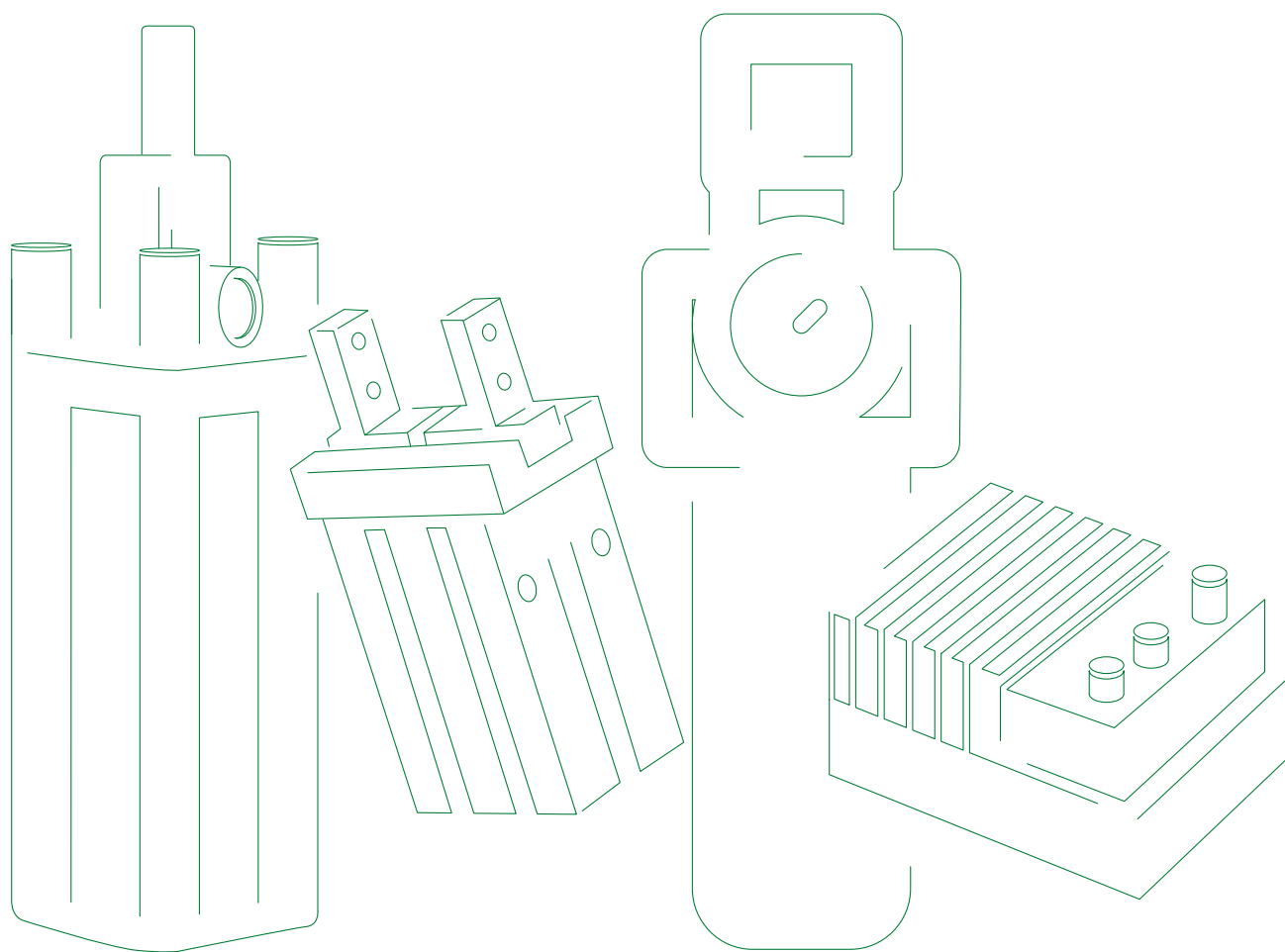




PNEUMAX



GENERAL CATALOGUE **2025**

SOLUTIONS FOR PNEUMATIC AUTOMATION



Series 1200, Threaded end covers

Construction characteristics

Barrel	anodised aluminium (brass for Ø8 and Ø10)						
Fixing devices	steel painted in cataphoresis						
Forks	zinc plated steel						
Seals	standard: NBR Oil resistant rubber, PUR Piston rod seals (HNBR or FPM seals available upon request)						
Single-acting springs	Steel for springs and stainless steel						
Pistons	aluminium						
Piston rod	non magnetic piston: Ø8 - Ø10: stainless steel / Ø12 ... Ø50: C43 chromed magnetic piston: Ø10 ... 20: stainless steel / Ø25 ... 50: C43 chromed						
End caps	anodized aluminium						
Cushioning lenght	Ø	16	20	25	32	40	50
	mm	15	18	18	18	22	22

Operational characteristics

Fluid	filtered air, preferably lubricated						
Max. 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.

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

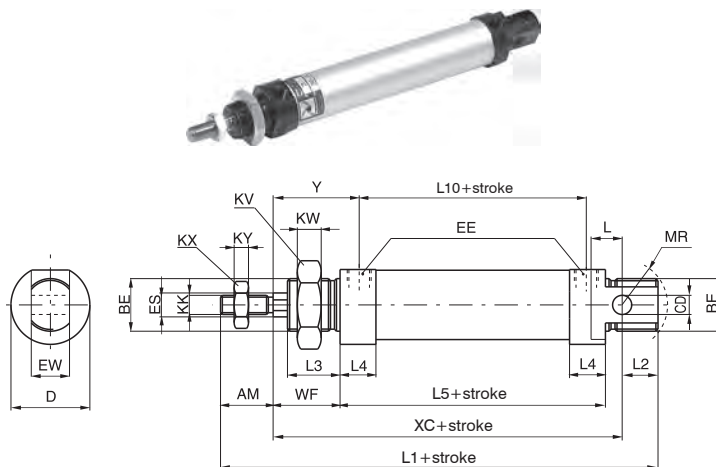
Minimum and maximum springs load for single acting version

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

Basic version

Coding: 12T.Ø.stroke.VG

T	TYPE 60 = Double acting version 71 = front spring from Ø12 (max stroke 40 mm) 72 = rear spring from Ø12 (max stroke 40 mm)
Ø	BORE 8 = Ø8 10 = Ø10 ... 50 = Ø50
V	VERSION A = Adjustable cushioning (from Ø16) M = Magnetic piston (from Ø10) X = Stainless steel rod MA = Cushioning with magnetic piston MAX = Cushioning, magnetic piston and stainless steel piston rod
G	SEALS = NBR T = HNBR V = FPM

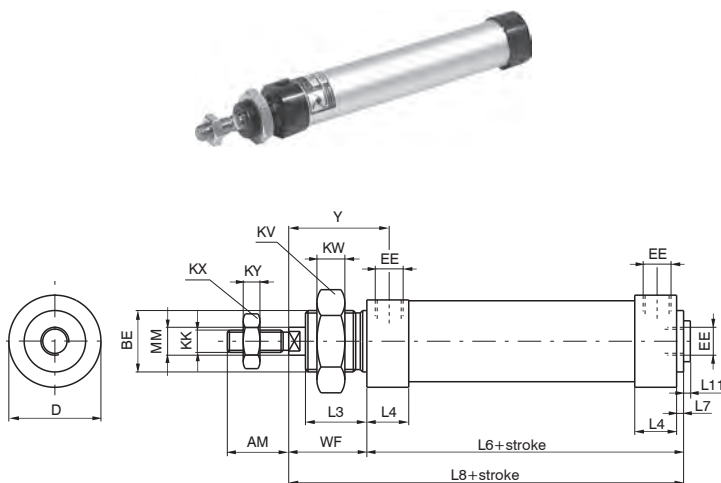


Standard execution, fully complying with ISO standards from ø8 to ø25. Bores 32, 40 and 50 not included in the standard, comply with our own specifications. Can use all available mountings. For single acting type, the maximum stroke is 40 mm., after which overall dimensions increase in length to an extent not proportional to the stroke (and in any case not longer than stroke 100).

Without rear eye version

Coding: 12T.Ø.stroke.VG

T	TYPE
	61 = Double acting version
	73 = front spring from Ø12 (max stroke 40 mm)
	74 = rear spring from Ø12 (max stroke 40 mm)
Ø	BORE
	8 = Ø8
	10 = Ø10
	...
	50 = Ø50
V	VERSION
	A = Adjustable cushioning (from Ø16)
	E = version with non-rotating hexagonal rod, non magnetic piston (from Ø12)
	M = Magnetic piston (from Ø10)
	X = Stainless steel rod
	AE = version with non-rotating hexagonal rod, with cushioning (from Ø16)
	MA = Cushioning with magnetic piston
	ME = version with non-rotating hexagonal rod, magnetic piston (from Ø12)
	MAE = version with non-rotating hexagonal rod, with cushioning and magnetic piston (from Ø16)
	MAX = Cushioning, magnetic piston and stainless steel piston rod
	L = Air inlet at 90° version
C	SEALS
	= NBR
	T = HNBR
	V = FPM

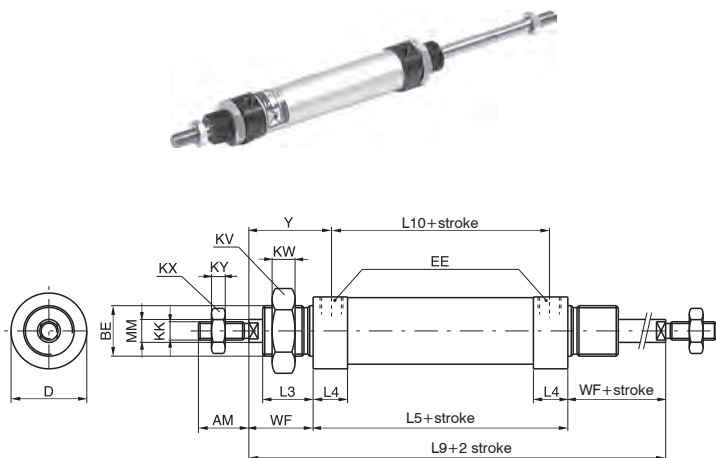


Version derived from standard execution 1260 and not included in ISO standard. Not having a rear eye it is shorter and the air inlet is from the rear or at 90° like it is on the front. The considerations made for the basic type 1260 apply for all single-acting types.

