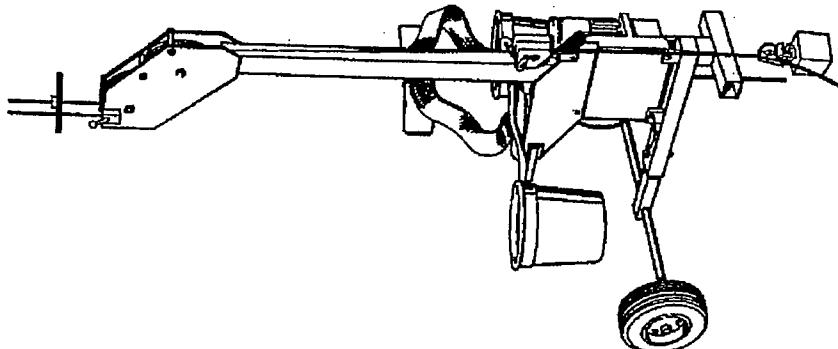


**SO|SIS**

**motorised seat**  
**for inspection and maintenance**



## operating and maintenance manual



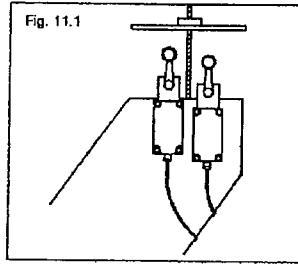
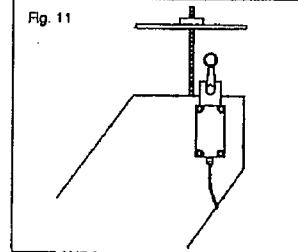
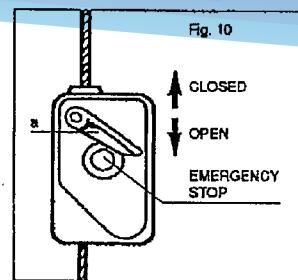
#### 4.2. BLOCSTOP BSO safety device

The safety wire rope passes through an overspeed BLOCSTOP, model BSO 500, which operates automatically and which acts as a secondary brake, as required by the safety regulations of certain countries.

The centrifugal mechanism of the BLOCSTOP BSO permanently checks the speed at which the wire rope passes through the unit. It automatically locks the jaws onto the wire rope should the speed become excessive.

The BLOCSTOP BSO also operates instantly and automatically in a no load situation, e.g. in the event of the lifting wire rope breaking.

Under normal working conditions of the SOLSIT, the lever (a) of the BLOCSTOP BSO should be in the 'OPEN' position (Fig. 10).



#### 4.3. Upper limit safety device (Fig. 11).

When the upper limit switch, fixed to the top of the SOLSIT mast, hits the stop plate fitted to the safety wire rope, the SOLSIT stops automatically. This safety device only operates when lifting. It is still possible to lower the SOLSIT by pressing the 'DOWN' button.

Regularly check the operation of the upper limit switch: manually press the spring-loaded lever of the upper limit switch and at the same time press the "UP" button. The SOLSIT should not lift. If it does, or in case of doubt, call for an electrician to check the mechanism.

#### 4.4. Final upper limit safety device (optional)

The safety regulations of some countries require an additional safety device to operate should the upper limit switch fail. This additional safety device is placed slightly lower than the first (Fig. 11.1) and cuts off all the electrical controls of the SOLSIT.

To release the final upper limit switch, either lower the SOLSIT slightly through the centrifugal brake of the TIRAK hoist (See 3.7) or raise the stop plate slightly. In the latter case, do not forget to reposition the stop plate.

### 5. TROUBLESHOOTING

See TIRAK operating and maintenance manual.

