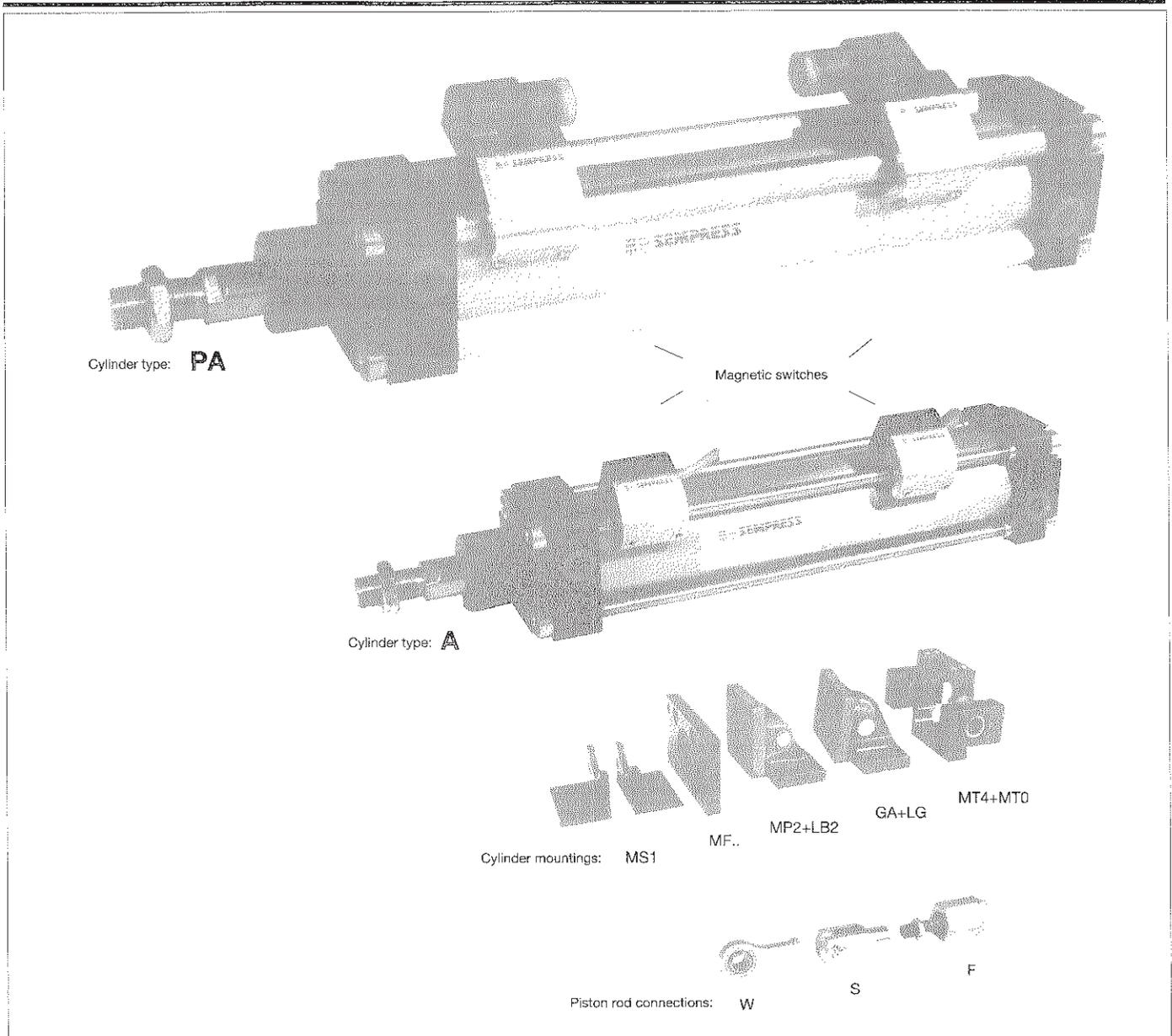


# ISO/VDMA Air cylinders $\varnothing 32 \div \varnothing 100$ mm, type PA $\varnothing 32 \div \varnothing 160$ mm, type A



## Features

- **Type PA** : profile anodized aluminium cylinder tubing.  
**Factory stocked in standard stroke lengths.**
- **Type A** : round brass or aluminium cylinder tubing with tie rods.  
Delivery time on request !
- Double and single acting types available (single acting spring extend or retract).
- Double acting cylinders standard equipped with permanent magnet on piston for detection of the piston position without contact.
- Built according ISO 6431 and VDMA 24562.
- Adjustable air cushioning at both ends.
- Operating medium: compressed air, filtered to min. 50 $\mu$ . Consult factory for other working media.
- Lubrication **not** necessary, however, once started lubrication has to be maintained.
- Compressed air dried to a pressure dew point of 3°C up to 5°C permissible.
- Operating pressure: 1 up to 10 bar.
- Operating temperature: -20°C up to + 70°C (with Viton-seals up to +200°).
- Cylinder bores:
  - **type PA**:  $\varnothing 32, 40, 50, 63, 80$  and  $100$  mm
  - **type A** :  $\varnothing 32, 40, 50, 63, 80, 100, 125$  and  $160$  mm.
- Stroke lengths: up to 3.500 mm.
- All standard cylinder mountings and rod ends available.
- Special models on request.

