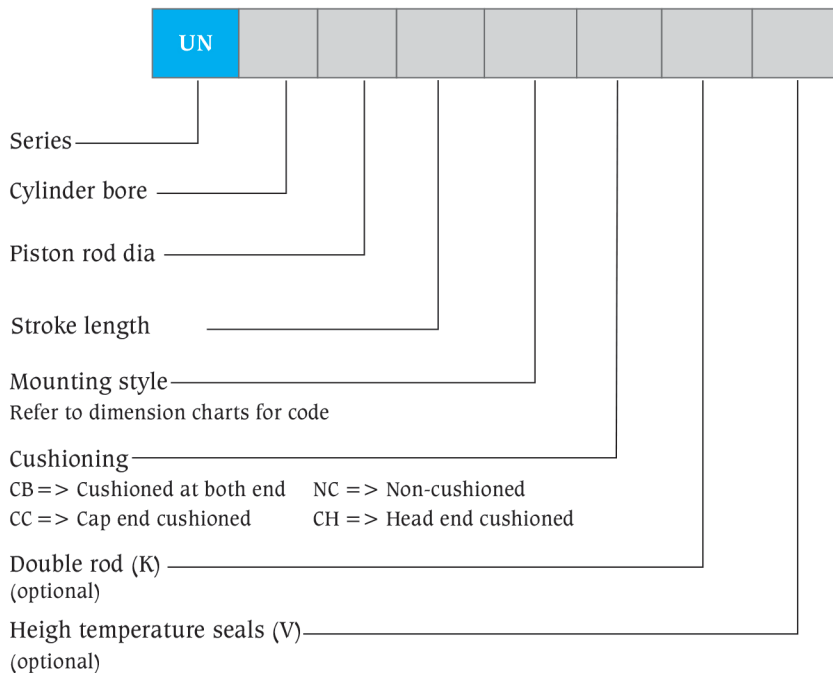




### Cylinder selection guide

Operating pressure at kg/sq. cm				Theoretical forces (at mechanical efficiency = 100%)							
				50		80		100		160	
Piston dia mm	Rod dia mm	Piston area sq. cm	Rod area sq. cm	Push kgf	Pull kgf	Push kgf	Pull kgf	Push kgf	Pull kgf	Push kgf	Pull kgf
40	22	12.57	3.80	628.4	438.31	1005.44	701.29	1256.8	876.62	2010.88	1402.59
	28		6.16		320.48		512.77		640.97		1025.55
50	28	19.64	6.16	981.88	673.96	1571	1078.33	1963.75	1347.92	3142	2156.67
	36		10.18		472.87		756.59		945.74		1513.19
63	36	31.18	10.18	1558.82	1049.82	2494.12	1679.71	3117.65	2099.64	4988.24	3359.43
	45		15.91		763.51		1221.61		1527.01		2443.22
80	45	50.27	15.91	2513.6	1718.28	4021.76	2749.25	5027.2	3436.56	8043.52	5498.5
	56		24.63		1281.94		2051.10		2563.87		4102.20
100	56	78.55	24.63	3927.5	2695.84	6284	4313.34	7855	5391.67	12568	8626.68
	70		38.49		2003.03		3204.84		4006.05		6409.68
125	70	122.73	38.49	6136.72	4212.24	9818.75	6739.59	12273.44	8424.49	19637.5	13479.18
	90		63.63		2955.44		4728.71		5910.89		9457.42
160	90	201.09	63.63	10054.4	6873.13	16087.04	10997	2018.8	13746.25	32174.08	21994
	110		95.05		5302.13		8483.4		10604.25		16966.8
200	110	314.20	95.05	15710	1095.77	25136	17532.36	31420	21915.45	50272	35064.72
	140		153.96		8012.1		12819.36		16024.2		25638.72

