

Series 63 ISO 15552 cylinders

New versions
FAMCO
 هایپرمنعت


Single and double-acting, magnetic, cushioned
 ø 32, 40, 50, 63, 80, 100, 125 mm



The Series 63 pneumatic cylinders have been developed to guarantee high performance and versatility. Thanks to a new system of adjustable pneumatic cushioning, the cylinders can always guarantee the best regulation whilst significantly reducing noise caused by the impact of the piston on the end block.

Besides the standard version, which can be used in many sectors, specific solutions have been developed for applications such as food processing, agriculture, in tensioning, dosing systems and dancer arms for winding applications. There are also versions for demanding application environments, capable of withstanding extreme temperatures, corrosive atmospheres etc.

- » In compliance with the ISO 15552 standard
- » Weight reduced by 25%
- » Low noise
- » More accurate with fine regulation of cushioning
- » Flexibility and versatility

VERSIONS AVAILABLE:

- » Low friction
- » Uniform movement (low speed)
- » High and low temperatures
- » Corrosion-resistant
- » Hydrolytic environment
- » Food and beverage
- » Lube-free operation
- » Dirty and dusty environments
- » Protective bellows
- » Back to back
- » Tandem and multi-position
- » With rod lock
- » Polyurethane coating
- » ATEX

GENERAL DATA

Type of construction	profile (with screws) and round tube (with tie-rods)
Design	ISO 15552
Operation	single and double-acting
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) high temperatures (version W): 0°C ÷ 150°C (with dry air -20°C) low temperatures (version Z): -40°C ÷ 60°C (with dry air -40°C) low temperatures (version Y): -50°C ÷ 60°C (with dry air -50°C)
Storage temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar (standard, high and low temperatures) 0.1 ÷ 10 bar (low friction)
Speed	10 ÷ 1000 mm/sec, no load (standard, high and low temperatures) 5 ÷ 1000 mm/sec, no load (low friction and uniform movement)
Fluid	filtered air in class 7.8.4, 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.
Use with sensors	model CSH

STANDARD STROKES FOR CYLINDERS SERIES 63

■ = Single-acting, front spring (standard and high temperatures); ▲ = Single-acting, rear spring (standard and high temperatures);
* = Double-acting (standard, low friction, high/low temperatures) Other strokes up to 2500 mm are available on request.

STANDARD STROKES														
∅	25	50	75	80	100	125	150	160	200	250	300	320	400	500
32	■ ▲ *	■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×
40	■ ▲ *	■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×
50	■ ▲ *	■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×
63	■ ▲ *	■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×
80	■ ▲ *	■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×
100		■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×
125		■ ▲ *	■ *	×	×	×	×	×	×	×	×	×	×	×

CODING EXAMPLE

63	M	P	2	C	050	A	0200	W						
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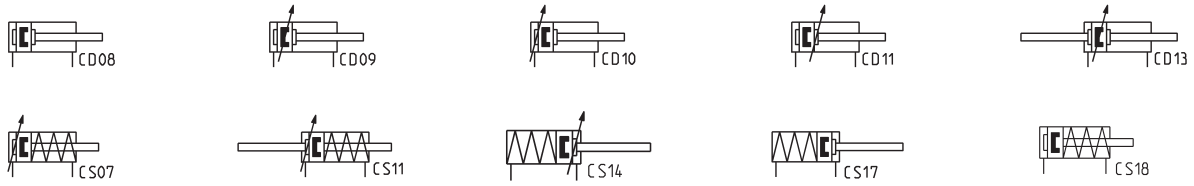
63	SERIES	
M	VERSION: M = standard, magnetic V = uniform movement (no stick slip), magnetic L = low friction, magnetic	
P	CONSTRUCTION: T = round tube P = profile	
2	OPERATION: 1 = single-acting, front spring 2 = double-acting 6 = double-acting, through-rod 7 = single-acting, through-rod 9 = single-acting, rear spring	PNEUMATIC SYMBOLS: CS07/CS18 CD08 - CD09 - CD10 - CD11 CD13 CS11 CS14/CS17
C	CUSHIONING: N = no cushioning (mechanical endstops) C = cushioning on both sides F = front cushioning R = rear cushioning	PNEUMATIC SYMBOLS: CD08 CD09/CD13 CD11 CD10
050	BORE: 032 = 32 mm 040 = 40 mm 050 = 50 mm 063 = 63 mm	080 = 80 mm 100 = 100 mm 125 = 125 mm
A	CONSTRUCTIVE TYPE: A = standard with rod nut RL = cylinder with rod lock	DC = back to back cylinder with DC accessory [X1/X2] TR = back to back cylinder for round tube [X1/X2] F = cylinder with centre trunnion
0200	STROKE: = standard N = tandem / = more positions X1/X2 [X1<X2]	
W	TEMPERATURE RANGE: = standard (-20°/+80°) W = high temperatures (150°C)	Z = low temperatures (-40°C) Y = low temperatures (-50°C)
	RESISTANCE TO CORROSION: = standard C1 = rod nut AISI 304 stainless steel, rod AISI 304 stainless steel C2 = end cap treated screws (profile) or AISI 303 tie-rods and AISI 420B tie-rods (round tube)	C3 = C2 + AISI 316 rod nut, AISI 316 rod C4 = C1 + C2 C5 = C3 + end caps with triple protection
	ROD VARIATIONS: = standard (male rod thread) F = female rod thread K = end caps with Kanigen treatment (only for corrosion resistance category C2, C3 and C4) L = without rod seal (rear air inlet only)* V = FKM rod seal R = NBR rod seal U = unlubricated operation	H = hydrolytic environment A = use in food and other frequent washdown applications G = dry and dusty environments (with brass rod scraper and chrome-plated stainless steel AISI 420B rod) B = cylinder with NBR bellows rod protection (...) = extended rod ___ mm
	OTHER: P = cylinder with RAL 7035 polyurethane coating	
	CERTIFICATIONS: EX = ATEX	

* Only for low friction

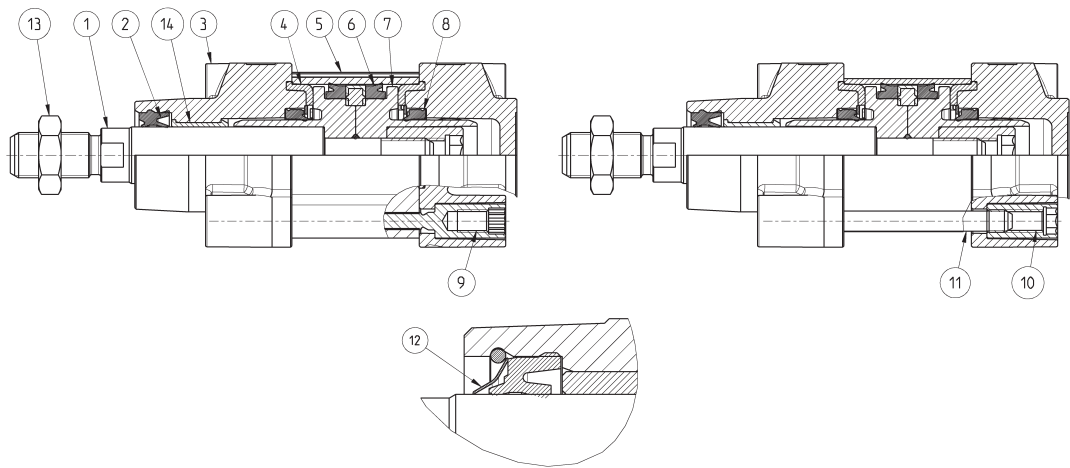
SERIES 63 CYLINDERS

PNEUMATIC SYMBOLS

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



MATERIALS



LIST OF COMPONENTS							
	Standard, profile	Standard, round tube	Low friction (L)	Rod scraper (G)	Low temperatures (Z/Y)	High temperatures (W)	Resistance to corrosion (C1)
PARTS							
1 - Rod	AISI 420B	AISI 420B	AISI 420B	Chrome-plated AISI 420B	Chrome-plated AISI 420B	AISI 420B	AISI 304
2 - Rod seal	PU	PU	NBR	NBR	PU for -40°C/-50°C	FKM	PU
3 - End-block	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
4 - Counterbore seal	NBR	NBR	NBR	NBR	NBR for -40°C/-50°C	FKM	NBR
5 - Extruded profile	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium
6 - Piston seal	PU	PU	NBR	PU	PU for -40°C/-50°C	FKM	PU
7 - Piston	Technopolymer (ø 32) or Aluminium (ø 40 ÷ 125)	Aluminium (ø 125) or Technopolymer (ø 32 ÷ 100)	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
8 - Cushion seal	PU	PU	PU	PU	PU	FKM	PU
9 - Self-tapping screw	Zinc-plated steel	-	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel
10 - Tie-rod nut	-	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	AISI 303	Zinc-plated steel	Zinc-plated steel
11 - Tie-rod	-	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	AISI 420B	Zinc-plated steel	Zinc-plated steel
12 - Rod scraper	-	-	-	Brass	Brass	-	-
13 - Rod nut	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	AISI 304	Zinc-plated steel	AISI 304
14 - Rod guide bush	Technopolymer	Technopolymer	Technopolymer	Technopolymer	Technopolymer	Steel + PTFE	Technopolymer

END LOCK cylinders Series 63

Double-acting, magnetic, cushioned
Ø 32, 40, 50, 63, 80, 100, 125 mm



- » Robust design
- » ISO 15552 compliant
- » High reliability
- » Locking force greater than thrust force of cylinder (6bar)
- » Automatic mechanical end-stroke lock in three versions : front; rear; front & rear
- » Automatic unlocking without any pilot inputs
- » Manual unlocking function
- » Ability to deactivate the locking function (during machine set-up phase)

END LOCK pneumatic cylinders are fitted with automatic mechanical end stroke locks which guarantee safe and secure holding of the cylinder rod in both the fully retracted and fully extended positions. The locks activate and release automatically, without the need for external signals or commands and cylinder END LOCK Series 63 comply with ISO 15552.

The automatic mechanical lock therefore makes the END LOCK cylinders Series 63 highly suitable for use in sectors and for applications where it is essential to lock the cylinder's position, both to avoid sliding during long stops and in situations with an absence of air, for example in transportation, printing & paper and the woodworking industry. In addition, their capability to withstand external forces, that are much higher than the force exerted by the piston, makes the END LOCK cylinder the ideal solution for applications such as lifters, positioners and presses where a greater degree of safety is required compared to the more traditional rod locks combined with blocking valves.

VERSIONS AVAILABLE:

- » High and low temperatures
- » Corrosion-resistant
- » Dirty and dusty environments
- » Protective bellows
- » ATEX

GENERAL DATA

Type of construction	profile (with screws)
Design	ISO 15552
Operation	double-acting
Type of mounting	with front / rear flange, foot mounting, with front / rear / centre / swivel trunnion
Stroke min - max	10 ÷ 2500 mm
Operating temperature	standard: 0°C ÷ 80°C (with dry air -20°C) high temperatures (version W): 0°C ÷ 150°C (with dry air -20°C) low temperatures (version Z): -40°C ÷ 60°C (with dry air -40°C) low temperatures (version Y): -50°C ÷ 60°C (with dry air -50°C)
Storage temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	2 ÷ 10 bar (standard, high and low temperatures)
Fluid	filtered air in class 7.8.4, 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.
Use with sensors	model CSH

End Lock system features

	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Static Holding Force** [N]	1000	1000	3000	3000	5500	5500	5500
Axial backlash of locking system [mm]	< 0,15	< 0,15	< 0,15	< 0,15	< 0,15	< 0,15	< 0,15
Minimum unlocking pressure [bar]	2	2	2	2	2	2	2

** maximum applicable load in continuous operation, higher loads may cause permanent deformations to the locking system

STANDARD STROKES FOR END LOCK CYLINDERS SERIES 63

✕ = Double-acting (standard, high/low temperatures) 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

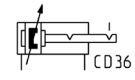
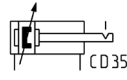
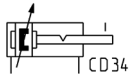
63	M	P	2	C	050	A	0400	FL	W					
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63	SERIES													
M	VERSION: M = standard, magnetic													
P	CONSTRUCTION: P = profile													
2	OPERATION: 2 = double-acting													
C	CUSHIONING: C = cushioning on both sides													
050	BORE: 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 DC = back to back cylinder with DC accessory [X1/X2]										F = cylinder with centre trunnion			
0400	STROKE: = standard													
FL	CONSTRUCTIVE TYPE: FL = Front lock BL = Rear lock DL = front & rear lock										PNEUMATIC SYMBOLS CD34 CD35 CD36			
	TEMPERATURE RANGE*: = standard (-20°/+80°) W = high temperatures (150°C)										Z = low temperatures (-40°C) Y = low temperatures (-50°C)			
	CORROSION RESISTANCE*: = standard C2 = treated end cap screws (profile) or AISI 303 tie-rod nuts and AISI 420B tie-rods (Ø 125) C3 = C2 + AISI 316 rod nut, AISI 316 rod										C5 = C3 + end caps END LOCK with triple protection (only for constructive type FL and BL)			
	TYPE OF MANUAL UNLOCKING = manual with M3 screw (not supplied) T = manual with unhooking pin and protective cover													
	ROD VARIATIONS: = standard (male rod thread) K = end caps without END LOCK with Kanigen treatment (only for lock type FL and BL, only for corrosion resistance category C2 and C3) V = FKM rod seal R = NBR rod seal										G = dusty and dirty environments (with metal scraper and chrome-plated AISI 420B rod) B = cylinder with NBR bellows rod protection () = extended rod ___ mm			
	CERTIFICATIONS: = standard EX = ATEX													

* See material's table for more details

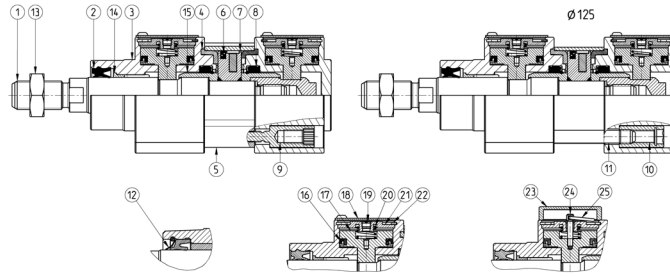
PNEUMATIC SYMBOLS

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



END LOCK CYLINDERS SERIES 63

MATERIALS



LIST OF COMPONENTS	standard manual release	standard manual release "T"	Rod scraper (G)	Low temperatures (Z/Y)	High temperatures (W)	Resistance to corrosion (C2)	Resistance to corrosion (C3)	Resistance to corrosion (C5)
PARTS								
1 - Rod	AISI 420B	AISI 420B	Chrome-plated AISI 420B	Chrome-plated AISI 420B	AISI 420B	AISI 420B	AISI 316	AISI 316
2 - Rod seal	PU	PU	NBR	PU for -40°C/-50°C	FKM	PU	PU	PU
3 - END LOCK end-cap	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium
3bis - End-cap without END LOCK	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
4 - Counterbore seal	NBR	NBR	NBR	NBR for -40°C/-50°C	FKM	NBR	NBR	NBR
5 - Extruded profile	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium
6 - Piston seal	NBR	NBR	NBR	NBR for -40°C/-50°C	FKM	NBR	NBR	NBR
7 - Piston	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
8 - Cushion seal	PU	PU	PU	PU for -40°C/-50°C	FKM	PU	PU	PU
9 - Self-tapping screw	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	Coated steel	Coated steel	Coated steel
10 - Tie-rod (Ø125)	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	AISI 303	Zinc-plated steel	AISI 303	AISI 303	AISI 303
11 - Tie-rod (Ø125)	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	AISI 420B	Zinc-plated steel	AISI 420B	AISI 420B	AISI 420B
12 - Rod scraper	-	-	Brass	Brass	-	-	-	-
13 - Rod nut	Zinc-plated steel	Zinc-plated steel	Zinc-plated steel	AISI 304	Zinc-plated steel	AISI 304	AISI 316	AISI 316
14 - Rod guide bush	Technopolymer	Technopolymer	Technopolymer	Technopolymer	Steel + PTFE	Technopolymer	Technopolymer	Technopolymer
15 - Sleeve	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
16 - Seal of piston lock	NBR	NBR	NBR	NBR for -40°C/-50°C	FKM	NBR	NBR	NBR
17 - Locking piston	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
18 - Standard cover	AISI 304	-	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
19 - Filter	Brass	-	Brass	Brass	Brass	Brass	Brass	Brass
20 - Spring	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel
21 - Internal cover	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium
22 - Seeger ring	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel
23 - Cover - unlocking	-	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium	Anodized aluminium
24 - Unlocking pin	-	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303
25 - Unlocking ring	-	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel	Spring steel

Series 41 cylinders - Aluminium profile

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



SERIES 41 CYLINDERS



- » In compliance with ISO 15552 standards and with the previous DIN/ISO 6431/VDMA 24562 standards
- » Rolled stainless steel rod
- » Adjustable pneumatic cushioning
- » Rod scraper in brass

Series 41 cylinders comply with the ISO 15552 standards and can be assembled with the entire range of standard accessories.

