

3

PNEUMATIC ACTUATION

Position	Description	Ordering code	Materials
1	Short mounting foot brackets (MS1)	1393.0.05/1F	Stainless steel AISI 316
2	Flange (MF1-MF2)	1393.0.03F	Stainless steel AISI 316
3	Rod nut	1393.0.18F	Stainless steel AISI 316
4	Ball joint	1393.0.32F	Stainless steel
5	Fork	1393.0.13F	Stainless steel
6	Sensor bracket	1393._	Stainless steel AISI 316
7	Rear male clevis (MP4)	1393.0.09/1F	Stainless steel AISI 316
8	Pin (AA4) with circlips for rear clevis (MP2) (pos. 9)	1393.0.37F	Stainless steel AISI 316
9	Rear female clevis (MP2)	1393.0.09F	Stainless steel AISI 316
10	Rear narrow clevis (AB6)	1393.0.30F	Stainless steel AISI 316
11	Rear male clevis (with jointed head - MP6)	1393.0.15F	Stainless steel AISI 316
12	Standard complete trunnion (pos. 7 + pos. 9)	1393.0.22F	Stainless steel AISI 316
13	Square angle trunnion (pos. 9 + pos. 16)	1393.0.35F	Stainless steel AISI 316
14	Standard complete trunnion with jointed head (pos. 10 + pos.11)	1393.0.36F	Stainless steel AISI 316
15	Complete square angle trunnion (pos. 10 + pos.17)	1393.0.27F	Stainless steel AISI 316
16	Simple square counter clevis (AB7) (pos. 13)	1393.0.11/2F	Stainless steel AISI 316
17	Simple square counter clevis (pos. 15)	1393.0.28F	Stainless steel AISI 316

### Sensor bracket

Ordering code

**1393.A** (Ø32 ... Ø40)  
**1393.B** (Ø50 ... Ø63)  
**1393.C** (Ø80 ... Ø100)

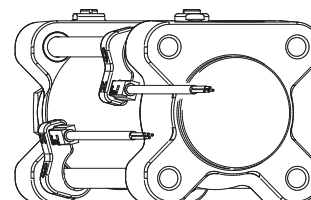
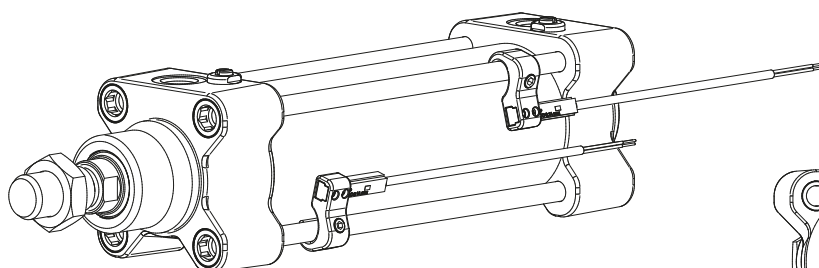
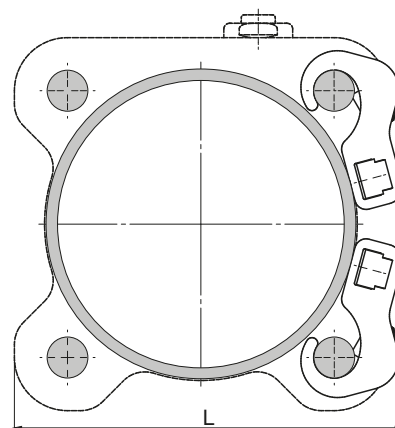


Fixing bracket made of stainless steel AISI 316 for sensor mounting on cylinders.

Sensors cod. **1580.\_**  
**MRS.\_**  
**MHS.\_**



Bore	L
Ø32	51
Ø40	57
Ø50	67
Ø63	79
Ø80	98
Ø100	115



To mount the brackets on the tie rods use the dedicated stainless steel grub screw.

