TELESCOPIC CYLINDERS ø 25 ÷ 63 mm
Series RT

The overall dimensions are one of the most imporant aspects: in comparison with a traditional ISO cylinder of the same stroke a reduction in size of approx. 45% (with a 3-stage telescopic cylinder) is obtained thus permitting the customer to foresee a considerable reduction of the project and construction of his equipment. The cylinder can be supplied in magnetic version and with slide unit (only for 2-stage version).

TECHNICAL CHARACTERISTICS

Working pressure: 1,5 ÷ 10 bar
Ambient temperature: -20C° ÷ 80°C
Fluid: filtered air, lubricated or not.
Barrel: in aluminium, internally/externally anodized.
Non-rotating rod in chromium-plated steel with standard supplied flange except for version with male rod.
Elastic bumpers.
Magnetic version with detection of position of the 1st stage only.

Upon request

- Magnetic sensor DF-...
- Wire protection strap for magnetic sensor.
- Magnetic version 2-3 stages with telescopic magnet holder prearranged only for end-stroke reading (except for Ø 25 mm).
- Slide unit only for 2-stage telescopic cylinder.

Table summarizing bore combinations

Telescopic cylinder	Ø I° stage	Ø II° stage	Ø III° stage
25	25	16	-
32	32	20	-
40	40	25	16
50	50	32	20
63	63	40	25

Codification key

RT	2	2	0	032	0600	L

- L — Option
- 0600 — Standard stroke (mm)
- 032 — Bore
- 0 — Type
- 2 — Stages
- 2 — Rod
- RT — Series

SERIES

Telescopic pneumatic cylinder in magnetic version with non-rotating piston rod, elastic bumpers and flange, Ø 025 ÷ 063 mm

ROD

2___ chromium-plated steel
1___ stainless steel

STAGES

2___ 2 stages
3___ 3 stages

TYPE

0 = D.A. inter-axes female rod with flange
3 = D.A. inter-axes male rod

BORE

2 stages: Ø 025-032-040-050-063 mm
3 stages: Ø 040-050-063 mm

STANDARD STROKE

2 Stages
0100-0120-0160-0180-0200-0300-0400-0500-0600-0700
0800-0900-1000-1100-1200
Max stroke: Ø 25 **0300 mm**
Ø 32 **0400 mm**
Ø 40 **0600 mm**
Ø 50 **0900 mm**
Ø 63 **1200 mm**

3 Stages
0150-0180-0210-0240-0270-0300-0360-0450-0600-0750
0900-1050-1200-1500-1800
Max stroke: Ø 40 **1200 mm**
Ø 50 **1500 mm**
Ø 63 **1800 mm**

OPTION

I = Without flange (only for female piston rod).
L = Freely rotating rod.
M = With telescopic magnetic holder for 2nd-3rd stage (except for Ø 25 mm). Only for TYPE 0 (=female piston rod with flange)

(2014/07)

2-stage telescopic cylinders
Theoretical forces in N (0,102 Kg)

2-stage telescopic cylinder	Useful surface (mm^2)		Working pressure (bar) 2	4	6	8	10
25	thrust	201	41	82	123	164	205
	traction	111	22	43	65	87	108
32	thrust	314	64	128	192	256	320
	traction	201	41	82	123	164	205
40	thrust	490	100	200	300	400	500
	traction	377	77	154	231	308	384
50	thrust	804	164	328	492	656	820
	traction	603	123	246	369	492	615
63	thrust	1256	256	512	769	1025	1281
	traction	1055	215	430	646	861	1076

3-stage telescopic cylinders
Theoretical forces in N (0,102 Kg)

3-stage telescopic cylinder	Useful surface (mm^2)		Working pressure (bar) 2	4	6	8	10
40	thrust	201	41	82	123	164	205
	traction	111	22	43	65	87	108
50	thrust	314	64	128	192	256	320
	traction	201	41	82	123	164	205
63	thrust	490	100	200	300	400	500
	traction	377	77	154	231	308	384

