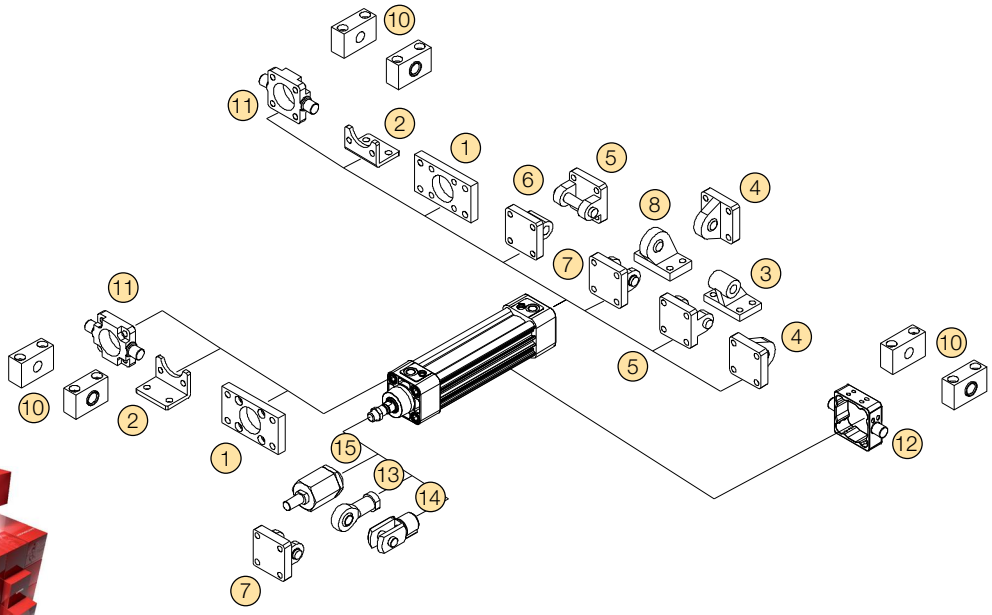
	Flange MF1/MF2 [1]	Foot brackets MS1 [2]	Pivot bracket with rigid bearing AB7 [3]	Swivel eye bracket MP6 [4]	Clevis bracket MP2 [5]
					
Ø 32	P1C-4KMB	P1C-4KMF	P1C-4KMD	P1C-4KMSA	P1C-4KMT
Ø 40	P1C-4LMB	P1C-4LMF	P1C-4LMD	P1C-4LMSA	P1C-4LMT
Ø 50	P1C-4MMB	P1C-4MMF	P1C-4MMD	P1C-4MMSA	P1C-4MMT
Ø 63	P1C-4NMB	P1C-4NMF	P1C-4NMD	P1C-4NMSA	P1C-4NMT
Ø 80	P1C-4PMB	P1C-4PMF	P1C-4PMD	P1C-4PMSA	P1C-4PMT
Ø 100	P1C-4QMB	P1C-4QMF	P1C-4QMD	P1C-4QMSA	P1C-4QMT
Ø 125	P1C-4RMB	P1C-4RMF	P1C-4RMD	P1C-4RMSA	P1C-4RMT

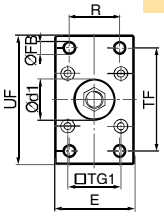
	Clevis bracket MP4 [6]	Clevis bracket AB6 [7]	Pivot bracket with swivel bearing CS7 [8]	3 and 4 positions flange JP1	Pivot brackets AT4 [10] for MT* trunnion
					
Ø 32	P1C-4KME	P1C-4KMCA	P1C-4KMA	P1E-6KB0	9301054261
Ø 40	P1C-4LME	P1C-4LMCA	P1C-4LMA	P1E-6LB0	9301054262
Ø 50	P1C-4MME	P1C-4MMCA	P1C-4MMA	P1E-6MB0	9301054262
Ø 63	P1C-4NME	P1C-4NMCA	P1C-4NMA	P1E-6NB0	9301054264
Ø 80	P1C-4PME	P1C-4PMCA	P1C-4PMA	P1E-6PB0	9301054264
Ø 100	P1C-4QME	P1C-4QMCA	P1C-4QMA	P1E-6QB0	9301054266
Ø 125	P1C-4RME	P1C-4RMCA	P1C-4RMA		9301054266

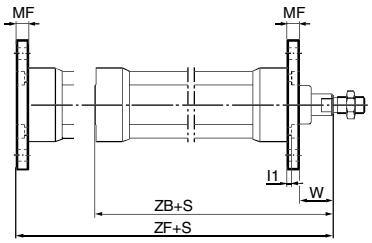
	Flange mounting trunnion MT5/MT6 [11]	Centre trunnion MT4 [12]	Swivel rod eye AP6 [13]	Clevis AP2 [14]	Flexo coupling PM5 [15]
					
Ø 32	P1D-4KMYF	Factory fitted	P1C-4KRS	P1C-4KRC	P1C-4KRF
Ø 40	P1D-4LMYF	Factory fitted	P1C-4LRS	P1C-4LRC	P1C-4LRF
Ø 50	P1D-4MMYF	Factory fitted	P1C-4MRS	P1C-4MRC	P1C-4MRF
Ø 63	P1D-4NMYF	Factory fitted	P1C-4MRS	P1C-4MRC	P1C-4MRF
Ø 80	P1D-4PMYF	Factory fitted	P1C-4PRS	P1C-4PRC	P1C-4PRF
Ø 100	P1D-4QMYF	Factory fitted	P1C-4PRS	P1C-4PRC	P1C-4PRF
Ø 125		Factory fitted	P1C-4RRS	P1C-4RRC	P1C-4RRF

	Zinc-plated steel nut MR9 (pack of 10)
	
