



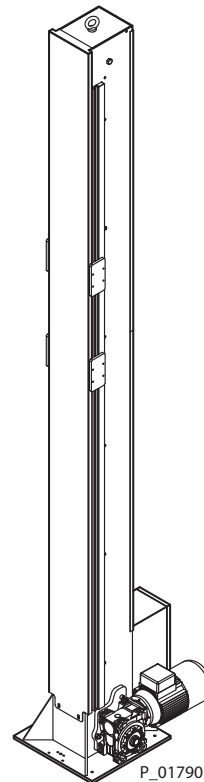
**Translation of the Original  
Operating Manual**

**VU 1**

**Reciprocator**

Version 01/2013

CE  II 3DT4 IP45



P\_01790



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# 1 GENERAL INFORMATION

## 1.1 PREFACE

The operating manual contains information about safely operating, maintaining, cleaning and repairing the device.



The operating manual is part of the device and must be available to operating and service staff.

Operating and service personnel should be instructed according to the safety instructions. The device may only be operated in compliance with this operating manual.



## 1.2 WARNINGS, NOTICES AND SYMBOLS IN THIS MANUAL

Warning instructions in this operating manual highlight particular dangers to users and to the device and state measures for avoiding the hazard. These warning instructions fall into the following categories:



**Danger** - immediate risk of danger.  
Non-observance will result in death or serious injury.

	 <b>DANGER</b>
	<p><b>This notice warns you of a hazard!</b> Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>


**Warning** - possible imminent danger.  
Non-observance may result in death or serious injury.

	 <b>WARNING</b>
	<p><b>This notice warns you of a hazard!</b> Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>

**Caution** - a possibly hazardous situation.  
Non-observance may result in minor injury.

	 <b>CAUTION</b>
	<p><b>This notice warns you of a hazard!</b> Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>

**Notice** - a possibly hazardous situation.  
Non-observance may result in material damage.

	<b>NOTICE</b>
<p><b>This notice warns you of a hazard!</b> Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>	

**Note** - provides information about particular characteristics and how to proceed.

### 1.3 LANGUAGES

The operating manual is available in the following languages:

German	2330731	English	2330732
French	2330733	Italian	2330734
Spanish	2330735	Russian	2336466
Chinese	2336467		

### 1.4 ABBREVIATIONS

Stk	Number of pieces
Pos	Position
K	Marking in the spare parts lists
Order No.	Order number
ET	Spare part
Fig.	Figure
HU	Sliding table (horizontal unit)
VU	Reciprocator (vertical unit)

## 2 CORRECT USE

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### 2.1 DEVICE TYPE

Reciprocator suitable for use in automatic powder coating systems.

### 2.2 CORRECT USE

The VU 1 reciprocator serves to continuously move the powder spray guns, attached to the gun mountings, up and down or to position them at a specific height. The different versions of the gun mountings and the corresponding counter weights and fastening elements are listed in the "Accessories" chapter. The lifting and the lowering speed of the height of stroke can be smoothly adjusted via the corresponding control.

### 2.3 SAFETY PARAMETERS

The VU 1 reciprocator is exclusively suitable for use in automatic powder coating systems. J. Wagner GmbH forbids any other use!

The use of the reciprocator is only permissible under the following conditions:

- the operating staff have previously been trained on the basis of this operating manual,
- the safety regulations listed in this operating manual are observed,
- the operating, maintenance and repair notices in this operating manual are observed,
- and the statutory requirements and accident prevention regulations standards in the country of use are observed.

The reciprocator may only be used if all parameters are set and all measurements/safety checks are carried out correctly.



### 2.4 REASONABLY FORESEEABLE MISUSE

- Coating work pieces which are not grounded,
- Use of damp powder paint,
- Working with liquid coating materials,
- Use of defective components and accessories,
- Use with not permissible control units.



## 3 IDENTIFICATION

### 3.1 EXPLOSION PROTECTION IDENTIFICATION

Device type:	VU 1 reciprocator
Manufacturer:	J. Wagner GmbH D - 88677 Markdorf
 	II 3D T4 IP45
CE:	European Communities
Ex:	Symbol for explosion protection
II:	Device class II
3:	Category 3
D:	Ex-atmosphere dust
T4:	Temperature class 4 (> 100 °C - < 135 °C)
IP45:	Protection class

### 3.2 PERMISSIBLE DEVICE COMBINATIONS

The VU 1 reciprocator type series can be controlled with the following controllers:

- MCS 1 movement control module (stand-alone operation)
- ProfiTech S, ProfiTech M
- PrimaTech CCM with MCS 1 movement control module

The VU 1 reciprocator type series can be combined with the following devices:

- HU 1-xxxx, HU 1-xxxx M, RS 8-xxxx sliding unit type series
- PEA-C4, PEA-T3 type series guns

For this purpose, the notices regarding the correct gun arrangement in Chapter 6.8 are to be observed!

- Other devices can be combined specific to a project.  
For this purpose, the permissibility within the project must be determined.

## 4 GENERAL SAFETY INSTRUCTIONS

### 4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

- Keep this operating manual at hand near the unit at all times.
- Always follow local regulations concerning occupational safety and accident prevention.



#### 4.1.1 ELECTRICAL DEVICES AND OPERATING EQUIPMENT

- To be provided in accordance with the local safety requirements with regard to the operating mode and ambient influences.
- May only be maintained by skilled electricians.
- Must be operated in accordance with the safety regulations and electrotechnical regulations.
- Must be repaired immediately in the event of problems.
- Must be decommissioned if they pose a hazard.
- Must be de-energized before work is commenced on active parts.
- Secure the device against being switched back on without authorization. Inform staff about planned work.
- Observe electrical safety regulations.

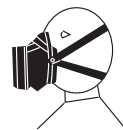


#### 4.1.2 PERSONNEL QUALIFICATIONS

- Ensure that the device is operated and repaired only by trained persons.

#### 4.1.3 SAFE WORK ENVIRONMENT

- The floor in the working area must be electrostatically conductive (measurements according to EN 1081 and EN 61340-4-1).
- The footwear worn by the operators must comply with the requirements of EN ISO 20344. The measured insulation resistance must not exceed 100 Megohms.
- The protective clothing, including gloves, must comply with the requirements of EN ISO 1149-5. The measured insulation resistance must not exceed 100 Megohms.
- The powder release must be electrically interlocked with the powder spray system's exhaust air equipment.
- Excess coating material (overspray) must be collected up safely.
- Ensure that there are no ignition sources such as naked flames, sparks, glowing wires or hot surfaces in the vicinity. Do not smoke.
- Provide sufficient numbers of suitable fire extinguishers and ensure that they are serviceable.
- The operating company must ensure that the average concentration of powder paint in the air does not exceed 50% of the lower explosion limit (LEL = max. permitted concentration of powder to air). If no reliable LEL value is available, the average concentration must not exceed 10 g/m<sup>3</sup>.



## 4.2 SAFETY INSTRUCTIONS FOR STAFF

- Always follow the information in this manual, particularly the general safety instructions and the warning instructions.
- Always follow local regulations concerning occupational safety and accident prevention.
- Under no circumstances may people with pacemakers enter the area where the high voltage field between the spray gun and the work piece to be coated builds up!



### 4.2.1 SAFE HANDLING OF WAGNER POWDER SPRAY DEVICES

- Do not point spray guns at people.
- Before all work on the device, in the event of work interruptions and functional faults:
  - Switch off the energy/compressed air supply.
  - Secure the spray gun against actuation.
  - Relieve pressure on spray gun and device.
  - By functional faults: Identify and correct the problem, proceed as described in chapter "Elimination of Faults".



### 4.2.2 GROUNDING THE DEVICE

The electrostatic charge may, in certain cases, give rise to electrostatic charges on the device. In the event of discharge, this may result in the formation of sparks or flames.

- Ensure that the device is grounded before each coating process.
- Ground the work pieces to be coated.
- Ensure that all persons inside the working area are grounded, e.g. by wearing electrostatically conductive shoes.
- The function of grounding cables must be checked regularly (see EN 60204).



### 4.2.3 MATERIAL HOSES

- Only use original Wagner powder hose.



#### 4.2.4 CLEANING



- Before starting cleaning or any other manual work, the high voltage in the spray area must be shut down and locked to prevent it from being switched back on.
- Lock the compressed air supply and decompress the system.
- Secure the device against being switched back on without authorization.
- Use only electrically conducting and grounded containers for cleaning fluids.
- Preference should be given to non-flammable cleaning fluids.
- If flammable cleaning fluids are used, all parts carrying high-voltage must be discharged to a discharge energy of less than 0.24 mJ, once the high-voltage has been switched off, before they can be reached.  
Most flammable solvents have an ignition energy of around 24 mJ or 60 nC.
- The cleaning agent's flash point must be at least 15 K above the ambient temperature.
- Only mobile industrial vacuum cleaners of design 1 (see EN 60335-2) may be used to remove dust deposits.

#### 4.2.5 HANDLING POWDER PAINTS

- Take note of the processing regulations laid down by the manufacturer of the powder paint being used, when preparing or processing the powder.
- Take note of the manufacturer's instructions and the relevant environmental protection regulations when disposing of powder paints.
- Take the prescribed safety measures, in particular the wearing of safety glasses and safety clothing as well as the use of protective hand cream.
- Use a mask or breathing apparatus if necessary.
- To ensure sufficient protection of health and the environment, only operate the device in a powder booth or at a spray wall with activated ventilation (exhaust air).