### 6. MAINTENANCE OF THE TIRAK HOIST AND WIRE ROPES

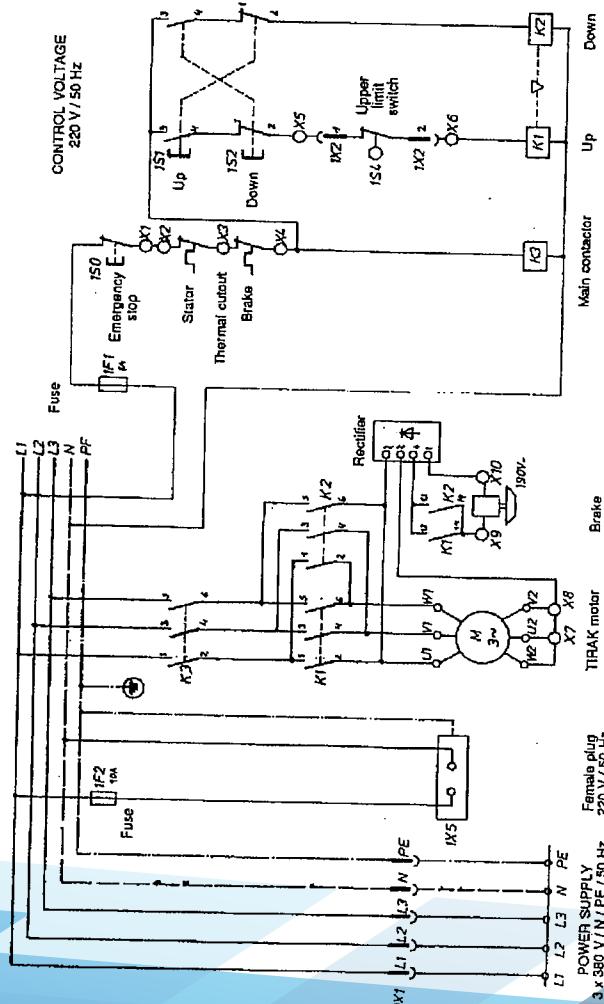
See TIRAK operating and maintenance manual.

### 7. ELECTRICAL LAYOUTS

The following are the electrical layout for the most common models.

A layout for the model delivered is to be found on the inside of the hoist's control box.

#### 7.1. Standard layout GG 13/1 - 3-phase, 220/380 V 50 Hz (N° 19143)



### 3.5. Fitting the lifting and safety wire ropes

Only TIRAK wire rope in perfect condition can ensure the correct operation of the SOLSIT. Ensure that the diameter corresponds to that indicated on the appropriate labels on the TIRAK hoist and the BLOCSTOP BSO.

Before fitting the wire ropes ensure that the suspension point is appropriate to take the full load of the SOLSIT and its operator, i.e. at least 1.3 times the capacity of the hoist (390 kg).

Unreel the wire ropes at ground level and lift them to the top of the building using a cord. Never unreel or throw a wire rope from the top of the building.

Anchor the lifting and safety wire ropes to separate suspension points (Fig. 4).

Fit an upper limit stop plate to the safety wire rope (Fig. 4).

#### 3.5.1. Feeding-in the lifting wire rope

- Connect the power supply cable to the TIRAK hoist.
- Pass the lifting wire rope around the two return pulleys on the TIRAK hoist side (Fig. 5).
- Insert the wire rope through the rope guide and into the TIRAK hoist.
- Press the "UP" button. The wire rope should feed automatically\* and exit at the other side of the machine.
- Continue to operate the "UP" button of the TIRAK until the lifting wire rope is slightly tensioned.
- Carefully reel any excess wire rope back onto the reeler.

##### N.B.: 3-phase motors

If the wire rope does not feed automatically, reverse the direction of rotation of the motor by using a screwdriver to turn the phase reverser in the CEE plug of the hoist (Fig. 6).

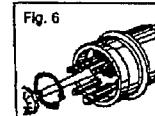


Fig. 4

Upper limit stop plate

Fig. 5

upper limit switch

safety wire rope

lifting wire rope

BLOCSTOP safety device

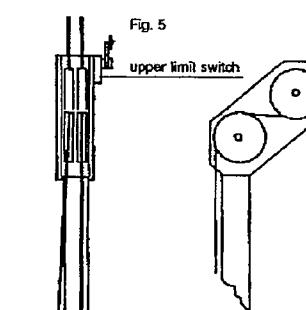
TIRAK hoist

counterweight (approx. 8 kg)

Group

#### 3.5.2. Feeding-in the safety wire rope

- Check that the safety wire rope is not twisted around the lifting wire rope.
- Pass the safety wire rope around the two return pulleys on the BLOCSTOP side (Fig. 5).
- Put the lever (a) of the BLOCSTOP safety device into the "OPEN" position (Fig. 10).
- Insert the wire rope into the BLOCSTOP and pass it slowly through the mechanism by hand until it is slightly tensioned.
- Using a "frog", wire rope gripper, attach a counterweight (approx 8 kg) to the safety wire rope at about 20 cm from the ground.
- Carefully reel any excess wire rope back onto the reeler.



safety wire rope

lifting wire rope

BLOCSTOP safety device

TIRAK hoist

counterweight (approx. 8 kg)

Group

### 3.6. Checking the operation of the BLOCSTOP BSO

#### 3.6.1. Daily check

Push the EMERGENCY STOP button. The jaws of the BLOCSTOP should automatically lock and the lever (a) returns to the 'CLOSED' position (Fig. 7). Reposition the lever to the 'OPEN' position.

