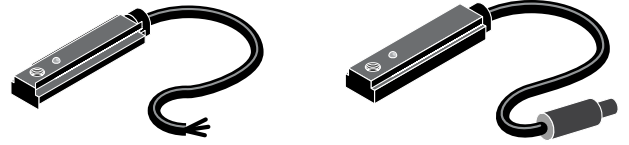
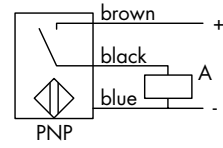


Compact Cylinder Sensors

Electronic Type Sensors



Length of over travelling:	Depending on magnetic field and fitting position
Hysteresis:	Depending on magnetic field and fitting position
Cable:	3 x 0.14 mm ²
Operating voltage:	10 - 30 VDC
Residual ripple:	< 10 % of UB
Internal power consumption:	10 mA without load
Collector resistor:	Integrated
Switching current:	Max. 130 mA (at +25°C)
Switchable parallel capacity:	≤ 0.01 μF
Voltage drop:	≤ 3 V at I _a = 130 mA
Switching rate:	2 kHz
Ambient temperature range:	-5°C to +70°C
Contact type:	PNP (N.O.)
Cross connection protection:	Integrated
Short circuit protection:	Integrated
Protection class:	IP67
Status indicator:	LED
Housing material:	Plastic

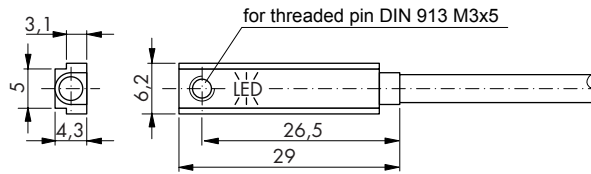


Code	Description
33.19.300	with cable L = 2500 mm
33.19.400	plug M8, cable L = 300 mm

Dimensional drawings

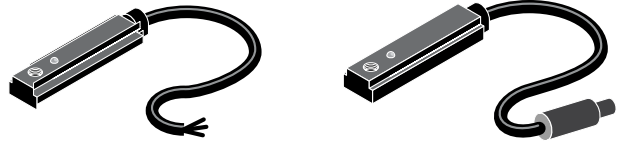
M8 connecting leads

Code	Description
PL08B3.V250.30	cable L = 3000 mm
PL08B3.V250.50	cable L = 5000 mm



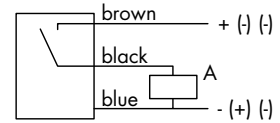
Compact Cylinder Sensors

REED Type Sensors 2 & 3 Wires



Position Transmitter REED (3 wires)

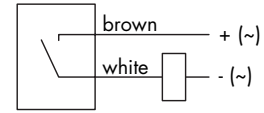
Switching output:	Closing contact
Cable:	3 x 0.14 mm ²
Switching capacity:	Max. 2 VA/W
Switching voltage:	10 - 30 V AC/DC
Switching current:	Max. 100 mA
Power consumption:	ON: typ. 12 mA at 30 V DC
Switching time:	1 ms
Drop-out time:	0.05 ms
Switching rate:	Max. 200 Hz
Service life:	10 ⁶ to 10 ⁷ switchings, depending on the load
Temperature range:	-5°C to +70°C
Protection class:	IP67
Status indicator:	LED
Housing material:	Plastic



Code	Description
33.19.100	with cable L = 2500 mm
33.19.200	plug M8, cable L = 300 mm

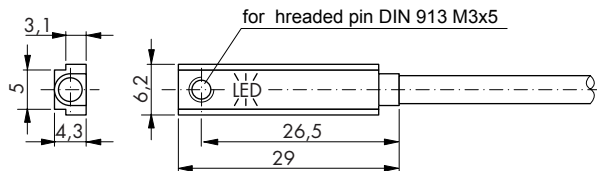
Position Transmitter REED (2 wires)

Switching output:	Closing contact
Cable:	2 x 0.14 mm ²
Switching capacity:	Max. 0.9 VA/W
Switching voltage:	10 - 30 V AC/DC
Switching current:	Max. 30 mA
Power consumption:	ON: typ. 12 mA at 30 V DC Switching time: 1 ms
Drop-out time:	0.05 ms
Switching rate:	Max. 200 Hz
Service life:	10 ⁶ to 10 ⁷ switchings, depending on the load
Temperature range:	-5°C to +70°C
Protection class:	IP67
Status indicator:	LED
Housing material:	Plastic



Code	Description
33.19.130	with cable L = 2500 mm
33.19.140	plug M8, cable L = 300 mm

Dimensional drawings



M8 connecting leads

Code	Description
PL08B3.V250.30	cable L = 3000 mm
PL08B3.V250.50	cable L = 5000 mm

Compact Pneumatic Cylinder

Double Acting Ø 12mm - 25mm


Technical information

(Female Threaded Rod)

Operating pressure:	Max. 10 bar
Temperature range:	-20°C...+80°C
Housing/end caps:	Aluminium tube/die-cast aluminium.
Rod:	Stainless steel.
Seals:	PUR (Viton upon request)
Lubricant:	Not required.
Operating medium:	5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.704.XXX
Sensors are available for this product, see data sheets TX1000/TX1001.
Mountings are available for this product, see data sheets MS1000/MS1002/MS1003.

Piston dia. mm	Stroke mm	D	D1	D2	D3	E1	F	F1	H	H1	H2	L	L1	L2	SW	T	Pe min./ bar
12	5 - 200	6	3,5	M4	M3	M5	8	30	38	42,5	18,5	29	18	30	5	6	1
16	5 - 200	8	3,5	M4	M4	M5	8	30	38	42,5	18,5	29	18	30	7	8	1
20	5 - 200	10	4,5	M5	M5	M5	8	30	38	42,5	18,5	36	22	37,5	8	10	1
25	5 - 200	10	4,5	M5	M5	M5	8	31,5	39,5	45	18,5	40	26	41,5	8	10	1

Dimensional drawings & ordering information

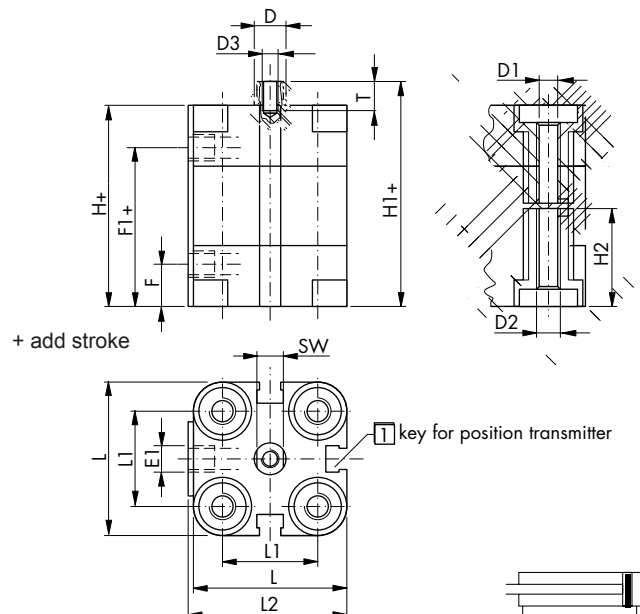
Minimum/maximum strokes apply, see table.

To order:	19.704.XXX	12mm bore + stroke (Magnetic)
	19.804.XXX	16mm bore + stroke (Magnetic)
	19.904.XXX	20mm bore + stroke (Magnetic)
	19.004.XXX	25mm bore + stroke (Magnetic)

Non-magnetic versions are also available for example 19.X06.XXX

Seal kits (without magnet).

Order code: 19.708.11	12mm bore
Order code: 19.808.11	16mm bore
Order code: 19.908.11	20mm bore
Order code: 19.008.11	25mm bore



Technical Data:

Piston dia. mm	Forward force 6 bar	
	$N_{max.}$	$N_{max.}$
12	68	51
16	121	91
20	188	140
25	295	247

Compact Pneumatic Cylinder

Double Acting Ø 12mm - 25mm

Technical information

(Male Threaded Rod)

Operating pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:



For ATEX certification use code "X" for example 19.X.794.XXX
Sensors are available for this product, see data sheets TX1000TX1001.
Mountings are available for this product, see data sheets MS1000/MS1002/MS1003/MS1004.

