

Series 90 stainless steel cylinders

Single- and double-acting, cushioned, magnetic
 ø 32, 40, 50, 63, 80, 100 and 125 mm



- » In compliance with ISO 15552 standards and with the previous DIN/ISO 6431/VDMA 24562 standards
- » Clean design
- » Stainless steel AISI 316
- » End-stroke cushioning

Series 90 cylinders are suitable for use in harsh environmental conditions as in the offshore, naval, pharmaceutical, nuclear and food industries.

This series of cylinders is normally equipped with end of stroke buffers with adjustable pneumatic cushioning. Moreover, they are equipped with a mechanical cushioning that makes the impact of the piston less noisy as it reaches the end of the stroke.

GENERAL DATA

Construction	with tie-rods
Operation	single-acting or double-acting
Materials	- end blocks, barrel and rod in stainless steel AISI 316 - seals in NBR - plastic guiding element, NSF H1-certified lubricant
Mountings	several types of cylinders mounting brackets available
Stroke	25 ÷ 800 mm
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar
Speed	10 ÷ 1000 mm/sec (no load)
Media	Filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR CYLINDER SERIES 90

- ✕ = Double-acting
• = Single-acting

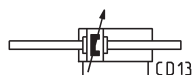
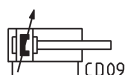
STANDARD STROKES													
Ø	25	50	80	100	125	150	160	200	250	300	320	400	500
32	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
40	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
50	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
63	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
80	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
100	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
125		✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

CODING EXAMPLE

90	M	2	A	050	A	0200	
90	SERIES						
M	VERSION M = standard, magnetic						
2	OPERATION 1 = single-acting, front spring 2 = double-acting, front and rear cushions 6 = double-acting, through-rod, front and rear cushions				PNEUMATIC SYMBOLS CS06 CD09 CD13		
A	MATERIALS A = stainless steel AISI 316, seals in NBR V = stainless steel AISI 316, all seals in FKM (150°C)						
050	BORE 032 = 32 mm - 040 = 40 mm - 050 = 50 mm - 063 = 63 mm 080 = 80 mm - 100 = 100 mm - 125 = 125 mm						
A	TYPE OF DESIGN A = standard with piston rod lock nut Mod. U						
0200	STROKE (see the table)						
= standard V = rod seal in FKM							

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



ACCESSORIES FOR STAINLESS STEEL CYLINDERS SERIES 90



Foot mount Mod. B



Front and rear flange
Mod. D-E



Rear trunnion, female
Mod. C-H



Rear trunnion, male
Mod. L



Tight rear female tr.
bracket Mod. CR



Male tr. bracket with
swivel ball joint Mod. R



90° male tr. bracket + sw.
ball joint Mod. ZCR



90° male trunnion
Mod. ZC



Rod fork end Mod. G-90



Clevis pin Mod. S-90



Anti-rotation clevis pin
Mod. SR-90



Swivel ball joint
Mod. GA-90



Piston rod lock nut
Mod. U-90

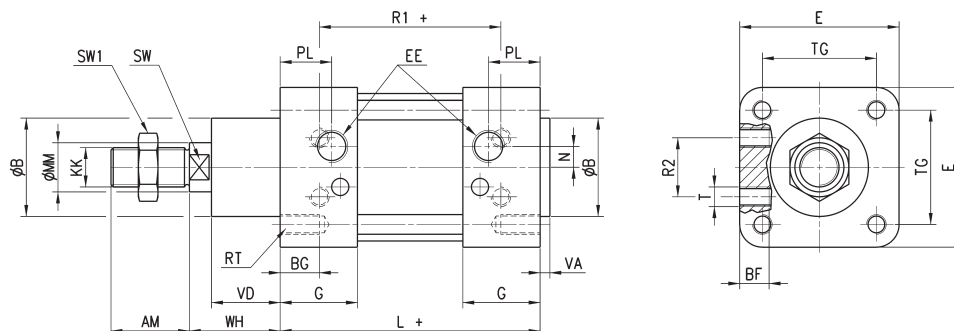


All accessories are supplied separately, except for the piston rod lock nut Mod. U

Cylinders Series 90



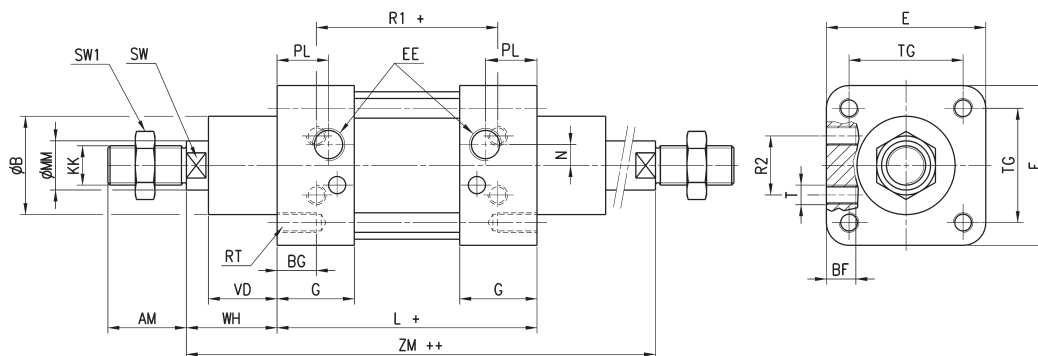
+ = add the stroke



DIMENSIONS

Ø	AM	B	BF	BG	E	EE	G	KK	L	MM	N	PL	RT	R1	R2	SW	SW1	T	TG	VA	VD	WH
32	22	30	10	16	45	G1/8	28	M10x1.25	94	12	4.5	14	M6	64	16	10	17	M5	32.5	4	20	26
40	24	35	10	16	55	G1/4	31.5	M12x1.25	105	16	5.5	16	M6	70	21	13	19	M6	38	4	22	30
50	32	40	12	16	65	G1/4	31.5	M16x1.5	106	20	8.5	21	M8	74	24	17	24	M8	46.5	4	28	37
63	32	45	12	16	80	G3/8	35	M16x1.5	121	20	8.5	22	M8	85	33	17	24	M8	56.5	4	28	37
80	40	45	15	16	95	G3/8	36	M20x1.5	128	25	8.5	23	M10	92	34	21	30	M10	72	4	34	46
100	40	55	15	16	115	G1/2	41	M20x1.5	138	25	10	26	M10	100	58	21	30	M10	89	4	38	51
125	54	60	24	20	140	G1/2	45	M27x2	160	32	12.5	30	M12	110	65	27	41	M12	110	5	50	65

Cylinders Series 90 - through-rod


 + = add the stroke once
 ++ = add the stroke twice


DIMENSIONS

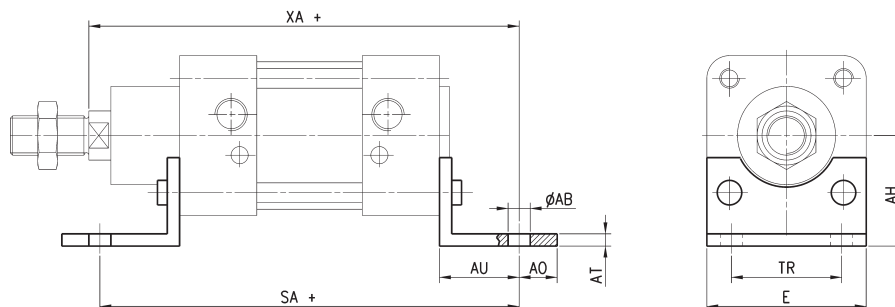
Ø	AM	B	BF	BG	E	EE	G	KK	L	MM	N	PL	RT	R1	R2	SW	SW1	T	TG	VD	WH	ZM
32	22	30	10	16	45	G1/8	28	M10x1.25	94	12	4.5	14	M6	64	16	10	17	M5	32.5	20	26	146
40	24	35	10	16	55	G1/4	31.5	M12x1.25	105	16	5.5	16	M6	70	21	13	19	M6	38	22	30	165
50	32	40	12	16	65	G1/4	31.5	M16x1.5	106	20	8.5	21	M8	74	24	17	24	M8	46.5	28	37	180
63	32	45	12	16	80	G3/8	35	M16x1.5	121	20	8.5	22	M8	85	33	17	24	M8	56.5	28	37	195
80	40	45	15	16	95	G3/8	36	M20x1.5	128	25	8.5	23	M10	92	34	21	30	M10	72	34	46	220
100	40	55	15	16	115	G1/2	41	M20x1.5	138	25	10	26	M10	100	58	21	30	M10	89	38	51	240
125	54	60	24	20	140	G1/2	45	M27x2	160	32	12.5	30	M12	110	65	27	41	M12	110	50	65	290