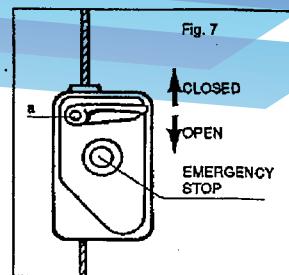


Fig. 7

CLOSED

OPEN

EMERGENCY STOP

#### 3.6.2. Periodic inspection

- Stop the SOLSIT at about 40 cm from the ground.
- Remove the counterweight from the safety wire rope. Pull the safety wire rope quickly upwards above the BLOCSTOP. The overspeed mechanism should immediately lock onto the wire rope.
- Repeat this operation at least 3 times. Reset the BLOCSTOP by pressing the lever downwards into the open position and reattach the counterweight to the safety wire rope.

Should the BLOCSTOP not operate correctly, it should be immediately replaced and returned to the manufacturer or authorised repairer for service-repair.

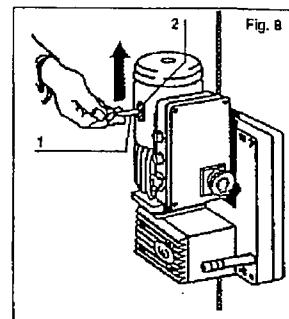


Fig. 8

#### 3.7. Manual descent (Fig. 8)

In case of a power failure, it is possible to lower the SOLSIT through the centrifugal brake of the TIRAK hoist.

- Take out the control lever (1) from the carrying handle of the TIRAK and place it through the opening (2) in the motor cover into the brake release housing.
- Without using excessive force, raise the control lever to release the electromagnetic brake. The SOLSIT will descend under its own weight and the speed of descent is controlled by the centrifugal brake.
- To stop or brake, release the control lever (1).

#### 3.8. Traversing

- Stop the SOLSIT at about 40 cm from the ground.
- Remove the counterweight from the safety wire rope. Slowly pull some wire rope through the BLOCSTOP.
- Lower the SOLSIT to the ground and continue to operate the "DOWN" button to have some slack on the lifting wire rope.
- Reposition the suspension point.
- Reposition the SOLSIT below the suspension point.
- Operate the "UP" button to lift the SOLSIT about 40 cm above the ground. Carefully retension the safety wire rope by hand and refit the counterweight (Fig. 5).

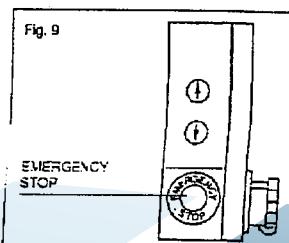


Fig. 9

EMERGENCY STOP

STOP

## 2. ASSEMBLY OF THE SOLSIT

### 2.1. Main components

1. Stirrup
2. Base frame
3. Roller assembly
4. TIRAK hoist, X-300P
5. Bucket
6. Frame support for bucket
7. BLOCSTOP BSO 500, secondary safety device
8. Upper limit switch
- 8.1. Final upper limit switch (optional)
9. Safety belt
10. Lifting wire rope
11. Safety wire rope
12. Counterweight for safety wire rope
13. Overload safety device (optional)

### 2.2. Assembly

Generally, the SOLSIT is delivered already assembled. However, if this is not possible, e.g. for transport reasons, follow the assembly instruction below (Fig. 1):

- a. Fit the TIRAK hoist (4) with the motor turned upwards, to the mast (1) and base frame (2).
- b. Stabilise the equipment by fitting the roller assembly (3) into the base frame (2). Lock it into position using the clip pin (2.1). The base frame (3) has three holes, to allow adjustment of the distance between the SOLSIT and the facade (Fig. 1.1).
- c. Fix the frame supports (6) for the buckets. Fit the 2 buckets (5).
- d. Fit the BLOCSTOP BSO (7) to the mast (1).
- e. Fix the upper limit switch(es) (8 / 8.1) to the top of the mast (1).

Connect them to the control box of the TIRAK hoist (Fig. 3).

