Series 1200, Steel line

The 12X stainless steel ISO 6432 cylinders Series are designed for corrosion resistance application such as marine, pharmaceutical and food ambiences.
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 lenght	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
FPM	-5°C ... +80°C	•	/	•	•	Ø16-Ø20-Ø25-Ø32-Ø40-Ø50-Ø63
	-5°C ... +150°C	/	•	•	•	Ø16-Ø20-Ø25-Ø32-Ø40-Ø50-Ø63
PUR	-5 °C ... +70 °C	•	•	•	/	Ø16-Ø20-Ø25-Ø32
	-30°C ... +80°C	•	•	/	•	Ø16-Ø20-Ø25-Ø32
		•	•	•	•	Ø40-Ø50-Ø63

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
Ø 32 ... Ø 63 :
15 - 25 - 50 - 75 - 80 - 100 - 150 - 160 - 200 - 250 - 300 - 320 - 350 - 400 - 450 - 500 mm

Coding key

12X . . . . .

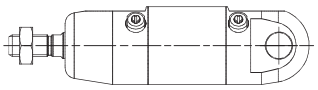
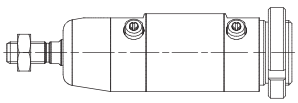
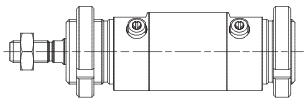
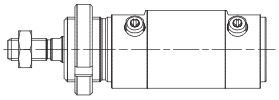
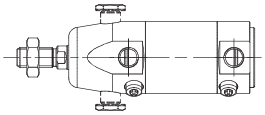
FUNCTION	
A	Double acting
B	Double acting cushioned
C	Double acting through rod
D	Double acting cushioned through rod

BORE
016
020
025
032
040
050
063

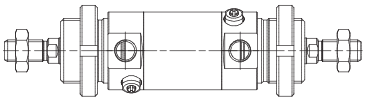
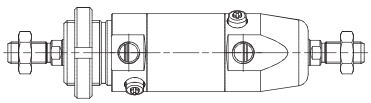
STROKE

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

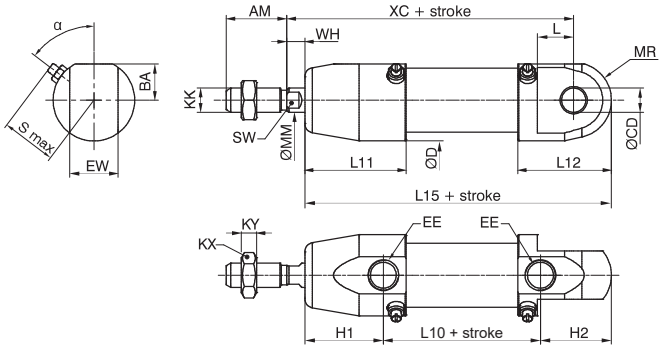
SEALS	
N	NBR
V	FPM
P	PUR

	TYPE		
	Front end cap	Basic version	Rear end cap
A	CLEAN PROFILE		WITH INTEGRATED TRUNNION
B	CLEAN PROFILE		THREADED
C	THREADED		THREADED
D	THREADED		SHORT END CAP
E*	FOR PIN		SHORT END CAP

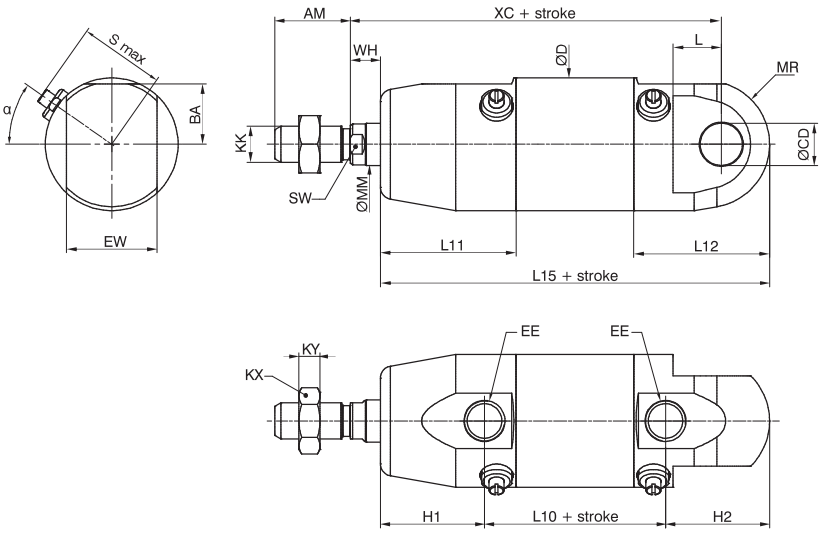
* available only for Ø32 - Ø40 - Ø50 - Ø63

