HYDROMECANIQUE QUIRI

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STEEL BOTTLE JACKS - SPECIFIC CYLINDERS

BOTTLE JACKS

Steel - 700 bar

Features

Standard, extra flat, telescopic.
Chrome plated piston rod.
Hydraulic stroke limiter.
Pressure relief valve to prevent from overload (except models MG2, 3, 5 and MGS 5)
Several models are fitted with an extension screw.
MGD-50 and MGD-100 fitted with two operated pumps (approach and operation)
Three-piece zinc coated handle.
MGD 100 fitted with pressure gauge

Remark :

Others models can be manufactured on request (with pressure gauge, lock nut ...).

Standard bottle jacks

Jack capacity Tons	Stroke mm	Extension screw mm	Model number	Collapsed height mm	Extended height mm	Base dimensions mm	Carrying handle	Weight Kg
2	100	50	MG 2	160	310	95 x 111	NO	3.6
3	105	65	MG 3	168	338	95 x 116	NO	3.9
5	150	75	MG 5	212	437	95 x 123	NO	5
10	150	75	MG 10	219	444	95 x 142	NO	6.5
15	150	75	MG 15	228	453	112 x 163	NO	9
20	150	75	MG 20	234	459	127 x 171	YES	11.5
30	150	75	MG 30	242	467	144 x 196	YES	15.5
50	150		MG 50	252	402	180 x 230	YES	28.5
50	150		MGD 50	270	420	215 x 273	YES	40
100	150		MGD 100	300	450	296 x 333	YES	87

Low bottle jacks

Jack capacity Tons	Stroke mm	Extension screw mm	Model number	Collapsed height mm	Extended height mm	Base dimensions mm	Carrying handle	Weight Kg
5	70	40	MGS 5	135	245	95 x 123	NO	4.3
10	62	30	MGS 10	131	223	95 x 142	NO	5.5
15	75		MGS 15	150	225	112 x 163	NO	7.5
20	105	55	MGS 20	190	350	127 x 171	YES	10

Telescopic bottle jacks

Jack capacity Tons	Stroke mm	Extension screw mm	Model number	Collapsed height mm	Extended height mm	Base dimensions mm	Carrying handle	Weight Kg
2	165	50	MGT 2	145	360	144 x 196	NO	4.8
5	300		MGT 5	215	515	112 x 153	NO	8.5
8	316		MGT 8	235	551	127 x 171	NO	12
20	205		MGT 20	180	385	180 x 230	NO	22

Several models are fitted with an extension screw.

QUIRI bottle jacks can be used horizontally with the pump downward.

TOE BOTTLE JACKS - MGL 10

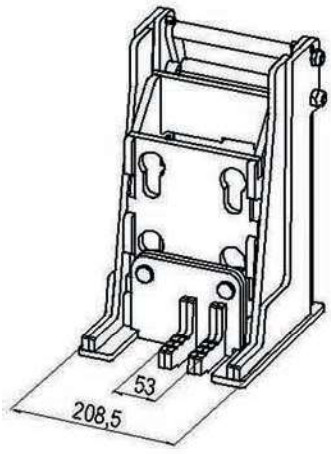
Steel - 700 bar

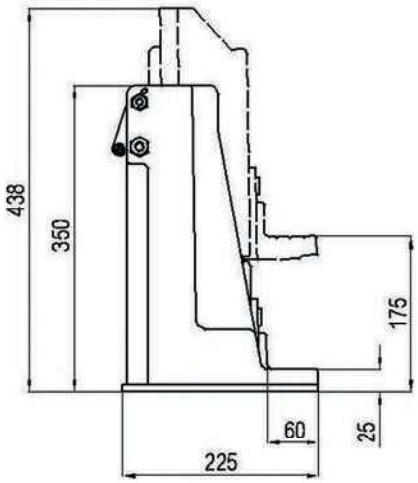
Features

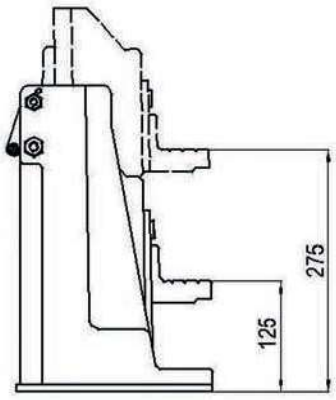
The MGL 10 toe bottle jack features :
- standard MG 10 bottle jack
- heavy duty BL 10 structure

Force : 10 Tons
Hydraulic stroke : 150mm
Weight : 22 kg
Low profile (toe thickness only 25 mm)

The toe is detachable and adjustable to 2 fixed positions.