Foot mount Mod. B

Material: stainless steel 316



Supplied with:
2x feet
4x screws
+ = add the stroke



DIMENSIONS

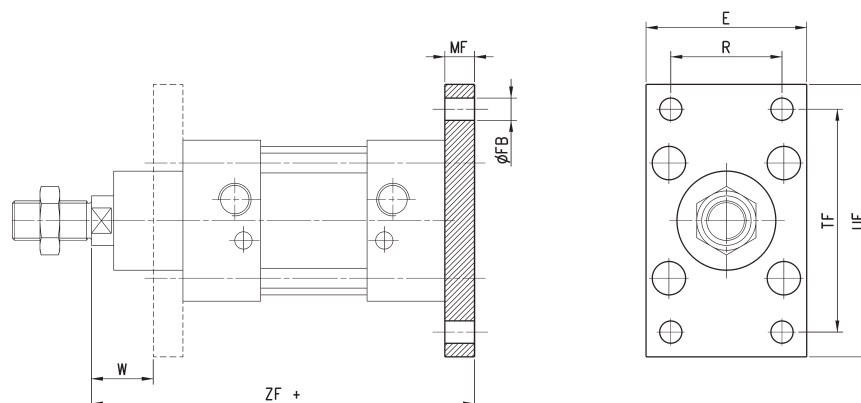
Mod.	Ø	ØAB	AH	AO	AT	AU	E	TR	SA+	XA+
B-90-32	32	7	32	11	4	24	45	32	142	144
B-90-40	40	9	36	8	4	28	52	36	161	163
B-90-50	50	9	45	15	5	32	65	45	170	175
B-90-63	63	9	50	13	5	32	75	50	185	190
B-90-80	80	12	63	14	6	41	95	63	210	215
B-90-100	100	14	75	16	6	41	115	75	220	230
B-90-125	125	16	90	25	8	45	140	90	250	270

Front and rear flange Mod. D-E

Material: stainless steel 316



Supplied with:
1x flange
4x screws
+ = add the stroke



DIMENSIONS

Mod.	Ø	E	ØFB	MF	TF	UF	W	ZF+	R
D-E-90-32	32	45	7	10	64	80	16	130	32
D-E-90-40	40	52	9	10	72	90	20	145	36
D-E-90-50	50	65	9	12	90	110	25	155	45
D-E-90-63	63	75	9	12	100	120	25	170	50
D-E-90-80	80	95	12	15	126	150	30	190	63
D-E-90-100	100	115	14	15	150	170	35	205	75
D-E-90-125	125	140	16	20	180	205	45	245	90

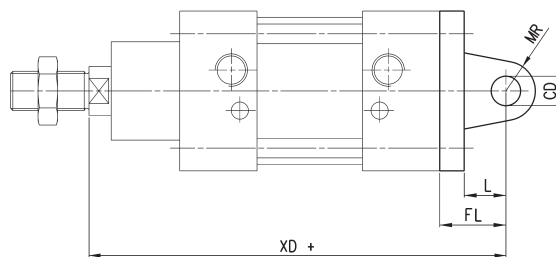
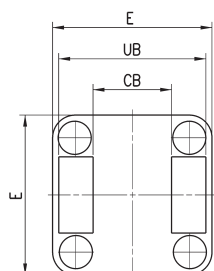
Rear trunnion, female Mod. C-H

Material: stainless steel 316



Supplied:
1x female trunnion
4x screws

+ = add the stroke



DIMENSIONS

Mod.	Ø	CB	CD	E	FL	L	MR	UB	XD+
C-H-90-32	32	26	10	45	22	12	10	45	142
C-H-90-40	40	28	12	55	25	15	12	52	161
C-H-90-50	50	32	12	65	27	17	12	60	170
C-H-90-63	63	40	16	75	32	20	16	70	185
C-H-90-80	80	50	16	95	36	22	16	90	210
C-H-90-100	100	60	20	115	41	25	20	110	230
C-H-90-125	125	70	25	140	50	30	25	130	275

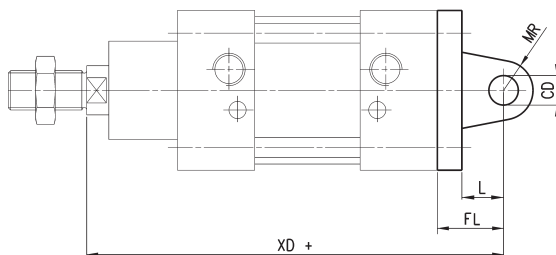
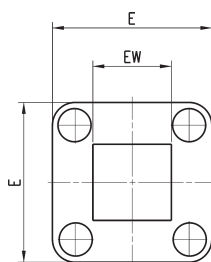
Rear trunnion, male Mod. L

Material: stainless steel 316



Supplied:
1x male trunnion
4x screws

+ = add the stroke



DIMENSIONS

Mod.	Ø	EW	CD	E	FL	L	MR	XD+
L-90-32	32	26	10	45	22	12	10	142
L-90-40	40	28	12	55	25	15	12	161
L-90-50	50	32	12	65	27	17	12	170
L-90-63	63	40	16	75	32	20	16	185
L-90-80	80	50	16	95	36	22	16	210
L-90-100	100	60	20	115	41	25	20	230
L-90-125	125	70	25	140	50	30	25	275

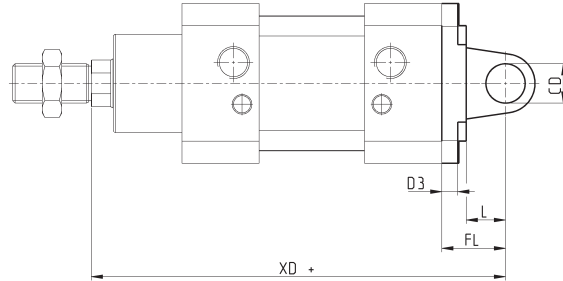
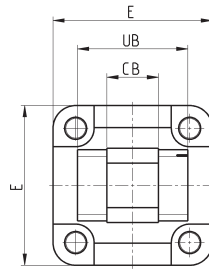
Tight rear female trunnion bracket Mod. CR

Material: stainless steel 316



Supplied with:
1x female trunnion bracket
4x screws

+ = add the stroke



DIMENSIONS

Mod.	Ø	CB	CD	E	FL	L	UB	XD	D3
CR-90-32	32	14	10	45	22	12	34	142	5.5
CR-90-40	40	16	12	55	25	25	40	161	5.5
CR-90-50	50	21	16	65	27	27	45	170	6.5
CR-90-63	63	21	16	75	32	32	51	185	6.5
CR-90-80	80	25	20	95	36	36	65	210	10
CR-90-100	100	25	20	114	41	41	75	230	10
CR-90-125	125	37	30	140	50	50	97	275	10