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

Cylinder type "A"

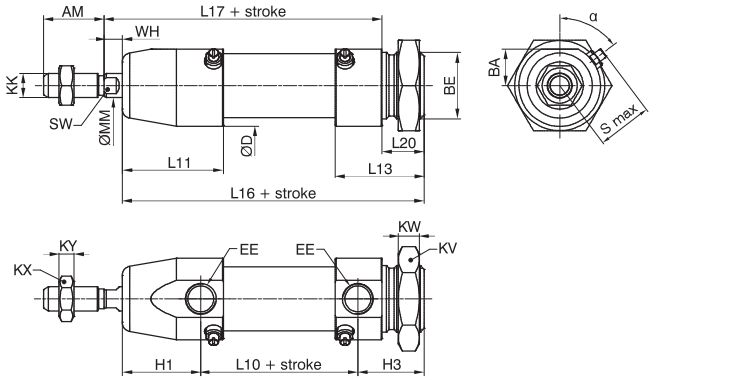


from Ø16 to Ø25

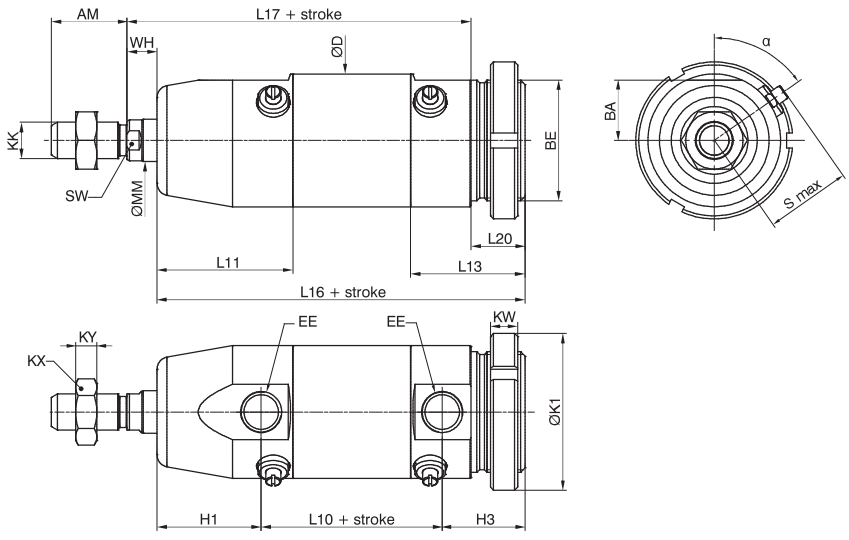


from Ø32 to Ø63

Cylinder type "B"