### Ordering details of UN Series hydraulic cylinders



#### Example

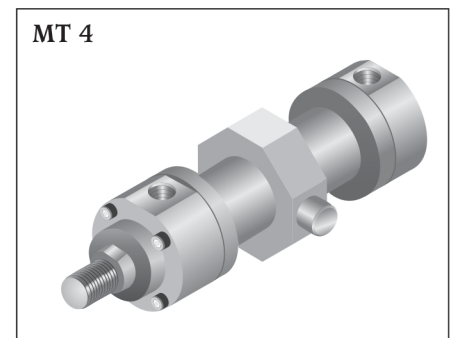
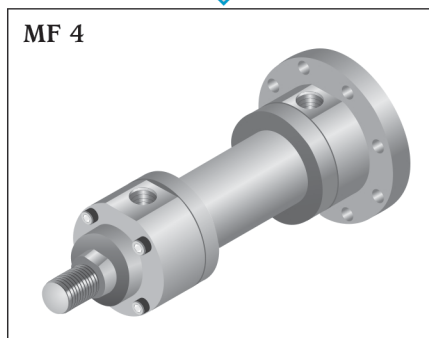
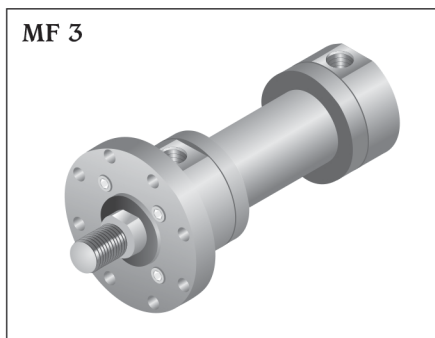
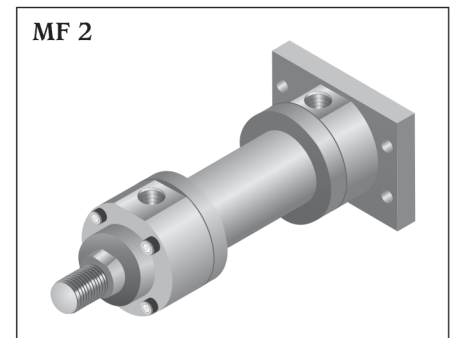
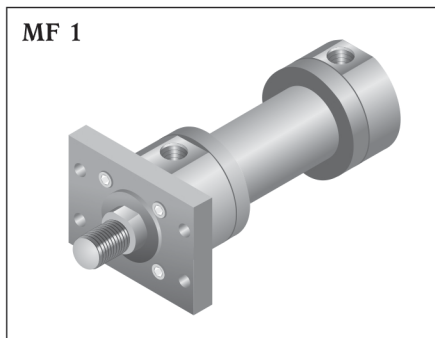
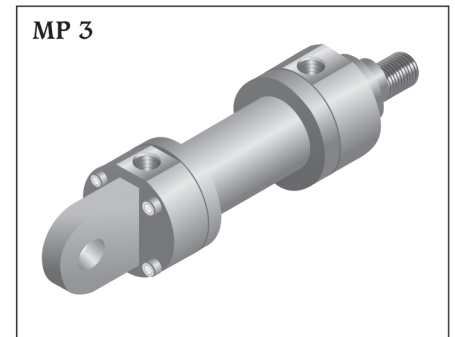
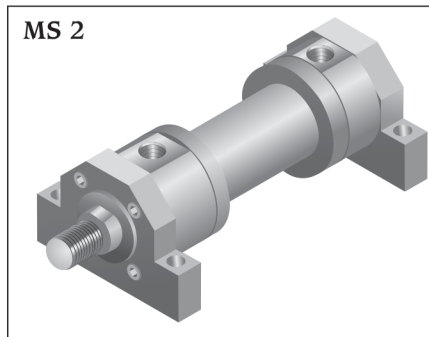
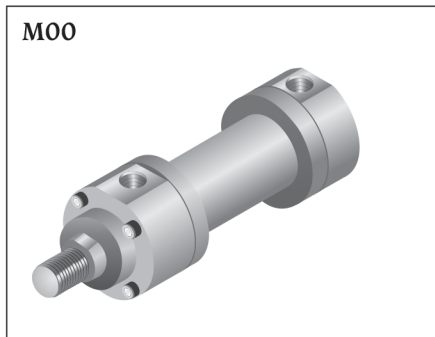
UN series hydraulic cylinder with bore 125mm, piston rod dia 90mm, stroke 150mm, mounting head circular flange and cushion at both ends will be specified as

UN	125	90	150	MF 3	CB	-	-
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All dimensions are in millimeters unless otherwise stated.

