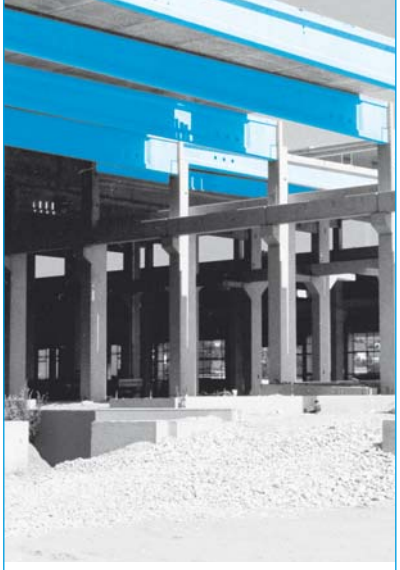
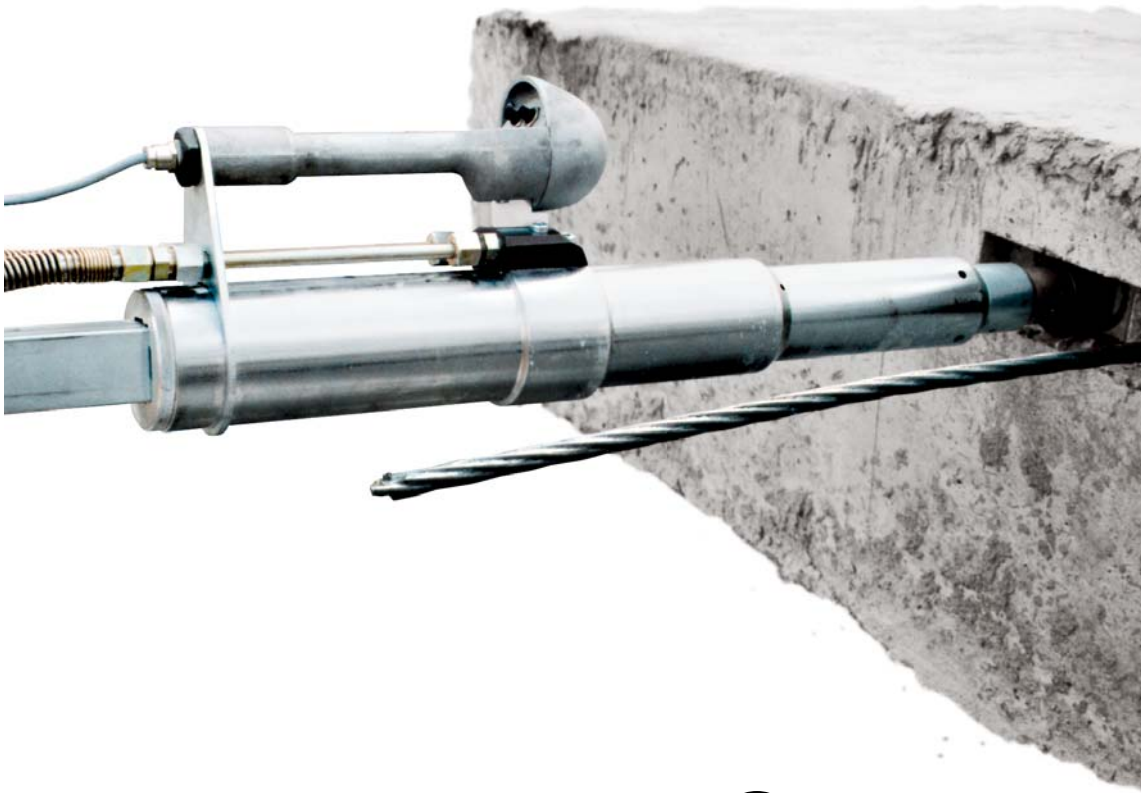
PRESTRESSED
CONCRETE
TECHNOLOGY



Stressing Jacks

TENSA SM 240 kN
TENSA 220 kN Overstressing Jack



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TENSA SM 240 kN

The TENSA SM 240 kN stressing jacks are mainly used on construction sites for stressing mono-strand anchors, and for the separate stressing of the strands of multi-strand tendons.

In the latter case there are special stressing heads and mounting plates available, in order to engage the stressing jack to closely spaced strands.

TENSA 220 kN Overstressing Jack

Fig. 1

The TENSA 220 kN overstressing jack has a large lock-off piston stroke. It is therefore particularly suitable for the overstressing and releasing of ground anchors up to 50 mm with the immediate use of anchor wedges. Mono anchors and multi-strand anchors can be stressed as well, but the clamping jaws are not as robust as those in the TENSA SM 240 kN stressing jack.

