



*PMC Series
ISO Cylinders*

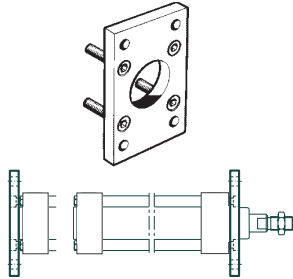
Innovative Environmental Solutions

tyco | Flow Control | **Environmental Systems**

Cylinder Mountings

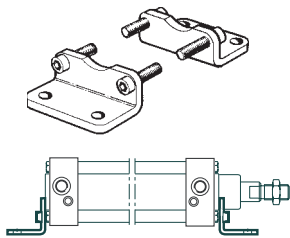
Flange MF1 and MF2

Surface treated steel.



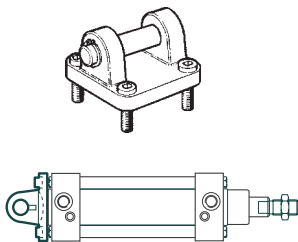
Foot bracket MS1

Surface treated steel.



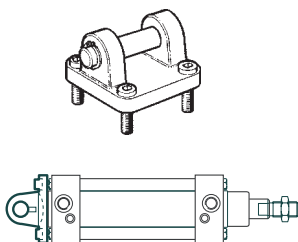
Clevis bracket MP2

Cast iron, surface treated steel screws.



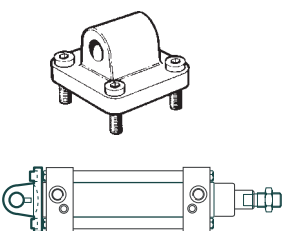
Hinge bracket

Cast iron, surface treated steel screws, stainless steel pin.



Eye bracket MP4

Cast iron, surface treated steel screws.



Cylinder bore mm	Pin mm	Weight Approx Kg	Order Code Mounting kit	Dimensions on page
Flange MF1 and MF2				
32		0,23	FAC32VDMA	9
40		0,28	FAC40VDMA	9
50		0,53	FAC50VDMA	9
63		0,71	FAC63VDMA	9
80		1,59	FAC80VDMA	9
100		2,19	FAC100VDMA	9
125		3,78	P1C-4RMB	9
160		6,00	P1C-4SMB	9
200		8,00	P1C-4TMB	9

Mounting bolts included

Foot Bracket MS1				
32		0,06	LB32VDMA	9
40		0,08	LB40VDMA	9
50		0,16	LB50VDMA	9
63		0,25	LB63VDMA	9
80		0,50	LB80VDMA	9
100		0,85	LB100VDMA	9
125		1,48	P1C-4RMF	9
160		1,60	P1C-4SMF	9
200		4,40	P1C-4TMF	9

Two brackets and four mounting bolts included

Clevis bracket MP2				
32	10	0,15	CB32VDMA*	9
40	12	0,22	CB40VDMA*	9
50	12	0,39	CB50VDMA*	9
63	16	0,53	CB63VDMA*	9
80	16	1,19	CB80VDMA*	9
100	20	0,80	CB100VDMA*	9
125	25	1,17	P1C-4**	9
160	30	6,46	P1E-4SMT**	9
200	30	9,20	P1E-4TMT**	9

Mounting bolts and cross pin included

* The cross pin is retained by split-pins ** The cross pin is retained by circlips

Hinge bracket				
32	10	0,06	32-27027	9
40	12	0,08	40-27027	9
50	12	0,15	50-27027	9
63	16	0,20	63-27027	9
80	16	0,33	80-27027	9
100	20	0,49	100-27027	9

Cross pin supplied with MP2 clevis bracket kit

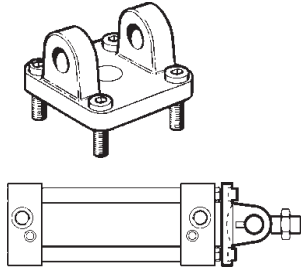
Eye bracket MP4				
32	10	0,19	CA32VDMA	10
40	12	0,23	CA40VDMA	10
50	12	0,40	CA50VDMA	10
63	16	0,61	CA63VDMA	10
80	16	1,25	CA80VDMA	10
100	20	1,90	CA100VDMA	10
125	25	1,53	P1 -4RME	10
160	30	6,46	P1E-4SME	10
200	30	9,20	P1E-4TME	10

Mounting bolts included

Cylinder Mountings

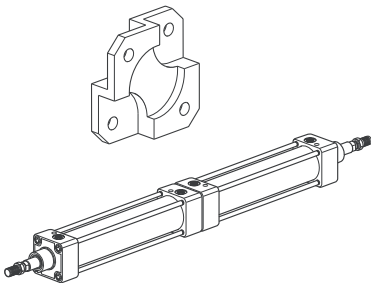
Clevis bracket MP7

Cast iron, surface treated steel screws.



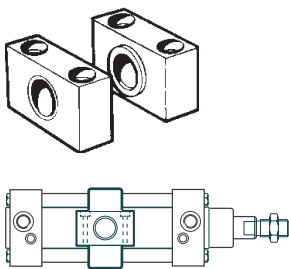
Mounting kit, back to back mounted cylinders

Surface treated aluminium.



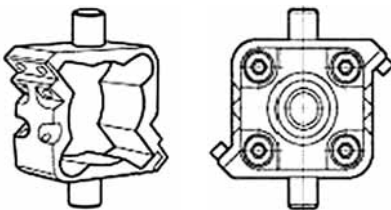
Bearing bracket for MT4

Anodised aluminium/sintered oil-bushing.



Centre trunnion mounted profile cylinders

ISO mounting code MT4, aluminium bronze.



Centre trunnion mounted tie rod cylinders

ISO mounting code MT4, Centre trunnions for tie rod cylinders are factory installed.

Cylinder bore mm	Pin mm	Weight Approx Kg	Order Code Mounting kit	Dimensions on page
Clevis Bracket MP7				
32	10	0,15	CF32VDMA	9
40	12	0,22	CF40VDMA	9
50	12	0,39	CF50VDMA	9
63	16	0,53	CF63VDMA	9
80	16	1,19	CF80VDMA	9
100	20	1,80	CF100VDMA	9

Mounting bolts included

Mounting kit, back to back mounted cylinders				
32		0,060	P1E-6KB0	10
40		0,078	P1E-6LB0	10
50		0,162	P1E-6MB0	10
63		0,194	P1E-6NB0	10
80		0,450	P1E-6PB0	10
100		0,672	P1E-6QB0	10

Bearing bracket for MT4				
32	12	0,04	9301054261	10
40	16	0,07	9301054262	10
50	16	0,07	9301054262	10
63	20	0,12	9301054264	10
80	20	0,12	9301054264	10
100	25	0,21	9301054266	10
125	25	0,21	9301054266	10
160	32		9301054268	10
200	32		9301054268	10

Part number covers a set of two brackets

Centre trunnion mounted profile cylinders				
32	12	0,20	P1C-4KMY	11
40	16	0,45	P1C-4LMY	11
50	16	0,60	P1C-4MMY	11
63	20	1,05	P1C-4NMY	11
80	20	1,30	P1C-4PMY	11
100	25	2,00	P1C-4QMY	11

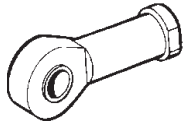
Kit contains centre trunnion, 4 fixing screws, 2 positioning screws and 4 spring guide pins.

The profile cylinder type centre trunnion can be broken down into two halves and re-assembled in any position along the cylinder body.

Piston Rod Mountings

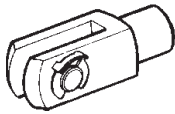
Swivel rod eye ISO 8139

Zinc-plated steel.



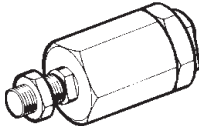
Rod clevis ISO 8140

Zinc-plated steel complete with cross pin.



Flexocoupling

Zinc-plated steel/hardened steel.



Piston rod nut DIN 439 B

Zinc-plated steel supplied with cylinder.



Pin set for MP2/MP4

Surface treated steel.



Cylinder bore mm	Pin mm	Thread	Weight	Order Code	Dimensions on page
------------------	--------	--------	--------	------------	--------------------

Swivel rod eye

32	10	M10x1,25	0,08	P1C-4KRS	12
40	12	M12x1,25	0,12	P1C-4LRS	12
50	16	M16x1,5	0,25	P1C-4MRS	12
63	16	M16x1,5	0,25	P1C-4MRS	12
80	20	M20x1,5	0,46	P1C-4PRS	12
100	20	M20x1,5	0,46	P1C-4PRS	12
125	30	M27x2	1,28	P1C-4RRS	12
160	35	M36x2	2,00	P1C-4SRS	12
200	35	M36x2	2,00	P1C-4SRS	12

Lock-nut not included with spherical rod end but supplied with each cylinder.

