

Tie rods cylinders to ISO 15552 standard Ø 125 ÷ 320

series XL

DESCRIPTION

Cylinders series "XL" comply with ISO 15552 standard, being in this way completely interchangeable with the former cylinders to ISO 6431/VDMA 24562 standards. These cylinders are supplied cushioned as standard and, in the version with magnetic piston type can be supplied with magnetic sensors. Available also to directive 94/9/EC ("ATEX" - 2GD category).

TECHNICAL DATA

Operating pressure	1+10 bar
Working temperature	0 ÷ +80°C (-30°C with dry air) 0 ÷ +150°C with seals for high temperatures (-10°C with dry air)
Fluid	Filtered, unlubricated or continuous lubricated compressed air
Versions	Double acting; Single acting front spring; Single acting rear spring; Through rod; Double push tandem; Double stroke tandem; Opposed tandem
Bore	Ø125, 160, 200, 250, 320
Port size	Ø 125 = G 1/2 Ø 160 - 200 = G 3/4 Ø 250 - 320 = G 1
Standard strokes (mm)	25, 50, 75, 80, 100, 125, 150, 160, 175, 200, 250, 300, 320, 350, 400, 450, 500, 550, 600, 650, 700, 800, 900, 1000
Decelerators lenght (mm)	Ø 125 160 200 250 320 mm 37 40 40 75 80
Maximum stroke (mm)	3000
Max. stroke single acting (mm)	100

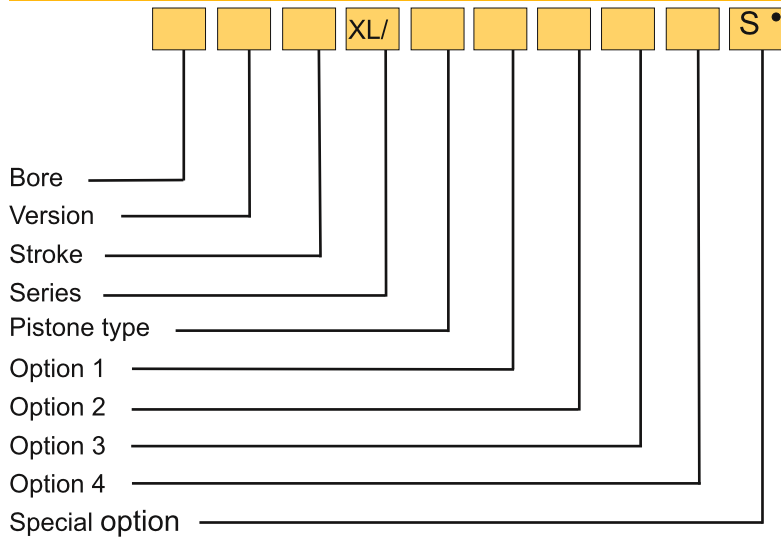


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MATERIALS

End caps	Painted die-cast aluminium with chromate conversion coating
Cylinder barrel	Extruded profile, 20 µm anodized aluminium alloy
Tie rods, tie and rods nuts	Steel Stainless steel (supplied upon request for tie rods and tie nuts)
Piston rod	C45 chromium-plated steel AISI 303 rolled stainless steel
Piston rod bearing	Bronze-Iron 20%, sintered, self-lubricating
Decelerator ogives	Aluminium alloy
Piston	Die-cast aluminium alloy with chromate conversion coating
Seals	Polyurethane and NBR rubber Viton® (only available Ø125 ÷ 200)

ORDER KEY



N.B.: *Magnetic switch* FM100-FM157 (see chapter magnetic sensors from page 1.93 del CAT.08/EN)

- See technical data on page 0.12

ORDER EXAMPLES

Cylinder Ø125, double acting, 100 mm stroke, non-magnetic piston type, ATEX: **125/100 XL/N/EX**
Cylinder Ø320, through rod, stroke 150, magnetic piston type, stainless steel piston rod: **320R150 XL/M1**

VERSION

I Double acting **T** Double push tandem *
S Single acting front spring * **P** Double stroke tandem *
Y Single acting rear spring * **V** Opposed tandem *
R Through rod

PISTON TYPE

N Non magnetic **M** Magnetic **

OPTION 1

Z Fit for piston rod locking unit (only Ø125)

