Tie rods cylinders to ISO 15552 standard Ø 125 ÷ 320

series XL

DESCRIPTION

Cylinders series "XL", and their fixing accessories, comply with ISO 15552 standard, being in this way completely interchangeable with the former cylinders to ISO 6431 /VDMA 24562 standard. These cylinders are supplied cushioned as standard and, in the version with magnetic piston type, can be supplied with magnetic sensors. Upon request, cylinders series "XL" comply with ATEX directive, 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	Compressed air, filtered, continuous lubricated, unlubricated or dry lubricated
Versions	Double acting, single acting front spring, single acting rear spring, through rod, double push tandem, double stroke tandem, opposed tandem
Bore	Ø 125, 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	Ø 125 160 200 250 320 mm 37 40 40 75 80
Max strokes (mm)	Ø 125 ÷ 320 = 3000; version T, P, V = 1000

*Cylinders, with strokes shorter than the decelerators lengths, are NOT cushioned as standard (only for Ø125÷200).

MATERIALS

End caps	Painted die-cast aluminium alloy
Cylinder barrel	Extruded profile, 20 µm anodized aluminium alloy
Tie rods, tie and rod nuts	Steel Stainless steel (supplied upon request for tie rods and tie nuts)
Rod nut	C45 chromium-plated steel AISI 304 rolled stainless steel
Piston rod bearing	Bronze-iron 20%, sintered, self-lubricating
Decelerators ogives	Aluminium alloy
Piston	Die-cast aluminium alloy (magnetic and non-magnetic)
Seals	Polyurethane and NBR rubber FKM (Viton®) only for Ø 125 ÷ 200

ORDER KEY

			XL /						S•

Bore
Version
Stroke
Series
Piston type
Option 1
Option 2
Option 3
Option 4
Special option (supplied upon request)

• See chapter 1, page 1.1.

VERSION

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

PISTON TYPE

N	Non-magnetic	M	Magnetic**

OPTION 1

Z Fit for piston rod locking unit (only for Ø 125)***

OPTION 2

1	Stainless steel piston rod and rod nut	3	Stainless steel piston rod, rod nut and seals for high temperatures
2	Seals for high temperatures		

OPTION 3

5 Extruded profile (only for Ø 125)

OPTION 4

/EX Consistent with the ATEX directive Ⓔx II 2GD c T5 T1 00°C -20°C<Ta<80°C

* Supplied only for Ø 125 ÷ 200.
** Available even with "FKM" (Viton®)seals but just for applications where is needed a chemical compatibility; not available for high temperatures.
*** Don't use it for high temperature application.

ORDER EXAMPLES

Cylinder Ø 125, double acting, 100 mm stroke, non-magnetic piston type, ATEX: **125/100 XL/N/EX**

Cylinder Ø 320, through rod, 150 mm stroke, magnetic piston type, stainless steel piston rod: **320R150 XL/M1**

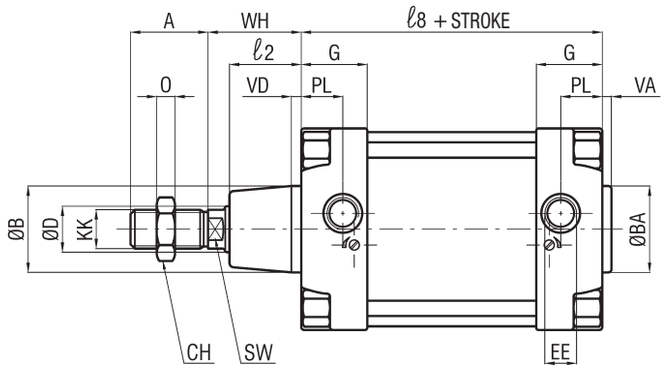
SPARE PARTS

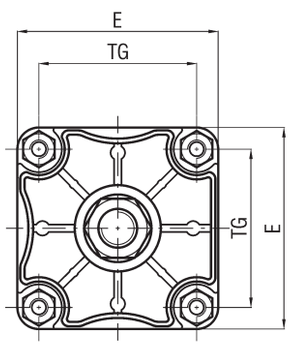
SEALS KIT	
Polyurethane	**Ø/SG/XL**
Through rod polyurethane	**Ø/SG/R/XL**
For high temperatures	**Ø/SG/XL2**
Through rod for high temperatures	**Ø/SG/R/XL2**

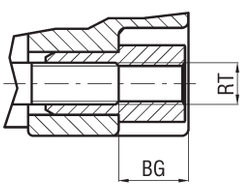
series XL

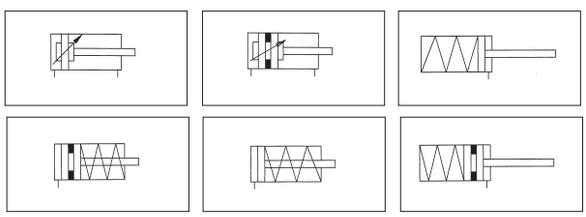
Tie rods cylinders to ISO 15552 standard Ø 125 ÷ 320

XL BASIC CYLINDER









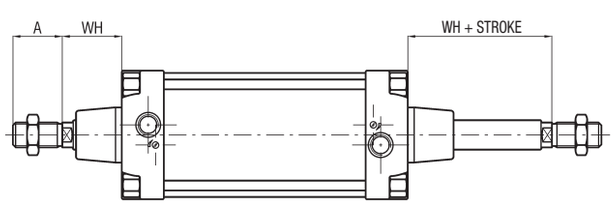
P.S.: Rod nut supplied as standard

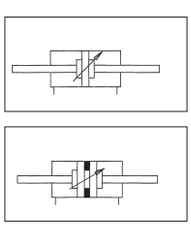
DIMENSIONS AND WEIGHTS BASIC CYLINDER

Ø	A*	BA* B*	BG*	CH	D	E*	EE*	G	KK*	ℓ	ℓ2*	ℓ8*	O	PL*	RT*	SW*	TG*	VA*	VD*	WB	WH*	WEIGHT (g)	INCR. (g) every 10 mm
125	54	60	20	41	32	140	G1/2	46	M27x2	268	50	160	12	29	M12	27	110	6	7	205	65	6475	126
160	72	65	24	55	40	180	G3/4	50	M36x2	310	60	180	15	30	M16	36	140	6	6	-	80	10850	210
200	72	75	24	55	40	220	G3/4	48	M36x2	310	60	180	15	24	M16	36	175	6	6	-	95	15075	290
250	84	90	25	65	50	268	G1	54	M42x2	-	67	200	16	31	M20	46	220	10	20	-	105	28500	380
320	96	110	28	75	63	340	G1	66	M48x2	-	82	220	18	31	M24	55	270	10	20	-	120	48400	620

* STANDARDIZED DIMENSIONS

THROUGH ROD





P.S.: Rod nut supplied as standard

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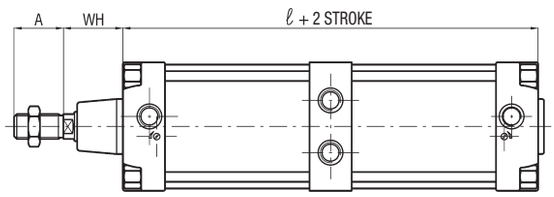
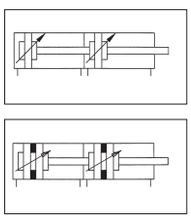
Tie rods cylinders to ISO 15552 standard Ø 125 ÷ 320

series XL

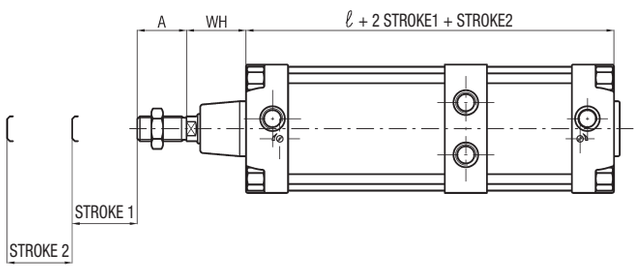
DOUBLE PUSH TANDEM

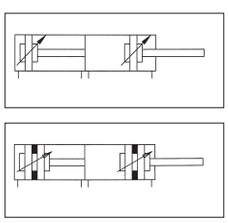




P.S.: Rod nut supplied as standard

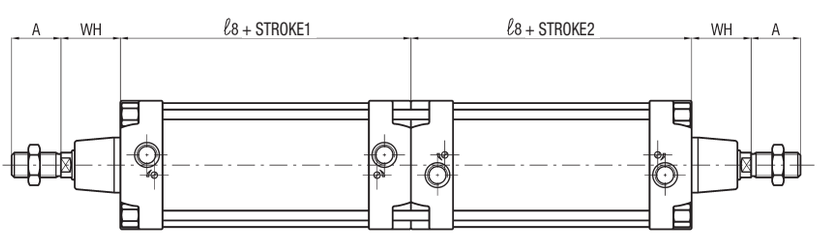
DOUBLE STROKE TANDEM

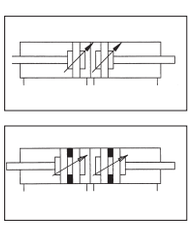




P.S.: Rod nut supplied as standard

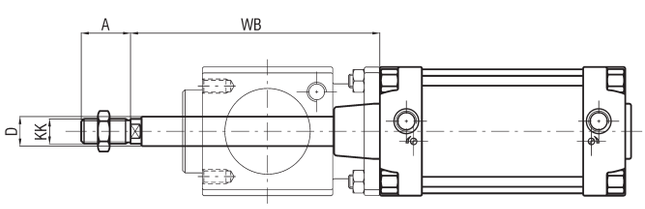
OPPOSED TANDEM





P.S.: Rod nut supplied as standard

FIT FOR PISTON ROD LOCKING UNIT



P.S.: Rod nut supplied as standard

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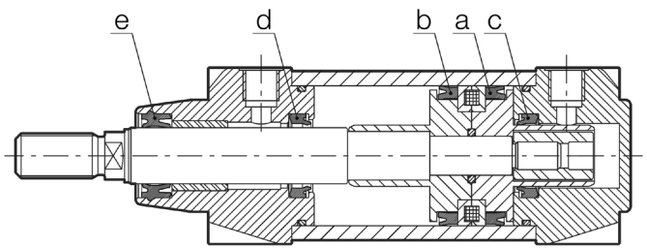
Low friction cylinders to ISO 15552 standard (Ø 32-200)

LOW FRICTION CYLINDER SEALS



a) Piston seal for rear chamber
b) Piston seal for front chamber
c) Cushioning seal rear chamber
d) Cushioning seal front chamber
e) Piston rod seal

APPLICATIONS

DESCRIPTION	OPTION	SEALS
Rear chamber	SA	a
Rear chamber + cushion	SB	a + c
Rear chamber + piston rod seal	SC	a + e
Rear chamber + cushion + piston rod seal	SD	a + c + e
Front chamber + piston rod seal	SE	b + e
Front chamber + cushion	SF	b + d + e
Linear sliding	S7	a + b + c + d + e

DESCRIPTION

Low friction cylinders, of U, P, XT and XL Series (from Ø 125 to Ø 200), are used as “dancers” or “stretchers” cylinders, but indeed they are single acting cylinders without the return spring. As indicated in the previous table, various applications are possible, considering the different seals are present inside the cylinder. Main application is the one indicated by “SA” option, as being “a” the only used seal, it’s the one that offers less friction force.
“SB” application uses the pneumatic cushion in case of emergency, to avoid shocks in case of system damage.
In “SC” and “SD” options, the piston rod seals avoids the entry of impurities into the cylinder.
in “SE” option front chamber is under pressure, indeed in “SF” option front chamber is under pressure, but with the cushion in case of emergency. In “S7” option seals are in NBR. Mounting uses specific grease.

P.S. Contact our commercial office for low friction cylinders of other series.

ATTENTION: for the application, consider the cylinder as a single acting cylinder without spring.