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
Design	ISO 15552
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		✕			✕				✕					

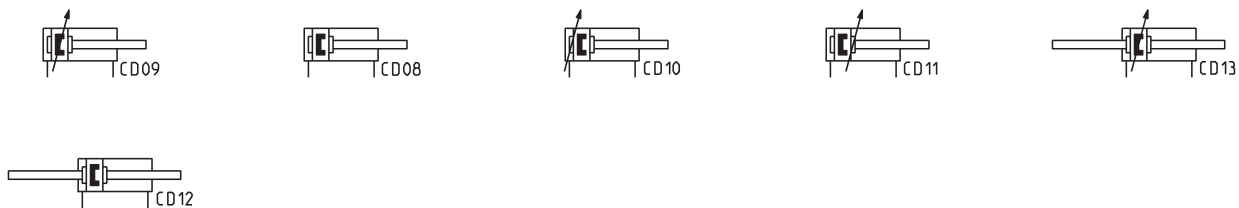
CODING EXAMPLE

41	M	2	P	160	A	0200	
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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 8 = double-acting, through-rod, no cushion
P	MATERIALS P = see the GENERAL DATA table on the previous page 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

SERIES 41 CYLINDERS



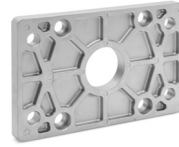
Clevis pin Mod. S



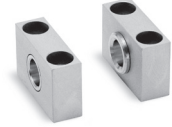
90° swivel combination Mod. ZS



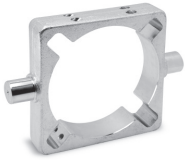
Rear trunnion, male Mod. L



Front and rear flange Mod. D-E



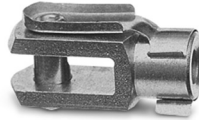
Counter bracket for centre trunnion Mod. BF



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

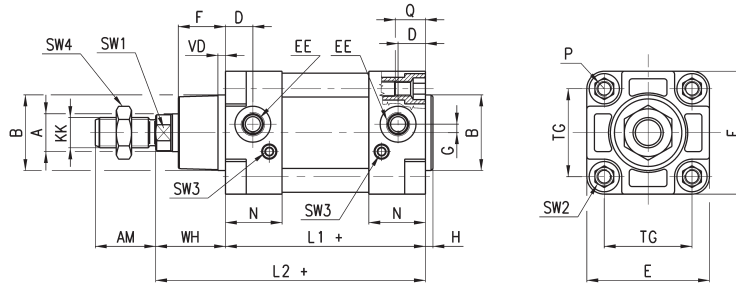


Self aligning rod Mod. GK



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

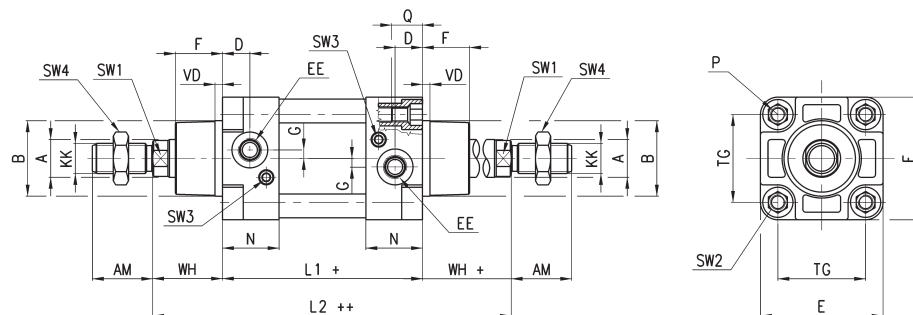
Cylinders Series 41



+ = add the stroke

DIMENSIONS																							
∅	A	KK	B	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

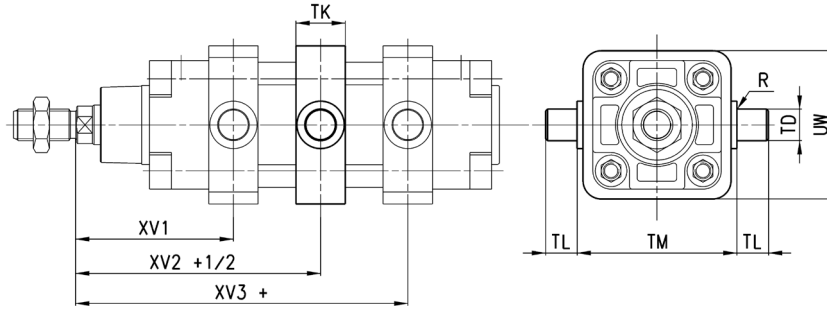
Cylinders Series 41 - through-rod



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

DIMENSIONS																						
∅	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
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

Cylinders Series 41 with centre trunnion Mod. F

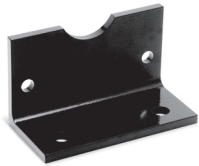


+ = add the stroke
+ 1/2 = add the stroke half

SERIES 41 CYLINDERS

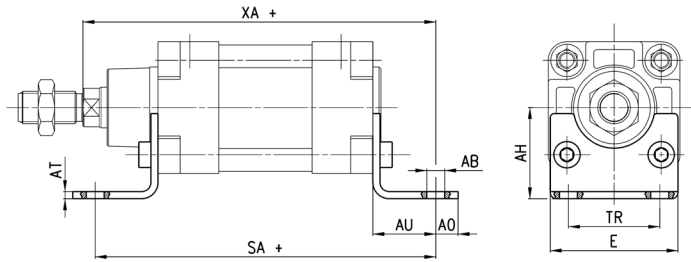
DIMENSIONS									
∅	XV1	XV2	XV3+	TM	TK	TD	TL	UW	R
160	145	170	195	200	40	32	32	200	0,2
200	160	185	210	250	40	32	32	250	0,2

Foot mount Mod. B



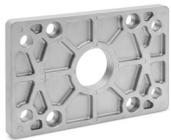
Material: black-painted steel
(cataphoresis)
Supplied with:
2x feet
4x screws

+ = add the stroke



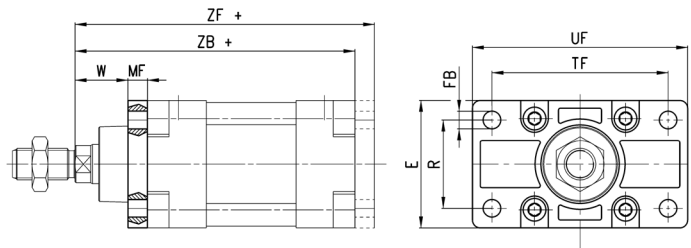
DIMENSIONS										
Mod.	∅	AT	SA+	XA+	TR	E	∅ _{AB}	AH	AO	AU
B-41-160	160	10	300	320	115	175	18.5	115	25	60
B-41-200	200	12	320	345	135	238	24	135	35	70

Front and rear flange Mod. D-E



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

+ = add the stroke



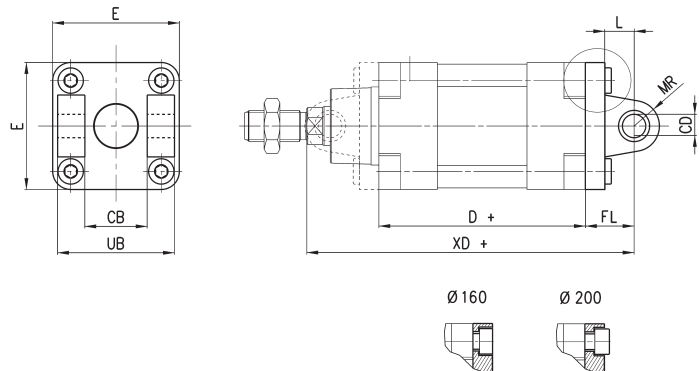
DIMENSIONS										
Mod.	∅	W	MF	ZB+	TF	R	UF	E	∅ _{FB}	ZF+
D-E-41-160	160	60	20	260	230	115	260	180	18	280
D-E-41-200	200	70	25	275	270	135	300	220	22	300

Front and rear female trunnion Mod. C-H



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

+ = add the stroke

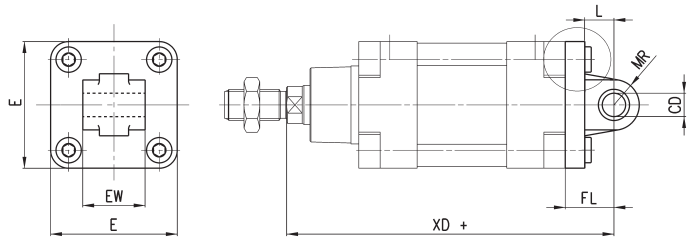


DIMENSIONS										
Mod.	∅	∅ _{CD}	L	FL	D+	XD+	MR	E	CB	UB
C-H-41-160	160	30	35	55	180	315	25	180	90	169
C-H-41-200	200	30	35	60	180	335	25	220	90	169

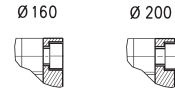
Rear male trunnion Mod. L



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



+ = add the stroke

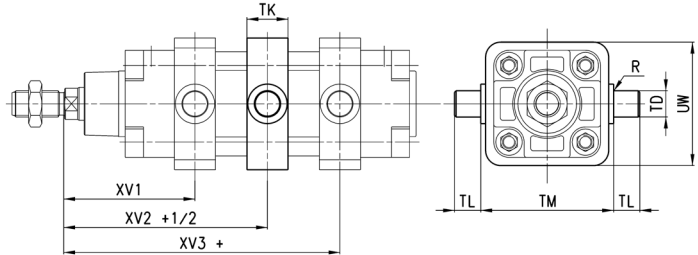


DIMENSIONS								
Mod.	Ø	ØCD	L	FL	XD+	MR	E	EW ^{-0.5-1.2}
L-41-160	160	30	35	55	315	25	180	90
L-41-200	200	30	35	60	335	25	220	90

Centre trunnion Mod. F



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



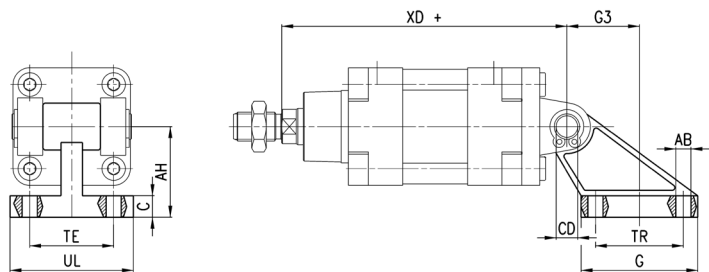
+ = add the stroke

DIMENSIONS										
Mod.	Ø	XV1	XV1+1/2	XV3+	TM	h	ØTD	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	TE	TR	ØAB	AH	C	G	ØCD	UL	XD+	G3
ZS-160*	160	140	140	18	140	20	180	30	180	315	105
ZS-160N	160	118	88	14	115	25	126	30	156	315	53
ZS-200*	200	175	175	18	140	25	220	30	220	335	125
ZS-200N	200	122	90	18	135	30	130	30	162	335	60

ACCESSORIES FOR END LOCK CYLINDERS SERIES 63



Piston rod socket joint
Mod. GY



Piston rod lock nut
Mod. U



Clevis pin Mod. S



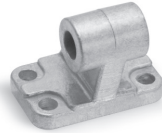
Rear trunnion ball-joint
Mod. R



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-63, profile cyl.



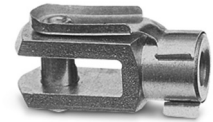
Foot mount
Mod. B-41



Front female trunnion
Mod. H and C-H



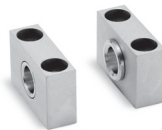
Rear female trunnion
Mod. C and C-H



Rod fork end Mod. G



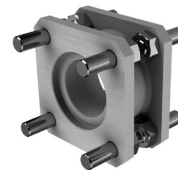
Rear trunnion male
Mod. L



Counter bracket for centre
trunnion Mod. BF



Front/rear spot faced
trunnion Mod. FN

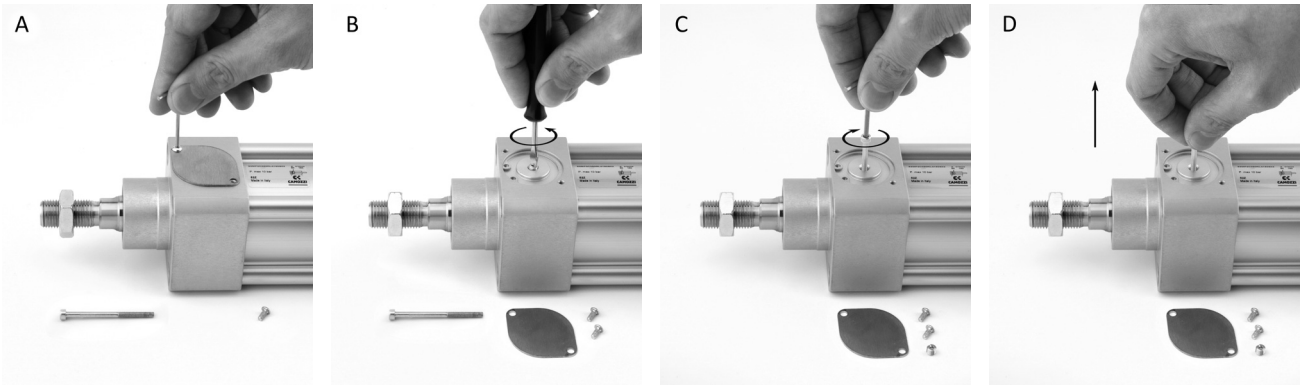


Opposed cylinder coupler
Mod. DC-63

MANUAL UNLOCKING FUNCTION WITH M3 SCREW (NOT SUPPLIED)



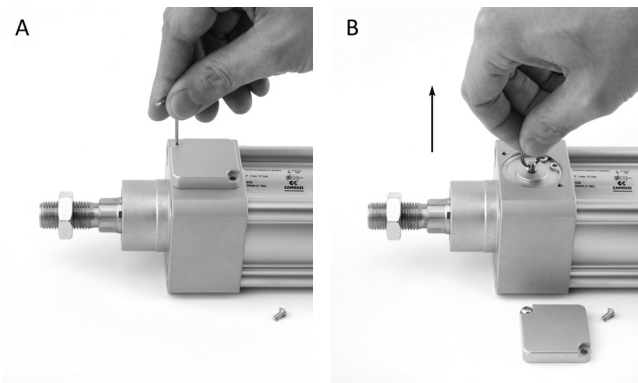
Manual unlocking: Remove the cover (fig. A), unscrew the filter (fig. B), screw an M3 screw into the locking piston (fig. C) and pull the screw to unlock the rod (fig. D)



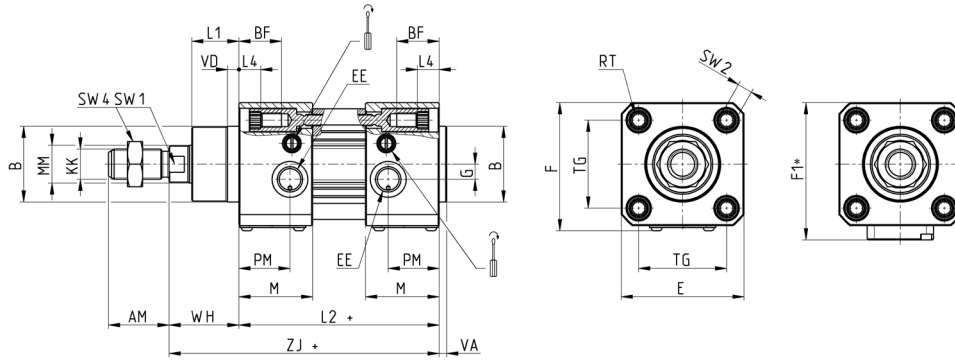
MANUAL UNLOCKING FUNCTION WITH SHAPED UNHOOKING PIN



Integrated manual unlocking: Remove the external cover (fig. A) and pull the ring to unlock the rod (fig. B)



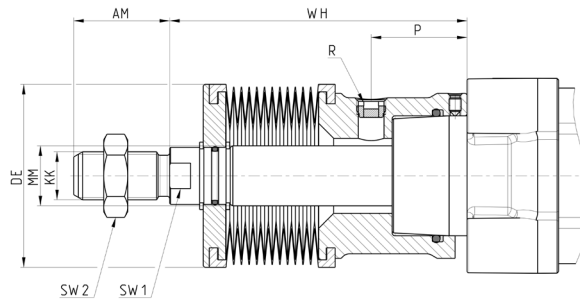
END LOCK cylinders Series 63, profile, double-acting, DL-type



+ = add the stroke
* unlocking type "T"

Ø	ØMM	KK	ØB	PM	L1	AM	VA	EE	WH	L2	L4	ZJ	VD	M	BF	RT	G	TG	E	F	F1*	SW1	SW2	SW4	front/rear cushion stroke
32	12	M10x1.25	30	18	18	22	4	G1/8	26	94	11,5	120	5	34	22	M6	5	32,5	47	49,7	57	10	6	17	17
40	16	M12x1.25	35	24	21	24	4	G1/4	30	105	15	135	5	40	25,5	M6	5	38	55	57,7	64,5	13	6	19	17
50	20	M16x1.5	40	27	25	32	4	G1/4	37	106	11,5	143	6	39	21,5	M8	8	46,5	65	67,7	72,5	17	8	24	14,5
63	20	M16x1.5	45	27	26	32	4	G3/8	37	121	12,5	158	6	44	22,5	M8	8	56,5	75	77,5	82,5	17	8	24	19,5
80	25	M20x1.5	45	32	30	40	4	G3/8	46	128	6	174	7	46	25	M10	8	72	93	95,7	99,5	22	6	30	17
100	25	M20x1.5	55	32	35	40	4	G1/2	51	138	7,5	189	7	47	27	M10	8	89	110	112,7	116,5	22	6	30	21,5
125	32	M27x2	60	39	42	54	6	G1/2	65	160	6	225	8	54	23	M12	10,5	110	135	137,7	142,5	27	12	41	23

END LOCK cylinders Series 63 with protective bellow



Ø	Stroke	WH	AM	KK	MM	P	R	DE	SW1	SW2
32	0 ÷ 245	88	22	M10X1.25	12	25	G1/8	61	10	17
32	246 ÷ 490	132	22	M10X1.25	12	25	G1/8	61	10	17
40	0 ÷ 245	89	24	M12X1.25	16	26	G1/8	61	13	19
40	246 ÷ 490	133	24	M12X1.25	16	26	G1/8	61	13	19
50	0 ÷ 245	99	32	M16X1.5	20	30	G1/8	61	17	24
50	246 ÷ 490	143	32	M16X1.5	20	30	G1/8	61	17	24
63	0 ÷ 245	76	32	M16X1.5	20	16,5	G1/8	61	17	24
63	246 ÷ 490	120	32	M16X1.5	20	16,5	G1/8	61	17	24
80	0 ÷ 285	86	40	M20X1.5	25	11,5	G1/8	83	22	30
80	286 ÷ 570	139	40	M20X1.5	25	11,5	G1/8	83	22	30
100	0 ÷ 285	86	40	M20X1.5	25	12	G1/8	83	22	30
100	286 ÷ 570	139	40	M20X1.5	25	12	G1/8	83	22	30
125	0 ÷ 285	108	54	M27X2	32	30	G1/8	83	29	41
125	286 ÷ 570	161	54	M27X2	32	30	G1/8	83	29	41