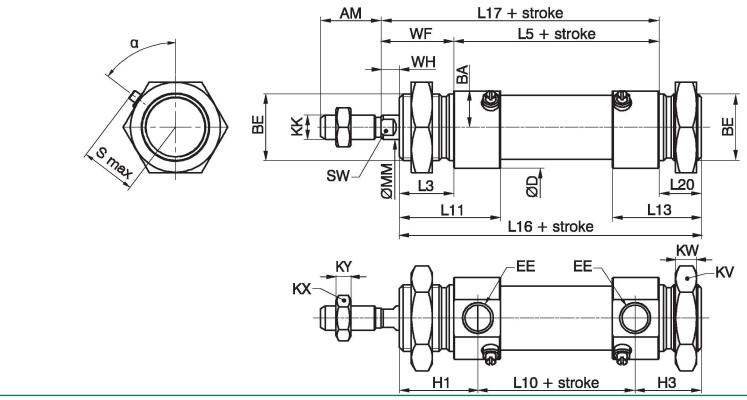
from Ø16 to Ø25



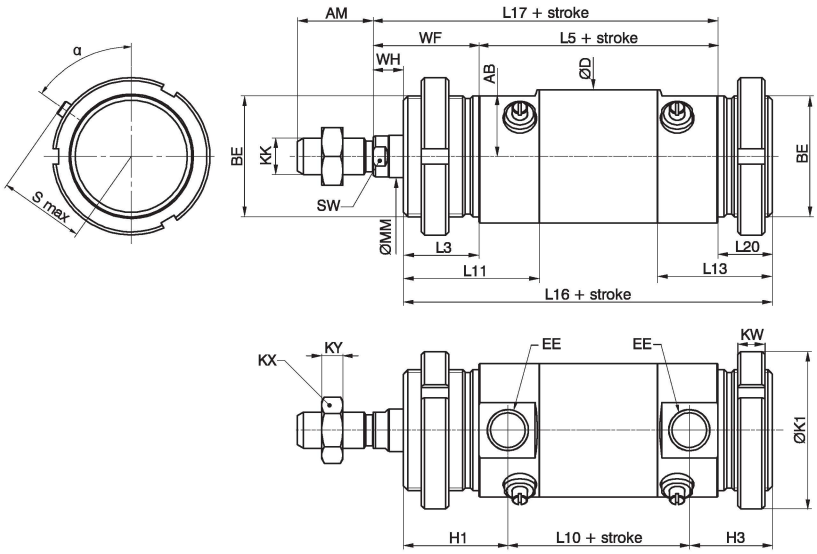
from Ø32 to Ø63

Cylinder type "C"