ORDER EXAMPLES

Cylinder Ø 50, double acting, 100 mm stroke, magnetic piston type, rear chamber seals and cushion: **50/100 XT/M SB**
Cylinder Ø 125, double acting, 200 mm stroke, magnetic piston type, front chamber seals and cushion: **125/200 XL/M SF**

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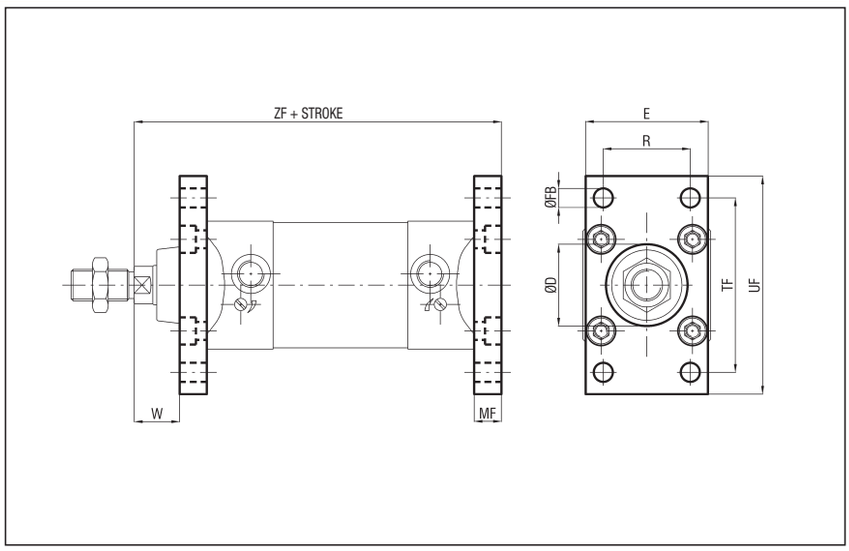
Accessories

CPUI - Fixings for cylinders to ISO 15552 standard Ø 32 ÷ 320

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

Ø	D *H11*	FB *H13*	E	MF *JS14*	R *JS14*	TF *JS14*	UF
32	30	7	45	10	32	64	80
40	35	9	52	10	36	72	90
50	40	9	65	12	45	90	110
63	45	9	75	12	50	100	120
80	45	12	95	16	63	126	150
100	55	14	115	16	75	150	170
125	60	16	140	20	90	180	205
160	65	18	180	20	115	230	260
200	75	22	220	25	135	270	300
250	90	26	285	25	165	330	400
320	110	33	350	30	200	400	470

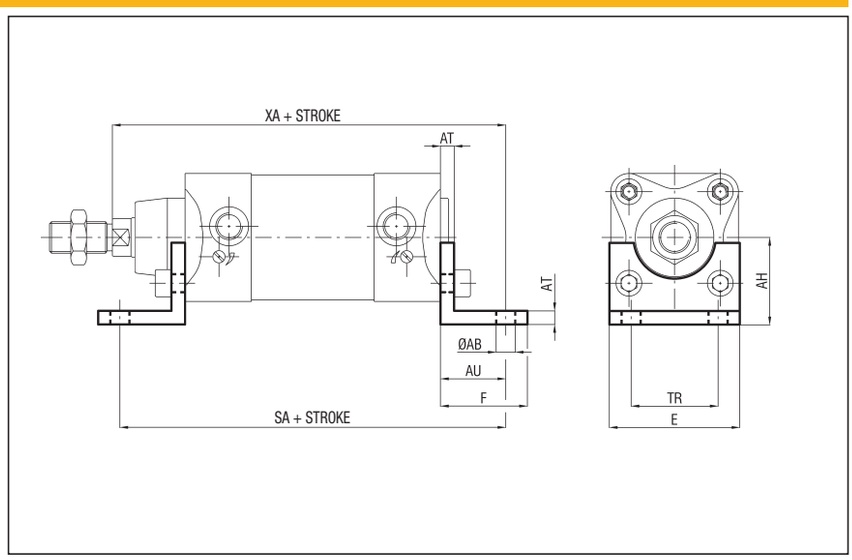
Ø	W	ZF	WEIGHT *(g)*
32	16	130	192
40	20	145	250
50	25	155	480
63	25	170	620
80	30	190	1450
100	35	205	1985
125	45	245	3750
160	60	280	6350
200	70	300	11300
250	80	330	20100
320	90	370	31800



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

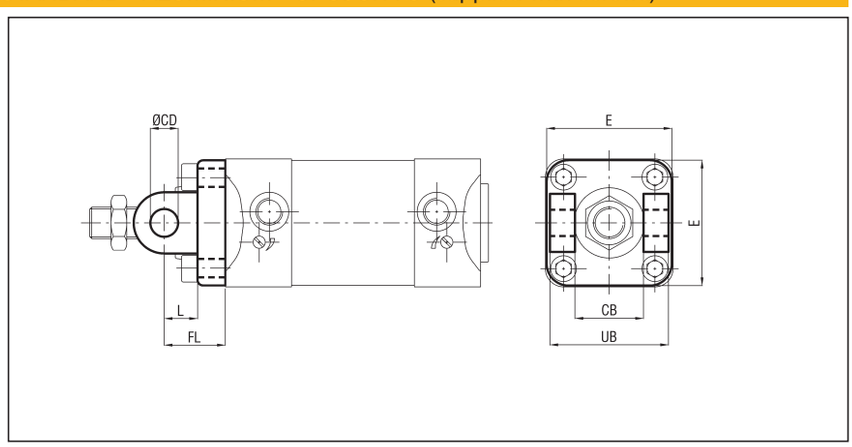
Ø	AB *H14*	AH *JS15*	AT	AU	E	F	SA
32	7	32	4	24	45	35	142
40	9	36	4	28	52	36	161
50	9	45	5	32	65	47	170
63	9	50	5	32	75	45	185
80	12	63	6	41	95	55	210
100	14	71	6	41	115	57	220
125	16	90	8	45	140	70	250
160	18	115	9	60	180	75	300
200	22	135	12	70	220	100	320
250	26	165	14	75	270	100	400

Ø	TR *JS14*	XA	WEIGHT *(g)*
32	32	144	66
40	36	163	78
50	45	175	168
63	50	190	190
80	63	215	382
100	75	230	452
125	90	270	1090
160	115	320	1188
200	135	345	3450
250	165	430	6600



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

Ø	CB	CD *H9*	E	FL	L	UB *h14*	WEIGHT *(g)*
32	26	10	45	22	13	45	48
40	28	12	52	25	16	52	75
50	32	12	65	27	16	60	124
63	40	16	75	32	21	70	192
80	60	16	95	36	22	90	380
100	70	20	115	41	27	110	620
125	90	25	140	50	30	130	1180
160	90	30	180	55	35	170	1780
200	110	30	220	60	35	170	2900



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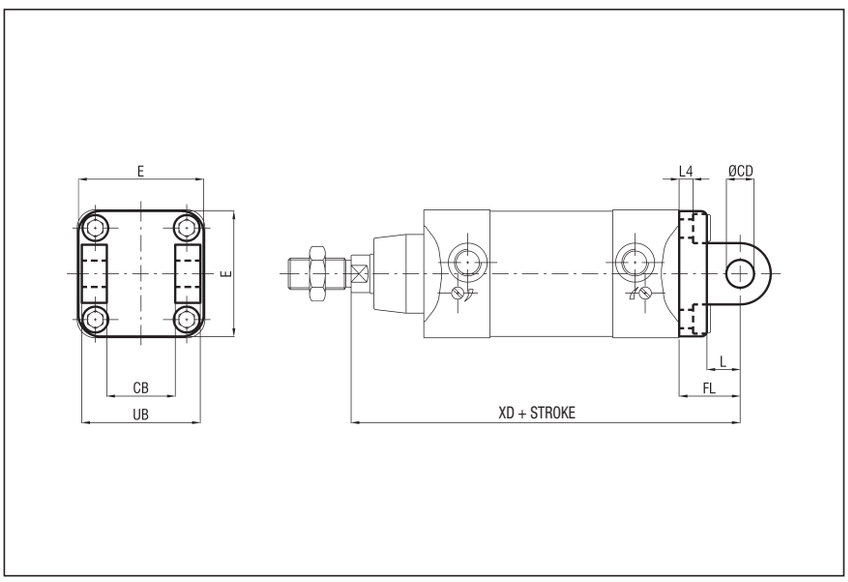
Accessories

CPUI - Fixings for cylinders to ISO 15552 standard Ø 32 ÷ 320

REAR FEMALE HINGE (Supplied with screws)
- ALUMINIUM (BUSHING AS STANDARD FOR Ø 32 ÷ 200) - CPUI/CF Ø
- STEEL - CPUI/CF Ø AC

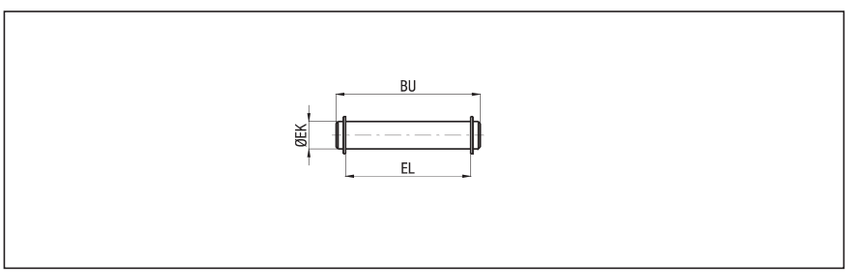
Ø	CB *H14*	CD *H9*	E	FL	L	L4	UB *h14*
32	26	10	45	22	13	5,5	45
40	28	12	52	25	16	5,5	52
50	32	12	65	27	16	6,5	60
63	40	16	75	32	21	6,5	70
80	50	16	95	36	22	10	90
100	60	20	115	41	27	10	110
125	70	25	140	50	30	10	130
160	90	30	180	55	35	10	170
200	90	30	220	60	35	11	170
250	110	40	268	70	59	11	200
320	120	45	340	80	65	15	220

Ø	XD	WEIGHT *ALL. (g)*	WEIGHT *STEEL (g)*
32	142	48	138
40	160	75	230
50	170	124	338
63	190	192	540
80	210	380	1000
100	230	620	1700
125	275	1180	3350
160	315	1780	5750
200	335	2900	8900
250	375	5800	15900
320	420	-	30750



PIVOT FOR REAR FEMALE HINGE - ZINC-PLATED STEEL - CPU/CPUI/SEC Ø

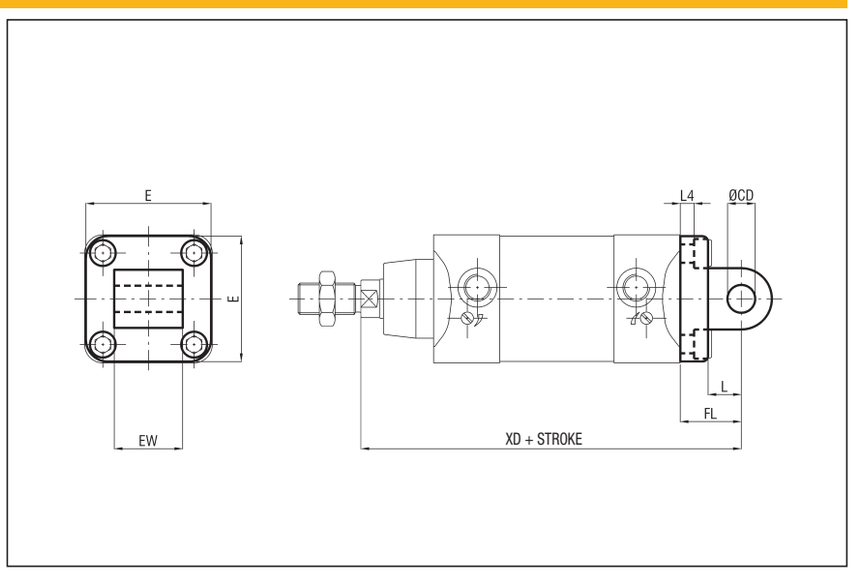
Ø	BU	EK *f7*	EL	WEIGHT *(g)*
32	53	10	46	32
40	60	12	53	52
50	68	12	61	60
63	78	16	71	122
80	98	16	91	152
100	118	20	111	290
125	139	25	132	530
160	178	30	171,5	978
200	178	30	171,5	978
250	211	40	202	2100
320	236	45	222	2950



MALE HINGE (Supplied with screws)
- ALUMINIUM (BUSHING AS STANDARD FOR Ø 32 ÷ 200) - CPUI/CM Ø
- STEEL - CPUI/CM Ø AC

Ø	CD *H9*	E	EW	FL	L	L4	XD
32	10	45	26	22	13	5,5	142
40	12	52	28	25	16	5,5	160
50	12	65	32	27	16	6,5	170
63	16	75	40	32	21	6,5	190
80	16	95	50	36	22	10	210
100	20	115	60	41	27	10	230
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 *ALL. (g)*	WEIGHT *STEEL (g)*
32	54	176
40	76	274
50	124	368
63	212	682
80	420	1196
100	666	2100
125	1264	3740
160	1846	5890
200	2950	8470
250	6200	16850
320	-	31750



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Accessories

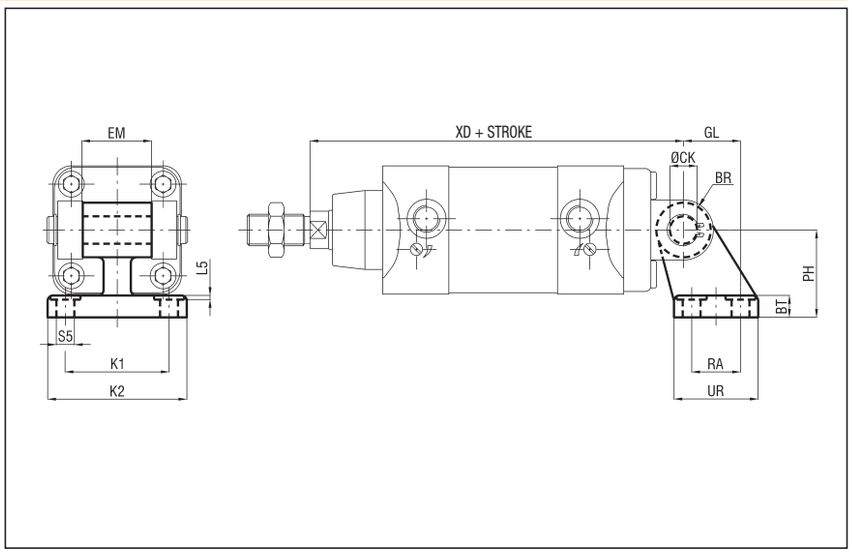
CPUI - Fixings for cylinders to ISO 15552 standard Ø 32 ÷ 320

