Series 1500 - Short stroke compact cylinders

General

Profiled tube has three "T" slots on the three sides hosting sensors 1500._, RS._, HS._.
without adaptors and with adaptor code 1380.01F codes 1580._, MRS._, MHS._.

A complete range of clamps makes them easy to install under any conditions.

It is interesting to note that as these cylinders (from Ø 32 to Ø 100) have anchoring holes with the same lead and thread as those of series 1320 ISO 6431, they accept all mountings except for the intermediate trunnion.

Construction characteristics

Body	anodised aluminium
Rod	C43 chromed steel (stainless steel for magnetic cylinder Ø20 and Ø25)
Piston	aluminium
Rod bushing	anodised aluminium
End cap	anodised aluminium
Seals	Standard: NBR oil resistant rubber, PUR piston rod seals (HNBR or FPM seals available upon request)

Operational 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

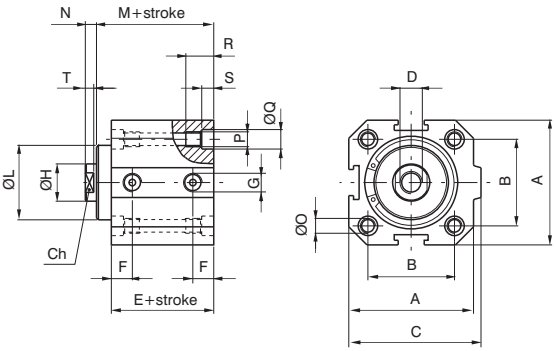
Double acting version
Series 1501, 1504, 1511, 1514, 1515, 1516, 1517 and 1518
for all bores from 5 to 50 mm every 5 mm.
On request are available strokes as follow:
Ø 20 and Ø25 up to stroke 250 mm
Ø 32 e Ø 40 up to stroke 300 mm
Ø 50 e Ø 63 up to stroke 350 mm
Ø 80 e Ø 100 up to stroke 400 mm

Single acting version
Series 1502, 1503, 1512 and 1513:
For all bores from 5 to 10 mm.
On request are available strokes up to 50 mm

Type with non-rotating device:
Ø 20 and Ø 25 from 5 to 40 mm every 5 mm.
Ø 32 and Ø 40 from 5 to 50 mm every 5 mm.
Ø 50 and Ø 63 from 5 to 60 mm every 5 mm.
Ø 80 and Ø 100 from 5 to 80 mm every 5 mm.

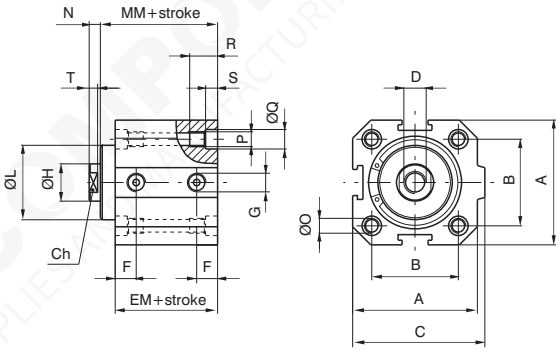
Double acting version

Ordering code
1501.Ø.stroke standard seals **1501.Ø.stroke.V** FPM seals **1501.Ø.stroke.T** HNBR seals



Double acting version with magnetic piston

Ordering code
1511.Ø.stroke standard seals **1511.Ø.stroke.V** FPM seals **1511.Ø.stroke.T** HNBR seals



