

# OPERATING INSTRUCTIONS AND SAFETY NOTES

## PREMAxx urea axial gear pump

230 V~AC • 120 V~AC • 12 V-DC



**FMT1**  Swiss AG

**FMT Swiss AG**

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Operating instructions translation

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We reserve the right to make design and product modifications, which serve to improve the product.

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## 1. Introduction

### 1.1 Preface

**Please carefully read these operating instructions and observe in particular all safety notes!**

Our staff will be pleased to provide support if you have any questions about the product.

**Yours sincerely, FMT Swiss AG**

### 1.2 Obligations of the personnel

Before they start to work, all persons who are entrusted with work on the PREMAxx urea axial gear pump are obliged:

- to follow all applicable regulations on occupational safety and accident prevention.
- to read and to comply with all safety instructions and warning notes contained in these operating instructions.

Please observe the following instructions in the interest of all concerned:

- Refrain from any unsafe working methods!
- Adhere to all hazard and warning notes contained in this manual!
- In addition to this documentation, keep to all generally accepted safety rules, legal provisions as well as all other binding rules regarding occupational safety, accident prevention and environmental protection!
- Wear appropriate protective clothing in accordance with the work to be done!
- Perform only work for which you have been sufficiently trained and instructed!
- Only genuine spare parts as well as original tools and auxiliaries of the manufacturer are allowed to be used in order to ensure the functional safety and maintain the warranty coverage.

### 1.3 Symbols in this manual

#### 1.3.1 Structure of the warning notes

The warning notes have the following structure:



#### **SIGNAL WORD**

##### **Type and source of the hazard**

- Consequences of non-compliance with the notes
- Measures to avoid that risk

Depending on the danger level, different signal words are used:

| <b>Signal word</b> | <b>Danger level</b>          | <b>Consequences of non-compliance</b> |
|--------------------|------------------------------|---------------------------------------|
| <b>DANGER</b>      | Imminent threat of danger    | Death or serious bodily injury        |
| <b>WARNING</b>     | Possible threat of danger    | Death or serious bodily injury        |
| <b>CAUTION</b>     | Possibly dangerous situation | Minor bodily injury                   |
| <b>ATTENTION</b>   | Possibly dangerous situation | Damage to material property           |



## NOTE

Indicates further information or tips which facilitate work.

### 1.3.2 Hazard symbols

| Symbol | Meaning  |
|--------|--|
|        | General hazard symbol. The warning note marked in this way contains supplementary information on the type of hazard. |
|        | This symbol warns of dangerous electrical voltages.  |
|        | This symbol warns of a hazardous explosive atmosphere.   |

### 1.3.3 General symbols

| Symbol | Meaning  |
|--------|--|
| ■      | A small black square indicates the work you have to perform.   |
| –      | The dash denotes lists   |
| ⇒      | <p>The arrow identifies cross-references.</p> <p>If cross-references to other chapters are required within the text, the expression is shortened for reasons of clarity.</p> <p>Example: ⇒ Chapter 2 Safety instructions<br/>This means: please refer to chapter 2 for the safety instructions</p> |

## 2. Safety instructions

Various dangers may occur if the PREMAxx urea axial gear pump is improperly handled during installation, commissioning and daily operation.



## WARNING

**Risk of injury and damage to material property because of improper handling**

- Hold the manual at the disposal of the operating staff at the usage site of the unit.
- Country-specific safety measures and accident prevention regulations must be observed.

## 2.1 Authorized personnel

Only qualified and authorized persons are allowed to operate and to work on the PREMAxx urea axial gear pump.

Persons are qualified if they are, due to their training, experience, instruction and knowledge of the relevant standards, able to assess assigned tasks and to identify potentially hazardous situations.

These persons must have been authorized by the person responsible for the safety of the unit and must be able to identify and to avoid potential dangers.

All persons charged with installation, operation, maintenance and repair work, must have read and understood this operation manual.

A copy of this operating manual must be stored permanently and ready at hand at the place of usage of the unit.

## 2.2 Notes on maintenance/cleaning and repair



### **WARNING**

---

#### **Risk of injury and damage to material property because of improper maintenance and repair**

- Keep to the specified inspection and maintenance intervals (⇒ **Chapter Maintenance**).
  - Should unusual noises occur, immediately stop the pump. Immediately identify and eliminate the cause in order to avoid consequential damages.
  - Observe the safety sheet for AdBlue®.
- 

## 2.3 Intended conditions of use

The PREMAxx urea axial gear pump is an electrically driven pump for the delivery of urea (AdBlue®).

The temperature of the conveying liquid must be between  $-5\text{ °C}$  and  $+35\text{ °C}$ .

The urea electric diaphragm pump is only allowed to be connected to a suitable power source (see nameplate).

To ensure that usage stipulations are met, read through the Operating Instructions completely before using the pump and observe all stipulations.

Any departure from the usage stipulations (other fluid media, use of force) or user modifications (changes, use of non-original parts) can be dangerous and are considered as non-intended usage.

The user is liable for any damage resulting from non-intended use.

During repairs to any electrical components, the appropriate safety and test requirements are to be observed.