SQUARE JOINT

- ALUMINIUM (BUSHING AS STANDARD FOR Ø 32 ÷ 200) - CPUI/AS Ø
- STEEL - CPUI/AS Ø AC (Ø 32 ÷ 125)

Ø	PH *JS15*	CK *H9*	EM	GL *JS14*	RA *JS14*	UR	BT	L5
32	32	10	26	21	18	31	8	1,6
40	36	12	28	24	22	35	10	1,6
50	45	12	32	33	30	45	12	1,6
63	50	16	40	37	35	50	14	1,6
80	63	16	50	47	40	60	14	2,5
100	71	20	60	55	50	70	17	2,5
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
250	165	40	110	128	110	160	35	4,5

Ø	BR	S5 *H13*	K1 *JS14*	K2	XD	WEIGHT *ALL. (g)*	WEIGHT *STEEL (g)*
32	10	6,6	38	51	142	56	158
40	11	6,6	41	54	160	139	238
50	13	9	50	65	170	142	418
63	15	9	52	67	190	200	526
80	15	11	66	86	210	312	1055
100	19	11	76	96	230	510	1510
125	22,5	14	94	124	275	826	3150
160	31,5	18	118	156	315	2600	-
200	31,5	18	122	162	335	3250	-
250	???	22	150	200	375	5700	-

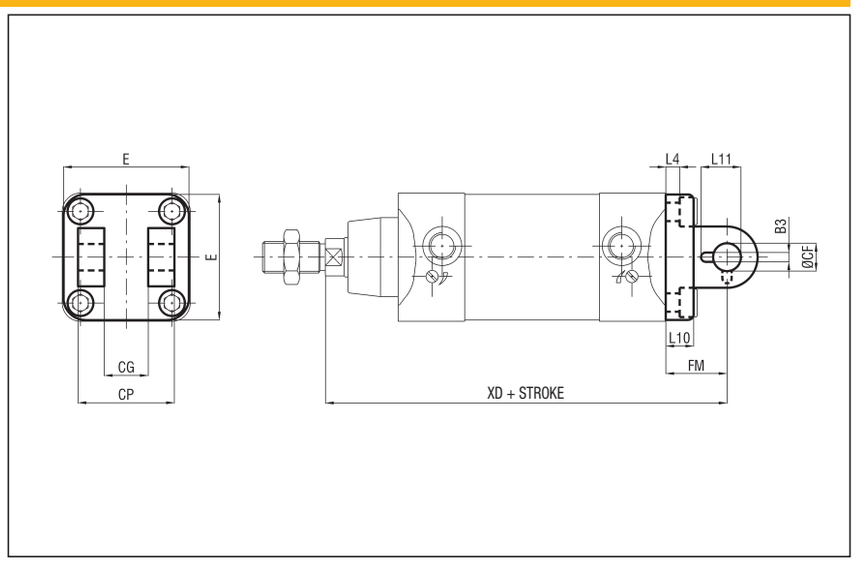


NARROW REAR FEMALE HINGE (Supplied with screws)

- ALUMINIUM - CPUI/CFS Ø
- STEEL - CPUI/CFS Ø AC (Ø 32 ÷ 125)

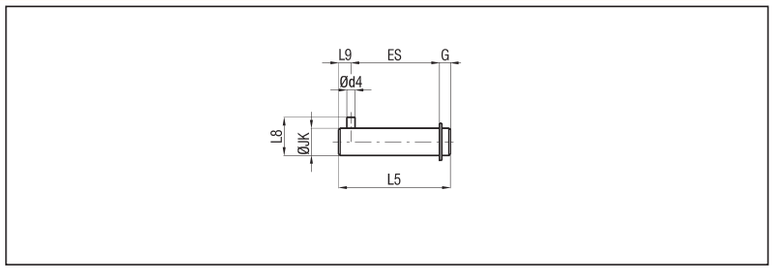
Ø	CG *D10*	CP *d12*	B3	CF *F7*	E	FM	L10	L11
32	14	34	3,3	10	45	22	9	16,5
40	16	40	4,3	12	52	25	9	18
50	21	45	4,3	16	65	27	11	22
63	21	51	4,3	16	75	32	11	22
80	25	65	4,3	20	95	36	14	26
100	25	75	6,3	20	115	41	14	26
125	37	97	6,3	30	140	50	20	39
160	43	122	6,3	35	180	55	20	44
200	43	122	6,3	35	220	60	25	44
250	49	125	8,3	40	270	70	25	52

Ø	L4	XD	WEIGHT *ALL. (g)*	WEIGHT *STEEL (g)*
32	5,5	142	42	140
40	5,5	160	70	230
50	6,5	170	112	336
63	6,5	190	194	546
80	10	210	382	1190
100	10	230	610	1840
125	10	275	1100	3550
160	10	315	2030	-
200	11	335	3400	-
250	11	375	5400	-



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

Ø	d4 *H12*	JK *f7*	L8	ES	L9	L5	G	WEIGHT *(g)*
32	3	10	14	32,5	4,5	41	4	26
40	4	12	16	38	6	48	4	42
50	4	16	20	43	6	54	5	84
63	4	16	20	49	6	60	5	94
80	4	20	24	63	6	75	6	184
100	4	20	24	73	6	85	6	208
125	6	30	36	94	9	110	7	606
160	6	35	41	119	9	135	7	972
200	6	35	41	119	9	135	7	972
250	8	40	48	121	12	140	7	1365



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Accessories

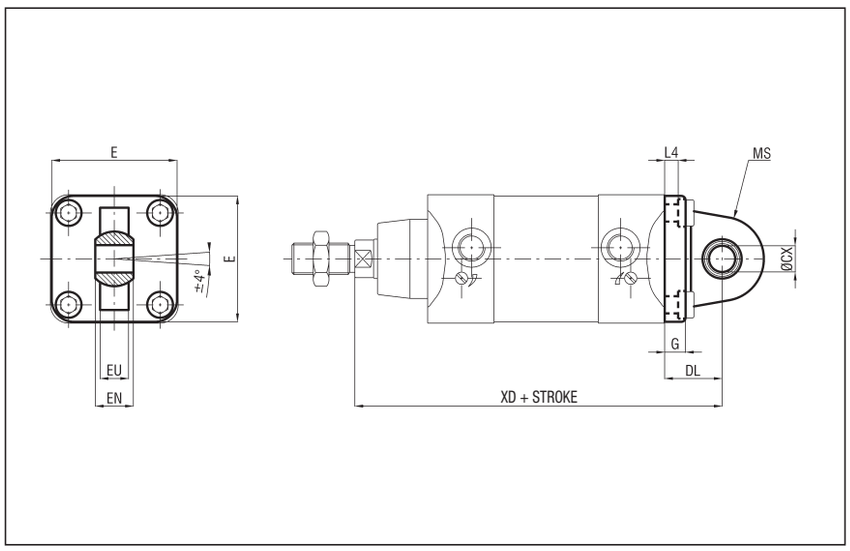
CPUI - Fixings for cylinders to ISO 15552 standard Ø 32 ÷ 320

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

- ALUMINIUM - CPUI/CMSS Ø
- STEEL - CPUI/CMSS Ø AC (Ø 32 ÷ 125)

Ø	CX *H7*	E	EN	MS	EU	G	DL
32	10	45	14	16	10,5	9	22
40	12	55	16	19	12	9	25
50	16	65	21	21	15	11	27
63	16	75	21	24	15	11	32
80	20	95	25	28,5	18	14	36
100	20	115	25	30	18	14	41
125	30	140	37	40	25	20	50
160	35	180	43	45	28	20	55
200	35	220	43	48	28	25	60
250	40	270	49	52	33	25	20

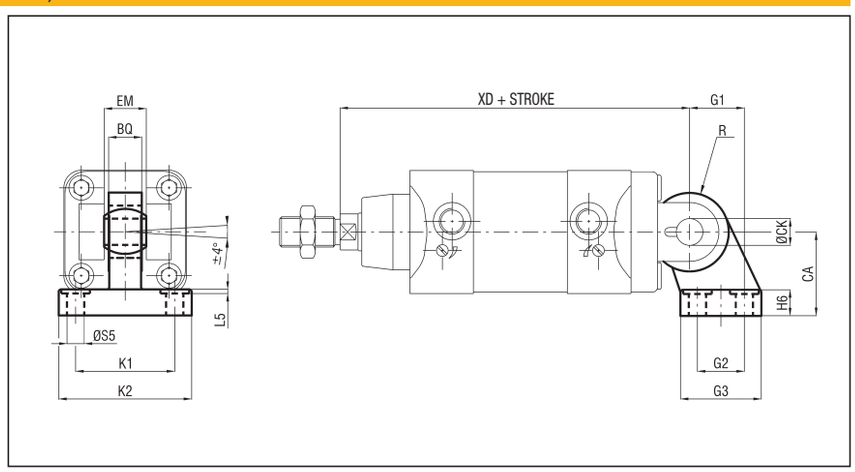
Ø	L4	XD	WEIGHT *ALL. (g)*	WEIGHT *STEEL (g)*
32	5,5	142	62	152
40	5,5	160	100	256
50	6,5	170	180	364
63	6,5	190	244	595
80	10	210	476	1122
100	10	230	646	1786
125	10	275	1410	3500
160	10	315	2420	-
200	11	335	3840	-
250	11	375	5850	-



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

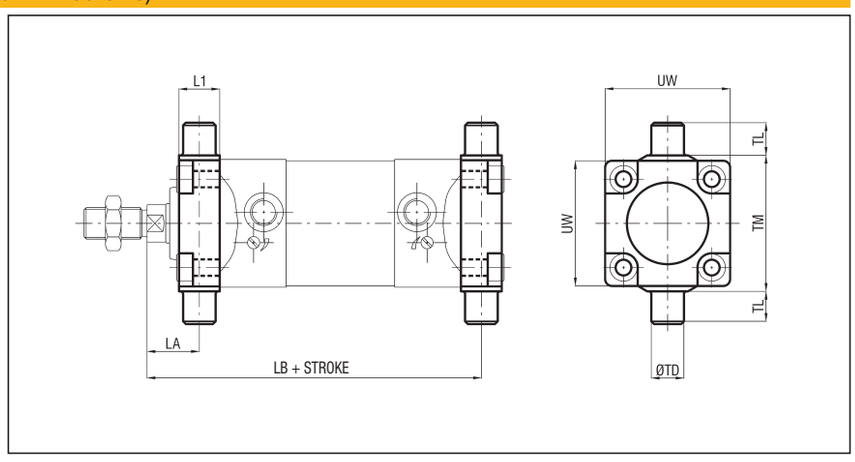
Ø	CA *JS15*	BQ	CK *H7*	EM	G1 *JS14*	G2 *JS14*	G3	H6
32	32	10,5	10	14	21	18	31	10
40	36	12	12	16	24	22	35	10
50	45	15	16	21	33	30	45	12
63	50	15	16	21	37	35	50	12
80	63	18	20	25	47	40	60	14
100	71	18	20	25	55	50	70	15
125	90	25	30	37	70	60	90	20

Ø	K1 *JS14*	K2	L5	R	S5 *H13*	XD	WEIGHT *(g)*
32	38	51	1,6	15	6,6	142	178
40	41	54	1,6	18	6,6	160	268
50	50	65	1,6	20	9	170	458
63	52	67	1,6	23	9	190	550
80	66	86	2,5	27	11	210	970
100	76	96	2,5	30	11	230	1326
125	94	124	3,2	40	13,5	275	3000



FLOATING HINGE - STEEL - CPUI/CTA Ø (Supplied with screws)

Ø	L1	LA	LB	TD *e9*	TL *h14*	TM *h14*	UW	WEIGHT *(g)*
32	14	19	127	12	12	50	46	137
40	19	20,5	144,5	16	16	63	59	385
50	19	27,5	152,5	16	16	75	69	513
63	24	25	170	20	20	90	84	1041
80	24	34	186	20	20	110	102	1563
100	29	36,5	203,5	25	25	132	125	3000
125	32	49	211	25	25	160	155	2100
160	40	75	280	32	32	200	190	4150
200	40	85	295	32	32	250	240	7350



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Accessories

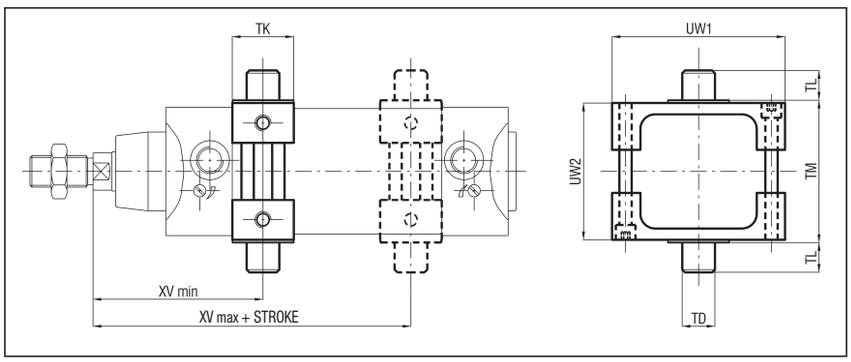
CPUI - Fixings for cylinders to ISO 15552 standard Ø 32 ÷ 320

INTERMEDIATE HINGE - STEEL- X/CT Ø (Supplied with dowels)