Piston dia. mm	Stroke mm	AM	KK	AM	D1	D2	E1	F	F1	H	H1	H2	L	L1	L2	SW	Pe min./ bar
12	5 - 200	16	M6	16	3,5	M4	M5	8	30	38	42,5	18,5	29	18	30	5	1
16	5 - 200	20	M8	20	3,5	M4	M5	8	30	38	42,5	18,5	29	18	30	7	1
20	5 - 200	22	M10x1,25	22	4,5	M5	M5	8	30	38	42,5	18,5	38	22	37,5	8	1
25	5 - 200	22	M10x1,25	22	4,5	M5	M5	8	31,5	39,5	45	18,5	40	26	41,5	8	1

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: 19.794.XXX 12mm bore + stroke (Magnetic)
19.894.XXX 16mm bore + stroke (Magnetic)
19.994.XXX 20mm bore + stroke (Magnetic)
19.094.XXX 25mm bore + stroke (Magnetic)

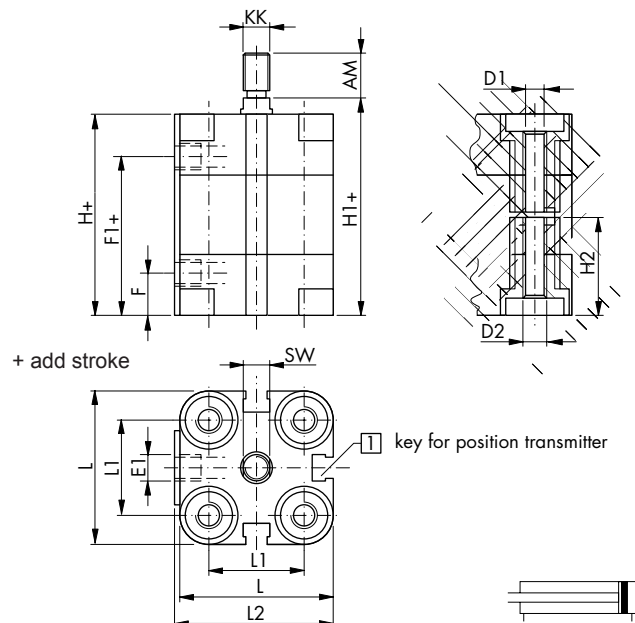
Non-magnetic versions are also available for example 19.X96.XXX

Seal kits (without magnet).

Order code: 19.708.11 12mm bore
Order code: 19.808.11 16mm bore
Order code: 19.908.11 20mm bore
Order code: 19.008.11 25mm bore

Technical Data:

Piston dia. mm	Forward force		Return force	
	6 bar N _{max.}	6 bar N _{max.}	6 bar N _{max.}	6 bar N _{max.}
12	68	51	51	68
16	121	91	91	121
20	188	140	140	188
25	295	247	247	295



Compact Pneumatic Cylinder

Double Acting Ø 32mm - 100mm


Technical information

(Female Threaded Rod)

Operating Pressure:	Max. 10 bar
Temperature range:	-20°C...+80°C
Housing/end caps:	Aluminium tube/die-cast aluminium.
Rod:	Stainless steel.
Seals:	PUR (Viton upon request)
Lubricant:	Not required.
Operating medium:	5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.104.XXX
Sensors are available for this product, see data sheets TX1000/TX1001.
Mountings are available for this product, see data sheets MS1001/MS1002/MS1003.

Piston dia. mm	Stroke mm	D	D1	D2	D3	E1	F	F1	H	H1	H2	L	L1	L2	SW	T	Pe min./ bar
32	5 - 300	12	5,5	M6	M6	G1/8	8	36,5	44,5	50,5	21,5	50	32	52	10	12	0,6
40	5 - 300	12	5,5	M6	M6	G1/8	8	37,5	45,5	52	21,5	60	42	62,5	10	12	0,6
50	10 - 300	16	6,5	M8	M8	G1/8	8	37,5	45,5	53	22	68	50	71	13	12	0,6
63	10 - 300	16	8,5	M10	M8	G1/8	8	42	50	57,5	24,5	87	62	91	13	12	0,6
80	10 - 400	20	8,5	M10	M10	G1/8	8,5	47,5	56	64	27,5	107	82	111	17	16	0,6
100	10 - 400	25	8,5	M10	M12	G1/4	10,5	56	66,5	76,5	32,5	128	103	133	22	20	0,6

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order:	19.104.XXX	32mm bore + stroke (Magnetic)
	19.204.XXX	40mm bore + stroke (Magnetic)
	19.304.XXX	50mm bore + stroke (Magnetic)
	19.404.XXX	63mm bore + stroke (Magnetic)
	19.504.XXX	80mm bore + stroke (Magnetic)
	19.604.XXX	100mm bore + stroke (Magnetic)

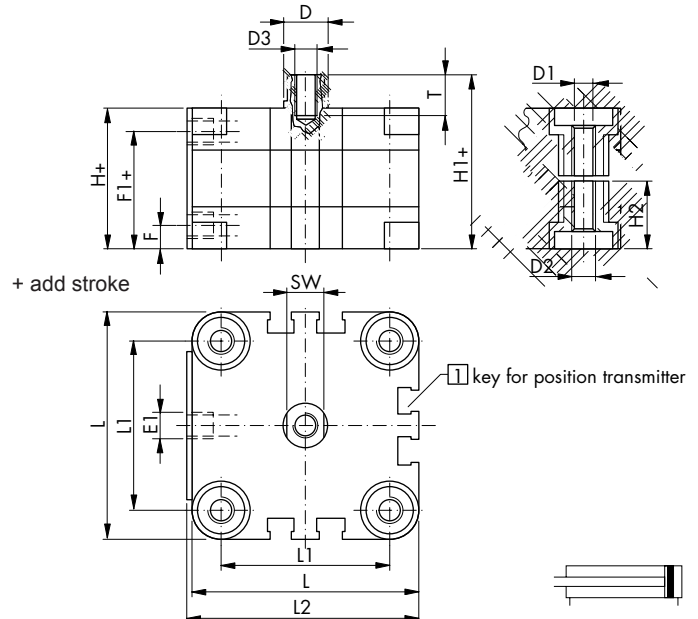
Non-magnetic versions are also available for example 19.X06.XXX

Seal kits (without magnet).

Order code: 19.108.11	32mm bore
Order code: 19.208.11	40mm bore
Order code: 19.308.11	50mm bore
Order code: 19.408.11	63mm bore
Order code: 19.508.11	80mm bore
Order code: 19.608.11	100mm bore

Technical Data:

Piston dia. mm	Forward force 6 bar	
	$N_{max.}$	$N_{max.}$
32	483	415
40	754	686
50	1178	1057
63	1870	1749
80	3016	2828
100	4712	4418



Compact Pneumatic Cylinder

Double Acting Ø 32mm - 100mm


Technical information

(Male Threaded Rod)



Operating Pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.

Other information:

 For ATEX certification use code "X" for example 19.X.194.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1001/MS1002/MS1003/MS1004.