Only genuine replacement parts are to be used for any repairs, because otherwise the warranty will be invalidated.

In order to prevent dirt from entering the pump chamber, it is absolutely necessary to install a strainer with pre-cleaner in the suction line, because otherwise the warranty may be invalidated.

### **The use in explosive environment is prohibited.**

Any application beyond the intended use can lead to hazardous situations and shall be regarded as non-intended use.



## DANGER

---

### Risk of injury and material damage from explosive vapors

- **Never use the pump to deliver explosive fluids such as petrol or other fluids with similar flashpoints**
  - Since the motor and the switch are not explosion-protected, the pump must not be operated in an explosion risk area.
  - Pumping caustic or other hazardous chemical or biological substances is forbidden.
- 

## 2.4 Risks when handling the PREMAxx urea axial gear pump



## DANGER

---

### Risk of injury and material damage because of improper installation, electric current or contaminated media

#### Never work on a pump that is running

- Mount or remove attachments and accessories only when the pump is switched off.
- For your own safety, disconnect the pump in addition from the power supply.
- Never leave the pump unattended.
- Check to ensure that the pump does not work against the closed nozzle.

#### Do not pump contaminated fluids

- Take special care to ensure that there are no contaminants in the fluid to be pumped.
- Install a strainer on the suction pipe.

#### Damaged attachments and accessories can lead to personal injury and material damage

- Attachments and accessories must be checked for wear, splits or other damage throughout their period of use.
- Damaged accessories and attachments must be replaced immediately.
- With reference to the period of use, please note the details in ZH 1/A45.4.2 or DIN 20066 Part 5.3.2

#### Escaping liquids can cause environmental harm

Comply with the stipulations of the German Water Resources Act (WHG) and of the Plant Regulations of the German federal states (VawS).

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## 2.5 Risks in handling AdBlue® solutions

The AdBlue® concentrate is not inflammable, not explosive and not oxidizing.



### NOTE

For cleaning, flush equipment with water. Dispose of released contaminated fluid according to the statutory provisions. In general, dilution with water is sufficient.

**AdBlue® is corrosive to non-ferrous metals.**

**Avoid skin and eye contact. In case of contact with the eyes, rinse the eyes with plenty of drinking water and consult a physician.**

Observe the safety sheet for AdBlue®.

## 3. Transport and temporary storage

Before transport, ensure that there is no liquid (AdBlue® residues) in the pump.

Do not use the cable to transport the pump!

### Storage and transport conditions:

- Weather-protected storage with temperature control, protection against frost, moisture and rain. Maximum relative humidity: 80 %.
- Storage temperature range from -5 °C to + 55 °C

## 4. Construction and functional description

The PREMAxx urea axial gear pump is an electrically driven pump for the delivery of urea (AdBlue®). It is only designed for use as a barrel pump and can be screwed on storage barrels or containers.

The urea axial gear pump is a compact and handy pump, it's not self-priming. It is quickly ready for use thanks to its integrated priming stage, which allows to manually pump small quantities of fluid before commissioning or in case of a power failure.

The pump housing is made of high-quality, impact-resistant plastic.

Numerous accessories from FMT allow a simple and quick mounting on every installation.

The materials of the pump are compatible with slightly aggressive liquids like AdBlue®.

The pump is electrically driven by an alternating current motor suitable for continuous operation. The pump is directly flange-mounted to the motor. In case of overload, a thermal protection device automatically switches off the electric motor.

When the motor has cooled down, the thermal protection device automatically restarts the motor.

Pump data ⇒ Chapter Technical Data.

The PREMAxx urea axial gear pump is available in the following versions:

- **PREMAxx Urea, 52 l/min 230 V-1~AC-50 Hz**
- **PREMAxx Urea, 52 l/min 120 V-1~AC-60 Hz**
- **PREMAxx Urea, 38 l/min 12 V-DC - battery terminal clips**

The pump can be equipped with different nozzle valves:

- with a standard nozzle valve or
- with an automatically closing nozzle valve



The pump can be delivered in a set including:

- PREMAxx Urea in the above-mentioned motor variants
- Hose kits
- Nozzle valve in one of the above-mentioned versions

## 4.1 Area of application

The PREMAxx urea axial gear pump is only suitable for the delivery of urea (AdBlue®).

The temperature of the delivery fluids must be between  $-5\text{ °C}$  and  $+35\text{ °C}$ . The temperatures must not be above or below these limit values.

Since the motor and the switch are not explosion-protected the PREMAxx Axial Gear Pump must **not** be operated in an explosion risk area!

