



Series 1200, Threaded end caps

Construction characteristics

End caps	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 cataphoresis
Forks	cadmium plated steel
Single-acting springs	steel for springs and stainless steel
Cushioning length	ø 16 - 20 - 25 - 32 - 40 - 50 mm 15 - 18 - 18 - 18 - 22 - 22

Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
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

Double acting version

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

On request are available strokes up to:

Ø8 - Ø10 : 250 mm

Ø12 - Ø16 : 700 mm

Ø20 - Ø50 : 1000 mm

Single acting version

Ø12 - Ø50 : up to stroke 40 mm

On request are available strokes up to 200 mm

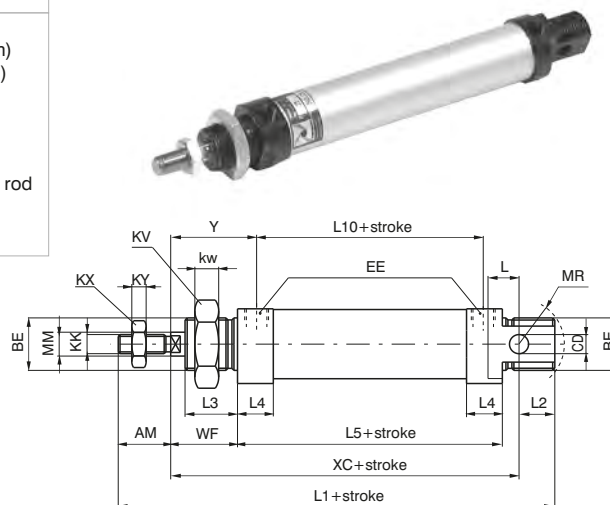
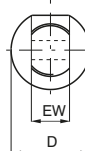
Minimum and maximum springs load for single acting version

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.M.A	Cushioning with magnetic piston
12--.Ø.stroke.M.A.X	Cushioning, magnetic piston and stainless steel piston rod
12--.Ø.stroke...T	HNBR seals version
12--.Ø.stroke...V	FPM seals version

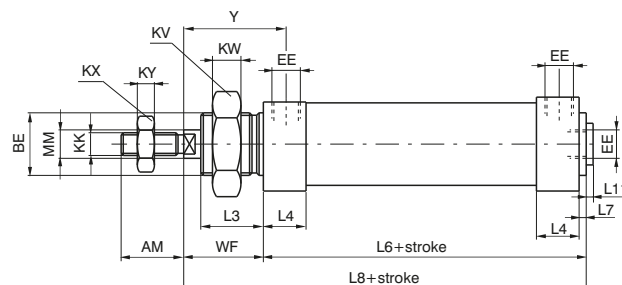
Standard execution, fully complying with ISO standards from ø 8 to ø 25. BORES 32, 40 and 50 not included in the standard, comply with our own specifications. Can use all available mountings. For single acting type, the maximum stroke is 40 mm., after which overall dimensions increase in length to an 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.M.A	Cushioning with magnetic piston
12--.Ø.stroke.M.A.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.

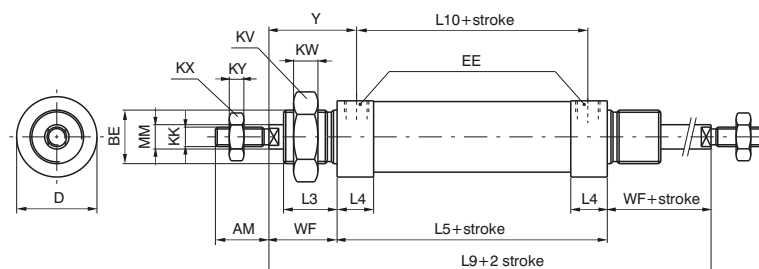


Through rod cylinder version

Ordering code	Description
1262.Ø.stroke	Through rod cylinder 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.M.A	Cushioning with magnetic piston
1262.Ø.stroke.M.A.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 caps, 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.M.E	Hexagonal piston rod with magnetic piston (from Ø12)

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.

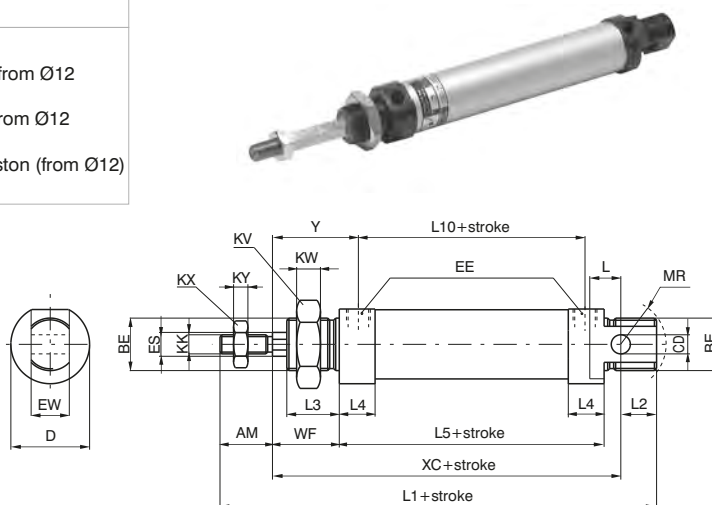


Table of dimensions

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	6	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
g	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
g	every 10mm	6	7	5	5	8	11	15	19	21

Through rod cylinder version

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

Hexagonal rod version

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

(★) These dimensions increase of 10 mm for microbore cylinders equipped with magnetic piston and spring return, and of 9 mm for microbore cylinders with 10 mm BORE magnetic piston



Series 1200, Rolled end covers "MIR"

Construction characteristics

End caps	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	ø 16 - 20 - 25 - 32 mm 15 - 18 - 18 - 18

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
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

Double acting version

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

On request are available strokes up to:

Ø8 - Ø10 : 250 mm

Ø12 - Ø16 : 700 mm

Ø20 - Ø32 : 1000 mm

Single acting version

Front spring Ø8 - Ø32 : up to stroke 50 mm

Rear spring Ø16 - Ø32 : up to stroke 50 mm

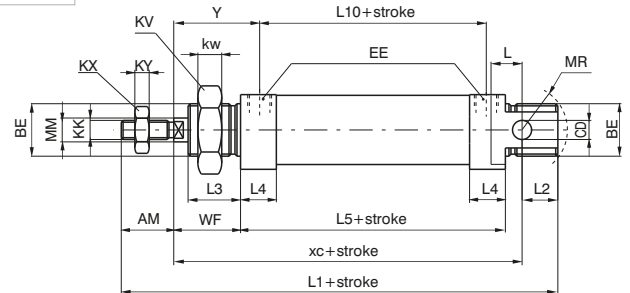
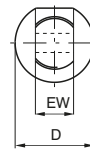
Minimum and maximum springs load for single acting version

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

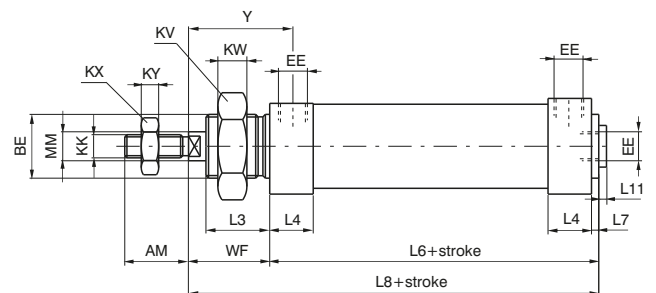
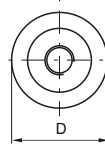
Standard version, fully compliant with ISO standards. Can use all available mountings. For single acting type, the maximum stroke is 50 mm., after which overall dimensions increase in length to an extent not proportional to the stroke (and in any case not longer than stroke 100).



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.



Through rod cylinder version

Ordering code	Description
1282.Ø.stroke	Through rod cylinder 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 caps 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.