Piston dia. mm	Stroke mm	AM	KK	AM	D1	D2	E1	F	F1	H	H1	H2	L	L1	L2	SW	Pe min./ bar
32	5 - 300	22	M10x1,25	22	5,5	M6	G1/8	8	36,5	44,5	50,5	21,5	50	32	52	10	0,6
40	5 - 300	22	M10x1,25	22	5,5	M6	G1/8	8	37,5	45,5	52	21,5	60	42	62,5	10	0,6
50	10 - 400	24	M12x1,25	24	6,5	M8	G1/8	8	37,5	45,5	53	22	68	50	71	13	0,6
63	10 - 400	24	M12x1,25	24	8,5	M10	G1/8	8	42	50	57,5	24,5	87	62	91	13	0,6
80	10 - 400	32	M16x1,5	32	8,5	M10	G1/8	8,5	47,5	56	64	27,5	107	82	111	17	0,6
100	10 - 400	40	M20x1,5	40	8,5	M10	G1/4	10,5	56	66,5	76,5	32,5	128	103	133	22	0,6

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: **19.194.XXX** 32mm bore + stroke (Magnetic)
19.294.XXX 40mm bore + stroke (Magnetic)
19.394.XXX 50mm bore + stroke (Magnetic)
19.494.XXX 63mm bore + stroke (Magnetic)
19.594.XXX 80mm bore + stroke (Magnetic)
19.694.XXX 100mm bore + stroke (Magnetic)

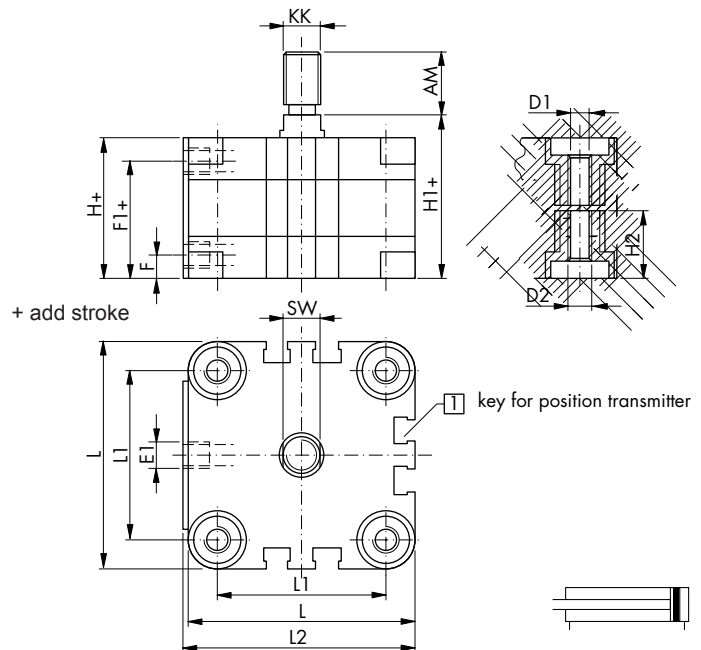
Non-magnetic versions are also available for example 19.X96.XXX

Seal kits (without magnet).

Order code: **19.108.11** 32mm bore
 Order code: **19.208.11** 40mm bore
 Order code: **19.308.11** 50mm bore
 Order code: **19.408.11** 63mm bore
 Order code: **19.508.11** 80mm bore
 Order code: **19.608.11** 100mm bore

Technical Data:

Piston dia. mm	Forward force	Return force
	6 bar N _{max.}	6 bar N _{max.}
32	483	415
40	754	686
50	1178	1057
63	1870	1749
80	3016	2828
100	4712	4418



Compact Pneumatic Cylinder


Double Acting Ø 12mm - 25mm

Technical information (Guided Rod)

Operating pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.744.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheet MS1000.

Piston dia. mm	Stroke mm	D	D1	D2	D4	D5	E1	F	F1	H	H1	H2	H3	L	L1	L2	L3	SW	Pe min./ bar
12	5 - 200	6	3,5	M4	3	M3	M5	8	30	38	42,5	18,5	48,5	29	18	30	9,9	5	1,5
16	5 - 200	8	3,5	M4	3	M3	M5	8	30	38	42,5	18,5	48,5	29	18	30	9,9	7	1,5
20	5 - 200	10	4,5	M5	4	M4	M5	8	30	38	42,5	18,5	50,5	36	22	37,5	12	8	1,5
25	5 - 200	10	4,5	M5	5	M5	M5	8	31,5	39,5	45	18,5	53	40	26	41,5	15,8	8	1,5

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: 19.744.XXX 12mm bore + stroke (Magnetic)
 19.844.XXX 16mm bore + stroke (Magnetic)
 19.944.XXX 20mm bore + stroke (Magnetic)
 19.044.XXX 25mm bore + stroke (Magnetic)

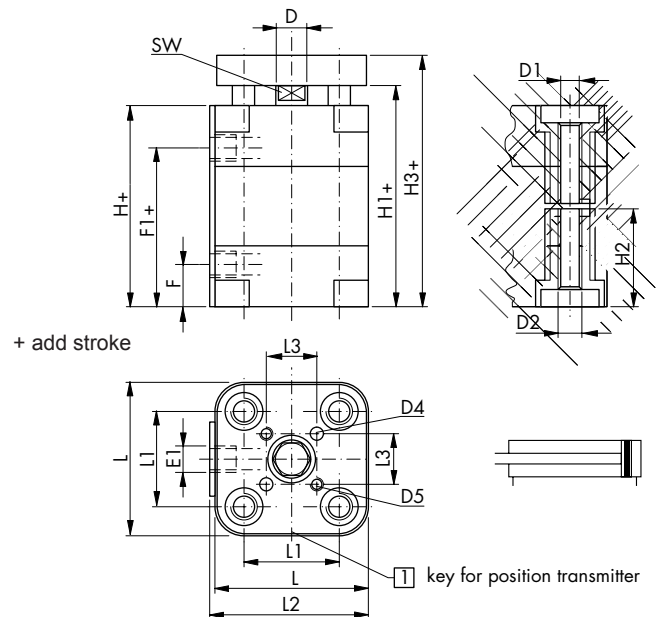
Non-magnetic versions are also available for example 19.X46.XXX

Seal kits (without magnet).

Order code: 19.708.11 12mm bore
 Order code: 19.808.11 16mm bore
 Order code: 19.908.11 20mm bore
 Order code: 19.008.11 25mm bore

Technical Data:

Piston dia. mm	Forward force 6 bar N _{max.}	Return force 6 bar N _{max.}
12	68	51
16	121	91
20	188	140
25	295	247



Compact Pneumatic Cylinder


Double Acting Ø 32mm - 100mm

Technical information (Guided Rod)

Operating Pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.144.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheet MS1001.

Piston dia. mm	Stroke mm	D	D1	D2	D4	D5	E1	F	F1	H	H1	H2	H3	L	L1	L2	L3	SW	Pe min./bar
32	5 - 300	12	5,5	M6	5	M5	G1/8	8	36,5	44,5	50,5	21,5	60,5	50	32	52	19,8	10	1,0
40	5 - 300	12	5,5	M6	5	M5	G1/8	8	37,5	45,5	52	21,5	62	60	42	62,5	23,3	10	1,0
50	10 - 300	16	6,5	M8	6	M6	G1/8	8	37,5	45,5	53	22	65	68	50	71	29,7	13	1,0
63	10 - 300	16	8,5	M10	6	M6	G1/8	8	42	50	57,5	24,5	69,5	87	62	91	35,4	13	1,0
80	10 - 400	20	8,5	M10	8	M8	G1/8	8,5	47,5	56	64	27,5	78	107	82	111	46	17	0,6
100	10 - 400	25	8,5	M10	10	M10	G1/4	10,5	56	66,5	76,5	32,5	90,5	128	103	133	56,6	22	0,6

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: 19.144.XXX 32mm bore + stroke (Magnetic)
 19.244.XXX 40mm bore + stroke (Magnetic)
 19.344.XXX 50mm bore + stroke (Magnetic)
 19.444.XXX 63mm bore + stroke (Magnetic)
 19.544.XXX 80mm bore + stroke (Magnetic)
 19.644.XXX 100mm bore + stroke (Magnetic)

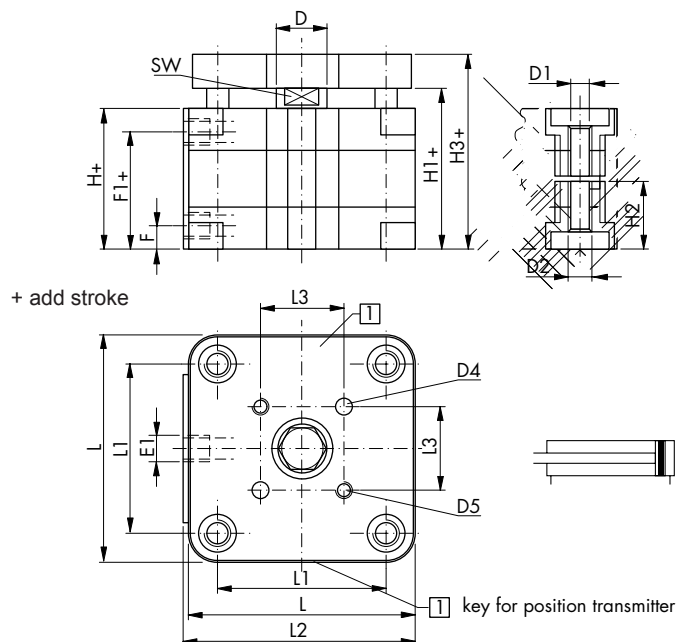
Non-magnetic versions are also available for example 19.X46.XXX

Seal kits (without magnet).

