

# MOUNTING AND OPERATING INSTRUCTIONS

## **ELECTRIC TRANSPORTER BLACK LINE**

2299.60.12100.00 / 2299.60.14100.00 / 2299.60.18100.00



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These instructions are valid for the product

2299.60.12100.00 / 2299.60.14100.00 / 2299.60.18100.00

Electric transporter BLACK LINE

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# 1 INTRODUCTION

## 1.1 Definition

The product Electric transporter BLACK LINE is a partly completed machine as defined by European Directive 2006/42/EC, Article 1g and 2g.

## 1.2 Intended use

The product is intended to be installed in systems, machines or other incomplete machines or equipment or combined with them.

FIBRO GMBH has no influence on the intended use of the product.

It can only be used within the defined limits.

It must not be put into operation until the required safety of the entire system of which the product is a part is ensured, and compliance with the legislation and guidelines of the relevant country in which the product is being operated has been established and confirmed.

The company operating the product is responsible for protective systems or safety devices covering the operation of the whole system.

Proper use also includes:

- Reading these instructions
- Complying with the safety information they contain
- Complying with the other applicable documents
- Observing the maintenance requirements

## 1.3 Limits of use

Operating conditions	The product is designed for industrial use and is not suitable for private use.
Alignment	The product may only be moved, mounted, stored and operated horizontally.  The trough slope in the transport direction must not exceed 8°. A rising trough can reduce the conveying speed by up to 50%.
Service life	The service life of the product is 15000 operating hours.
Temperature range Operation	Permissible temperature range for operation: -20 °C...+100 °C.
ATEX	The product is not suitable for operation in an environments with explosive atmospheres, gases or radiation.

### ***Intended use***

Intended use of the product:

- Industrial process transport of solid materials

## 1.4 Foreseeable misuse

Every type of use of this product beyond the proper use shall be considered misuse and is prohibited.

The product must not be stressed beyond its load limits.

The following instances, among others, are considered misuse:

- Operation outside the permissible technical data (see chapter 3.3 "Technical data" on page 14).
- Operation in potentially explosive atmospheres.
- Use with vertical alignment.
- Use under water.

## 1.5 Warranty

The guarantee is regulated contractually (see Terms and Conditions or contract)

## 1.6 Manual

These instructions describe how to use the product and contain important information on proper use.

A copy of these instructions must always be kept by the product and must be read, understood and followed by everyone who works on or with the product.

The safety information in the various different chapters must be observed.

These instructions and other applicable documents are not updated automatically.

We reserve the right to make changes to the data and images in these instructions in the course of further technical development.

FIBRO GMBH can supply the current issue.



These instructions must be kept throughout the entire operating life of the product. One copy of these instructions must be available to the user directly and be read carefully before using the product.

Incomplete instructions must be supplemented. Illegible pages must be replaced.

### 1.6.1 Target group

Target groups of this manual are

- Specialists
- Trained personnel
- Instructed personnel

Tasks and the required qualification of the personnel are defined in chapter 2.1.2 "Qualifications of personnel" on page 9.

## 1.6.2 Legend

Characters, symbols and abbreviations are used in these instructions in order to clearly represent the content. They have the following meaning:

- 1) Marks the first level of an itemisation
  - a) Marks the second level of an itemisation
- Marks the first level of a list
  - Marks the second level of a list
- ✓ Contains information on requirements which have to be fulfilled before executing handling instructions.
- ✘ Contains information on tools, operating materials or tools required for the execution of repair work.



The book symbol before a text is a reference to a related document or another chapter of these instructions. The content of this document or the chapter must be taken into account.



The information symbol before a text marks a supplementary note or an important application tip.

## 1.6.3 Figures

The figures in these instructions are examples. Deviations between a figure and the actual conditions on the machine are possible.

The drawings of FIBRO GMBH and the information on third-party products are decisive.

### 1.6.4 Safety instructions

These instructions contain safety notices intended to draw attention to possible dangers that should be observed to prevent injury.

The pertinent text describes

- the type of danger
- the source of danger
- the options for preventing injuries
- the consequences in case of non-observance of the warning notices

The safety instructions are emphasised by a colour signal bar with warning triangle and signal word.

The signal bars have the following meaning:



**A safety notice on a red signal bar with the signal word DANGER designates a hazard with a high risk level which, if not avoided, will result in death or severe injury.**



**A safety notice on an orange signal bar with the signal word WARNING designates a hazard with a medium risk level which, if not avoided, might result in death or severe injury.**



**A safety notice on a yellow signal bar with the signal word CAUTION designates a hazard with a low risk level which, if not avoided, could result in minor or moderate injury.**

### 1.6.5 General instructions

In addition to the safety notices, these instructions contain information that must be observed to prevent property damage.

The pertinent text describes

- the possible reason for property damage
- the possibilities for preventing property damage

Notices of possible property damage are emphasised by a blue signal bar and the signal word *ATTENTION*.



**Notices for the prevention of property damage are not related to possible injuries.**



Furthermore, these instructions contain general information on use.

General information on use and tips for certain applications are emphasised with a blue information symbol.



## 2 SAFETY

### 2.1 Safety information

#### 2.1.1 Due diligence by the party first placing the product on the market

This product was designed and constructed by FIBRO GMBH according to state-of-the-art technology. Requirements for maintaining of safety and health protection have been fulfilled.

This safety can only be achieved under normal work conditions when all measures necessary for that have been met. The party first placing on the market must plan these measures and check their implementation.

The introducing party must ensure that

- the product is brought to market in a fault-free, functioning condition and that all necessary mechanical and electrical safety equipment is present.

#### 2.1.2 Qualifications of personnel

Special qualifications are required for personnel performing specific tasks.

Among other things, knowledge of first aid measures and local rescue facilities is required.

Electrical equipment	Qualified personnel from the electrical trade (as defined for specialists in IEC 364)
Transport	Trained personnel
Assembly work	Trained personnel
Inspections	Instructed personnel
Cleaning	Instructed personnel
Maintenance	Trained personnel
Repair	Qualified expert
Troubleshooting	Trained personnel
Decommissioning	Qualified expert
Disassembly	Qualified expert

*Tab. 2-1 Qualifications of personnel*

Qualified personnel are persons who, due to their education, experience, training, and knowledge of relevant standards, provision, accident prevention regulations, and operating conditions, are authorised to perform the required tasks whilst recognising and preventing possible dangers.

Trained personnel are persons who have been trained by the manufacturer or the operating company for a specific set of tasks or activities. Trained personnel are authorised to perform the tasks or activities which correspond to the level of knowledge achieved from the training. Trained personnel have been informed about possible dangers and can recognise and avoid/prevent these.

Instructed personnel are persons who have been authorised by the manufacturer or the operating company to perform a specific set of tasks or activities independently.

### 2.1.3 Personnel requirements

The following safety information must be observed when working on or with the product described in these instructions. Disregarding the safety information may result in death or serious injuries.

The personnel must have the required training, experience and in order to be able to work on the product correctly. Improperly carried out work on the product can be dangerous and result in death or serious injuries.

No work may be carried out unless the information on it in these instructions and other applicable documents has been read and understood.

If a tool, activity, working method or practice is not expressly suggested by FIBRO GMBH, users must ensure it is safe both for themselves and others.

It must also be ensured that the product is not damaged or made unsafe by the intended work.

Everyone who works on or with the product must:

- Have read and understood these instructions.
- Comply with the safety information in these instructions.
- Heed the danger signs on the product.
- Heed the warnings in these instructions about possible residual risks.
- Ensure that there are no unauthorised persons near the product.
- Follow not only these instructions but also the instructions issued by the operating company on safety at work and accident prevention.
- Inform the operating company or a supervisor if a malfunction occurs.
- Immediately notify the manager responsible if there are any changes to the product that may diminish safety.

## 2.2 Residual risks

Dangers that cannot be completely eliminated through design and/or control-technical measures present a residual risk.

A safety notice in the relevant chapters and before certain handling steps in these instructions draw attention to residual risks.

For the colour coding and structure of the individual safety notices, see chapter 1.6.4 "Safety instructions" on page 8.

In addition to the information in the chapters, the safety notices to be observed for a safe handling of the machine are summarised as follows.



### **WARNING!**

#### **Ignition of an explosive atmosphere**

Ignition hazards arising from a product may ignite an explosive atmosphere and cause an explosion.

