

TIRVIT™

Universal wire tensioner,
operating and maintenance instructions

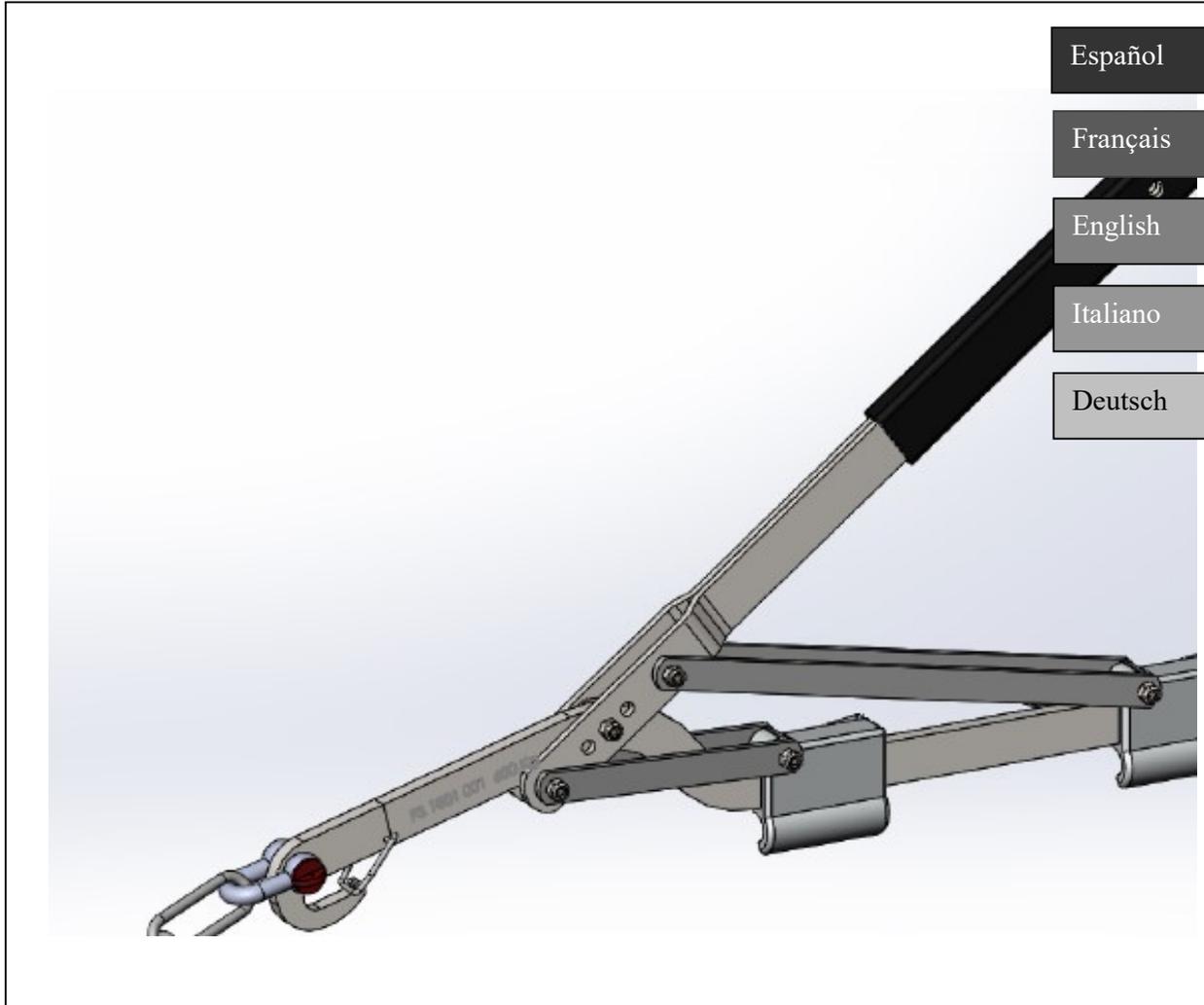


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Always concerned to improve the quality of its products, TRACTEL IBERICA S.A reserves the right to modify the specifications of the equipment described in this manual.

The companies of TRACTEL® and their agents or distributors will supply on request descriptive documentation on the full range of TRACTEL® products: lifting and pulling machines, permanent and temporary access equipment, safety devices, electronic load indicators, accessories such as pulley blocks, hooks, slings, ground anchors, etc.

The TRACTEL IBERICA S.A. network is able to supply an after-sales and regular maintenance service. Should you have any queries or require technical assistance, please do not hesitate to contact TRACTEL IBERICA, S.A.