### Features and specifications

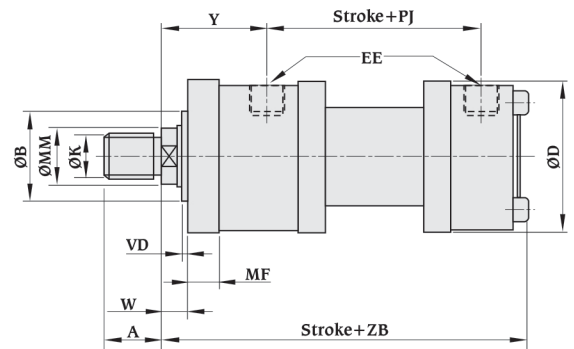
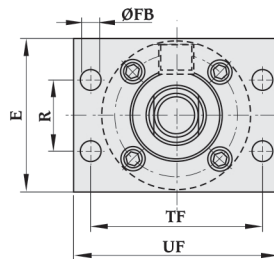
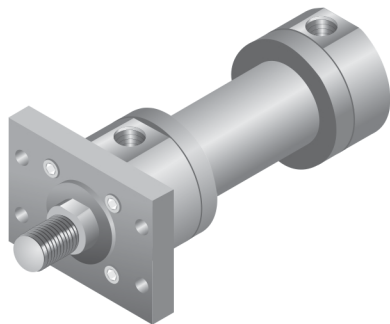
- Interchangeable mountings
- 8 Standard mounting styles
- Provision for smaller as well as bigger rod diameter for each bore size
- Wide range of mounting accessories
- Bore sizes - 40mm to 200mm
- Strokes available in any practical stroke length
- Maximum working pressure - 160 bar
- Piston rods - 22mm to 140mm
- Single rod designs
- Cushioning available from 63mm bore onwards only
- Cushions available at either end
- Temperature range : - 20°C to +80°C (standard)  
- 20°C to +150°C (optional)
- Seal types to suit a wide variety of operating environments
- Standard fluid - Mineral oil DIN 51524 (HL, HLP)



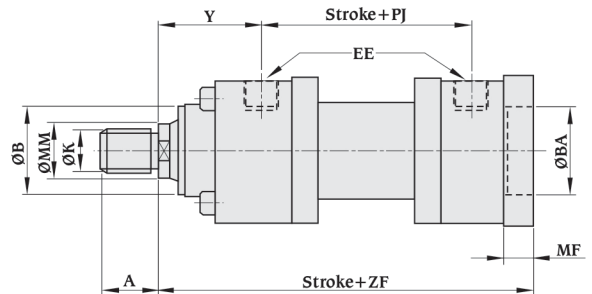
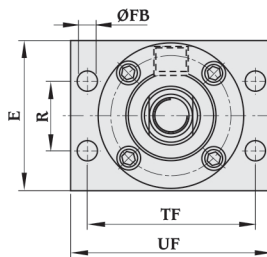
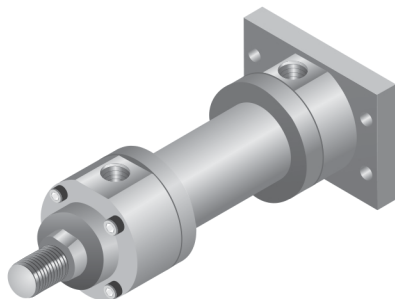
Specifications in this catalogue are subject to change without notice.