BOLT TENSION CYLINDERS - QUIRI 700

Steel - 1000 bar

All steel when stretched suffers a deformation which can be calculated with the aid of the formula below (Hooke's Law) :

$$D = \frac{F \cdot L}{S \cdot E}$$

D = Total deformation in mm
F = Pulling effort in daN
L = Length in mm
S = Section area in mm^2
E = Elasticity in Kg/mm^2
(Young's Modulus which is a constant for each type of steel)

Principle of operation

A bolt tension cylinder fitted with an internally threaded brace is attach to a bolt. By applying hydraulic pressure with the aid of a pump the bolt is pulled in an axial direction. The nut can then be simply tightened by hand through the opening in the skirt. When hydraulic pressure is released the correct bolt tension is achieved.

Selection of a tension cylinder

When selecting a bolt tension cylinder you should keep to the following rules :

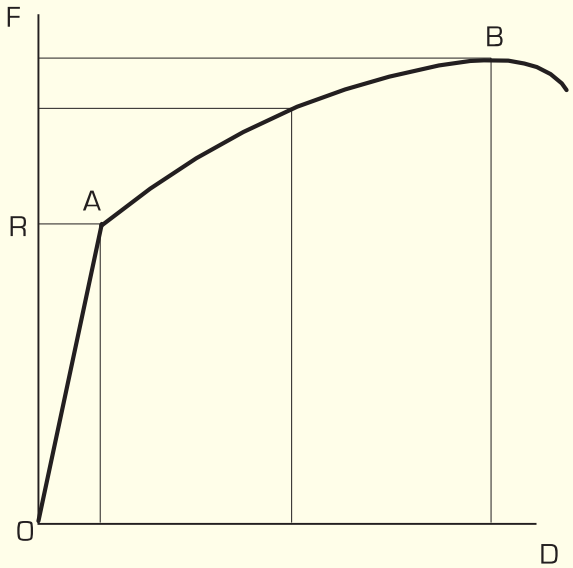
- The brace thread must be same as the bolt thread.
- Before assembly check that the nut is fully screwed down.
- Check that there is sufficient room around the bolt to accommodate the QUIRI bolt tension cylinder. If there is insufficient space for the standard unit please check with our technical department for a solution.
- Check that the bolt thread is long enough to allow the correct engagement of the brace insert.

(Length of thread above the nut should be at least equivalent to the diameter of the bolt, ie. M24 bolt thread length 24 mm).

Use of your equipment :

- Put the skirt and cylinder on the bolt to tension.
- Screw the brace on the bolt.
- Connect the pump to the cylinder.
- Close the release valve of the pump.
- Pump up to the necessary pressure.
- Turn the nut with a bar.
- Release the pressure.

TYPICAL ELASTIC TEST OF STEEL BAR



In the area **OA** of the graph the elongation is small and proportional to the effort. (Hooke's Law) Point '**A**' on the graph is known as the elastic limit. This is the point where once the effort reaches a level '**R**' and then is released the steel bar returns to its initial length. (No permanent deformation)
In the area **AB** of the graph elongation is no longer proportional to effort. From **A** onwards the elongation is permanent (Plastic Period). Therefore, when tensioning bolts you should not apply forces that will cause elongation beyond the elastic limit, otherwise permanent deformation will occur.
You must therefore work out the maximum pressure to be applied before reaching the elastic limit. The pressure to be applied by the pump is given by the mechanical specifications of the bolt as in the formula shown :

$$P < \frac{R \cdot S}{A}$$

P = Maximum acceptable pressure in daN/cm^2
R = Bolt elastic limit in daN/mm^2
S = Bolt section in mm^2
A = Effective tension cylinder area in cm^2