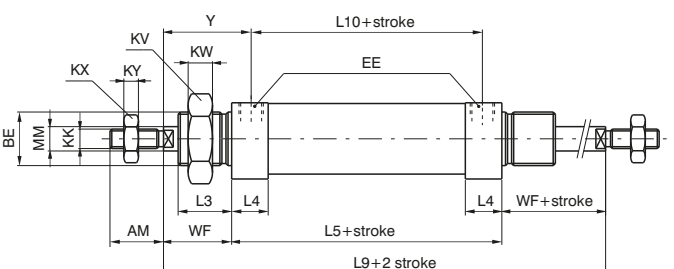
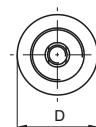
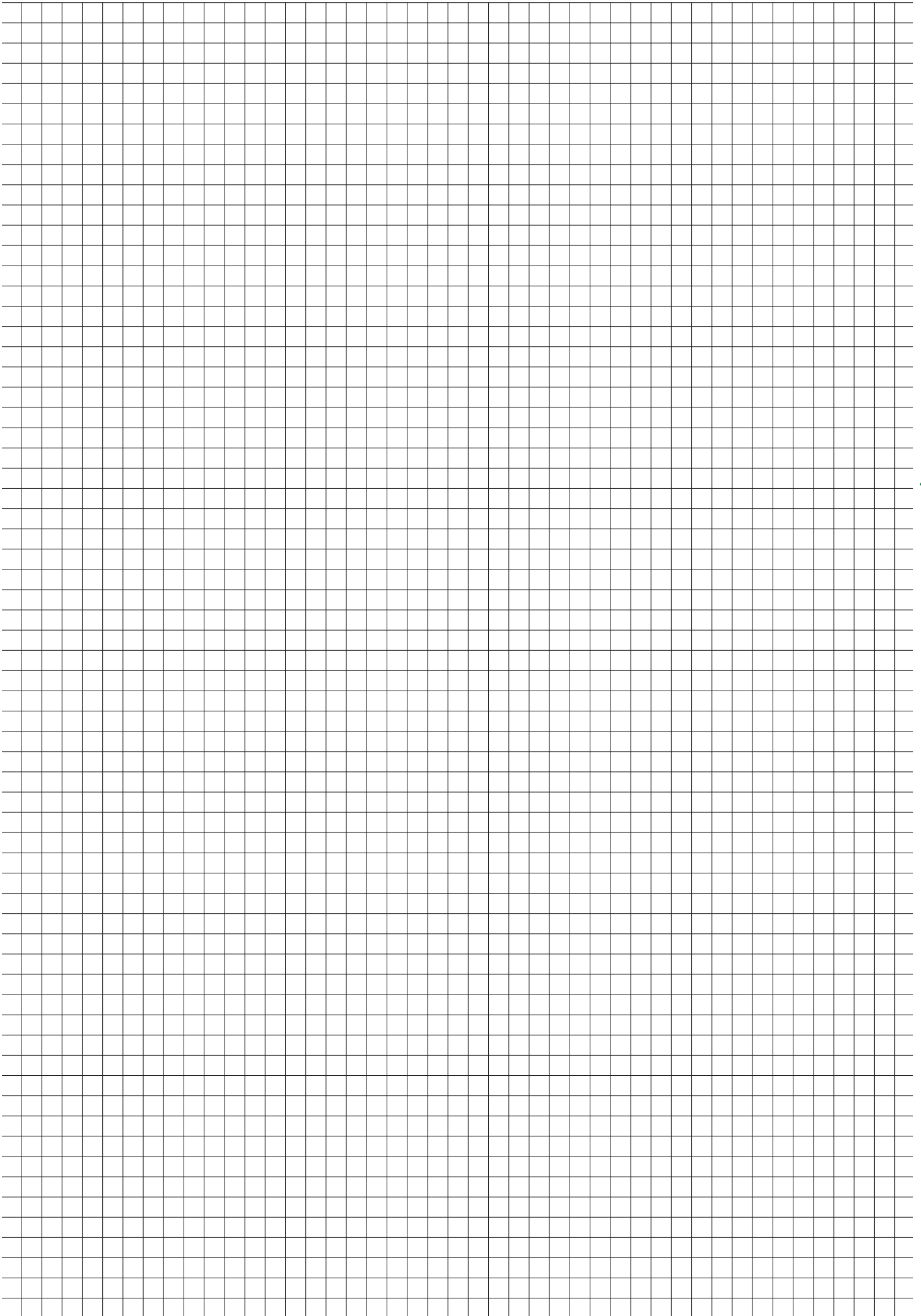




Table of dimensions

		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
g	every 10mm	2	2,5	4	5	7,5	11,5	18
Variations of the versions: without rear eye version								
Weight	stroke 0	25	30	60	75	150	185	290
g	every 10mm	2	2,5	4	5	7,5	11,5	18
Through rod cylinder version								
Weight	stroke 0	35	40	75	95	200	250	370
g	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).



Series 1200, Rolled end caps "MIR-INOX"

Construction characteristics

End caps	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

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
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

Double acting version

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

On request are available strokes up to:

Ø16 : 700 mm

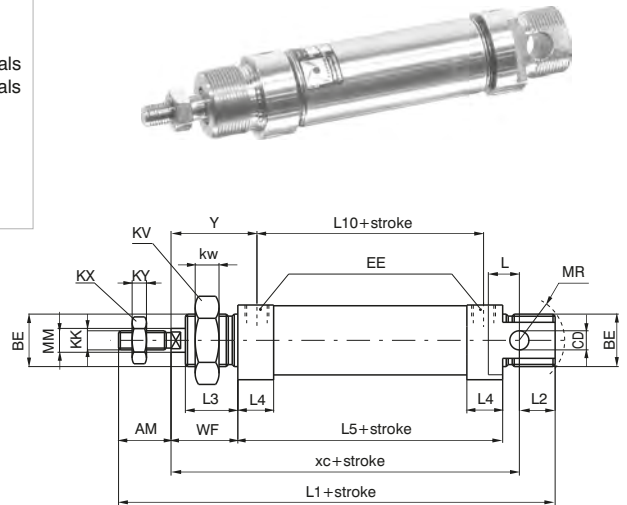
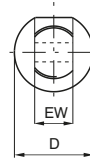
Ø20 - Ø32: 1000 mm

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.

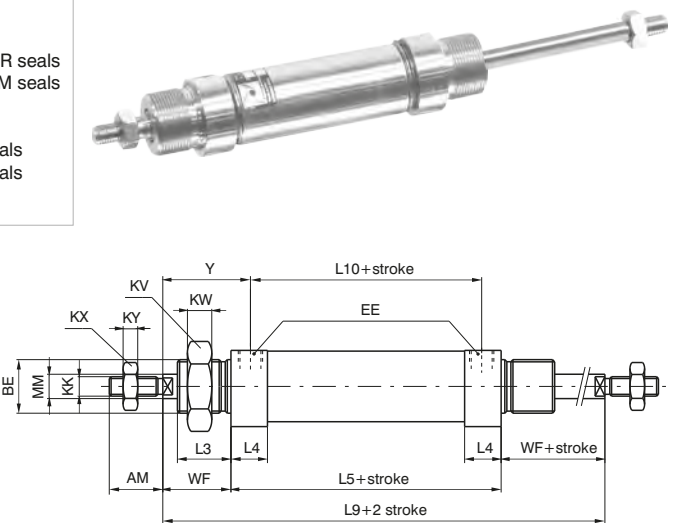
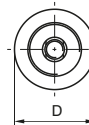


Through rod cylinder version

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 caps, with overall dimensions, except for the rod, equal to 1280 version.



3

PNEUMATIC ACTUATION

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 (g)		Weight through rod version (g)	
	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

Series 1200, TECNO-MIR

Construction characteristic

End caps	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

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
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

Double acting version

Ø12 : 15 - 25 - 50 - 75 - 80 - 100 - 125 - 150 - 160 - 200 mm

Ø16 : 15 - 25 - 50 - 75 - 80 - 100 - 125 - 150 - 160 - 200 - 250 mm

Ø20 - Ø25 : 15 - 25 - 50 - 75 - 80 - 100 - 125 - 150 - 160 - 200 - 250 - 300 mm

On request are available strokes up to:

Ø12 : 200 mm

Ø16 : 250 mm

Ø20 - Ø25: 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

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

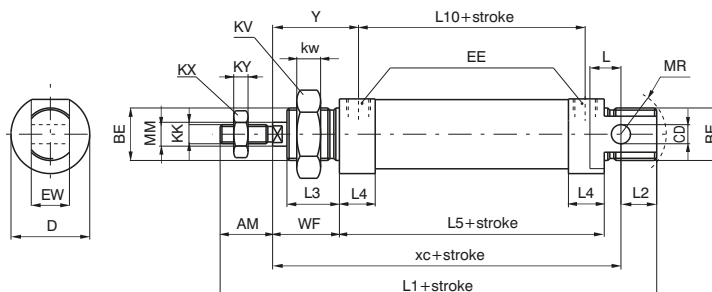
WEIGHT TABLE SERIES TECNO MIR 1232

WEIGHT g	Bore	Ø12	Ø16	Ø20	Ø25
	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

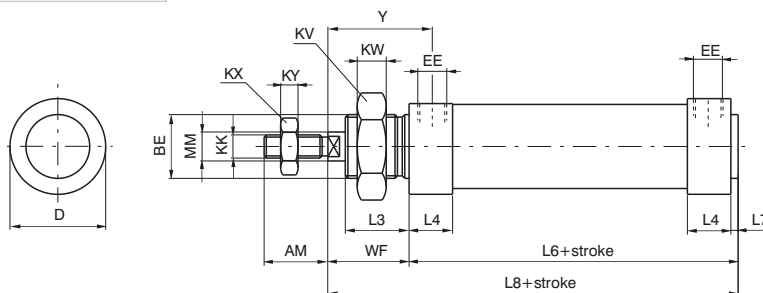
Standard version, fully complying with ISO standards. Can use all available mountings.



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 caps (like on the front caps).



Through rod cylinder version

Ordering code	Description
1232.Ø.stroke	Through rod cylinder version
1232.Ø.stroke.M	Through rod cylinder version magnetic piston

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

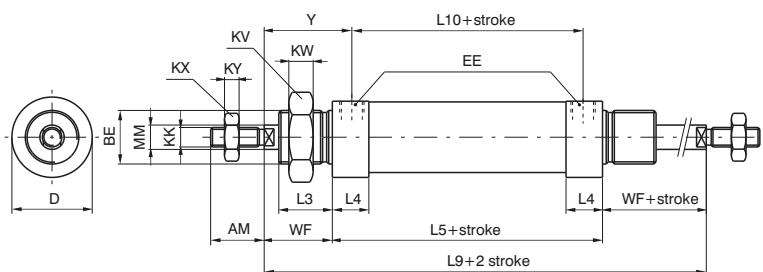


Table of dimensions

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

Series 1200 Steel line

General

The 12X stainless steel ISO 6432 microbore cylinders series are designed for corrosion resistance application such as marine, pharmaceutical and food ambiances.

The pre lubrication grease used is NSF H1 certified for food application.