- ▶ The product is not suitable for use in explosion hazard areas.
- ▶ Use in explosion hazard areas is prohibited.
- ▶ Serious through to fatal injuries due to the consequences of an explosion.



### **WARNING!**

#### **Crushing of fingers and hands**

Moving parts pose a risk of crushing.

- ▶ Do not reach between moving or moving and stationary parts.
- ▶ Wear protective gloves.
- ▶ Reaching between moving or moving and stationary parts can result in crushing fingers or hands.



### **WARNING!**

#### **It is forbidden for non-qualified staff to perform any activities on the machine.**

Activities on or with the product sometimes require that the staff has certain qualifications (see chapter 2.1.2 "Qualifications of personnel" on page 9).

- ▶ These activities can only be performed by staff which is qualified for these activities and is authorised to do so by the operator.
- ▶ If unqualified or non-authorised staff works on the system, injuries can be caused by improper handling.

### 3 PRODUCT DESCRIPTION

#### 3.1 System structure and equipment

**Available models:**

- Electric transporter BLACK LINE MINI 2299.60.18100.00
- Electric transporter BLACK LINE COMPACT 2299.60.14100.00
- Electric transporter BLACK LINE MAX 2299.60.12100.00

**System**

The product consists of:

- Electric transporter
- Mounting elements for electric transporter (mounting material optional)
- Mounting elements for trough (mounting material optional)
- Mounting elements for profile bar (mounting material optional)

For optional mounting material, see chapter 5.3 "Mounting material" on page 22.

**Electric transporter**

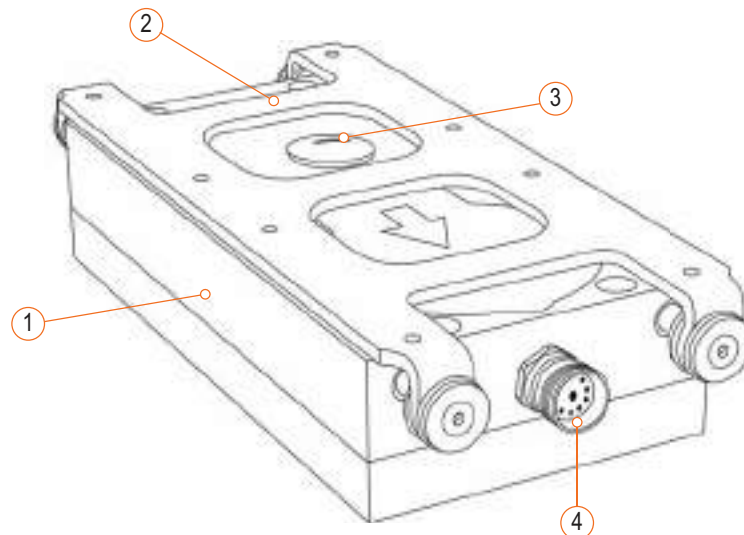


Fig. 3-1 Components of the electric transporter

- 1 Housing
- 2 Carriage
- 3 Oil cap
- 4 Connection socket

### ***Equipment***

The product is driven by a sensor-controlled brushless BLDC engine (**B**rush**L**ess **D**irect **C**urrent) with high torque.

The integrated ball-bearing mechanism operates in an oil bath and is designed for high loads. Malfunctions are detected directly by an integrated motion sensor.

### ***Control unit for operation***

A control unit adapted to the respective type must be used to control the electric transporter.

Electric transporter	Control unit
2299.60.18100.00 BLACK LINE MINI	2299.60.18100.12 BLACK LINE
2299.60.14100.00 BLACK LINE COMPACT	2299.60.14100.12 BLACK LINE
2299.60.12100.00 BLACK LINE MAX	2299.60.12100.12 BLACK LINE



With FIBRO GMBH, this control unit including the connection cable for the connection socket and the signal cable for data exchange with external devices is available.

## **3.2 Function**

A trough or combination of troughs mounted on the product first moves slowly forward, conveying the material in the trough.

The forward movement is followed by a rapid backward movement, during which the material is not moved.

This sequence gently and carefully advances the material.

### 3.3 Technical data

**Electric transporter BLACK LINE MINI**

Article number 2299.60.18100.00

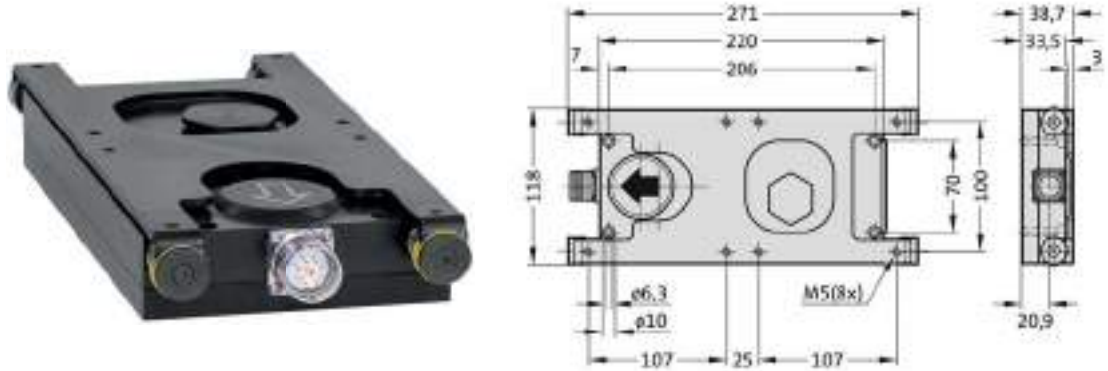


Fig. 3-2 Dimensions of electric transporter BLACK LINE MINI

Description	Unit	Value
Maximum transport weight (without trough)	[kg]	10
Maximum trough weight	[kg]	4
Stroke length	[mm]	20
Conveying speed (mechanically adjustable)	[m/min]	4...8
Warning system (motion sensor)	--	Integrated
Start / Stop	--	Can be controlled via PLC
Engine and overload protection	--	Integrated
Noise emission	[dB (A)]	60
Energy consumption	[kW]	0.05
Electrical connection, control unit	--	M23
Protection class	--	IP62
Dimensions (length x width x height)	[mm]	271 x 118 x 38
Weight	[kg]	2.65

Tab. 3-1 Technical data of electric transporter BLACK LINE MINI

**Electric transporter BLACK LINE COMPACT**  
**Article number 2299.60.14100.00**

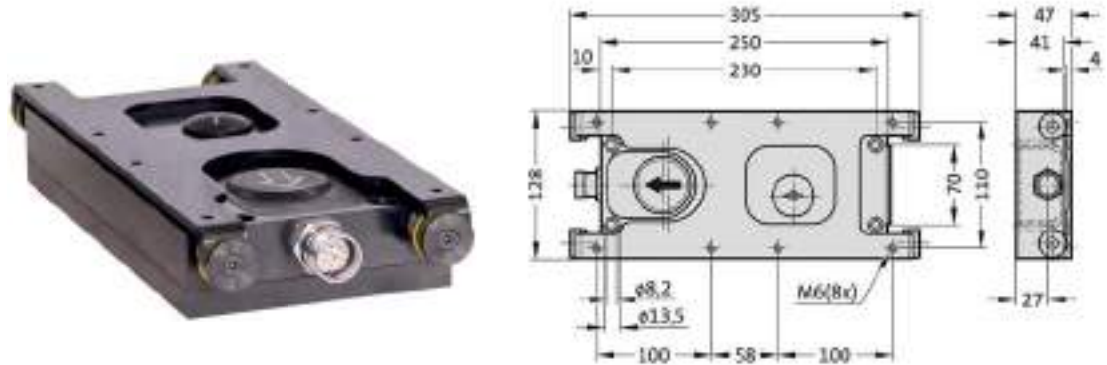


Fig. 3-3 Dimensions of electric transporter BLACK LINE COMPACT

Description	Unit	Value
Maximum transport weight (without trough)	[kg]	20
Maximum trough weight	[kg]	8
Stroke length	[mm]	20
Conveying speed (mechanically adjustable)	[m/min]	4...8
Warning system (motion sensor)	--	Integrated
Start / Stop	--	Can be controlled via PLC
Engine and overload protection	--	Integrated
Noise emission	[dB (A)]	60
Energy consumption	[kW]	0.07
Electric connection, control unit	--	M23
Protection class	--	IP62
Dimensions (length x width x height)	[mm]	305 x 128 x 47
Weight	[kg]	3.7