Front and rear flange Mod. D-E

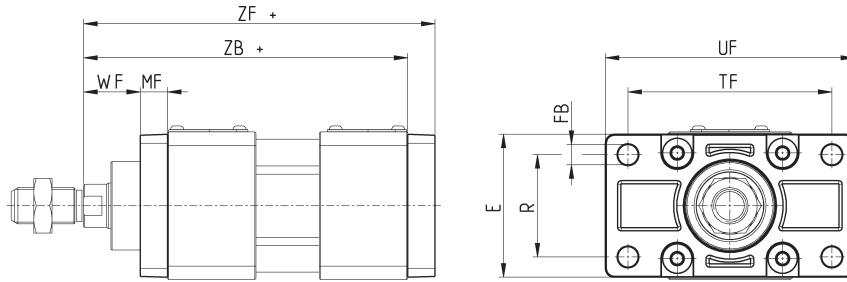
Material: Aluminium



Supplied with:
1x flange
4x screws*

+ = add the stroke

*on end cap with END LOCK function, use screws Mod. KR (according to ISO 4026), supplied separately, see accessories *screws and locking screws Mod. KR*



Mod.	Ø	W	MF	ZB	TF	R	UF	E	FB	ZF	screws for END LOCK* end-cap	torque force
D-E-41-32	32	16	10	120	64	32	80	45	7	130	M6 x 25 (KR-EL-01)	5 Nm
D-E-41-40	40	20	10	135	72	36	90	52	9	145	M6 x 30 (KR-EL-02)	5 Nm
D-E-41-50	50	25	12	143	90	45	110	65	9	155	M8 x 25 (KR-EL-04)	10 Nm
D-E-41-63	63	25	12	158	100	50	120	75	9	170	M8 x 25 (KR-EL-04)	10 Nm
D-E-41-80	80	30	16	174	126	63	148	95	12	190	M10 x 30 (KR-EL-07)	15 Nm
D-E-41-100	100	35	16	189	150	75	176	115	14	205	M10 x 35 (KR-EL-08)	15 Nm
D-E-41-125	125	45	20	225	180	90	220	140	16	245	-	20 Nm

Rear female trunnion Mod. C and C-H

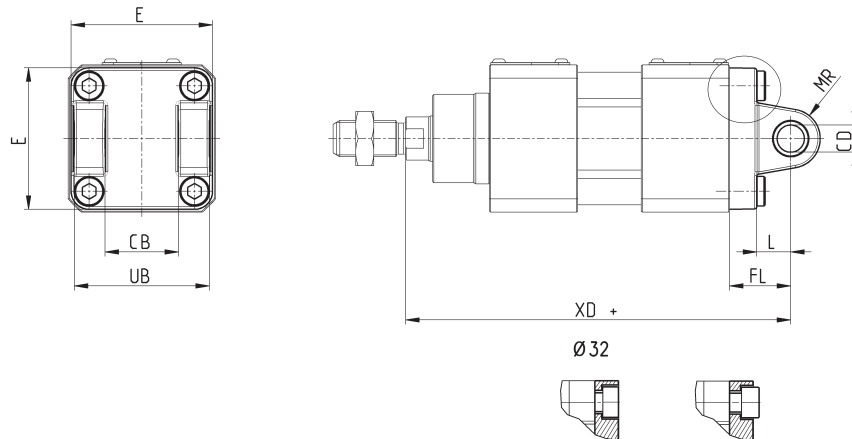
Material: Aluminium



Supplied with:
1x female trunnion
4x screws*

+ = add the stroke

*on end cap with END LOCK function, use screws Mod. KR (according to ISO 4026), supplied separately, see accessories *screws and locking screws Mod. KR*



Mod.	Ø	CD	L	FL	XD	MR	E	CB	UB	screws for END LOCK* end-cap	torque force
C-41-32	32	10	12.5	22	142	10	47	26	46.5	M6 x 25 (KR-EL-01)	5 Nm
C-41-40	40	12	16	25	160	12	52	28	52	M6 x 30 (KR-EL-02)	5 Nm
C-41-50	50	12	16	27	170	12	64	32	60	M8 x 25 (KR-EL-04)	10 Nm
C-H-41-63	63	16	21	32	190	16	74	40	70	M8 x 25 (KR-EL-04)	10 Nm
C-H-41-80	80	16	22	36	210	16	93	50	90	M10 x 30 (KR-EL-07)	15 Nm
C-H-41-100	100	20	27	41	230	20	114	60	110	M10 x 35 (KR-EL-08)	15 Nm
C-H-41-125	125	25	30	50	275	25	140	70	130	-	20 Nm

Front female trunnion Mod. H and C-H

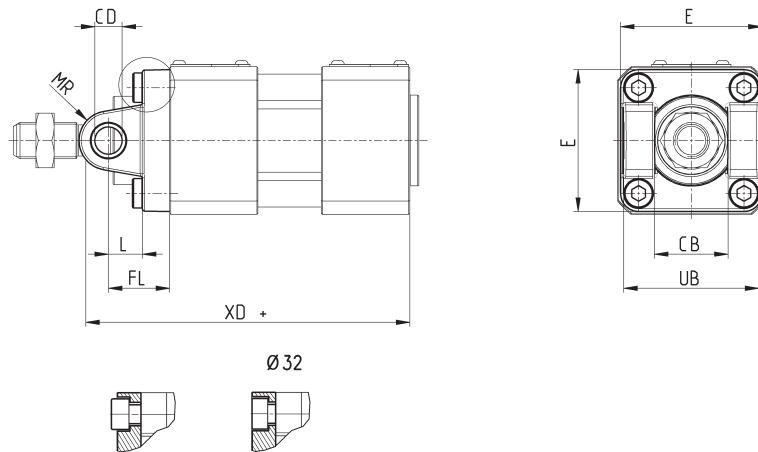
Material: Aluminium



Supplied with:
1x female trunnion
4x screws*

+ = add the stroke

*on end cap with END LOCK function, use screws Mod. KR (according to ISO 4026), supplied separately, see accessories *screws and locking screws Mod. KR*



Mod.	Ø	CB	UB	E	XD+	FL	L	CD	MR	screws for END LOCK* end-cap	torque force
H-41-32	32	26	46.5	47	120	22	12.5	10	10	M6 x 25 (KR-EL-01)	5 Nm
H-41-40	40	28	52	52	135	25	16	12	12	M6 x 30 (KR-EL-02)	5 Nm
H-41-50	50	32	60	64	143	27	16	12	12	M8 x 25 (KR-EL-04)	10 Nm
H-60-63	63	40	70	74	158	32	21	16	16	M8 x 25(KR-EL-04)	10 Nm
C-H-41-80	80	50	90	94	174	36	22	16	16	M10 x 30 (KR-EL-07)	15 Nm
C-H-41-100	100	60	110	114	189	41	27	20	20	M10 x 35 (KR-EL-08)	15 Nm
C-H-41-125	125	70	130	140	225	50	30	25	25	-	20 Nm

Rear male trunnion Mod. L

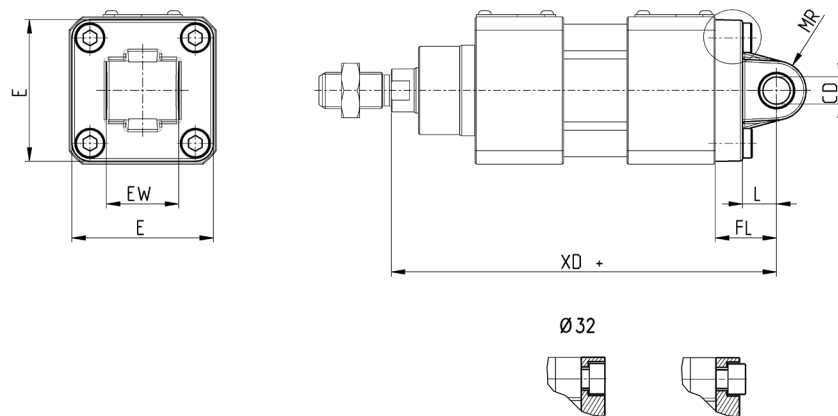
Material: Aluminium



Supplied with:
1x male trunnion
4x screws*

+ = add the stroke

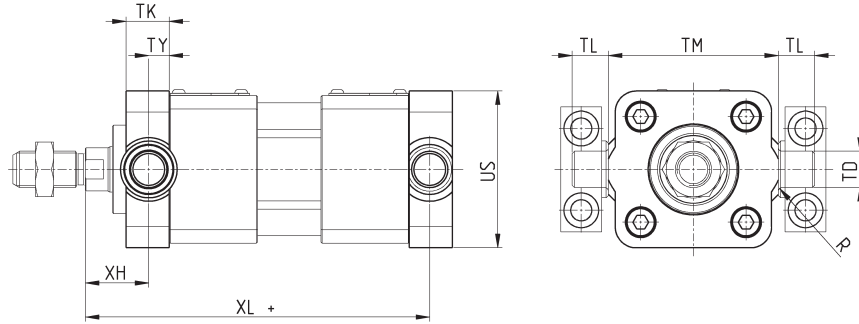
*on end cap with END LOCK function, use screws Mod. KR (according to ISO 4026), supplied separately, see accessories *screws and locking screws Mod. KR*



Mod.	Ø	CD	L	FL	XD	MR	E	EW	screws for END LOCK* end-cap	torque force
L-41-32	32	10	13	22	142	10	46	26	M6 x 25 (KR-EL-01)	5 Nm
L-41-40	40	12	16	25	160	12	52	28	M6 x 30 (KR-EL-02)	5 Nm
L-41-50	50	12	16	27	170	12	64	32	M8 x 25 (KR-EL-04)	10 Nm
L-41-63	63	16	21	32	190	16	74	40	M8 x 25 (KR-EL-04)	10 Nm
L-41-80	80	16	22	36	210	16	93	50	M10 x 30 (KR-EL-07)	15 Nm
L-41-100	100	20	27	41	230	20	114	60	M10 x 35 (KR-EL-08)	15 Nm
L-41-125	125	25	30	50	275	25	140	70	-	20 Nm

Front/rear spot faced trunnion Mod. FN

Material: zinc-plated steel



Supplied with:
1x centre spot faced trunnion
4x screws*

+ = add the stroke

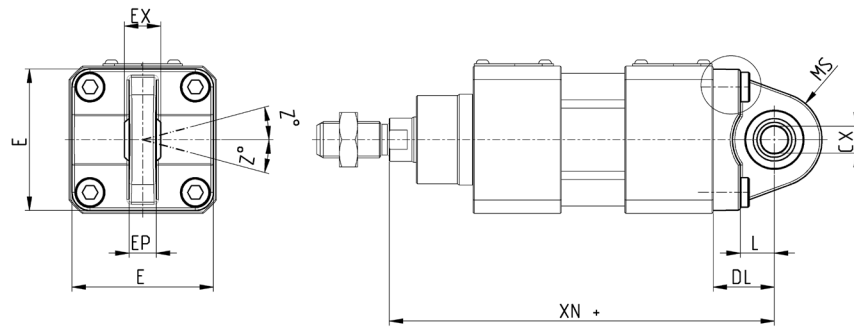
*on end cap with END LOCK function, use screws Mod. KR (according to ISO 4026), supplied separately, see accessories *screws and locking screws Mod. KR*

END LOCK CYLINDERS SERIES 63

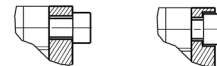
Mod.	∅	TK	TY	XH	XL+	US	TL	TM	TD	R	screws for END LOCK* end-cap	torque force
FN-32	32	14	6.5	19.5	126.5	46	12	50	12	1	M6 x 25 (KR-EL-01)	5 Nm
FN-40	40	19	9	21	144	59	16	63	16	1.5	M6 x 35 (KR-EL-03)	5 Nm
FN-50	50	19	9	28	152	69	16	75	16	1.6	M8 X 30 (KR-EL-05)	10 Nm
FN-63	63	24	11.5	25.5	169.5	84	20	90	20	1.6	M8 x 35 (KR-EL-05)	10 Nm
FN-80	80	24	11.5	34.5	185.5	102	20	110	20	1.6	M10 x 35 (KR-EL-08)	15 Nm
FN-100	100	29	14	37	203	125	25	132	25	1.6	M10 x 35 (KR-EL-08)	15 Nm
FN-125	125	30	15	50	240	150	25	160	25	2	-	20 Nm

Trunnion ball-joint Mod. R

** This trunnion doesn't comply with the ISO 15552 standard
Material: Aluminium



R-41-50/80/125



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

+ = add the stroke

*on end cap with END LOCK function, use screws Mod. KR (according to ISO 4026), supplied separately, see accessories *screws and locking screws Mod. KR*

Mod.	∅	∅CX	L	DL+	XN+	MS	E	EX	EP	Z	screws for END LOCK* end-cap	torque force
R-41-32	32	10	13	22	142	16	45	14	10.5	4	M6 x 25 (KR-EL-01)	5 Nm
R-41-40	40	12	16	25	160	19	52	16	12	4	M6 x 30 (KR-EL-02)	5 Nm
R-41-50**	50	12	15	27	170	21	62.5	16	12	4	M8 x 30 (KR-EL-05)	10 Nm
R-41-63	63	16	21	32	190	24	75	21	15	4	M8 x 25 (KR-EL-04)	10 Nm
R-41-80**	80	16	24	36	210	28	92	21	15	4	M10 x 35 (KR-EL-08)	15 Nm
R-41-100	100	20	27	41	230	30	115	25	18	4	M10 x 35 (KR-EL-08)	15 Nm
R-41-125	125	30	30	50	275	40	140	37	25	4	-	20 Nm
R-50	50	16	16	27	170	21,5	65	21	15	4	M8 x 25 (KR-EL-04)	10 Nm
R-80	80	20	22	36	210	28,5	95	25	18	4	M10 X 30 (KR-EL-07)	15 Nm

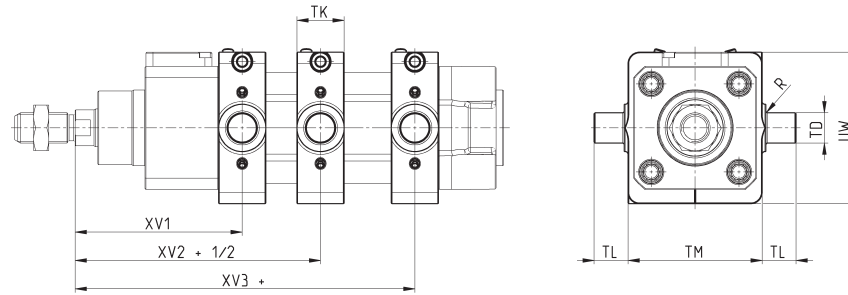
Centre trunnion Mod. F-63 for cylinders, FL-type

Material: zinc-plated steel



Supplied with:
1 centre trunnion
8 locking screws
2 fixing screws

+ = add the stroke



Mod.	∅	XV1	XV2	XV3	TM (h14)	TK	TD (e9)	TL (h14)	UW	R
F-63-32	32	70	73	83	50	20	12	12	62	0.5
F-63-40	40	79.5	82.5	95	63	20	16	16	70	1
F-63-50	50	88.5	90	100	75	25	16	16	80	1
F-63-63	63	93.5	97.5	108	90	25	20	20	90	1
F-63-80	80	107	110	122	110	30	20	20	115	1
F-63-100	100	113	120	134.5	132	30	25	25	135	1.5
F-63-125	125	134	145	166	160	30	25	25	162	1.5

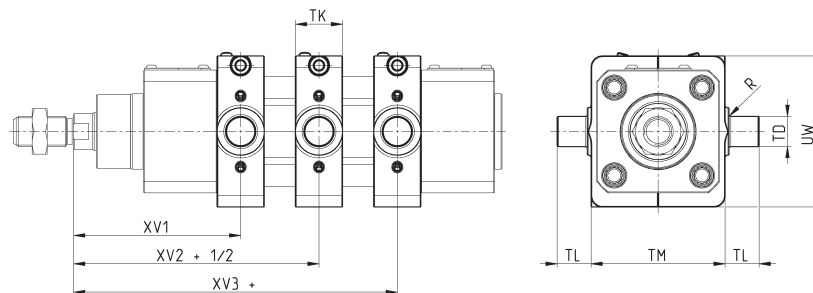
Centre trunnion Mod. F-63 for cylinders, DL-type

Material: zinc-plated steel



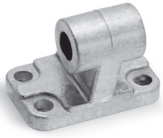
Supplied with:
1x centre trunnion
8x locking screws
2x fixing screws

+ = add the stroke



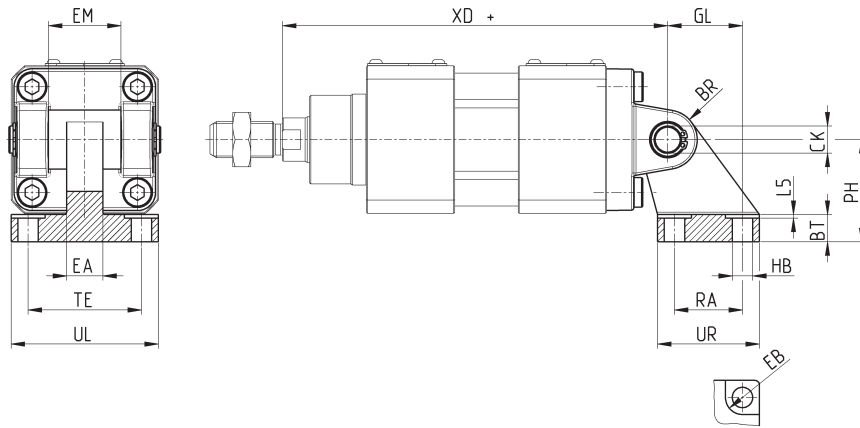
Mod.	∅	XV1	XV2	XV3	TM (h14)	TK	TD (e9)	TL (h14)	UW	R
F-63-32	32	70	73	76	50	20	12	12	62	0.5
F-63-40	40	79.5	82.5	85.5	63	20	16	16	70	1
F-63-50	50	88.5	90	91.5	75	25	16	16	80	1
F-63-63	63	93.5	97.5	101.5	90	25	20	20	90	1
F-63-80	80	107	110	113	110	30	20	20	115	1
F-63-100	100	113	120	127	132	30	25	25	135	1.5
F-63-125	125	134	145	156	160	30	25	25	162	1.5

