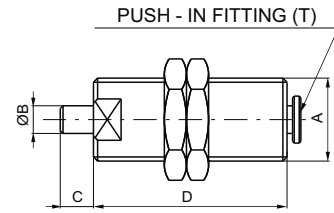


Threaded body, round execution

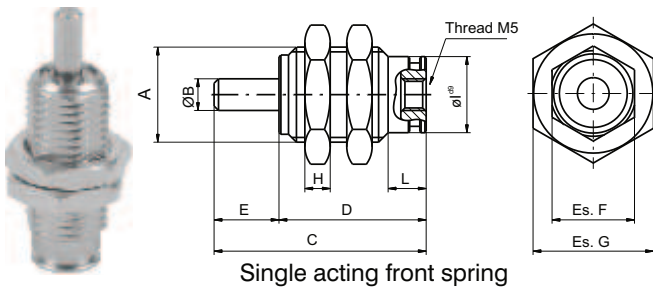


Ordering code	Bore	Stroke	A	B	C	D	T
1213.6.5	6	5	M10x1	3	5	30,5	4/2
1213.6.10	6	10	M10x1	3	5	35,5	4/2
1213.6.20	6	20	M10x1	3	5	49,5	4/2
1213.8.5	8	5	M12x1	3	6	28	4/2
1213.10.3	10	3	M15x1,5	5	1	44	4/2
1213.10.5	10	5	M15x1,5	5	5	40	4/2
1213.10.10	10	10	M15x1,5	5	12	44	4/2

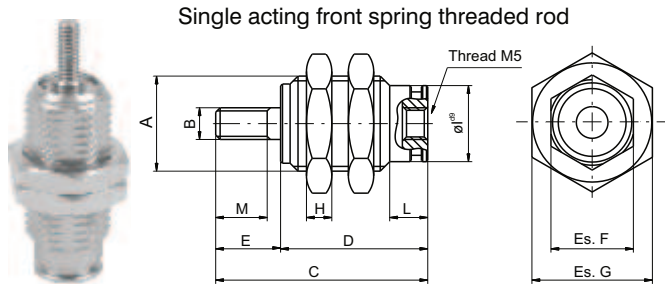


Threaded body, hexagonal execution

Ordering code	Description
1213.Ø.stroke.C	Single acting front spring
1213.Ø.stroke.CF	Single acting front spring threaded body



Single acting front spring

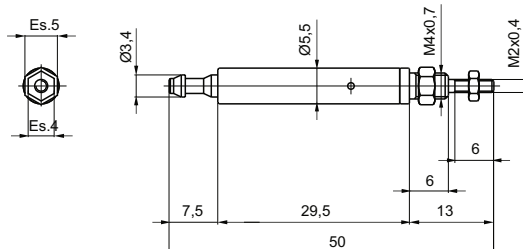


Single acting front spring threaded rod

Ø Cil.	Stroke	A	ØB	B	C	D	E	Es. F	Es. G	H	ØI	L	M
6	5	M10x1	Ø3	M3x0.5	27,5	18,5	9	9	12	3	Ø8,5	6	7
6	10	M10x1	Ø3	M3x0.5	34,5	25,5	9	9	12	3	Ø8,5	6	7
6	15	M10x1	Ø3	M3x0.5	41,5	32,5	9	9	12	3	Ø8,5	6	7
10	5	M15x1.5	Ø5	M4x0.7	32,5	20,5	12	13	19	4	Ø12	6	10
10	10	M15x1.5	Ø5	M4x0.7	39	27	12	13	19	4	Ø12	6	10
10	15	M15x1.5	Ø5	M4x0.7	46	34	12	13	19	4	Ø12	6	10
16	5	M22x1.5	Ø6	M5x0.8	37,5	23,5	14	20	27	5	Ø19	7	12
16	10	M22x1.5	Ø6	M5x0.8	43,5	29,5	14	20	27	5	Ø19	7	12
16	15	M22x1.5	Ø6	M5x0.8	50	36	14	20	27	5	Ø19	7	12

Front fixing microcylinders

Ordering code
1273.4.10



Construction characteristics

End covers	hard anodised aluminum
Barrel	anodised aluminium (brass for Ø8 and Ø10)
Piston rod	non magnetic piston : Ø8 - Ø10: stainless steel / Ø12 - Ø50: C43 chromed magnetic piston: Ø10 - 20: stainless steel / Ø25 - 50: C43 chromed
Piston	aluminium
Seals	Standard: NBR Oil resistant rubber, PUR Piston rod seals (HNBR or FPM seals available upon request)
Mounting	steel painted in cathoporesis
Forks	cadmium plated steel
Single-acting springs	steel for springs and stainless steel
Cushioning length	∅ 16 - 20 - 25 - 32 - 40 - 50 mm 15 - 18 - 18 - 18 - 22 - 22

Technical characteristics

Fluid	filtered air, preferably lubricated
Max. pressure	10 bar
Working temperature	-5°C - +70°C with standard seals magnetic or non magnetic piston -5°C - +80°C with FPM seals magnetic piston -5°C - +80°C with HNBR seals magnetic piston -5°C - +120°C with HNBR seals non magnetic piston -5°C - +150°C with FPM seals non magnetic piston

Please follow the suggestions below to ensure a long life for these cylinders:

- use clean and lubricated air
- correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod.
- avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device)
- evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.)

Please note: air must be dried for applications with lower temperature.

Use hydraulic oils H class (ISO Vg32) for correct continued lubrication.

Our Technical Department will be glad to help.

Standard strokes

Ø8 - Ø10 :

15 - 25 - 50 - 75 - 80 - 100 mm

Ø12 - Ø16 :

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 mm

Ø20 - Ø25 :

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 mm

Ø32 - Ø50 :

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 - 450 - 500 mm

Minimum and maximum springs load

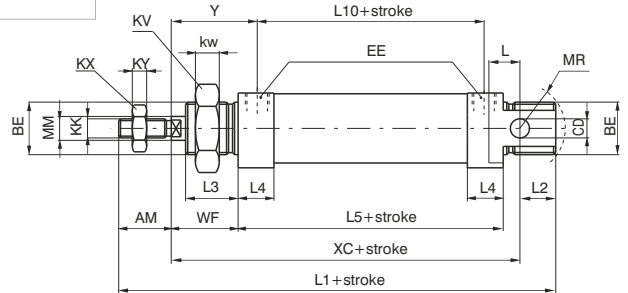
Bore	Ø12 - Ø20	Ø25	Ø32	Ø40 - Ø50
Min. load(N)	10	10	20	40
Max. load(N)	25	50	55	110

Basic version

Ordering code	Description
1260.Ø.stroke	Basic version
1271.Ø.stroke	Basic version front spring from Ø12 (max stroke 40 mm)
1272.Ø.stroke	Basic version rear spring from Ø12 (max stroke 40 mm)
12--Ø.stroke.A	Adjustable cushioning (from Ø16)
12--Ø.stroke.M	Magnetic piston (from Ø10)
12--Ø.stroke.X	Stainless steel rod
12--Ø.stroke.A.M	Cushioning with magnetic piston
12--Ø.stroke.A.M.X	Cushioning, magnetic piston and stainless steel piston rod
12--Ø.stroke...T	HNBR seals version
12--Ø.stroke...V	FPM seals version



Standard execution, fully complying with ISO standards from ø 8 to ø 25. Diameters 32, 40 and 50 not included in the standard, comply with our own specifications. Can use all available mountings. For single acting type, the maximum stroke is 40 mm., after which overall dimensions increase in length to an extent not proportional to the stroke (and in any case not longer than stroke 100).