## Rectangular flange mountings

Mounting style (MF 1)  
Head rectangular flange



Mounting style (MF 2)  
Cap rectangular flange

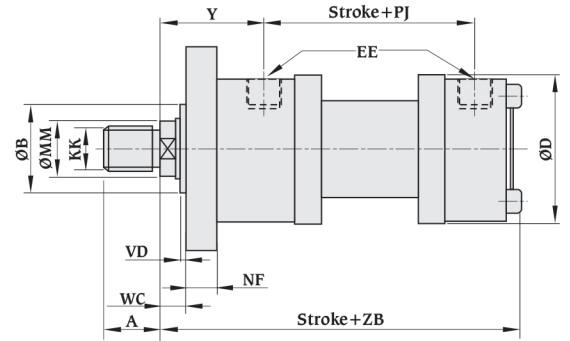
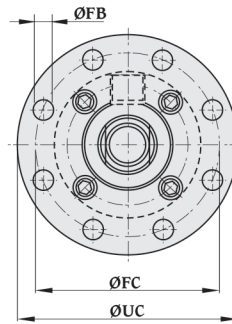
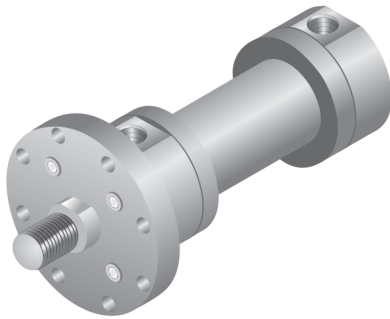


Bore	mm	KK	A	D	B/BA H/f8	W	VD	MF	EE BSP	Y	TF	UF	R	E	FB	Stroke+		
																PJ	ZB	ZF
40	22	M16x1.5	22	78	16	50	3	16	1/2"	71	98	115	40.6	80	9	97	198	206
	28	M 20x1.5	28															
50	28	M 20x1.5	28	95	18	60	4	20	1/2"	72	116.4	140	48.2	11	11	111	213	225
	36	M 27x2	36															
63	36	M 27x2	36	116	20	70	4	25	3/4"	82	134	160	55.5	120	13.5	117	234	249
	45	M 33x2	45															
80	45	M 33x2	45	130	22	85	4	32	3/4"	91	152.5	185	63.1	135	17.5	134	260	282
	56	M 42x2	56															
100	56	M 42x2	56	158	25	106	5	32	1"	108	184.8	225	76.5	160	22	162	310	332
	70	M 48x2	63															
125	70	M 48x2	63	192	28	132	5	32	1"	121	217.1	255	90.2	195	22	174	335	357
	90	M 64x3	85															

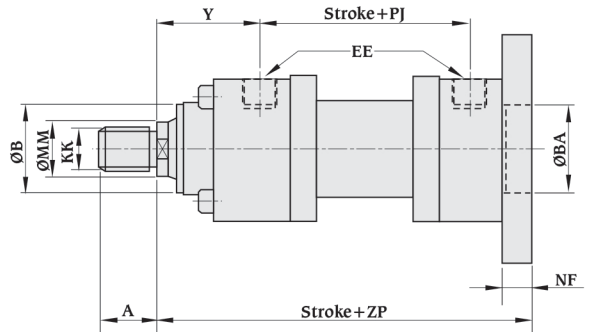
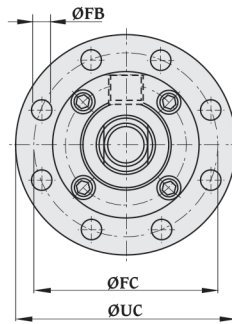
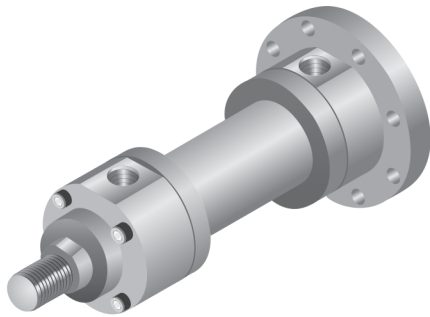
All dimensions are in millimeters unless otherwise stated.