Rod clevis

32	10	M10x1,25	0,09	P1C-4KRC	12
40	12	M12x1,25	0,15	P1C-4LRC	12
50	16	M16x1,5	0,35	P1C-4MRC	12
63	16	M16x1,5	0,35	P1C-4MRC	12
80	20	M20x1,5	0,75	P1C-4PRC	12
100	20	M20x1,5	0,75	P1C-4PRC	12
125	30	M27x2	2,10	P1C-4RRC	12
160	35	M36x2	4,30	P1C-4SRC	12
200	35	M36x2	4,30	P1C-4SRC	12

Lock-nut not included with clevis kit but supplied with each cylinder.

Flexocoupling

32		M10x1,25	0,21	P1C-4KRF	12
40		M12x1,25	0,22	P1C-4LRF	12
50		M16x1,5	0,67	P1C-4MRF	12
63		M16x1,5	0,67	P1C-4MRF	12
80		M20x1,5	0,72	P1C-4PRF	12
100		M20x1,5	0,72	P1C-4PRF	12
125		M27x2	1,80	P1C-4RRF	12

Piston rod nut

32		M10x1,25	0,007	9128985601	12
40		M12x1,25	0,010	0261109910	12
50		M16x1,5	0,021	9128985603	12
63		M16x1,5	0,021	9128985603	12
80		M20x1,5	0,040	0261109911	12
100		M20x1,5	0,040	0261109911	12
125		M27x2	0,100	0261109912	12
160		M36x2	0,110	9128985606	12
200		M36x2	0,110	9128985606	12

Pin set for MP2/MP4

32	10			122-80334-A*	10
40	12			122-70414-A*	10
50	12			122-70514-A*	10
63	16			122-70644-A*	10
80	16			122-70814-A*	10
100	20			122-70964-A*	10
125	25			4238-7**	10
160	30			4238-8**	10
200	30			4238-8**	10

* Order code with split pins, ** Order code with circlips

MP2 mountings are supplied complete with pins

For MP4 mountings, pins are to be ordered separately.

Piston Position Sensors

Reed switch piston position sensors

Cylinder bore mm	Voltage Range		Current max mA	Cable length m	LED	Reed switch order code	
	VAC	VDC				Tie rod type cylinders	Smooth profile type cylinders
32-63	85-115	5-30	50	3	Yes	RCA-1-3	RCA-1-3
80-100	85-115	5-30	50	3	Yes	RCA-1-3	Not applicable
80-100	5-240	10-28	200	2	Yes	Not applicable	LN-03A*
32-63	85-240	N/A	50	3	Yes	RCA-2-3	RCA-2-3
80-100	85-240	N/A	50	3	Yes	RCA-2-3	Not applicable*
125-200	10-240	10-300	500	3	No	4620A	Not applicable
125-200	10-240	10-300	380	3	Yes	4621A	Not applicable

All above listed reed switches are of the normally open type

*For 80-100 mm bore smooth profile cylinders use reed switch # LN-03A with integral mounting bracket

Reed switch mounting brackets

Cylinder bore mm	Reed switch order code	Bracket order code	
		Tie rod type cylinders	Smooth profile type cylinders
32-40	RCA-1-3	122-90480	122-90500
50-63	and	122-90100	122-90600
80-100	RCA-2-3	122-90200	Not applicable*
80-100	LN-03A	Not applicable	LN-03A*
125-200	4620A	4624A	Not applicable
125-200	4621A	4624A	Not applicable

*For 80-100 mm bore smooth profile cylinders use reed switch # LN-03A with integral mounting bracket

Solid state piston position sensors

Cylinder bore mm	Voltage range VDC	PNP NPN	Current max mA	Cable length m	LED	Solid state sensor order code	
						Tie rod type cylinders	Smooth profile type cylinders
32-63	5-24	NPN	100	1	Yes	RNA-3	RNA-3
80-100	5-24	NPN	100	1	Yes	RNA-3	Not applicable*
80-100	10-28	PNP/NPN	500	2	Yes	Not applicable	LN-03P*
125-200	10-28	PNP	250	3	Yes	4630A	Not applicable

All above listed solid state sensors are of the normally open type

*For 80-100 mm bore smooth profile cylinders use solid state sensor # LN-03P with integral mounting bracket

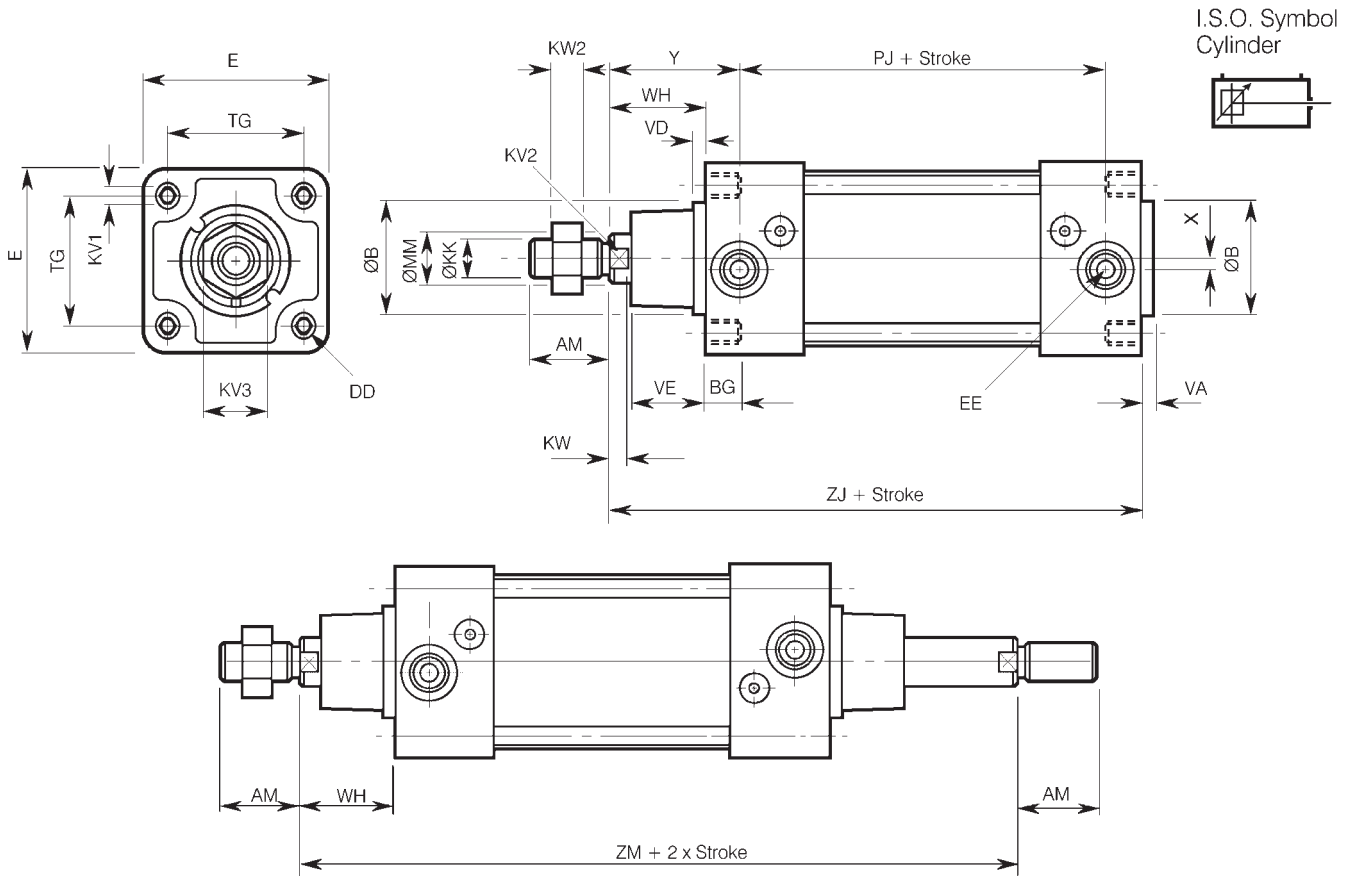
Solid state sensor mounting brackets

Cylinder bore mm	Reed switch order code	Bracket order code	
		Tie rod type cylinders	Smooth profile type cylinders
32-40	RNA-3	122-90480	122-90500
50-63	RNA-3	122-90100	122-90600
80-100	RNA-3	922-90200	Not applicable*
80-100	LN-03P	Not applicable	LN-03P*
125-200	4630A	4624A	Not applicable

*For 80-100 mm bore smooth profile cylinders use solid state sensor # LN-03P with integral mounting bracket

Cylinders furnished with piston rod guides require special piston position sensors. Please ask your Goyen representative.