## Forces, air consumption, materials, assembling/spare parts

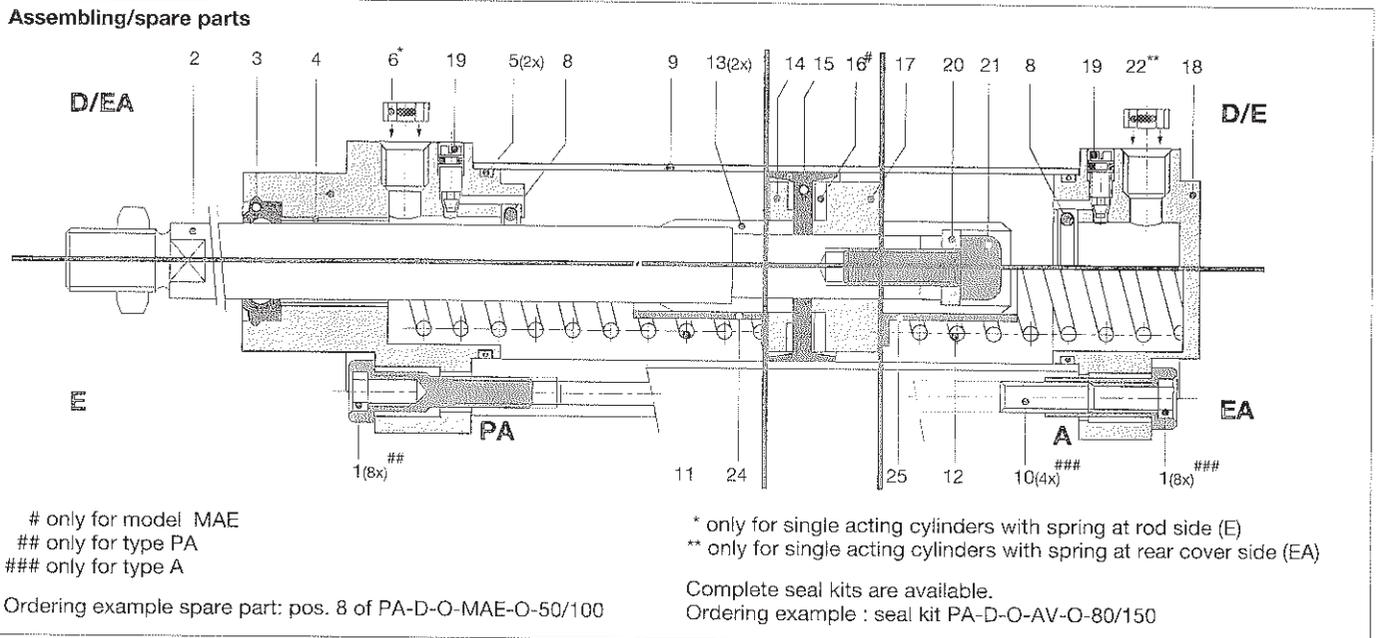
Forces (N)														
Bore (mm)	Piston rod (mm)		Forces with air pressure as shown * (bar):										Spring forces for single acting cylinders (E) up to 50 mm stroke **	
			1	2	3	4	5	6	7	8	9	10		
Ø32	Ø12	pushing	80	160	240	320	400	480	560	640	720	800	30	80
		pulling	69	138	207	276	345	414	483	552	621	690		
Ø40	Ø16	pushing	126	252	378	504	630	756	882	1008	1134	1260	75	130
		pulling	105	211	311	422	528	633	739	844	950	1055		
Ø50	Ø20	pushing	196	392	588	788	980	1176	1372	1568	1764	1960	150	320
		pulling	165	330	495	660	825	990	1155	1320	1485	1650		
Ø63	Ø20	pushing	312	624	936	1248	1560	1872	2184	2496	2808	3120	-	-
		pulling	281	562	843	1124	1405	1686	1967	2248	2529	2810		
Ø80	Ø25	pushing	503	1006	1509	2012	2515	3018	3521	4024	4527	5030	-	-
		pulling	453	906	1359	1812	2265	2718	3171	3624	4077	4530		
Ø100	Ø25	pushing	785	1570	2355	3140	3925	4710	5495	6280	7065	7850	-	-
		pulling	736	1473	2209	2946	3682	4419	5156	5892	6629	7365		
Ø125	Ø32	pushing	1228	2455	3682	4909	6136	7364	8591	9817	11045	12272	-	-
		pulling	1147	2294	3441	4587	5734	6881	8028	9174	10321	11468		
Ø160	Ø40	pushing	2011	4022	6032	8043	10053	12064	14075	16085	18096	20107	-	-
		pulling	1885	3770	5655	7540	9425	11310	13195	15080	16965	18850		

\* Remark 1: to allow for mechanical friction subtract 0,5 bar.  
 Remark 2: to obtain a uniform piston speed the theoretically required force must not exceed 60% of the force the cylinder can deliver.  
 Remark 3: to prevent rod buckling in the case of high pushing forces and/or long strokes calculations should be made (info leaflet available).  
 \*\* The forces given for single acting cylinders are only for the return of the piston and rod.

Air consumption (dm <sup>3</sup> ANR/10 mm stroke)										
Bore (mm)	at pressure (bar):									
	1	2	3	4	5	6	7	8	9	10
Ø32	0,017	0,025	0,033	0,041	0,049	0,057	0,065	0,073	0,081	0,089
Ø40	0,026	0,038	0,05	0,063	0,076	0,088	0,1	0,113	0,126	0,139
Ø50	0,04	0,059	0,079	0,099	0,118	0,138	0,158	0,177	0,197	0,22
Ø63	0,063	0,094	0,125	0,156	0,188	0,219	0,25	0,281	0,312	0,343
Ø80	0,101	0,151	0,202	0,252	0,302	0,352	0,403	0,453	0,503	0,554
Ø100	0,158	0,236	0,315	0,393	0,472	0,55	0,629	0,708	0,786	0,865
Ø125	0,246	0,369	0,492	0,615	0,738	0,861	0,984	1,107	1,230	1,353
Ø160	0,403	0,604	0,805	1,006	1,207	1,408	1,609	1,81	2,011	2,212