Specific care has been taken during the design stages and the result is a clean profile cylinder easy to clean and free from possible residue build-up areas. All parts in contact with the external environment are in Stainless steel 316L and the seals are available in three different compounds for different temperature applications:

PUR -30°C - +80°C, FPM -5°C - +150°C and NBR -5°C - +70°C.

The range starts from 16 bore up to 63 bore, double acting version standard or with through rod, magnetic or not magnetic piston available.

The end caps are crimped onto the barrel for bore sizes 16 to 25 and screwed on the barrel from 32 to 63 bore.

Depending on the type of mounting required it is possible to choose different end caps style.

The piston is aluminium and the sensor bracket, when required is in stainless steel 316 with plastic adaptor or in plastic material. The cylinder can be fixed with the wide range of stainless steel accessories.

Construction characteristics

End caps, barrel, piston rod	Stainless steel AISI 316
Piston	Aluminium
Seals	NBR (PUR piston rod seals) FPM PUR
Fixing / Accessories	AISI 316 / 304

Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Max. pressure	10 bar
Bore	Ø 16 - 20 - 25 - 32 - 40 - 50 - 63
Cushioning lenght	mm 15 - 18 - 18 - 18 - 22 - 22 - 25

Operating temperature

Seals material	Operating temperature	Piston		Cushioning		Bores
		Magnetic	Non magnetic	Pneumatic adjustable	Pneumatic fix	
NBR	-5°C - +70°C	●	●	●	●	Ø16-Ø20-Ø25-Ø32-Ø40-Ø50-Ø63
FPM	-5°C - +80°C	●		●	●	Ø16-Ø20-Ø25-Ø32-Ø40-Ø50-Ø63
	-5°C - +150°C		●	●	●	Ø16-Ø20-Ø25-Ø32-Ø40-Ø50-Ø63
PUR	-5°C - +70°C	●	●	●		Ø16-Ø20-Ø25-Ø32
	-30°C - +80°C	●	●		●	Ø16-Ø20-Ø25-Ø32
		●	●	●	●	Ø40-Ø50-Ø63

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.

Our Technical Department will be glad to help.

Standard strokes

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


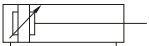


Ø32 - Ø63 :

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



Coding key

12X

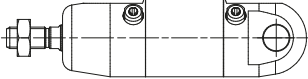
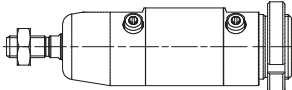
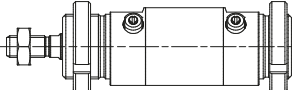
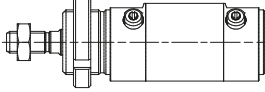
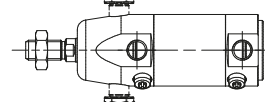
FUNCTION	
A	Double acting 
B	Double acting cushioned 
C	Double acting through rod 
D	Double acting cushioned through rod 

BORE
016
020
025
032
040
050
063

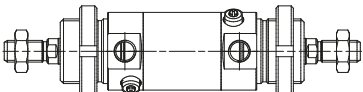
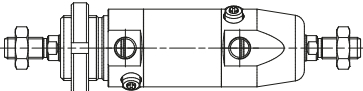
STROKE

MAGNETIC PISTON VARIANTS	
M	Magnetic piston max. temperature +80°C
N	Non magnetic piston

SEALS	
N	NBR
V	FPM
P	PUR

TYPE			
	FRONT END CAP	BASIC VERSION	REAR END CAP
A	CLEAN PROFILE		WITH INTEGRATED TRUNNION
B	CLEAN PROFILE		THREADED
C	THREADED		THREADED
D	THREADED		SHORT END CAP
E*	FOR PIN		SHORT END CAP

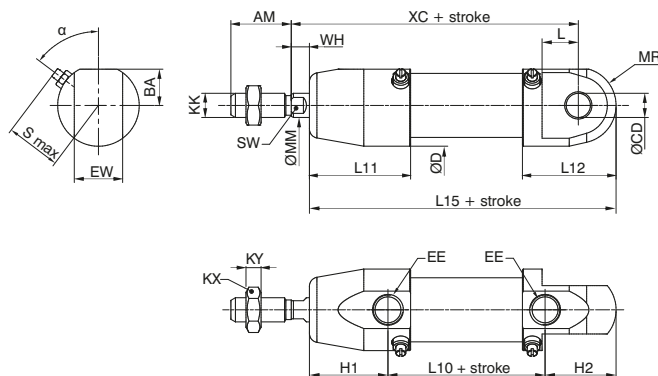
* Available only for Ø32 - Ø40 - Ø50 - Ø63

	END CAP	THROUGH ROD CYLINDER VERSION	END CAP
S	THREADED		THREADED
T	THREADED		CLEAN PROFILE

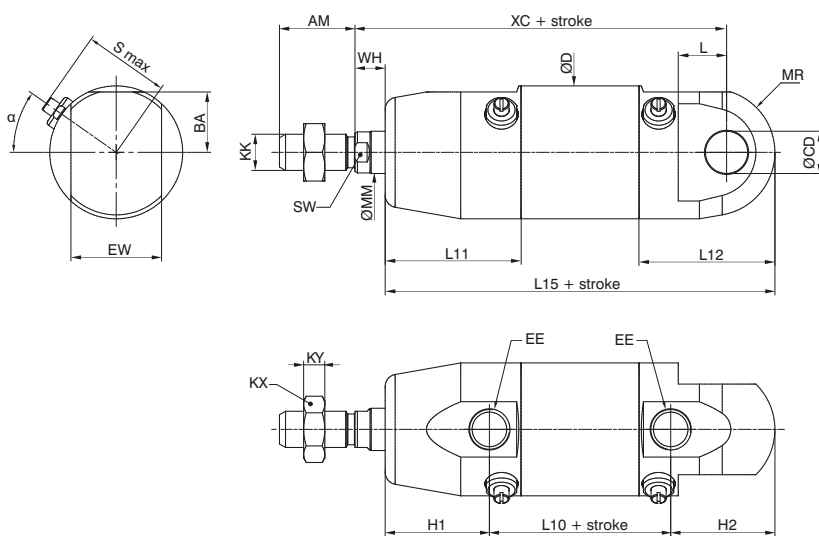
Cylinder type "A"