Basic Tie Rod and Profile Cylinders



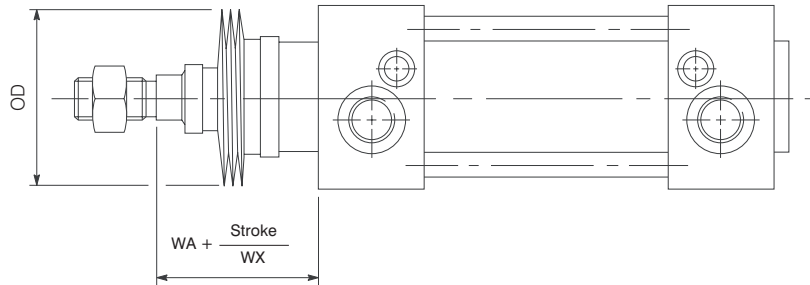
Dimensions (mm)

Bore Size	MM Ø	MM KK*	AM* +0/-2	ØB e11	WH	VD	VE	ZJ	VA	PJ	X	Y	KV3 A/F	KW2	ZM
32	12	M10x1,25	22	30	26	4	20	120	4	67	5	39,5	17	6	146
40	16	M12x1,25	24	35	30	4	21	135	4	75	6,5	45	19	7	165
50	20	M16x1,5	32	40	37	4	29	143	4	76	6,5	54	24	8	180
63	20	M16x1,5	32	45	37	4	29	158	4	89	0	53	24	8	195
80	25	M20x1,5	40	45	46	4	35	174	6	96	0	62	30	9	220
100	25	M20x1,5	40	55	51	4	35	189	6	102	0	69	30	9	240
125	32	M27x2	54	60	65	7	41	225	6	120	0	85	41	12	290
160	40	M36x2	72	65	80	7	52	260	6	132	0	104	55	14	340
200	40	M36x2	72	75	95	7	60	275	6	132	0	119	55	14	370

* To ISO 6431

Bore Size	EE	DD	KV1 A/F	BG min	KV2 A/F	KW	E	TG	ZM	Bore Size	Weight (kg) approx. 0mm stroke +per 5mm stroke	
32	G 1/8	M6	6	16	10	6,0	47,5	32,5	146	32	0,90	0,020
40	G 1/4	M6	6	16	13	6,5	53	38	165	40	0,95	0,025
50	G 1/4	M8	8	16	16	6,5	65	46,5	180	50	1,92	0,027
63	G 3/8	M8	8	16	16	6,5	75	56,5	195	63	1,95	0,030
80	G 3/8	M10	10	16	21	10	98	72	220	80	3,04	0,042
100	G 1/2	M10	10	16	21	10	115	89	240	100	4,02	0,055
125	G 1/2	M12	24	20	27	13	140	110	290	125	7,00	0,069
160	G 3/4	M16	30	24	36	16	179	140	340	160	11,71	0,114
200	G 3/4	M16	30	24	36	16	216	175	370	200	15,45	0,126

Basic Tie Rod and Profile Cylinders with Rod Boot Fitted



Dimensions (mm)

Cylinder Bore	32	40	50	63	80	100	125	160	200
MM	12	16	20	20	25	25	32	40	40
OD	45	50	60	70	75	75	90	100	100
WA	44	46	53	53	63	63	75	92	92
WX	5	6	6	6	7	7	7	8	8

Above dimensions apply to stitched vinyl boots only.

For dimensions of boots made of other materials, please contact Parker Technical Service.

Repair Kits

Cylinder repair kits		Rod lock repair kits	
Cylinder bore mm	Order Code	Cylinder bore mm	Order Code
32	222432001	32	9121715941
40	222440001	40	9121715942
50	222450001	50	9121715943
63	222463001	63	9121715944
80	222480001	80	9121715945
100	222495001	100	9121715946
125	P1E-6RRM	125	9121715947
160	P1E-6SRM		
200	P1E-6TRM		
Lubricant	BOSC2313-2S	Lubricant	BOSC2313-2S

Cylinder Thrust

$$T = \frac{P \times A \times Z}{10}$$

T = Thrust (newtons)
P = Pressure (bar) gauge
A = Effective piston area (mm²)
Z = Efficiency factor
For static application: Z = 0.90
For dynamic applications –
– average: Z = 0.70 - 8.0
– very slow moving: Z = 0.85
– very fast moving: Z = 0.50

Air Consumption of Cylinders

$$C = \frac{A \times L \times (P+1.013)}{1.013 \times 10^6} \times \frac{n}{60}$$

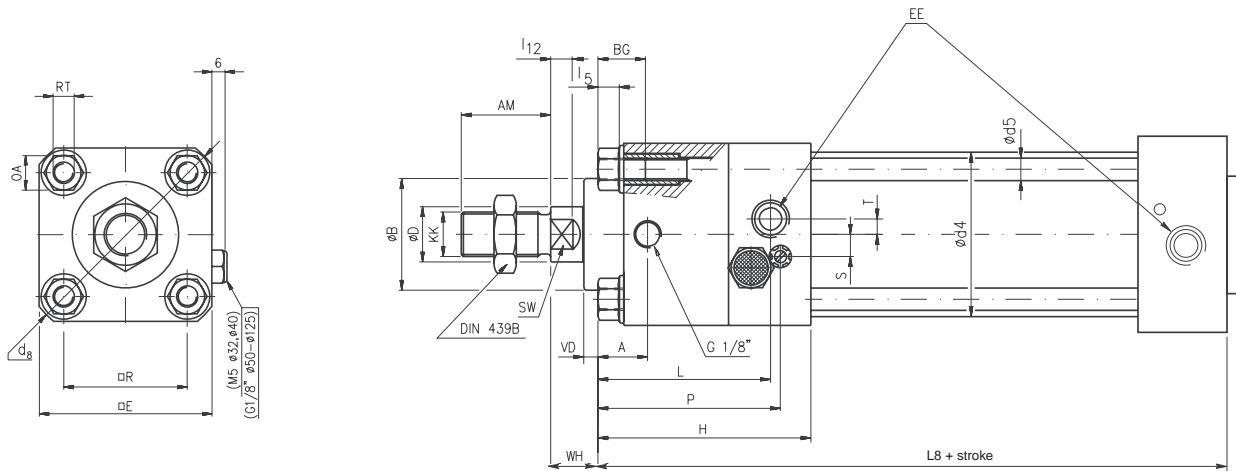
C = Air consumption (L/s) (ANR)
A = Effective piston area (mm²)
L = Stroke (mm)
n = Number of single strokes per minute
P = Pressure (bar) gauge

Air Flow to Cylinders

$$Q = \frac{A \times L \times (P + 1.013)}{T \times 1.013 \times 10^6}$$

Q = Air flow (L/s) (ANR)
A = Effective piston area (mm²)
L = Stroke (mm)
T = Time to complete single stroke (secs)
P = Pressure (bar) gauge

Basic Tie Rod and Profile Cylinders with Rod Locking Device



Dimensions (mm)

Cylinder Bore	B	RT	d ₈	WH	R	BG	VD	L8	H	E	L	P
32	30	M6	62	15	32,5	16	4,5	132,5	69,0	50	51,0	59,0
40	35	M6	70	16	38,0	16	4,5	146,0	74,0	55	53,5	63,0
50	40	M8	84	17	46,5	16	5,0	146,5	76,5	65	62,0	65,0
63	45	M8	98	17	56,5	16	5,0	172,0	91,5	75	72,0	82,0
80	45	M10	124	20	72,0	16	4,0	195,0	106,0	95	85,0	98,0
100	55	M10	148	20	89,0	16	4,0	222,0	128,0	115	107,0	117,0
125	60	M12	184	27	110,0	20	6,0	250,5	138,5	140	115,5	123,5

Cylinder Bore	A	l ₁₂	SW	KK	AM	EE	S	T	OA	D	l ₅
32	16	6,0	10	M10X1,25	22	G1/8	3,0	4,5	10	12	5,5
40	16	6,5	13	M12X1,25	24	G1/4	7,0	3,0	10	16	5,5
50	18	6,5	16	M16X1,5	32	G1/4	8,0	5,5	13	20	7,5
63	26	6,5	16	M16X1,5	32	G3/8	8,5	3,0	13	20	7,5
80	35	10,0	21	M20X1,5	40	G3/8	9,0	6,0	16	25	8,0
100	50	10,0	21	M20X1,5	40	G1/2	12,0	6,0	16	25	8,0
125	60	13,0	27	M27X2	54	G1/2	14,0	6,0	18	32	9,0

PMC with piston-rod locking device

PMC series cylinders can be supplied with a powerful piston-rod locking device. The spring actuated - air release type locking device is able to hold the piston rod in any position along the stroke. In the absence of signal pressure, full holding force is applied to the piston rod. The locking device is released by applying a minimum signal pressure of 400 kPa (4 bar, 58PSI).

Locking device is not a brake

This device is not designed to stop a moving load. The piston rod must be stationary when the locking device is actuated.

Retrofitting

Piston rod locks should be called for in the order code as retrofitting these devices in the field is not economical.

Smooth profile cylinders

Although the above diagram depicts a tie rod type cylinder, piston rod locking devices are also available with smooth profile cylinders in 32mm through 100mm bore sizes.

Technical data

Working medium: Dry, filtered compressed air

Working pressure: 1000kPa (10 bar, 145PSI) max.

Working temperature: -10°C to +60°C

Unlocking pressure: 4 bar

Holding forces

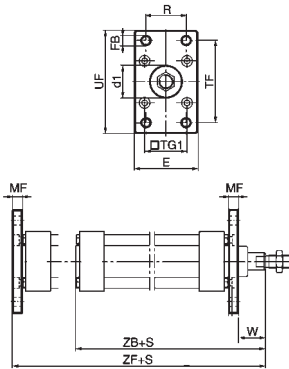
Holding forces at zero signal pressure to locking device and dry piston rod.