90° male trunnion Mod. ZC



CETOP RP 107P
Material: Aluminium

Supplied with:
1x male support
+ = add the stroke



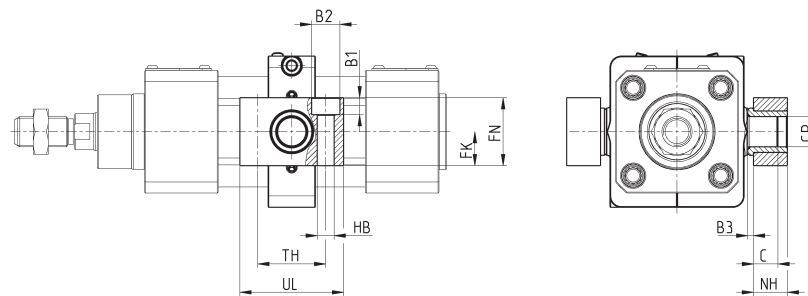
DIMENSIONS																
Mod.	∅	EB	CK	HB	XD+	TE	UL	EA	GL	L5	RA	EM	UR	PH	BT	BR
ZC-32	32	11	10	6,6	142	38	51	10	21	1,6	18	26	31	32	8	10
ZC-40	40	11	12	6,6	160	41	54	15	24	1,6	22	28	35	36	10	11
ZC-50	50	15	12	9	170	50	65	16	33	1,6	30	32	45	45	12	13
ZC-63	63	15	16	9	190	52	67	16	37	1,6	35	40	50	50	14	15
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

Counter bracket for centre trunnion Mod. BF



Material: Aluminium

Supplied with:
2x supports

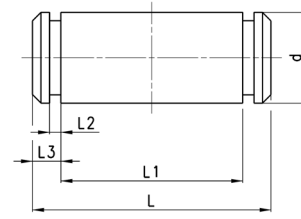


Mod.	∅	∅CR	NH	C	B3	TH	UL	FK	FN	B1	B2	HB
BF-32	32	12	15	7,5	3	32	46	15	30	6,8	11	6,6
BF-40-50	40 - 50	16	18	9	3	36	55	18	36	9	15	9
BF-63-80	63 - 80	20	20	10	3	42	65	20	40	11	18	11
BF-100-125	100 - 125	25	25	12,5	3,5	50	75	25	50	13	20	14

Clevis pin Mod. S



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

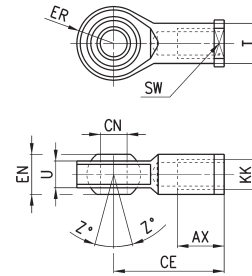


DIMENSIONS						
Mod.	∅	d	L	L1	L2	L3
S-32	32	10	52	46	1.1	3
S-40	40	12	59	53	1.1	3
S-50	50	12	67	61	1.1	3
S-63	63	16	77	71	1.1	3
S-80	80	16	97	91	1.1	3
S-100	100	20	121	111	1.3	5
S-125	125	25	140.5	132	1.3	4.25

Swivel ball joint Mod. GA



ISO 8139.
Material: zinc-plated steel.

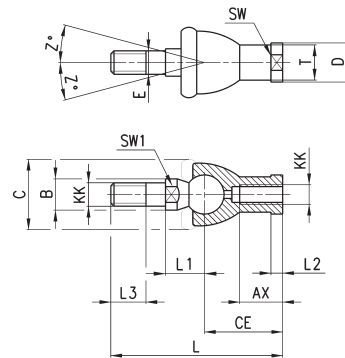


Mod.	∅ ^(H7)	U	EN	ER	AX	CE	KK	∅ ^T	Z	SW
GA-32	10	10,5	14	14	20	43	M10X1,25	15	6,5	17
GA-40	12	12	16	16	22	50	M12X1,25	17,5	6,5	19
GA-50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	30	25	37	37	51	110	M27x2	40	7,5	41

Piston rod socket joint Mod. GY

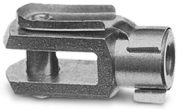


Material: zama and zinc-plated steel.

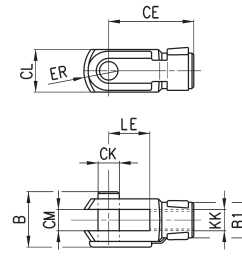


DIMENSIONS																
Mod.	∅	KK	L	CE	L2	AX	SW	SW1	L1	L3	∅ ^T	∅ ^D	E	∅ ^B	∅ ^C	Z
GY-32	32	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	40	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5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

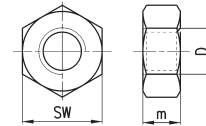


Mod.	\varnothing_{CK}	LE	CM	CL	ER	CE	KK	B	\varnothing_{B1}
G-25-32	10	20	10	20	12	40	M10 X 1,25	26	18
G-40	12	24	12	24	14	48	M12 X 1,25	32	20
G-50-63	16	32	16	32	19	64	M16 X 1,5	40	26
G-80-100	20	40	20	40	25	80	M20 X 1,5	48	34
G-41-125	30	54	30	55	38	110	M27 X 2	74	48

Piston rod lock nut Mod. U



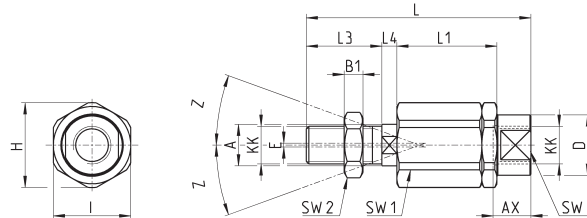
ISO 4035
Material: zinc-plated steel.



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

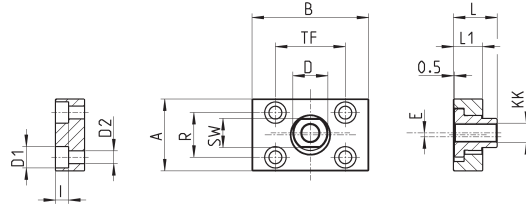
Material: zinc-plated steel.



DIMENSIONS																	
Mod.	\varnothing	KK	L	L1	L3	L4	\varnothing_A	\varnothing_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
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.	∅	KK	A	B	R	TF	L	L1	I	∅ D	∅ D1	∅ 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

Screws and locking screws Mod. KR

Material: zinc-plated steel

Mod.	
KR-EL-01	N° 4 screw M6 x 25 DIN 7984
KR-EL-02	N° 4 screws M6 x 30 DIN 7984
KR-EL-03	N° 4 screws M6 x 35 DIN 7984
KR-EL-04	N° 4 screws M8 x 25 DIN 7984
KR-EL-05	N° 4 screws M8 x 30 DIN 7984
KR-EL-06	N° 4 screws M8 x 35 DIN 7984
KR-EL-07	N° 4 screws M10 x 30 DIN 7984
KR-EL-08	N° 4 screws M10 x 35 DIN 7984
KR-EL-09	N°8 locking screws M6 x 30 ISO 4016
KR-EL-10	N°8 locking screws M6 x 35 ISO 4016
KR-EL-11	N°8 locking screws M8 x 35 ISO 4016
KR-EL-12	N°8 locking screws M10 x 40 ISO 4016

SERIES 63 CYLINDERS ACCESSORIES



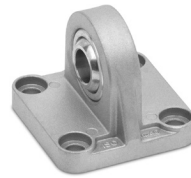
Piston rod socket joint
Mod. GY



Piston rod lock nut
Mod. U



Clevis pin Mod. S



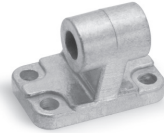
Rear trunnion ball-joint
Mod. R



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-63, profile cyl.



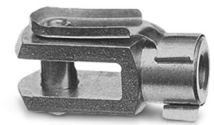
Foot mount
Mod. B-41



Front female trunnion
Mod. H and C-H



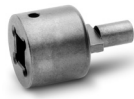
Rear female trunnion
Mod. C and C-H



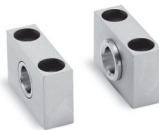
Rod fork end Mod. G



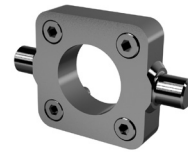
Rear trunnion male
Mod. L



Disassemble cyl. key Ø 80
and 100, round tube



Counter bracket for centre
trunnion Mod. BF



Front/rear spot faced
trunnion Mod. FN



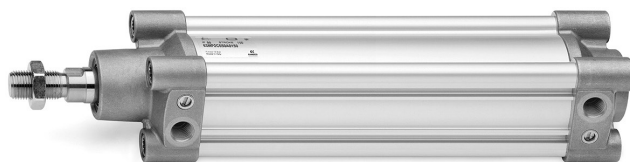
Opposed cylinder coupler
Mod. DC-63



Centre trunnion Mod. F,
round tube cyl.



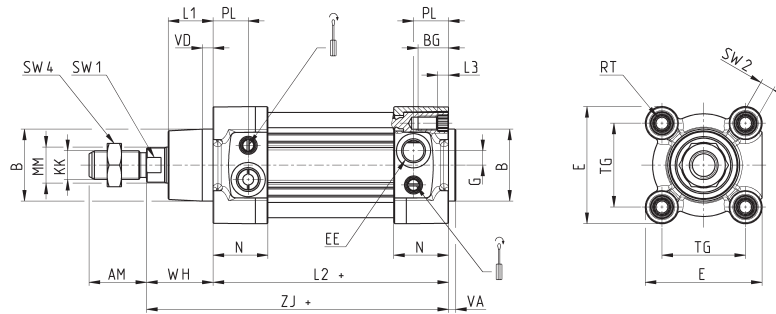
Accessory to mount valves
on the cylinder



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

Series 63 cylinders - profile, single-acting, front spring

Versions: 63MP1...

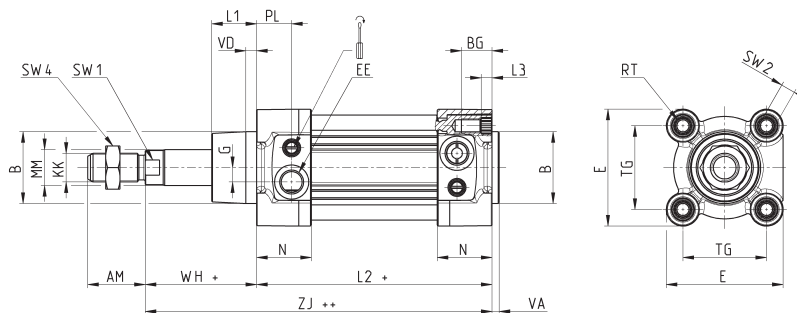


+ = add the stroke

DIMENSIONS																							
Ø	ØMM	KK	ØB	PL	L1	AM	VA	EE	WH	L2+	L3	ZJ+	VD	N	BG	RT	G	TG	E	SW1	SW2	SW4	Front/rear cushion stroke
32	12	M10x1.25	30	18.5	18	22	4	G1/8	26	119	5.5	145	5	27	16	M6	5	32.5	47	10	6	17	17
40	16	M12x1.25	35	19	21	24	4	G1/4	30	130	5.5	160	5	30	16	M6	5	38	55	13	6	19	18
50	20	M16x1.5	40	19.5	25	32	4	G1/4	37	131	6	168	6	30.5	16	M8	8	46.5	65	17	8	24	20
63	20	M16x1.5	45	24	26	32	4	G3/8	37	146	6	183	6	37.5	16	M8	8	56.5	75	17	8	24	22
80	25	M20x1.5	45	23.5	30	40	4	G3/8	46	153	0	199	7	37	19	M10	8	72	93	22	6	30	25
100	25	M20x1.5	55	24	35	40	4	G1/2	51	163	0	214	7	39.5	19.5	M10	8	89	110	22	6	30	26
125	32	M27x2	60	28	42	54	6	G1/2	65	185	6	250	8	44	23	M12	10.5	110	135	27	12	41	33

Series 63 cylinders - profile, single-acting, rear spring

Versions: 63MP9...

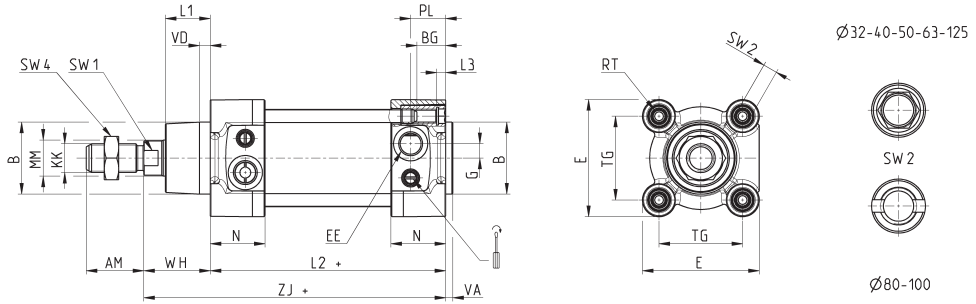


+ = add the stroke
++ = add the stroke twice

DIMENSIONS																							
Ø	ØMM	KK	ØB	PL	L1	AM	VA	EE	WH+	L2+	L3	ZJ++	VD	N	BG	RT	G	TG	E	SW1	SW2	SW4	Front/rear cushion stroke
32	12	M10x1.25	30	18.5	18	22	4	G1/8	51	119	5.5	170	5	27	16	M6	5	32.5	47	10	6	17	17
40	16	M12x1.25	35	19	21	24	4	G1/4	55	130	5.5	185	5	30	16	M6	5	38	55	13	6	19	18
50	20	M16x1.5	40	19.5	25	32	4	G1/4	62	131	6	193	6	30.5	16	M8	8	46.5	65	17	8	24	20
63	20	M16x1.5	45	24	26	32	4	G3/8	62	146	6	208	6	37.5	16	M8	8	56.5	75	17	8	24	22
80	25	M20x1.5	45	23.5	30	40	4	G3/8	71	153	0	224	0	37	19	M10	8	72	93	22	6	30	25
100	25	M20x1.5	55	24	35	40	4	G1/2	76	163	0	239	0	39.5	19.5	M10	8	89	110	22	6	30	26
125	35	M27x2	60	28	42	54	6	G1/2	90	185	6	275	6	44	23	M12	10.5	110	135	27	12	41	33

Series 63 cylinders - round tube, single-acting, front spring

Versions: 63MT1...



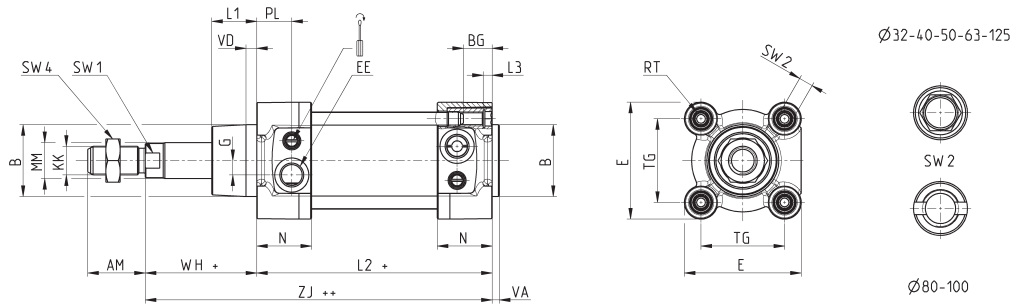
+ = add the stroke

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

DIMENSIONS																							
Ø	ØMM	KK	ØB	PL	L1	AM	VA	EE	WH	L2+	L3	ZJ+	VD	N	BG	RT	G	TG	E	SW1	SW2	SW4	Front/rear cushion stroke
32	12	M10x1.25	30	18.5	18	22	4	G1/8	26	119	5	145	5	27	16	M6	5	32.5	47	10	6	17	17
40	16	M12x1.25	35	19	21	24	4	G1/4	30	130	5	160	5	30	16	M6	5	38	55	13	6	19	18
50	20	M16x1.5	40	19.5	25	32	4	G1/4	37	131	5	168	6	30.5	16	M8	8	46.5	65	17	8	24	20
63	20	M16x1.5	45	24	26	32	4	G3/8	37	146	5	183	6	37.5	16	M8	8	56.5	75	17	8	24	22
80	25	M20x1.5	45	23.5	30	40	4	G3/8	46	153	0	199	7	37	19	M10	8	72	93	22	*	30	25
100	25	M20x1.5	55	24	35	40	4	G1/2	51	163	0	214	7	39.5	19.5	M10	8	89	110	22	*	30	26
125	32	M27x2	60	28	42	54	6	G1/2	65	185	6	250	8	44	23	M12	10.5	110	135	27	12	41	33

Series 63 cylinders - round tube, single-acting, rear spring

Versions: 63MT9...