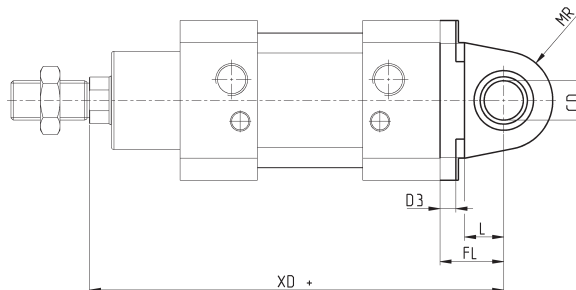
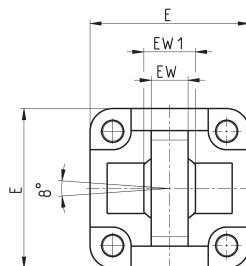
Male trunnion bracket with swivel ball joint Mod. R

Material: stainless steel 316



Supplied with:
1x male trunnion bracket
4x screws

+ = add the stroke



DIMENSIONS

Mod.	Ø	EW	EW1	CD	E	FL	L	MR	XD	D3
R-90-32	32	10.5	14	10	45	22	12	15	142	5.5
R-90-40	40	12	16	12	55	25	15	18	161	5.5
R-90-50	50	15	21	16	65	27	17	20	170	6.5
R-90-63	63	15	21	16	75	32	20	23	185	6.5
R-90-80	80	18	25	20	95	36	22	27	210	10
R-90-100	100	18	25	20	115	41	25	30	230	10
R-90-125	125	25	37	30	140	50	30	40	275	10

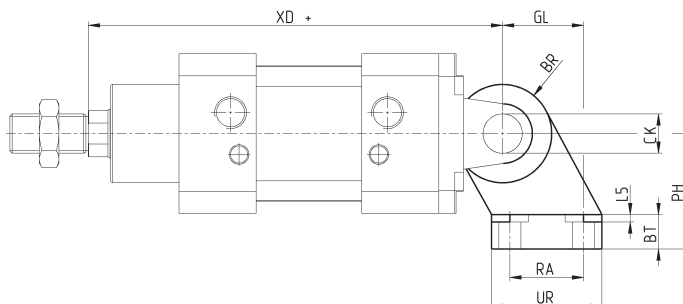
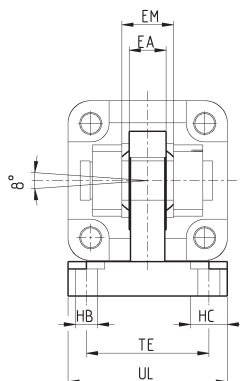
90° male trunnion bracket with swivel ball joint Mod. ZCR

Material: stainless steel 316



Supplied with:
1x male trunnion bracket
4x screws

+ = add the stroke



DIMENSIONS

Mod.	Ø	UL	TE	EA	EM	XD	GL	BR	CK	PH	L5	BT	HB	RA	UR	HC
ZCR-90-32	32	51	38	10.5	14	142	21	15	10	32	1.5	10	6.6	18	31	11
ZCR-90-40	40	54	41	12	16	160	24	18	12	36	1.5	10	6.6	22	35	11
ZCR-90-50	50	65	50	15	21	170	33	20	16	45	1.5	12	9	30	45	15
ZCR-90-63	63	67	52	15	21	190	37	23	16	50	1.5	12	9	35	50	15
ZCR-90-80	80	86	66	18	25	210	47	27	20	63	2.5	14	11	40	60	18
ZCR-90-100	100	96	76	18	25	230	55	30	20	71	2.5	15	11	50	70	18
ZCR-90-125	125	124	94	25	37	275	70	40	30	90	3	20	13.5	60	90	20

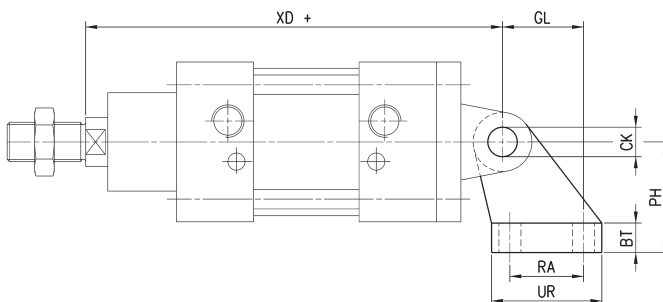
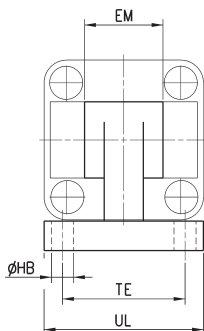
90° male trunnion Mod. ZC

Material: stainless steel 316



Supplied with:
1x male support

+ = add the stroke

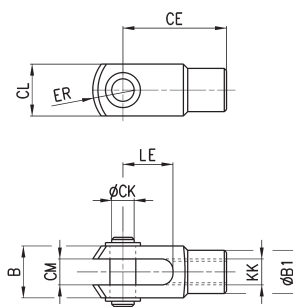


DIMENSIONS

Mod.	Ø	BT	CK	EM	GL	ØHB	PH	RA	TE	UL	UR	XD+
ZC-90-32	32	8	10	26	21	6,6	32	18	38	51	31	142
ZC-90-40	40	10	12	28	24	6,6	36	22	41	54	35	161
ZC-90-50	50	12	12	32	33	9	45	30	50	65	45	170
ZC-90-63	63	12	16	40	37	9	50	35	52	67	50	185
ZC-90-80	80	14	16	50	47	11	63	40	66	86	60	210
ZC-90-100	100	15	20	60	55	11	71	50	76	96	70	230
ZC-90-125	125	20	25	70	70	14	90	60	94	124	90	275

Rod fork end Mod. G-90

Material: stainless steel 303
ISO 8140

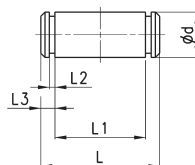


DIMENSIONS

Mod.	Ø	ØCK	LE	CM	CL	ER	CE	KK	B	ØB1
G-90-25-32	32	10	20	10	20	12	40	M10x1,25	26	18
G-90-40	40	12	24	12	24	14	48	M12x1,25	31	20
G-90-50-63	50-63	16	32	16	32	19	64	M16x1,5	39	26
G-90-80-100	80-100	20	40	20	40	25	80	M20x1,5	50	34
G-90-125	125	30	54	30	55	38	110	M27x2	67	48

Clevis pin Mod. S-90

Material: stainless steel 303

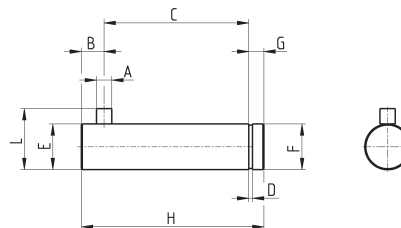


DIMENSIONS

Mod.	Ø	Ød	L	L1	L2	L3
S-90-32	32	10	53	46	1,1	3
S-90-40	40	12	60	53	1,1	3
S-90-50	50	12	68	61	1,1	3
S-90-63	63	16	78	71	1,1	3
S-90-80	80	16	98	91	1,1	3
S-90-100	100	20	118	111	1,3	5
S-90-125	125	25	139	132	1,3	4,2

Antirotating clevis pin Mod. SR-90

Supplied with:
1x antirotating clevis pin
(stainless steel 316)
1x seeger (steel)



