

STAINLESS STEEL MINI-CYLINDERS

SERIES 94 AND 95

Single-acting and double-acting, magnetic
 Series 94: \varnothing 16, 20, 25 mm
 Series 95: \varnothing 25 mm, cushioned



- In compliance with ISO 6432
- Clean design
- Stainless steel AISI 316

The Series 94 and 95 cylinders can be used in critical applications in which a high corrosion resistance is required (for example off-shore, marine, food).

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
Design	ISO 6432
Materials	End caps, rod and tube in stainless steel AISI 316, seals in NBR, plastic guiding element, NSF H1-certified lubricant
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.

STAINLESS STEEL MINI-CYLINDERS
SERIES 94 AND 95 - STROKES
Standard strokes

- = single-acting
- ✕ = double-acting

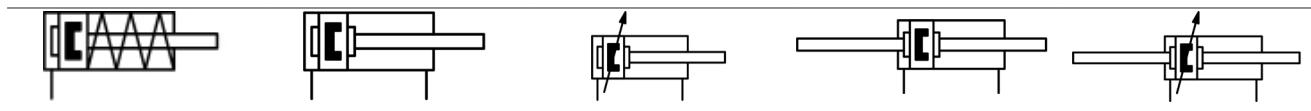
∅	10	25	40	50	80	100	125	160	200	250	300	320	400	500
16	● ✕	● ✕	● ✕	● ✕	✕	✕	✕	✕	✕					
20	● ✕	● ✕	● ✕	● ✕	✕	✕	✕	✕	✕	✕	✕			
25	● ✕	● ✕	● ✕	● ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
25	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

Coding Examples

94	N	2	A	16	A	100
94	SERIES 94 = magnetic 95 = magnetic, cushioned					PNEUMATIC SYMBOLS CS06 (S. 94) CD08 (S. 94) - CD09 (S. 95) CD12 (S. 94) - CD13 (S. 95)
N	VERSION N = standard					
2	OPERATION 1 = single-acting, front spring 2 = double-acting 3 = double-acting, through-rod					
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

Foot mount Mod. B



Flange bracket Mod. E



Trunnion bracket Mod. I



Swivel ball joint Mod. GA-94/90



Piston rod lock nut Mod. U-94/90



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



Rod fork end Mod. G



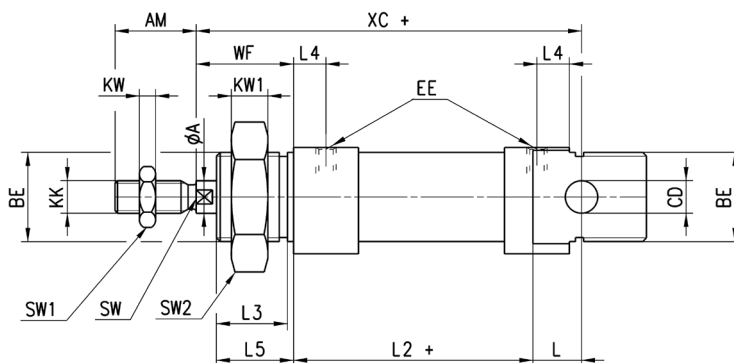
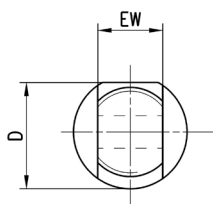
All accessories are supplied separately, except for piston rod lock nut Mod. U

Cylinders Series 94 and 95

With threaded front and rear end blocks

PNEUMATIC ACTUATION

1

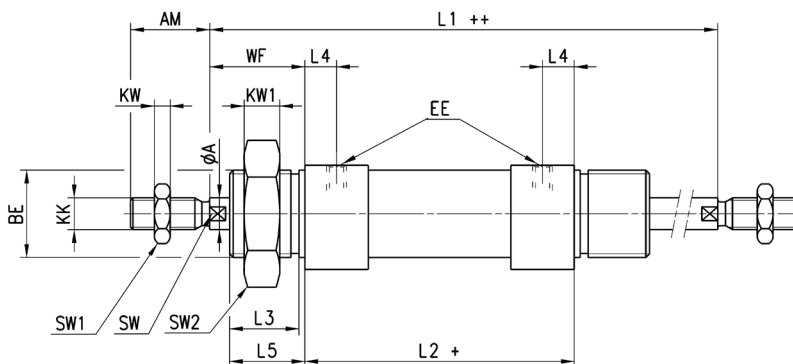
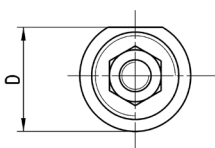


