

HYDRAULIC RAIL TENSOR

MODEL TH70 VL (with hydraulic power pack)

The *Hydraulic Rail Tensor, Model TH70 VL*, is particularly designed to de-stress long welded rails.



1. DESCRIPTION AND OPERATION

The Tensor can also be used, during cutting and drilling, to eliminate by pushing with the help of special arcs, optionally supplied, internal strains in the rail without jamming the blades or drill bits.

This equipment can be easily disassembled and set up in a few minutes by two men only.

Moreover, it is an **obstructionless machine** allowing free running of trains.

The hydraulic rail tensor can be installed in two different ways:

- Stirrups inserted **beneath the rail** to allow the free passage of traffic, as shown on the picture above;
- Stirrups **on top of rail** if work is carried out during track possession.

Converting an installation mode to another is done by simply swapping handles that hold the eccentric to the stirrups.

1. DESCRIPTION AND OPERATION (Cont'd)

It consists of:

- **2 double acting hydraulic cylinders**; each cylinder is provided with 2 clevis, 2 carrying handles and 2 quick release hydraulic semi-couplings to be screwed on the hydraulic circuit;
- **4 eccentric vices** (2 left hand, 2 right hand) of high tensile alloy steel, each provided with a carrying handle and a pin with a securing chain;
- **2 C-shaped stirrups** of high tensile alloy steel, each including two machined trunnions intended to receive the eccentric vices; these stirrups pass under the rails and do not infringe the gauge, thus allowing free running of trains;
- **4 semi-circular jaws** of cemented and hardened steel pivoting in the above vices;
- **2 removable tensile tie-rods** of high tensile alloy steel, each provided with a clevis, a tenon and a pin with a securing chain;
- **2 T-shaped high pressure hoses** connecting the cylinders to the pump by means of a quickly screwed hydraulic semi-coupling;
- **1 hydraulic power pack** driven by a four-stroke petrol engine Honda.

Because of hydraulic cylinders double action, the weather variations can be compensated by an increase or decrease of the hydraulic pressure, thus modifying pre-stressing at will.

Rails ends are maintained at their exact position in horizontal, vertical and longitudinal levels thus avoiding all movements of the rail during welding operations.

2. TECHNICAL DATA

Hydraulic rail tensor:

– Maximum pulling force:	700 kN (≈ 70 t)
– Maximum pushing force:	700 kN (≈ 70 t) (<i>without tensile tie rods</i>)
– Maximum working pressure (pulling):	585 bar
– Maximum working pressure (pushing):	440 bar
– Cylinder stroke:	380 mm
– Space between tensile rods:	≈ 565 mm
– Dimensions:	
Length:	$\approx 3\,000$ mm
Width:	≈ 750 mm
Height:	≈ 350 mm
– Mass (<i>tensor without hydraulic unit</i>):	≈ 295 kg
– Mass of the heaviest element (<i>stirrup</i>):	45 kg

2. TECHNICAL DATA (Cont'd)

Hydraulic power pack:

- Maximum pressure: 700 bar
- Flow: 1.8 L/min at 3,000 rpm
- Usable oil capacity: 10 L
- Petrol engine, 4-stroke, single cylinder, air cooled:
 - Make & Model: Honda GXV160
 - Net power: 4.3 hp (3.2 kW)
 - Fuel tank capacity: 1.8 L
- Noise level: 76 dB(A) at 7 m
- Dimensions:
 - Length: 810 mm
 - Width: 435 mm
 - Height: 535 mm
- Mass: ≈ 65 kg



3. ACCESSORIES AND OPTIONS (at extra price)

- **Pair of arcs, including an intermediate stirrup, allowing drilling or sawing long welded rails without damaging drill bits and blades.**
- **Set of Hydraulic hoses with two three-way valves to feed alternatively (or successively) two hydraulic rail tensor TH70 VL**
- **Wedges to fix on stirrups for working over rail head**

*We reserve the right to modify any equipment specification of the present offer to take into account the latest technical improvements and working conditions at the date of manufacturing.
Pictures and drawings may include some options and are not contractual.*