OPTION 2

1 Stainless steel piston rod and rod nut **3** Stainless steel piston rod and rod nut and Viton® seals*
2 Viton® seals*

OPTION 3

5 Extruded profile barrel (only Ø125)

OPTION 4

/EX complies with the ATEX directive

II 2GDc T6 0°C<Ta<60°C from Ø 125 to Ø 200

II 2GDc T5 T100°C -20°C<Ta<80°C from Ø 250 to Ø 320

* Available only for Ø 125 ÷ 200

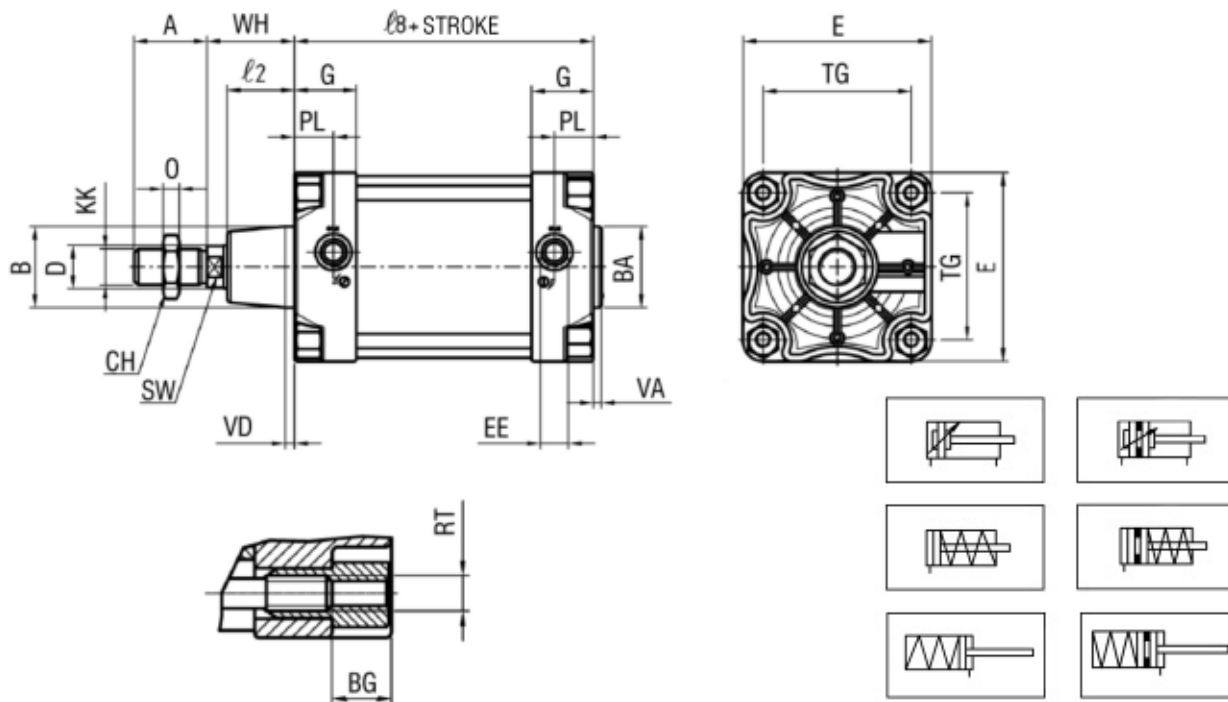
** Available even with Viton® seals just for applications where is needed a chemical compatibility; not available for high temperature

SPARE PARTS

SEALS KIT

Polyuretane and NBR rubber	Ø/SG/XL
Through rod and polyuretane and NBR rubber Viton®	Ø/SG/R/XL Ø/SG/XL2
Through rod Viton®	Ø/SG/R/XL2

XL BASIC CYLINDER



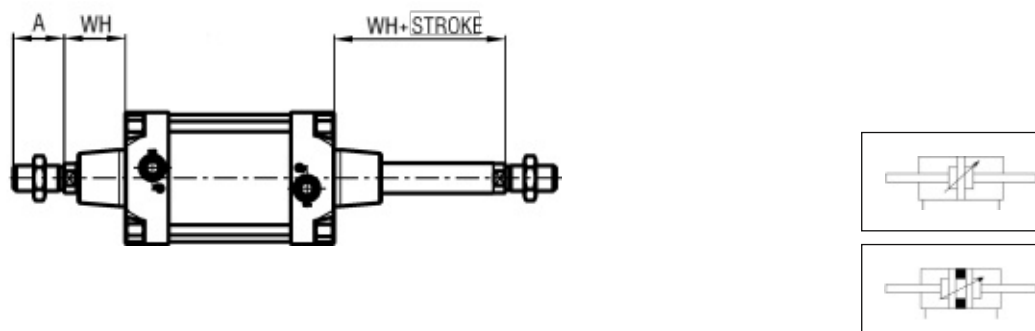
P.S.: Rod nut supplied as standard

DIMENSIONS AND WEIGHTS BASIC CYLINDER

Ø	A*	BA* B*	BG*	CH	RT*	E*	EE*	G	D	KK*		2*	8*	O	PL*	SW*	TG*	VA*	VD	WB	WH*	Weight (g)	Increase (g) every 10mm
125	54	60	20	41	M12	140	G1/2	46	32	M27X2	268	50	160	12	29	27	110	6	7	205	65	6475	126
160	72	65	24	55	M16	180	G3/4	50	40	M36X2	310	60	180	15	30	36	140	6	6	-	80	10850	210
200	72	75	24	55	M16	220	G3/4	48	40	M36X2	310	60	180	15	24	36	175	6	6	-	95	15075	290
250	84	90	25	65	M20	268	G1	54	50	M42X2	-	67	200	16	31	46	220	10	20	-	105	28500	380
320	96	110	28	75	M24	340	G1	66	63	M48X2	-	82	220	18	31	55	270	10	20	-	120	48400	620

