



# Fall protection system

## AL2 MOBIL system

### Installation and Operating Manual



This manual must always be available to the personnel authorised to use the system.

Other copies can be ordered.



[www.tractel.com](http://www.tractel.com)

# Information about this manual

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# 1. Definitions and symbols used

## 1.1 Definitions

The significances of the following terms used in this manual:

“Climbing protection system”: Safety device including all of the necessary parts

„technical expert“: „**A person** who, in view of his or her expert training and experience, has sufficient knowledge in the field of personal safety equipment as a protection against inadvertent falling and who is familiar with the current and valid government safety at works regulations to the extent that he or she can evaluate the safe working conditions and correct application of personal safety equipment dsigned to protect against inadvertent falling.

“Operator”: Person or company in charge of operating the product for the job it is intended for. Do not confuse with “User”.

“Technician”: Qualified person in charge of the maintenance operations, competent in the use of the product and conversant with it as assigned to the user by the manual.







“User”: Person or company responsible for the management and the safety of use of the product described in this manual.

„PPE“: personal protective equipment, e.g. safety shoes, gloves

„PPE against falls from a height“: Personal protective equipment against falls from a height, e.g. safety harness, fastener

## 1.2 Symbols in use

The significances of the following symbols used in this manual:

Symbol	Signal word	Meaning	Possible damages if not observed
<b>SAFETY INSTRUCTIONS</b>			
	<b>Danger</b>	possible threatening danger:	Death, severe or light injury!
	<b>Important</b>	possible dangerous situation:	Failure or damage to the product
<b>Commandments</b>			
	None	Information about written documentation	None
	None	Instruction for the use of PPE agianst falls from a height	Death, severe or light injury!
	None	Instruction for reading the documentation	Death, severe or light injury!
<b>Additional Information</b>			
	<b>Note</b>	Important: Useful Information for best use of the product	None

## 1.3 Safety information



# Danger!

### Death, severe or light injuries, caused by improper use

☐ follow all instructions as stipulated in this manual



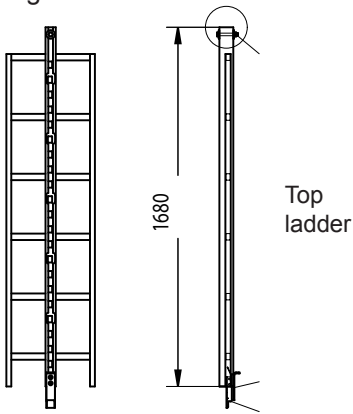
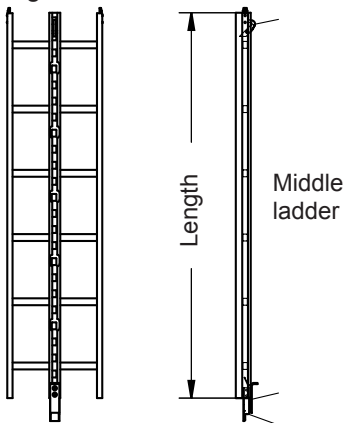
- a) Installation and/or operation of the climbing protection system must only be performed by persons who are fully trained. They must be authorised by their employer to carry out the relevant tasks.
- b) The authorised installation and operating personnel must be in good health and at least 18 years old. They must know the relevant accident prevention regulations and be trained accordingly. They must have read and understood this installation and operating manual. They must have been trained in how to use “Personal safety harnesses against falling”.
- 
- c) A copy of this installation and operating manual must always be kept close to hand and readily available to the authorised personnel.
- d) In case more than one person is entrusted with the above mentioned tasks, the employer must appoint a supervisor who is authorised to issue instructions.
- e) **All of the personnel who will be using the climbing protection system must always wear personal protective equipment against falls from a height** whilst working and this must be secured to a slider.
- 
- f) Communication devices, e.g. mobile telephones, must be carried in case an emergency arises.
- g) Only climbing protection systems, sliders and fasteners must be used.
- h) All of the parts must be inspected to verify that they are complete and working correctly.
- i) The user must be mentally and physically suited for working at heights.
- j) You must ensure that the support structure has an adequate load bearing capability prior to installing the climbing protection system.
- k) If a fault or damage is detected **during use**, or circumstances arise that will **endanger your safety**: **you must stop work immediately** and inform the supervisor or the contractor!
- l) Damaged parts must never be used and they must be replaced immediately.
- m) If any of the **load bearing parts** are repaired or replaced, **an expert must check the system to ensure that it works safely**.
- n) The use of non-original parts will invalidate the manufacturer’s warranty as well as the CE approval.
- o) You are forbidden to make modifications, conversions or to remove parts of the climbing protection system.
- p) The manufacturer does not accept liability for any damage caused by converting or modifying the equipment or using non-original spare parts unless written approval was obtained from the manufacturer beforehand.
- q) Do not use the system or install it if the wind is very strong or gusting.
- r) We recommend that the climbing protection system is only used up to a maximum height of 12 m. Handling is restricted at heights above this.
- s) Do not install or use if ice is present.