Ø 32	P14-4KRPZ
Ø 40	P14-4LRPZ
Ø 50	P14-4MRPZ
Ø 63	P14-4MRPZ
Ø 80	P14-4PRPZ
Ø 100	P14-4PRPZ
Ø 125	P14-4RRPZ



Type	Description	For mounting screws in stainless steel see page 51	Cyl. bore Ø mm	Weight kg	Order code
Flange MF1/MF2	Intended for fixed mounting of cylinder. Flange can be fitted to front or rear end cover of cylinder. Materials Flange: Surface-treated steel, black Mounting screws acc. to DIN 6912: Zinc-plated steel 8.8 Supplied complete with mounting screws for attachment to cylinder.		32 40 50 63 80 100 125	0,23 0,28 0,53 0,71 1,59 2,19 3,78	**P1C-4KMB** **P1C-4LMB** **P1C-4MMB** **P1C-4NMB** **P1C-4PMB** **P1C-4QMB** **P1C-4RMB**



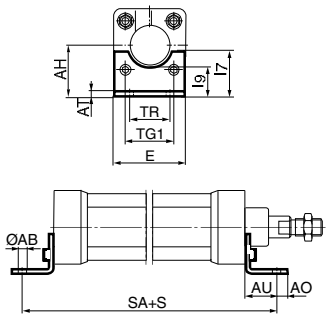


Cyl. bore mm	d1 H11 mm	FB H13 mm	TG1 mm	E mm	R JS14 mm	MF JS14 mm	TF JS14 mm	UF mm	l1 -0,5 mm	W* mm	ZF* mm	ZB* mm
32	30	7	32,5	45	32	10	64	80	5,0	16	130	123,5
40	35	9	38,0	52	36	10	72	90	5,0	20	145	138,5
50	40	9	46,5	65	45	12	90	110	6,5	25	155	146,5
63	45	9	56,5	75	50	12	100	120	6,5	25	170	161,5
80	45	12	72,0	95	63	16	126	150	8,0	30	190	177,5
100	55	14	89,0	115	75	16	150	170	8,0	35	205	192,5
125	60	16	110,0	140	90	20	180	205	10,5	45	245	230,5

S = Stroke length * Does not apply to cylinders with lock unit

Foot brackets MS1	Intended for fixed mounting of cylinder. Foot bracket can be fitted to front and rear end covers of cylinder. Materials Foot bracket: Surface-treated steel, black Mounting screws acc. to DIN 912: Zinc-plated steel 8.8 Supplied in pairs with mounting screws for attachment to cylinder.	32 40 50 63 80 100 125	0,06** 0,08** 0,16** 0,25** 0,50** 0,85** 1,48**	**P1C-4KMF** **P1C-4LMF** **P1C-4MMF** **P1C-4NMF** **P1C-4PMF** **P1C-4QMF** **P1C-4RMF**

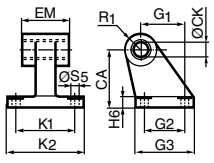
** Weight per item



Cyl. bore mm	AB H14 mm	TG1 mm	E mm	TR JS14 mm	AO mm	AU mm	AH JS15 mm	l7 mm	AT mm	l9 JS14 mm	SA* mm
32	7	32,5	45	32	10	24	32	30	4,5	17,0	142
40	9	38,0	52	36	8	28	36	30	4,5	18,5	161
50	9	46,5	65	45	13	32	45	36	5,5	25,0	170
63	9	56,5	75	50	13	32	50	35	5,5	27,5	185
80	12	72,0	95	63	14	41	63	49	6,5	40,5	210
100	14	89,0	115	75	15	41	71	54	6,5	43,5	220
125	16	110,0	140	90	22	45	90	71	8,0	60,0	250

S = Stroke length * Does not apply to cylinders with lock unit

Pivot bracket with rigid bearing AB7	Intended for flexible mounting of cylinder. The pivot bracket can be combined with clevis bracket MP2. Materials Pivot bracket: Surface-treated aluminium, black Bearing: Sintered oil-bronze bushing	32 40 50 63 80 100 125	0,06 0,08 0,15 0,20 0,33 0,49 1,02	**P1C-4KMD** **P1C-4LMD** **P1C-4MMD** **P1C-4NMD** **P1C-4PMD** **P1C-4QMD** **P1C-4RMD**

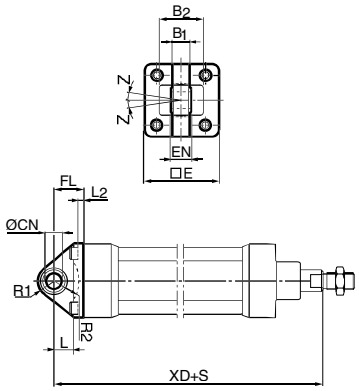


Cyl. bore mm	CK H9 mm	S5 H13 mm	K1 JS14 mm	K2 mm	G1 JS14 mm	G2 JS14 mm	EM mm	G3 mm	CA JS15 mm	H6 mm	R1 mm
32	10	6,6	38	51	21	18	25,5	31	32	8	10,0
40	12	6,6	41	54	24	22	27,0	35	36	10	11,0
50	12	9,0	50	65	33	30	31,0	45	45	12	13,0
63	16	9,0	52	67	37	35	39,0	50	50	12	15,0
80	16	11,0	66	86	47	40	49,0	60	63	14	15,0
100	20	11,0	76	96	55	50	59,0	70	71	15	19,0
125	25	14,0	94	124	70	60	69,0	90	90	20	22,5

Type	Description	For mounting screws in stainless steel see page 51	Cyl. bore Ø mm	Weight kg	Order code
Swivel eye bracket MP6	Intended for use together with clevis bracket GA Material Bracket: Surface-treated aluminium, black Swivel bearing acc. to DIN 648K: Hardened steel Supplied complete with mounting screws for attachment to cylinder.		32 40 50 63 80 100 125	0,08 0,11 0,20 0,27 0,52 0,72 1,53	**P1C-4KMSA** **P1C-4LMSA** **P1C-4MMSA** **P1C-4NMSA** **P1C-4PMSA** **P1C-4QMSA** **P1C-4RMSA**

Cyl. bore mm	E mm	B1 mm	B2 mm	EN mm	R1 mm	R2 mm	FL mm	l2 mm	L mm	CN H7 mm	XD* mm	Z
32	45	10,5	-	14	16	-	22	5,5	12	10	142	4°
40	52	12,0	-	16	18	-	25	5,5	15	12	160	4°
50	65	15,0	51	21	21	19	27	6,5	15	16	170	4°
63	75	15,0	-	21	23	-	32	6,5	20	16	190	4°
80	95	18,0	-	25	29	-	36	10,0	20	20	210	4°
100	115	18,0	-	25	31	-	41	10,0	25	20	230	4°
125	140	25,0	-	37	40	-	50	10,0	30	30	275	4°