Order code: 19.108.11 32mm bore
 Order code: 19.208.11 40mm bore
 Order code: 19.308.11 50mm bore
 Order code: 19.408.11 63mm bore
 Order code: 19.508.11 80mm bore
 Order code: 19.608.11 100mm bore

Technical Data:

Piston dia. mm	Forward force		Return force	
	6 bar N _{max.}	6 bar N _{max.}	6 bar N _{max.}	6 bar N _{max.}
32	483	415	415	415
40	754	686	686	686
50	1178	1057	1057	1057
63	1870	1749	1749	1749
80	3016	2828	2828	2828
100	4712	4418	4418	4418



Compact Pneumatic Cylinder


Double Acting Ø 12mm - 25mm Through Rod

Technical information (Female Threaded Rod)

Operating pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.734.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1002/MS1003.

Piston dia. mm	Stroke mm	D	D1	D2	D3	E1	F	F1	H	H1	H2	L	L1	L2	SW	T	W	Pe min./ bar
12	5 - 200	6	3,5	M4	M3	M5	8	30	38	42,5	18,5	29	18	30	5	6	4,5	1
16	5 - 200	8	3,5	M4	M4	M5	8	30	38	42,5	18,5	29	18	30	7	8	4,5	1
20	5 - 200	10	4,5	M5	M5	M5	8	30	38	42,5	18,5	36	22	37,5	8	10	4,5	1
25	5 - 200	10	4,5	M5	M5	M5	8	31,5	39,5	45	18,5	40	26	41,5	8	10	5,5	1

Dimensional drawings & ordering information

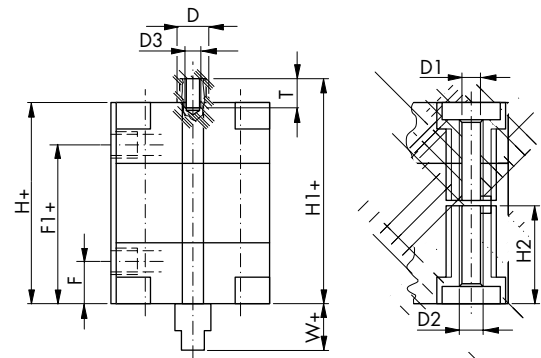
Minimum/maximum strokes apply, see table.

To order: 19.734.XXX 12mm bore + stroke (Magnetic)
 19.834.XXX 16mm bore + stroke (Magnetic)
 19.934.XXX 20mm bore + stroke (Magnetic)
 19.034.XXX 25mm bore + stroke (Magnetic)

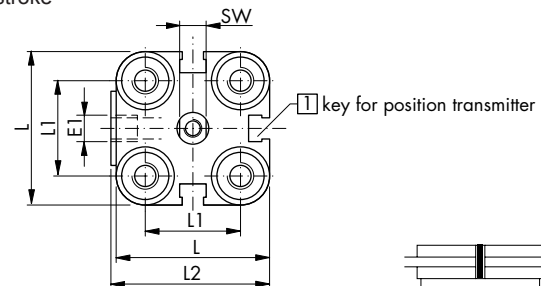
Non-magnetic versions are also available for example 19.X36.XXX

Seal kits (without magnet).

Order code: 19.708.11 12mm bore
 Order code: 19.808.11 16mm bore
 Order code: 19.908.11 20mm bore
 Order code: 19.008.11 25mm bore



+ add stroke



Technical Data:

Piston dia. mm	Forward force 6 bar N _{max.}	Return force 6 bar N _{max.}
12	51	51
16	91	91
20	140	140
25	247	247

Compact Pneumatic Cylinder

Double Acting Ø 32mm - 100mm Through Rod

Technical information (Female Threaded Rod)

Operating Pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

Ex For ATEX certification use code "X" for example 19.X.134.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1002/MS1003.

Piston dia. mm	Stroke mm	D	D1	D2	D3	E1	F	F1	H	H1	H2	L	L1	L2	SW	T	W	Pe min./ bar
32	5 - 300	12	5,5	M6	M6	G1/8	8	36,5	44,5	50,5	21,5	50	32	52	10	12	6	0,6
40	5 - 300	12	5,5	M6	M6	G1/8	8	37,5	45,5	52	21,5	60	42	62,5	10	12	6,5	0,6
50	10 - 300	16	6,5	M8	M8	G1/8	8	37,5	45,5	53	22	68	50	71	13	12	7,5	0,6
63	10 - 300	16	8,5	M10	M8	G1/8	8	42	50	57,5	24,5	87	62	91	13	12	7,5	0,6
80	10 - 400	20	8,5	M10	M10	G1/8	8,5	47,5	56	64	27,5	107	82	111	17	16	8	0,6
100	10 - 400	25	8,5	M10	M12	G1/4	10,5	56	66,5	76,5	32,5	128	103	133	22	20	10	0,6

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: **19.134.XXX** 32mm bore + stroke (Magnetic)
19.234.XXX 40mm bore + stroke (Magnetic)
19.334.XXX 50mm bore + stroke (Magnetic)
19.434.XXX 63mm bore + stroke (Magnetic)
19.534.XXX 80mm bore + stroke (Magnetic)
19.634.XXX 100mm bore + stroke (Magnetic)

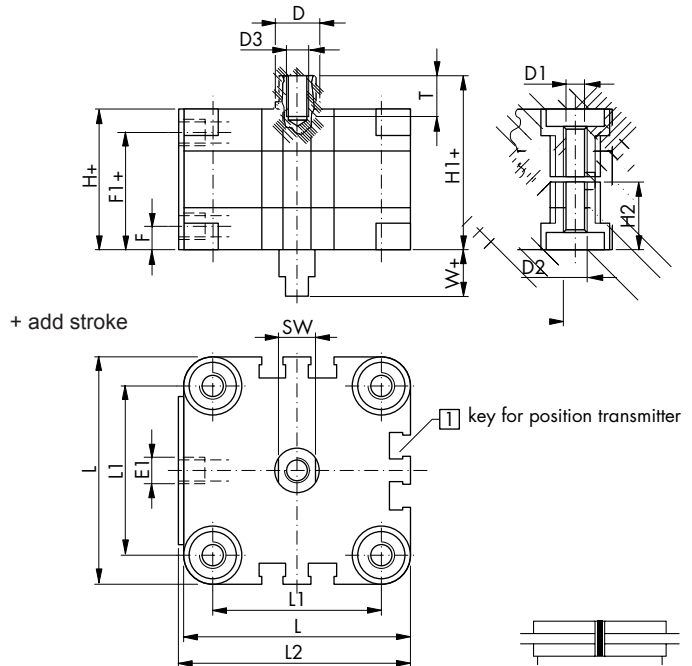
Non-magnetic versions are also available for example 19.X36.XXX

Seal kits (without magnet).