Fig. 1



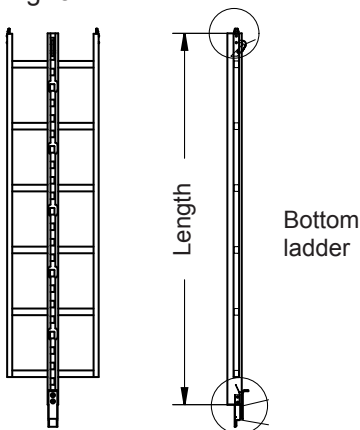
Top ladder

Fig. 2



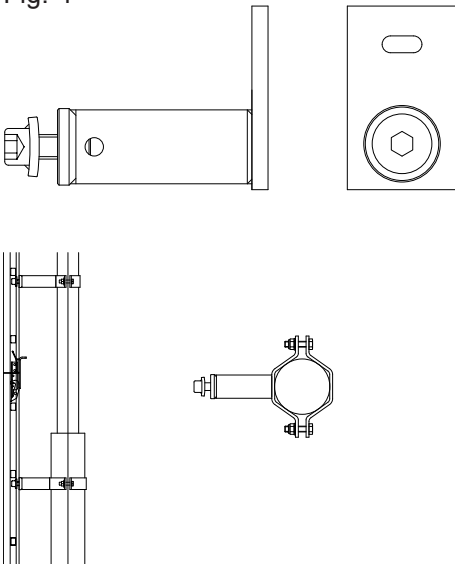
Middle ladder

Fig. 3



Bottom ladder

Fig. 4



## 2. Presentation

### 2.1 Delivery conditions and format

#### 2.1.1 Delivery conditions

The safety catches and slider are prefitted to the ladder sections. The support brackets must be bought separately and permanently installed on the building.

#### 2.1.2 Scope of delivery

The following parts can be part of the composition:

- Aluminium centre rail ladder, upper ladder (Fig. 1)
- Aluminium centre rail ladder, middle ladder (Fig. 2)
- Aluminium centre rail ladder, lower ladder (Fig. 3)
- Support brackets (Fig. 4)

#### 2.1.3 Documentation

The following documents are supplied with the climbing protection system:

- Installation and operating manual including checklist
- Declaration of Conformity

## 2.2 Product description

### 2.2.1 Definition and purpose of use

The FABATM AL2 MOBIL climbing protection system has been developed to ensure that you do not fall when climbing on vertical climbing ways. It is transportable and can be hung on and secured to the support brackets that were previously installed on site. The support brackets remain installed on the building and the ladders are only mounted in place for the duration of the work.

### 2.2.2 Mode of operation

The FABATM AL2 MOBIL system consists of separate ladder sections, which are identical in construction to our AL2 system ladder sections. The ladder sections are secured to the support brackets on the building through the cut-outs in the rear of the centre rail. The support brackets remain installed on the building. Each ladder section is fitted with a safety catch or a fixed catch at the top or a push-in joint, depending on the version (upper, middle or bottom).