Through rod cylinder version

Coding: 1262.Ø.stroke.VG

Ø	BORE
	8 = Ø8
	10 = Ø10
	...
V	50 = Ø50
	VERSION
	A = Adjustable cushioning (from Ø16)
	E = version with non-rotating hexagonal rod, non magnetic piston (from Ø12)
	M = Magnetic piston (from Ø10)
	X = Stainless steel rod
	AE = version with non-rotating hexagonal rod, with cushioning (from Ø16)
	MA = Cushioning with magnetic piston
G	ME = version with non-rotating hexagonal rod, magnetic piston (from Ø12)
	MAE = version with non-rotating hexagonal rod, with cushioning and magnetic piston (from Ø16)
	MAX = Cushioning, magnetic piston and stainless steel piston rod
	SEALS
G	= NBR
	T = HNBR*
	V = FPM*

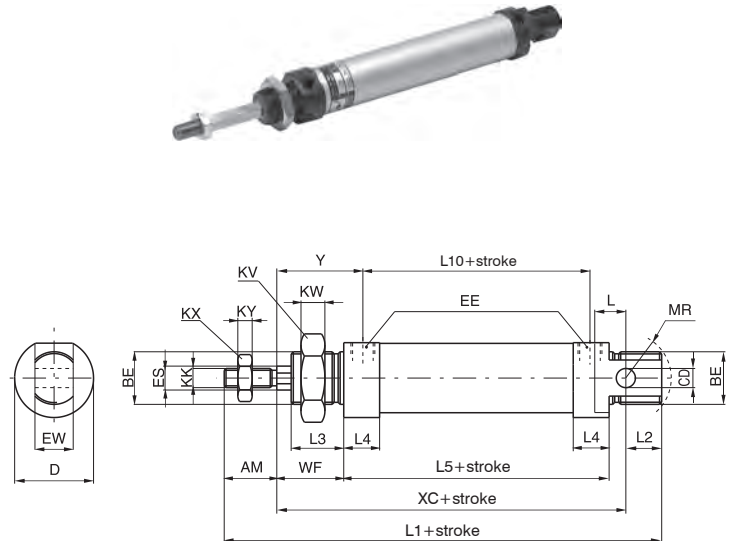


Execution by rod coming out from both end caps, with overall dimensions. except for the rod, equal to 1260 version. Not available with Ø8 and 10.

► Non rotating hexagonal piston rod version (from Ø 12)

Coding: 12T.Ø.stroke.VG

T	TYPE
	60 = Double acting version
	71 = front spring from Ø12 (max stroke 40 mm)
	72 = rear spring from Ø12 (max stroke 40 mm)
Ø	BORE
	8 = Ø8
	10 = Ø10
	...
V	VERSION
	E = with non magnetic piston
	AE = version with non-rotating hexagonal rod, with cushioning (from Ø16)
	ME = Hexagonal piston rod with magnetic piston (from Ø12)
G	SEALS
	= NBR
	T = HNBR
	V = FPM



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

(*) 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

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



Series 1200 Tecno-MIR

Construction characteristics

Barrel	nylon 66 reinforced with glass fibres
Fixing devices	steel painted / stainless steel AISI 304
Forks	zinc plated steel / stainless steel AISI 304
Piston seals	NBR oil-resistant rubber seal
Rod seal	PUR
Pistons	aluminium
Piston rod	C43 chromed (non magnetic piston version) stainless steel (magnetic piston version)
End caps	nylon 66 reinforced with glass fibres

Operational characteristics

Fluid	filtered air, preferably lubricated
Max. 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.

Standard strokes

Double acting version

Ø12:

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

Ø16:

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

Ø20 - Ø25:

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

On request are available strokes up to:

Ø12: 200 mm

Ø16: 250 mm

Ø20 - Ø25: 300 mm

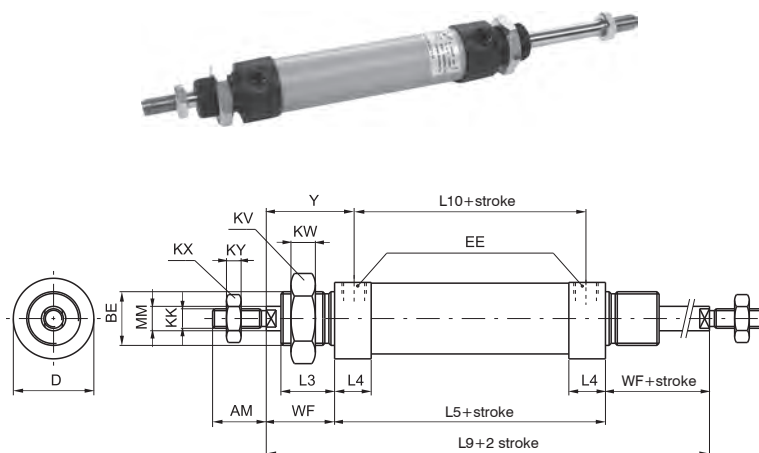
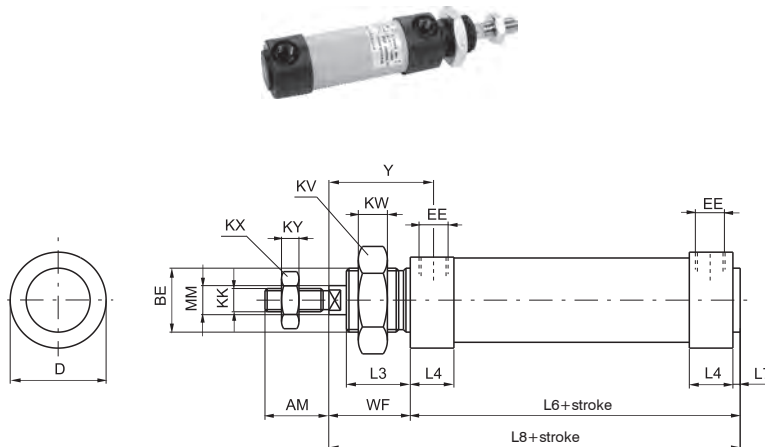
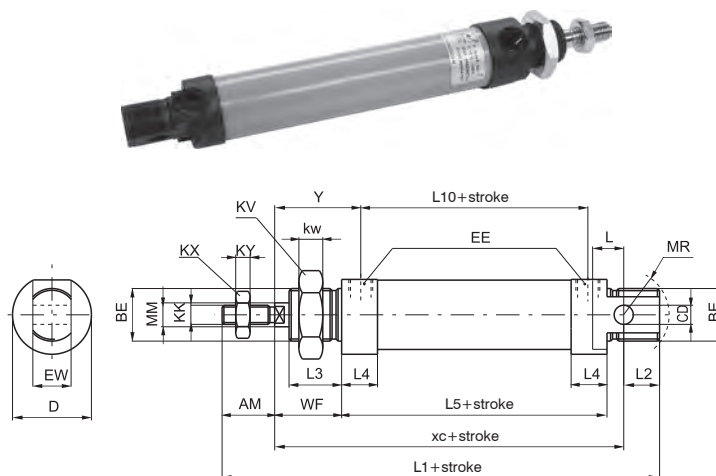
Maximum fitting torque

Bore	Thread	Maximum torque (Nm)
Ø12	M5	1
Ø16	M5	1
Ø20	G 1/8"	4
Ø25	G 1/8"	4

Weight charts

Weight table series TECNO MIR 1230 - 1231					
Bore		Ø12	Ø16	Ø20	Ø25
Weight (g)	Stroke 0	50	65	120	160
	every 10 mm	3,75	4	6,5	9

Weight table series TECNO MIR 1232					
Bore		Ø12	Ø16	Ø20	Ø25
Weight (g)	Stroke 0	60	75	180	200
	every 10 mm	7	8,5	10	20

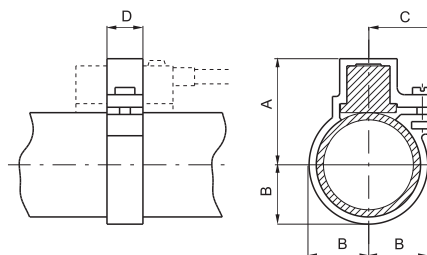


Bore	AM (+0,-2)	BE	CD (H9)	D (h11)	EE	EW (d13)	KK (kg)	KV	KW	KX	KY	L	L1 (±1)	L2	L3	L4	L5 (±1)	L6	L7	L8	L9 (±1,2)	L10 (±1)	MM (f7)	WF (±1,2)	XC (±1)	Y (±1)
12	16	M16X1,5	6	19	M5	12	M6X1	22	6	10	4	9	105	14	17	13,5	50	52	2	74	94	41	6	22	75	26,5
16	16	M16X1,5	6	23	M5	12	M6X1	22	6	10	4	9	111	13	17	14,5	56	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	38

► **Sensor clamps - codes 1500._, RS._, HS._**

Coding: 1260.Ø.F

Ø	BORE
	10 = Ø10
	12 = Ø12
	16 = Ø16
	20 = Ø20
	25 = Ø25
	32 = Ø32
	40 = Ø40
	50 = Ø50



Sensor for microbore cylinders

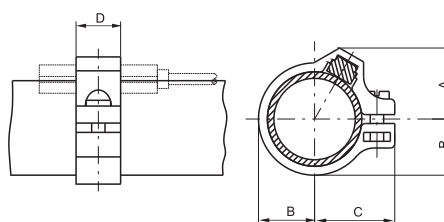
For technical characteristics and ordering codes see the "Magnetic sensors" sections

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 (g)	2	2	3	5	7	10	14	16

► **Sensor clamps - codes 1580._, MRS._, MHS._**

Coding: 1260.Ø.FS

Ø	BORE
	10 = Ø10
	12 = Ø12
	16 = Ø16
	20 = Ø20
	25 = Ø25
	32 = Ø32
	40 = Ø40
	50 = Ø50



Sensor for microbore cylinders

For technical characteristics and ordering codes see the "Magnetic sensors" sections