Bore size	Holding force (N)
32	550
40	860
50	1345
63	2140
80	3450
100	5390
125	8425

Dimensions, mountings

All dimensions in mm unless otherwise stated

Flange MF1/MF2

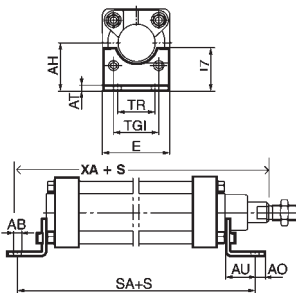


FAC-VDMA

Cyl. bore	d1 H11	FB H13	TG1	E	R JS14	MF JS14	TF JS14	UF	W	ZF	ZB
32	30	7	32.5	50	32	10	64	80	16	103	124
40	35	9	38.0	53	36	10	72	90	20	145	139
50	40	9	46.5	65	45	12	90	110	25	155	147
63	45	9	56.5	76	50	12	100	125	25	170	162
80	45	12	72.0	98	63	16	126	154	30	190	178
100	55	14	89.0	115	75	16	150	180	35	205	193
125	60	16	110.0	140	90	20	180	220	45	245	231
160	65	18	140.0	190	115	20	230	275	60	280	265
200	75	22	175.0	225	135	25	270	318	70	300	280

S = Stroke length

Foot bracket MS1

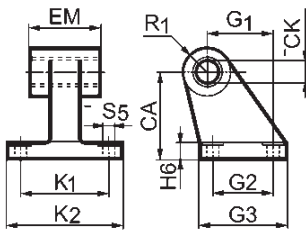


LB-VDMA

Cyl. bore	AB H14	TG1	E	TR JS14	AO	AU	AH JS15	l7	AT	SA	XA
32	7	32.5	47	32	8	24	32	30	3	142	144
40	9	38.0	53	36	10	28	36	30	3	161	163
50	9	46.5	65	45	10	32	45	36	3	170	175
63	9	56.5	76	50	10	32	50	35	3	186	190
80	12	72.0	98	63	13	41	63	49	4	210	215
100	14	89.0	115	75	13	41	71	54	4	220	230
125	16	110.0	140	90	22	45	90	71	4,75	250	270
160	18	140.0	177	115	24	60	115		4,75	300	320
200	22	175.0	214	135	30	70	135		8	320	345

S = Stroke length

Hinge bracket

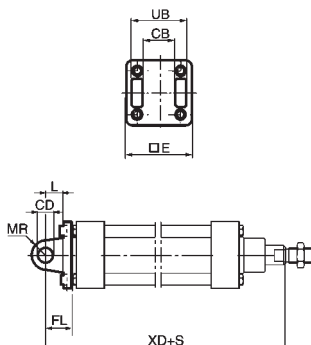


-27027

Cyl. bore	CK H9	S5 H13	K1 JS14	K2	G1 JS14	G2 JS14	EM	G3	CA JS14	H6	R1
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

S = Stroke length

Clevis bracket MP2



CB-VDMA, CF-VDMA

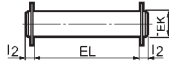
Cyl. bore	E	UB H14	CB H14	FL ±0.2	L	CD H9	MR	XD
32	47	45	26	22	13	10	10	142
40	53	52	28	25	16	12	12	160
50	65	60	32	27	16	12	12	170
63	76	70	40	32	21	16	16	190
80	98	90	50	36	22	16	16	210
100	115	110	60	41	27	20	20	230
125	140	130	70	50	30	25	25	275
160	177	170	90	55	35	30	30	315
200	214	170	90	60	36	30	30	335

S = Stroke length

Dimensions, mountings

All dimensions in mm unless otherwise stated

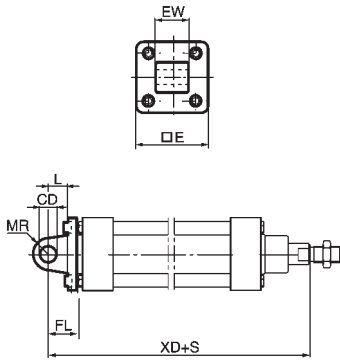
Pin set, clevis bracket MP2/MP4



122-4-A, 4238-

Cyl. bore	EK e8	EL	l ₂
32	10	46	3,0
40	12	53	3,0
50	12	61	3,0
63	16	71	3,0
80	16	91	3,0
100	20	111	3,0
125	25	132	3,0
160	30	172	3,0
200	30	172	3,0

Eye bracket MP4

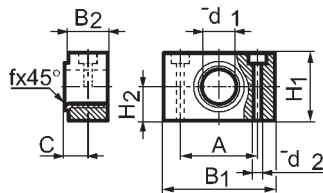


CA-VDMA

Cyl. bore	E	EW	FL ±0.2	L	CD H9	MR	XD
32	47	26	22	13	10	10	142
40	53	28	25	16	12	12	160
50	65	32	27	16	12	12	170
63	76	40	32	21	16	16	190
80	98	50	36	22	16	16	210
100	115	60	41	27	20	20	230
125	140	70	50	30	25	25	275
160	177	90	55	35	30	30	315
200	214	90	60	36	30	30	335

S = Stroke length

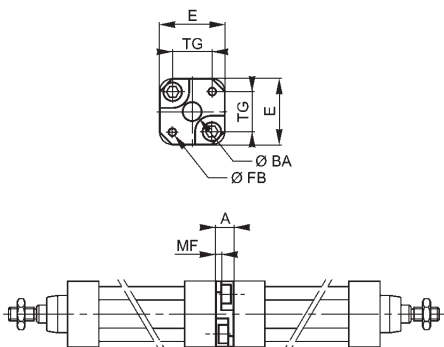
Bearing bracket for MT4



930105426-

Cyl. bore	B ₁	B ₂	A	C	d ₁	d ₂ H13	H ₁	H ₂	fx45° min
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
160	92	40,0	60	22,5	32	18,0	60	30	2,5
200	92	40,0	60	22,5	32	18,0	60	30	2,5

Mounting kit, back to back mounted cylinders

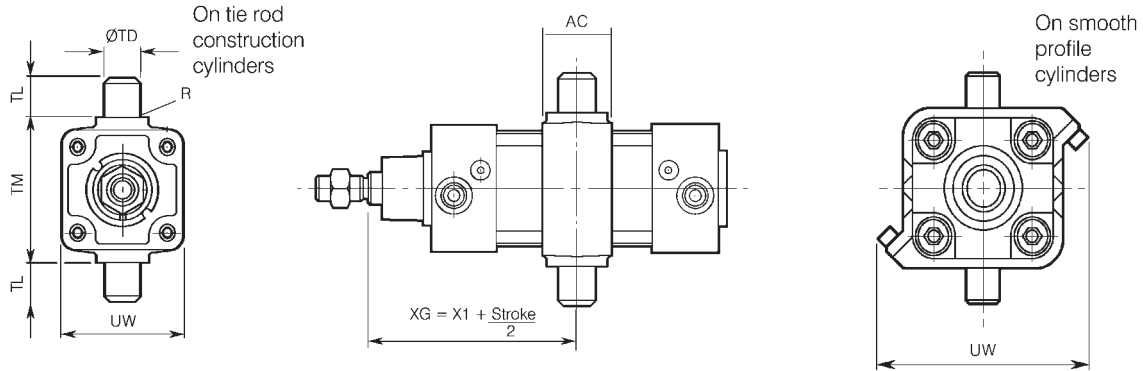


P1E-6-BO

Cyl. bore	E	TG H14	ØFB H14	MF ±0.2	A	ØBA H9
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

Dimensions, mountings

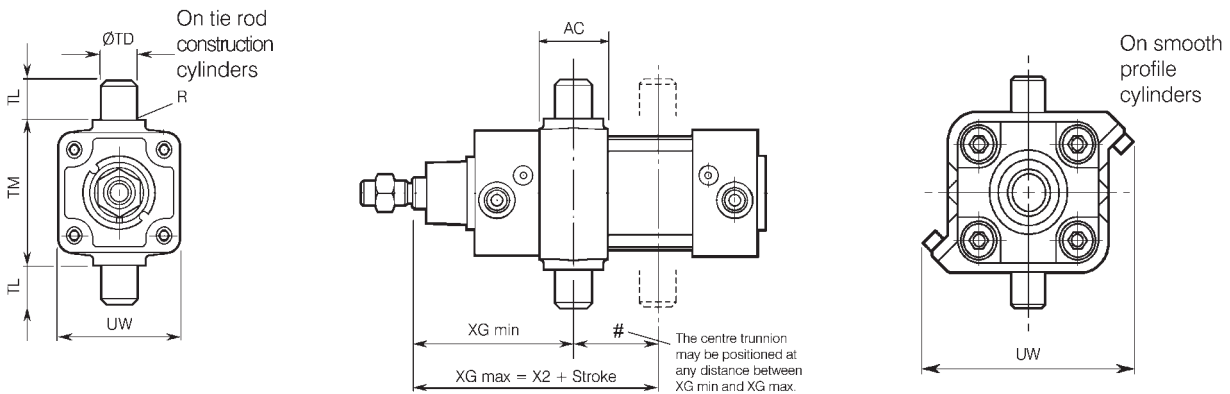
All dimensions in mm unless otherwise stated