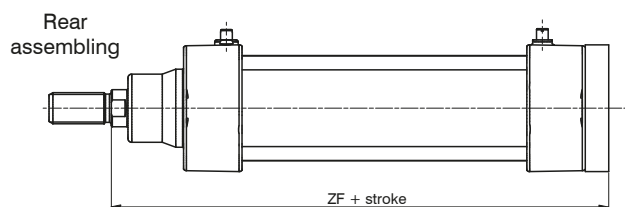
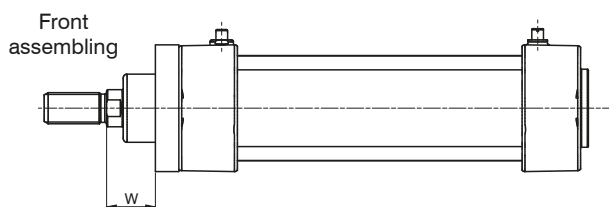
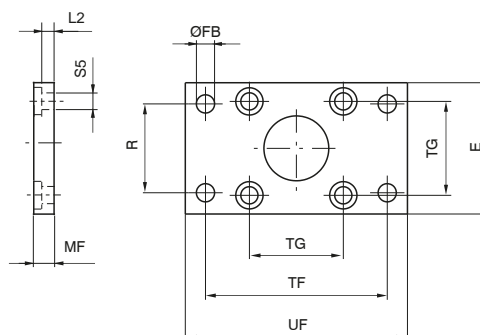
### Front and rear flanges (MF1 - MF2)

Ordering code

**1393.Ø.03F**



Plate in stainless steel AISI 316 which allows anchorage of the cylinder at a right angle to the plane.



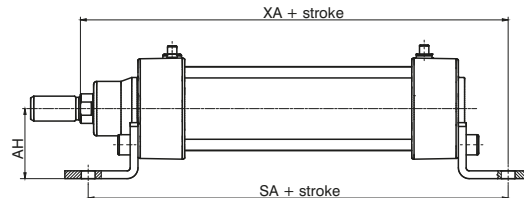
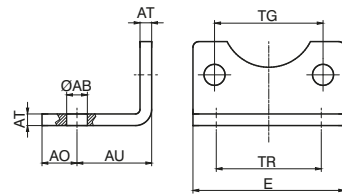
Bore	E	ØFB (H 13)	MF (JS 14)	R (JS 14)	TF (JS 14)	TG	UF	ZF	W	L2	ØS5	Weight (g)
32	45	7	10	32	64	32,5	80	130	16	5	6,6	190
40	52	9	10	36	72	38	90	145	20	5	6,6	250
50	65	9	12	45	90	46,5	110	155	25	6,5	9	480
63	75	9	12	50	100	56,5	120	170	25	6,5	9	620
80	95	12	15	63	126	72	150	189	31	7	11	1430
100	115	14	15	75	150	89	170	204	36	7	11	1990

### Short mounting foot brackets (MS1)

Ordering code
<b>1393.Ø.05/1F</b>



Elements used to anchor the cylinder parallel to the mounting plane. They are made of stainless steel AISI 316.



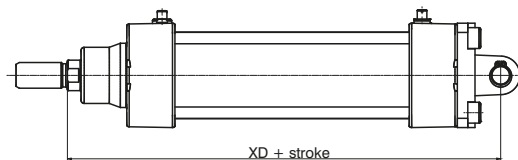
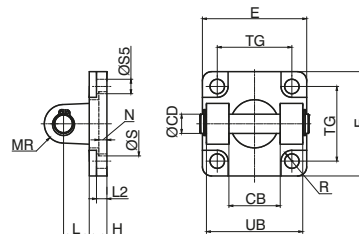
Bore	32	40	50	63	80	100
ØAB (H 14)	7	9	9	9	12	14
AH	32	36	45	50	63	71
AU (± 0.2)	24	28	32	32	41	41
AO	11	8	15	13	14	16
E	45	52	65	75	95	115
AT	4	4	5	5	6	6
SA	142	161	170	185	210	220
TG	32,5	38	46,5	56,5	72	89
TR (JS 14)	32	36	45	50	63	75
XA	144	163	175	190	215	230
Weight g	60	70	160	180	370	430

### Rear clevis (MP2)

Ordering code
<b>1393.Ø.09F</b>



This type of mounting allows anchorage of the cylinder either parallel or right angle to plane; the cylinder rod can oscillate and self-align as necessary when under load. Made of stainless steel AISI 316.

