1
MOVEMENT

Series 16, 24 and 25 mini-cylinders

Series 16: ø 8, 10, 12 mm
Series 24: ø 16, 20, 25 mm - magnetic
Series 25: 16, 20, 25 mm - magnetic, cushioned

- Single-acting and double-acting
- Standard CETOP RP52P DIN/ISO 6432
- Stainless steel rod and barrel
- Anodized aluminium end-blocks

Series 16, 24 and 25 mini-cylinders are designed according to the European Standard Specifications CETOP RP52-P and DIN/ISO 6432.
The choice of materials and other design features have provided the basis for a complete range of versatile and very reliable cylinders.

The precise method of crimping the barrel at the head and cap ensures that all the parts are perfectly aligned. Since the Series 16 and 24 may operate at very high speeds, bumpers are attached to the piston as standard in order to reduce noice and wear resulting from high impact loads.
Series 24 and 25 are suitable for mounting magnetic proximity switches.
Series 25 has an adjustable pneumatic cushion and a magnetic piston.
Various mounting accessories are available to enable the cylinders to function in a variety of applications.

GENERAL DATA

Type of construction	crimped
Operation	single-acting and double-acting
Materials	anodized aluminium end-caps - stainless steel barrel and rod, aluminium piston - NBR/PU seals, other parts: see the coding example
Brackets	rod end - flange - feet - trunnion
Stroke min - max	Series 16 ø 8 ÷ ø 10: 10 - 250 mm / Series 16: ø 12: 10 - 300 mm / Series 24 & 25 ø 16: 10 - 600 mm; ø 20 - ø 25: 10 - 1000 mm
Bores	Series 16: ø 8, 10, 12 / Series 24 & 25: ø 16, 20, 25
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar (double-acting); 2 ÷ 10 bar (single-acting)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied the lubrication should never be interrupted.
Speed	10 ÷ 1000 mm/sec (without load)

STANDARD STROKES FOR MINICYLINDERS SERIES 16 - 24 and 25

■ = Double-acting
✖ = Single-acting

STANDARD STROKES															
Series	Ø	10	25	40	50	80	100	125	160	200	250	300	320	400	500
16	8	■✖	■✖	■✖	■✖	■	■	■	■	■					
16	10	■✖	■✖	■✖	■✖	■	■	■	■	■					
16	12	■✖	■✖	■✖	■✖	■	■	■	■	■	■	■			
24	16	■✖	■✖	■✖	■✖	■	■	■	■	■	■	■	■	■	■
24	20	■✖	■✖	■✖	■✖	■	■	■	■	■	■	■	■	■	■
24	25	■✖	■✖	■✖	■✖	■	■	■	■	■	■	■	■	■	■
25	16	■	■	■	■	■	■	■	■	■	■	■	■	■	■
25	20	■	■	■	■	■	■	■	■	■	■	■	■	■	■
25	25	■	■	■	■	■	■	■	■	■	■	■	■	■	■

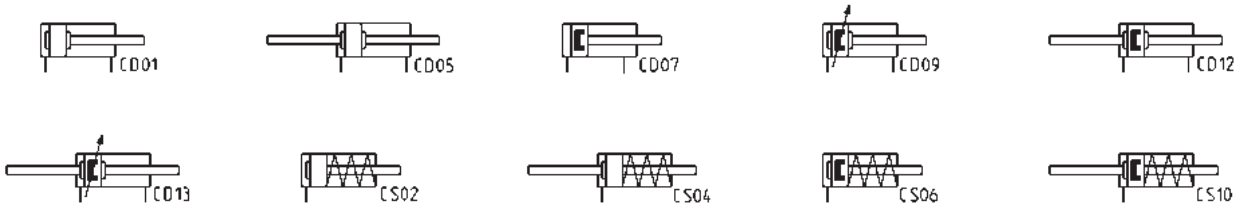
CODING EXAMPLE

24	N	2	A	16	A	100	

24	SERIES 16 = non magnetic 24 = magnetic 25 = magnetic, adjustable cushioning	
N	VERSION N = standard	
2	OPERATION 1 = single-acting, front spring, no cushion 2 = double-acting 3 = double-acting, through-rod 7 = single-acting, through-rod	PNEUMATIC SYMBOLS CS02 (s. 16) - CS06 (s. 24) CD01 (s. 16) - CD07 (s. 24) - CD09 (s. 25) CD05 (s. 16) - CD12 (s. 24) - CD13 (s. 25) CS04 (s. 16) - CS10 (s. 24)
A	MATERIALS A = rolled stainless steel AISI 303 rod, stainless steel AISI 304 tube, anodized AL end-blocks	
16	BORE 08 = 8 mm - 10 = 10 mm - 12 = 12 mm - 16 = 16 mm - 20 = 20 mm - 25 = 25 mm	
A	CONSTRUCTION A = Nose nut Mod. V + Piston rod lock nut Mod. U RL = cylinder with rod lock ø20 - ø25	
100	STROKE (see the table)	
	= standard V = rod seal in FKM W = all seals in FKM, +130°C (for series 25 only)	

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



ACCESSORIES FOR MINICYLINDERS SERIES 16 - 24 - 25

Foot mount Mod. B

Front/rear flange mount
Mod. E

Rear trunnion bracket
Mod. I

Rod fork end Mod. G

Swivel ball joint Mod. GA

Piston rod socket joint
Mod. GY

Piston rod lock nut
Mod. U

Nose nut Mod. V

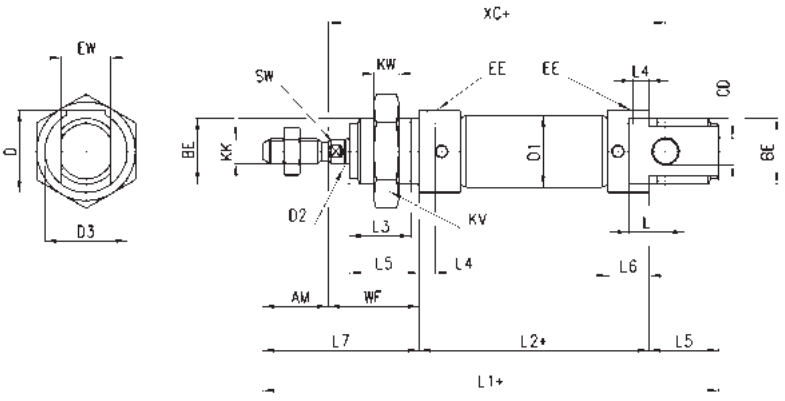
Self aligning rod
Mod. GK

Coupling piece
Mod. GKF

All accessories are supplied separately, except for piston rod lock nut Mod. U and nose nut Mod. V

Minicylinders Series 16, 24 and 25

+ = add the stroke

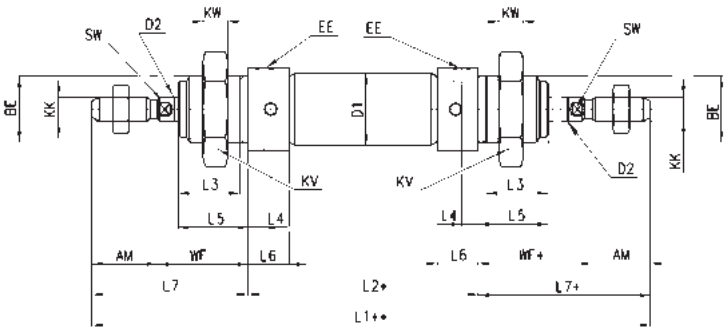


DIMENSIONS

Series	Ø	EW	KW	BE	KK	CD	D1	EE	⌀D2	L1+	XC+	L2+	AM	L3	L4	L5	L	WF	L6	L7	KV	SW	D	D3	front/rear cushion stroke
16	8	8	7	M12x1,25	M4x0,7	4	9,3	M5	4	86	64	46	12	10	4,5	12	6	16	9	28	19	-	15	15	- / -
16	10	8	7	M12x1,25	M4x0,7	4	11,3	M5	4	86	64	46	12	10	4,5	12	6	16	9	28	19	-	15	15	- / -
16	12	12	8	M16x1,5	M6x1	6	13,3	M5	6	105	75	50	16	15	4,5	17	9	22	9	38	24	5	20.5	20	- / -
24-25	16	12	8	M16x1,5	M6x1	6	17,3	M5	6	111	82	56	16	15	5,5	17	9	22	10	38	24	5	20.5	20	10 / 10
24-25	20	16	10	M22x1,5	M8x1,25	8	21,3	G1\8	8	132	95	68	20	18	8	20	12	24	16	44	32	7	27	27	13 / 15
24-25	25	16	10	M22x1,5	M10x1,25	8	26,5	G1\8	10	141,5	104	69,5	22	20	8	22	12	28	16	50	32	9	27	27	16 / 14

Minicylinders Series 16, 24 and 25 - through-rod

+ = add the stroke once
++ = add the stroke twice

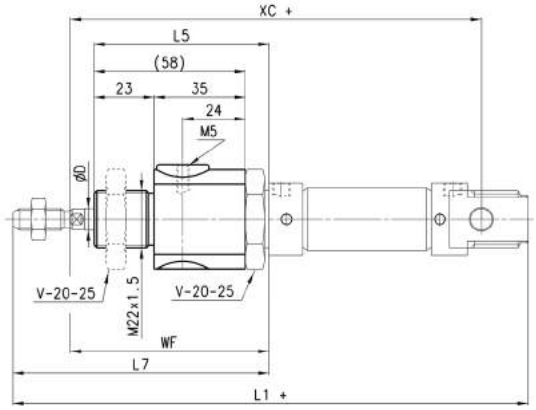


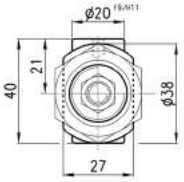
DIMENSIONS

Series	Ø	KW	BE	KK	⌀D1	EE	⌀D2	L1++	L2+	AM	L3	L4	L5	WF+	L6	L7+	KV	SW	front/rear cushion stroke
16	8	7	M12x1,25	M4x0,7	9,3	M5	4	102	46	12	10	4,5	12	16	9	28	19	-	- / -
16	10	7	M12x1,25	M4x0,7	11,3	M5	4	102	46	12	10	4,5	12	16	9	28	19	-	- / -
16	12	8	M16x1,5	M6x1	13,3	M5	6	126	50	16	15	4,5	17	22	9	38	24	5	- / -
24-25	16	8	M16x1,5	M6x1	17,3	M5	6	132	56	16	15	5,5	17	22	10	38	24	5	10 / 10
24-25	20	10	M22x1,5	M8x1,25	21,3	G1\8	8	156	68	20	18	8	20	24	16	44	32	7	13 / 15
24-25	25	10	M22x1,5	M10x1,25	26,5	G1\8	10	169,5	69,5	22	20	8	22	28	16	50	32	9	16 / 14

Series 24 and 25 minicylinders with rod lock (Mod. RLC)

+ = add the stroke





DIMENSIONS

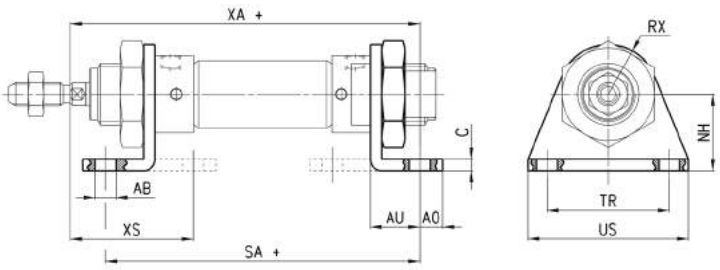
Series	Ø	G7D	WF	L5	L7	XC+	L1+	F (N)
24-25	20	8	74	70	94	145	182	300
24-25	25	10	76	70	98	152	189,5	400

Foot mount Mod. B

Feet and nose nut material: zinc-plated steel.

Supplied with:
2x feet
1x nose nut mod. V

+ = add the stroke



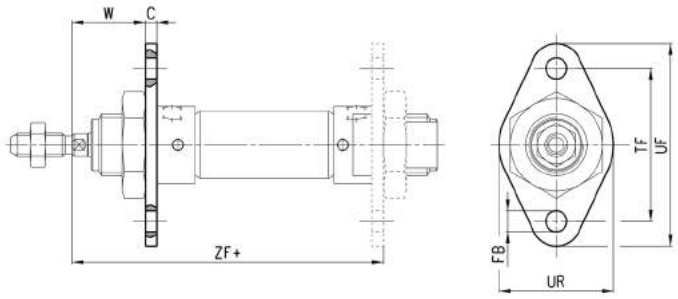
DIMENSIONS

Mod.	Ø	ØAB	XS	XA+	SA+	AO	AU	C	RX	TR	US	NH
B-8-10	8-10	4,5	54	72,5	67	4,5	10,5	2,5	10	25	35	16
B-12-16	12	5,5	64	82,5	71	6	13	3	13	32	42	20
B-12-16	16	5,5	68	91	82	6	13	3	13	32	42	20
B-20-25	20	6,6	80	108	100	8	16	4	20	40	54	25
B-20-25	25	6,6	85,5	113,5	101,5	8	16	4	20	40	54	25

Front/rear flange mount Mod. E

Material: zinc-plated steel.

+ = add the stroke

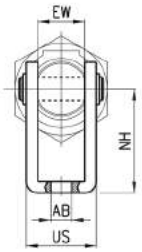


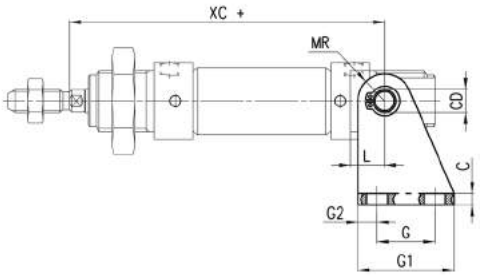
DIMENSIONS

Mod.	Ø	W	C	ZF+	FB	UR	TF	UF
E-8-10	8-10	13,5	2,5	64,5	4,5	40	30	25
E-12-16	12	19	3	75	5,5	53	40	30
E-12-16	16	19	3	81	5,5	53	40	30
E-20-25	20	20	4	96	6,6	66	50	40
E-20-25	25	24	4	101,5	6,6	66	50	40

Rear trunnion bracket Mod. I

Supplied with:
1x zinc-plated steel rear trunnion
1x stainless steel clevis pin
2x steel Seeger





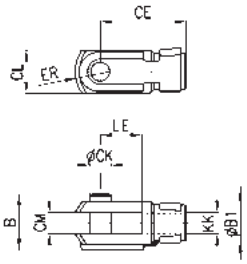
+ = add the stroke

DIMENSIONS

Mod.	Ø	EW	ØAB	US	NH	XC+	MR	L	G2	G	G1	CD	C
I-8-10	8-10	8	4,5	13,1	24	64	5	6	3,5	12,5	20	4	2,5
I-12-16	12	12	5,5	18,1	27	75	7	9	5	15	25	6	3
I-12-16	16	12	5,5	18,1	27	82	7	9	5	15	25	6	3
I-20-25	20	16	6,6	24,1	30	95	10	12	6	20	32	8	4
I-20-25	25	16	6,6	24,1	30	104	10	12	6	20	32	8	4

Rod fork end Mod. G

ISO 8140
Material: zinc-plated steel.

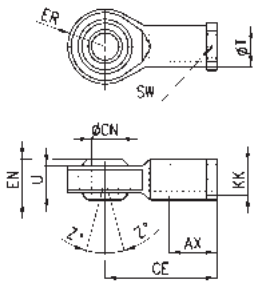


DIMENSIONS

Mod.	Ø	CL	ER	CE	B	CM	ØCK	LE	KK	ØB1
G-8-10	8-10	8	5	16	11	4	4	8	M4x0,7	8
G-12-16	12-16	12	7	24	16	6	6	12	M6x1	10
G-20	20	16	10	32	22	8	8	16	M8x1,25	14
G-25-32	25	20	12	40	26	10	10	20	M10x1,25	18

Swivel ball joint Mod. GA

ISO 8139
Material: zinc-plated steel.

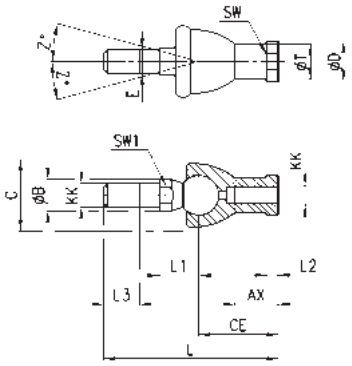


DIMENSIONS

Mod.	Ø	$_{ø}$CN$^{(H7)}$	U	EN	ER	AX	CE	KK	ØT	Z	SW
GA-8-10	8-10	5	6	8	9	10	27	M4x0.7	9	6.5°	9
GA-12-16	12-16	6	7	9	10	12	30	M6X1	10	6.5°	11
GA-20	20	8	9	12	12	16	36	M8X1.25	12.5	6.5°	14
GA-32	25	10	10.5	14	14	20	43	M10X1.25	15	6.5°	17

Piston rod socket joint Mod. GY

ISO 8139
Material: zama and zinc-plated steel.

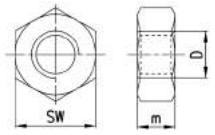


DIMENSIONS

Mod.	Ø	Z	E	SW	øT	øD	øC	øB	KK	L3	SW1	L1	L	CE	AX	L2
GY-12-16	12-16	15	6	11	10	13	20	10	M6X1	11	8	12,2	55	28	15	5
GY-20	20	15	8	14	12,5	16	24	12	M8X1,25	12	10	16	65	32	16	5
GY-32	25	15	10	17	15	19	28	14	M10X1,25	15	11	19,5	74	35	18	6,5

Piston rod lock nut Mod. U

ISO 4035
Material: zinc-plated steel.

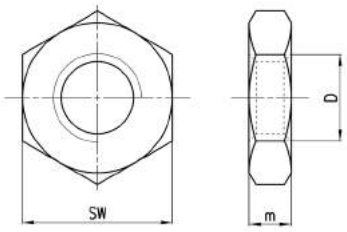


DIMENSIONS

Mod.	Ø	SW	m	D
U-8-10	8-10	7	3	M4X0,7
U-12-16	12-16	10	4	M6X1
U-20	20	13	5	M8X1,25
U-25-32	25	17	6	M10X1,25

Nose nut Mod.V

ISO 4035
Material: zinc-plated steel.

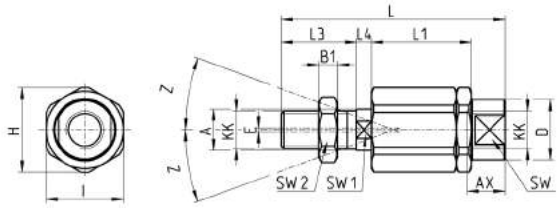


DIMENSIONS

Mod.	Ø	D	m	SW
V-8-10	8-10	M12X1,25	5	19
V-12-16	12-16	M16X1,5	6	24
V-20-25	20-25	M22X1,5	10	32

Self aligning rod Mod. GK

Material: zinc-plated steel.

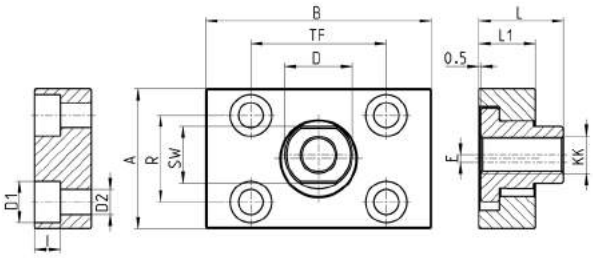


DIMENSIONS

Mod.	Ø	H	I	Z	⌀A	KK	E	L	L3	L4	L1	B1	SW2	SW1	AX	SW	⌀D
GK-20	20	19	17	4	8	M8x1,25	2	57	21	5	26	4	13	7	16	11	12,5
GK-25-32	25-32	32	30	4	14	M10x1,25	2	71,5	20	7,5	35	5	17	12	22	19	22

Coupling piece Mod. GKF

Material: zinc-plated steel.

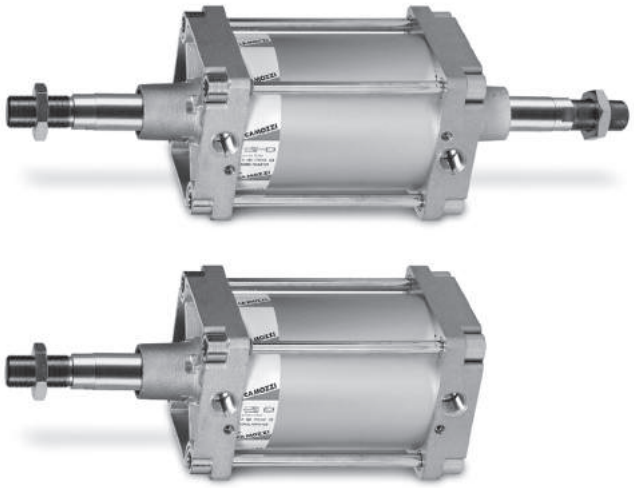


DIMENSIONS

Mod.	Ø	Ø D1	I	Ø D2	A	R	SW	B	TF	Ø D	E	L	L1	KK
GKF-20	20	5,5	-	-	30	20	13	35	25	14	1,5	22,5	10	M8x1,25
GKF-25-32	25	11	6,8	6,6	37	23	15	60	36	18	2	22,5	15	M10x1,25

Series 40 cylinders

Double acting, cushioned, magnetic
Ø 160 - 200 - 250 - 320 mm



- In compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards
- Adjustable pneumatic cushioning
- Rolled stainless steel rod (Ø 160 - 200 mm)
- Chrome plated steel rod (Ø 250 - 320 mm)
- Rod scraper in brass

Series 40 cylinders have been designed in compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards.
A permanent magnet on the piston of these cylinders is able to send, through proximity switches mounted on the cylinder sliding axis, electrical signals to indicate its position.

This series is normally equipped with end-stroke cushioning which can be adjusted through a screw on the end block.
In order to quieten the impact of the piston on the end block, these cylinders are also equipped with mechanical cushioning.

GENERAL DATA

Type of construction	with tie-rods
Operation	double-acting
Materials	AL end blocks and piston, rolled stainless steel AISI 420B (Ø 160-200 mm) or chrome plated steel (Ø250-320 mm) piston rod, zinc-plated steel piston rod nut, anodized AL tube, zinc-plated steel tie-rods and tie-rod nuts, NBR-PU rod - piston - cushion seals brass rod scraper
Mounting	with tie-rods, front flange, rear flange, feet, centre trunnion, front and rear trunnion, swivel combination
Strokes min - max	10 ÷ 2500 mm
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Speed	10 ÷ 500 mm/sec (without load)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR SERIES 40 CYLINDERS

■ = double-acting

Ø	25	50	75	80	100	125	150	160	200	250	300	320	400	500
160		■		■	■		■		■		■		■	■
200		■			■				■		■			
250		■			■				■		■			
320		■			■				■		■			

CODING EXAMPLE

40	M	2	L	160	A	0200	

40 — SERIES

M — VERSION
M = standard, magnetic

2 — OPERATION
2 = double-acting, front and rear cushions
3 = double-acting, no cushion
4 = double-acting, rear cushions
5 = double-acting, front cushion
6 = double-acting, through-rod, front and rear cushions

PNEUMATIC SYMBOLS
CD09
CD07
CD10
CD11
CD13

L — MATERIALS
L = see the general data on page 1/1.10.01
T = stainless steel AISI 420B tie-rods - stainless steel AISI 303 tie-rod nuts
C = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut
U = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston-rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts
W = rolled stainless steel AISI 304 piston rod, stainless steel AISI 304 piston-rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts

Note: the rod of cylinders with bore of 250 and 320 mm is in C40 chrome plated steel.

160 — BORE
160 = 160 mm - 200 = 200 mm - 250 = 250 mm - 320 = 320 mm

A — TYPE OF BRACKET
A = standard F = cylinder with centre trunnion

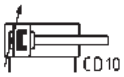
0200 — STROKE (see the table)

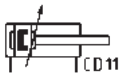
= standard
V = FKM rod seals W = all FKM seals +130°C C = PU coated cylinder. Colour: Grey *
G = with brass rod scraper (chrome plated stainless steel AISI 420B rod, NBR rod seal) [Ø 250 and 320 excluded]
(_ _ _) = extended piston rod _ _ _ mm

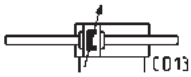
Notes: the C version is available on request. For further details, contact our technical dept.
The W and C versions are available for diameters 160 and 200 only.

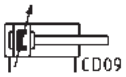
PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.









ACCESSORIES FOR SERIES 40 CYLINDERS

Clevis pin Mod. S

90° Swivel combination Mod. ZS

Counter bracket for centre trunnion Mod. BF

Rod fork end Mod. G

Front and rear flange Mod. D-E

Centre trunnion Mod. F

Foot mount Mod. B

Swivel ball joint Mod. GA

Female trunnion Mod. C-H

Piston rod lock nut Mod. U

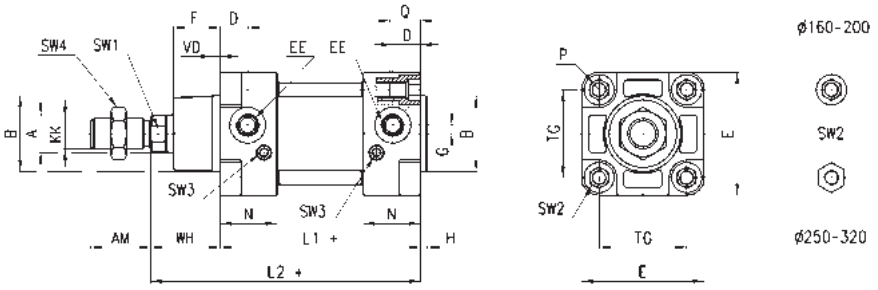
Rear trunnion, male Mod. L

Self aligning rod Mod. GK

All accessories are supplied separately except for piston rod lock nut Mod. U.
For proximity switches and brackets for sensors see the section 1/9.

Series 40 cylinders

+ = add the stroke

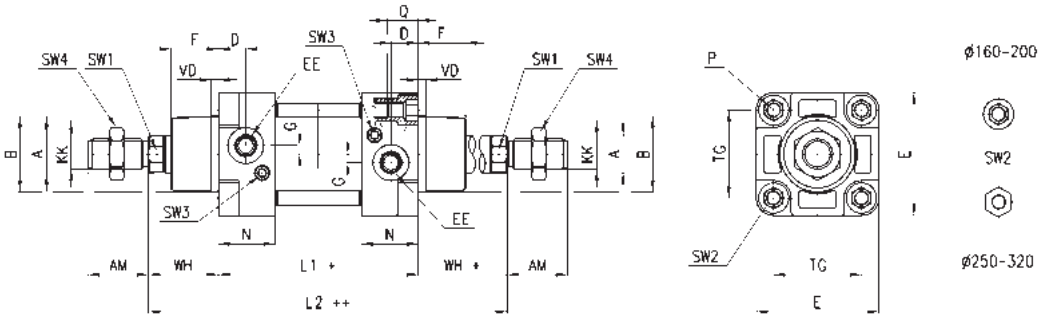


DIMENSIONS

Ø	øA	KK	øB	D	G	F	AM	H	EE	WH	L1+	L2+	VD	N	P	Q	TG	E	SW1	SW2	SW3	SW4	front/rear cushion strokes
160	40	M36x2	65	25	12	53.5	72	6	G3\4	80	180	260	6	45	M16	26	140	176	36	17	4	55	29 / 36
200	40	M36x2	75	25	12	63.5	72	6	G3\4	95	180	275	6	45	M16	26	175	216	36	17	4	55	44 / 42
250	50	M42x2	90	31	12	67	84	10	G1	105	200	305	6	60	M20	30	220	270	46	36	4	65	50 / 50
320	63	M48x2	110	31	12	83	96	10	G1	120	220	340	12	55,5	M24	30	270	340	55	41	-	75	56 / 56

Series 40 cylinders - through-rod

+ = add the stroke once
++ = add the stroke twice

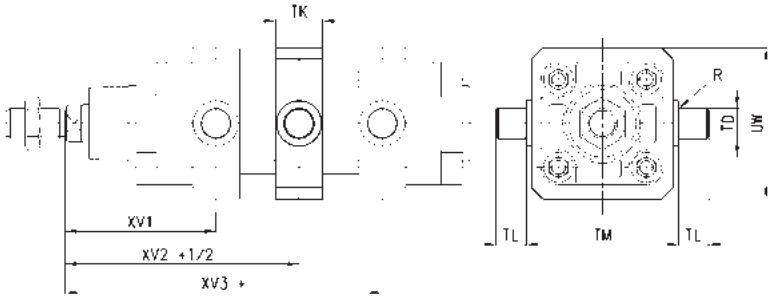


DIMENSIONS

Ø	øA	KK	øB	D	G	F	AM	EE	WH	L1+	L2++	VD	N	P	Q	TG	E	SW1	SW2	SW3	SW4	front/rear cushion strokes
160	40	M36x2	65	25	12	53.5	72	G3\4	80	180	340	6	45	M16	26	140	176	36	17	4	55	29 / 36
200	40	M36x2	75	25	12	63.5	72	G3\4	95	180	370	6	45	M16	26	175	216	36	17	4	55	44 / 42
250	50	M42x2	90	31	12	67	84	G1	105	200	410	6	60	M20	30	220	270	46	36	4	65	50 / 50
320	63	M48x2	110	31	12	83	96	G1	120	200	?	12	55,5	M24	30	270	340	55	41	-	75	56 / 56

Series 40 cylinders with centre trunnion Mod. F

+ = add the stroke



DIMENSIONS

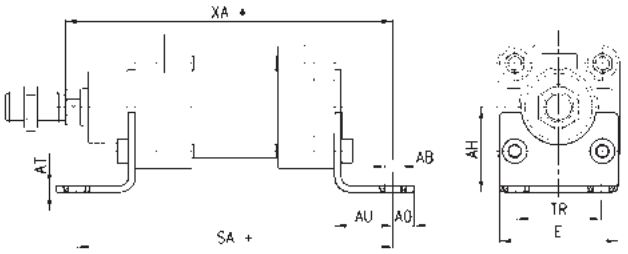
Ø	XV1	XV2+ 1/2	XV3+	TM	TK	TD	TL	UW	R	NOTE
160	145	170	195	200	40	32	32	190	2	
200	160	185	210	250	40	32	32	240	2	
250	185	205	225	320	50	40	40	300	-	mounting with 4 threaded tie-rods
320	210,5	230	249,5	400	70	50	50	400	-	mounting with 4 threaded tie-rods

Foot mount Mod. B

Supplied with:
2x feets in black-painted steel (cataphoresis)
4x white zinc plating screws

For diameters 250 and 320 white zinc plating

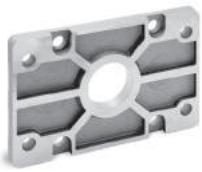
+ = add the stroke



DIMENSIONS

Mod.	Ø	AT	SA+	XA+	TR	E	⌀AB	AH	AO	AU
B-41-160	160	10	300	320	115	175	18.5	100	25	60
B-41-200	200	12	320	345	135	238	24	110	35	70
B-41-250	250	14	350	380	165	270	26	165	25	75
B-41-320	320	20	390	425	200	353	35	200	45	85

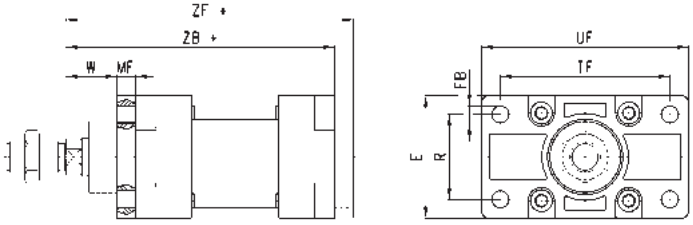
Front and rear flange Mod. D-E



Supplied with:
1x aluminium flange *
4x screws

* the mod. D-E-41-250 has a steel flange

+ = add the stroke



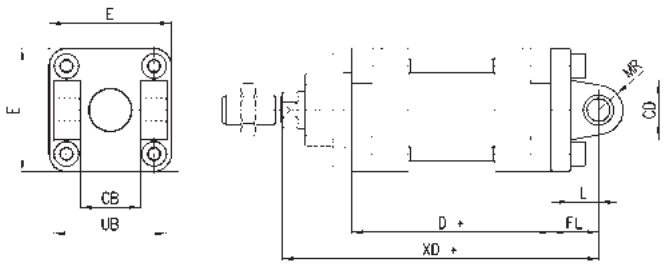
DIMENSIONS

Mod.	Ø	W	MF	ZB+	TF	R	UF	E	ØFB	ZF+	Material
D-E-41-160	160	60	20	260	230	115	276	175	18	280	aluminium
D-E-41-200	200	70	25	275	270	135	312	215	22	300	aluminium
D-E-41-250	250	80	25	305	330	165	400	285	26	330	steel
D-E-41-320	320	90	30	340	400	200	470	334	33	370	aluminium

Front and rear female trunnion Mod. C-H

Supplied with:
1x female trunnion in Aluminium
4x screws

+ = add the stroke



DIMENSIONS

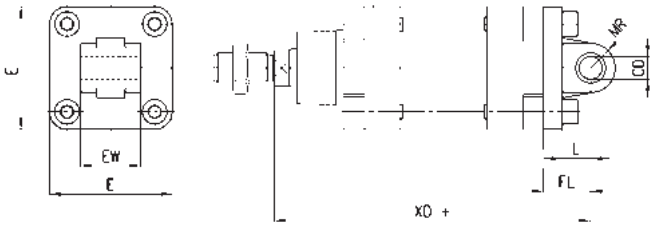
Mod.	Ø	⌀CD	L	FL	D+	XD+	MR	E	CB	UB
C-H-41-160	160	30	35	55	180	315	30	175	90	170
C-H-41-200	200	30	35	60	180	335	30	215	90	170
C-H-41-250	250	40	45	70	200	375	40	270	110	200
C-H-41-320	320	45	50	80	220	420	45	350	120	220

Rear male trunnion Mod. L

Supplied with:
1x male trunnion in Aluminium *
4x screws

* For Ø 320 black-painted steel (cataphoresis)

+ = add the stroke



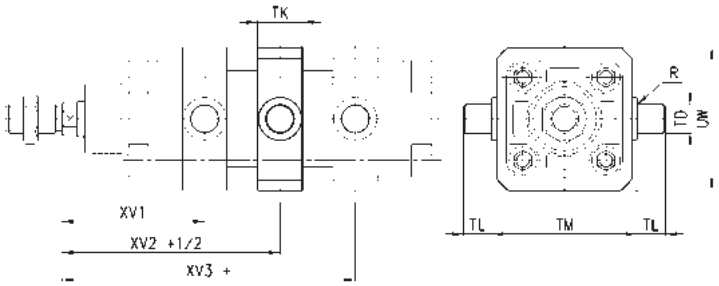
DIMENSIONS

Mod.	Ø	øCD	L	FL	XD+	MR	E	EW
L-41-160	160	30	35	55	315	30	175	90
L-41-200	200	30	35	60	335	30	215	90
L-41-250	250	40	45	70	375	40	270	110
L-41-320	320	45	50	80	420	45	350	110

Centre trunnion Mod. F

Material:
- zinc-plated steel (Ø 160 and 200)
- painted cast iron (Ø 250 and 320)

+ = add the stroke



DIMENSIONS

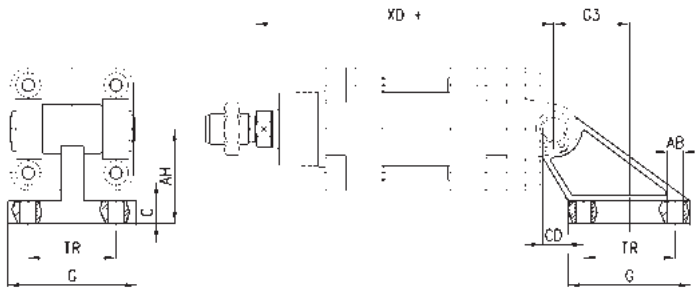
Mod.	Ø	XV1	XV + 1/2	XV3 +	TM	TK	øTD	TL	UW	R	NOTE
F-160	160	145	170	195	200	40	32	32	190	2	
F-200	200	160	185	210	250	40	32	32	240	2	
F-250	250	185	205	225	320	50	40	40	296	-	mounting with 4 threaded tie-rods
F-320	320	210,5	230	249,5	400	70	50	50	400	-	mounting with 4 threaded tie-rods

90° Swivel combination Mod. ZS*

* not according to standard

Supplied with:
1x 45° swivel combination in Aluminium

+ = add the stroke

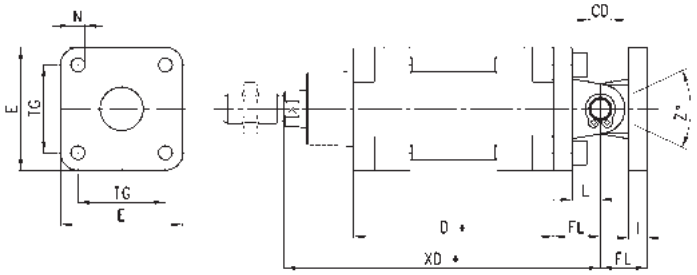


DIMENSIONS

Mod.	Ø	TR	øAB	AH	C	G	øCD	XD +	G3
ZS-160	160	140	18	140	20	180	30	315	105
ZS-200	200	175	18	140	25	220	30	335	125

Swivel combination Mod. C+L+S

+ = add the stroke

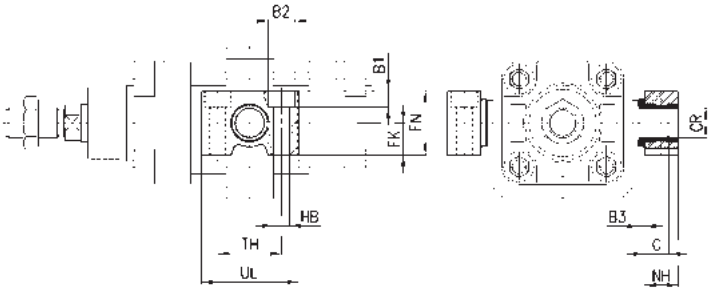


DIMENSIONS

Mod.	Ø	E	TG	øN	D+	XD+	øCD	L	FL	I	Z° (max)
C+L+S	160	175	140	17	180	315	30	35	55	20	25
C+L+S	200	215	175	17	180	335	30	35	60	25	20
C+L+S	250	270	220	25	200	375	40	45	70	25	33
C+L+S	320	350	270	30	220	420	40	50	80	30	30

Counter bracket for centre trunnion Mod. BF

Supplied with 2 supports
in Aluminium



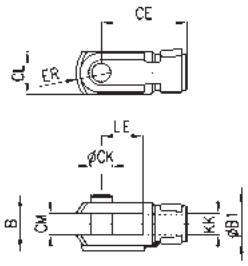
DIMENSIONS

Mod.	Ø	øCR	NH	C	B3	TH	UL	FK	FN	B1	øB2	øHB
BF-160-200	160-200	32	35	17,5	4	60	92	30	60	16	26	18

Rod fork end Mod. G

ISO 8140

Material:
- zinc-plated steel

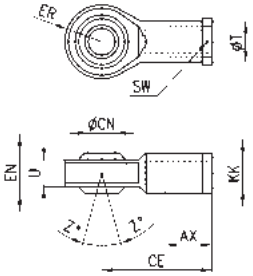


DIMENSIONS

Mod.	Ø	ØCK	LE	CM	CL	ER	CE	KK	B	ØB1
G-160-200	160-200	35	72	35	70	44	144	M36X2	92	60
G-250	250	40	84	40	85	-	168	M42x2	96	70
G-320	320	50	96	50	90	73	192	M48x2	120	80

Swivel ball joint Mod. GA

ISO 8139.
Material: zinc-plated steel.