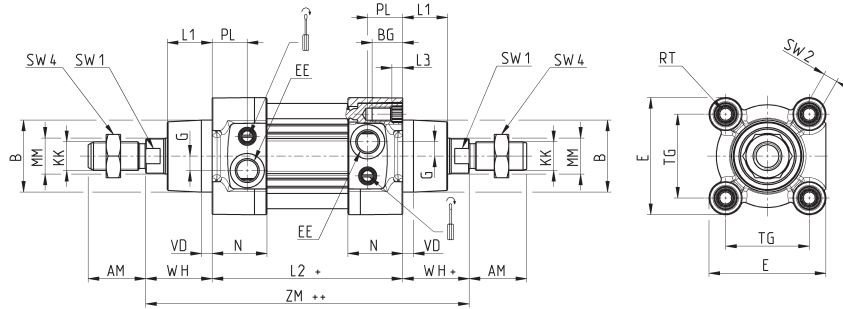
+ = add the stroke

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

DIMENSIONS																							
Ø	ØMM	KK	ØB	PL	L1	AM	VA	EE	WH+	L2+	L3	ZJ++	VD	N	BG	RT	G	TG	E	SW1	SW2	SW4	Front/rear cushion stroke
32	12	M10x1.25	30	18.5	18	22	4	G1/8	51	119	5	170	5	27	16	M6	5	32.5	47	10	6	17	17
40	16	M12x1.25	35	19	21	24	4	G1/4	55	130	5	185	5	30	16	M6	5	38	55	13	6	19	18
50	20	M16x1.5	40	19.5	25	32	4	G1/4	62	131	5	193	6	30.5	16	M8	8	46.5	65	17	8	24	20
63	20	M16x1.5	45	24	26	32	4	G3/8	62	146	5	208	6	37.5	16	M8	8	56.5	75	17	8	24	22
80	25	M20x1.5	45	23.5	30	40	4	G3/8	71	153	0	224	7	37	19	M10	8	72	93	22	*	30	25
100	25	M20x1.5	55	24	35	40	4	G1/2	76	163	0	239	7	39.5	19.5	M10	8	89	110	22	*	30	26
125	35	M27x2	60	28	42	54	6	G1/2	90	185	6	275	8	44	23	M12	10.5	110	135	27	12	41	33

Series 63 cylinders - profile, through rod

Versions: 63MP6..., 63MP7...
For the single-acting cylinders, the dimensions L2 and ZM have to be increased with 25 mm.

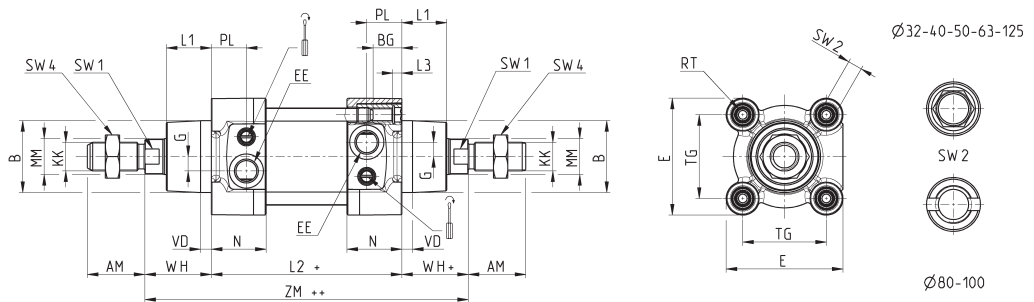


+ = add the stroke
++ = add the stroke twice

Ø	ØMM	KK	ØB	PL	L1	AM	EE	WH	L2+	L3	ZM++	VD	N	BG	RT	G	TG	E	ØF	SW1	SW2	SW4	Front/rear cushion stroke
32	12	M10x1.25	30	18.5	18	22	G1/8	26	94	5.5	146	5	27	16	M6	5	32.5	47	-	10	6	17	17
40	16	M12x1.25	35	19	21	24	G1/4	30	105	5.5	165	5	30	16	M6	5	38	55	-	13	6	19	18
50	20	M16x1.5	40	19.5	25	32	G1/4	37	106	6	180	6	30.5	16	M8	8	46.5	65	8	17	8	24	20
63	20	M16x1.5	45	24	26	32	G3/8	37	121	6	195	6	37.5	16	M8	8	56.5	75	8	17	8	24	22
80	25	M20x1.5	45	23.5	30	40	G3/8	46	128	0	220	7	37	19	M10	8	72	93	8	22	6	30	25
100	25	M20x1.5	55	24	35	40	G1/2	51	138	0	240	7	39.5	19.5	M10	8	89	110	8	22	6	30	26
125	32	M27x2	60	28	42	54	G1/2	65	160	6	290	8	44	23	M12	10.5	110	135	-	27	12	41	33

Series 63 cylinders - round tube, through rod

Versions: 63MT6..., 63MT7...
For the single-acting cylinders, the dimensions L2 and ZM have to be increased with 25 mm.



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

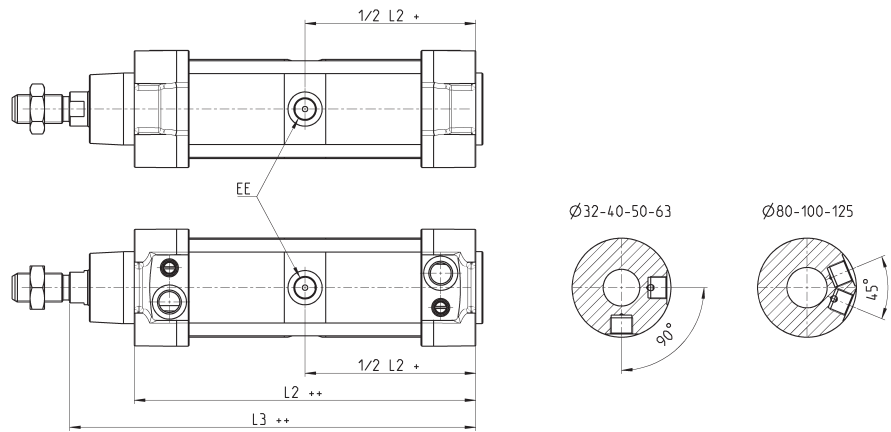
Table note:
* = special key 80-62/8C
(see accessories)

Ø	ØMM	KK	ØB	PL	L1	AM	EE	WH	L2+	L3	ZM++	VD	N	BG	RT	G	TG	E	ØF	SW1	SW2	SW4	Front/rear cushion stroke
32	12	M10x1.25	30	18.5	18	22	G1/8	26	94	5	146	5	27	16	M6	5	32.5	47	-	10	6	17	17
40	16	M10x1.25	35	19	21	24	G1/4	30	105	5	165	5	30	16	M6	5	38	55	-	13	6	19	18
50	20	M16x1.5	40	19.5	25	32	G1/4	37	106	5	180	6	30.5	16	M8	8	46.5	65	8	17	8	24	20
63	20	M16x1.5	45	24	26	32	G3/8	37	121	5	195	6	37.5	16	M8	8	56.5	75	8	17	8	24	22
80	25	M20x1.5	45	23.5	30	40	G3/8	46	128	0	220	7	37	19	M10	8	72	93	8	22	*	30	25
100	25	M20x1.5	55	24	35	40	G1/2	51	138	0	240	7	39.5	19.5	M10	8	89	110	8	22	*	30	26
125	32	M27x2	60	28	42	54	G1/2	65	160	6	290	8	44	23	M12	10.5	110	135	-	27	12	41	33

Series 63 cylinders - round tube, tandem version

New version

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

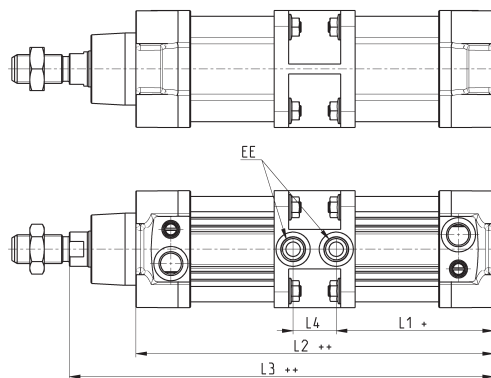


Ø	EE	L2 ++	L3 ++
32	G1/8	171.5	197.5
40	G1/4	191.5	221.5
50	G1/4	188	225
63	G3/8	204	241
80	G3/8	225.5	271.5
100	G1/2	231	282
125	G1/2	264	329

Series 63 cylinders - profile, tandem version

New version

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

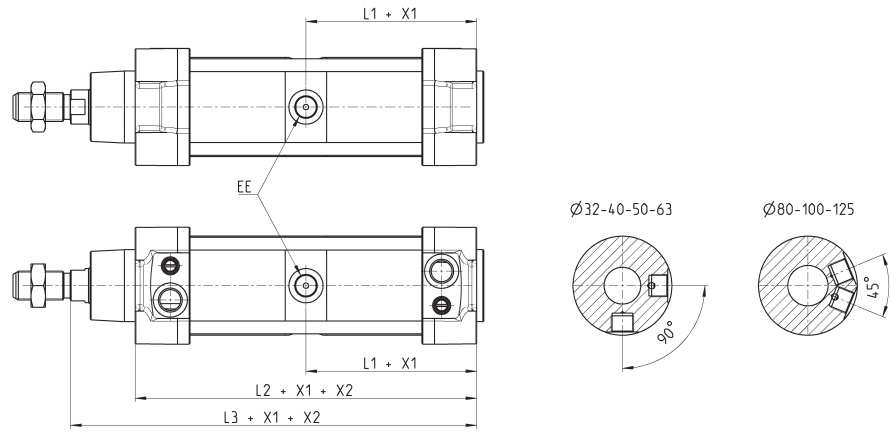


Ø	EE	L1 +	L2 ++	L3 ++	L4
32	G1/8	76.5	171.5	197.5	18.5
40	G1/4	88.5	200	230	23
50	G1/4	87.5	199	236	24
63	G3/8	98	223	260	27
80	G3/8	104.5	236	282	27
100	G1/2	116	260	311	28
125	G1/2	132	264	329	0

New version

Series 63 cylinders - round tube, multi-position version

X1 = partial stroke
X2 = total stroke

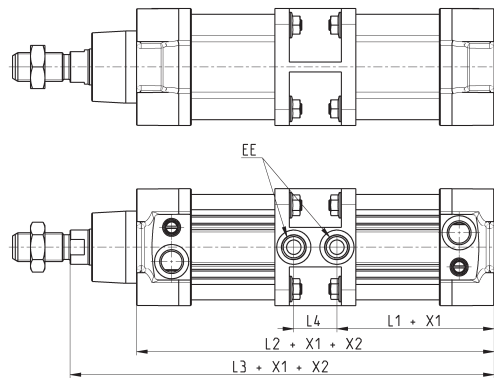


Ø	EE	L1	L2	L3
32	G1/8	86	171.5	197.5
40	G1/4	96	191.5	221.5
50	G1/4	94	188	225
63	G3/8	102	204	241
80	G3/8	113	225.5	271.5
100	G1/2	115.5	231	282
125	G1/2	132	264	329

Series 63 cylinders - profile, multi-position version

New version

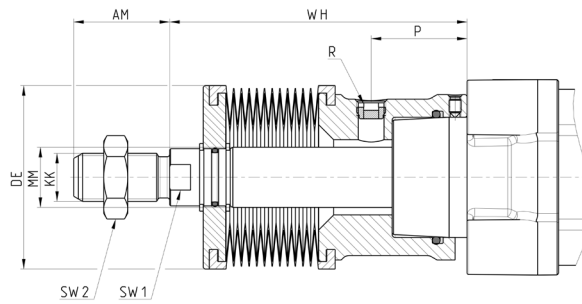
X1 = partial stroke
X2 = total stroke



Ø	EE	L1+	L2++	L3++	L4
32	G1/8	76.5	171.5	197.5	18.5
40	G1/4	88.5	200	230	23
50	G1/4	87.5	199	236	24
63	G3/8	98	223	260	27
80	G3/8	104.5	236	282	27
100	G1/2	116	260	311	28
125	G1/2	132	264	329	0

Series 63 cylinders with protective bellow

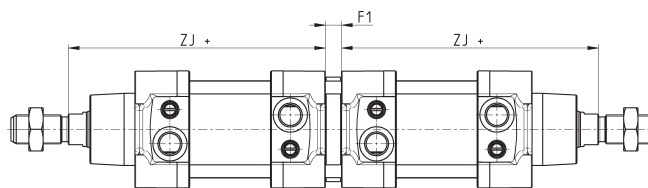
New version



∅	Stroke	WH	AM	KK	MM	P	R	DE	SW1	SW2
32	0 ÷ 245	88	22	M10X1.25	12	25	G1/8	61	10	17
32	246 ÷ 490	132	22	M10X1.25	12	25	G1/8	61	10	17
40	0 ÷ 245	89	24	M12X1.25	16	26	G1/8	61	13	19
40	246 ÷ 490	133	24	M12X1.25	16	26	G1/8	61	13	19
50	0 ÷ 245	99	32	M16X1.5	20	30	G1/8	61	17	24
50	246 ÷ 490	143	32	M16X1.5	20	30	G1/8	61	17	24
63	0 ÷ 245	76	32	M16X1.5	20	16.5	G1/8	61	17	24
63	246 ÷ 490	120	32	M16X1.5	20	16.5	G1/8	61	17	24
80	0 ÷ 285	86	40	M20X1.5	25	11.5	G1/8	83	22	30
80	286 ÷ 570	139	40	M20X1.5	25	11.5	G1/8	83	22	30
100	0 ÷ 285	86	40	M20X1.5	25	12	G1/8	83	22	30
100	286 ÷ 570	139	40	M20X1.5	25	12	G1/8	83	22	30
125	0 ÷ 285	108	54	M27X2	32	30	G1/8	83	29	41
125	286 ÷ 570	161	54	M27X2	32	30	G1/8	83	29	41

Series 63 cylinders - round tube, back to back (TR)

New version



∅	F1	ZJ+	max overall stroke (mm)
32	9	120	500
40	9	135	800
50	9	143	800
63	9	158	700
80	9	174	1000
100	9	189	900
125	20	225	1000

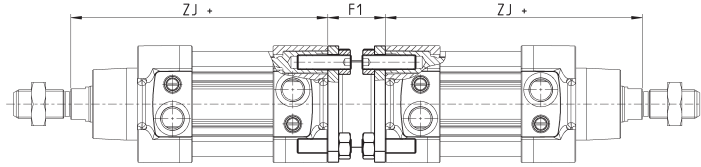
Opposed cylinder coupler Mod. DC-63



Material: Aluminium

Supplied with:
1x flange
8x locking screws
8x nuts

+ = add the stroke



DIMENSIONS						
Mod.	∅	F1	ZJ+	weight (g)	max overall stroke (mm)	torque force
DC-63-32	32	27	120	130	500	5 Nm
DC-63-40	40	27	135	160	800	5 Nm
DC-63-50	50	32	143	285	800	10 Nm
DC-63-63	63	28	158	340	700	10 Nm
DC-63-80	80	38	174	670	1000	15 Nm
DC-63-100	100	38	189	820	900	15 Nm
DC-63-125	125	48	225	1300	1000	20 Nm

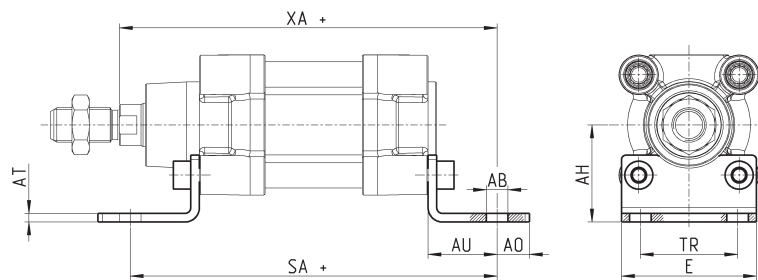
Foot mount Mod. B-41



Material: zinc-plated steel

Supplied with:
2x feet
4x screws

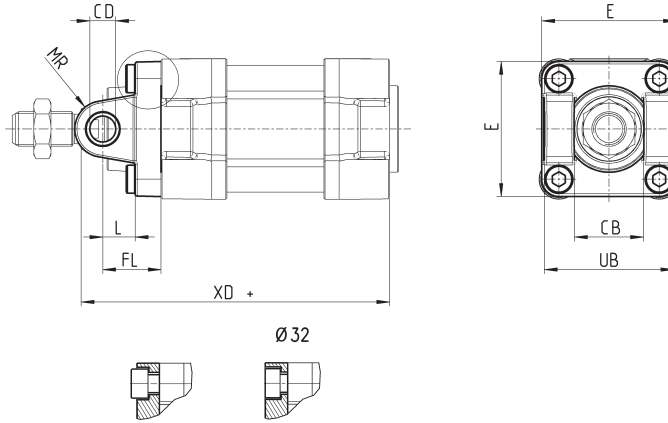
+ = add the stroke



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

Front female trunnion Mod. H and C-H

Material: Aluminium



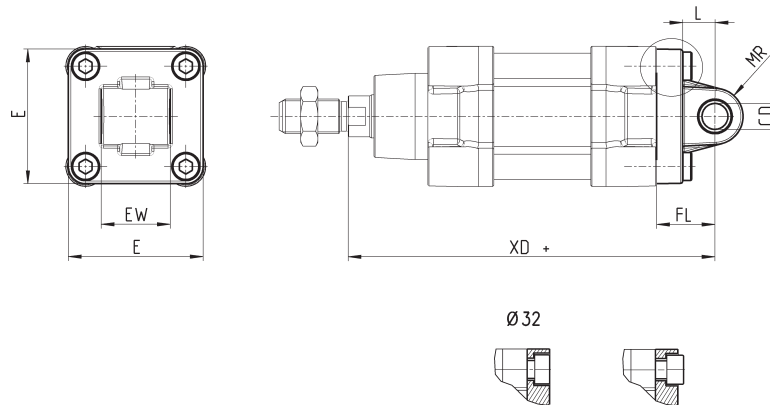
Supplied with:
1x female trunnion
4x screws

+ = add the stroke

Mod.	Ø	CB	UB	E	XD+	FL	L	CD	MR	torque force
H-41-32	32	26	46.5	47	120	22	12.5	10	10	5 Nm
H-41-40	40	28	52	52	135	25	16	12	12	5 Nm
H-41-50	50	32	60	64	143	27	16	12	12	10 Nm
H-60-63	63	40	70	74	158	32	21	16	16	10 Nm
C-H-41-80	80	50	90	94	174	36	22	16	16	15 Nm
C-H-41-100	100	60	110	114	189	41	27	20	20	15 Nm
C-H-41-125	125	70	130	140	225	50	30	25	25	20 Nm