Maximum applicable torque [Nm] for non-rotating rod

Cyl. Ø	Torque 2 stages	3 stages
25	0,5	-
32	0,8	-
40	1	0,5
50	2	0,8
63	3	1

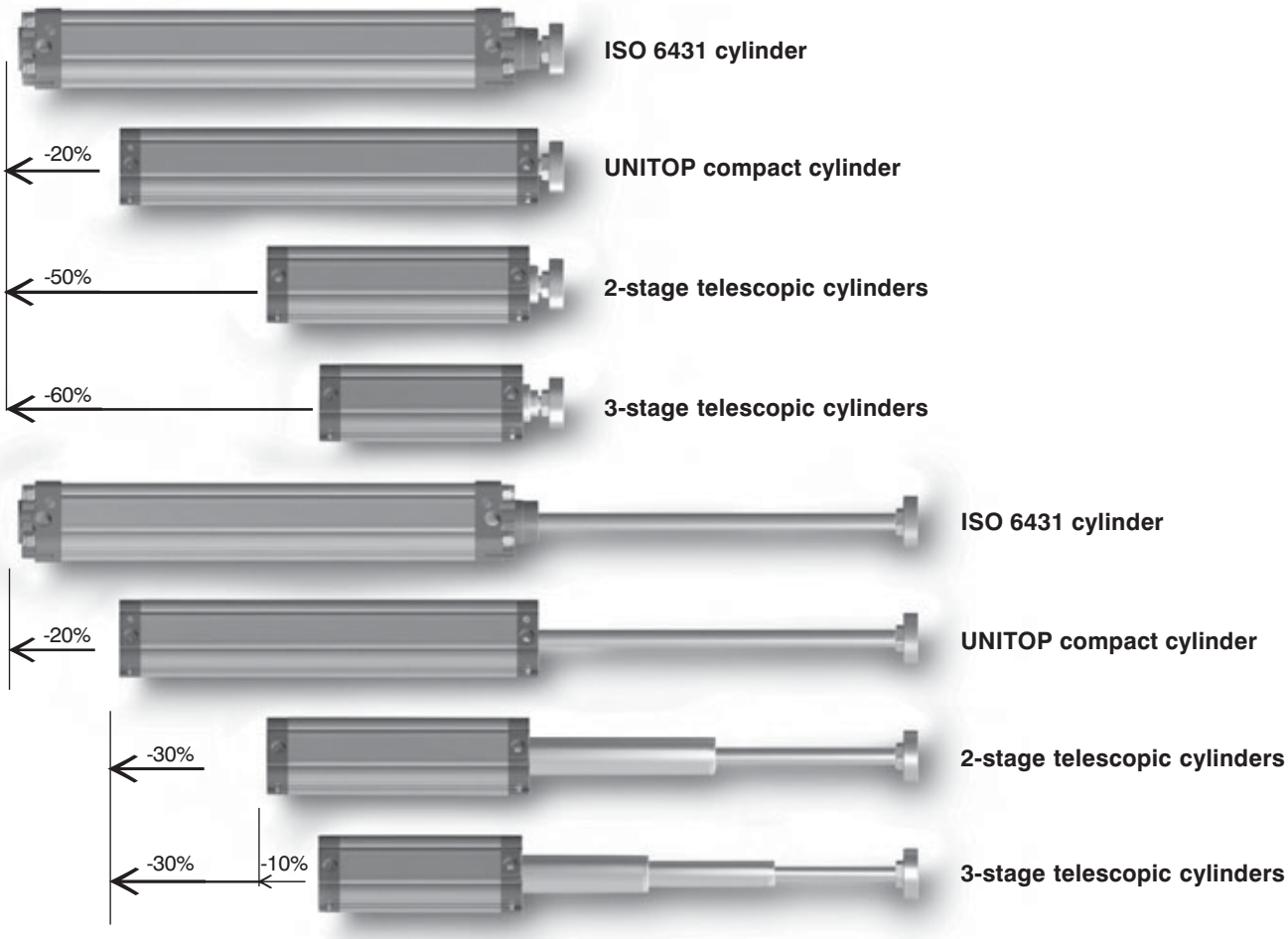
Nominal tolerances on stroke (mm)

Cyl. Ø	Tolerance 2 stages	3 stages
25	+ 2/0	
32		
40	+ 3,2/0	+ 4/0
50		
63		

The telescopic cylinder works in optimal conditions when the load is axial, i.e. with the cylinder placed vertically, upwards or downwards.
Naturally it can also work horizontaly and cantilevered.
However in this case:

- the maximum strokes have to be reduced by 50% as compared to the maximum rated ones.
- request cylinders with slide units.
- the radial load has to be supported by other systems (carriage, slides, sliding guides).