\* ANR = dm<sup>3</sup> under norm-conditions

Materials (standard cylinders)	
cylinder tube	- type PA : anodized aluminium - type A : Ø 32 ÷ Ø 125 : brass Ø 160 anodized aluminium
covers	: anodized aluminium
cover bolts (PA)	: galvanized steel
tie rods (A)	: stainless steel (1.4301)
tie rods nuts (A)	: galvanized steel
piston	: NBR with steel insert
piston rod	
- material	: stainless steel (1.4104)
- guide	: synthetic material
- seal	: Polyurethane
undry seals	: NBR
undry items	: brass, galvanized steel, enamelled steel, aluminium



## Method of ordering

can normally be delivered from factory stock

<b>1</b>	Types:	<b>PA</b> with profiled aluminium cylinder tube connected to the covers with bolts	<b>A</b> with round cylinder tube with tie rods and nuts																	
<b>2</b>	Action:	<b>D</b> double acting	<b>E</b> single acting, spring at rod end	<b>EA</b> single acting, spring at rear cover end																
<b>3</b>	Piston rod connections:	<b>O</b> outer thread + nut	<b>F</b> alignment coupling + nut	<b>S</b> fork + pin + nut																
<b>4</b>	Standard models:	<b>MAE</b> with permanent magnet* on piston for <b>D</b> (double acting)	<b>OO</b> without permanent magnet on piston for <b>E</b> and <b>EA</b> (single acting)																	
	Special models:	<b>AL</b> anodized aluminum cylinder tube (type A)	<b>AV</b> Viton seals for temperatures up to 200°C (for bores up to and inclusive Ø 100 mm); mention temperatures above 100°C	<b>BD</b> prevention against rotation of piston rod (for Ø 63, 80 and 100 mm)																
		<b>BG</b> bellow between front cover and piston rod (combination with MT5 <b>not</b> possible)	<b>CL</b> polyurethane coating	<b>DP</b> duplex																
		<b>DS</b> double-ended piston rod	<b>HMN</b> extended piston rod for building on a Hydrem hydraulic check cylinder (for Ø 50, 80 and 100 mm)	<b>HY10</b> suitable for hydraulics up to 10 bar																
		<b>HY25</b> suitable for hydraulics up to 25 bar (type A)	<b>KB</b> front and rear cover of: • brass (for Ø32 ÷ Ø100mm) • cast iron and brass (for Ø125 and Ø160 mm)	<b>MAE</b> with permanent magnet* on piston for <b>E</b> and <b>EA</b> (single acting)																
		<b>OO</b> without permanent magnet on piston for <b>D</b> (double acting)	<b>POL</b> glass reinforced polyester cylinder tube (type A)	<b>RSS</b> pneumatic positioning																
		<b>S-lina</b> electronic positioning (see separate brochure)	<b>TR</b> cover bolts (type PA) stainless steel 1.4305 and tie rod nuts (type A) 1.4104	<b>VL</b> extra piston rod guiding (for Ø63, 80 and 100 mm)																
		<b>ZR</b> piston rod stainless steel 1.4305 (18/8)	<b>SU</b> other, to define special models																	
<b>5</b>	Cylinder mountings:	<b>O</b> 4x internal thread front and rear	<b>GA</b>	<b>LG</b>																
		<b>MS1</b> 2 pedestals	GA = female hinge rear LG = cardan counter hinge for GA	<b>MP2</b>																
		<b>MF1</b> front flange	<b>MT4</b>	<b>MT0</b>																
		<b>MF2</b> rear flange	MT4 = adjustable central trunnion MT0 = counter hinge (Ø 32 mm excepted)	<b>LB2</b>																
				<b>MP2</b> = female hinge rear <b>LB2</b> = counter hinge for MP2																
				<b>MT5</b>																
				MT5 = front trunnion MT0 = counter hinge (Ø 32 mm excepted)																
<b>6</b>	Bores (mm):	Ø 32 , 40 50 , 63 , 80 , 100 , 125 (only type A) and 160 (only type A)																		
<b>7</b>	Standard stroke lengths (mm) :	20	25	40	50	75	80	100	125	150	160	200	250	300	320	400	500	600	700	only PA
	D = double acting	Ø32	D+E	D+E	D+E	D+E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	E = single acting	Ø40 + Ø50	-	D	D+E	D+E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	- spring at rod side	Ø63	-	-	D+E	D+E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
		Ø80 + Ø100	-	-	-	D+E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
		Ø125 + Ø160 only type A	-	-	-	D	-	-	D	D	-	D	D	D	-	D	D	D	-	-
	Non standard stroke lengths up to 3.500 mm																			
	Method of ordering:	<div style="display: flex; justify-content: space-around; align-items: center;"> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">1</span> <span style="font-size: 20px;">-</span> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">2</span> <span style="font-size: 20px;">-</span> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">3</span> <span style="font-size: 20px;">-</span> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">4</span> <span style="font-size: 20px;">-</span> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">5</span> <span style="font-size: 20px;">-</span> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">6</span> <span style="font-size: 20px;">/</span> <span style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">7</span> </div>																		
	Example:	PA-D-S-MAE-GA+LG-80/150																		