+ = add the stroke

Mod.	∅	β_A	AM	BE	CD	D	EE	EW	KK	KW	KW1	L	L2+	L3	L4	L5	SW	SW1	SW2	WF	XC+
94	16	6	16	M16x1,5	6	21,2	M5	12	M6	4	5	9	51	14	5,5	15	5	10	24	22	82
94	20	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	25	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

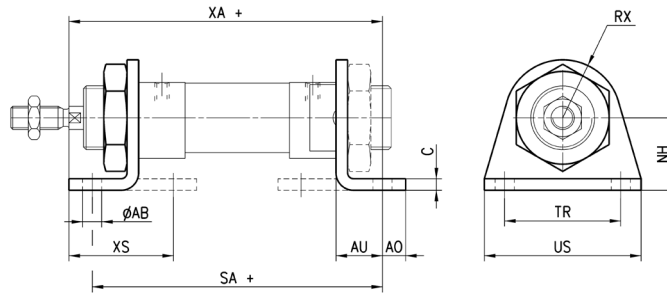
Mod.	∅	β_A	AM	BE	D	EE	KK	KW	KW1	L1++	L2+	L3	L4	L5	SW	SW1	SW2	WF
94	16	6	16	M16x1,5	21,2	M5	M6	4	5	100	56	14	5,5	15	5	10	24	22
94	20	8	20	M22x1,5	26,2	G1/8	M8	5	5	116	68	17,5	8	19	7	13	32	24
94-95	25	10	22	M22x1,5	32,5	G1/8	M10x1,25	6	5	125	69	18,5	7,5	20	8	17	32	28

Foot mount Mod. B INOX



Material: Stainless Steel 304

Supplied with:
2x feet
1x nut



+ = add the stroke

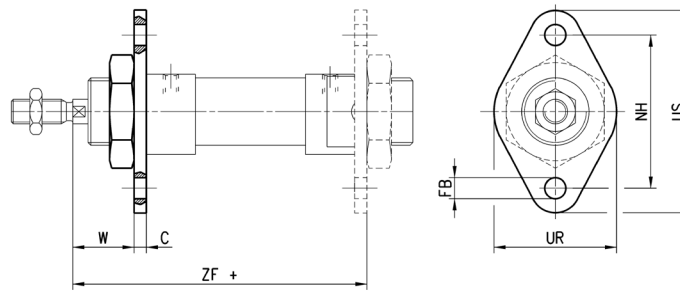
Mod.	∅	∅ _{AB}	XS	XA+	SA+	AO	AU	C	RX	TR	US	NH
B-94-12-16	16	5,5	32	91	82	6	13	3	13	32	42	20
B-94-20-25	20	6,6	36	108	100	8	16	4	20	40	54	25
B-94-20-25	25	6,6	40	113	101	8	16	4	20	40	54	25

Flange bracket Mod. E INOX



Material: Stainless Steel 304

Supplied with:
1x flange



+ = add the stroke

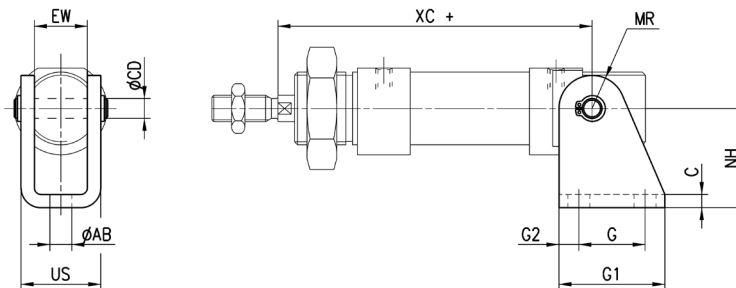
Mod.	∅	W	C	ZF+	∅ _{AB}	UR	TF	UF
E-94-12-16	16	19	3	81	5,5	30	40	53
E-94-20-25	20	20	4	96	6,6	40	50	66
E-94-20-25	25	24	4	101	6,6	40	50	66