The following example shows the relation of dimensions between the cylinder types having the same stroke of 300 mm.



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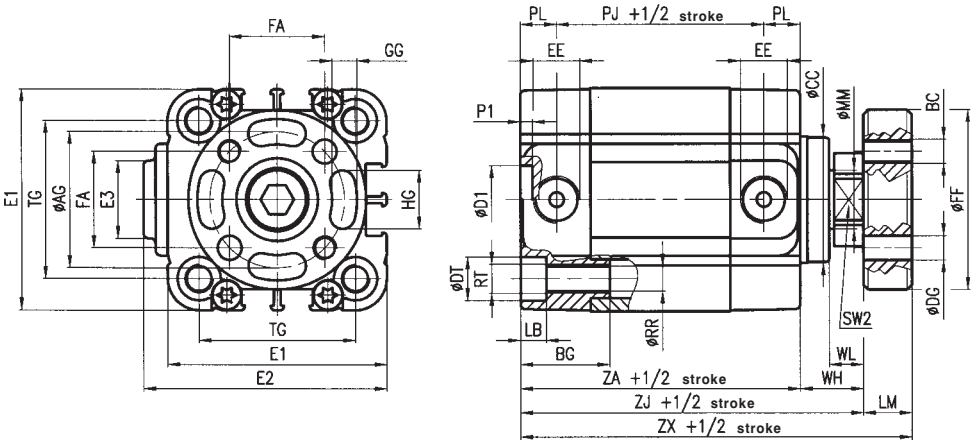
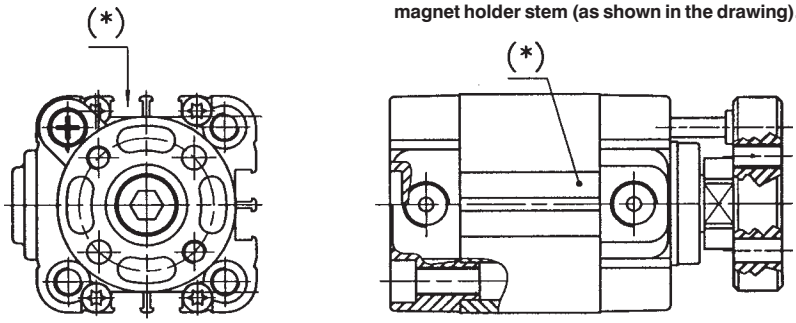
2- stage telescopic cylinder with flange RT220...