Bore	20	25	32	40	50	63	80	100
A	35	41	48	57	67	80	100	120
B	26	28	32,5	38	46,5	56,5	72	89
C	39,5	44,5	52	61	71	84	106	126
D	M4x8	M5x10	M6x12	M10x15	M12x18	M12x18	M16x20	M16x20
E	29	30,5	32	33,5	35	38	44	47
EM	34	35,5	37	38,5	40	43	49	52
F	9	9,15	9,75	10,5	11	11,25	13,75	15,25
G	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 3/8"	G 3/8"
Ø H	8	10	12	16	20	20	25	25
Ø L $^{\pm 0,05}_{(-0,1 \text{ per Ø80 e Ø 100})}$	17	20,5	26	31	39	40	55	55
M	32	33	35,5	39,5	43	46	51,5	54,5
MM	37	38	40,5	44,5	48	51	56,5	59,5
N	4	4	4	5	6	6	8	8
Ø O	4,3	5,3	5,3	5,3	7	7	9	9
P	M5	M6	M6	M6	M8	M8	M10	M10
Ø Q	7,5	8,5	8,5	8,5	10,5	10,5	13,5	13,5
R	15	18	18	18	22	22	30	30
S	4,5	5,5	5,5	5,5	6,5	6,5	8,5	8,5
T	3	3	3	4	4,5	4,5	5,5	5,5
Ch	6	8	10	13	17	17	22	22

Non magnetic

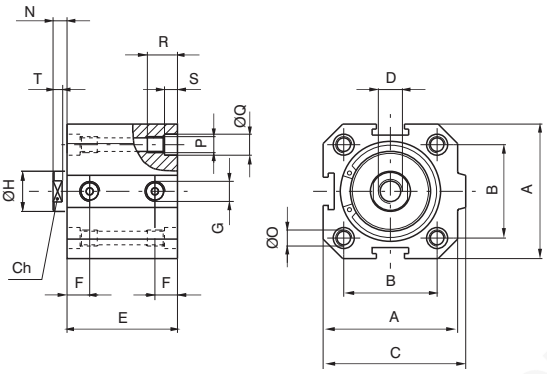
Weight	stroke 0	75	110	170	260	400	600	800	1500
g	every 10 mm.	20	30	40	60	80	100	120	145

Magnetic

Weight	stroke 0	90	130	200	310	460	700	910	1620
g	every 10 mm.	20	30	40	60	80	100	120	145

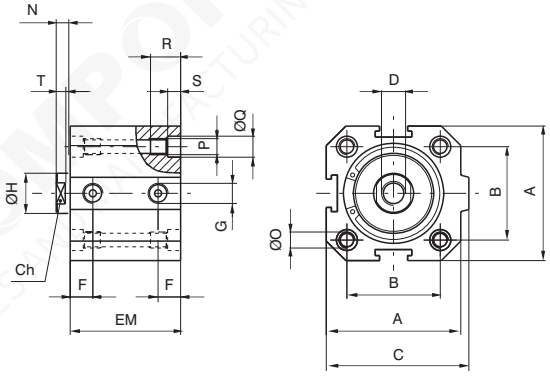
Single acting version with front spring

Ordering code
1502.Ø.stroke standard seals **1502.Ø.stroke.V** FPM seals **1502.Ø.stroke.T** HNBR seals



Single acting version front spring with magnetic piston

Ordering code
1512.Ø.stroke standard seals **1512.Ø.stroke.V** FPM seals **1512.Ø.stroke.T** HNBR seals



Bore		20	25	32	40	50	63	80	100
A		35	41	48	57	67	80	100	120
B		26	28	32,5	38	46,5	56,5	72	89
C		39,5	44,5	52	61	71	84	106	126
D		M4X8	M5X10	M6X12	M10X15	M12X18	M12X18	M16X20	M16X20
E	stroke 5	29	30,5	32	33,5	35	38	44	47
	stroke 10	34	35,5	37	38,5	40	43	49	52
EM	stroke 5	34	35,5	37	38,5	40	43	49	52
	stroke 10	39	40,5	42	43,5	45	48	54	57
F		9	9,15	9,75	10,5	11	11,25	13,75	15,25
G		G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 3/8"	G 3/8"
Ø H		8	10	12	16	20	20	25	25
N		4	4	4	5	6	6	8	8
Ø O		4,3	5,3	5,3	5,3	7	7	9	9
P		M5	M6	M6	M6	M8	M8	M10	M10
Ø Q		7,5	8,5	8,5	8,5	10,5	10,5	13,5	13,5
R		15	18	18	18	22	22	30	30
S		4,5	5,5	5,5	5,5	6,5	6,5	8,5	8,5
T		3	3	3	4	4,5	4,5	5,5	5,5
Ch		6	8	10	13	17	17	22	22