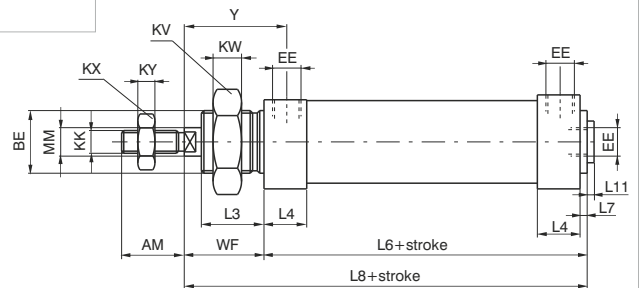


Without rear eye version

Ordering code	Description
1261.Ø.stroke	Without rear eye
1273.Ø.stroke	Without rear eye front spring from Ø12 (max stroke 40 mm)
1274.Ø.stroke	Without rear eye rear spring from Ø12 (max stroke 40 mm)
12--Ø.stroke.A	Adjustable cushioning (from Ø16)
12--Ø.stroke.M	Magnetic piston (from Ø10)
12--Ø.stroke.X	Stainless steel rod
12--Ø.stroke.A.M	Cushioning with magnetic piston
12--Ø.stroke.A.M.X	Cushioning, magnetic piston and stainless steel piston rod
12--Ø.stroke...T	HNBR seals version
12--Ø.stroke...V	FPM seals
12--Ø.stroke...L	Air inlet at 90° version



Version derived from standard execution 1260 and not included in ISO standard. Not having a rear eye it is shorter and the air inlet is from the rear or at 90° like it is on the front. The considerations made for the basic type 1260 apply for all single-acting types.



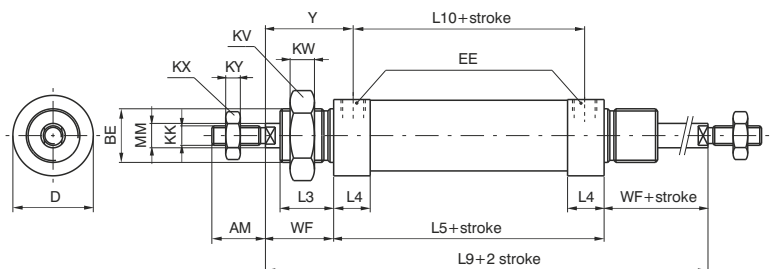
Push/Pull rod version

Ordering code	Description
1262.Ø.stroke	Push/pull rod
1262.Ø.stroke.A	Adjustable cushioning (from Ø16)
1262.Ø.stroke.M	Magnetic piston (from Ø10)
1262.Ø.stroke.X	Stainless steel rod
1262.Ø.stroke.E	Hexagonal piston rod (from Ø12)
1262.Ø.stroke.A.M	Cushioning with magnetic piston
1262.Ø.stroke.A.M.X	Cushioning, magnetic piston and stainless steel piston rod
1262.Ø.stroke...T	HNBR seals version ★
1262.Ø.stroke...V	FPM seals version ★



★ Excludes hexagonal rod version

Execution by rod coming out from both end plates, with overall dimensions, except for the rod, equal to 1260 version. Not available with Ø8 and 10).



Non rotating piston rod version

Ordering code	Description
1260.Ø.stroke.E	Hexagonal piston rod (from Ø12)
1271.Ø.stroke.E	Hexagonal piston rod with front spring from Ø12 (max stroke 40 mm.)
1272.Ø.stroke.E	Hexagonal piston rod with rear spring from Ø12 (max stroke 40 mm.)
12- -Ø.stroke.E.M	Hexagonal piston rod with magnetic piston (from Ø12)
12- -Ø.stroke.E.X	Hexagonal stainless steel piston rod



Similar overall dimensions as 1260 basic type, it differs because of the hexagonal rod (instead of circular) to avoid the rotation. It is particularly suitable when it is used as a guide and support to the linked element. Not for use with high frequencies and long strokes. For which, whenever possible use front spring.

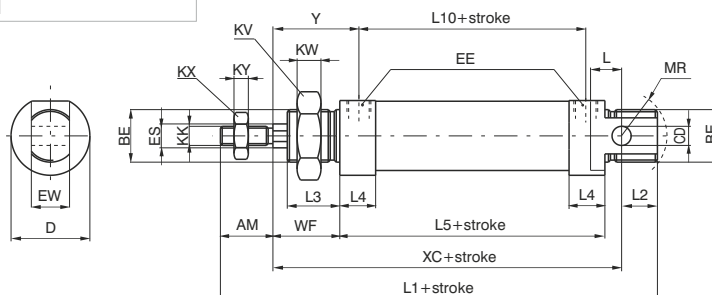


Table of dimensions

Bore		8	10	12	16	20	25	32	40	50
AM (-0,2)		12	12	16	16	20	22	20	25	25
BE		M12x1,25	M12x1,25	M16x1,5	M16x1,5	M22x1,5	M22x1,5	M30x1,5	M40x1,5	M40x1,5
CD (H9)		4	4	6	4	8	8	12	14	14
D (-0,3)		16	17	19	24	28	33	40	48	58
EE		M5	M5	M5	M5	G1/8"	G1/8"	G1/8"	G1/4"	G1/4"
ES		-	-	6	6	8	10	12	12	12
EW (d13)		8	8	12	12	16	16	26	30	30
KK (6g)		M4x0,7	M4x0,7	M6x1	M6x1	M8x1,25	M10x1,25	M10x1,25	M12x1,75	M12x1,75
KV		17	17	22	22	30	30	42	52	52
KW		5,5	5,5	6	6	7	7	8	9	9
KX		7	7	10	10	13	17	17	19	19
KY		3	3	4	4	5	6	6	7	7
L		6	6	9	9	12	13	13	16	16
L1(±1)	★	85	85	105	111	130	141	139	164	167
L2		9	9	14	13	15	15	14	16	16
L3		11	11	17	17	18	22	22	25	25
L4		10	10	9,5	10,5	15	15	15	18	18
L5(±1)	★	46	46	50	56	68	69	69	79	82
L6(±1)	★	48	48	52	58	70,5	71,5	71,5	82	85
L7		2	2	2	2	2,5	2,5	2,5	3	3
L8(±1)	★	64	64	74	80	94,5	99,5	99,5	117	120
L9(±1,2)	★	78	78	94	100	116	125	125	149	152
L10(±1)	★	35	35	40	45	52	53	53	60	63
L11		-	-	-	1,5	2	2	2	2	2
MM (f7)		4	4	6	6	8	10	12	14	14
MR (min.)		12	12	16	16	18	19	22	28	28
WF (±1,2)		16	16	22	22	24	28	28	35	35
XC(±1)	★	64	64	75	82	95	104	105	123	126
Y (±1,2)		21,5	21,5	27	27,5	32	36	36	44,5	44,5

STROKE TOLERANCE: until stroke 100 mm - 1,5, beyond + 2 mm.