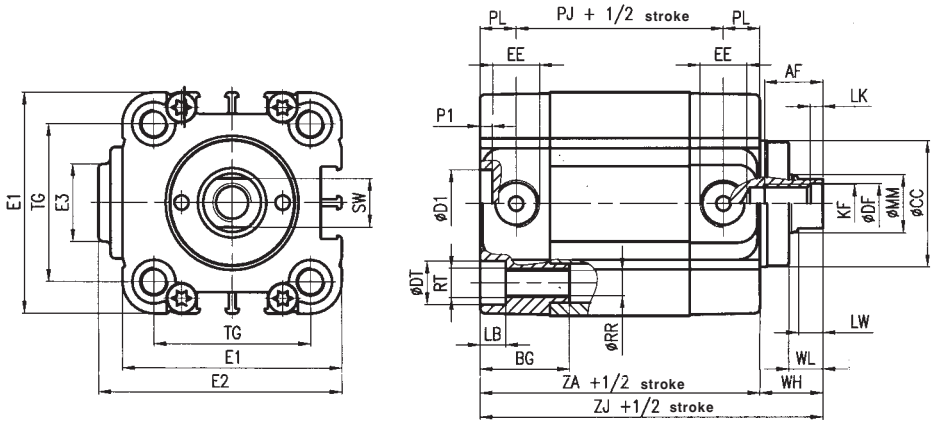


2- stage telescopic cylinder magnetic version RT220...M

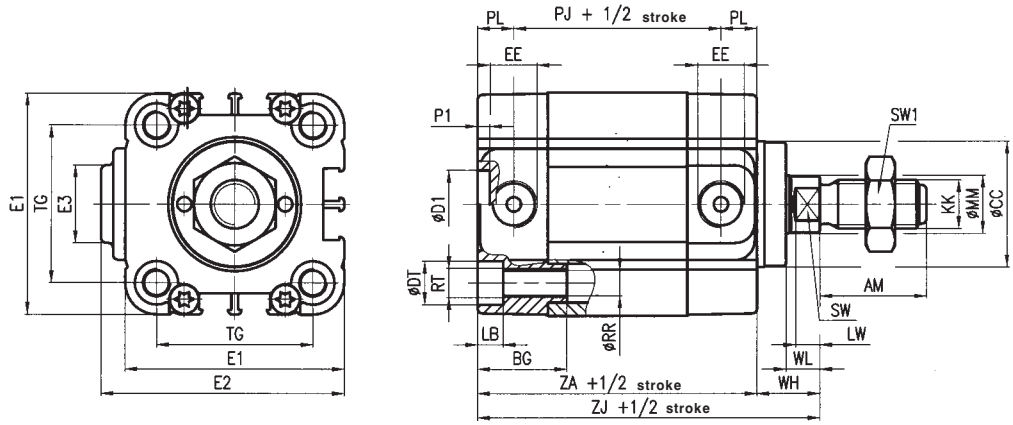
(8) Note: the magnetic sensor DF.... may only be placed near the telescopic magnet holder stem (as shown in the drawing).



2- stage telescopic cylinder without flange RT220...I



2- stage telescopic cylinder with male rod RT223...



Cyl. Ø	AF	Ø AG	AM	BC	BG	Ø CC	ØD1 H11	Ø DF	Ø DG	Ø DT	E1	E2	E3	EE	FA	Ø FF	GG	HG	KF
25	10	22	22	M5	16	22	2	6,1	5	8	37	39	18	M5	15,6	30	5	9	M6
32	12	28	22	M5	18	26	14	8,2	5	9	46	50,5	16	G1/8	19,8	37	5,2	11	M8
40	12	33	22	M5	18	32	14	8,2	5	9	56	60,5	16	G1/8	23,3	42	5,2	15	M8
50	16	42	24	M6	24	40	18	10,2	6	11	66	70,5	16	G1/8	29,7	52	6,2	19	M10
63	16	50	24	M6	24	48	18	10,2	6	11	79	83,5	38	G1/8	35,4	64	6,2	25	M10

Cyl. Ø	KK	LB	LK	LM	LW	Ø MM	P1	PJ	PL	Ø RR	RT	SW	SW1	SW2	TG	WH	WL	ZA	ZJ	ZX
25	M10X1,25	4,5	1	8	4,5	10	2	32	8	4,2	M5	8	17	-	26	17	7	48	65	73
32	M10X1,25	5,3	2	10	5	12	2,5	43	7,5	5,2	M6	10	17	17	32,5	13	7	58	71	81
40	M10X1,25	5,3	2	10	5	12	2,5	45	7,5	5,2	M6	10	17	19	38	12	7	60	72	82
50	M12X1,25	6,5	2	12	6	16	2,5	46	7,5	6,6	M8	13	19	24	46,5	15	8	61	76	88
63	M12X1,25	6,5	2	12	6	16	2,5	50	7,5	6,6	M8	13	19	24	56,5	15	8	65	80	92

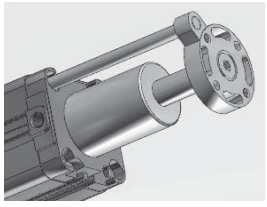
Mass

RT220...

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
25	200	2,45	74,2	1,2
32	270	3,02	124,6	1,4
40	419	3,77	182	1,6
50	640	5,28	314	2,6
63	1005	6,33	480	2,72

RT220...M

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
32	245	3,02	137,6	1,5
40	380	3,77	188,5	1,7
50	572	5,28	318	2,7
63	910	6,33	487	2,8



Option /M
= Always Female Piston Rod with
Flange and Telescopic Magnetic Holder

RT220...I

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
25	238	2,45	67,2	1,2
32	245	3,02	99,6	1,4
40	380	3,77	142,5	1,6
50	572	5,28	246	2,6
63	910	6,33	385	2,72

RT223...