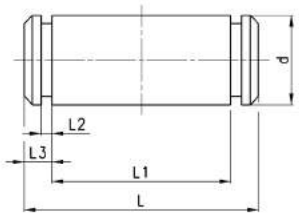


DIMENSIONS

Mod.	Ø	⌀CN	U	EN	ER	AX	CE	KK	ØT	Z	SW
GA-160-200	160-200	35	28	43	40	56	125	M36x2	46	6	50
GA-250	250	40	33	49	-	60	142	M42x2	55	17	55
GA-320	320	50	45	60	58.5	65	160	M48x2	65	12	65

Clevis pin Mod. S

Supplied with:
1x centering pin in stainless steel 303
2x seeger in steel

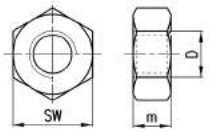


DIMENSIONS

Mod.	Ø	d	L	L1	L2	L3
S-160-200	160-200	30	180.5	172	1.6	4.25
S-250	250	40	210	202	1.85	4.5
S-320	320	45	236	222	1.85	7

Piston rod lock nut Mod. U

ISO 4035
Material: zinc-plated steel

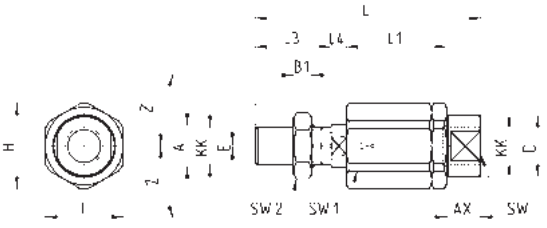


DIMENSIONS

Mod.	Ø	D	m	SW
U-160-200	160-200	M36x2	14	55
U-250	250	M42x2	16	65
U-320	320	M48x2	24	75

Self aligning rod Mod. GK

Material: zama and zinc-plated steel.



DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	⌀A	⌀D	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-160-200	160-200	M36x2	190	77	72	15.5	39	57	75	70	54	32	55	14	68	4	2

Series 41 cylinders - Aluminium profile

Double-acting, cushioned, magnetic
ø 160 - 200 mm

- In compliance with ISO 6431/ VDMA 24562 standards
- Rolled stainless steel rod
- Adjustable pneumatic cushioning
- Rod scraper in brass

Series 41 cylinders with bores 160 and 200mm have been designed so as to comply with the dimensions laid down in the DIN/ISO 6431 standards. The extruded aluminium tube in this series is regarded as very aesthetically pleasing.

The mounting brackets used on the end-blocks tube are designed in an extremely secure way, making use of the cylinder tie-rods positioned internally and not visible on the assembled cylinders. This cylinder series is normally equipped with adjustable cushioning.
Moreover, to reduce the noise of the impact of the piston and end-caps, these cylinders are equipped with a mechanical cushioning.

GENERAL DATA

Type of construction	with tie-rods
Operation	double-acting
Materials	AL end blocks and piston - rolled stainless steel AISI 420B piston rod - zinc-plated steel piston rod nut - anodized AL-profile tube zinc-plated steel tie-rods and tie-rod nuts - NBR rod - piston - cushion seals - brass rod scraper
Mounting	with tie-rods, front flange, rear flange, feet, centre trunnion, front and rear trunnion, swivel combination
Strokes min - max	10 ÷ 2500 mm
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar
Speed	10 ÷ 500 mm/sec (without load)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR DOUBLE-ACTING CYLINDERS SERIES 41

✖ = Double-acting

STANDARD STROKES														
Ø	25	50	75	80	100	125	150	160	200	250	300	320	400	500
160		✖			✖		✖		✖				✖	✖
200		✖			✖				✖					

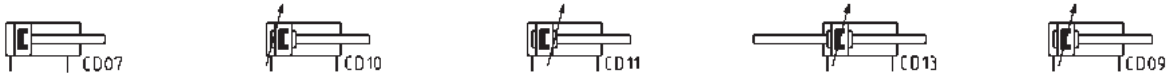
CODING EXAMPLE

41	M	2	P	160	A	0200	

41	SERIES	
M	VERSION M = standard magnetic	
2	OPERATION 2 = double-acting, front and rear cushions 3 = double-acting, no cushion 4 = double-acting, rear cushions 5 = double-acting, front cushion 6 = double-acting, through-rod, front and rear cushions	PNEUMATIC SYMBOLS CD09 CD07 CD10 CD11 CD13
P	MATERIALS P = see the general data on page 1/1.15.01 R = stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts C = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut U = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts W = rolled stainless steel AISI 304 piston rod, stainless steel AISI 304 piston rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts	
160	BORE 160 = 160 mm - 200 = 200 mm	
A	TYPE OF DESIGN A = tie-rods F = cylinder with centre trunnion	
0200	STROKE (see the table)	
	= standard V = FKM rod seals W = all FKM seals +130°C C = PU coated cylinder. Color: Grey * G = with brass rod scraper (chrome plated stainless steel AISI 420B rod, NBR rod seal) (_ _ _) = extended piston rod _ _ _ mm * Version C: available on request. For further information, please contact our technical dept.	

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



ACCESSORIES FOR CYLINDERS SERIES 41

Clevis pin Mod. S

90° swivel combination Mod. ZS

Rear trunnion, male Mod. L

Front and rear flange Mod. D-E

Counter bracket for centre trunnion Mod. BF

Centre trunnion Mod. F

Foot mount Mod. B

Rod fork end Mod. G

Front and rear female trunnion Mod. C-H

Swivel ball joint Mod. GA

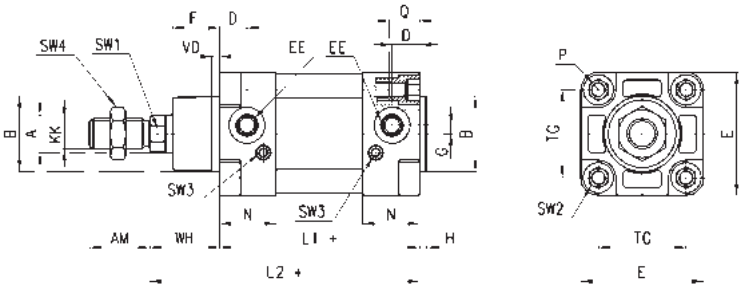
Swivel combination Mod. C+L+S

Piston rod lock nut Mod. U

All accessories are supplied separately, except for the piston rod lock nut Mod. U

Cylinders Series 41

+ = add the stroke

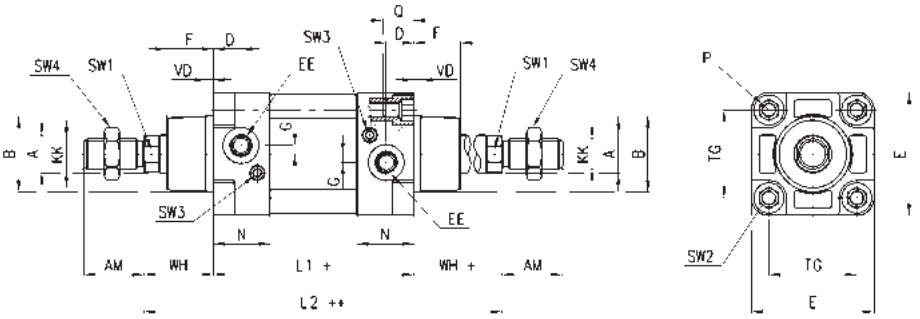


DIMENSIONS

Ø	øA	KK	øB	D	G	F	AM	H	EE	WH	L1+	L2+	VD	N	P	Q	TG	E	SW1	SW2	SW3	SW4	front/rear cushion strokes
160	40	M36x2	65	25	12	53.5	72	6	G3\4	80	180	260	6	45	M16	26	140	176	36	17	4	55	29 / 36
200	40	M36x2	75	25	12	63.5	72	6	G3\4	95	180	275	6	45	M16	26	175	216	36	17	4	55	44 / 42

Cylinders Series 41 - through-rod

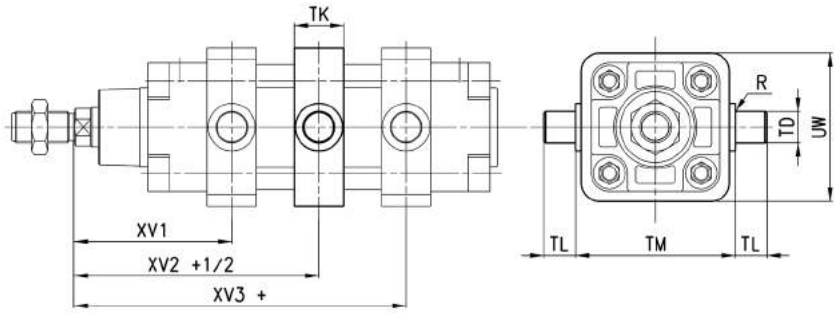
+ = add the stroke once
++ = add the stroke twice



DIMENSIONS

Ø	A	KK	B	D	G	F	AM	EE	WH	L1+	L2++	VD	N	P	Q	TG	E	SW1	SW2	SW3	SW4	front/rear cushion strokes
160	40	M36x2	65	25	12	53.5	72	G3\4	80	180	340	6	45	M16	26	140	176	36	17	4	55	29 / 36
200	40	M36x2	75	25	12	63.5	72	G3\4	95	180	370	6	45	M16	26	175	216	36	17	4	55	44 / 42

Cylinders Series 41 with centre trunnion Mod. F



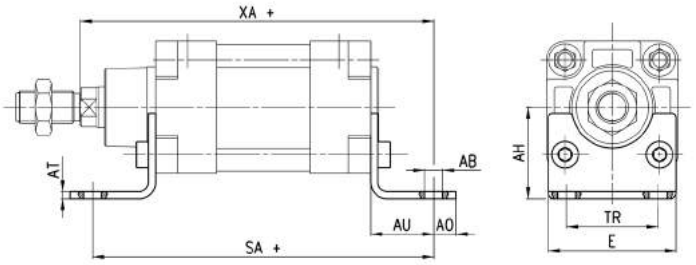
+ = add the stroke

DIMENSIONS

Ø	XV1	XV2	XV3	TM	TK	TD	TL	UW	R
160	145	170	195	200	40	32	32	200	0,2
200	160	185	210	250	40	32	32	250	0,2

Foot mount Mod. B

Material: black-painted steel (cataphoresis)
Supplied with:
2x feet
4x screws



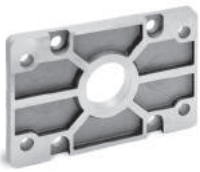
+ = add the stroke

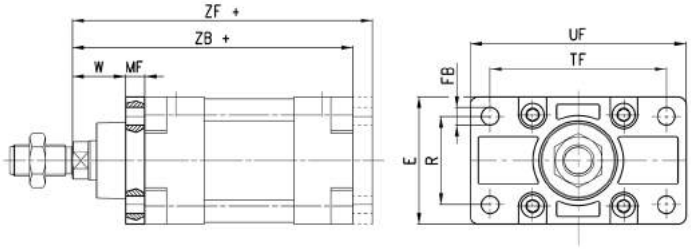
DIMENSIONS

Mod.	Ø	AT	SA+	XA+	TR	E	⌀AB	AH	AO	AU
B-41-160	160	10	300	320	115	175	18.5	100	25	60
B-41-200	200	12	320	345	135	238	24	110	35	70

Front and rear flange Mod. D-E

Material: Aluminium.
Supplied with:
1x flange
4x screws





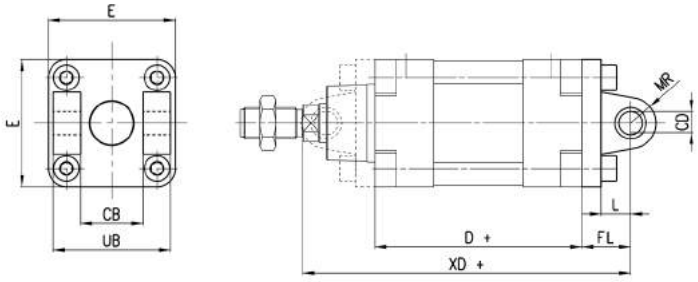
+ = add the stroke

DIMENSIONS

Mod.	Ø	W	MF	ZB+	TF	R	UF	E	⌀FB	ZF+
D-E-41-160	160	60	20	260	230	115	276	175	18	280
D-E-41-200	200	70	25	275	270	135	312	215	22	300

Front and rear female trunnion Mod. C-H

Material: Aluminium.
Supplied with:
1x female trunnion
4x screws



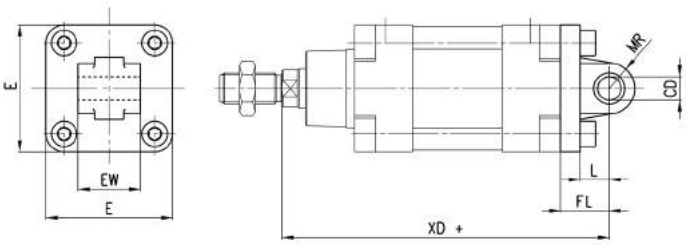
+ = add the stroke

DIMENSIONS

Mod.	Ø	⌀CD	L	FL	D+	XD+	MR	E	CB	UB
C-H-41-160	160	30	35	55	180	315	30	175	90	170
C-H-41-200	200	30	35	60	180	335	30	215	90	170

Rear male trunnion Mod. L

Material: Aluminium
Supplied with:
1x male trunnion
4x screws



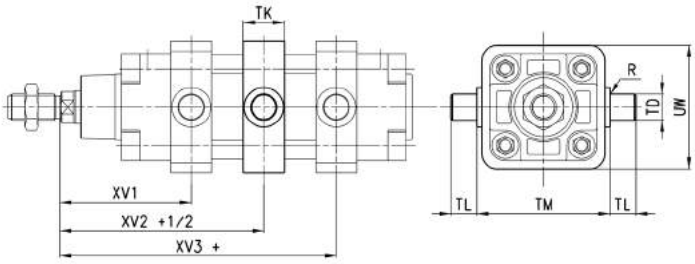
+ = add the stroke

DIMENSIONS

Mod.	Ø	⌀CD	L	FL	XD+	MR	E	EW -0.5 -1.2
L-41-160	160	30	35	55	315	30	175	90
L-41-200	200	30	35	60	335	30	215	90

Centre trunnion Mod. F

Material: white zinc-plated steel.
Supplied with:
1x centre trunnion
4x clamping elements
4x locking screws



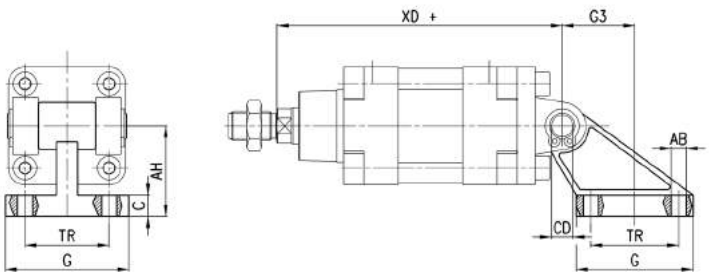
+ = add the stroke

DIMENSIONS

Mod.	Ø	XV1	XV+1/2	XV3+	TM	h	⌀TD	TL	UW	R
F-41-160	160	145	170	195	200	40	32	32	200	0.2
F-41-200	200	160	185	210	250	40	32	32	250	0.2

90° Swivel combination Mod. ZS*

Material: Aluminium
* not according to standard



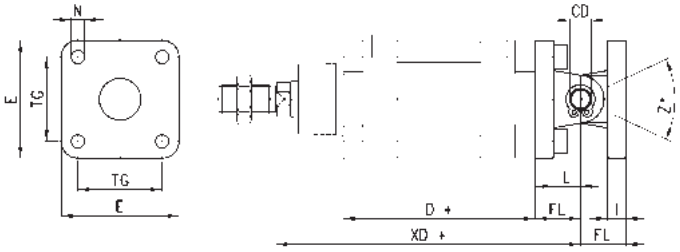
+ = add the stroke

DIMENSIONS

Mod.	Ø	TR	⌀AB	AH	C	G	⌀CD	XD+	G3
ZS-160	160	140	18	140	20	180	30	315	105
ZS-200	200	175	18	140	25	220	30	335	125

Swivel combination Mod. C+L+S

+ = add the stroke

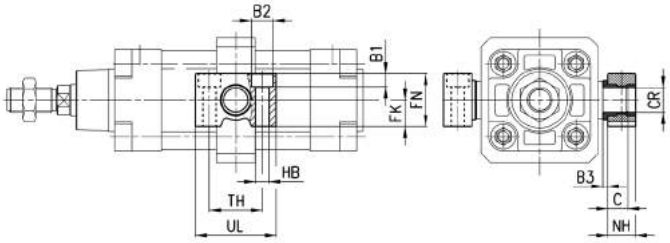


DIMENSIONS

Mod.	Ø	⌀CD	L	FL	D+	XD+	TG	E	⌀N	I	Z° (max)
C+L+S	160	30	35	55	180	315	140	175	17	20	25
C+L+S	200	30	35	60	180	335	175	215	17	25	20

Counter bracket for centre trunnion Mod. BF

Material: Aluminium.
Supplied with:
2x supports

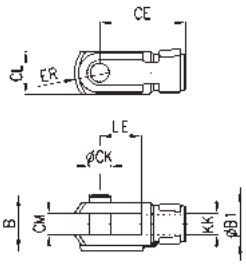


DIMENSIONS

Mod.	Ø	⌀CR	NH	C	B3	TH	UL	FK	FN	B1	⌀B2	⌀HB
BF-160-200	160-200	32	35	17,5	4	60	92	30	60	16	26	18

Rod fork end Mod. G

ISO 8140.
Material: zinc-plated steel.

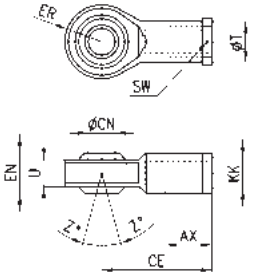


DIMENSIONS

Mod.	Ø	⌀CK	LE	CM	CL	ER	CE	KK	B	⌀B1
G-160-200	160-200	35	72	35	70	44	144	M36X2	92	60

Swivel ball joint Mod. GA

ISO 8139.
Material: zinc-plated steel.

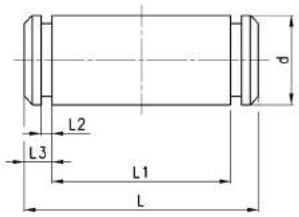


DIMENSIONS

Mod.	Ø	⌀CN	U	EN	ER	AX	CE	KK	ØT	Z	SW
GA-160-200	160-200	35	28	43	40	56	125	M36x2	46	6	50

Clevis pin Mod. S

Supplied with:
1x centering pin in stainless steel 303
2x seeger in steel

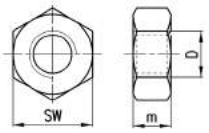


DIMENSIONS

Mod.	Ø	d	L	L1	L2	L3
S-160-200	160-200	30	180.5	172	1.6	4.25

Piston rod lock nut Mod. U

ISO 4035
Material: zinc-plated steel

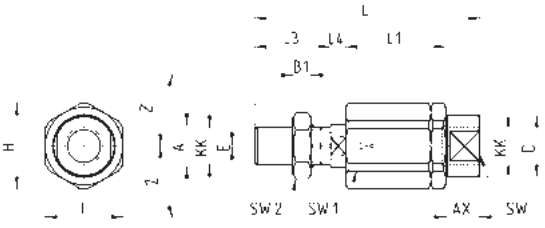


DIMENSIONS

Mod.	Ø	D	m	SW
U-160-200	160-200	M36x2	14	55

Self aligning rod Mod. GK

Material: zama and zinc-plated steel.



DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	⌀A	⌀D	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-160-200	160-200	M36x2	190	77	72	15.5	39	57	75	70	54	32	55	14	68	4	2

Series 60 cylinders

Single and double-acting, magnetic, cushioned
Standard, low friction, low temperature and tandem versions
ø 32, 40, 50, 63, 80, 100, 125mm

The Series 60 cylinders have been designed to comply with the dimensions laid down in the ISO 15552 standards. A permanent magnet, mounted on the piston, enables information to be received regarding the piston position by means of proximity switches positioned along the cylinder tube.

This cylinder series is normally equipped with adjustable end-stroke cushioning. Moreover, these cylinders are equipped with bumpers in order to reduce the impact of the piston as it reaches the end of the stroke.

- In compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards
- Rolled stainless steel rod
- Adjustable pneumatic cushioning
- Available special versions

TANDEM:

- Double thrust and traction forces

LOW FRICTION:

- Friction force reduced by over 40%

LOW TEMPERATURE:

- Versions for -40°C and for -50°C

G VARIANT FOR DUSTY APPLICATIONS:

- Highly resistant to dust, cement, resin, mud, and wood residue

GENERAL DATA

Type of construction	with tie-rods
Operation	double-acting, single-acting, tandem. Low friction version: double-acting only.
Materials	standard: AL end-blocks and piston, rolled stainless steel AISI 420B rod, anodized AL tube, zinc-plated steel tie-rods and tie-rod nuts, PU seals; low friction: standard materials with NBR piston seals and NBR rod seal (FKM rod seal on request) low temperature: standard materials with chrome plated stainless steel AISI 420B rod, brass rod scraper ring, stainless steel AISI 303 nuts, stainless steel AISI 420B tie-rods, PU piston seals and NBR rod seal
Type of mounting	with tie-rods, with front / rear flange, foot mounting, with centre / front / rear / swivel trunnion
Strokes min - max	10 ÷ 2500 mm
Operating temperature	standard and low friction: 0°C ÷ 80°C (with dry air - 20°C) low temperature (-40°C version): -40°C ÷ 60°C (with dry air -40°C) low temperature (-50°C version): -50°C ÷ 60°C (with dry air -50°C)
Operating pressure	1 ÷ 10 bar (standard and low temperature); 0,1 ÷ 10 bar (low friction)
Speed	10 ÷ 1000 mm/sec, no load (standard and low temperature); 5 ÷ 1000 mm/sec, no load (low friction)
Fluid	filtered air, without lubrication. For standard versions only: if lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR CYLINDERS SERIES 60

■ = Single-acting (standard and low temperature) ✖ = Double-acting (standard, low friction and low temperature)
Other strokes up to 2500 mm are available on request.

Ø	25	50	75	100	125	150	160	200	250	300	320	400	500
32	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
40	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
50	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
63	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
80	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
100		■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
125		✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖

CODING EXAMPLE

60	M	2	L	050	A	0200	

60 — SERIES

M — VERSIONS
M = magnetic N = non magnetic L = low friction, magnetic

2 — OPERATION
1 = single-acting, front spring
2 = double-acting, front and rear cushioned
3 = double-acting, no cushion
4 = double-acting, rear cushioned
5 = double-acting, front cushioned
6 = double-acting, through-rod, front and rear cushioned
7 = single-acting, through-rod

PNEUMATIC SYMBOLS
CS03 (N) - CS07 (M)
CD02 (N) - CD09 (M)
CD01 (N) - CD08 (M)
CD03 (N) - CD10 (M)
CD04 (N) - CD11 (M)
CD06 (N) - CD13 (M)
CS05 (N) - CS11 (M)

L — MATERIALS
L = see the general data on page 1/1.20.01
T = stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts, others: see p. 1/1.20.01
C = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut
U = rolled stainless steel AISI 303 piston rod, AISI 304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts
W = rolled stainless steel AISI 304 piston rod, AISI 304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts
Z = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-40°C), brass rod scraper [Ø 125 excepted]
Y = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-50°C), brass rod scraper [Ø 125 excepted]

050 — BORE
032 = 32 mm
040 = 40 mm
050 = 50 mm
063 = 63 mm
080 = 80 mm
100 = 100 mm
125 = 125 mm

A — CONSTRUCTION
A = standard with lock nut for rod
RL = cylinder with rod lock
F = cylinder with centre trunnion

0200 — STROKE (see the table)

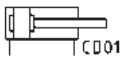
= standard
V = FKM rod seal
N = tandem
R = NBR rod seal
W = all FKM seals + 130°C
C = PU coated cylinder. Colour: Grey *
L = low friction version without rod seal (rear supply only) **
(_ _ _) = extended piston rod _ _ _ mm
G = with brass rod scraper (chrome plated stainless steel AISI 420B rod, NBR rod seal)

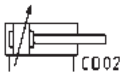
CD8T (M) - CD9T (N)

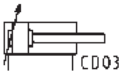
* Version C: available on request. For further information, please contact our technical dept.
** The possibility to order the cylinder without piston rod seal, further reduces the friction force.

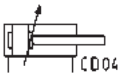
Note: all double-acting cylinders are also available in the low friction version.

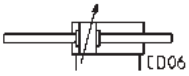
PNEUMATIC SYMBOLS [Pneumatic symbols in the CODING EXAMPLE are shown below.]

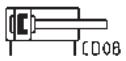


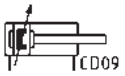


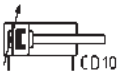


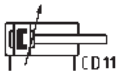


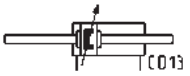


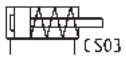


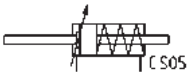


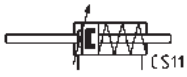


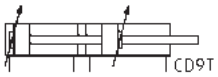




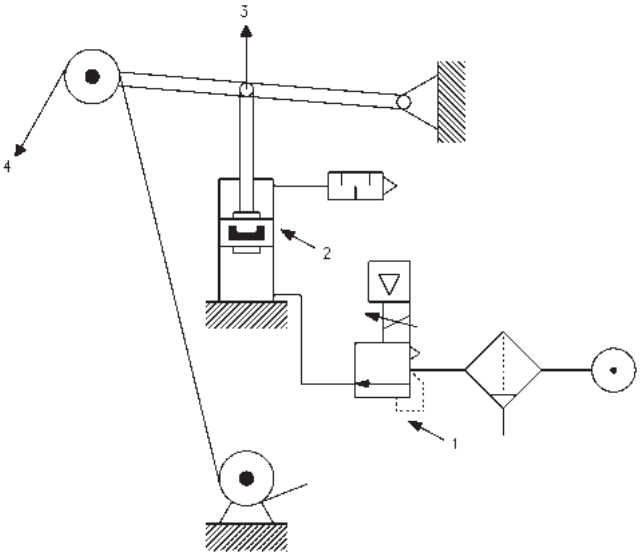






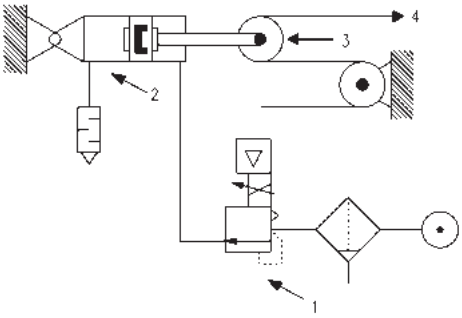


Low friction cylinders Series 60 - APPLICATION EXAMPLES



CYLINDER IN THRUST

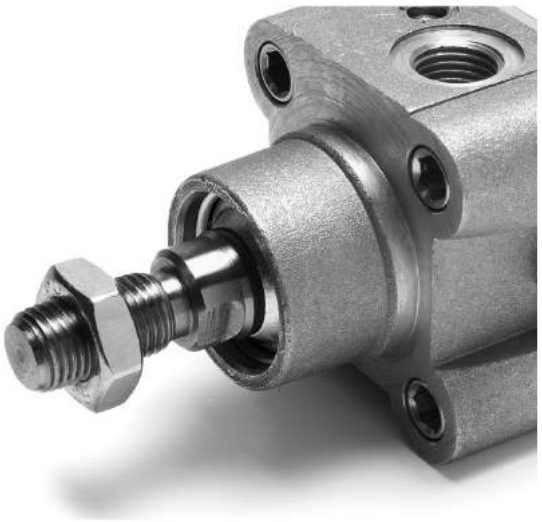
DRAWING NOTES:
1. Precision pressure regulator or electro-pneumatic regulator
2. Low friction cylinder
3. Force direction
4. Band

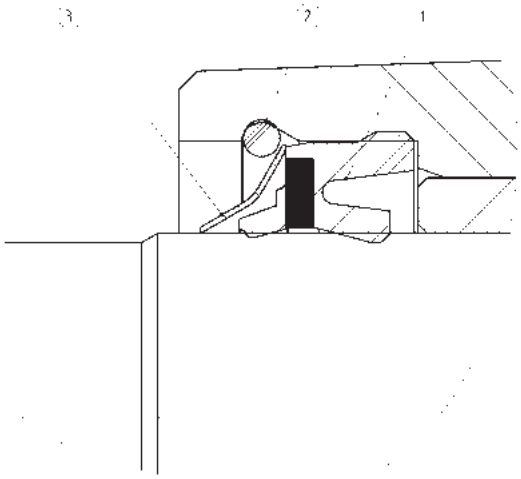


CYLINDER IN TRACTION

Note: in order to reach the highest performance, it is recommended to connect precision pressure regulator or an electro-pneumatic regulator with the low friction cylinder as shown in the drawing.

Low temperature cylinders Series 60 - DETAIL





1 = rod seal
2 = seeger
3 = metal scraper

ACCESSORIES FOR CYLINDERS SERIES 60

Piston rod socket joint Mod. GY

Piston rod lock nut Mod. U

Clevis pin Mod. S

Rear trunnion ball-joint Mod. R

Rod fork end Mod. G

Swivel ball joint Mod. GA

90° male trunnion Mod. ZC

Swivel combination Mod. C+L+S

Centre trunnion Mod. F

Self aligning rod Mod. GK

Counter bracket for centre trunnion Mod. BF

Foot mount Mod. B

Front and rear flange Mod. D-E

Rear female trunnion Mod. C and C-H

Front female trunnion Mod. H and C-H

Rear male trunnion Mod. L

Coupling piece Mod. GKF

Key to disassemble cylinders Ø 80 and 100

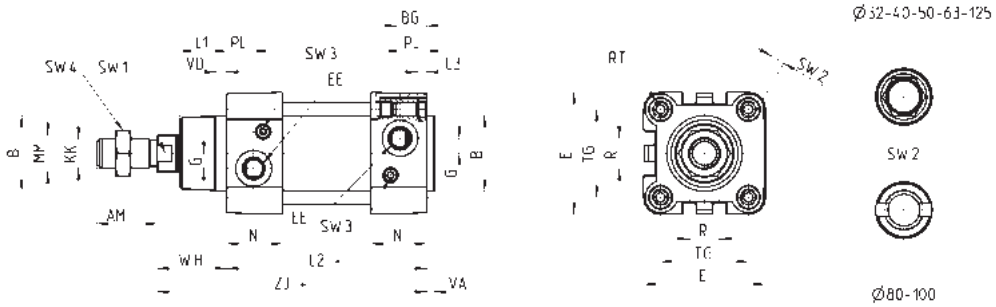
All accessories are supplied separately, except for piston rod lock nut Mod. U

Cylinders Series 60

Note: the single-acting cylinders' sizes ZJ and L2 are increased by 25 mm.

+ = add the stroke

Table note:
* = special key 80-62/8C
(see accessories)



DIMENSIONS

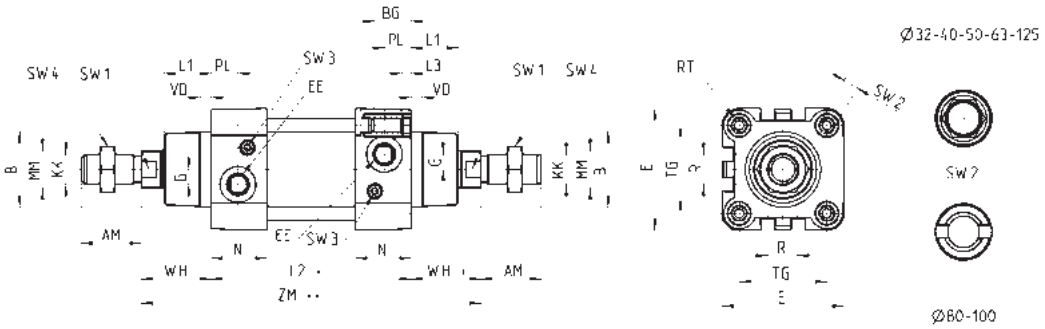
Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VA	VD	WH	ZJ+	Front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	4	5	26	120	17 / 12
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	4	5	30	135	20 / 17
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	4	6	37	143	15 / 14
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	4	6	37	158	17 / 16
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	*	5	30	72	4	7	46	174	20 / 20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	*	5	30	89	4	7	51	189	21 / 19
125	54	60	23	135	G1/2	10,5	M27x2	42	160	0	32	43	23,5	50	M12	27	12	4	41	110	6	8	65	225	26 / 25

Cylinders Series 60 - through-rod

Note: the single-acting cylinders' sizes ZM and L2 are increased by 25 mm.