## 5. Technical data

| Description  | 230 V<br>23 739 | 120 V<br>23 739 006                   | 12V<br>23 760 |
|--|-----------------|---------------------------------------|---------------|
| Connecting cable, length (m) / (ft)                      |                 | 2 / 6.6                               |               |
| Connection container                                     |                 | G 2" male, drum adapter               |               |
| Connection suction side                                  |                 | Hose fitting DN 19                    |               |
| Connection discharge side                                |                 | G 1" male                             |               |
| <b>Hydraulic data</b>                                    |                 |                                       |               |
| Pump design  |                 | axial gear                            |               |
| Delivery rate under free discharge up to (l/min) / (gpm) | 52 / 13.7       | 52 / 13.7                             | 38 / 10       |
| Suction height up to (m) / (ft)                          | 2,5 / 8.2       | 2 / 6.6                               | 2,5 / 8.2     |
| Discharge height max. (m) / (ft)                         |                 | 15 / 49.2                             |               |
| Pumping media  |                 | AdBlue®                               |               |
| <b>Motor data</b>  |                 |                                       |               |
| Voltage (V)  | 230             | 120                                   | 12 DC         |
| Frequency (Hz)   | 50              | 60                                    |               |
| Power consumption (A)                                    | 1,8             | 1,8                                   | 14            |
| Power (kW)   | 0,32            | 0,32                                  | 0,18          |
| Thermal protection                                       |                 | self resetting                        |               |
| Duty cycle   |                 | continuous operation                  |               |
| Rotation speed at 0,5 bar counterpressure (rpm)          |                 | 7500                                  |               |
| Sound pressure level dB(A)                               |                 | <70                                   |               |
| Type of construction                                     |                 | IMB 5                                 |               |
| Protection class   |                 | IP 34                                 |               |
| Material of pump housing and pump                        |                 | PA6                                   |               |
| Material motor shaft                                     |                 | stainless steel 1.4021                |               |
| Dimensions of pump L x W x H (mm) / (inch)               |                 | 130 x 130 x 350 /<br>5.1 x 5.1 x 13.7 |               |
| Weight (kg) / (lb)                                       |                 | 2,5 / 5.5                             |               |

Tab. 5-1: Technical data

## 6. Installation

The PREMAxx urea axial gear pump is designed for installations in indoor and outdoor areas.

In case of outdoor installation, a housing is required as a protection against the effects of weather.



### NOTE

Before proceeding to the next step, please note the following:

When the pump is mounted on the storage container, the suction hose with the suction tube must be long enough to reach the liquid in the storage container even at low fluid levels.

- Cut the suction hose (6) to the desired length.
- Push the hose clamp (5) over the suction hose (6).
- Push the suction hose (6) on the suction port (4) on the pump.
- Push the hose clamp (5) to the suction port (4) and fasten the hose clamp by means of a screwdriver.



### NOTE

Do not overtighten the hose clamp at the suction port, because otherwise the check valve may be jammed and the pump may stop working.



### CAUTION

#### Risk of minor personal injuries

- Mount and operate the pump only in vertical position on a storage container.
  - The pump is only allowed to be operated if it is firmly screwed with the dispensing container, so that it cannot carry out any uncontrolled movements.
  - The pump is only allowed to be operated if the dispensing container, to which the pump is connected, stands on a firm and level surface.
- 
- Screw the pump firmly into the opening of the storage container by means of the barrel screw coupling (3).
  - When screwed in, the pump outlet can be moved to any desired position by turning the pump housing (1).
  - Screw the union nut (14) of the discharge hose down to the discharge port (13) of the pump.
  - Screw the free end of the discharge hose with the union nut (16) down to the thread of the nozzle valve (11).