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
25	270	2,45	79,2	1,2
32	275	3,02	129,6	1,4
40	410	3,77	172,5	1,6
50	617	5,28	291	2,6
63	955	6,33	430	2,72

(2014/07)

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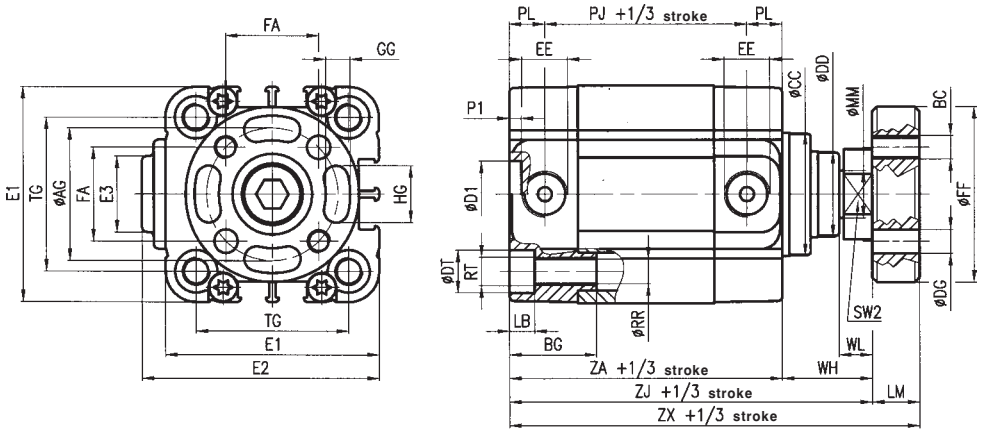
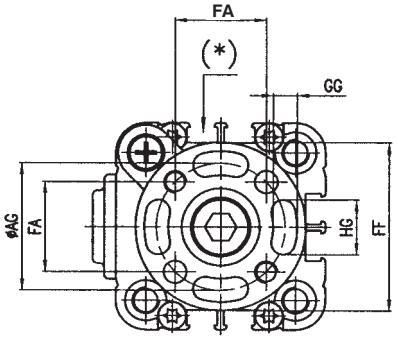
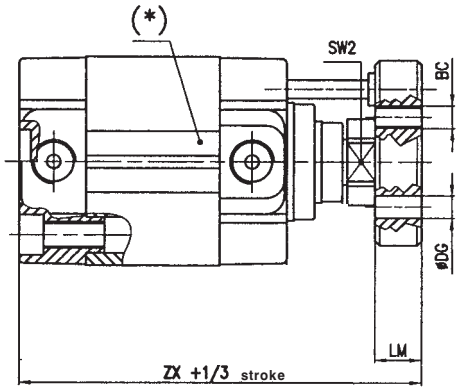
3-stage telescopic cylinder with flange RT230...



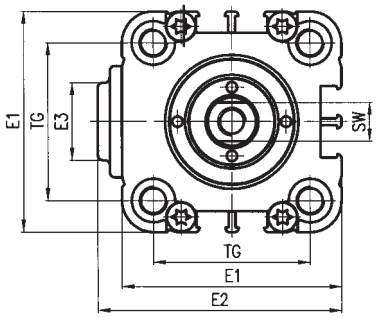
3-stage telescopic cylinder magnetic version RT230...M

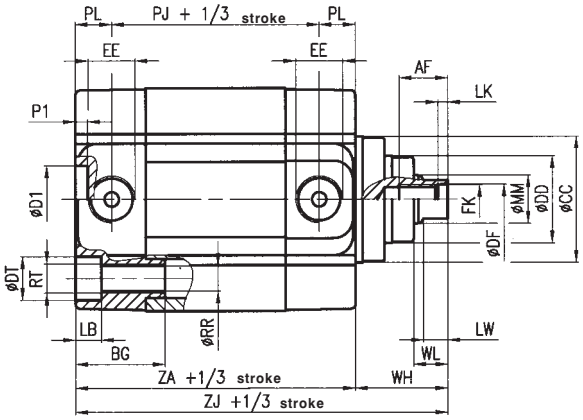


(8) Note: the magnetic sensor DF... may only be placed near the telescopic magnet holder stem (as shown in the drawing).