Rear male trunnion Mod. L

Material: Aluminium



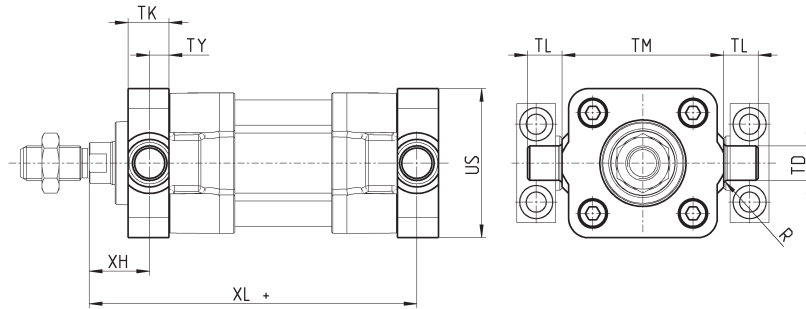
Supplied with:
1x male trunnion
4x screws

+ = add the stroke

DIMENSIONS										
Mod.	Ø	CD	L	FL	XD	MR	E	EW	torque force	
L-41-32	32	10	12.5	22	142	10	47	26	5 Nm	
L-41-40	40	12	16	25	160	12	52	28	5 Nm	
L-41-50	50	12	16	27	170	12	64	32	10 Nm	
L-41-63	63	16	21	32	190	15.5	74	40	10 Nm	
L-41-80	80	16	22	36	210	16	94	50	15 Nm	
L-41-100	100	20	27	41	230	20	114	60	15 Nm	
L-41-125	125	25	30	50	275	25	140	70	20 Nm	

Front/rear spot faced trunnion Mod. FN

Material: zinc-plated steel



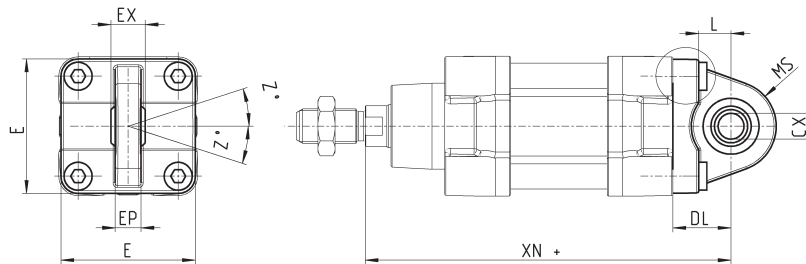
Supplied with:
1x centre spot faced trunnion
4x screws

+ = add the stroke

DIMENSIONS											
Mod.	∅	TK	TY	XH	XL+	US	TL	TM	TD	R	torque force
FN-32	32	14	6.5	19.5	126.5	46	12	50	12	1	5 Nm
FN-40	40	19	9	21	144	59	16	63	16	1.5	5 Nm
FN-50	50	19	9	28	152	69	16	75	16	1.6	10 Nm
FN-63	63	24	11.5	25.5	169.5	84	20	90	20	1.6	10 Nm
FN-80	80	24	11.5	34.5	185.5	102	20	110	20	1.6	15 Nm
FN-100	100	29	14	37	203	125	25	132	25	2	15 Nm
FN-125	125	30	15	50	240	150	25	160	25	2	20 Nm

Trunnion ball-joint Mod. R

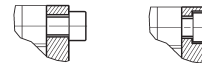
* This trunnion doesn't comply with the ISO 15552 standard
Material: Aluminium



Supplied with:
1x trunnion ball joint
4x screws

+ = add the stroke

R-41-50/80/125



Mod.	∅	∅CX	L	DL+	XN+	MS	E	EX	EP	Z	torque force
R-41-32	32	10	13	22	142	16	45	14	10.5	4	5 Nm
R-41-40	40	12	16	25	160	19	52	16	12	4	5 Nm
R-41-50*	50	12	15	27	170	21	62.5	16	12	4	10 Nm
R-50	50	16	16	27	170	21,5	65	21	15	4	10 Nm
R-41-63	63	16	21	32	190	24	75	21	15	4	10 Nm
R-41-80*	80	16	24	36	210	28	92	21	15	4	15 Nm
R-80	80	20	22	36	210	28,5	95	25	18	4	15 Nm
R-41-100	100	20	27	41	230	30	115	25	18	4	15 Nm
R-41-125	125	30	30	50	275	40	140	37	25	4	20 Nm

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 comply with the ISO 15552 standards and can be assembled with the entire range of standard accessories.

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
Design	ISO 15552
Materials	Coated AL end blocks and piston (Ø250-320 mm), 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 and cushion seals, brass rod scraper ring
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.

Series 6PF Positioning Feedback cylinders

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



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.

- » 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...)
- » ATEX version available

GENERAL AND TECHNICAL DATA

SERIES 6PF CYLINDERS

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 ÷ 1000 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/sec ²
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-532 (3 wires) CST-562 (M8)
Suitable M12 connectors	CS-LF04HB (connecteur droit femelle 4 pôles) CS-LR04HB (connecteur femelle à angle droit 4 pôles) CS-LF05HB-D200 (connecteur filaire femelle droit, 5 pôles, 2 mètres) ** CS-LF05HB-D500 (connecteur filaire femelle droit, 5 pôles, 5 mètres) ** CS-LR05HB-D200 (connecteur coudé à angle droit, femelle, 5 pôles, 2 mètres) ** CS-LR05HB-D500 (connecteur filaire femelle à angle droit 5 pôles, 5 mètres) **
** la broche n ° 5 ne doit pas être connectée	

STANDARD STROKES FOR SERIES 6PF CYLINDERS

* = Double-acting, low friction

STANDARD STROKES																				
Ø	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
50	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
63	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
80	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
100	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
125	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

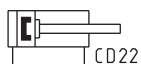
CODING EXAMPLE

6PF	3	P	050	A	0200
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6PF	SERIES
3	OPERATION: 3 = double-acting low friction, no cushion PNEUMATIC SYMBOLS CD22
P	MATERIALS: P = see the table on the following page
050	BORES: 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	STROKES (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 EX = ATEX (___) = 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.



SERIES 6PF CYLINDERS

CYLINDERS ACCESSORIES SERIES 6PF



Piston rod socket joint
Mod. GY



Piston rod lock nut
Mod. U



Clevis pin Mod. S



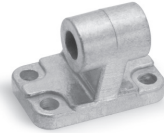
Rear trunnion ball-joint
Mod. R



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



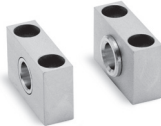
Rod fork end Mod. G



Rear trunnion male Mod. L



Key to disassemble
cylinders Ø 80 and 100



Counter bracket for centre
trunnion Mod. BF



Straight conn. for power
supply Mod. CS-LF04HB



Angular conn. for power
supply Mod. CS-LR04HB



Cable
Mod. CS-LF05HB-D...

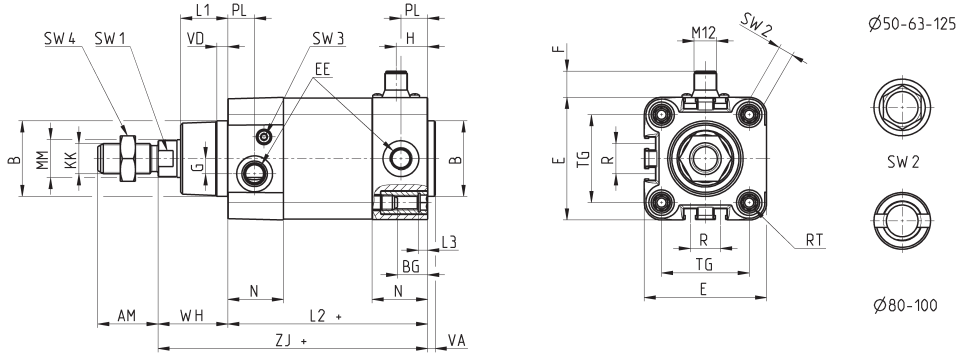


Cable
Mod. CS-LR05HB-D...



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

Series 6PF cylinders



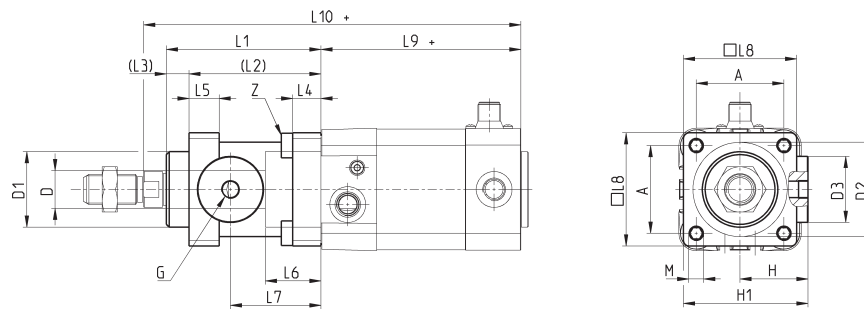
+ = add the stroke

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

SERIES 6PF CYLINDERS

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

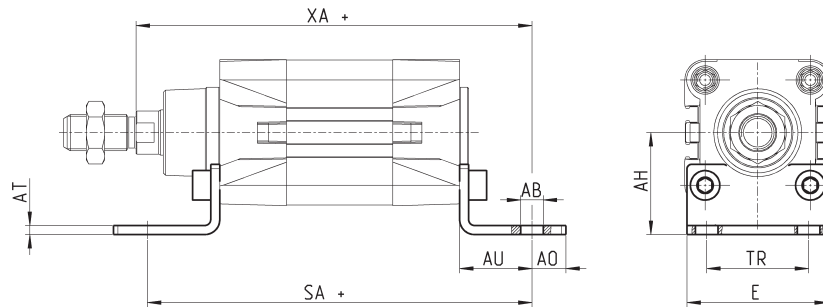
DIMENSIONS																				
Ø	øD	øD1	øD2	øD3	A	G	H	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9+	L10+	M	Z
50	20	40	50	35	46,5	G1/8	36	64	82	70	12	15	16	29,5	48	60	106	200	M8	M6x20
63	20	45	60	38	56,5	G1/8	40	75	82	70	12	15	16	29,5	49,5	70	121	215	M8	M8x30
80	25	45	80	48	72	G1/8	50	95	110	90	20	18	20	35	61	90	128	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



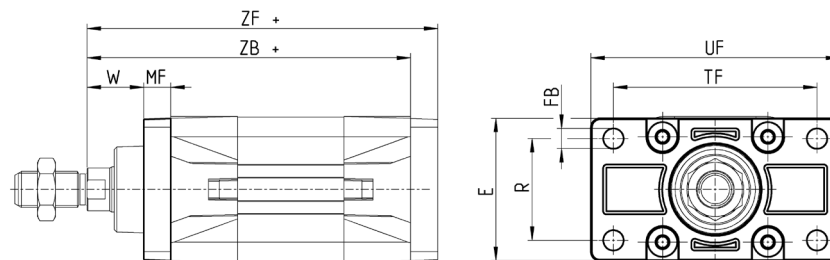
DIMENSIONS											
Mod.	∅	AT	SA+	XA+	TR	E	AB	AH	AO	AU	torque force
B-41-50	50	4	170	175	45	62,5	10	45	15	32	13 Nm
B-41-63	63	5	185	190	50	73	10	50	15	32	13 Nm
B-41-80	80	6	210	216	63	92	12	63	20	41	19 Nm
B-41-100	100	6	220	230	75	108,5	14,5	71	25	41	22 Nm
B-41-125	125	7	250	270	90	132	16,5	90	25	45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

Front and rear flange Mod. D-E

Material: Aluminium



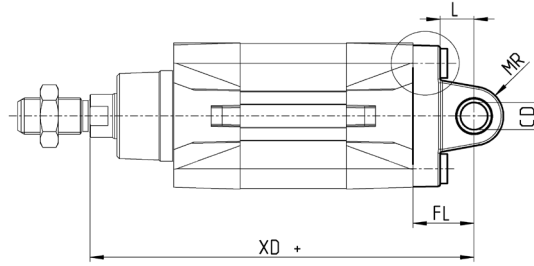
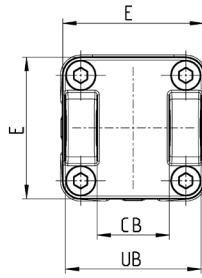
Supplied with:
1x flange
4x screws
+ = add the stroke



Mod.	∅	W	MF	ZB	TF	R	UF	E	FB	ZF	torque force
D-E-41-50	50	25	12	143	90	45	110	65	9	155	13 Nm
D-E-41-63	63	25	12	158	100	50	120	75	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	220	140	16	245	26 Nm

Rear female trunnion Mod. C and C-H

Material: Aluminium



Supplied with:
1x female trunnion
4x screws

+ = add the stroke

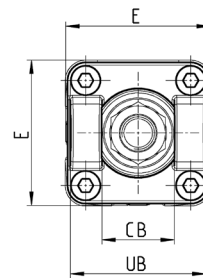
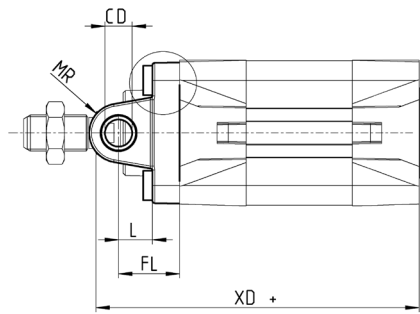


SERIES 6PF CYLINDERS

Mod.	∅	CD	L	FL	XD	MR	E	CB	UB	torque force
C-41-50	50	12	16	27	170	12	64	32	60	13 Nm
C-H-41-63	63	16	21	32	190	16	74	40	70	13 Nm
C-H-41-80	80	16	22	36	210	16	94	50	90	19 Nm
C-H-41-100	100	20	27	41	230	20	114	60	110	22 Nm
C-H-41-125	125	25	30	50	275	25	140	70	130	26 Nm

Front female trunnion Mod. H and C-H

Material: Aluminium



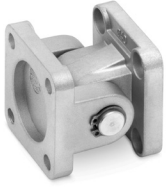
Supplied with:
1x female trunnion
4x screws

+ = add the stroke

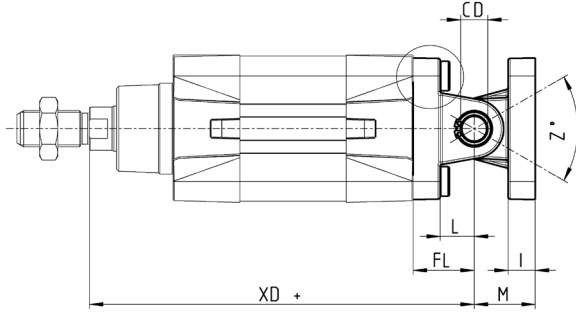
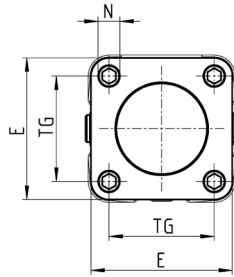


Mod.	∅	CB	UB	E	XD+	FL	L	CD	MR	torque force
H-41-50	50	32	60	64	143	27	16	12	12	13 Nm
H-60-63	63	40	70	74	158	32	21	16	16	13 Nm
C-H-41-80	80	50	90	94	174	36	22	16	16	19 Nm
C-H-41-100	100	60	110	114	189	41	27	20	20	22 Nm
C-H-41-125	125	70	130	140	225	50	30	25	25	26 Nm

Accessory combination Mod. C+L+S



Material: aluminium



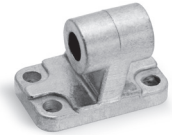
+ = add the stroke



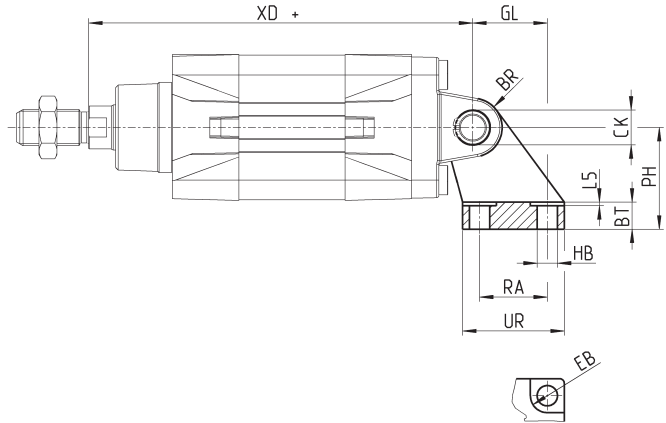
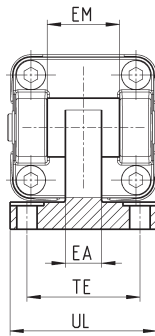
SERIES 6PF CYLINDERS

DIMENSIONS											
Mod.	∅	∅CD	L	FL	XD+	TG	E	I	M	∅N	torque force
C+L+S	50	12	16	27	170	46,5	64	11	27	9	13 Nm
C+L+S	63	16	21	32	190	56,5	74	11	32	9	13 Nm
C+L+S	80	16	22	36	210	72	94	14	36	11	19 Nm
C+L+S	100	20	27	41	230	89	114	14	41	11	22 Nm
C+L+S	125	25	30	50	275	110	140	20	50	13	26 Nm

90° male trunnion Mod. ZC



CETOP RP 107P
Material: Aluminium



Supplied with:
1x male support

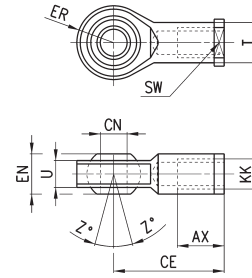
+ = add the stroke

DIMENSIONS																
Mod.	∅	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

Swivel ball joint Mod. GA



ISO 8139.
Material: zinc-plated steel.

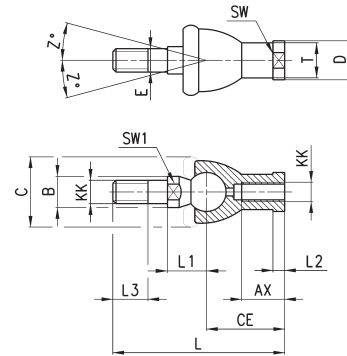


Mod.	\varnothing CN ^(M7)	U	EN	ER	AX	CE	KK	\varnothing T	Z	SW
GA-50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	30	25	37	37	51	110	M27x2	40	7,5	41

Piston rod socket joint Mod. GY

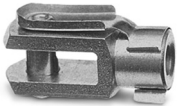


Material: zama and zinc-plated steel.