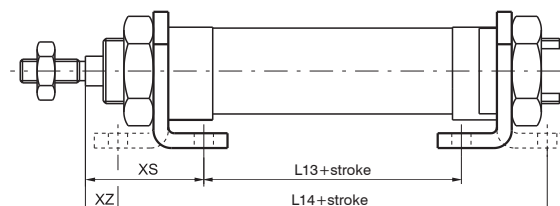
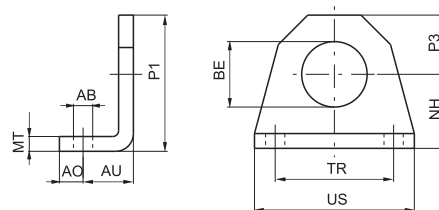
Bore	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50
A	13	14	15,4	17,2	19,3	20,5	22	29
B	9	10	12	14	16,5	20	24	29
C	16	16	18	19,5	22	26	30	35
D	10	10	10	10	10	10	10	10
Weight (g)	2	2	3	5	7	8	10	11

Foot

Coding: 1200.Ø.01

BORE
8 = Ø8
10 = Ø10
12 = Ø12
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50

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

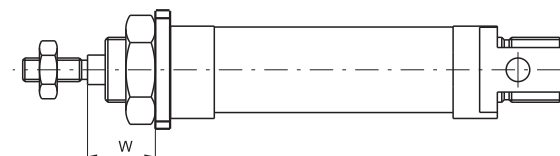
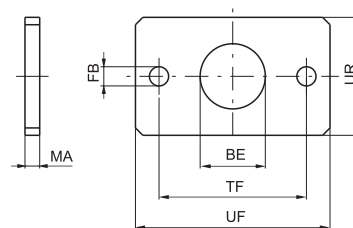
Attention: the dimensions of microbore cylinders with threaded end covers (*) increase of 10 mm. for microbore cylinders equipped with magnetic piston and spring return, and of 9 mm. for microbore cylinders with 10 mm. bore magnetic piston.

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

Coding: 1200.Ø.02

BORE
8 = Ø8
10 = Ø10
12 = Ø12
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50



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 cathaphoresis.

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

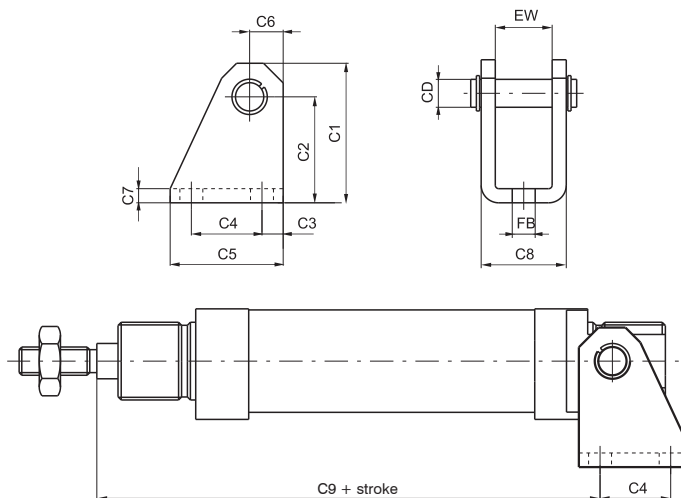
Rear clevis

Coding: 1200.Ø.03

BORE
8 = Ø8
10 = Ø10
12 = Ø12
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50



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.



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

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.

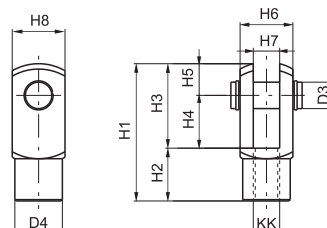
Fork with pin

Coding: 1200.Ø.04

BORE
12 = Ø12
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50



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.



Bore	D3	D4	H1	H2	H3	H4	H5	H6	H7 (B12)	H8	KK	Weight (g)
12	6	10	31	12	19	12	7	12	6	12	M6x1	20
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	24	38	24	14	24	12	24	M12x1,75	145
50	12	20	62	24	38	24	14	24	12	24	M12x1,75	145

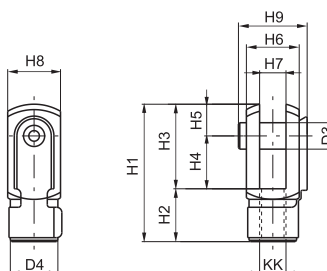
Fork with clips

Coding: 1200.Ø.04/1

BORE
8 = Ø8
10 = Ø10
12 = Ø12
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50



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.

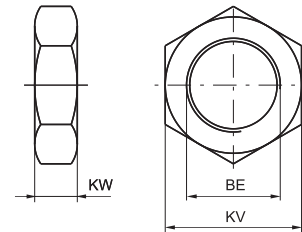


Bore	D3	D4	H1	H2	H3	H4	H5	H6	H7 (B12)	H8	H9	KK	Weight (g)
8	4	8	21	8	13	8	5	8	4	10	11	M4x0,7	12
10	4	8	21	8	13	8	5	8	4	10	11	M4x0,7	12
12	6	10	31	12	19	12	7	12	6	12	18	M6x1	20
16	6	10	31	12	19	12	7	12	6	12	18	M6x1	20
20	8	14	42	16	26	16	10	16	8	16	23	M8x1,25	45
25	10	18	52	20	32	20	12	20	10	20	27	M10x1,25	90
32	10	18	52	20	32	20	12	20	10	20	27	M10x1,25	90
40	12	20	62	24	38	24	14	24	12	24	32	M12x1,75	145
50	12	20	62	24	38	24	14	24	12	24	32	M12x1,75	145

Nut for the endcap

Coding: 1200.Ø.05

Ø	BORE
	8 = Ø8
	10 = Ø10
	12 = Ø12
	16 = Ø16
	20 = Ø20
	25 = Ø25



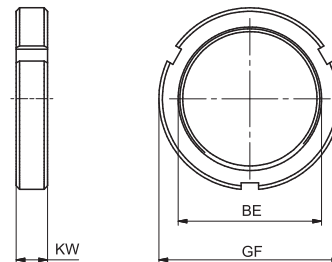
Used to fasten flanges or feet to the endcaps of the microcylinder Mounted on diameters from 8 to 25. Supplied as standard (1 piece) with microcylinders.

Bore	BE	KV	KW	Weight (g)
8	M12x1,25	17	5.5	7
10	M12x1,25	17	5.5	7
12	M16x1,5	22	6	16
16	M16x1,5	22	6	16
20	M22x1,5	30	7	25
25	M22x1,5	30	7	25

Lock nut for the end cap

Coding: 1200.Ø.05

Ø	BORE
	32 = Ø32
	40 = Ø40
	50 = Ø50



Used to fasten flanges or feet to the endcaps of the microcylinder Mounted on diameters from 32 to 50. Supplied as standard (1 piece) with microcylinders.

Bore	BE	GF	KW	Weight (g)
32	M30x1,5	42	8	42
40	M40x1,5	52	9	60
50	M40x1,5	52	9	60



Series 1200, Rolled end covers MIR

Construction characteristics

Barrel	stainless steel AISI 304				
Fixing devices	steel painted in cataphoresis				
Forks	zinc plated steel				
Seals	standard: NBR Oil resistant rubber, PUR Piston rod seals (HNBR or FPM seals available upon request)				
Single-acting springs	C98 zinc plated steel for springs				
Pistons	brass (Ø8-10-12) aluminium (Ø16-20-25-32)				
Piston rod	stainless steel				
End caps	anodized aluminium				
Cushioning lenght	Ø	16	20	25	32
	mm	15	18	18	18

Operational characteristics

Fluid	filtered air, preferably lubricated				
Max. 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.

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

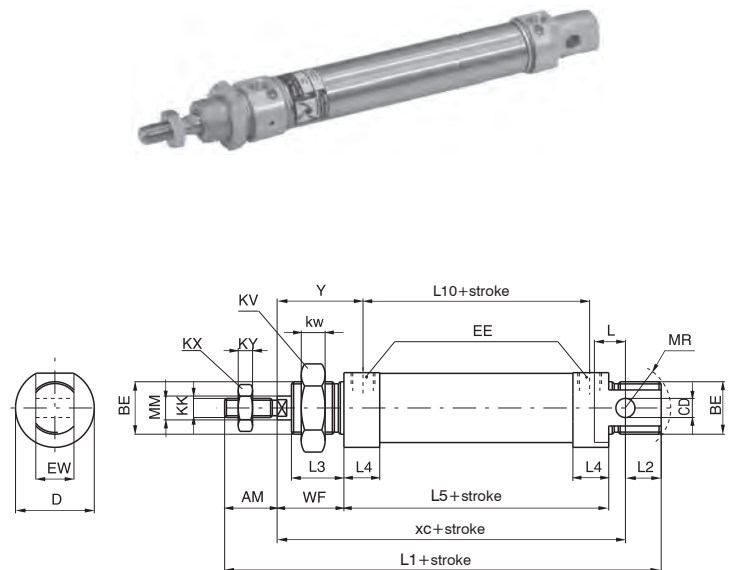
Bore	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Min. load (N)	2.2	2.2	4	7.5	11	16.5	23
Max. load (N)	4.2	4.2	8.7	21	22	30.7	52.5

Basic version

Coding: 12 **T**. $\emptyset$.stroke. **V** **G**

T	TYPE
	80 = Double acting version
	91 = front spring (max stroke 50 mm)
	92 = rear spring from $\emptyset 16$ (max stroke 50 mm)
$\emptyset$	BORE
	8 = $\emptyset 8$
	10 = $\emptyset 10$
	...
V	VERSION
	A = Adjustable cushioning (from $\emptyset 16$)
	M = Magnetic piston
	AM = Cushioning with magnetic piston (from $\emptyset 16$)
G	SEALS
	= NBR
	T = HNBR
	V = FPM

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).