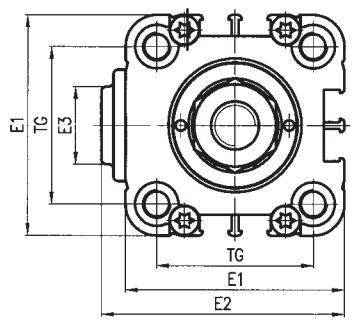


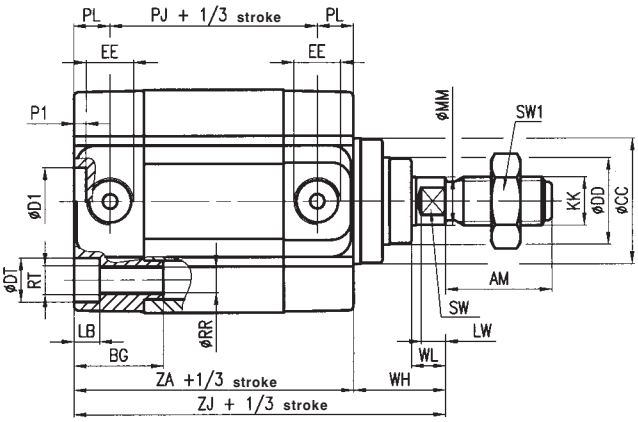
3-stage telescopic cylinder without flange RT230...I





3-stage telescopic cylinder with male rod RT233...





Technical modifications keep in reserve !

(2014/07)

Cyl. Ø	AF	Ø AG	AM	BC	BG	Ø CC	ØD1 H11	Ø DD	Ø DF	Ø DG	Ø DT	E1	E2	E3	EE	FA	Ø FF	GG	HG	KF
40	10	28	22	M5	18	32	14	22	6,2	5	9	56	60,5	16	G1/8	19,8	37	5,2	11	M6
50	12	28	22	M5	24	40	18	26	8,2	5	11	66	70,5	16	G1/8	19,8	37	5,2	11	M8
63	12	33	22	M5	24	48	18	32	8,2	5	11	79	83,5	38	G1/8	23,3	42	5,2	15	M8

Cyl. Ø	KK	LB	LK	LM	LW	Ø MM	P1	PJ	PL	Ø RR	RT	SW	SW1	SW2	TG	WH	WL	ZA	ZJ	ZX
40	M10X1,25	5,3	2	10	5	10	2,5	45	7,5	5,2	M6	8	17	17	38	22	7	60	82	92
50	M10X1,25	6,5	2	10	5	12	2,5	46	7,5	6,6	M8	10	17	17	46,5	24	7	61	85	95
63	M10X1,25	6,5	2	10	5	12	2,5	50	7,5	6,6	M8	10	17	19	56,5	25	7	65	90	100

Dimensional variations for RT230...M series

Cyl. Ø	Ø AG	BC	Ø DG	FA	Ø FF	GG	HG	LM	SW2	ZX
40	33	M5	5	23,3	42	5,2	15	10	19	92
50	42	M6	6	29,7	52	6,2	19	12	24	97
63	50	M6	6	35,4	64	6,2	25	12	24	102

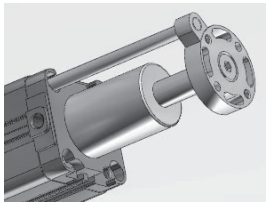
Mass

RT230...

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
40	399	3,9	162	1,75
50	591	5,07	265	2,37
63	939	6,34	417	2,75

RT230...M

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
40	374	3,9	191	2
50	553	5,07	306,5	2,62
63	871	6,34	459	3



Option /M
= Always Female Piston Rod with
Flange and Telescopic Magnetic Holder

RT230...I

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
40	374	3,9	137	1,75
50	552	5,07	225,5	2,37
63	871	6,34	349	2,75

RT233...