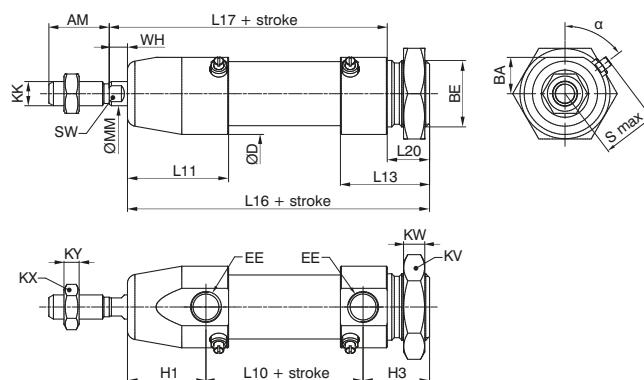
from Ø16 to Ø25



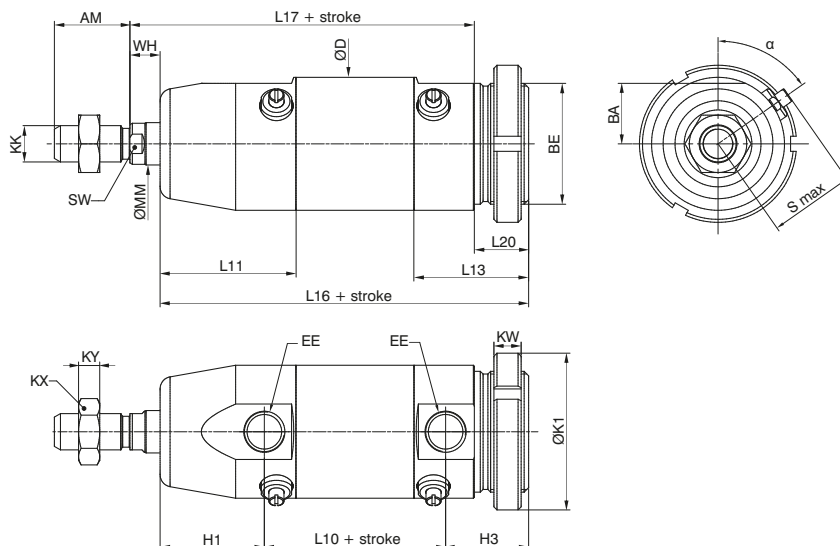
from Ø32 to Ø63



from Ø16 to Ø25



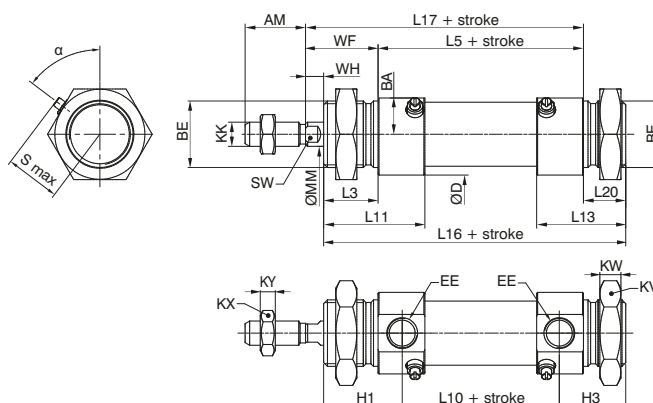
from Ø32 to Ø63



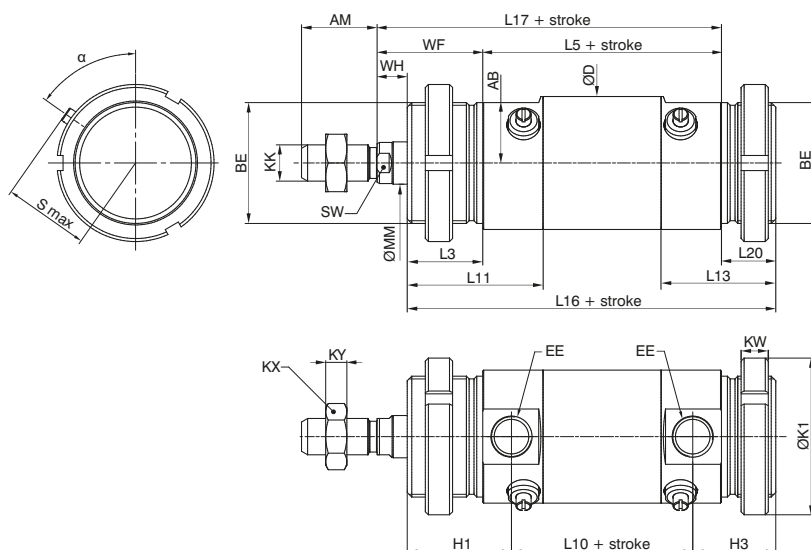
► Cylinder type "C"



from Ø16 to Ø25



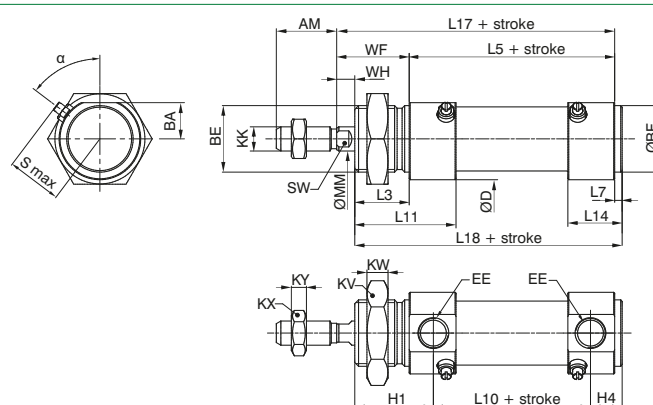
from Ø32 to Ø63



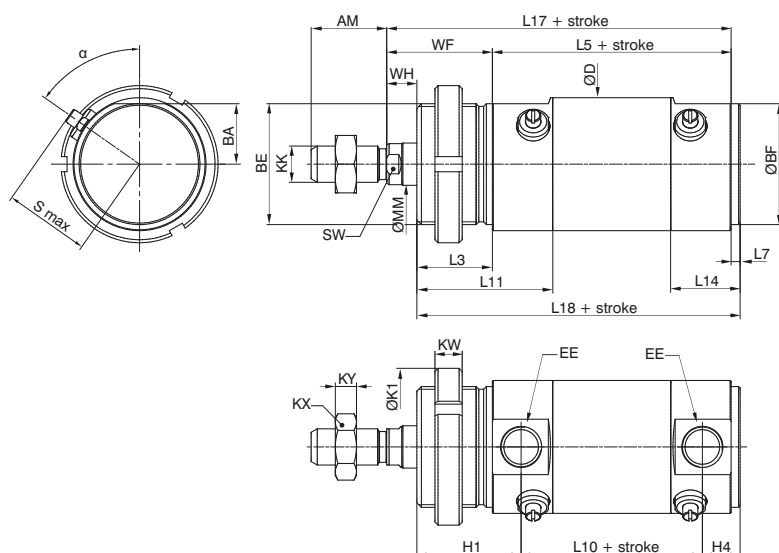
► Cylinder type "D"



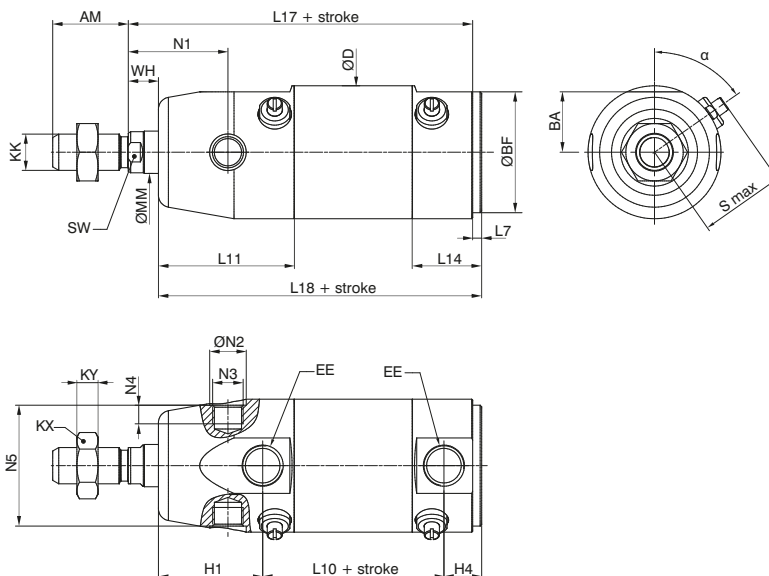
from Ø16 to Ø25



from Ø32 to Ø63

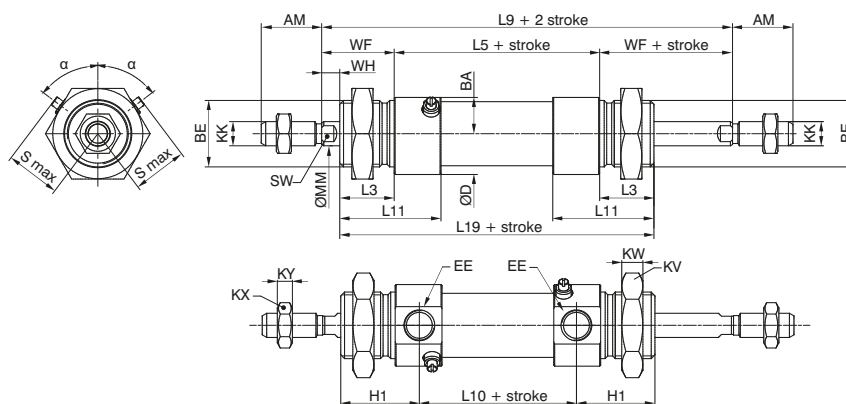


Cylinder type "E"

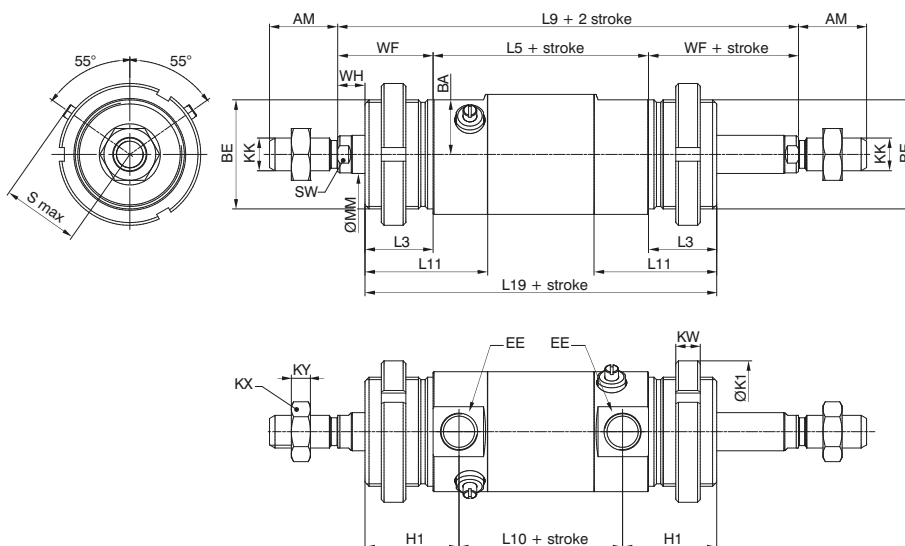


from Ø32 to Ø63

Cylinder type "S"