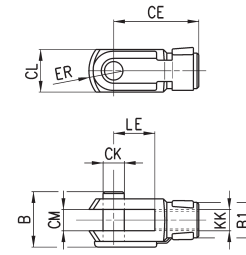


DIMENSIONS																
Mod.	\varnothing	KK	L	CE	L2	AX	SW	SW1	L1	L3	\varnothing T	\varnothing D	E	\varnothing B	\varnothing C	Z
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63	10	38	30	24	31,5	25	27,5	34	20	27	45	7,5

Rod fork end Mod. G



ISO 8140
Material: zinc-plated steel

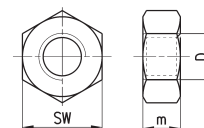


Mod.	\varnothing CK	LE	CM	CL	ER	CE	KK	B	\varnothing B1
G-50-63	16	32	16	32	19	64	M16 X 1,5	40	26
G-80-100	20	40	20	40	25	80	M20 X 1,5	48	34
G-41-125	30	54	30	55	38	110	M27 X 2	74	48

Piston rod lock nut Mod. U

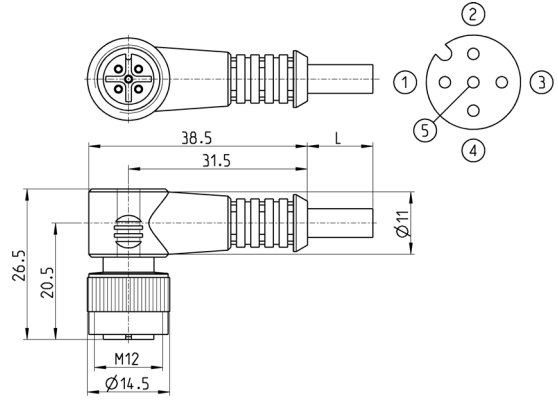


ISO 4035
Material: zinc-plated steel.



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

Cable Mod. CS-LR05HB-D200/D500



Mod.	Cable length (m)
CS-LR05HB-D200	2
CS-LR05HB-D500	5

SERIES 6PF CYLINDERS

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

CODING EXAMPLE

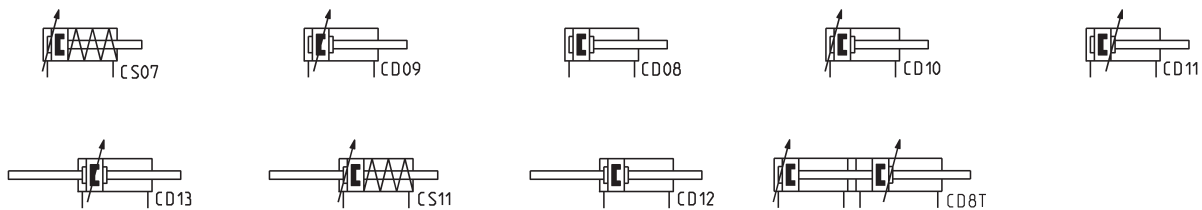
61	M	2	P	050	A	0200	
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61	SERIES
M	VERSION M = standard, magnetic L = low friction, magnetic
2	OPERATION 1 = single-acting, front spring (∅ 32 ± ∅ 100) 2 = double-acting, front and rear cushioned 3 = double-acting, no cushion 4 = double-acting, rear cushioned 5 = double-acting, front cushioned 6 = double-acting, through-rod, front and rear cushioned 7 = single-acting, through-rod 8 = double-acting, through-rod, no cushion
P	MATERIALS P = see the GENERAL DATA table on the previous page R = stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts, other materials (see the previous page) 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-rod nuts, seals for low temperature (-40°C), brass rod scraper 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-rod nuts, seals for low temperature (-50°C), brass rod scraper
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 +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) * 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.

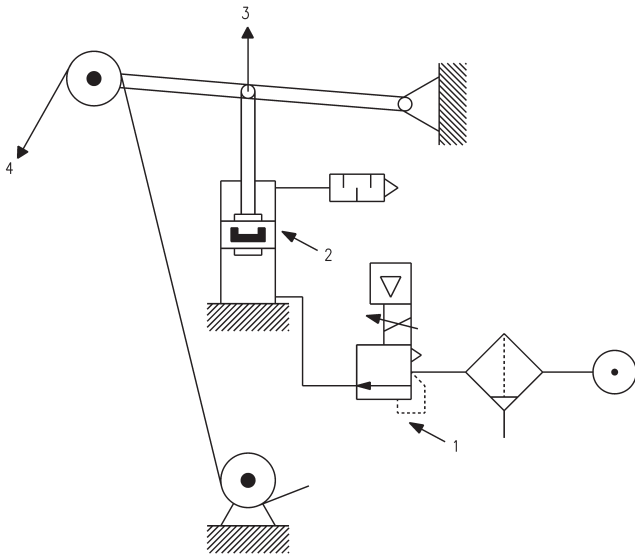
Note: all double-acting cylinders are also available in the low friction version.

PNEUMATIC SYMBOLS

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



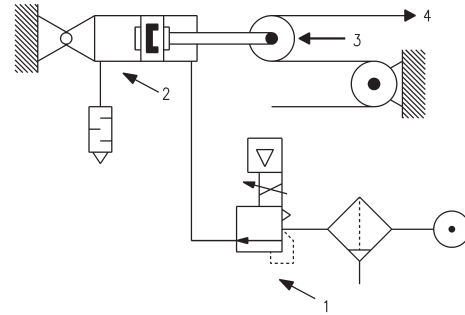
Series 61 low friction cylinders - APPLICATION EXAMPLES



CYLINDER IN THRUST

DRAWING NOTES:

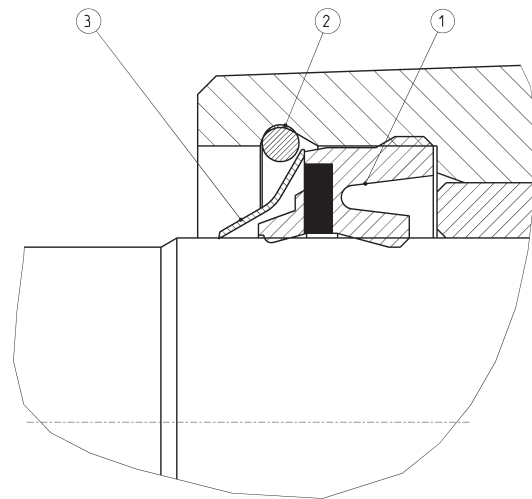
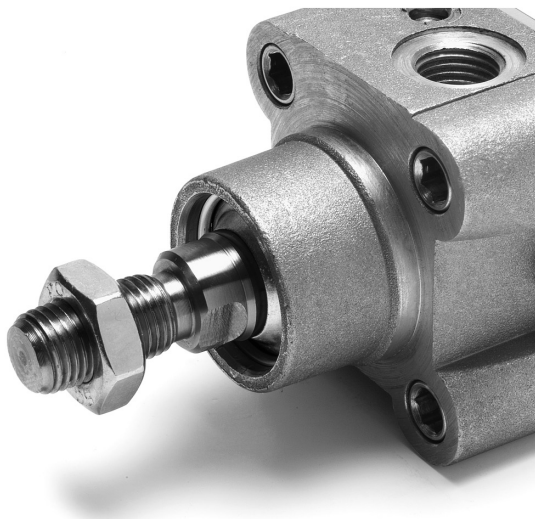
- 1. Precision pressure regulator or proportional regulator
- 2. Low friction cylinder
- 3. Force direction
- 4. Band



CYLINDER IN TRACTION

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

Series 61 low temperatures cylinders - DETAIL



- 1 = rod seal
- 2 = flexible ring
- 3 = metal scraper

SERIES 61 CYLINDERS

CYLINDERS ACCESSORIES SERIES 61

SERIES 61 CYLINDERS



Piston rod socket joint
Mod. GY



Piston rod lock nut
Mod. U



Clevis pin Mod. S



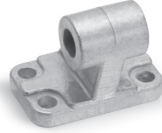
Rear trunnion ball-joint
Mod. R



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



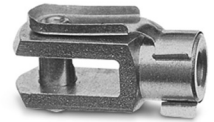
Foot mount Mod. B



Front female trunnion
Mod. H and C-H



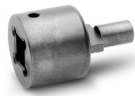
Rear female trunnion
Mod. C and C-H



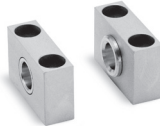
Rod fork end Mod. G



Rear trunnion male
Mod. L



Key to disassemble
cylinders Ø 80 and 100



Counter bracket for
centre trunnion Mod. BF



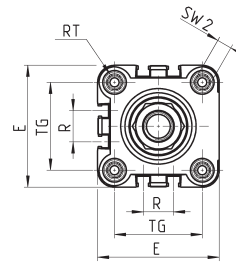
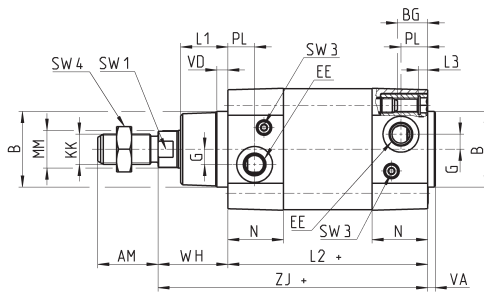
Accessory to mount valves
on the cylinder



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.



Ø32-40-50-63-125



Ø80-100

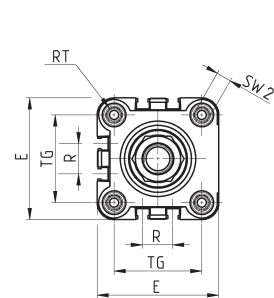
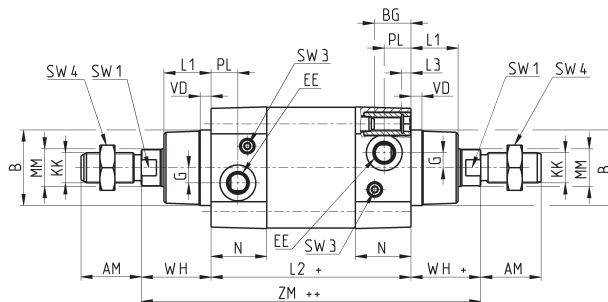
+ = add the stroke

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

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

Cylinders Series 61 - through-rod

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



Ø32-40-50-63-125



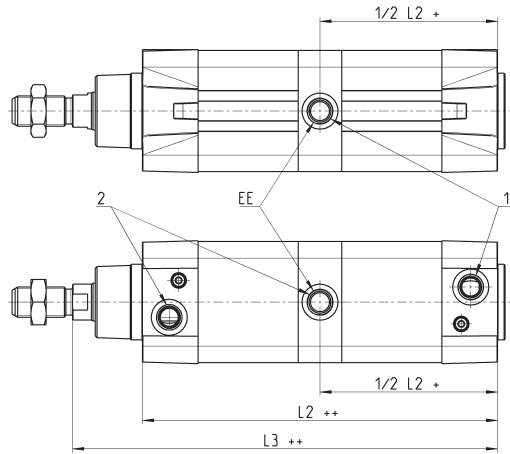
Ø80-100

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

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

through-rod																								
Ø	ØMM	KK	ØB	PL	L1	AM	EE	WH	L2+	L3	ZM++	VD	N	R	BG	RT	G	TG	E	SW1	SW2	SW3	SW4	Cushioning stroke
32	12	M10x1.25	30	14	18	22	G1/8	26	94	5	146	5	26	13	16	M6	5	32.5	46	10	6	2	17	17
40	16	M12x1.25	35	15	21	24	G1/4	30	105	5	165	5	29	13.5	16	M6	5	38	55	13	6	2	19	20
50	20	M16x1.5	40	15	25	32	G1/4	37	106	5	180	6	29.5	16	16	M8	8	46.5	64.5	17	8	3	24	15
63	20	M16x1.5	45	21	26	32	G3/8	37	121	5	195	6	36.5	28	16	M8	8	56.5	75	17	8	3	24	17
80	25	M20x1.5	45	21	30	40	G3/8	46	128	0	220	7	36	30	19	M10	8	72	93	22	*	5	30	20
100	25	M20x1.5	55	23	35	40	G1/2	51	138	0	240	7	38.5	40	19.5	M10	8	89	110	22	*	5	30	21
125	32	M27x2	60	23.5	42	54	G1/2	65	160	0	290	8	43	50	23	M12	10.5	110	135	27	12	4	41	26

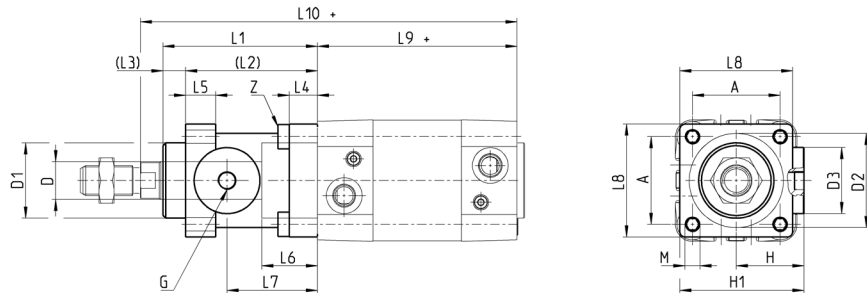
Cylinders Series 61 - tandem version



+ = add the stroke once
++ = add the stroke twice
1 = Cylinder's outlet
2 = Cylinder's return

DIMENSIONS			
∅	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

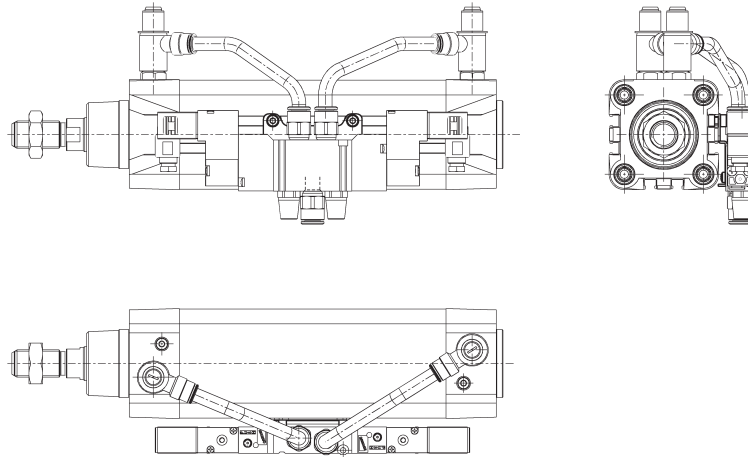


+ = add the stroke

DIMENSIONS																				
∅	∅ _D	∅ _{D1}	∅ _{D2}	∅ _{D3}	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

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.

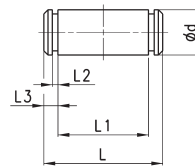


DIMENSIONS	
Mod.	
PCV-61-K3	to connect valves - solenoid valves Series 3
PCV-61-K4	to connect valves - solenoid valves Series 4 port G1/4
PCV-62-KEN	to connect valves - solenoid valves Series EN
PCV-61-K8	to connect valves - solenoid valves Series 4 port G1/8 and Series 3 port G1/4

Clevis pin Mod. S



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

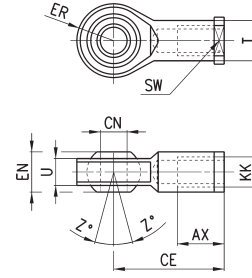


DIMENSIONS							
Mod.	Ø	d	L	L1	L2	L3	
S-32	32	10	52	46	1,1	3	
S-40	40	12	59	53	1,1	3	
S-50	50	12	67	61	1,1	3	
S-63	63	16	77	71	1,1	3	
S-80	80	16	97	91	1,1	3	
S-100	100	20	121	111	1,3	5	
S-125	125	25	140,5	132	1,3	4,25	

Swivel ball joint Mod. GA



ISO 8139.
Material: zinc-plated steel.

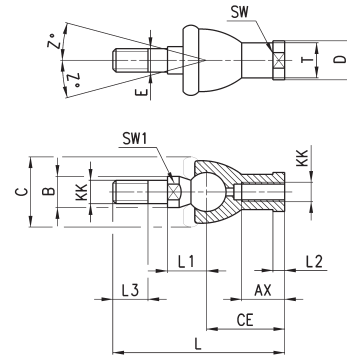


Mod.	∅CN ^(H7)	U	EN	ER	AX	CE	KK	∅T	Z	SW
GA-32	10	10,5	14	14	20	43	M10X1,25	15	6,5	17
GA-40	12	12	16	16	22	50	M12X1,25	17,5	6,5	19
GA-50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	30	25	37	37	51	110	M27x2	40	7,5	41

Piston rod socket joint Mod. GY

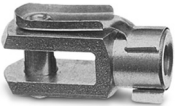


Material: zama and zinc-plated steel.

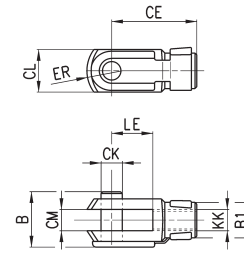


DIMENSIONS																
Mod.	∅	KK	L	CE	L2	AX	SW	SW1	L1	L3	∅T	∅D	E	∅B	C	Z
GY-32	32	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	40	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	50-63	M16X1,5	112	50	8	27	22	19	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63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

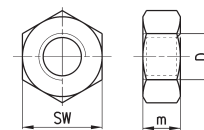


Mod.	∅CK	LE	CM	CL	ER	CE	KK	B	∅B1
G-25-32	10	20	10	20	12	40	M10 X 1,25	26	18
G-40	12	24	12	24	14	48	M12 X 1,25	32	20
G-50-63	16	32	16	32	19	64	M16 X 1,5	40	26
G-80-100	20	40	20	40	25	80	M20 X 1,5	48	34
G-41-125	30	54	30	55	38	110	M27 X 2	74	48

Piston rod lock nut Mod. U



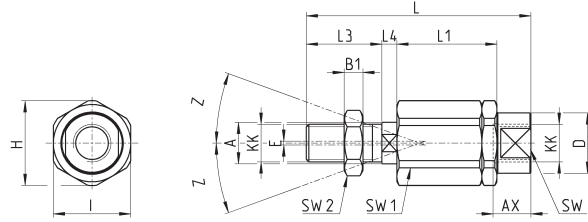
ISO 4035
Material: zinc-plated steel.