Ø	TK	TD *e9*	TL *h14*	TM* *0/-0,3*	UW1	UW2	XV *min*	XV *max*	WEIGHT *(g)*
32	25	12	12	49,5	65	49	65,5	80,5	177
40	25	16	16	61,7	75	62	73,5	91,5	325
50	30	16	16	74,6	95	74	82	98	433
63	30	20	20	87,8	105	88	87,5	107,5	668
80	30	20	20	105,8	130	109	97	123	1309
100	40	25	25	129,8	145	130	110	130	1817

*DIMENSION NOT STANDARDIZED
USABLE WITH CYLINDER SERIES X AND SERIES XT
P.S.: ADJUSTABLE POSITION (fixing through dowels)

ASSEMBLY: X/CT Ø + cylinder X
type **M/X/CT Ø**

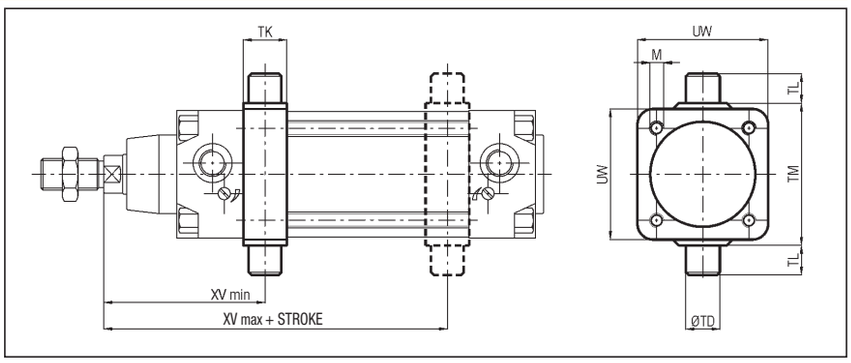


INTERMEDIATE HINGE - STEEL - EXTRUDED TUBE - XT-CT Ø (THREADED - ROUND)

Ø	TK	M	TD *e9*	TL *h14*	TM *0/-0,3*	UW	XV *min*	XV *max*	WEIGHT *(g)*
32	15	M6	12	12	50	46	60,5	85,5	128
40	20	M6	16	16	63	59	71	96,5	308
50	20	M8	16	16	75	69	77	103	370
63	25	M8	20	20	90	84	85	110	690
80	25	M10	20	20	110	102	94,5	125,5	894
100	30	M10	25	25	132	125	105	135	1584

USABLE WITH CYLINDER SERIES XT EXTRUDED TUBE (S14)
P.S.: - FIXED POSITION (specify dimension "XV", fixed on cylinder with completed threaded and galvanized tie rods type "S6", see on page 1.1)

ASSEMBLY (FIXED): XT/CT Ø + cylinder XT S6
type **MF/XT/CT Ø**



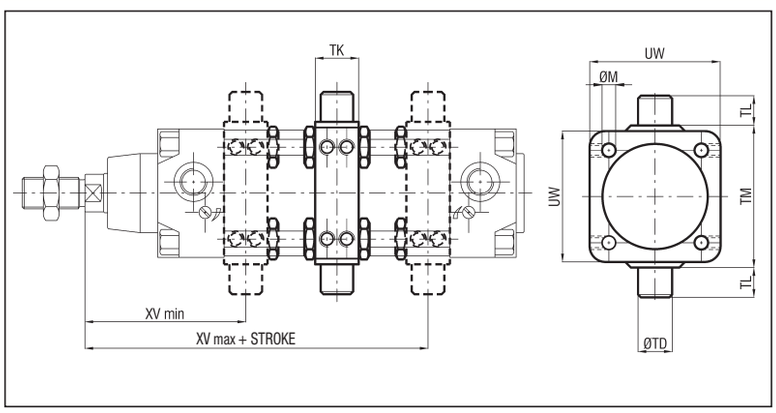
INTERMEDIATE HINGE - STEEL - EXTRUDED TUBE (Supplied with dowels)

- XT/CPUI/CT Ø 32 ÷ 100
- CX/CPUI/CT Ø 125 ÷ 320

Ø	TK	M	TD *e9*	TL *h14*	TM *h14*	UW	XV *min*	XV *max*	WEIGHT *(g)*
32	15	6,25	12	12	50	46	60,5	85,5	110
40	20	6,25	16	16	63	59	71	96,5	290
50	20	8,25	16	16	75	69	77	103	330
63	25	8,25	20	20	90	84	85	110	650
80	25	10,25	20	20	110	102	94,5	125,5	830
100	30	10,25	25	25	132	125	105	135	1560
125	32	12,25	25	25	160	155	127	163	2450
160	40	16,25	32	32	200	190	150	190	4150
200	40	16,25	32	32	250	240	163	207	7300
250	50	20,25	40	40	320	295	184	226	12920
320	70	24,25	50	50	400	370	212	248	25280

P.S.: - FIXED POSITION - Ø 125 ÷ 320 (specify dimension "XV", fixed on cylinder with completed threaded and galvanized tie rods type "S6", see on page 1.1)
ADJUSTABLE POSITION- Ø 32 ÷ 100 XT S14 (fixing through dowels)
- Ø 125 ÷ 200 XL (fixing through dowels)

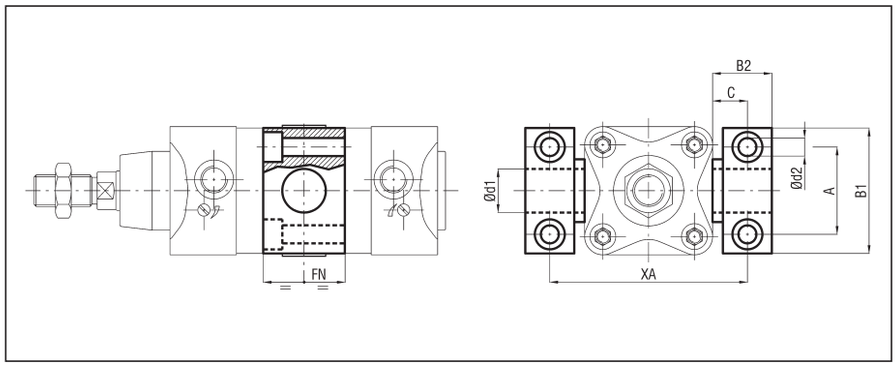
ASSEMBLY (FIXED): CX/CPUI/CT Ø + cylinder CPUI S6
type **MF/CX/CPUI/CT Ø**



SUPPORT FOR INTERMEDIATE HINGE - STEEL - CPUI/SCT Ø

Ø	A	B1	B2	C	d1 *F7*	d2 *H13*	FN
32	32	46	18	10,5	12	6,6	30
40-50	36	55	21	12	16	9	36
63-80	42	65	23	13	20	11	40
100-125	50	75	28,5	16	25	14	50
160-200	60	92	40	22,5	32	18	60
250	90	140	56	31	40	22	90

Ø	XA	WEIGHT *(g)*
32	71	100
40-50	87-99	150
63-80	116-136	234
100-125	164-192	435
160-200	245-295	850
250	360	2750



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Accessories

WBZ - Piston rod locking unit for cylinders to ISO 15552 standard

DESCRIPTION

Piston rod locking unit series "WBZ" is a mechanical device to fit on ISO 15552 cylinders (series X, XT and XL); its function is to lock the piston rod in any position. This solution allows to lock the cylinder stroke each time that there's a pressure fall. Locking force is, in any case, higher than the force given off by the cylinder fed at 10 bar. **ATTENTION:** It has static operation (cylinder piston rod not moving); it's necessary to preliminary stop the cylinder piston rod before proceeding with mechanical locking. It is possible to unblock the rod lock only if the forces in the piston are balanced, otherwise there can be accidents due to the irregular movement of the rod. If the given blocking values are exceeded there can be a sliding on the rod. When it is blocked and the loads are variable on the rod, the rod can have a slight axial play. Piston rod locking unit series "WBZ" must not be considered as a safety device.

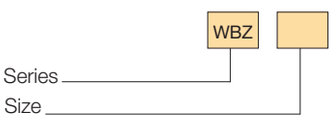
TECHNICAL DATA

Operating pressure	3 ÷ 6 bar with cylinder feed pressure 1 ÷ 10 bar							
Working temperature	0 ÷ +80 °C (-5 °C with dry air)							
Fluid	Compressed air, filtered, continuous lubricated, unlubricated or dry lubricated							
Size	32, 40, 50, 63, 80, 100, 125							
Port size	32 ÷ 63 = G 1/8 80 ÷ 125 = G 1/4							
Locking type	Mechanical – Only axial (bi-directional)							
Release	Through pneumatic control							
Condition in absence of pressure	Locked							
Locking force with static load	Size	32	40	50	63	80	100	125
	N	790	1240	1930	3060	5400	7700	12040

MATERIALS

Body	Anodized aluminium alloy
Blades	Brass
Pistons	Acetal resin
Seals	NBR rubber
Springs	Steel

ORDER KEY



ORDER EXAMPLES

Piston rod locking unit, size 50: **WBZ50**

Piston rod locking unit, size 80 + cylinder series "XT" Ø 80, 150 mm stroke, fit for piston rod locking unit, non-magnetic piston type, ASSEMBLED: **WBZ80 + 80/150 XT/NZ + M/WBZ**

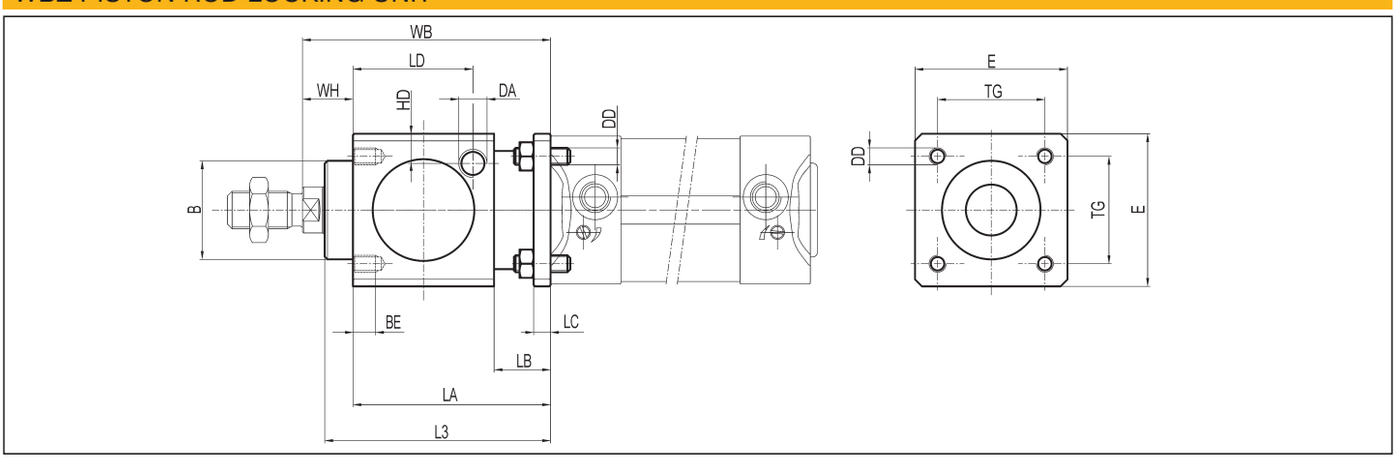
ASSEMBLY

"WBZ" + cylinder series "X", "XT" or "XL" (Ø 125), "Z" version	**M/WBZ**

SPARE PARTS

BLADES KIT	**Size/PM/WBZ**
PISTON KIT	**Size/SG/WBZ**

WBZ PISTON ROD LOCKING UNIT



DIMENSIONS AND WEIGHTS

SIZE	B	BE	E	DA	DD	HD	L3	LA	LB	LC	LD	TG	WB	WH	WEIGHT (g)
32	30	8	47	G 1/8	M6	9	67,5	60	20	6	33,25	32,5	86	26	400
40	34,9	8	54	G 1/8	M6	9	80	70	20	6	42,5	38	100	30	600
50	40	12	65	G 1/8	M8	12,5	100	90	24	8	58	46,5	127	37	1100
63	45	12	75	G 1/8	M8	17,5	100	90	24	8	59	56,5	127	37	1500
80	45	16	95	G 1/4	M10	17,5	120	110	32	12	69	72	156	46	2600
100	55	16	114	G 1/4	M10	20	120	110	32	12	69	89	161	51	3500
125	60	20	138	G 1/4	M12	19	156	140	45	20	84,5	110	205	65	6500

P.S.: TECHNICAL INFORMATION (see the same ones for cylinders series "U" on page 1.7

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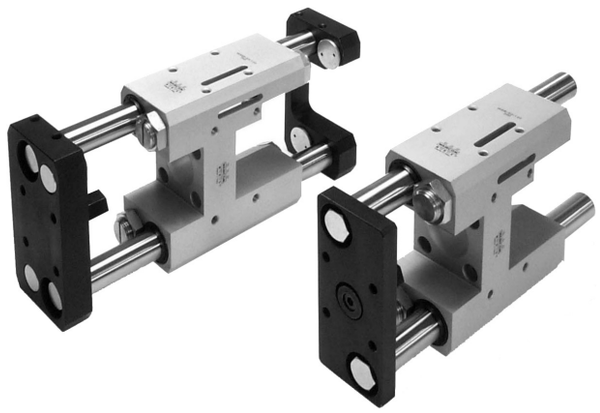
Accessories

WUG - Guide unit for cylinders to ISO 15552 standard Ø 32 ÷ 63

DESCRIPTION

Guide unit series “WUG” for cylinders to ISO 15552 standard (serie X e XT) act as devices against rotation of the piston rod in the presence of torques and they are used to carry out multi-axis systems where high movement precision is required.
Guide units are available in single and double version, and are supplied with self-lubricating bushings (for low speeds or heavy loads), or with recirculating ball bearing sleeves (for high speeds).