\* See for magnetic switches page 8

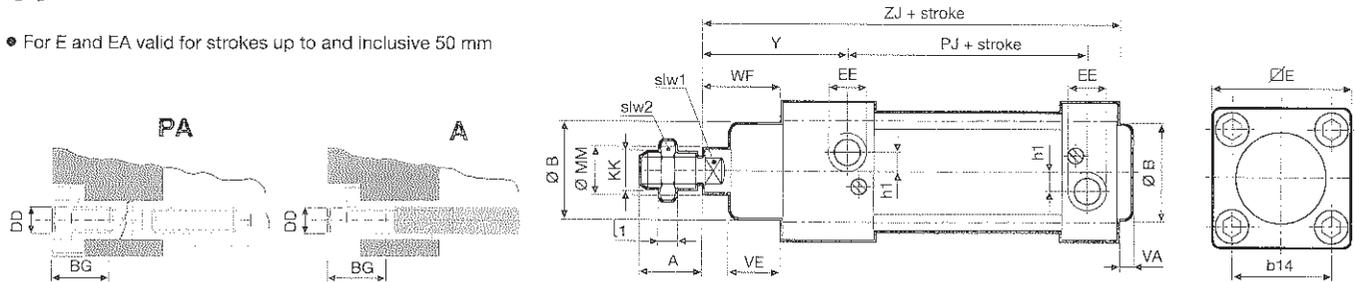
## Dimensions (mm)

With capital letters are according to ISO

## Cylinders + cylinder mountings

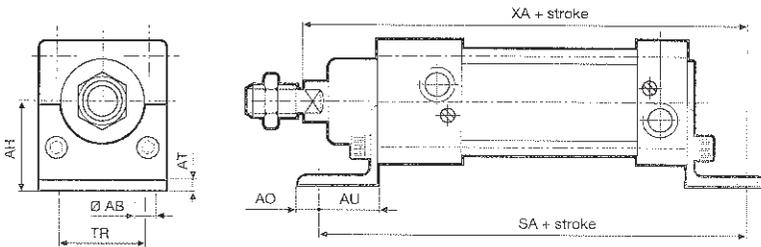
**PA**  $\frac{D}{E^\circ}$  -  $\frac{O}{EA^\circ}$  -  $\frac{MAE}{OO}$  -  $\frac{O}{O}$  - bore / stroke  
**A**

• For E and EA valid for strokes up to and inclusive 50 mm



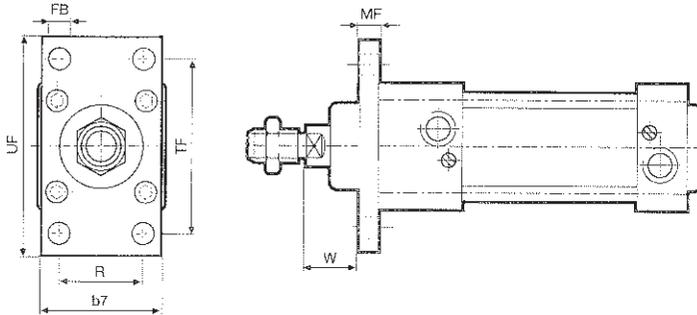
∅	A	B	BG		DD	E	EE	KK	MM	PJ	b14	VA	VE	WF	Y	ZJ	h1	l1	slw1	slw2
	0/-0,5	d11	min.	max.		max.			h11		± 0,3	max.	±0,5							
32	22	30	10	15	M6	48	G 1/8	M10 x 1,25	12	64	32,5	4	18	26	41	120	6	5	10	17
40	24	35	10	15	M6	54	G 1/4	M12 x 1,25	16	70	38	4	20	30	54	135	6	6	13	19
50	32	40	13	18	M8	64	G 1/4	M16 x 1,5	20	65	46,5	4	27	37	61	143	8	8	17	24
63	32	45	13	18	M8	77	G 3/8	M16 x 1,5	20	77	56,5	4	27	37	56	158	11	8	17	24
80	40	45	16	21	M10	93	G 3/8	M20 x 1,5	25	80	72	4	33	46	74	174	11	10	22	30
100	40	55	16	21	M10	111	G 1/2	M20 x 1,5	25	96	89	4	38	51	69	189	13	10	22	30
125*	54	60	16	17	M12	140	G 1/2	M27 x 2	32	96	110	5,5	48	65	97	225	13	13,5	27	41
160*	72	65	12	23	M16	170	G 3/4	M36 x 2	40	108	140	5,5	50	80	116	260	18	18	36	55

## MS1



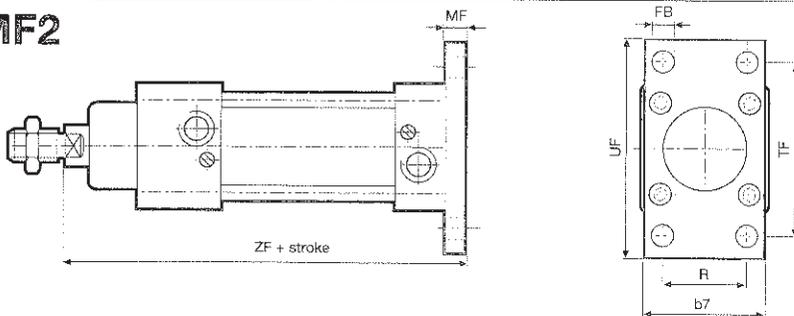
∅	AB	AH	AO	AT	AU	SA	TR	XA
	H13	±0,5					±0,3	
32	7	32	6	4	24	142	32	144
40	9	36	7	5	28	161	36	163
50	9	45	8	6	32	170	45	175
63	9	50	8	6	32	185	50	190
80	12	63	14	6	41	210	63	215
100	14	71	14	6	41	220	75	230
125*	16	90	20	7	45	250	90	270
160*	18	115	20	8	60	300	115	320