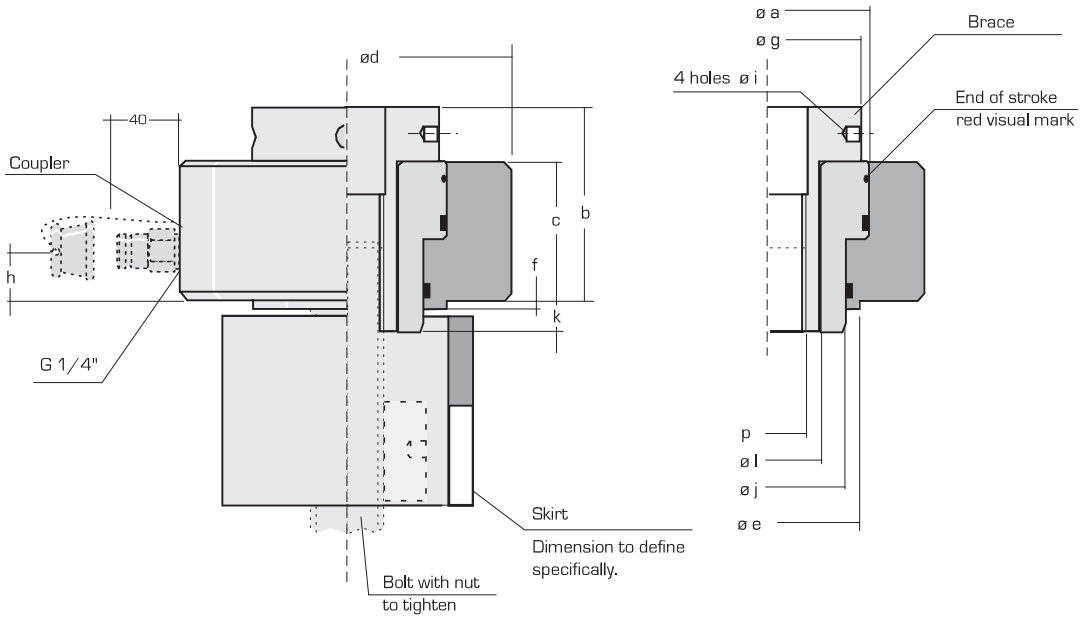
BOLT TENSION CYLINDERS - QUIRI 700

Steel - 1000 bar

Features

Single acting, load return.
Chrome plated piston rod.
End of stroke red visual mark.

Cylinder with accessories



Cylinders category	maximum force at 1000 bar	Stroke	Effective area	Oil volume	Model number	Dimensions (mm)													Weight
						a	b	c	d	e	f	g	h	i	j	k	l	p	
Tons	kN	mm	cm^2	cm^3															kg
45	439	5	44.76	22	STC 45/5	110	85	60	140			80	21	6	80	10	55	M20 à M36	7.5
70	709	5	72.25	36	STC 70/5	135	105	75	170			100	30	8.5	95	10	70	M36 à M48	14
100	1023	5	104.26	52	STC 100/5	170	130	90	210	139.5	4	145	37	10.5	125	10	100	M48 à M72	25
200	1996	5	203.42	100	STC 200/5	220	155	105	270	169.5	4	170	50	12.5	150	10	120	M72 à M90	48

COUPLERS	PM115 + A31048 + A52084

EXTRA FLAT CYLINDERS «PLATE»

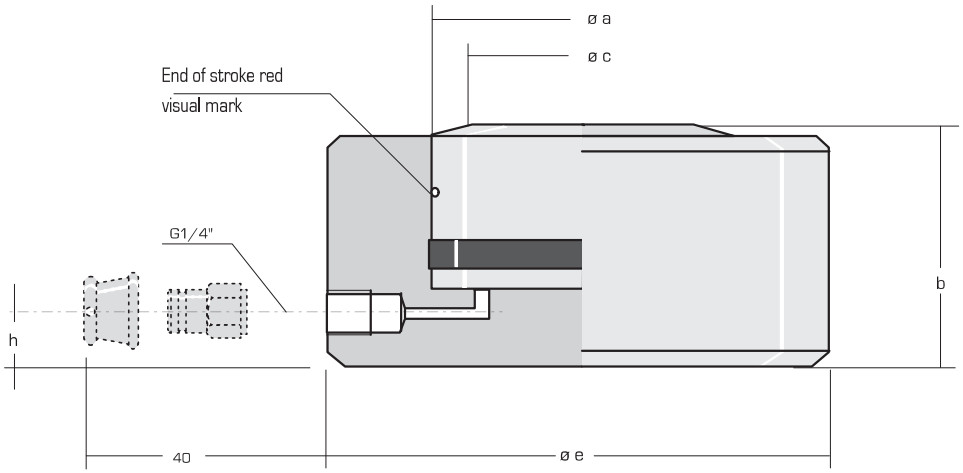
Steel - 800 bar

Features

Single acting, load return.
Chrome plated piston rod.
End of stroke red visual mark.
100T and 500T cylinders fitted with 2 transport eye hooks.

Remarks

Please assure that the cylinder base and the piston contact side are perfectly parallel. STA cylinders do not accept any excentric load.



Cylinder category	Working force 800 bar	Stroke	Effective area	Oil volume	Model number	Dimensions (mm)					Weight
						a	b	c	e	h	
Tons	kN	mm	cm^2	cm^3							kg
10	98.6	10	12.56	13	**STA 10/10**	40	38	25	78	15.5	1.4
25	244.6	12	31.17	37.4	**STA 25/12**	63	40	35	108	15.5	2.9
40	394.5	14	50.26	70	**STA 40/14**	80	45	45	128	15.5	4.6
60	616.4	16	78.54	126	**STA 60/16**	100	50	55	158	15.5	7.8
100	963	16	122.7	200	**STA 100/16**	125	63	70	188	15.5	14
160	1578	18	201.1	362	**STA 160/18**	160	78	90	245	27	29
250	2466	20	314.2	630	**STA 250/20**	200	95	115	310	32	56
500	4832	25	615.7	1540	**STA 500/25**	280	134	160	430	50	152

COUPLERS **PM115 + A31048 + A52084**