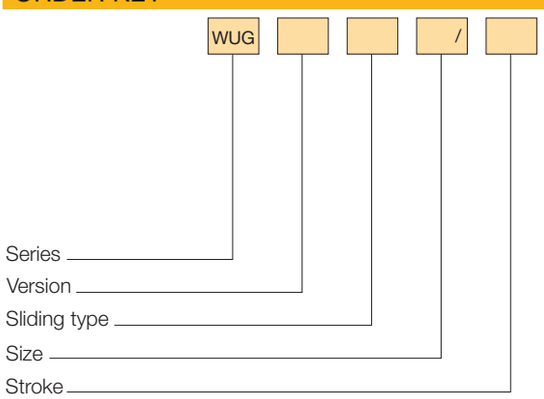
TECHNICAL DATA

Working temperature	0 ÷ +80 °C
Size	32, 40, 50, 63
Standard strokes (mm)	25, 50, 100, 150, 200, 250, 300, 350, 400, 500
Versions	Single unit Double unit

MATERIALS

Body	Anodized aluminium alloy
Self-aligning radial joint	Steel
Adjustable mechanical stop as standard	Brass
End flanges	Single unit: galvanized steel Double unit: anodized aluminium alloy
Guide bars	C45 chromium-plated steel (sliding type on bushings); Hardened steel (sliding type with sleeves)
Bushings	Self-lubricating sintered bronze with wiper ring
Sleeves	Recirculating ball bearings with wiper ring
Clamp	Brass
Scrapers	NBR rubber

ORDER KEY



VERSION

Single unit	D Double unit

SLIDING TYPE

B On bushings	M With sleeves

ORDER EXAMPLES

Single guide unit, size 63, 150 mm stroke, with sleeves + cylinder series “X” Ø 63, double acting, 150 mm stroke, magnetic piston type, ASSEMBLED:
WUGM 63/150 + 63/150 X/M + M/WUG

Single guide unit, size 40, 250 mm stroke, with sleeves:
WUGM 40/250

Double guide unit, size 50, 100 mm stroke, with bushings:
WUGDB 50/100

ASSEMBLY

”WUG“ + cylinders series “X” or ”XT“	**M/WUG**

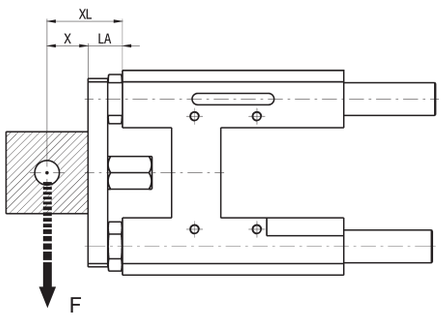
Accessories

WUG - Guide unit for cylinders to ISO 15552 standard Ø 32 ÷ 63

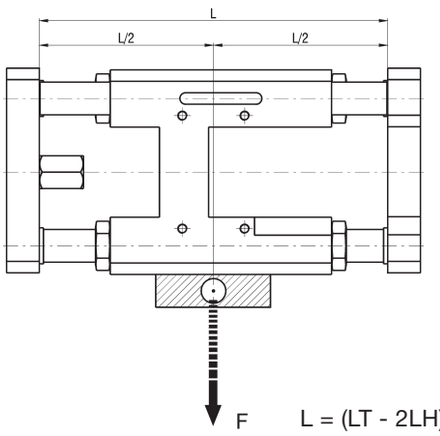
TECHNICAL INFORMATION

1

WUG SINGLE GUIDE UNIT

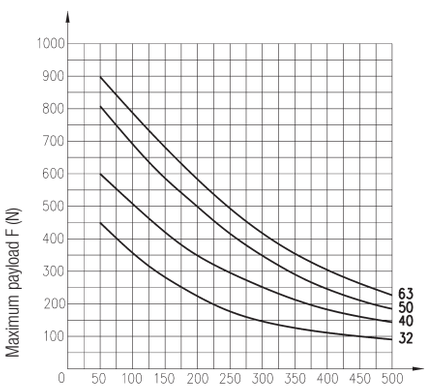


WUGD DOUBLE GUIDE UNIT

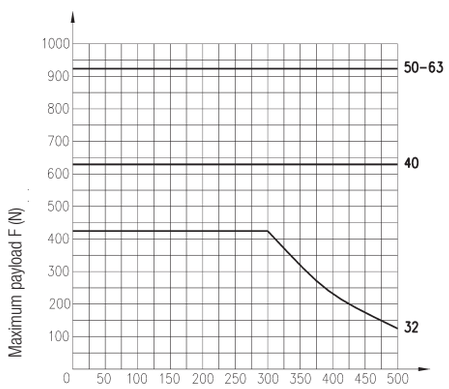


L = (LT - 2LH) + STROKE

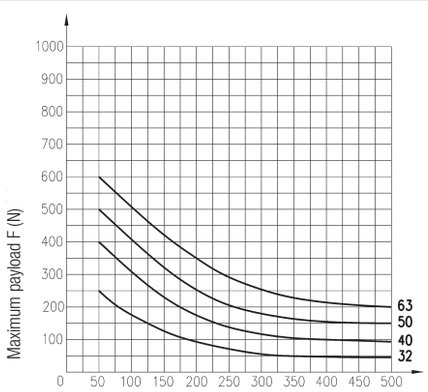
MAXIMUM PERMISSIBLE LOAD-WUG VERSION B



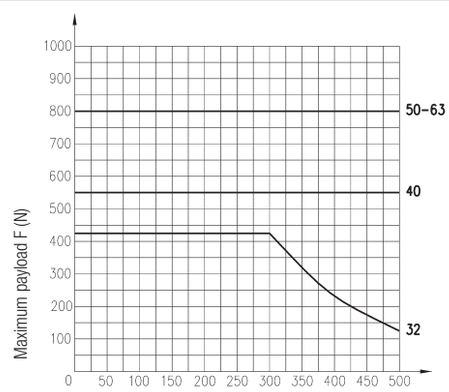
MAXIMUM PERMISSIBLE LOAD-WUGD VERSION B



MAXIMUM PERMISSIBLE LOAD-WUG VERSION M



MAXIMUM PERMISSIBLE LOAD-WUGD VERSION M



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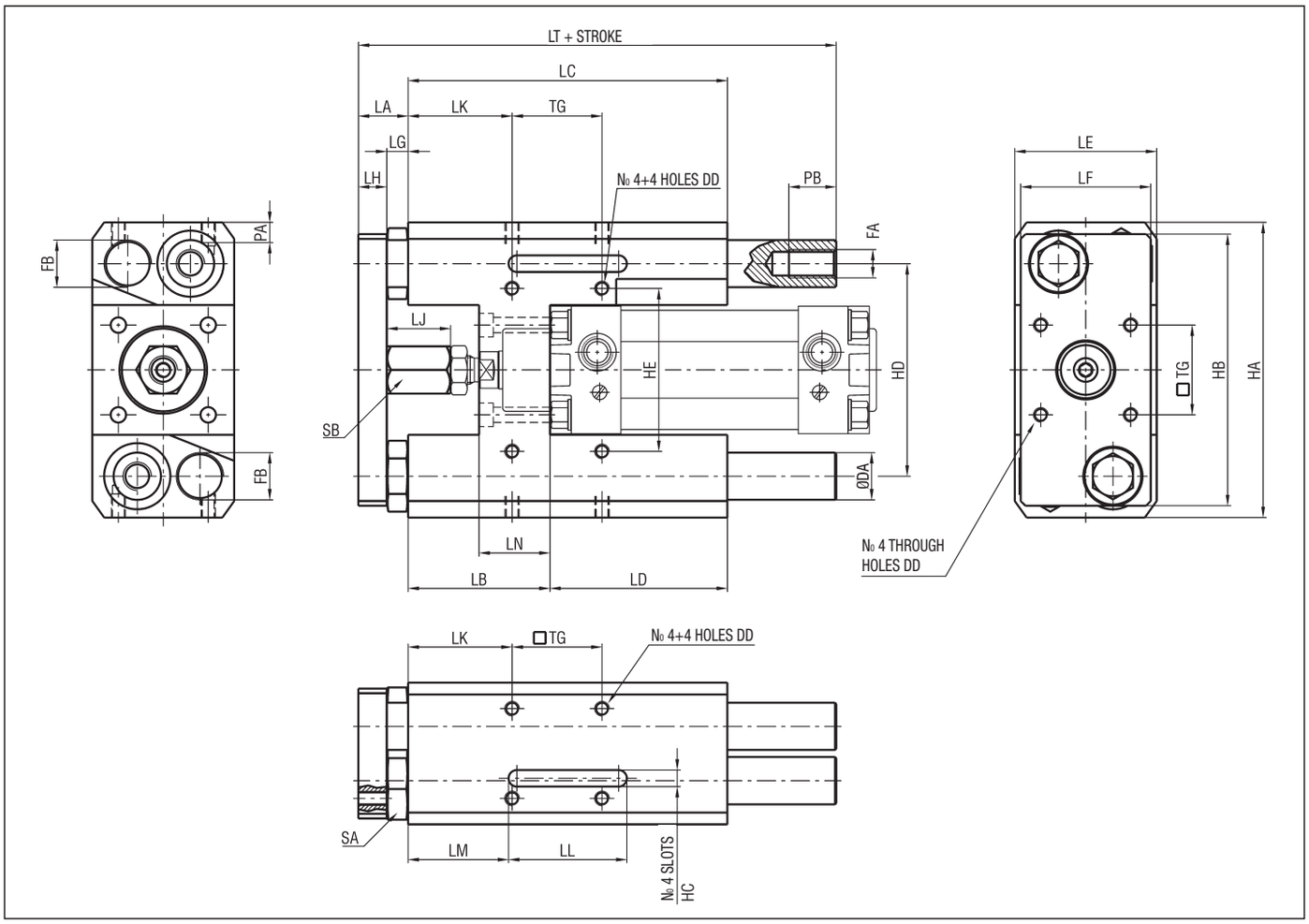
Accessories

WUG - Guide unit for cylinders to ISO 15552 standard Ø 32 ÷ 63

WUG SINGLE GUIDE UNIT



DIMENSIONS AND WEIGHTS

SIZE	DA	DD	FA	FB	HA	HB	HC	HD	HE	LA	LB	LC	LD	LE	LF	LG	LH
32	16	M6	M10x1,25	M18x1,5	112	100	7	79	61	20	50	120	70	50	45	8	12
40	20	M6	M12x1,25	M20x1,5	125	115	7	90	69	21	60	135	75	60	55	9	12
50	25	M8	M16x1,5	M24x2	150	144	7	108	85	25	70	150	80	70	65	10	15
63	25	M8	M16x1,5	M27x2	162	155	7	119	100	27	73	180	107	80	75	12	15

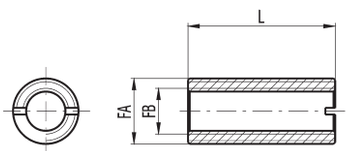
SIZE	LJ	LK	LL	LM	LN	LT	PA	PB	SA	SB	TG	WEIGHT *WUGB (g)*	INCREM. *(g) every 10 mm*	WEIGHT *WUGM (g)*	INCREM. *(g) every 10 mm*
32	22	38	50	34,5	25	157	6	15	Ch.23	Ch.17	32,5	2060	29	1815	31
40	27	44	50	42,5	30	172	8	20	Ch.26	Ch.20	38	2905	45	2760	50
50	32	47	50	50	35	190	8	25	Ch.30	Ch.20	46,5	4780	65	4525	76
63	32	49,5	50	65	35	225	9,5	25	Ch.36	Ch.20	56,5	6315	65	5950	87

CLAMP FOR DECELERATOR - WUGCD SIZE

SIZE	FA	FB	L	WEIGHT *(g)*
32	M18x1,5	M12x1	40	50
40	M20x1,5	M14x1,5	45	60
50	M24x2	M16x1,5	50	105
63	M27x2	M20x1,5	60	130