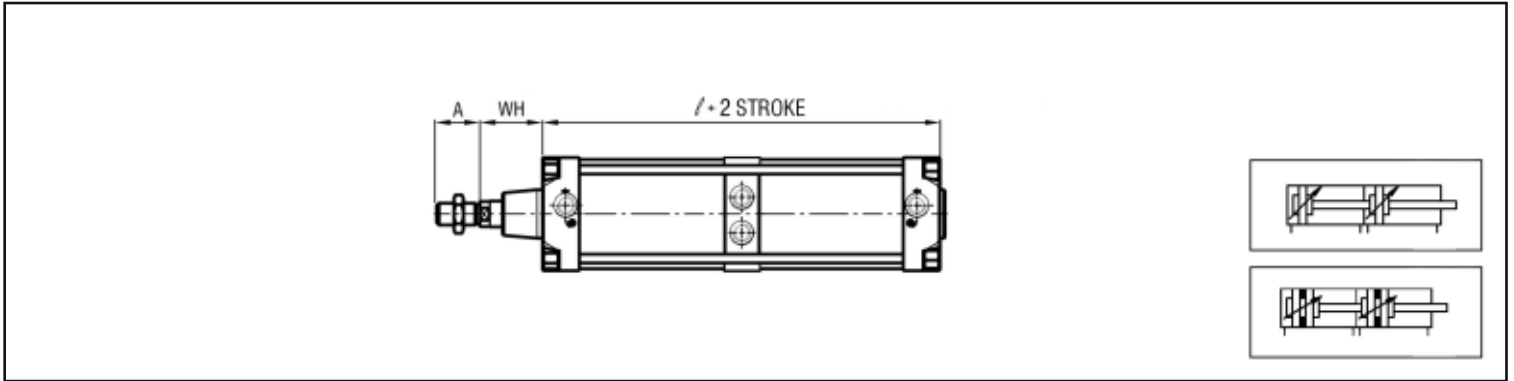
* STANDARDIZED DIMENSIONS

THROUGH ROD



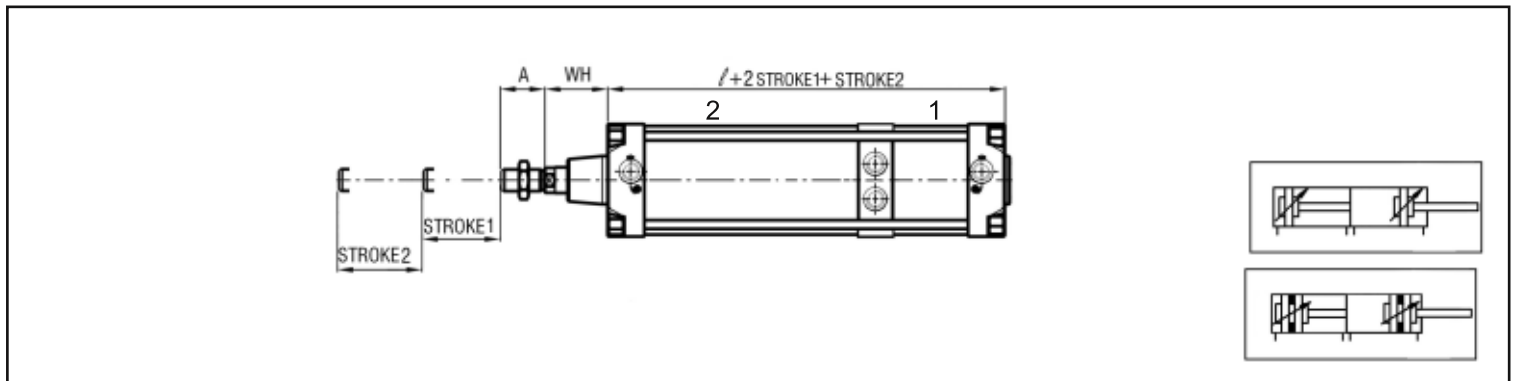
P.S.: Rod nuts supplied as standard

DOUBLE PUSH TANDEM



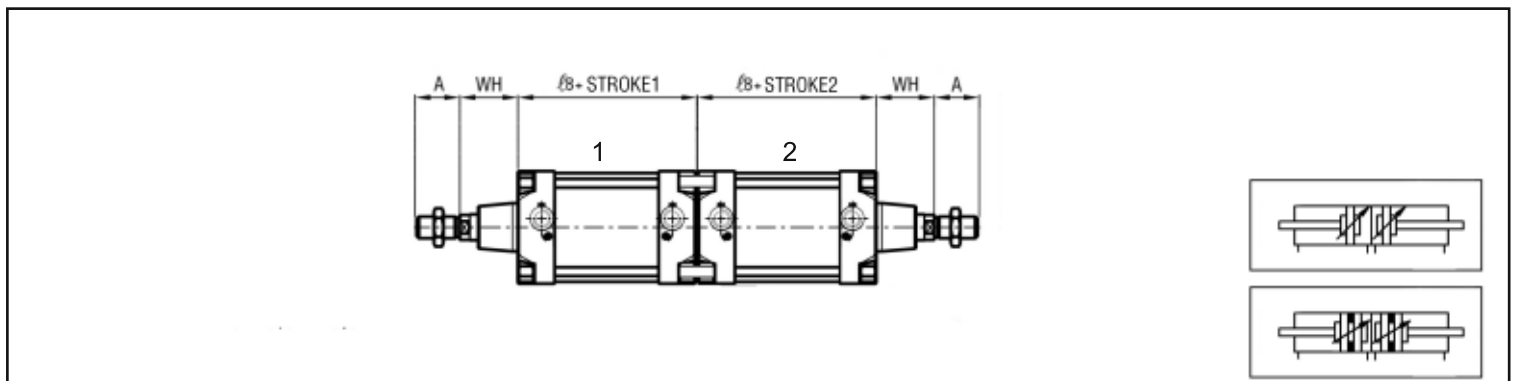
P.S.: Rod nut supplied as standard

DOUBLE STROKE TANDEM



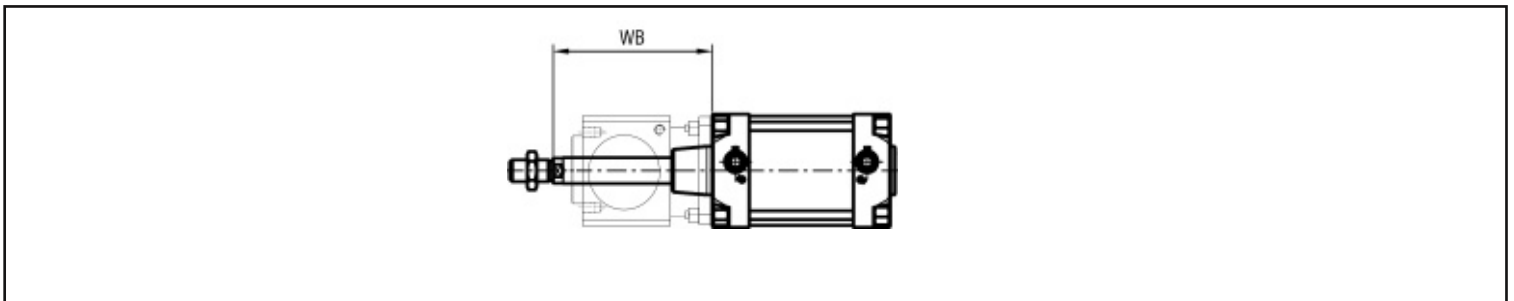
P.S.: Rod nut supplied as standard

OPPOSED TANDEM



P.S.: Rod nut supplied as standard

FIT FOR PISTON ROD LOCKING UNIT



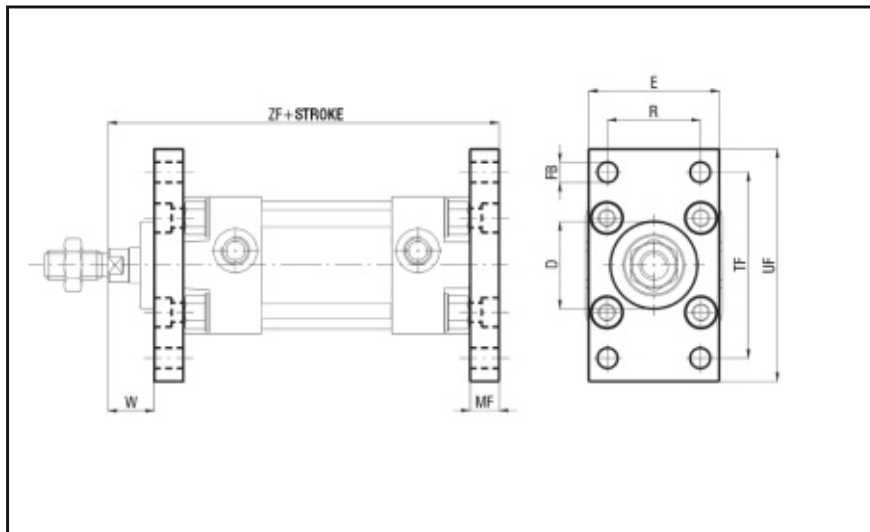
P.S.: Rod nut supplied as standard

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FLANGE - STEEL - CPU1/F Ø (supplied with screws)

Ø	D H11	FB H13	E	MF ±0.2	R H13	TF JS14	UF
125	60	16	140	20	90	180	205
160	65	18	180	20	115	230	260
200	75	22	220	25	135	230	260
250	90	26	285	25	220	330	400*
320	110	33	350	30	270	400	470

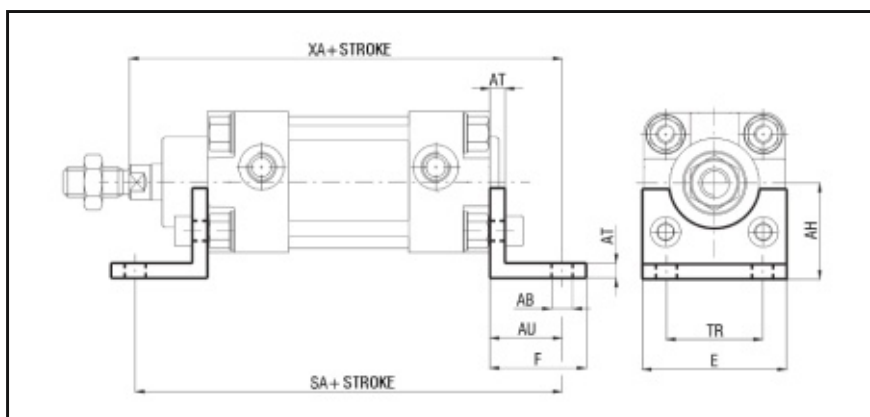