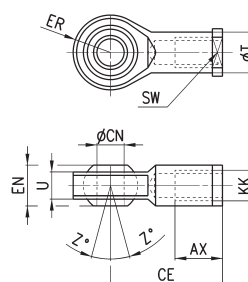
DIMENSIONS

Mod.	Ø	A	B	C	D	E	F	G	H	L
SR-90-32	32	3	4.5	32.5	1.1	10	9.6	4	41	14
SR-90-40	40	4	6	38	1.1	12	11.5	4	48	46
SR-90-50	50	4	6	43	1.1	16	15.2	5	54	20
SR-90-63	63	4	6	49	1.1	16	15.2	5	60	20

Swivel ball joint Mod. GA-90

ISO 8139

Materials:
- stainless steel 304 bracket
- stainless steel 420 spherical ring
- sintered bronze bushing



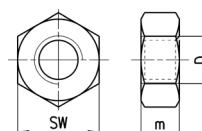
DIMENSIONS

Mod.	Ø	ØCN	U	EN	ER	AX	CE	KK	ØT	Z	SW
GA-90-32	32	10	10,5	14	14	20	43	M10x1,25	15	6,5	17
GA-90-40	40	12	12	16	16	22	50	M12x1,25	17,5	6,5	19
GA-90-50-63	50-63	16	15	21	21	28	64	M16x1,5	22	7,5	22
GA-90-80-100	80-100	20	18	25	21	33	77	M20x1,5	27,5	7	30
GA-90-125	125	30	25	35	35	51	110	M27x2	40	7,5	41

Piston rod lock nut Mod. U-90

ISO 4035

Material: stainless steel 304



DIMENSIONS

Mod.	Ø	D	m	SW
U-90-25-32	32	M10x1,25	6	17
U-90-40	40	M12x1,25	7	19
U-90-50-63	50-63	M16x1,5	8	24
U-90-80-100	80-100	M20x1,5	9	30
U-90-125	125	M27x2	12	41

Series 94 and 95 stainless steel mini-cylinders

Single-acting and double-acting, magnetic

Series 94: $\varnothing$ 16, 20, 25 mm

Series 95: $\varnothing$ 25 mm, cushioned



» In compliance with Cetop RP52-P and DIN/ISO 6432 standards

» Clean design

» Stainless steel AISI 304 and AISI 316

Series 94 and 95 cylinders are suitable for use in the off-shore, naval, pharmaceutical, nuclear and food industries.

Their construction enables the replacement of all seals. Series 95 is normally equipped with adjustable end-stroke cushioning by means of a screw on the end block. In addition both Series 94 and 95 are equipped with a mechanical cushioning in order to make the impact of the piston less noisy as it reaches the end of the stroke.

GENERAL DATA

Construction	end blocks secured to the tube
Operation	single-acting and double-acting
Materials	end blocks and rod in stainless steel AISI 316, seals in NBR, plastic guiding element, NSF H1-certified lubricant Series 94: tube in stainless steel AISI 304 Series 95: tube in stainless steel AISI 316
Mounting	several types of cylinders clamps available
Strokes min - max	10 ÷ 500 mm
Operating temperature	0° - 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Speed	10 ÷ 1000 mm/sec (without load)
Fluid	clean air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR MINICYLINDERS SERIES 94 AND 95

- = single-acting
- ✕ = double-acting

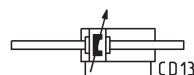
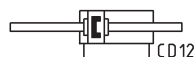
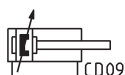
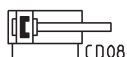
STANDARD STROKES		10	25	40	50	80	100	125	160	200	250	300	320	400	500
94	16	✕	✕	✕	✕	✕	✕	✕	✕	✕					
94	20	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕			
94	25	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
95	25	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

CODING EXAMPLE

94	N	2	A	16	A	100	
94	SERIES 94 = magnetic 95 = magnetic, cushioned						
N	VERSION N = standard						
2	OPERATION 1 = single-acting, front spring 2 = double-acting 3 = double-acting, through-rod				PNEUMATIC SYMBOLS CS06 (S. 94) CD08 (S. 94) - CD09 (S. 95) CD12 (S. 94) - CD13 (S. 95)		
A	MATERIALS A = stainless steel, seals in NBR V = stainless steel, all seals in FKM (150°C)						
16	BORE 16 = 16 mm - 20 = 20 mm - 25 = 25 mm						
A	TYPE OF DESIGN A = standard with locking ring for end cap Mod. V and piston rod lock nut Mod. U						
100	STROKE (see the table)						
	= standard V = rod seal in FKM						

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



ACCESSORIES FOR STAINLESS STEEL MINICYLINDERS SERIES 94 AND 95



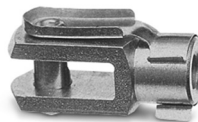
Foot mount Mod. B



Flange bracket Mod. E



Trunnion bracket Mod. I



Rod fork end
Mod. G-94/90



Swivel ball joint
Mod. GA-94/90



Piston rod lock nut
Mod. U-94/90



Nose nut Mod. V-94 and
Mod. U-90



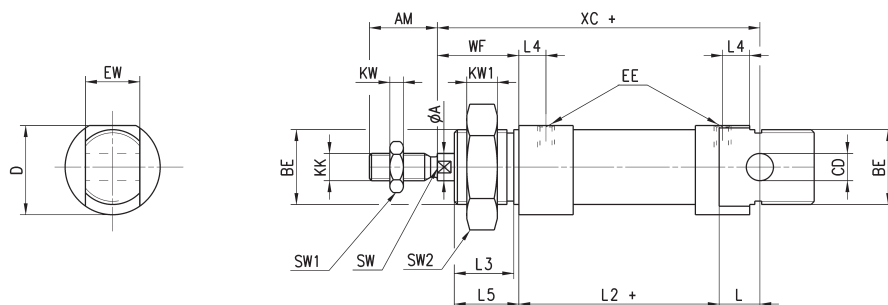
All accessories are supplied separately, except for piston rod lock nut Mod. U

Cylinders Series 94 and 95

With threaded front and rear end blocks



+ = add the stroke

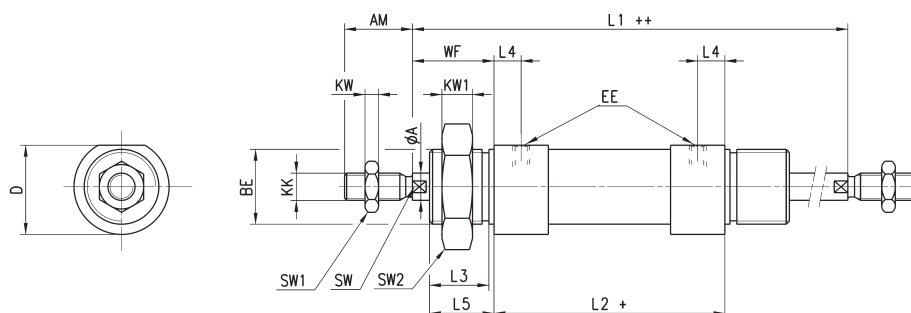


DIMENSIONS

Mod.	Ø	A	AM	BE	CD	D	EE	EW	KK	KW	KW1	L	L2	L3	L4	L5	SW	SW1	SW2	WF	XC
94	94	6	16	M16x1.5	6	21.2	M5	12	M6	4	5	9	51	14	5.5	15	5	10	24	22	82
94	94	8	20	M22x1.5	8	26.2	G1/8	16	M8	5	5	12	59	17.5	8	19	7	13	32	24	95
94-95	94-95	10	22	M22x1.5	8	32.5	G1/8	16	M10x1.25	6	5	12	64	18.5	7.5	20	8	17	32	28	104