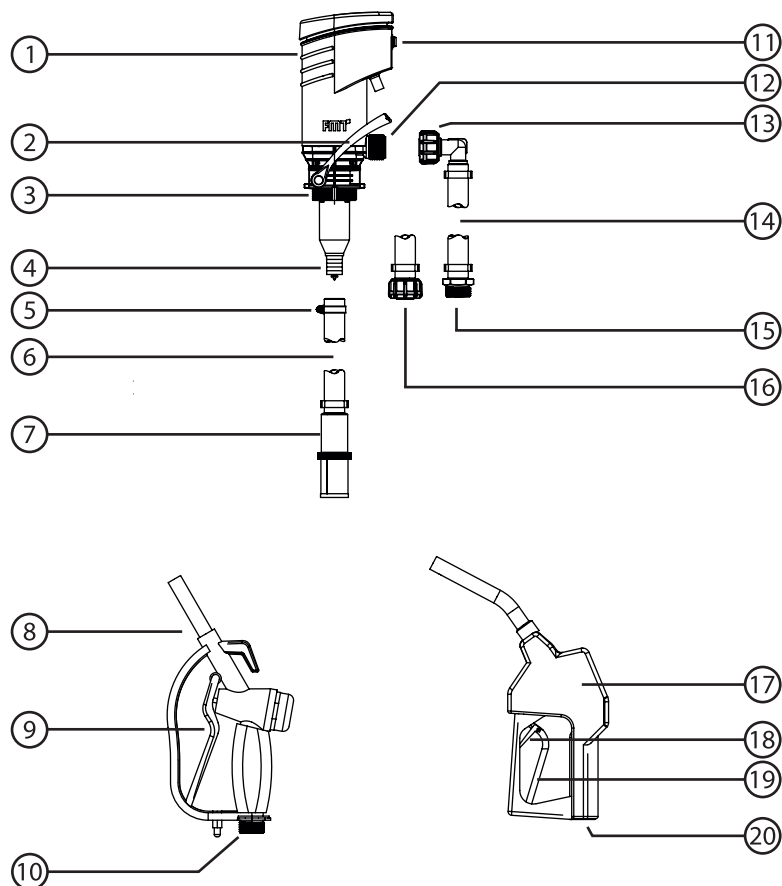


Fig. 6-1 Overview of PREMAxx urea axial gear pump with accessories

|    |   |    |  |
|----|---|----|--|
| 1  | Pump housing                              | 11 | On/off switch                              |
| 2  | Hand lever                                | 12 | Discharge port                             |
| 3  | Barrel screw coupling                     | 13 | Union nut, discharge hose                  |
| 4  | Suction port                              | 14 | Discharge hose                             |
| 5  | Hose clamp                                | 15 | Connection standard nozzle valve           |
| 6  | Suction hose                              | 16 | Connection automatic nozzle valve          |
| 7  | Stainless steel foot valve with strainer  | 17 | Automatic nozzle valve                     |
| 8  | Standard nozzle valve                     | 18 | Lock                                       |
| 9  | Nozzle valve lever, standard nozzle valve | 19 | Nozzle valve lever, automatic nozzle valve |
| 10 | Thread, standard nozzle valve             | 20 | Thread, automatic nozzle valve             |

- Connect the pump to a power source using the mains plug or the terminal clamps.
- The pump is ready for commissioning.



## CAUTION

### Risk of injury from 12 V batteries

- When handling the 12 V battery (lead-acid battery), observe the specifications and the material data safety sheet of the battery manufacturer.

Carry out the following steps when connecting the pump to the battery:

- The switch of the pump must be in the OFF position.
- Remove the protection cap from the positive battery terminal (+).
- Connect the red terminal clamp to the positive battery terminal.
- Remove the protection cap from the negative battery terminal (-).
- Connect the black terminal clamp to the negative battery terminal.

Proceed in reverse order when disconnecting the pump from the battery:

At first, disconnect the black clamp from the negative terminal and then the red clamp from the positive terminal. Put the protection caps on the terminals again.

## 7. Operation

### 7.1 First and re-commissioning

Check the operativeness of the pump before use and after a failure-related or scheduled downtime. Check the PREMAxx urea axial gear pump and the installed accessories for completeness and damage. Replace any damaged components immediately. Never use a pump if damaged.



#### CAUTION

##### Danger of product damage

- Operate the pump by hand before putting the pump into operation for the first time or if the fluid column has dropped down, because the radial shaft seal may be destroyed by a dry run of the pump.

#### Preparing the pump for operation (see fig. 6-1):

- Hold the nozzle valve (9 or 17) into a container.
- Push the lever (10 or 19) or fix it by the lock (18) (if equipped with automatic nozzle valve). Hold the nozzle valve into the container to be filled.
- Manually pump fluid by means of the hand lever (item 2, refer to fig. 6-1) until fluid is pumped out of the nozzle valve (9 or 17).
- Actuate the rocker switch to switch on the pump.



#### CAUTION

##### Danger of product damage

- Never operate the pump without liquid. The urea pump may be damaged by running dry.
  - Mount and operate the pump only in vertical position on a storage container.
  - The urea axial gear pump does not switch off automatically, therefore never let the pump running without supervision during filling operations.
- 
- For finishing the filling operation, release the nozzle valve control lever. Never operate the pump for longer than 3 min with closed nozzle valve.
  - Operate the rocker switch to switch off the pump.
  - Position the nozzle valve so that no media can pollute the environment.

## 8. Preventive maintenance

In general, the PREMAxx urea axial gear pump is very easy to maintain and to service.

Due to the operator responsibilities according to § 19i WHG (German Water Resources Act) the following components must be regularly checked and replaced as necessary to minimise the risk of environmental or equipment damage or personal injury:

- Pump housing
- Delivery hose
- Nozzle valve

## 9. Maintenance

Maintenance must be done by qualified technical personnel. External impact may cause a loss of performance, constitute a risk of damage to persons and/or property and void the guarantee.

Observe the following recommendations for operating the pump:

- Before performing any maintenance work, disconnect the pump from all electric and hydraulic supply sources.
- Always wear personal protective equipment when carrying out maintenance work.
- If there is danger of freezing, the pump and the circuit must be emptied and stored at a location with a temperature not lower than 0 °C/32 °F.
- Check to ensure that the labels and decals have not become illegible and have not come loose in the course of time.
- Check at regular intervals that the line connections have not worked loose in order to avoid that liquid escapes.
- Regularly check and clean the suction line filter.
- From time to time, check the pump housing and remove any dirt.
- Check to ensure that the power cables are in perfect working order.
- If the pump is planned to be put out of operation for more than 15 days, completely empty the pump and the system in order to prevent the urea from crystallizing inside the pump system.  
Finally, thoroughly clean pump and system.