### 4.3 PROTECTIVE AND MONITORING EQUIPMENT

	 <b>WARNING</b>
	<p><b>Incorrect use!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"> <li>→ Protective and monitoring equipment must not be removed, modified or rendered unusable.</li> <li>→ Regularly check that they are working perfectly.</li> <li>→ If defects are detected on protective and monitoring equipment, the system must not be operated until these defects are remedied.</li> </ul>

### 4.4 RESIDUAL RISKS

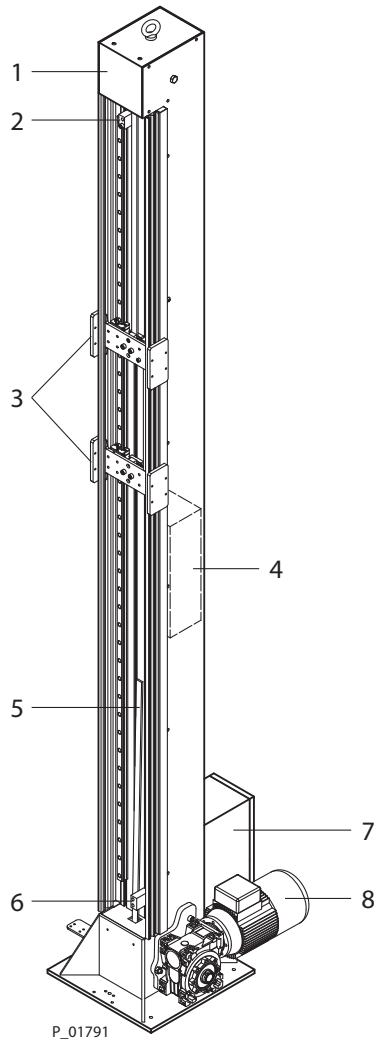
Residual risks are risks which cannot be excluded even in the event of correct use.

If necessary, warning and prohibition signs at the relevant points of risk indicate residual risks.

Residual risk	Source	Consequences	Specific measures	Lifecycle phase
Skin contact with powder paints and cleaning agents	Handling powder paints and cleaning agents	Skin irritations, allergies	Wear protective clothing Observe safety data sheets	Operation, maintenance, disassembly
Powder paint in air outside the defined working area	Painting outside the defined working area	Inhalation of substances hazardous to health	Observe working and operating instructions	Operation, maintenance

## 5 DESCRIPTION

### 5.1 CONSTRUCTION OF THE RECIPROCATOR



	Designation
1	Stand
2	Stop above
3	Lifting unit for the gun mountings
4	Counterweight slide
5	Toothed belt
6	Stop below
7	Electronic switch box
8	Motor with gears

### 5.2 MODE OF OPERATION

The device carrier on lifting unit 3 is moved up and down by toothed belt 5 and the motor with drive gear 8.

The lifting speed, the return points or the position are preset by the centralized control.

The position adjustment is carried out by a frequency inverter, the position measurement by an incremental position encoder.

### 5.3 DESIGN VARIANTS

Order No.	Designation
2327615	VU 1-1800 reciprocator (height of stroke 1,800 mm; 70.87 inches)
2327616	VU 1-2400 reciprocator (height of stroke 2,400 mm; 94.49 inches)
2327617	VU 1-3000 reciprocator (height of stroke 3,000 mm; 118.11 inches)

### 5.4 SCOPE OF DELIVERY

Quantity	Order No.	Designation
1	see Chapter 5.3	VU 1 reciprocator
The standard equipment includes:		
1	see Chapter 14.3	Conformity certificate
1	2330731	Operating manual, German
1	see Chapter 1.3	Operating manual in local language

### 5.5 PERMITTED ACCESSORIES

Only accessories that are listed in the "Accessory" chapter of this operating manual can be used on VU 1 reciprocator.

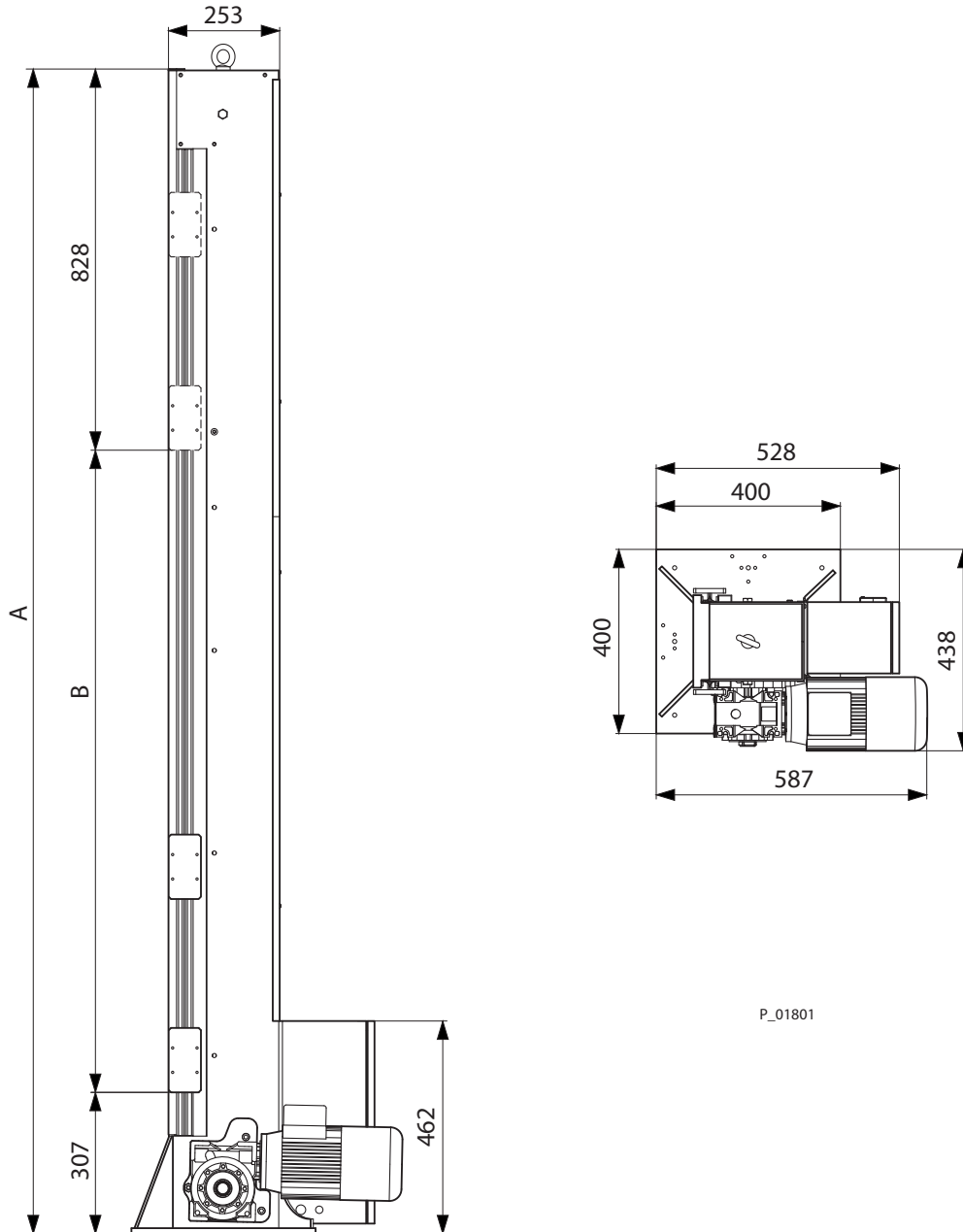
## 5.6 TECHNICAL DATA

	VU 1-1800	VU 1-2400	VU 1-3000
Minimum stroke	100 mm; 3.94 inches		
Maximum stroke	1,800 mm; 70.87 inches	2,400 mm; 94.49 inches	3,000 mm; 118.11 inches
Stroke velocity V minimum	6 m/min		
Stroke velocity V maximum	30 m/min		
Maximum load capacity of device carrier (spaced 1 meter from the lifting slide)	30 kg/66.14 lbs		
Maximum counter weight mass	50 kg		
Maximum number of guns <sup>1</sup>	12		
Rated power, drive motor	0.75 kW		
Electrical connection	1/N/PE AC 230/240V 50/60 Hz		
Permissible ambient temperature:	0 - 45 °C; 32 - 113 °F		
Maximum humidity	80 %		
Protection class	IP 54 / Ex Zone 22 (ExII3D)		
Energy efficiency class	IE1		
Noise emission	< 70 dB (A)		
Weight	130 kg	150 kg	170 kg

- 1.) The distance of the guns to each other must be at least 300 mm in order to guarantee faultless operation.



**5.6.1 DIMENSIONS**





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	<b>VU 1-1800</b>	<b>VU 1-2400</b>	<b>VU 1-3000</b>
Total height/construction height A	2,935 mm; 115.55 inches	3,535 mm; 139.17 inches	4,135 mm; 162.80 inches
Stroke/Traveling distance B	1800 mm; 70.87 inches	2,400 mm; 94.49 inches	3,000 mm; 118.11 inches

## 6 ASSEMBLY AND COMMISSIONING

### 6.1 TRAINING ASSEMBLY/COMMISSIONING STAFF

	 <b>WARNING</b>
	<p><b>Incorrect installation/operation!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"> <li>→ The commissioning staff must have the technical skills to safely undertake commissioning.</li> <li>→ The commissioning staff must be familiar with the provisions of European standard DIN EN 50177.</li> <li>→ When putting into operation and for all work, read and follow the operating manual and safety regulations for the additionally required system components.</li> </ul>

### 6.2 REQUIREMENTS FOR THE INSTALLATION SITE

The ground must have the following characteristics:

- Vibration-free
- Horizontal (permissible inclination 1°)
- Load bearing capacity (2,000 kg; 4,409 lbs/m<sup>2</sup>)

The ambient temperature must range between 0 °C; 32 °F and 45 °C; 113 °F.

The reciprocator must be professionally anchored to the foundations or mounted to the sliding unit.