Weight	stroke 0	55	60	80	100	175	240	365	610	790
gr.	every 10mm	6	7	5	5	8	11	15	19	21

Without rear eye version

Weight	stroke 0	50	55	75	95	170	230	345	570	750
gr.	every 10mm	6	7	5	5	8	11	15	19	21

Push/pull rod version

Weight	stroke 0	55	60	95	120	220	310	450	760	950
gr.	every 10mm	7	8	7	7	12	17	24	31	33

Hexagonal rod version

Weight	stroke 0	-	-	85	105	180	250	370	590	760
gr.	every 10mm	-	-	5	6	8	12	16	17	19

(★) These dimensions increase of 10 mm for microcylinders equipped with magnetic piston and spring return, and of 9 mm for microcylinders with 10 mm diameter magnetic piston

Construction characteristics

End covers	hard anodised aluminium
Barrel	stainless steel AISI 304
Piston rod	stainless steel
Piston	brass (ø8-10-12) aluminium (ø16-20-25)
Seals	Standard: NBR Oil resistant rubber, PUR Piston rod seals (HNBR or FPM seals available upon request)
Mounting	steel painted in cataphoresis
Forks	zinc plated steel
Single-acting springs	C98 zinc plated steel for springs
Cushioning length	\varnothing 16 - 20 - 25 - 32 mm 15 - 18 - 18 - 18

Technical characteristics

Fluid	filtered air and preferably lubricated
Maximum working pressure	10 bar
Working temperature	-5°C - +70°C with standard seals magnetic or non magnetic piston -5°C - +80°C with FPM seals magnetic piston -5°C - +80°C with HNBR seals magnetic piston -5°C - +120°C with HNBR seals non magnetic piston -5°C - +150°C with FPM seals non magnetic piston

Please follow the suggestions below to ensure a long life for these cylinders:

- use clean and lubricated air
- correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod.
- avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device)
- evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.)

Please note: air must be dried for applications with lower temperature.

Use hydraulic oils H class (ISO Vg32) for correct continued lubrication.

Our Technical Department will be glad to help.

Standard strokes

ø 8 and ø 10

15 - 25 - 50 - 75 - 80 - 100 mm

ø 12 and ø 16

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 mm

ø 20 and ø 25

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 mm

ø 32

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 - 450 - 500 mm

Minimum and maximum springs load

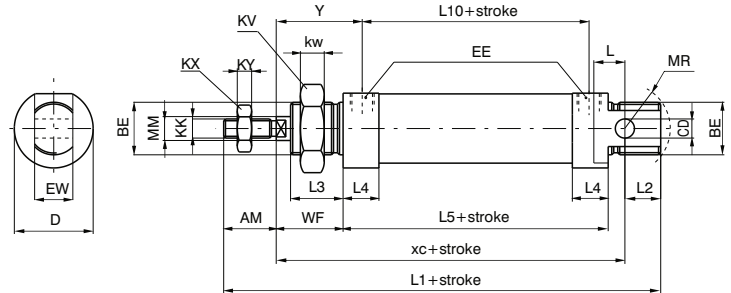
Bore	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Min. load(N)	2.2	2.2	4	7.5	11	16.5	23
Max. load(N)	4.2	4.2	8.7	21	22	30.7	52.5

Basic version

Ordering code	Description
1280.Ø.stroke	Basic version
1291.Ø.stroke	Basic version front spring (max stroke 50 mm)
1292.Ø.stroke	Basic version rear spring from Ø16 (max stroke 50 mm)
12- -Ø.stroke.A	Adjustable cushioning (from Ø16)
12- -Ø.stroke.M	Magnetic piston
12- -Ø.stroke.A.M	Cushioning with magnetic piston (from Ø16)
12- -Ø.stroke. . . .T	HNBR seals version
12- -Ø.stroke. . . .V	FPM seals version



Standard version, fully compliant with ISO standards. Can use all available mountings. For single acting type, the maximum stroke is 50 mm., after which overall dimensions increase in length to an extent not proportional to the stroke (and in any case not longer than stroke 100).

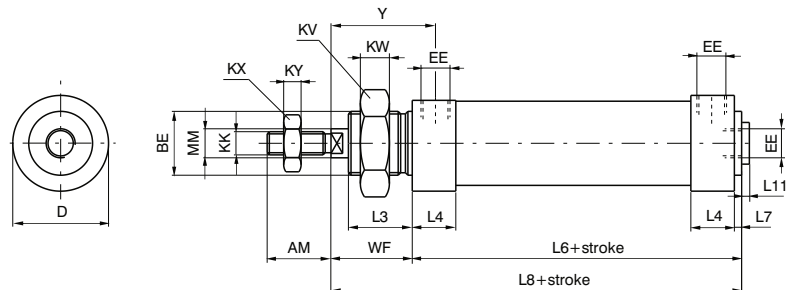


Without rear eye version

Ordering code	Description
1281.Ø.stroke	Without rear eye
1293.Ø.stroke	Without rear eye front spring (max stroke 50 mm)
1294.Ø.stroke	Without rear eye rear spring from Ø16 (max stroke 50 mm)
12- -Ø.stroke.A	Adjustable cushioning (from Ø16)
12- -Ø.stroke.M	Magnetic piston
12- -Ø.stroke.A.M	Cushioning with magnetic piston (from Ø16)
12- -Ø.stroke. . . .T	HNBR seals version
12- -Ø.stroke. . . .V	FPM seals version



Version derived from standard version 1260 and not included in ISO standard. Not having a rear eye it is shorter. Rear inlet connection is at 90 like the front one, in line and plugged. The considerations made for the basic type 1280 apply for all single-acting types.



Push/Pull rod version

Ordering code	Description
1282.Ø.stroke	Push/pull rod version
1282.Ø.stroke.M	Magnetic piston
1282.Ø.stroke.A	Adjustable cushioning (from Ø16)
1282.Ø.stroke.A.M	Cushioning with magnetic piston (from Ø16)
1282.Ø.stroke. . . .T	HNBR seals version
1282.Ø.stroke. . . .V	FPM seals version



This version having rods coming out from both end plates with overall dimensions, except for the rod, equal to 1280 version. This version is not suitable for Ø8 and Ø10 due to difficulty in anchoring the pistons to rods.