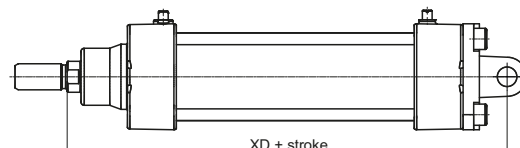
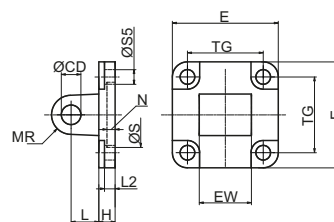


Bore	32	40	50	63	80	100
CB (H 14)	26	28	32	40	50	60
ØCD	10	12	12	16	16	20
E	45	55	65	75	95	115
ØS (H11)	30	35	40	45	45	55
N	5	5	5	5	/	/
R (H13)	5,5	5,5	7,5	7,5	9	9
H	10	10	10	12	14	16
L	12	15	17	20	22	25
MR	10	12	12	16	16	20
TG	32,5	38	46,5	56,5	72	89
UB (h14)	45	52	60	70	90	110
XD	142	160	170	190	210	230
L2 (±0,5)	5,5	5,5	6,5	6,5	10	10
S5 (H13)	6,6	6,6	9	9	11	11
Weight g	140	230	370	540	1000	1700

### Rear male clevis (MP4)

Ordering code

1393.Ø.09/1F



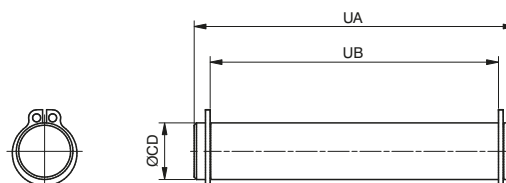
Similar to 09 clevis except for the connection, which is male rather than female. Used to mount the cylinder either parallel or at a right angle to the plane; the cylinder rod can oscillate and self-align as necessary when under load. Made of stainless steel AISI 316.

Bore	32	40	50	63	80	100
CD (H 9)	10	12	12	16	16	20
E	45	55	65	75	95	115
EW ( $^{0,2}_{-0,6}$ )	26	28	32	40	50	60
H	10	10	10	12	14	16
L	12	15	17	20	22	25
ØS (H11)	30	35	40	45	45	55
N	5	5	5	5	/	/
R (H13)	5,5	5,5	7,5	7,5	9	9
MR	10	12	12	16	16	20
TG	32,5	38	46,5	56,5	72	89
XD	142	160	170	190	210	230
L2 ( $\pm 0,5$ )	5,5	5,5	6,5	6,5	10	10
S5 (H13)	6,6	6,6	9	9	11	11
Weight g	180	280	370	680	1200	2100

### Pin with circlips for rear clevis (MP4 and MP2)

Ordering code

1393.Ø.37F



Stainless steel AISI 316 pin, complete with stainless steel circlips, which can be used with clevis code 1393.Ø.09/1F and 1393.Ø.09F

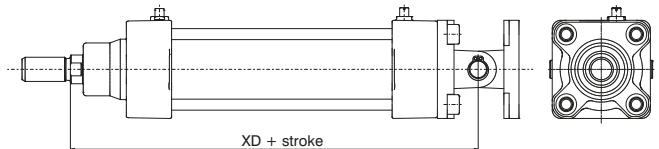
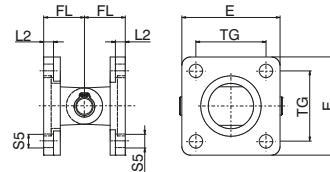
Bore	32	40	50	63	80	100
CD (e8)	10	12	12	16	16	20
UA	53	60	68	78	98	118
UB ( $^{0,5}_{-0}$ )	46	53	61	71	91	111
Weight g	35	50	60	120	150	290

### Standard complete trunnion

Ordering code

**1393.Ø.22F**

Mounting consists of rear clevis code 1380.Ø09F  
+ rear male clevis code 1380.Ø.09/1F  
(ordering separately)



Made of stainless steel AISI 316.