from Ø16 to Ø25

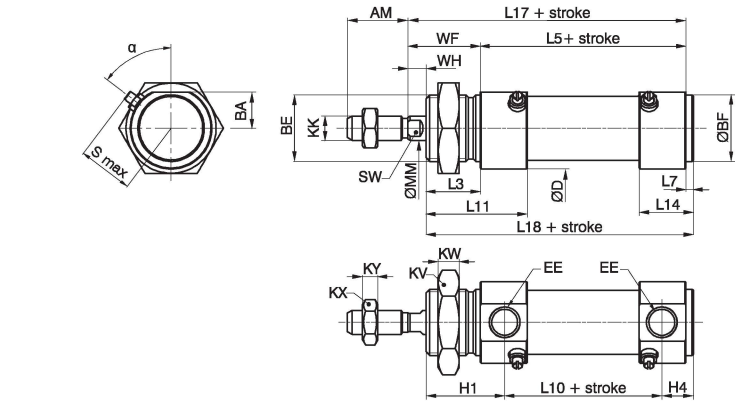


from Ø32 to Ø63

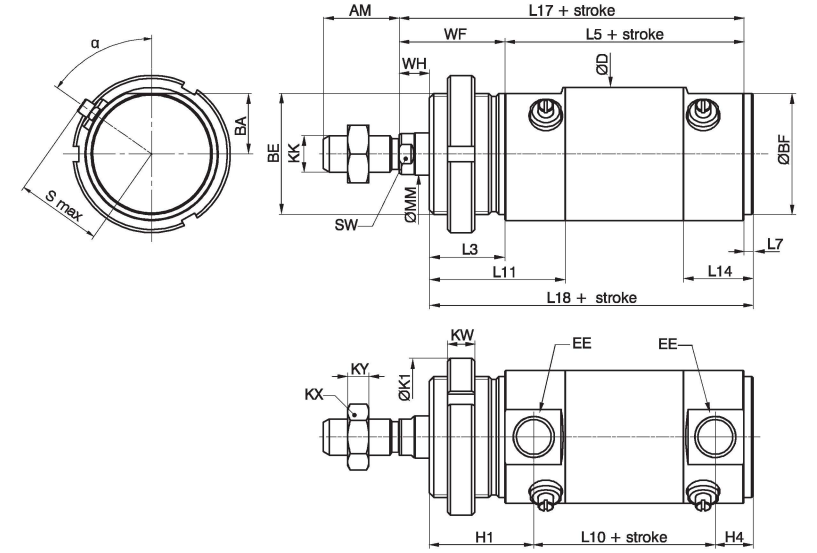


Cylinder type "D"

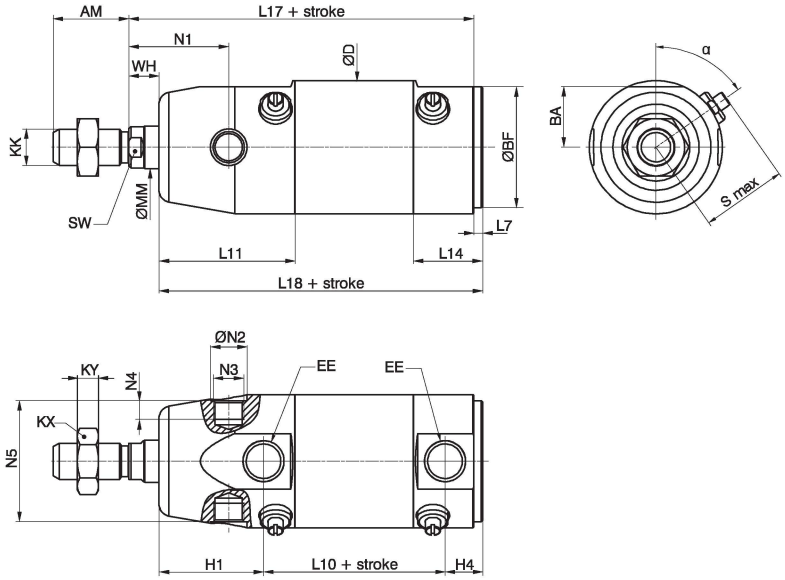
from Ø16 to Ø25



from Ø32 to Ø63

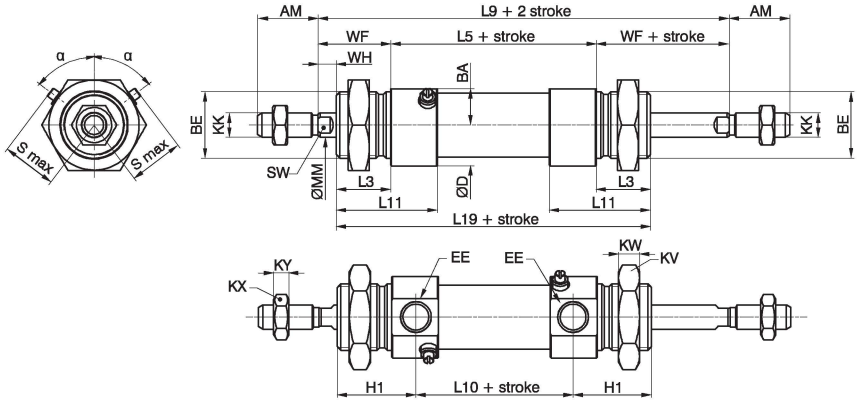


Cylinder type "E"