Non magnetic

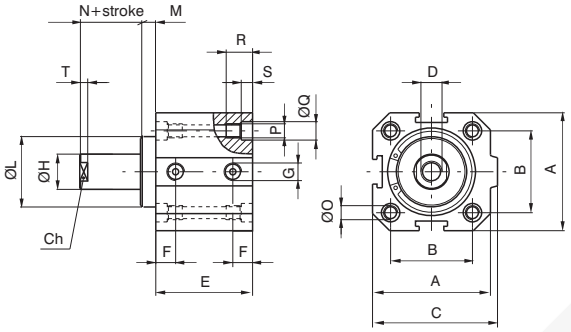
Weight	stroke 5	70	105	160	250	370	550	750	1440
g	stroke 10	80	120	180	280	410	600	810	1500

Magnetic

Weight	stroke 5	85	125	190	300	430	650	860	1560
g	stroke 10	95	140	210	330	470	700	920	1620

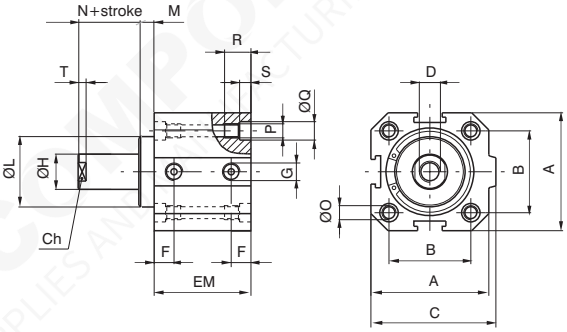
Single acting version with rear spring

Ordering code
1503.Ø.stroke standard seals **1503.Ø.stroke.V** FPM seals **1503.Ø.stroke.T** HNBR seals



Single acting version rear spring with magnetic piston

Ordering code
1513.Ø.stroke standard seals **1513.Ø.stroke.V** FPM seals **1513.Ø.stroke.T** HNBR seals



Bore		20	25	32	40	50	63	80	100
A		35	41	48	57	67	80	100	120
B		26	28	32,5	38	46,5	56,5	72	89
C		39,5	44,5	52	61	71	84	106	126
D		M4X8	M5X10	M6X12	M10X15	M12X18	M12X18	M16X20	M16X20
E	stroke 5	29	30,5	32	33,5	35	38	44	47
	stroke 10	34	35,5	37	38,5	40	43	49	52
EM	stroke 5	34	35,5	37	38,5	40	43	49	52
	stroke 10	39	40,5	42	43,5	45	48	54	57
F		9	9,15	9,75	10,5	11	11,25	13,75	15,25
G		G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 3/8"	G 3/8"
Ø H		8	10	12	16	20	20	25	25
Ø L $\pm 0,05$ ($^{0}_{-0,1}$ per Ø80 e Ø 100)		17	20,5	26	31	39	40	55	55
M		3	2,5	3,5	6	8	8	7,5	7,5
N		4	4	4	5	6	6	8	8
Ø O		4,3	5,3	5,3	5,3	7	7	9	9
P		M5	M6	M6	M6	M8	M8	M10	M10
Ø Q		7,5	8,5	8,5	8,5	10,5	10,5	13,5	13,5
R		15	18	18	18	22	22	30	30
S		4,5	5,5	5,5	5,5	6,5	6,5	8,5	8,5
T		3	3	3	4	4,5	4,5	5,5	5,5
Ch		6	8	10	13	17	17	22	22