Ø	W	ZF	Weight (g)
125	45	245	3750
160	60	280	6350
200	75	300	11350
250	80	330	20100
320	90	370	31800

* NOT TO ISO 15552 STANDARD

FOOT - STEEL - CPU1/PB Ø (supplied with screws)

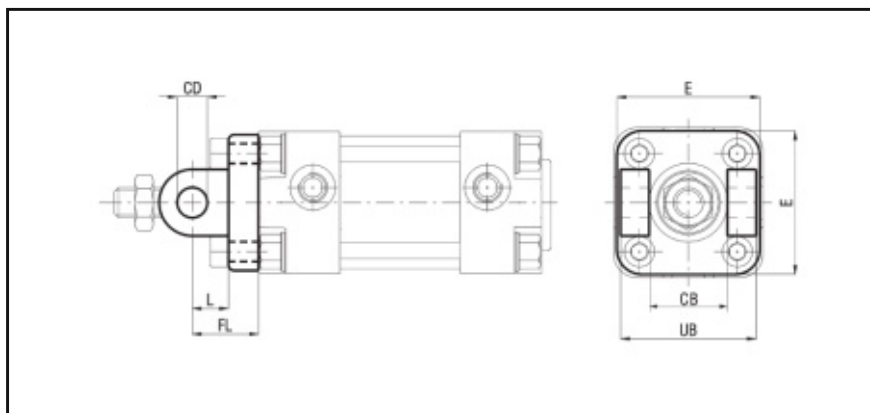
Ø	AB H14	AH JS15	AT	AU	E	F	SA
125	16	90	8	45	140	70	250
160	18	115	10	60	180	75	300
200	24	135	12	70	220	100	320
250	26	165	14	75	270	100	400



Ø	TR JS14	XA	Weight (g)
125	90	270	1090
160	115	320	1188
200	135	345	3450
250	165	430	6600

FRONT FEMALE HINGE - NOT TO ISO 15552 STANDARD - ALUMINIUM - CPU1/CFA Ø (supplied with screws)

Ø	CB	CD H9	E	FL	L	UB h14	Weight (g)
125	70	25	140	50	30	130	1180
160	90	30	180	55	35	170	1780
200	90	30	220	60	35	170	2900

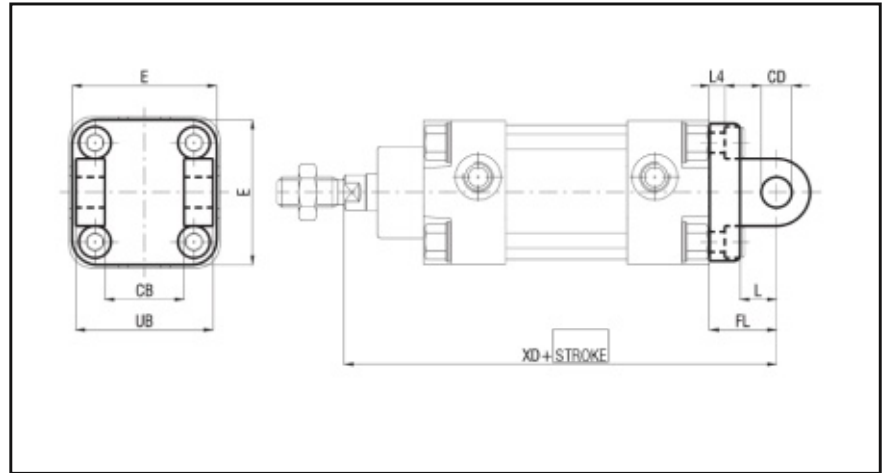


Fixings for cylinders Ø 125 ÷ 320
to ISO 15552 standard

REAR FEMALE HINGE - ALUMINIUM - CPUI/CF Ø
(supplied with screws) - STEEL - CPUI/CF Ø AC