The ladder section is secured to the support brackets permanently installed on the building.

### 2.2.3 Limits

The FABATM AL2 MOBIL climbing protection system is used solely to protect the user against falling when climbing vertical climbing ways. You are forbidden to use the climbing protection system for transporting or lifting loads.

We recommend that the FABATM AL2 MOBIL climbing protection system is only used up to a maximum height of 12 m. Handling is restricted at heights above this.

## 2.3 Regulations and standards

### 2.3.1 Implementation

The FABATM AL2 MOBIL climbing protection system must be inspected and released for use after it has been assembled correctly. The inspection result must be documented in the checklist in the Appendix.

Furthermore, the regulations and legal instructions listed in Section 2.3.3 are also applicable. Other national regulations must also be taken into account.

### 2.3.2 Maintenance and inspection

Maintenance and repair work is only to be undertaken by technicians from GreifzugTM Hebezeugbau GmbH. The repeat inspections must be undertaken by an expert. The inspection result must be documented in the checklist in the Appendix (see Definitions and Chapter 12).

### 2.3.3 Statutory provisions

EEC 89/686	Directive covering use of personal protective equipment
EN 353-1	Personal protective equipment used against falls from a height, climbing protection system fall arresters including a rigid anchor line
EN 354	Lanyards
EN 355	Energy absorbers
EN 358	Belts for work positioning and restraint and work positioning lanyards
EN 361	Full body harness
EN 362	Connectors
EN 363	Arrest systems
EN 364	Testing Procedures
EN 365	Instructions for use and marking