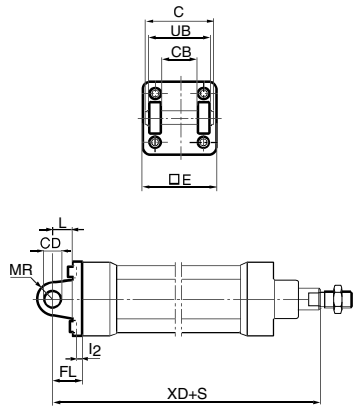
S = Stroke length * Does not apply to cylinders with lock unit



Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Clevis bracket MP2	Intended for flexible mounting of cylinder. Clevis bracket MP2 can be combined with clevis bracket MP4. Materials Clevis bracket: Surface-treated aluminium, black Pin: Surface hardened steel Circlips according to DIN 471: Spring steel Mounting screws acc. to DIN 912: Zinc-plated steel 8.8 Supplied complete with mounting screws for attachment to cylinder.	32 40 50 63 80 100 125	0,08 0,11 0,14 0,29 0,36 0,64 1,17	**P1C-4KMT** **P1C-4LMT** **P1C-4MMT** **P1C-4NMT** **P1C-4PMT** **P1C-4QMT** **P1C-4RMT**

Cyl. bore mm	C mm	E mm	UB h14 mm	CB H14 mm	FL ±0,2 mm	L mm	l2 mm	CD H9 mm	MR mm	XD* mm
32	53	45	45	26	22	13	5,5	10	10	142
40	60	52	52	28	25	16	5,5	12	12	160
50	68	65	60	32	27	16	6,5	12	12	170
63	78	75	70	40	32	21	6,5	16	16	190
80	98	95	90	50	36	22	10,0	16	16	210
100	118	115	110	60	41	27	10,0	20	20	230
125	139	140	130	70	50	30	10,0	25	25	275

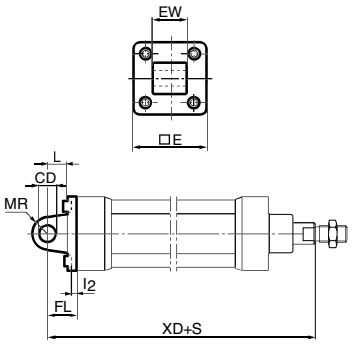
S = Stroke length * Does not apply to cylinders with lock unit



Type	Description	For mounting screws in stainless steel see page 51	Cyl. bore Ø mm	Weight kg	Order code
Clevis bracket MP4 	Intended for flexible mounting of cylinder. Clevis bracket MP4 can be combined with clevis bracket MP2. Materials Clevis bracket: Surface-treated aluminium, black Mounting screws acc. to DIN 912: Zinc-plated steel 8.8 Supplied complete with mounting screws for attachment to cylinder.		32 40 50 63 80 100 125	0,09 0,13 0,17 0,36 0,46 0,83 1,53	**P1C-4KME** **P1C-4LME** **P1C-4MME** **P1C-4NME** **P1C-4PME** **P1C-4QME** **P1C-4RME**

Cyl. bore mm	E mm	EW mm	FL mm	L ±0,2 mm	l2 mm	CD mm	MR H9 mm	XD* mm
32	45	26	22	13	5,5	10	10	142
40	52	28	25	16	5,5	12	12	160
50	65	32	27	16	6,5	12	12	170
63	75	40	32	21	6,5	16	16	190
80	95	50	36	22	10,0	16	16	210
100	115	60	41	27	10,0	20	20	230
125	140	70	50	30	10,0	25	25	275

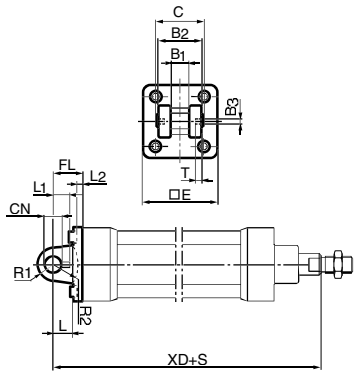
S = Stroke length * Does not apply to cylinders with lock unit



Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Clevis bracket AB6 	Intended for flexible mounting of cylinder. Clevis bracket GA can be combined with pivot bracket with swivel bearing, swivel eye bracket and swivel rod eye. Materials Clevis bracket: Surface-treated aluminium Pin: Surface hardened steel Locking pin: Spring steel Circlips according to DIN 471: Spring steel Mounting screws acc. to DIN 912: Zinc-plated steel 8.8 Supplied complete with mounting screws for attachment to cylinder.	32 40 50 63 80 100 125	0,09 0,13 0,17 0,36 0,58 0,89 1,75	**P1C-4KMCA** **P1C-4LMCA** **P1C-4MMCA** **P1C-4NMCA** **P1C-4PMCA** **P1C-4QMCA** **P1C-4RMCA**

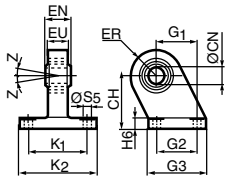
Cyl. bore mm	C mm	E mm	B2 d12 mm	B1 H14 mm	T mm	B3 mm	R2 mm	L1 mm	FL ±0,2 mm	l2 mm	L mm	CN F7 mm	R1 mm	XD* mm
32	41	45	34	14	3	3,3	17	11,5	22	5,5	12	10	11	142
40	48	52	40	16	4	4,3	20	12,0	25	5,5	15	12	13	160
50	54	65	45	21	4	4,3	22	14,0	27	6,5	17	16	18	170
63	60	75	51	21	4	4,3	25	14,0	32	6,5	20	16	18	190
80	75	95	65	25	4	4,3	30	16,0	36	10,0	20	20	22	210
100	85	115	75	25	4	4,3	32	16,0	41	10,0	25	20	22	230
125	110	140	97	37	6	6,3	42	24,0	50	10,0	30	30	30	275