+ = add the stroke once
++ = add the stroke twice

Table note:
* = special key 80-62/8C
(see accessories)

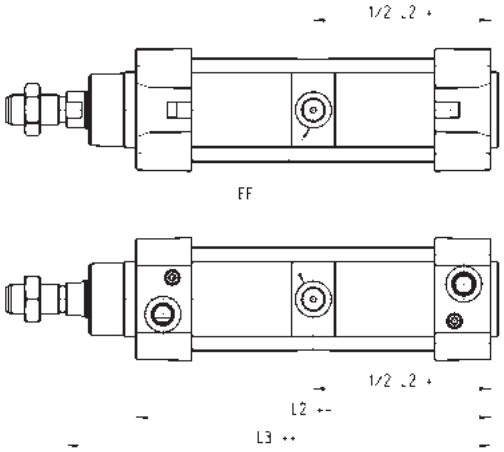


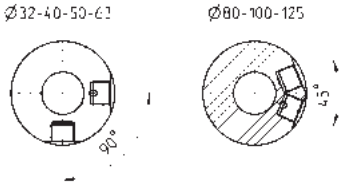
DIMENSIONS

Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VD	WH	ZM++	Front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	5	26	146	17 / 12
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	5	30	165	20 / 17
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	6	37	180	15 / 14
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	6	37	195	17 / 16
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	*	5	30	72	7	46	220	20 / 20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	*	5	30	89	7	51	240	21 / 19
125	54	60	23	135	G1/2	10,5	M27x2	42	160	0	32	43	23,5	50	M12	27	12	4	41	110	8	65	290	26 / 25

Cylinders Series 60 - tandem version

+ = add the stroke once
++ = add the stroke twice

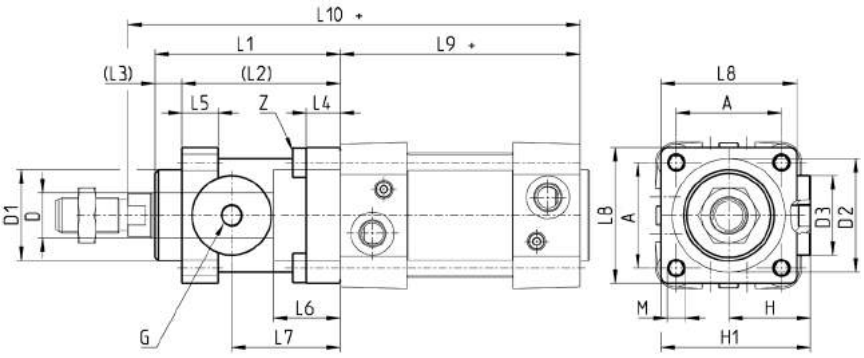




DIMENSIONS			
Ø	EE	L2	L3
32	G1/8	171,5	197,5
40	G1/4	191,5	221,5
50	G1/4	188	225
63	G3/8	204	241
80	G3/8	225,5	271,5
100	G1/2	231	282
125	G1/2	264	329

Cylinders Series 60 with rod lock

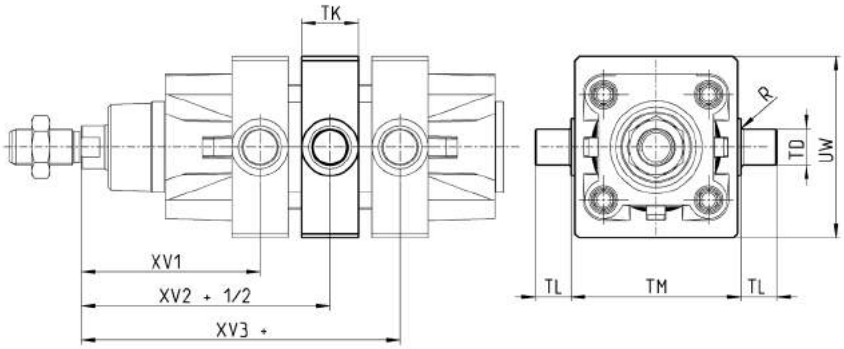
+ = add the stroke



DIMENSIONS																				
Ø	øD	øD1	øD2	øD3	A	G	H	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9+	L10+	M	Z
32	12	30,5	35	25	32,5	M5	25,5	46,5	58	48	10	8	13	20,5	34	45	94	160	M6	M6X20
40	16	35	40	28	38	G1/8	30	53	65	55	10	8	13	22,5	38	50	105	178	M6	M6X20
50	20	40	50	35	46,5	G1/8	36	64	82	70	12	15	16	29,5	48	60	106	200	M8	M8X30
63	20	45	60	38	56,5	G1/8	40	75	82	70	12	15	16	29,5	49,5	70	121	215	M8	M8X30
80	25	45	80	48	72	G1/8	50	95	110	90	20	18	20	35	61	90	128	254	M10	M10X35
100	25	55	100	58	89	G1/8	58	110,5	115	100	15	18	20	39	69	105	138	269	M10	M10X35
125	32	60	130	65	110	G1/8	80	150	167	122	45	22	30	51	86,5	140	160	350	M12	M12X40

Cylinders Series 60 with centre trunnion Mod. F

+ = add the stroke once
++ = add the stroke twice



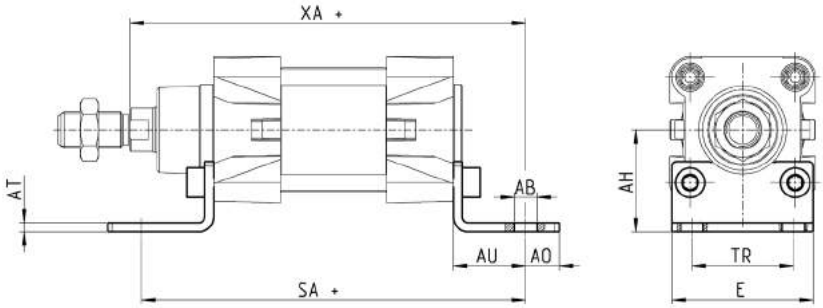
DIMENSIONS									
Ø	XV1	XV2	XV3	TM (h14)	TK	TD (e9)	TL (h14)	UW	R
32	62	73	84	50	20	12	12	50	0.5
40	69	82,5	96	63	20	16	16	60	1
50	79	90	101	75	25	16	16	70	1
63	86	97,5	109	90	25	20	20	85	1
80	97	110	123	110	30	20	20	105	1
100	104,5	120	135,5	132	30	25	25	125	1.5
125	123	145	167	160	30	25	25	155	1.5

Foot mount Mod. B

Material: zinc-plated steel

Supplied wth:
2x feet
4x screws

+ = add the stroke



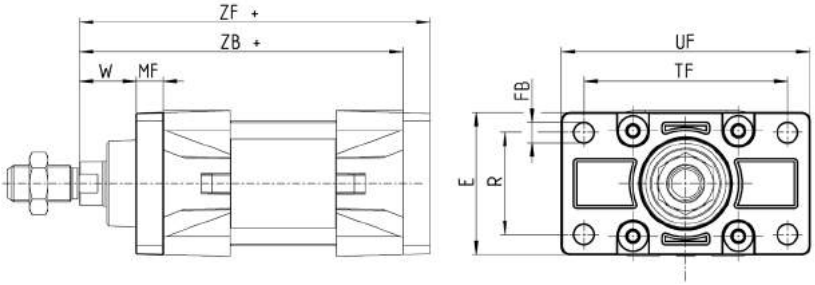
DIMENSIONS											
Mod.	Ø	AT	SA+	XA+	TR	E	AB	AH	AO	AU	torque force
B-41-32	32	4	142	144	32	45	7	32	11	24	6 Nm
B-41-40	40	4	161	163	36	53,5	10	36	15	28	6 Nm
B-41-50	50	4	170	175	45	62,5	10	45	15	32	13 Nm
B-41-63	63	5	185	190	50	73	10	50	15	32	13 Nm
B-41-80	80	6	210	216	63	92	12	63	20	41	19 Nm
B-41-100	100	6	220	230	75	108,5	14,5	71	25	41	22 Nm
B-41-125	125	7	250	270	90	132	16,5	90	25	45	26 Nm

Front and rear flange Mod. D-E

Material: Aluminium

Supplied with:
1x flange
4x screws

+ = add the stroke



DIMENSIONS

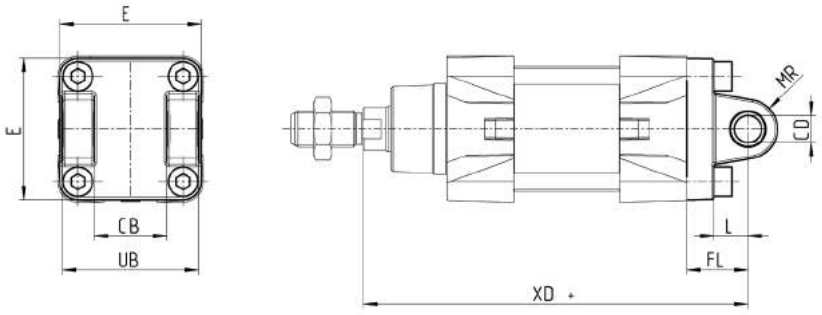
Mod.	Ø	W	MF	ZB	TF	R	UF	E	FB	ZF	torque force
D-E-41-32	32	16	10	120	64	32	86	45	7	130	6 Nm
D-E-41-40	40	20	10	135	72	36	88	52	9	145	6 Nm
D-E-41-50	50	25	12	143	90	45	110	63	9	155	13 Nm
D-E-41-63	63	25	12	158	100	50	116	73	9	170	13 Nm
D-E-41-80	80	30	16	174	126	63	148	95	12	190	19 Nm
D-E-41-100	100	35	16	189	150	75	176	115	14	205	22 Nm
D-E-41-125	125	45	20	225	180	90	224	135	16	245	26 Nm

Rear female trunnion Mod. C and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



DIMENSIONS

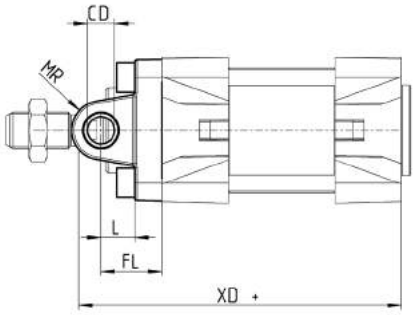
Mod.	Ø	CD	L	FL	XD+	MR	E	CB	UB	torque force
C-41-32	32	10	12	22	142	10	45	26	45	6 Nm
C-41-40	40	12	15	25	160	12	53.5	28	52	6 Nm
C-41-50	50	12	15	27	170	13	62.5	32	60	13 Nm
C-H-41-63	63	16	20	32	190	17	73	40	70	13 Nm
C-H-41-80	80	16	24	36	210	17	92	50	90	19 Nm
C-H-41-100	100	20	29	41	230	21	108.5	60	110	22 Nm
C-H-41-125	125	25	30	50	275	26	132	70	130	26 Nm

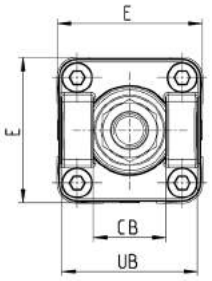
Front female trunnion Mod. H and C-H

Material: Aluminium

Supplied with:
1x trunnion
4x screws

+ = add the stroke





DIMENSIONS

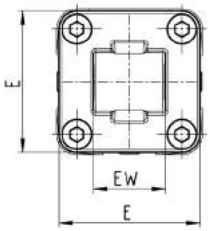
Mod.	CB	UB	E	XD+	FL	L	CD	MR	torque force
H-41-32	26	45	45	120	22	12	10	10	6 Nm
H-41-40	28	52	53.5	135	25	15	12	12	6 Nm
H-41-50	32	60	62.5	143	27	15	12	13	13 Nm
H-60-63	40	70	73	158	32	20	16	17	13 Nm
C-H-41-80	50	90	92	174	36	24	16	17	19 Nm
C-H-41-100	60	110	108.5	189	41	29	20	21	22 Nm
C-H-41-125	70	130	132	225	50	30	25	26	22 Nm

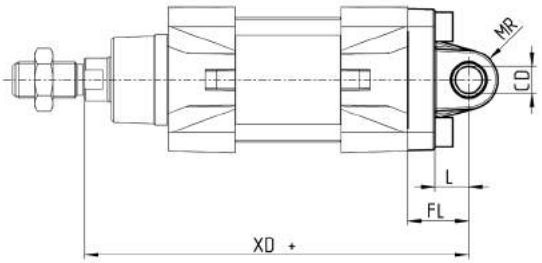
Rear male trunnion Mod. L

Material: Aluminium

Supplied with:
2x male trunnions
4x screws

+ = add the stroke





DIMENSIONS

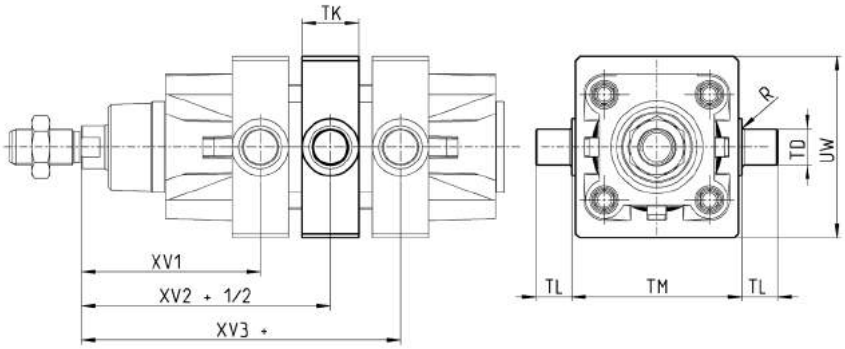
Mod.	Ø	CD	L	FL	XD+	MR	E	EW	torque force
L-41-32	32	10	12	22	142	10	45	26	6 Nm
L-41-40	40	12	15	25	160	13	53.5	28	6 Nm
L-41-50	50	12	15	27	170	13	62.5	32	13 Nm
L-41-63	63	16	20	32	190	17	73	40	13 Nm
L-41-80	80	16	24	36	210	17	92	50	19 Nm
L-41-100	100	20	29	41	230	21	108.5	60	22 Nm
L-41-125	125	25	30	50	275	26	132	70	26 Nm

Centre trunnion Mod. F

Material: zinc-plated steel

Supplied with:
1x intermediate trunnion
8x locking screws

+ = add the stroke



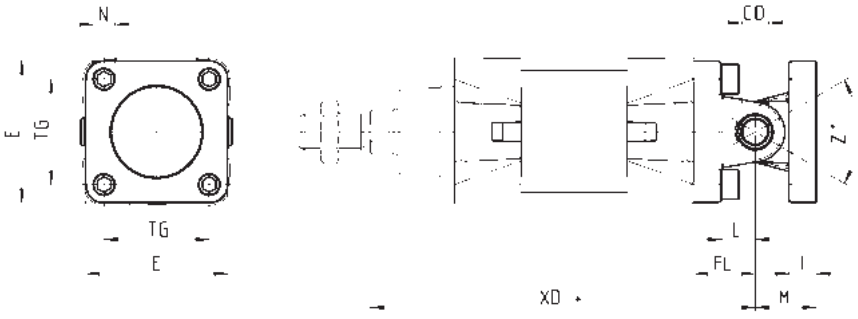
DIMENSIONS

Mod.	Ø	XV1	XV2	XV3	TM (h14)	TK	TD (e9)	TL	UW	R
F-32	32	62	73	84	50	20	12	12	50	0.5
F-40	40	69	82,5	96	63	20	16	16	60	1
F-50	50	79	90	101	75	25	16	16	70	1
F-63	63	86	97,5	109	90	25	20	20	85	1
F-80	80	97	110	123	110	30	20	20	105	1
F-100	100	104,5	120	135,5	132	30	25	25	125	1.5
F-125	125	123	145	167	160	30	25	25	155	1.5

Accessory combination Mod. C+L+S

Material: Aluminium

+ = add the stroke



DIMENSIONS

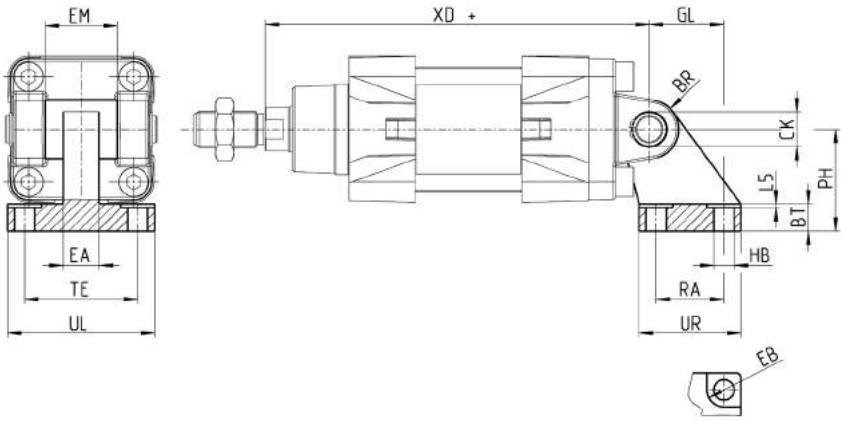
Mod.	Ø	E	TG	⌀N	XD+	⌀CD	L	FL	I	M	Z° (max)	torque force
C+L+S	32	45	32.5	6.5	142	10	12	22	10	22	30	6 Nm
C+L+S	40	53.5	38	6.5	160	12	15	25	10	25	40	6 Nm
C+L+S	50	62.5	46.5	9	170	12	15	27	12	27	25	13 Nm
C+L+S	63	73	56.5	9	190	16	20	32	12	32	36	13 Nm
C+L+S	80	92	72	11	210	16	24	36	12	36	34	19 Nm
C+L+S	100	108.5	89	11	230	20	29	41	12	41	38	22 Nm
C+L+S	125	132	110	13	275	25	30	50	20	50	30	26 Nm

90° male trunnion Mod. ZC

CETOP RP 107P
Material: aluminium

Supplied with:
1x male trunnion

+ = add the stroke



DIMENSIONS

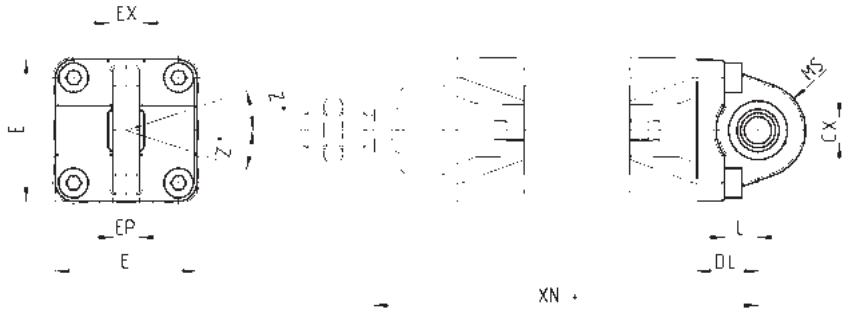
Mod.	Ø	EB	⌀CK	HB	XD+	TE	UL	EA	GL	L5	RA	EM	UR	PH	BT	BR
ZC-32	32	11	10	6,6	142	38	51	10	21	1,6	18	26	31	32	8	10
ZC-40	40	11	12	6,6	160	41	54	15	24	1,6	22	28	35	36	10	11
ZC-50	50	15	12	9	170	50	65	16	33	1,6	30	32	45	45	12	13
ZC-63	63	15	16	9	190	52	67	16	37	1,6	35	40	50	50	14	15
ZC-80	80	18	16	11	210	66	86	20	47	2,5	40	50	60	63	14	15
ZC-100	100	18	20	11	230	76	96	20	55	2,5	50	60	70	71	17	19
ZC-125	125	20	25	14	275	94	124	30	70	3,2	60	70	90	90	20	22,5

Rear trunnion ball-joint Mod. R*

Material: aluminium
* not according to standard

Supplied with:
1x trunnion ball joint
4x screws

+ = add the stroke



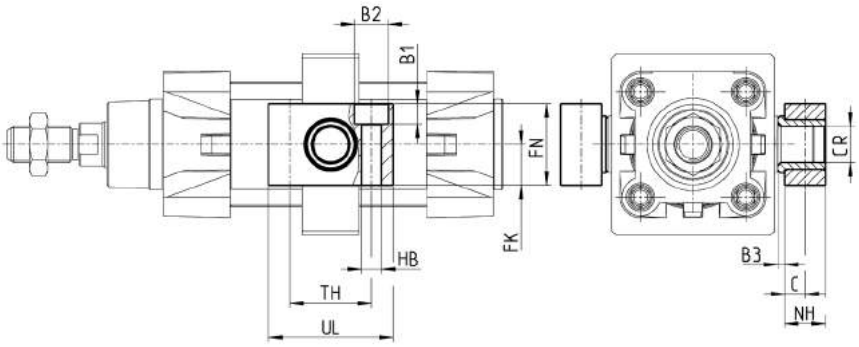
DIMENSIONS

Mod.	Ø	⌀CX	L	DL	XN+	MS	E	EX	EP	Z	torque force
R-41-32	32	10	12	22	142	18	45	14	10,5	4	6 Nm
R-41-40	40	12	15	25	160	18	53.5	16	12	4	6 Nm
R-41-50	50	12	15	27	170	21	62.5	16	12	4	13 Nm
R-41-63	63	16	20	32	190	23	73	21	15	4	13 Nm
R-41-80	80	16	24	36	210	28	92	21	15	4	19 Nm
R-41-100	100	20	29	41	230	30	108.5	25	18	4	22 Nm
R-41-125	125	30	30	50	275	40	140	37	25	4	26 Nm

Counter bracket for centre trunnion Mod. BF

Material: aluminium

Supplied with:
2x supports

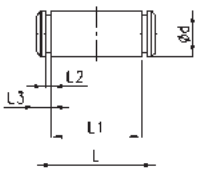


DIMENSIONS

Mod.	CR	NH	C	b3	TH	UL	FK	FN	B1	B2	HB
BF-32	12	15	7,5	3	32	46	15	30	6,8	11	6,6
BF-40-50	16	18	9	3	36	55	18	36	9	15	9
BF-63-80	20	20	10	3	42	65	20	40	11	18	11
BF-100-125	25	25	12,5	3,5	50	75	25	50	13	20	14

Clevis pin Mod. S

Suppied with:
1x clevis pin in
stainless steel 303
2x Seeger in steel



DIMENSIONS

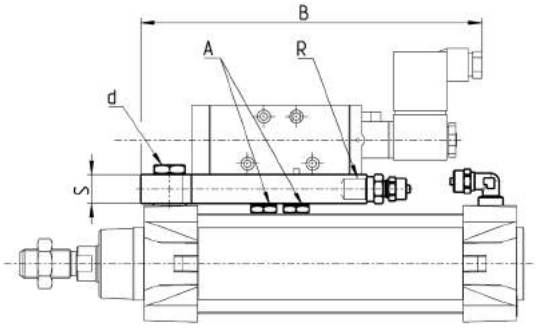
Mod.	Ø	d	L	L1	L2	L3
S-32	32	10	52	46	1,1	3
S-40	40	12	59	53	1,1	3
S-50	50	12	67	61	1,1	3
S-63	63	16	77	71	1,1	3
S-80	80	16	97	91	1,1	3
S-100	100	20	121	111	1,3	5
S-125	125	25	140,5	132	1,3	4,25

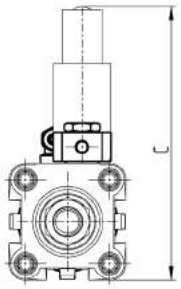
Accessory for mounting valves on the cylinder

The mounting sub-base Mod. PCV enables the valve to be mounted directly on the cylinder and it's fixed on it using screws Mod. 1635 or flow controllers, Mod. SCU. The other end of the plate has a threaded port.

d* = mounting on the cylinder using Mod. 1635 or Mod. SCU.

Note: the minimum possible stroke is 100mm.



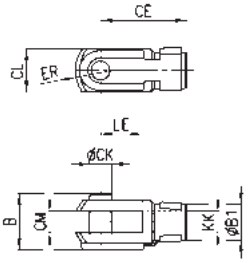


DIMENSIONS

Mod.	Ø	A	B	C	R	S	d*
PCV-32	32	G1/8	185	131,5	G1/8	16	G1/8
PCV-40-50	40	G1/8	188,5	140,5	G1/4	16	G1/4
PCV-40-50	50	G1/8	188,5	150	G1/4	16	G1/4
PCV-63-80	63	G1/4	215	167	G1/4	16	G3/8
PCV-63-80	80	G1/4	215	185	G1/4	16	G3/8

Rod fork end Mod. G

ISO 8140
Material: zinc-plated steel

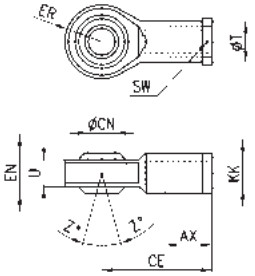


DIMENSIONS

	CK	LE	CM	CL	ER	CE	KK	B	B1
G-25-32	10	20	10	20	12	40	M10X1,25	26	18
G-40	12	24	12	24	14	48	M12X1,25	32	20
G-50-63	16	32	16	32	19	64	M16X1,5	40	26
G-80-100	20	40	20	40	25	80	M20X1,5	48	34
G-41-125	30	54	30	55	38	110	M27X2	74	48

Swivel ball joint Mod. GA

ISO 8139.
Material: zinc-plated steel.

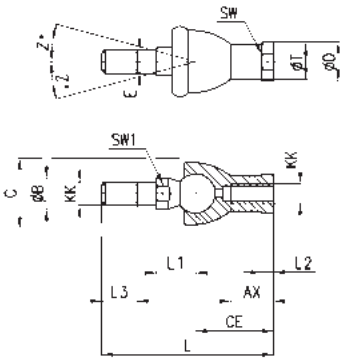


DIMENSIONS

Mod.	Ø	øCN(H7)	U	EN	ER	AX	CE	KK	øT	Z	SW
GA-32	32	10	10,5	14	14	20	43	M10X1,25	15	6,5	17
GA-40	40	12	12	16	16	22	50	M12X1,25	17,5	6,5	19
GA-50-63	50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	125	30	25	37	35	51	110	M27x2	40	7,5	41

Piston rod socket joint Mod. GY

Material: zama and zinc-plated steel.

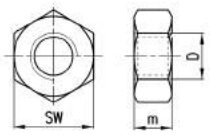


DIMENSIONS

Mod.	Ø	KK	L	CE	L2	AX	SW	SW1	L1	L3	øT	øD	E	øB	øC	Z
GY-32	32	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	40	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63	10	38	30	24	31,5	25	27,5	34	20	27	45	7,5

Piston rod lock nut Mod. U

ISO 4035
Material: zinc-plated steel

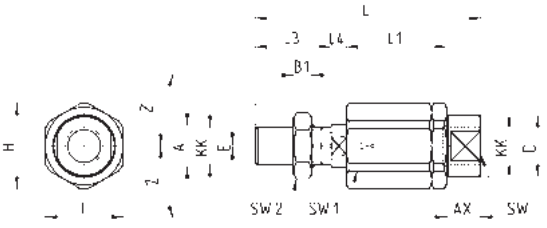


DIMENSIONS

Mod.	Ø	D	m	SW
U-25-32	32	M10X1,25	6	17
U-40	40	M12X1,25	7	19
U-50-63	50-63	M16X1,5	8	24
U-80-100	80-100	M20X1,5	9	30
U-41-125	125	M27X2	12	41

Self aligning rod Mod. GK

Material: zama and zinc-plated steel.

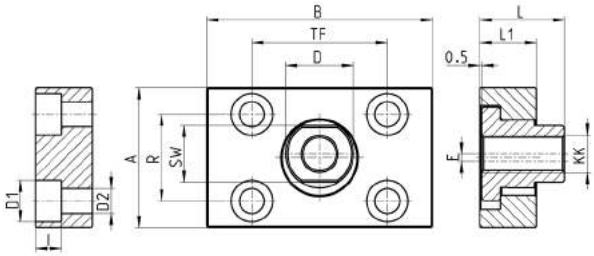


DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	øA	øD	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-25-32	32	M10X1,25	71,5	35	20	7,5	14	22	32	30	19	12	17	5	22	4	2
GK-40	40	M12X1,25	75,5	35	24	7,5	14	22	32	30	19	12	19	6	22	4	2
GK-50-63	50-63	M16X1,5	104	53	32	10	22	32	45	41	27	20	24	8	30	3	2
GK-80-100	80-100	M20x1,5	119	53	40	10	22	32	45	41	27	20	30	10	37	3	2
GK-125	125	M27x2	147	60	54	10	32	57	70	65	54	24	41	12	48	4	2

Coupling piece Mod. GKF

Material: zinc-plated steel.

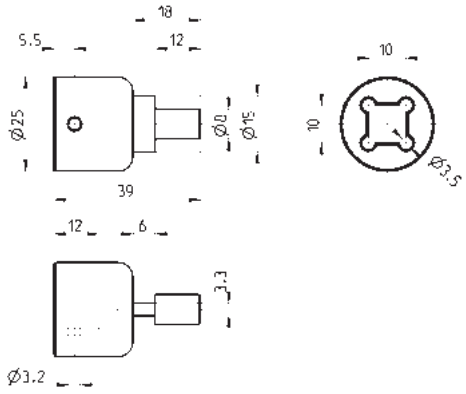


DIMENSIONS

Mod.	Ø	KK	A	B	R	TF	L	L1	I	Ø D	Ø D1	Ø D2	SW	E
GKF-25-32	32	M10x1,25	37	60	23	36	22,5	15	6,8	18	11	6,6	15	2
GKF-40	40	M12x1,25	56	60	38	42	22,5	15	9	20	15	9	15	2,5
GKF-50-63	50-63	M16x1,5	80	80	58	58	26,5	15	10,5	25	18	11	22	2,5
GKF-80-100	80-100	M20x1,5	90	90	65	65	32,5	20	13	30,5	20	14	27	2,5
GKF-125	125	M27x2	90	90	65	65	35,5	20	13	40	20	14	36	4

Special key to disassemble cylinders Ø 80 and 100

Material: hardened steel.



Mod.
80-62/8C

Series 61 cylinders - Aluminium profile

Single and double-acting, magnetic, cushioned
Standard, low friction, low temperatures and tandem versions
ø 32, 40, 50, 63, 80, 100, 125 mm

Series 61 cylinders have been designed to comply with the dimensions laid down in the ISO 15552 standards. A permanent magnet, mounted on the piston in these cylinders, enables information to be received regarding the piston position by means of proximity switches mounted in grooves along the cylinder profile. These grooves can be covered with a slot cover profile.

This cylinder series is equipped with adjustable end-stroke cushioning. Moreover, they are equipped with a mechanical cushioning in order to reduce the impact of the piston as it reaches the end of the stroke.

- In compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards
- Rolled stainless steel rod
- Clean design with adjustable pneumatic cushioning
- Available special versions

TANDEM:

- Double thrust and traction forces

LOW FRICTION:

- Friction force reduced by over 40%

LOW TEMPERATURE:

- Versions for -40°C and for -50°C

G VARIANT FOR DUSTY APPLICATIONS:

- Highly resistant to dust, cement, resin, mud and wood residue

GENERAL DATA

Type of construction	with tie-rods (inside the profile)
Operation	double-acting, single-acting, tandem. Low friction version: double-acting only.
Materials	standard: AL end-blocks and piston, rolled stainless steel AISI 420B rod, anodized AL profile tube, zinc-plated steel tie-rods and tie-rod nuts, PU seals; low friction: standard materials with NBR piston seal and NBR rod seal (FKM rod seal on request) low temperature: standard materials with chrome plated stainless steel AISI 420B rod, brass rod scraper ring, stainless steel AISI 303 nuts, stainless steel AISI 420B tie-rods, PU piston seals and NBR rod seal
Type of mounting	with front / rear flange, foot mounting, with front / rear / centre / swivel trunnion
Stroke min - max	10 ÷ 2500 mm
Operating temperature	standard and low friction: 0°C ÷ 80°C (with dry air -20°C) low temperature (-40°C version): -40°C ÷ 60°C (with dry air -40°C) low temperature (-50°C version): -50°C ÷ 60°C (with dry air -50°C)
Operating pressure	1 ÷ 10 bar (standard and low temperature); 0,1 ÷ 10 bar (low friction)
Speed	10 ÷ 1000 mm/sec, no load (standard and low temperature); 5 ÷ 1000 mm/sec, no load (low friction)
Fluid	filtered air, without lubrication. For standard versions only: if lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR CYLINDERS SERIES 61

■ = Single-acting (standard and low temperature) ✖ = Double-acting (standard, low friction and low temperature)
Other strokes up to 2500 mm are available on request.

STANDARD STROKES														
Ø	25	50	75	80	100	125	150	160	200	250	300	320	400	500
32	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
40	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
50	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
63	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
80	■ ✖	■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
100		■ ✖	■ ✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
125		✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖

CODING EXAMPLE

61	M	2	P	050	A	0200	

61 — SERIES

M — VERSION
M = standard, magnetic L = low friction, magnetic

2 — OPERATION
1 = single-acting, front spring (ø 32 ± ø 100)
2 = double-acting, front and rear cushioned
3 = double-acting, no cushion
4 = double-acting, rear cushioned
5 = double-acting, front cushioned
6 = double-acting, through-rod, front and rear cushioned
7 = single-acting, through-rod

PNEUMATIC SYMBOLS
CS07
CD09
CD08
CD10
CD11
CD13
CS11

P — MATERIALS
P = see the general data on page 1/1.25.01
R = stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts, others: see p. 1/1.25.01
C = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut
U = rolled stainless steel AISI 303 piston rod, AISI 304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts
W = rolled stainless steel AISI 304 piston rod, AISI304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts
Z = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-40°C), brass rod scraper [Ø 125 excepted]
Y = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-50°C), brass rod scraper [Ø 125 excepted]

050 — BORE
032 = 32 mm - 040 = 40 mm - 050 = 50 mm - 063 = 63 mm - 080 = 80 mm - 100 = 100 mm - 125 = 125 mm

A — CONSTRUCTION
A = standard with rod nut - RL = cylinder with rod lock

0200 — STROKE (see the table)

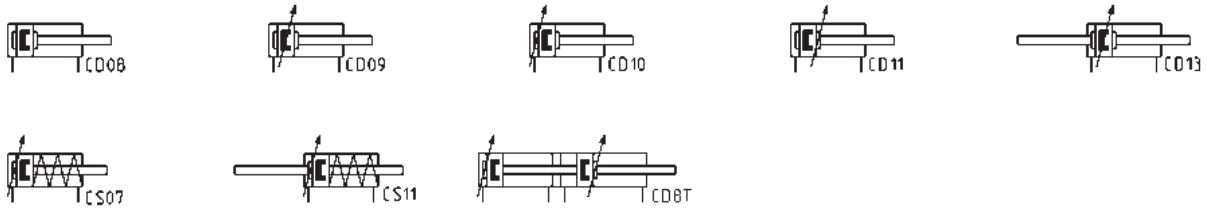
= standard V = FKM rod seal N = tandem (pneumatic symbol: CD8T)
R = NBR rod seal W = all FKM seals ÷130C° C = PU coated cylinder. Colour: Grey *
L = low friction version without rod seal (rear supply only) ** (_ _ _) = extended piston rod _ _ _ mm
G = with brass rod scraper (chrome plated stainless steel AISI 420B rod, NBR rod seal)

* Version C: available on request. For further information, please contact our technical dept.
** The possibility to order the cylinder without piston rod seal, further reduces the friction force.

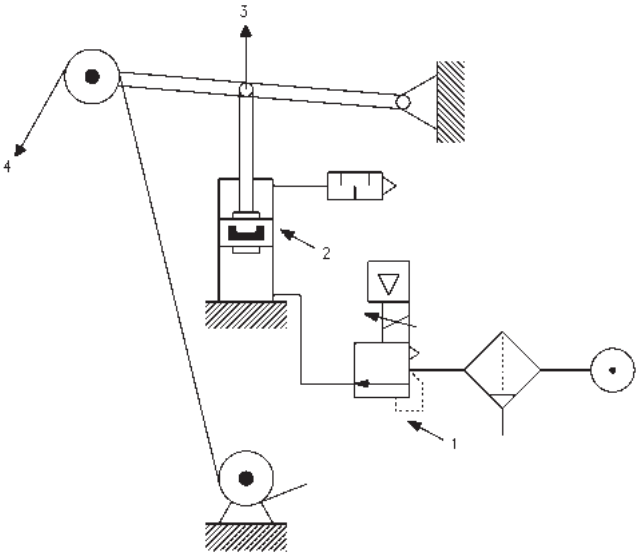
Note: all double-acting cylinders are also available in the low friction version.