CLAMP FOR MAGNETIC PROXIMITY SWITCH - WUGCP SIZE

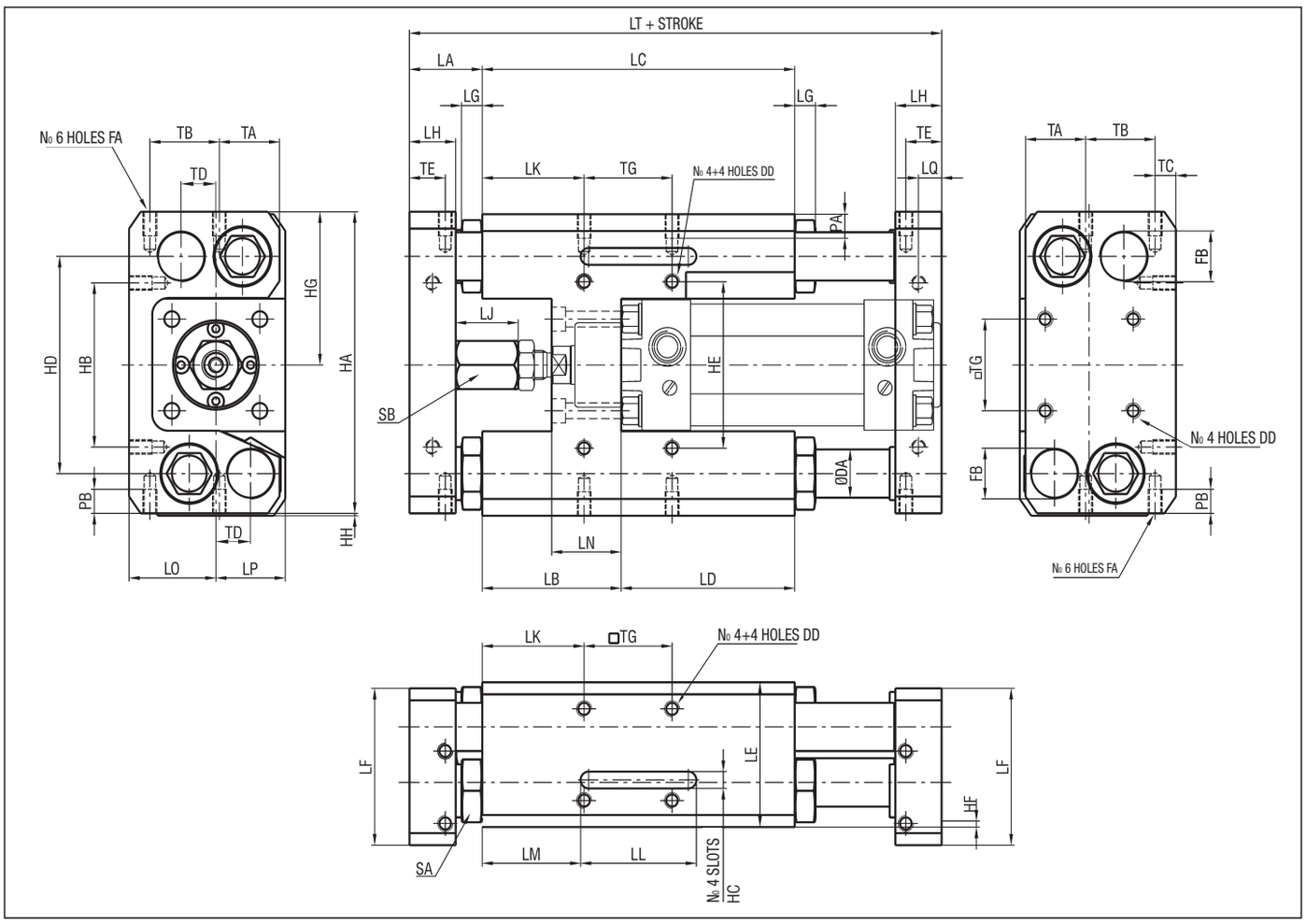
SIZE	FA	FB	L	WEIGHT *(g)*
32	M18x1,5	M12x1	40	47
40	M20x1,5	M12x1	40	67
50	M24x2	M12x1	45	128
63	M27x2	M12x1	45	173



Accessories

WUG - Guide unit for cylinders to ISO 15552 standard Ø 32 ÷ 63

WUGD DOUBLE GUIDE UNIT



DIMENSIONS AND WEIGHTS

SIZE	DA	DD	FA	FB	HA	HB	HC	HD	HE	HF	HG	HH	LA	LB	LC	LD	LE
32	16	M6	M5	M18x1,5	112	60	7	79	61	1	57	1	28,5	50	120	70	50
40	20	M6	M6	M20x1,5	125	68	7	90	69	2,5	63,5	1	31,5	60	135	75	60
50	25	M8	M8	M24x2	150	79	7	108	85	1	76	1	37,5	70	150	80	70
63	25	M8	M8	M27x2	162	89	7	119	100	1	82	1	39,5	73	180	107	80

SIZE	LF	LG	LH	LJ	LK	LL	LM	LN	LO	LP	LQ	LT	PA	PB	SA	SB	TA
32	58	8	18	22	38	50	34,5	25	34	25	9	181	6	10	Ch.23	Ch.17	24
40	65	9	20	27	44	50	42,5	30	37,5	30	10	200	8	10	Ch.26	Ch.20	26
50	78,5	10	25	32	47	50	50	35	44,5	35	12,5	225	8	12	Ch.30	Ch.20	33,5
63	93	12	25	32	49,5	50	65	35	54	40	12,5	260	9,5	12	Ch.36	Ch.20	40

SIZE	TB	TC	TD	TE	TG	WEIGHT *WUGDB (g)*	INCREM. *(g) every 10 mm*	WEIGHT *WUGDM (g)*	INCREM. *(g) every 10 mm*
32	24,5	9,5	9,5	14	32,5	2320	29	2250	31
40	30	9	11,5	15,5	38	3480	45	3340	50
50	33	12	13	19	46,5	5750	65	5480	76
63	41	12	17	19	56,5	6445	65	6065	87

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com

Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

DESCRIPTION

Hydraulic regulators series “HS” assure a constant speed of pneumatic cylinders during their working cycle. In fact in the control of tools, that during their movements meet different resistances (i.e. violent impacts and vibrations) with the consequent variation of speed due to the use of only pneumatic control, you could obtain coarse finishes of the tooling till reach the breaking of the same tool. The hydraulic speed regulators exploit the oil incompressibility that, passing from a chamber to another one through an externally adjustable flow regulator, manages to uniform the speed and, with the use of control valves, avoids dead times warranting perfectly repeatable stops independently from the applied load. The adjustment can be made during the piston rod thrust phase, retract phase or both. The stop valve (STOP), mounted in-line on the circuit, and the acceleration valves (SKIP), mounted in-parallel, can be inserted in both the phases. These are poppet valves, two port, pneumatically actuated and therefore they have to be operated to make the STOP valve insert and to cut out the SKIP one.

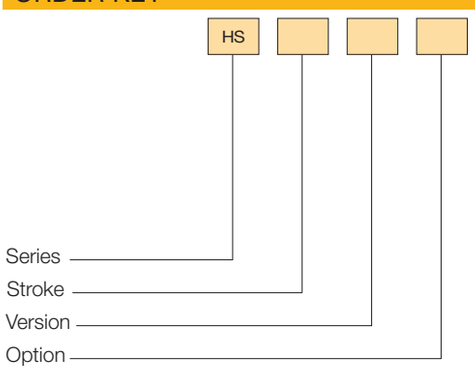
TECHNICAL DATA

Working temperature	0 ÷ +70 °C
Fluid	Hydraulic oil (WAIRSOL HS: contact our commercial office for details)
Versions	In-line tank, piston rod thrust adjustment; In-parallel tank, piston rod thrust adjustment; In-parallel tank, piston rod retract adjustment; In-parallel tank, double adjustment
Bore	Ø 40
Standard strokes (mm)	50, 100, 150, 200, 250, 300, 350, 400, 450, 500
Maximum stroke (mm)	1000
Maximum adjustable load	6000 N
Minimum/Maximum permissible speed (mm/min)	Without valves: 60 ÷ 10.000 With valves: 0 ÷ 6.000

MATERIALS

End caps	Anodized aluminium alloy
Cylinder barrel	Drawn steel
Piston rod	C45 chromium-plated steel
Piston	Anodized aluminium alloy
Piston seal	NBR rubber
Piston rod seal	Polyurethane
Tie rods	Steel
Adjusting groups	Nickel-plated brass
Oil lever stick	Anodized aluminium alloy

ORDER KEY



VERSION

LU	In-line tank, piston rod thrust adjustment
PU	In-parallel tank, piston rod thrust adjustment
PR	In-parallel tank, piston rod retract adjustment
PD	In-parallel tank, double adjustment

OPTION

1	Standard adjustment
2	STOP valve adjustment
3	SKIP valve adjustment
4	SKIP and STOP valves adjustment

ORDER EXAMPLES

Hydraulic regulator HS, 100 mm stroke, in-parallel tank, stop valve thrust adjustment: **HS100 PU2**

Hydraulic regulator HS, 150 mm stroke, in-parallel tank, skip valve double adjustment + cylinder series “XT” Ø63, 150 mm stroke, magnetic piston type + fixing plate + connection bridle + nipple + threaded bar, ASSEMBLED:
HS150PD3 + 63/150 XT/M + HS/PT63 + HS/BR50/63 + HS/NP 50/63 + HS/BF Ø + M/HS

ASSEMBLY

“HS”+ cylinders series “X” or “XT”	**M/HS**

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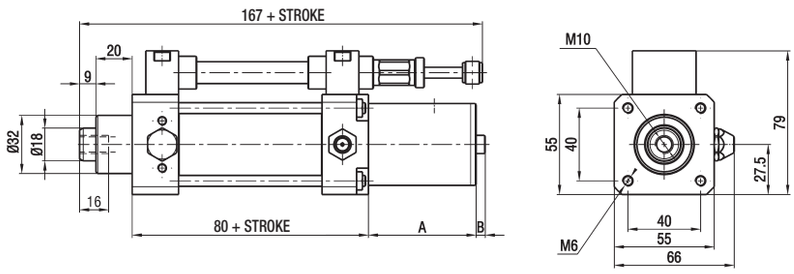
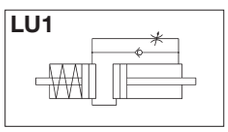
Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

IN-LINE TANK-THRUST ADJUSTMENT - HS..LU1

WEIGHT: 2200 G (0 MM-STROKE) + 61 G EVERY 10 MM OF STROKE



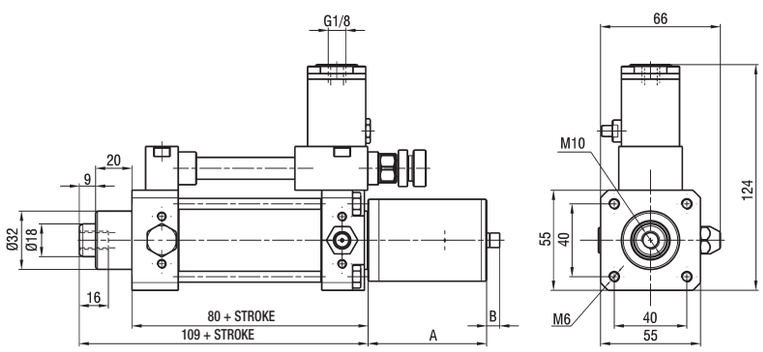


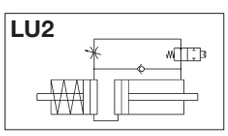
DIMENSIONS WITH IN-LINE TANK-THRUST ADJUSTMENT

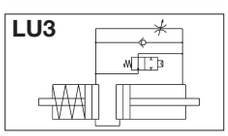
STROKES *(mm)*	A	B *(max)*
≤ 75	75	25
76 ÷ 150	90	39
151 ÷ 250	142	65
251 ÷ 350	171	87
351 ÷ 500	222	125

IN-LINE TANK-THRUST ADJUSTMENT - HS..LU2 - HS..LU3

WEIGHT LU2: 2700 g (50 mm-STROKE) + 61 g EVERY 10 mm OF STROKE (MIN. STROKE 50 mm)
WEIGHT LU3: 2300 G (0 MM-STROKE) + 61 G EVERY 10 MM OF STROKE (MIN. STROKE 50 MM)

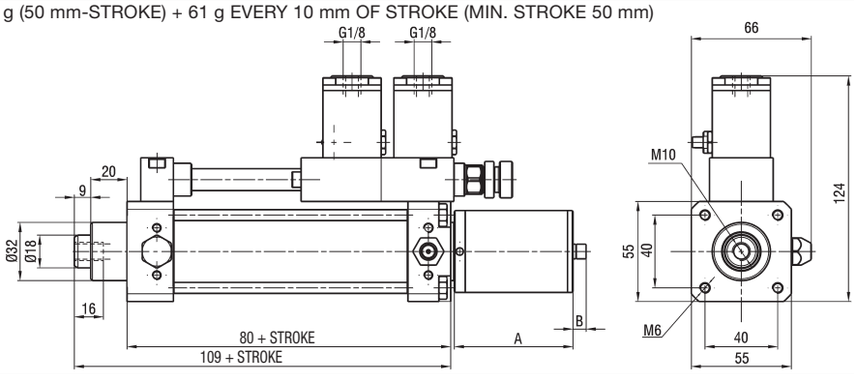


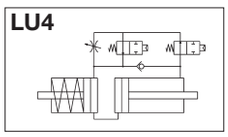




IN-LINE TANK-THRUST ADJUSTMENT - HS..LU4

WEIGHT: 2800 g (50 mm-STROKE) + 61 g EVERY 10 mm OF STROKE (MIN. STROKE 50 mm)





DIMENSIONS WITH IN-LINE TANK-THRUST ADJUSTMENT

STROKES *(mm)*	A	B *(max)*
≤ 75	60	25
76 ÷ 150	75	39
151 ÷ 250	127	65
251 ÷ 350	156	87
351 ÷ 500	205	125