Cyl. Ø	Cylinder "0" stroke (g)	Increase per mm stroke (g)	Moving parts "0" stroke (g)	Increase per mm stroke (g)
40	405	3,9	168	1,75
50	583	5,07	256,5	2,37
63	902	6,34	380	2,75

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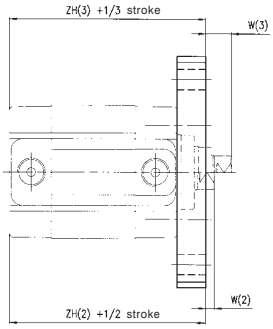
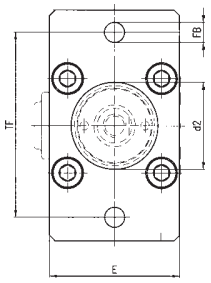
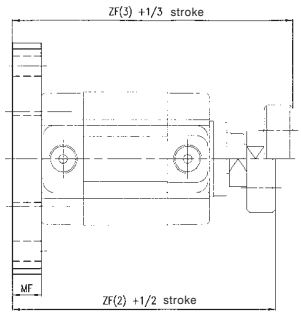
Fixing elements for 2-stage telescopic cylinders Ø 25 ÷ 63 mm, 3-stage Ø 40 ÷ 63 (without fixing screws)

Front or rear flange in zinc-plated steel

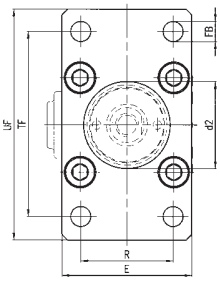


for cyl. 25 (2 holes)



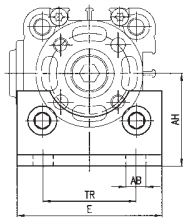


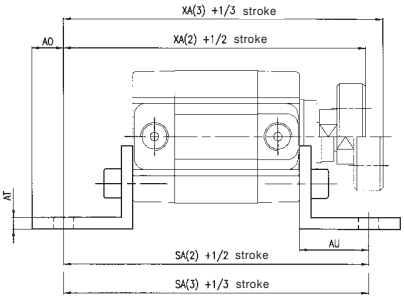
for cyl. 32÷63



Cyl. Ø	Ød2 H11	E	Ø FB H13	W(2)	W(3)	MF	R JS14	TF JS14	UF	ZF(2)	ZF(3)	ZH(2)	ZH(3)	Mass Kg	Part number
25	24	40	6,6	7	-	10	-	60	76	83	-	58	-	0,18	**RTF-12025**
32	30	45	7	3	-	10	32	64	80	91	-	68	-	0,20	**KF-12032**
40	35	52	9	2	12	10	36	72	90	92	102	70	70	0,25	**KF-12040**
50	44	65	9	3	12	12	45	90	110	100	109	73	73	0,50	**RTF-12050**
63	52	75	9	3	13	12	50	100	120	104	114	77	77	0,65	**RTF-12063**

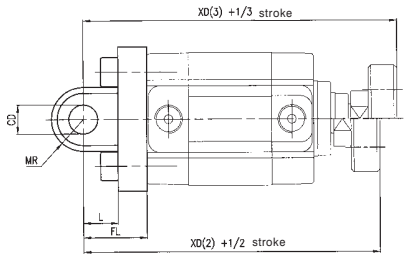
Angle brackets in zinc-plated steel

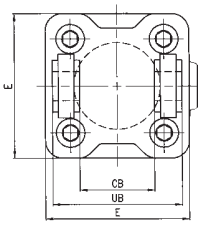




Cyl. Ø	ØAB H13	AH JS15	AO max	AT	AU ±0,2	E max	SA(2)	SA(3)	TR	XA(2)	XA(3)	Mass Kg	Part number
25	6,6	30	6	4	16	40	80	-	26	89	-	0,04	**RTF-13025**
32	7	32	11	4	24	50	106	-	32	105	-	0,07	**KF-13032**
40	9	36	15	4	28	58	116	116	36	110	120	0,09	**KF-13040**
50	9	45	15	5	32	70	125	125	45	120	129	0,20	**RTF-13050**
63	9	50	15	5	32	85	129	129	50	124	134	0,20	**RTF-13063**

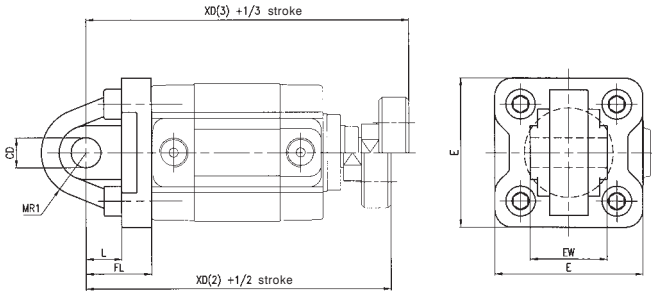
Female rear hinge in die-cast aluminium with pin in zinc-plated steel