Spigot dimensions: Same as for tie rod type

Centre trunnion mounted (ISO mounted code MT4)

Cylinder Bore	AC Tie rod	AC Profile	UW Tie rod	UW Profile	R	TD e9	TL h14	TM h14	X1
32	22	25	46	65	1.0	12	12	50	73
40	22	25	58	75	1.5	16	16	63	82
50	22	30	68	95	1.6	16	16	75	90
63	28	35	84	105	1.6	20	20	90	97
80	35	40	102	130	1.6	20	20	110	110
100	40	45	124	145	2.0	25	25	132	120
125	48	N/a	150	N/a	2.0	25	25	160	145
160	70	N/a	190	N/a	2.5	32	32	200	170
200	70	N/a	242	N/a	2.5	32	32	250	185



Spigot dimensions: Same as for tie rod type

Dimensions (mm)

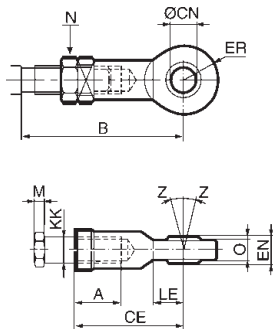
Cylinder Bore	AC Tie rod	AC Profile	UW Tie rod	UW Profile	R	ØTD e9	TL h14	TM h14	XG Min. Tie rod	XG Min. Profile	X2 Tie rod	X2 Profile	Minimum Stroke*
32	22	25	46	65	1.0	12	12	50	66	82,5	80	63,5	20
40	22	25	58	75	1.5	16	16	63	75	86,5	90	78,5	10
50	22	30	68	95	1.6	16	16	75	84	107,0	96	73,0	35
63	28	35	84	105	1.6	20	20	90	94	110,0	102	86,0	25
80	35	40	102	130	1.6	20	20	110	103	131,5	118	89,5	45
100	40	45	124	145	2.0	25	25	132	117	140,5	127	103,5	40
125	48	N/a	150	N/a	2.0	25	25	160	134	N/a	156	N/a	N/a
160	70	N/a	190	N/a	2.5	32	32	200	169	N/a	171	N/a	N/a
200	70	N/a	242	N/a	2.5	32	32	250	184	N/a	186	N/a	N/a

* Minimum stroke required to be able to fit a centre trunnion to a profile cylinder

Dimensions, mountings

All dimensions in mm unless otherwise stated

Swivel rod eye

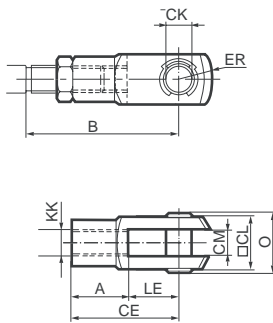


P1C-4-RS

Cyl. bore	A	B min	B max	CE	CN H9	EN h12	ER	KK	LE min	N dia	O	Z °
32	20	49,0	55	43	10	14	14	M10x1,25	15	17	10,5	12
40	22	57,0	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	86,0	97	77	20	25	25	M20x1,5	26	32	18,0	15
100	33	86,0	97	77	20	25	25	M20x1,5	26	32	18,0	15
125	51	122,0	137	110	30	37	35	M27x2	36	41	25,0	15
160	56	139,0	161	125	35	43	40	M36x2	41	54	28,0	15
200	56	139,0	161	125	35	43	40	M36x2	41	54	28,0	15

Lock-nut not included with spherical rod end but supplied with each cylinder

Rod clevis

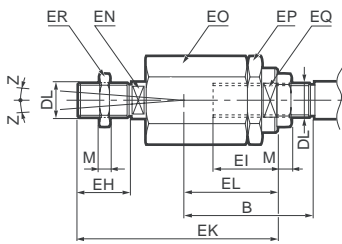


P1C-4-RS

Cyl. bore	A	B min	B max	CE	CK h11/e9	CL	CM	ER	KK	LE	O
32	20	46,0	52	40	10	20	10	16	M10x1,25	20	28,0
40	24	55,0	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	89,0	100	80	20	40	20	32	M20x1,5	40	50,0
100	40	89,0	100	80	20	40	20	32	M20x1,5	40	50,0
125	56	122,0	137	110	30	55	30	45	M27x2	54	72,0
160	72	158,0	180	144	35	50	35	50	M36x2	72	83,0
200	72	158,0	180	144	35	50	35	50	M36x2	72	83,0

Lock-nut not included in clevis kit but supplied with each cylinder

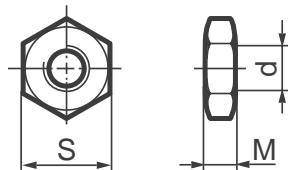
Flexocoupling



P1C-4-RF

Cyl. bore	B min	B max	DL	EH	EI	EK	EL	EN	EO	EP	EQ	M	ER	Z °
32	36,0	43	M10x1,25	20	23	70	31	12	30	30	19	5,0	17	4
40	37,0	43	M12x1,25	23	23	67	31	12	30	30	19	6,0	19	4
50	53,0	61	M16x1,5	40	32	112	45	19	41	41	30	8,0	30	4
63	53,0	61	M16x1,5	40	32	112	45	19	41	41	30	8,0	30	4
80	57,0	67	M20x1,5	39	42	122	56	19	41	41	30	10,0	30	4
100	57,0	67	M20x1,5	39	42	122	56	19	41	41	30	10,0	30	4
125	75,5	89	M27x2	48	48	145	60	24	55	55	32	13,5	36	4

Rod nut



912898560

Cyl. bore	d	M	S
32	M10x1,25	5,0	17
40	M12x1,25	6,0	19
50	M16x1,5	8,0	24
63	M16x1,5	8,0	24
80	M20x1,5	10,0	30
100	M20x1,5	10,0	30
125	M27x2	13,5	41
160	M36x2	14,0	55
200	M36x2	14,0	55

Stop Tubes

The use of a stop tube is not mandatory. However, extending the piston rod bearing length at the end of the out-stroke, a stop tube reduces the load on the gland bush and, thereby, increases the cylinder service life.

Depending on the application, a stop tube may be desirable if the stroke length plus any extra rod extension in millimetres multiplied by the stroke factor exceeds 1200 mm. The diagrams on this page detail the relevant stroke factors and recommended stop tube lengths for cylinders mounted in a horizontal plane. A shorter stop tube, or no stop tube, may suffice for a cylinder having an orientation other than horizontal.

The use of a stop tube does not shorten the cylinder stroke specified by the customer. It does, however, increase the overall length of the cylinder by the length of the stop tube used.

Piston Rod Buckling

Piston rods subjected to certain compression loads may buckle if the stroke length plus any extra rod extension in millimetres multiplied by the stroke factor exceeds 700 mm. The diagrams on this page detail the relevant stroke factors and load/stroke limits for each standard rod diameter.

To avoid the risk of piston rod buckling the intersection of the line representing the load and the line representing the stroke length times stroke factor must be below the line representing the rod diameter.

Technical Information

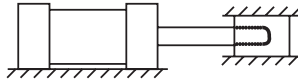
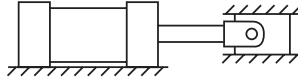
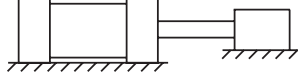
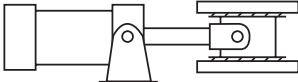
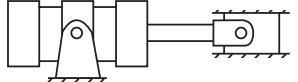

Pressure: 0 to 1000 kPa (0 to 10 bar)