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.

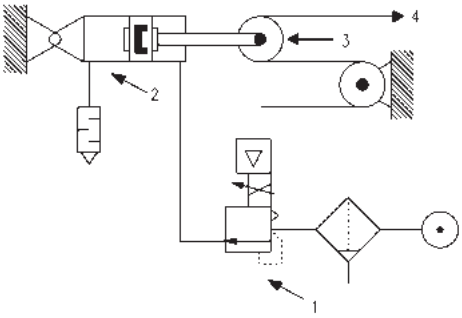


Low friction cylinders Series 61 - APPLICATION EXAMPLES



CYLINDER IN THRUST

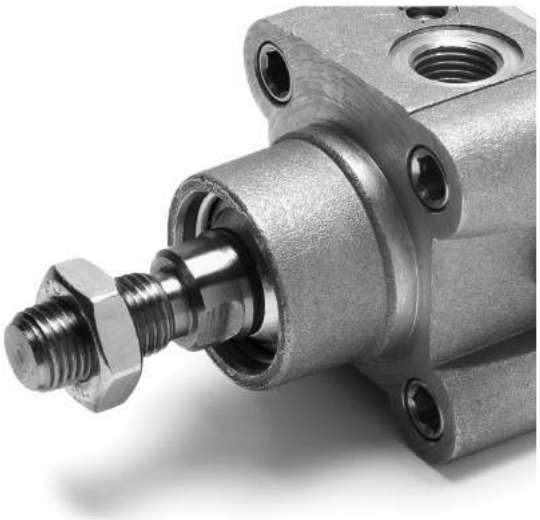
DRAWING NOTES:
1. Precision pressure regulator or electro-pneumatic regulator
2. Low friction cylinder
3. Force direction
4. Band

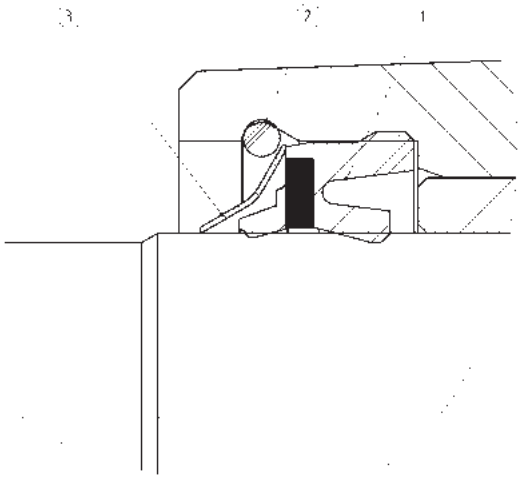


CYLINDER IN TRACTION

Note: in order to reach the highest performance, it is recommended to connect precision pressure regulator or an electro-pneumatic regulator with the low friction cylinder as shown in the drawing.

Low temperature cylinders Series 61 - DETAIL





1 = rod seal
2 = seeger
3 = metal scraper

CYLINDERS ACCESSORIES SERIES 61

Piston rod socket joint Mod. GY

Piston rod lock nut Mod. U

Clevis pin Mod. S

Rear trunnion ball-joint Mod. R

Coupling piece Mod. GKF

Swivel ball joint Mod. GA

90° male trunnion Mod. ZC

Swivel Combination Mod. C+L+S

Front and rear flange Mod. D-E

Self aligning rod Mod. GK

Centre trunnion Mod. F

Foot mount Mod. B

Front female trunnion Mod. H and C-H

Rear female trunnion Mod. C and C-H

Rod fork end Mod. G

Rear trunnion male Mod. L

Key to disassemble cylinders Ø 80 and 100

Counter bracket for centre trunnion Mod. BF

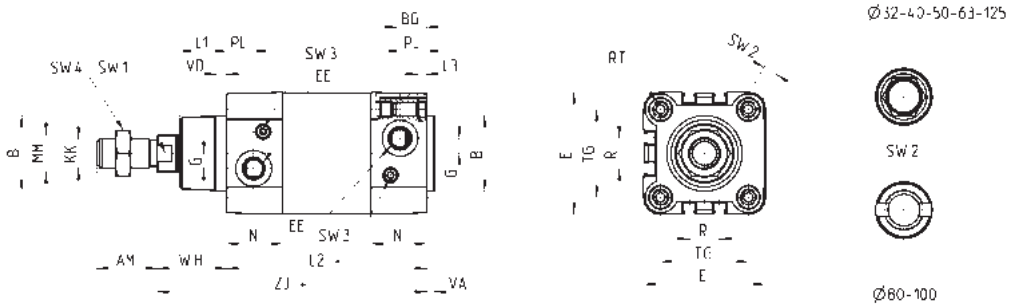
All accessories are supplied separately, except for piston rod lock nut Mod. U

Cylinders Series 61

N.B. : the single-acting cylinders, sizes ZJ and L2 are increased by 25 mm.

+ = add the stroke

Table note:
* = special key 80-62/8C
(see accessories)



DIMENSIONS

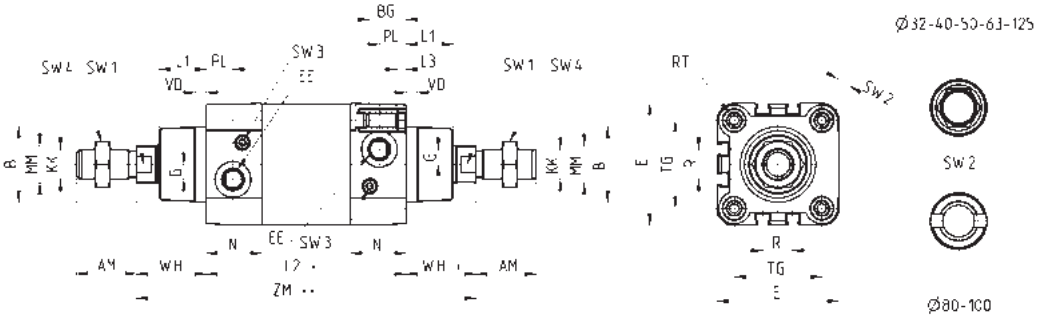
Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VA	VD	WH	ZJ+	front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	4	5	26	120	17 / 12
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	4	5	30	135	20 / 17
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	4	6	37	143	15 / 14
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	4	6	37	158	17 / 16
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	*	5	30	72	4	7	46	174	20 / 20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	*	5	30	89	4	7	51	189	21 / 19
125	54	60	23	135	G1/2	10,5	M27x2	42	160	0	32	43	23,5	50	M12	27	12	4	41	110	6	8	65	225	26 / 25

Cylinders Series 61 - through-rod

Note: the single-acting cylinders sizes ZM and L2 are increased by 25 mm.

+ = add the stroke once
++ = add the stroke twice

Table note:
* = special key 80-62/8C
(see accessories)

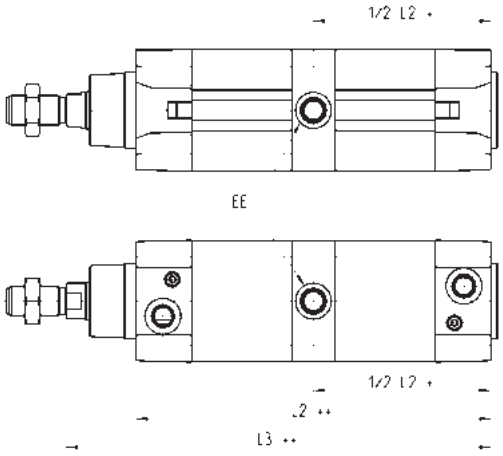


DIMENSIONS

Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VD	WH	ZM++	front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	5	26	146	17 / 12
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	5	30	165	20 / 17
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	6	37	180	15 / 14
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	6	37	195	17 / 16
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	*	5	30	72	7	46	220	20 / 20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	*	5	30	89	7	51	240	21 / 19
125	54	60	23	135	G1/2	10,5	M27x2	42	160	0	32	43	23,5	50	M12	27	12	4	41	110	8	65	290	26 / 25

Cylinders Series 61 - tandem version

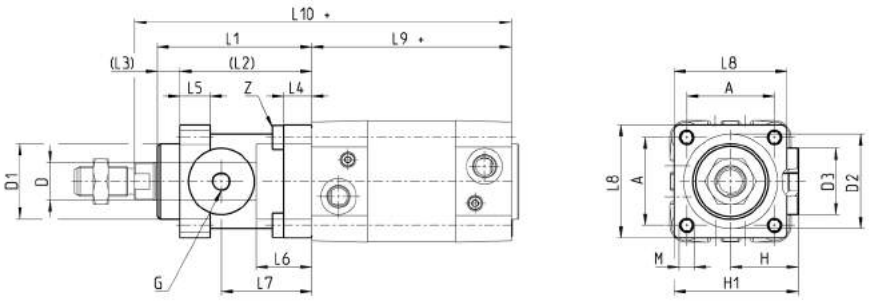
+ = add the stroke once
++ = add the stroke twice



DIMENSIONS			
Ø	EE	L2+	L3+
32	G1/8	172,5	197,5
40	G1/4	191,5	221,5
50	G1/4	188	225
63	G3/8	204	241
80	G3/8	225,5	271,5
100	G1/2	231	282
125	G1/2	264	329

Cylinders Series 61 with rod lock

+ = add the stroke



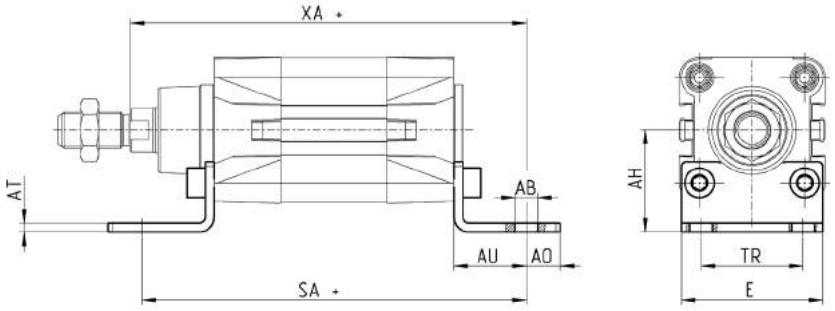
DIMENSIONS																				
Ø	øD	øD1	øD2	øD3	A	G	H	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9+	L10+	M	Z
32	12	30.5	35	25	32,5	M5	25,5	46,5	58	48	10	8	13	20,5	34	45	94	160	M6	M6x20
40	16	35	40	28	38	G1/8	30	53	65	55	10	8	13	22,5	38	50	105	178	M6	M6x20
50	20	40	50	35	46,5	G1/8	36	64	82	70	12	15	16	29,5	48	60	106	200	M8	M6x20
63	20	45	60	38	56,5	G1/8	40	75	82	70	12	15	16	29,5	49,5	70	121	215	M8	M8x30
80	25	45	80	48	72	G1/8	50	95	110	90	20	18	20	35	61	90	128	254	M10	M10x35
100	25	55	100	58	89	G1/8	58	110,5	115	100	15	18	20	39	69	105	138	269	M10	M10x35
125	32	60	130	65	110	G1/8	80	150	167	122	45	22	30	51	86,5	140	160	350	M12	M12x40

Foot mount Mod. B

Material: zinc-plated steel

Supplied with:
2x feet
4x screws

+ = add the stroke



DIMENSIONS

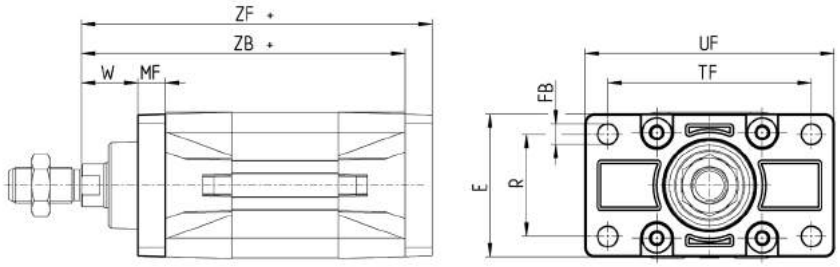
Mod.	Ø	AT	SA+	XA+	TR	E	AB	AH	AO	AU
B-41-32	32	4	142	144	32	45	7	32	11	24
B-41-40	40	4	161	163	36	53,5	10	36	15	28
B-41-50	50	4	170	175	45	62,5	10	45	15	32
B-41-63	63	5	185	190	50	73	10	50	15	32
B-41-80	80	6	210	216	63	92	12	63	20	41
B-41-100	100	6	220	230	75	108,5	14,5	71	25	41
B-41-125	125	7	250	270	90	132	16,5	90	25	45

Front and rear flange Mod. D-E

Material: Aluminium

Supplied with:
1x flange
4x screws

+ = add the stroke



DIMENSIONS

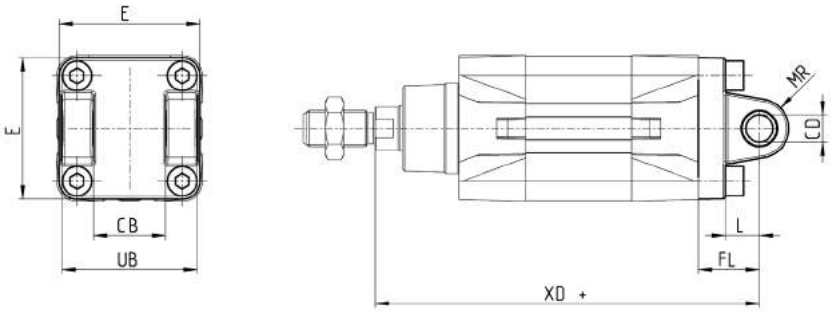
Mod.	Ø	W	MF	ZB+	TF	R	UF	E	FB	ZF+	torque force
D-E-41-32	32	16	10	120	64	32	86	45	7	130	6 Nm
D-E-41-40	40	20	10	135	72	36	88	52	9	145	6 Nm
D-E-41-50	50	25	12	143	90	45	110	63	9	155	13 Nm
D-E-41-63	63	25	12	158	100	50	116	73	9	170	13 Nm
D-E-41-80	80	30	16	174	126	63	148	95	12	190	19 Nm
D-E-41-100	100	35	16	189	150	75	176	115	14	205	22 Nm
D-E-41-125	125	45	20	225	180	90	224	135	16	245	26 Nm

Rear female trunnion Mod. C and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



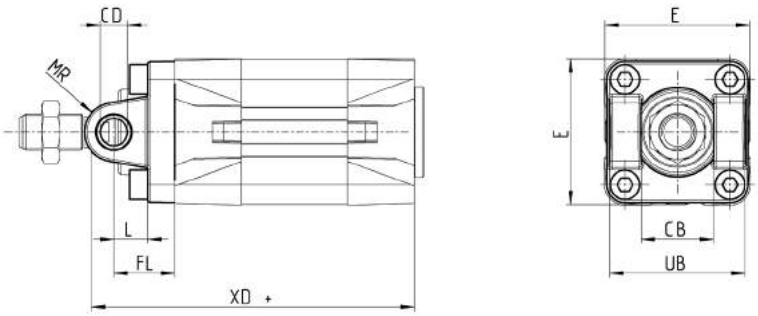
DIMENSIONS										
Mod.	Ø	CD	L	FL	XD+	MR	E	CB	UB	torque force
C-41-32	32	10	12	22	142	10	45	26	45	6 Nm
C-41-40	40	12	15	25	160	12	53.5	28	52	6 Nm
C-41-50	50	12	15	27	170	13	62.5	32	60	13 Nm
C-H-41-63	63	16	20	32	190	17	73	40	70	13 Nm
C-H-41-80	80	16	24	36	210	17	92	50	90	19 Nm
C-H-41-100	100	20	29	41	230	21	108.5	60	110	22 Nm
C-H-41-125	125	25	30	50	275	26	132	70	130	26 Nm

Front female trunnion Mod. H and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



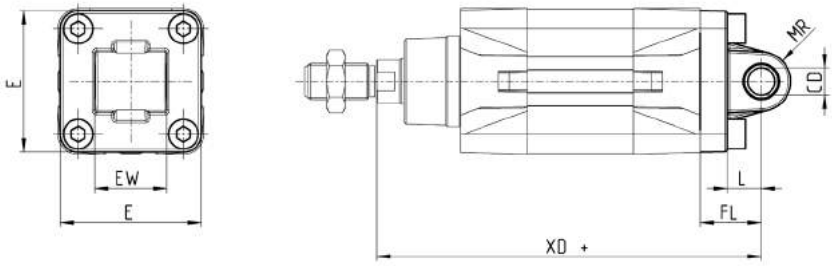
DIMENSIONS									
Mod.	Ø	CB	UB	E	XD	FL	L	CD	MR
H-41-32	32	26	45	45	120	22	12	10	10
H-41-40	40	28	52	53.5	135	25	15	12	12
H-41-50	50	32	60	62.5	143	27	15	12	13
H-60-63	63	40	70	73	158	32	20	16	17
C-H-41-80	80	50	90	92	174	36	24	16	17
C-H-41-100	100	60	110	108.5	189	41	29	20	21
C-H-41-125	125	70	130	132	225	50	30	25	26

Rear male trunnion Mod. L

Material: Aluminium

Supplied with:
1x male trunnion
4x screws

+ = add the stroke



DIMENSIONS

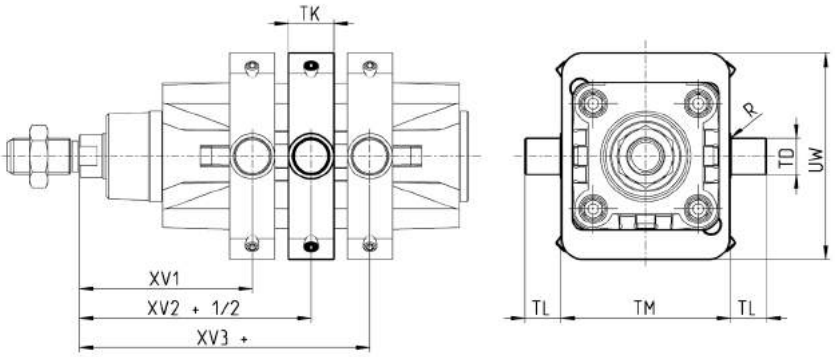
Mod.	Ø	CD	L	FL	XD+	MR	E	EW	torque force
L-41-32	32	10	12	22	142	10	45	26	6 Nm
L-41-40	40	12	15	25	160	13	53.5	28	6 Nm
L-41-50	50	12	15	27	170	13	62.5	32	13 Nm
L-41-63	63	16	20	32	190	17	73	40	13 Nm
L-41-80	80	16	24	36	210	17	92	50	19 Nm
L-41-100	100	20	29	41	230	21	108.5	60	22 Nm
L-41-125	125	25	30	50	275	26	132	70	26 Nm

Centre trunnion Mod. F

Material: zinc-plated steel

Supplied with:
1x centre trunnion
4x screws
4x fixing elements

+ = add the stroke



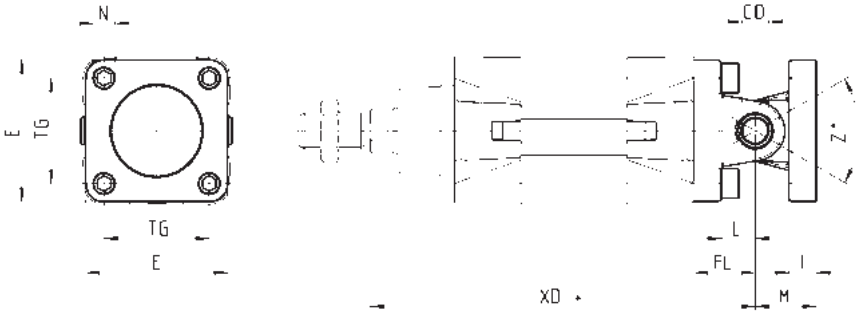
DIMENSIONS

Mod.	Ø	XV1	XV2	XV3	TM	TK	TD	TL	UW	R
F-61-32	32	61	73	85	50	18	12	12	65	0,1
F-61-40	40	69	82,5	96	63	20	16	16	75	0,15
F-61-50	50	76,5	90	103,5	75	20	16	16	91	0,15
F-61-63	63	86	97,5	109	90	25	20	20	94	0,15
F-61-80	80	94,5	110	125,5	110	25	20	20	130	0,15
F-61-100	100	104,5	120	135,5	132	30	25	25	145	0,2
F-61-125	125	123	145	167	160	30	25	25	155	0,2

Accessory combination Mod. C+L+S

Material: aluminium

+ = add the stroke



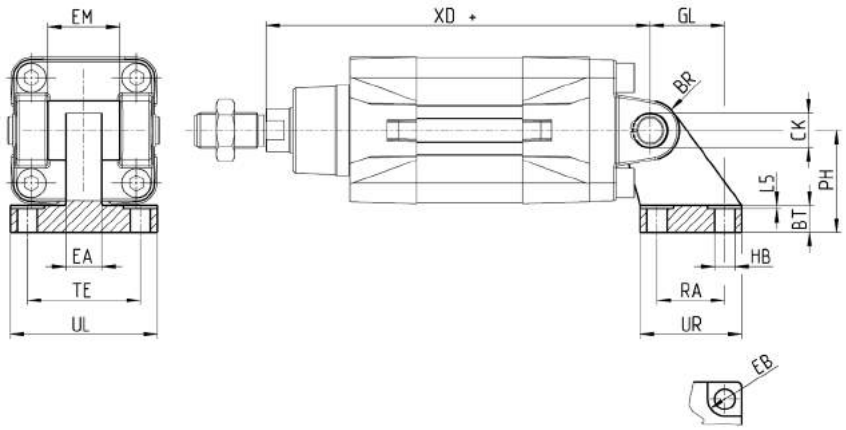
DIMENSIONS												
Mod.	Ø	E	TG	⌀N	XD+	⌀CD	L	FL	I	M	Z° (max)	torque force
C+L+S	32	45	32.5	6.5	142	10	12	22	10	22	30	6 Nm
C+L+S	40	53.5	38	6.5	160	12	15	25	10	25	40	6 Nm
C+L+S	50	62.5	46.5	9	170	12	15	27	12	27	25	13 Nm
C+L+S	63	73	56.5	9	190	16	20	32	12	32	36	13 Nm
C+L+S	80	92	72	11	210	16	24	36	12	36	34	19 Nm
C+L+S	100	108.5	89	11	230	20	29	41	12	41	38	22 Nm
C+L+S	125	132	110	13	275	25	30	50	25	50	30	26 Nm

90° male trunnion Mod. ZC

CETOP RP 107P
Material: Aluminium

Supplied with:
1x male support

+ = add the stroke



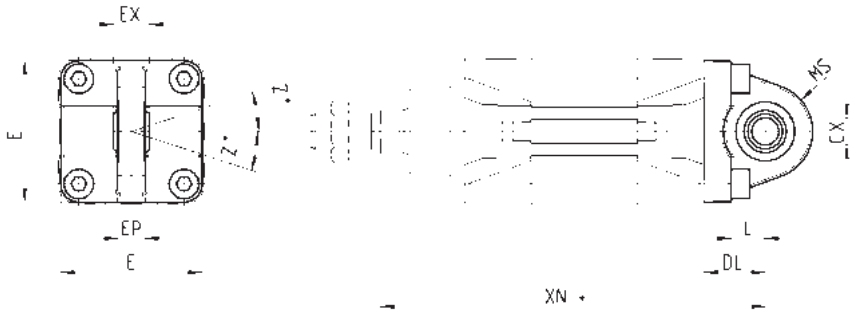
DIMENSIONS																
Mod.	Ø	EB	CK	HB	XD+	TE	UL	EA	GL	L5	RA	EM	UR	PH	BT	BR
ZC-32	32	11	10	6,6	142	38	51	10	21	1,6	18	26	31	32	8	10
ZC-40	40	11	12	6,6	160	41	54	15	24	1,6	22	28	35	36	10	11
ZC-50	50	15	12	9	170	50	65	16	33	1,6	30	32	45	45	12	13
ZC-63	63	15	16	9	190	52	67	16	37	1,6	35	40	50	50	14	15
ZC-80	80	18	16	11	210	66	86	20	47	2,5	40	50	60	63	14	15
ZC-100	100	18	20	11	230	76	96	20	55	2,5	50	60	70	71	17	19
ZC-125	125	20	25	14	275	94	124	30	70	3,2	60	70	90	90	20	22,5

Trunnion ball-joint Mod. R*

Material: Aluminium
* not according to standard

Supplied with:
1x trunnion ball joint
4x screws

+ = add the stroke



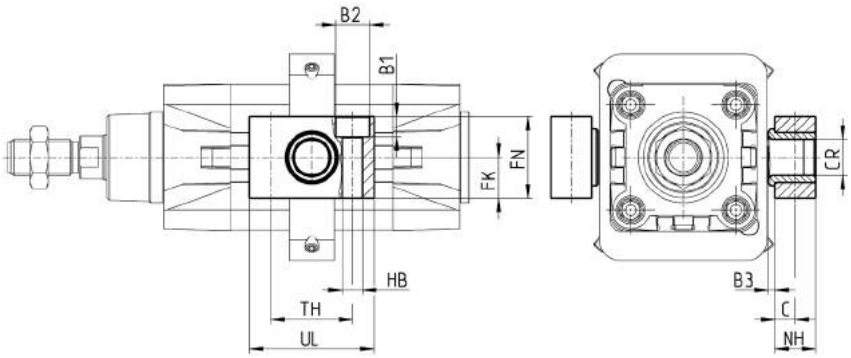
DIMENSIONS

Mod.	Ø	CX	L	DL	XN+	MS	E	EX	EP	Z	torque force
R-41-32	32	10	12	22	142	18	45	14	10.5	4	6 Nm
R-41-40	40	12	15	25	160	18	53.5	16	12	4	6 Nm
R-41-50	50	12	15	27	170	21	62.5	16	12	4	13 Nm
R-41-63	63	16	20	32	190	23	73	21	15	4	13 Nm
R-41-80	80	16	24	36	210	28	92	21	15	4	19 Nm
R-41-100	100	20	29	41	230	30	108.5	25	18	4	22 Nm
R-41-125	125	30	30	50	275	40	140	37	25	4	26 Nm

Counter bracket for centre trunnion Mod. BF

Material: Aluminium

Supplied with:
2x supports

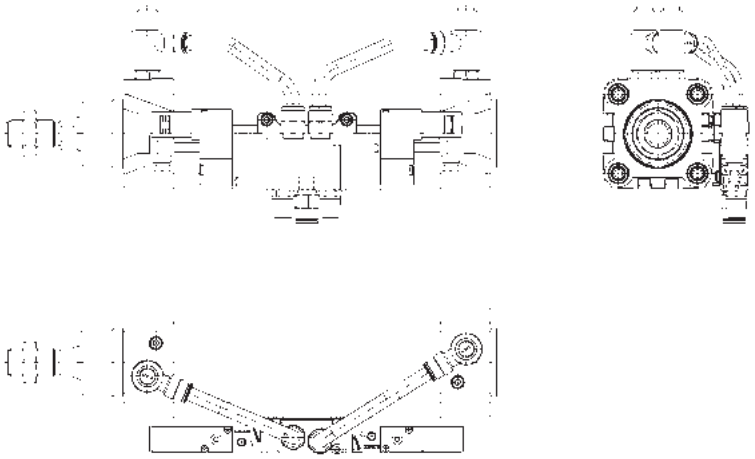


DIMENSIONS

Mod.	Ø	CR	NH	C	B3	TH	UL	FK	FN	B1	B2	HB
BF-32	32	12	15	7,5	3	32	46	15	30	6,8	11	6,6
BF-40-50	40 - 50	16	18	9	3	36	55	18	36	9	15	9
BF-63-80	63 - 80	20	20	10	3	42	65	20	40	11	18	11
BF-100-125	100 - 125	25	25	12,5	3,5	50	75	25	50	13	20	14

Accessory to mount valves on the cylinder

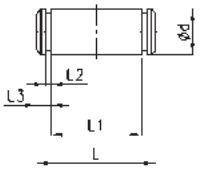
The mounting sub-base Mod. PCV enables the valve or solenoid valve to be mounted directly on the cylinder.



DIMENSIONS	
Mod.	
PCV-61-K3	to connect valves - solenoid valves Series 3
PCV-61-K4	to connect valves - solenoid valves Series 4 port G1/4
PCV-62-KEN	to connect valves - solenoid valves Series EN
PCV-61-K8	to connect valves - solenoid valves Series 4 port G1/8 and Series 3 port G1/4

Clevis pin Mod. S

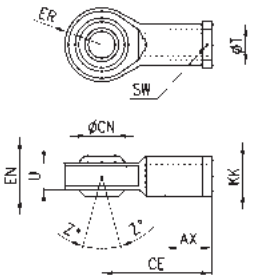
Supplied with:
1x clevis pin in
stainless steel 303
2x Seeger in steel



DIMENSIONS						
Mod.	Ø	d	L	L1	L2	L3
S-32	32	10	52	46	1,1	3
S-40	40	12	59	53	1,1	3
S-50	50	12	67	61	1,1	3
S-63	63	16	77	71	1,1	3
S-80	80	16	97	91	1,1	3
S-100	100	20	121	111	1,3	5
S-125	125	25	140,5	132	1,3	4,25

Swivel ball joint Mod. GA

ISO 8139.
Material: zinc-plated steel.

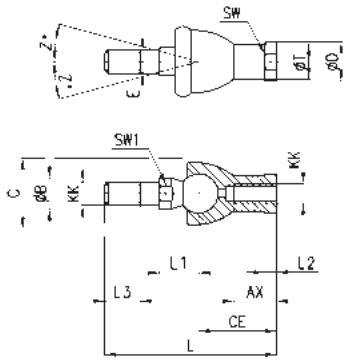


DIMENSIONS

Mod.	⌀CN	U	EN	ER	AX	CE	KK	T	Z	SW
GA-32	10	10,5	14	14	20	43	M10X1,25	15	6,5	17
GA-40	12	12	16	16	22	50	M12X1,25	17,5	6,5	19
GA-50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	30	25	37	37	51	110	M27x2	40	7,5	41

Piston rod socket joint Mod. GY

Material: zama and zinc-plated steel.

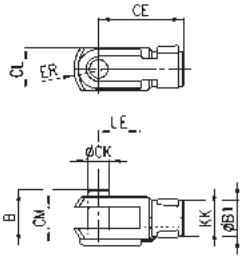


DIMENSIONS

Mod.	Ø	KK	L	CE	L2	AX	SW	SW1	L1	L3	⌀T	⌀D	E	⌀B	⌀C	Z
GY-32	32	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	40	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63	10	38	30	24	31,5	25	27,5	34	20	27	45	7,5

Rod fork end Mod. G

ISO 8140
Material: zinc-plated steel

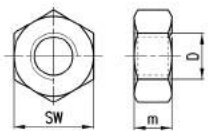


DIMENSIONS

Mod.	⌀CK	LE	CM	CL	ER	CE	KK	B	B1
G-25-32	10	20	10	20	12	40	M10 X 1,25	26	18
G-40	12	24	12	24	14	48	M12 X 1,25	32	20
G-50-63	16	32	16	32	19	64	M16 X 1,5	40	26
G-80-100	20	40	20	40	25	80	M20 X 1,5	48	34
G-41-125	30	54	30	55	38	110	M27 X 2	74	48

Piston rod lock nut Mod. U

ISO 4035
Material: zinc-plated steel.

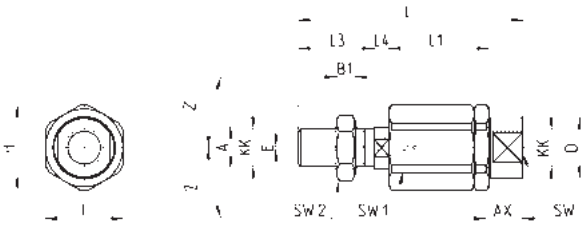


DIMENSIONS

Mod.	D	m	SW
U-25-32	M10X1,25	6	17
U-40	M12X1,25	7	19
U-50-63	M16X1,5	8	24
U-80-100	M20x1,5	9	30
U-41-125	M27x2	12	41

Self aligning rod Mod. GK

Material: zinc-plated steel.

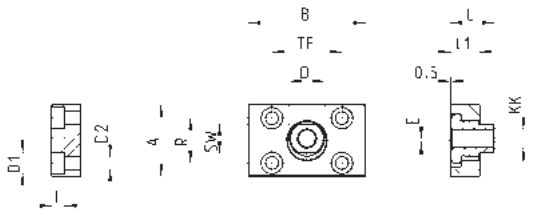


DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	øA	øD	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-25-32	25-32	M10x1,25	71,5	35	20	7,5	14	22	32	30	19	12	17	5	22	4	2
GK-40	40	M12x1,25	75,5	35	24	7,5	14	22	32	30	19	12	19	6	22	4	2
GK-50-63	50-63	M16x1,5	104	53	32	10	22	32	45	41	27	20	24	8	30	3	2
GK-80-100	80-100	M20x1,5	119	53	40	10	22	32	45	41	27	20	30	10	37	3	2
GK-125	125	M27x2	147	60	54	10	32	57	70	65	54	24	41	12	48	4	2

Coupling piece Mod. GKF

Material: zinc-plated steel.

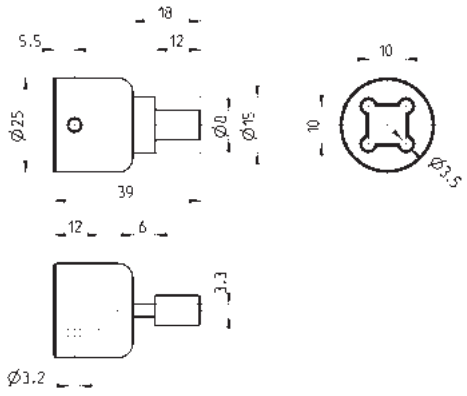


DIMENSIONS

Mod.	Ø	KK	A	B	R	TF	L	L1	I	Ø D	Ø D1	Ø D2	SW	E
GKF-25-32	32	M10x1,25	37	60	23	36	22,5	15	6,8	18	11	6,6	15	2
GKF-40	40	M12x1,25	56	60	38	42	22,5	15	9	20	15	9	15	2,5
GKF-50-63	50-63	M16x1,5	80	80	58	58	26,5	15	10,5	25	18	11	22	2,5
GKF-80-100	80-100	M20x1,5	90	90	65	65	32,5	20	13	30,5	20	14	27	2,5
GKF-125	125	M27x2	90	90	65	65	35,5	20	13	40	20	14	36	4

Special key to disassemble cylinders Ø 80 and 100

Material: hardened steel



Mod.
80-62/8C

Series 62 cylinders - Aluminium profile

Double-acting, magnetic, cushioned
ø 32, 40, 50, 63, 80, 100 mm

- In compliance with ISO 15552 standards and with the previous DIN/ISO 6431/ VDMA 24562 standards
- Rolled stainless steel rod
- Clean and light design
- Adjustable pneumatic cushioning

Cylinders Series 62 have been designed to comply with the dimensions laid down in the ISO 15552 standards. A permanent magnet is integrated in the piston which enables the detection of the piston position by means of proximity switches (Series CSH) mounted in grooves along one side of the cylinder profile. These grooves can be covered with a slot cover profile Mod. S-CST-500.

These cylinders are equipped with adjustable end-stroke cushioning. They are also equipped with a mechanical cushioning in order to reduce the impact of the piston as it reaches the end of the stroke.