Tab. 3-2 Technical data of electric transporter BLACK LINE COMPACT

**Electric transporter BLACK LINE MAX**  
**Article number 2299.60.12100.00**

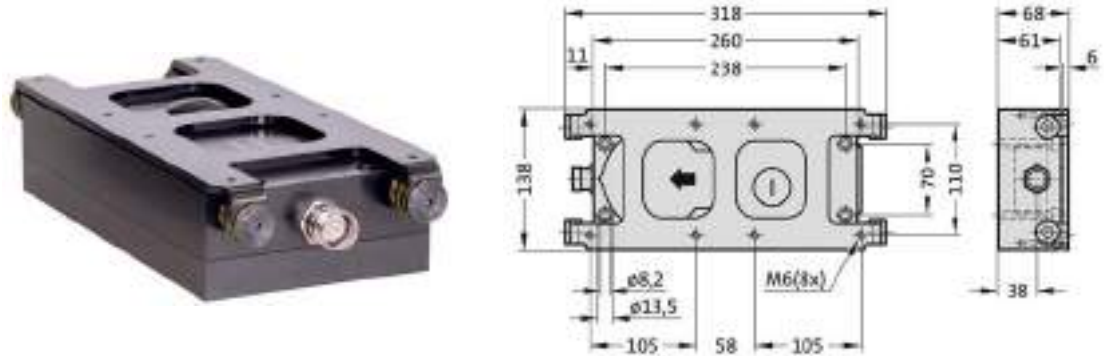


Fig. 3-4 Dimensions of electric transporter BLACK LINE MAX

Description	Unit	Value
Maximum transport weight (without trough)	[kg]	40
Maximum trough weight	[kg]	16
Stroke length	[mm]	20
Conveying speed (mechanically adjustable)	[m/min]	4...8
Warning system (motion sensor)	--	Integrated
Start / Stop	--	Can be controlled via PLC
Engine and overload protection	--	Integrated
Noise emission	[dB (A)]	60
Energy consumption	[kW]	0.15
Electric connection, control unit	--	M23
Protection class	--	IP62
Dimensions (length x width x height)	[mm]	318 x 138 x 68
Weight	[kg]	6.3

Tab. 3-3 Technical data of electric transporter BLACK LINE MAX



### 3.3.1 Type plate



A type plate is attached to the BLACK LINE electric transporter. The information on the name-plate must be given for all questions and orders.



Fig. 3-5 Type plate

### 3.3.2 Tightening torques



If not otherwise specified, the tightening torque for the screws must be selected depending on the tightening process and the grade of the screws.

## **4 TRANSPORT**

### **4.1 Transport damage**

On delivery, the consignment must be checked immediately to ensure that it is complete and has not been damaged in transit. If damage is found on the packaging that indicates possible damage to the contents, the contents must also be inspected for damage.

If damage is found, the transport company must be informed immediately and the transport company must verify the damage.

### **4.2 Interim storage**

- Only store when dry, in its original packaging and in enclosed rooms
- Storage temperature -20 °C...+60 °C
- Maximum humidity 60% (at 25 °C).
- No aggressive substances may be stored in the storage room (acids, bases, solvents etc.).

### **4.3 Return shipping**

For the returns the parts which have to be sent back to the manufacturer for repair have to be packaged securely.

### **4.4 Disposing of the packaging material**

The packaging materials must be either reused or properly disposed of in accordance with the country-specific regulations.

## 5 ASSEMBLY

### 5.1 Important safety instructions

The work described in this chapter may only be carried out after reading chapter 2 "Safety" on page 9 as well as the safety instructions and warnings for this chapter.

Chapter 2 "Safety" on page 9 provides general safety information for the entire product, details of the safety-related equipment of the product, the required qualifications of personnel, and warnings, which concern the entire product.

The safety instructions in this chapter supplement the general safety information and apply only to this chapter.

The warning notices in this chapter supplement the general safety information and apply only to this chapter.



#### **WARNING!**

##### **Incorrect installation**

Incorrect installation can lead to damage to the product and consequently to hazards for persons.

- ▶ Assembly work is only permitted to be carried out by qualified personnel.
- ▶ Work to connect the electrical energy is only permitted to be carried out by qualified electricians. The conformity of the mains frequency and voltage with the specifications in the technical data must be checked.
- ▶ All power supply units may only be connected when the power supply is switched off.
- ▶ The fixings must be of sufficient size to withstand the stresses during operation.
- ▶ Injuries due to incorrect assembly.

#### **NOTICE**

##### **Material damage due to moving parts**

The carriage of the electric transporter moves horizontally over a defined stroke. Collision with objects in the range of motion can lead to hazards and cause property damage.

- ▶ Ensure the installation space is sufficient before mounting.
- ▶ Mount all attachments so that they cannot collide with other parts.
- ▶ Injuries or property damage could result from a crash during operation.

## 5.2 Preparation for mounting

### ***Countersink of the mounting holes in the trough***



For standing or hanging mounting with clamping of a trough to a profile rail, drilling and countersinking mounting holes is not required.

*Required tool:*

- ✘ Mounting tool 2299.10.00.01.05 or 2299.10.00.01.06 (see chapter 5.3 "Mounting material" on page 22).
- ✘ Ring wrench 10 mm for countersunk screw M5
- ✘ Allen wrench 4 mm for countersunk screw M5
- ✘ Ring wrench 13 mm for countersunk screw M6
- ✘ Allen wrench 5 mm for countersunk screw M6



Eight threaded holes are located on the carriage of the electric transporter. The four outer threaded holes must be used for mounting a single trough.

1. Mark the position of the holes on the trough (for hole pattern of the relevant electric transporter, see chapter 3.3 "Technical data" on page 14).
2. Drill holes.
  - a) Hole diameter 6 mm for countersunk screw M5.
  - b) Hole diameter 8 mm for countersunk screw M6.
3. Insert countersunk screw into the hole from above.



4. Screw the counterpart onto the countersunk screw from below.
5. Hold the counterpart with the ring wrench.
6. Screw the countersunk screw into the counterpart using the Allen wrench and tighten.



7. Unscrew the countersunk screw and the counterpart.
8. Perform steps 3 to 7 in each hole.

*The countersinks are complete.*

### Setting conveying speed



When delivered, the conveyor speed of the electric transporter is set to the highest level (H).

*Required tool:*

- ✘ Screwdriver for electric transporter 2299.6x.12100.00 and 2299.6x.14100.00
- ✘ Socket wrench SW36 for electric transporter 2299.6x.18100.00
- ✘ Hexagon socket wrench SW6 for electric transporter 2299.6x.12100.00
- ✘ Socket wrench SW13 for electric transporter 2299.6x.14100.00 and 2299.6x.18100.00

1. With the aid of the screwdriver or the socket wrench SW36, unscrew the oil cap **(A)**.
2. Using the hexagon socket wrench SW6 or the socket wrench SW13, turn the screw **(B)** visible in the oil opening anticlockwise by a quarter turn.
3. Move the screw **(B)** sideways continuously between the following positions:  
**H** = Highest conveying speed / Lowest conveying force  
**L** = Lowest conveying speed / Highest conveying force

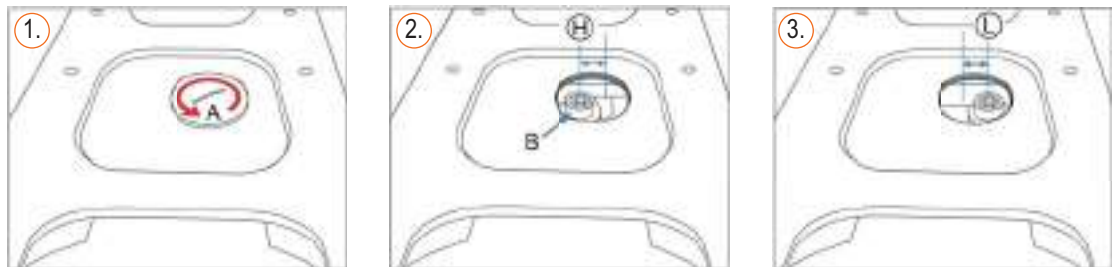


Fig. 5-1 Setting conveying speed

4. After setting the desired conveying speed, tighten the screw **(B)**.
5. Screw on oil cap **(A)** and tighten.

*The conveying speed is set.*

### 5.3 Mounting material

**Mounting tool**

**Article number 2299.69.10.00.01.05 / 2299.69.10.00.01.06**



Use mounting tool 2299.69.10.00.01.05 for electric transporter 2299.60.18100.00 or 2299.61.18100.00

For electric transporter 2299.60.14100.00 / 2299.60.12100.00 or 2299.61.14100.00 / 2299.61.12100.00, use mounting tool 2299.69.10.00.01.06.