S = Stroke length * Does not apply to cylinders with lock unit



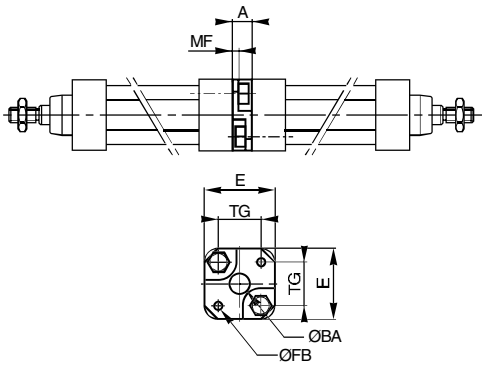
Type	Description	For mounting screws in stainless steel see page 51	Cyl. bore Ø mm	Weight kg	Order code
Pivot bracket with swivel bearing CS7 	Intended for use together with clevis bracket GA. Material Pivot bracket: Surface-treated steel, black Swivel bearing acc. to DIN 648K: Hardened steel		32 40 50 63 80 100 125	0,18 0,25 0,47 0,57 1,05 1,42 3,10	**P1C-4KMA** **P1C-4LMA** **P1C-4MMA** **P1C-4NMA** **P1C-4PMA** **P1C-4QMA** **P1C-4RMA**

Cyl. bore mm	CN H7 mm	S5 H13 mm	K1 JS14 mm	K2 mm	EU mm	G1 JS14 mm	G2 JS14 mm	EN mm	G3 mm	CH JS15 mm	H6 mm	ER mm	Z
32	10	6,6	38	51	10,5	21	18	14	31	32	10	16	4°
40	12	6,6	41	54	12,0	24	22	16	35	36	10	18	4°
50	16	9,0	50	65	15,0	33	30	21	45	45	12	21	4°
63	16	9,0	52	67	15,0	37	35	21	50	50	12	23	4°
80	20	11,0	66	86	18,0	47	40	25	60	63	14	28	4°
100	20	11,0	76	96	18,0	55	50	25	70	71	15	30	4°
125	30	14,0	94	124	25,0	70	60	37	90	90	20	40	4°



3 and 4 positions flange JP1 	Mounting kit for back to back mounted cylinders, 3 and 4 position cylinders. Material: Mounting: Aluminium Mounting screws: Zinc-plated steel 8.8	32 40 50 63 80 100	0,060 0,078 0,162 0,194 0,450 0,672	**P1E-6KB0** **P1E-6LB0** **P1E-6MB0** **P1E-6NB0** **P1E-6PB0** **P1E-6QB0**

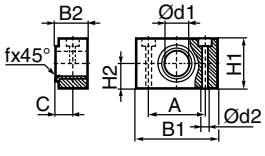
Cyl. bore mm	E mm	TG mm	ØFB mm	MF mm	A mm	ØBA mm
32	50	32,5	6,5	5	16	30
40	60	38,0	6,5	5	16	35
50	66	46,5	8,5	6	20	40
63	80	56,5	8,5	6	20	45
80	100	72,0	10,5	8	25	45
100	118	89,0	10,5	8	25	55



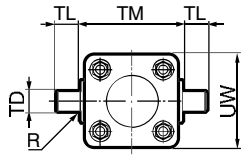
Pivot brackets AT4 for MT* trunnion 	Intended for use together with centre trunnion MT4. Material Pivot bracket: Surface-treated aluminium Bearing acc. to DIN 1850 C: Sintered oil-bronze bushing Supplied in pairs.	32 40 50 63 80 100 125	0,04* 0,07* 0,07* 0,12* 0,12* 0,21* 0,21*	**9301054261** **9301054262** **9301054262** **9301054264** **9301054264** **9301054266** **9301054266**

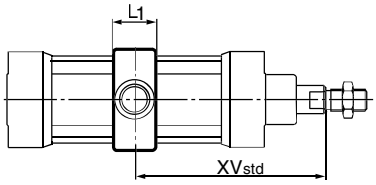
* Weight per item.

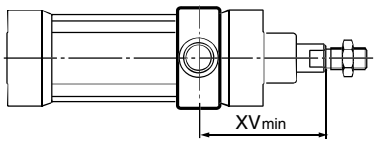
Cyl. bore mm	B1 mm	B2 mm	A mm	C mm	d1 mm	d2 H13 mm	H1 mm	H2 mm	fx45° min mm
32	46	18,0	32	10,5	12	6,6	30	15	1,0
40	55	21,0	36	12,0	16	9,0	36	18	1,6
50	55	21,0	36	12,0	16	9,0	36	18	1,6
63	65	23,0	42	13,0	20	11,0	40	20	1,6
80	65	23,0	42	13,0	20	11,0	40	20	1,6
100	75	28,5	50	16,0	25	14,0	50	25	2,0
125	75	28,5	50	16,0	25	14,0	50	25	2,0

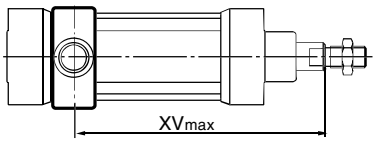


Type	Description	For mounting screws in stainless steel see page 51	Cyl. bore Ø mm	Weight kg	Order code
Centre trunnion MT4 for P1D-S 	Intended for articulated mounting of cylinder. This mounting is available for the P1D Standard and for the tie-rod design of P1D. The trunnion is factory-fitted in the centre of the cylinder or at an optional location specified by the XV-measure – see the order code key. Combined with pivot bracket for MT4. Material: Trunnion: zinc plated steel		32 40 50 63 80 100 125	0,13 0,31 0,37 0,69 0,89 1,58 2,60	**See order code key**
Centre trunnion MT4 for P1D-T 	**Trunnion centred** The centre trunnion for the P1D-S and P1D-T is ordered with letter D in position 17 (no dimension specified in positions 18-20). See the order code key. **Trunnion with optional location** The centre trunnion for the P1D-S and P1D-T is ordered with letter G in position 17 and desired XV-measure (3-digit measure in mm) in positions 18-20. See the order code key. **Trunnion loose** P1D-S can also be ordered with the centre trunnion loosely fitted to the cylinder (not fixed in position). This allows the position to be established at the time of installation. Ordered with letter G in position 17 and 000 in positions 18-20. Please refer to the order code key.				