Cylinders Series 94 and 95 - through-rod

With threaded end blocks


 + = add the stroke once
 ++ = add the stroke twice


DIMENSIONS

Mod.	Ø	A	AM	BE	D	EE	KK	KW	KW1	L1	L2	L3	L4	L5	SW	SW1	SW2	WF
94	94	6	16	M16x1.5	21.2	M5	M6	4	5	100	56	14	5.5	15	5	10	24	22
94	94	8	20	M22x1.5	26.2	G1/8	M8	5	5	116	68	17.5	8	19	7	13	32	24
94-95	94-95	10	22	M22x1.5	32.5	G1/8	M10x1.25	6	5	125	69	18.5	7.5	20	8	17	32	28

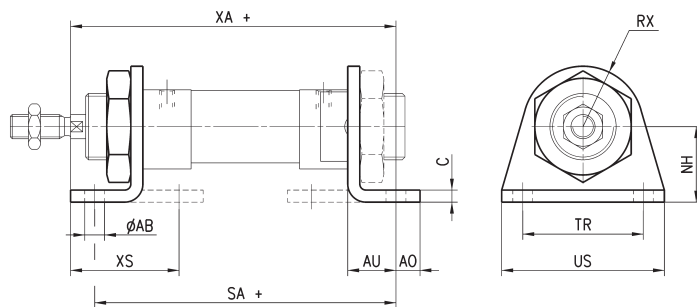
Foot mount Mod. B

Material: stainless steel 304

Supplied with:
2x feet
1x nut



+ = add the stroke



DIMENSIONS

Mod.	$\emptyset$	$\emptyset AB$	XS	XA+	SA+	AO	AU	C	RX	TR	US	NH
B-94-12-16	16	5,5	32	91	82	6	13	3	13	32	42	20
B-94-20-25	20	6,6	36	108	100	8	16	4	20	40	54	25
B-94-20-25	25	6,6	40	113	101	8	16	4	20	40	54	25

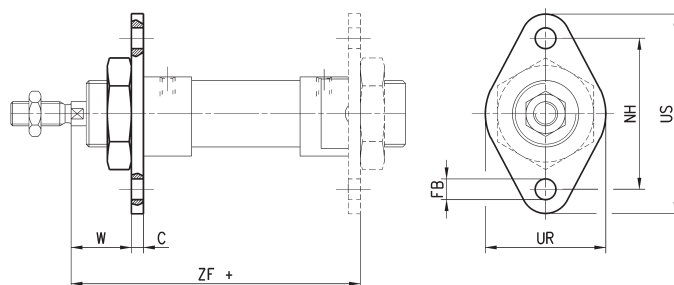
Flange bracket Mod. E

Material: stainless steel 304

Supplied with:
1x flange



+ = add the stroke

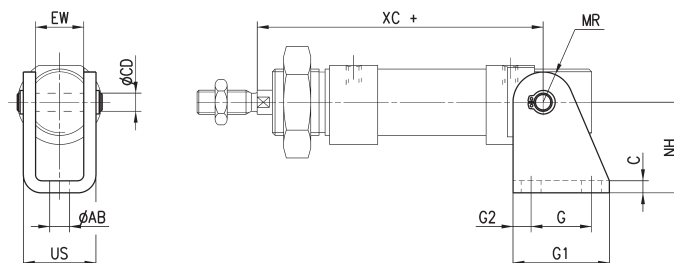


DIMENSIONS

Mod.	$\emptyset$	W	C	ZF+	FB	UR	TF	UF
E-94-12-16	16	19	3	81	5,5	30	40	53
E-94-20-25	20	20	4	96	6,6	40	50	66
E-94-20-25	25	24	4	101	6,6	40	50	66

Trunnion Bracket Mod. I

Material: stainless steel 304



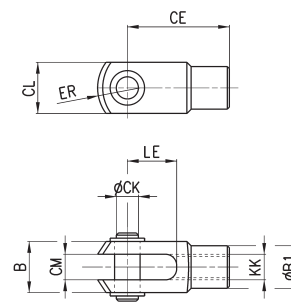
DIMENSIONS

Mod.	$\emptyset$	AB	C	CD	EW	G	G1	G2	MR	NH	US	XC+
I-94-12-16	16	5,5	3	6	12	15	25	5	7	27	18,1	82
I-94-20-25	20	6,6	4	8	16	20	32	6	10	30	24,1	95
I-94-20-25	25	6,6	4	8	16	20	32	6	10	30	24,1	104

Rod Fork End Mod. G-94/90

ISO 8140

Material: stainless steel 303



DIMENSIONS

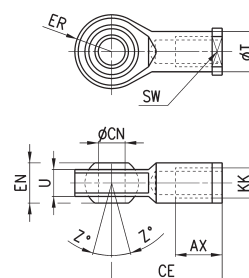
Mod.	Ø	CK	LE	KK	CM	ER	CE	CL	B	B1
G-94-12-16	16	6	12	M6x1	6	7	24	12	16	10
G-94-20	20	8	16	M8x1,25	8	10	32	16	22	14
G-90-25-32	25	10	20	M10x1,25	10	12	40	20	26	18

Swivel Ball Joint Mod. GA-94/90

ISO 8139

Materials:

- stainless steel 304 bracket
- stainless steel 420 spherical ring
- sintered bronze bushing



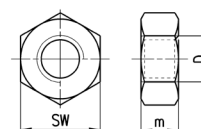
DIMENSIONS

Mod.	Ø	CN	U	EN	ER	AX	CE	KK	T	Z	SW
GA-94-12-16	16	6	7	9	10	12	30	M6x1	10	6,5	11
GA-94-20	20	8	9	12	12	16	36	M8x1,25	12,5	6,5	14
GA-90-32	25	10	10,5	14	14	20	43	M10x1,25	15	6,5	17

Piston Rod Lock Nut Mod. U-94/90

ISO 4035

Material: stainless steel 304



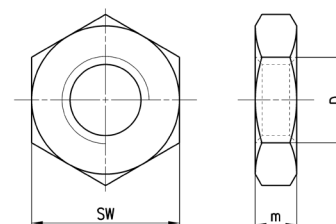
DIMENSIONS

Mod.	Ø	D	m	SW
U-94-12-16	16	M6x1	4	10
U-94-20	20	M8x1,25	5	13
U-90-25-32	25	M10x1,25	6	17

Nose Nut Mod. V-94 and Mod. U-90

ISO 4035

Material: stainless steel 304



DIMENSIONS

Mod.	Ø	D	m	SW
U-90-50-63	16	M16x1,5	8	24
V-94-20-25	20-25	M22x1,5	10	32

Series 97 stainless steel cylinders

Single and double-acting, cushioned, magnetic.
 ø 32, 40, 50, 63 mm



- » Clean design
- » Stainless steel AISI 304
- » Adjustable endstroke cushioning

Series 97 stainless steel cylinders are suitable for use in the off-shore, naval, pharmaceutical, nuclear and food industries.

These cylinders are normally equipped with end-stroke cushioning which can be adjusted through a screw on the end block.
 In order to quieten the impact of the piston on the end block, these cylinders are also equipped with mechanical cushioning.