1. SAFETY WARNING



1. Before using the TIRVIT™ universal wire tensioner, it is essential for the safe and correct operation of the equipment that this manual be read and fully understood and that all the instructions be followed. This manual should be made available to every operator. Extra copies of this manual will be supplied on request.
2. Check that the nuts are tightened on the bolts and do not show any deformation before starting the use.
3. Never use a TIRVIT™ universal wire tensioner, which is not in good working condition. Continuous monitoring of the condition of the universal wire tensioner, its wire rope and anchor sling is an important safety consideration.
4. TRACTEL IBERICA, S.A. declines any responsibility for the consequences of dismantling or altering the universal wire tensioner, by any unauthorized person. It is specially excluded the replacement of original parts by parts of another manufacturer.
5. The models described in this manual can only be used to pull or move loads. Never must be used for lifting goods or people.
6. Never attempt to overload the universal wire tensioner.
7. Moreover, these models are designed for manual operation and must not be motorised.
8. Standard TIRVIT™ universal wire tensioners are not designed for use in explosive atmospheres.
9. If the equipment described in this manual is supplied to an employee, make sure that you are in compliance with all safety at work regulation governing installation, maintenance and use of equipment.

TECHNICAL DATA

Model	For Cable Ø mm	MAX Traction KG	Dimensions mm			Weight including anchor cable KG
			A	B	C	
F2	6 to 8	400	535	88	653	3,650
F3	7 to 15	600	625	110	730	4,750
F4	14 to 18	800	625	115	720	5,700

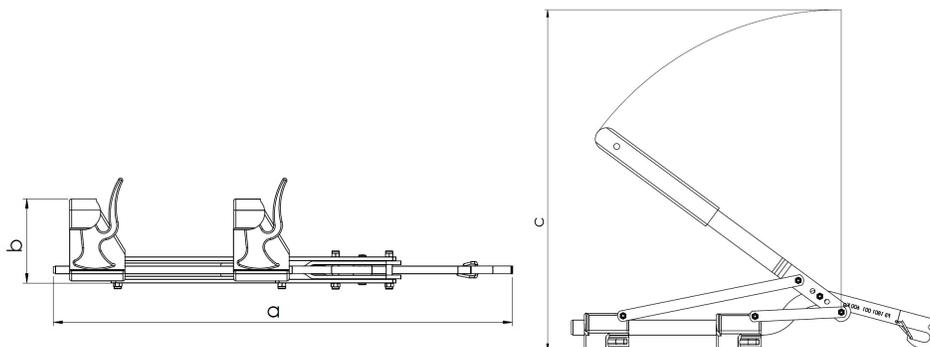


Fig. 1

1. DESCRIPTION OF EQUIPMENT

The TIRVIT™ is hand-operated pulling wire tensioner. It is versatile, portable and multi-purpose, not only for pulling but also for tensioning. The originality of the TIRVIT™ universal wire tensioner, is the principle of operation directly on the wire rope which passes through the mechanism rather than being reeled onto a drum of a hoist or conventional winch. The pull is applied by means of two pairs of self-energised jaws which exert a grip on the wire rope in proportion to the load being pulled. An operating lever transmits the effort to the jaw mechanism to forward movement of the wire rope.

The universal wire tensioner, is fitted with a wire rope or chain, depending on the model, so that it can be secured quickly to any suitable anchor point.

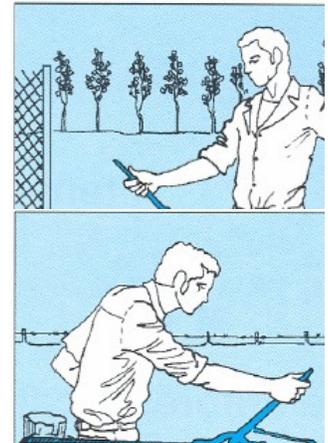


Fig. 2

2. RIGGING ARRANGEMENTS

The equipment can be anchored to a fixed point with the chain or wire rope.

The TIRVIT™ can be used with an appropriate chain or wire rope, in this case the chain and the wire rope must have a shackle. For a correct use see figure 3. The shackle has to be inserted in the upper hole of the hook with the first link of the chain or of the loop then the second loop or link of the chain must be inserted on the hook, once the chain or the wire rope is put around the fixing point.

N.B. Whatever the rigging arrangement, and if the machine is anchored directly to a fixed point, ensure that there are no obstructions around the universal wire tensioner which could prevent the wire rope, the universal wire tensioner and anchor from operating in a straight line. It is therefore recommended to use a sling of an appropriate capacity between the anchor point and the universal wire tensioner.

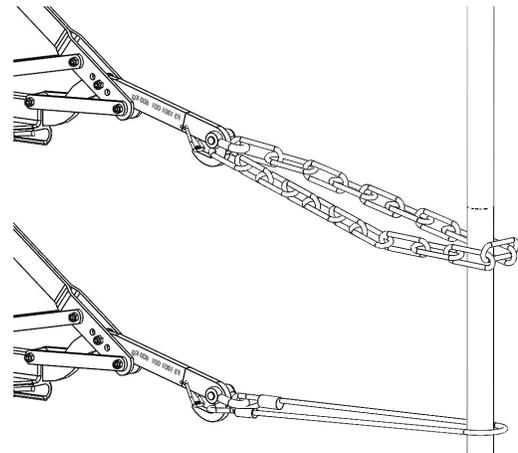


Fig. 3

3. REGULATION OF THE LEVER

It is possible to modify. The forward / backward distance can be varied by changing the position of the cam (Fig. 4) to increase the traction speed or the reduction of the effort.