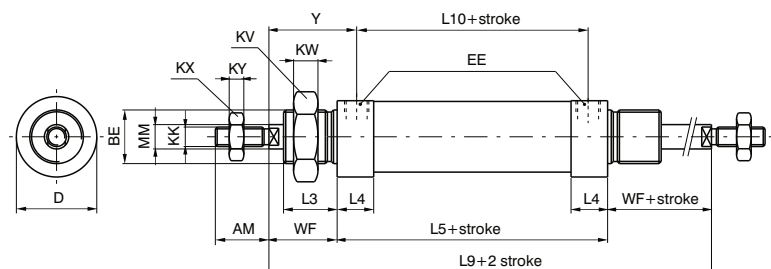


Table of dimensions

		Bore						
		8	10	12	16	20	25	32
AM (-0,2)		12	12	16	16	20	22	20
BE		M12X1,25	M12X1,25	M16X1,5	M16X1,5	M22X1,5	M22X1,5	M30X1,5
CD (H9)		4	4	6	6	8	8	12
D (h11)		16	16	20	21	27	30	38
EE		M5	M5	M5	M5	G1/8"	G1/8"	G1/8"
EW (d13)		8	8	12	12	16	16	26
KK (6g)		M4X0,7	M4X0,7	M6X1	M6X1	M8X1,25	M10X1,25	M10X1,25
KV		17	17	22	22	30	30	42
KW		5,5	5,5	6	6	7	7	8
KX		7	7	10	10	13	17	17
KY		3	3	4	4	5	6	6
L		6	6	9	9	12	13	13
L1 (±1)	*	86	86	105	111	130	141	139
L2		10	10	14	13	15	15	14
L3		12	12	17	17	18	22	22
L4		9	9	9	11	15,5	15	14,5
L5 (±1)	*	46	46	50	56	68	69	69
L6	*	48	48	52	58	70,5	71,5	71,5
L7		2	2	2	2	2,5	2,5	2,5
L8	*	64	64	74	80	94,5	99,5	99,5
L9 (±1,2)	*	78	78	94	100	116	125	125
L10 (±1)	*	37	37	41	45	52,5	53	54,5
L11		1,5	1,5	1,5	1,5	2	2	2
MM (f7)		4	4	6	6	8	10	12
MR		12	12	16	16	18	19	22
WF (±1,2)		16	16	22	22	24	28	28
XC (±1)	*	64	64	75	82	95	104	105
Y (±1,2)		20,5	20,5	26,5	27,5	32	36	35
Stroke tolerance: until stroke 100 +1,5 mm, beyond +2 mm								
Weight	stroke 0	30	35	65	80	160	200	310
gr.	every 10mm	2	2,5	4	5	7,5	11,5	18
Variations of the versions:								
<i>without rear eye version</i>								
Weight	stroke 0	25	30	60	75	150	185	290
gr.	every 10mm	2	2,5	4	5	7,5	11,5	18
<i>Push/pull rod version</i>								
Weight	stroke 0	35	40	75	95	200	250	370
gr.	every 10mm	2,5	3	6	7	10,5	15,5	24

Dimensions marked with * do not increase proportionally to stroke for rear spring version (over 25 mm stroke).

Construction characteristics

End covers	stainless steel AISI 316
Barrel	stainless steel AISI 304
Piston rod	stainless steel
Piston	aluminium
Piston seals	Standard: NBR Oil resistant rubber, PUR Piston rod seals (FPM seals available upon request)
Mounting	stainless steel AISI 304
Forks	stainless steel AISI 304

Technical characteristics

Fluid	filtered air and preferably lubricated
Maximum working pressure	10 bar
Working temperature	-5°C - +70°C with standard seals magnetic or non magnetic piston -5°C - +80°C with FPM seals magnetic piston -5°C - +150°C with FPM seals non magnetic piston

Please follow the suggestions below to ensure a long life for these cylinders:

- use clean and lubricated air
- correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod.
- avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device)
- evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.)

Please note: air must be dried for applications with lower temperature.

Use hydraulic oils H class (ISO Vg32) for correct continued lubrication.

Our Technical Department will be glad to help.

Standard strokes

Ø 16

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 mm

Ø 20 and Ø 25

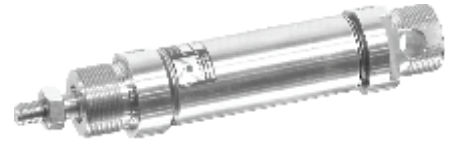
15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 mm

Ø 32

15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 - 450 - 500 mm

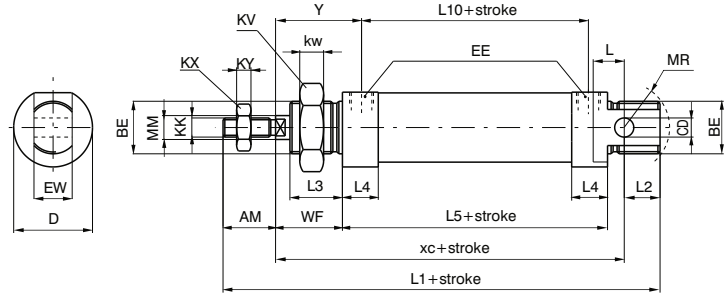
Basic version

Ordering code	Description
1280.Ø.stroke.X	Inox non-magnetic version, NBR seals
1280.Ø.stroke.XV	Inox non-magnetic, FPM seals
1280.Ø.stroke.AX	Inox non-magnetic version with cushions*, NBR seals
1280.Ø.stroke.AXV	Inox non-magnetic version with cushions*, FPM seals
1280.Ø.stroke.MX	Inox magnetic version, NBR seals
1280.Ø.stroke.MXV	Inox magnetic version, FPM seals
1280.Ø.stroke.AMX	Inox magnetic version with cushions*, NBR seals
1280.Ø.stroke.AMXV	Inox magnetic version with cushions*, FPM seals



* no adjustable cushioning

Standard version, fully complying with ISO standards.



Push/pull rod version

Ordering code	Description
1282.Ø.stroke.X	Inox non-magnetic version, NBR seals
1282.Ø.stroke.XV	Inox non-magnetic, FPM seals
1282.Ø.stroke.AX	Inox non-magnetic version with cushions*, NBR seals
1282.Ø.stroke.AXV	Inox non-magnetic version with cushions*, FPM seals
1282.Ø.stroke.MX	Inox magnetic version, NBR seals
1282.Ø.stroke.MXV	Inox magnetic version, FPM seals
1282.Ø.stroke.AMX	Inox magnetic version with cushions*, NBR seals
1282.Ø.stroke.AMXV	Inox magnetic version with cushions*, FPM seals



* no adjustable cushioning

This version having rods coming out from both end plates, with overall dimensions, except for the rod, equal to 1280 version.