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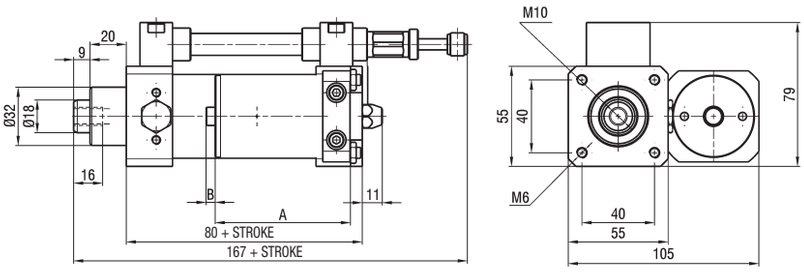
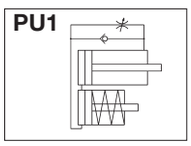
Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

IN-PARALLEL TANK-THRUST ADJUSTMENT - HS..PU1

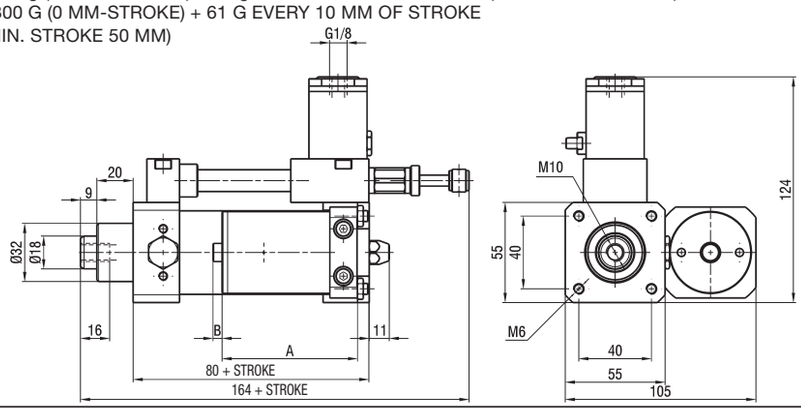
WEIGHT: 2200 G (0 MM-STROKE) + 61 G EVERY 10 MM OF STROKE

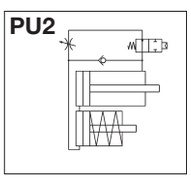


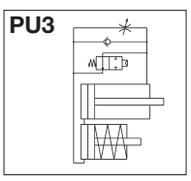


IN-PARALLEL TANK-THRUST ADJUSTMENT - HS..PU2 - HS..PU3

WEIGHT PU2: 2700 g (50 mm-STROKE) + 61 g EVERY 10 mm OF STROKE (MIN. STROKE 50 mm)
WEIGHT PU3: 2300 G (0 MM-STROKE) + 61 G EVERY 10 MM OF STROKE
(MIN. STROKE 50 MM)

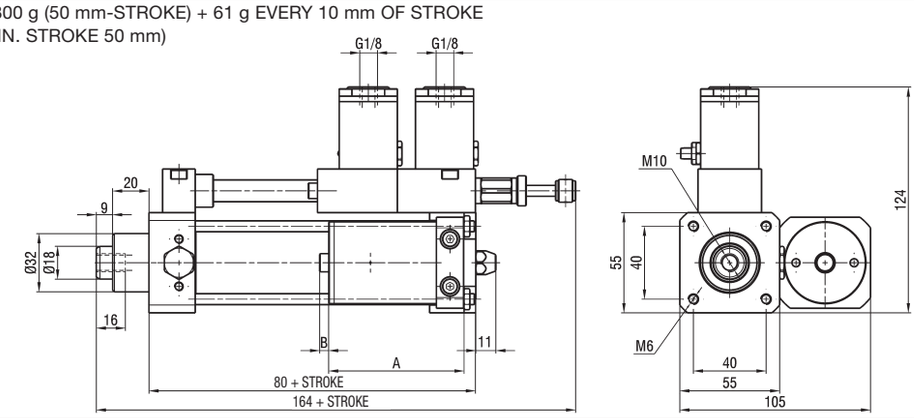


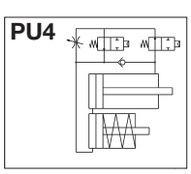




IN-PARALLEL TANK-THRUST ADJUSTMENT - HS..PU4

WEIGHT: 2800 g (50 mm-STROKE) + 61 g EVERY 10 mm OF STROKE
(MIN. STROKE 50 mm)





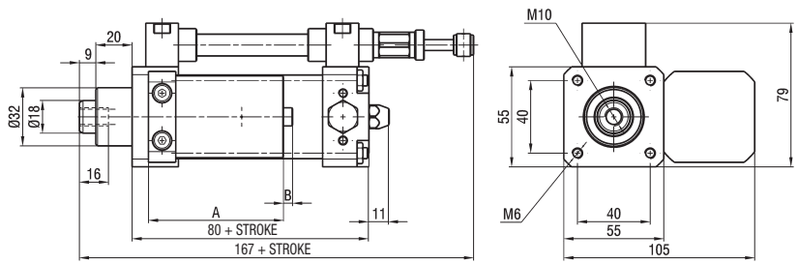
DIMENSIONS WITH IN-PARALLEL TANK-THRUST ADJUSTMENT

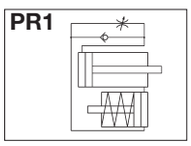
STROKES *(mm)*	**A**	**B** *(max)*
≤ 75	75	25
76 ÷ 150	90	39
151 ÷ 250	142	65
251 ÷ 350	171	87
351 ÷ 500	222	125

Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

IN-PARALLEL TANK-RETRACT ADJUSTMENT - HS..PR1

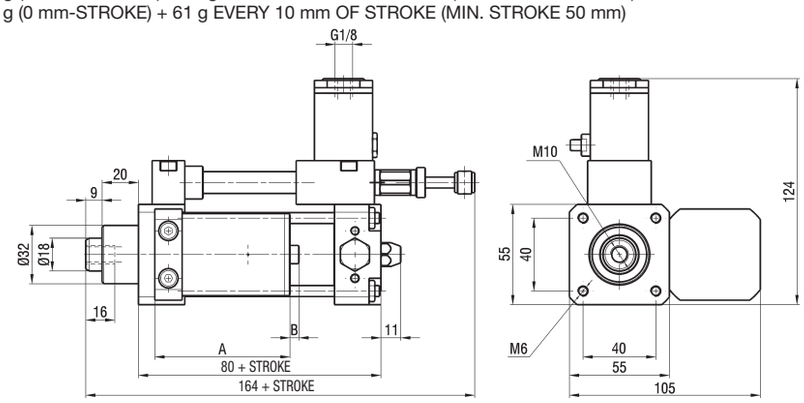
WEIGHT: 2200 G (0 MM-STROKE) + 61 G EVERY 10 MM OF STROKE

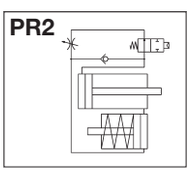


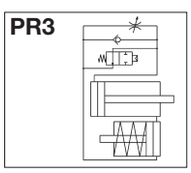


IN-PARALLEL TANK-RETRACT ADJUSTMENT - HS..PR2 - HS..PR3

WEIGHT PR2: 2700 g (50 mm-STROKE) + 61 g EVERY 10 mm OF STROKE (MIN. STROKE 50 mm)
WEIGHT PR3: 2300 g (0 mm-STROKE) + 61 g EVERY 10 mm OF STROKE (MIN. STROKE 50 mm)

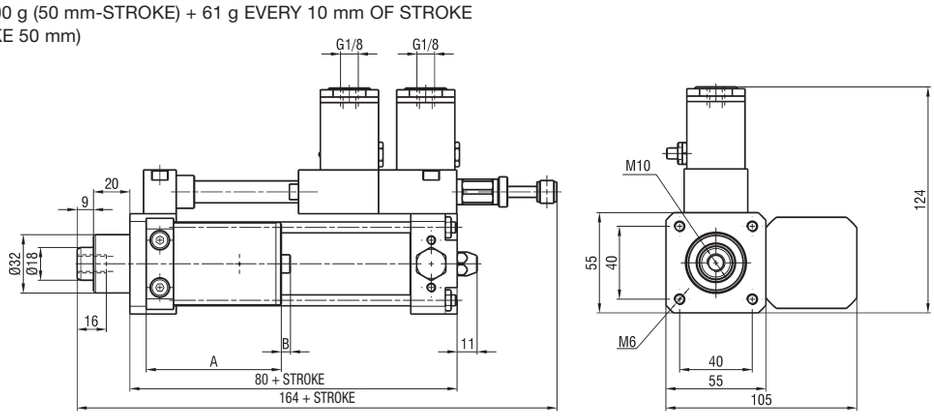


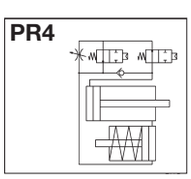




IN-PARALLEL TANK-RETRACT ADJUSTMENT - HS..PR4

WEIGHT: 2800 g (50 mm-STROKE) + 61 g EVERY 10 mm OF STROKE
(MIN. STROKE 50 mm)





DIMENSIONS WITH IN-PARALLEL TANK-RETRACT ADJUSTMENT

STROKES *(mm)*	**A**	**B** *(max)*
≤ 75	75	25
76 ÷ 150	90	39
151 ÷ 250	142	65
251 ÷ 350	171	87
351 ÷ 500	222	125

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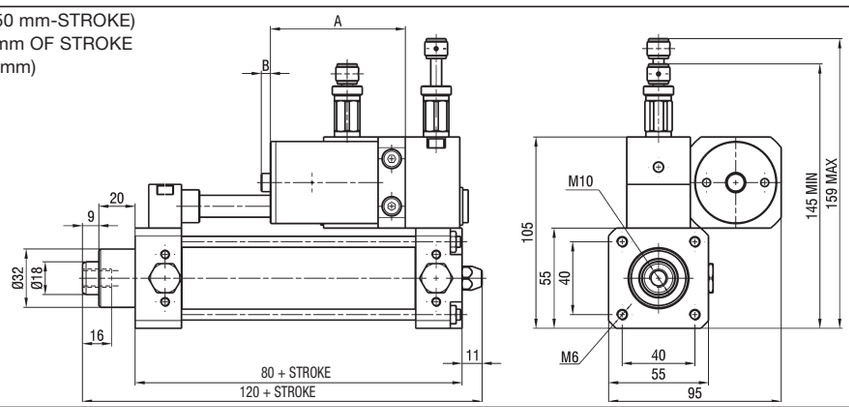
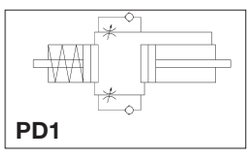
Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

IN-PARALLEL TANK-DOUBLE ADJUSTMENT HS..PD1

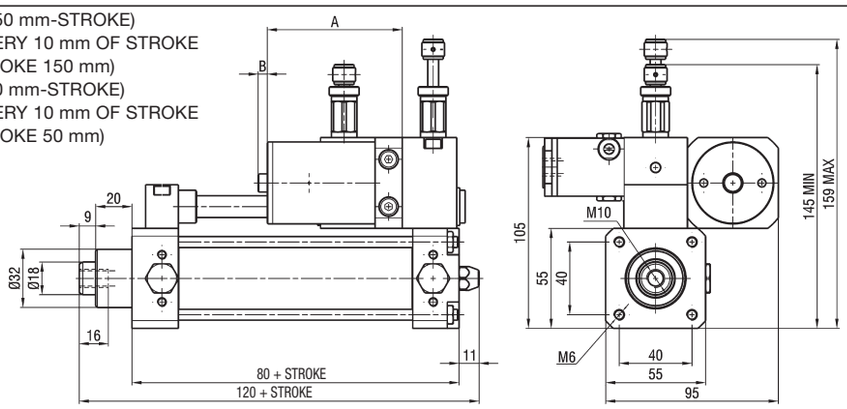
WEIGHT: 2900 g (50 mm-STROKE)
+ 61 g EVERY 10 mm OF STROKE
(MIN. STROKE 50 mm)

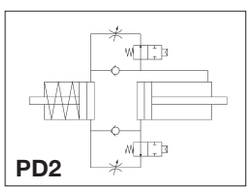


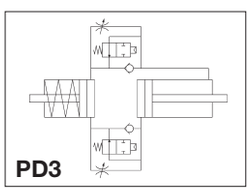


IN-PARALLEL TANK-DOUBLE ADJUSTMENT HS..PD2 - HS..PD3

WEIGHT PD2: 4100 g (150 mm-STROKE)
+ 61 g EVERY 10 mm OF STROKE
(MIN. STROKE 150 mm)
WEIGHT PD3: 3100 g (50 mm-STROKE)
+ 61 g EVERY 10 mm OF STROKE
(MIN. STROKE 50 mm)