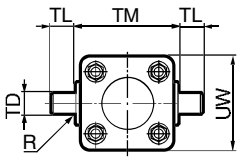


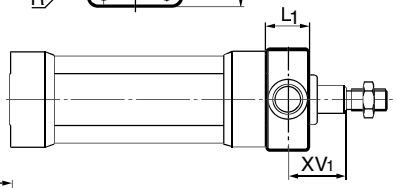


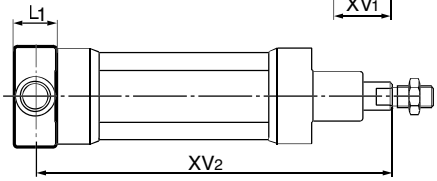
Cyl. bore mm	TM h14 mm	TL h14 mm	TD e9 mm	R mm	UW P1D-S mm	UW P1D-T mm	L1 P1D-S mm	L1 P1D-T mm	X1* mm	XV_{min} P1D-S mm	XV_{min} P1D-T mm	XV_{min} P1D-L mm	X2 P1D-S mm	X2 P1D-T mm	X2 P1D-L mm
32	50	12	12	1,0	52	46	18	15	73,0	89	62	121	57	84	88
40	63	16	16	1,6	59	59	20	20	82,5	95	73	125	70	92	99
50	75	16	16	1,6	71	69	20	20	90,0	113	81	140	67	99	93
63	90	20	20	1,6	84	84	26	25	97,5	118	89	155	78	106	114
80	110	20	20	1,6	105	102	26	25	110,0	132	98	177	88	122	132
100	132	25	25	2,0	129	125	32	30	120,0	140	111	197	100	129	156
125	160	25	25	2,0	159	155	33	32	145,0	168	132	224	122	158	177

XVstd = X1 + Stroke length/2, XVmax = X2 + Stroke length

Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Flange mounted trunnion MT5/MT6 	Intended for articulated mounting of cylinder. This trunnion can be flange mounted on the front or rear end cover of all P1D cylinders. At your choice, you can order a complete cylinder with factory-fitted flange mounted trunnion – see the order code key. Individual trunnions have order code as shown to the right. Material: Trunnion: zinc plated steel Screws: zinc plated steel, 8.8 Delivered complete with mounting screws for attachment to the cylinder	32 40 50 63 80 100	0,17 0,43 0,55 1,10 1,66 3,00	**P1D-4KMYF** **P1D-4LMYF** **P1D-4MMYF** **P1D-4NMYF** **P1D-4PMYF** **P1D-4QMYF**







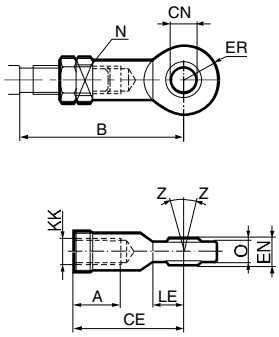
Cyl. bore mm	TM h14 mm	TL h14 mm	TD e9 mm	R mm	UW mm	L1 mm	XV_1* mm	X* mm	Y mm
32	50	12	12	1,0	46	14	19,5	126,5	11
40	63	16	16	1,6	59	19	21,0	144,0	14
50	75	16	16	1,6	69	19	28,0	152,0	20
63	90	20	20	1,6	84	24	25,5	169,5	20
80	110	20	20	1,6	102	24	34,5	185,5	26
100	132	25	25	2,0	125	29	37,0	203,0	31

XV_2 = X +Stroke length * Does not apply to cylinders with lock unit,

To fit a flange mounted trunnion at the front end cover of a P1D cylinder with lock unit, the piston rod must be extended. This is in order to provide the same WH dimensions as for the P1D base cylinder with dimension Y.

Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Swivel rod eye AP6 	Swivel rod eye for articulated mounting of cylinder. Swivel rod eye can be combined with clevis bracket GA. Maintenance-free. Materials Swivel rod eye: Zinc-plated steel Swivel bearing according to DIN 648K: Hardened steel	32 40 50 63 80 100 125	0,08 0,12 0,25 0,25 0,46 0,46 1,28	**P1C-4KRS** **P1C-4LRS** **P1C-4MRS** **P1C-4MRS** **P1C-4PRS** **P1C-4PRS** **P1C-4RRS**
Stainless steel swivel rod eye AP6 	Stainless-steel swivel rod eye for articulated mounting of cylinder. Swivel rod eye can be combined with clevis bracket GA. Maintenance-free. Materials Swivel rod eye: Stainless steel Swivel bearing according to DIN 648K: Stainless steel Use stainless steel nut with stainless steel swivel rod eye.	32 40 50 63 80 100 125	0,08 0,12 0,25 0,25 0,46 0,46 1,28	**P1S-4JRT** **P1S-4LRT** **P1S-4MRT** **P1S-4MRT** **P1S-4PRT** **P1S-4PRT** **P1S-4RRT**

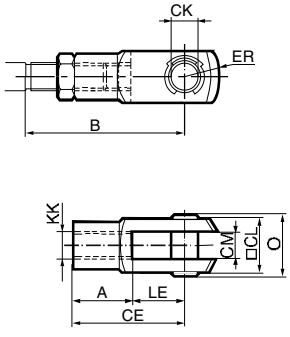
According to ISO 8139



Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CN H9 mm	EN h12 mm	ER mm	KK	LE min mm	N mm	O mm	Z
32	20	48,0	55	43	10	14	14	M10x1,25	15	17	10,5	12°
40	22	56,0	62	50	12	16	16	M12x1,25	17	19	12,0	12°
50	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°
63	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°
80	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°
100	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°
125	51	123,5	137	110	30	37	35	M27x2	36	41	25,0	15°

Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Clevis AP2 	Clevis for articulated mounting of cylinder. Material Clevis, clip: Galvanized steel Pin: Hardened steel	32 40 50 63 80 100 125	0,09 0,15 0,35 0,35 0,75 0,75 2,10	**P1C-4KRC** **P1C-4LRC** **P1C-4MRC** **P1C-4MRC** **P1C-4PRC** **P1C-4PRC** **P1C-4RRC**
Stainless steel clevis AP2 	Stainless-steel clevis for articulated mounting of cylinder. Material Clevis: Stainless steel Pin: Stainless steel Circlips according to DIN 471: Stainless steel Use stainless steel nut with stainless steel swivel rod eye.	32 40 50 63 80 100 125	0,09 0,15 0,35 0,35 0,75 0,75 2,10	**P1S-4JRD** **P1S-4LRD** **P1S-4MRD** **P1S-4MRD** **P1S-4PRD** **P1S-4PRD** **P1S-4RRD**