GENERAL DATA

Type of construction	the end blocks are screwed to the tube with an intermediate Teflon ring
Operation	single-acting and double-acting
Materials	end blocks, tube, rod in stainless steel AISI 304 rod seals in PU, piston seals in NBR plastic guiding element, NSF H1-certified lubricant
Type of mounting	threaded front and rear locking ring pins on front cap ends rear male hinge articulated rear male hinge rear female hinge
Stroke min-max	25 ÷ 800 mm
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar
Speed	10 ÷ 1000 mm/sec (without load)
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

STANDARD STROKES FOR CYLINDERS SERIES 97

- = Single-acting
- ✕ = Double-acting

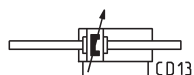
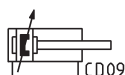
STANDARD STROKES														
Ø	25	50	75	80	100	125	150	160	200	250	300	320	400	500
32	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
40	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
50	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
63	✕•	✕•	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

CODING EXAMPLE

97	M	2	A	050	A	0200	
97							
SERIES							
M							
VERSIONS: M = rear male hinge S = articulated rear male hinge F = rear female hinge T = front and rear threaded end blocks A = front end block with pin							
2							
OPERATION: 1 = single-acting, front spring 2 = double-acting, front and rear cushions 6 = double-acting, through-rod, front and rear cushions (T and A versions only)						PNEUMATIC SYMBOLS: CS06 CD09 CD13	
A							
MATERIALS: A = stainless steel AISI 304 - PU seals V = stainless steel AISI 304 - FKM seals (150°C)							
050							
BORE: 032 = 32 mm - 040 = 40 mm - 050 = 50 mm - 063 = 63 mm							
A							
TYPE OF DESIGN: A = standard (locking ring for end cap V + lock nut for rod U)							
0200							
STROKE (see the table)							
= standard V = rod seal in FKM							

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



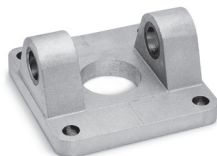
ACCESSORIES FOR STAINLESS STEEL CYLINDERS SERIES 97



Foot mount Mod. B



Trunnion bracket Mod. I



Rear female trunnion bracket Mod. C-H



Tight rear female tr. bracket Mod. CR



Male tr. bracket with swivel ball joint Mod. R



90° male tr. bracket + sw. ball joint Mod. ZCR



Rod fork end Mod. G-90



Swivel ball joint Mod. GA-90



Piston rod lock nut Mod. U-90



Nose nut Mod. V-97



Clevis pin Mod. S-90



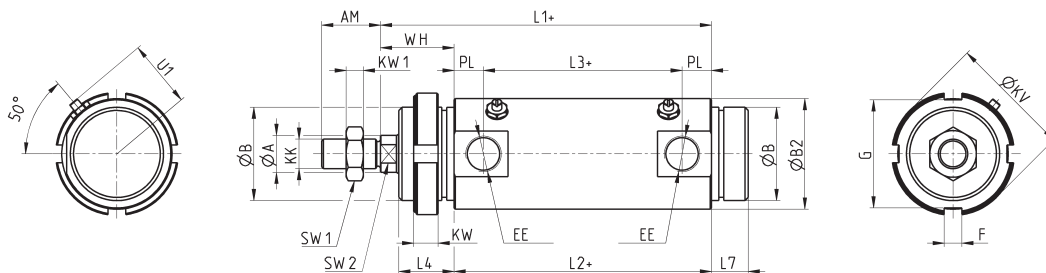
Anti-rotation clevis pin Mod. SR-90



All accessories are supplied separately, except for piston rod lock nut Mod. U and nose nut Mod. V.

Cylinders Series 97, Mod. T

With threaded front and rear end blocks



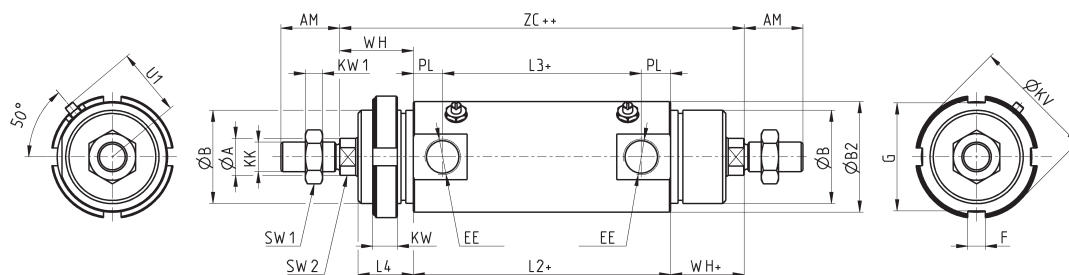
+ = add the stroke

DIMENSIONS

Ø	ØA	AM	ØB	ØB2	EE	F	G	KK	PL	SW1	KW1	SW2	U1	WH	L1+	L2+	L3+	L4	L7	KW	ØKV
32	12	22	M30x1.5	36	G1/8	5	38	M10x1.25	9	17	6	10	23	26	120	94	76	19.5	15	7	42
40	16	24	M38x1.5	45	G1/4	6	50	M12x1.25	12	19	7	13	27	30	135	105	81	22.5	15	8	55
50	20	32	M45x1.5	55	G1/4	6	53	M16x1.5	12	24	8	17	33	37	143	106	82	28	18	10	60
63	20	32	M45x1.5	68	G3/8	6	53	M16x1.5	13	24	8	17	40	37	158	121	95	28	18	10	60

Cylinders Series 97, Mod. T - through-rod

With threaded end blocks



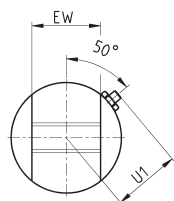
+ = add the stroke once
 ++ = add the stroke twice

DIMENSIONS

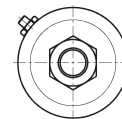
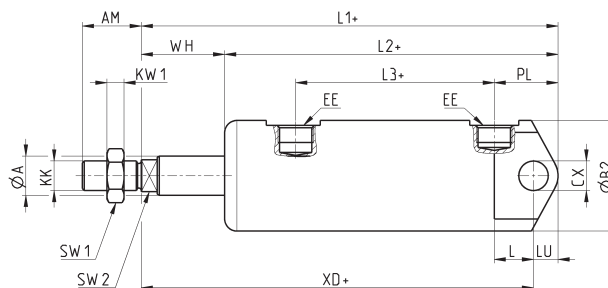
Ø	ØA	AM	ØB	ØB2	EE	F	G	KK	PL	SW1	KW1	SW2	U1	WH+	L2+	L3+	L4	KW	ØKV	ZC++
32	12	22	M30x1.5	36	G1/8	5	38	M10x1.25	9	17	6	10	23	26	94	76	19.5	7	42	146
40	16	24	M38x1.5	45	G1/4	6	50	M12x1.25	12	19	7	13	27	30	105	81	22.5	8	55	165
50	20	32	M45x1.5	55	G1/4	6	53	M16x1.5	12	24	8	17	33	37	106	82	28	10	60	180
63	20	32	M45x1.5	68	G3/8	6	53	M16x1.5	13	24	8	17	40	37	121	95	28	10	60	195

Cylinders Series 97, Mod. M

With rear male trunnion bracket



+ = add the stroke

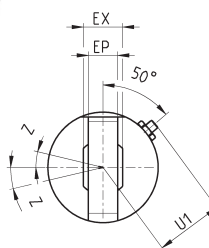


DIMENSIONS

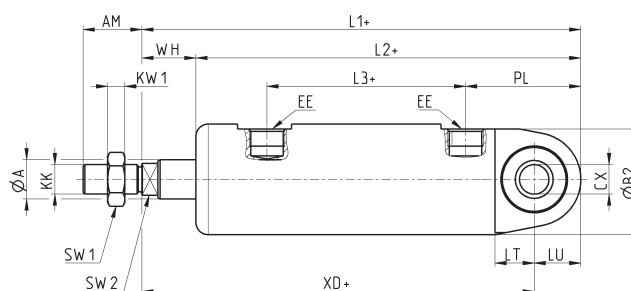
Ø	ØA	AM	ØB2	CX	EE	EW	KK	PL	SW1	KW1	SW2	U1	WH	L1+	L2+	L3+	L	LU	XD+
32	12	22	36	10	G1/8	26	M10x1.25	23	17	6	10	23	26	151	125	76	13	9	142
40	16	24	45	12	G1/4	28	M12x1.25	26	19	7	13	27	34	170	136	81	16	10	160
50	20	32	55	12	G1/4	32	M16x1.5	32	24	8	17	33	37	182	145	82	16.5	12	170
63	20	32	68	16	G3/8	40	M16x1.5	29.5	24	8	17	40	50	202	152	95	21	12	190