Order code: **19.108.11** 32mm bore
 Order code: **19.208.11** 40mm bore
 Order code: **19.308.11** 50mm bore
 Order code: **19.408.11** 63mm bore
 Order code: **19.508.11** 80mm bore
 Order code: **19.608.11** 100mm bore

Technical Data:

Piston dia. mm	Forward force		Return force	
	6 bar N _{max.}	6 bar N _{max.}	6 bar N _{max.}	6 bar N _{max.}
32	415	415	415	415
40	686	686	686	686
50	1057	1057	1057	1057
63	1749	1749	1749	1749
80	2828	2828	2828	2828
100	4418	4418	4418	4418



Compact Pneumatic Cylinder


Single Acting Ø 12mm - 25mm

Technical information (Female Threaded Rod)

Operating pressure:	Max. 10 bar
Temperature range:	-20°C...+80°C
Housing/end caps:	Aluminium tube/die-cast aluminium.
Rod:	Stainless steel.
Seals:	PUR (Viton upon request)
Lubricant:	Not required.
Operating medium:	5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.705.XXX.
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1000/MS1002/MS1003.

Piston dia. mm	Stroke mm	D	D1	D2	D3	E1	F	F1	H	H1	H2	L	L1	L2	SW	T	Pe min./ bar
12	5 - 10	6	3,5	M4	M3	M5	8	30	38	42,5	18,5	29	18	30	5	6	1,2
16	5 - 25	8	3,5	M4	M4	M5	8	30	38	42,5	18,5	29	18	30	7	8	1,2
20	5 - 25	10	4,5	M5	M5	M5	8	30	38	42,5	18,5	36	22	37,5	8	10	1
25	5 - 25	10	4,5	M5	M5	M5	8	31,5	39,5	45	18,5	40	26	41,5	8	10	1

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order:	19.705.XXX	12mm bore + stroke (Magnetic)
	19.805.XXX	16mm bore + stroke (Magnetic)
	19.905.XXX	20mm bore + stroke (Magnetic)
	19.005.XXX	25mm bore + stroke (Magnetic)

Non-magnetic versions are also available for example 19.X07.XXX

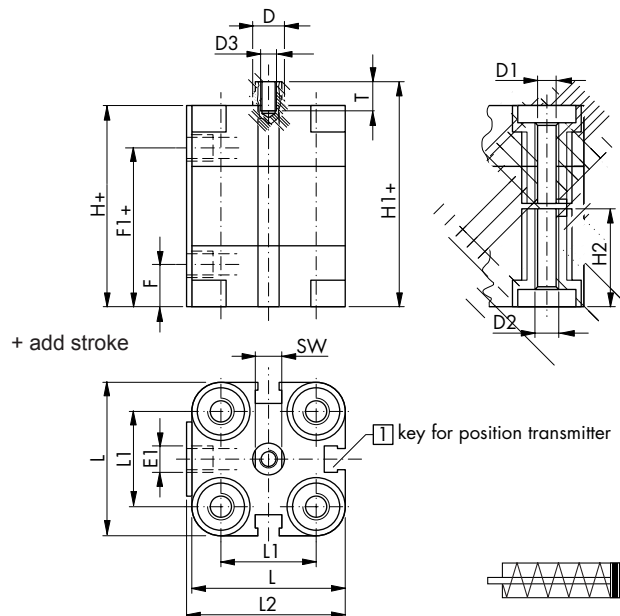
Seal kits (without magnet).

Order code: 19.708.11	12mm bore
Order code: 19.808.11	16mm bore
Order code: 19.908.11	20mm bore
Order code: 19.008.11	25mm bore

Technical Data:

Piston dia. mm	Forward force N _{max.} / 6 bar	Return force spring N _{max.}
12	63	5
16	114	6
20	183	6
25	279	15

Spring extend versions are also available,
 for example 19.X6X.XXX
 (Minimum order quantities may apply).



Compact Pneumatic Cylinder


Single Acting Ø 12mm - 25mm

Technical information (Male Threaded Rod)

Operating pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.795.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1000/MS1002/MS1003/MS1004.

Piston dia. mm	Stroke mm	AM	KK	AM	D1	D2	E1	F	F1	H	H1	H2	L	L1	L2	SW	Pe min./ bar
12	5 - 10	16	M6	16	3,5	M4	M5	8	30	38	42,5	18,5	29	18	30	5	1,2
16	5 - 25	20	M8	20	3,5	M4	M5	8	30	38	42,5	18,5	29	18	30	7	1,2
20	5 - 25	22	M10x1,25	22	4,5	M5	M5	8	30	38	42,5	18,5	36	22	37,5	8	1
25	5 - 25	22	M10x1,25	22	4,5	M5	M5	8	31,5	39,5	45	18,5	40	26	41,5	8	1

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: 19.795.XXX 12mm bore + stroke (Magnetic)
 19.895.XXX 16mm bore + stroke (Magnetic)
 19.995.XXX 20mm bore + stroke (Magnetic)
 19.095.XXX 25mm bore + stroke (Magnetic)

Non-magnetic versions are also available for example 19.X97.XXX

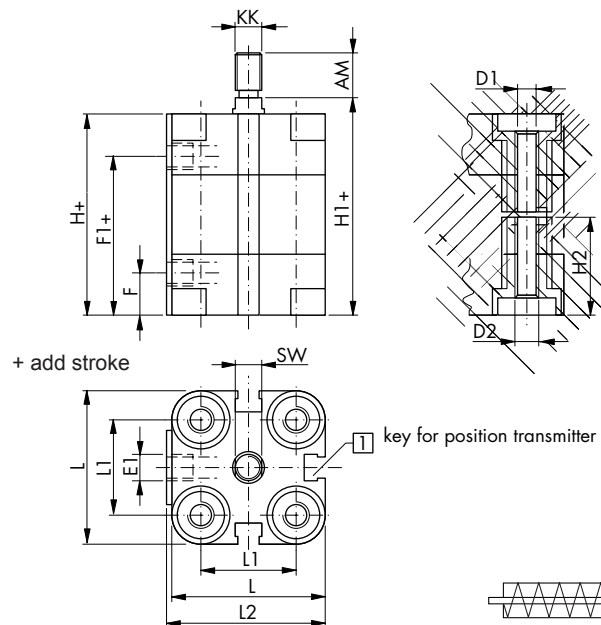
Seal kits (without magnet).

Order code: 19.708.11 12mm bore
 Order code: 19.808.11 16mm bore
 Order code: 19.908.11 20mm bore
 Order code: 19.008.11 25mm bore

Technical Data:

Piston dia. mm	Forward force N _{max.} / 6 bar	Return force spring N _{max.}
12	63	5
16	114	6
20	183	6
25	279	15

Spring extend versions are also available,
 for example 19.X7X.XXX
 (Minimum order quantities may apply).



Compact Pneumatic Cylinder


Single Acting Ø 32mm - 100mm

Technical information (Female Threaded Rod)

Operating Pressure: Max. 10 bar
Temperature range: -20°C...+80°C
Housing/end caps: Aluminium tube/die-cast aluminium.
Rod: Stainless steel.
Seals: PUR (Viton upon request)
Lubricant: Not required.
Operating medium: 5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.105.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1001/MS1002/MS1003.