Non magnetic

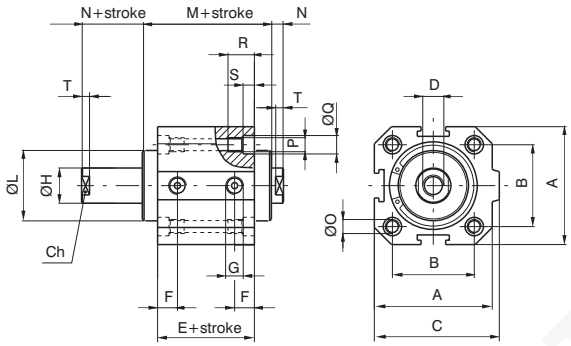
Weight	stroke 5	70	105	160	250	370	550	750	1440
g	stroke 10	80	120	180	280	410	600	810	1500

Magnetic

Weight	stroke 5	85	125	190	300	430	650	860	1560
g	stroke 10	95	140	210	330	470	700	920	1620

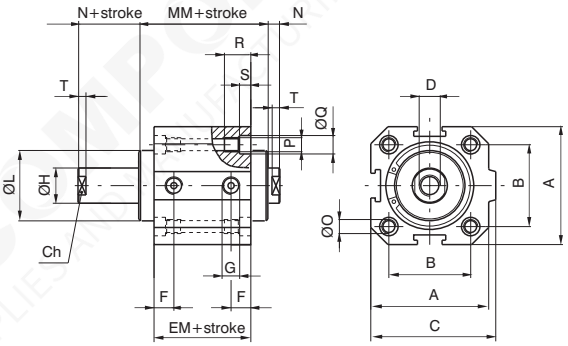
Double acting through rod cylinder version

Ordering code
1504.Ø.stroke standard seals **1504.Ø.stroke.V** FPM seals **1504.Ø.stroke.T** HNBR seals



Double acting through rod cylinder version with magnetic piston

Ordering code
1514.Ø.stroke standard seals **1514.Ø.stroke.V** FPM seals **1514.Ø.stroke.T** HNBR seals



Bore	20	25	32	40	50	63	80	100
A	35	41	48	57	67	80	100	120
B	26	28	32,5	38	46,5	56,5	72	89
C	39,5	44,5	52	61	71	84	106	126
D	M4X8	M5X10	M6X12	M10X15	M12X18	M12X18	M16X20	M16X20
E	29	30,5	32	33,5	35	38	44	47
EM	34	35,5	37	38,5	40	43	49	52
F	9	9,15	9,75	10,5	11	11,25	13,75	15,25
G	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 3/8"	G 3/8"
Ø H	8	10	12	16	20	20	25	25
Ø L $\pm 0{,}05$ ($^{0}_{-0{,}1}$ per Ø80 e Ø 100)	17	20,5	26	31	39	40	55	55
M	35	35,5	39	45,5	51	54	59	62
MM	40	40,5	44	50,5	56	59	64	67
N	4	4	4	5	6	6	8	8
Ø O	4,3	5,3	5,3	5,3	7	7	9	9
P	M5	M6	M6	M6	M8	M8	M10	M10
Ø Q	7,5	8,5	8,5	8,5	10,5	10,5	13,5	13,5
R	15	18	18	18	22	22	30	30
S	4,5	5,5	5,5	5,5	6,5	6,5	8,5	8,5
T	3	3	3	4	4,5	4,5	5,5	5,5
Ch	6	8	10	13	17	17	22	22

Non magnetic

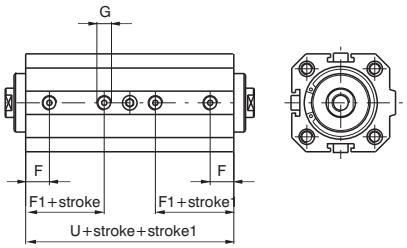
Weight	stroke 0	90	130	200	320	460	670	1100	1680
g	every 10 mm.	20	35	50	70	90	110	155	185

Magnetic

Weight	stroke 0	105	160	240	380	530	740	1210	1820
g	every 10 mm.	20	35	50	70	90	110	155	185