**Ambient conditions:**

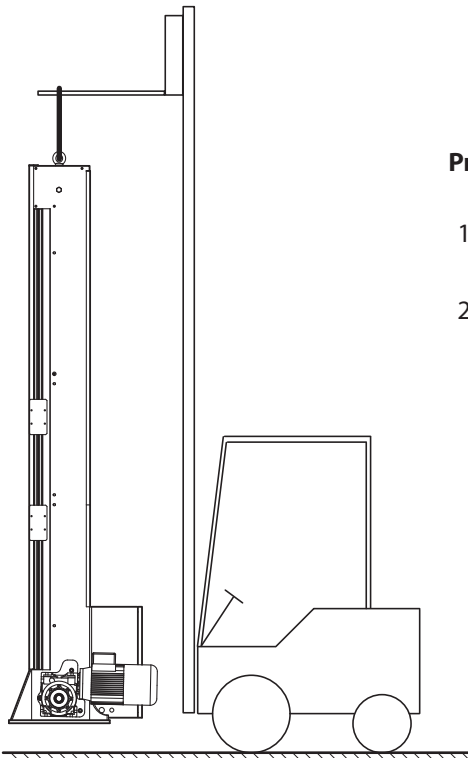
If low-melting powders are used, the ambient temperature may have to be lower than 30 °C; 86 °F.

**Volume measures:**

for volumes specified in Nm<sup>3</sup> (standard cubic meters). One cubic meter of a gas at 0 °C and 1.013 bar is called norm cubic meter.

### 6.3 TRANSPORTATION

	 <b>WARNING</b>
	<p><b>Danger of tipping!</b> Risk of injury and equipment damage.</p> <p>→ The reciprocator must not be lifted by moving parts or the geared motor. → Secure the reciprocator against tipping while it is being transported.</p>



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**Procedure:**

1. Attach cable or hook to hook eye.  
Secure the cable against slipping.
2. Lift the reciprocator and move to its final destination.

## 6.4 ASSEMBLY

### Procedure:

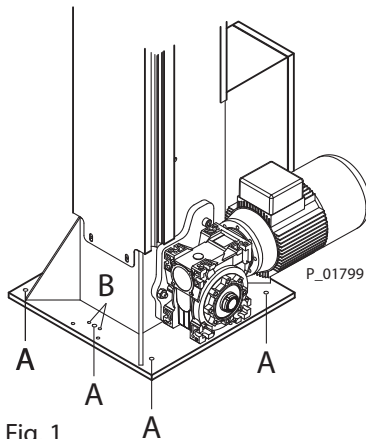


Fig. 1

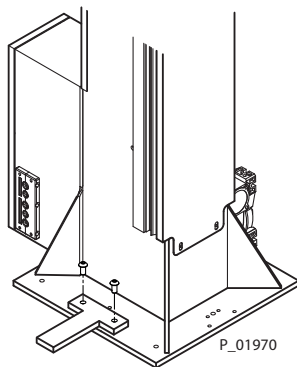


Fig. 2

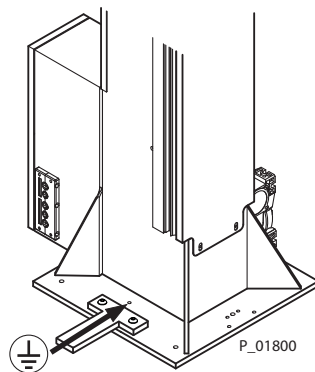
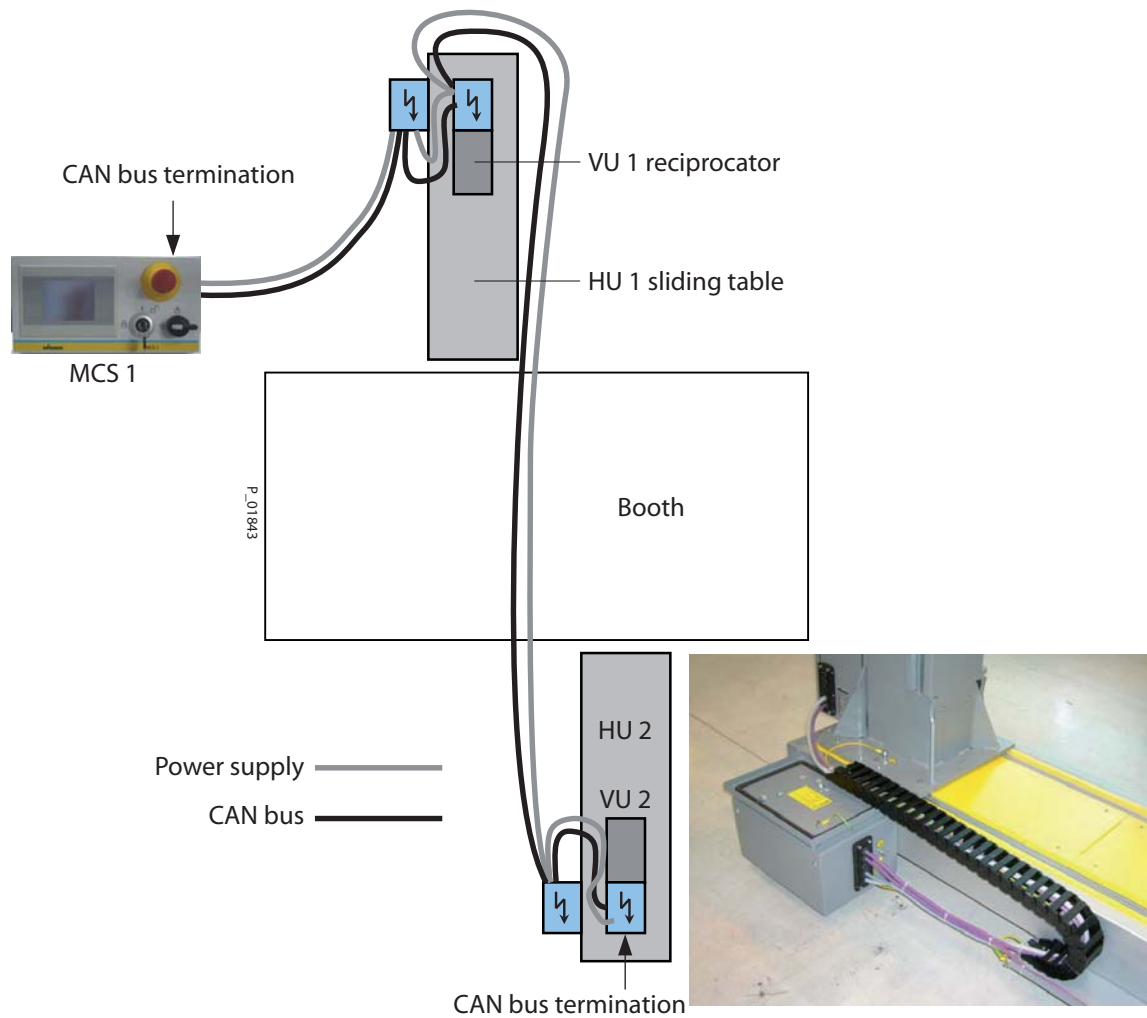


Fig. 3

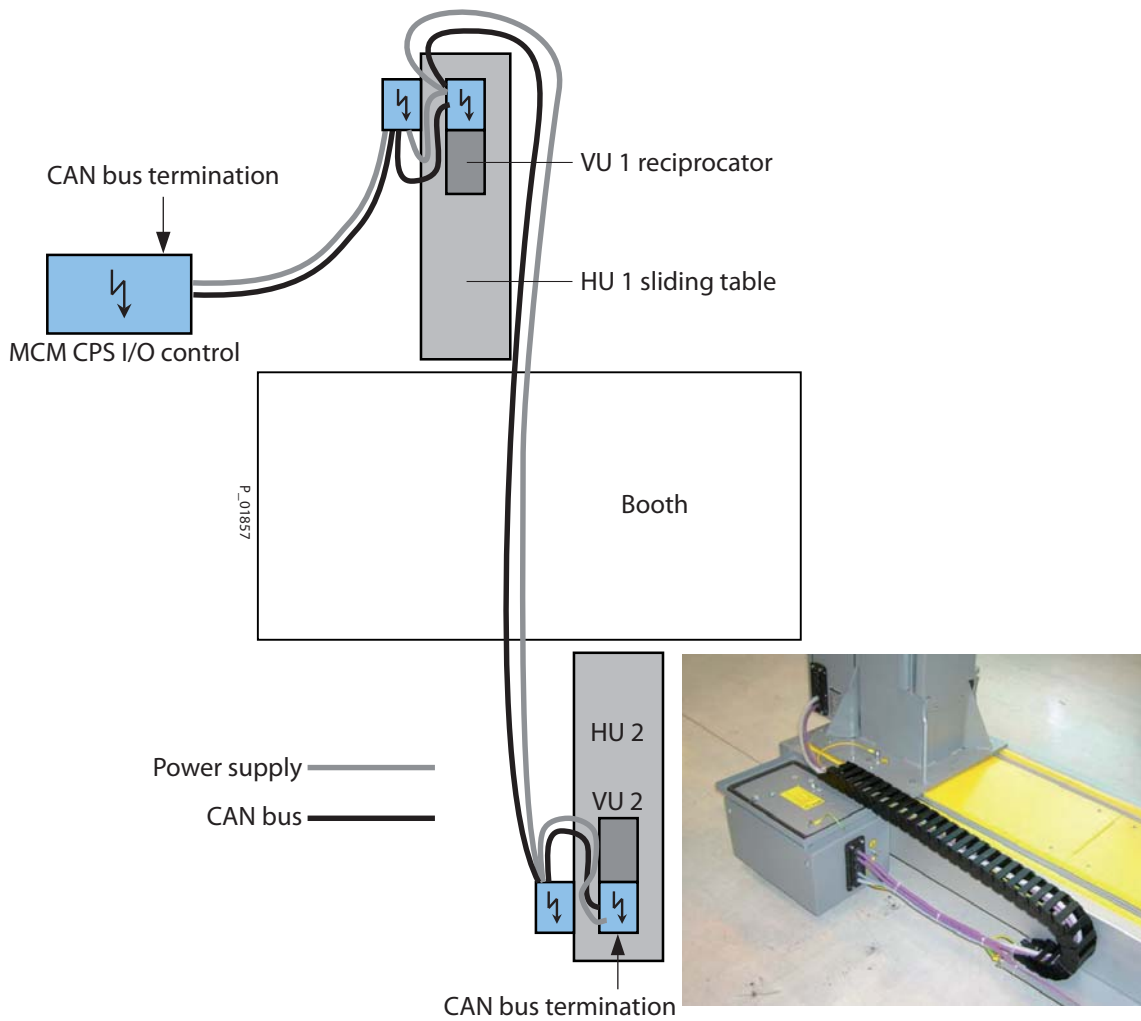
1. Position sliding table at the allocated space.
2. Level the sliding table with a level.
3. Pull the cable through the eyebolt on the reciprocator and adjust the reciprocator to a vertical position with a lift truck.
4. Place the reciprocator on the guide slide and fasten it to the sliding table with the provided screws M8 (A) (fig.1).
5. Align holes B on the reciprocator's floor plate with the holes in the sliding table's toothed belt carrier and screw them together.
6. Adjust upper and lower stops to the preliminary end position (see Chapter 6.8.).
7. Mount the guns in the desired arrangement (see Chapter 6.9.).
8. Mount the counter weights (see Chapter 6.7.).
9. Adjust upper and lower stops on the reciprocator so that the guns do not have contact with the booth surface (see Chapter 6.8.).
10. Position the energy chain.
11. Fasten the carrier to the energy chain with the two delivered screws (Fig. 2).
12. Ground sliding table and reciprocator (Fig. 3).
13. Connect electric cable and bus cable (see Chapter 6.5.).
14. The device is now operational and can be put into operation using the control.