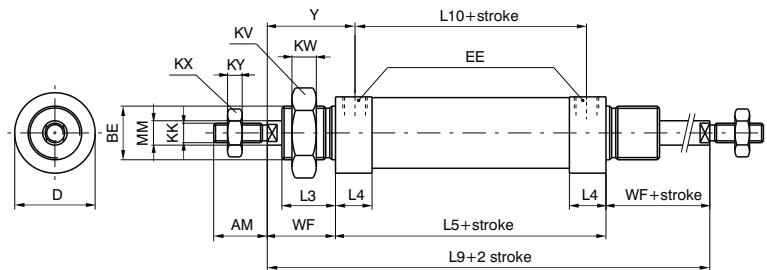


Table of dimensions

Bore	AM	BE	CD	D	EE	EW	KK	KV	KW	KX	KY	L	L1	L2	L3	L4	L5	L9	L10	MM	MR	WF	XC	Y
16	16	M16X1,5	6	21	M5	12	M6X1	22	6	10	4	9	111	13	17	10,5	56	100	45	6	16	22	82	27,5
20	20	M22X1,5	8	27	G1/8"	16	M8X1,25	30	7	13	5	12	130	15	18	10,5	68	116	52,5	8	18	24	95	32
25	22	M22X1,5	8	30	G1/8"	16	M10X1,25	30	7	17	6	13	140	15	22	15,5	68	125	52,5	10	18	28	104	36
32	20	M30X1,5	12	38	G1/8"	26	M10X1,25	42	8	17	6	13	139	14	22	14,5	69	125	54,5	12	22	28	105	35

Bore	Standard weight (gr.)		Weight push-pull version (gr.)	
	Stroke 0	every 10 mm	Stroke 0	every 10 mm
16	145	5	180	7
20	280	8	330	11
25	370	12	440	16
32	580	18	660	24

Construction characteristic

End covers	nylon 66 reinforced with glass fibres
Barrel	nylon 66 reinforced with glass fibres
Piston rod	C43 Chromed (non magnetic piston version) stainless steel (magnetic piston version)
Piston	aluminium
Seal	NBR oil-resistant rubber seal
Piston rod seal	PUR
Mounting	steel painted / stainless steel AISI 304
Forks	zinc plated steel / stainless steel AISI 304

Technical characteristics

Fluid	filtered air and preferably lubricated
Maximum working pressure	8 bar
Working temperature	-5°C - +50°C

Please follow the suggestions below to ensure a long life for these cylinders:

- use clean and lubricated air
- correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod.
- avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device)
- evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.)

Please note: air must be dried for applications with lower temperature.

Use hydraulic oils H class (ISO Vg32) for correct continued lubrication.

Our Technical Department will be glad to help.

Standard strokes

ø 12

15 - 25 - 50 - 75 - 80 - 100 - 125 - 150 - 160 - 200 mm

ø 16

15 - 25 - 50 - 75 - 80 - 100 - 125 - 150 - 160 - 200 - 250 mm

ø 20 - ø 25

15 - 25 - 50 - 75 - 80 - 100 - 125 - 150 - 160 - 200 - 250 - 300 mm

Maximum tightening torque for fittings

Bore	Thread	Maximum torque (Nm)
Ø 12	M5	1
Ø 16	M5	1
Ø 20	G 1/8"	4
Ø 25	G 1/8"	4

WEIGHT TABLE SERIES TECNO MIR 1230 - 1231

	Bore	Ø12	Ø16	Ø20	Ø25
WEIGHT gr.	stroke 0	50 gr.	65 gr.	120 gr.	160 gr.
	every 10mm	3,75 gr.	4 gr.	6,5 gr.	9 gr.

WEIGHT TABLE SERIES TECNO MIR 1232

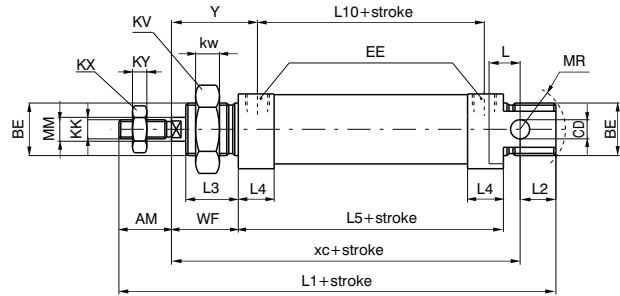
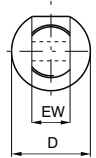
	Bore	Ø12	Ø16	Ø20	Ø25
WEIGHT gr.	stroke 0	60 gr.	75 gr.	180 gr.	200 gr.
	every 10mm	7 gr.	8,5 gr.	10 gr.	20 gr.

Basic version

Ordering code	Description
1230.Ø.stroke	Basic version
1230.Ø.stroke.M	Basic version magnetic piston



Standard version, fully complying with ISO standards. Can use all available mountings.

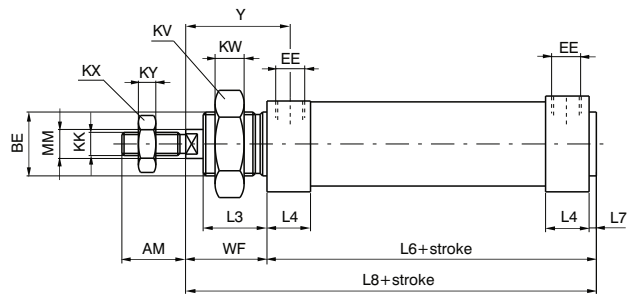
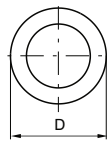


Without rear eye version

Ordering code	Description
1231.Ø.stroke	Without rear eye version
1231.Ø.stroke.M	Without rear eye version magnetic piston



This version derived from standard version 1230 and not included in ISO standard. Not having a rear eye it is shorter. The inlet connection is lateral on the rear cover (like on the front cover).



Push/Pull rod version

Ordering code	Description
1232.Ø.stroke	Push/Pull rod version
1232.Ø.stroke.M	Push/Pull rod version magnetic piston



Through rod model, dimensions as for the 1230 (except the rod).

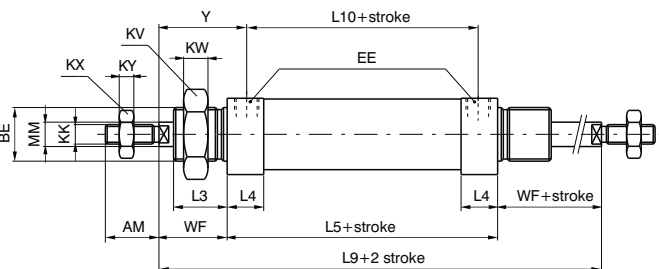
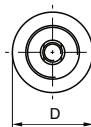


Table of dimensions

Bore	AM (-0,2)	BE	CD (H9)	D (h11)	EE	EW (d13)	KK (6g)	KV	KW	KX	KY	L	L1 (±1)	L2	L3	L4	L5 (±1)	L6	L7	L8	L9 (±1,2)	L10 (±1)	MM (f7)	WF (±1,2)	XC (±1)	Y (±1)
12	16	M16X1,5	6	19	M5	12	M6X1	22	6	10	4	9	105	14	17	13,5	50	52	2	74	94	41	6	22	75	26,5
16	16	M16X1,5	6	23	M5	12	M6X1	22	6	10	4	9	111	13	17	14,5	56	58	2	80	100	45	6	22	82	27,5
20	20	M22X1,5	8	28,5	G1/8"	16	M8X1,25	30	7	13	5	12	130	15	18	20,5	68	70,5	2,5	94,5	116	52	8	24	95	32
25	22	M22X1,5	8	31,5	G1/8"	16	M10X1,25	30	7	17	6	14	140	14	22	20	68	70,5	2,5	98,5	124	52	10	28	104	36