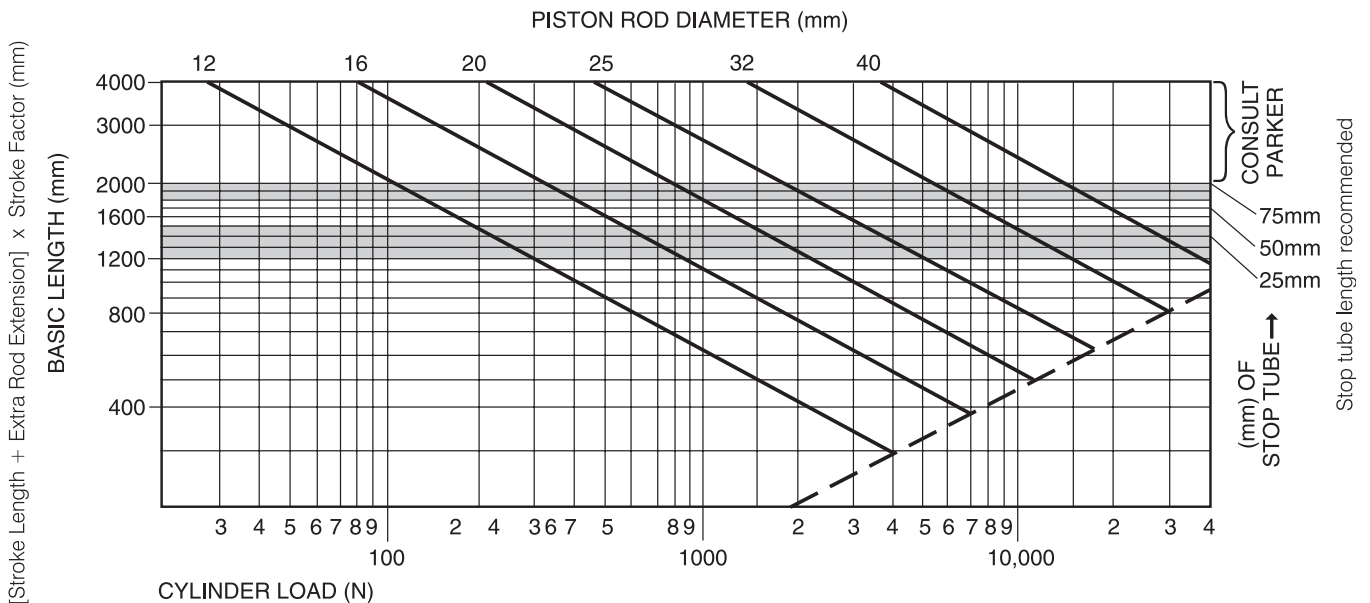
Medium: Filtered compressed air Filtered inert gases

Filtration: To 5 micron absolute preferred

Lubrication: Not required. However, to be continued once commenced

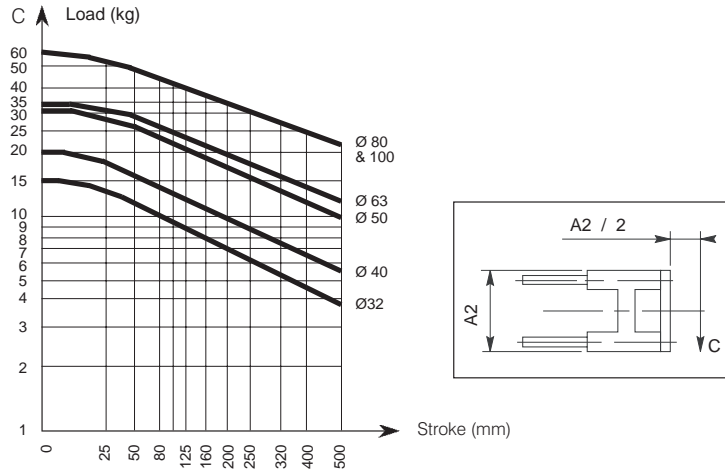
Temperature: -10°C to +70°C. Consult Goyen if temperature is below freezing.

Application	Stroke Factor
I 	.50
II 	.70
III 	2.00
IV 	1.00
V 	1.50
VI 	2.00

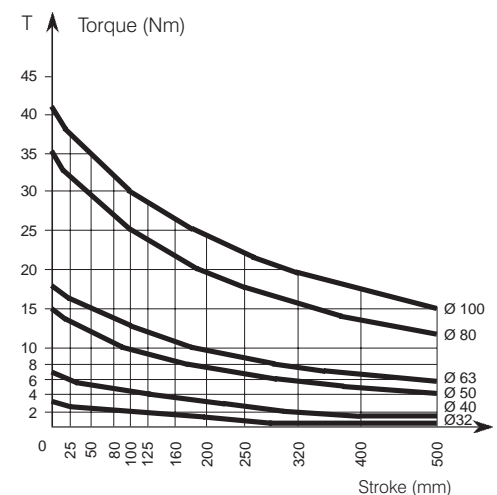
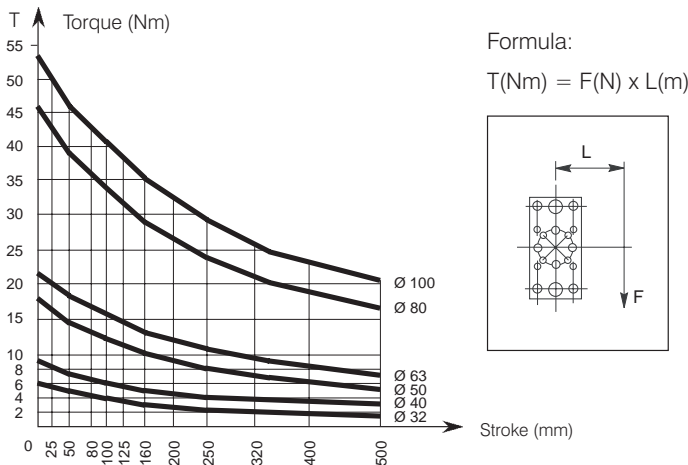
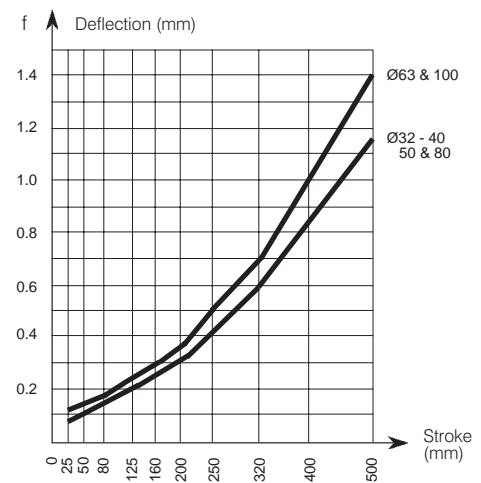
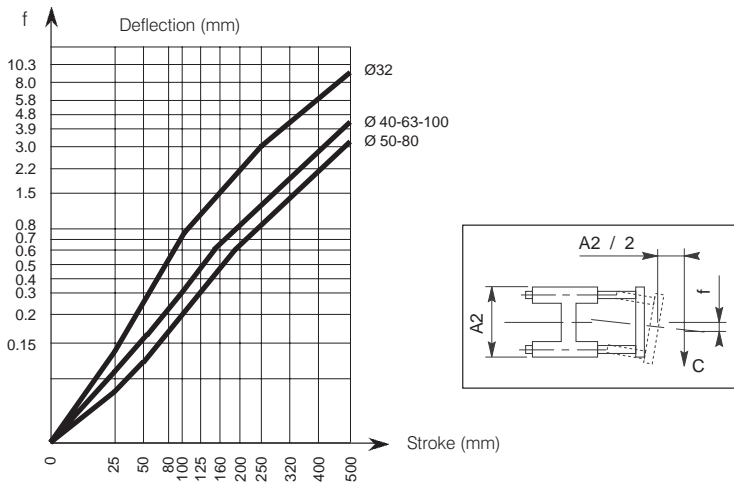
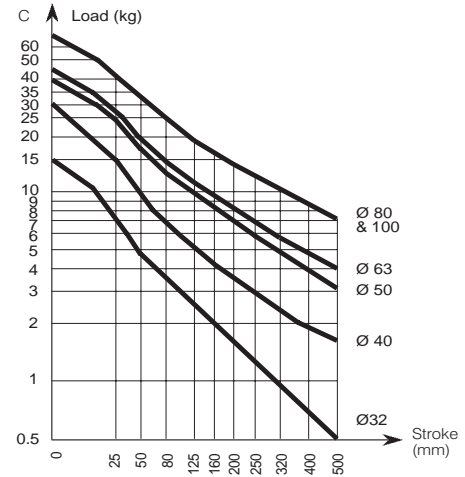