Cyl. Ø	CB H14	ØCD H9	E	FL	L	MR	UB h14	XD(2)	XD(3)	Mass Kg	Part number
32	26	10	48	22	12	11	45	103	-	0,06	**KF-10032A**
40	28	12	54	25	15	13	52	107	117	0,08	**KF-10040A**
50	32	12	65	27	15	13	60	115	124	0,15	**KF-10050A**
63	40	16	75	32	20	17	70	124	134	0,25	**KF-10063A**

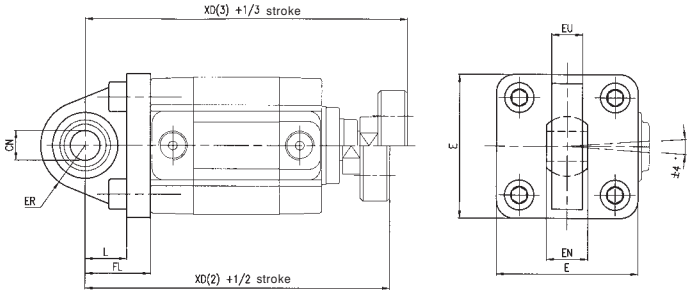
Male rear hinge in die-cast aluminium



For cyl. ø 25 it is possible to use the male hinge together with the female hinge MF-21025 of microcylinders ISO 6432

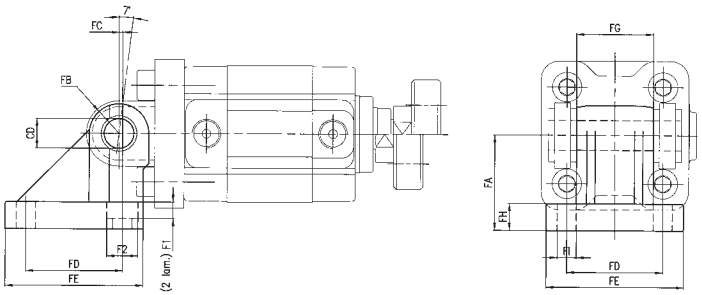
Cyl. Ø	ØCD H9	E	EW tol. ±0,2	FL	L	MR1	XD(2)	XD(3)	Mass Kg	Part number
25	8	38	16	20	14	8	93	-	0,027	**RPF-11025**
32	10	48	26	22	12	15	103	-	0,08	**KF-11032**
40	12	54	28	25	15	18	107	117	0,10	**KF-11040**
50	12	65	32	27	15	20	115	124	0,17	**KF-11050**
63	16	75	40	32	20	23	124	134	0,25	**KF-11063**

Articulated male rear hinge in die-cast aluminium



Cyl. Ø	ØCN H9	E	EN	ER	EU	FL	L	XD(2)	XD(3)	Mass kg	Part number
32	10	48	14	15	10,5	22	14	103	-	0,10	**KF-11032S**
40	12	54	16	18	12	25	16,5	107	117	0,20	**KF-11040S**
50	12	65	16	20	12	27	17,5	115	124	0,30	**KF-11050S**
63	16	75	21	23	15	32	21,5	124	134	0,35	**KF-11063S**

Counter-hinge 90° in die-cast aluminium



Cil. Ø	ØCD H9	FA Js15	FB	FC	FD	FE	FG ±0,2	FH	Ø FI	F1	Ø F2	Mass kg	Part number
32	10	32	10	1,2	32,5	46,5	26	9	6,4	5,5	10,5	0,10	**KF-19032**
40	12	36	12	2,6	38	51,5	28	9	6,4	5,5	10,5	0,20	**KF-19040**
50	12	45	12	0,3	46,5	63,5	32	9	8,4	5	13,5	0,30	**KF-19050**
63	16	50	16	3,3	56,5	73,5	40	10,5	8,4	5	13,5	0,35	**KF-19063**

Technical modifications keep in reserve !

(2014/07)

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