## MF1



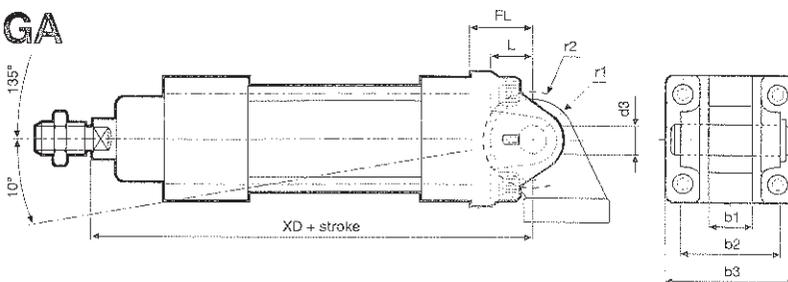
∅	FB	MF	R	TF	UF	W	b7
	H13		JS14	JS14	max.		max.
32	7	10	32	64	81	16	50
40	9	10	36	72	91	20	50
50	9	12	45	90	111	25	65
63	9	12	50	100	121	25	75
80	12	16	63	126	151	30	100
100	14	16	75	150	173	35	120
125*	16	20	90	180	220	45	140
160*	18	20	115	230	275	60	175

## MF2



∅	FB	MF	R	TF	UF	ZF	b7
	H13		JS14	JS14	max.		max.
32	7	10	32	64	81	130	50
40	9	10	36	72	91	145	50
50	9	12	45	90	111	155	65
63	9	12	50	100	121	170	75
80	12	16	63	126	151	190	100
100	14	16	75	150	173	205	120
125*	16	20	90	180	220	245	140
160*	18	20	115	230	275	280	175

## GA



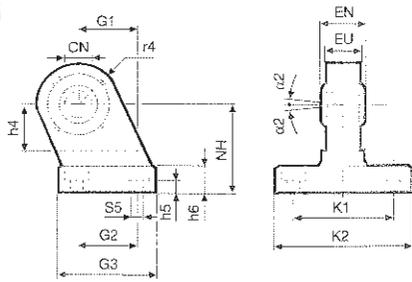
∅	FL	L	XD	b1	b2	b3	d3	r1	r2
			D10	d12	max.	F7	max.	min.	
32	22	12	142	14	34	50	10	11	17
40	25	15	160	16	40	56	12	13	20
50	27	15	170	21	45	66	16	15	22
63	32	20	190	21	51	78	16	17	25
80	36	20	210	25	65	96	20	19	29
100	41	25	230	25	75	114	20	22	32
125*	50	30	275	37	97	140	30	26	40
160*	55	31	315	43	122	180	35	32,5	44

## Dimensions (mm)

With capital letters are according to ISO

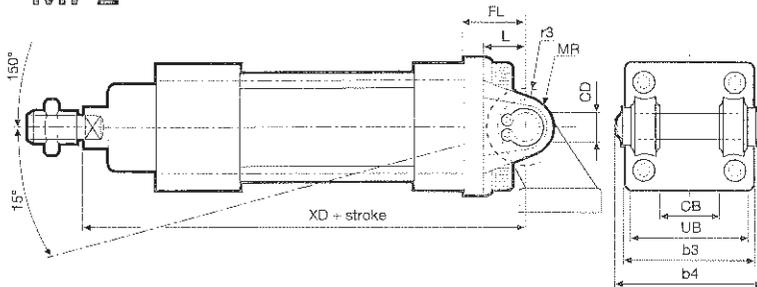
## Cylinder mountings - continuation

### LG



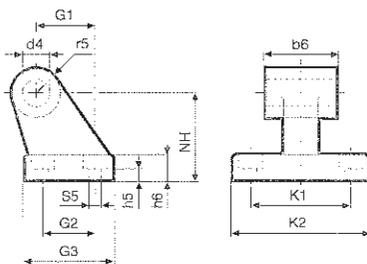
∅	CN H7	EN 0/-0,1	EU max.	G1 JS14	G2 JS14	G3 max.	K1 JS14	K2 max.	NH JS15	S5 H13	h4 min.	h5	h6 max.	r4 max.	α2
32	10	14	10,5	21	18	31	38	51	32	5,5	16	2,3	8	16	7°
40	12	16	12	24	22	35	41	54	36	5,5	20	4,3	10	17	6°
50	16	21	15	33	30	45	50	65	45	6,6	22	5,2	12	20,5	8°
63	16	21	15	37	35	50	52	67	50	6,6	27	5,2	12	22	7°
80	20	25	18	47	40	60	66	86	63	9	31	5	14	27	10°
100	20	25	18	55	50	70	76	96	71	9	38	6	15	30	9°
125*	30	37	25	70	60	90	94	124	90	11	40	9	20	40	4°
160*	35	43	28	97	88	126	118	156	115	14	45	12	25	44	4°

### MP2



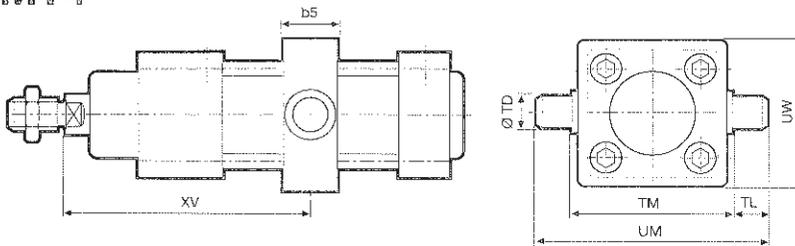
∅	CB D10	CD h9	FL	L	MR max.	UB d12	XD	b3 max.	b4 max.	r3 max.
32	26	10	22	12	11	45	142	50	50	12
40	28	12	25	15	13	52	160	56	57	15
50	32	12	27	15	13	60	170	66	65	15
63	40	16	32	20	17	70	190	78	76	20
80	50	16	36	20	17	90	210	96	96	20
100	60	20	41	25	22	110	230	114	118	25
125*	70	25	50	30	25	130	275	140	140	26
160*	90	30	55	35	30	170	315	180	205	31