Technical Information

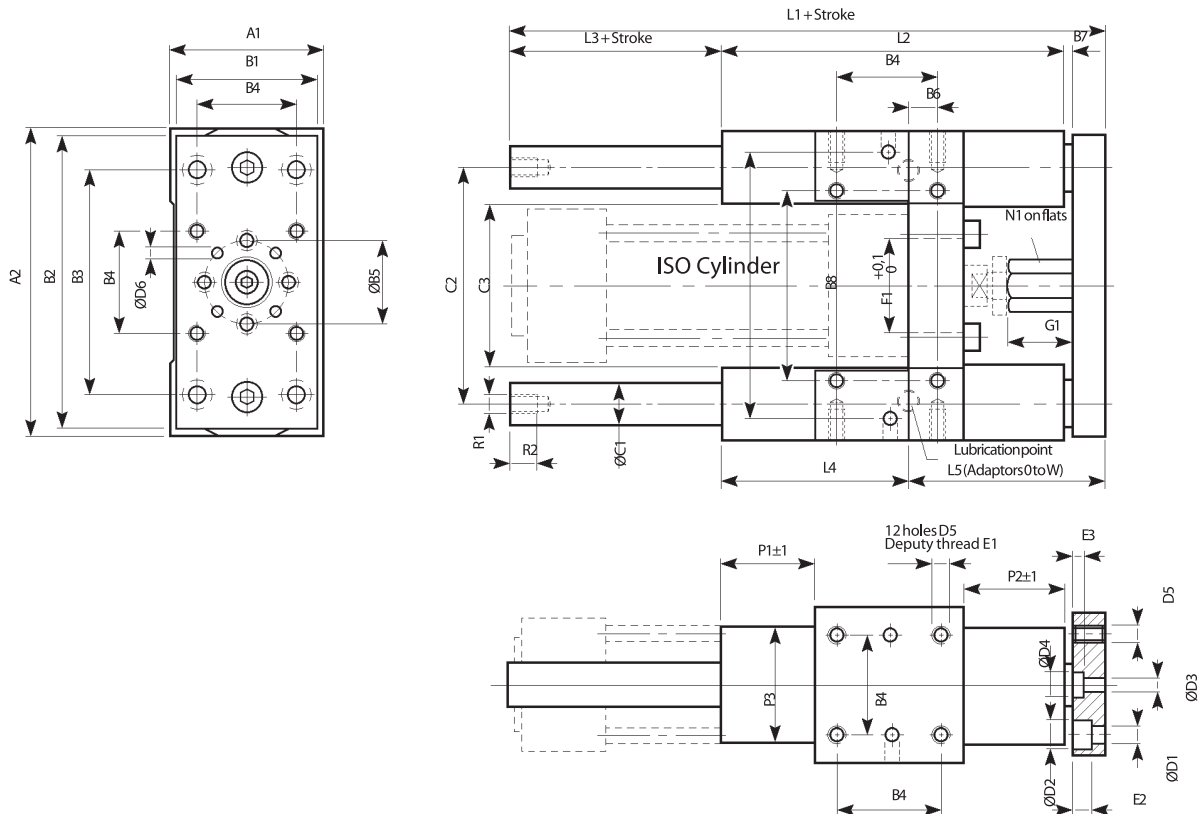
**Technical Information 'H style'
Rod Guides with ball bearings**



Rod Guides with PTFE bushes



Dimensions, H style, rod guides (ball bearings or PTFE bushes)



Dimensions (mm)

Bore	A1	A2	B1	B2	B3	B4	B5	B6	B7	B8	C1	C2	C3	D1	D2	D3	D4	D5	D6
32	50	97	45	90	78	32,5	31,5	4	12	61	12	73,5	50	6,6	11	5,2	9	M6	4
40	58	115	54	110	84	38	31,5	11	12	69	16	86,5	58	6,6	11	5,2	9	M6	4
50	70	137	63	130	100	46,5	50	19	15	85	20	103,5	70	9	14	6,4	11	M8	4
63	85	152	80	145	105	56,5	50	15	15	100	20	118,5	85	9	14	6,4	11	M8	4
80	105	189	10	180	130	72	76	21	20	130	25	147	105	11	17	8,4	14	M10	6
100	130	213	120	200	150	89	76	24,5	20	150	25	171,5	130	11	17	8,4	14	M10	6

Bore	E1	E2	E3	F1	G1	L1	L2	L3	L4	L5	N1	P1	P2	P3	R1	R2	S	W
32	12	7	4	30	17	150	120	15	71	64	17	36	31	40	M6	11	6	5
40	12	7	4	35	24	170	130	25	71	74	17	36	36	44	M6	11	5	6
50	16	9	9	40	27	192	150	24	79	89	24	42	33	50	M8	16	3,5	8
63	16	9	9	45	27	222	180	24	109	89	24	58	44	60	M8	16	1,5	8
80	20	11	5	45	32	247	200	24	113	110	30	50	52	70	M10	16	0	10
100	20	11	5	55	32	267	220	24	128	115	30	49	51	70	M10	16	4	10

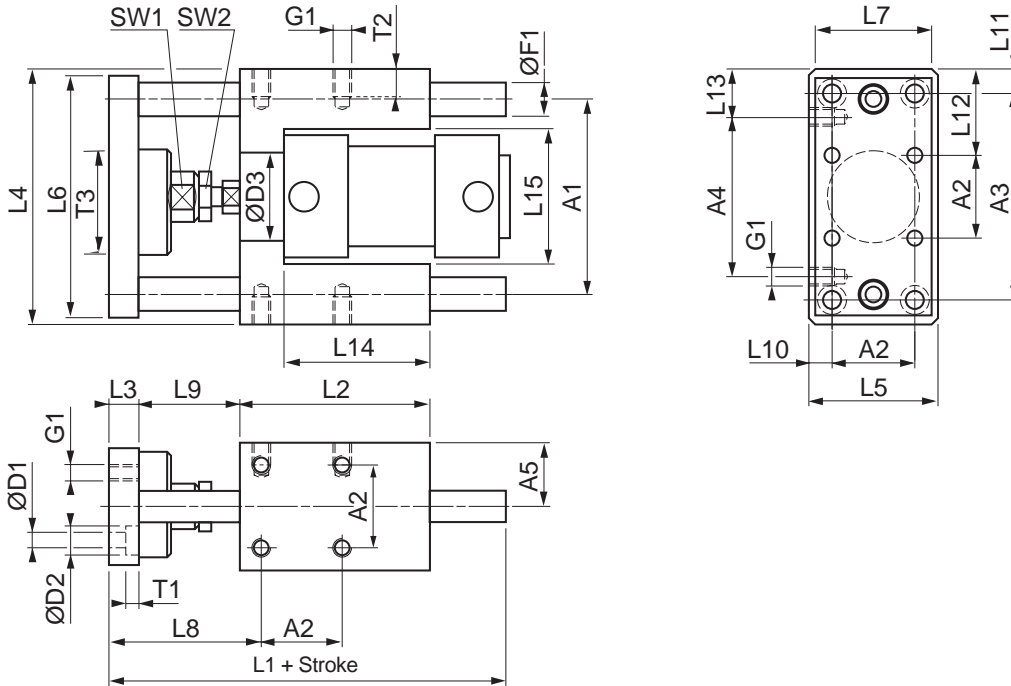
Order codes and weights (g)

Bore size	Part Numbers Ball bearings	Part Numbers PTFE bearings	Weights (g) approx.	
			0mm stroke	+ per 100mm stroke
32	P1E-4KRH-XXXX	P1E-4KRJ-XXXX	970	175
40	P1E-4LRH-XXXX	P1E-4LRJ-XXXX	1550	315
50	P1E-4MRH-XXXX	P1E-4MRJ-XXXX	2560	495
63	P1E-4NRH-XXXX	P1E-4NRJ-XXXX	4570	495
80	P1E-4PRH-XXXX	P1E-4PRJ-XXXX	6530	770
100	P1E-4QRH-XXXX	P1E-4QRJ-XXXX	8760	770

The above products are available on indent only.

To indicate stroke length substitute XXXX in part number with stroke in millimetres (e.g. 0200 = 200 mm stroke).

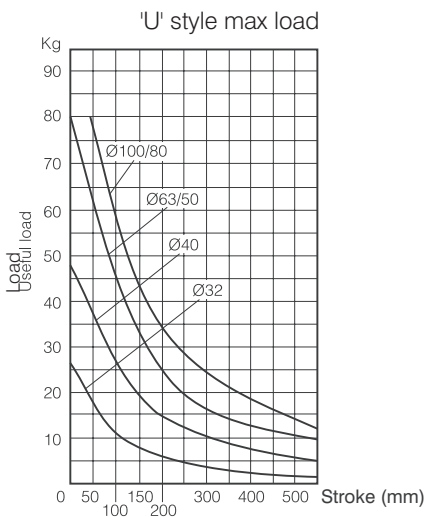
Dimensions, U style, rod guides (with bronze bushes)



Dimensions (mm)

Bore	A1	A2	A3	A4	A5	D1	D2	D3	F1	G1	L1	L2	L3	L4	L5
32	74	32,5	78	61	25,0	6,6	11	30	12	M6	133	72	12	97	50
40	87	38,0	84	69	29,0	6,6	11	35	16	M6	149	84	12	115	58
50	104	46,5	100	85	35,0	9,0	15	40	20	M8	175	100	15	137	70
63	119	56,5	105	100	42,5	9,0	15	45	20	M8	190	115	15	152	85
80	148	72,0	130	130	52,0	11,0	18	45	25	M10	238	150	20	189	105
100	172	89,0	150	150	65,0	11,0	18	55	25	M10	249	165	20	213	130

Bore	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	SW1	SW2	T1	T2	T3
32	90	45	60,5 ^{+2/0}	35 ^{+2/0}	8,75	9,5	32,25	18,0	44	50,2	13	17	6,5	10	HEX30
40	110	54	63,5 ^{+2/0}	41 ^{+2/0}	10,00	15,5	38,50	23,0	51	58,2	15	19	6,5	10	Ø45
50	130	63	76,0 ^{+5/0}	48 ^{+4/0}	11,75	18,5	45,25	26,0	60	70,2	22	24	9,0	13	Ø54
63	145	80	76,0 ^{+5/0}	48 ^{+4/0}	14,25	23,5	47,75	26,0	75	85,2	22	24	9,0	13	Ø54
80	180	100	93,0 ^{+6/0}	56 ^{+6/0}	16,50	29,5	58,50	29,5	116	105,4	27	30	11,0	16	Ø60
100	200	120	95,5 ^{+6/0}	56 ^{+6/0}	20,50	31,5	62,00	31,5	126	130,4	27	30	11,0	16	Ø60