Cylinders Series 97, Mod. S

With articulated rear male trunnion bracket



+ = add the stroke



DIMENSIONS

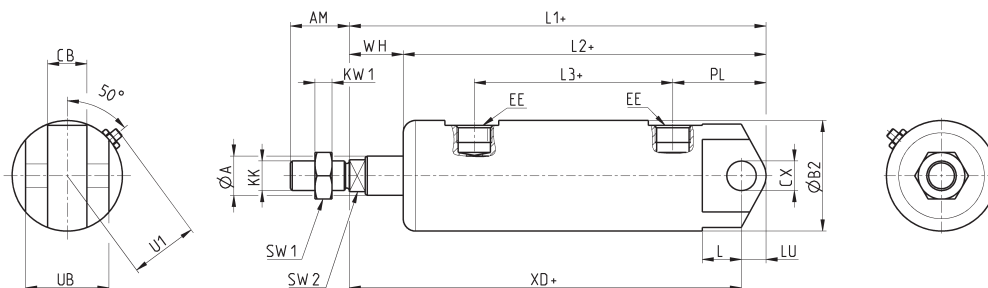
Ø	ØA	AM	ØB2	CX	EE	EP	EX	KK	PL	SW1	KW1	SW2	U1	WH	L1+	L2+	L3+	LT	LU	XD+	Z
32	12	22	36	10	G1/8	10.5	14	M10x1.25	37	17	6	10	23	18	157	139	76	13	15	142	13
40	16	24	45	12	G1/4	12	16	M12x1.25	47	19	7	13	27	22	179	157	81	16	19	160	13
50	20	32	55	16	G1/4	15	21	M16x1.5	49	24	8	17	33	28.5	190.5	162	82	16.5	20.5	170	15
63	20	32	68	16	G3/8	15	21	M16x1.5	60	24	8	17	40	31.5	214	182.5	95	21	24	190	15

Cylinders Series 97, Mod. F

With rear female trunnion bracket



+ = add the stroke



DIMENSIONS

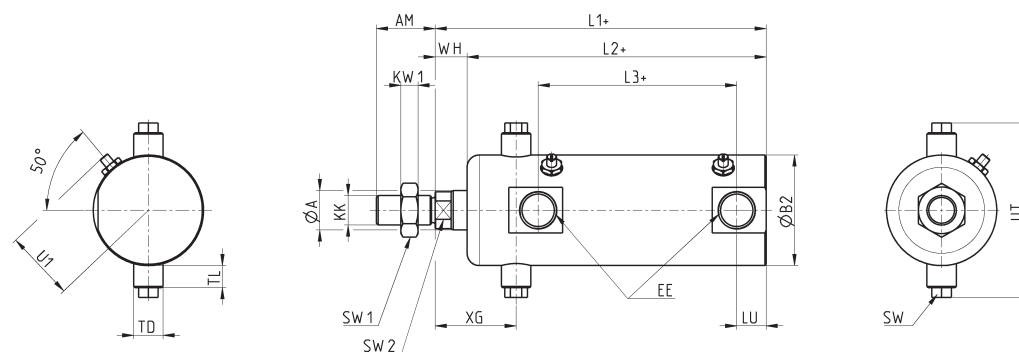
Ø	ØA	AM	ØB2	CB	CX	EE	KK	PL	SW1	KW1	SW2	U1	WH	L1+	L2+	L3+	L	LU	XD+	UB
32	12	22	36	14	10	G1/8	M10x1.25	31	17	6	10	23	18	151	133	76	13	9	142	34
40	16	24	45	16	12	G1/4	M12x1.25	38	19	7	13	27	22	170	148	81	16	10	160	40
50	20	32	55	21	16	G1/4	M16x1.5	40.5	24	8	17	33	28.5	182	153.5	82	16.5	12	170	45
63	20	32	68	21	16	G3/8	M16x1.5	48	24	8	17	40	31.5	202	170.5	95	21	12	190	51

Cylinders Series 97, Mod. A

With front end block with pins



+ = add the stroke



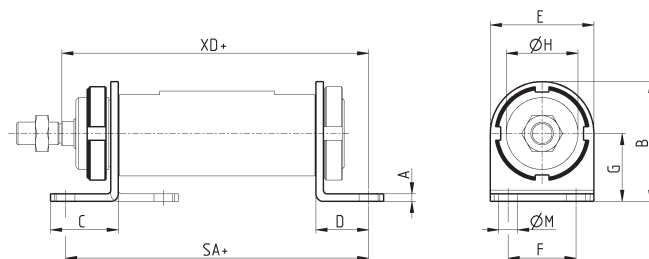
DIMENSIONS

Ø	ØA	AM	ØB2	EE	KK	SW	SW1	KW1	SW2	U1	WH	L1+	L2+	L3+	LU	XG	TD	TL	UT
32	12	22	36	G1/8	M10x1.25	8	17	6	10	23	9	120	111	76	9	27	10	7	58
40	16	24	45	G1/4	M12x1.25	8	19	7	13	27	13	135	122	81	12	33	12	9	71
50	20	32	55	G1/4	M16x1.5	8	24	8	17	33	18	143	125	82	12	40	14	9	81
63	20	32	68	G3/8	M16x1.5	12	24	8	17	40	22.5	158	135.5	95	13	45	16	12	104

Foot mount Mod. B

Material: stainless steel 304

Supplied with:
1x nut
2x single feet



+ = add the stroke

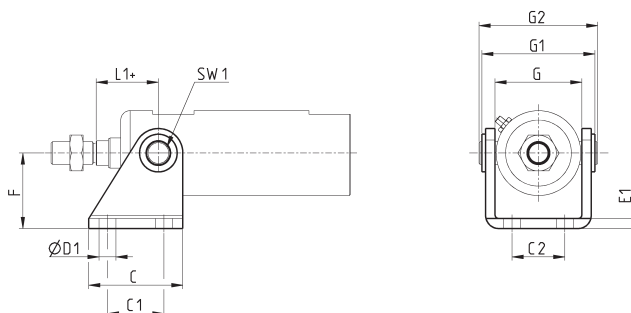
DIMENSIONS

Mod.	Ø	A	B	C	D	E	SA+	F	G	ØH	ØM	XD+
B-97-32	32	4	53	35	24	42	142	32	32	30	7	142
B-97-40	40	4	63.5	36	28	55	161	36	36	38	10	160
B-97-50	50	5	77.5	47	32	65	170	45	45	45	10	170
B-97-63	63	5	82.5	45	32	65	185	50	50	45	10	190

Trunnion bracket Mod. I

Material: stainless steel 304

Supplied with:
1x female trunnion
2x cartridges



+ = add the stroke

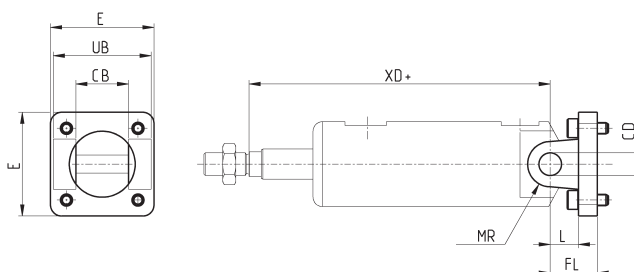
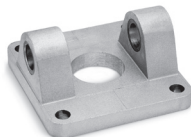
DIMENSIONS

Mod.	Ø	C	C1	C2	ØD1	E1	F	G	G1	G2	L1+	SW1
I-97-32	32	40	24	20	7	4	35	38	50	58	27	8
I-97-40	40	50	30	28	9	5	40	46	60	71	33	8
I-97-50	50	54	34	36	9	6	45	57	74	81	40	8
I-97-63	63	65	35	43	9	6	50	70	88	104	45	12