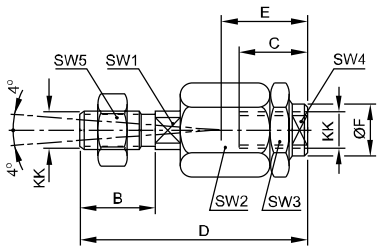
According to ISO 8140



Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CK h11/E9 mm	CL mm	CM mm	ER mm	KK	LE mm	O mm
32	20	45,0	52	40	10	20	10	16	M10x1,25	20	28,0
40	24	54,0	60	48	12	24	12	19	M12x1,25	24	32,0
50	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5
63	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5
80	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0
100	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0
125	56	123,5	137	110	30	55	30	45	M27x2	54	72,0

Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Flexo coupling PM5	Flexo coupling for articulated mounting of piston rod. Flexo fitting is intended to take up axial angle errors within a range of ±4°.	32	0,21	**P1C-4KRF**
		40	0,22	**P1C-4LRF**
		50	0,67	**P1C-4MRF**
		63	0,67	**P1C-4MRF**
	Material	80	0,72	**P1C-4PRF**
	Flexo coupling, nut: Zinc-plated steel	100	0,72	**P1C-4PRF**
		125	1,80	**P1C-4RRF**
	Supplied complete with galvanized adjustment nut.			

Cyl. bore mm	KK mm	B mm	C mm	D mm	E mm	ØF mm	SW1 mm	SW2 mm	SW3 mm	SW4 mm	SW5 mm
32	M10x1.25	20	23	73	31	21	12	30	30	19	17
40	M12x1.25	24	23	77	31	21	12	30	30	19	19
50	M16x1.5	32	32	108	45	33.5	19	41	41	30	24
63	M16x1.5	32	32	108	45	33.5	19	41	41	30	24
80	M20x1.5	40	42	122	56	33.5	19	41	41	30	30
100	M20x1.5	40	42	122	56	33.5	19	41	41	30	30
125	M27x2	54	48	147	51	39	24	55	55	32	41

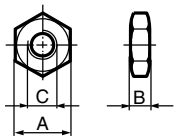


Nut MR9	Intended for fixed mounting of accessories to the piston rod. Material: Zinc-plated steel	32	0,007	**P14-4KRPZ**
		40	0,010	**P14-4LRPZ**
		50	0,021	**P14-4MRPZ**
	All P1D cylinders are delivred with a zinc-plated steel piston rod nut, except P1D Ultra Clean, which is delivered with a stainless steel piston rod nut instead.	63	0,021	**P14-4MRPZ**
		80	0,040	**P14-4PRPZ**
		100	0,040	**P14-4PRPZ**
		125	0,100	**P14-4RRPZ**
Stainless steel nut MR9	Intended for fixed mounting of accessories to the piston rod.	32	0,007	**P14-4KRPS**
		40	0,010	**P14-4LRPS**
	Material: Stainless steel A2	50	0,021	**P14-4MRPS**
		63	0,021	**P14-4MRPS**
	All P1D cylinders are delivred with a zinc-plated steel piston rod nut, except P1D Ultra Clean, which is delivered with a stainless steel piston rod nut instead.	80	0,040	**P14-4PRPS**
		100	0,040	**P14-4PRPS**
		125	0,100	**P14-4RRPS**
Acid-proof nut MR9	Intended for fixed mounting of accessories to the piston rod.	32	0,007	**P14-4KRPX**
		40	0,010	**P14-4LRPX**
	Material: Acid-proof steel A4	50	0,021	**P14-4MRPX**
		63	0,021	**P14-4MRPX**
	Cylinders with acid-proof piston rod are supplied with nut of acid-proof steel	80	0,040	**P14-4PRPX**
		100	0,040	**P14-4PRPX**
		125	0,100	**P14-4RRPX**

According to DIN 439 B

Cyl. bore mm	A mm	B mm	C
32	17	5,0	M10x1,25
40	19	6,0	M12x1,25
50	24	8,0	M16x1,5
63	24	8,0	M16x1,5
80	30	10,0	M20x1,5
100	30	10,0	M20x1,5
125	41	13,5	M27x2

Supplied as pack of 10 off
Weight per item



Type	Description	Cyl. bore Ø mm	Weight kg	Order code
Stainless steel screw set MP2, MP4, MS1 and AB6 	Set of stainless steel screws for fitting clevis brackets MP2, MP4 and GA onto the cylinder. The screws have an internal hexagonal head and are used in special environments, e.g. the food industry, or where there are extra demands for protection against corrosion. Material: According to DIN 912, Stainless steel, A2 4 pcs per pack.	32 40 50 63 80 100 125	0,02 0,02 0,05 0,05 0,09 0,09 0,15	**9301054321** **9301054321** **9301054322** **9301054322** **9301054323** **9301054323** **9301054324**
Stainless steel screw set for MF1/MF2 	Set of stainless steel screws for fitting flanges MF1/MF2 onto the cylinder. The screws have an internal hexagonal head and are used in special environments, e.g. the food industry, or where there are extra demands for protection against corrosion. Material: According to DIN 6912, Stainless steel, A2 4 pcs per pack	32 40 50 63 80 100 125	0,02 0,02 0,04 0,04 0,07 0,07 0,12	**9301054331** **9301054331** **9301054332** **9301054332** **9301054333** **9301054333** **9301054334**
Sealing plugs for end covers 	Set of 4 threaded plugs to be fitted in unused end cover screws. A rubber gasket is supplied with every plug. The seal off function is equal to IP67. The plugs can be used for all P1D cylinders to avoid collecting dirt and fluids in the end cover screw recesses. Material: Plug Polyamid PA Gasket Nitrile rubber 4 pcs per pack	32 40 50 63 80 100 125	0,01 0,01 0,02 0,02 0,02 0,02 0,03	**460104801** **460104801** **460104802** **460104802** **460104803** **460104803** **460104804**