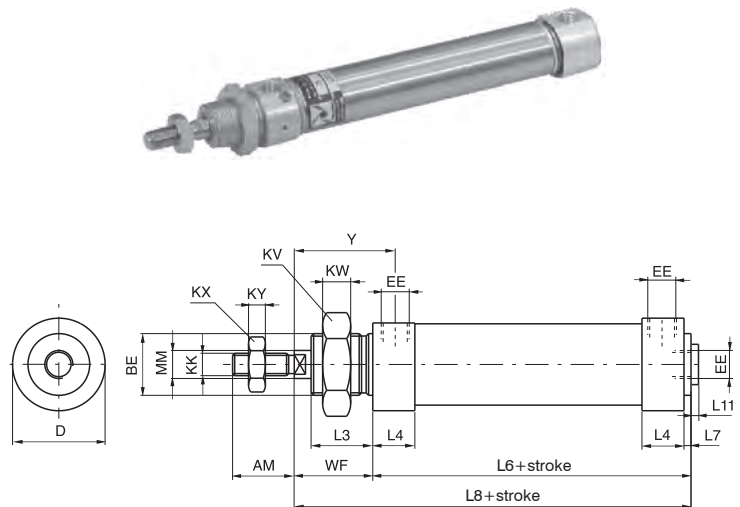


Without rear eye version

Coding: 12 **T**. $\emptyset$.stroke. **V** **G**

T	TYPE
	81 = Double acting version
	93 = front spring (max stroke 50 mm)
	94 = rear spring from $\emptyset 16$ (max stroke 50 mm)
$\emptyset$	BORE
	8 = $\emptyset 8$
	10 = $\emptyset 10$
	...
V	VERSION
	A = Adjustable cushioning (from $\emptyset 16$)
	M = Magnetic piston
	AM = Cushioning with magnetic piston (from $\emptyset 16$)
G	SEALS
	= NBR
	T = HNBR
	V = FPM

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.

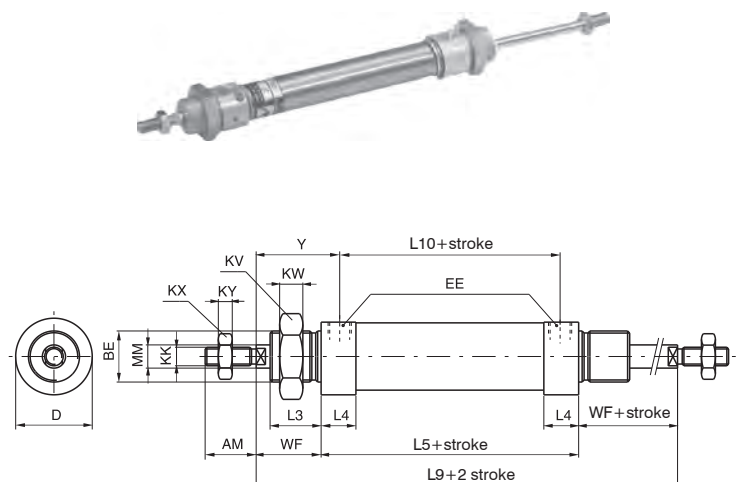


Through rod cylinder version

Coding: 1282. $\emptyset$.stroke. **V** **G**

$\emptyset$	BORE
	8 = $\emptyset 8$
	10 = $\emptyset 10$
	...
V	VERSION
	= Double acting version
	A = Adjustable cushioning (from $\emptyset 16$)
	M = Magnetic piston
G	SEALS
	= NBR
	T = HNBR
	V = FPM

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 $\emptyset 8$ and $\emptyset 10$ due to difficulty in anchoring the pistons to rods.





ISO 6432 Microbore cylinders

Series 1200, Rolled end covers MIR

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

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

STROKE TOLERANCE: until stroke 100 mm - 1,5, 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

Without rear eye version

Weight	Stroke 0	25	35	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

3

PNEUMATIC ACTUATION



Series 1200 Rolled end covers MIR-INOX

Construction characteristics

Barrel	stainless steel AISI 304
Fixing devices	stainless steel AISI 304
Forks	stainless steel AISI 304
Piston seals	standard: NBR Oil resistant rubber, PUR Piston rod seals (FPM seals available upon request)
Pistons	aluminium
Piston rod	stainless steel
End caps	stainless steel AISI 316

Operational characteristics

Fluid	filtered air, preferably lubricated
Max. 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.

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

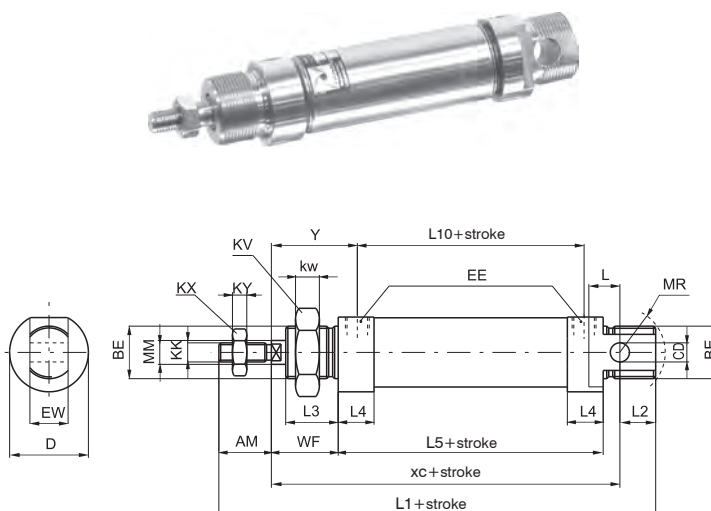


Basic version

Coding: 1280.Ø.stroke.VG

Ø	BORE
	16 = Ø16
	20 = Ø20
	25 = Ø25
V	VERSION
	X = non-magnetic
	AX = non-magnetic version with cushions (non-adjustable cushioning)
	MX = Stainless steel magnetic version
G	SEALS
	= NBR
	V = FPM

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



Through rod cylinder version

Coding: 1282.Ø.stroke.VG

Ø	BORE
	16 = Ø16
	20 = Ø20
	25 = Ø25
V	VERSION
	X = non-magnetic
	AX = non-magnetic version with cushions (non-adjustable cushioning)
	MX = Stainless steel magnetic version
G	SEALS
	= NBR
	V = FPM

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

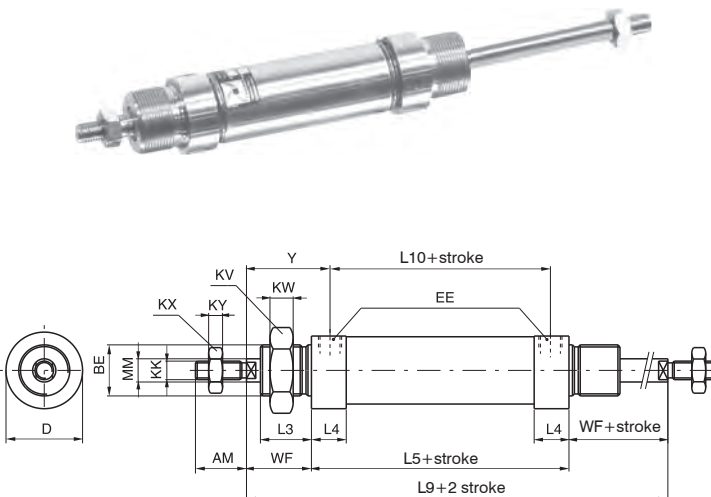


Table of dimensions

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

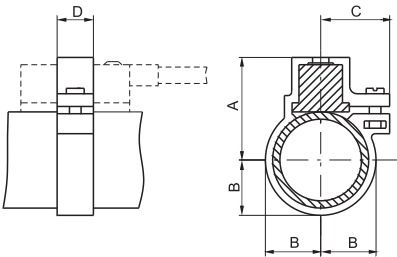
Bore	Standard weight (g)		Weight push-pull version (g)	
	Stroke 0	every 10 mm	Stroke 0	every 10 mm
16	145	5	180	7
20	280	8	330	11
25	370	12	440	16
32	580	18	660	24



► Sensor clamps - codes 1500._, RS._, HS._

Coding: 1280.Ø.①

Ø	BORE
	16 = Ø16
	20 = Ø20
	25 = Ø25
	32 = Ø32
①	TYPE
	F = Cylinders MIR
	FX = Cylinders MIR-INOX



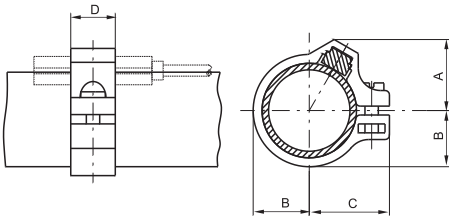
Sensor for microbore cylinders
For technical characteristics and ordering codes see the "Magnetic sensors" sections

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 (g)	3	5	7	10

► Sensor clamps - codes 1580._, MRS._, MHS._

Coding: 1280.Ø.①

Ø	BORE
	8 = Ø8
	10 = Ø10
	12 = Ø12
	16 = Ø16
	20 = Ø20
	25 = Ø25
①	TYPE
	FS = Cylinders MIR
	FSX = Cylinders MIR-INOX



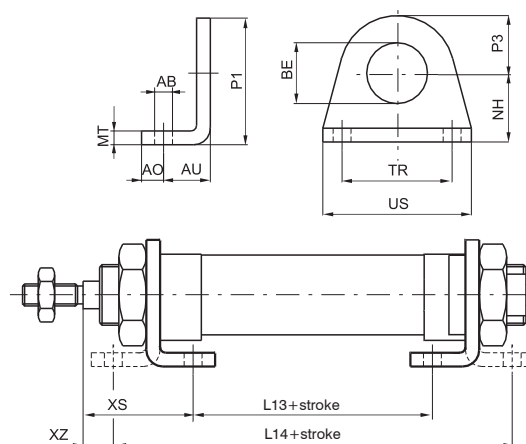
Sensor for microbore cylinders
For technical characteristics and ordering codes see the "Magnetic sensors" sections

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 (g)	2	2	2	3	5	7	10

Foot

Coding: 1200.Ø.01X

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32



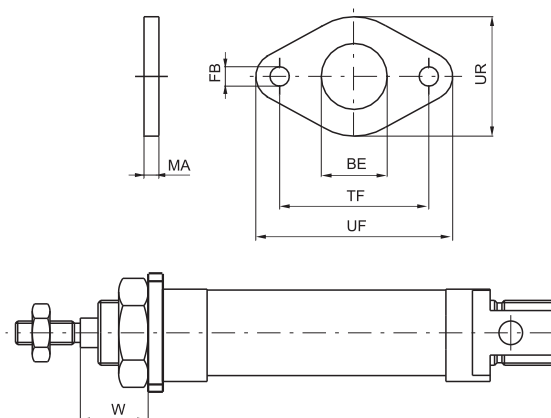
Bore	16	20	25	32
AB (H13)	5,5	6,5	6,5	6,5
AO	6	8	8	8
AU	14	17	17	17
BE	16	22	22	30
L13 (±1)	36	44	44	45
L14 (±1)	84	102	102	103
MT	4	5	5	5
NH (±0,3)	20	25	25	28
P1	33	45	45	50
P3	13	20	20	22
TR (Js14)	32	40	40	52
US	42	54	54	66
XS (±1,4)	32	36	40	40
XZ (±1,4)	8	7	11	11
Weight (g)	45	90	90	110

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 303. Attached to the end caps by means of nuts (or lock nuts) 05X.