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

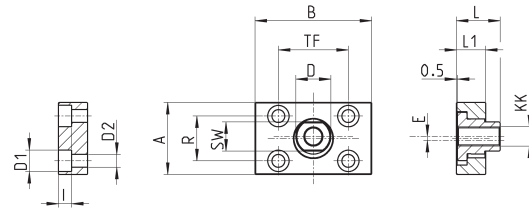
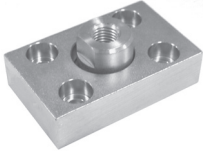
Material: zinc-plated steel.



DIMENSIONS																	
Mod.	∅	KK	L	L1	L3	L4	$\varnothing A$	$\varnothing D$	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
GK-125	125	M27x2	147	60	54	10	32	57	70	65	54	24	41	12	48	4	2

Coupling piece Mod. GKF

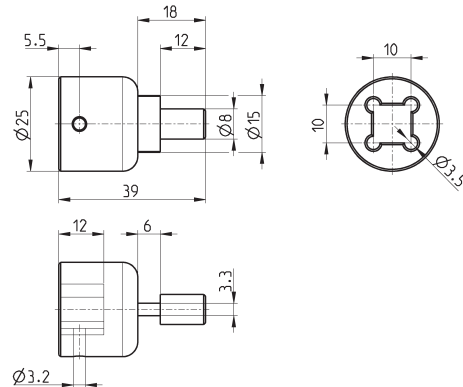
Material: zinc-plated steel.



DIMENSIONS														
Mod.	∅	KK	A	B	R	TF	L	L1	I	∅ D	∅ D1	∅ 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 ∅ 80 and 100

Material: hardened steel



Mod.

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تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

STANDARD STROKES FOR SERIES 40 CYLINDERS

■ = double-acting

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

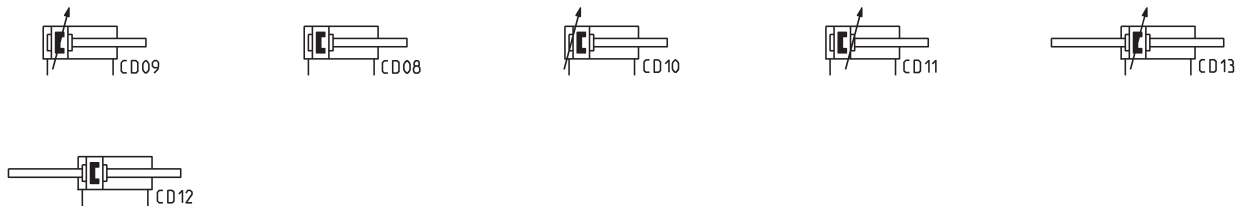
CODING EXAMPLE

40	M	2	L	160	A	0200	
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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 8 = double-acting, through-rod, no cushion	PNEUMATIC SYMBOLS CD09 CD08 CD10 CD11 CD13 CD12
L	MATERIALS L = see the GENERAL DATA table on the previous page 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) [∅ 250 and 320 excluded] (_ _ _) = extended piston rod _ _ _ mm Notes: the C version is available on request. For further details, contact our technical dept.	

PNEUMATIC SYMBOLS

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



ACCESSORIES FOR SERIES 40 CYLINDERS



Rear trunnion, male
Mod. L



Self aligning rod
Mod. GK



Swivel combination Mod.
C+L+S



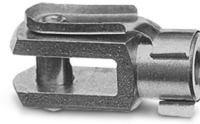
Clevis pin Mod. S



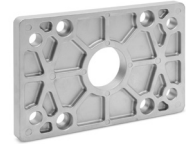
90° Swivel combination
Mod. ZS



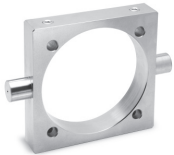
Counter bracket for
centre trunnion Mod. BF



Rod fork end Mod. G



Front and rear flange
Mod. D-E



Centre trunnion Mod. F



Foot mount Mod. B



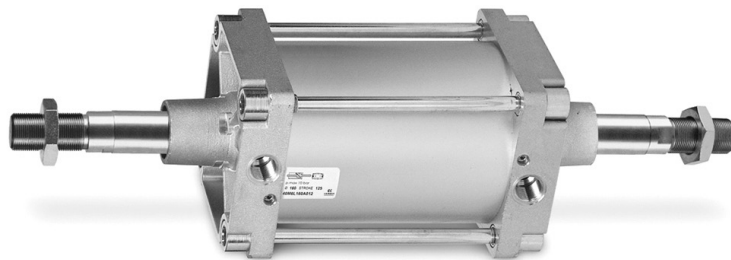
Swivel ball joint Mod. GA



Female trunnion
Mod. C-H



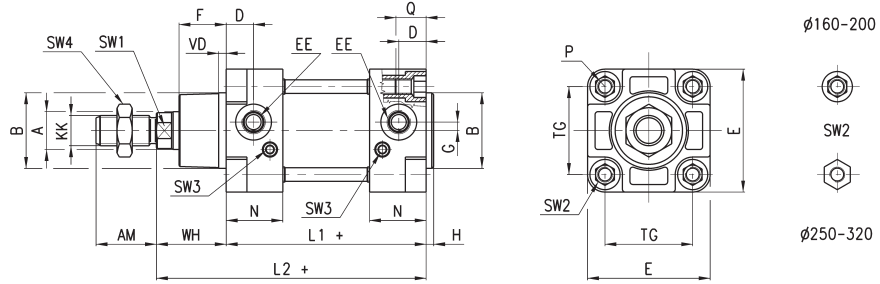
Piston rod lock nut
Mod. U



All accessories are supplied separately except for piston rod lock nut Mod. U.
Details about proximity switches and their brackets can be found in the dedicated section.

SERIES 40 CYLINDERS

Series 40 cylinders

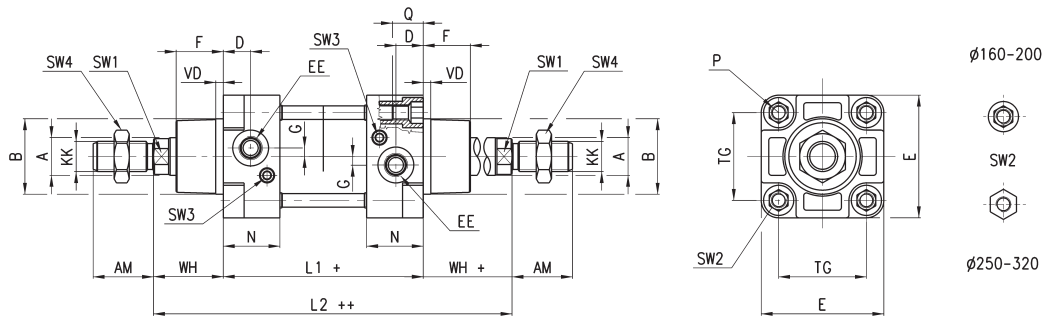


+ = add the stroke

DIMENSIONS

∅	A	KK	B	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	10	53	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

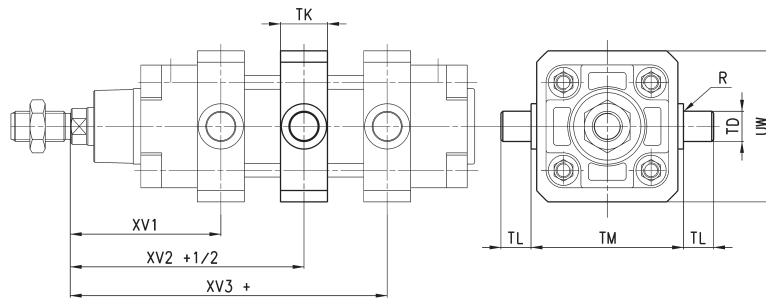


+ = add the stroke once
++ = add the stroke twice

DIMENSIONS

∅	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
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
250	50	M42x2	90	31	12	67	84	G1	105	200	410	10	53	M20	30	220	270	46	36	4	65	50
320	63	M48x2	110	31	12	83	96	G1	120	220	460	12	55.5	M24	30	270	340	55	41	-	75	56

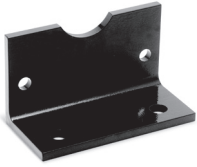
Series 40 cylinders with centre trunnion Mod. F



+ = add the stroke
+ 1/2 = add the stroke half

DIMENSIONS										
∅	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

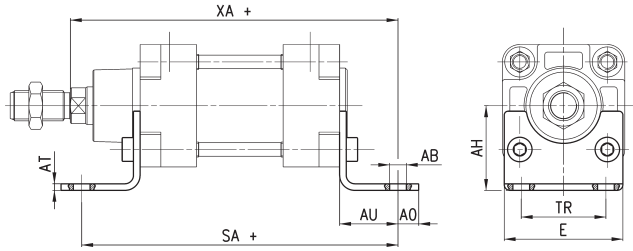
Foot mount Mod. B



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

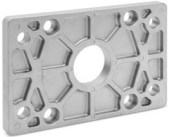
For diameters 250 and 320 white zinc plating

+ = add the stroke



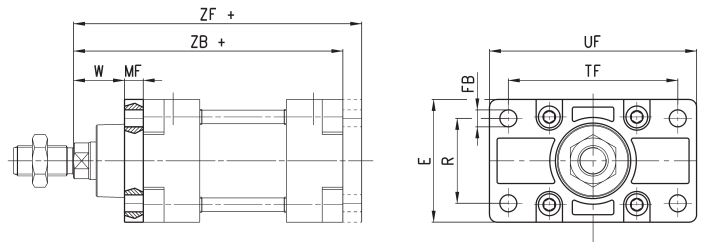
DIMENSIONS										
Mod.	∅	AT	SA+	XA+	TR	E	AB	AH	AO	AU
B-41-160	160	10	300	320	115	175	18.5	115	25	60
B-41-200	200	12	320	345	135	238	24	135	35	70
B-41-250	250	14	350	380	165	270	26	165	25	75
B-41-320	320	20	390	425	200	353	35	200	45	85

Front and rear flange Mod. D-E



Supplied with:
1x flange
4x screws

+ = add the stroke



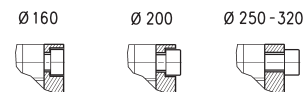
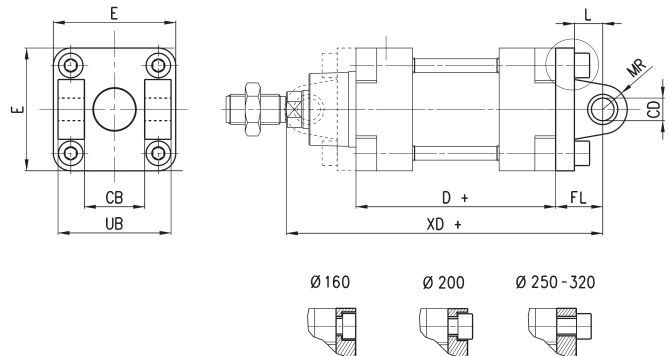
DIMENSIONS											
Mod.	∅	W	MF	ZB+	TF	R	UF	E	∅FB	ZF+	Material
D-E-41-160	160	60	20	260	230	115	260	180	18	280	aluminium
D-E-41-200	200	70	25	275	270	135	300	220	22	300	aluminium
D-E-41-250	250	80	25	305	330	165	400	285	26	330	zinc-plated steel
D-E-41-320	320	90	30	340	400	200	470	334	33	370	stainless steel 304

Front and rear female trunnion Mod. C-H



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

+ = add the stroke



DIMENSIONS										
Mod.	∅	∅CD	L	FL	D+	XD+	MR	E	CB	UB
C-H-41-160	160	30	35	55	180	315	25	180	90	169
C-H-41-200	200	30	35	60	180	335	25	220	90	169
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

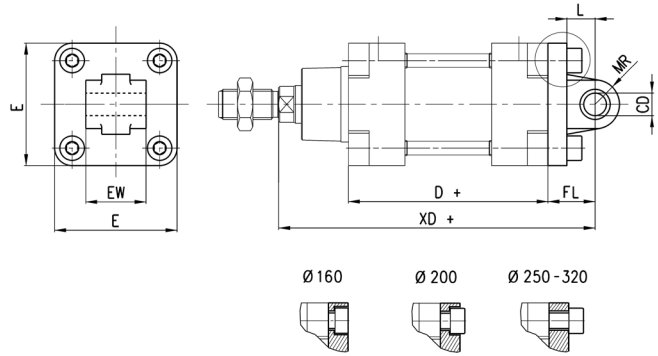
Rear male trunnion Mod. L



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

* For \varnothing 320 black-painted steel (cataphoresis)

+ = add the stroke



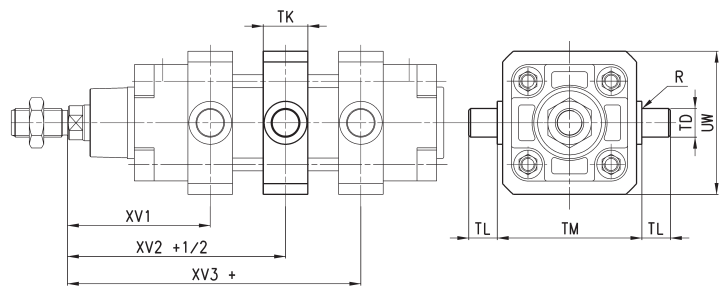
DIMENSIONS								
Mod.	\varnothing	\varnothing CD	L	FL	XD+	MR	E	EW
L-41-160	160	30	35	55	315	25	180	90
L-41-200	200	30	35	60	335	25	220	90
L-41-250	250	40	45	70	375	40	270	110
L-41-320	320	45	50	80	420	45	350	110

Centre trunnion Mod. F



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

+ = add the stroke



DIMENSIONS											
Mod.	\varnothing	XV1	XV + 1/2	XV3 +	TM	TK	\varnothing TD	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

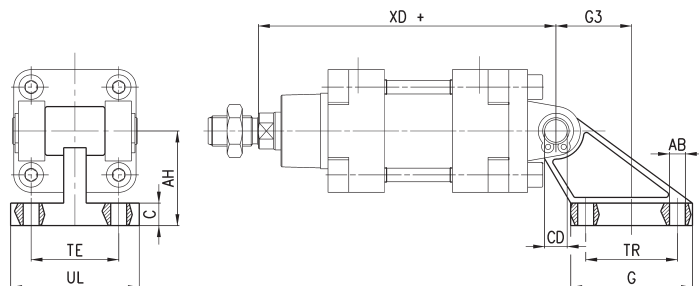
90° Swivel combination Mod. ZS*

* not according to standard



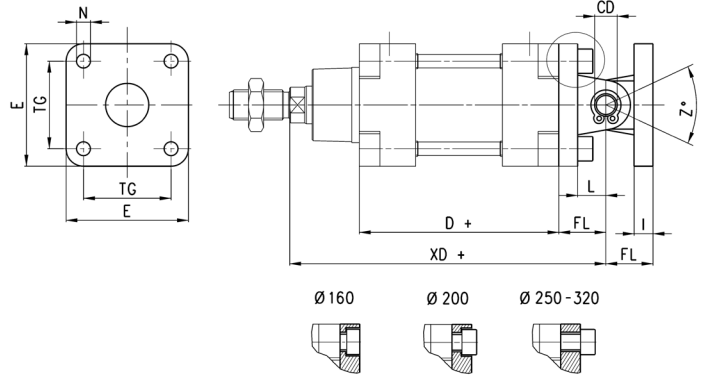
Supplied with:
1x 45° swivel combination in Aluminium

+ = add the stroke



DIMENSIONS											
Mod.	\varnothing	TE	TR	\varnothing AB	AH	C	G	\varnothing CD	UL	XD +	G3
ZS-160*	160	140	140	18	140	20	180	30	180	315	105
ZS-160N	160	118	88	14	115	25	126	30	156	315	53
ZS-200*	200	175	175	18	140	25	220	30	220	335	125
ZS-200N	200	122	90	18	135	30	130	30	162	335	60

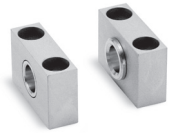
Swivel combination Mod. C+L+S



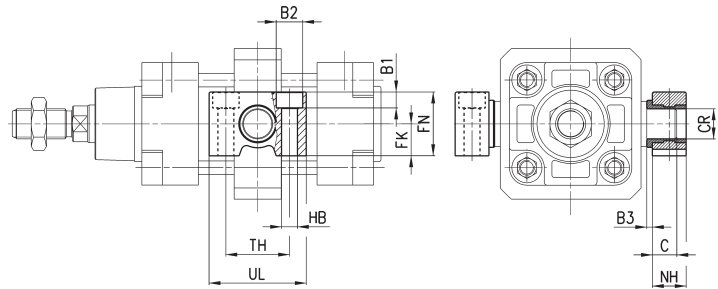
+ = add the stroke

DIMENSIONS												
Mod.	∅	E	TG	∅N	D+	XD+	∅CD	L	FL	I	Z° (max)	
C+L+S	160	180	140	18	180	315	30	35	55	20	25	
C+L+S	200	220	175	18	180	335	30	35	60	25	20	
C+L+S	250	270	220	22	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

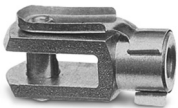


Supplied with 2 supports in Aluminium



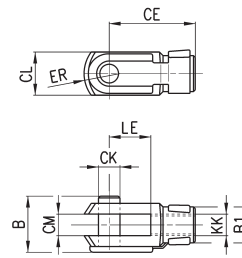
DIMENSIONS												
Mod.	∅	∅CR	NH	C	B3	TH	UL	FK	FN	B1	∅B2	∅HB
BF-160-200	160-200	32	35	17,5	4	60	92	30	60	16	26	18

Rod fork end Mod. G



ISO 8140

Material:
- zinc-plated steel



DIMENSIONS										
Mod.	∅	∅CK	LE	CM	CL	ER	CE	KK	B	∅B1
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