Stainless steel pin set for AB6 mounting

Materials
Pin: stainless steel
Locking pin: stainless steel
Circlips according to DIN 471: stainless steel

Cyl. Bore Ø mm	Weight kg	Order code
32	0.05	**9301054311**
40	0.06	**9301054312**
50	0.07	**9301054313**
63	0.07	**9301054314**
80	0.17	**9301054315**
100	0.31	**9301054316**
125	0.54	**9301054317**

Stainless steel pin set for MP2 mounting

Materials
Pin: stainless steel
Locking pin: stainless steel
Circlips according to DIN 471: stainless steel

Cyl. Bore Ø mm	Weight kg	Order code
32	0.07	**on request**
40	0.08	**on request**
50	0.09	**on request**
63	0.09	**on request**
80	0.19	**on request**
100	0.33	**on request**
125	0.56	**on request**

Drop-in sensors

The P1D sensors can easily be installed from the side in the sensor groove, at any position along the piston stroke.
The sensors are completely recessed and thus mechanically protected. Choose between electronic or reed sensors and several cable lengths and 8 mm and M12 connectors.
The same standard sensors are used for all P1D versions.

Electronic sensors

The electronic sensors are "Solid State", i.e. they have no moving parts at all. They are provided with short-circuit protection and transient protection as standard. The built-in electronics make the sensors suitable for applications with high on and off switching frequency, and where very long service life is required.

Technical data

Design	GMR (Giant Magnetic Resistance) magneto-resistive function
Installation	From side, down into the sensor groove, so-called drop-in
Outputs	PNP, normally open (also available in NPN design, normally closed, on request)
Voltage range	10-30 VDC 10-18 V DC, ATEX sensor
Ripple	max 10%
Voltage drop	max 2,5 V
Load current	max 100 mA
Internal consumption	max 10 mA
Actuating distance	min 9 mm
Hysteresis	max 1,5 mm
Repeatability accuracy	max 0,2 mm
On/off switching frequency	max 5 kHz
On switching time	max 2 ms
Off switching time	max 2 ms
Encapsulation	IP 67 (EN 60529)
Temperature range	–25 °C to +75 °C –20 °C to +45 °C, ATEX sensor
Indication	LED, yellow
Material housing	PA 12
Material screw	Stainless steel
Cable	PVC or PUR 3x0.25 mm^2 see order code respectively

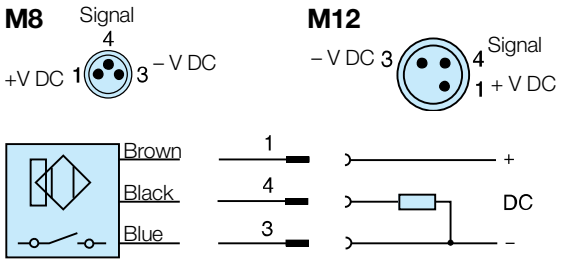
Reed sensors

The sensors are based on proven reed switches, which offer reliable function in many applications. Simple installation, a protected position on the cylinder and clear LED indication are important advantages of this range of sensors.

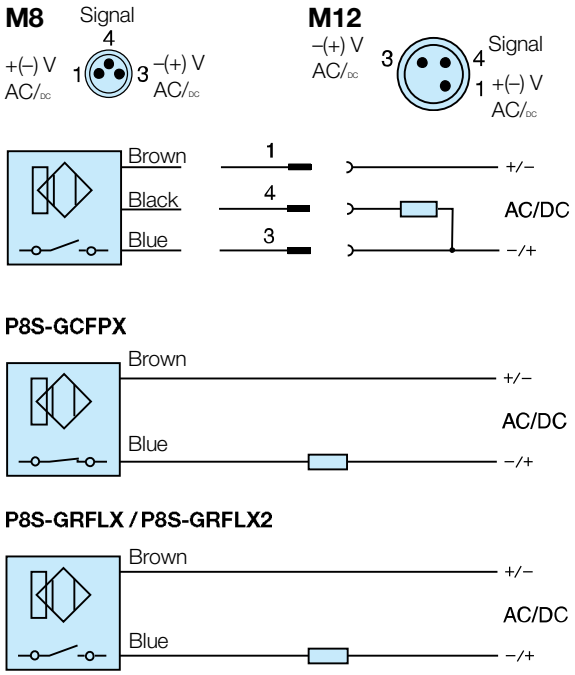
Technical data

Design	Reed element
Mounting	From side, down into the sensor groove, so-called drop-in
Output	Normally open , or normally closed
Voltage range	10-30 V AC/DC or 10-120 V AC/DC 24-230 V AC/DC
Load current	max 500 mA for 10-30 V or max 100 mA for 10-120 V max 30 mA for 24-230 V
Breaking power (resistive)	max 6 W/VA
Actuating distance	min 9 mm
Hysteresis	max 1,5 mm
Repeatability accuracy	0,2 mm
On/off switching frequency	max 400 Hz
On switching time	max 1,5 ms
Off switching time	max 0,5 ms
Encapsulation	IP 67 (EN 60529)
Temperature range	–25 °C to +75 °C
Indication	LED, yellow
Material housing	PA12
Material screw	Stainless steel
Cable	PVC or PUR 3x0.14 mm^2 see order code respectively

