

Minicylinders Series 16, 24 and 25

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



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

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

The precise method of placing the tube at the end block ensures that all the parts are perfectly aligned. Since the Series 16 and 24 may be required to operate at very high speeds, a fixed mechanical cushioning has been fitted as standard in order to reduce wear by high impact loads. Series 24 and 25 are suitable for mounting magnetic proximity switches. Series 25 has an adjustable pneumatic cushioning and a magnetic piston. Various mounting accessories are available to enable the cylinders to be fitted to suit the requirement of a particular application.

GENERAL DATA

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

STANDARD STROKES FOR MINICYLINDERS SERIES 16 - 24 and 25

- = Double-acting
- ✕ = Single-acting

STANDARD STROKES

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

CODING EXAMPLE

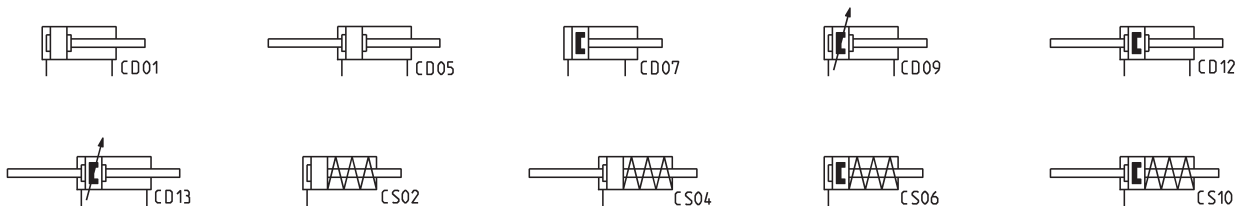
24	N	2	A	16	A	100	
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24	<p>SERIES 16 = non magnetic 24 = magnetic 25 = magnetic, adjustable cushioning</p>
N	<p>VERSION N = standard</p>
2	<p>OPERATION 1 = single-acting, front spring, no cushion 2 = double-acting 3 = double-acting, through-rod 7 = single-acting,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

PNEUMATIC SYMBOLS
 CS02 (s. 16) - CS06 (s. 24)
 CD01 (s. 16) - CD07 (s. 24) - CD09 (s. 25)
 CD05 (s. 16) - CD12 (s. 24) - CD13 (s. 25)
 CS04 (s. 16) - CS10 (s. 24)

