DESCRIPTION

Cylinders series “U” and their accessories, comply with ISO 6432 standard, are available: in basic version, with through rod and rear axial feed, magnetic or non-magnetic and with adjustable cushions.
They can comply with ATEX directive, 2GD category, upon request.

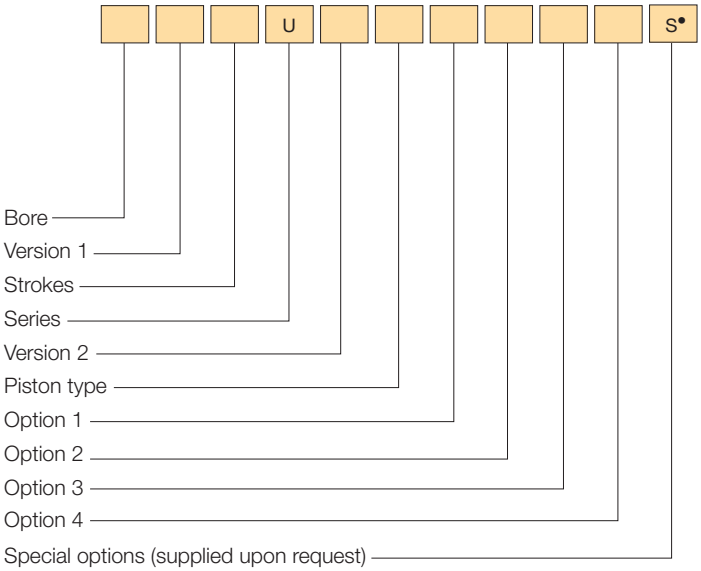
TECHNICAL DATA

Operating pressure	1÷10 bar
Working temperature	0 ÷ +80 °C (with dry air -20 °C) 0 ÷ +150 °C with seal for high temperature (with dry air -10 °C)
Fluid	Compressed air, filtered, continuous lubricated, unlubricated or dry lubricated
Versions	Double acting, single acting front spring, single acting rear spring,through rod, Flat rear cap (rear axial feed)
Bore	Ø 8, 10, 12, 16, 20, 25
Port size	Ø 8 ÷ 16 = M5 Ø 20 - 25 = G1/8
Standard strokes (mm)	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100, 120, 125, 140, 150, 160, 180, 200, 250, 300, 350, 400, 500
Decelerators lenght	Ø 16 20 25 mm 17 18 18.5
Maximum strokes (mm)	Ø 8 - 10 = 150; Ø 12 - 16 = 250; Ø 20 - 25 = 1000
Max. stroke single acting (mm)	Ø 8 ÷ 12 = 20; Ø 16 ÷ 25 = 50
Spring theoretical tractive force	See technical data on page 0.13

MATERIALS

End caps	Anodized aluminium alloy
Cylinder barrel	Extruded tube, AISI 304 stainless steel
Barrel-end cover fixing type	Irreversible calking with dual-seal system, mechanical and pneumatic
Piston rod	AISI 303 rolled stainless steel
Rod and end cap nuts	Steel Stainless steel (supplied upon request)
Decelerators ogives	Brass
Piston rod bearing	Self-lubricating sintered bronze
Piston	Aluminium alloy with acetal resin piston bearing (supplied with and without magnet)
Piston seals	NBR rubber - FKM (Viton®)
Springs	Springs steel

ORDER KEY



• See chapter 1, page 1.1.

VERSION 1

/ Basic cylinder
H Flat rear cap with rear axial feed (non-cushioned)*
R Through rod

VERSION 2

D Double acting
S Single acting front spring
Y Single acting rear spring**

PISTON TYPE

C Non-magnetic
E Magnetic***

OPTION 1

X Cushioned****

OPTION 2

Z Fit for piston rod locking unit*****

OPTION 3

2 Seals for high temperatures*

OPTION 4

/EX Consistent with the ATEX directive Ex II 2GD c T5 T100°C - 20°C<Ta<80°C

* Supplied from Ø 12 to Ø 25.
** Dimensions “XC” for version “YE” is increased of 10 mm
*** Available even with “FKM” (Viton®)seals but just for applications where is needed a chemical compatibility; not available for high temperatures.
**** Supplied from Ø 16 to Ø 25.
***** Supplied only for Ø 20 and Ø 25, don’t use it for high temperature application.

ORDER EXAMPLES

Basic cylinder Ø 16, 50 mm stroke, double acting, non-magnetic piston type: **16/50 UDC**