### 6.5 ELECTRICAL CONNECTION

#### 6.5.1 MCS 1 STAND-ALONE/PRIMATECH

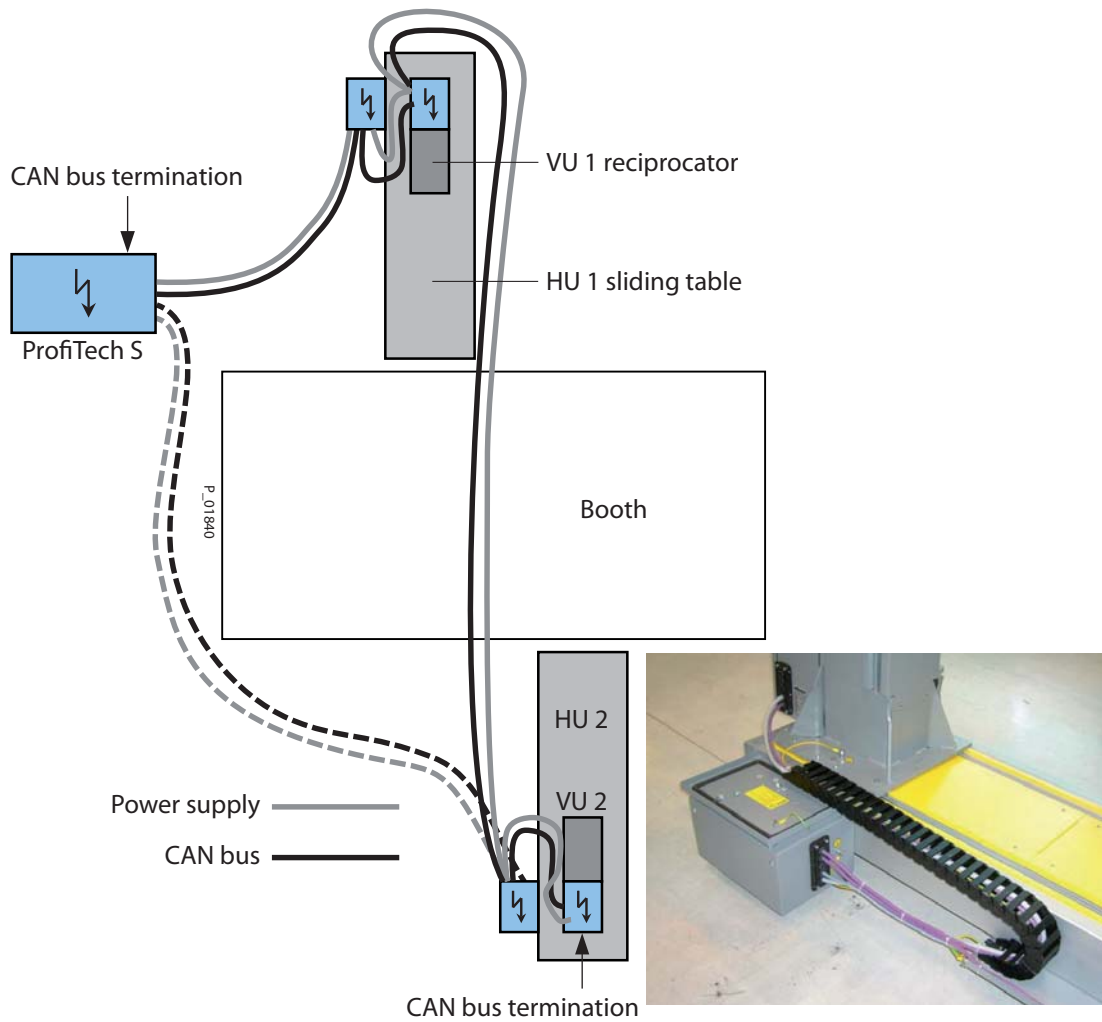


### 6.5.2 PROFITECH M





### 6.5.3 PROFITECH S

The preferred CAN bus Topology is that the line network has a connection on both ends. In exceptional cases, a stub line with a length of up to 10 meters at standard baud rate can be tolerated.



## 6.5.4 CONNECTION OF THE RECIPROCATOR

	 <b>WARNING</b>
	<p><b>Danger from electric current!</b> Risk of injury and equipment damage.</p> <p>→ Before connecting, ensure that the external control unit is switched off and the EMERGENCY STOP button has been actuated.</p>



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### Procedure:

1. Switch the electrical power supply off.
2. Unscrew the screws 1 on the reciprocator's control cabinet and take off the cover.
3. Unscrew screws 2 and take off the cable feedthrough from the control cabinet.
4. Unscrew screws 3 and pull the cable feedthrough apart.
5. Pull the connection cable of the reciprocator through the cable feedthrough and attach it to the control cabinet.
6. Stick the cable feedthrough back together and screw it together with screws 3.
7. Screw the cable feedthrough onto the control cabinet with screws 2.
8. Place the cover on the control cabinet and fasten it with screws 1.
9. Pull the connection cable through the energy cable of the sliding table and attach it to the control cabinet of the sliding table.



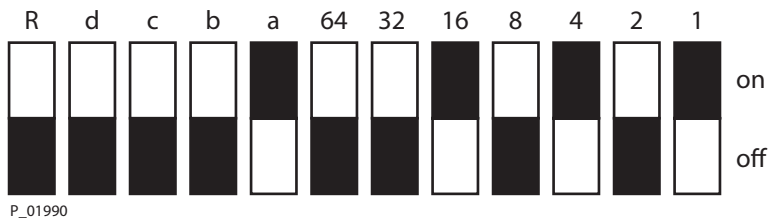
### 6.5.5 SETTING UP THE FREQUENCY CONVERTER

The CAN node-ID has to be set on the reciprocator's frequency converter.  
The setting takes place via the DIP switch 1-64.

Setting reciprocator 1: Adress 21 (DIP switch 1,3,5 ON)

Setting reciprocator 2: Adress 22 (DIP switch 2, 3, 5 ON)

Further reciprocators will be consecutively numbered (23, 24; ...).



Address: 21

Baud rate: 250

Terminating resistor: OFF

The baud rate can be set with switches a to d.  
The value is set to 250 KB (switch a ON) in the factory.

On the last device of the CAN loop, switch R has to be set to ON.

## 6.6 DETERMINATION OF THE NUMBER OF GUNS

Determine the number of guns depending on the type of guns.

### NOTICE

**Load capacity of device carrier!**

Danger of equipment damage.

→ Load capacity of the attachment bracket must not exceed 30 kg; 66.14 lbs (see "Technical Data" chapter).

Spray gun *	Gun weight
PEA-C4 HiCoat Corona spray gun	555 g; 1.22 lbs
PEA-T3 Tribo spray gun	900 g; 1.98 lbs
PEA-C4XL-HiCoat Corona spray gun 0.85 / 1.1 / 1.4 / 1.8	1,230 g / 1,450 g / 1,720 g / 2,000 g; 2.71 lbs / 3.20 lbs / 3.79 lbs / 4.41 lbs
PEA-T3XL Tribo spray gun 0.85 / 1.1 / 1.4 / 1.8	1,620 g / 1,840 g / 2,100 g / 2,400 g; 3.57 lbs / 4.06 lbs / 4.63 lbs / 5.29 lbs

\* The distance of the installed spray guns to each other must be at least 300 mm; 11.81 inches.

Mount the guns in accordance with the gun's operating manual.

### NOTICE

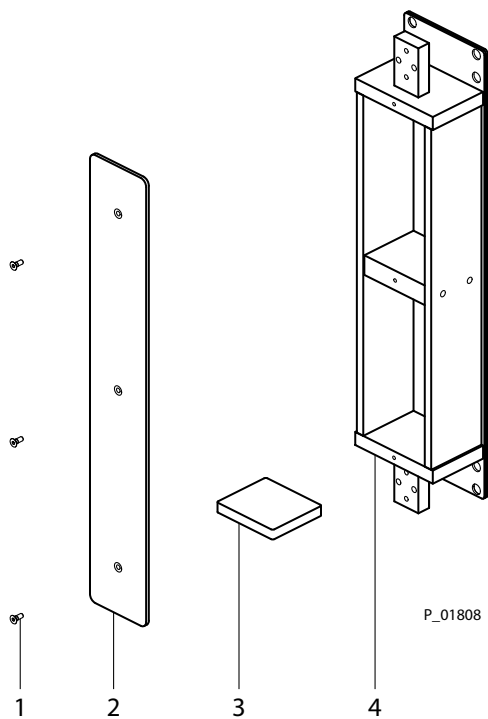
**Load capacity of device carrier!**

Danger of equipment damage.

→ If the number of guns should change at a later date, it must be seen to that the permissible load is not exceeded.