Flange

Coding: 1200.Ø.02X

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32



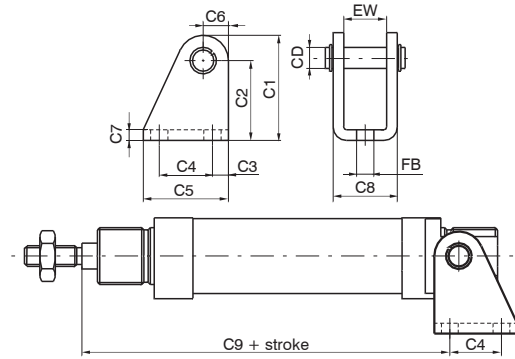
Use to mount the microcylinder at a right angle to the mounting plane. Attached to the front (or rear) end cap by a nut (or lock nut) 05X. Made of stainless steel AISI 303.

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 clevis

Coding: 1200.Ø.03X

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32



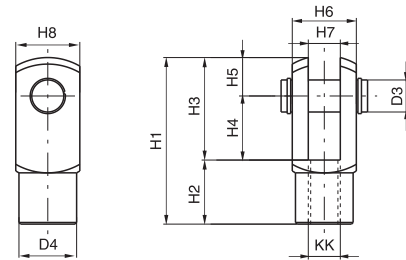
Used to mount by using the rear end cover to mount either parallel or at a right angle to the mounting plane. Allows the cylinder to oscillate and self-align with the linked element to the rod. Necessary to use when the rod may be subject to lateral forces during travel. Made of stamped stainless steel AISI 303.

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 (g)	35	75	75	135

Fork with pin

Coding: 1200.Ø.04X

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32



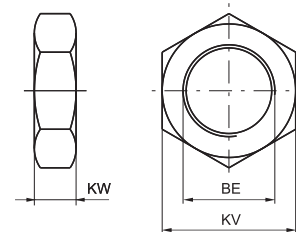
Similar to hinge 03X, mounted on the rod thread, assures a regular operation even in the presence of significant forces to the linked element. Made of stainless steel AISI 303.

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

Nut for the endcap

Coding: 1200.Ø.05X

BORE
16 = Ø16
20 = Ø20
25 = Ø25



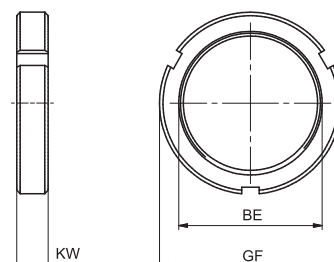
Used to fasten flanges or feet to the endcaps of the microcylinder Mounted on diameters from 16 to 25. Supplied as standard (1 piece) with microcylinders. Made of stainless steel AISI 303.

Bore	BE	KV	KW	Weight (g)
16	M16X1,5	22	6	16
20	M22X1,5	30	7	25
25	M22X1,5	30	7	25

Lock nut for the end cap

Coding: 1200.32.05X

Used to fasten flanges or feet to the endcaps of the microcylinder Mounted on diameter 32. Supplied as standard (1 piece) with microcylinders. Made of stainless steel AISI 303.



Bore	BE	GF	KW	Weight (g)
32	M30X1,5	42	8	42



Series 1200, Steel line

The 12X stainless steel ISO 6432 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:

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

Barrel	stainless steel AISI 316
Fixing devices	stainless steel AISI 316 / 304
Seals	NBR (PUR piston rod seals) FPM PUR
Pistons	Aluminium
Piston rod	stainless steel AISI 316
End caps	stainless steel AISI 316

Operational characteristics

Fluid	filtered air, preferably lubricated							
Max. working pressure	10 bar							
Bore	Ø	16	20	25	32	40	50	63
Cushioning length	mm	15	18	18	18	22	22	25

Working temperature

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

Use and maintenance

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.

Standard strokes

Ø16 :

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

Ø20-Ø25 :

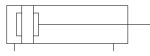
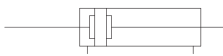
15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 mm

Ø32 ... Ø63 :

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

Coding key

12X

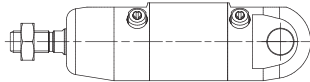
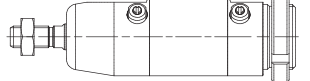
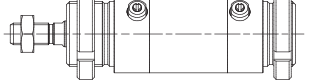
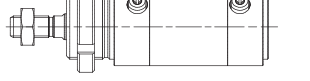
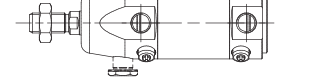
FUNCTION	
A	Double acting 
B	Double acting cushioned 
C	Double acting through rod 
D	Double acting cushioned through rod 

BORE
016
020
025
032
040
050
063

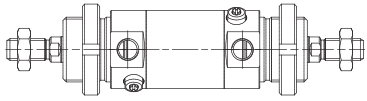
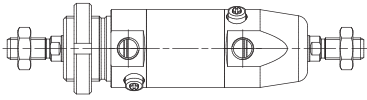
STROKE

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

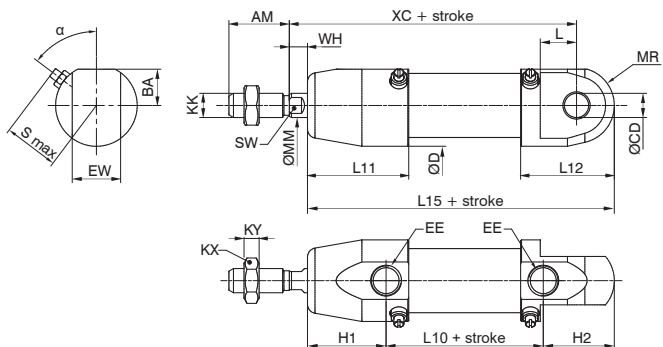
3

PNEUMATIC ACTUATION

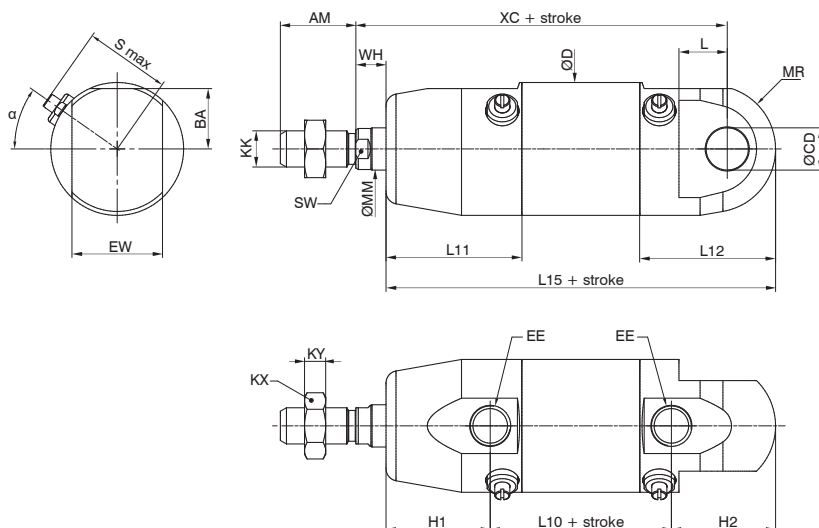
Cylinder type "A"



from Ø16 to Ø25



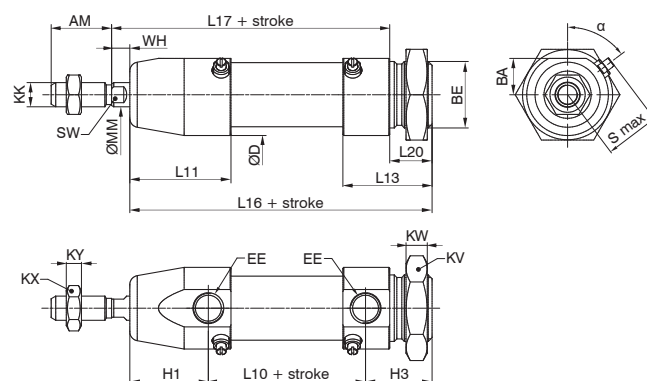
from Ø32 to Ø63



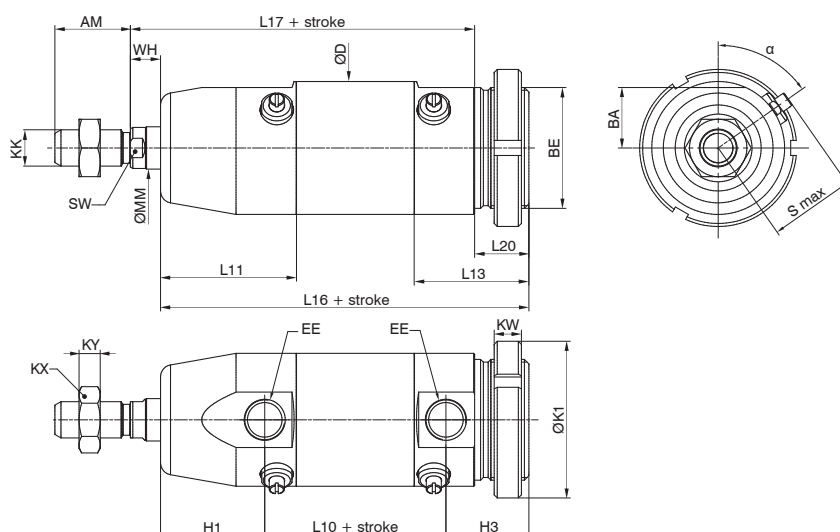
Cylinder type "B"