Rear trunnion bracket Mod. I INOX



Material: Stainless Steel 304

Supplied with:
1x swivel joint
1x bolt
2x seeger



+ = add the stroke

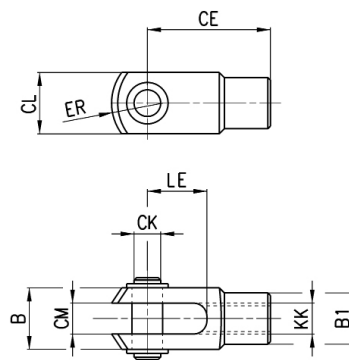
Mod.	∅	∅ _{AB}	C	∅ _{CD}	EW	G	G1	G2	MR	NH	US	XC+
I-94-12-16	16	5,5	3	6	12	15	25	5	7	27	18,1	82
I-94-20-25	20	6,6	4	8	16	20	32	6	10	30	24,1	95
I-94-20-25	25	6,6	4	8	16	20	32	6	10	30	24,1	104

Rod fork end INOX Mod. G


ISO 8140

 Material:
 stainless steel 303

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

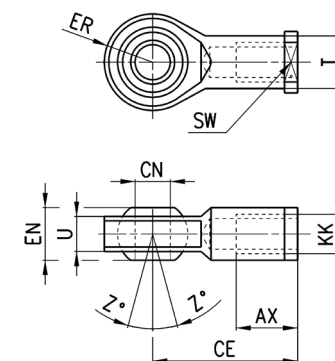


Swivel ball joint Mod. GA INOX


ISO 8139

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

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

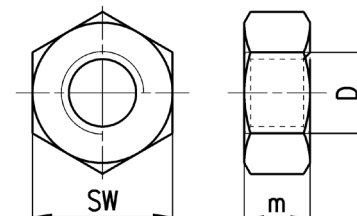


Piston rod nut Mod. U INOX


ISO 4035

Material: Stainless Steel 304

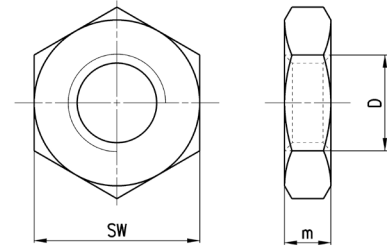
Mod.	Ø	D	M	SW
U-94-12-16	16	M6x1	4	10
U-94-20	20	M8x1,25	5	13
U-90-25-32	25	M10x1,25	6	17



Nose Nut Mod. V INOX



ISO 4035
Material: Stainless Steel 304

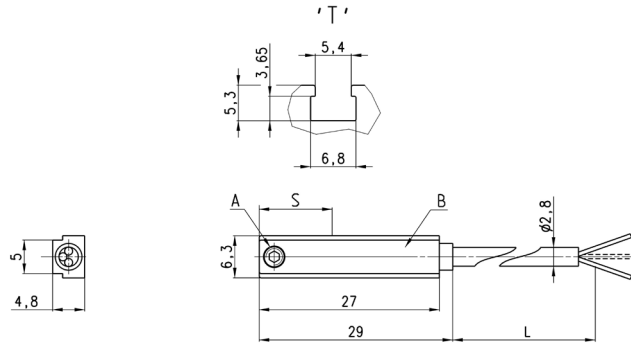
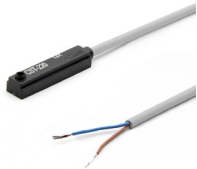


Mod.	∅	D	M	SW
U-90-50-63	16	M16x1,5	8	24
V-94-20-25	20-25	M22x1,5	10	32

PNEUMATIC ACTUATION

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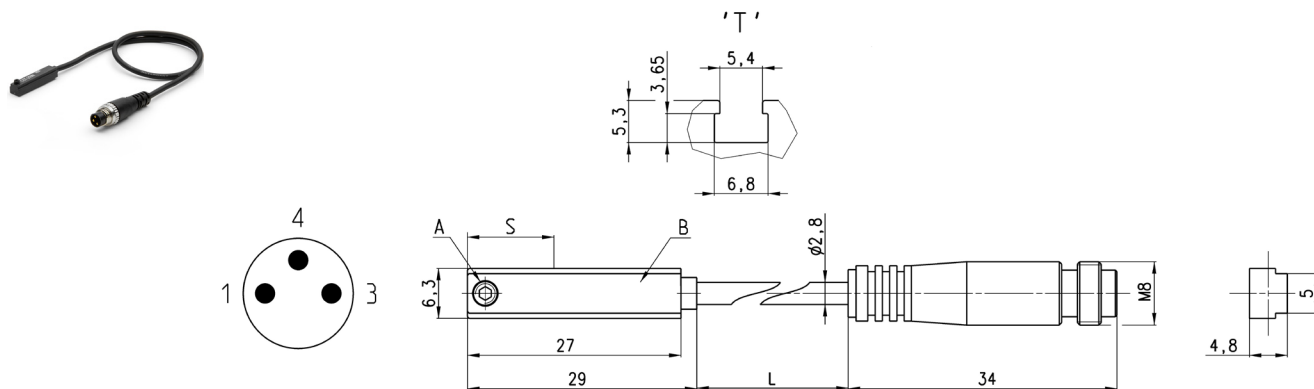
Magnetic proximity switches with 2- or 3-wire cable for T-slot