The mounting tool is used to countersink the mounting holes in the trough.

The mounting tool consists of

- Countersunk screw
- Counterpart



Fig. 5-2 Mounting tool

**Standard trough mounting**

**Article number 2299.69.10.1x**



For electric transporter 2299.60.18100.00 or 2299.61.18100.00, use the *standard trough mounting kit* with article number 2299.69.10.1x.05.

For electric transporter 2299.60.14100.00 / 2299.60.12100.00 or 2299.61.14100.00 / 2299.61.12100.00, use the *standard trough mounting kit* with article number 2299.69.10.1x.06.

The *standard trough mounting kit* is used for mounting a trough directly on the electric transporter.

The mounting kit consists of

- Four countersunk screws
- Four self-adhesive washers



Fig. 5-3 Standard trough mounting kit

**Profile bar**

**Article number 2299.69.20.80.1000 length 1000 mm**

**Article number 2299.69.20.80.2000 length 2000 mm**



To be used only for electric transporters 2299.60.12100.00 or 2299.60.14100.00

For mounting a profile bar on an electric transporter, the countersunk screw article number 2299.69.20.02.06 (M6x20) or the retaining bar article number 2299.69.20.01.06 must be ordered separately.

Flexible mounting of several troughs is possible on one profile bar.



Fig. 5-4 Profile bar

**Retaining bar**

**Article number 2299.69.20.01.06**



To be used only for electric transporters 2299.60.12100.00 or 2299.60.14100.00

The *retaining bar* mounting kit is used to mount a profile bar on an electric transporter.

The mounting kit consists of

- Two retaining bars
- Four countersunk screws M6x20



Fig. 5-5 Retaining bar mounting kit

***Trough mounting with sliding blocks*****Article number 2299.69.10.20**

To be used only for electric transporter 2299.60.14100.00 or electric transporter 2299.60.12100.00

The *trough mounting with sliding blocks* mounting kit is used for mounting a trough on a profile bar.

The mounting kit consists of

- Four sliding blocks
- Four countersunk screws
- Four self-adhesive washers



*Fig. 5-6 Trough mounting with sliding blocks mounting kit*



***Standing trough mounting*****Article number 2299.69.10.30**

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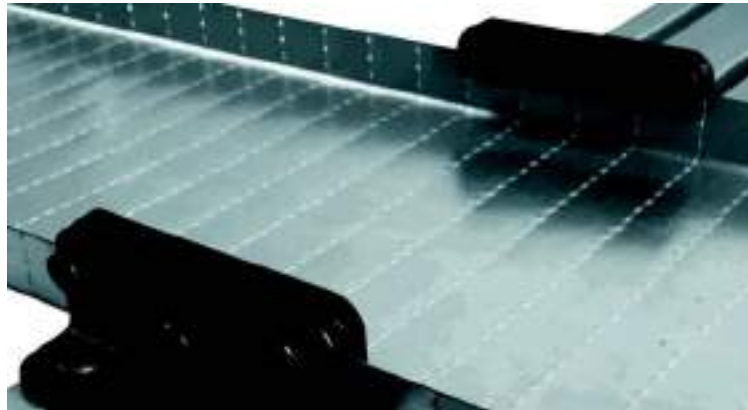
To be used only for electric transporters 2299.60.12100.00 or 2299.60.14100.00

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Due to its simple clamping principle, the *standing trough mounting* kit enables flexible mounting of a trough on the top of a profile bar (without additional machining).

The mounting kit consists of

- Two mounting brackets with counterpart, cylinder head screws and clamping screws
- Four cylinder head screws
- Four sliding blocks



*Fig. 5-7 Standing trough mounting kit*

***Hanging trough mounting*****Article number 2299.69.10.40**

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To be used only for electric transporters 2299.60.12100.00 or 2299.60.14100.00

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Due to its simple clamping principle, the *hanging trough mounting* kit enables flexible mounting of the trough on the bottom of a profile bar as well as mounting of the electric transporter at the same installation height (without additional machining).

The mounting kit consists of

- Two hanging trough mountings
- Four cylinder head screws
- Four sliding blocks



*Fig. 5-8 Hanging trough mounting kit*

**Angle profile for clamping rail****Article number 22299.69.30.00.01.1230**

To be used only for electric transporter 2299.60.12100.00

The *angle profile for clamping rail* mounting kit is welded onto the bottom of a trough and, due to its simple clamping principle, enables flexible mounting of a trough to a clamping rail (without additional machining).

The mounting kit consists of

- Angle profile

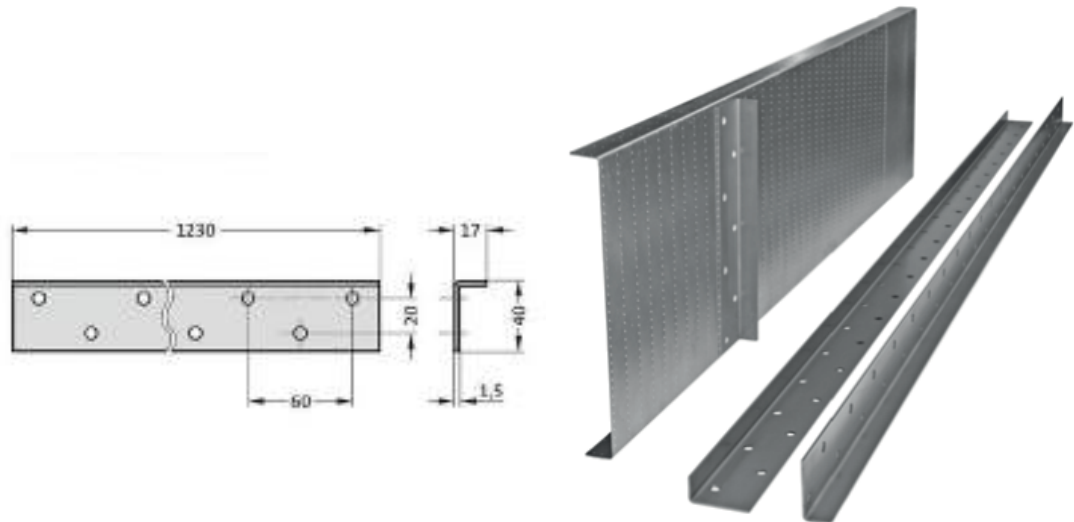


Fig. 5-9 Angle profile for clamping rail mounting kit

**Clamping rails**

**Article number 22299.69.30.1000 / 22299.69.30.1500 / 22299.69.30.2000**



To be used only for electric transporter 2299.60.12100.00

A clamping rail is used to quickly switch between several troughs.

The mechanical clamping lever clamps the troughs on the 2299.69.30.00.01.1230 angle profile in the groove without tools.



Fig. 5-10 Clamping rails

**Height-adjustable mounting bracket for transporter mounting**

**Article number 22299.69.40**



To be used only for electric transporter 2299.60.12100.00

The mounting bracket is attached to an external device with four screws. The DIN EN ISO 4762 4x M12x50 -12.9 cylinder head screws are included in the scope of delivery.

The mounting bracket has three mounting options defined on the top side (left, centre and right) for mounting an electric transporter.