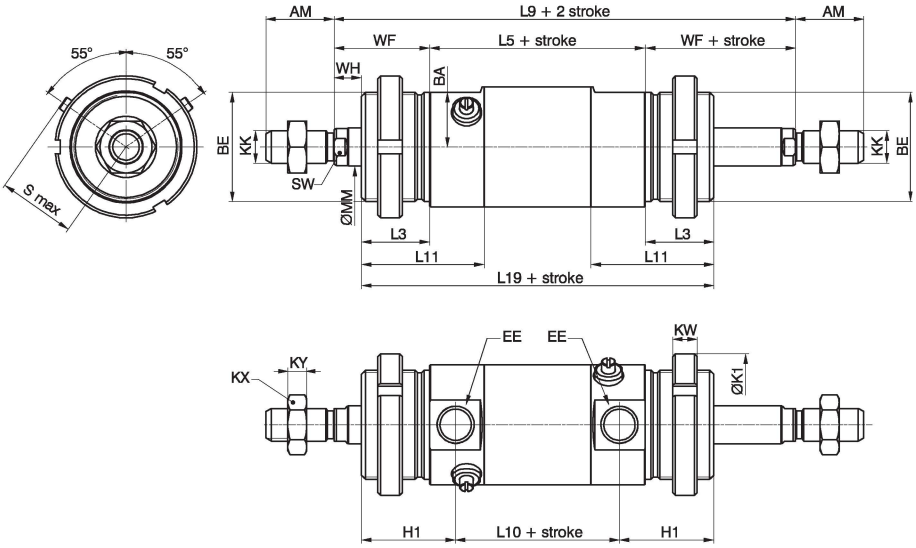


from Ø32 to Ø63

Cylinder type "S"

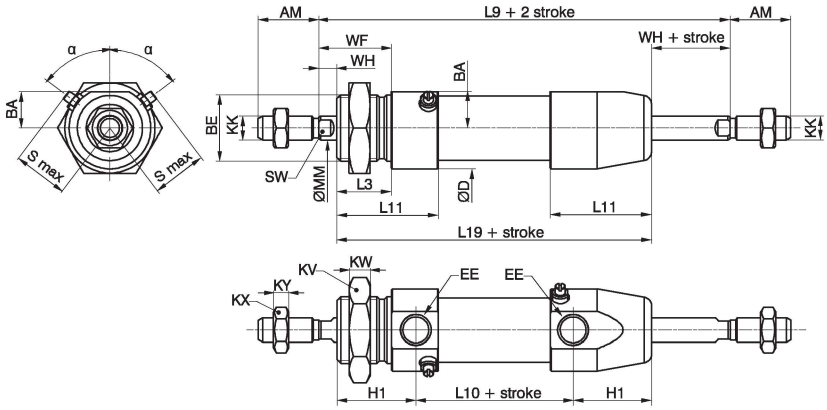


from Ø16 to Ø25

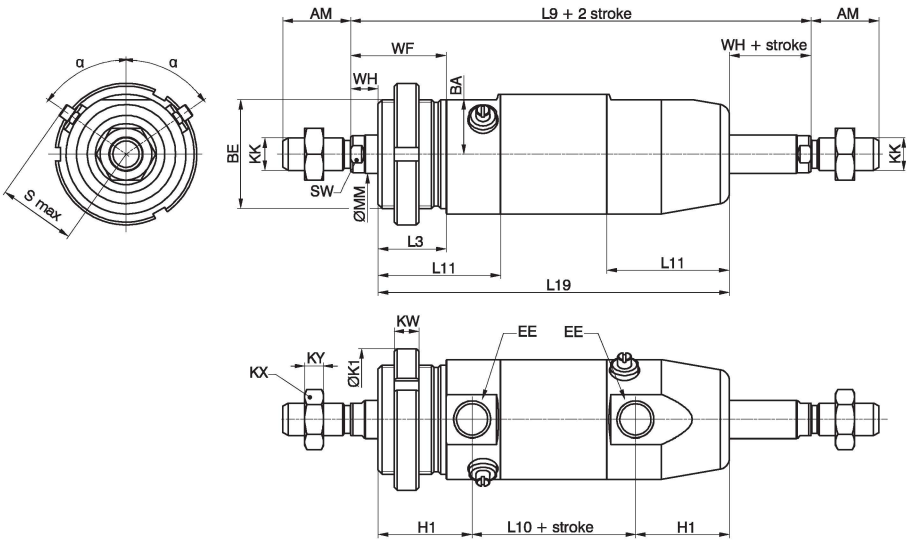


from Ø32 to Ø63

Cylinder type "T"