**Rectangular flange mountings**

**Mounting style (MF 3)  
Head circular flange**



**Mounting style (MF 4)  
Cap circular flange**

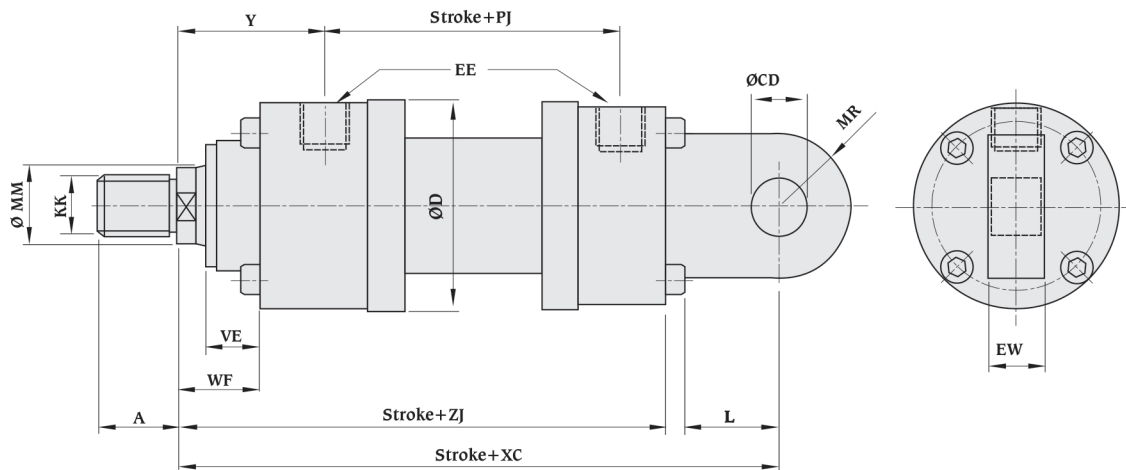
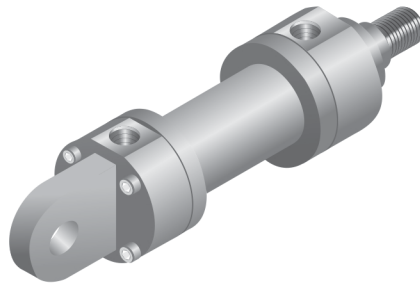


Bore	mm	KK	A	D	B/BA H/f8	WC	VD	NF	EE BSP	Y	FC	UC	FB	Stroke +		
														PJ	ZB	ZP
40	22	M16x1.5	22	78	50	16	3	16	1/2"	71	106	125	8xØ9	97	198	206
	28	M20x1.5	28													
50	28	M20x1.5	28	95	60	18	4	20	1/2"	72	126	150	8xØ11	111	213	225
	36	M27x2	36													
63	36	M27x2	36	116	70	20	4	25	3/4"	82	145	170	8xØ13.5	117	234	249
	45	M33x2	45													
80	45	M33x2	45	130	85	22	4	32	3/4"	91	165	195	8xØ17.5	134	260	282
	56	M42x2	56													
100	56	M42x2	56	158	106	25	5	32	1"	108	200	240	8xØ22	162	310	332
	70	M48x2	63													
125	70	M48x2	63	192	132	28	5	32	1"	121	235	275	8xØ22	174	335	357
	90	M64x3	85													
160	90	M64x3	85	238	160	30	5	36	1-1/4"	143	280	320	8xØ22	191	380	406
	110	M80x3	95													
200	110	M80x3	95	285	200	35	5	40	1-1/4"	190	340	385	8xØ26	224	480	490
	140	M100x3	112													

All dimensions are in millimeters unless otherwise stated.