GENERAL DATA

Construction	with tie-rods (inside the profile)
Operation	double-acting
Materials	AL end-blocks, technopolymer piston, rolled stainless steel AISI 420B piston rod, zinc-plated steel piston rod nut, anodized AL-profile tube, zinc-plated steel tie-rods and nuts, NBR piston rod and piston seals, PU cushion seals (Ø 80-100: PU piston seal)
Mounting	with tie-rods, front flange, rear flange, feet front and rear trunnion, swivel combination
Stroke min - max	10 ÷ 2500 mm
Operating temperature	0°C ÷ 80°C (with dry air -10°C)
Special designs	see coding example
Operating pressure	1 ÷ 10 bar
Speed	10 ÷ 1000 mm/sec (NO LOAD)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.
Proximity switch to use	CSH

STANDARD STROKES FOR CYLINDERS SERIES 62

Special strokes until 2500 mm available on request
✖ = Double-acting

STANDARD STROKES														
Ø	25	50	75	80	100	125	150	160	200	250	300	320	400	500
32	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
40	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
50	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
63	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
80	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
100		✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖

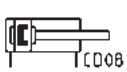
CODING EXAMPLE

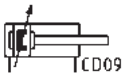
62	M	2	P	050	A	0200	

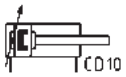
62	SERIES	
M	VERSION M = standard, magnetic	
2	OPERATION 2 = double-acting, front + rear cushion 3 = double-acting, no cushion 4 = double-acting, rear cushion 5 = double-acting, front cushion 6 = double-acting, through-rod, front + rear cushion	PNEUMATIC SYMBOLS CD09 CD08 CD10 CD11 CD13
P	MATERIALS P = see general data on page 1/1.26.01 R = stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts C = rolled stainless steel AISI 303 piston rod , stainless steel AISI 304 piston rod nut U = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut, stainless steel AISI 420B tie-rod, stainless steel AISI 303 tie-rod nuts W = rolled stainless steel AISI 304 piston rod, stainless steel AISI304 piston rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts	
050	BORE 032 = 32 mm - 040 = 40 mm - 050 = 50 mm - 063 = 63 mm - 080 = 80 mm - 100 = 100 mm	
A	CONSTRUCTION A = standard lock nut for rod RL = cylinder with rod lock	
0200	STROKE: 10 ÷ 2500 mm	
	= standard V = FKM piston rod seal P = PU piston rod seal (_ _ _) = extended piston rod _ _ _ mm	

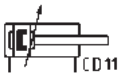
PNEUMATIC SYMBOLS

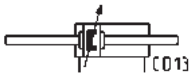
The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.











ACCESSORIES FOR CYLINDERS SERIES 62

Piston rod socket joint Mod. GY

Piston rod lock nut Mod. U

Clevis pin Mod. S

Rear trunnion ball-joint Mod. R

Coupling piece Mod. GKF

Swivel ball joint Mod. GA

90° male trunnion Mod. ZC

Swivel Combination Mod. C+L+S

Front and rear flange Mod. D-E

Self aligning rod Mod. GK

Rear trunnion male Mod. L

Foot mount Mod. B

Front female trunnion Mod. H and C-H

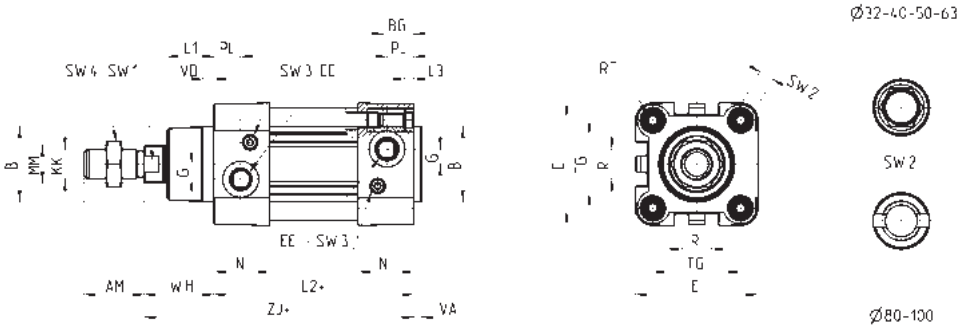
Rear female trunnion Mod. C and C-H

Rod fork end Mod. G

Key to disassemble cylinders Ø 80 and 100

All accessories are supplied separately, except for piston rod lock nut Mod. U

Cylinders Series 62



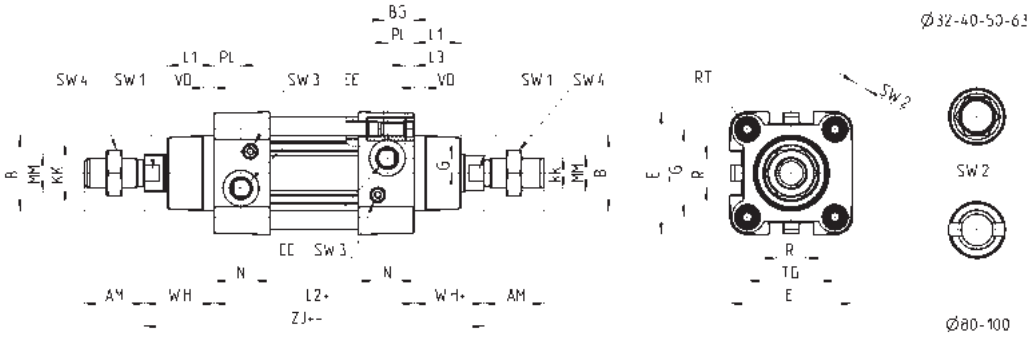
+ = add the stroke

Table note:
* = special key 80-62/8C
(see accessories)

DIMENSIONS

Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VA	VD	WH	ZJ+	front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	4	5	26	120	17
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	4	5	30	135	20
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	4	6	37	143	15
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	4	6	37	158	17
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	*	5	30	72	4	7	46	174	20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	*	5	30	89	4	7	51	189	21

Cylinders Series 62 - through-rod



+ = add the stroke once
++ = add the stroke twice

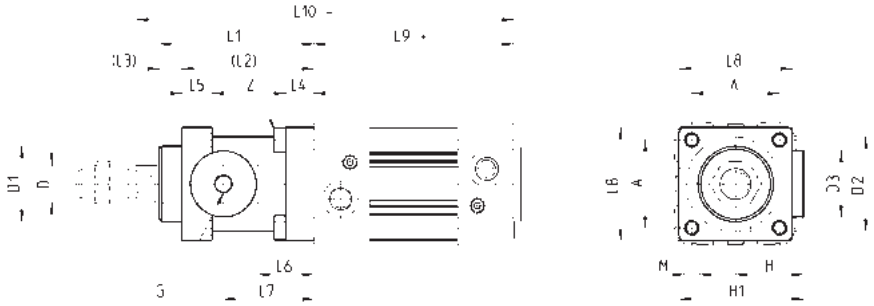
Table note:
* = special key 80-62/8C
(see accessories)

DIMENSIONS

Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VD	WH	ZM+	front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	5	26	146	17
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	5	30	165	20
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	6	37	180	15
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	6	37	195	17
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	*	5	30	72	7	46	220	20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	*	5	30	89	7	51	240	21

Cylinders Series 62 with rod lock

+ = add the stroke



DIMENSIONS

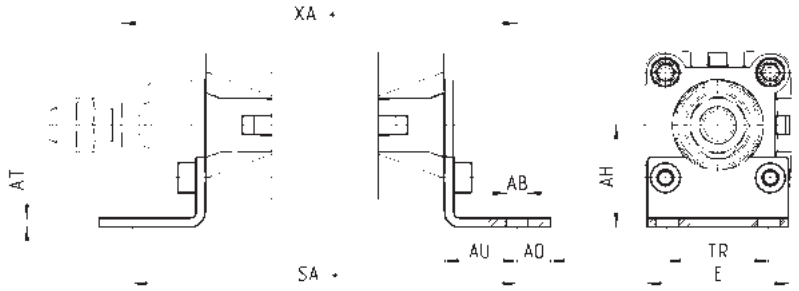
Ø	øD	øD1	øD2	øD3	A	G	H	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9+	L10+	M	Z
32	12	30,5	35	25	32,5	M5	25,5	46,5	58	48	10	8	13	20,5	34	45	94	160	M6	M6x20
40	16	35	40	28	38	G1/8	30	53	65	55	10	8	13	22,5	38	50	105	178	M6	M6x20
50	20	40	50	35	46,5	G1/8	36	64	82	70	12	15	16	29,5	48	60	106	200	M8	M6x20
63	20	45	60	38	56,5	G1/8	40	75	82	70	12	15	16	29,5	49,5	70	121	215	M8	M8x30
80	25	45	80	48	72	G1/8	50	95	110	90	20	18	20	35	61	90	128	254	M10	M10x35
100	25	55	100	58	89	G1/8	58	110,5	115	100	15	18	20	39	69	105	138	269	M10	M10x35

Foot mount Mod. B

Material: zinc-plated steel

Supplied with:
2x feet
4x screws

+ = add the stroke



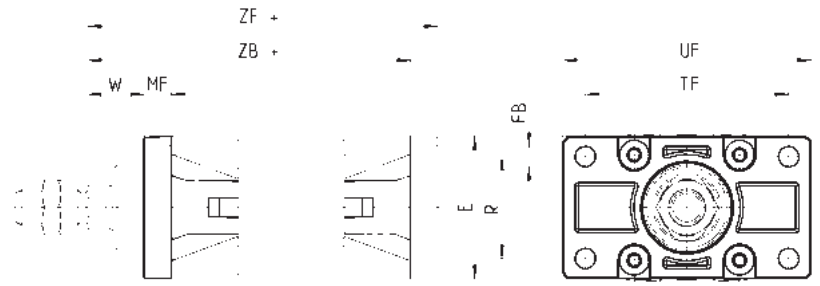
Mod.	Ø	AT	SA+	XA+	TR	E	AB	AH	AO	AU
B-41-32	32	4	142	144	32	45	7	32	11	24
B-41-40	40	4	161	163	36	53,5	10	36	15	28
B-41-50	50	4	170	175	45	62,5	10	45	15	32
B-41-63	63	5	185	190	50	73	10	50	15	32
B-41-80	80	6	210	216	63	92	12	63	20	41
B-41-100	100	6	220	230	75	108,5	14,5	71	25	41

Front and rear flange Mod. D-E

Material: aluminium

Supplied with:
1x flange
4x screws

+ = add the stroke



Mod.	Ø	W	MF	ZB+	TF	R	UF	E	FB	ZF+	torque force
D-E-41-32	32	16	10	120	64	32	86	45	7	130	6 Nm
D-E-41-40	40	20	10	135	72	36	88	52	9	145	6 Nm
D-E-41-50	50	25	12	143	90	45	110	63	9	155	13 Nm
D-E-41-63	63	25	12	158	100	50	116	73	9	170	13 Nm
D-E-41-80	80	30	16	174	126	63	148	95	12	190	19 Nm
D-E-41-100	100	35	16	189	150	75	176	115	14	205	22 Nm

Rear female trunnion Mod. C and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke

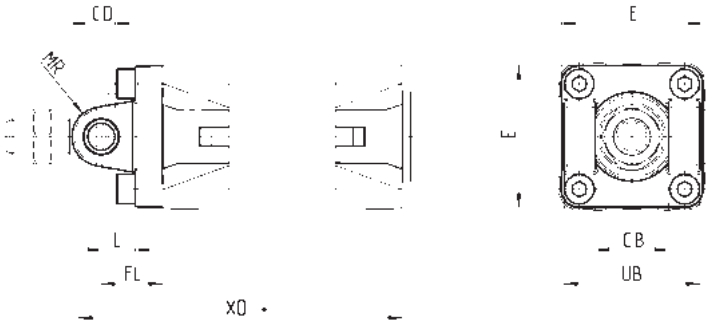
Mod.	Ø	CD	L	FL	XD+	MR	E	CB	UB	torque force
C-41-32	32	10	12	22	142	10	45	26	45	6 Nm
C-41-40	40	12	15	25	160	12	53.5	28	52	6 Nm
C-41-50	50	12	15	27	170	13	62.5	32	60	13 Nm
C-H-41-63	63	16	20	32	190	17	73	40	70	13 Nm
C-H-41-80	80	16	24	36	210	17	92	50	90	19 Nm
C-H-41-100	100	20	29	41	230	21	108.5	60	110	22 Nm

Front female trunnion Mod. H and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



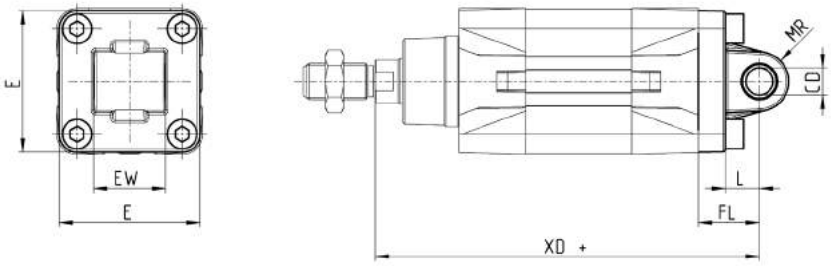
Mod.	Ø	CB	UB	E	XD	FL	L	CD	MR
H-41-32	32	26	45	45	120	22	12	10	10
H-41-40	40	28	52	53.5	135	25	15	12	12
H-41-50	50	32	60	62.5	143	27	15	12	13
H-60-63	63	40	70	73	158	32	20	16	17
C-H-41-80	80	50	90	92	174	36	24	16	17
C-H-41-100	100	60	110	108.5	189	41	29	20	21

Rear trunnion, male Mod. L

Material: aluminium

Supplied with:
1x male trunnion
4x screws

+ = add the stroke

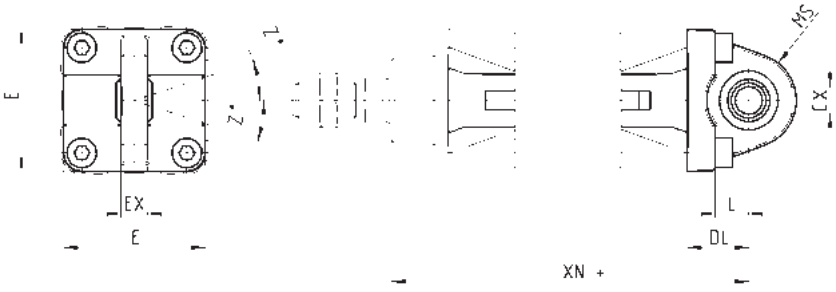


DIMENSIONS									
Mod.	Ø	CD	L	FL	XD+	MR	E	EW	torque force
L-41-32	32	10	12	22	142	10	45	26	6 Nm
L-41-40	40	12	15	25	160	13	53.5	28	6 Nm
L-41-50	50	12	15	27	170	13	62.5	32	13 Nm
L-41-63	63	16	20	32	190	17	73	40	13 Nm
L-41-80	80	16	24	36	210	17	92	50	19 Nm
L-41-100	100	20	29	41	230	21	108.5	60	22 Nm

Trunnion ball-joint Mod. R*

Material: Aluminium
* not according to standard

Supplied with:
1x trunnion ball-joint
4x screws

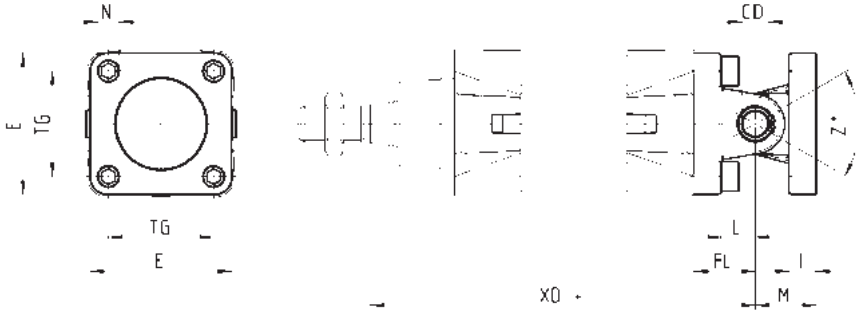


DIMENSIONS										
Mod.	Ø	CX	L	DL	XN+	MS	E	EX	Z°	torque force
R-41-32	32	10	12	22	142	18	45	10.5	4	6 Nm
R-41-40	40	12	15	25	160	18	53.5	12	4	6 Nm
R-41-50	50	12	15	27	170	21	62.5	12	4	13 Nm
R-41-63	63	16	20	32	190	23	73	15	4	13 Nm
R-41-80	80	16	24	36	210	28	92	15	4	19 Nm
R-41-100	100	20	29	41	230	30	108.5	18	4	22 Nm

Accessory combination Mod. C+L+S

Material: Aluminium

+ = add the stroke



DIMENSIONS

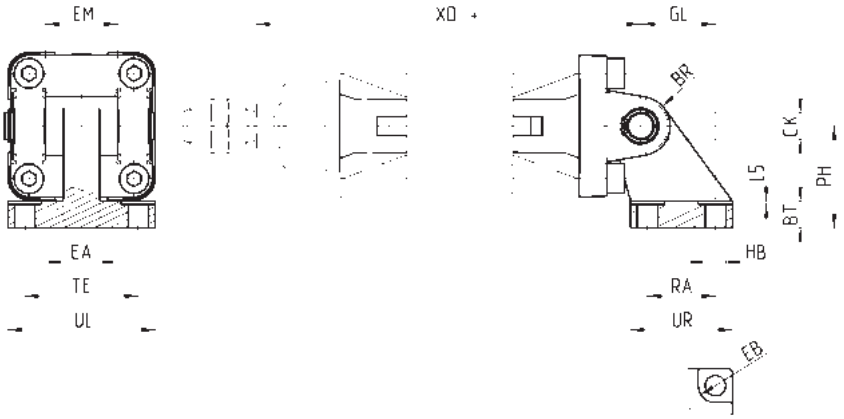
Mod.	Ø	E	TG	⌀N	XD+	FL	⌀CD	L	M	I	Z° (max)	torque force
C+L+S	32	45	32.5	6.5	142	22	10	12	22	10	30	6 Nm
C+L+S	40	53.5	38	6.5	160	25	12	15	25	10	40	6 Nm
C+L+S	50	62.5	46.5	9	170	27	12	15	27	12	25	13 Nm
C+L+S	63	73	56.5	9	190	32	16	20	32	12	36	13 Nm
C+L+S	80	92	72	11	210	36	16	24	36	12	34	19 Nm
C+L+S	100	108.5	89	11	230	41	20	29	41	12	38	22 Nm

90° male trunnion Mod. ZC

CETOP RP 107P
Material: Aluminium

Supplied with:
1x male support

+ = add the stroke



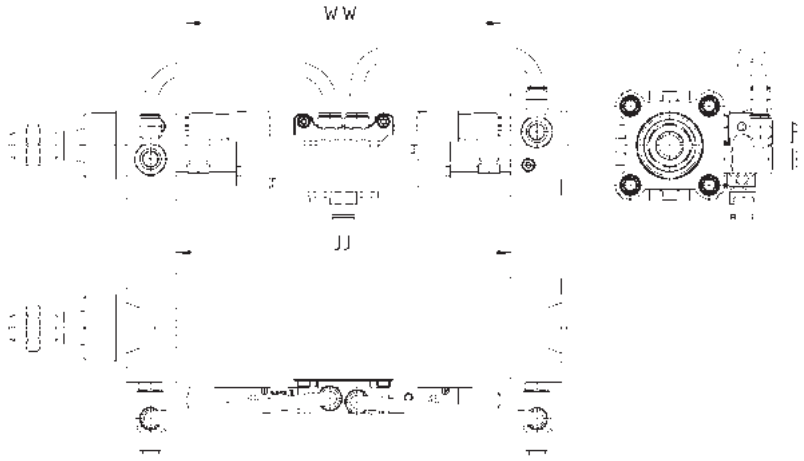
DIMENSIONS

Mod.	Ø	EB	CK	HB	XD+	TE	UL	EA	GL	L5	RA	EM	UR	PH	BT	BR
ZC-32	32	11	10	6,6	142	38	51	10	21	1,6	18	26	31	32	8	10
ZC-40	40	11	12	6,6	160	41	54	15	24	1,6	22	28	35	36	10	11
ZC-50	50	15	12	9	170	50	65	16	33	1,6	30	32	45	45	12	13
ZC-63	63	15	16	9	190	52	67	16	37	1,6	35	40	50	50	14	15
ZC-80	80	18	16	11	210	66	86	20	47	2,5	40	50	60	63	14	15
ZC-100	100	18	20	11	230	76	96	20	55	3,2	50	60	70	71	17	19

Accessory to mount valves on the cylinder

The mounting sub-base Mod. PCV enables the valve or solenoid valve to be mounted directly on the cylinder, thus forming a compact unit to apply.

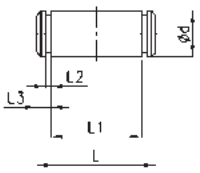
Make sure that the WW dimension of the valve to be mounted is smaller than the JJ cylinder dimension. Further information on http://catalogue.camozzi.com/downloads.



Mod.	
PCV-62-K3	to connect valves - solenoid valves Series 3
PCV-62-K4	to connect valves - solenoid valves Series 4 port G1/4
PCV-62-KEN	to connect valves - solenoid valves Series EN
PCV-62-K8	to connect valves - solenoid valves Series 4 port G1/8 and Series 3 port G1/4

Clevis pin Mod. S

Supplied with:
1x clevis pin in stainless steel 303
2x Seeger in steel

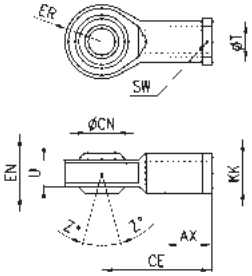


DIMENSIONS

Mod.	Ø	d	L	L1	L2	L3
S-32	32	10	52	46	1,1	3
S-40	40	12	59	53	1,1	3
S-50	50	12	67	61	1,1	3
S-63	63	16	77	71	1,1	3
S-80	80	16	97	91	1,1	3
S-100	100	20	121	111	1,3	5

Swivel ball joint Mod. GA

Material: zinc-plated steel
ISO 8139

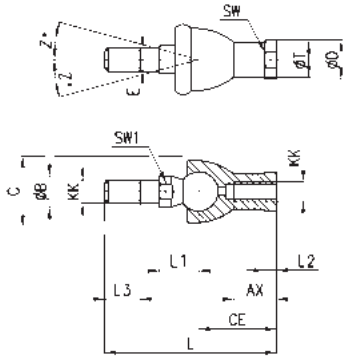


DIMENSIONS

Mod.	øCN	U	EN	ER	AX	CE	KK	T	Z	SW
GA-32	10	10,5	14	14	20	43	M10X1,25	15	6,5	17
GA-40	12	12	16	16	22	50	M12X1,25	17,5	6,5	19
GA-50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30

Piston rod socket joint Mod. GY

Material: zama and zinc-plated steel

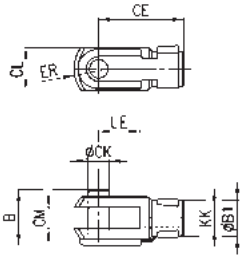


DIMENSIONS

Mod.	Ø	KK	L	CE	L2	AX	SW	SW1	L1	L3	øT	øD	E	øB	øC	Z
GY-32	32	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	40	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63	10	38	30	24	31,5	25	27,5	34	20	27	45	7,5

Rod fork end Mod. G

Material: zinc-plated steel
ISO 8140

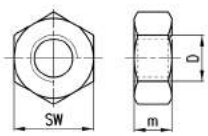


DIMENSIONS

Mod.	øCK	LE	CM	CL	ER	CE	KK	B	B1
G-25-32	10	20	10	20	12	40	M10 X 1,25	26	18
G-40	12	24	12	24	14	48	M12 X 1,25	32	20
G-50-63	16	32	16	32	19	64	M16 X 1,5	40	26
G-80-100	20	40	20	40	25	80	M20 X 1,5	48	34

Piston rod lock nut Mod. U

Material: zinc-plated steel
ISO 4035

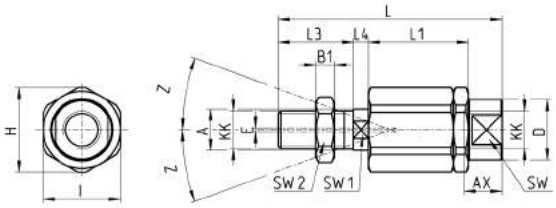


DIMENSIONS

Mod.	D	m	SW
U-25-32	M10X1,25	6	17
U-40	M12X1,25	7	19
U-50-63	M16X1,5	8	24
U-80-100	M20x1,5	9	30

Self aligning rod Mod. GK

Material: zinc-plated steel

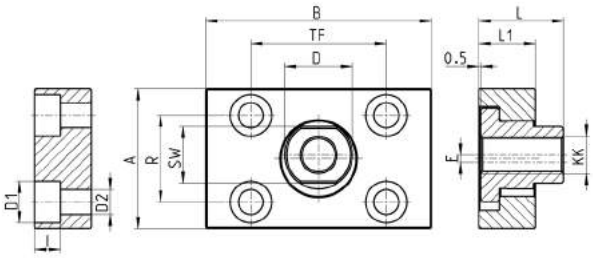


DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	⌀A	⌀D	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-25-32	25-32	M10x1,25	71,5	35	20	7,5	14	22	32	30	19	12	17	5	22	4	2
GK-40	40	M12x1,25	75,5	35	24	7,5	14	22	32	30	19	12	19	6	22	4	2
GK-50-63	50-63	M16x1,5	104	53	32	10	22	32	45	41	27	20	24	8	30	3	2
GK-80-100	80-100	M20x1,5	119	53	40	10	22	32	45	41	27	20	30	10	37	3	2

Coupling piece Mod. GKF

Material: zinc-plated steel

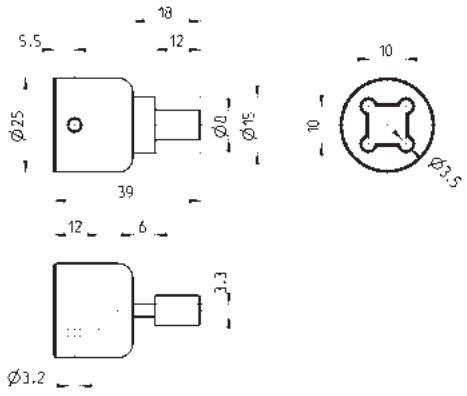


DIMENSIONS

Mod.	Ø	KK	A	B	R	TF	L	L1	I	Ø D	Ø D1	Ø D2	SW	E
GKF-25-32	32	M10x1,25	37	60	23	36	22,5	15	6,8	18	11	6,6	15	2
GKF-40	40	M12x1,25	56	60	38	42	22,5	15	9	20	15	9	15	2,5
GKF-50-63	50-63	M16x1,5	80	80	58	58	26,5	15	10,5	25	18	11	22	2,5
GKF-80-100	80-100	M20x1,5	90	90	65	65	32,5	20	13	30,5	20	14	27	2,5

Special key to disassemble cylinders Ø 80 and 100

Material: hardened steel



Mod.
80-62/8C

Series 6PF
Positioning Feedback cylinders

New

Double-acting low friction, magnetic
ø 50, 63, 80, 100, 125 mm

- In compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards
- Chrome plated steel rod
- Protection class IP67
- Minimal sliding speed of 5 mm/sec
- Minimal sliding pressure < 0,1 bar
- G variant for dusty applications (cement, resin, mud, residues from wood, etc...)

Series 6PF pneumatic actuators are equipped with a potentiometric linear position transducer integrated inside the rod. This type of cylinder allows, along the entire stroke, a constant control of the rod position which is read processing the change of the transducer internal resistance.
The pistons have been equipped with a permanent magnet which enables the use of external end-stroke sensors.
The dynamic seals are specific for low friction.

Thanks to the electrical connection, realized by means of an M12 male electric round connector positioned on the rear head, these cylinders fulfil the standards of IP67 protection class.
Series 6PF cylinders comply with the ISO 15552 standards and can be assembled with the entire range of standard accessories. They are available with bores from 50mm to 125mm with standard strokes from 50mm to 500mm with intervals of 50mm.
The sturdy design, the flexible installation and the high performance make Series 6PF suitable for use in applications with tensioning cylinders, positioning cylinders and filling, cutting and measuring systems.

GENERAL AND TECHNICAL DATA

PNEUMATIC SECTION	
Construction	inner tie-rods
Operation	double-acting low friction, not cushioned
Materials	see the table on the following page
Mountings	front and rear flange foot mounts front / rear / swivel / intermediate trunnion
Bores	50, 63, 80, 100, 125 mm
Strokes (min - max)	50 ÷ 500 mm (step 50 mm)
Operating Temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	0.1 ÷ 10 bar
Speed (min - max)	5 ÷ 1000 mm/sec (no load)
Max acceleration	10 m/sec²
Media	filtered air class 5.4.4 according to ISO 8573-1. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.
Linearity	0.1% of the stroke
Repeatability	0.03% of the stroke
Resolution	Infinite
Hysteresis	< di 0.5 mm
Vibration test according EN 60068-2-6	severity level 3
Shock test according EN 60068-2-27	severity level 2
ELECTRICAL SECTION	
Electrical connection	male connector M12 4 poles IP 67 (EN 60529)
Max input voltage	40 V (stroke 50 mm) 60 V (strokes from 100 to 500 mm)
Max recommended cursor current	< di 0,1 µA
Electrical resistance	5 kohm for strokes from 50 to 300 mm 10 kohm for strokes from 350 to 500 m
Tolerance on resistance	+/- 20%
Max dissipation (40°C)	1 W for stroke 50 mm 2 W for stroke 100 mm 3 W for strokes from 150 to 500 mm
Suitable end-stroke sensors	CST-332 (3 wires) CST-362 (M8)
Suitable M12 connectors	CS-LF04HB (straight female connector 4 poles) CS-LR04HB (right angle female connector 4 poles)

STANDARD STROKES FOR SERIES 6PF CYLINDERS

✖ = Double-acting, low friction

STANDARD STROKES										
Ø	50	100	150	200	250	300	350	400	450	500
50	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
63	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
80	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
100	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
125	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖

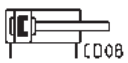
CODING EXAMPLE

6PF	3	P	050	A	0200	

6PF	SERIES	
3	OPERATION 3 = double-acting low friction, no cushion	PNEUMATIC SYMBOLS CD08
P	MATERIALS P = see the table on the following page	
050	BORE 050 = 50 mm 063 = 63 mm 080 = 80 mm 100 = 100 mm 125 = 125 mm	
A	CONSTRUCTION A = standard with rod nut RL = cylinder with rod lock	
0200	STROKE (see the table)	
	VERSIONS = standard P = PU rod seal V = FKM rod seal L = without rod seal (rear supply only) * G = with brass rod scraper (_ _ _) = extended piston rod _ _ _ mm * The possibility to order the cylinder without piston rod seal further reduces the friction force.	

PNEUMATIC SYMBOLS

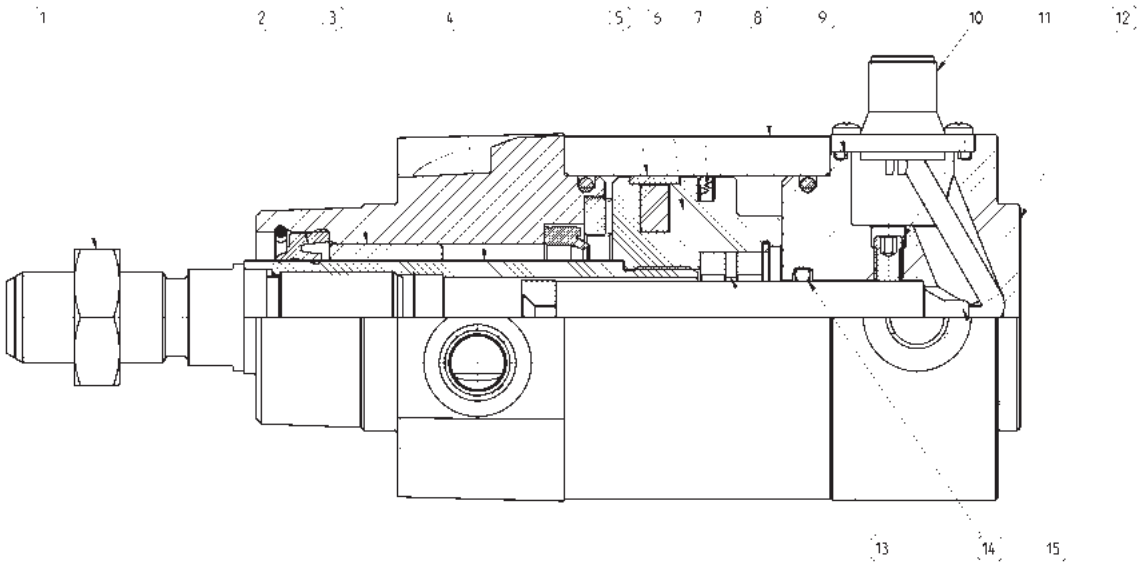
The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.

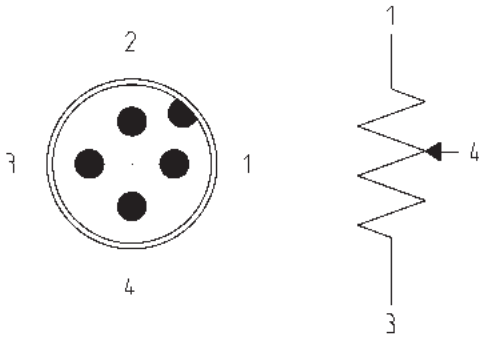


GENERAL INFORMATION

To function properly, the potentiometer must be used as a voltage divider and not as a variable resistor.
The measurement must be carried out detecting the voltage and not the resistance.
The electrical connection must be done at an high impedance inlet.
Information about pinout can be found in the instruction sheet or on the product itself.