Ø	CB	CD H9	E	FL	L	L4	UB h14
125	70	25	140	50	30	10	130
160	90	30	180	55	35	10	170
200	90	30	220	60	35	11	170
250	110	40	268	70	59	-	200
320	120	45	340	80	65	-	220

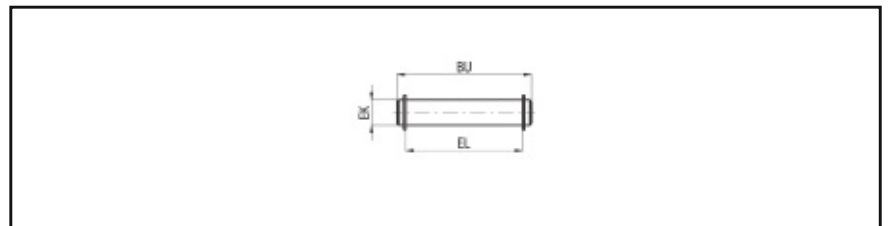
Ø	XD	Weight Alu. (g)	Weight Steel (g)
125	275	1180	3350
160	315	1780	5750
200	335	2900	8900
250	375	10870	15900
320	420	19940	30750



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PIVOT FOR REAR FEMALE HINGE (ALUMINIUM) - GALVANIZED STEEL - CPU/CPUI/SEC Ø
(STEEL) - GALVANIZED NITRIDED STEEL - CPU/CPUI/SEC Ø AC

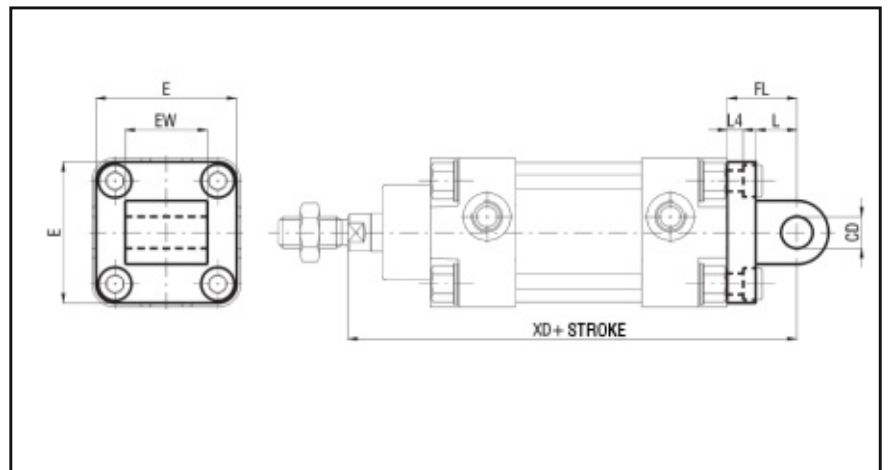
Ø	BU	EK f7	EL	Weight (g)
125	139	25	132	530
160	178	30	171.5	978
200	178	30	171.5	978
250	214	40	202	1800
320	234	45	222	2500



MALE HINGE - ALUMINIUM - CPUI/CM Ø
(Supplied with screw) - STEEL - CPUI/CM Ø AC

Ø	CD H9	E	EW	FL	L	L4	XD
125	25	140	70	50	30	10	275
160	30	180	90	55	35	10	315
200	30	220	90	60	35	11	335
250	40	268	110	70	47	11	375
320	45	340	120	80	52	15	420

Ø	Weight Alu. (g)	Weight Steel (g)
125	1264	3740
160	1846	5890
200	2950	8470
250	14670	16850
320	26128	31750

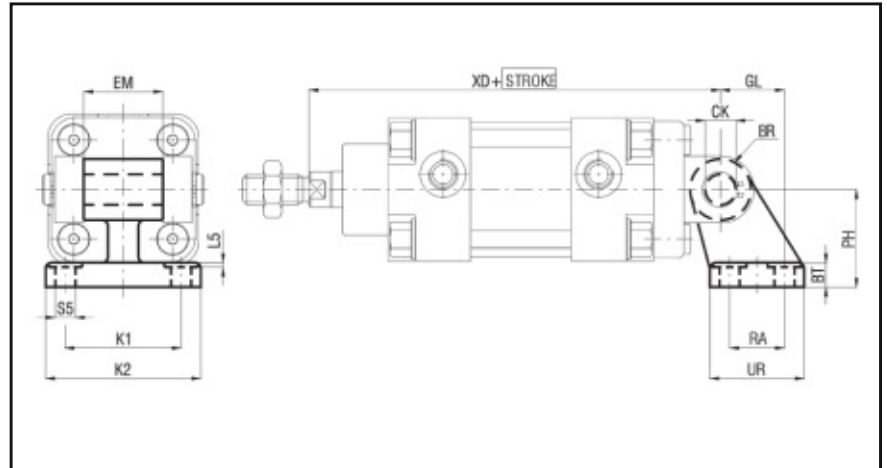


SQUARE JOINT

- ALUMINIUM - CPUI/AS Ø

Ø	PH JS15	CK H9	EM	GL JS14	RA JS14	UR	BT	L5
125	90	25	70	70	60	90	20	3,2
160	115	30	90	97	88	126	25	4
200	135	30	90	105	90	130	30	4

Ø	BR	S5 H13	K1 JS14	K2	XD	Weight (g)
125	22,5	14	94	124	275	826
160	31,5	14	118	156	315	2600
200	31,5	18	122	162	335	3250