from Ø16 to Ø25



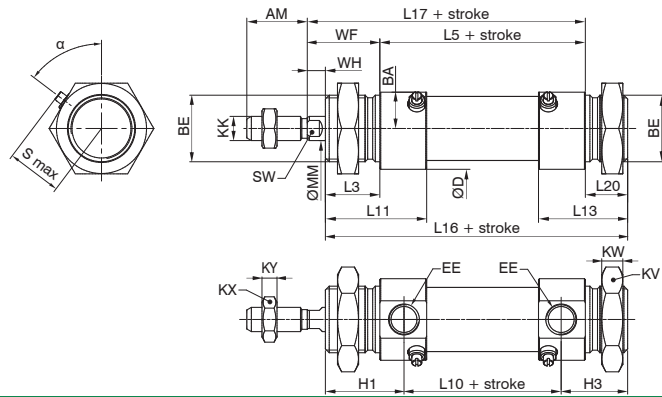
from Ø32 to Ø63



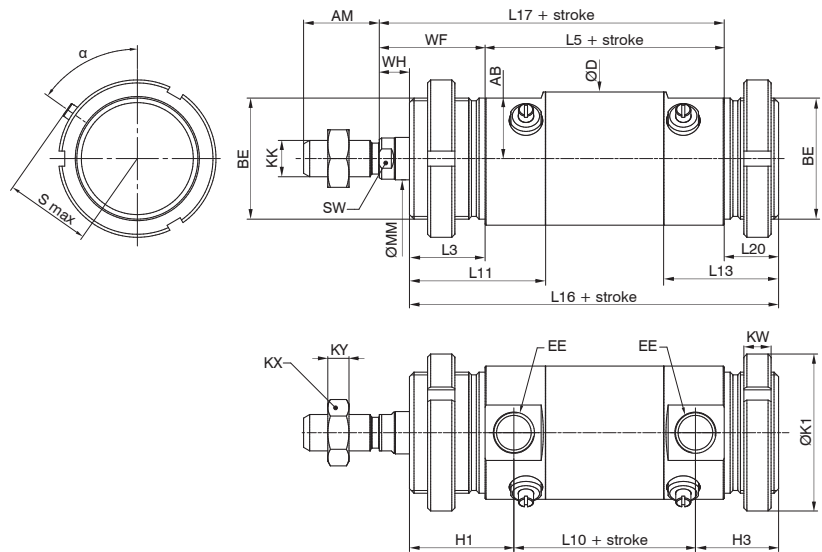
Cylinder type "C"



from Ø16 to Ø25



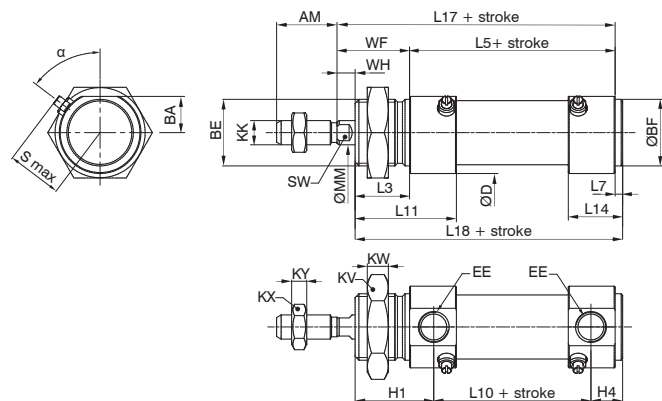
from Ø32 to Ø63



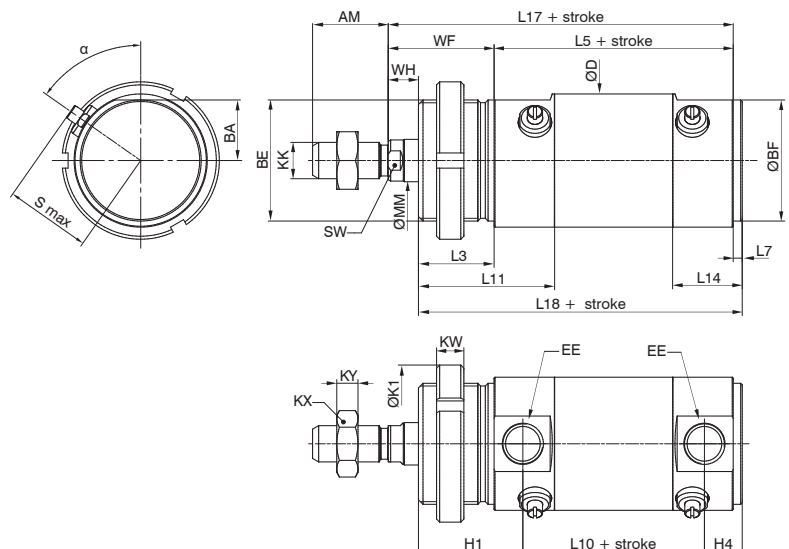
Cylinder type "D"



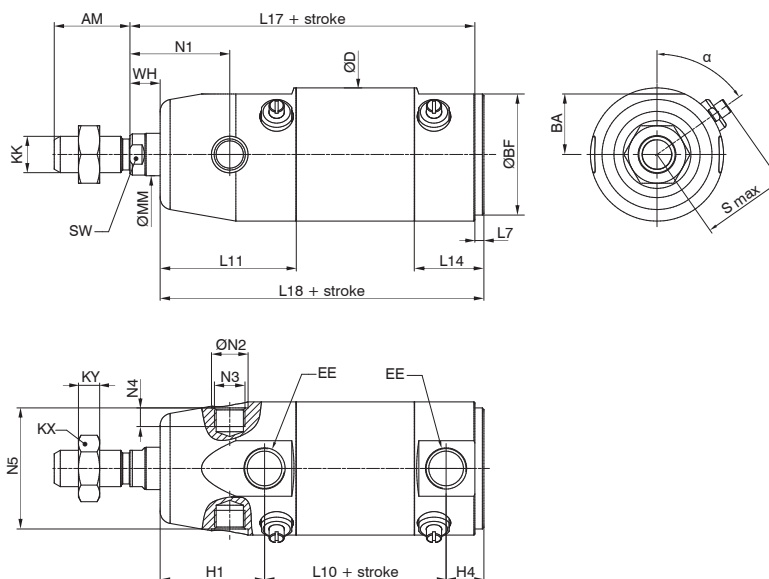
from Ø16 to Ø25



from Ø32 to Ø63

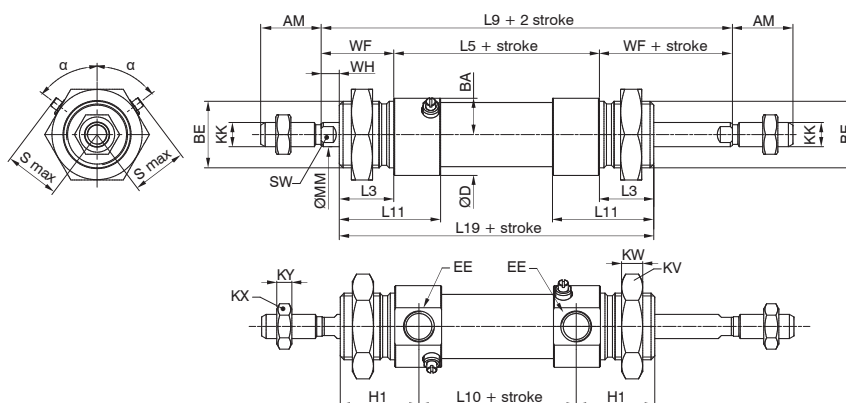


Cylinder type "E"

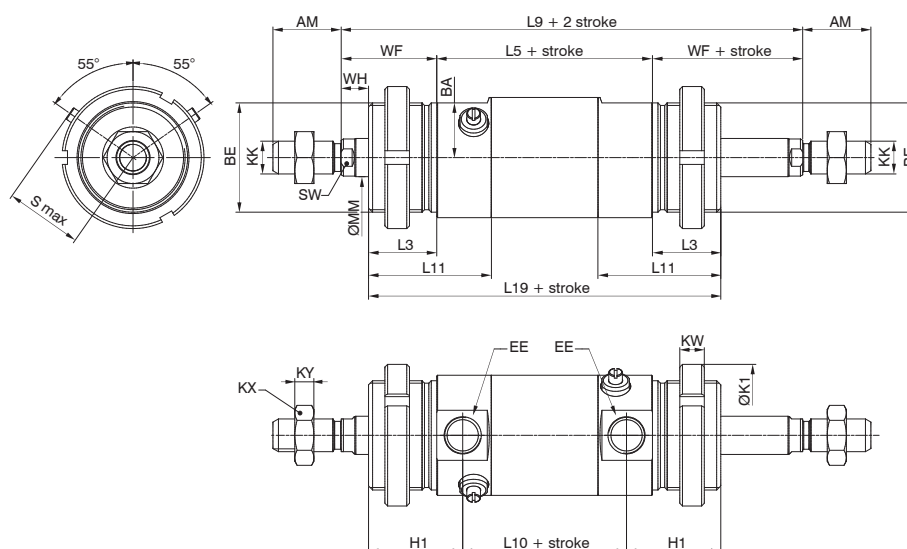


from Ø32 to Ø63

Cylinder type "S"