### LB2



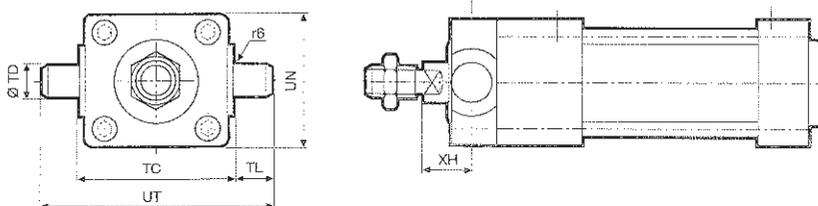
∅	G1 JS14	G2 JS14	G3 max.	K1 JS14	K2 max.	NH JS15	S5 H13	b6 0/-0,4	d4 H9	h5	h6 max.	r5 max.
32	21	18	31	38	51	32	5,5	25,8	10	2,3	8	10
40	24	22	35	41	54	36	5,5	27,8	12	4,3	10	11
50	33	30	45	50	65	45	6,6	31,8	12	5,2	12	13
63	37	35	50	52	67	50	6,6	39,8	16	5,2	12	15
80	47	40	60	66	86	63	9	49,8	16	5	14	15
100	55	50	70	76	96	71	9	59,8	20	6	15	19
125*	70	60	90	94	124	90	11	70	25	18	20	22,5
160*	97	88	126	118	156	115	14	90	30	23	25	31

### MT4



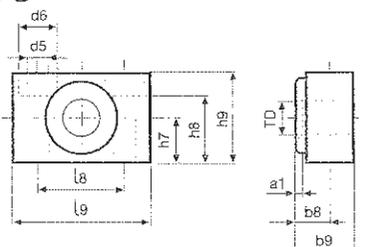
∅	TD e9	TL h14	TM h14	UM	UW max.	XV min.	XV max.	b5 max.
32	12	12	50	74	65	57	89 + stroke	16
40	16	16	63	95	71	74	104 + stroke	21
50	16	16	75	107	92	81	106 + stroke	21
63	20	20	90	130	102	82	108 + stroke	26
80	20	20	110	150	122	102	127 + stroke	29
100	25	25	132	182	143	107	130 + stroke	39
125*	25	25	160	210	152	120	149 + stroke	30
160*	32	32	200	264	192	148	171 + stroke	40

### MT5



∅	TC h14	TD e9	TL h14	UN	UT	XH	r6
40	63	16	16	60	95	20	1,5
50	75	16	16	66	107	25	1,6
63	90	20	20	79	130	25	1,6
80	110	20	20	100	150	32	1,6
100	132	25	25	112	182	32	2
125*	160	25	25	146	210	40	2
160*	200	32	32	184	264	55	2,5

### MT0



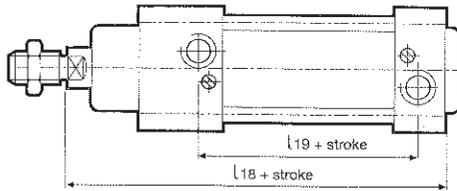
∅	a1	b8	b9	d5	d6	h7	h8	h9	l8	l9	TD H8
40	1,7 x 45°	12	21	9	15	18	27	36	36	55	16
50	1,7 x 45°	12	21	9	15	18	27	36	36	55	16
63	1,7 x 45°	13	23	11	18	20	29	40	42	65	20
80	1,7 x 45°	13	23	11	18	20	29	40	42	65	20
100	2 x 45°	16	28,5	13	20	25	37	50	50	75	25
125*	2 x 45°	16	28,5	14	20	25	37	50	50	75	25
160*	2,5 x 45°	21,5	39	18	26	30	42,5	60	60	92	32

## Dimensions (mm)

With capital letters are according to ISO

## Special models

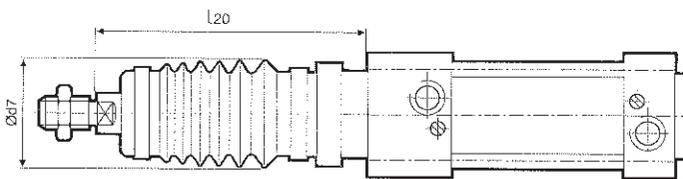
### BD



∅	L18	L19
63	158•	77•
80	179	85
100	189•	96•

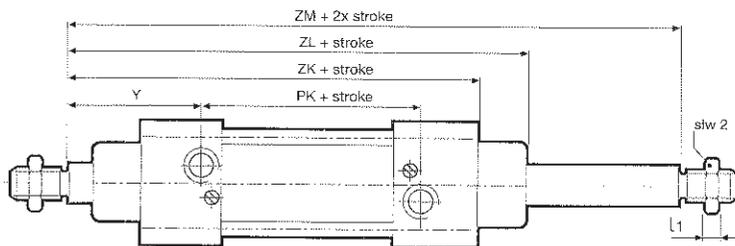
• according to ISO 6431

### BG



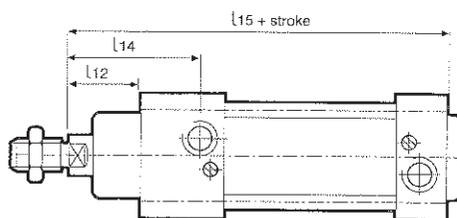
∅	L 20 at stroke (mm):							d7
	5-150	151-300	301-450	451-600	5-240	241-480	481-720	
32	80	138	196	254	-	-	-	46
40	81	139	197	255	-	-	-	46
50	119	199	279	359	-	-	-	60
63	119	199	279	359	-	-	-	60
80	128	208	288	368	-	-	-	60
100	133	213	293	373	-	-	-	60
125*	-	-	-	-	134	198	262	83
160*	-	-	-	-	149	213	277	83