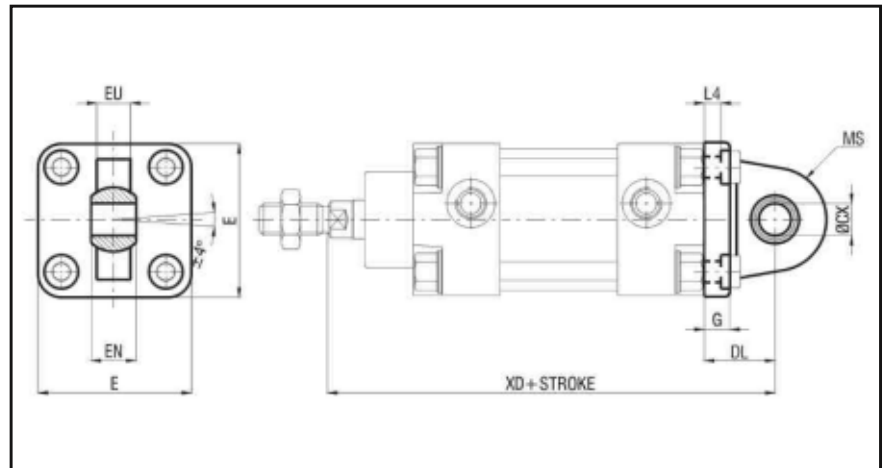
NARROW REAR FEMALE HINGE (supplied with screws)

- ALUMINIUM - CPUI/CFS Ø

- STEEL - CPUI/CFS Ø AC (only for Ø 125)

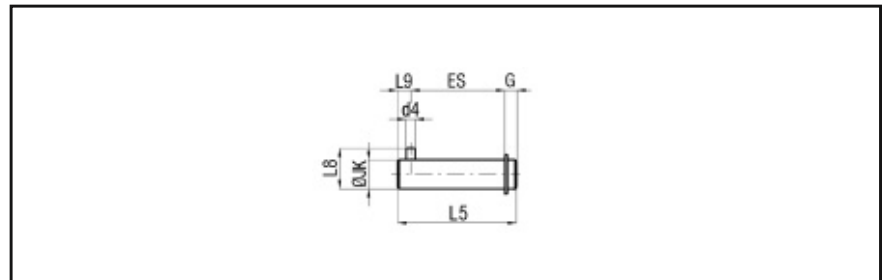
Ø	CG D10	CP d12	B3	Ø CF F7	E	FM	L10	L11
125	37	97	6.3	30	140	50	20	39
160	43	122	6.3	35	180	55	20	44
200	43	122	6.3	35	220	60	25	44

Ø	L4	XD	Weight Alu. (g)	Weight Steel (g)
125	10	275	1100	3550
160	10	315	2000	-
200	11	335	3300	-



NON-ROTATING PIVOT FOR NARROW REAR FEMALE HINGE - GALVANIZED NITRIDED STEEL - CPUI/SEC Ø AT

Ø	d4 H12	ØJK f7	L8	ES	L9	L5	G	Weight (g)
125	6	30	36	94	9	110	7	606
160	6	35	41	119	9	135	7	974
200	6	35	41	119	9	135	7	974



Accessories

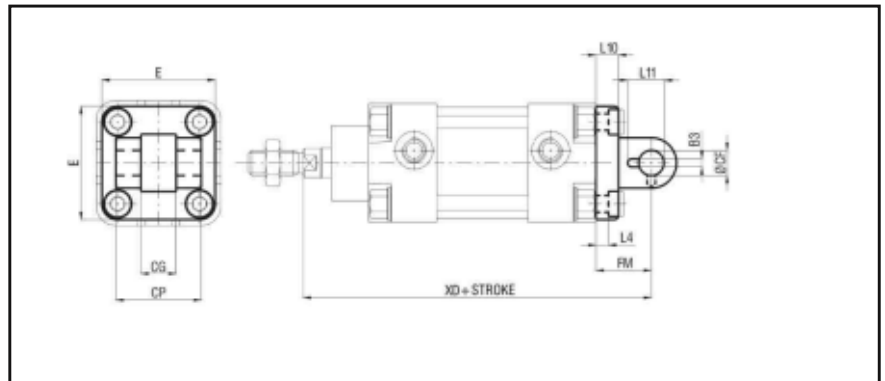
Fixings for cylinders Ø 125 ÷ 320 to ISO 1552 standard

NARROW MALE HINGE WITH ARTICULATED HEAD (ISO 12240)
(supplied with screws)

- ALUMINIUM - CPUI/CMSS Ø
- STEEL - CPUI/CMSS Ø AC (only for Ø 125)

Ø	ØCX H7	E	EN	MS	EU	G	DL
125	30	140	37	40	25	20	50
160	35	180	43	45	28	20	55
200	35	220	43	48	28	25	60

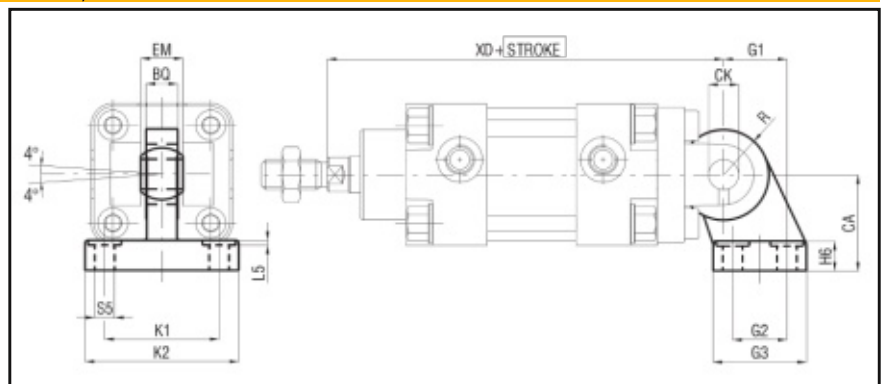
Ø	L4	XD	Weight Alu.(g)	Weight Steel(g)
125	10	275	1410	3500
160	10	315	2385	-
200	11	335	3860	-