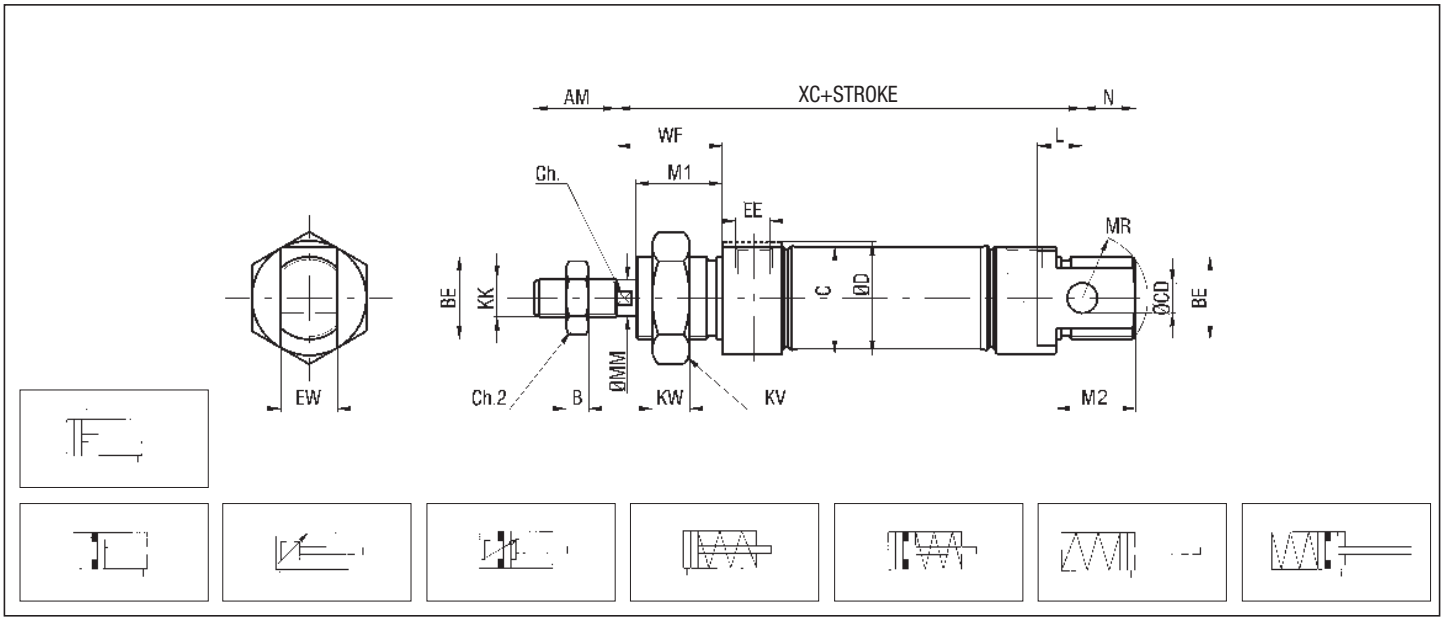
Basic cylinder Ø 20, 50 mm stroke, double acting, magnetic piston type, cushioned: **20/50 UDEX**

Cylinder Ø 25, through rod, 100 mm stroke, double acting, magnetic piston type, cushioned: **25R100 UDEX/EX**

Basic cylinder Ø 25, 40 mm stroke, single acting rear spring, non-magnetic piston type, seals for high temperatures: **25/40 UYC2**

1

U BASIC CYLINDER



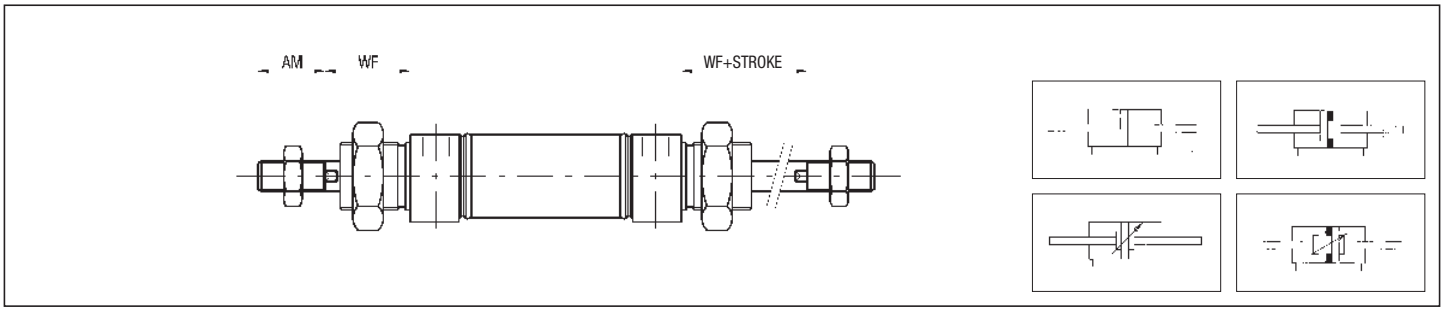
P.S.: End cap nut and rod nut supplied as standard

DIMENSIONS AND WEIGHTS BASIC CYLINDER

Ø	AM*	B	BE*	C	CD* *H9*	Ch	Ch2	D*	EE*	ES	EW* *d13*	KK	KV	KW*	L*	LB	M1	M2	MM	MR*	N	WB	WF*	XC* ▲	WEIGHT *(g)*	INCR. *(g) x 10 mm*
8	12	3	M12x1,25	15	4	-	7	16	M5	-	8	M4	19	6	6	60	14	12	4	9	8	-	16	64	28,3	2
10	12	3	M12x1,25	15	4	-	7	16	M5	-	8	M4	19	6	6	60	14	12	4	9	8	-	16	64	29,2	2,3
12	16	4	M16x1,5	18	6	5	10	19	M5	-	12	M6	24	8	9	70	18	18	6	12	12	-	22	75	55,3	3,7
16	16	4	M16x1,5	18	6	5	10	21	M5	6	12	M6	24	8	9	77	18	18	6	12	12	-	22	82	63	4,2
20	20	5	M22x1,5	25	8	7	13	26	G 1/8	8	16	M8	30	10	12	91	19	20	8	15	13	71	24	95	138	9,1
25	22	6	M22x1,5	28,5	8	9	17	30	G 1/8	10	16	M10x1,25	30	10	12	100	23	22	10	18	15	73	28	104	188,5	12,5