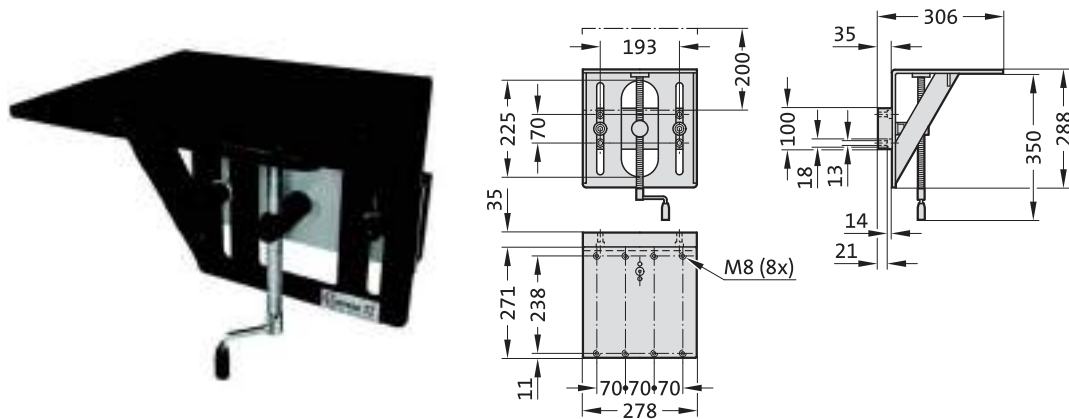


Fig. 5-11 Height-adjustable mounting bracket for transporter mounting

**Height-adjustable mounting bracket for profile bar mounting**

**Article number 22299.69.41**



To be used only for electric transporter 2299.60.12100.00

The mounting bracket is attached to an external device with four screws. The DIN EN ISO 4762 4x M12x50 -12.9 cylinder head screws are included in the scope of delivery.

The lateral booms prevent the profile bar from bending with large span widths.

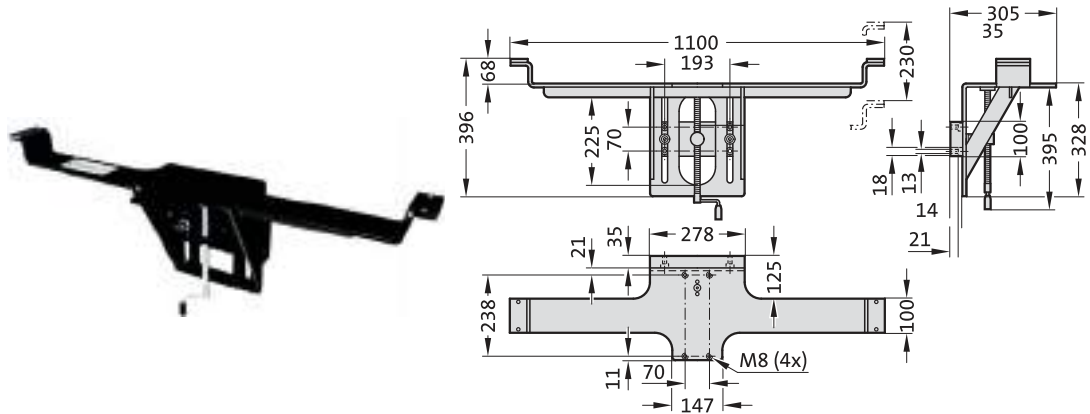


Fig. 5-12 Height-adjustable mounting bracket for profile bar mounting

## 5.4 Mounting electric transporter

### *Mounting requirements:*

- ✓ The mounting surface must be horizontal and flat.
- ✓ The electric transporter must not be mounted in a tilted or inclined position.

### *Required mounting material:*

- ✂ 4 fixing screws M6x40 for electric transporter 2299.6x.18100.00
- ✂ 4 fixing screws M8x50 for electric transporter 2299.6x.14100.00
- ✂ 4 fixing screws M8x70 for electric transporter 2299.6x.12100.00

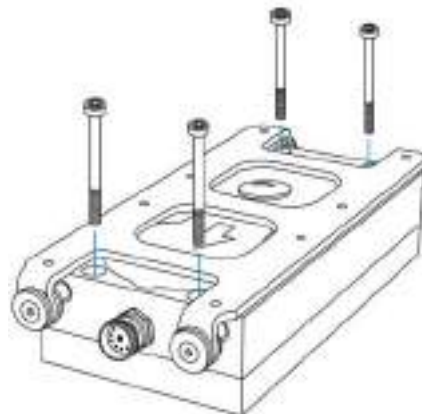



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FIBRO GMBH recommends that all screws be provided with medium-strength thread lock.

---

1. Make threaded holes in the mounting surface.  
(For hole pattern of the mounting holes, see chapter 3.3 "Technical data" on page 14).
2. Place electric transporter over the threaded holes in the mounting surface.
3. Insert fixing screws and tighten crosswise.
4. Remove yellow warning tape.
5. Unscrew plastic oil cap.
6. Screw in supplied metal oil cap.



*Fig. 5-13 Mounting electric transporter*

*The electric transporter is mounted.*




---

FIBRO GMBH recommends adjusting the conveying speed to the application before mounting attachments. If the conveying speed is changed later, the attachments would otherwise have to be dismantled again (for setting the conveying speed, see chapter 5.2 "Preparation for mounting" on page 20).

---

## 5.5 Mounting single trough

*Mounting requirements:*

- ✓ The electric transporter is properly mounted.
- ✓ The mounting holes in the trough are present and provided with a countersink (for holes and countersink, see chapter 5.2 "Preparation for mounting" on page 20).
- ✓ The trough slope in the transport direction must not exceed the value of 8°. A rising trough can reduce the conveying speed by up to 50%.

*Required mounting material:*

- ✳ *Standard trough mounting kit* (see chapter 5.3 "Mounting material" on page 22).
  - 4 countersunk screws M5x8 and 4 washers for electric transporter 2299.6x.18100.00
  - 4 countersunk screws M6x10 and 4 washers for electric transporter 2299.6x.14100.00
  - 4 countersunk screws M6x10 and 4 washers for electric transporter 2299.6x.12100.00



FIBRO GMBH recommends that all screws be provided with medium-strength thread lock .

1. Remove plastic film from the washers.
2. On the underside of the trough, place the washers on the holes. The washers are self-adhesive and adhere to the trough.
3. Position trough over the threaded holes of the electric transporter, insert countersunk screws and tighten crosswise.

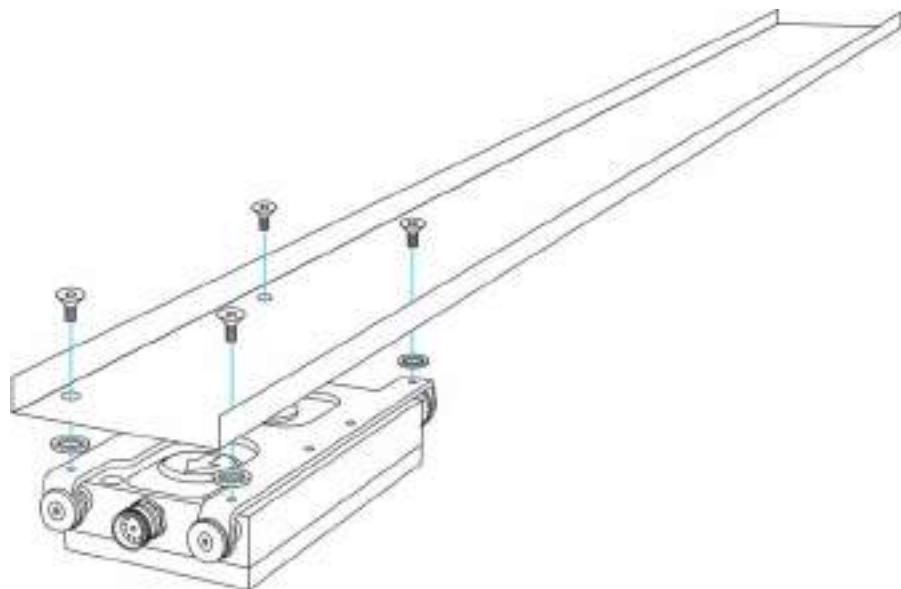


Fig. 5-14 Mounting single trough

*The trough is mounted.*



If troughs are long, FIBRO GMBH recommends installing suitable trough support (see chapter 5.8 "Trough support" on page 38).



## 5.6 Mounting profile bar

### ***Mounting profile bar with special screws***



Profile bars can be used for standing or hanging trough mounting.

If the profile bar for standing trough mounting is present, the countersink in the mounting holes for the special screws must be on the groove side.

If the profile bar for hanging trough mounting is present, the countersink in the mounting holes for the special screws must be on the groove side.