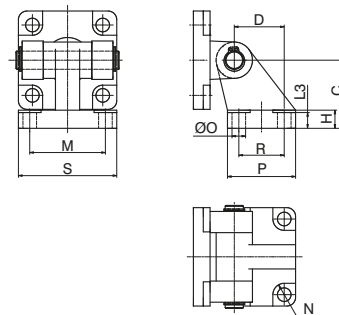
Bore	32	40	50	63	80	100
E	45	55	65	75	95	115
FL	22	25	27	32	36	41
L 2 ( $\pm 0,5$ )	5,5	5,5	6,5	6,5	10	10
S 5	6,6	6,6	9	9	11	11
TG	32,5	38	46,5	56,5	72	89
XD	142	160	170	190	210	230
Weight g	360	580	780	1370	2370	4110

### Square angle trunnion (AB7)

Ordering code

**1393.Ø.35F**

Counter clevis can be ordered  
separately with code 1393.Ø.11/2F



Made of stainless steel AISI 316.

Bore	32	40	50	63	80	100
D (JS 15)	21	24	33	37	47	55
C (JS 15)	32	36	45	50	63	71
H	8	10	12	12	14	15
N (H 13)	5,5	5,5	7,5	7,5	9	9
L3	6,5	8,5	10,5	10,5	11,5	12,5
R (JS 14)	18	22	30	35	40	50
P	31	35	45	50	60	70
O (H 13)	6,6	6,6	9	9	11	11
S	51	54	65	67	86	96
M (JS 14)	38	41	50	52	66	76
XD	142	160	170	190	210	230
Weight g	330	520	810	1200	2200	4710

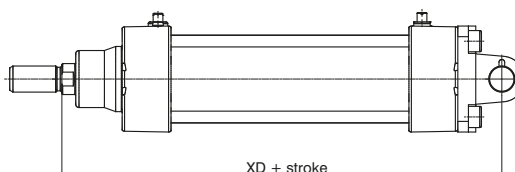
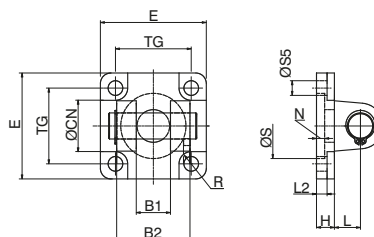
### Rear narrow clevis (AB6)

Ordering code

1393.Ø.30F



Utilised with clevis 1393.Ø.15F allows the cylinder to oscillate in all directions (see standard complete trunnion 1393.Ø.36F)  
Made of stainless steel AISI 316.

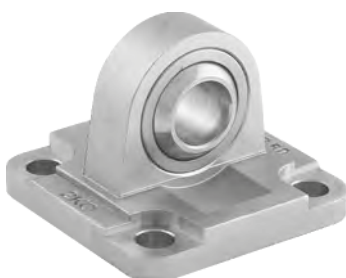


Bore	32	40	50	63	80	100
B1 (H 14)	14	16	21	21	25	25
B2 (h 14)	34	40	45	51	65	75
ØCN	10	12	16	16	20	20
E	45	55	65	75	95	115
H	10	10	10	12	14	16
L	12	15	17	20	22	25
L2 (±0,5)	5,5	5,5	6,5	6,5	10	10
S5 (H 13)	6,6	6,6	9	9	11	11
TG	32,5	38	46,5	56,5	72	89
XD	142	160	170	190	210	230
ØS (H 12)	30	35	40	45	45	55
R (H 13)	5,5	5,5	7,5	7,5	9	9
N	5	5	5	5	5	5
Weight g	170	270	420	650	1380	2050