Sensor clamps for microcylinders with threaded end covers and Technopolymer

Sensor clamps - codes 1500._, RS._, HS._	Sensor clamps - codes 1580._, MRS._, MHS._
Ordering code	Ordering code
1260.Ø.F	1260.Ø.FS

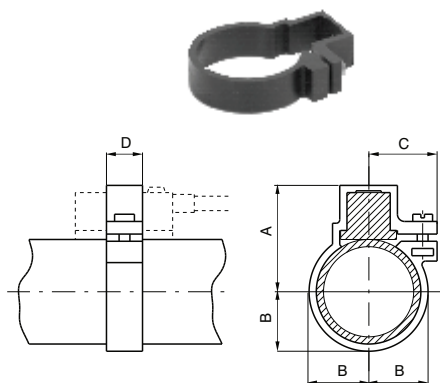


Table of dimensions

Bore	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50
A	23	23	25	27	29,5	33	37	42
B	10	10	12	14	16,5	20	24	29
C	15	15	16,5	17,5	19	20	22	24
D	10	10	10	10	10	10	10	10
Weight (gr)	2	2	3	5	7	10	14	16

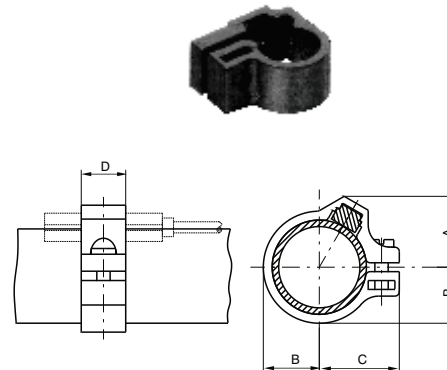


Table of dimensions

Bore	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50
A	13	14	15,4	17,2	19,3	20,5	22	29
B	9	10	12	14	16,5	20	24	29
C	16	16	18	19,5	22	26	30	35
D	10	10	10	10	10	10	10	10
Weight (gr)	2	2	3	5	7	8	10	11

Sensor clamps for microcylinders with rolled end covers "MIR" and "MIR-INOX"

Sensor clamps - codes 1500._, RS._, HS._	Sensor clamps - codes 1580._, MRS._, MHS._
Ordering code	Ordering code
1280.Ø.F - cylinders MIR 1280.Ø.FX - cylinders MIR-INOX	1280.Ø.FS - cylinders MIR 1280.Ø.FSX - cylinders MIR-INOX

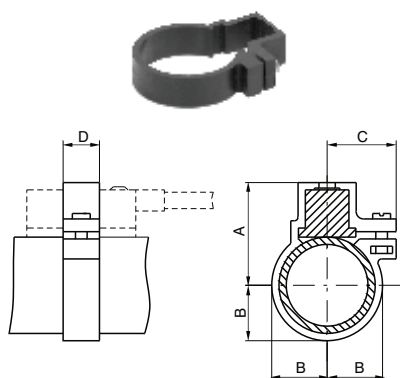


Table of dimensions

Bore	Ø16	Ø20	Ø25	Ø32
A	24	25,5	28,5	31,8
B	10,5	12,5	15,5	18,8
C	16,5	17,5	19	20
D	10	10	10	10
Weight (gr)	3	5	7	10

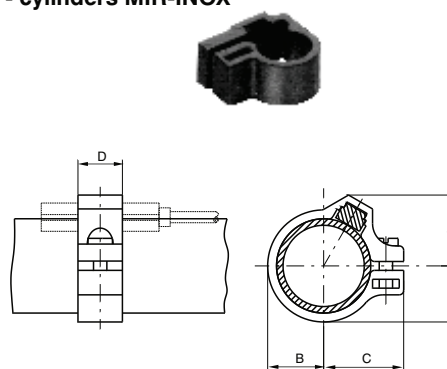


Table of dimensions

Bore	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
A	11	12	13	14,5	16	17,5	19,5
B	6,5	7,5	8,5	10,5	12,5	15,3	18,8
C	12,5	13,5	15	16	18	20,5	24
D	10	10	10	10	10	10	10
Weight (gr)	2	2	2	3	5	7	10

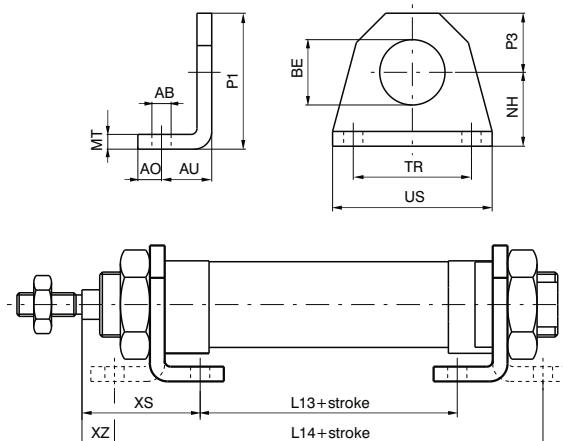
Sensor for microcylinders

For technical characteristics and ordering codes see Chapter 6 (magnetic sensors)

Foot

Ordering code

1200.0.01
(1 piece)



Used to mount the cylinder on the mounting plane with the rod parallel to said plane. Use one for short strokes and two for long strokes. It is made of stamped steel, made corrosion resistant by cataphoresis treatment. Attached to the end plates by means of nuts (or lock nuts) 05.

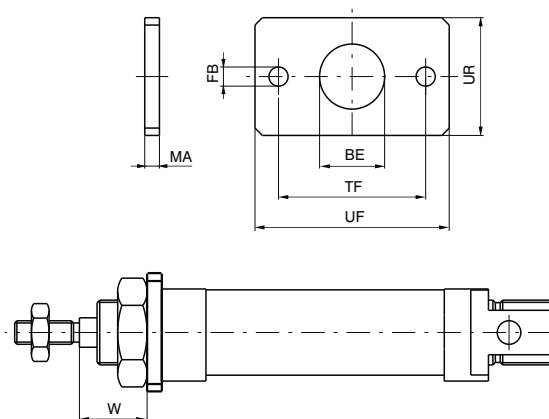
Attention: the dimensions of microcylinders with threaded end covers (★) increase of 10 mm. for microcylinders equipped with magnetic piston and spring return, and of 9 mm. for microcylinders with 10 mm. diameter magnetic piston.