Piston dia. mm	Hub Stroke mm	D	D1	D2	D3	E1	F	F1	H	H1	H2	L	L1	L2	SW	T	Pe min./bar
32	5 - 25	12	5,5	M6	M6	G1/8	8	36,5	44,5	50,5	21,5	50	32	52	10	12	0,6
40	5 - 25	12	5,5	M6	M6	G1/8	8	37,5	45,5	52	21,5	60	42	62,5	10	12	0,6
50	10 - 25	16	6,5	M8	M8	G1/8	8	37,5	45,5	53	22	68	50	71	13	12	0,6
63	10 - 25	16	8,5	M10	M8	G1/8	8	42	50	57,5	24,5	87	62	91	13	12	0,6
80	10 - 25	20	8,5	M10	M10	G1/8	8,5	47,5	56	64	27,5	107	82	111	17	16	0,6
100	10 - 25	25	8,5	M10	M12	G1/4	10,5	56	66,5	76,5	32,5	128	103	133	22	20	0,6

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order: 19.105.XXX 32mm bore + stroke (Magnetic)
 19.205.XXX 40mm bore + stroke (Magnetic)
 19.305.XXX 50mm bore + stroke (Magnetic)
 19.405.XXX 63mm bore + stroke (Magnetic)
 19.505.XXX 80mm bore + stroke (Magnetic)
 19.605.XXX 100mm bore + stroke (Magnetic)

Non-magnetic versions are also available for example 19.X07.XXX

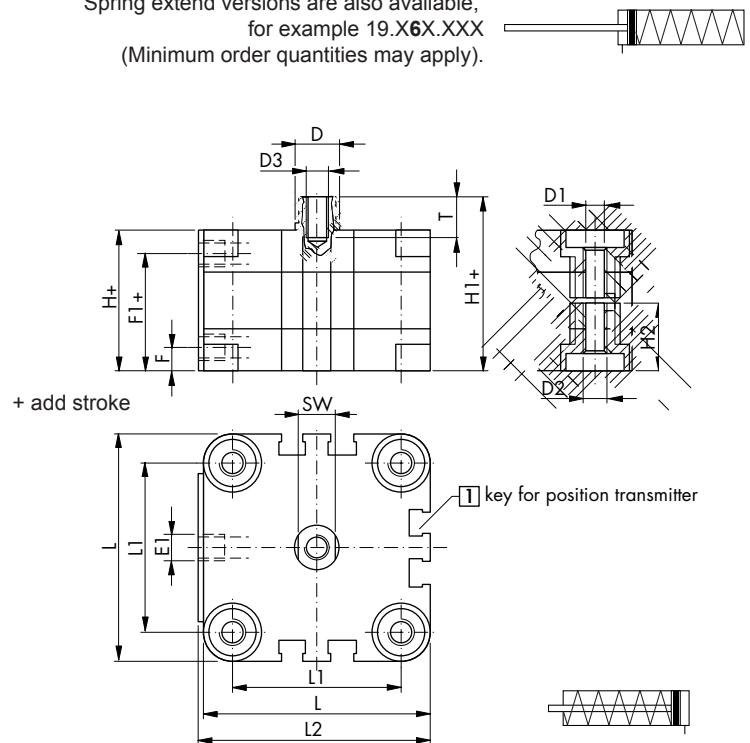
Seal kits (without magnet).

Order code: 19.108.11 32mm bore
 Order code: 19.208.11 40mm bore
 Order code: 19.308.11 50mm bore
 Order code: 19.408.11 63mm bore
 Order code: 19.508.11 80mm bore
 Order code: 19.608.11 100mm bore

Technical Data:

Piston dia. mm	Forward force N _{max.} / 6 bar	Return force spring N _{max.}
32	464	18
40	738	16
50	1140	37
63	1820	48
80	2933	81
100	4570	140

Spring extend versions are also available, for example 19.X6X.XXX (Minimum order quantities may apply).



Compact Pneumatic Cylinder

Single Acting Ø 32mm - 100mm


Technical information

(Male Threaded Rod)

Operating Pressure:	Max. 10 bar
Temperature range:	-20°C...+80°C
Housing/end caps:	Aluminium tube/die-cast aluminium.
Rod:	Stainless steel.
Seals:	PUR (Viton upon request)
Lubricant:	Not required.
Operating medium:	5 micron filtered, lubricated or non-lubricated compressed air.



Other information:

 For ATEX certification use code "X" for example 19.X.195.XXX
 Sensors are available for this product, see data sheets TX1000/TX1001.
 Mountings are available for this product, see data sheets MS1001/MS1002/MS1003/MS1004.

Piston dia. mm	Stroke mm	AM	KK	AM	D1	D2	E1	F	F1	H	H1	H2	L	L1	L2	SW	Pe min./ bar
32	5 - 25	22	M10x1,25	22	5,5	M6	G1/8	8	36,5	44,5	50,5	21,5	50	32	52	10	0,6
40	5 - 25	22	M10x1,25	22	5,5	M6	G1/8	8	37,5	45,5	52	21,5	60	42	62,5	10	0,6
50	10 - 25	24	M12x1,25	24	6,5	M8	G1/8	8	37,5	45,5	53	22	68	50	71	13	0,6
63	10 - 25	24	M12x1,25	24	8,5	M10	G1/8	8	42	50	57,5	24,5	87	62	91	13	0,6
80	10 - 25	32	M16x1,5	32	8,5	M10	G1/8	8,5	47,5	56	64	27,5	107	82	111	17	0,6
100	10 - 25	40	M20x1,5	40	8,5	M10	G1/4	10,5	56	66,5	66,5	32,5	128	103	133	22	0,6

Dimensional drawings & ordering information

Minimum/maximum strokes apply, see table.

To order:	19.195.XXX	32mm bore + stroke (Magnetic)
	19.295.XXX	40mm bore + stroke (Magnetic)
	19.395.XXX	50mm bore + stroke (Magnetic)
	19.495.XXX	63mm bore + stroke (Magnetic)
	19.595.XXX	80mm bore + stroke (Magnetic)
	19.695.XXX	100mm bore + stroke (Magnetic)

Non-magnetic versions are also available for example 19.X97.XXX

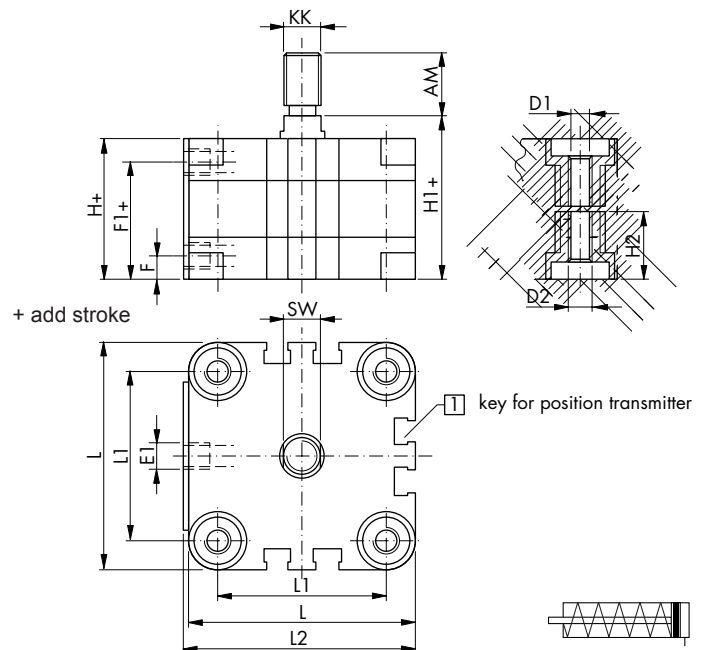
Seal kits (without magnet).

Order code: 19.108.11	32mm bore
Order code: 19.208.11	40mm bore
Order code: 19.308.11	50mm bore
Order code: 19.408.11	63mm bore
Order code: 19.508.11	80mm bore
Order code: 19.608.11	100mm bore

Technical Data:

Piston dia. mm	Forward force N _{max.} / 6 bar	Return force spring N _{max.}
32	464	18
40	738	16
50	1140	37
63	1820	48
80	2933	81
100	4570	140

Spring extend versions are also available,
 for example 19.X7X.XXX
 (Minimum order quantities may apply).