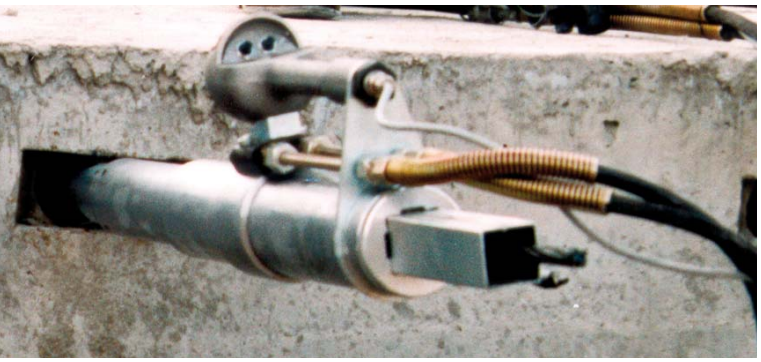

Fig. 2

Both stressing jack models are also suitable for pretensioning in precast concrete factories. Both models are equipped with a mechanical, spring-operated internal stressing grip.

There are several types of clamping jaws available for various applications. On the TENSA 220 kN overstressing jack the anchor wedges are locked off hydraulically. On the TENSA SM 240 kN stressing jack, both hydraulic and mechanical (i.e. spring operated) stressing heads to lock off the anchor wedges are available.

The stressing jacks are mainly used with NG50 hydraulic units or NG15 mini pump units, with manual or electrical control. They can also be used with large wheel-mounted NG100 pump units (mechanically operated e.g. 77-220.00 or electrically operated e.g. 77-043.00).