## 6.7 INSTALLING THE ADDITIONAL WEIGHTS

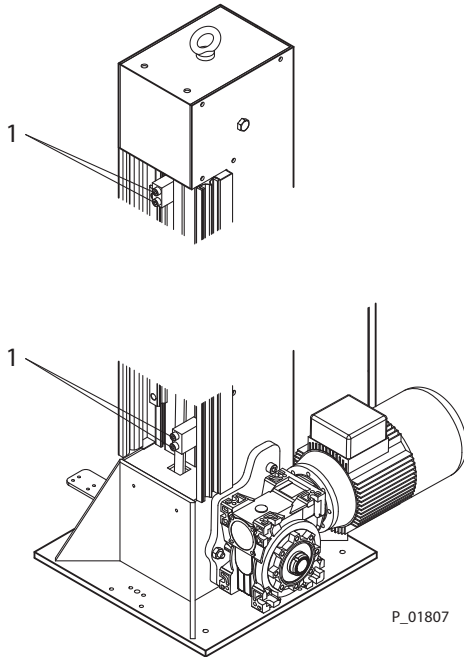
Depending on the number of mounted guns, the corresponding counter weights must be mounted to the reciprocator (see Chapter 6.6.).



### Procedure:

1. Unscrew screws 1 and take the cover plate 2 off of the slide 4.
2. Insert the corresponding number of counter weights 3 into slide 4.
3. Attach cover plate 2 to slide 4 and fasten with screws 1.

## 6.8 ADJUSTMENT OF THE UPPER AND LOWER STOPS

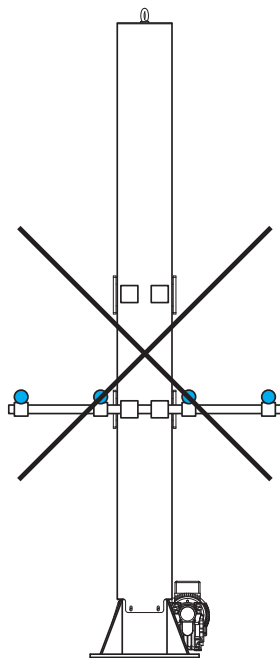


### Procedure:

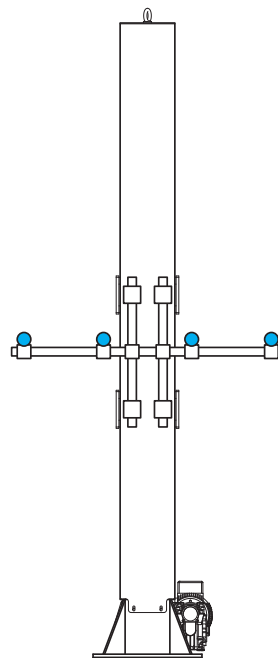
1. Loosen screws 1 on the upper and lower stops.
2. Adjust the upper and lower stops, so that the gun does not touch the booth surface.
3. Tighten screws 1 on the upper and lower stops.

## 6.9 GUN ARRANGEMENT

### 6.9.1 GUN ARRANGEMENT FOR LONG STROKE 2-4 GUNS

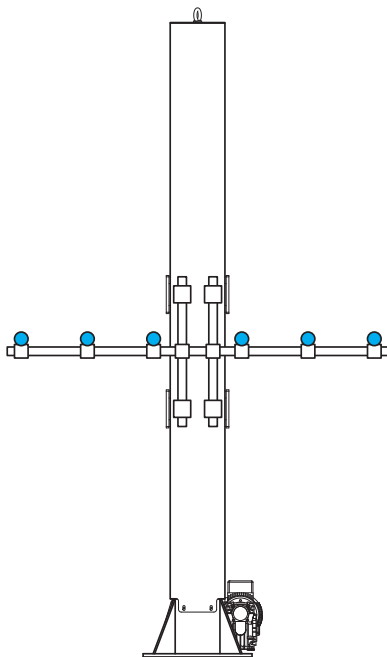


P\_01793



2-4 guns horizontal

### 6.9.2 GUN ARRANGEMENT FOR LONG STROKE 5-8 GUNS

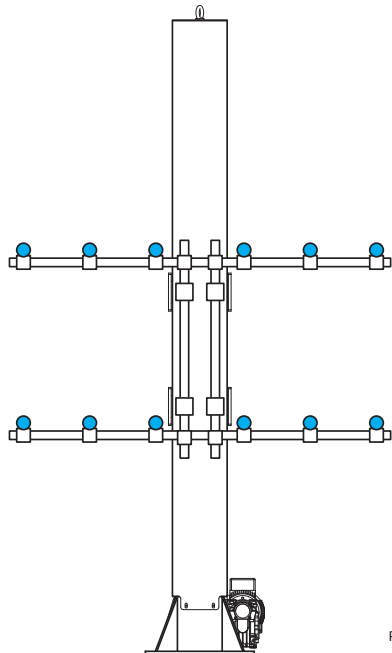


P\_01794

5-8 guns horizontal

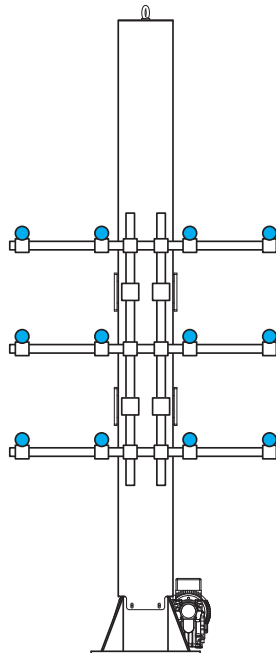
- Number of guns left/right as equal as possible
- Maximum gun number in accordance with the maximum loading and acceptable deflection of the carrier
- Recommendation: maximum 8 guns

**6.9.3 GUN ARRANGEMENT IN MULTIPLE LEVELS**



Guns horizontal, 2 levels

P\_01795

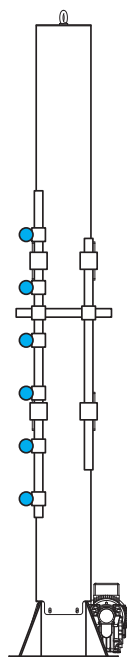


Guns horizontal, 3 levels

- Number of guns left/right as equal as possible

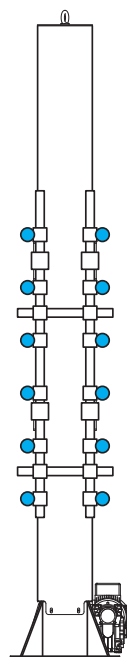
**6.9.4 GUN ARRANGEMENT FOR SHORT STROKE USE**

- Guns optionally on the right or left side



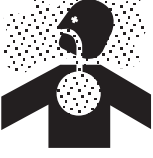

Guns vertical, on one side

P\_01796



Guns vertical, on both sides

## 6.10 GROUNDING

	 <b>WARNING</b>
	<p><b>Defective grounding will result in high levels of powder mist!</b>            Danger of poisoning.            Insufficient paint application quality.</p> <p>→ Ground all device components.            → Ground the work pieces to be coated.</p>

For safety reasons, the reciprocator must be properly grounded. The grounding takes place through the connection of the grounding cable on the grounding connection of the reciprocator (see Chapter 6.4.). Wagner recommends the use of copper cable of at least 4 mm with sufficient mechanical stability for the connection to the operating ground.

To achieve optimum powder coating, a flawless grounding of the work piece is also imperative.

### A poorly grounded work piece causes:

- dangerous electric charging of the work piece,
- very bad wrap around,
- uneven coating and
- back-spray to the spray gun, i.e. contamination.

### Prerequisites for perfect grounding and coating are:

- clean suspension of the work piece to be coated,
- grounding of spraying booth, conveyor system and suspension on site in accordance with the operating manual or the manufacturer's information and
- grounding of all conductive parts within the working area.
- The grounding resistance of the work piece may not exceed 1 Megohm.  
(Resistance to ground measured at 500 V or 1,000 V).
- The footwear worn by the operators must comply with the requirements of EN ISO 20344. The measured insulation resistance must not exceed 100 MΩ (megohms).
- The protective clothing, including gloves, must comply with the requirements of EN ISO 1149-5. The measured insulation resistance must not exceed 100 MΩ (megohms).

**Sparks between conveyor, conveyor hooks (hangers) and work piece can occur if electric contact points between conveyor, conveyor hooks (hangers) and work piece are not sufficiently cleaned and therefore the work pieces are not sufficiently grounded!**



**These sparks can cause severe radio frequency interference (electro-magnetic compatibility = EMC).**







## 7 OPERATION

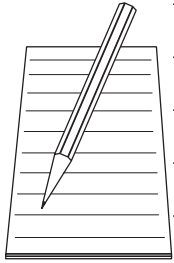
### 7.1 TRAINING THE OPERATING STAFF

	 <b>WARNING</b>
	<p><b>Incorrect operation!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"> <li>→ The operating staff must be qualified to operate the entire system.</li> <li>→ Before work commences, the operating staff must receive appropriate training.</li> <li>→ The operating staff must be familiar with the provisions of European standard DIN EN 50177.</li> </ul>

### 7.2 SAFETY INSTRUCTIONS

	 <b>WARNING</b>
	<p><b>Incorrect operation!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"> <li>→ If contact with powder materials or cleaning agents causes skin irritation, appropriate precautionary measures must be taken, e.g. wearing protective clothing.</li> <li>→ The footwear worn by operating staff must comply with EN ISO 20344. The measured insulation resistance must not exceed 100 megohms.</li> <li>→ The protective clothing, including gloves, must comply with EN ISO 1149-5. The measured insulation resistance must not exceed 100 Megohms.</li> </ul>

OPERATING MANUAL



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## 8 CLEANING AND MAINTENANCE

### 8.1 CLEANING



#### 8.1.1 CLEANING STAFF

Cleaning work should be regularly and carefully undertaken by qualified and trained staff. The staff must be familiar with the DIN EN 50050-2 and DIN EN 50177 provisions. They should be informed of specific hazards during their training.

The following hazards may arise during cleaning work:

- Health hazard from inhaling powder paint
- Use of unsuitable cleaning tools and aids.