SQUARE JOINT WITH ARTICULATED HEAD (ISO 12240) - STEEL - CPUI/ASSS Ø AC

Ø	CA JS15	BQ	CK H7	EM	G1 JS14	G2 JS14	G3	H6
125	90	25	30	37	70	60	90	20

Ø	K1 JS14	K2	L5	R	S5 H13	XD	Weight (g)
125	94	124	3,2	40	13,5	275	3000



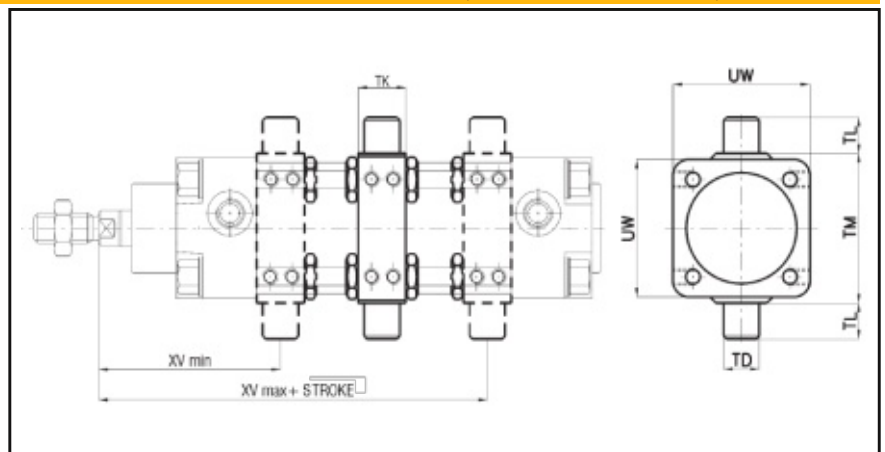
INTERMEDIATE HINGE - STEEL - EXTRUDED TUBE WITH TIE RODS - CX/CPUI/CT Ø (supplied with dowels)

Ø	TK	TD e9	TL h14	TM h14	UW	XV min	XV max	Weight (g)
125	32	25	25	160	155	127	163	2600
160	40	32	32	200	190	150	190	4300
200	40	32	32	250	240	163	207	7540
250	50	40	40	320	295	184	226	12920
320	70	50	50	400	370	212	248	25280

P.S.: - ADJUSTABLE POSITION (fixing through dowels)

- FIXED POSITION (specify dimension "XV", fixed on cylinder with completed threaded and galvanized rods type "S6", see on page 0.12)

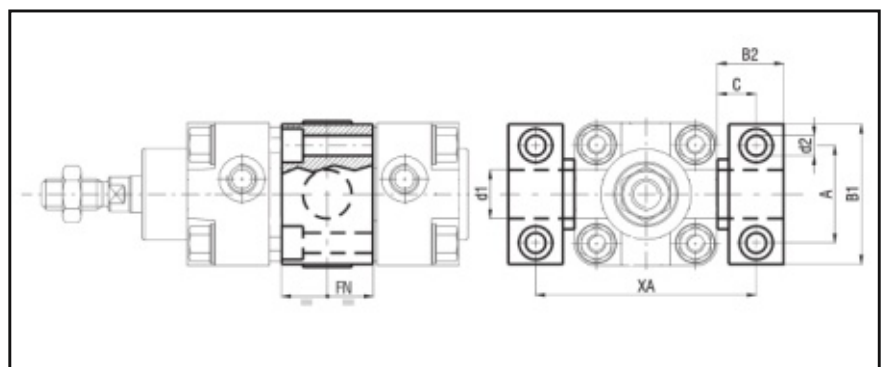
ASSEMBLY (FIXED): CX/CPUI/CT/Ø+cylinders series XL S6
type MF/CX/CPUI/CT Ø



SUPPORT FOR INTERMEDIATE HINGE - STEEL - CPUI/SCT Ø

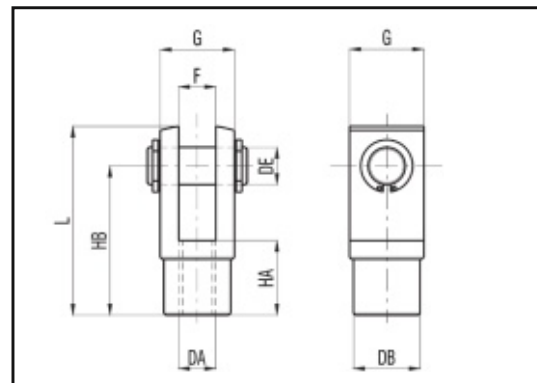
Ø	A	B1	B2	C	d1 F7	d2 H13	FN	XA
125	50	75	28,5	16	25	14	50	192
160 - 200	60	92	40	22,5	32	18	60	245-295
250	90	140	56	31	40	22	90	360

Ø	Weight (g)
125	2600
160 - 200	4300
250	25280



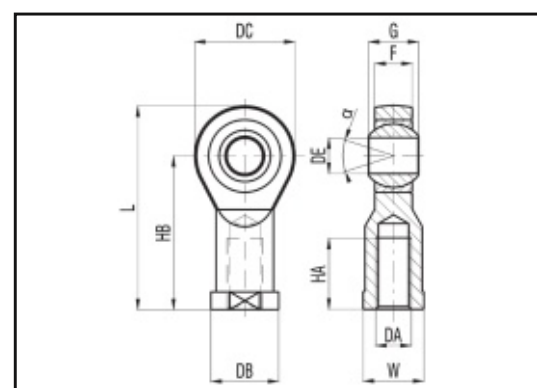
FEMALE PISTON ROD CLEVIS WITH PIN AND SNAP RING TO ISO 8140 - STEEL - M27x2 ÷ M36x2

Ø	DA	DB	DE	F b12	G	HA	HB	L	Weight (g)	Type
125	M27X2	48	30	30	55	54	110	148	2100	FFP27X2
160-200	M36X2	60	35	35	70	72	144	188	3900	FFP36X2
250	M42X2	70	40	40	85	84	168	232	5300	FFP42X2
320	M48X2	82	50	50	96	96	192	265	7900	FFP48X2



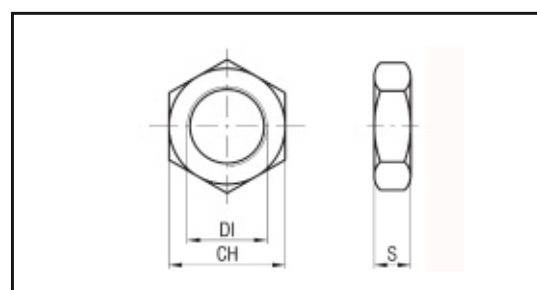
SELF-LUBRICATING PISTON ROD EYE TO DIN ISO 12240 STANDARD - STEEL