from Ø16 to Ø25

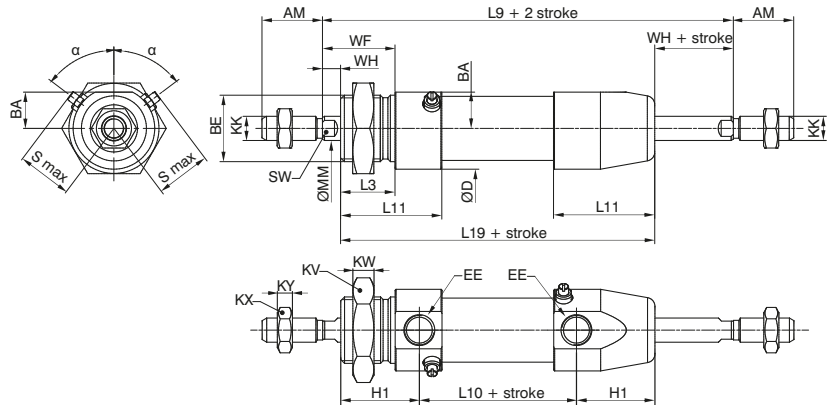


from Ø32 to Ø63

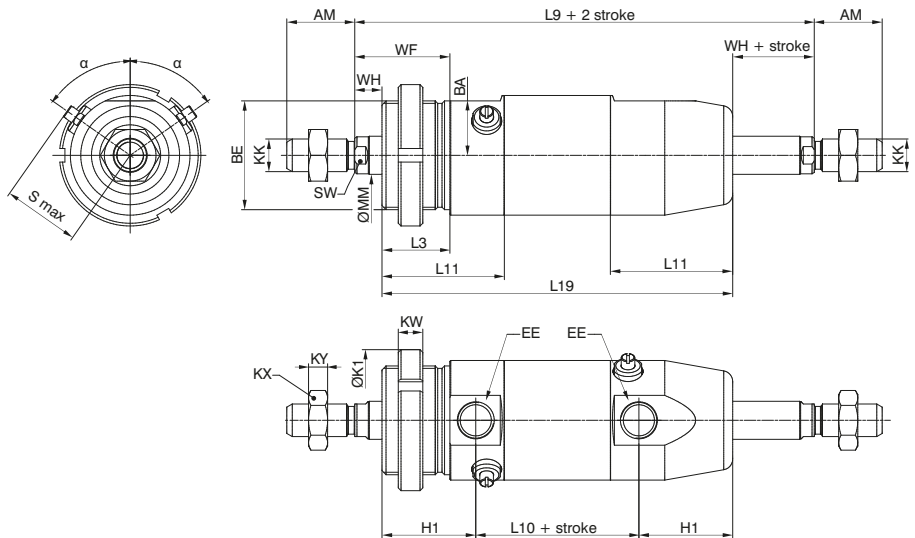
► Cylinder type "T"



from Ø16 to Ø25



from Ø32 to Ø63



Weight charts

		WEIGHT (g)							
		BASIC VERSION	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
A		Stroke 0	131	264	371	621	1060	1600	3150
		every each 10mm	5	7	11	26	33	42	65
B		Stroke 0	150	310	410	666	1160	1700	3230
		every each 10mm	5	7	11	26	33	42	65
C		Stroke 0	153	323	411	688	1200	1660	3060
		every each 10mm	5	7	11	26	33	42	65
D		Stroke 0	129	267	359	580	1020	1460	2800
		every each 10mm	5	7	11	26	33	42	65
E*		Stroke 0	/	/	/	558	960	1480	2930
		every each 10mm	/	/	/	26	33	42	65

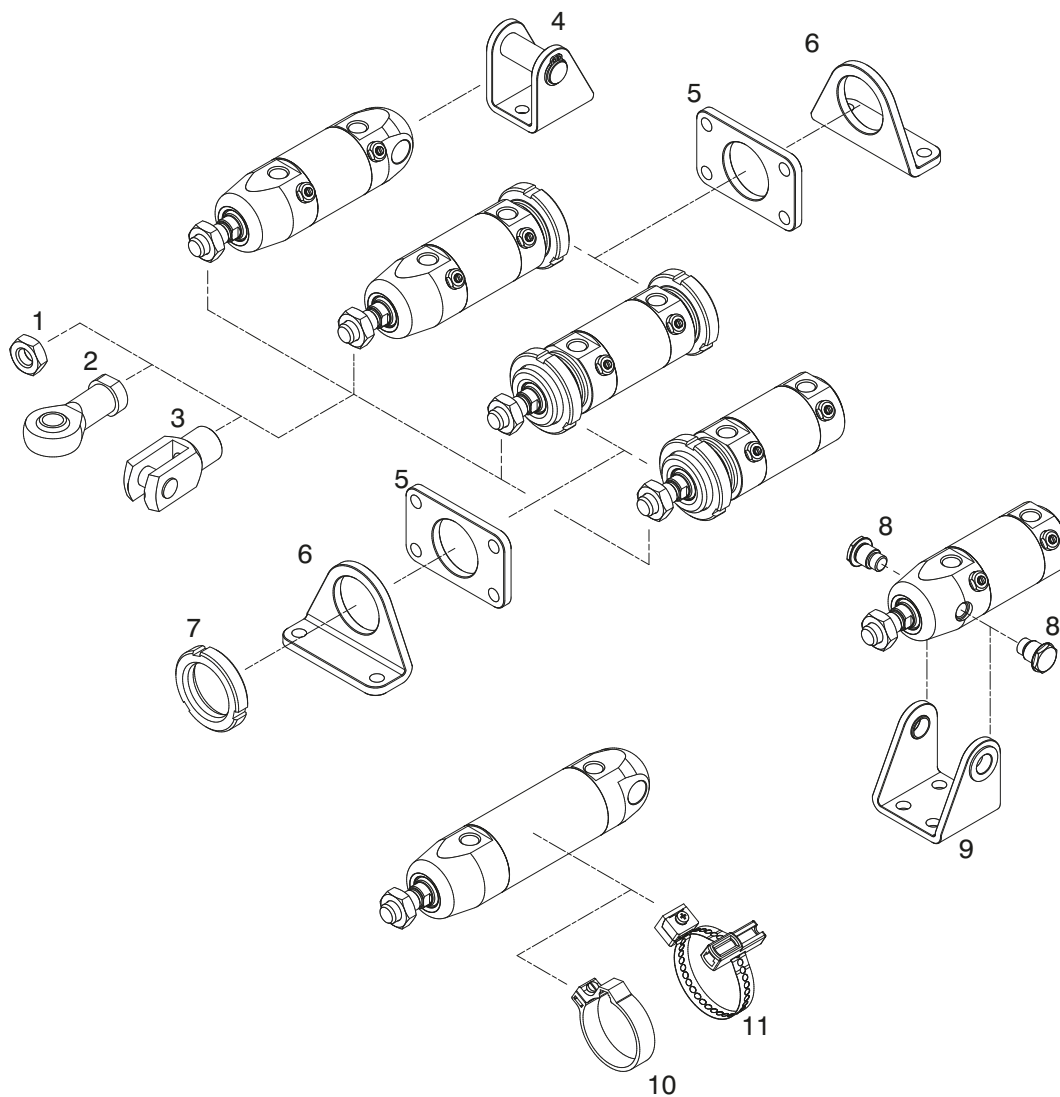
* Available only for Ø32 - Ø40 - Ø50 - Ø63

		THROUGH ROD CYLINDER VERSION	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
S		Stroke 0	172	350	465	745	1364	1793	3318
		every each 10mm	7	11	18	35	48	58	90
T		Stroke 0	181	336	470	723	1299	1832	3483
		every each 10mm	7	11	18	35	48	58	90

Table of dimensions

Bore	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
α	53°	53°	53°	55°	55°	55°	55°
AM	16	20	22	20	25	25	32
BA	9	12	13,5	16	20	25	31
BE	M16x1,5	M22x1,5	M22x1,5	M30x1,5	M40x1,5	M40x1,5	M45x1,5
ØBF	16	22	22	30	40	40	45
EE	M5	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8
EW	12	16	16	26	30	30	40
ØCD ^{H9}	6	8	8	12	14	14	16
ØD	21	27	30	36	44	54	68
H1	22,5	26	30	30	34,5	34,5	40
H2	17,5	23,5	27,5	30	34,5	34,5	40
H3	16,5	22	22	23	27,5	27,5	30
H4	7,5	10,5	10,5	10,5	12,5	12,5	16
ØK1	/	/	/	/	52	52	60
KK	M6x1	M8x1,25	M10x1,25	M10x1,25	M12x1,75	M12x1,75	M16x1,5
KX	10	13	17	17	19	19	24
KY	4	5	6	6	7	7	8
KV	22	30	30	42	/	/	/
KW	6	7	7	8	9	9	10
L	9	12	14	13	16	16	22
L3	17	18	22	22	25	25	28
L5	56	68	69	69	79	82	106
L7	2	2,5	2,5	2,5	3	3	4
L9	100	116	125	125	149	152	180
L10	45	52	53	53	60	63	82
L11	28	33,5	37	38,5	45	45	54
L12	23	31	34,5	38,5	45	45	54
L13	22	29,5	29	31,5	38	38	44
L14	12,8	18	17,5	19	23	23	30
L15	85	101,5	110,5	113	129	132	162
L16	84	100	105	106	122	125	152
L17	78	92	97	97	114	117	143
L18	75	88,5	93,5	93,5	107	110	138
L19	90	104	113	113	129	132	162
L20	11	14	14	15	18	18	18
ØMM	6	8	10	12	14	16	20
MR	8	12,5	12,5	17	21	26	34,5
N1	/	/	/	27	33	40	45
ØN2 ^{+0/-0,05}	/	/	/	10,1	12,1	14,1	16,1
N3	/	/	/	M8x0,75	M10x1	M12x1	M14x1
N4	/	/	/	5,5	6	8,7	11,7
N5 ^{+0,1/-0}	/	/	/	32	40	50	64
Smax	15,5	18,5	19,5	25	28,5	33,5	40
SW	5	6	8	10	12	12	17
WF	22	24	28	28	35	35	37
WH	5	6	6	6	10	10	9
XC	82	95	104	105	123	126	154

Accessories and fixing devices



Position	Description	Ordering code	Materials
1	Rod lock nut	12X.Ø.11	Stainless steel AISI 316
2	Ball joint	12X.Ø.10	Stainless steel
3	Fork	12X.Ø.04	Stainless steel
4	Rear clevis	12X.Ø.03	Stainless steel
5	Flange	12X.Ø.02	Stainless steel AISI 316
6	Foot	12X.Ø.01	Stainless steel AISI 316
7	Nut or lock nut for the endcaps	12X.Ø.05	Stainless steel AISI 316
8	Pin for front clevis (Ø32 - Ø63)	12X.Ø.09	Stainless steel AISI 316
9	Front clevis (Ø32 - Ø63)	12X.Ø.08	Stainless steel AISI 316
10	Sensor clamp (Ø16 - Ø50)	12X.Ø.FS	Technopolymer
11	Sensor clamp (Ø16 - Ø63)	12X.Ø.FSX	Stainless steel Technopolymer