#### 8.1.2 SAFETY INSTRUCTIONS

	 <b style="font-size: 1.2em;">DANGER</b>
	<p><b>Explosive powder/air mixes!</b> Danger to life and equipment damage.</p> <ul style="list-style-type: none"> <li>→ Before starting cleaning or other manual work, the high-voltage must be shut down and locked to prevent it from being switched back on!</li> <li>→ Use only electrically conductive containers for cleaning liquids! Ground the containers!</li> <li>→ Preference should be given to non-flammable cleaning fluids.</li> <li>→ If flammable cleaning fluids are used, all parts carrying high-voltage must be discharged to a discharge energy of less than 0.24 mJ, once the high-voltage has been switched off, before they can be reached. Most flammable solvents have an ignition energy of around 24 mJ or 60 nC.</li> <li>→ The cleaning agent's flash point must be at least 15 K above the ambient temperature.</li> <li>→ Only mobile industrial vacuum cleaners of design 1 (see EN 60335-2) may be used to remove dust deposits.</li> </ul>

### **8.1.3 CLEANING PROCEDURES**

The cleaning intervals should be adapted by the operator depending on the level of use and if necessary the level of soiling.

In doubt, we recommend contacting J. Wagner AG's specialist personnel.

The valid health and safety specifications and the safety instructions provided in Chapter 4 must be adhered to for all cleaning work.

## 8.2 MAINTENANCE

### 8.2.1 MAINTENANCE STAFF



Maintenance work should be regularly and carefully undertaken by qualified and trained staff. They should be informed of specific hazards during their training.



The following hazards may arise during maintenance work:



- Health hazard from inhaling powder paint
- Use of unsuitable tools and aids



Once the maintenance work is complete, the device must be checked by a qualified person to ensure a reliable condition.

### 8.2.2 SAFETY INSTRUCTIONS

	 <b>DANGER</b>
	<p><b>Incorrect maintenance/repair!</b> Danger to life and equipment damage.</p> <p>→ Repair or replacement of devices or parts of devices may only be performed outside the hazard area by specialist personnel.</p>

	 <b>DANGER</b>
	<p><b>Incorrect maintenance/repair!</b> Risk of injury and equipment damage.</p> <p>→ Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.</p> <p>→ Before all work on the device and in the event of work interruptions:</p> <ul style="list-style-type: none"> <li>- Switch off the energy/compressed air supply.</li> <li>- Decompress spray gun and device pressure.</li> <li>- Secure the spray gun against actuation.</li> </ul> <p>→ Observe the operating and service instructions at all times when carrying out work.</p>

	 <b>WARNING</b>
	<p><b>Incorrect maintenance!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"><li>→ If contact with powder materials or cleaning agents causes skin irritation, appropriate precautionary measures must be taken, e.g. wearing protective clothing.</li><li>→ The footwear worn by operating staff must comply with EN ISO 20344. The measured insulation resistance must not exceed 100 megohms.</li><li>→ The protective clothing, including gloves, must comply with EN ISO 1149-5. The measured insulation resistance must not exceed 100 megohms.</li></ul>

	 <b>DANGER</b>
	<p><b>Incorrect maintenance/repair!</b> Danger to life and equipment damage.</p> <ul style="list-style-type: none"><li>→ All connector plugs must always be removed before starting all maintenance or repair work.</li><li>→ Only specialist staff or Wagner Service may carry out work on the reciprocator.</li><li>→ Secure the reciprocator against being accidentally turned back on by anyone else (lock the main switch at the controller).</li></ul>

### 8.2.3 MAINTENANCE PROCEDURES



The maintenance intervals should be adapted by the operator depending on the level of use and if necessary the level of soiling.

In doubt, we recommend contacting J. Wagner AG's specialist personnel.

The valid health and safety specifications and safety instructions provided in Chapter 4 must be adhered to for all maintenance work.

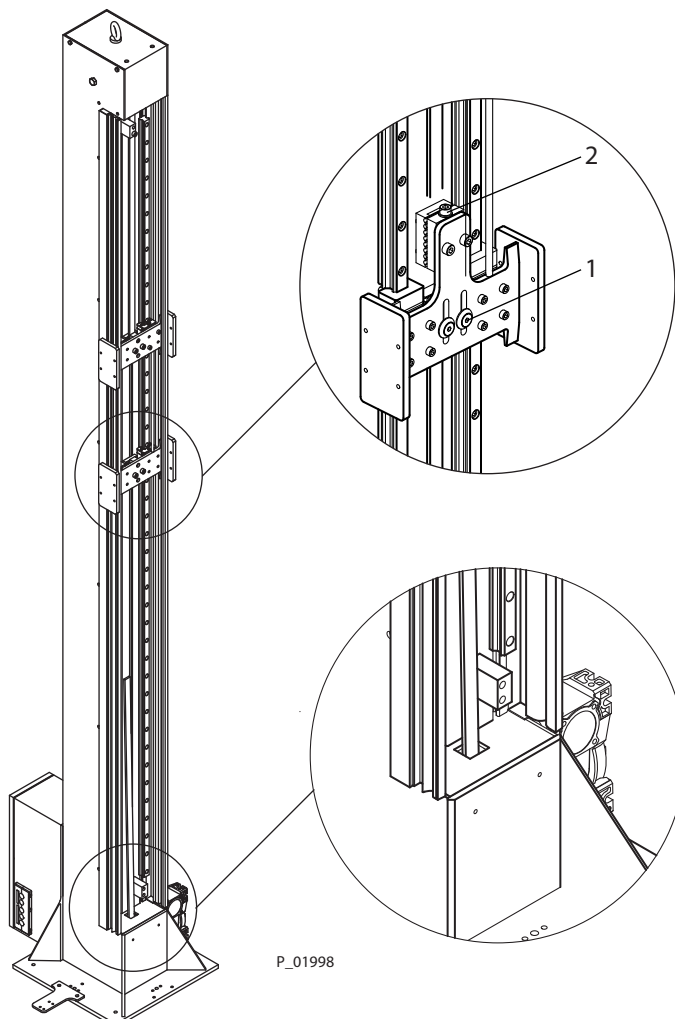
Check intervals	Activity	Note
Every 500 hours	Clean guide rails.	
	Check the sealing lips for damage and replace as necessary.	
	Check ball guide for wear and play.	
Every 1,000 hours	Clean the outside and the inside of the reciprocator.	<ul style="list-style-type: none"> <li>● Remove the powder residue with a vacuum cleaner.</li> <li>● Remove adhering powder residue with ethyl alcohol.</li> </ul>
	Check the toothed belt tension and the toothed belt.	<ul style="list-style-type: none"> <li>● Proceed in accordance with Chapter 8.3 and/or 8.4.</li> </ul>
Every 2,000 hours	Replace the ball guide.	
Every 4,000 hours	Replace the toothed belt and the toothed belt washer.	

### 8.3 CHECKING AND ADJUSTING THE BELT TENSION (VISUAL INSPECTION)

	 <b>WARNING</b>
	<p><b>Unauthorized commissioning!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"><li>→ The cover has to be removed during setup work.</li><li>→ Ensure that the equipment cannot be accidentally turned on without authorization.</li></ul>

**Note:**

The following instructions regarding belt tension are valid for all equipment heights. Belt tension should be checked every 6 months.





### 8.3.1 CHECKING THE BELT TENSION

**Procedure:**

1. Switch the reciprocator off.
2. Remove the front cover of the reciprocator.
3. Switch the reciprocator back on and let it run with nominal speed.
4. During start-up, observe the toothed belt from the lower reversal point, where the toothed belt enters the stand.  
The toothed belt must not have any visible displacement at this point.

### 8.3.2 ADJUSTING THE BELT TENSION

**Procedure:**


1. Open screw 1 by one turn (revolution) with an Allen wrench.
2. Tighten screw 2 with torque wrench with the following listed torques.  
The use of a USAG 824A/2.5 torque wrench is recommended.  
VU 1-1800 reciprocator = 1.6 Nm; 1.18 lbs ft  
VU 1-2400 reciprocator = 1.7 Nm; 1.25 lbs ft  
VU 1-3000 reciprocator = 1.8 Nm; 1.33 lbs ft
3. Screw on screws 1 again.
4. Mount the front cover on the reciprocator again.

If no torque wrench is available, the following procedure can be followed:

**Procedure:**

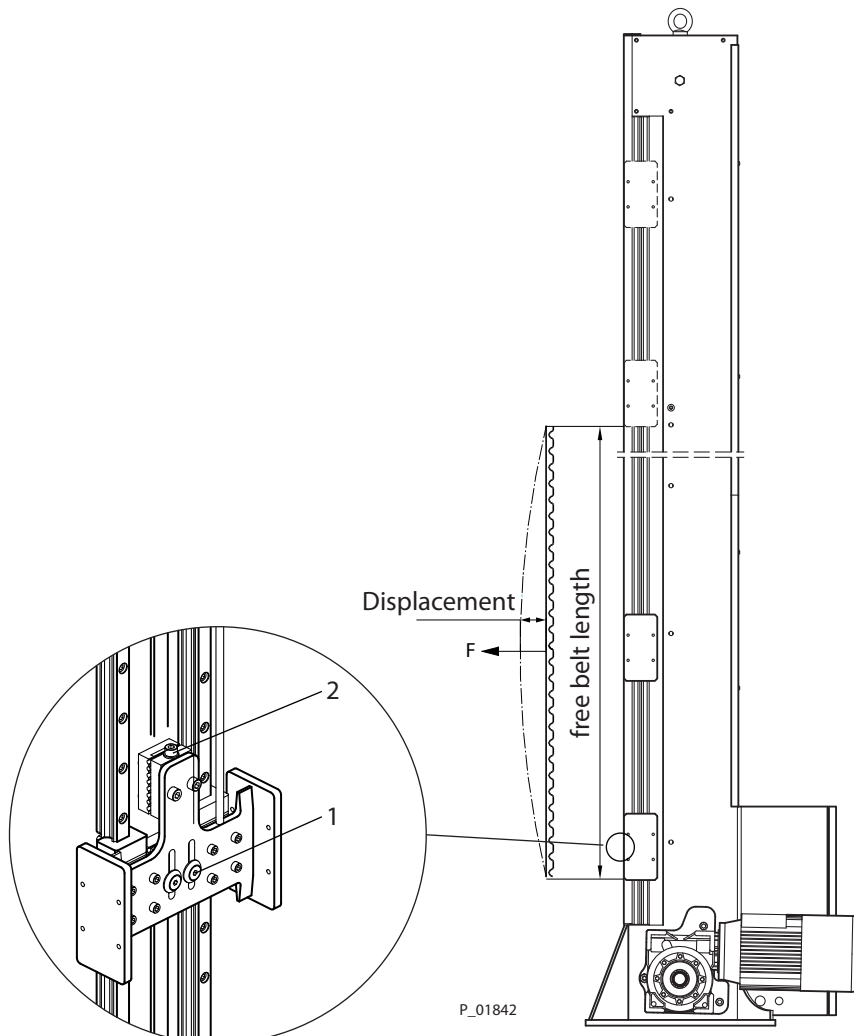
1. Open screw 1 by one turn (revolution) with an Allen wrench.
2. Tension the toothed belt until the toothed belt can be displaced by hand with little effort.
3. Incrementally tighten/loosen the toothed belt with half turns (revolutions) of the tensioning screw 2 until a slight displacement can be seen.
4. Tighten the tensioning screw 2 another quarter of a turn (revolution).  
The toothed belt should no longer be displaced. If necessary, tighten the tensioning screw 2 another quarter of a turn (revolution).
5. Screw on screws 1 again.
6. Mount the front cover on the reciprocator again.