Ø	DA	DB	DC	DE H7	F	G	HA	HB	L	W	α	Weight (g)	Type
125	M27X2	50	70	30	25	37	51	110	145	41	17	1200	FF27x2/SS
160-200	M36X2	58	80	35	28	43	56	125	165	50	16	1600	FF36x2/SS



ROD NUT - STEEL

Ø	DI	CH	S	Weigh (g)	Type
125	M27X2	41	12	90	DST27X2
160-200	M36X2	55	15	190	DST36X2
250	M42X2	65	16	310	DST42X2
320	M48X2	75	18	460	DST48X2



MAGNETIC SENSORS SERIES FM100 - FM157

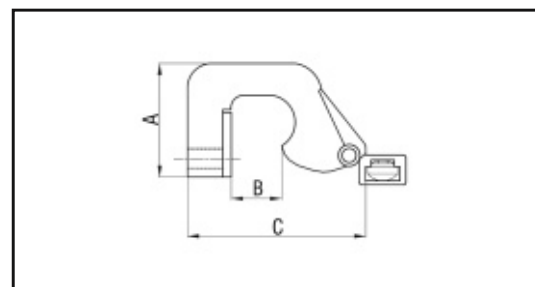
See chapter magnetic sensors from page 1.93 of the general catalog (CAT.08/EN)

MAGNETIC SENSOR SERIES FM100 - FM157 FIXING BRACKETS

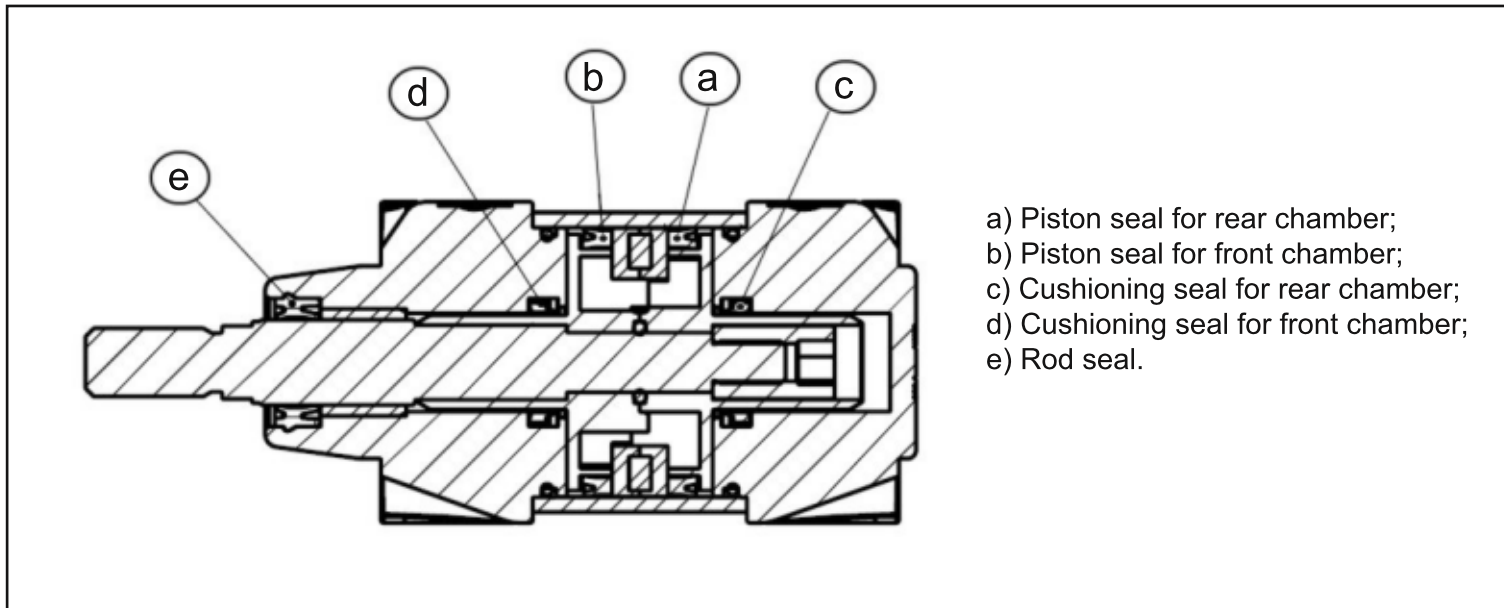
For Ø125 ÷ 200 see chapter magnetic sensors from page 1.93 of the general catalog (CAT.08/EN)

SENSOR FIXING BRACKETS - ALUMINIUM - SQ (Supplied with adapter for magnetic sensors series FM100)

Ø	A	B	C	Type
250	26	20.5	42	SQ250/A
320	26	25.5	42	SQ320/A



SEALS FOR LOW FRICTION CYLINDERS



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APPLICATIONS

DESCRIPTION	OPTION	SEALS
Rear chamber	SA	a
Rear chamber + cushioning	SB	a + c
Rear chamber + rod seals	SC	a + e
Rear chamber + cushioning + rod seals	SD	a + c + e
Front chamber	SE	b + e
Front chamber + cushioning	SF	b + e + d

DESCRIPTION

The low friction cylinders series "XT", "X" and "XL" (available from Ø 125 to Ø 200), are used as "dancers" or "enlarger stretchers" cylinders, but they are just single acting cylinders without the return spring. As indicated in the previous table, we can have different applications, combining properly the various seals inserted in the cylinder.

The application called as option "SA" is the main one, because, using just the seal "a", it's the one that offers the lowest internal friction.

The "SB" option uses the pneumatic cushioning for an emergency situation, to avoid crushes in the case of the breakdown of the plant.

In the options "SC" and "SD", the rod seal avoids to the impurities to go into the cylinder.

In the option "SE" the pressurized chamber is the front one and in the option "SF" the pressurized chamber is still the front one but with the pneumatic cushioning for an emergency situation.

ATTENTION: For the applications please consider the cylinder as single acting without spring.

ORDER EXAMPLE

Cylinder Ø50, double acting, 100 mm stroke, magnetic piston type, rear chamber and cushioning seals:

50/100 XT/M SB

Cylinder Ø125, double acting, 200 mm stroke, magnetic piston type, front chamber and cushioning seals:

125/200 XL/M SF