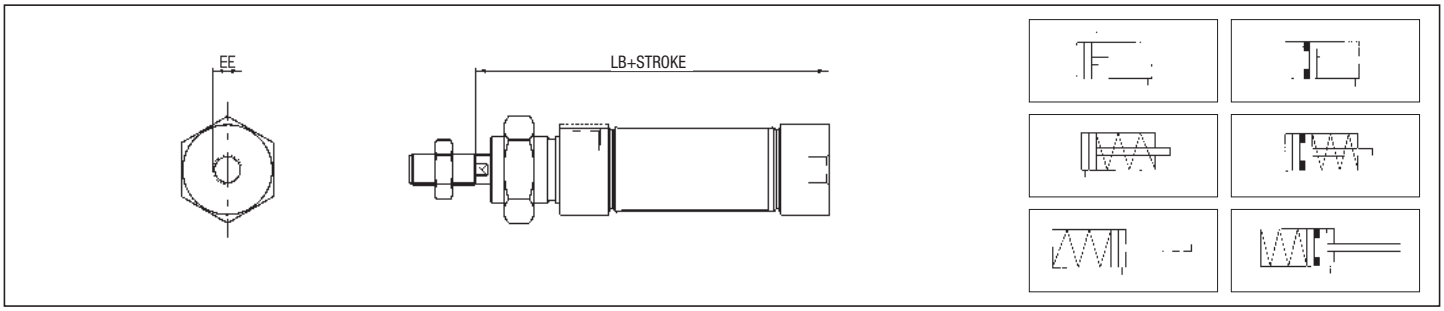
* STANDARD DIMENSIONS
▲ Dimension “XC” for version “YE” is increased of 10 mm

THROUGH ROD



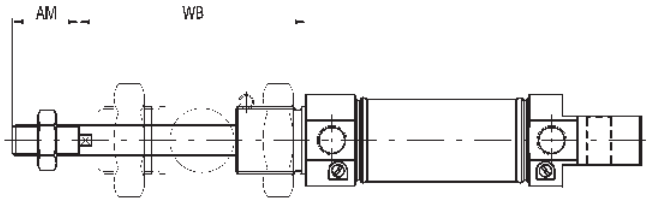
P.S.: End cap nut and rod nut supplied as standard

FLAT END CAP REAR AXIAL FEED (NOT INDICATED IN THE ISO 6432 STANDARD)



P.S.: End cap nut and rod nut supplied as standard

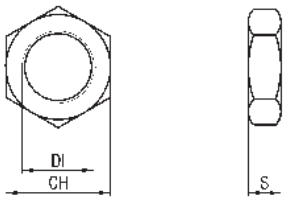
FIT FOR PISTON ROD LOCKING UNIT



P.S.: End cap nut and rod nut supplied as standard

END CAP NUT - STEEL - UDT Ø

Ø	DI	CH	S	WEIGHT (g)
8-10	M12x1,25	19	6	7
12-16	M16x1,5	24	8	16
20-25	M22x1,5	30	10	25



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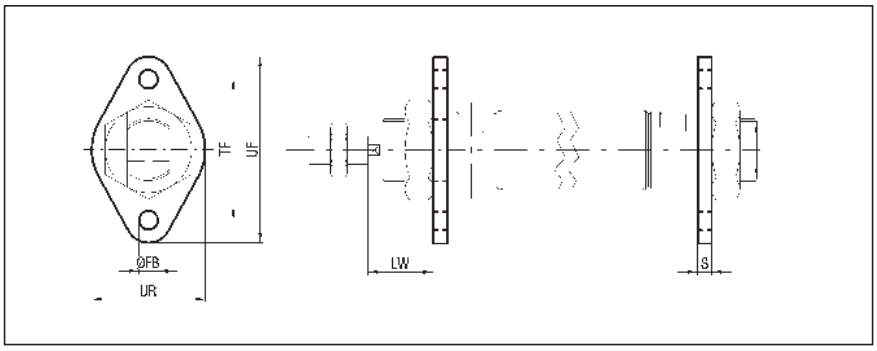
FLANGE - STEEL -UF Ø

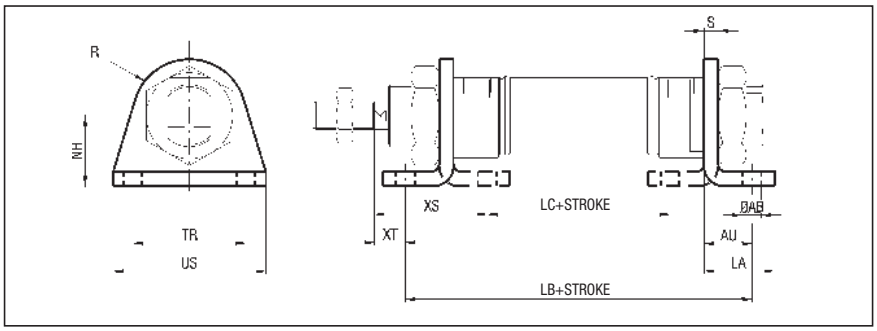
Ø	FB *H13*	LW	S	TF *JS13*	UF	UR	WEIGHT *(g)*
8-10	4,5	13	3	30	39	19	12
12-16	5,5	18	4	40	54	30	26
20-25	6,6	19-23	5	50	64	36	50