Compact Cylinder Mountings

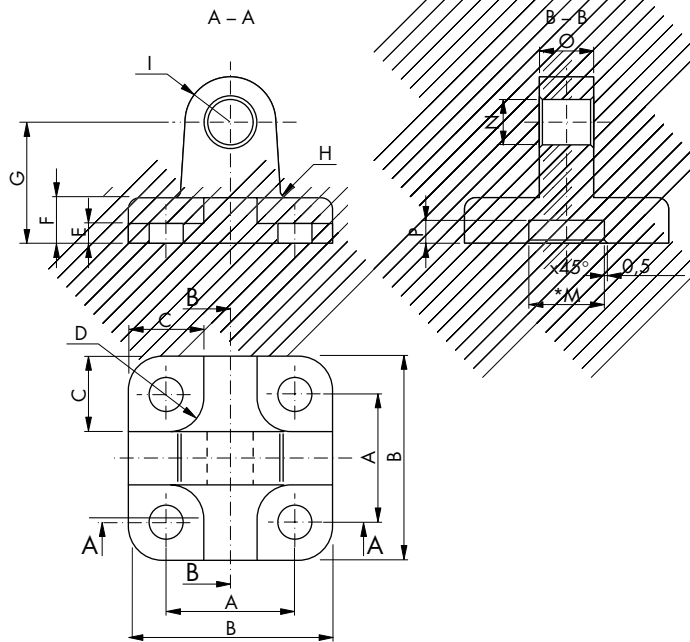
Male Trunnion For Piston \varnothing 12mm - 25mm

Male Trunnion

Order No.	\varnothing	A	B	C	D	E	F	G	H	I	L	M	N	O	P
19.002.07	12-16	18	27	10	4,5	2,6	6	16	2	6	4,5	10	6	12	3
19.002.09	20	22	34	11	5	2,6	6	20	2	8	5,5	12	8	16	3
19.002.00	25	26	38	11	5	2,6	6	20	2	8	5,5	12	8	16	3

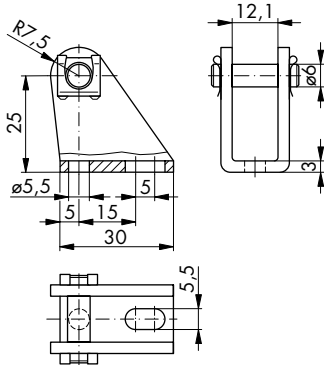
Dimensional drawings

Male trunnion
 Fixing bolts are included.



Mounting flange 90°

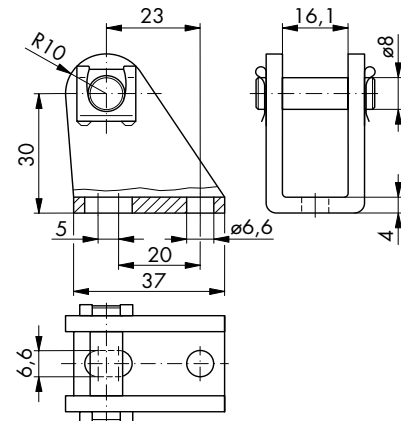
for use with male trunnion \varnothing 12 - 16 mm



Order No.	\varnothing
19.004.07	12 - 16

Mounting flange 90°

for use with male trunnion \varnothing 20 - 25 mm



Order No.	\varnothing
19.004.09	20 - 25

Compact Cylinder Mountings

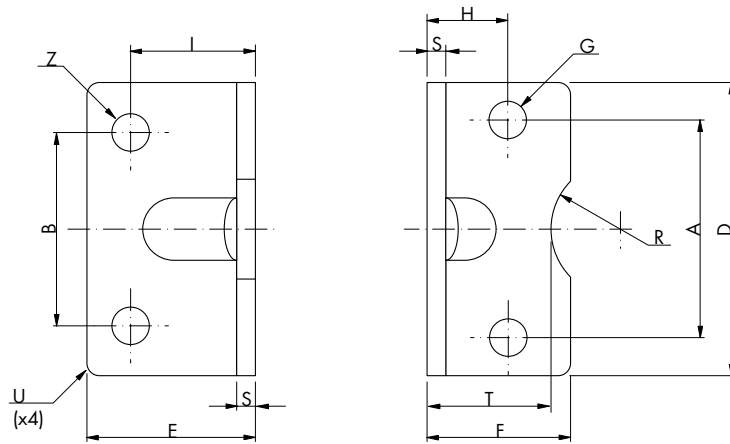
Brackets For Piston Ø 12mm - 100mm

Brackets

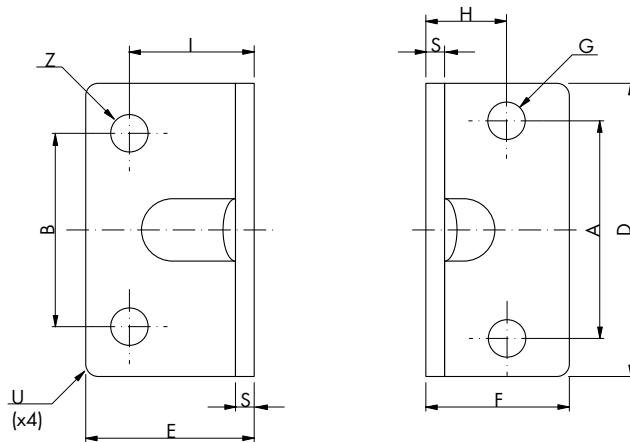
Order No.	Ø	B	C	D	E	F	G	H	I	S	T	R	U	Z
19.005.07	12-16	18	18	30	17,5	17,5	4,4	13	13	3	15	9	2	5,5
19.005.09	20	22	22	36	22	22	5,4	16	16	4	17	10	2	6,6
19.005.00	25	26	26	40	22	23	5,4	17	16	4	19	11	2	6,6
19.005.01	32	32	32	50	26	24	6,6	16	18	5	20	12	2	6,6
19.005.02	40	42	42	60	28	29,5	6,6	21,5	20	5	-	-	5	9
19.005.03	50	50	50	68	32	30	9	22	24	6	-	-	5	9
19.005.04	63	62	62	84	39	39	11	28,5	27	6	-	-	5	11
19.005.05	80	82	82	102	42	36,5	11	24,5	30	8	-	-	5	11
19.005.06	100	103	103	123	45	38,5	11	26,5	33	8	-	-	5	13,5

Dimensional drawings

Mounting brackets
Piston Ø 12 - 32 mm
2 pieces provided Inc. fixing bolts



Mounting brackets
Piston Ø 40 - 100 mm
2 pieces provided Inc. fixing bolts



Compact Cylinder Mountings

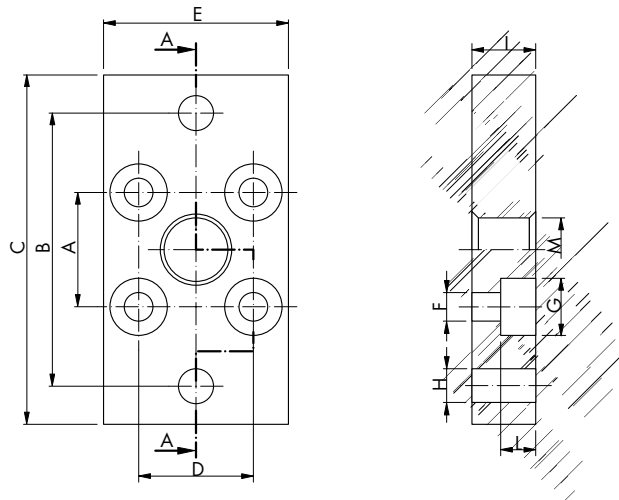
Mounting Plates For Piston \varnothing 12mm - 100mm