NOTE TO THE CONNECTOR DRAWING:
1, 3 = inlet voltage
4 = outlet signal
2 = not used





LIST OF COMPONENTS	
PARTS	MATERIALS
1. Rod nut	Steel
2. Rod seal	NBR
3. Rod guide bush	Sintered bronze
4. Rod	Chrome plated steel
5. Piston guide element	Acetal resin
6. Piston	Aluminium
7. Piston seal	NBR
8. Extrusion profile	Anodized aluminium
9. OR seal	NBR
10. M12 connector	Nickel plated brass
11. Grain	Steel
12. Rear endcap	Aluminium
13. Magnetic actuator	Neodymium
14. OR seal	NBR
15. Positioning sensor	-

CYLINDERS ACCESSORIES SERIES 6PF

Piston rod socket joint Mod. GY

Piston rod lock nut Mod. U

Clevis pin Mod. S

Rear trunnion ball-joint Mod. R

Coupling piece Mod. GKF

Swivel ball joint Mod. GA

90° male trunnion Mod. ZC

Swivel Combination Mod. C+L+S

Front and rear flange Mod. D-E

Self aligning rod Mod. GK

Centre trunnion Mod. F

Foot mount Mod. B

Front female trunnion Mod. H and C-H

Rear female trunnion Mod. C and C-H

Rod fork end Mod. G

Rear trunnion male Mod. L

Key to disassemble cylinders Ø 80 and 100

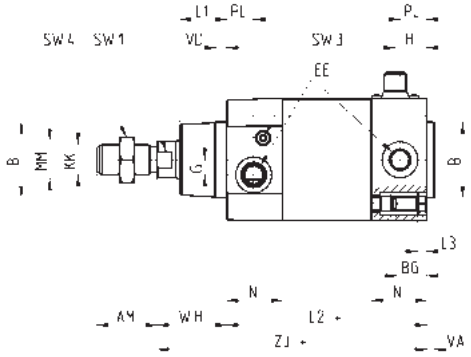
Counter bracket for centre trunnion Mod. BF

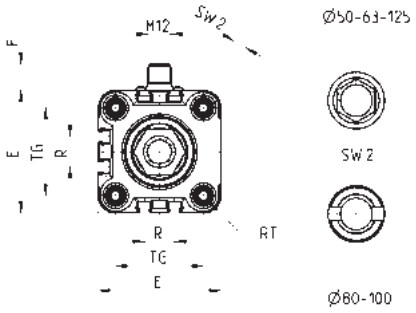
All accessories are supplied separately, except for piston rod lock nut Mod. U

Series 6PF cylinders

+ = add the stroke

Table note:
* = special key 80-62/8C
(see accessories)



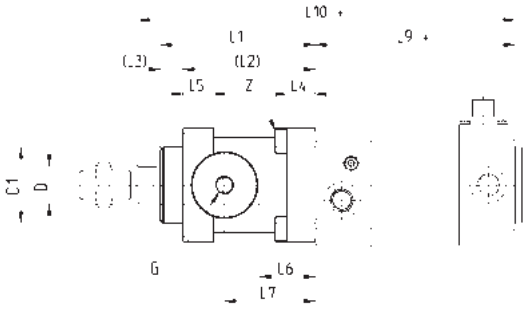


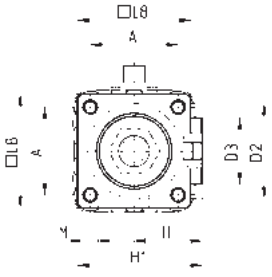
DIMENSIONS

Ø	AM	B	BG	E	EE	F	G	H	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VA	VD	WH	ZJ+
50	32	40	16	64.5	G1/4	14	8	17	M16x1.5	25	106	5	20	29.5	15	16	M8	17	8	3	24	46.5	4	6	37	143
63	32	45	16	75	G3/8	14	8	24	M16x1.5	26	121	5	20	36.5	21	28	M8	17	8	3	24	56.5	4	6	37	158
80	40	45	19	93	G3/8	14	8	24	M20x1.5	30	128	0	25	36	21	30	M10	22	*	5	30	72	4	7	46	174
100	40	55	19.5	110	G1/2	14	8	26	M20x1.5	35	138	0	25	38.5	23	40	M10	22	*	5	30	89	4	7	51	189
125	54	60	23	135	G1/2	14	10.5	30	M27x2	42	160	0	32	43	23.5	50	M12	27	12	4	41	110	6	8	65	225

Series 6PF cylinders - with rod lock

+ = add the stroke





DIMENSIONS

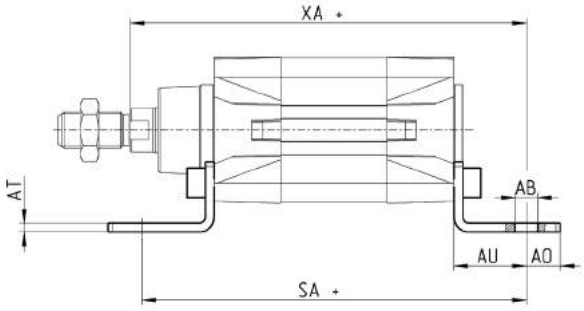
Ø	øD	øD1	øD2	øD3	A	G	H	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9+	L10+	M	Z
50	20	40	50	35	46,5	G1/8	36	64	82	70	12	15	16	29,5	48	60	106	200	M8	M6x20
63	20	45	60	38	56,5	G1/8	40	75	82	70	12	15	16	29,5	49,5	70	121	215	M8	M8x30
80	25	45	80	48	72	G1/8	50	95	110	90	20	18	20	35	61	90	128	254	M10	M10x35
100	25	55	100	58	89	G1/8	58	110,5	115	100	15	18	20	39	69	105	138	269	M10	M10x35
125	32	60	130	65	110	G1/8	80	150	167	122	45	22	30	51	86,5	140	160	350	M12	M12x40

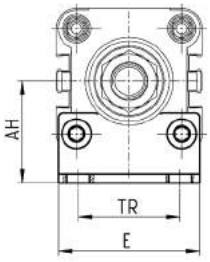
Foot mount Mod. B

Material: zinc-plated steel

Supplied with:
2x feet
4x screws

+ = add the stroke





DIMENSIONS

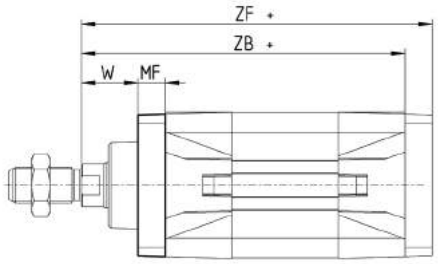
Mod.	Ø	AT	SA+	XA+	TR	E	AB	AH	AO	AU
B-41-50	50	4	170	175	45	62,5	10	45	15	32
B-41-63	63	5	185	190	50	73	10	50	15	32
B-41-80	80	6	210	216	63	92	12	63	20	41
B-41-100	100	6	220	230	75	108,5	14,5	71	25	41
B-41-125	125	7	250	270	90	132	16,5	90	25	45

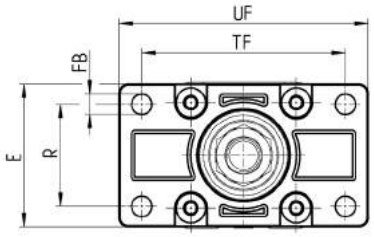
Front and rear flange Mod. D-E

Material: Aluminium

Supplied with:
1x flange
4x screws

+ = add the stroke





DIMENSIONS

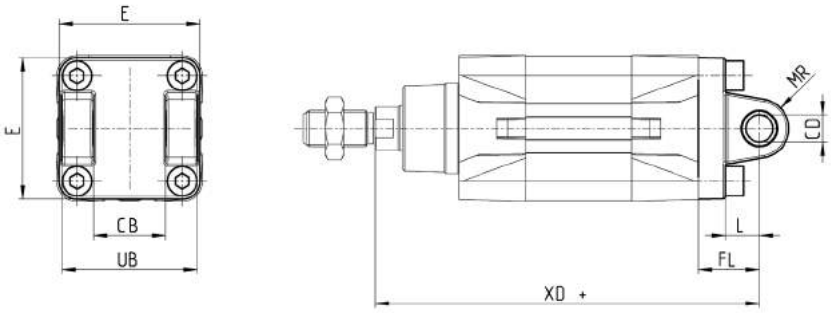
Mod.	Ø	W	MF	ZB+	TF	R	UF	E	FB	ZF+	torque force
D-E-41-50	50	25	12	143	90	45	110	63	9	155	13 Nm
D-E-41-63	63	25	12	158	100	50	116	73	9	170	13 Nm
D-E-41-80	80	30	16	174	126	63	148	95	12	190	19 Nm
D-E-41-100	100	35	16	189	150	75	176	115	14	205	22 Nm
D-E-41-125	125	45	20	225	180	90	224	135	16	245	26 Nm

Rear female trunnion Mod. C and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



DIMENSIONS

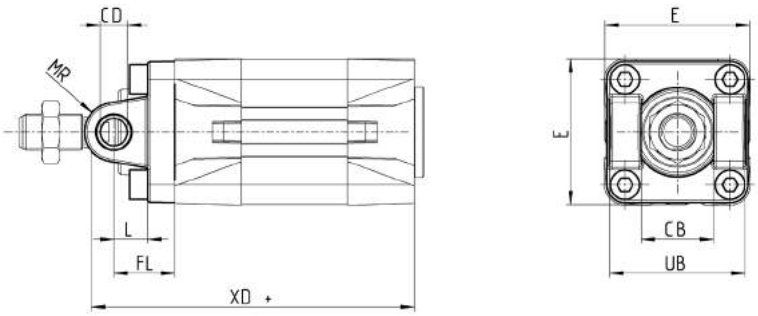
Mod.	Ø	CD	L	FL	XD+	MR	E	CB	UB	torque force
C-41-50	50	12	15	27	170	13	63	32	60	13 Nm
C-H-41-63	63	16	20	32	190	15	73	40	70	13 Nm
C-H-41-80	80	16	24	36	210	15	95	50	90	19 Nm
C-H-41-100	100	20	29	41	230	18	115	60	110	22 Nm
C-H-41-125	125	25	30	50	275	25	135	70	130	26 Nm

Front female trunnion Mod. H and C-H

Material: Aluminium

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



DIMENSIONS

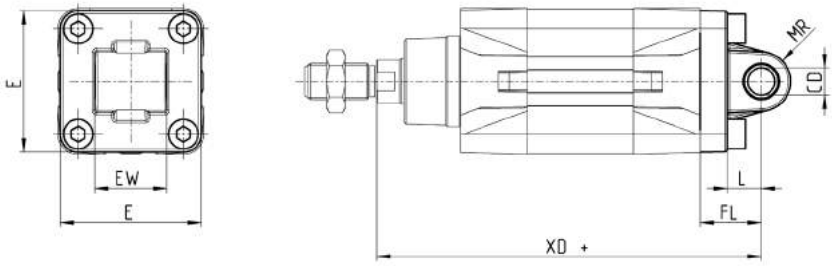
Mod.	Ø	CB	UB	E	XD	FL	L	CD	MR
H-41-50	50	32	60	63	143	27	15	12	13
H-60-63	63	40	70	73	158	32	20	16	15
C-H-41-80	80	50	90	95	174	36	24	16	15
C-H-41-100	100	60	110	115	189	41	29	20	18
C-H-41-125	125	70	130	135	225	50	30	25	25

Rear male trunnion Mod. L

Material: Aluminium

Supplied with:
1x male trunnion
4x screws

+ = add the stroke



DIMENSIONS

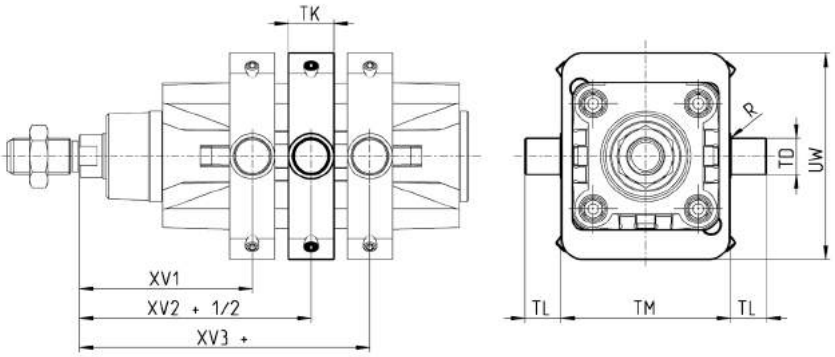
Mod.	Ø	CD	L	FL	XD+	MR	E	EW	torque force
L-41-50	50	12	15	27	170	13	63	32	13 Nm
L-41-63	63	16	20	32	190	15	73	40	13 Nm
L-41-80	80	16	24	36	210	15	95	50	19 Nm
L-41-100	100	20	29	41	230	18	115	60	22 Nm
L-41-125	125	25	30	50	275	25	135	70	26 Nm

Centre trunnion Mod. F

Material: zinc-plated steel

Supplied with:
1x centre trunnion
4x screws
4x fixing elements

+ = add the stroke



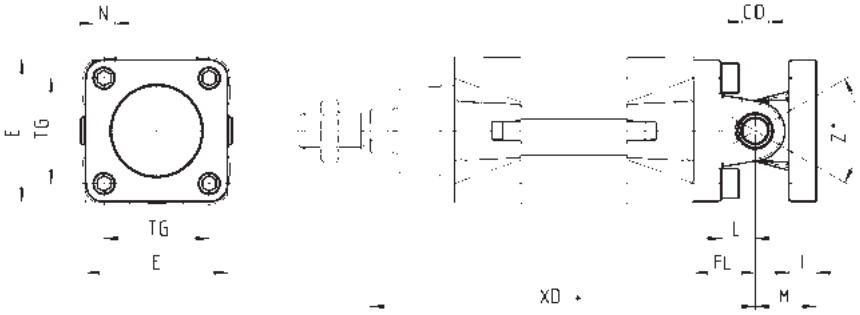
DIMENSIONS

Mod.	Ø	XV1	XV2	XV3	TM	TK	TD	TL	UW	R
F-61-50	50	76,5	90	103,5	75	20	16	16	91	0,15
F-61-63	63	86	97,5	109	90	25	20	20	94	0,15
F-61-80	80	94,5	110	125,5	110	25	20	20	130	0,15
F-61-100	100	104,5	120	135,5	132	30	25	25	145	0,2
F-61-125	125	123	145	167	160	30	25	25	155	0,2

Accessory combination Mod. C+L+S

Material: aluminium

+ = add the stroke



DIMENSIONS

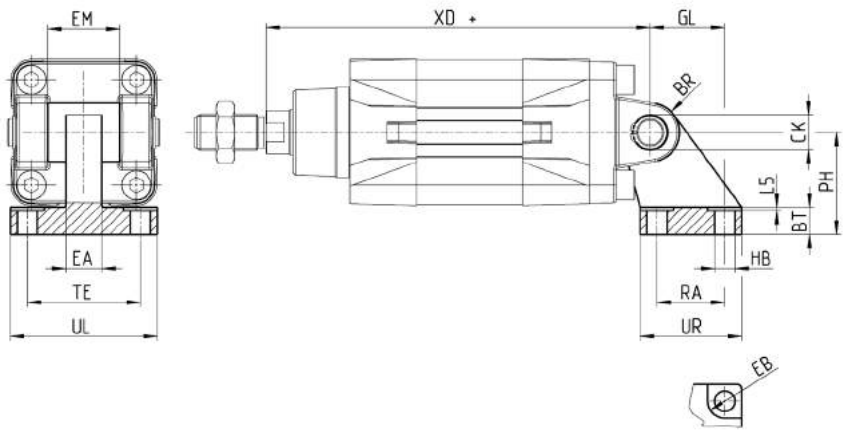
Mod.	Ø	⌀CD	L	FL	XD+	TG	E	I	M	⌀N	torque force
C+L+S	50	12	15	27	170	46,5	63	13	27	9	13 Nm
C+L+S	63	16	20	32	190	56,5	73	15	32	9	13 Nm
C+L+S	80	16	24	36	210	72	95	15	36	11	19 Nm
C+L+S	100	20	29	41	230	89	115	18	41	11	22 Nm
C+L+S	125	25	30	50	275	110	135	25	50	13	26 Nm

90° male trunnion Mod. ZC

CETOP RP 107P
Material: Aluminium

Supplied with:
1x male support

+ = add the stroke



DIMENSIONS

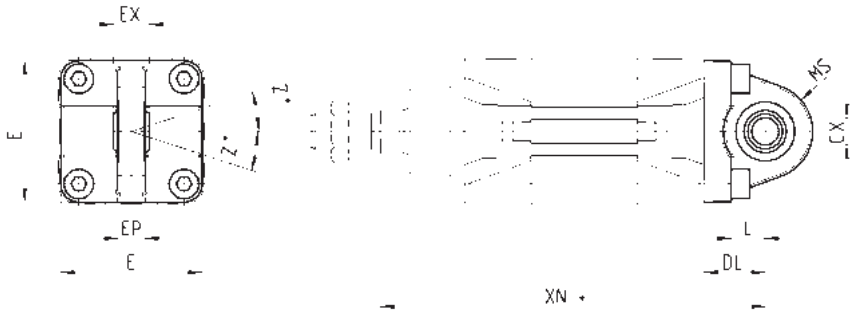
Mod.	Ø	EB	CK	HB	XD+	TE	UL	EA	GL	L5	RA	EM	UR	PH	BT	BR
ZC-50	50	15	12	9	170	50	65	16	33	1,6	30	32	45	45	12	13
ZC-63	63	15	16	9	190	52	67	16	37	1,6	35	40	50	50	14	15
ZC-80	80	18	16	11	210	66	86	20	47	2,5	40	50	60	63	14	15
ZC-100	100	18	20	11	230	76	96	20	55	2,5	50	60	70	71	17	19
ZC-125	125	20	25	14	275	94	124	30	70	3,2	60	70	90	90	20	22,5

Trunnion ball-joint Mod. R*

Material: Aluminium
* not according to standard

Supplied with:
1x trunnion ball joint
4x screws

+ = add the stroke



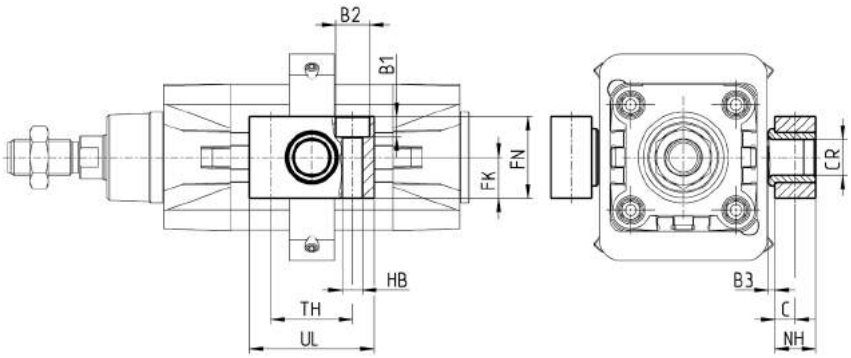
DIMENSIONS

Mod.	Ø	CX	L	DL	XN+	MS	E	EX	EP	Z	torque force
R-41-50	50	12	15	27	170	20	63	16	12	4	13 Nm
R-41-63	63	16	20	32	190	24	73	21	15	4	13 Nm
R-41-80	80	16	24	36	210	24	95	21	15	4	19 Nm
R-41-100	100	20	29	41	230	30	115	25	18	4	22 Nm
R-41-125	125	30	30	50	275	40	140	37	25	4	26 Nm

Counter bracket for centre trunnion Mod. BF

Material: Aluminium

Supplied with:
2x supports

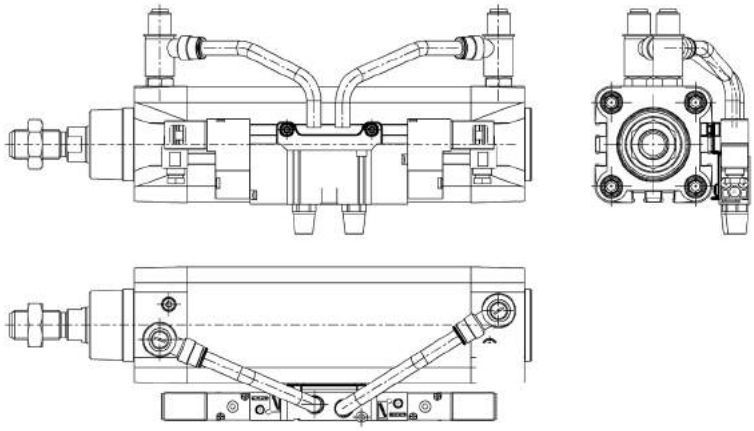


DIMENSIONS

Mod.	Ø	CR	NH	C	B3	TH	UL	FK	FN	B1	B2	HB
BF-40-50	50	16	18	9	3	36	55	18	36	9	15	9
BF-63-80	63 - 80	20	20	10	3	42	65	20	40	11	18	11
BF-100-125	100 - 125	25	25	12,5	3,5	50	75	25	50	13	20	14

Accessory to mount valves on the cylinder

The mounting sub-base Mod. PCV enables the valve or solenoid valve to be mounted directly on the cylinder.

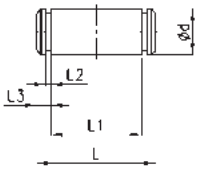


DIMENSIONS	
Mod.	
PCV-61-K3	to connect valves - solenoid valves Series 3
PCV-61-K4	to connect valves - solenoid valves Series 4 port G1/4
PCV-62-KEN	to connect valves - solenoid valves Series EN
PCV-61-K8	to connect valves - solenoid valves Series 4 port G1/8 and Series 3 port G1/4

Clevis pin Mod. S

Materials: Stainless steel 303 (clevis pin) / Steel (Seeger)

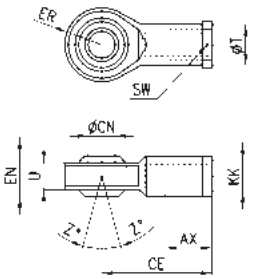
Supplied with:
1x clevis pin
2x Seeger



DIMENSIONS						
Mod.	Ø	d	L	L1	L2	L3
S-50	50	12	67	61	1,1	3
S-63	63	16	77	71	1,1	3
S-80	80	16	97	91	1,1	3
S-100	100	20	121	111	1,3	5
S-125	125	25	140,5	132	1,3	4,25

Swivel ball joint Mod. GA

ISO 8139.
Material: zinc-plated steel.

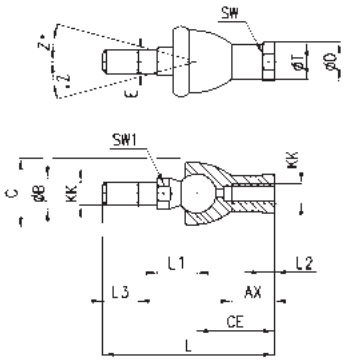


DIMENSIONS

Mod.	øCN	U	EN	ER	AX	CE	KK	T	Z	SW
GA-50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	30	25	37	37	51	110	M27x2	40	7,5	41

Piston rod socket joint Mod. GY

Material: zama and zinc-plated steel.

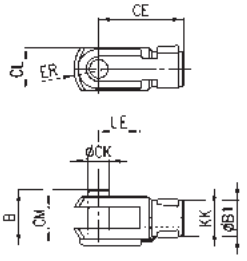


DIMENSIONS

Mod.	Ø	KK	L	CE	L2	AX	SW	SW1	L1	L3	øT	øD	E	øB	øC	Z
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63	10	38	30	24	31,5	25	27,5	34	20	27	45	7,5

Rod fork end Mod. G

ISO 8140
Material: zinc-plated steel

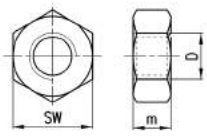


DIMENSIONS

Mod.	øCK	LE	CM	CL	ER	CE	KK	B	B1
G-50-63	16	32	16	32	19	64	M16 X 1,5	40	26
G-80-100	20	40	20	40	25	80	M20 X 1,5	48	34
G-41-125	30	54	30	55	38	110	M27 X 2	74	48

Piston rod lock nut Mod. U

ISO 4035
Material: zinc-plated steel.

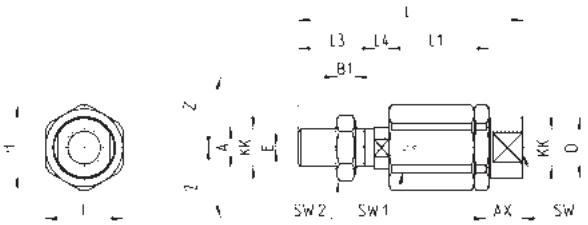


DIMENSIONS

Mod.	D	m	SW
U-50-63	M16X1,5	8	24
U-80-100	M20x1,5	9	30
U-41-125	M27x2	12	41

Self aligning rod Mod. GK

Material: zinc-plated steel.

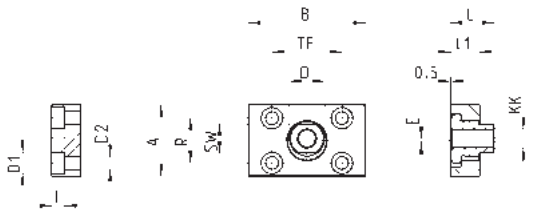


DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	øA	øD	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-50-63	50-63	M16x1,5	104	53	32	10	22	32	45	41	27	20	24	8	30	3	2
GK-80-100	80-100	M20x1,5	119	53	40	10	22	32	45	41	27	20	30	10	37	3	2
GK-125	125	M27x2	147	60	54	10	32	57	70	65	54	24	41	12	48	4	2

Coupling piece Mod. GKF

Material: zinc-plated steel.

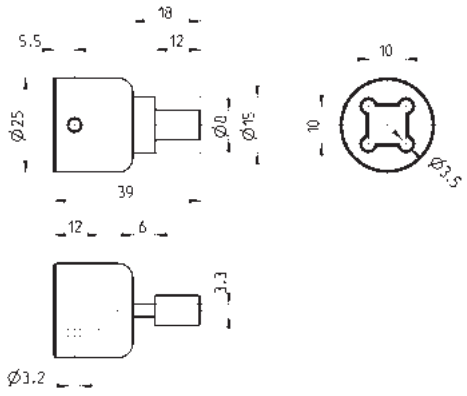


DIMENSIONS

Mod.	Ø	KK	A	B	R	TF	L	L1	I	Ø D	Ø D1	Ø D2	SW	E
GKF-50-63	50-63	M16x1,5	80	80	58	58	26,5	15	10,5	25	18	11	22	2,5
GKF-80-100	80-100	M20x1,5	90	90	65	65	32,5	20	13	30,5	20	14	27	2,5
GKF-125	125	M27x2	90	90	65	65	35,5	20	13	40	20	14	36	4

Special key to disassemble cylinders Ø 80 and 100

Material: hardened steel



Mod.
80-62/8C

Series 32
compact magnetic cylinders

Single and double-acting, non-rotating
ø 20, 25, 32, 40, 50, 63, 80, 100 mm

- In compliance with ISO 21287
- Compact design
- Wide range of models available in different diameters

Series 32 cylinders, thanks to their compactness, are suitable for installation in confined spaces. Being in compliance with the ISO 21287 Standard, the cylinders Series 32 have the advantage that they can be used in conjunction with mountings/accessories suitable for other standard cylinders DIN/ISO 6431 / VDMA 24562 (Series 60/61).

GENERAL DATA

Construction	compact profile
Operation	single and double acting, magnetic
Materials	anodized AL body and end-blocks - rolled stainless steel AISI 303 rod anodized AL piston - rod seal, end-block OR and piston seal in PU high temperatures: rod seal, OR end-block and piston in FKM (140°)
Mounting	with threaded holes on the end blocks flange - feet - trunnion
Stroke min and max (1)	Series 32F, 32M, 32R Ø20-25 = 5-300 mm Series 32F, 32M, 32R Ø32-40-50-63 = 5-400 mm Series 32F, 32M, 32R Ø80-100 = 5-500 mm
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar (double-acting) 2 ÷ 10 bar (single-acting)
Fluid	clean air without lubrication. If lubricated air is used it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.
Operation speed	10 ÷ 1000mm/sec. (without load)

(1) the minimum stroke for the use of the sensors is 10 mm.

STANDARD STROKES FOR CYLINDERS SERIES 32

✖= Non-rotating ●= Double-acting, male/female rod thread;
■= Single-acting, front/rear spring, male/female rod thread.

STANDARD STROKES										
Ø	5	10	15	20	25	30	40	50	60	80
20	✖● ■	✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●		
25	✖● ■	✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●		
32	✖● ■	✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●	✖●	✖●
40	✖● ■	✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●	✖●	✖●
50		✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●	✖●	✖●
63		✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●	✖●	✖●
80		✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●	✖●	✖●
100		✖● ■	✖● ■	✖● ■	✖● ■	✖●	✖●	✖●	✖●	✖●

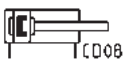
CODING EXAMPLE

32	M	2	A	032	A	050	

32	SERIES	
M	VERSION M = male rod thread, mounted with rod nut Mod. U F = female rod thread R = antirotation with flange (not for single-acting version)	
2	OPERATION 1 = single-acting, front spring 2 = double-acting 3 = double-acting, through-rod 4 = single-acting, rear spring	PNEUMATIC SYMBOLS CS06 CD08 CD12 CS08
A	MATERIALS A = anodized aluminium body, end blocks and piston, PU seals (rod, end-blocks OR and piston)	
032	BORES 020 = 20 mm - 025 = 25 mm - 032 = 32 mm - 040 = 40 mm 050 = 50 mm - 063 = 63 mm - 080 = 80 mm - 100 = 100 mm	
A	CONSTRUCTION A = standard	
050	STROKE (see the table)	
	= standard S = special V = FKM rod seal W = high temperatures (double-acting, non-magnetic with FKM seals for high temperatures up to 140°C)	

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



ACCESSORIES FOR CYLINDERS SERIES 32

Piston rod socket joint Mod. GY

Piston rod lock nut Mod. U

Clevis pin Mod. S

Rear trunnion ball-joint Mod. R

Coupling piece Mod. GKF

Swivel ball joint Mod. GA

90° male trunnion Mod. ZC

Swivel combination Mod. C+L+S

Front and rear flange Mod. D-E

Self aligning rod Mod. GK

90° swivel combination for trunnion Mod. I

Foot mount Mod. B

Front female trunnion Mod. H and C-H

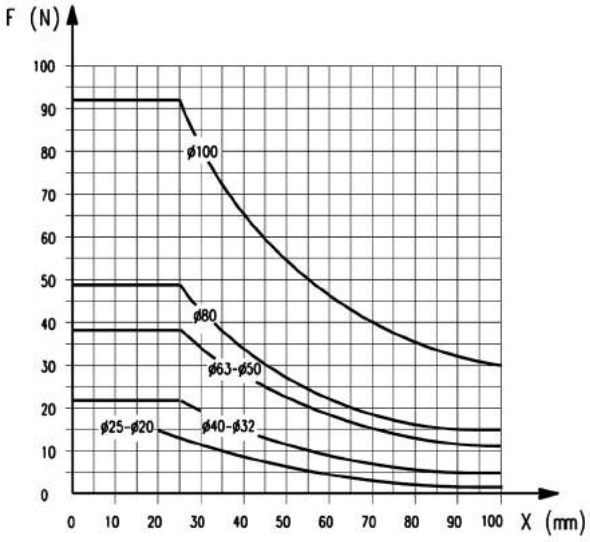
Rear female trunnion Mod. C and C-H

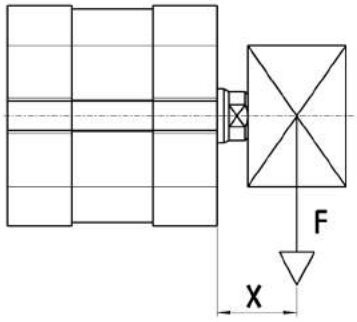
Rod fork end Mod. G

Rear trunnion male Mod. L

All accessories are supplied separately.

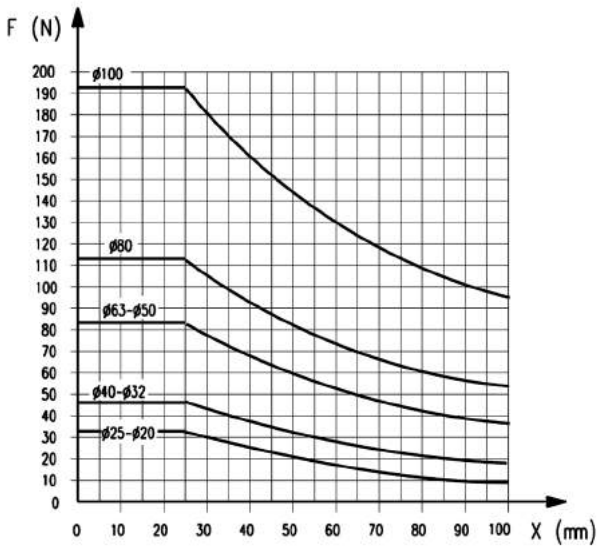
APPLICABLE LOADS

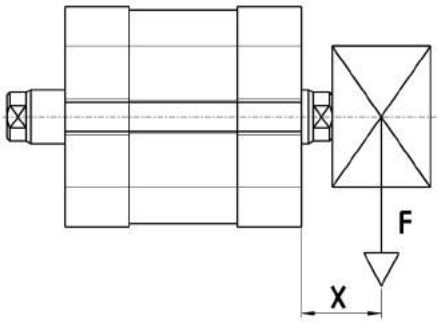




Standard.
Transversal load (F) dependant on stroke (X)

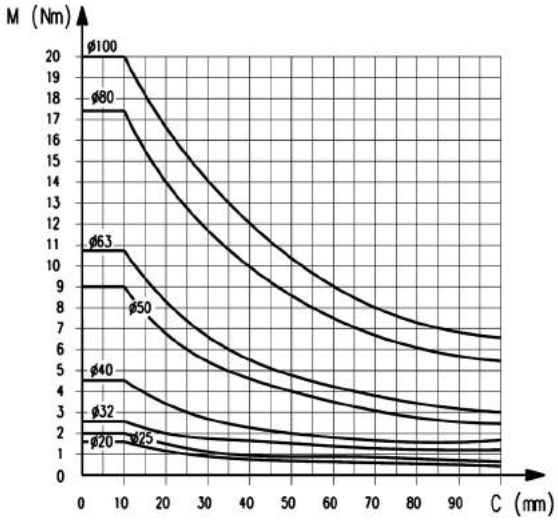
APPLICABLE LOADS



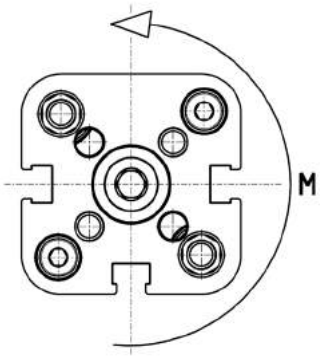


Through-rod.
Transversal load (F) dependant on stroke (X)

APPLICABLE LOADS

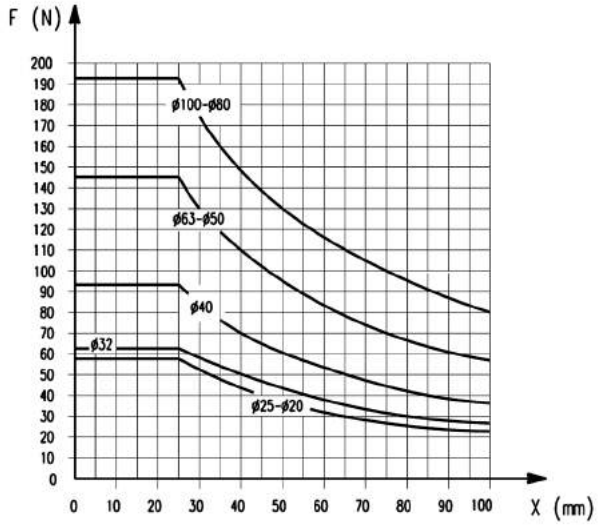


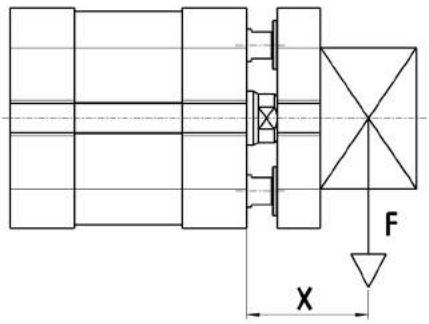
It is possible to use longer strokes as indicated in the general data (excluding radial loads and torque moments). When imposing radial loads on the cylinder it is important to respect the maximum stroke of the centre of gravity. In the presence of torque moments, respect the maximum stroke as shown in the diagrams.



Torque moment (M) dependant on stroke (C).

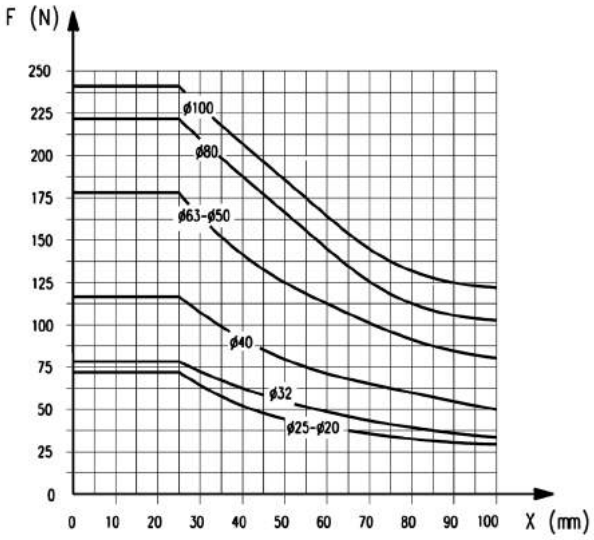
APPLICABLE LOADS

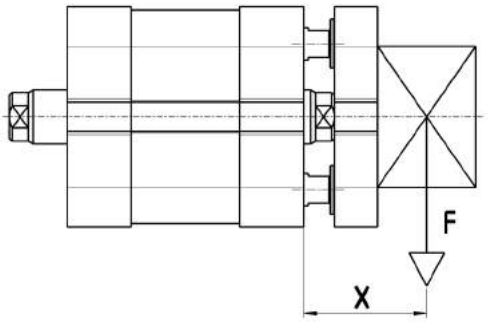




Anti-rotation.
Transversal load (F) dependant on stroke (X).

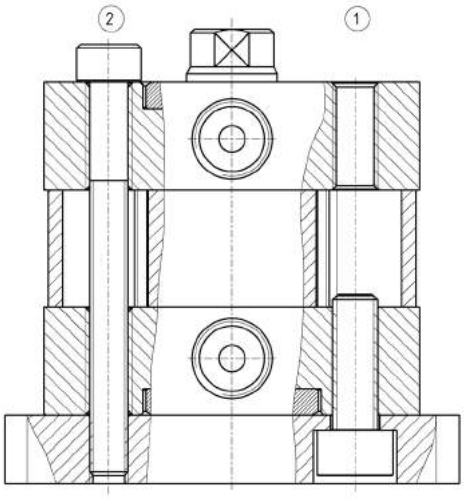
APPLICABLE LOADS





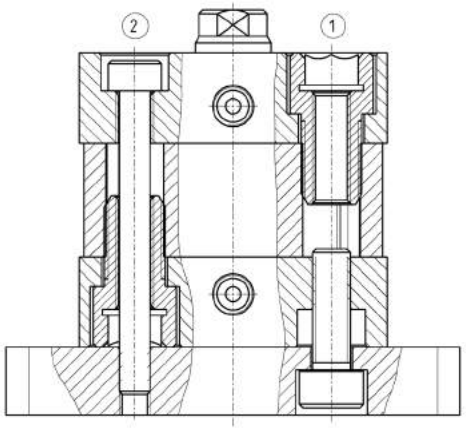
Anti-rotation through-rod.
Transversal load (F) dependant on stroke (X).