► Sensor clamps cod. 1580._, MRS._, MHS._

Ordering code

12X.Ø.FS

The kit comprises:
n° 1 clamp (Technopolymer)
n° 1 screw (AISI 304)
n° 1 nut (AISI 304)

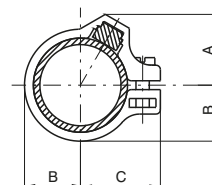
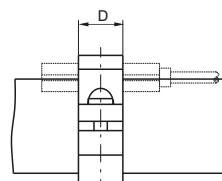


Table of dimensions

Bore	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50
A	14,5	16	17,5	20,5	22	29
B	10,5	12,5	15,3	20	24	29
C	16	18	20,5	26	30	35
D	10	10	10	10	10	10
Weight (g)	3	5	7	8	10	11

► Sensor clamps cod. 1580._, MRS._, MHS._

Ordering code

12X.Ø.FSX

The kit comprises:
n° 1 clamp (AISI 304)
n° 1 switch bracket + support (Technopolymer)
n° 1 screw (AISI 304)
n° 1 nut (AISI 304)

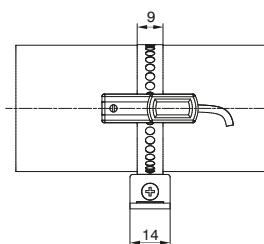
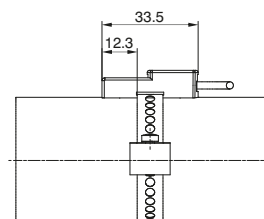
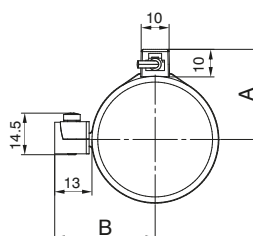


Table of dimensions

Bore	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
A	19	21	23	28	32	37	44
B	22	24	26	31	35	40	47

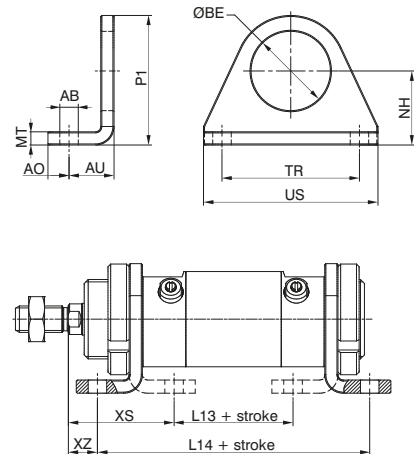
Foot

Ordering code
12X.Ø.01

The kit comprises:
n° 1 foot (AISI 316)



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 316.



Bore	16	20	25	32	40	50	63
AB (H13)	5,5	6,5	6,5	6,5	9	9	9
AO	6	8	8	8	10	10	10
AU	14	17	17	17	20	20	20
ØBE	16	22	22	30	40	40	45
L13 (±1)	36	44	44	45	49	52	78
L14 (±1)	84	102	102	103	119	122	146
MT	4	5	5	5	5	5	6
NH (±0.3)	20	25	25	28	40	40	50
P1	33	45	45	50	66,5	66,5	80
TR (Js14)	32	40	40	52	70	70	70
US	42	54	54	66	90	90	90
XS (±1.4)	32	36	40	40	50	50	51
XZ (±1.4)	8	7	11	11	15	15	17
Weight g.	45	90	90	110	210	210	262

Flange

Ordering code
12X.Ø.02

The kit comprises:
n° 1 flange (AISI 316)

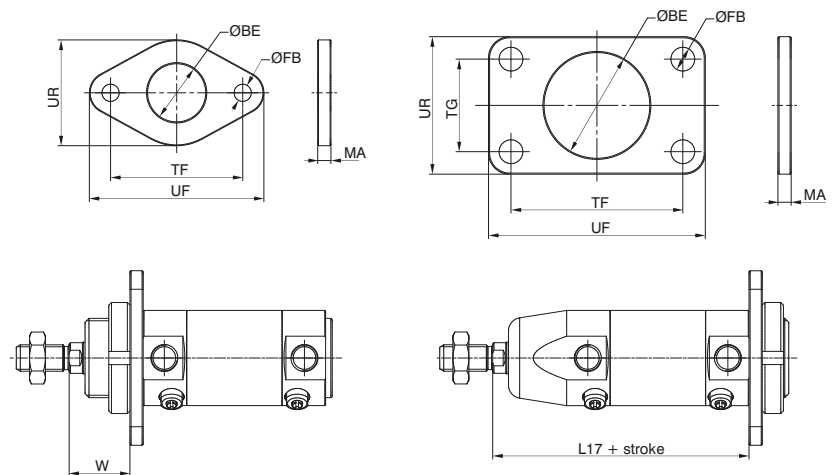


(For Ø16 - Ø20 - Ø25)



(For Ø32 - Ø40 - Ø50 - Ø63)

Use to mount the microcylinder at a right angle to the mounting plane.
Made of stainless steel AISI 316.



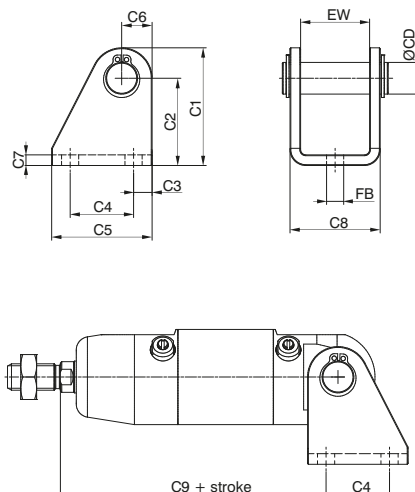
Bore	16	20	25	32	40	50	63
ØBE	16	22	22	30	40	40	45
ØFB (H13)	5,5	6,5	6,5	6,5	9	9	9
UF	53	66	66	68	82	82	96
UR	30	40	40	50	52	52	70
MA	4	5	5	5	5	5	6
TF (JS14)	40	50	50	52	65	65	76
TG	/	/	/	/	35	35	50
W (±1.4)	18	19	23	23	30	30	31
L17	78	92	97	97	114	117	143
Weight g.	40	85	85	100	105	105	225

Rear clevis

Ordering code

12X.Ø.03

The kit comprises:
 n° 1 clevis (AISI 316)
 n° 1 pin (AISI 316)
 n° 2 circlips (AISI 420)



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.

Bore	16	20	25	32	40	50	63
ØCD	6	8	8	12	14	14	16
C1	33,5	39,5	39,5	44,5	53,5	53,5	64
C2 (±0.3)	27	30	30	33	40	40	50
C3	5	6	6	7	10	10	8
C4	15	20	20	24	28	28	34
C5	25	32	32	38	45	45	50
C6	6,5	9,5	9,5	11,5	13,5	13,5	14
C7	3	4	4	4	4	4	6
C8	18	24	24	34	38	38	52
C9 (±0.4)	80,5	91,5	100,5	100,5	119,5	122,5	148
EW	12,1	16,1	16,1	26,1	30,5	30,5	40,5
FB (H13)	5,5	6,5	6,5	6,5	8,5	8,5	9
Weight (g)	35	75	75	135	138	138	284

Rod lock nut / Nut or lock nut for the end cap

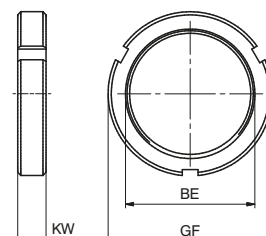
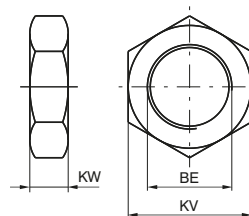
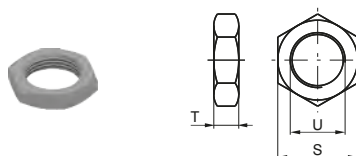
Ordering code

Rod lock nut
12X.Ø.11

The kit comprises:
 n° 1 rod lock nut (AISI 316)

Nut / Lock nut
for the end cap
12X.Ø.05

The kit comprises:
 n° 1 nut/lock nut
 for the end cap (AISI 316)



Rod lock nut:

Mounted on the rod thread.
 Made of stainless steel AISI 316.

Nut / Lock nut for the end cap:

Used to fasten flanges or feet to the endcaps of the microcylinder. The nuts are mounted on diameters that go from Ø16 to Ø25 mm, the lock nuts from Ø32 to Ø63 mm. Both are supplied with the microbore cylinders.