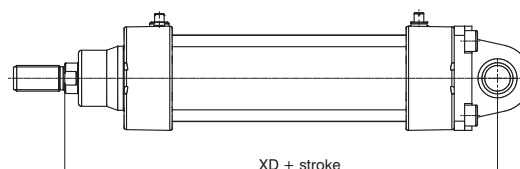
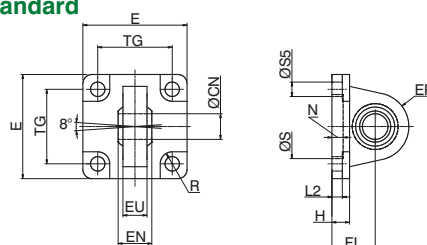
### Rear male clevis (MP6) with jointed head according to DIN 648K standard

Ordering code

1393.Ø.15F



Utilised with clevis 1393.Ø.30F allows the cylinder to oscillate in all directions.  
Made of stainless steel AISI 316.



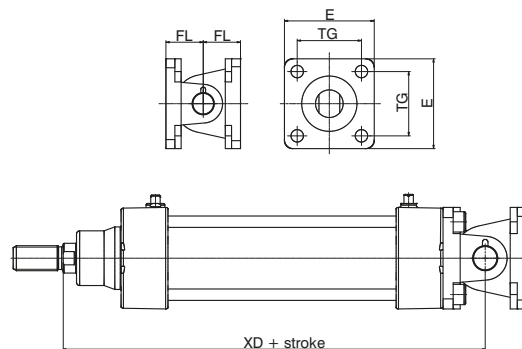
Bore	32	40	50	63	80	100
ØCN (H 7)	10	12	16	16	20	20
E	45	55	65	75	95	115
EN (-0.1)	14	16	21	21	25	25
ER	15	18	20	23	27	30
EU	10,5	12	15	15	18	18
FL (JS 15)	22	25	27	32	36	41
H	10	10	10	12	14	16
L2	5,5	5,5	6,5	6,5	10	10
S5 (H 13)	6,6	6,6	9	9	11	11
TG	32,5	38	46,5	56,5	72	89
XD	142	160	170	190	210	230
ØS (H 11)	30	35	40	45	45	55
R (H 13)	5,5	5,5	7,5	7,5	9	9
N	5	5	5	5	5	5
Weight g	150	260	370	600	1130	1800

► Standard complete trunnion with jointed head according to DIN 648K standard

Ordering code

**1393.Ø.36F**

Mounting consists of rear narrow clevis  
code 1393.Ø.30F  
with rear male clevis code 1393.Ø.15F



Made of stainless steel AISI 316.

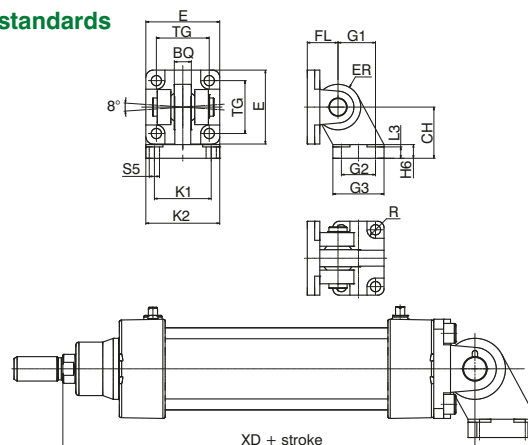
Bore	32	40	50	63	80	100
E	45	55	65	75	95	115
FL (JS 15)	22	25	27	32	36	41
TG	32,5	38	46,5	56,5	72	89
XD	142	160	170	190	210	230
Weight g	320	530	790	1250	2510	3850

► Complete square angle trunnion with jointed head acc. to DIN 648K standards

Ordering code

**1393.Ø.27F**

Mounting consist of rear narrow clevis  
cod. 1393.Ø.30F  
with Simple square counter clevis cod. 1393.Ø.28F  
(ordering separately)



Made of stainless steel AISI 316.