MOUNTING EXAMPLE



Mounting example for mounting cylinders Ø 32; 40; 50; 63; 80; 100.
1 = Rear mounting
2 = Through mounting

N.B. For through mounting with screws through the cylinder it is recommended to use non-magnetic screws.

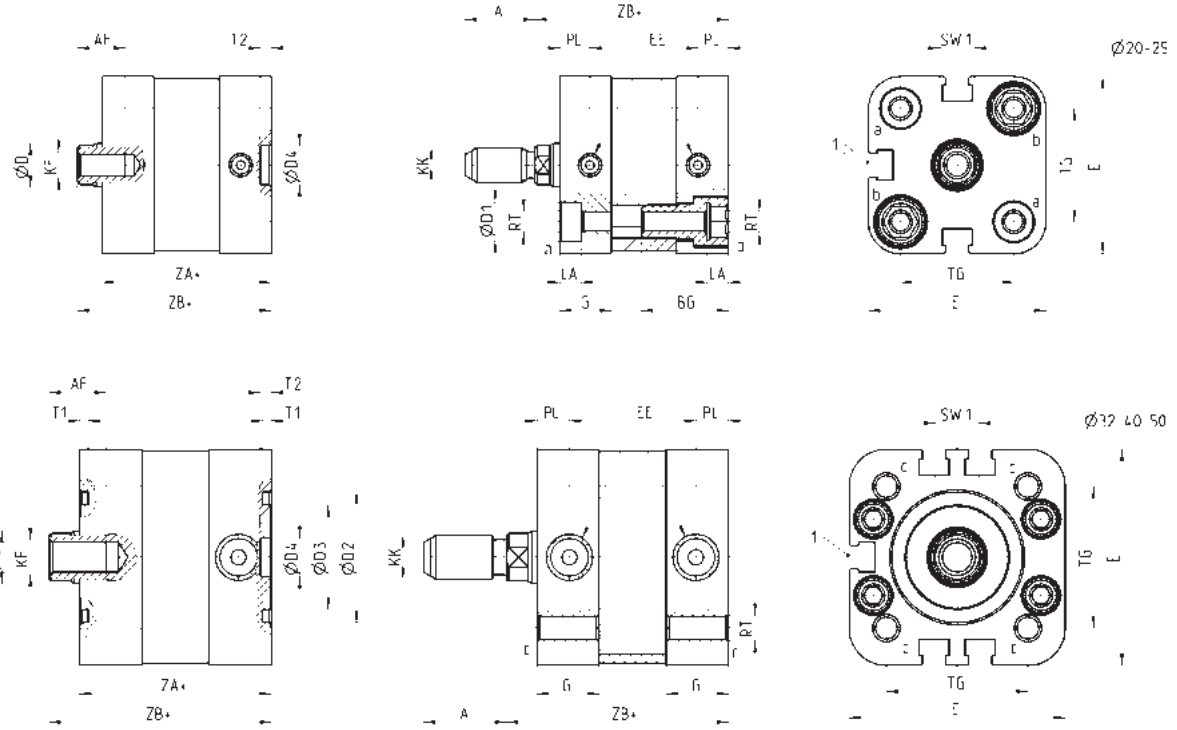


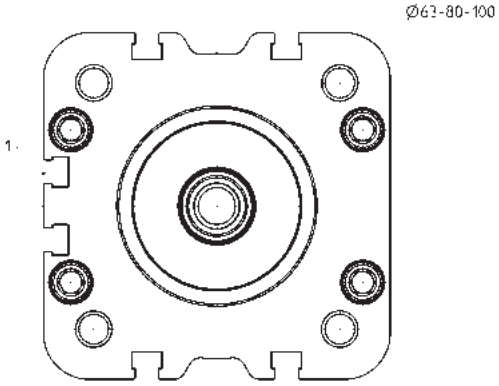
Mounting example for mounting cylinders Ø 20 ÷ 25.
1 = Rear mounting
2 = Through mounting

N.B. For through mounting with screws through the cylinder it is recommended to use non-magnetic screws.

Compact magnetic cylinders Mod. 32F and 32M

+ = add the stroke
1 = groove for sensor





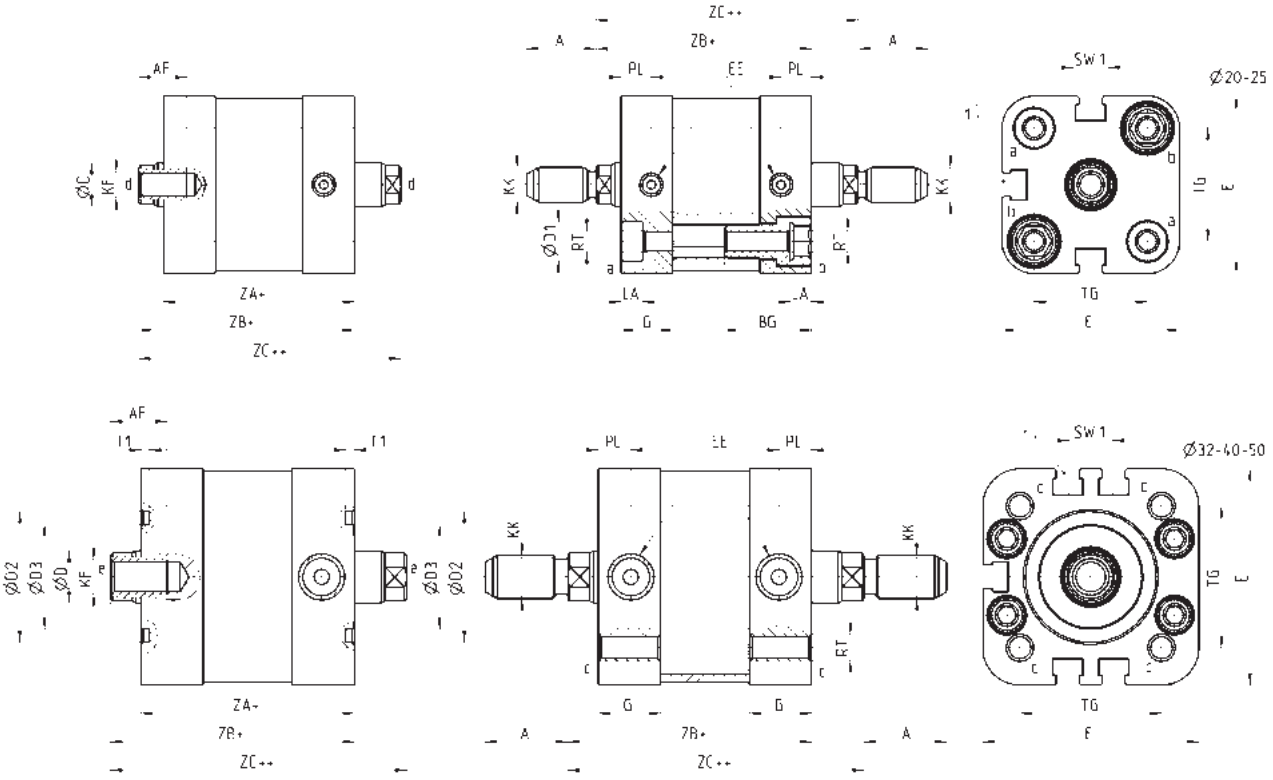
DIMENSIONS

Ø	A	AF	BG	G	ØD	D1	ØD2	ØD3	ØD4	E	EE	KF	KK	LA	PL	RT	SW1	T1	T2	TG	ZA	ZB
20	16	11	20	10,9	10	9	-	-	9	35,8	M5	M6	M8X1,25	5	6,5	M5	8	-	2,5	22	36,8	42,5
25	16	11	20	11,9	10	9	-	-	9	40,7	M5	M6	M8X1,25	5	7	M5	8	-	2,5	26	38,8	44,5
32	19	13	-	14,3	12	-	30	24	9	49,6	G1/8	M8	M10X1,25	-	7,6	M6	10	2	2,5	32,5	44	51
40	19	13	-	14,3	12	-	35	29	9	57	G1/8	M8	M10X1,25	-	7,6	M6	10	2	2,5	38	45	52
50	22	16	-	14,3	16	-	40	34	12	69,6	G1/8	M10	M12X1,25	-	7,6	M8	13	2	3	46,5	45	53
63	22	16	-	14	16	-	45	39	12	79,6	G1/8	M10	M12X1,25	-	7,6	M8	13	2	3	56,5	49	57
80	28	20	-	14,8	20	-	45	39	12	95,6	G1/8	M12	M16X1,5	-	7,7	M10	17	2	3	72	54	63,5
100	28	20	-	17,8	25	-	55	49	12	115,6	G1/8	M12	M16X1,5	-	8	M10	22	2	3	89	66,8	76,5

1 MOVEMENT

Compact magnetic cylinders Mod. 32F3 and 32M3

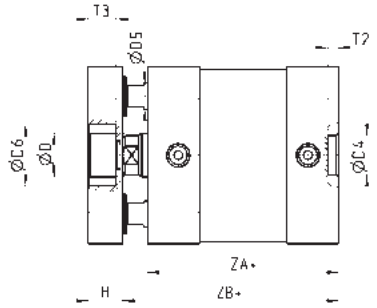
+ = add the stroke once
++ = add the stroke twice
1 = groove for sensor

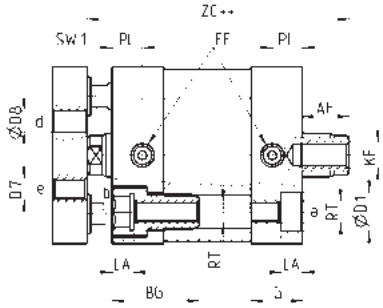


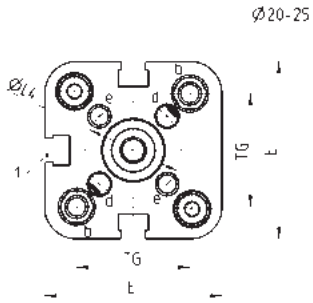
DIMENSIONS																				
Ø	A	AF	BG	G	ØD	ØD1	ØD2	ØD3	E	EE	KF	KK	LA	PL	RT	SW1	T1	TG	ZA	ZB	ZC
20	16	11	20	10,9	10	9	-	-	35,8	M5	M6	M8X1,25	5	6,5	M5	8	-	22	36,8	42,5	48,2
25	16	11	20	11,9	10	9	-	-	40,7	M5	M6	M8X1,25	5	7	M5	8	-	26	38,8	44,5	50,2
32	19	13	-	14,3	12	-	30	24	49,6	G1/8	M8	M10X1,25	-	7,6	M6	10	2	32,5	44	51	58
40	19	13	-	14,3	12	-	35	29	57	G1/8	M8	M10X1,25	-	7,6	M6	10	2	38	45	52	59
50	22	16	-	14,3	16	-	40	34	69,6	G1/8	M10	M12X1,25	-	7,6	M8	13	2	46,5	45	53	61
63	22	16	-	14	16	-	45	39	79,6	G1/8	M10	M12X1,25	-	7,6	M8	13	2	56,5	49	57	65
80	28	20	-	14,8	20	-	45	39	95,6	G1/8	M12	M16X1,5	-	7,7	M10	17	2	72	54	63,5	73
100	28	20	-	17,8	25	-	55	49	115,6	G1/8	M12	M16X1,5	-	8	M10	22	2	89	66,8	76,5	86,2

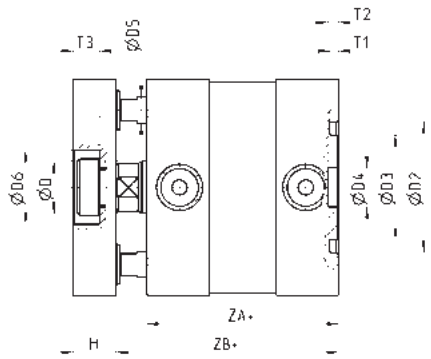
Compact magnetic cylinders Mod. 32R

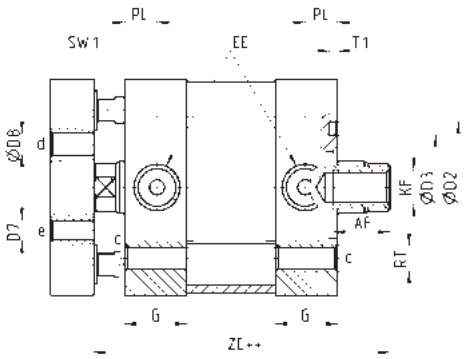
+ = add the stroke once
++ = add the stroke twice
1 = groove for sensor

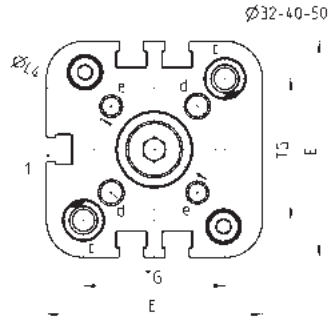


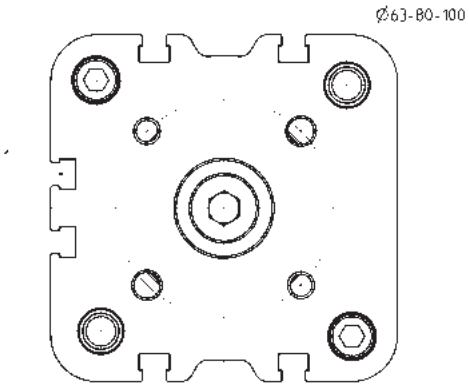












DIMENSIONS

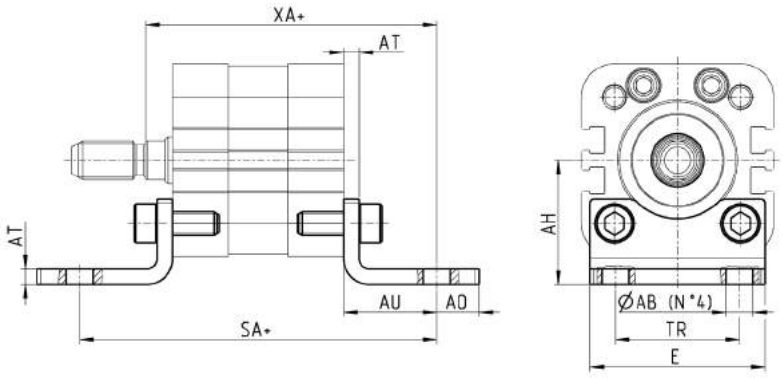
Ø	AF	BG	G	ØD	ØD1	ØD2	ØD3	ØD4	ØD5	ØD6	D7	ØD8	E	EE	H	KF	LA	ØL4	PL	RT	SW1	T1	T2	T3	TG	ZA	ZB	ZC
20	11	20	10.9	10	9	-	-	9	6	-	M4	4	35.8	M5	8	M6	5	17	6.5	M5	8	-	2.5	-	22	36.8	42.5	48.2
25	11	20	11.9	10	9	-	-	9	6	14	M5	5	40.7	M5	8	M6	5	22	7	M5	8	-	2.5	6.5	26	38.8	44.5	50.2
32	13	-	14.3	12	-	30	24	9	6	17	M5	5	49.6	G1/8	10	M8	-	28	7.6	M6	10	2	2.5	6	32.5	44	51	58
40	13	-	14.3	12	-	35	29	9	6	17	M5	5	57	G1/8	10	M8	-	33	7.6	M6	10	2	2.5	6	38	45	52	59
50	16	-	14.3	16	-	40	34	12	10	22	M6	6	69.6	G1/8	12	M10	-	42	7.6	M8	13	2	3	7	46.5	45	53	61
63	16	-	14	16	-	45	39	12	10	22	M6	6	79.6	G1/8	12	M10	-	50	7.6	M8	13	2	3	7	56.5	49	57	65
80	20	-	14.8	20	-	45	39	12	12	24	M8	8	95.6	G1/8	14	M12	-	65	7.7	M10	17	2	3	10.5	72	54	63.5	73
100	20	-	18	25	-	55	49	12	12	24	M10	10	115.6	G1/8	14	M12	-	80	8	M10	22	2	3	10.5	89	67	76.7	86.2

Foot mount Mod. B

Material: zinc-plated steel.

Supplied with:
2x feet
4x screws

+ = add the stroke



DIMENSIONS

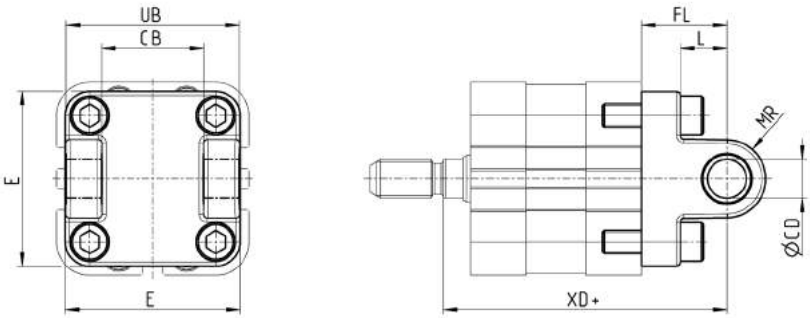
Mod.	Ø	øAB	AH	AO	AU	AT	E	TR	SA	XA
B-32-20	20	6,5	27	9	16	4	35	22	68,8	58,5
B-31-25	25	6,5	29	9	16	4	39	26	70,8	60,5
B-41-32	32	7	32	11	24	4	45	32	92	75
B-41-40	40	10	36	15	28	4	53,5	36	101	80
B-41-50	50	10	45	15	32	4	62,5	45	109	85
B-41-63	63	10	50	15	32	5	73	50	113	89
B-41-80	80	12	63	20	41	6	92	63	136	104,5
B-41-100	100	14,5	71	25	41	6	108,5	71	148,8	117,5

Rear female trunnion Mod. C and C-H

Material: Aluminium.

Supplied with:
1x female trunnion
4x screws

+ = add the stroke



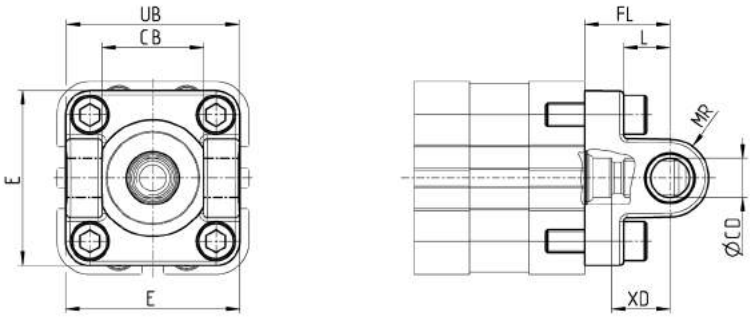
DIMENSIONS

Mod.	Ø	øCD	E	CB	UB	L	FL	MR	XD
C-41-32	32	10	45	26	45	12	22	10	73
C-41-40	40	12	53,5	28	52	15	25	12	77
C-41-50	50	12	62,5	32	60	15	27	13	80
C-H-41-63	63	16	73	40	70	20	32	17	89
C-H-41-80	80	16	92	50	90	24	36	17	99,5
C-H-41-100	100	20	108,5	60	110	29	41	21	117,5

Front female trunnion Mod. H and C-H

Material: Aluminium.

Supplied with:
1x female trunnion
4x screws



DIMENSIONS

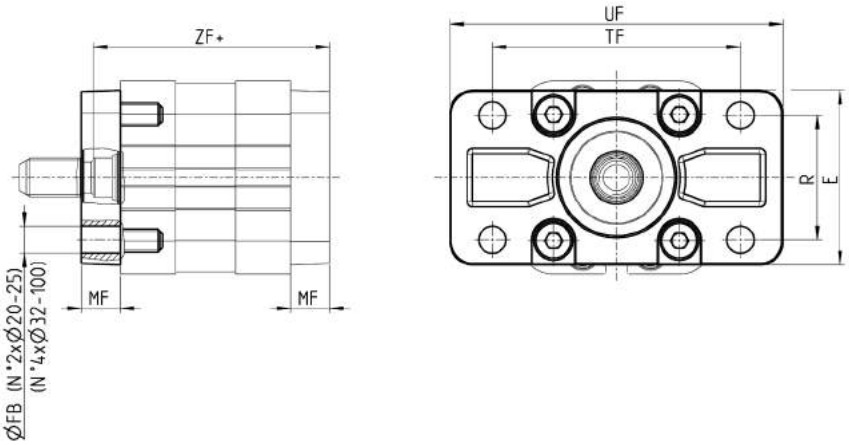
Mod.	Ø	ØCD	E	CB	UB	L	FL	MR	XD
H-41-32	32	10	45	26	45	12	22	10	15
H-41-40	40	12	53,5	28	52	15	25	12	18
H-41-50	50	12	62,5	32	60	15	27	13	19
H-60-63	63	16	73	40	70	20	32	17	24
C-H-41-80	80	16	92	50	90	24	36	17	26,5
C-H-41-100	100	20	108,5	60	110	29	41	21	31,3

Front and rear flange Mod. D-E

Material: zinc-plated steel for Ø 20 - Ø 25; Aluminium for Ø 32 ÷ Ø 100.

Supplied with:
1x flange
4x screws

+ = add the stroke



DIMENSIONS

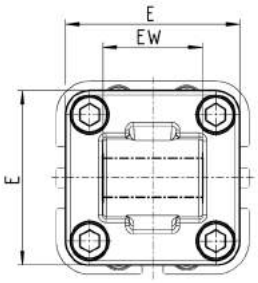
Mod.	Ø	ØFB	E	MF	R	TF	UF	ZF
D-E-32-20	20	6,6	36	10	-	55	70	52,5
D-E-32-25	25	6,6	40	10	-	60	76	54,5
D-E-41-32	32	7	45	10	32	64	86	61
D-E-41-40	40	9	52	10	36	72	88	62
D-E-41-50	50	9	63	12	45	90	110	65
D-E-41-63	63	9	73	12	50	100	116	69
D-E-41-80	80	12	95	16	63	126	148	79,5
D-E-41-100	100	14	115	16	75	150	176	92,5

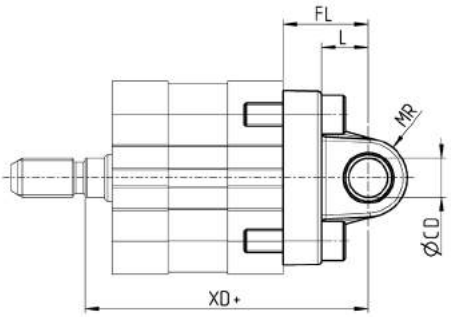
Rear trunnion male Mod. L

Material: Aluminium.

Supplied with:
1x male trunnion
4x screws

+ = add the stroke





DIMENSIONS

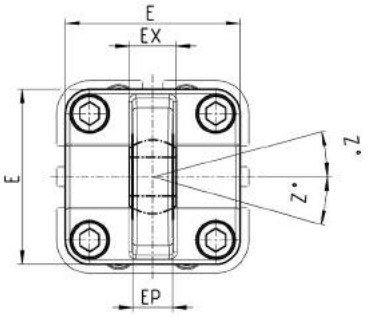
Mod.	Ø	ØCD	E	EW	L	FL	MR	XD
L-32-20	20	8	34	16	14	20	8	62,5
L-32-25	25	8	38	16	14	20	8	64,5
L-41-32	32	10	45	26	12	22	10	73
L-41-40	40	12	53,5	28	15	25	13	77
L-41-50	50	12	62,5	32	15	27	13	80
L-41-63	63	16	73	40	20	32	17	89
L-41-80	80	16	92	50	24	36	17	99,5
L-41-100	100	20	108,5	60	29	41	21	117,5

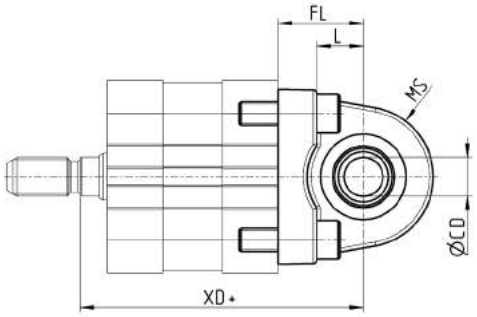
Rear trunnion ball-joint Mod. R

Material: Aluminium.

Supplied with:
1x ball joint
4x screws

+ = add the stroke





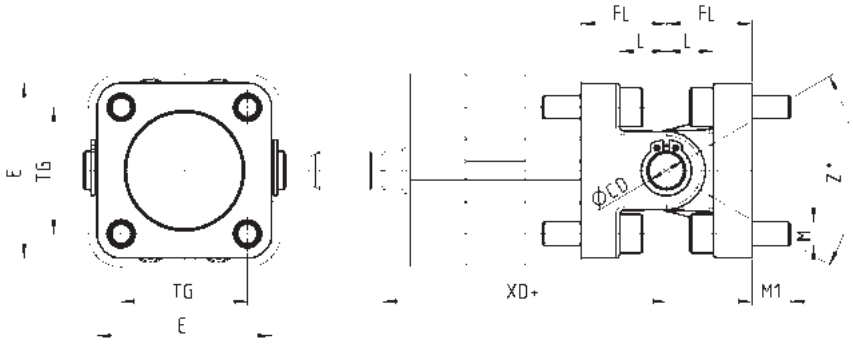
DIMENSIONS

Mod.	Ø	ØCD	E	EX	EP	L	FL	MS	XD	Z°
R-41-32	32	10	45	14	10.5	12	22	18	73	4
R-41-40	40	12	53.5	16	12	15	25	18	77	4
R-41-50	50	12	62.5	16	12	15	27	21	80	4
R-41-63	63	16	73	21	15	20	32	23	89	4
R-41-80	80	16	92	21	15	24	36	28	99.5	4
R-41-100	100	20	108.5	25	18	29	41	30	117.5	4

Accessory combination Mod. C+L+S

Material: Aluminium.

+ = add the stroke



DIMENSIONS

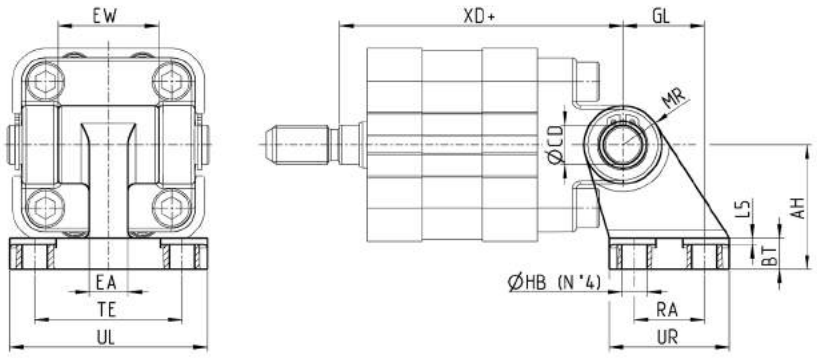
Mod.	Ø	øCD	E	L	FL	M	M1	TG	XD+	Z° (max)
C+L+S	32	10	45	12	22	M6	10	32.5	73	30
C+L+S	40	12	53.5	15	25	M6	10	38	77	40
C+L+S	50	12	62.5	15	27	M8	13	46.5	80	25
C+L+S	63	16	73	20	32	M8	13	56.5	89	36
C+L+S	80	16	92	24	36	M10	16	72	99.5	34
C+L+S	100	20	108.5	29	41	M10	16	89	117.5	38

90° male trunnion Mod. ZC

Material: Aluminium.

Supplied with:
1x male support

+ = add the stroke



DIMENSIONS

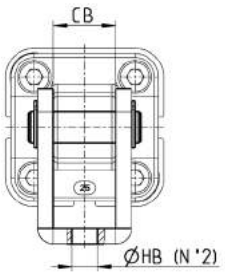
Mod.	Ø	AH	BT	øCD	EA	EW	GL	øHB	L5	MR	RA	UL	UR	TE	XD
ZC-32	32	32	8	10	10	26	21	6,6	1,6	10	18	51	31	38	73
ZC-40	40	36	10	12	15	28	24	6,6	1,6	11	22	54	35	41	77
ZC-50	50	45	12	12	16	32	33	9	1,6	13	30	65	45	50	80
ZC-63	63	50	14	16	16	40	37	9	1,6	15	35	67	50	52	89
ZC-80	80	63	14	16	20	50	47	11	2,5	15	40	86	60	66	99,5
ZC-100	100	71	17	20	20	60	55	11	2,5	19	50	96	70	76	117,5

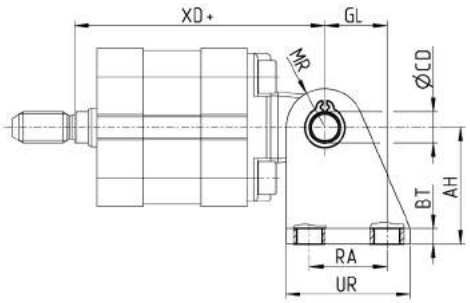
90° swivel combination for trunnion Mod. I

Material: zinc-plated steel.

Supplied with:
1x female support
2x seeger
1x clevis pin

+ = add the stroke



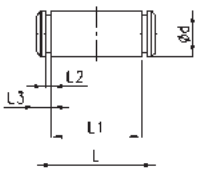


DIMENSIONS

Mod.	Ø	AT	BT	⌀CD	CB	GL	⌀HB	MR	RA	UR	XD
I-20-25	20	30	4	8	16,1	16	6,5	10	20	32	62,5
I-20-25	25	30	4	8	16,1	16	6,5	10	20	32	64,5

Clevis pin Mod. S

Supplied with:
1x clevis pin in
stainless steel
2x Seeger in steel

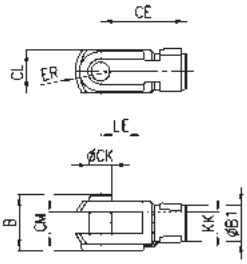


DIMENSIONS

Mod.	Ø	D	L	L1	L2	L3
S-32	32	10	52	46	1,1	3
S-40	40	12	59	53	1,1	3
S-50	50	12	67	61	1,1	3
S-63	63	16	77	71	1,1	3
S-80	80	16	97	91	1,1	3
S-100	100	20	121	111	1,3	5

Rod fork end Mod. G

ISO 8140
Material: zinc-plated steel.

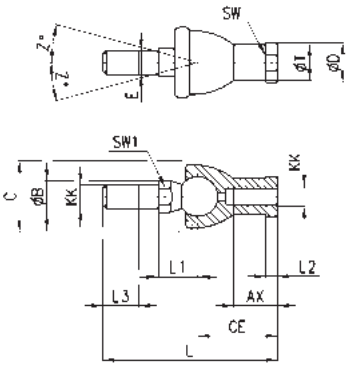


DIMENSIONS

Mod.	Ø	⌀CK	LE	CM	CL	ER	CE	KK	B	⌀B1
G-20	20-25	8	16	8	16	10	32	M8X1,25	22	14
G-25-32	32-40	10	20	10	20	12	40	M10x1,25	26	18
G-40	50-63	12	24	12	24	14	48	M12x1,25	32	20
G-50-63	80-100	16	32	16	32	19	64	M16x1,5	40	26

Piston rod socket joint Mod. GY

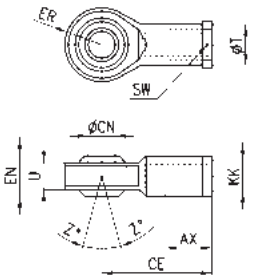
Material: zama and zinc-plated steel.



DIMENSIONS

Mod.	Ø	KK	L	CE	L2	AX	SW	SW1	L1	L3	⌀T	⌀D	E	⌀B	⌀C	Z
GY-20	20-25	M8X1,25	65	32	5	16	14	10	16	12	12,5	13	6	10	20	15
GY-32	32-40	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	50-63	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	80-100	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11

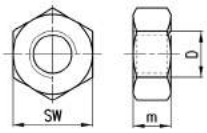
Swivel ball joint Mod. GA



DIMENSIONS											
Mod.	Ø	øCN	U	EN	ER	AX	CE	KK	øT	Z	SW
GA-20	20-25	8	9	12	12	16	36	M8X1,25	12,5	6,5	14
GA-32	32-40	10	10,5	14	14	20	43	M10x1,25	15	6,5	17
GA-40	50-63	12	12	16	16	22	50	M12X1.25	17,5	6,5	19
GA-50-63	80-100	16	15	21	21	28	64	M16x1,5	22	7,5	22

Piston rod lock nut Mod. U

ISO 4035
Materials: zinc-plated steel.

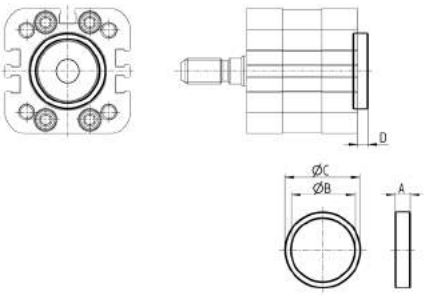


DIMENSIONS				
Mod.	Ø	D	M	SW
U-20	20-25	M8X1.25	5	13
U-25-32	32-40	M10X1,25	6	17
U-40	50-63	M12X1,25	7	19
U-50-63	80-100	M16X1,5	8	24

Centring sleeve Mod. TR

Supplied with:
1x anodized AL centring ring

Designed for the centring of both rear and front end caps with brackets Mod. B/D-E/C/C-H/H/L/R, as for the centring of the cylinder while mounting.

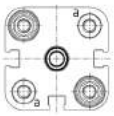


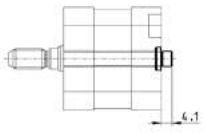
DIMENSIONS					
Mod.	Ø	A	øB	øC	D
TR-32-32	32	6	25	30	4
TR-32-40	40	6	30	35	4
TR-32-50	50	6	35	40	4
TR-32-63	63-80	7	40	45	5
TR-32-100	100	7	50	55	5

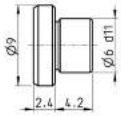
Centring pin Mod. TS-32-20

Material: anodized AL

Designed for the centring of rear end caps with brackets L-32-20 / L-32-25 as for cylinder while mounting, it is also suitable in “a” holes of rear/front end caps of cyl. Ø20-25 or in the central hole of rear end caps of cyl. Ø32-40.





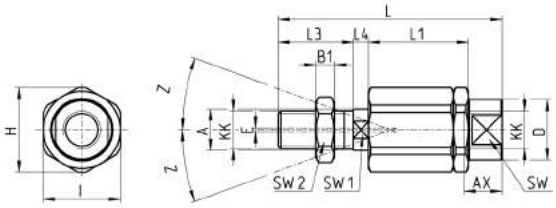


Mod.
TS-32-20

Self aligning rod Mod. GK

Only for cylinders with male rod.

Material: zinc-plated steel.

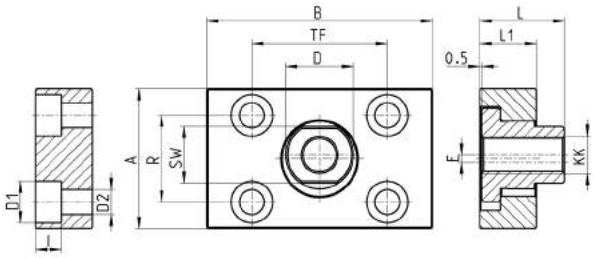


DIMENSIONS

Mod.	Ø	KK	L	L1	L3	L4	ØA	ØD	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-20	20-25	M8x1,25	57	26	21	5	8	12,5	19	17	11	7	13	4	16	4	2
GK-25-32	32-40	M10x1,25	71,5	35	20	7,5	14	22	32	30	19	12	17	5	22	4	2
GK-40	50-63	M12x1,25	75,5	35	24	7,5	14	22	32	30	19	12	19	6	22	4	2
GK-50-63	80-100	M16x1,5	104	53	32	10	22	32	45	41	27	20	24	8	30	3	2

Coupling piece Mod. GKF

Material: zinc-plated steel.