Bore	S	T	U	Dado stelo Weight (g)	BE	KV	GF	KW	Nut / Lock nut for the end caps weight (g)
16	10	4	M6X1	3	M16X1,5	22	-	6	16
20	13	5	M8X1,25	4	M22X1,5	30	-	7	25
25	17	6	M10X1,25	9	M22X1,5	30	-	7	25
32	17	6	M10X1,25	9	M30X1,5	-	42	8	42
40	19	7	M12X1,75	12	M40X1,5	-	52	9	62
50	19	7	M12X1,75	12	M40X1,5	-	52	9	62
63	24	8	M16X1,5	21	M45X1,5	-	60	10	100

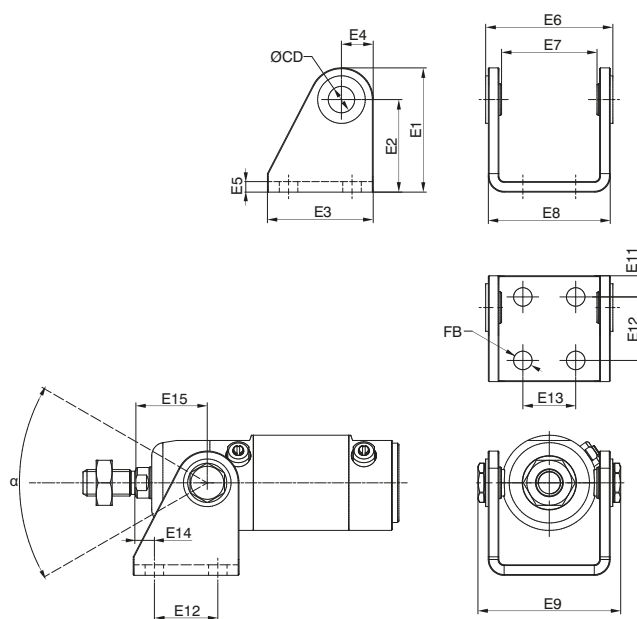
Front clevis

Ordering code
12X.Ø.08

The kit comprises:
n° 1 clevis (AISI 316)
n° 2 bushings (Technopolymer)



Used to mount by using the front end cap to mount parallel 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 316.

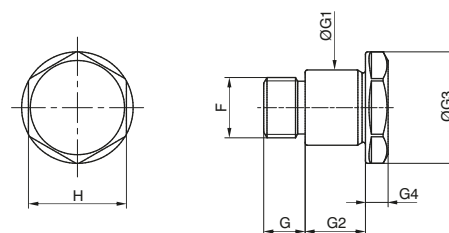


Bore	E1	E2 (±0,2)	E3	E4	E5	E6	E7	E8	E9	E11	E12	E13	E14	E15	FB (H13)	ØCD	α	Weight (g)
32	47	35	40	12	4	48	36	46	54	8	24	20	7	27	7	10	50°	121
40	53	40	50	13	4	60	49	58	68	10	30	28	6	33	9	12	50°	175
50	59	45	54	14	6	74	54	72	84	10	34	36	10	40	9	14	50°	330
63	65	50	65	16	6	88	72	86	98	15	35	42	11	45	9	16	40°	458

Pin for front clevis

Ordering code
12X.Ø.09

The kit comprises:
n° 1 pin (AISI 316)



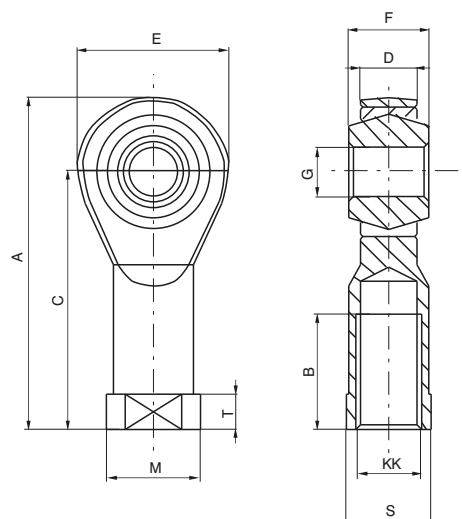
Bore	32	40	50	63
G	5,5	6	8,5	11
G1 (h7)	10	12	14	16
G2	8	10	12	12
G3	15	17	19	24
G4	3	4	5	5
F	M8X0,75	M10X1	M12X1	M14X1
H	13	15	17	21

Ball joint

Ordering code

12X.Ø.10

The kit comprises:
 n° 1 ball joint (AISI 304 and 420)



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 and 420.

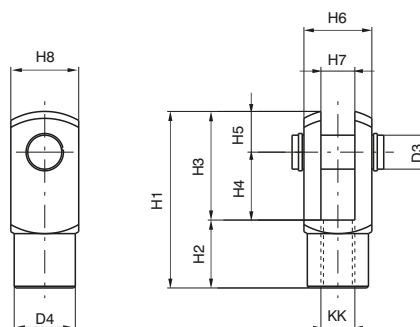
Bore	16	20	25	32	40	50	63
A	40	48	57	57	66	66	85
B	12	16	20	20	22	22	28
C	30	36	43	43	50	50	64
D	6,75	9	10,5	10,5	12	12	15
E	20	24	28	28	32	32	42
F	9	12	14	14	16	16	21
G (H 7)	6	8	10	10	12	12	16
KK	M6	M8	M10X1,25	M10X1,25	M12X1,75	M12X1,75	M16X1,5
M	13	16	19	19	22	22	27
S	11	14	17	17	19	19	22
T	5	5	6,5	6,5	6,5	6,5	8
Weight (g)	25	25	75	75	112	112	222

Cylinder rod fork

Ordering code

12X.Ø.04

The kit comprises:
 n° 1 fork (AISI 303)
 n° 1 pin (AISI 303)
 n° 2 circlips (AISI 420)



Mounted on the rod thread, assures a regular operation even in the presence of significant forces to the linked element. Made of stainless steel.

Bore	D3	D4	H1	H2	H3	H4	H5	H6	H7 (B12)	H8	KK	Weight (g)
16	6	10	31	12	19	12	7	12	6	12	M6X1	20
20	8	14	42	16	26	16	10	16	8	16	M8X1.25	45
25	10	18	52	20	32	20	12	20	10	20	M10X1.25	90
32	10	18	52	20	32	20	12	20	10	20	M10X1.25	90
40	12	20	62	18	38	24	14	24	12	24	M12X1.75	121
50	12	20	62	18	38	24	14	24	12	24	M12X1.75	121
63	16	26	83	32	51	32	19	32	16	32	M16X1.5	340

► **Sensor clamps for microbore cylinders 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

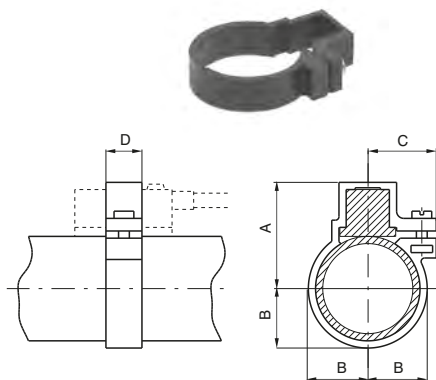


Table of dimensions

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

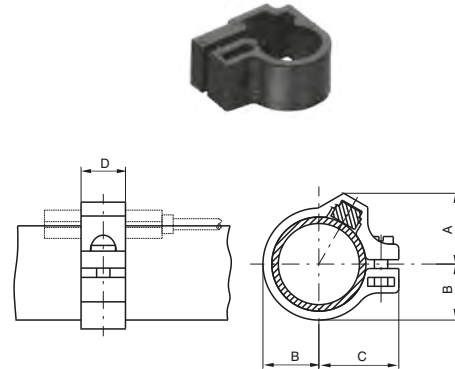


Table of dimensions

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 microbore cylinders 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

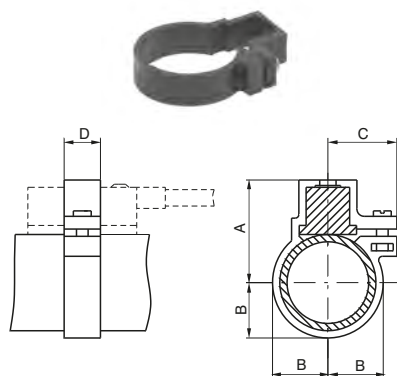


Table of dimensions

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

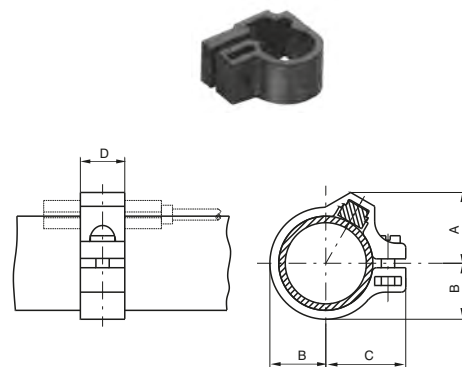


Table of dimensions

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

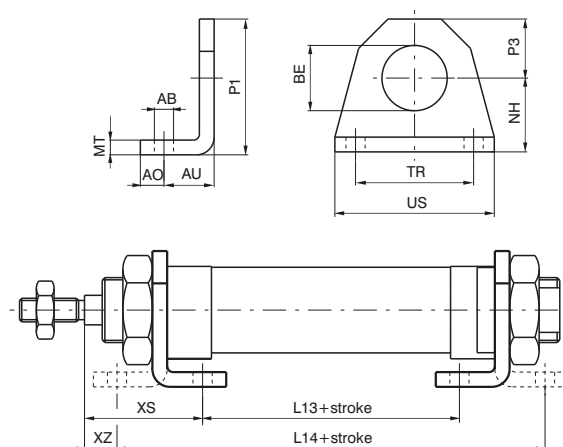
Sensor for microbore cylinders

For technical characteristics and ordering codes see the magnetic sensors sections

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 cathophoresis treatment. Attached to the end caps by means of nuts (or lock nuts) 05.