from Ø16 to Ø25

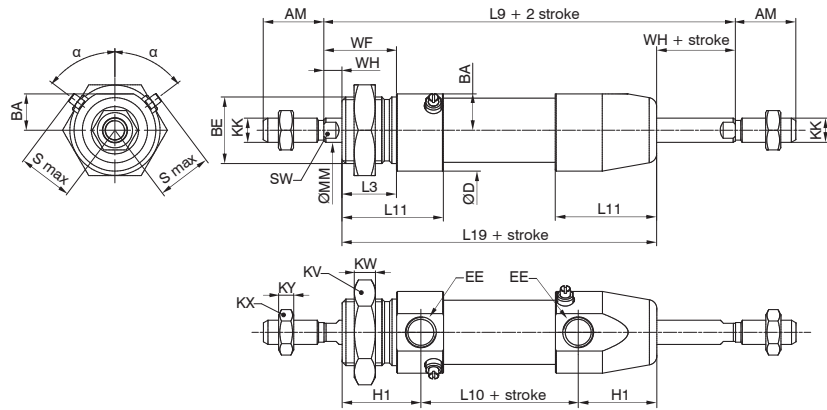


from Ø32 to Ø63

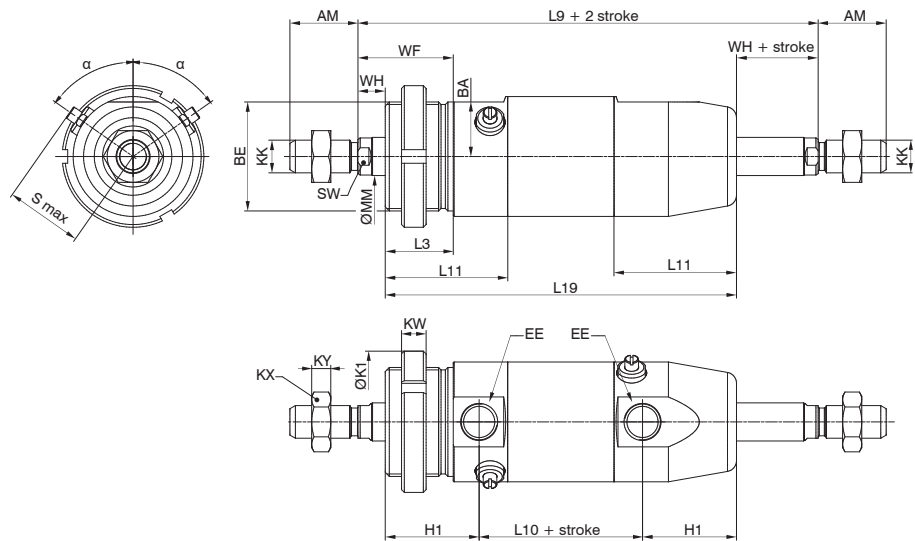
Cylinder type "T"



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 10mm	5	7	11	26	33	42	65
B		Stroke 0	150	310	410	666	1160	1700	3230
		every 10mm	5	7	11	26	33	42	65
C		Stroke 0	153	323	411	688	1200	1660	3060
		every 10mm	5	7	11	26	33	42	65
D		Stroke 0	129	267	359	580	1020	1460	2800
		every 10mm	5	7	11	26	33	42	65
E*		Stroke 0	/	/	/	558	960	1480	2930
		every 10mm	/	/	/	26	33	42	65

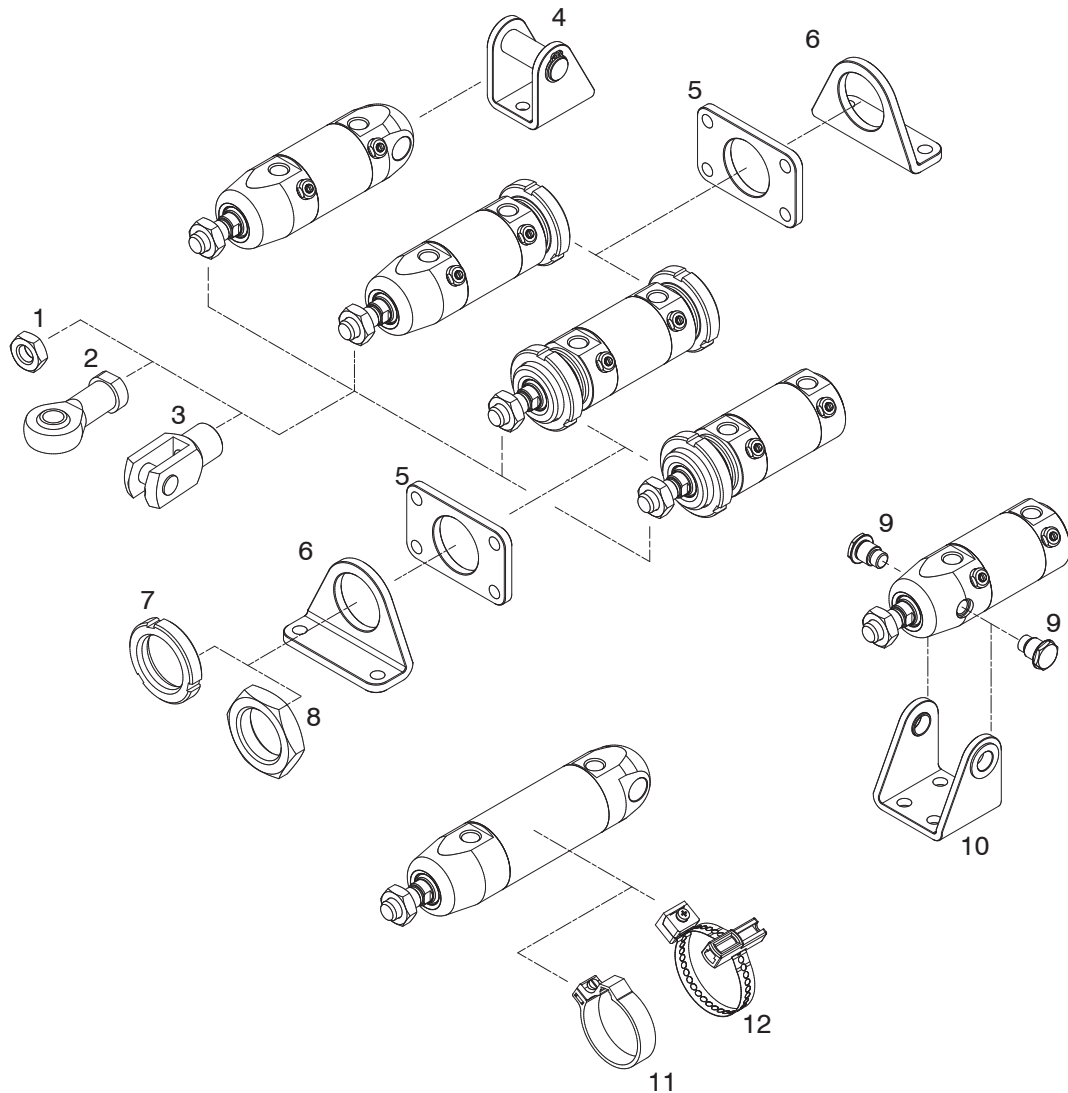
* Available only for Ø32 - Ø40 - Ø50 - Ø63

		Weight (g)							
Through rod cylinder version			Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
S		Stroke 0	172	350	465	745	1364	1793	3318
		every 10mm	5	7	11	26	33	42	90
T		Stroke 0	181	336	470	723	1299	1832	3483
		every 10mm	5	7	11	26	33	42	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 ¹⁰	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
S max.	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



3

PNEUMATIC ACTUATION

Position	Description	Coding	Materials
1	Rod lock nut	12X.0.11	Stainless steel AISI 316
2	Ball joint	12X.0.10	Stainless steel
3	Fork with pin	12X.0.04	Stainless steel
4	Rear clevis	12X.0.03	Stainless steel
5	Flange	12X.0.02	Stainless steel AISI 316
6	Foot	12X.0.01	Stainless steel AISI 316
7	Lock nut for the end cap (Ø32 ... Ø63)	12X.0.05	Stainless steel AISI 316
8	Nut for the endcap (Ø16 ... Ø25)	12X.0.05	Stainless steel AISI 316
9	Pin for front clevis (Ø32 ... Ø63)	12X.0.09	Stainless steel AISI 316
10	Front clevis (Ø32 ... Ø63)	12X.0.08	Stainless steel AISI 316
11	Sensor clamps cod. 1580_-, MRS_-, MHS_- (Ø16 ... Ø50)	12X.0.FS	Technopolymer
12	Sensor clamps cod. 1580_-, MRS_-, MHS_- (Ø16 ... Ø63)	12X.0.FSX	Stainless steel Technopolymer



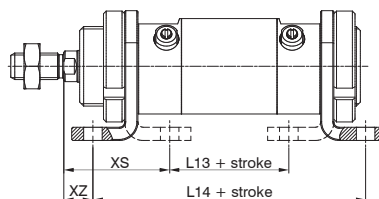
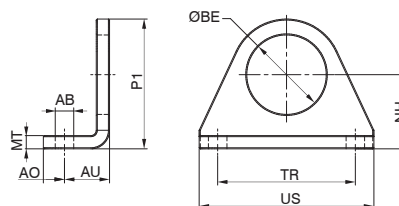
ISO 6432 Microbore cylinders Series 1200 Steel line - Fixing devices

Foot

Coding: 12X.Ø.01

Ø	BORE
16	Ø16
20	Ø20
25	Ø25
32	Ø32
40	Ø40
50	Ø50
63	Ø63

The kit comprises:
n° 1 foot (AISI 304)



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

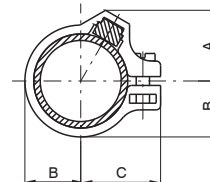
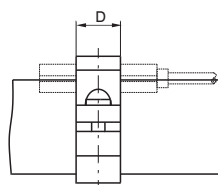
Used to mount the cylinder on the mounting plane with the rod parallel to said plane. Use one for short strokes and two for long strokes. It is made stamped stainless steel AISI 316.