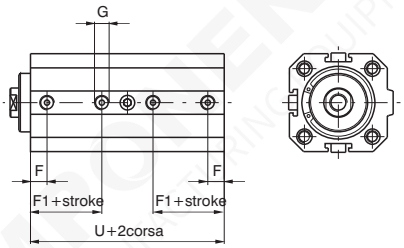
Tandem with opposed rods

Ordering code
1515.Ø.stroke.stroke 1 standard seals **1515.Ø.stroke.stroke 1.V** FPM seals **1515.Ø.stroke.stroke 1.T** HNBR seals **1515.Ø.stroke.stroke 1.M** standard seals, magnetic piston **1515.Ø.stroke.stroke 1.MV** FPM seals, magnetic piston **1515.Ø.stroke.stroke 1.MT** HNBR seals, magnetic piston



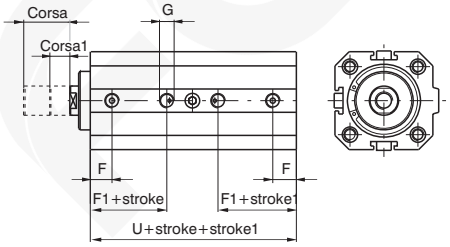
Tandem push with common rods

Ordering code
1516.Ø.stroke standard seals **1516.Ø.stroke.V** FPM seals **1516.Ø.stroke.T** HNBR seals **1516.Ø.stroke.M** standard seals, magnetic piston **1516.Ø.stroke.MV** FPM seals, magnetic piston **1516.Ø.stroke.MT** HNBR seals, magnetic piston



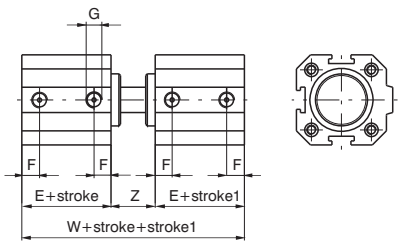
Tandem push with independent rods

Ordering code
1517.Ø.stroke.stroke 1 standard seals **1517.Ø.stroke.stroke 1.V** FPM seals **1517.Ø.stroke.stroke 1.T** HNBR seals **1517.Ø.stroke.stroke 1.M** standard seals, magnetic piston **1517.Ø.stroke.stroke 1.MV** FPM seals, magnetic piston **1517.Ø.stroke.stroke 1.MT** HNBR seals, magnetic piston



Opposed tandem with common rods

Ordering code
1518.Ø.stroke.stroke 1 standard seals **1518.Ø.stroke.stroke 1.V** FPM seals **1518.Ø.stroke.stroke 1.T** HNBR seals **1518.Ø.stroke.stroke 1.M** standard seals, magnetic piston **1518.Ø.stroke.stroke 1.MV** FPM seals, magnetic piston **1518.Ø.stroke.stroke 1.MT** HNBR seals, magnetic piston



Bore	20	25	32	40	50	63	80	100
E	29	30,5	32	33,5	35	38	44	47
F	9	9,15	9,75	10,5	11	11,25	13,75	15,25
F1	17,5	18,35	19,75	20,5	21,5	24,25	24,75	26,25
G	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 3/8"	G 3/8"
U	59	60,5	67	68,5	70	78	89	97
W	72	74	79	89	98	104	119	125
Z	14	13	15	22	28	28	31	31

Variations with magnetic piston

E	34	35,5	37	38,5	40	43	49	52
F1	22,5	23,35	24,75	25,5	26,5	29,25	29,75	31,25
U	69	70,5	77	78,5	80	88	99	107
W	82	84	89	99	108	114	129	135

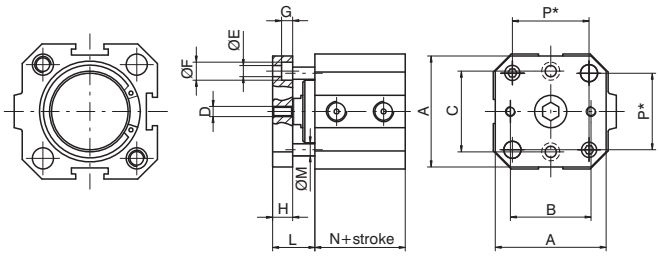
Double acting version

Ordering code
1501.Ø.stroke.AR standard seals **1501.Ø.stroke.AR.V** FPM seals **1501.Ø.stroke.AR.T** HNBR seals