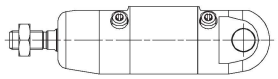
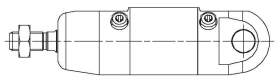
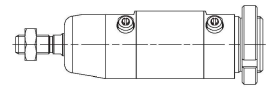
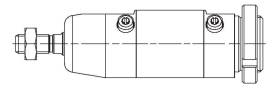
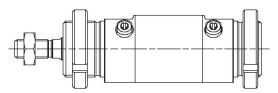


from Ø16 to Ø25



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

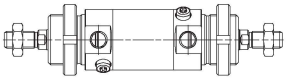
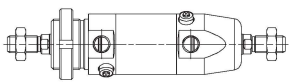
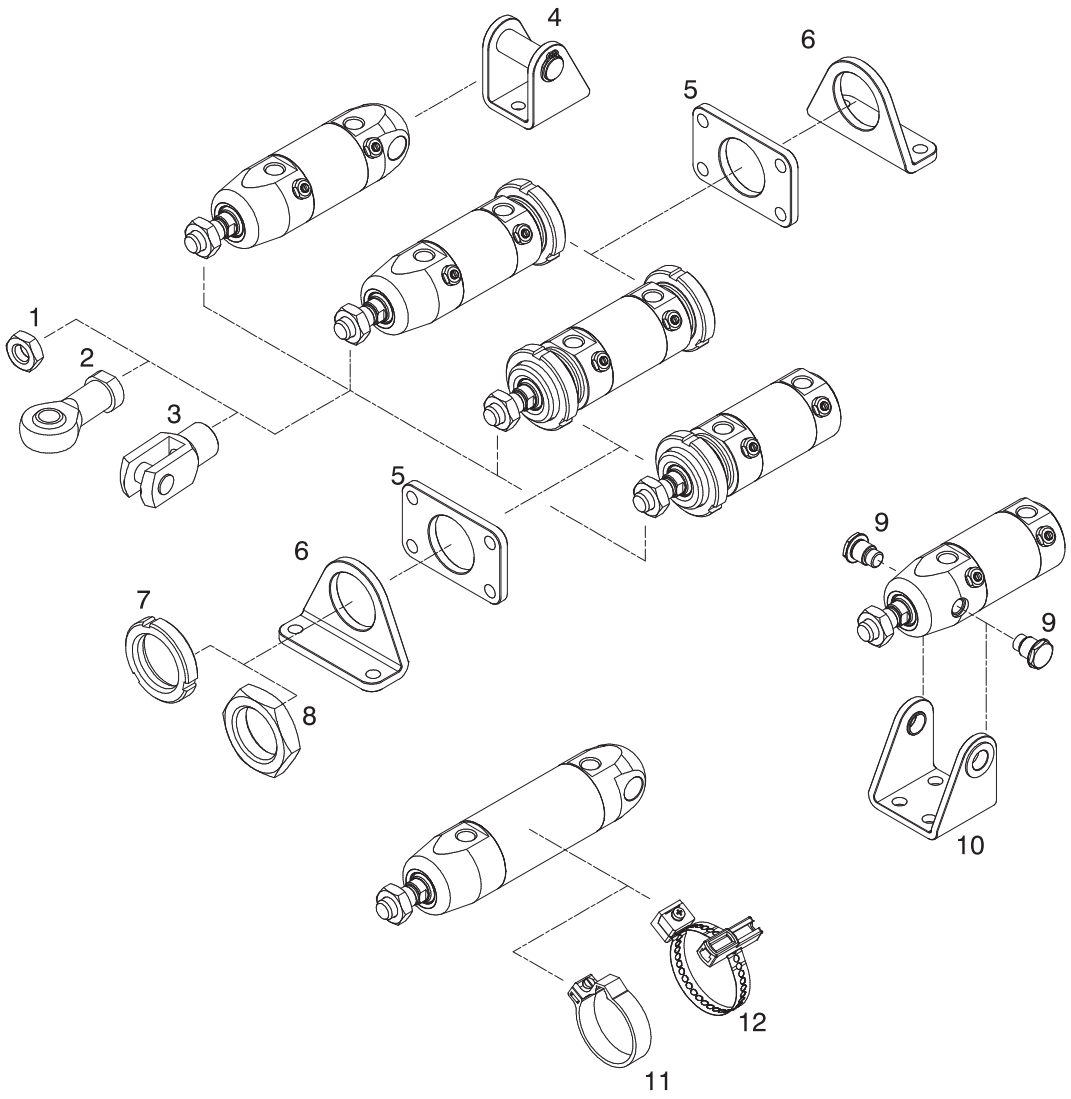
Weight (g)								
Through rod cylinder version			Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
S		Stroke 0	172	350	465	745	1364	1793	3318
		every 10mm	5	7	11	26	33	42	90
T		Stroke 0	181	336	470	723	1299	1832	3483
		every 10mm	5	7	11	26	33	42	90