FOOT - STEEL - UP Ø

Ø	AB *H13*	AU	LA	LB	LC	NH	R
8-10	4,5	11	16	64	28	16	10
12-16	5,5	14	20	74-81	28-35	20	13
20-25	6,6	17	25	91-95	45,5	25	20

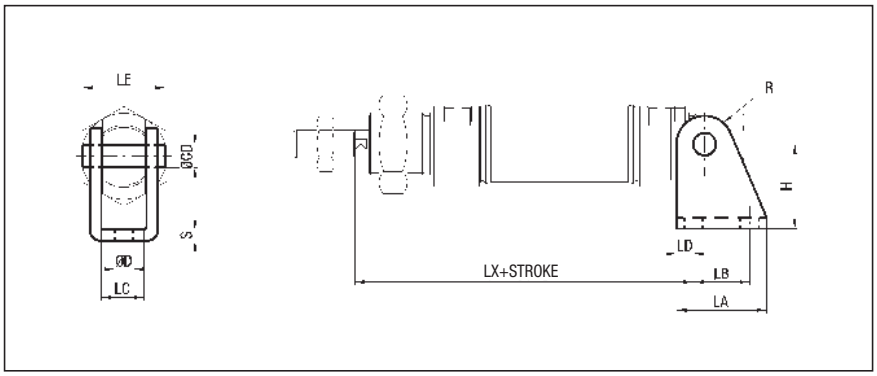
Ø	S	TR *JS13*	US	XS	XT	WEIGHT *(g)*
8-10	3	25	35	24	6,5	20
12-16	4	32	42	32	10	40
20-25	5	40	54	35-39	11-15	90



REAR HINGE NOT CONFORM TO ISO 6432 STANDARD - STEEL - USC Ø

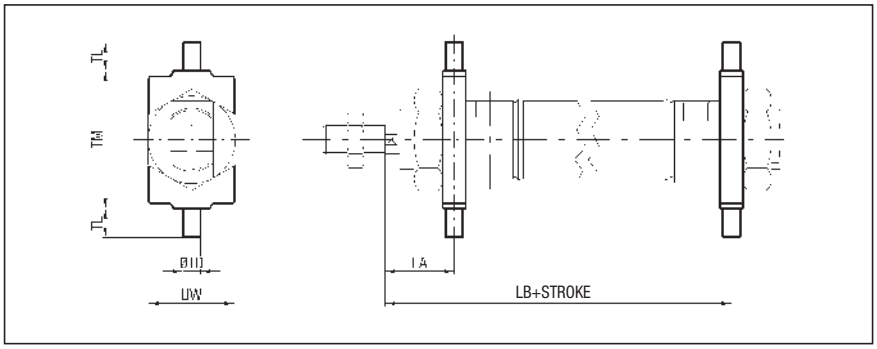
Ø	CD *f8*	D *H13*	H	LA	LB *JS13*	LC *E9*	LD
8-10	4	4,5	24	22	12,5	8,1	3,75
12-16	6	5,5	27	25	15	12,1	5
20-25	8	6,5	25	35	18	16,1	8,5

Ø	LE	LX	R	S	WEIGHT *(g)*
8-10	18	62,5	5	1,5	20
12-16	24	73-80	7	1,5	36
20-25	26	97,5-106,5	8	4	50



FLOATING HINGE NOT CONFORM TO ISO 6432 STANDARD - STEEL - UCT Ø

Ø	LA	LB	TD	TL	TM	UW	WEIGHT *(g)*
8-10	13	64	4	6	26	20	18
12-16	14	76-83	6	10	38	25	35
20-25	20-24	93-101	6	10	46	30	45



WBZ - Piston rod locking unit for cylinders to ISO 6432 standard

series U

DESCRIPTION

Piston rod locking unit series "WBZ" is a mechanical device to fit on ISO 6432 cylinders (series "U"); 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.

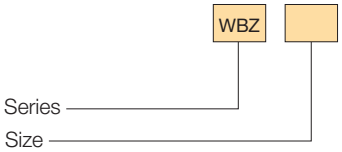
TECHNICAL DATA

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	20, 25
Port size	20 - 25 = M5
Locking type	Mechanical - Only axial (bi-directional)
Release	Through pneumatic control
Condition in absence of pressure	Locked
Locking force with static load	Size 20 25 N 490 490

MATERIALS

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

ORDER KEY



ORDER EXAMPLES

Piston rod locking unit, size 20: **WBZ20**

Piston rod locking unit, size 25 + cylinder series "U" Ø 25, fit for piston rod locking unit, 150 mm stroke, double acting, non-magnetic piston type, ASSEMBLED: **WBZ25 + 25/150 UDCZ + M/WBZ**