### DS



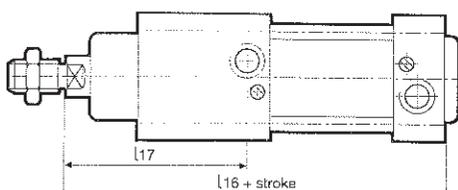
∅	PK	Y	ZK	ZL	ZM
32	73	40	128	146	154
40	73	54	149	170	179
50	76	59	158	185	195
63	87	56	162	189	199
80	92	74	194	227	240
100	110	69	197	235	248
125*	96	83	225	273	290
160*	108	102	260	310	340

### HMN



∅	L12	L14	L15
50	62	85	168
80	71	99	199
100	76	94	214

### VL



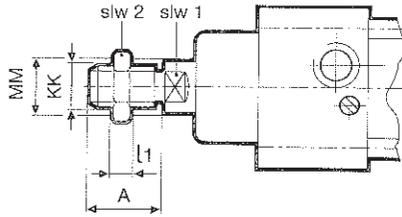
∅	L16	L17
63	208	106
80	224	124
100	239	119

## Dimensions (mm)

With capital letters are according to ISO

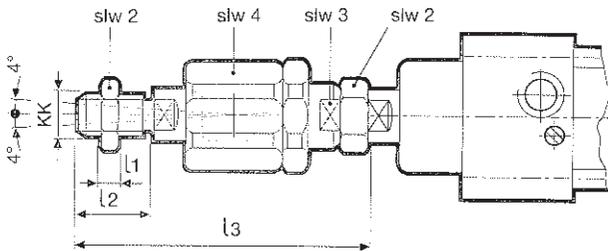
## Piston rod connections

**O**



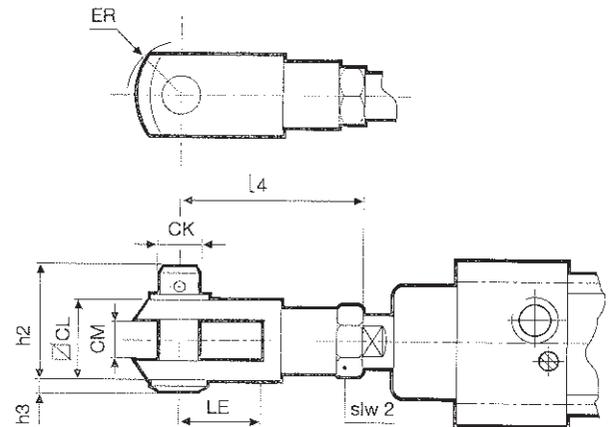
∅	A	KK	MM	slw1
32	22	M10 x 1,25	h11	10
40	24	M12 x 1,25	16	13
50	32	M16 x 1,5	20	17
63	32	M16 x 1,5	20	17
80	40	M20 x 1,5	25	22
100	40	M20 x 1,5	25	22
125*	54	M27 x 2	32	27
160*	72	M36 x 2	40	36

**F**



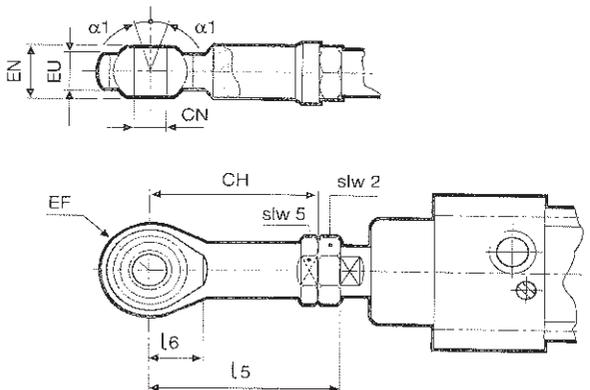
∅	KK	l1	l2	l3		slw2	slw3	slw4
				min.	max.			
32	M10 x 1,25	5	20	78	82	17	19	30
40	M12 x 1,25	6	24	85	88	19	19	30
50	M16 x 1,5	8	32	116	119	24	30	41
63	M16 x 1,5	8	32	116	119	24	30	41
80	M20 x 1,5	10	40	136	140	30	30	41
100	M20 x 1,5	10	40	136	140	30	30	41
125*	M27 x 2	13,5	54	169	174	41	54	62
160*	M36 x 2	18	72	281	287	55	75	80