Bore	8	10	12	16	20	25	32	40	50
AB (H13)	4,5	4,5	5,5	5,5	6,5	6,5	6,5	8,5	8,5
AO	5	5	6	6	8	8	8	10	10
AU	11	11	14	14	17	17	17	20	20
BE	12	12	16	16	22	22	30	40	40
L13 (±1) ★	30	30	30	36	44	45	45	49	52
L14 (±1) ★	68	68	78	84	102	103	103	119	122
MT	3	3	4	4	5	5	5	5	5
NH (±0,3)	16	16	20	20	25	25	28	40	40
P1	26	26	33	33	45	45	50	70	70
P3	10	10	13	13	20	20	22	30	30
TR (JS14)	25	25	32	32	40	40	52	70	70
US	35	35	42	42	54	54	66	90	90
XS (±1,4)	24	24	32	32	36	40	40	50	50
XZ (±1,4)	5	5	8	8	7	11	11	15	15
Weight gr.	22	22	45	45	90	90	110	210	210

Flange

Ordering code

1200.0.02
(1 piece)



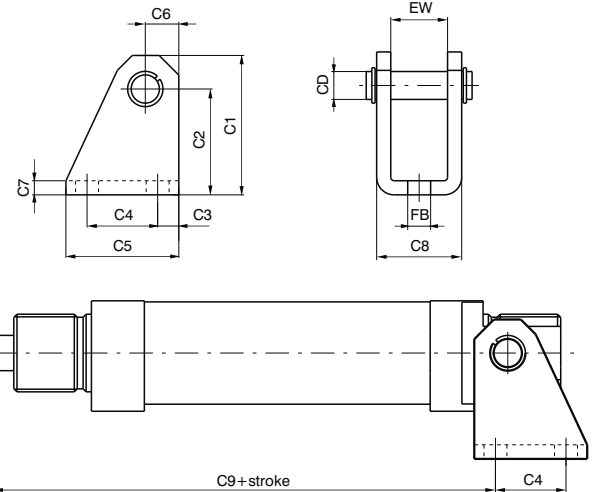
Used to mount the microcylinder at a right angle to the mounting plane. Attached to the front (or rear) endcap by a nut (or lock nut) 05. Made of extruded steel, made corrosion resistant by cataphoresis.

Bore	8	10	12	16	20	25	32	40	50
BE	12	12	16	16	22	22	30	40	40
FB (H13)	4,5	4,5	5,5	5,5	6,5	6,5	6,5	8,5	8,5
UF	40	40	53	53	66	66	68	90	90
UR	25	25	30	30	40	40	50	60	60
MA	3	3	4	4	5	5	5	5	5
TF (JS14)	30	30	40	40	50	50	52	70	70
W (±1,4)	13	13	18	18	19	23	23	30	30
Weight gr.	20	20	40	40	85	85	100	150	150

Rear eye

Ordering code

1200.0.03
(1 piece)



Use with the rear end cover to mount the cylinder either parallel or at a right-angle to the mounting plane. This allows the cylinder to oscillate and self-align with the linked element to the rod. This is necessary when the rod may be subject to lateral during travel.

Attention: the dimensions of microcylinders with threaded end covers (*) increase by 10mm for equipped with magnetic piston and spring return, and by 9mm for microcylinders with 10mm diameter magnetic piston.

Bore	8	10	12	16	20	25	32	40	50
CD	4	4	6	6	8	8	12	14	14
C1	28,5	28,5	33,5	33,5	39,5	39,5	44,5	53,5	53,5
C2 (±0,3)	24	24	27	27	30	30	33	40	40
C3	3,5	3,5	5	5	6	6	7	10	10
C4	12,5	12,5	15	15	20	20	24	28	28
C5	20	20	25	25	32	32	38	45	45
C6	4,5	4,5	6,5	6,5	9,5	9,5	11,5	13,5	13,5
C7	2,5	2,5	3	3	4	4	4	4	4
C8	13	13	18	18	24	24	34	38	38
C9 (±0,4) *	63	63	73,5	80,5	91,5	100,5	100,5	119,5	122,5
EW	8,1	8,1	12,1	12,1	16,1	16,1	26,1	30,1	30,1
FB (H13)	4,5	4,5	5,5	5,5	6,5	6,5	6,5	8,5	8,5
Weight gr.	20	20	35	35	75	75	135	180	180

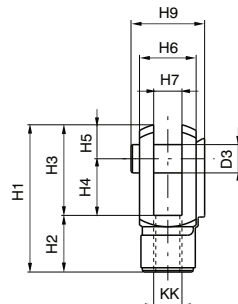
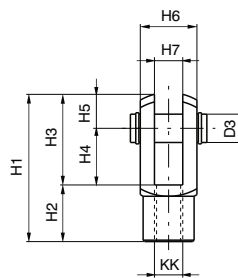
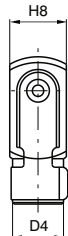
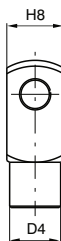
Cylinder rod forks / Nut or lock nut for the endcaps

Ordering code

1200.0.04 *
(with pin)

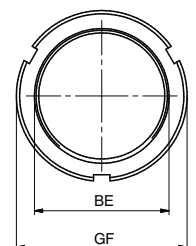
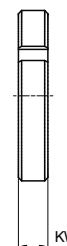
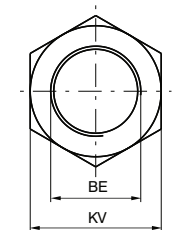
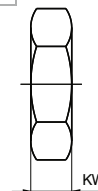
1200.0.04/1
(with clips)

*Available from bore Ø12



Ordering code

1200.0.05



Forks:

Similar to hinge 03, mounted on the rod thread, assures a regular operation even in the presence of significant forces to the linked element. Made of zinc plated steel.

Nut:

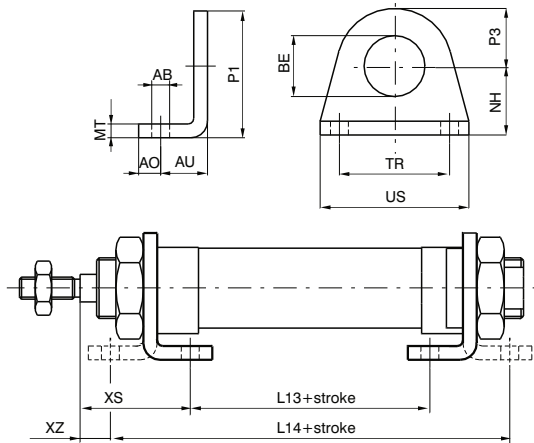
Used to fasten flanges or feet to the endcaps of the microcylinder. The nuts are mounted on diameters that go from 8 to 25, the lock nuts on 32, 40 and 50. Both are supplied (one piece) with the microcylinders.