DIMENSIONS

Mod.	Ø	KK	A	B	R	TF	L	L1	I	ØD	ØD1	ØD2	SW	E
GKF-20	20-25	M8x1,25	30	35	20	25	22,5	10	-	14	5,5	-	13	1,5
GKF-25-32	32-40	M10x1,25	37	60	23	36	22,5	15	6,8	18	11	6,6	15	2
GKF-40	50-63	M12x1,25	56	60	38	42	22,5	15	9	20	15	9	15	2,5
GKF-50-63	80-100	M16x1,5	80	80	58	58	26,5	15	10,5	25	18	11	22	2,5

Series 32 compact cylinders, Tandem and multi-position versions

Double-acting, magnetic
ø 25, 40, 63, 100 mm

- In compliance with ISO 21287
- Compact design
- Wide range of models available in different diameters

Thanks to their great compactness Series 32 cylinders, Tandem and multi-position, are suitable to be installed within confined spaces and can be used with the same mounting elements of other standard cylinders DIN/ISO 6431/VDMA 24562 (Series 60/61).
The Tandem version enables to obtain up to 2 times the thrust force of a normal cylinder (standard traction force), while the multi-position version can obtain up to three positions with one cylinder only.

GENERAL DATA

Construction	compact profile
Operation	double-acting, magnetic
Material	body and end-blocks = anodized AL rod = rolled stainless steel AISI 303 piston = anodized AL rod seal, OR end-block and piston seal = PU
Mounting	with threaded holes on the end blocks flange – feet – trunnion
Strokes min. and max. (1) **Multiposition**	Series 32F, 32M Ø 25 = 5-300 mm (dimension x2) Series 32F, 32M Ø 40 - 63 = 5-400 mm (dimension x2) Series 32F, 32M Ø 100 = 5-500 mm (dimension x2)
Strokes min. and max. (1) **Tandem**	Series 32F, 32M Ø 25 = 5-80 mm Series 32F, 32M Ø 40 - 63 - 100 = 5-100 mm
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Fluid	clean air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.
Operating speed	10 ÷ 1000 mm\sec (without load)

(1) the minimum stroke for the use of the sensors is 10 mm.

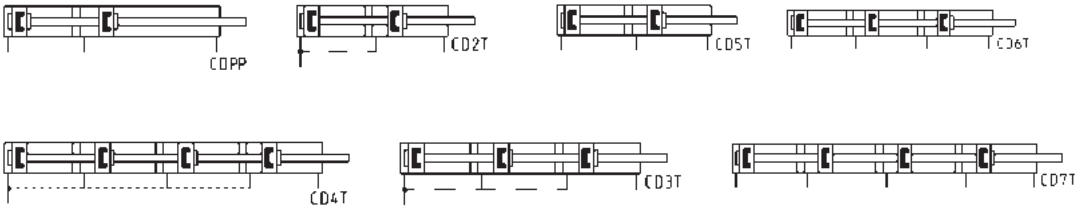
CODING EXAMPLE

32	M	2	A	040	A	050	N	2

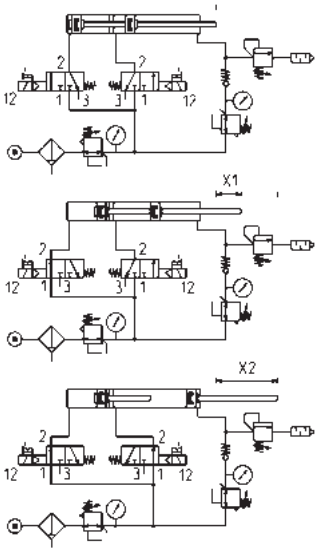
32	SERIES compact magnetic	
M	VERSION M = male rod thread, mounted with rod nut Mod. U F = female rod thread	
2	OPERATION 2 = double-acting	PNEUMATIC SYMBOLS CDPP
A	MATERIALS A = anodized aluminium profile, end blocks and piston PU seals (rod - OR end block and piston)	
040	BORE 025 = 25 mm 040 = 40 mm 063 = 63 mm 100 = 100 mm	 CD5T, CD6T, CD7T CD5T, CD6T, CD7T CD2T, CD3T, CD4T CD5T, CD6T, CD7T
A	CONSTRUCTION A = standard	
050	STROKE - tandem stroke in mm - multi-position X1mm/X2mm. Insert the strokes without the initial 0 (see application scheme)	
N	Tandem and multi-position	
2	STAGES (for tandem version only) 2 = 2 stages	

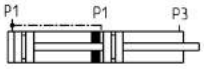
PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



Operation scheme





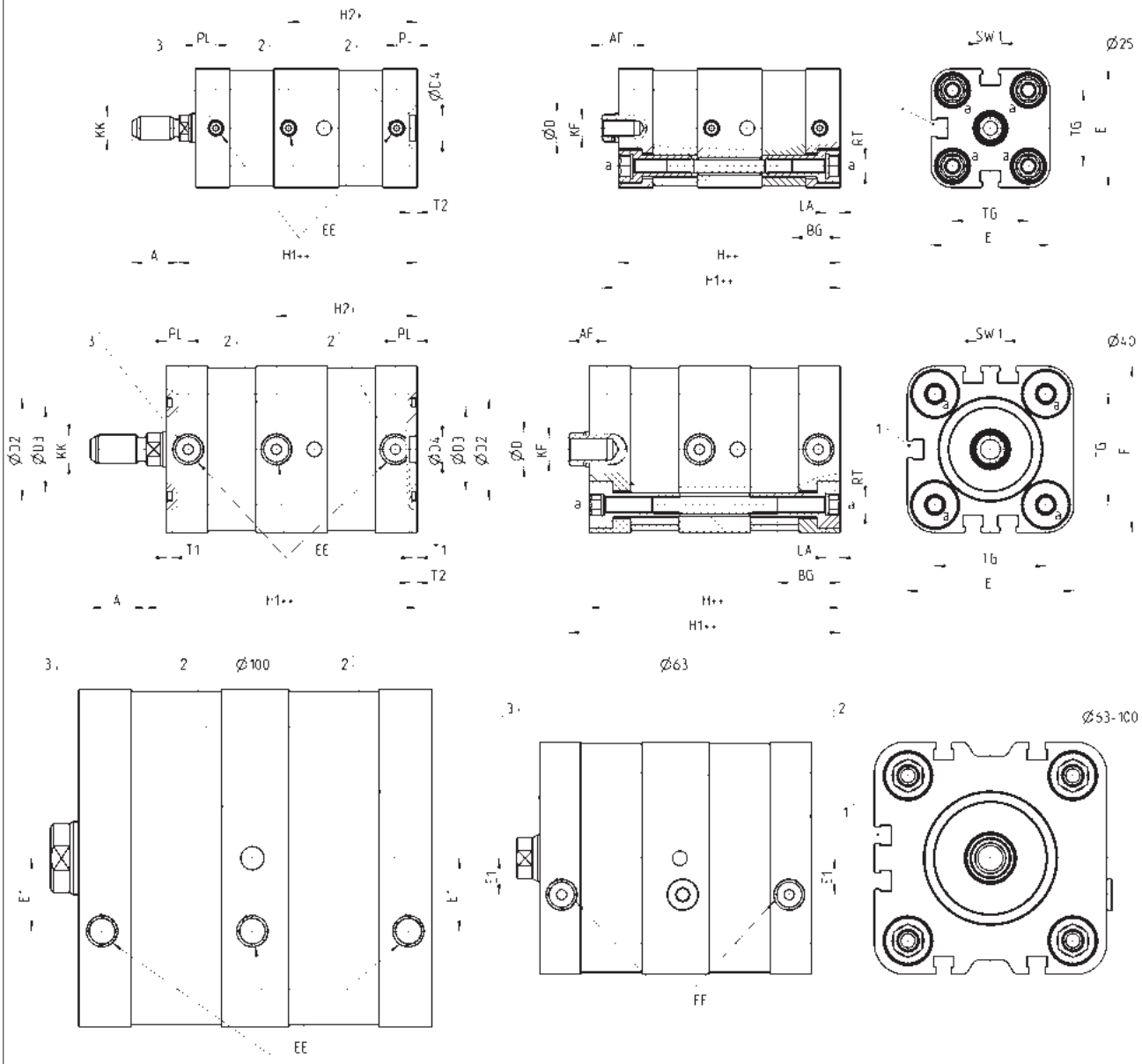
Multi-position
Example: 32M2A040A25/75N
X1 = 25 mm
X2 = 75 mm

Tandem
Example: 32M2A040A050N2
Stroke = 50 mm

1
MOVEMENT

Tandem cylinders Mod. 32F2A/32M2A...N2

+ = add the stroke
++ = add the stroke two times
1 = Groove for sensor
2 = Positive stroke
3 = Negative stroke



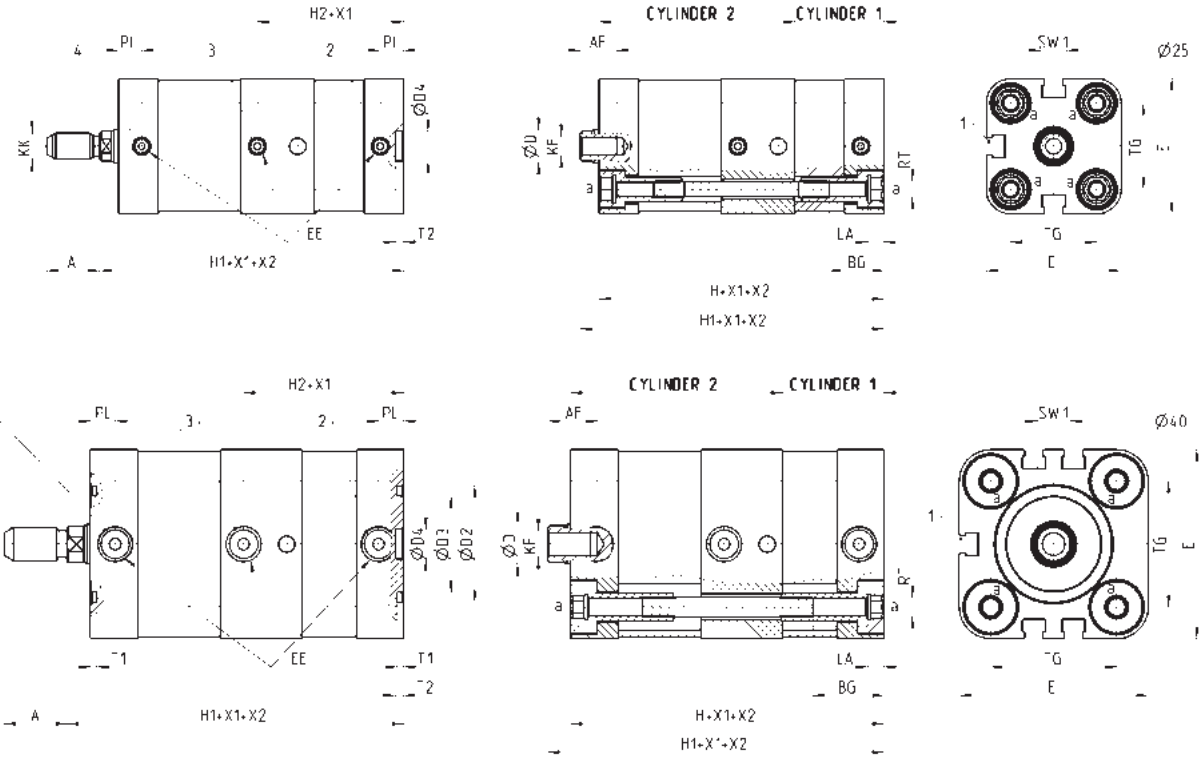
DIMENSIONS

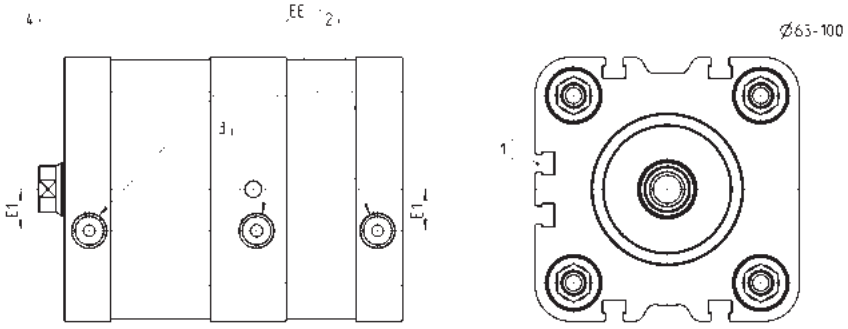
Ø	A	AF	BG	ØD	ØD2	ØD3	ØD4	E	EE	E1	H	H1	H2	KF	KK	LA	PL	RT	SW1	T1	T2	TG
25	16	11	16,5	10	-	-	9	40,7	M5	-	76	81,7	44	M6	M8X1,25	5	7	M5	8	-	2,5	26
40	19	13	21,5	12	35	29	9	57	G1/8	-	86	93	48,2	M8	M10X1,25	5	7,6	M6	10	2	2,5	38
63	22	16	18,5	16	45	39	12	79,6	G1/8	12'5	93	101	-	M10	M12X1,25	6	7,6	M8	13	2	3	56,5
100	28	20	20	25	55	49	12	115,6	G1/8	25	121	130,7	-	M12	M16X1,5	6	8	M10	22	2	3	89

Multi-position cylinders Mod. 32F2A/32M2A...X1/X2N

1 = Groove for sensor
2 = Positive stroke cylinder 1
3 = Positive stroke cylinder 2
4 = Negative stroke for both cylinders

X1 = Partial stroke
X2 = Total stroke as operation scheme pag. 1.1.31.2





DIMENSIONS

Ø	A	AF	BG	ØD	ØD2	ØD3	ØD4	E	EE	E1	H	H1	H2	KF	KK	LA	PL	RT	SW1	T1	T2	TG
25	16	11	16,5	10	-	-	9	40,7	M5	-	76	81,7	44	M6	M8X1,25	5	7	M5	8	-	2,5	26
40	19	13	21,5	12	35	29	9	57	G1/8	-	86	93	48,2	M8	M10X1,25	5	7,6	M6	10	2	2,5	38
63	22	16	18,5	16	45	39	12	79,6	G1/8	12,5	93	101	44	M10	M12X1,25	6	7,6	M8	13	2	3	56,5
100	28	20	20	25	55	49	12	115,6	G1/8	25	121	130,7	60,5	M12	M16X1,5	6	8	M10	22	2	3	89

Series 45
anti-rotation guide units

For cylinders DIN/ISO 6432 - ø12, 16, 20, 25mm
For cylinders DIN/ISO 6431 - ø32, 40, 50, 63, 80, 100mm

» To be used with VDMA/ ISO cylinders

» Available as ball bearing guide and self lubricating guide

Series 45 guide units can be used with all cylinders DIN/ISO 6432 of ø12 ÷ ø25 and DIN/ISO 6431 of ø32 ÷ ø100.

They have been developed in order to prevent piston rod rotation and can support possible radial loads.

Series 45 guide units are available in three different models depending on the applicable loads. The UT and HT guides with crawling supports are self lubricating, while HB guides have a ball bush.
To ensure the right choice of the loads in relation to the stroke, please refer to the graphs. The shorter the stroke the higher will be the applicable loads.

GENERAL DATA

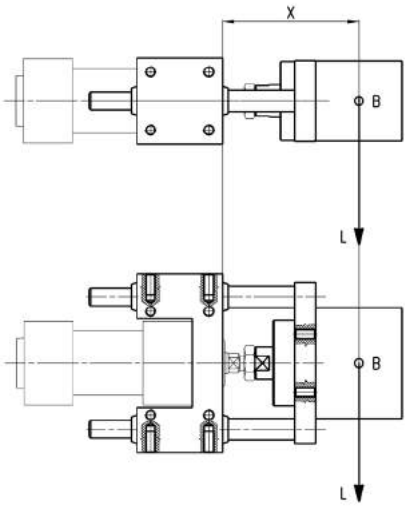
Type of construction	U and H
Operation	Mod. 45NUT and 45NHT: without lubrication Mod. 45NHB requires lubrication according to DIN 51825 code KP2G-20
Material	body: anodized aluminium flexible coupling: stainless steel AISI 303 plate: anodized aluminium guided columns: rolled stainless steel AISI 420B (mod. 45NUT and 45NHT) - hardened steel C50 (Mod. 45NHB)
Assembly	by means of threaded holes
Strokes min - max	see diagrams
Installation	in any position

CODING EXAMPLE

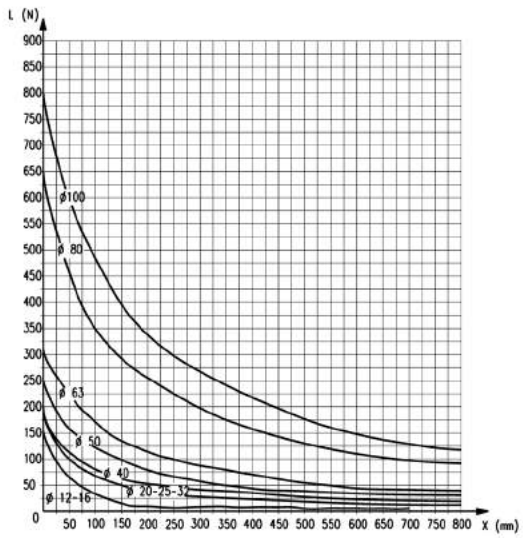
45	N	UT	050	A	0100

45	SERIES
N	VERSION N = standard
UT	OPERATION UT = “U” self lubricating guide HT = “H” self lubricating guide HB = “H” ball guide
050	BORE 016 = Ø 12-16 mm (same guides for Ø12) 020 = 20 mm 025 = 25 mm 032 = 32 mm 040 = 40 mm 050 = 50 mm 063 = 63 mm 080 = 80 mm 100 = 100 mm
A	MATERIALS A = anodized aluminium body - stainless steel AISI 420B columns for 45UT and 45HT - hardened steel C50 columns for 45HB
0100	STROKE in mm

APPLICABLE LOADS DEPENDING ON PROJECTION - GRAPH 1

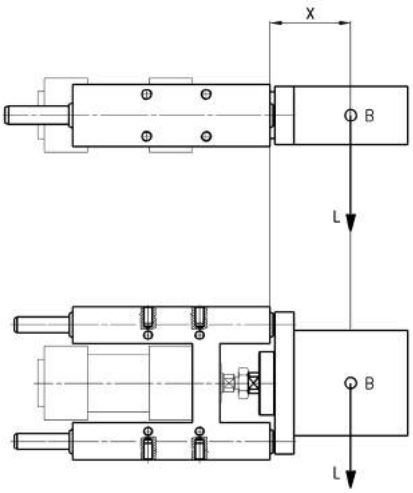


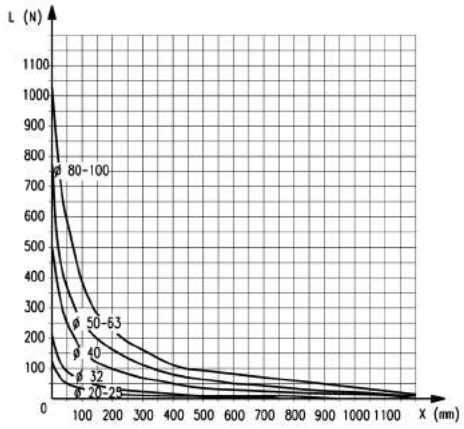
B = centre of gravity for applied load
L = load
X = fixed projection + stroke
fixed projection = distance to the centre of gravity



Guide “U” moving on bush (45NUT)

APPLICABLE LOADS DEPENDING ON PROJECTION - GRAPH 2

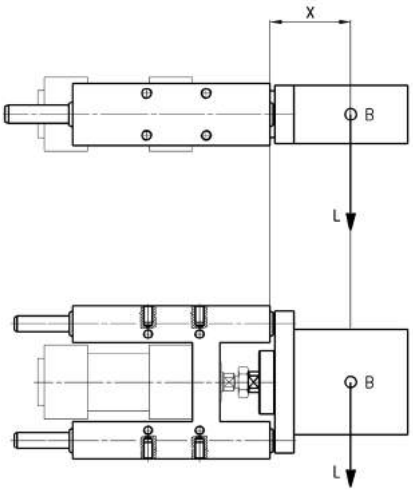


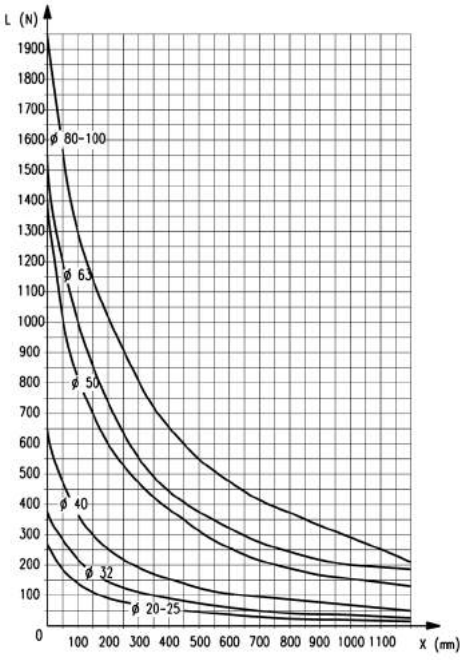


B = centre of gravity for applied load
L = load
X = fixed projection + stroke
fixed projection = distance to the centre of gravity

Guide “HB” with linear ball bearing (45NHB)

APPLICABLE LOADS DEPENDING ON PROJECTION - GRAPH 3





B = centre of gravity for applied load
L = load
X = fixed projection + stroke
fixed projection = distance to the centre of gravity

Guide “HT” moving on bush (45NHT)

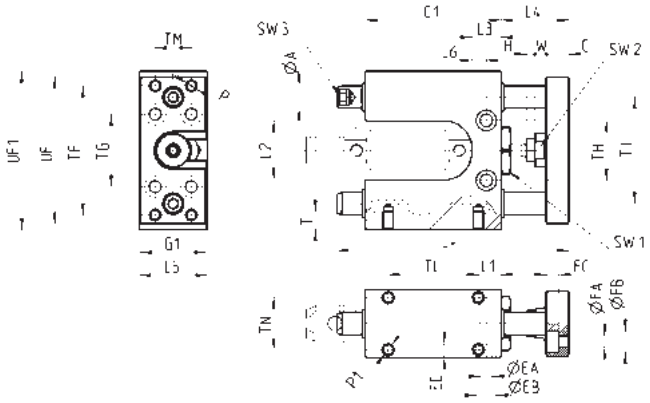
Guides Mod. 45NUT

Supplied with:
1x fixing nut.

Draw note:
+ = add the stroke

Suitable for cylinders Series 16, 24 and 25 DIN/ISO 6432, ø 12 and 16.
These guides do not need lubrication.
For applicable loads, see graph 1 on page 1/1.35.02.

Cylinders ø 12 and ø 16 use the same guides.



DIMENSIONS

Ø	TF	TG	TH	TI	TM	TL	TN	UF1	UF	G1	øA	C1	H	W	C	L	L1	L2	L3	L4	L5	L6	P	P1	T	øEA	øEB	EC	øFA	øFB	FC	SW1	SW2	SW3
12	57	32	26,5	47	16	40	23	70	65	29	10	60	4	5	10	102,5	10	26	13	30	30	6,5	M5	M5	8	5,5	9	5,7	5,5	9,5	5,7	21	13	6
16	57	32	26,5	47	16	40	23	70	65	29	10	60	4	5	10	102,5	10	26	13	30	30	6,5	M5	M5	8	5,5	9	5,7	5,5	9,5	5,7	21	13	6

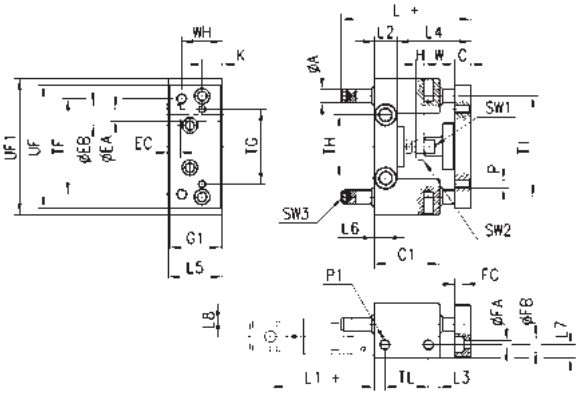
Guides Mod. 45NUT

Supplied with:
1x fixing nut.

Draw note:
+ = add the stroke

Suitable for cylinders Series 24 and 25 DIN/ISO 6432, ø 20 and 25.
These guides do not need lubrication.

For applicable loads, see graph 1.



DIMENSIONS

Ø	TF	TG	TH	TI	TL	UFI	UF	G1	øA	WH	C1	H	W	C	K	L	L1	L2	L3	L4	L5	L6	L7	L8	P	P1	øEA	øEB	EC	øFA	øFB	FC	SW1	SW2
20	70	55	46,5	74	32	100	90	38	10	30	48	4	22	12	15	77	71	17	8	48+2	40	8,5	10	24	M6	M8	9	15	9	6,5	11	6,8	13	13
25	70	55	46,5	74	32	100	90	38	10	30	48	6	22	12	15	77	76	17	8	48+2	40	8,5	10	24	M6	M8	9	15	9	6,5	11	6,8	13	17

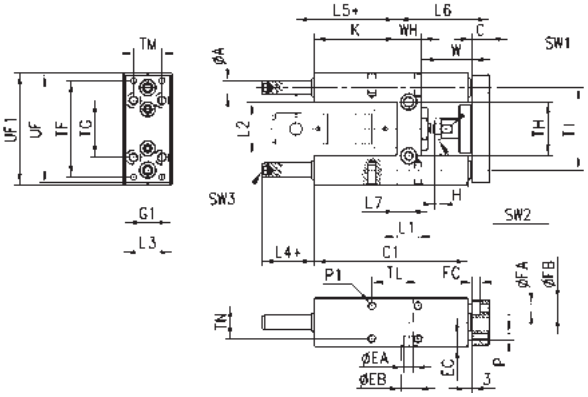
Guides Mod. 45NHT

Supplied with:
1x fixing nut.

Draw note:
+ = add the stroke

Suitable for cylinders Series 24 and 25 DIN/ISO 6432, ø 20 and 25.
These guides do not need lubrication.

For applicable loads, see graph 3.



DIMENSIONS

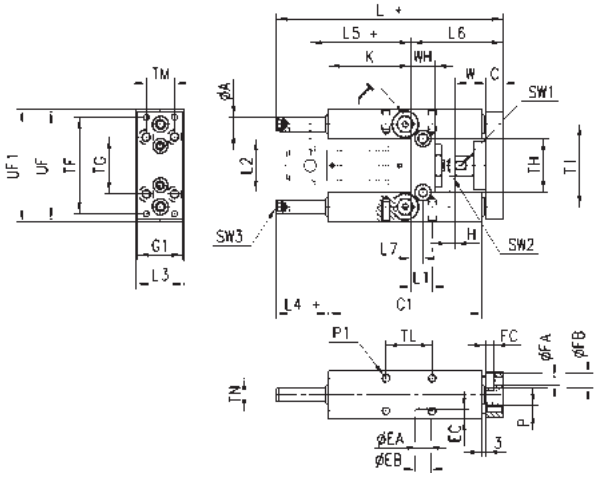
Ø	TF	TG	TH	TI	TL	TM	TN	UF	G1	UF1	øA	WH	C1	H	W	C	K	L	L1	L2	L3	L4	L5	L6	L7	P	P1	T	øEA	øEB	EC	øFA	øFB	FC	SW1	SW2	SW3
20	68	40	38	58	32,5	20	23	76	32	79	10	17	108	4	22	12	58	160	15	37	34	37	71	65	8,5	M5	M6	14	6,5	11	6,8	5,5	10	5,7	13	13	6
25	68	40	38	58	32,5	20	23	76	32	79	10	17	108	6	17	12	58	160	15	37	34	37	76	65	8,5	M5	M6	14	6,5	11	6,8	5,5	10	5,7	13	17	6

Guides Mod. 45NHB

Suitable for cylinders Series 24 and 25 DIN/ISO 6432, ø 20 and 25.
To lubricate these guides, use the special lubricator. For applicable loads, see graph No. 2.

Supplied with:
1x fixing nut.

Draw note:
+ = add the stroke



DIMENSIONS

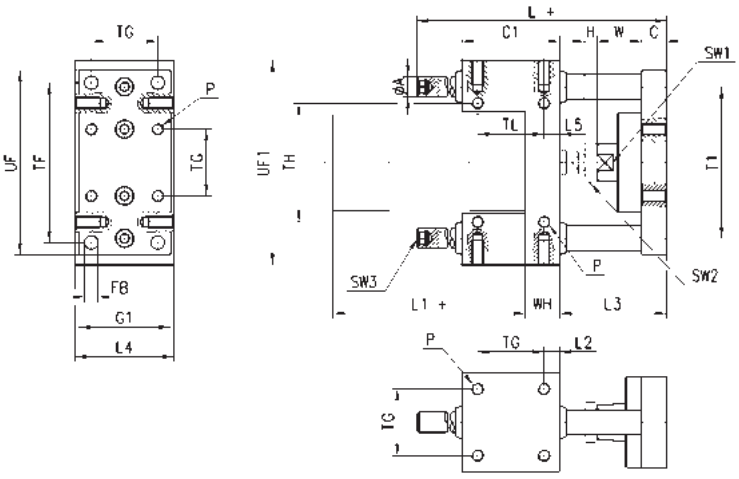
Ø	TF	TG	TH	TI	TL	TM	TN	UF	G1	UF1	A	WH	C1	H	W	C	K	L	L1	L2	L3	L4	L5	L6	L7	P	P1	T	øEA	øEB	EC	øFA	øFB	FC	SW1	SW2	SW3
20	68	40	38	58	32,5	20	23	76	32	79	10	17	108	4	22	12	58	160	15	37	34	37	71	65	8,5	M5	M6	14	6,5	11	6,8	5,5	10	5,7	13	13	6
25	68	40	38	58	32,5	20	23	76	32	79	10	17	108	6	17	12	58	160	15	37	34	37	76	65	8,5	M5	M6	14	6,5	11	6,8	5,5	10	5,7	13	17	6

Guides Mod. 45NUT

Suitable for cylinders Series 60, 61 and 62 DIN/ISO 6431, ø 32, 40, 50, 63, 80 and 100.
These guides do not need lubrication. For applicable loads, see graph No. 1.

Supplied with:
4x fixing screws.

Draw note:
+ = add the stroke



DIMENSIONS

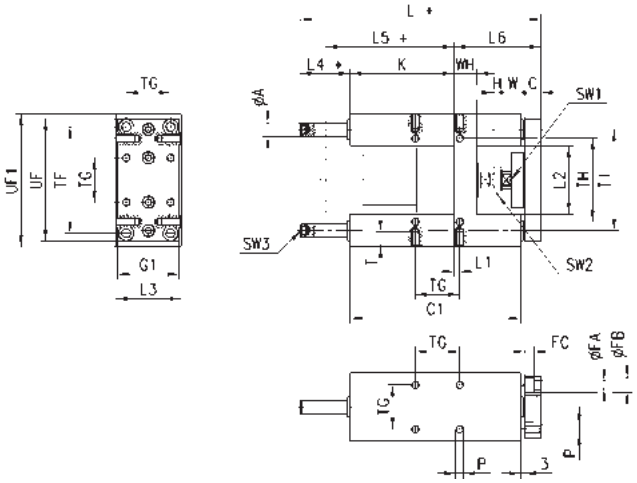
Ø	TF	TG	TH	øA	T1	P	FB	UF	G1	UF1	L	C1	H	W	C	L1	WH	L2	L3	L4	L5	TL	SW1	SW2	SW3
32	78	32,5	58	12	74	M6	6,6	90	45	100	106	48	6	22	12	94	17	7,8	52	48	7,8	32,5	15	17	6
40	84	38	64	12	80	M6	6,6	100	50	106	117	58	7	22	12	105	21	10	53	56	10	38	15	19	6
50	100	46,5	80	16	96	M8	9	120	60	125	129	59	8	26	15	106	25	6,2	64	66	6,3	46,5	22	24	6
63	105	56,5	95	16	104	M8	9	125	70	132	146	76	8	26	15	121	25	9,8	64	76	9,8	56,5	22	24	6
80	130	72	130	20	130	M10	11	155	90	165	170	90	9	32	16	128	34	9	72	98	20	50	27	30	6
100	150	89	150	20	150	M10	11	175	110	185	190	110	9	32	16	138	39	10,5	72	118	20	70	27	30	6

Guides Mod. 45NHT

Suitable for cylinders Series 60, 61 and 62 DIN/ISO 6431, ø 32, 40, 50, 63, 80 and 100.
These guides do not need lubrication. For applicable loads, see graph No. 3.

Supplied with:
4x fixing screws.

Draw note:
+ = add the stroke



DIMENSIONS

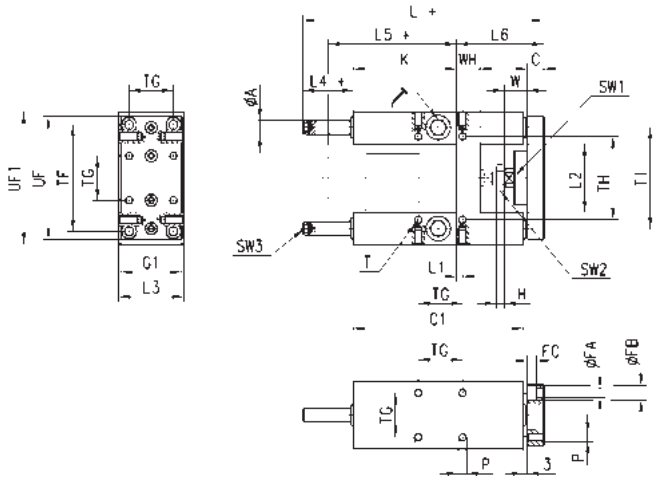
Ø	TF	TG	TH	TI	UF	G1	UF1	øA	WH	C1	H	W	C	K	L	L1	L2	L3	L4	L5	L6	P	T	øFA	øFB	FC	SW1	SW2	SW3
32	78	32.5	61	74	90	45	97	12	17	125	6	17	12	76	177	4.3	50.2	50	37	94	64	M6	14	6.5	11	6.8	13	17	6
40	84	38	69	87	110	54	115	16	21	140	7	22	12	81	192	11	58.2	58	37	105	74	M6	14	6.5	11	6.8	15	19	6
50	100	46.5	85	104	130	63	137	20	26	149	8	26	15	78.5	205	19.8	70.2	70	37.5	106	89	M8	16	9	15	9	22	24	6
63	105	56.5	100	119	145	80	152	20	26	178	8	26	15	111	237	15.3	85.2	85	37	121	89	M8	16	9	15	9	22	24	6
80	130	72	130	148	180	100	189	25	34	195	9	32	20	128	280	21	105.4	105	42	128	110	M10	20	11	18	11	27	30	6
100	150	89	150	172	200	120	213	25	39	220	9	32	20	128	280	24.5	130.4	130	37	138	115	M10	20	11	18	11	27	30	6

Guides Mod. 45NHB

Suitable for cylinders Series 60, 61 and 62 DIN/ISO 6431, ø 32, 40, 50, 63, 80 and 100.
To lubricate these guides, use the special lubricator. For applicable loads, see graph No. 2.

Supplied with:
4x fixing screws.

Draw note:
+ = add the stroke



DIMENSIONS

Ø	TF	TG	TH	TI	UF	G1	UF1	øA	WH	C1	H	W	C	K	L	L1	L2	L3	L4	L5	L6	P	T	øFA	øFB	FC	SW1	SW2	SW3
32	78	32.5	61	74	90	45	97	12	17	125	6	17	12	76	177	4.3	50.2	50	37	94	64	M6	14	6.5	11	6.8	13	17	6
40	84	38	69	87	110	54	115	16	21	140	7	22	12	81	192	11	58.2	58	37	105	74	M6	14	6.5	11	6.8	15	19	6
50	100	46.5	85	104	130	63	137	20	26	149	8	26	15	78,5	237	19.8	70.2	70	69.5	106	89	M8	16	9	15	9	22	24	6
63	105	56.5	100	119	145	80	152	20	26	178	8	26	15	111	237	15.3	85.2	85	37	121	89	M8	16	9	15	9	22	24	6
80	130	72	130	148	180	100	189	25	34	195	9	32	20	128	280	21	105.4	105	42	128	110	M10	20	11	18	11	27	30	6
100	150	89	150	172	200	120	213	25	39	220	9	32	20	128	280	24.5	130.4	130	37	138	115	M10	20	11	18	11	27	30	6