## 10. Troubleshooting

| Malfunction            | Cause  | Solution  |
|------------------------|--|---|
| Motor does not run     | ▶ No power supply  | ▶ Check the electric connections  |
| Discharge rate too low | ▶ Discharge hose kinked or clogged<br>▶ Suction line resistance too high<br>▶ Filter resistance too high<br>▶ Nozzle valve not completely open | ▶ Check the discharge hose<br>▶ Check the suction line, it may be kinked or clogged<br>▶ Check the suction filter<br>▶ Check and clean the suction filter<br>▶ Completely open the nozzle valve |

Tab. 10-1: Troubleshooting

## 11. Repair/Service

The PREMAxx urea pump was developed and produced according to the highest quality standards.

Should a problem develop, despite all quality controls, please contact our customer service:

**FMT Swiss AG**

Phone +49 9462 17-216

Fax +49 9462 1063

service@fmtag.ch

## 12. Disposal

The operating company is responsible for the proper disposal of the pump.

Hereby, the industry-specific and local regulations must be observed when disposing of the different materials.

Only qualified personnel is authorized to disassemble and dispose of the PREMAxx urea axial gear pump.

## 13. EC Declaration of Conformity



Manufacturer:

**FMT Swiss AG**

Fluid Management Technologies Swiss AG

Gewerbestraße 6

6330 Cham / Schweiz

Declares under his sole responsibility that the machine:

|   |  |
|---|--|
| <b>Model type</b>   | <b>PREMAxx urea axial gear pump</b><br><b>23 739 (230 V)</b><br><b>25 739 006 (120 V)</b><br><b>23 760 (12 V-DC)</b> |
| Motor voltage   | 230/120/12 V   |
| Weight  | 2,5 kg   |
| Power   | 23 739 (230 V) - 0,32 kW<br>25 739 006 (120 V) - 0,32 kW<br>23 760 (12 V-DC) - 0,18 kW                               |
| Function  | Conveying of urea ( AdBlue® )  |
| Complies with all relevant provisions of the following Directive: |  |
| EC Directives   | 2006/42/EG Machinery Directive   |
| Applicable standards  | EN 809:1998+A1:2009+AC:2012<br>EN ISO 12100:2010<br>EN 60204-1:2006+A1:2009<br>EN 60335-1:2012+A11:2014              |

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**14. Exploded view of the PREMAxx urea axial gear pump 230 V**