PNEUMATIC SYMBOLS

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



ACCESSORIES FOR MINICYLINDERS SERIES 16 - 24 - 25
1

MOVEMENT


 Rear trunnion bracket
Mod. I

 Coupling piece
Mod. GKF

 Self aligning rod
Mod. GK


Rod fork end Mod. G



Swivel ball joint Mod. GA


 Front/rear flange mount
Mod. E


Foot mount Mod. B



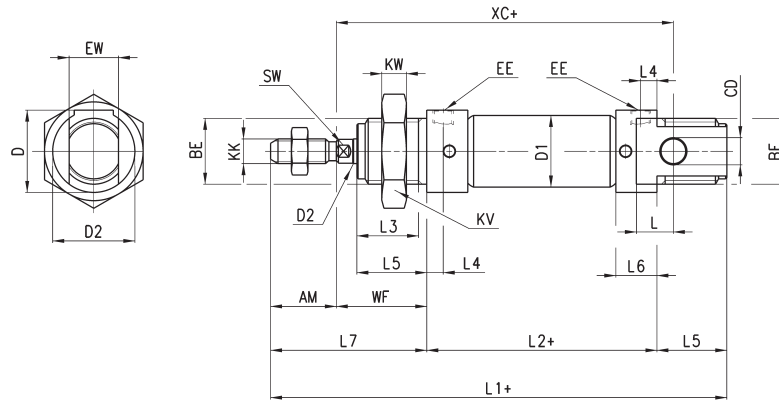
Nose nut Mod. V


 Piston rod lock nut
Mod. U

 Piston rod socket joint
Mod. GY


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

Minicylinders Series 16, 24 and 25

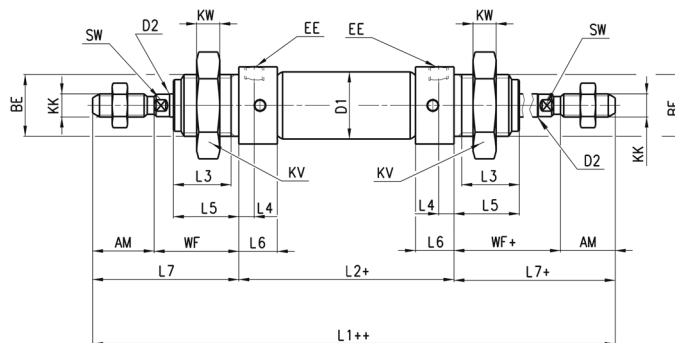


+ = add the stroke

DIMENSIONS

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

Minicylinders Series 16, 24 and 25 - through-rod



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

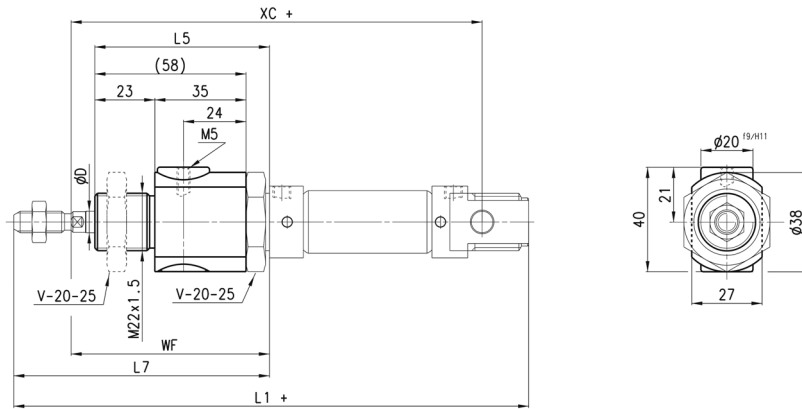
DIMENSIONS

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

Minicylinders Series 16, 24 and 25 with rod lock (Mod. RLC)



+ = add the stroke



DIMENSIONS

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

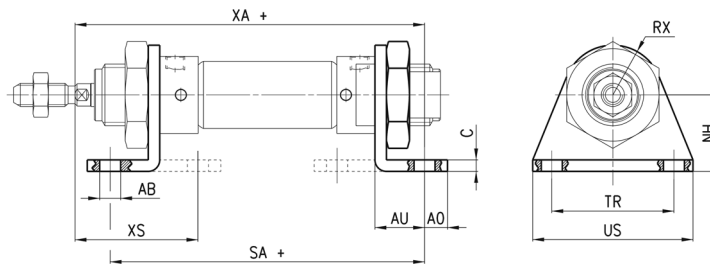
Foot mount Mod. B

Feet and nose nut material: zinc-plated steel.



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

+ = add the stroke



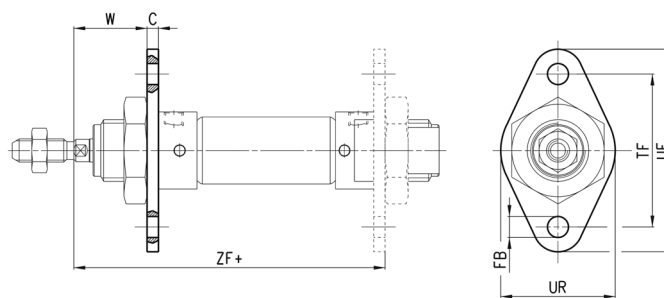
DIMENSIONS												
Mod.	∅	∅AB	XS	XA+	SA+	AO	AU	C	RX	TR	US	NH
B-8-10	8-10	4,5	54	72,5	67	4,5	10,5	2,5	10	25	35	16
B-12-16	12	5,5	64	82,5	71	6	13	3	13	32	42	20
B-12-16	16	5,5	68	91	82	6	13	3	13	32	42	20
B-20-25	20	6,6	80	108	100	8	16	4	20	40	54	25
B-20-25	25	6,6	85,5	113,5	101,5	8	16	4	20	40	54	25

Front/rear flange mount Mod. E

Material: zinc-plated steel.