## 8.4 CHECKING AND ADJUSTING THE BELT TENSION (MEASURING DEVICE)

	<b>! WARNING</b>
	<p><b>Unauthorized commissioning!</b> Risk of injury and equipment damage.</p> <ul style="list-style-type: none"><li>→ The cover has to be removed during setup work.</li><li>→ Ensure that the equipment cannot be accidentally turned on without authorization.</li></ul>

**Note:**

The following instructions regarding belt tension are valid for all equipment heights. Belt tension should be checked every 6 months.



### 8.4.1 CHECKING THE BELT TENSION

**Procedure:**

1. Switch the reciprocator off.
2. Remove the front cover of the reciprocator.
3. Move lifting unit into position such that the free belt length between the bottom belt edge and clamping plate on lifting unit is 1,000 mm, 3.28 ft.

In order to manually move the lifting slide, the reciprocator must be in the EMERGENCY STOP mode.

The natural frequency of a lower belt end that has started to swing can be measured using various belt tension measuring devices.

Alternatively, measurement can be done using a spring balance. The measurement is taken by applying a force of 100 N to the centre of the free belt length. Use a ruler to measure the belt's displacement.

The standard values for belt tension can be see in the following table. Note whether the lifting unit is loaded with 25 kg; 55.11 lbs or unloaded.

Lifting unit	free belt length	Frequency	Tractive power F	Displacement
loaded	1,000 mm; 3.28 ft	30 Hz	100 N	28 mm; 1.102 inches
unloaded	1,000 mm; 3.28 ft	40 Hz	100 N	20 mm; 0.787 inch

### 8.4.2 ADJUSTING THE BELT TENSION

**Procedure:**

1. Open screw 1 by one turn (revolution) with an Allen wrench.
2. Loosen or tighten screws 2.
3. Screw on screws 1 again.
4. Attach the front cover to the reciprocator.
5. The reciprocator is ready for use.

## **9 INSPECTIONS IN ACCORDANCE WITH DIN EN 50177: 2010**

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If the system is used for electrostatic coating with flammable coating powders, testing should be undertaken in accordance with DIN EN 50177: 2010-04 as per Table 3 and Table 4.

## 9.1 OVERVIEW OF INSPECTIONS

Section	Type of inspection	Requirements	Inspection by	Type of inspection	Inspection interval
1	Effectiveness of technical ventilation check	Effectiveness of technical ventilation check	TP/CP	ME e.g. measurements of air flow speed / air quantities, checking of the differential pressure indicator according to the booth manufacturer's instructions.	continuously  according to the booth manufacturer's instructions
2	Interlock between technical ventilation and high voltage, compressed air and coating material supply	The technical ventilation should be interlocked such that the high voltage cannot be switched on while the technical ventilation is not working effectively.	CP	FI Test whether the system is safely stopped and the material supply, supply air and high-voltage are switched off when the ventilation is shut down.	annually
3	Protection against ignition of flammable cleaning agents	If flammable cleaning fluids are used, all parts carrying high-voltage must be discharged to a discharge energy of less than 0.24 mJ, once the high-voltage has been switched off, before they can be reached.	CP	ME/FI Function test of the residual energy monitoring equipment according to the manufacturer's instructions.	according to the manufacturer's instructions

**Key:**  
 MA = Manufacturer  
 EM = Employer  
 CP = Capable person  
 FSE = Fire safety engineer  
 ELC = Electrician  
 TP = Trained person

FI = Function inspection  
 ME = Measurement  
 SI = Standard inspection  
 VI = Visual inspection  
 CI = Continuous inspection  
 TI = Technical inspection

## OPERATING MANUAL



Section	Type of inspection	Requirements	Inspection by	Type of inspection	Inspection interval
4	Effectiveness of grounding measures	All the system's conductive elements, such as floors, walls, ceilings, protective grating, transport devices, work pieces, powder containers, machines or construction parts etc. in the spray area, with the exception of parts which carry high voltage during operation, must be connected to the grounding system. The resistance of the floor may not exceed 108 Ohm.	CP	VI/ME/CI Visual check of ground connections, perform function test on grounding switch, measurement of grounding resistors.	weekly
5	Resistance to ground of work piece's locating point	The resistance to ground of every work piece's locating point must not exceed 1 megohm (measurement voltage must be 500 or 1000 V). The design of the work piece receiver must ensure that the adapters remain grounded during coating.	CP	ME/CI Measure resistance to ground (work piece receiver - ground potential) max. 1 MOhm @ 1000 V.	weekly
6	Further inspections	Depending on the design and functions of the booth, further inspections may be necessary (see EN 12981).	according to the booth manufacturer's instructions	according to the booth manufacturer's instructions	according to the booth manufacturer's instructions

Key:  
 MA = Manufacturer  
 EM = Employer  
 CP = Capable person  
 FSE = Fire safety engineer  
 ELC = Electrician  
 TP = Trained person

FI = Function inspection  
 ME = Measurement  
 SI = Standard inspection  
 VI = Visual inspection  
 CI = Continuous inspection  
 TI = Technical inspection

## 10 DISASSEMBLY AND DISPOSAL

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We recommend having the Wagner system disassembled by Wagner or another specialist.

Before starting disassembly, all supply media (electricity, compressed air) must be disconnected at the connection points. All powder paint lines must be thoroughly emptied and then rinsed. Paint residues must be disposed of in line with statutory requirements.

Before starting disassembly, check whether the supply lines have actually been interrupted and have been depressurized and/or de-energized if necessary.

The empty system should be thoroughly cleaned. In particular fire loads such as unused paint in exhaust air pipes etc. should be removed to keep the risk of fire during disassembly as low as possible.

We recommend reporting to the public authorities the fact that systems with mandatory approval requirements are decommissioned.

Separate all materials encountered during disassembly as clearly as possible in line with statutory requirements. Take appropriate actions to ensure that no dangerous substances enter the system during disassembly. All waste produced must be separated and disposed of in line with local requirements.

Used materials are:

- Steel
- Plastics
- Cable ...

## 11 TROUBLESHOOTING AND RECTIFICATION



### DANGER

**Incorrect maintenance/repair!**

Risk of injury and equipment damage.

- Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.
- Before all work on the device and in the event of work interruptions:
  - Switch off the energy/compressed air supply.
  - Decompress spray gun and device pressure.
  - Secure the spray gun against actuation.
- Observe the operating and service instructions at all times when carrying out work.



### DANGER

**Incorrect maintenance/repair!**

Danger to life and equipment damage.

- Wagner devices, protective systems and safety, monitoring and control equipment may only be repaired as defined in Directive 94/9/EC (ATEX) by trained Wagner service personnel or capable persons in accordance with TRBS 1203! Note national regulations!
- Repair or replacement of devices or parts of devices may only be performed outside the hazard area!



<b>Malfunction</b>	<b>Cause</b>	<b>Remedy</b>
Jerky return movement	<ul style="list-style-type: none"> <li>● Toothed belt is loose</li> </ul>	<ul style="list-style-type: none"> <li>● Check the toothed belt in accordance with Chapter 8.3. and 8.4</li> </ul>
Device carriers vibrate heavily	<ul style="list-style-type: none"> <li>● Defective ball guides</li> <li>● Dirty guide rails</li> <li>● Uneven floor, the reciprocator column is inclined</li> <li>● Loose screws on the device carrier</li> </ul>	<ul style="list-style-type: none"> <li>● Replace the ball guides</li> <li>● Clean the guide rails</li> <li>● Level the floor, adjust reciprocator column to a vertical position</li> <li>● Tighten screws</li> </ul>
Lifting unit often runs into limit points or return points change	<ul style="list-style-type: none"> <li>● The connection between the position sensor and the drive gear has come loose</li> <li>● Actual-value sensor (incremental encoder) defective</li> </ul>	<ul style="list-style-type: none"> <li>● Check connection</li> <li>● Inform Wagner service center</li> </ul>
Electrical spark-over between reciprocator and close objects or persons nearby	<ul style="list-style-type: none"> <li>● Insufficient grounding</li> </ul>	<ul style="list-style-type: none"> <li>● Implement grounding measures in accordance with Chapter 6.10</li> </ul>
Squeaking lip seal	<ul style="list-style-type: none"> <li>● The seal rubs too much against the lifting unit T-profile</li> </ul>	<ul style="list-style-type: none"> <li>● Lubricate the lip seal lightly with PTFE spray Apply lubricant to the sliding surface with a cloth</li> </ul>

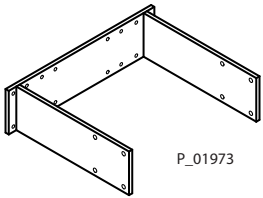
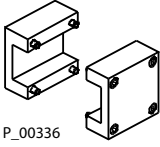
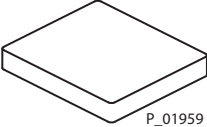
## 12 ACCESSORIES

### 12.1 GUN BASE MOUNTING BAR

For each VU 1 reciprocator, the following basic elements are needed.