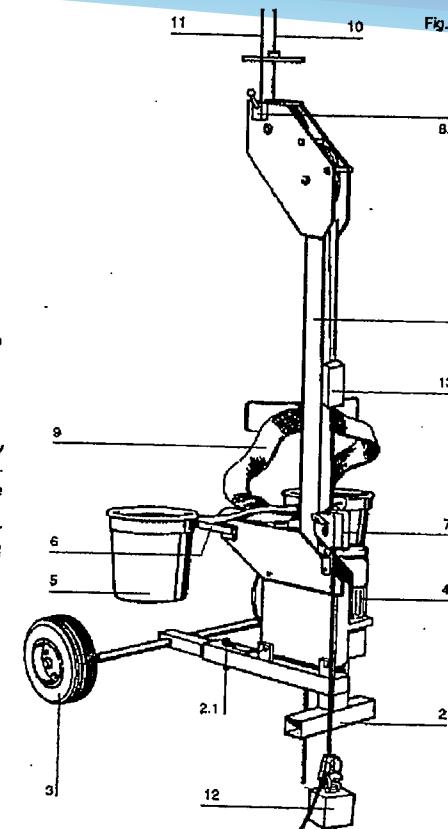


Fig. 1

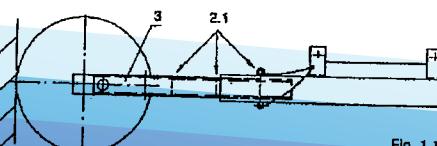


Fig. 1.1

## 3. OPERATION

### 3.1. General

Rigging and maintenance of the SOLSIT must be carried out with due regard for the current safety regulations and according to the instructions and advice contained in this operating and maintenance manual.

Check the correct operation of the TIRAK hoist (See the TIRAK operating and maintenance manual) and the BLOCSTOP safety device (See 3.6).

Ensure that the lifting and safety wire ropes are sufficient for the job.

Always fasten the safety belt.

### 3.2. Maximum working time/start-up frequency

The TIRAK motor is designed for continuous operation - motor rating: 100 %.

The contactors and the controls are also manufactured for continuous operation: 100 %.

### 3.3. Electrical connections

- Ensure that the mains voltage corresponds to the motor supply voltage (See the relevant label).
- Check that the fuses correspond to the necessary amperage (See the relevant label).
- Should there be a long distance between the connection to the mains supply and the SOLSIT, it is important to note the following minimum cross-section of the electric supply cable:

	Electric supply cable (m)			
	20	50	100	200
3-phase motor, 380 V	1.5	1.5	1.5	1.5
3-phase motor, 220 V	1.5	1.5	1.5	2.5
Single phase motor, 220 V	1.5	2.5	2.5	4

Cross-section in mm<sup>2</sup>

- Hanging cables longer than 30 m must be fixed by means of a cable sleeve or cable clamp (Fig. 2).
- When using a generator, its output must be at least 2.5 to 3 times higher than the SOLSIT power consumption.

Fig. 2  
Sleeve  
for the  
electric cable

### 3.4. Electrical controls

The TIRAK hoist on the SOLSIT is fitted with a control box with 2 push buttons, UP (a) and DOWN (b), together with a red EMERGENCY STOP button (c).

To operate the hoist, release the EMERGENCY STOP button (c) by turning in the direction indicated.

The electrical socket (d) can be used for connecting an inspection lamp or power tool, such as an electric drill, etc.



Fig. 3

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**1. INTRODUCTION**

The SOLSIT, motorised one-man seal for inspection and maintenance, has been specifically designed for man-riding applications. The compact design of the SOLSIT makes it extremely quick and simple to rig. The SOLSIT is suitable for many light jobs and is fitted with a TIRAK X-300P and a TIRAK wire rope which passes through the machine. The working height is limited only by the length of the wire rope supplied. In accordance with current safety regulations, a secondary safety wire rope is fitted in conjunction with a BLOCSTOP BSO, automatic secondary device.

In the standard version the SOLSIT is supplied with 2 cleaning buckets, and 2 wall rollers to prevent damage to the facade and twisting of the unit.

- The rigging and operation of the SOLSIT should only be carried out in accordance with current safety regulations and by personnel who have been fully trained and are familiar with the equipment.
- Particularly check the suspension anchor points of the SOLSIT. Ensure that the anchor points can accept at least 1.3 times the capacity of the hoist (i.e. 390 kg).
- Check that the lifting and safety wire ropes as well as the electric supply cable are sufficient for the job. The length of the wire ropes is marked on the ferrule of the hook or eye.
- Ensure that the diameter of the wire ropes is correct for the TIRAK hoist and BLOCSTOP safety device. Check the labels on the machines.
- When first put into operation and after every service-repair on the electrics, check the correct rotation of the TIRAK motor in relation to the controls. If necessary, call for an electrician to reverse the phase (3-phase motor).
- Never operate the SOLSIT during high winds or storms.

These instructions should be read in conjunction with the TIRAK X-300P operating and maintenance manual, which should be considered as an integral part of this manual.

**1.1. General technical data**

Working load	kg	165 = 1 man + 25 kg of materials
Lifting / lowering speed	m/mn	8.5
Total weight	kg	58
Hoist	model	TIRAK X-300P
nominal capacity	kg	300
diameter of lifting rope	mm	6.5 or 8.4
motor		220 V single-phase or 220/380 V 3-phase
Safety device	model	BLOCSTOP BSO 500
diameter of safety rope	mm	8.4