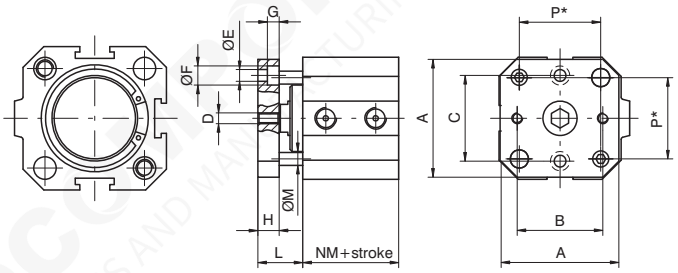
Double version with magnetic piston

Ordering code
1511.Ø.stroke.AR standard seals **1511.Ø.stroke.AR.V** FPM seals **1511.Ø.stroke.AR.T** HNBR seals

Cylinders with non-rotating device



* = Distance between rods centres



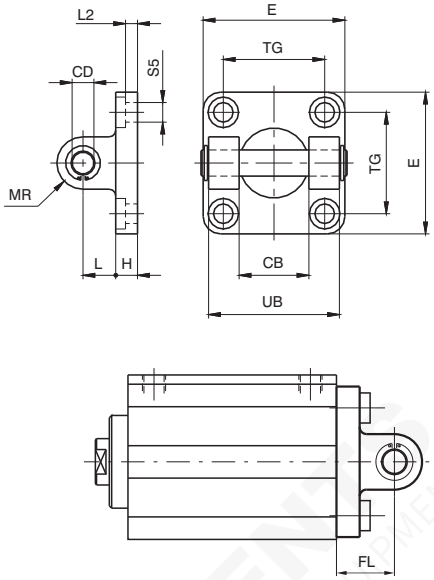
* = Distance between rods centres

It is possible, upon request to have four holes threaded and with counter bores in order to rear mount the cylinder as if it was standard.

Bore		20	25	32	40	50	63	80	100
A		35	40	45	55	65	80	100	120
B		22	26	32	40	50	62	82	103
C		22	28	34	40	50	62	82	103
D		M4	M5	M5	M5	M6	M6	M8	M8
Ø E		4,5	5,5	5,5	5,5	6,5	8,5	8,5	8,5
Ø F		7,5	9	9	9	10,5	13,5	13,5	13,5
G		4,5	5,5	5,5	5,5	6,5	8,5	8,5	8,5
H		8	8	10	10	12	12	15	15
L		15	14,5	17,5	21	26	26	30,5	30,5
Ø M		6	6	6	6	8	8	10	10
N		29	30,5	32	33,5	35	38	44	47
NM		34	35,5	37	38,5	40	43	49	52
P		26	28	32,5	38	46,5	56,5	72	89
Max. suggestion stroke		40	40	50	50	60	60	80	80
Weight	stroke 0	40	50	70	90	200	250	490	650
g		5	5	5	5	10	10	20	20

Rear clevis

Ordering code
1500.Ø.09F

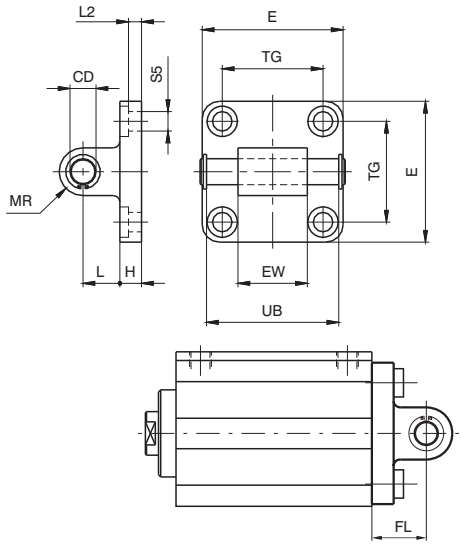


This allows anchorage of the cylinder both parallel and at a right angle to the plane; the cylinder rod can oscillate and self-align as necessary. It is made of aluminium alloy and painted black.