### 3. Elements

#### 3.1 System structure

##### 3.1.1 System structure – ladder mounted on a circular mast (Fig. 6)

##### 3.1.2 System structure – ladder mounted on a wall (Fig. 5)

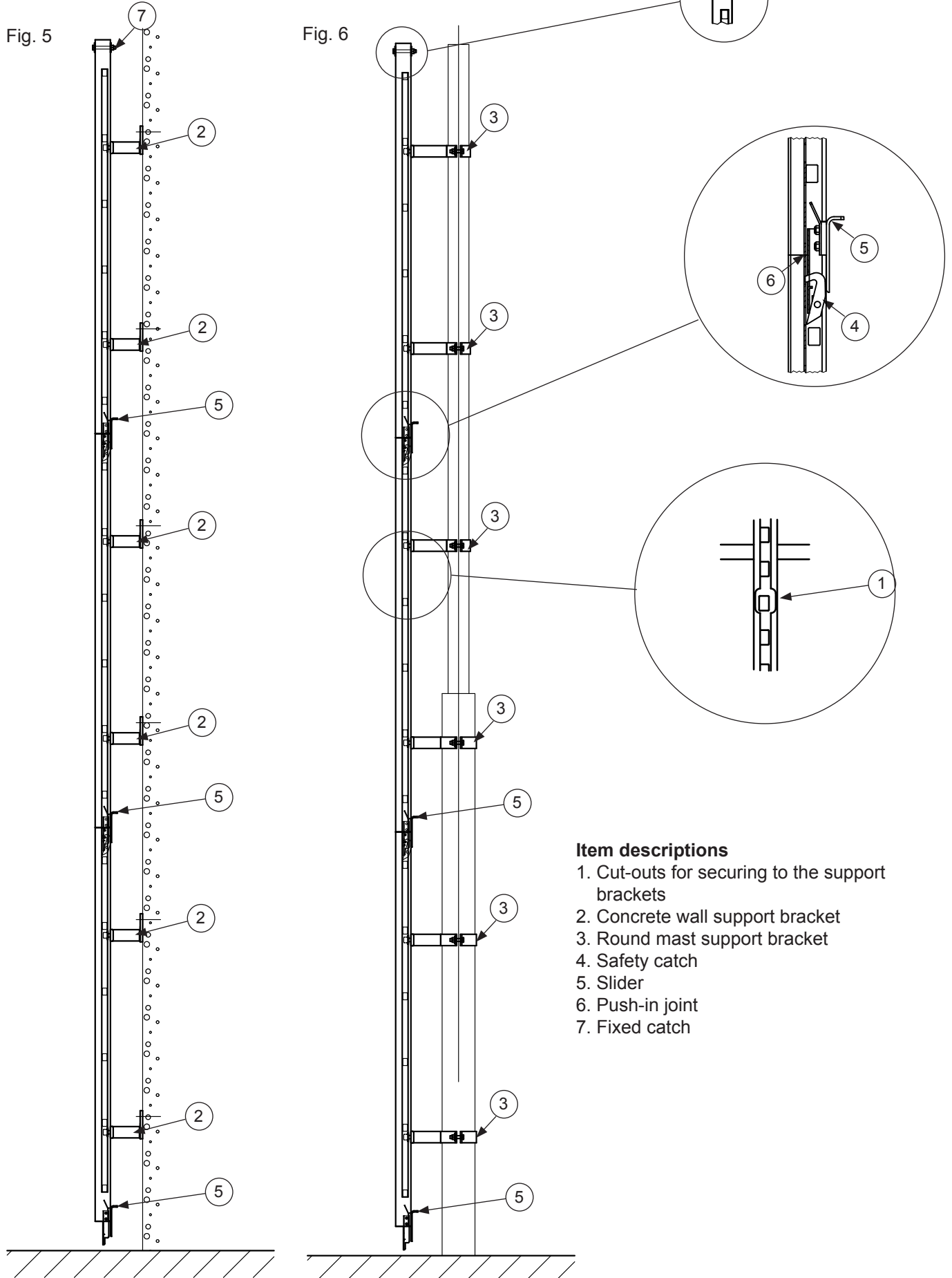


Fig. 7

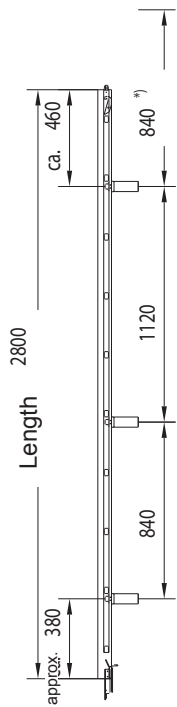


Fig. 8

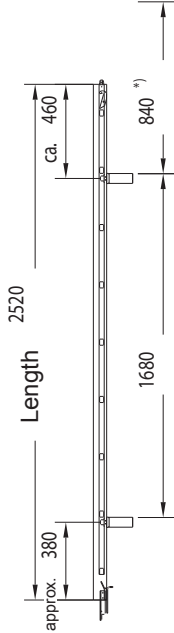


Fig. 9

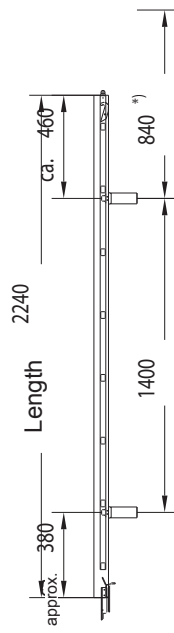


Fig. 10

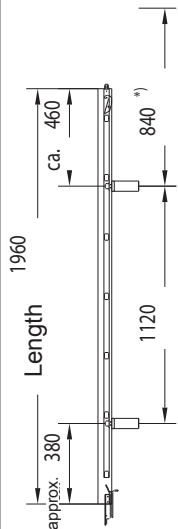


Fig. 11

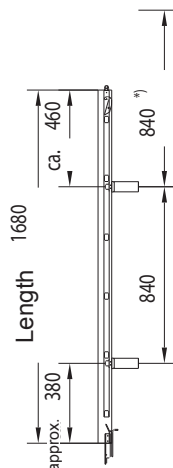


Fig. 12

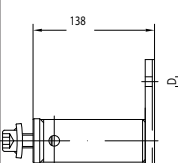


Fig. 13

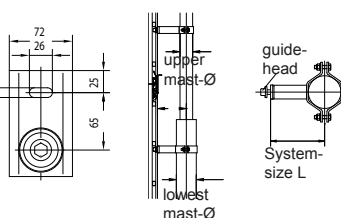
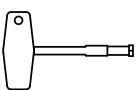