Rear female trunnion bracket Mod. C-H

Material: stainless steel 316

Supplied with:
1x female trunnion bracket
4x screws



+ = add the stroke

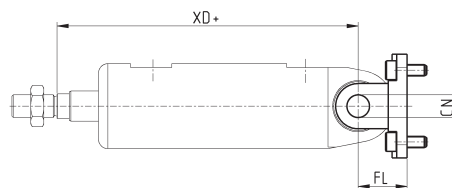
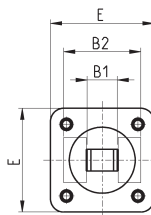
DIMENSIONS

Mod.	Ø	CB	CD	E	FL	L	MR	UB	XD+
C-H-90-32	32	26	10	45	22	12	10	45	142
C-H-90-40	40	28	12	55	25	15	12	52	160
C-H-90-50	50	32	12	65	27	17	12	60	170
C-H-90-63	63	40	16	75	32	20	16	70	190

Tight rear female trunnion bracket Mod. CR

Material: stainless steel 316

Supplied with:
1x female trunnion bracket
4x screws



+ = add the stroke

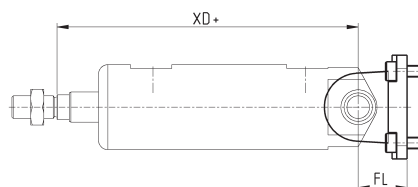
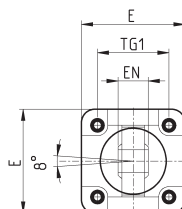
DIMENSIONS

Mod.	Ø	B1	B2	E	CN	FL	XD+
CR-90-32	32	14	34	45	10	22	142
CR-90-40	40	16	40	55	12	25	160
CR-90-50	50	21	45	65	16	27	170
CR-90-63	63	21	51	75	16	32	190

Male trunnion bracket with swivel ball joint Mod. R

Material: stainless steel 316

Supplied with:
1x male trunnion bracket
4x screws



+ = add the stroke

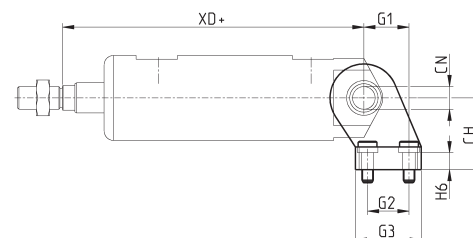
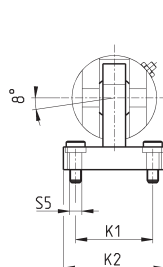
DIMENSIONS

Mod.	Ø	E	EN	FL	TG1	XD+
R-90-32	32	45	14	22	32.5	142
R-90-40	40	55	16	25	38	160
R-90-50	50	65	21	27	46.5	170
R-90-63	63	75	21	32	56.5	190

90° male trunnion bracket with swivel ball joint Mod. ZCR

Material: stainless steel 316

Supplied with:
1x male trunnion bracket
4x screws



+ = add the stroke

DIMENSIONS

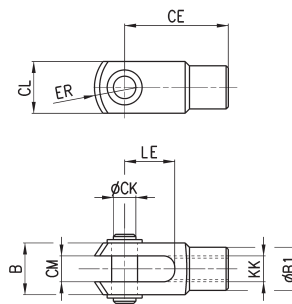
Mod.	Ø	CH	CN	G1	G2	G3	H6	K1	K2	S5	XD+
ZCR-90-32	32	32	10	21	18	31	10	38	51	6.6	142
ZCR-90-40	40	36	12	24	22	35	10	41	54	6.6	160
ZCR-90-50	50	45	16	33	30	45	12	50	65	9	170
ZCR-90-63	63	50	16	37	35	50	12	52	67	14	190



Rod fork end Mod. G-90

ISO 8140

Material: stainless steel 303



DIMENSIONS

Mod.	Ø	ØCK	LE	CM	CL	ER	CE	KK	B	ØB1
G-90-25-32	32	10	20	10	20	12	40	M10x1.25	26	18
G-90-40	40	12	24	12	24	14	48	M12x1.25	31	20
G-90-50-63	50-63	16	32	16	32	19	64	M16x1.5	39	26

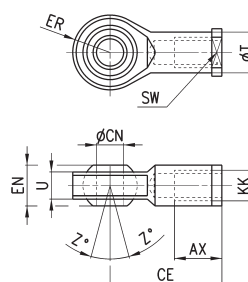


Swivel ball joint Mod. GA-90

ISO 8139

Materials:

- stainless steel 304 bracket
- stainless steel 420 spherical ring
- sintered bronze bushing



DIMENSIONS

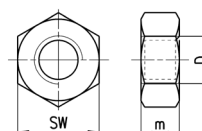
Mod.	Ø	ØCN	U	EN	ER	AX	CE	KK	ØT	Z	SW
GA-90-32	32	10	10.5	14	14	20	43	M10x1.25	15	6.5	17
GA-90-40	40	12	12	16	16	22	50	M12x1.25	17.5	6.5	19
GA-90-50-63	50-63	16	15	21	21	28	64	M16x1.5	22	7.5	22



Piston rod lock nut Mod. U-90

ISO 4035

Material: stainless steel 304

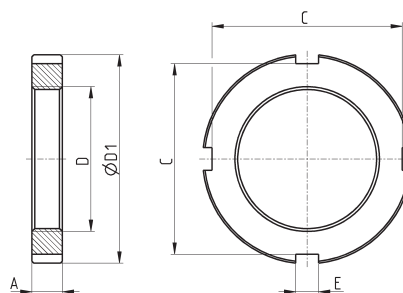


DIMENSIONS

Mod.	Ø	D	m	SW
U-90-25-32	32	M10x1.25	6	17
U-90-40	40	M12x1.25	7	19
U-90-63	50-63	M16x1.5	8	24

Nose nut Mod. V-97

Material: stainless steel 304

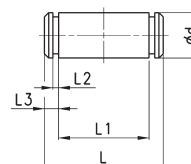


DIMENSIONS

Mod.	Ø	A	D	ØD1	E	C
V-97-32	32	7	M30x1.5	42	5	38
V-97-40	40	8	M38x1.5	55	6	50
V-97-50-63	50-63	10	M45x1.5	60	6	53

Clevis pin Mod. S-90

Supplied with:
1x clevis pin in stainless steel 303
2x seeger in steel

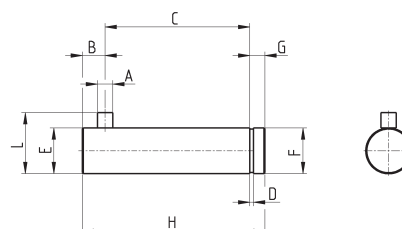


DIMENSIONS

Mod.	Ø	Ød	L	L1	L2	L3
S-90-32	32	10	53	46	1.1	3
S-90-40	40	12	60	53	1.1	3
S-90-50	50	12	68	61	1.1	3
S-90-63	63	16	78	71	1.1	3

Antirotating clevis pin Mod. SR-90

Supplied with:
1x antirotating clevis pin
in stainless steel 316
1x seeger in steel



DIMENSIONS

Mod.	Ø	A	B	C	D	E	F	G	H	L
SR-90-32	32	3	4.5	32.5	1.1	10	9.6	4	41	14
SR-90-40	40	4	6	38	1.1	12	11.5	4	48	16
SR-90-50	50	4	6	43	1.1	16	15.2	5	54	20
SR-90-63	63	4	6	49	1.1	16	15.2	5	60	20