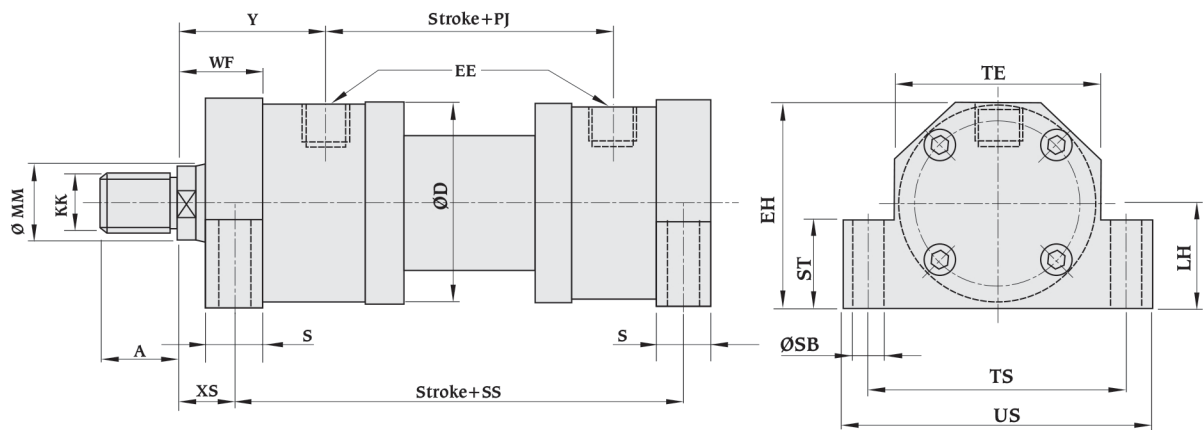
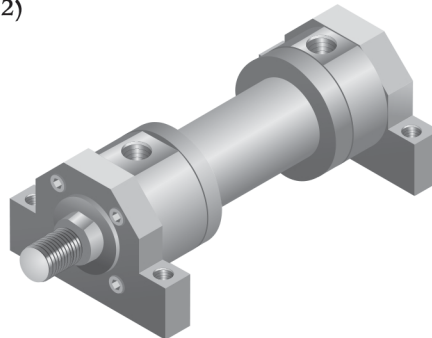
Mounting style  
Cap fixed plain eye (MP3)



Bore	mm	KK	A	D	CD H9	EW	L	MR	EE BSP	WF	VE	Y	Stroke +		
													PJ	ZB	ZF
40	22	M16x1.5	22	78	20	20	25	25	1/2"	32	19	71	97	190	231
	28	M20x1.5	28												
50	28	M20x1.5	28	95	25	25	32	32	1/2"	38	24	72	111	205	257
	36	M27x2	36												
63	36	M27x2	36	116	32	32	40	40	3/4"	45	29	82	117	224	289
	45	M33x2	45												
80	45	M33x2	45	130	40	40	50	50	3/4"	54	36	91	134	250	332
	56	M42x2	56												
100	56	M42x2	56	158	50	50	63	63	1"	57	37	108	162	300	395
	70	M48x2	63												
125	70	M48x2	63	192	63	63	71	71	1"	60	37	121	174	325	428
	90	M64x3	85												
160	90	M64x3	85	238	80	80	90	90	1-1/4"	66	41	143	191	370	505
	110	M80x3	95												
200	110	M80x3	95	285	100	100	112	112	1-1/4"	75	45	190	224	450	615
	140	M100x3	112												

All dimensions are in millimeters unless otherwise stated.