ASSEMBLY

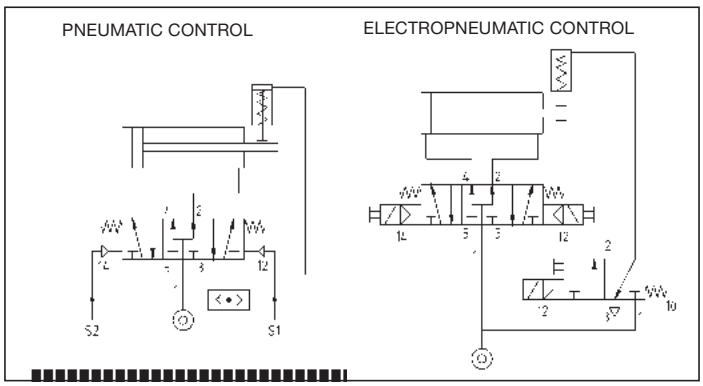
WBZ + cylinders series U, Z version	**M/WBZ**

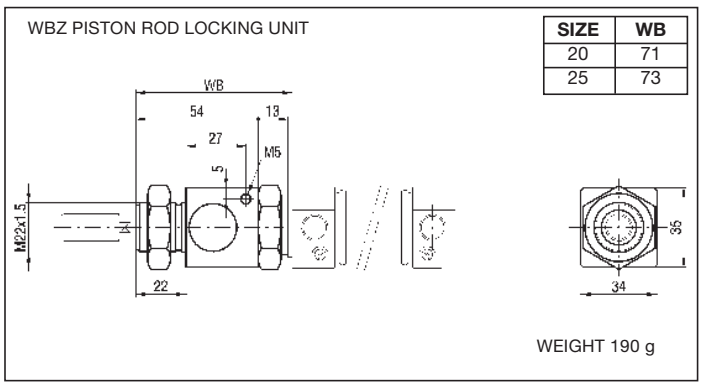
SPARE PARTS

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

TECHNICAL INFORMATION

"WBZ" operation is based on the action of two opposed blades. When these blades are opened up by suitably loaded springs, they oppose the sliding movement of the piston rod passing through them. It is advisable to balance the pressure in the cylinder chambers during piston rod locking phase in order to increase its working life with a 5/3 pressure centre valve (see the schemes here below).



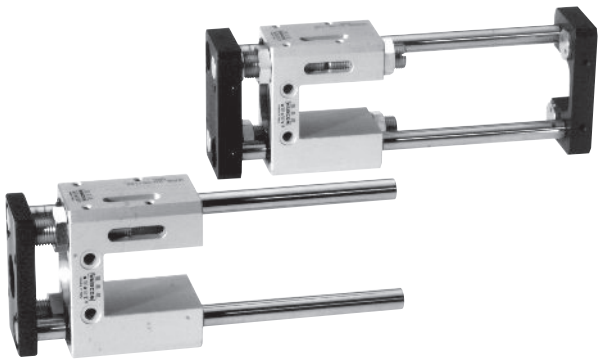


SIZE	WB
20	71
25	73

1

DESCRIPTION

Guide units series “WUG” for cylinders to ISO 6432 standard 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 with mechanical stop as standard, or housing for decelerator, and are supplied with self-lubricating bushings (for low speeds or heavy loads) and for size 20-25 with recirculating ball bearing sleeves for hight speeds.



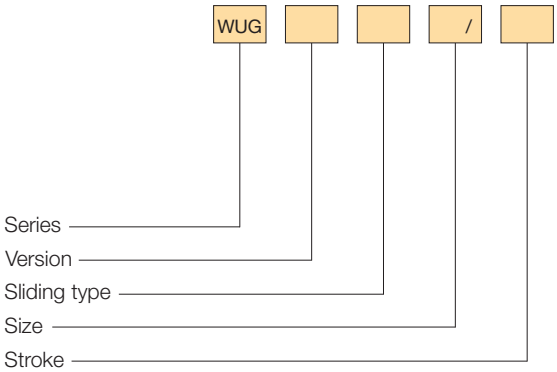
TECHNICAL DATA

Working temperature	0 ÷ +80 °C
Size	12 - 16, 20 - 25
Standard strokes (mm)	50, 100, 150, 200, 250, 300, 350, 400, 450, 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
Scraper ring	NBR rubber

ORDER KEY



VERSION

	Single unit	D	Double unit

SLIDING TYPE

B	On bushings	M	With sleeves*

* Supplied only with size 20 - 25

ORDER EXAMPLES

Single guide unit, size 20 - 25, 150 mm stroke, with sleeves + cylinder series ”U” Ø 25, 150 mm stroke, double acting, magnetic piston type, ASSEMBLED:
WUGM 20 - 25/150 + 25/150 UDE + M/WUG

Single guide unit, size 12 - 16, 100 mm stroke, on bushings:
WUGB 12 - 16/100

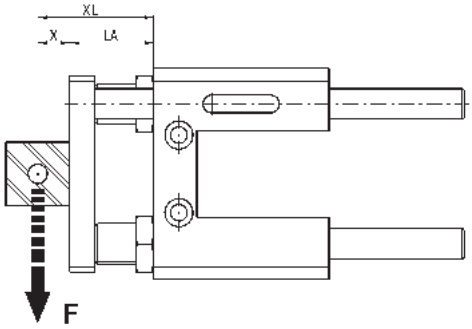
Double guide unit, size 20 - 25, 100 mm stroke, with sleeves:
WUGDM 20 - 25/100