Bore	20	25	32	40	50	63	80	100
CB (h 9)	16	20	26	28	32	40	50	60
CD (H 9)	8	10	10	12	12	16	16	20
E	35	40	45	52	65	75	95	115
H	6	8	9	9	11	11	14	14
L	12	12	13	16	16	21	22	27
MR	8	9	10	12	12	16	16	20
TG	26	28	32,5	38	46,5	56,5	72	89
UB	35	40	45	52	60	70	90	110
FL	18	20	22	25	27	32	36	41
L2	/	/	5,5	5,5	6,5	6,5	10	10
S5 (H13)	5,5	6,6	6,6	6,6	9	9	11	11
Weight g	45	75	80	130	185	310	530	910

Rear clevis male

Ordering code
1500.Ø.09/1F

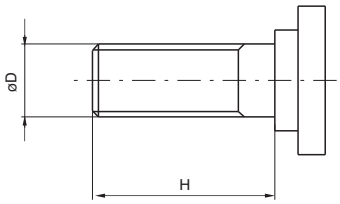


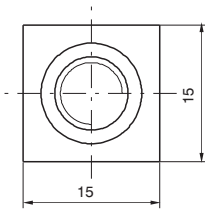
This allows anchorage of the cylinder both parallel and at a right angle to the plane; the cylinder rod can oscillate and self-align as necessary. It is made of aluminium alloy and painted black.

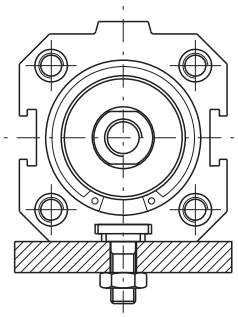
	Bore	20	25	32	40	50	63	80	100
	CD (h 9)	8	10	10	12	12	16	16	20
	E	35	40	45	52	65	75	95	115
	EW	16	20	26	28	32	40	50	60
	H	6	8	9	9	11	11	14	14
	L	12	12	13	16	16	21	22	27
	MR	8	9	10	12	12	16	16	20
	TG	26	28	32,5	38	46,5	56,5	72	89
	UB	35	40	46	53	61	71	91	111
	FL	18	20	22	25	27	32	36	41
	L2	/	/	5,5	5,5	6,5	6,5	10	10
	S5 (H 13)	5,5	6,6	6,6	6,6	9	9	11	11
every 10 mm	Weight g	53	85	90	130	190	340	580	960

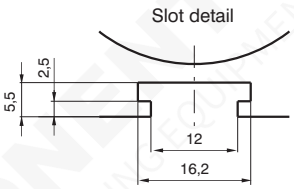
Slot fixing screws

Ordering code
1500.15F (from Ø20 to Ø32) **1500.16F** (from Ø40 to Ø63) **1500.18F** (Ø80 and Ø100)







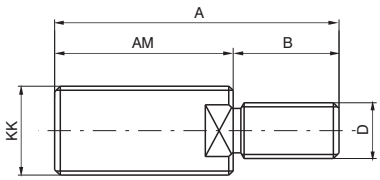


Example mounted with square headed screws on the plane.

Bore	20	25	32	40	50	63	80	100
ØD	M6	M6	M6	M8	M8	M8	M10	M10
H	15	15	15	20	20	20	25	25
Weight g	10			18			25	

Nipple with ISO standard thread

Ordering code
1500.Ø.17F



Fitted on the female thread of the compact cylinders, restore the ISO configurations rod (ISO 6432 for cylinders Ø 20 and Ø 25; ISO 6431 for cylinders from Ø 32 to Ø 100).

Bore	20	25	32	40	50	63	80	100
KK	M8x1,25	M10x1,25	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
AM	20	22	22	24	32	32	40	40
A	26	30	32	36	47	47	58	58
B	6	8	10	12	15	15	18	18
D	M4	M5	M6	M10	M12	M12	M16	M16
Weight g	8	15	16	27	65	65	110	110