#### *Mounting requirements:*

- ✓ The electric transporter is properly mounted.
- ✓ The profile bar is available in the required length.
- ✓ The mounting holes in the profile bar with countersink are present (for the hole pattern of the fastening holes, see chapter 5.2 "Preparation for mounting" on page 20).

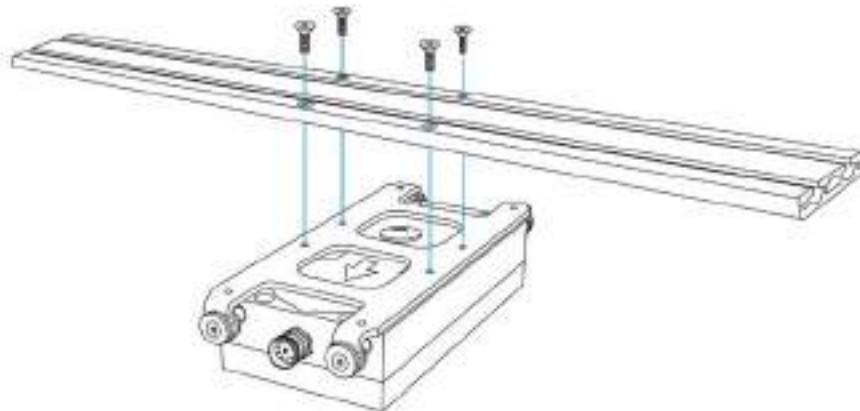
#### *Required mounting material:*

- ✘ Four special screws article number 2299.69.20.02.06 (M6x20)



FIBRO GMBH recommends that all screws be provided with medium-strength thread lock.

1. Position profile bar over the threaded holes of the electric transporter.
2. Insert special screws and tighten crosswise.



*Fig. 5-15 Mounting profile bars with special screws*

*The profile bar is mounted.*

### **Mounting profile bar with retaining bars**

#### *Mounting requirements:*

- ✓ The electric transporter is properly mounted.
- ✓ The profile bar is available in the required length.
- ✓ The mounting holes in the profile bar are present (for the hole pattern of the fastening holes, see chapter 3.3 "Technical data" on page 14).

#### *Required mounting material:*

- ✳ *Retaining bar* mounting kit article number 2299.69.20.01.06

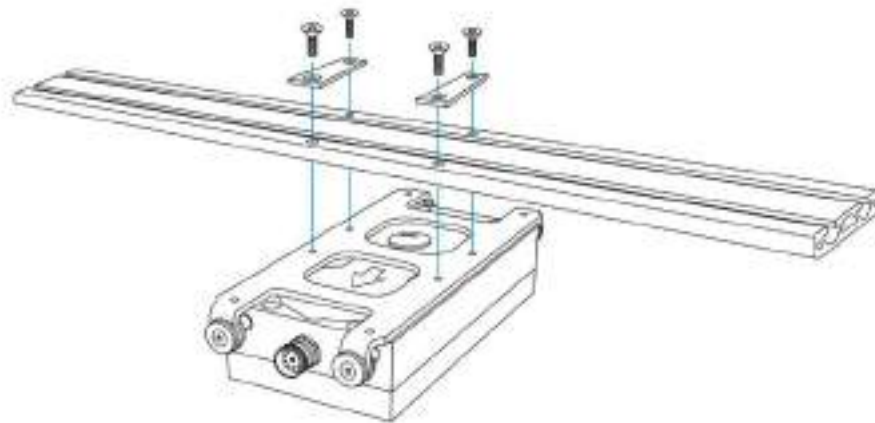



---

FIBRO GMBH recommends that all screws be provided with medium-strength thread lock.

---

1. Position profile bar over the threaded holes of the electric transporter.
2. Position the retaining bars over the mounting holes.
3. Insert countersunk screws and tighten crosswise.



*Fig. 5-16 Mounting profile bar with retaining bars*

*The profile bar is mounted.*

## 5.7 Mounting trough on profile bar

### *Trough mounting with sliding blocks*

#### *Mounting requirements:*

- ✓ The electric transporter is properly mounted.
- ✓ The profile bar is properly mounted.
- ✓ The mounting holes in the trough are present and provided with a countersink (for holes and countersink, see chapter 5.2 "Preparation for mounting" on page 20).
- ✓ The trough slope in the transport direction must not exceed the value of 8°. A rising trough can reduce the conveying speed by up to 50%.

#### *Required mounting material:*

- ✳ *Trough mounting with sliding blocks* mounting kit article number 2299.69.10.20  
(See chapter 5.3 "Mounting material" on page 22).



FIBRO GMBH recommends that all screws be provided with medium-strength thread lock.

1. On the underside of the trough, place the washers on the holes. The washers are self-adhesive and adhere to the trough.
2. Insert the sliding blocks into the grooves of the profile bar and pre-position them.
3. Position the trough over the sliding blocks.
4. Insert countersunk screws and tighten crosswise.

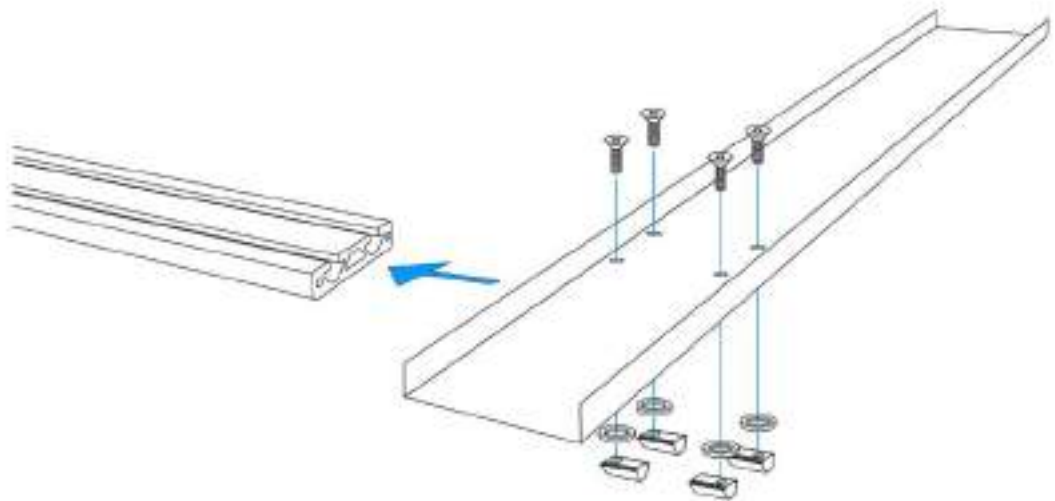


Fig. 5-17 Trough mounting with sliding blocks

*The trough is mounted.*

**Standing trough mounting on profile bar**

*Mounting requirements:*

- ✓ The electric transporter is properly mounted.
- ✓ The profile bar is properly mounted.

*Required mounting material:*

- ✘ *Standing trough mounting kit article number 2299.69.10.30*  
(See chapter 5.3 "Mounting material" on page 22).

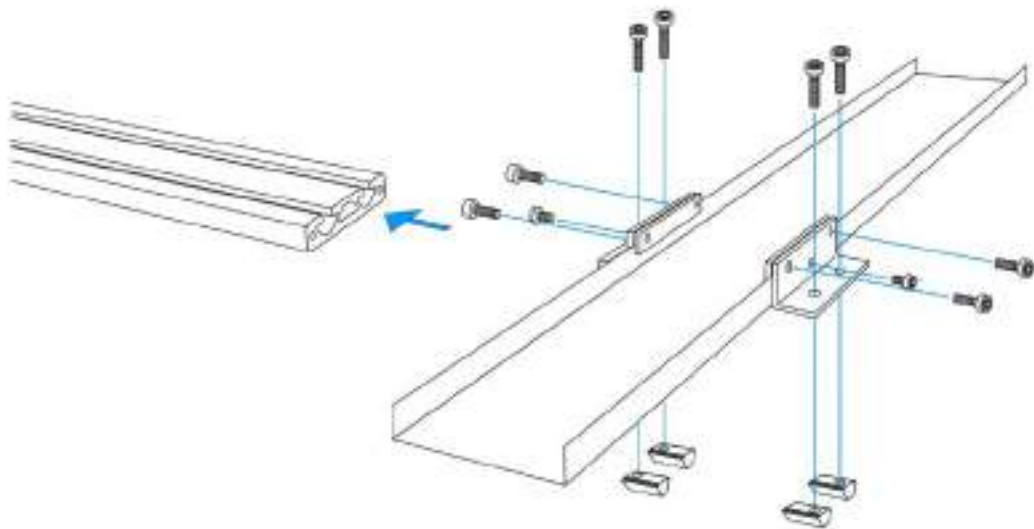



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FIBRO GMBH recommends that all screws be provided with medium-strength thread lock.