POSITION	MAX Lever Stroke Forward/Backward mm		
	F2	F3	F4
A	105	100	115
B	130	125	140
C	140	135	145

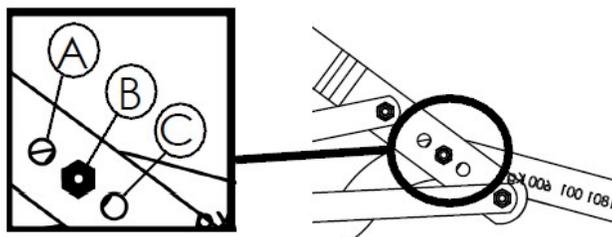


Fig. 4

4. INSTALLING THE WIRE ROPE

N.B. When handling the wire rope, it is recommended to protect the hands by using work gloves.

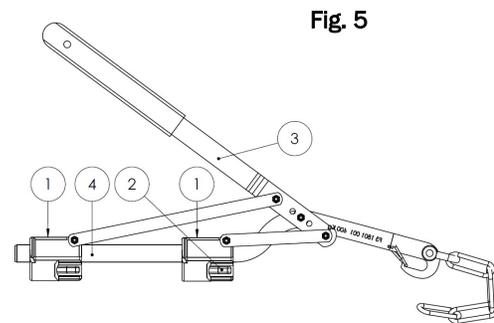
1. Uncoil the wire rope in a straight line to prevent loops or kinks.
2. Insert the cable simply press your finger on the cam lever (2) so that, when opened, you can insert the cable from the side. The cable can be gripped at any point.
3. Anchor the TIRVIT™ machine or the wire rope to the appropriate fixed point.

After this procedure, the universal wire tensioner is ready for operation, providing the load is correctly anchored to the universal wire tensioner or the wire rope (see section 2 “Rigging arrangements”).

5. OPERATION

TIRVIT™ universal wire tensioner is very easy to use. When operation stops, both jaws automatically grip the wire rope and hold the load which is spread equally between the jaws.

The two jaws (1), with self-gripping cam (2), will close automatically. Each movement of the lever (3) moves the jaws in the opposite directions on the guide frame (4), one pulling the cable whilst the other slides freely to grip it in turn when the movement of the lever is reversed.



To tension the cable, move the lever backwards and forwards. This will quickly tighten the cable as the lever is dual-effect.

To loosen the jaws, it is important that the wire rope must be without tension.

6. DECOMMISSIONING AND STORAGE

It is essential to take the load off the TIRVIT™ universal wire tensioner before attempting to release the jaws.

Store the universal wire tensioner and wire rope in a dry place, away from the effects of the weather. The wire rope should be completely removed from the machine.

7. MAINTENANCE INSTRUCTIONS

The universal wire tensioner, should be inspected, cleaned and lubricated at regular intervals (at least annually) by an approved TRACTEL repairer.

8. WARNINGS AGAINST HAZARDOUS OPERATIONS

The operation of TIRVIT™ universal wire tensioner, in accordance with the instructions of this manual, is a guarantee of safety. Nevertheless, it is useful to draw the attention of users to the following warnings:

It is not allowed to:

- Use TIRVIT™ universal wire tensioner, as described in this manual for lifting people.
- Attempt to motorise the model.
- Use TIRVIT™ universal wire tensioner beyond their maximum working load.
- Use TIRVIT™ universal wire tensioner for other applications than those or which they are intended.
- Attempt to operate the rope release mechanism whilst the TIRVIT™ universal wire tensioner is under load.
- Obstruct the operating lever or the rope release lever.
- Use a handle, other than the operating handle supplied, to operate the TIRVIT™ universal wire tensioner.
- Anchor the other tensioner than by its appropriate anchor point.
- Obstruct the universal wire tensioner, which could prevent the tensioner, the wire rope and the anchor points from operating in a straight line.
- Apply a load to the loose wire rope that exits from the anchor point of the TIRVIT™ universal wire tensioner.

9. HEALTH AND SAFETY AT WORK

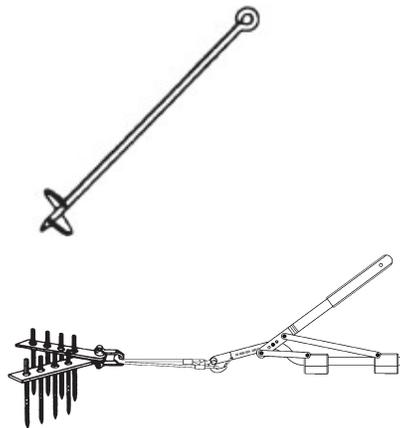
All lifting equipment must be supplied, operated, maintained and tested according to the applicable statutory requirements, and especially to the provisions of the health and safety at work act.

It is also the responsibility of every company to ensure that their employees have been fully and properly trained in the safe operation of their equipment.

10. ACCESSORIES FOR THE TIRVIT™ UNIVERSAL WIRE TENSIONER



Sling



Anchoring pick

Fig. 6



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