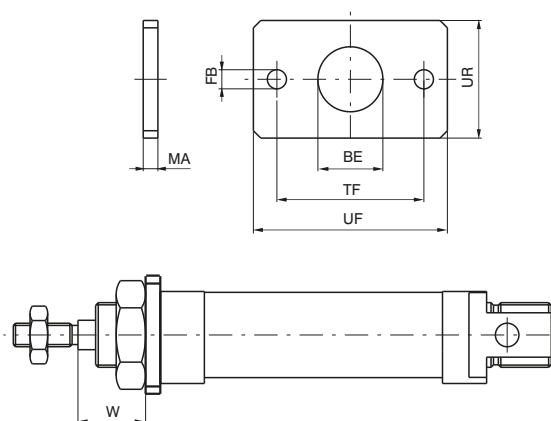
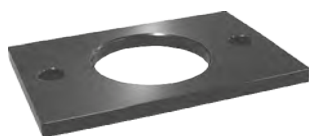
Attention: the dimensions of microbore cylinders with threaded end covers (*) increase of 10 mm. for microbore cylinders equipped with magnetic piston and spring return, and of 9 mm. for microbore cylinders with 10 mm. BORE magnetic piston.

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 g.	22	22	45	45	90	90	110	210	210

Flange

Ordering code

1200.0.02
(1 piece)



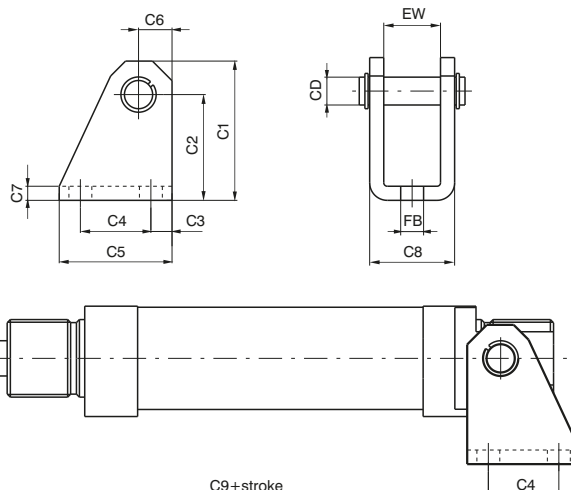
Used to mount the microcylinder at a right angle to the mounting plane. Attached to the front (or rear) end cap by a nut (or lock nut) 05. Made of extruded steel, made corrosion resistant by cathophoresis.

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 g.	20	20	40	40	85	85	100	150	150

Rear eye

Ordering code

1200.Ø.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 microbore cylinders with threaded end covers (*) increase by 10mm for equipped with magnetic piston and spring return, and by 9mm for microbore cylinders with 10mm BORE 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 g.	20	20	35	35	75	75	135	180	180

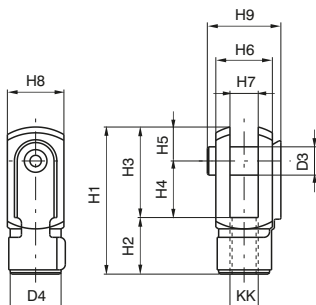
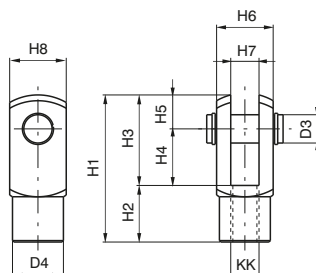
Cylinder rod forks

Ordering code

1200.Ø.04 *
(with pin)

1200.Ø.04/1
(with pin)

*Available from bore Ø12



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.

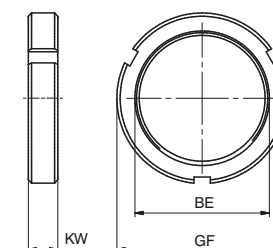
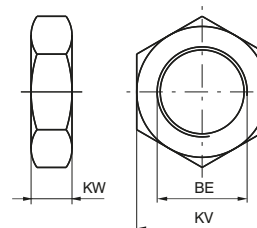
Nut:

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

Nut or lock nut for the endcaps

Ordering code

1200.Ø.05

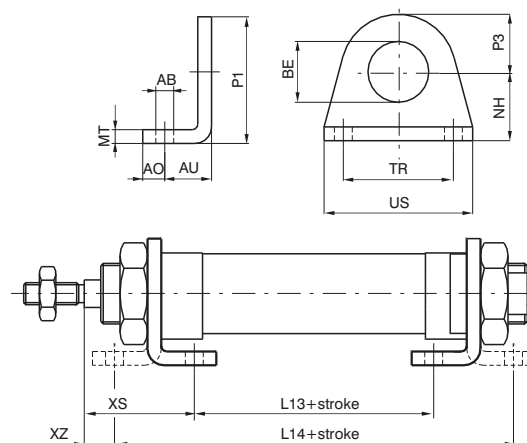


Bore	D3	D4	H1	H2	H3	H4	H5	H6	H7 (B12)	H8	H9	KK	BE	KV	GF	KW	Forks weight g.	Nuts weight g.
8	4	8	21	8	13	8	5	8	4	10	11	M4x0,7	M12x1,25	17	-	5,5	12	7
10	4	8	21	8	13	8	5	8	4	10	11	M4x0,7	M12x1,25	17	-	5,5	12	7
12	6	10	31	12	19	12	7	12	6	12	18	M6x1	M16x1,5	22	-	6	20	16
16	6	10	31	12	19	12	7	12	6	12	18	M6x1	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)



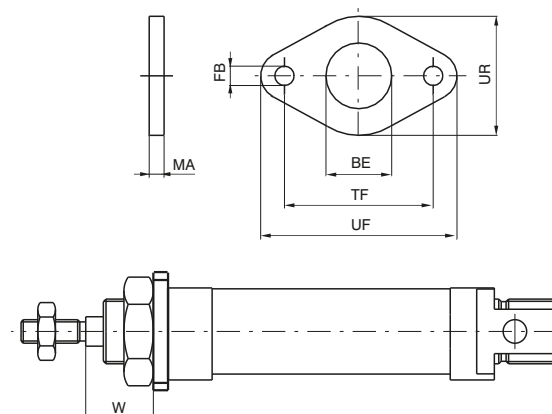
Used to mount the cylinder on the mounting plane with the rod parallel to said plane. Use one for short strokes and two for long strokes. It is made stamped stainless steel AISI 304. Attached to the end caps by means of nuts (or lock nuts) 05X.

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 g	45	90	90	110

Flange

Ordering code

1200.Ø.02X

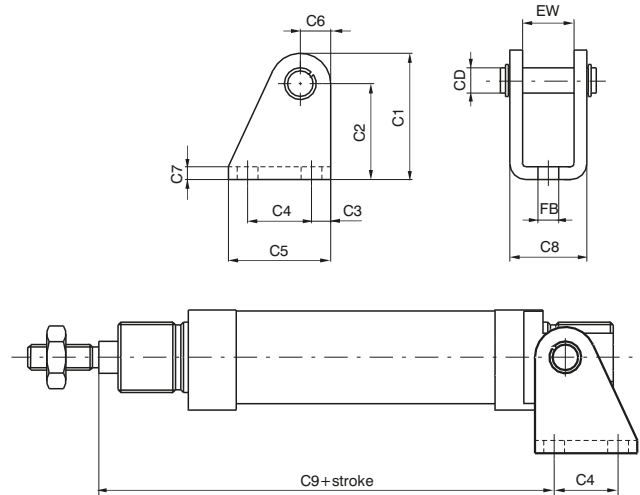


Use to mount the microbore cylinder at a right angle to the mounting plane. Attached to the front (or rear) endcap by a nut (or lock nut) 05X. Made of stainless steel AISI 304.

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 g	40	85	85	100

Rear eye

Ordering code
1200.Ø.03X (1 piece)

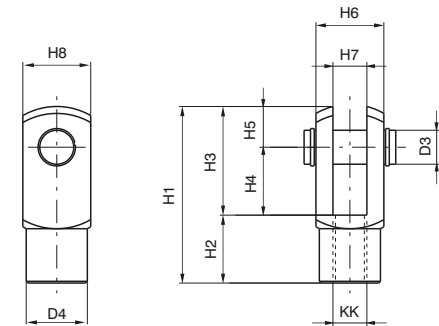


Used to mount by using the rear end cover to mount either parallel or at a right angle to the mounting plane. Allows the cylinder to oscillate and self-align with the linked element to the rod. Necessary to use when the rod may be subject to lateral forces during travel.
Made of stamped stainless steel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

Bore	16	20	25	32
CD	6	8	8	12
C1	33,5	39,5	39,5	44,5
C2 ($\pm 0,3$)	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 ($\pm 0,4$)	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 g.	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)

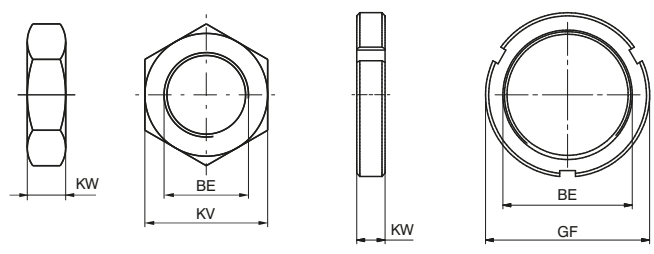


Fork:

Similar to hinge Ø3X, 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 microbore cylinder. The nuts are mounted on bores that go from 16 to 25, the lock nuts on 32. Both are supplied (one piece) with the microbore cylinders.



Bore	Weight g fork	Weight g 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