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^{H9}	6	8	8	12	14	14	16
ØD	21	27	30	36	44	54	68
H1	22,5	26	30	30	34,5	34,5	40
H2	17,5	23,5	27,5	30	34,5	34,5	40
H3	16,5	22	22	23	27,5	27,5	30
H4	7,5	10,5	10,5	10,5	12,5	12,5	16
ØK1	/	/	/	/	52	52	60
KK	M6x1	M8x1,25	M10x1,25	M10x1,25	M12x1,75	M12x1,75	M16x1,5
KX	10	13	17	17	19	19	24
KY	4	5	6	6	7	7	8
KV	22	30	30	42	/	/	/
KW	6	7	7	8	9	9	10
L	9	12	14	13	16	16	22
L3	17	18	22	22	25	25	28
L5	56	68	69	69	79	82	106
L7	2	2,5	2,5	2,5	3	3	4
L9	100	116	125	125	149	152	180
L10	45	52	53	53	60	63	82
L11	28	33,5	37	38,5	45	45	54
L12	23	31	34,5	38,5	45	45	54
L13	22	29,5	29	31,5	38	38	44
L14	12,8	18	17,5	19	23	23	30
L15	85	101,5	110,5	113	129	132	162
L16	84	100	105	106	122	125	152
L17	78	92	97	97	114	117	143
L18	75	88,5	93,5	93,5	107	110	138
L19	90	104	113	113	129	132	162
L20	11	14	14	15	18	18	18
ØMM	6	8	10	12	14	16	20
MR	8	12,5	12,5	17	21	26	34,5
N1	/	/	/	27	33	40	45
ØN2$^{+0/-0,05}$	/	/	/	10,1	12,1	14,1	16,1
N3	/	/	/	M8x0,75	M10x1	M12x1	M14x1
N4	/	/	/	5,5	6	8,7	11,7
N5$^{+0,1/-0}$	/	/	/	32	40	50	64
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



Position	Description	Coding	Materials
1	Rod lock nut	12X.Ø.11	Stainless steel AISI 316
2	Ball joint	12X.Ø.10	Stainless steel
3	Fork with pin	12X.Ø.04	Stainless steel
4	Rear clevis	12X.Ø.03	Stainless steel
5	Flange	12X.Ø.02	Stainless steel AISI 316
6	Foot	12X.Ø.01	Stainless steel AISI 316
7	Lock nut for the end cap (Ø32 ... Ø63)	12X.Ø.05	Stainless steel AISI 316
8	Nut for the endcap (Ø16 ... Ø25)	12X.Ø.05	Stainless steel AISI 316
9	Pin for front clevis (Ø32 ... Ø63)	12X.Ø.09	Stainless steel AISI 316
10	Front clevis (Ø32 ... Ø63)	12X.Ø.08	Stainless steel AISI 316
11	Sensor clamps cod. 1580._, MRS._, MHS._ (Ø16 ... Ø50)	12X.Ø.FS	Technopolymer
12	Sensor clamps cod. 1580._, MRS._, MHS._ (Ø16 ... Ø63)	12X.Ø.FSX	Stainless steel Technopolymer