ASSEMBLY

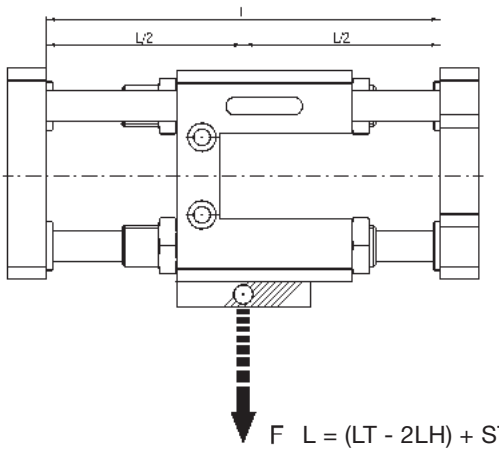
WUG + cylinders series U (Ø 16 ÷ 25)	**M/WUG**

TECHNICAL INFORMATION

WUG SINGLE GUIDE UNIT

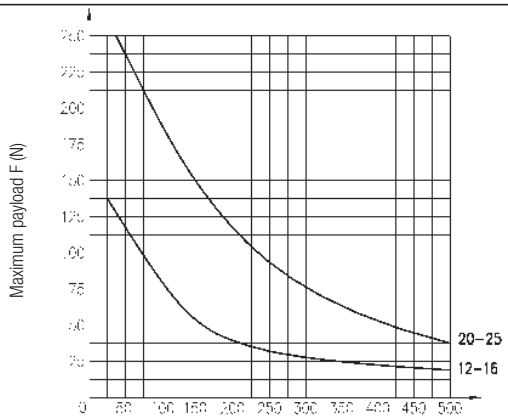


WUGD DOUBLE GUIDE UNIT

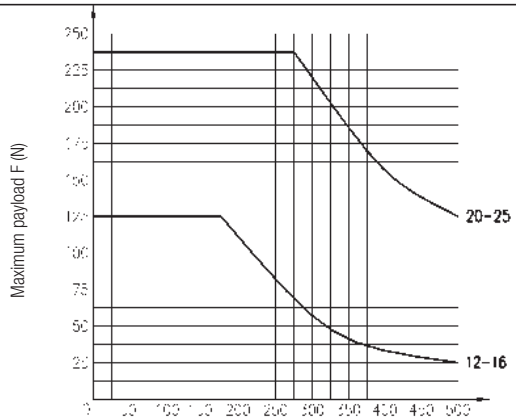


F L = (LT - 2LH) + STROKE

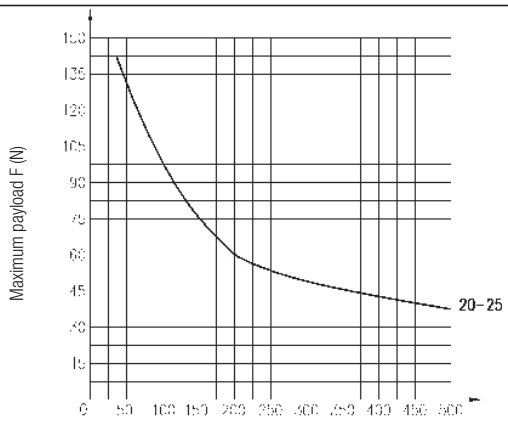
MAXIMUM PERMISSIBLE LOAD-WUG VERSION B



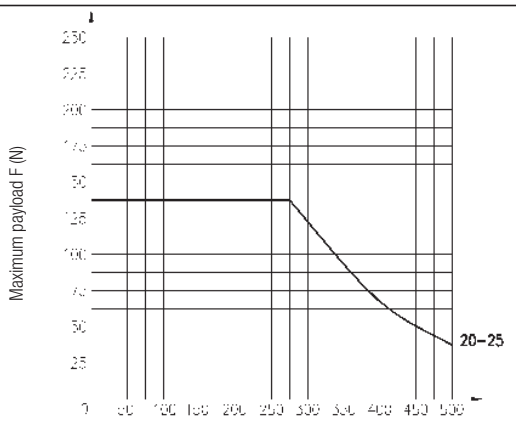
MAXIMUM PERMISSIBLE LOAD-WUGD VERSION B



MAXIMUM PERMISSIBLE LOAD-WUG VERSION M



MAXIMUM PERMISSIBLE LOAD-WUGD VERSION M



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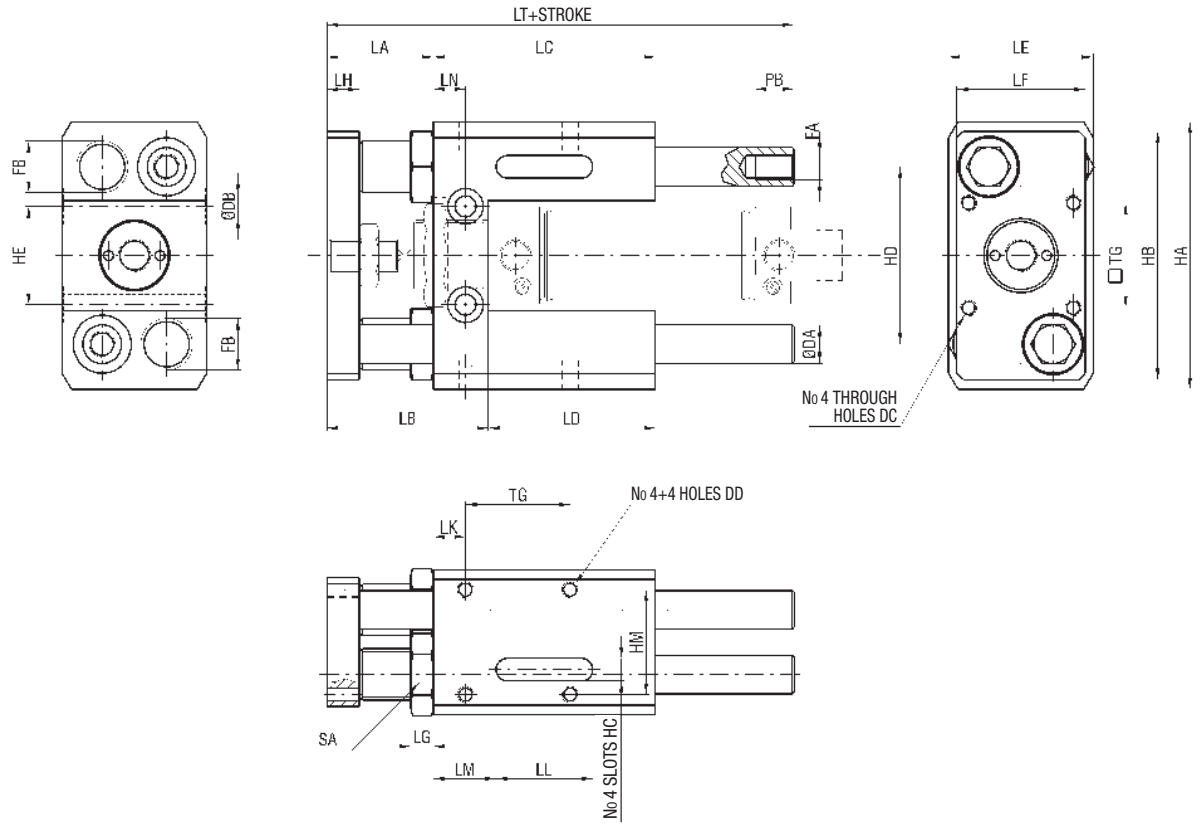
WUG SINGLE GUIDE UNIT