**S**



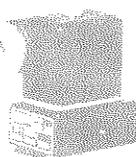
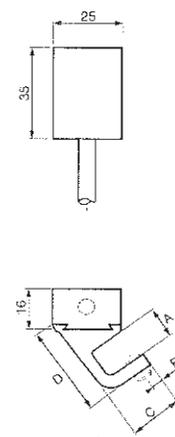
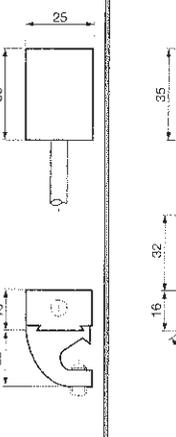
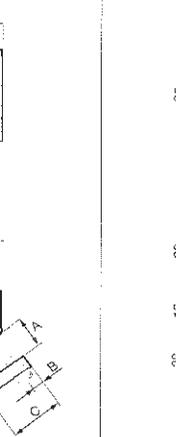
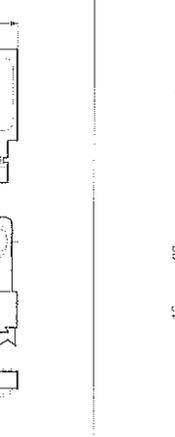
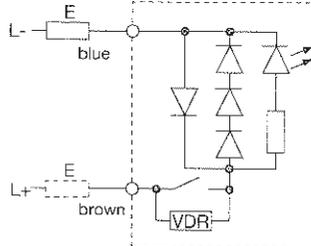
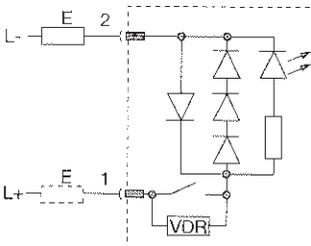
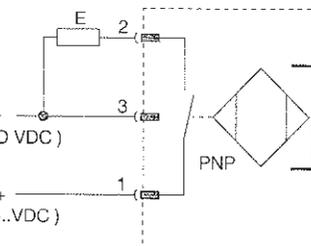
∅	CK	CL	CM	ER	LE	h2	h3	l4		slw2
								min.	max.	
32	10	20	10	13	20	28	2	48	52	17
40	12	24	12	17	24	35	3	58	61	19
50	16	32	16	21	32	45	3	77	80	24
63	16	32	16	21	32	45	3	77	80	24
80	20	40	20	27	40	55	4	96	100	30
100	20	40	20	27	40	55	4	96	100	30
125*	28	55	28	38	56	72	5	133	138	41
160*	35	70	36	46	72	87	6	170	178	55

**W**



∅	CH	CN	EF	EN	EU	l5		l6	slw2	slw5	α1
						min.	max.				
32	43	10	14	14	10,5	51	55	16	17	17	4°
40	50	12	16	16	12	60	63	17	19	19	4°
50	64	16	21	21	15	77	80	22	24	27	4°
63	64	16	21	21	15	77	80	22	24	27	4°
80	77	20	25	25	18	93	97	26	30	32	4°
100	77	20	25	25	18	93	97	26	30	32	4°
125*	110	30	35	37	25	132	138	35	41	41	4°
160*	125	35	40	43	28	154	160	40	50	50	4°

\* only type A

Magnetic switches	Reed (electro mechanic contact)			Inductive (electronic contact)																																																																				
<b>Application:</b>  The position of the air cylinder piston (fitted with magnetic band-model MAE) can be detected without contact.	  1 m cable 2 x 0,75 mm <sup>2</sup>			  plug according to DIN 40050																																																																				
Type PA Ø32+Ø40 mm Ø50+Ø100 mm	•	•	•	•	•	•																																																																		
Type A Ø32+Ø100 mm Ø125+Ø160 mm	•	•	•	•	•	•																																																																		
Supply voltage	10 ÷ 250 V AC/DC			10 ÷ 30 V DC																																																																				
Max. current / power	0,5A / 30VA / 20W			200 mA																																																																				
Indication	Light emitting diode (LED) / Red																																																																							
Protection class	IP 67			IP 65																																																																				
Temperature range	-25°C up to +75°C																																																																							
Dimensions (mm)	 <table border="1" data-bbox="327 1422 550 1478"> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>A</th><th>B</th><th>C</th><th>D</th></tr> <tr><td>14</td><td>5</td><td>22</td><td>35</td><td>17</td><td>4</td><td>24</td><td>35</td></tr> </table>		A	B	C	D	A	B	C	D	14	5	22	35	17	4	24	35	 <table border="1" data-bbox="566 1422 790 1478"> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>A</th><th>B</th><th>C</th><th>D</th></tr> <tr><td>14</td><td>5</td><td>22</td><td>35</td><td>17</td><td>4</td><td>24</td><td>35</td></tr> </table>		A	B	C	D	A	B	C	D	14	5	22	35	17	4	24	35	 <table border="1" data-bbox="821 1422 1045 1478"> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>A</th><th>B</th><th>C</th><th>D</th></tr> <tr><td>14</td><td>5</td><td>22</td><td>35</td><td>17</td><td>4</td><td>24</td><td>35</td></tr> </table>		A	B	C	D	A	B	C	D	14	5	22	35	17	4	24	35	 <table border="1" data-bbox="1077 1422 1300 1478"> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>A</th><th>B</th><th>C</th><th>D</th></tr> <tr><td>14</td><td>5</td><td>22</td><td>35</td><td>17</td><td>4</td><td>24</td><td>35</td></tr> </table>		A	B	C	D	A	B	C	D	14	5	22	35	17	4	24	35
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A	B	C	D	A	B	C	D																																																																	
14	5	22	35	17	4	24	35																																																																	
Installation																																																																								
Protection measures	In case of capacitive loads or voltages above 100V DC, external contact protection measures are necessary. Contact factory for information or application notes.			In case of inductive loads (relays etc. ) use a clamp diode																																																																				
Lifetime	The mechanical lifetime is >1 x 10 <sup>6</sup> switchings, when the mentioned values for current and power are not exceeded (even for a short time).																																																																							
Weight	~94 g			~74 g			~ 74 g																																																																	
Materials	Trogamid, Stainless steel, Aluminium																																																																							
Ordering code	8513663	8513665	8513662	8513660	8513661	8513655	8513635	8513640	8513641																																																															