Mod.	Operation	Connections	Voltage	Output	Max. current	Max Load	Protection	L	S	LED colour
CST-220*	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8 W	None	2 m	14,5 mm	Yellow
CST-220-5*	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8 W	None	5 m	14,5 mm	Yellow
CST-220EX	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8 W	None	2 m	14,5 mm	Yellow
CST-220-5EX	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8 W	None	5 m	14,5 mm	Yellow
CST-220-12EX	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8 W	None	12 m	14,5 mm	Yellow
CST-232	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-232-5	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	5 m	14,5 mm	Yellow
CST-232EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-232-5EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing and overvoltage	5 m	14,5 mm	Yellow
CST-332	Magneto-resistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	7,5 mm	Yellow
CST-332-5	Magneto-resistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	7,5 mm	Yellow
CST-332EX	Magneto-resistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	7,5 mm	Yellow
CST-332-5EX	Magneto-resistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	7,5 mm	Yellow
CST-432	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-432-5	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	5 m	14,5 mm	Yellow
CST-432EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-432-5EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	5 m	14,5 mm	Yellow
CST-532	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	8,5 mm	Yellow
CST-532-5	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	8,5 mm	Yellow
CST-532EX	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	8,5 mm	Yellow
CST-532-5EX	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	8,5 mm	Yellow

*Mod. CST-220, CST-220-5:
in case of polarity reversing the sensor will still be operating, but the LED diode won't turn on.

Magnetic proximity switches with M8 3-pin connector for T-slot



A = Fixing screw
 B = Led indicator
 S = Sensing point
 L = Length cable

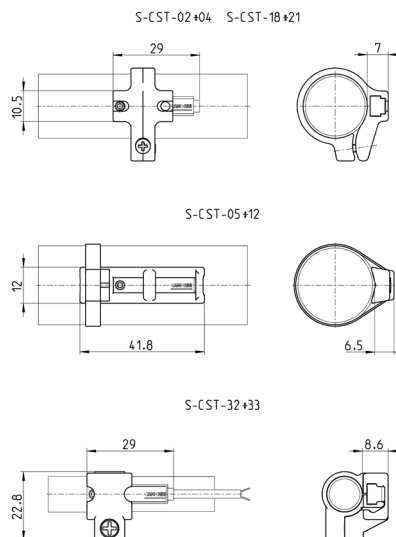
Mod.	Operation	Connection	Voltage	Output	Max. current	Max Load	Protection	L	S	LED colour
CST-250N*	Reed	2 wires M8 male 3 pin	10 ÷ 110 V AC/DC	-	250 mA	10 VA / 8 W	None	0,3 m	14,5 mm	Yellow
CST-250NEX	Reed	2 wires M8 male 3 pin	10 ÷ 110 V AC/DC	-	250 mA	10 VA / 8 W	None	0,3 m	14,5 mm	Yellow
CST-262	Reed	3 wires M8 male 3 pin	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	0,3 m	14,5 mm	Yellow
CST-262EX	Reed	3 wires M8 male 3 pin	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	0,3 m	14,5 mm	Yellow
CST-362	Magneto-resistive	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	7,5 mm	Yellow
CST-362EX	Magneto-resistive	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	7,5 mm	Yellow
CST-562	Hall effect	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	8,5 mm	Yellow
CST-562EX	Hall effect	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	8,5 mm	Yellow

*Mod. CST-250N:
 in case of polarity reversing the sensor will still be operating, but the LED diode won't turn on.

Adapters for Series CST-CSG sensors



Materials:
 technopolymer (S-CST-02÷04)



Mod.	Ø
S-CST-05	16, 20
S-CST-06	25

Further details can be found in the "Proximity switch" chapter.