Mounting Plates

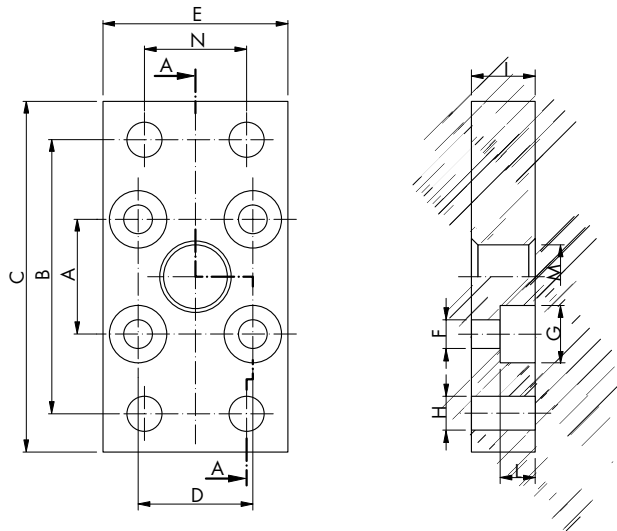
Order No.	\varnothing	A	B	C	D	E	F	G	H	I	L	M	N
19.006.07	12-16	18	43	55	18	29	4,5	9	5,5	10	5,4	10	-
19.006.09	20	22	55	70	22	36	5,5	10	6,6	10	5,4	12	-
19.006.00	25	26	60	76	26	40	5,5	10	6,6	10	5,4	12	-
19.006.01	32	32	65	80	32	50	6,6	11	7	10	6,4	14	32
19.006.02	40	42	82	102	42	60	6,6	11	9	10	6,4	14	36
19.006.03	50	50	90	110	50	68	9	15	9	12	8,6	18	45
19.006.04	63	62	110	130	62	87	11	18	9	15	10,6	18	50
19.006.05	80	82	135	160	82	107	11	18	12	15	10,6	23	63
19.006.06	100	103	163	190	103	128	11	18	14	15	10,6	28	75

Dimensional drawings

Mounting plates
 Piston \varnothing 12 - 25 mm
 Fixing bolts are included.



Mounting plates
 Piston \varnothing 32 - 100 mm
 Fixing bolts are included.



Compact Cylinder Mountings

Rod Ends For Piston Ø 12mm - 100mm

Clevis

Order No.	Ø	A	B	D	D ₁	D ₂	E	F	L	L ₁	N	R
19.008.07	12	6	12	M6	6	10	9	0,5	31	24	12	0,5
19.008.08	16	8	16	M8	8	14	12	0,5	42	32	16	0,5
19.008.09	20 - 40	10	20	M10x1,25	10	18	15	0,5	52	40	20	0,5
19.008.03	50 - 63	12	24	M12x1,25	12	20	18	0,5	62	48	24	0,5
19.008.05	80	16	32	M16x1,5	16	26	24	1	83	64	32	1
19.008.06	100	20	40	M20x1,5	20	34	30	1	105	80	40	1

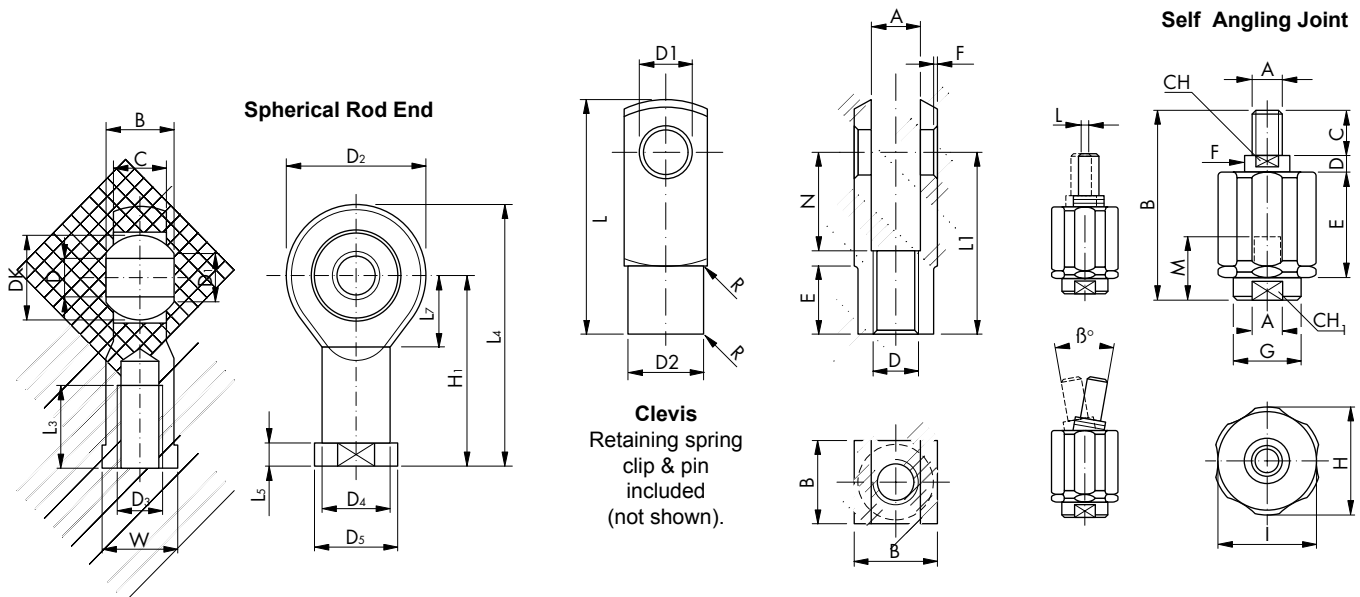
Self Angling Joint

Order No.	Ø	A	B	C	D	E	F	G	H	I	L	M	CH	β°	CH ₁
19.010.07	12	M6 x 1	35	10	3,5	17,5	6	8,5	14,5	13	1	10	5	10	7
19.010.08	16	M8 x 1,25	57	20	4	28,5	8	12,5	19	17	2	20	7	10	11
19.010.09	20 - 40	M10 x 1,25	71	20	5	35	14	22	32	30	2	20	12	10	19
19.010.03	50 - 63	M12 x 1,25	75	24	5	35	14	22	32	30	2	20	12	10	19
19.010.05	80	M16 x 1,5	103	32	8	54	22	32	45	41	2	32	20	10	30
19.010.06	100	M20 x 1,5	119	40	8	54	22	32	45	41	2	40	20	10	30

Spherical Rod End

Order No.	Ø	B	C	D	D ₁	D ₂	D ₃	D ₄	D ₅	DK	H ₁	L ₃	L ₄	L ₅	L ₇
19.009.07	12	9	6,75	6	8,9	20	M6	10	13	12,7	30	12	40	5	11
19.009.08	16	12	9	8	10,4	24	M8	12,5	16	15,875	36	16	48	5	13
19.009.09	20 - 40	14	10,5	10	12,9	28	M10 x 1,25	15	19	190,05	43	20	57	6,5	15
19.009.03	50 - 63	16	12	12	15,4	32	M12 x 1,25	17,5	22	22,225	50	22	66	6,5	17
19.009.05	80	21	15	16	19,3	42	M16 x 1,5	22	27	28,575	64	28	85	8	23
19.009.06	100	25	18	20	24,3	50	M20 x 1,5	27,5	34	34,925	77	33	102	10	27

Dimensional drawings



Compact Cylinder Mountings

Female Trunnion For Piston \varnothing 32mm - 100mm

Female Trunnion

Order No.	\varnothing	A	B	C	D	E	F	G	H	I	L	M	N	O	P
19.001.01	32	32	48	13,5	5,5	5,5	9	22	2,5	10	6,6	14	10	26	45
19.001.02	40	42	58	13,5	5,5	5,5	9	25	2,5	12,5	6,6	14	12	28	52
19.001.03	50	50	66	15,5	7,5	6,5	11	27	2,5	12,5	9	18	12	32	60
19.001.04	63	62	83	18	9	6,5	11	32	4	15	11	18	16	40	70
19.001.05	80	82	102	19	9	10	13	36	4	15	11	23	16	50	90
19.001.06	100	103	123	19	9	10	15	41	4	20	11	28	20	60	110

Mounting Flange 90°

Order No.	\varnothing	R	TS	FP	FA	FL	TF	N
18.004.01	32	25	41	7	18	20	32	10
18.004.02	40	32	52	9	25	32	45	12
18.004.03	50	32	52	9	25	32	45	12
18.004.04	63	40	63	11	32	50	63	16
18.004.05	80	40	63	11	32	50	63	16
18.004.06	100	50	80	14	40	70	90	20

Dimensional drawings