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TENSA SM 240 kN

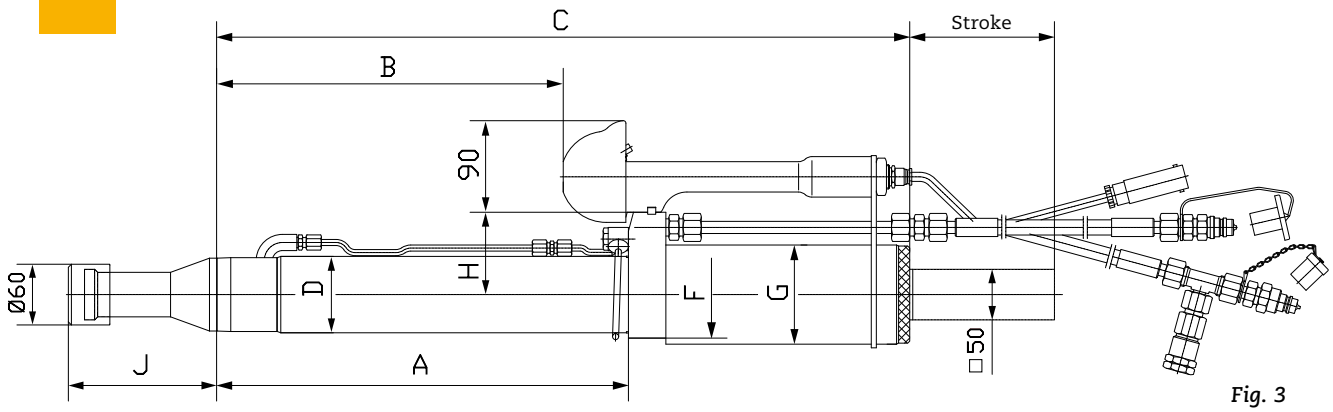


Fig. 3

TENSA 220 kN Overstressing Jack

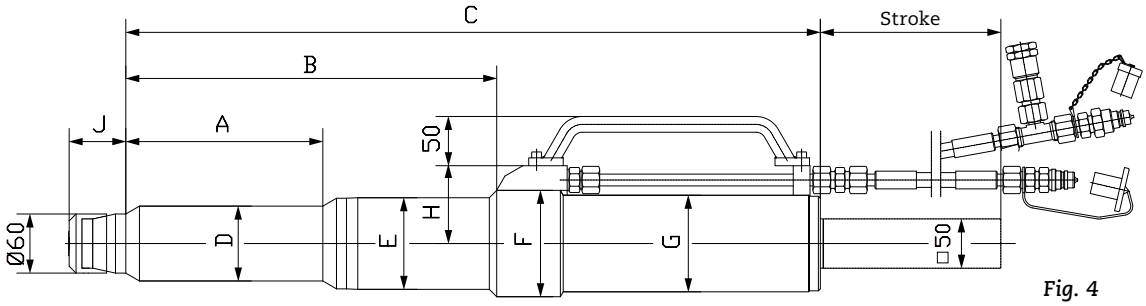


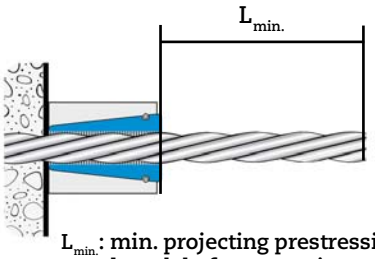
Fig. 4

Stressing jack	Stressing force without friction kN	Wedge-seating force kN	Retracting force kN	Theoretical piston speed in cm/s at pump delivery					
				8.4 ltr./min.		5.8 ltr./min.		4.2 ltr./min.	
				Stressing	Retraction	Stressing	Retraction	Stressing	Retraction
TENSA SM 240 kN	(at 520 bar) 245	(at 250 bar) 48.4	(at 250 bar) 58.9	2.97	5.93	2.05	4.10	1.48	2.97
TENSA 220 kN overstressing jack	(at 470 bar) 221.51	(at 150 bar) 42.7	(at 150 bar) 28	2.97	7.5	2.05	5.18	1.48	3.75

Stressing piston area on both jack models: 47.13 cm²

Dimensions	External dimensions in mm								Internal dimensions in mm			Center hole	Weight[1]
										Piston rod			
	A	B	C	D	E	F	G	H	Cyl. Ø	O.D.	I.D.	max.	kg
TENSA SM 240 kN													
100 mm stroke	247	182	488	76		86	98	79	85	35	18	17.5	22
200 mm stroke	347	282	688	76		86	98	79	85	35	18	17.5	25
300 mm stroke	447	382	888	76		86	98	79	85	35	18	17.5	28
500 mm stroke	627	562	1268	76		86	98	79	85	35	18	17.5	34
TENSA 220 kN overstressing jack													
180 mm stroke	370	355	708	76	94	108	98	79	85	35	18.7	16	28

1) Weight complete with stressing head, extended hydraulic head adapter, internal stressing grip, electr. push-button control



$L_{min.}$: min. projecting prestressing steel length before stressing

Stressing head length J (in mm)

Stressing head	TENSA SM 240 kN		TENSA 220 kN Overstressing jack
	old	new	
short, hydr.	48	113	58
short, mech.	58		
long, hydr.	154	204	130
long, mech.	168		
$L_{min.}$ (mm)	115 + J		125 + J

0307

TENSA SM 240 kN

Internal stressing grip, type 42 P (order no. 74-207.00)

Clamping jaws, type 42 P
- with large clamping range
  e. g.: Ø 14.2-16.0
- permissible stressing force: 80% of F_B
- max. 200 kN
- lubricating interval: 150-200 stressing operations

Clamping jaws, type 42 PK *see drawing 74-031 Bl. 14*
- with small clamping range
  e. g.: Ø 0.5/0.52" or Ø 0.6/0.62", …
- permissible stressing force: 85% of F_B
- max. 220 kN
- lubricating interval: 150-200 stressing operations

F_B = prestressing steel breaking load

Internal stressing grip, type 38/8.5 (order no. 74-201.05)

- with small clamping range
  e. g.: Ø 0.5/0.52" or Ø 0.6/0.62", …
- permissible stressing force: 90% of F_B
- max. 240 kN
- low releasing forces
- lubricating interval: 400-500 stressing operations

see drawing 74-031 Bl. 15

For each stressing grip type there are hydraulically operated short and long stressing heads available. Also mechanical stressing heads and a type 39 PM stressing grip can be supplied (see drawing 74-031 Bl.01).

TENSA 220 kN Overstressing Jack

Internal stressing grip, type 38 P

Clamping jaws, type 38 P
- with large clamping range
  e. g.: Ø 14.2-16.0
- permissible stressing force: 80% of F_B
- max. 200 kN
- lubricating interval: 200-250 stressing operations

Clamping jaws, type 38 PK *see drawing 74-025 Bl. 07*
- with small clamping range
  e. g.: Ø 0.5/0.52" or Ø 0.6/0.62", …
- permissible stressing force: 85% of F_B
- max. 220 kN
- lubricating interval: 120-150 stressing operations

Ordering data - see price list -

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