Fig. 14



## 3.2 Elements

### 3.2.1 Ladder parts

a) Bottom section:

- Lengths: 2,800 mm, 2,520 mm, 2,240 mm, 1,960 mm or 1,680 mm
- Bottom fitted with push-in joint and slider
- Top fitted with self-locking safety catch

Material: Aluminium

- Weight:
- Length 1,680 mm: 6 kg (Fig. 11)
  - Length 1,960 mm: 7 kg (Fig. 10)
  - Length 2,240 mm: 8 kg (Fig. 9)
  - Length 2,520 mm: 9 kg (Fig. 8)
  - Length 2,800 mm: 10 kg (Fig. 7)

b) Middle section:

- Lengths: 1,680 mm or 1,960 mm
- Bottom fitted with push-in joint and slider which the safety catch locks into
- Top fitted with self-locking safety catch

Material: Aluminium

- Weight:
- Length 1,680 mm: 6 kg (Fig. 11)
  - Length 1,960 mm: 7 kg (Fig. 10)

c) Top section:

- Length: 1,680 mm (Fig. 11)
- Bottom fitted with push-in joint and slider which the safety catch locks into
- Top fitted with fixed catch

Material: Aluminium

Weight: 6 kg

### 3.2.2 Support brackets

a) Support ring with guide for bolting on (Fig. 12)

The support ring consists of a plate with round spacer ring made from hot-galvanised steel with a stainless steel guide head

Material: Steel, hot-galvanised and INOX 1.4571

b) Mounting clamps with guide (Fig. 13)

A support bracket consists of a welded part (steel pipe with mounting halves) and a stainless steel guide head as well as the other mounting halves.

Material: Steel, hot-galvanised and INOX 1.4571

### 3.2.3 Socket wrench

The socket wrench is used to tighten the guide heads (Fig. 14).

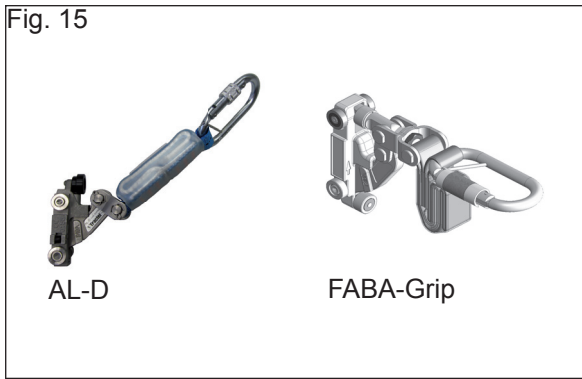
Material: steel, hot-galvanized

## 3.3 Technical data and weight

The specifications and the weights can be found in the individual part descriptions



Fig. 15



### 3.4 AL-D or Grip slider

The AL-D or Grip (Fig. 15) slider must be installed at the bottom of the first assembled ladder. They are used as a personnel safety device. Each slider must be used for securing a single person only to the climbing protection system via a safety harness. A maximum, of two people can be secured to the system at the same time. The slider accompanies the user over the complete path by running along automatically.

## 4. Additional accessories

### 4.1 Personal protective equipment against a fall from a height

Anyone who is working on the climbing protection system must have their PPE permanently connected. The PPE is not part of the climbing protection system package. However, it must comply with all the regulations and standards. The PPE, which is supplied to ensure safety on the climbing protection system, must allow the user to move freely and without any restrictions. You are only allowed to leave the climbing protection system when it is in a safe place where you cannot fall off.

## 5. Checklist

A checklist must be completed, in which the following details must be checked:

- Inspections, maintenance and troubleshooting

The checklist can be found in the Appendix to this installation and operating manual and it must be kept safely by the system operator.