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

Coding: 12X.Ø.FS

Ø	BORE
16	Ø16
20	Ø20
25	Ø25
32	Ø32
40	Ø40
50	Ø50

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



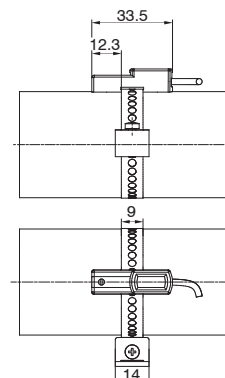
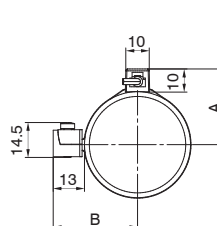
Bore	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50
A	14,5	16	17,5	20,5	22	29
B	10,5	12,5	15,3	20	24	29
C	16	18	20,5	26	30	35
D	10	10	10	10	10	10
Weight (g)	3	5	7	8	10	11

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

Coding: 12X.Ø.FSX

Ø	BORE
16	Ø16
20	Ø20
25	Ø25
32	Ø32
40	Ø40
50	Ø50
63	Ø63

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



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

Flange

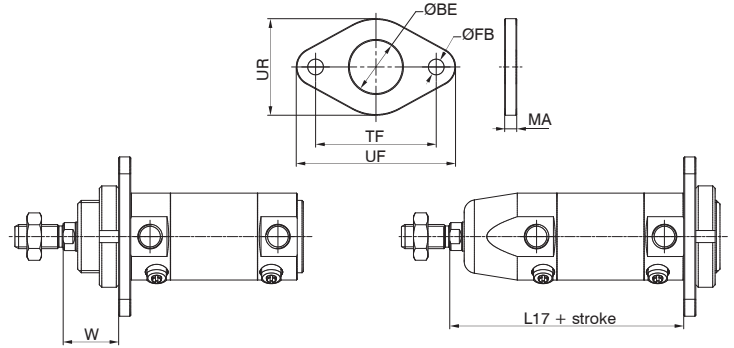
Coding: 12X.Ø.02

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50
63 = Ø63

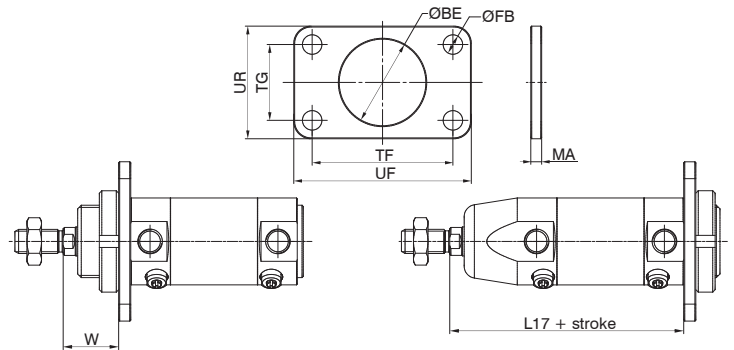
The kit comprises:
n° 1 flange (AISI 316)



(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.

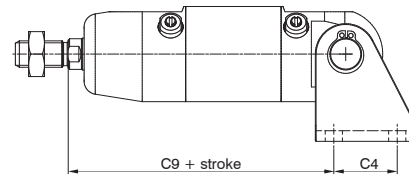
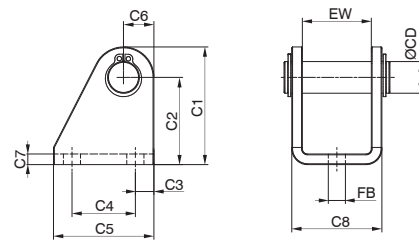
Bore	16	20	25	32	40	50	63
ØBE	16	22	22	30	40	40	45
ØFB (H13)	5.5	6.5	6.5	6.5	9	9	9
UF	53	66	66	66	82	82	96
UR	30	40	40	42	52	52	70
MA	4	5	5	5	5	5	6
TF (JS14)	40	50	50	52	65	65	76
TG	/	/	/	28	35	35	50
W (±1.4)	18	19	23	23	30	30	31
L17	78	92	97	97	114	117	143
Weight (g)	40	85	85	100	105	105	225

Rear clevis

Coding: 12X.Ø.03

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50
63 = Ø63

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

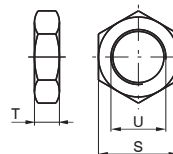
Rod lock nut

Coding: 12X.Ø.11

BORE
16 = Ø16
20 = Ø20
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50
63 = Ø63

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

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



Bore	S	T	U	Weight (g)
16	10	4	M6X1	3
20	13	5	M8X1,25	4
25	17	6	M10X1,25	9
32	17	6	M10X1,25	9
40	19	7	M12X1,75	12
50	19	7	M12X1,75	12
63	24	8	M16X1,5	21

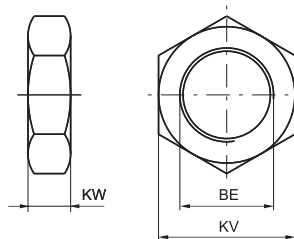
Nut for the endcap

Coding: 12X.Ø.05

BORE
16 = Ø16
20 = Ø20
25 = Ø25

The kit comprises:
n° 1 nut for the endcap (AISI 316)

Used to fasten flanges or feet to the endcaps of the microcylinder Mounted on diameters from 16 to 25. Supplied as standard (1 piece) with microcylinders.



Bore	BE	KV	KW	Weight (g)
16	M16x1,5	22	6	16
20	M22x1,5	30	7	25
25	M22x1,5	30	7	25

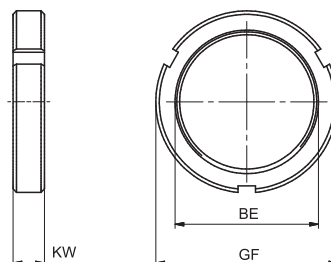
Lock nut for the end cap

Coding: 12X.Ø.05

BORE
32 = Ø32
40 = Ø40
50 = Ø50
63 = Ø63

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

Used to fasten flanges or feet to the endcaps of the microcylinder Mounted on diameters from 32 to 63. Supplied as standard (1 piece) with microcylinders.



Bore	BE	GF	KW	Weight (g)
32	M30x1,5	42	8	42
40	M40x1,5	52	9	62
50	M40x1,5	52	9	62
63	M45x1,5	60	10	100

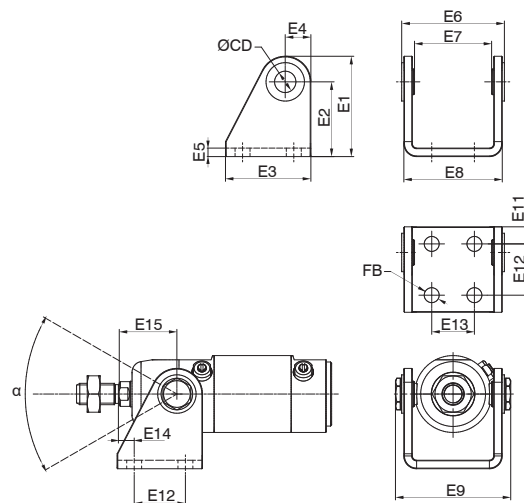
Front clevis

Coding: 12X.Ø.08

BORE
32 = Ø32
40 = Ø40
50 = Ø50
63 = Ø63

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.



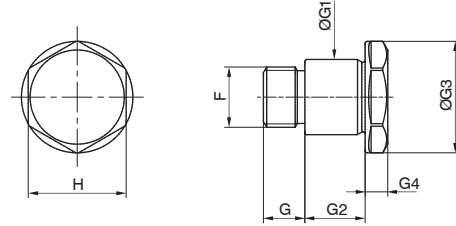
Bore	E2 (±0,2)	E3	E4	E5	E6	E7	E8	E9	E11	E12	E13	E14	E15	FB (H13)	ØCD	α	Weight (g)
32	35	40	12	4	48	36	46	54	8	24	20	7	27	7	10	50°	121
40	40	50	13	4	60	49	58	68	10	30	28	6	33	9	12	50°	175
50	45	54	14	6	74	54	72	84	10	34	36	10	40	9	14	50°	330
63	50	65	16	6	88	72	86	98	15	35	42	11	45	9	16	40°	458

Pin for front clevis

Coding: 12X.Ø.09

Ø	BORE
	32 = Ø32
	40 = Ø40
	50 = Ø50
	63 = Ø63

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



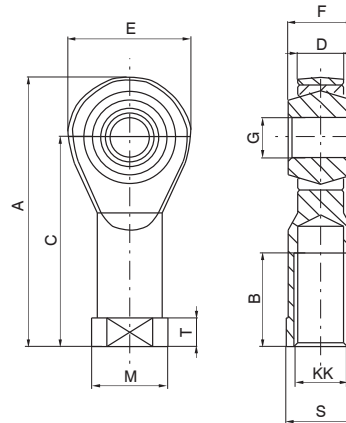
Bore	32	40	50	63
G	5,5	6	8,5	11
G1 (h7)	10	12	14	16
G2	8	10	12	12
G3	15	17	19	24
G4	3	4	5	5
F	M8X0,75	M10X1	M12X1	M14X1
H	13	15	17	21

Ball joint

Coding: 12X.Ø.10

Ø	BORE
	16 = Ø16
	20 = Ø20
	25 = Ø25
	32 = Ø32
	40 = Ø40
	50 = Ø50
	63 = Ø63

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.

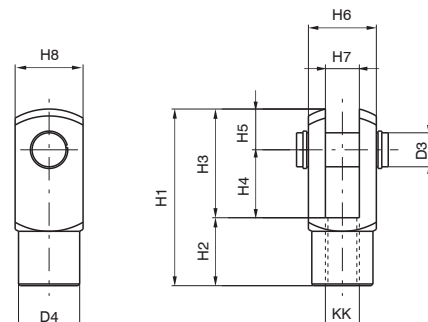
Bore	16	20	25	32	40	50	63
A	40	48	57	57	66	66	85
B	12	16	20	20	22	22	28
C	30	36	43	43	50	50	64
D	6,75	9	10,5	10,5	12	12	15
E	20	24	28	28	32	32	42
F	9	12	14	14	16	16	21
G (H 7)	6	8	10	10	12	12	16
KK	M6	M8	M10X1,25	M10X1,25	M12X1,75	M12X1,75	M16X1,5
M	13	16	19	19	22	22	27
S	11	14	17	17	19	19	22
T	5	5	6,5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

Fork with pin

Coding: 12X.Ø.04

Ø	BORE
	16 = Ø16
	20 = Ø20
	25 = Ø25
	32 = Ø32
	40 = Ø40
	50 = Ø50
	63 = Ø63

The kit comprises:
n° 1 fork (AISI 303)
n° 1 pin (AISI 316)
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