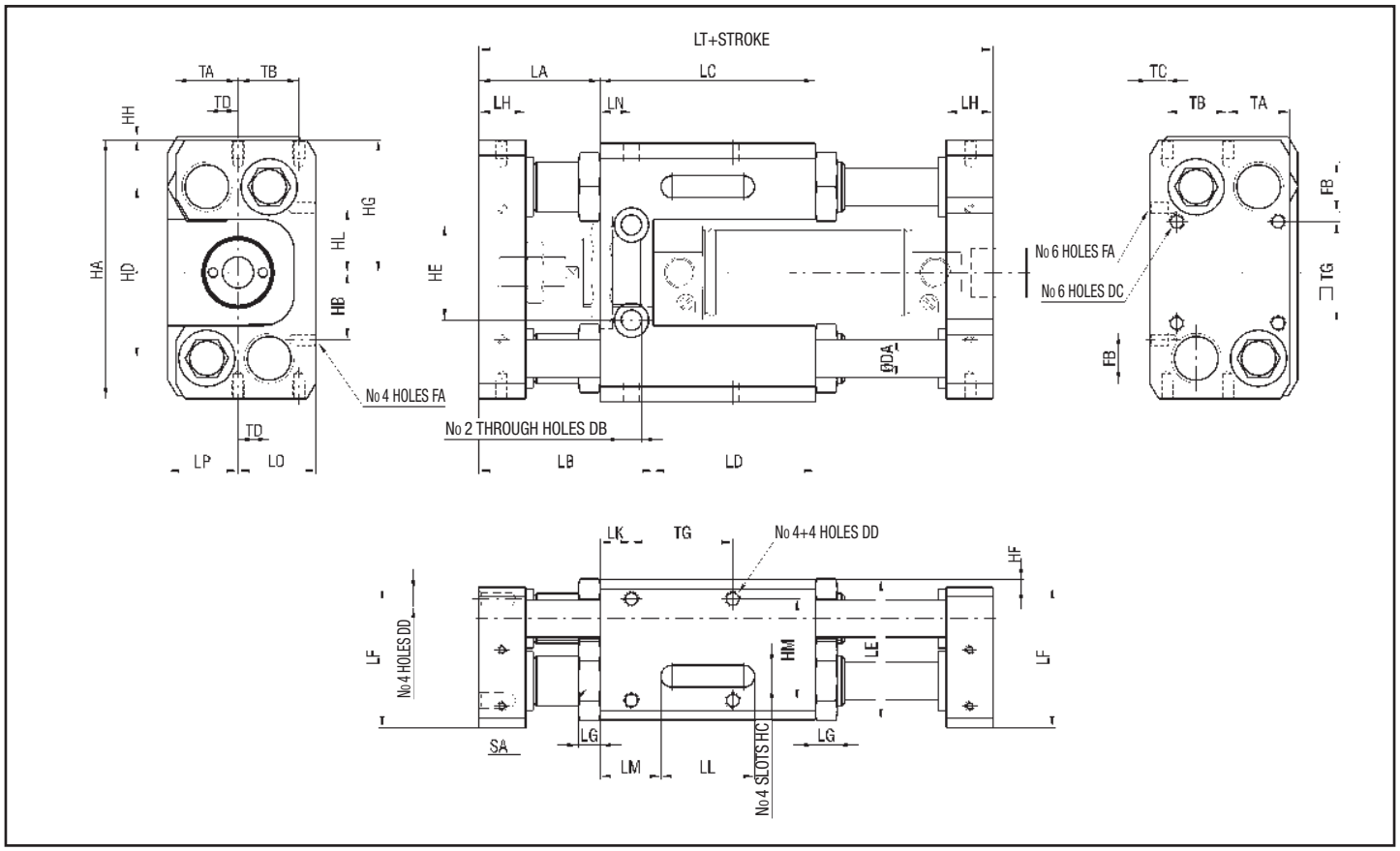
DIMENSIONS AND WEIGHTS

SIZE	DA		DB	DC	DD	FA		FB	HA	HB	HC	HD	HE	HM	LA	LB	LC	LD	LE	LF	LG	LH
12-16	10		5,2	M4	M5	M6		M12x1,25	65	60	6	47	24	32,5	25	38	60	47	40	35	7	10
20	**B**12	**M**10	6,5	M4	M5	**B**M8	**M**M6	M16x1,5	83	77	7	55	30,5	32,5	27	44	69	52	45	40	7	10
25	**B**12	**M**10	6,5	M4	M5	**B**M8	**M**M6	M16x1,5	83	77	7	55	30,5	32,5	32	50	69	52	45	40	7	10

SIZE	LK	LL	LM	LN	LT	PB	SA	TG	WEIGHT *(g)*		INCREM. *(g) every 10 mm*	
12-16	19	16	22	6,5	100	12	Ch.14	22	690		12	
20	10	30	19,5	10	115	12	Ch.21	32,5	**B**890	**M**830	**B**17	**M**12
25	10	30	19,5	10	115	12	Ch.21	32,5	**B**890	**M**830	**B**17	**M**12

B - Bushings
M - Sleeves

WUGD DOUBLE GUIDE UNIT



DIMENSIONS AND WEIGHTS

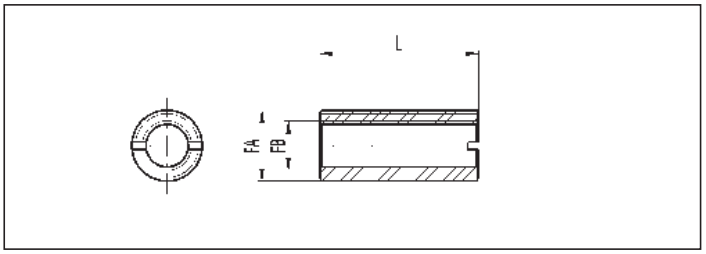
SIZE	DA		DB	DC	DD	FA	FB	HA	HB	HC	HD	HE	HF	HG	HH	HL	HM	LA	LB	LC	LD	LE