## 6. Installation and maintenance

### 6.1 Important information for the installation of the climbing protection system

- That the building has an adequate load bearing capability must be certified and guaranteed.
- The longer ladder sections must be mounted at the bottom.
- Ladder sections that will be mounted at the top must have a fixed catch fitted at the top.
- There must be at least two support brackets already installed in the building for each section of the ladder.
- The support brackets must be installed so that they are aligned vertically, i.e. they must never be offset to the left or the right.
- The support bracket spacing must be chosen so that it forms a 280 mm pattern.
- You must ensure that there is adequate inherent safety present during the installing and dismantling processes (see 6.2).

### 6.2 Tools and appliances required

Installation equipment	Socket wrench SW 14 with T-handle Drill bit FZUB 14 x 60 Installation device FZE 14
Measuring tools	Level, tape measure or folding meter
Technician's PPE	<ul style="list-style-type: none"> <li>– slider AL-D or Grip</li> <li>– Approved harness</li> <li>– Safety rope with shock absorber</li> <li>– lanyard</li> <li>– Helmet</li> <li>– Industrial safety gloves</li> <li>– Safety shoes</li> </ul>



### 6.3 Inspection of the scope of delivery

Use the delivery note to check that the package is complete before starting the assembly.

The parts must not be bent or damaged in any way. Before starting the assembly you must check operation and functionality by ensuring that the mechanical parts and the manually operated attachment parts are in perfect working order and function correctly.

Any damaged parts that are found must not be repaired or used. They must be replaced by original parts.

Fig. 16

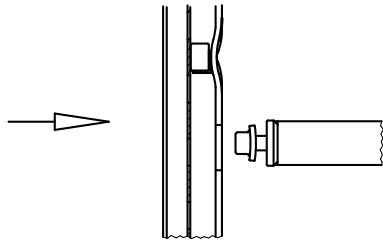


Fig. 17

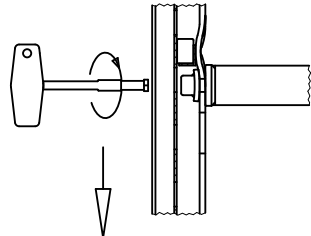
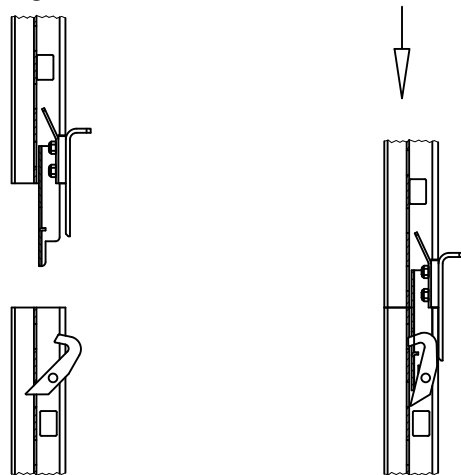


Fig. 18



## 6.4 Installing the climbing protection system

### 6.4.1 Fitting the support brackets

- a) Support ring with bolting on / anchoring guide  
The support ring must be secured to the building using anchors approved for use in the construction industry. The concrete strength rating must be at least B25 in the case of concrete walls.
- b) Mounting clamps with guides  
The mounting clamps must be fitted to the mast and tightened in place using the two bolts.
- c) The support bracket spacing must concur with the details shown in the drawings (Figs. 7 – 11).

### 6.4.2 Fitting the bottom section of the ladder

1. The bottom ladder section must be positioned at a slight angle to the lower support brackets so that the cut-outs in the back of the ladder and the support bracket guide heads are at the same level.
2. Slide the ladder section over the guide heads and then lower it onto them (Fig. 16).
3. The ladder rungs will be supported by the guide heads.
4. Use the socket wrench to tighten up the guide heads so that they are hand tight in order to eliminate any torsion (Fig. 17).