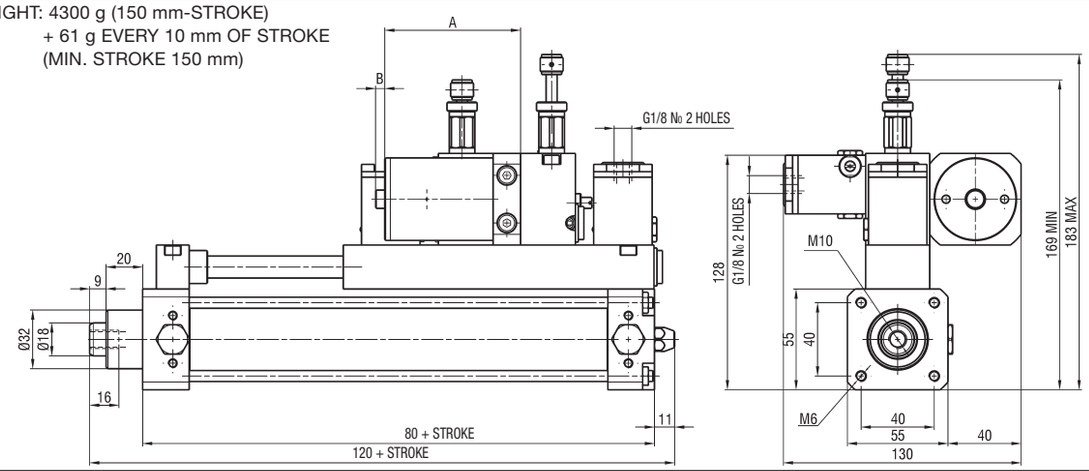
DIMENSIONS WITH IN-PARALLEL TANK-DOUBLE ADJUSTMENT

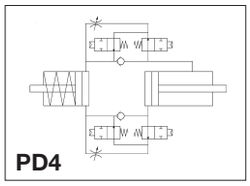
STROKES *(mm)*	A	B *(max)*
50 ÷ 75	75	25
76 ÷ 150	90	39
151 ÷ 250	142	65

STROKES *(mm)*	A	B *(max)*
251 ÷ 350	171	87
351 ÷ 500	222	125

IN-PARALLEL TANK-DOUBLE ADJUSTMENT HS..PD4

WEIGHT: 4300 g (150 mm-STROKE)
+ 61 g EVERY 10 mm OF STROKE
(MIN. STROKE 150 mm)





DIMENSIONS WITH IN-PARALLEL TANK-DOUBLE ADJUSTMENT

STROKES *(mm)*	A	B *(max)*
150 ÷ 250	142	65
251 ÷ 350	171	87
351 ÷ 500	222	125

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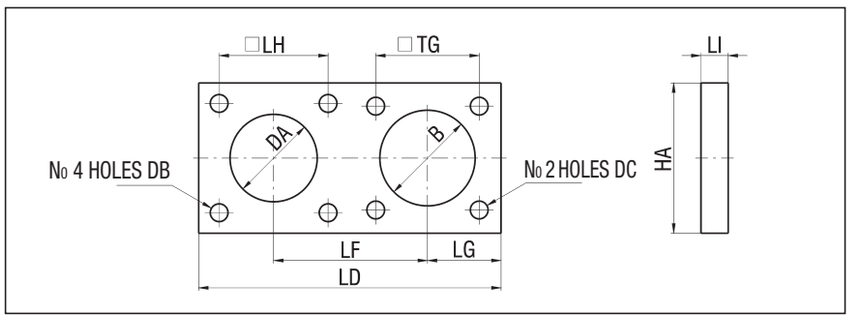
Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

FIXING PLATE HYDRAULIC REGULATOR/CYLINDERS SERIES “X” and “XT” - HS/PT Ø

Ø	B	DA	DB	DC	HA	LD	LF
40	35	32	6,5	6,5	55	111	56,5
50	40	32	6,5	8,5	65	122	62
63	45	32	6,5	8,5	75	132	67
80	45	32	6,5	10,5	95	152	77
100	55	32	6,5	10,5	115	171	86,5

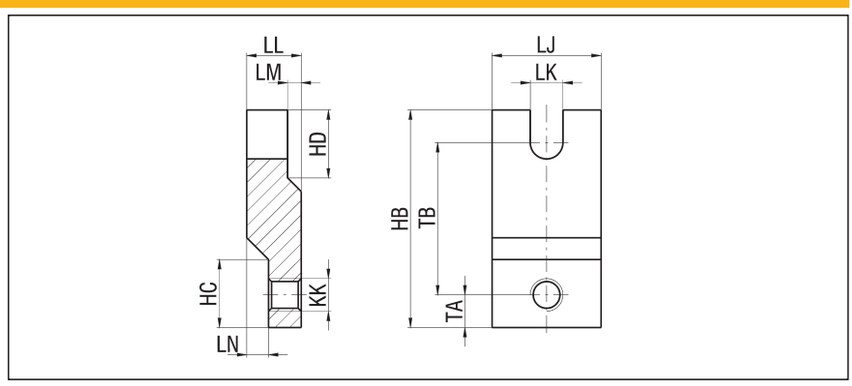
Ø	LG	LH	LI	TG	WEIGHT (g)
40	27	40	10	38	315
50	32,5	40	10	46,5	430
63	37,5	40	12	56,5	666
80	47,5	40	12	72	1080
100	57	40	15	89	1879



CONNECTION BRIDLE HYDRAULIC REGULATOR/CYLINDERS SERIES “X” and “XT” PISTON RODS - HS/BR Ø

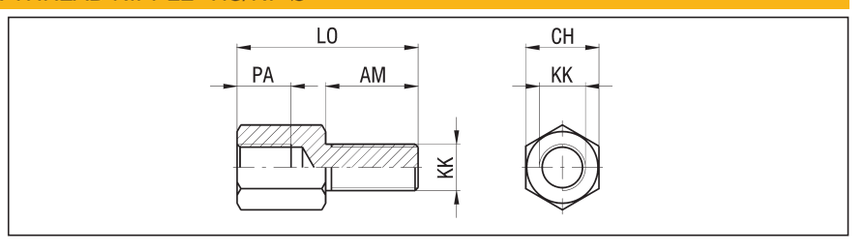
Ø	HB	HC	HD	KK	LJ	LK	LL
40	80	25	25	M12x1,25	40	12	20
50 - 63	90	-	-	M16x1,5	40	12	15
80 -100	117	-	-	M20x1,5	50	12	20

Ø	LN	LM	TA	TB	WEIGHT (g)
40	8	5	12	56	351
50 - 63	-	-	11,5	62	369
80 -100	-	-	18	77	818



CYLINDERS SERIES “X” and “XT” RESTORATION THREAD NIPPLE- HS/NP Ø

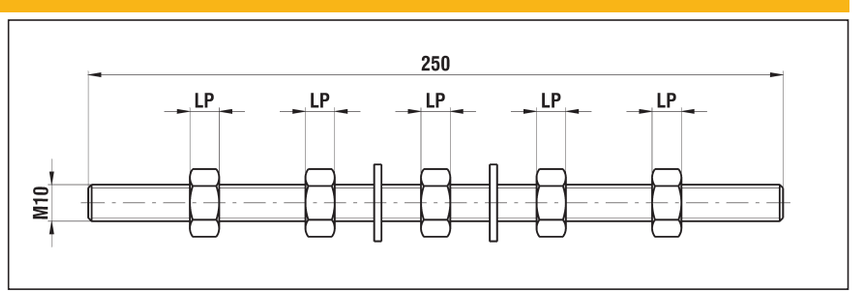
Ø	AM	CH	KK	LO	PA	WEIGHT (g)
40	24	19	M12x1,25	47	14	59
50 - 63	32	24	M16x1,5	65	19	131
80 -100	40	30	M20x1,5	78	24	245



THREADED BAR - HS/BF Ø

Ø	LP	WEIGHT (g)
40	6	166
50 ÷ 100	8	178

P.S.: THREADED BAR IS SUPPLIED
WITH 5 NUTS AND 2 WASHERS



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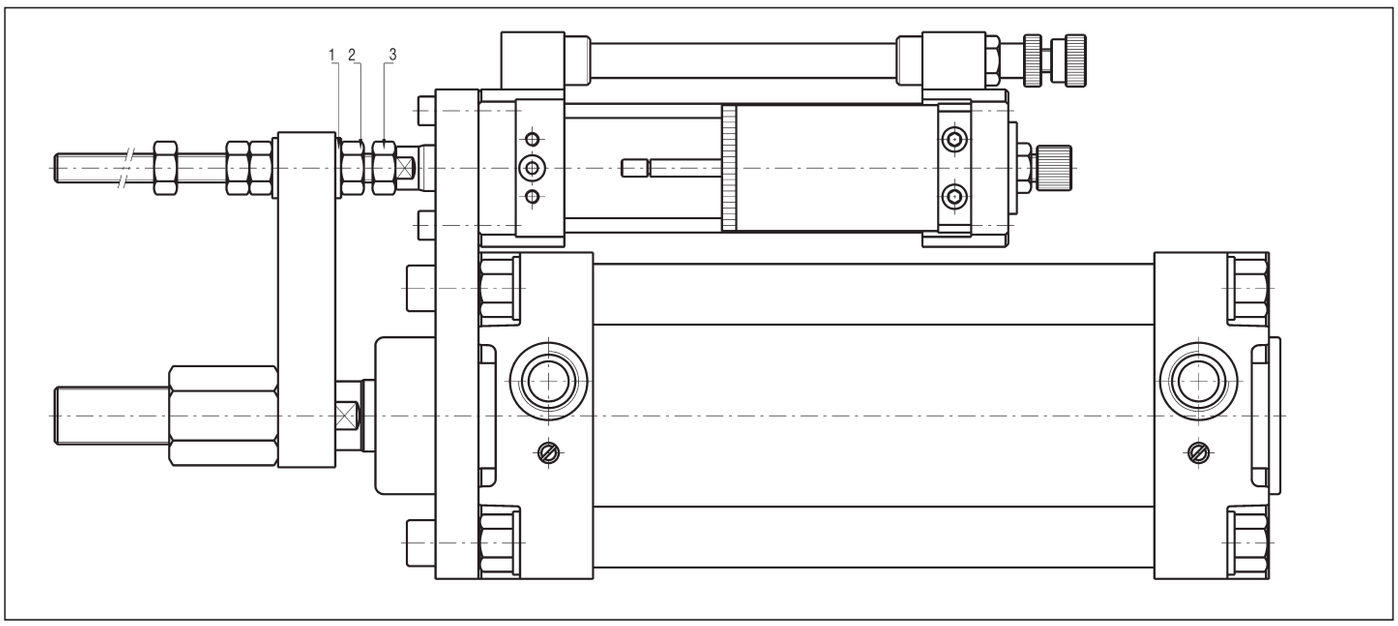
Accessories HS - Hydraulic speed regulators for cylinders to ISO 15552 standard Ø 40 ÷ 100

FIXATION HYDRAULIC REGULATOR/CYLINDERS SERIES “X” and “XT”



Ø	1	2	3
40 ÷ 63	-	X	-
80	-	X	X
100	X	X	X

P.S.: DO NOT TIGHTEN THE BRIDLE - THREADED BAR COUPLING

REINSTATEMENT PROCEDURE OF THE OIL LEVEL

HYDRAULIC SPEED REGULATORS ARE CLOSED CIRCUIT SYSTEMS SUPPLIED WITH A TANK FOR THE COMPENSATION OF THE ROD VOLUME.
THIS TANK IS DESIGNED TO FACE LITTLE FLUID LOSSES DURING THE WORKING. IN THE EVENIENCE THAT DURING THE WORKING THE LEAKAGE OF OIL OVERCOME THE QUANTITY OF OIL IN EXCESS IN THE TANK, THE REGULATOR MUST BE REFILLED. THIS OPERATION MUST BE DONE WHEN THE INDICATOR NOTCH SITUATED ON THE DIP-STICK IN THE COMPENSATOR TANK IS NO MORE VISIBLE WHEN THE MAIN ROD IS COMPLETELY EXTENDED.
TO REFILL THE HYDRAULIC SPEED REGULATOR USE A STANDARD GREASING SYRINGE, THAT CAN BE EASILY FOUND IN THE MARKET.
THIS SYRINGE HAS TO BE CHARGED WITH “WAIRSOL HS” OIL.

REFILLING OPERATION:

1) PUT THE HYDRAULIC REGULATOR IN VERTICAL POSITION WITH THE FILLING VALVE, SITUATED ON THE REAR END CAP, THAT HAS TO BE HIGH-FACING.
2) EXTEND COMPLETELY THE HYDRAULIC REGULATOR PISTON ROD.
3) APPLY THE SYRINGE, FILLED WITH OIL, TO THE CONICAL SLOT OF THE FILLING VALVE ABOVE MENTIONED.
4) PUMP THE OIL IN THE REGULATOR WITH THE SYRINGE PAYING ATTENTION THAT THE SAME SHOULDN’T GO COMPLETELY EMPTY DURING THE RECHARGE (IF THIS OCCURS, STOP AND TOPPING UP THE SYRINGE).
5) CHARGE TILL THE MINIMUM NOTCH DOESN’T EXCEED THE LEVEL OF THE COMPENSATOR DIP-STICK PLUG OF 5 ÷ 8 mm.
6) OPERATE MORE TIMES THE REGULATOR MAIN PISTON ROD, TAKING CARE OF REGULATING THE CUSHIONINGS TO OBTAIN THE MAXIMUM SPEED.
7) WITH THE PISTON ROD COMPLETELY RETRACTED AND WITH THE CYLINDER ALWAYS IN VERTICAL POSITION, OPERATE THE CLOSING MUSHROOM OF THE FILLING VALVE WITH A SPIKY TOOL SO THAT POSSIBLE AIR BUBBLES CAN BLEED .
8) REPEAT THE OPERATIONS FROM POINT No. 2 TO POINT No. 7 TILL THE AIR IN THE CIRCUIT WILL BE COMPLETELY ELIMINATED.

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com