12-16	10		5,2	M4	M5	M4	M12x1,25	65	18	6	47	24	1,3	30,5	1	18	32,5	30	43	60	47	40
20	**B**12	**M**10	6,5	M4	M5	M4	M16x1,5	83	21,5	7	55	30,5	2,5	40,5	1	20,5	32,5	33	50	69	52	45
25	**B**12	**M**10	6,5	M4	M5	M4	M16x1,5	83	21,5	7	55	30,5	2,5	40,5	1	20,5	32,5	39	56	69	52	45

SIZE	LF	LG	LH	LK	LL	LM	LN	LO	LP	LT	SA	TA	TB	TC	TD	TG	WEIGHT *(g)*		INCREM. *(g) every 10 mm*	
12-16	40	7	15	19	16	22	6,5	22,5	19	120	Ch.14	17,5	17,5	5	8,5	22	740		12	
20	45	7	15	10	30	19,5	10	25	22,15	135	Ch.21	20	19,5	5,5	10	32,5	**B**1170	**M**1110	**B**18	**M**12
25	45	7	15	10	30	19,5	10	25	22,15	135	Ch.21	20	19,5	5,5	10	32,5	**B**1170	**M**1110	**B**18	**M**12

B - Bushings
M - Sleeves

CLAMP FOR DECELERATOR WUGCD SIZE

SIZE	FA	FB	L	WEIGHT *(g)*
12-16	M12x1,5	M8x1	35	20
20-25	M16x1,5	M8x1	40	50



CLAMP FOR MAGNETIC PROXIMITY WUGCP SIZE

SIZE	FA	FB	L	WEIGHT *(g)*
12-16	M12x1,5	M8x1	25	12
20-25	M16x1,5	M8x1	25	31