### 6.4.3 Fitting the middle section of the ladder

1. Insert the slider in the ladder element at the bottom.
2. Fasten the slider AL-D or Grip on the front attachment loop "A" of the personal safety harness.
3. Climb onto the ladder and then use an additional lanyard to secure yourself to the round mast.
4. The middle ladder section must be moved so that it is above the next support bracket's guide heads and then lowered onto them (Fig. 16); the push-in joint must slide into the lower section of the ladder at the same time.
5. The push-in joint fitted at the bottom of the middle ladder section will automatically activate the safety catch on the ladder section beneath it (Fig. 18). The slider will lock the safety catch of the bottom ladder section in place and this prevents the upper section of the ladder from being removed inadvertently. This moves the slider catch upwards so that it is open and you can then climb onto the middle ladder section.
6. Release the lanyard and climb on to the upper securing device and then use the socket wrench to hand tighten the guide head (Fig. 17).

Other middle ladder sections are installed as described in Section 6.4.3.

### 6.4.4 Fitting the top section of the ladder

The top ladder section is installed in the same way as the middle ladder section (Section 6.4.3). You must ensure that a fixed catch has been fitted at the top of the ladder section. The fixed catch prevents you from inadvertently detaching from the ladder at the top.

## 6.5 Inspecting prior to initial use



*The inspection results must be written down and kept in a safe place.*

A technical expert must undertake and document the inspection in accordance with the checklist.

## 7. Operation

For ascending the climbing protection system, the slider AL-D or Grip is inserted into the bottom ladder element from below. The properly fitted PPE against falls from a height must have been connected to the slider beforehand. The climbing protection system can now be climbed without you falling off. Other safety and operating conditions can be found in the operating manual provided with the slider.

## 8. Rescue operations

This system must have a rescue plan. This plan has to include all possible emergencies than may occur while working with the climbing protection system. The casualty must be rescued within 15 minutes. Otherwise the casualty's life will be endangered.

## 9. Application, misuse and handling

### 9.1 Application in accordance with regulations

The climbing protection system uses the most up-to-date technology and complies with all of the safety regulations applicable at the time it was launched on the market and these are covered by the authorised use regulations. The design cannot prevent neither predictable misuse nor the residual dangers without restricting the authorised functionality.

Information about the inherent dangers is given by special warnings mounted directly on the climbing protection system and/or in the technical documentation.

The climbing protection system must always be used in compliance with the details given in the technical documentation. Any non-authorised utilisation or activities undertaken using the climbing protection system that are not described in this manual are forbidden and constitutes misuse outside the legal liability limits applicable to the Tractel Group.

At least two people must be present on site when the system is being installed, used or dismantled.

### 9.2 Forseeable misuse or handling

Your safety is always guaranteed if the climbing protection system is used in accordance with the details stipulated in the technical documentation. Incorrect use will endanger your safety and must be avoided at all times:

- Never allow more than 2 people to be secured by the climbing protection system at the same time.
- Never use another slider or similar element in the climbing protection system other than the original FABA™ slider AL-D or Grip.
- Never test the climbing protection system by deliberately inducing a fall.
- Never use force to try and pull the slider over an obstruction in the running rail.
- Never use ladder sections that were last inspected more than 12 months previously (date of the last inspection).
- The FABA™ climbing protection system is only to be used for assembling ladders from the bottom to the top.