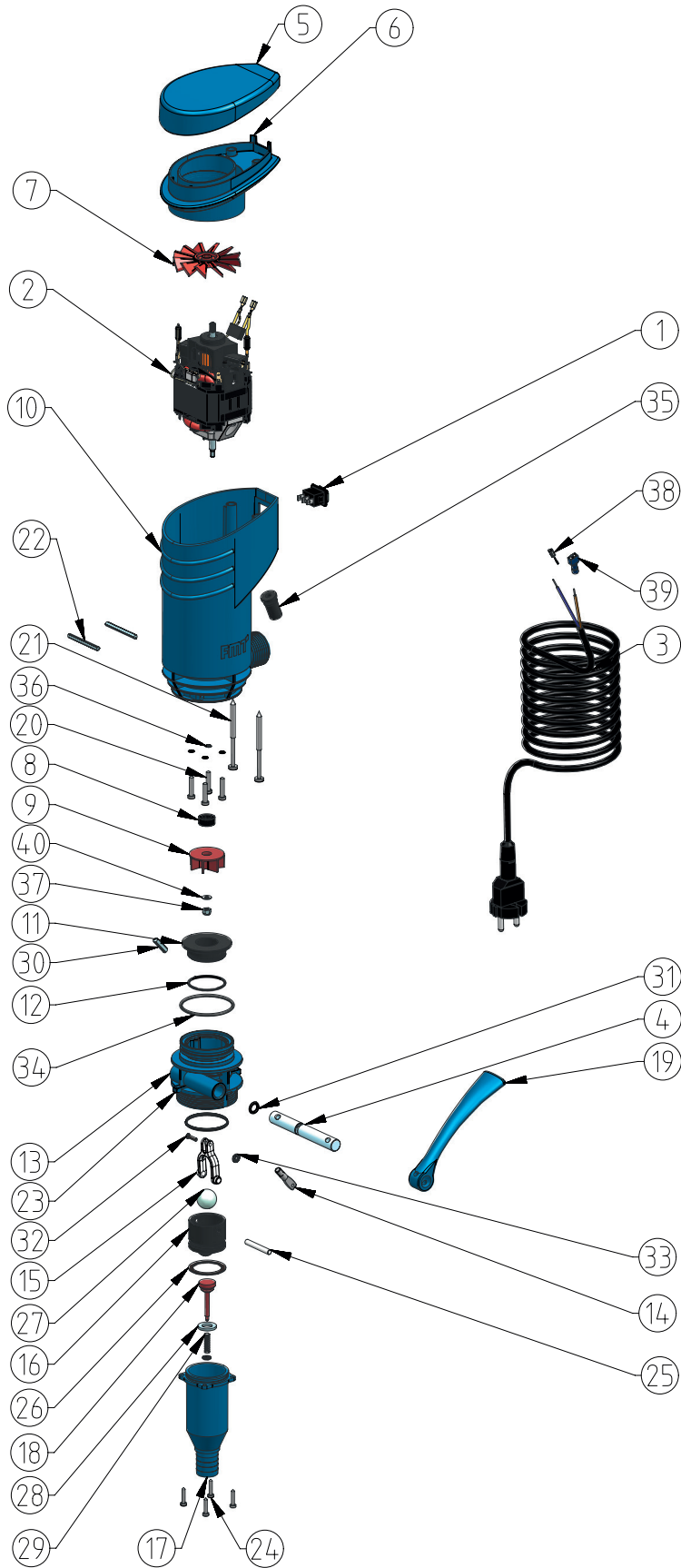


Fig. 14-1: Exploded view of the PREMAxx urea axial gear pump 230 V



| Pos. | Quantity | Description                         |
|------|----------|-------------------------------------|
| 1    | 1        | Rocker switch, illuminated in green |
| 2    | 1        | ELM-230 V-50/60 Hz-0,30 KW          |
| 3    | 1        | Cable H05 RN F2 G 1,0-2 m           |
| 4    | 1        | Pump shaft PREMAxx VA               |
| 5    | 1        | Housing cover, pump                 |
| 6    | 1        | Intermediate cover, pump            |
| 7    | 1        | Fan propeller                       |
| 8    | 1        | Shaft seal ring 6 x 16 x 7 mm       |
| 9    | 1        | Impeller for PREMAxx                |
| 10   | 1        | Housing PREMAxx pump                |
| 11   | 1        | Spacer                              |
| 12   | 1        | O-ring-FKM                          |
| 13   | 1        | Fitting PREMAxx pump                |
| 14   | 1        | Threaded bolt PREMAxx pump          |
| 15   | 1        | Con-rod for PREMAxx pump            |
| 16   | 1        | Piston                              |
| 17   | 1        | Pump cylinder                       |
| 18   | 1        | Valve cone                          |
| 19   | 1        | Lever                               |
| 20   | 4        | Screws                              |
| 21   | 2        | Chipboard screw                     |
| 22   | 2        | Grooved taper pin DIN 1471          |
| 23   | 1        | O-ring-FKM 70 - 35x2,0              |
| 24   | 4        | Screw for plastic 3x16              |
| 25   | 1        | Con-rod bolt PREMAxx pump           |
| 26   | 1        | Piston seal                         |
| 27   | 1        | Ball D = 19,05 mm                   |
| 28   | 1        | Flat seal                           |
| 29   | 1        | Compression spring                  |
| 30   | 1        | Grooved taper pin DIN 1471          |
| 31   | 1        | O-ring-FKM 70 - 7x2,5               |
| 32   | 1        | Button-head rivet DIN 660           |
| 33   | 2        | Safety washer                       |
| 34   | 1        | O-ring FKM 80                       |
| 35   | 1        | Cable sleeve support ID=6,5MM       |
| 36   | 4        | O-ring-FKM 70 - 4x1                 |
| 37   | 1        | Hexagon nut DIN 985                 |
| 38   | 1        | Blade terminal DIN 46247            |
| 39   | 1        | Blade terminal DIN 46245            |
| 40   | 1        | Washer DIN 125                      |