Electronic sensors

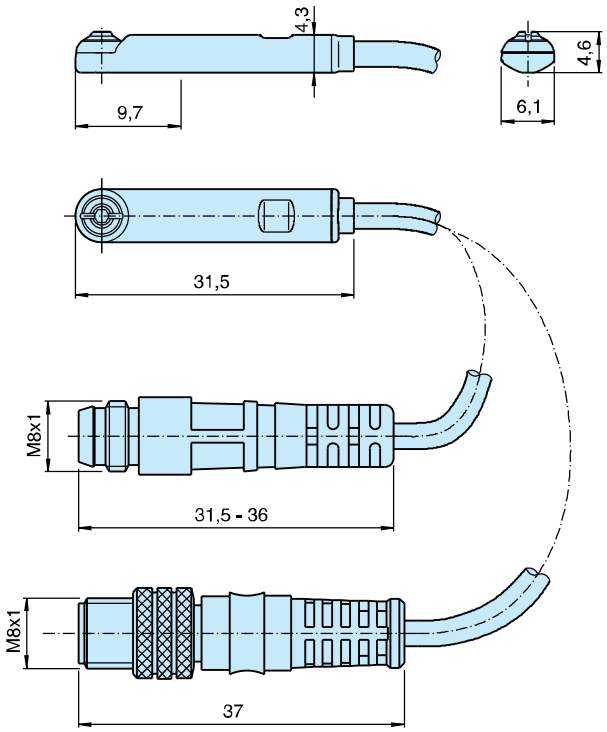


Reed sensors

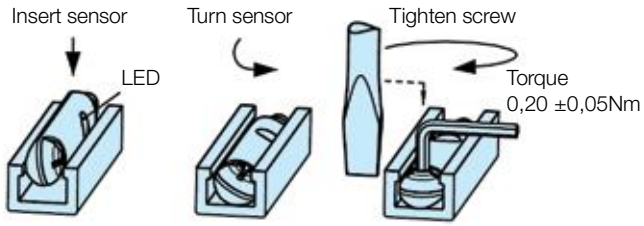


Dimensions (mm)

Sensors



Sensor Installation



Ordering data

Output/function	Cable/connector	Weight kg	Order code
Electronic sensors , 10-30 V DC			
PNP type, normally open	0,27 m PUR-cable and 8 mm snap-in male connector	0,007	**P8S-GPSHX**
PNP type, normally open	0,27 m PUR-cable and M12 screw male connector	0,015	**P8S-GPMHX**
PNP type, normally open	3 m PVC-cable without connector	0,030	**P8S-GPFLX**
PNP type, normally open	10 m PVC-cable without connector	0,110	**P8S-GPFTX**
Reed sensors , 10-30 V AC/DC			
Normally open	0,27 m PUR-cable and 8 mm snap-in male connector	0,007	**P8S-GSSHX**
Normally open	0,27 m PUR-cable and M12 screw male connector	0,015	**P8S-GSMHX**
Normally open	3 m PVC-cable without connector	0,030	**P8S-GSFLX**
Normally open	10 m PVC-cable without connector	0,110	**P8S-GSFTX**
Normally closed	5m PVC-cable without connector [2)]	0,050	**P8S-GCFPX**
Reed sensors, 10-120 V AC/DC			
Normally open	3 m PVC-cable without connector	0,030	**P8S-GRFLX**
Reed sensorer, 24-230 V AC/DC			
Normally open	3 m PVC-cable without connector	0,030	**P8S-GRFLX2**

2) Without LED

Adapter for tie-rod design

Description	Weight kg	Order code
Double jointed adapter for cylinder P1D-T cylinder bore Ø32 to Ø125 mm	0,07	**P8S-TMA0X**

Connecting cables with one connector

The cables have an integral snap-in female connector.

Type of cable	Cable/connector	Weight kg	Order code
Cables for sensors, complete with one female connector			
Cable, Flex PVC	3 m, 8 mm Snap-in connector	0,07	**9126344341**
Cable, Flex PVC	10 m, 8 mm Snap-in connector	0,21	**9126344342**
Cable, Polyurethane	3 m, 8 mm Snap-in connector	0,01	**9126344345**
Cable, Polyurethane	10 m, 8 mm Snap-in connector	0,20	**9126344346**
Cable, Polyurethane	5 m, M12 screw connector	0,07	**9126344348**
Cable, Polyurethane	10 m, M12 screw connector	0,20	**9126344349**

Male connectors for connecting cables

Cable connectors for producing your own connecting cables. The connectors can be quickly attached to the cable without special tools. Only the outer sheath of the cable is removed. The connectors are available for M8 and M12 screw connectors and meet protection class IP 65.

Connector	Weight kg	Order code
M8 screw connector	0,017	**P8CS0803J**
M12 screw connector	0,022	**P8CS1204J**

Pneumatic cylinder sensor for P1D-T

An ideal solution where a direct pneumatic signal is wanted from a cylinder sensor to a pneumatic control system, for example. This could be a machine or device in which only compressed air is available, and an electricity supply to normal cylinder sensors would involve serious problems or considerable expense.

Function:

Non-contacting sensing of a pneumatic cylinder, triggering an output signal (conn. 2) from the integrated 3/2 NC valve, which is activated by a magnetic field or iron core and has a return spring.

If more than one sensor is used with a cylinder there must be a distance of at least 20 mm between sensors to prevent them influencing each other.

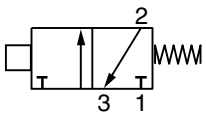
To avoid interference, there must be a minimum spacing of 15 mm to steel details.

The outlet (conn. 3) must not be blocked or restricted as this can impair the function of the sensor.

The sensor is fastened to the cylinder using the special sensor fixing.

Technical data:

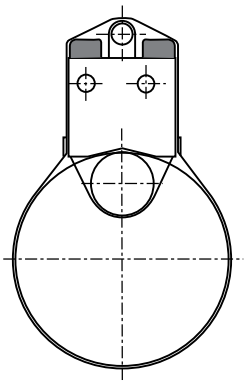
Working pressure:	min 2 to max 6 bar
Temperature:	-15 to +60 °C
Air quality:	3.4.3 to ISO 8573-1 (must be oil free)
Function:	3/2 NC valve
Flow:	40 Nl per minute
Connection:	for plastic pipe with 2,5-3 mm internal diameter
Activation distance:	for magnet: min 9 mm
Activation distance:	for Fe: approx. 2 mm
Repetition accuracy:	+/- 0.2 mm
Cylinder velocity:	max 1 m/s (depends on magnetic field, interference from steel in environment, signal length requirement from control system….)
Distance between sensors:	min 20 mm
Distance from sensor to steel details:	min 15 mm
Fixing:	with sensor fixing or with an M4 thread in case
Sensing:	non-contacting (also through a wall of non-magnetic material)



Order codes

Description	Weight kg	Order code
Pneumatic sensor	0,02	**P8S-A34X**
Cylinder fixing	0,01	**P8S-AMA1**

Cylinder fixing



Dimensions (mm)