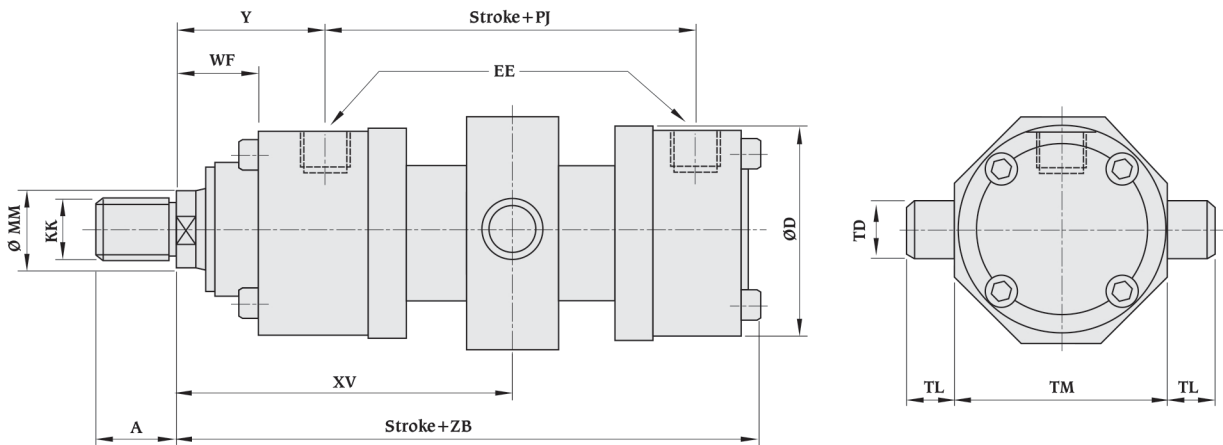
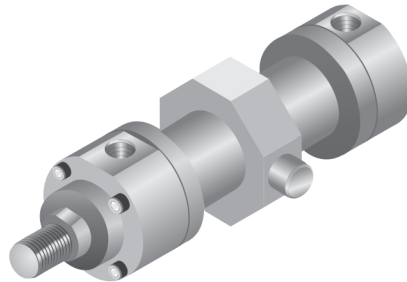
Mounting style  
Side lugs (MS 2)



Bore	mm	KK	A	D	EE BSP	EH	LH	S	SB	ST	TE	TS	US	WF	XS	Y	Stroke+	
																	PJ	SS
40	22	M16x1.5	22	78	1/2"	82	43	25	11	43	78	100	120	32	19.5	71	97	183
	28	M20x1.5	28															
50	28	M20x1.5	28	95	1/2"	100	52	32	14	52	95	120	145	38	22	72	111	199
	36	M27x2	36															
63	36	M27x2	36	116	3/4"	120	62	32	18	62	116	150	180	45	29	82	117	211
	45	M33x2	45															
80	45	M33x2	45	130	3/4"	135	70	40	22	70	130	170	210	54	34	92	134	236
	56	M42x2	56															
100	56	M42x2	56	158	1"	161	82	50	26	82	158	205	250	57	32	108	162	293
	70	M48x2	63															
125	70	M48x2	63	192	1"	196	100	56	33	100	192	245	300	60	32	121	174	321
	90	M64x3	85															
160	90	M64x3	85	238	1-1/4"	238	119	60	33	119	238	295	350	66	36	143	191	364
	110	M80x3	95															
200	110	M80x3	95	285	1-1/4"	288	145	72	39	145	285	350	415	75	39	190	224	447
	140	M100x3	112															

All dimensions are in millimeters unless otherwise stated.

Mounting style  
Intermediate fixed trunnion  
(male) (MT 4)



Bore	mm	KK	A	D	EE BSP	TD f8	TL	TM h 12	WF	XV	Y	Stroke+	
												PJ	ZB
40	22	M16x1.5	22	78	1/2"	20	16	90	32	Dimensions to be specified by customer	71	97	198
	28	M20x1.5	28										
50	28	M20x1.5	28	95	1/2"	25	20	105	38		72	111	213
	36	M27x2	36										
63	36	M27x2	36	116	3/4"	32	25	120	45		82	117	234
	45	M33x2	45										
80	45	M33x2	45	130	3/4"	40	32	135	54		91	134	260
	56	M42x2	56										
100	56	M42x2	56	158	1"	50	40	160	57		108	162	310
	70	M48x2	63										
125	70	M48x2	63	192	1"	63	50	195	60		121	174	335
	90	M64x3	85										
160	90	M64x3	85	238	1-1/4"	80	63	240	66	143	191	380	
	110	M80x3	95										
200	110	M80x3	95	285	1-1/4"	100	80	295	75	190	224	480	
	140	M100x3	112										

All dimensions are in millimeters unless otherwise stated.