Tab. 14-1: Overview of the components of Fig. 14-1

**15. Exploded view of the PREMAxx urea axial gear pump 120 V**

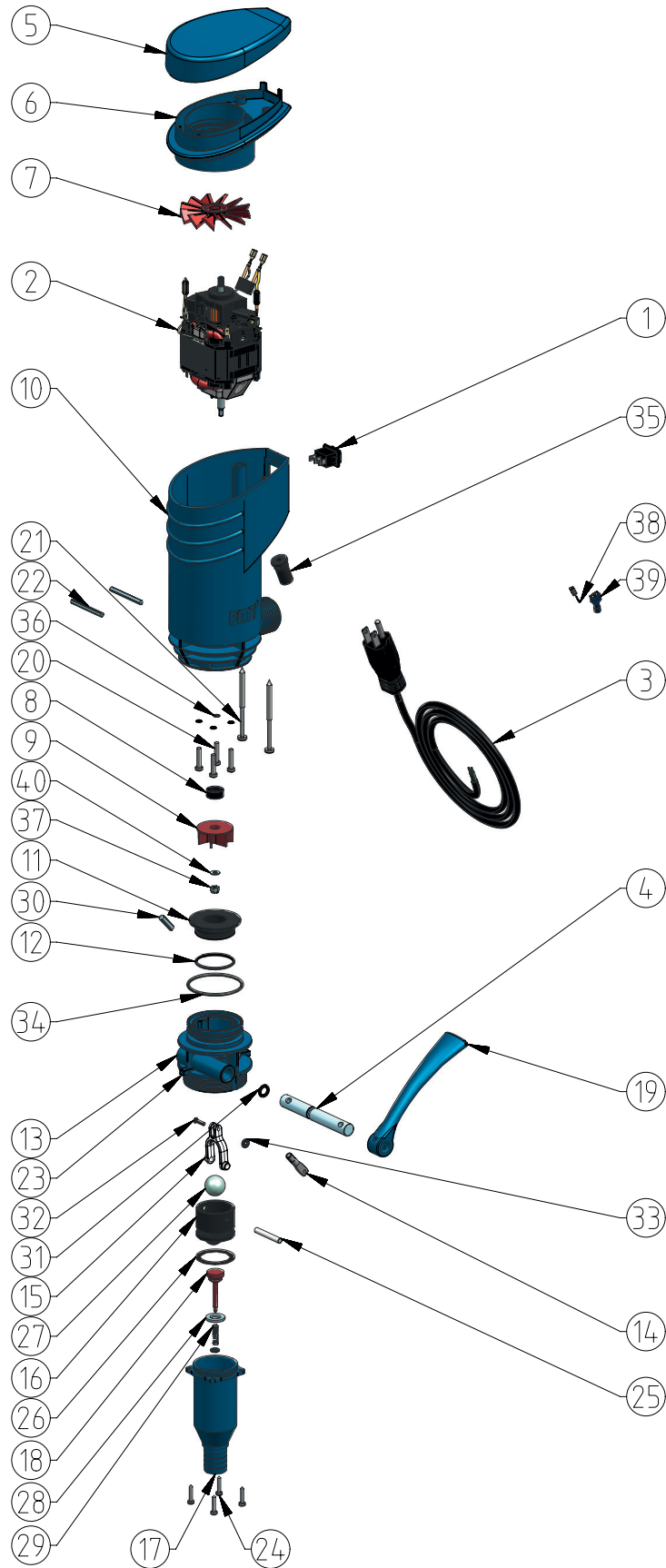


Fig. 15-1: Exploded view of the PREMAxx urea axial gear pump 120 V

| Pos. | Quantity | Description                                   |
|------|----------|---|
| 1    | 1        | Rocker switch, illuminated in green           |
| 2    | 1        | ELM-electric motor 110/120 V-50/60 Hz-0,32 KW |
| 3    | 1        | Cable   |
| 4    | 1        | Pump shaft PREMAxx VA                         |
| 5    | 1        | Housing cover, pump                           |
| 6    | 1        | Intermediate cover, pump                      |
| 7    | 1        | Fan propeller                                 |
| 8    | 1        | Shaft seal ring 6 x 16 x 7 mm                 |
| 9    | 1        | Impeller for PREMAxx                          |
| 10   | 1        | Housing PREMAxx pump                          |
| 11   | 1        | Spacer  |
| 12   | 1        | O-ring-FKM                                    |
| 13   | 1        | Fitting PREMAxx pump                          |
| 14   | 1        | Threaded bolt PREMAxx pump                    |
| 15   | 1        | Con-rod for PREMAxx pump                      |
| 16   | 1        | Piston  |
| 17   | 1        | Pump cylinder                                 |
| 18   | 1        | Valve cone                                    |
| 19   | 1        | Lever   |
| 20   | 4        | Screw   |
| 21   | 2        | Chipboard screw                               |
| 22   | 2        | Grooved taper pin DIN 1471                    |
| 23   | 1        | O-ring-FKM 70 - 35x2,0                        |
| 24   | 4        | Screw for plastic 3x16                        |
| 25   | 1        | Con-rod bolt PREMAxx pump                     |
| 26   | 1        | Piston seal                                   |
| 27   | 1        | Ball D = 19,05 mm                             |
| 28   | 1        | Flat seal                                     |
| 29   | 1        | Compression spring                            |
| 30   | 1        | Grooved taper pin DIN 1471                    |
| 31   | 1        | O-ring-FKM 70 - 7x2,5                         |
| 32   | 1        | Button-head rivet DIN 660                     |
| 33   | 2        | Safety washer                                 |
| 34   | 1        | O-Ring FKM 80                                 |
| 35   | 1        | Cable sleeve support ID=6,5MM                 |
| 36   | 4        | O-ring-FKM 70 - 4x1                           |
| 37   | 1        | Hexagon nut DIN 985                           |
| 38   | 1        | Blade terminal DIN 46247                      |
| 39   | 1        | Blade terminal DIN 46245                      |
| 40   | 1        | Washer DIN 125                                |