Order codes and weights (g)

Bore size	Part Numbers Plain bearing	Weights (g) approx.	
		0mm stroke	+ per 100mm stroke
32	P1E-4KRK-XXXX	890	175
40	P1E-4LRK-XXXX	1530	315
50	P1E-4MRK-XXXX	2930	495
63	P1E-4NRK-XXXX	3500	495
80	P1E-4PRK-XXXX	7410	770
100	P1E-4QRK-XXXX	9220	770

Standard strokes: 25, 50, 80, 100, 160, 200, 250 mm Longer strokes: on application
Stock stroke: 200 mm

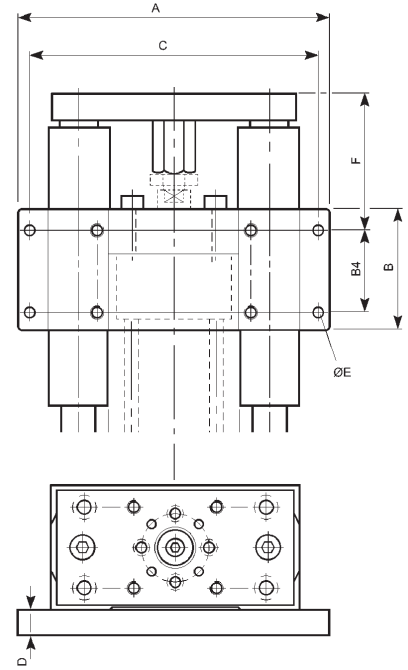
To indicate stroke length substitute XXXX in part number with stroke in millimetres (e.g. 0200 = 200 mm stroke)

Mounting kits to suit U style Rod Guides

Horizontal mounting

Raw material: Galvanised steel

Note: Mounting kits include four fixing screws

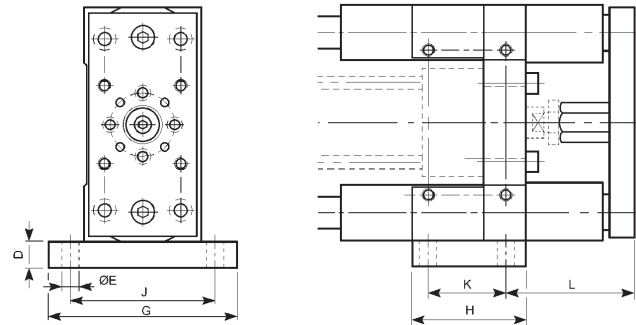


Vertical mounting

Mounting kits conform to ISO 6431 and DIN24335 standard.

Raw material: Galvanised steel

Note: Mounting kits include four fixing screws



Part numbers - dimensions (mm) - weights

Bore Size	Horizontal Mounting	Vertical Mounting	A	B	B4	C	D	E	F	G	H	J	K	L	Weight (g)	
															Horizontal Mounting	Vertical Mounting
32	32-2801R	FAC32VDMA	128	50	32,5	116	10	6,6	60	80	47	64	32	60	500	230
40	40-2801R	FAC40VDMA	155	55	38	140	10	9	63	92	53	72	36	64	500	230
50	50-2801R	FAC50VDMA	175	70	46,5	160	12	9	70	113	65	90	45	71	500	230
63	63-2801R	FAC63VDMA	190	80	56,5	175	12	9	74	129	74	100	50	77	500	230
80	80-2801R	FAC80VDMA	240	100	72	218	16	11	89	153	89	126	63	93,5	500	230
100	100-2801R	FAC100VDMA	270	120	89	245	16	13	90,5	186	90,5	150	75	97,5	500	230

Horizontal mounting plates are available on indent only.

PFC Flow Control Valves

FCB - Series

Banjo type flow control valves

Knurled knob adjustment

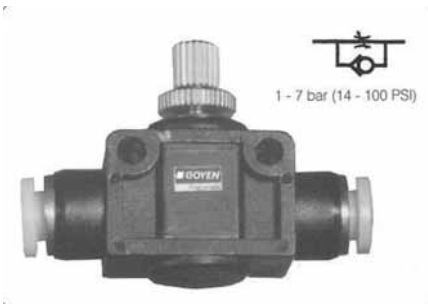


	Stem Thread size					Push-in tube diameter				
	M5	R1/8	R1/4	R3/8	R1/2	4	6	8	10	12
FCB-1/8-4		•				•				
FCB-1/4-6			•				•			
FCB-1/4-8			•					•		
FCB-1/2-12					•					•

FCP- Series





In-line flow control valves

Knurled knob adjustment



	Push-in tube diameter					
	4	6	8	10	12	
FCP-4		•				
FCP-6			•			
FCP-8				•		
FCP-10					•	
FCP-112						•

Ordering cylinders

PMC-T		032	M	A	-	0250	AC
	Bore size mm	Cylinder type	Cylinder bore mm	Options	Standard stroke mm	Indicates that special features are required	
P	32 Ø 100	Smooth profile	032	A Standard seals, magnetic piston	0025	Omit	No special features
T	32 Ø 200	Tie rod	040	E Rod boot fitted, standard seals, magnetic piston	0050	A	WH dimension: Specify in mm
D	32 Ø 200	Tie rod with centre trunnion	050	F Hitemp seals magnetic piston	0080	B	KK dimension: Specify
Centre trunnions for smooth profile cylinders are supplied separately for installer to mount			063	H Rod lock, standard seals, magnetic piston	0100	C	AM dimension: Specify in mm
			080	J Rod lock, rod boot fitted, standard seals, magnetic piston	0125	D	XI dimension: Specify in mm
			100		0160	E	Stop tube: specify stop tube length in mm
			125		0200	F	Special paint: Specify type
			160		0250	X	Other: Supply all details
			200		0320		
					Non-standard strokes available		
					For double acting cylinder strokes over 1700mm, and for spring return strokes over 100mm		
Piston rod material		Cylinder type/function		Example: PMCØT032MAØ0250AC			
Omit	Medium carbon steel, hard chrome plated (standard)	M	 Double acting cushioned	A=36; C=18			
G	Stainless steel not available with rod lock	F	 Double acting, through rod	PMC Series pneumatic cylinder; tie rod type; 32mm bore; double acting; cushioned; standard seals; magnetic piston; 250mm stroke; WH=36mm; AM=18mm			
		X	 Single acting, spring retract *				
		Y	 Single acting, spring extend *				

Standard features

- Dimensions to ISO 6431 and VDMA 24562
- Hard anodised aluminium cylinder barrel
- Hard chrome plated medium carbon steel piston rod
- Magnetic piston
- Robust ISO standard steel and cast iron mountings
- Non-lube operation
- Efficient cushioning with fast breakaway speed
- Oil retaining bronze rod gland
- Engineering polymer piston wear strips
- Prompt nationwide availability

Options

- Tie rod construction (32 to 200 bore)
- Smooth profile construction (32 to 100 bore)
- Piston rod guides (32 to 100 bore)
- High temperature seals
- Piston rod locking devices (32 to 125 bore)
- Reed switch piston position sensors
- Solid state piston position sensors
- Piston rod protecting boots
- Stop tubes for long strokes
- Spring retract/extend type cylinders



Australia

Head Office

Goyen Controls Co Pty Ltd
268 Milperra Road
Milperra, NSW 2214

Telephone: 1800 805 372
Facsimile: 1300 658 799

Queensland

Telephone: 1800 805 372
Facsimile: 1300 658 799

Victoria

Telephone: 1800 805 372
Facsimile: 1300 658 799

South Australia

Telephone: 1800 805 372
Facsimile: 1300 658 799

Western Australia

Telephone: 1800 805 372
Facsimile: 1300 658 799

Asia

Goyen Controls Co Pty Ltd
Shanghai Representative Office
1209 Greenland Business Centre
1258 Yu Yuan Road
Shanghai PC200050
CHINA

Telephone: +86 21 5239 8810
Facsimile: +86 21 5239 8812

Goyen Controls Co Pty Ltd
73-M Jalan Mega Mendung
Kompleks Bandar OUG
58200 Kuala Lumpur MALAYSIA

Telephone: +60 37 987 6839
Facsimile: +60 37 987 7839

Office: Singapore

Tel/Facsimile: +65 6457 4549

USA

Goyen Valve Corporation
1195 Airport Road
Lakewood
New Jersey 08701
USA

Telephone: +1 732 364 7800
Facsimile: +1 732 364 1356

Europe

Goyen Controls Co UK Ltd
Unit 3B Beechwood
Chineham Business Park
Basingstoke, Hampshire, RG24 8WA
UNITED KINGDOM

Telephone: +44 1256 817 800
Facsimile: +44 1256 843 164

Tyco Umwelttechnik GmbH
Im Petersfeld 6
D-65624 Altdiez
GERMANY

Telephone: +49 6432 95299 0
Facsimile: +49 6432 95299 24

Mecair S.r.l.
Via per Cinisello 97
20054 Nova Milanese
Milano,
ITALY

Telephone: +39 0362 3751
Facsimile: +39 0362 367279