Bore	D3	D4	H1	H2	H3	H4	H5	H6	H7 (B12)	H8	H9	KK	BE	KV	GF	KW	Forks weight gr.	Nut weight gr.
8	4	8	21	8	13	8	5	8	4	10	11	M4x0,7	M12x1,25	17	-	5,5	12	7
10	4	8	21	8	13	8	5	8	4	10	11	M4x0,7	M12x1,25	17	-	5,5	12	7
12	6	10	31	12	19	12	7	12	6	12	18	M6x1	M16x1,5	22	-	6	20	16
16	6	10	31	12	19	12	7	12	6	12	18	M6x1	M16x1,5	22	-	6	20	16
20	8	14	42	16	26	16	10	16	8	16	23	M8x1,25	M22x1,5	30	-	7	45	25
25	10	18	52	20	32	20	12	20	10	20	27	M10x1,25	M22x1,5	30	-	7	90	25
32	10	18	52	20	32	20	12	20	10	20	27	M10x1,25	M30x1,5	-	42	8	90	42
40	12	20	62	24	38	24	14	24	12	24	32	M12x1,75	M40x1,5	-	52	9	145	60
50	12	20	62	24	38	24	14	24	12	24	32	M12x1,75	M40x1,5	-	52	9	145	60

Foot

Ordering code

1200.Ø.01X
(1 piece)



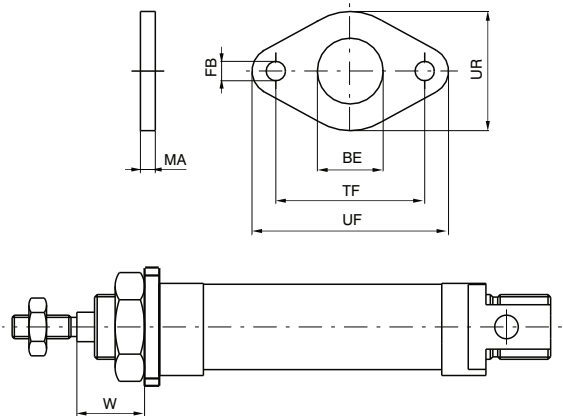
Used to mount the cylinder on the mounting plane with the rod parallel to said plane. Use one for short strokes and two for long strokes. It is made stamped stainless steel AISI 304. Attached to the end plates by means of nuts (or lock nuts) 05X.

Bore	16	20	25	32
AB (H13)	5,5	6,5	6,5	6,5
AO	6	8	8	8
AU	14	17	17	17
BE	16	22	22	30
L13 (±1)	36	44	44	45
L14 (±1)	84	102	102	103
MT	4	5	5	5
NH (±0,3)	20	25	25	28
P1	33	45	45	50
P3	13	20	20	22
TR (Js14)	32	40	40	52
US	42	54	54	66
XS (±1,4)	32	36	40	40
XZ (±1,4)	8	7	11	11
Weight gr.	45	90	90	110

Flange

Ordering code

1200.Ø.02X



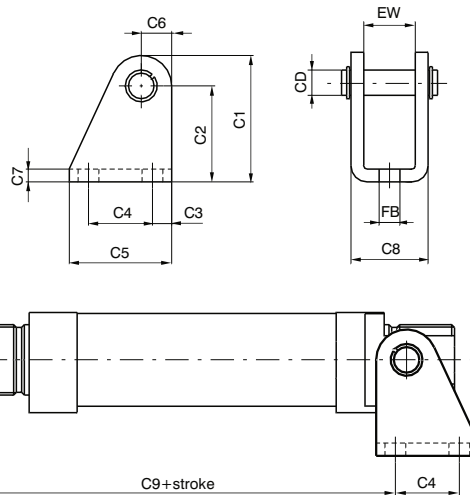
Use to mount the microcylinder at a right angle to the mounting plane. Attached to the front (or rear) endcap by a nut (or lock nut)05X. Made of stainless steel AISI 304.

Bore	16	20	25	32
BE	16	22	22	30
FB (H13)	5,5	6,5	6,5	6,5
UF	53	66	66	68
UR	30	40	40	50
MA	4	5	5	5
TF (JS14)	40	50	50	52
W (±1,4)	18	19	23	23
Weight gr.	40	85	85	100

Rear eye

Ordering code

1200.Ø.03X
(1 piece)



Used to mount by using the rear end cover to mount either parallel or at a right angle to the mounting plane. Allows the cylinder to oscillate and self-align with the linked element to the rod. Necessary to use when the rod may be subject to lateral forces during travel. Made of stamped stainless steel AISI 304.

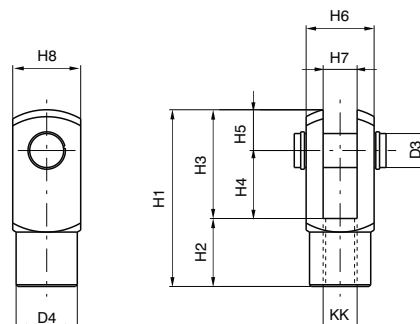
Bore	16	20	25	32
CD	6	8	8	12
C1	33,5	39,5	39,5	44,5
C2 (±0,3)	27	30	30	33
C3	5	6	6	7
C4	15	20	20	24
C5	25	32	32	38
C6	6,5	9,5	9,5	11,5
C7	3	4	4	4
C8	18	24	24	34
C9 (±0,4)	80,5	91,5	100,5	100,5
EW	12,1	16,1	16,1	26,1
FB (H13)	5,5	6,5	6,5	6,5
Weight gr.	35	75	75	135

Cylinder rod fork / Nut or lock nut for the endcaps

Ordering code

1200.Ø.04X
(with pin)

1200.Ø.05X
(1 piece)

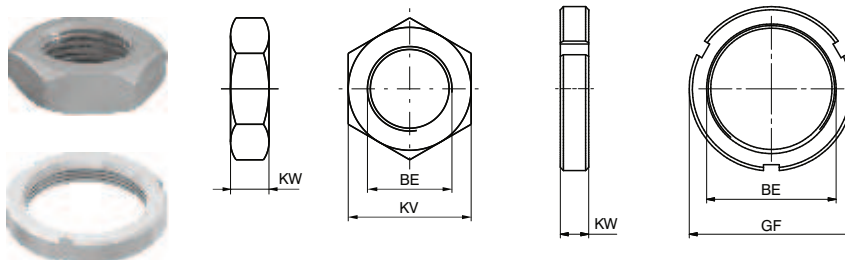


Fork:

Similar to hinge 03X, mounted on the rod thread, assures a regular operation even in the presence of significant forces to the linked element. Made of stainless steel AISI 304.

Nut:

Used to fasten flanges or feet to the endcaps of the microcylinder. The nuts are mounted on diameters that go from 16 to 25, the lock nuts on 32. Both are supplied (one piece) with the microcylinders.



Bore	Weight gr. forks	Weight gr. nut	D3	D4	H1	H2	H3	H4	H5	H6	H7 (B12)	H8	KK	BE	KV	GF	KW
16	20	16	6	10	31	12	19	12	7	12	6	12	M6X1	M16X1.5	22	-	6
20	45	25	8	14	42	16	26	16	10	16	8	16	M8X1.25	M22X1.5	30	-	7
25	90	25	10	18	52	20	32	20	12	20	10	20	M10X1.25	M22X1.5	30	-	7
32	90	42	10	18	52	20	32	20	12	20	10	20	M10X1.25	M30X1.5	-	42	8