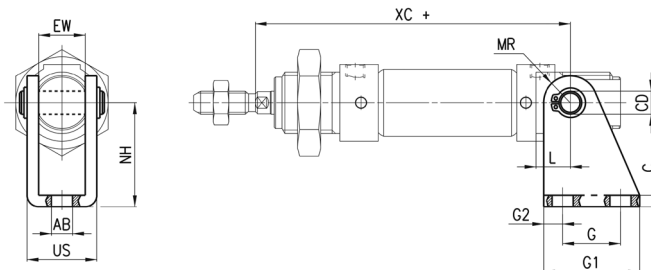
+ = add the stroke



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

Rear trunnion bracket Mod. I

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



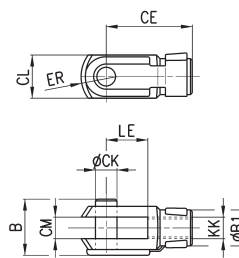
+ = add the stroke

DIMENSIONS

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

Rod fork end Mod. G

ISO 8140
 Material: zinc-plated steel.

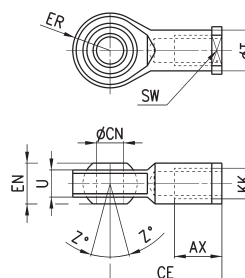


DIMENSIONS

Mod.	∅	CL	ER	CE	B	CM	∅CK	LE	KK	∅B1
G-8-10	8-10	8	5	16	11	4	4	8	M4x0,7	8
G-12-16	12-16	12	7	24	16	6	6	12	M6x1	10
G-20	20	16	10	32	22	8	8	16	M8x1,25	14
G-25-32	25	20	12	40	26	10	10	20	M10x1,25	18

Swivel ball joint Mod. GA

ISO 8139
 Material: zinc-plated steel.



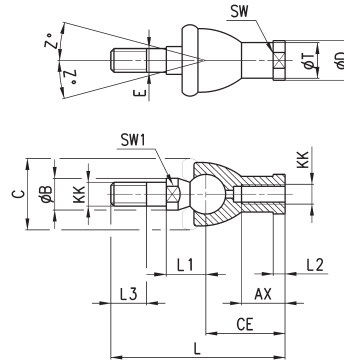
DIMENSIONS

Mod.	∅	∅CN ^(H7)	U	EN	ER	AX	CE	KK	∅T	Z	SW
GA-8-10	8-10	5	6	8	9	10	27	M4x0,75	9	6,5°	9
GA-12-16	12-16	6	7	9	10	12	30	M6X1	10	6,5°	11
GA-20	20	8	9	12	12	16	36	M8X1,25	12,5	6,5°	14
GA-32	25	10	10,5	14	14	20	43	M10X1,25	15	6,5°	17

Piston rod socket joint Mod. GY

ISO 8139

Material: zama and zinc-plated steel.



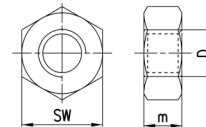
DIMENSIONS

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

Piston rod lock nut Mod. U

ISO 4035

Material: zinc-plated steel.



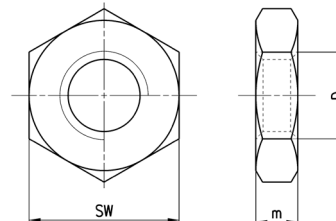
DIMENSIONS

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

Nose nut Mod.V

ISO 4035

Material: zinc-plated steel.

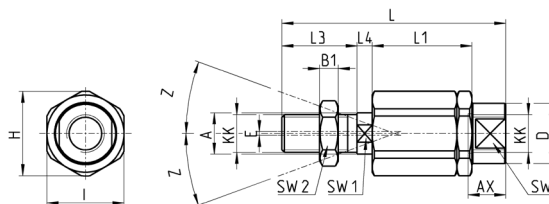


DIMENSIONS

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

Self aligning rod Mod. GK

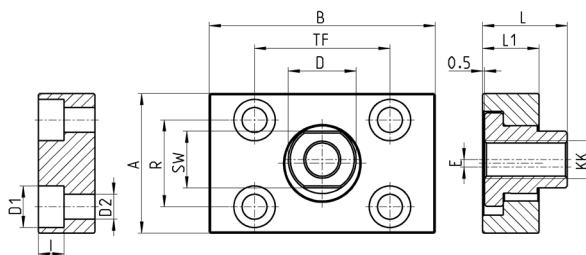
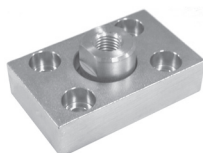
Material: zinc-plated steel.


DIMENSIONS

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

Coupling piece Mod. GKF

Material: zinc-plated steel.


DIMENSIONS

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