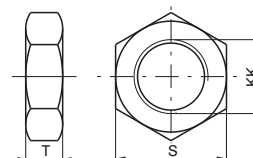
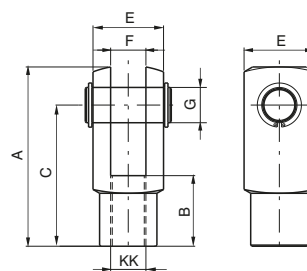
Bore	32	40	50	63	80	100
CH (JS 15)	32	36	45	50	63	71
E	45	55	65	75	95	115
FL	22	25	27	32	36	41
G1 (JS 15)	21	24	33	37	47	55
G2 (JS 14)	18	22	30	35	40	50
G3	31	35	45	50	60	70
H6	10	10	12	12	14	15
K1 (JS 14)	38	41	50	52	66	76
K2	51	54	65	67	86	96
L3 (+0,5/-0)	8,5	8,5	10,5	10,5	11,5	12,5
S5 (H13)	6,6	6,6	9	9	11	11
TG	32,5	38	46,5	56,5	72	89
XD	142	160	170	190	210	230
BQ	10,5	12	15	15	18	18
ER	15	18	20	23	27	30
R (H 13)	5,5	5,5	7,5	7,5	9	9
Weight g	350	540	880	1200	2350	3380

### Rod fork and nuts

Ordering code

1393.Ø.13F

1393.Ø.18F



**Fork:**  
Element that when screwed to the rod consents a regular functioning even when there are significant lateral forces as the connection point.  
Made of stainless steel AISI 303.

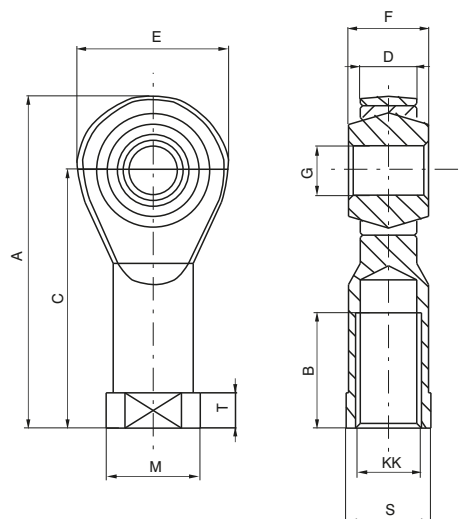
**Nut:**  
Used to block the position of the fork.  
Made of stainless steel AISI 316.

Bore	32	40	50	63	80	100
A	52	62	83	83	105	105
B	20	24	32	32	40	40
C	40	48	64	64	80	80
E	20	24	32	32	40	40
F(B13)	10	12	16	16	20	20
G	10	12	16	16	20	20
S	17	19	24	24	30	30
T	6	7	8	8	9	9
KK	M10X1,25 M12X1,25 M16X1,5 M16X1,5 M20X1,5 M20X1,5					
Weight	fork	100	140	340	340	680
g	Nut	15	20	20	20	40

### Ball joint

Ordering code

1393.Ø.32F



**Ball joint:**  
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	32	40	50	63	80	100
A	57	66	85	85	102	102
B	20	22	28	28	33	33
C	43	50	64	64	77	77
D	10,5	12	15	15	18	18
E	28	32	42	42	50	50
F	14	16	21	21	25	25
G (H 7)	10	12	16	16	20	20
KK	M10x1,25 M12x1,25 M16x1,5 M16x1,5 M20x1,5 M20x1,5					
M	19	22	27	27	34	34
S	17	19	22	22	30	30
T	6,5	6,5	8	8	10	10
Weight g	75	110	220	220	410	410