---

1. Insert the sliding blocks into the grooves of the profile bar and pre-position them.
2. Mount the mounting bracket on the trough.
3. Position the trough over the sliding blocks, insert the cylinder head screws and hand-tighten.
4. Position the trough on the profile bar and tighten the cylinder head screws crosswise.
5. Position the trough in the desired position in the retaining brackets and clamp with the clamping screws.



*Fig. 5-18 Standing trough mounting on profile bar*

*The trough is mounted.*

### ***Hanging trough mounting on profile bar***

*Mounting requirements:*

- ✓ The electric transporter is properly mounted.
- ✓ The profile bar is properly mounted.

*Required mounting material:*

- ✘ *Hanging trough mounting kit article number 2299.69.10.40*  
(See chapter 5.3 "Mounting material" on page 22).

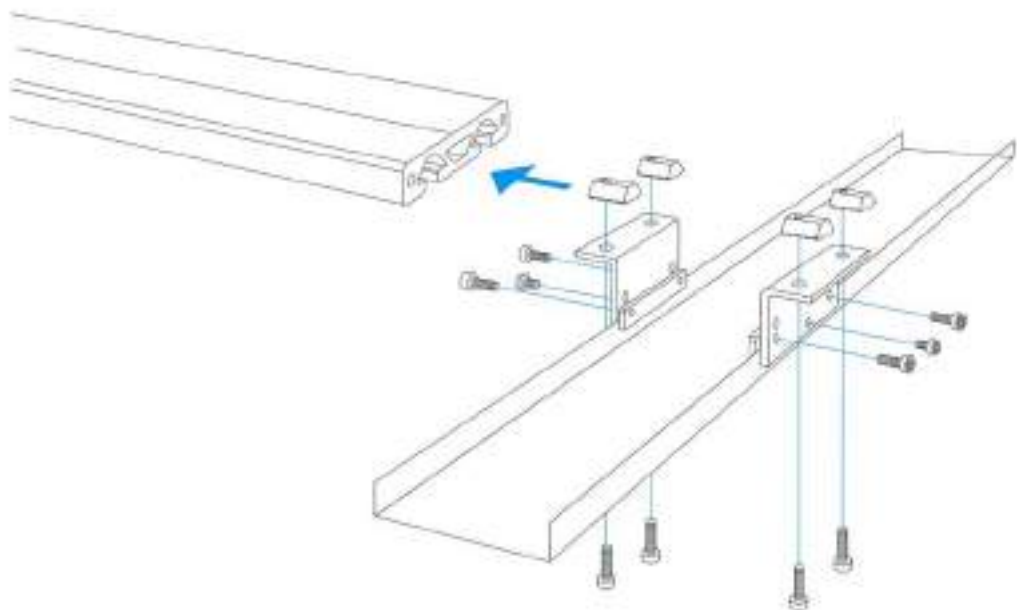


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FIBRO GMBH recommends that all screws be provided with medium-strength thread lock.

---

1. Insert the sliding blocks into the grooves of the profile bar and pre-position them.
2. Mount the mounting bracket on the trough.
3. Position the trough over the sliding blocks, insert the cylinder head screws and hand-tighten.
4. Position the trough on the profile bar and tighten the cylinder head screws crosswise.
5. Position the trough in the desired position in the retaining brackets and clamp with the clamping screws.



*Fig. 5-19 Hanging trough mounting on profile bar*

*The trough is mounted.*

### 5.8 Trough support

Depending on the length of a trough and the weight of the conveyed material, suitable trough support must be installed.

Installing trough support is at the discretion of the operator.

Example of trough supports:

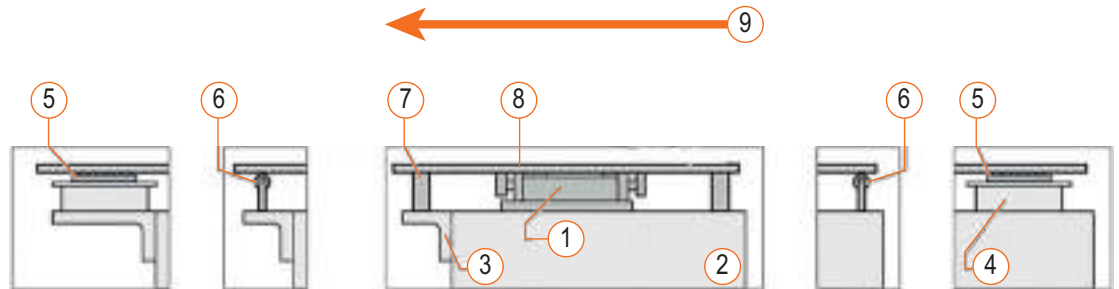


Fig. 5-20 Trough supports

- 1 Electric transporter
- 2 Mounting surface
- 3 Support bracket
- 4 Spacer
- 5 Ball guide
- 6 Support roller
- 7 Sliding guide
- 8 Trough
- 9 Transport device

## 6 COMMISSIONING

The product is designed for installation in a machine or system in accordance with its intended use. The product is commissioned together with the machine or system in which it has been installed. The distributor or operator is responsible for commissioning.

## **7 OPERATION**

### **7.1 Operation**

The product is designed for installation in a machine or system in accordance with its intended use. Operation is the responsibility of the distributor or the operator of the machine or system.



## 8 FAULTS

### 8.1 Important safety instructions



#### **WARNING!**

##### **Non-rectified fault**

Continued operation after a fault may result in injury and serious damage to the product.

- ▶ Any identified faults must be rectified immediately.
- ▶ Operating a damaged product is forbidden.
- ▶ Injuries could occur if this warning is not observed.

### 8.2 Customer services

If you should require the assistance of our customer service we would ask you to provide the following information:

- Serial number from type plate FIBRO GMBH (see chapter 3.3.1 "Type plate" on page 17)
- Description of the current fault
- Time and circumstances of fault
- Suspected cause

You can reach our customer service Monday to Friday from (times are UTC + 1) 7 am to 5 pm on **service number** +49 (0) 62 66 73 0

Outside of the stated time, there is an automatic message with further information.

#### **Customer service address:**

FIBRO GMBH

August-Läpple-Weg

DE 74855 Hassmersheim

[info@fibro.de](mailto:info@fibro.de)

On [www.fibro.de](http://www.fibro.de) you can find all FIBRO subsidiaries worldwide.

## 9 SERVICING

### 9.1 Important safety instructions

The work described in this chapter may only be carried out after reading chapter 2 "Safety" on page 9 as well as the safety instructions and warnings for this chapter.

Chapter 2 "Safety" on page 9 provides general safety information for the entire product, details of the safety-related equipment of the product, the required qualifications of personnel, and warnings, which concern the entire product.

The safety instructions in this chapter supplement the general safety information and apply only to this chapter.

The warning notices in this chapter supplement the general safety information and apply only to this chapter.



#### **WARNING!**

##### **Non-authorized staff**

Only the work described in these instructions with regards to the maintenance may be carried out by the staff of the operator.

- ▶ This staff has to be trained and authorized for the intended tasks.
- ▶ All further work and repairs may as a rule only be carried out by FIBRO staff.
- ▶ If using non-authorized staff, wrong action may cause injuries.



#### **WARNING!**

##### **Use of incorrect spare parts**

If incorrect spare parts or operational media are used, consequential damage can occur.

- ▶ Only use spare parts that are cited in our spare parts list or spare parts that we have approved.
- ▶ Individual components must not be used to replace one another. Subsequent modifications are not permitted.
- ▶ Only specified process materials must be used.
- ▶ Self-locking screws and nuts must be continually replaced.
- ▶ All specified screw tightening torques must be strictly observed.
- ▶ Failure to comply with these instructions means that the possibility of injury cannot be excluded.