Fig. 19

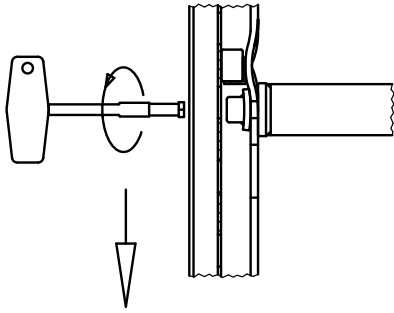


Fig. 20

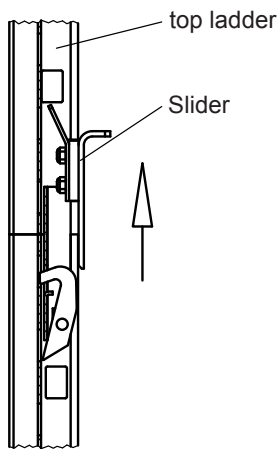
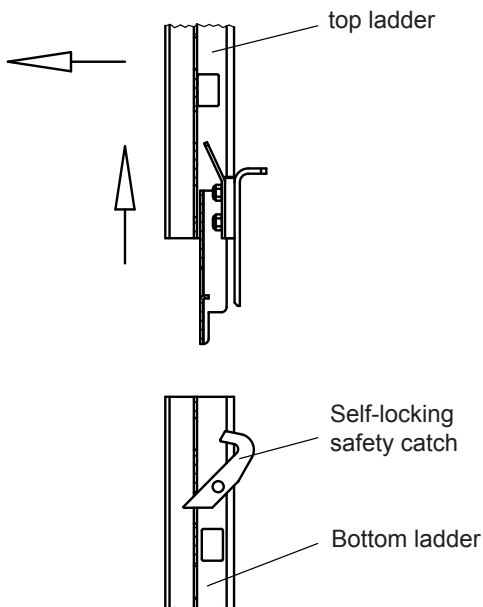


Fig. 21



## 10. Dismantling the climbing protection system

The climbing protection system must be dismantled from the top downwards.

1. Climb up to the top section of the ladder. Use the socket wrench to undo the guide head for the top ladder section support bracket (Fig. 19).
2. Climb downwards until the slider sits beneath the safety catch that lies underneath the ladder section.
3. Push the top ladder section slider upwards. This will release the top ladder's push-in joint. The safety catch will simultaneously lock the ladder section underneath against inadvertently detaching from the slider.
4. Remove the the section of the ladder from the guide heads (Figs. 20 – 21).
5. Dismantle the other ladder sections as described in Sections 1 – 4.
6. When you reach the ground beneath the lowest section of the ladder and a safe position, you can release your safety harness from the slider and then remove the device from the rail.
7. Remove the bottom section of the ladder from the building afterwards.



A lanyard must remain attached to the mast during the entire dismantling process.

## **11. Transport and storage of the climbing protection system**

The climbing protection system serviceability must always be checked after it has been used and it must also be inspected for any signs of damage. The climbing protection system must be cleaned if it was dirtied during use.

The ladder section must be dry when stored and kept in temperatures ranging from -10°C to +40°C. Transport and storage must be undertaken so that parts cannot be damaged.

The support brackets remain installed on the building.

## **12. Maintenance and troubleshooting**

Use the checklist to check out the climbing protection system at least once every 12 months.

These checks must always be run before the system is reused if a fault occurred during use or if somebody fell off.

Damaged parts must be replaced by original spare parts.

## **13. Ordering parts**

Use the relevant climbing protection system part catalogue for ordering the parts.

Place your order with your authorised dealer or a member of the worldwide Tractel Group (see last page).

AL2 MOBIL system	Installation site:	Installation date



**A technical expert must undertake the inspection of the climbing protection system  
This documentation must be used for the commissioning and once a year afterwards.**

The checklist must be completed in full during the inspection and signed afterwards

	Imple- men- tation	1. year	2. year	3. year	4. year	5. year	6. year
Inspection date							
Expert's name							

## Visual inspection

### All ladder parts

Rail, side-rail, rungs are not bent							
Inner rail profile not dirty?							
Fixed catch fitted at top?							
All of the top safety catches fitted?							
All of the push-in joints and bottom sliders fitted?							

### Support brackets

Support bracket spacing is OK?							
All support brackets fitted?							
All guide heads fitted?							

## Functional test

Install the climbing protection system in accordance with the installation and operating manual and then check the following:

### All ladder parts

Safety catch and slider functions: safety catch locks in?							
Fixed catch fitted at top?							

### Support brackets

Guide heads turn freely?							
Cannot be removed?							





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