Tab. 15-1: Overview of the components of Fig. 15-1

**16. Exploded view of the PREMAxx urea axial gear pump 12 V**

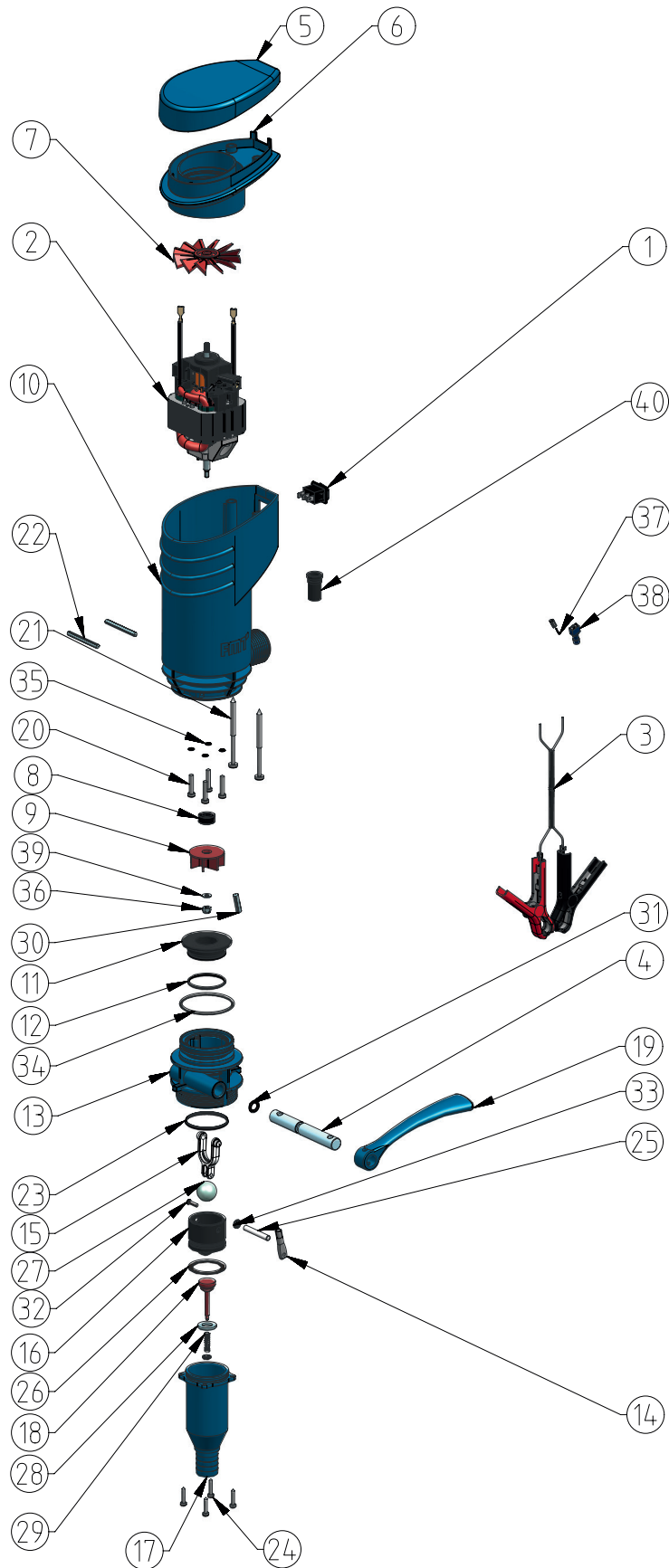


Fig. 16 -1: Exploded view of the PREMAxx urea axial gear pump 12 V

| Pos. | Quantity | Description                         |
|------|----------|-------------------------------------|
| 1    | 1        | Rocker switch, illuminated in green |
| 2    | 1        | ELM-electric motor 12 V-0,22 kW     |
| 3    | 1        | Cable                               |
| 4    | 1        | Pump shaft                          |
| 5    | 1        | Housing cover, pump                 |
| 6    | 1        | Intermediate cover, pump            |
| 7    | 1        | Fan propeller                       |
| 8    | 1        | Shaft seal ring 6 x 16 x 7 mm       |
| 9    | 1        | Impeller for PREMAxx                |
| 10   | 1        | Housing PREMAxx pump                |
| 11   | 1        | Spacer                              |
| 12   | 1        | O-ring-FKM                          |
| 13   | 1        | Fitting PREMAxx pump                |
| 14   | 1        | Threaded bolt PREMAxx pump          |
| 15   | 1        | Con-rod for PREMAxx pump            |
| 16   | 1        | Piston                              |
| 17   | 1        | Pump cylinder                       |
| 18   | 1        | Valve cone                          |
| 19   | 1        | Lever                               |
| 20   | 4        | Screws 4 x 20                       |
| 21   | 2        | Chipboard screw                     |
| 22   | 2        | Grooved taper pin DIN 1471          |
| 23   | 1        | O-ring-FKM 70-35x2.0                |
| 24   | 4        | Screw for plastic 3x16              |
| 25   | 1        | Con-rod bolt PREMAxx pump           |
| 26   | 1        | Piston seal                         |
| 27   | 1        | Ball D = 19,05 mm                   |
| 28   | 1        | Flat seal                           |
| 29   | 1        | Compression spring                  |
| 30   | 1        | Grooved taper pin DIN 1471          |
| 31   | 1        | O-ring-FKM 70 - 7x2,5               |
| 32   | 1        | Button-head rivet DIN 660           |
| 33   | 2        | Safety washer                       |
| 34   | 1        | O-ring FKM 80                       |
| 35   | 4        | O-ring FKM 70                       |
| 36   | 1        | Hexagon nut DIN 985                 |
| 37   | 1        | Blade terminal DIN 46247            |
| 38   | 1        | Blade terminal DIN 46245            |
| 39   | 1        | Washer DIN 125                      |
| 40   | 1        | Cable sleeve support ID=10 mm       |

Tab. 16-1: Overview of the components of Fig. 16-1





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