### 9.2 Maintenance work

The following activities are considered maintenance work:

- Inspection
- Cleaning
- Maintenance
- Repair

## 9.3 Inspection

### *Inspection of the product*

Qualification: Specialists

Maintenance type: Monitoring

Interval: daily

1. Visual inspection for damage
2. Inspection of fastening elements

## 9.4 Cleaning

### *Cleaning the product*

Qualification: Instructed personnel

Maintenance type: Cleaning

Interval: if required

***Depending on the level of contamination, the operating firm can extend or reduce the specified cleaning interval. The time of a cleaning operation is dependent on***

- ✓ Daily operating time
  - ✓ Production conditions
  - ✓ Operational environment
1. Inspect product for contamination.
  2. Clean product if necessary.
    - a) Vacuum out dust.
    - b) Carefully wipe the product with a soft cloth.

### **NOTICE**

- ▶ Do not use compressed air for cleaning.
- ▶ Do not use harsh solvents or degreasers.

## 9.5 Maintenance

### *Oil change*

Qualification:	Trained personnel
Maintenance type:	Maintenance
Interval:	3 / 15,000 Years or h

### *Required tools and operating materials:*

- ✘ Tool: See chapter 5 "Assembly" on page 19.
- ✘ Lubricant: Mineral oil SAE 80W-90 API GL-5
- ✘ BLACK LINE MINI lubricant quantity: 0.15 litres
- ✘ BLACK LINE COMPACT lubricant quantity: 0.18 litres
- ✘ BLACK LINE MAX lubricant quantity: 0.30 litres

1. Remove attachments.
2. Loosen the union nut of the connection cable and pull off the cable.
3. Unscrew electric transporter and wipe carefully.
4. Unscrew oil cap.
5. Turn over electric transporter and let the oil run into a suitable container for at least 30 minutes.
6. Attach electric transporter.
7. Fill with new oil.
8. Screw on oil cap.
9. Plug in the connector of the connection cable and tighten the union nut.
10. Mount attachments.
11. Let electric transporter sit for 2 hours before putting it back into operation. There is a risk of leakage due to the oil pressure.

## 9.6 Repairs

No repairs should be made by the operating firm. If repairs are required, please inform customer services at FIBRO GMBH.

For contact data, see chapter 8.2 "Customer services" on page 41.

## 10 DISASSEMBLY AND DISPOSAL

### **NOTICE**

#### **Dispose of assemblies correctly!**

Incorrect disposal of assemblies can cause environmental damage and lead to prosecution.

- ▶ In any case, the assemblies must be disposed of in accordance with the relevant national and regional laws and guidelines.
  - ▶ Care must be taken to ensure the environmentally-friendly disposal of the process materials.
  - ▶ Local regulations for the correct recycling and disposal of waste must be adhered to.
-

## 11 SERVICE AND SPARE PARTS

### 11.1 Service

You can reach our customer service Monday to Friday from (times are UTC + 1) 7 am to 5 pm on **service number** +49 (0) 62 66 73 0

Outside of the stated time, there is an automatic message with further information.

Written enquiries to:

FIBRO GMBH  
August-Läpple-Weg  
DE 74855 Hassmersheim

info@fibro.de

On [www.fibro.de](http://www.fibro.de) you can find all FIBRO subsidiaries worldwide.

### 11.2 Spare parts ordering

Bei der Bestellung von Ersatzteilen bitten wir um folgende Angaben:

- Name, address, mailing address
- Exact name of the machine Serial number from type plate(see chapter 3.3.1 "Type plate" on page 17)
- Exact name of the spare part
  - If necessary, provide samples, photos or sketches
- Number of required spare parts

Please send your spare parts order to

FIBRO GMBH  
August-Läpple-Weg  
DE 74855 Hassmersheim

info@fibro.de

On [www.fibro.de](http://www.fibro.de) you can find all FIBRO subsidiaries worldwide.

On receipt of the spare parts delivery:

- Number, correctness and condition of the supplied parts
- Please feedback any errors immediately

Claims for compensation due to transport damage have to be made immediately.

### 11.3 Spare parts

Spare parts must meet the technical requirements specified by FIBRO GMBH.

By ordering original spare parts from FIBRO GMBH, you are assured that these requirements will be met.

FIBRO GMBH can assume no liability for any damage caused as a result of using non-original spare parts.

Article number	Description	To be used for transporter
2299.60.12100.00.01	Oil cap	Black Line 2299.60.12100.00
2299.60.14100.00.01	Oil cap	Black Line 2299.60.14100.00
2299.60.18100.00.01	Oil cap	Black Line 2299.60.18100.00
2299.60.12100.00.02	Engine cover	Black Line 2299.60.12100.00
2299.60.14100.00.02	Engine cover	Black Line 2299.60.14100.00
2299.60.18100.00.02	Engine cover	Black Line 2299.60.18100.00
2299.60.12100.00.03	Carriage	Black Line 2299.60.12100.00
2299.60.14100.00.03	Carriage	Black Line 2299.60.14100.00
2299.60.18100.00.03	Carriage	Black Line 2299.60.18100.00
2299.60.12100.00.04	Stop washer set	Black Line 2299.60.12100.00
2299.60.14100.00.04	Stop washer set	Black Line 2299.60.14100.00
2299.60.18100.00.04	Stop washer set	Black Line 2299.60.18100.00
2299.60.12100.00.05	Damping washer set	Black Line 2299.60.12100.00
2299.60.14100.00.05	Damping washer set	Black Line 2299.60.14100.00
2299.60.18100.00.05	Damping washer set	Black Line 2299.60.18100.00
2299.60.12100.00.07	Plastic oil cap	Black Line 2299.60.12100.00
2299.60.14100.00.07	Plastic oil cap	Black Line 2299.60.14100.00
2299.60.18100.00.07	Plastic oil cap	Black Line 2299.60.18100.00

## 12 INDEXES

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The product contains no components from third-party companies.

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## **13 APPENDIX**

### **13.1 Declaration of installation**

Every incomplete machine falling in the application range of Directive 2006/42/EG is supplied with a declaration of installation in the context of this Directive.

FIBRO GMBH states in the declaration of installation which essential requirements of this directive were applied and complied with.

In addition, the declaration of installation contains details on other applied directives and observed harmonised standards.

See the next page for the content of the declaration of installation as well as sources of the applied directives and observed harmonised standards.



**Declaration of installation of an incomplete machine in terms of Directive 2006/42/EC**

**Manufacturer**

FIBRO GMBH  
August-Läpple-Weg  
DE 74855 Hassmersheim

hereby states that for the incomplete machine

Product designation	Electric transporter
Type designation	BLACK LINE
Article number	2299.60.12100.00 / 2299.60.14100.00 / 2299.60.18100.00
Intended use	Industrial process transport of solid materials

the following essential requirements of Directive 2006/42/EC Annex 1 (Machinery Directive) were applied and complied with: 1.1.2 / 1.1.3 / 1.1.5 / 1.5.1 / 1.5.4 / 1.5.7 / 1.7.2 / 1.7.3

**The incomplete machine may not be put into operation until it has been determined that the machine in which the incomplete machine has been installed complies with the provisions of Directive 2006/42/EC.**

For certain components of this product placed on the market by FIBRO GMBH, the relevant requirements from the following other relevant directives have been met during design and construction:

--- No requirements from other relevant directives were identified.

For the correct implementation of the required relevant regulations in the named directives, the following harmonised standard(s) according to Article 7 Paragraph 2 and/or technical specifications has/have been applied:

EN ISO 12100:2010-11	Safety of machinery - General design principles - Risk assessment and risk reduction
EN 60204-1:2018	Safety of machinery - Electrical equipment of machines Part 1: General requirements
EN 619:2011	Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads

The special technical documents in accordance with Annex VII Part B have been created. We undertake to provide the special documents to national authorities in electronic form upon justified request.

Person resident in the Community authorised to compile the relevant technical documents :  
FIBRO GMBH, Wendelin Leist, August-Läpple-Weg, DE 74855 Hassmersheim

DE 74855 Hassmersheim

Date:

p.p. Frank Oberhardt  
**Head of Product Management**

o.b.o Wendelin Leist  
**Product Management Department**

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### 13.3 Maintenance plan

Interval [Years or h]	Qualification	Task
3 / 15,000	Trained personnel	"Oil change"

daily	weekly	monthly	quarterly	half-yearly	yearly	if required	Task
x							"Inspection of the product"
						x	"Cleaning the product"

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**More information at**

<https://www.fibro.de/normalien/downloads/pdf-downloads/peripherie/>

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