**Note:**

Gun holders and fastening elements are not included in the base support (see Chapter 12.2).

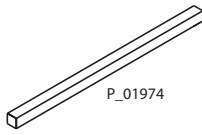
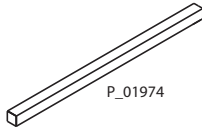
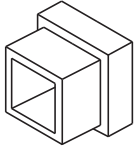
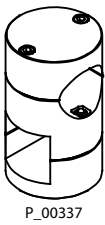
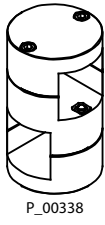
	Stk	Designation	Order No.
 <p>P_01973</p>	2	Guns base support	2334258
 <p>P_00336</p>	2	Flange clamping piece V40	9998890
 <p>P_01959</p>		Counterweight 1.1 kg	2336261
	8	Ribbed lock washer 6 x 10 x 0.7	9925035
	8	Hexagon socket head cap screw M6 x 55	9906036
	16	Hexagon socket head cap screw M6 x 16	9900235
	16	Lock washer A6.0	9921502

## 12.2 FASTENING ELEMENTS

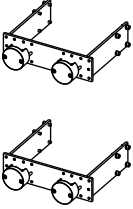
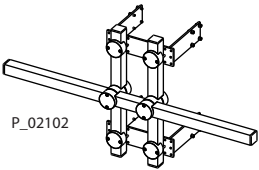
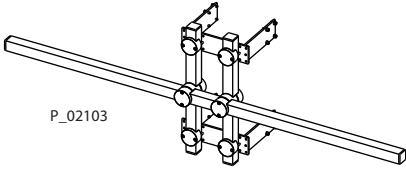
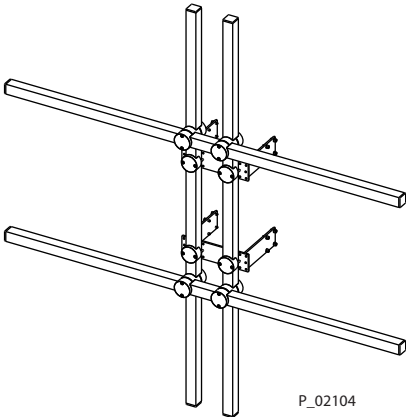
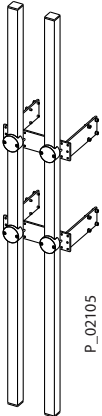
The guns are mounted to the reciprocator with clamps and square tubes.

For the vertical and horizontal construction of up to four guns, aluminum square tubes can be used.

For horizontal construction with more than 4 guns, the use of steel square tubes is recommended for the horizontal support arm.

	Designation	Order No.
 P_01974	Square aluminum tube 40 x 40 x 2	700120
 P_01974	Square steel tube 40 x 40 x 2	3105130
 P_01975	Protective cap 40, black	9998577
 P_00337	Cross clamp, spindle - round For attaching automatic XL spray guns	373235
 P_00338	Cross clamp, spindle - square For attaching automatic spray guns	373236

**12.3 SPRAY GUN ASSEMBLIES**

	<b>Designation</b>	<b>Order No.</b>
 <p>P_02101</p>	<p>VU 1 base carrier, complete</p>	<p>2336702</p>
 <p>P_02102</p>	<p>VU 1 gun assembly, complete horizontal gun arrangement single-row for 4 guns</p>	<p>2336731</p>
 <p>P_02103</p>	<p>VU 1 gun assembly, complete horizontal gun arrangement single-row for 6 guns</p>	<p>2336732</p>
 <p>P_02104</p>	<p>VU 1 gun assembly, complete horizontal gun arrangement in two rows</p>	<p>2336733</p>
 <p>P_02105</p>	<p>VU 1 gun assembly, complete vertical gun arrangement in two rows for 6 guns</p>	<p>2336734</p>

### 12.3 ACCESSORIES CONTROL UNIT

Order No.	Designation
2327643	Motion Control Stand-alone MCS 1
2328547	Power supply cable 2.8 m
2328548	Power supply cable 3.1 m
2328549	Power supply cable 10 m
2328550	Power supply cable 15 m
2328551	Power supply cable 20 m
2328552	CAN bus cable 2.2 m
2328553	CAN bus cable 2.8 m
2328554	CAN bus cable 3.1 m
2328555	CAN bus cable 10 m
2328556	CAN bus cable 15 m
2328557	CAN bus cable 20 m

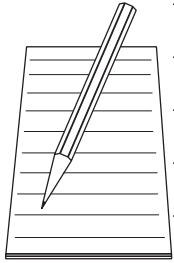
### 12.4 ROLLER BASE RS 8



P\_02106

Order No.	Designation
2327628	Roller base RS 8-600
2327629	Roller base RS 8-900
2337074	Roller base RS 8-1000
2327630	Roller base RS 8-1200

OPERATING MANUAL



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## 13 SPARE PARTS

### 13.1 HOW CAN SPARE PARTS BE ORDERED?

To ensure proper spare parts delivery, the following information is necessary:

#### Order number, designation and quantity

The quantity does not have to be identically to the numbers in the columns "Stk" of the lists. This number merely indicates how many of the respective parts are used in each component.



The following information is also required to ensure smooth processing of your order:

- Billing address
- Delivery address
- Name of the person to be contacted in the event of any queries
- Type of delivery ( normal mail, express delivery, air freight, courier etc.)

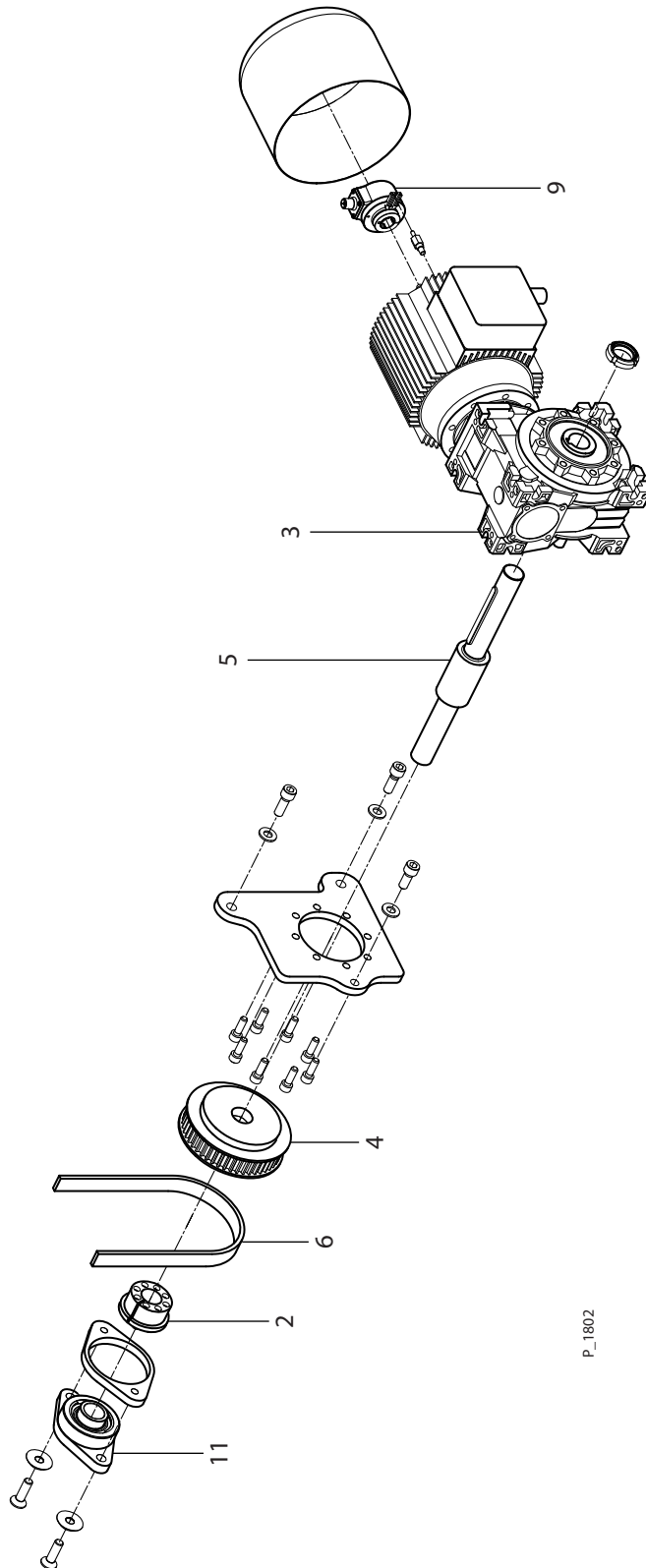
#### Identification in spare parts lists

Explanation of column "K" in the following spare parts lists.

- ◆ = Wearing parts  
**Note:** No liability is assumed for wearing parts.
- = Not part of standard equipment, available, however, as special accessory.

	 <b>WARNING</b>
	<p><b>Incorrect maintenance/repair!</b> Risk of injury and equipment damage.</p> <p>→ Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.</p> <p>→ Before all work on the device and in the event of work interruptions:</p> <ul style="list-style-type: none"> <li>- Switch off the energy/compressed air supply.</li> <li>- Ensure that all system components are grounded.</li> <li>- Secure the unit against being switched back on without authorization.</li> </ul> <p>→ Observe the operating and service instructions at all times when carrying out work.</p>

### 13.2 DRIVE UNIT



P\_1802

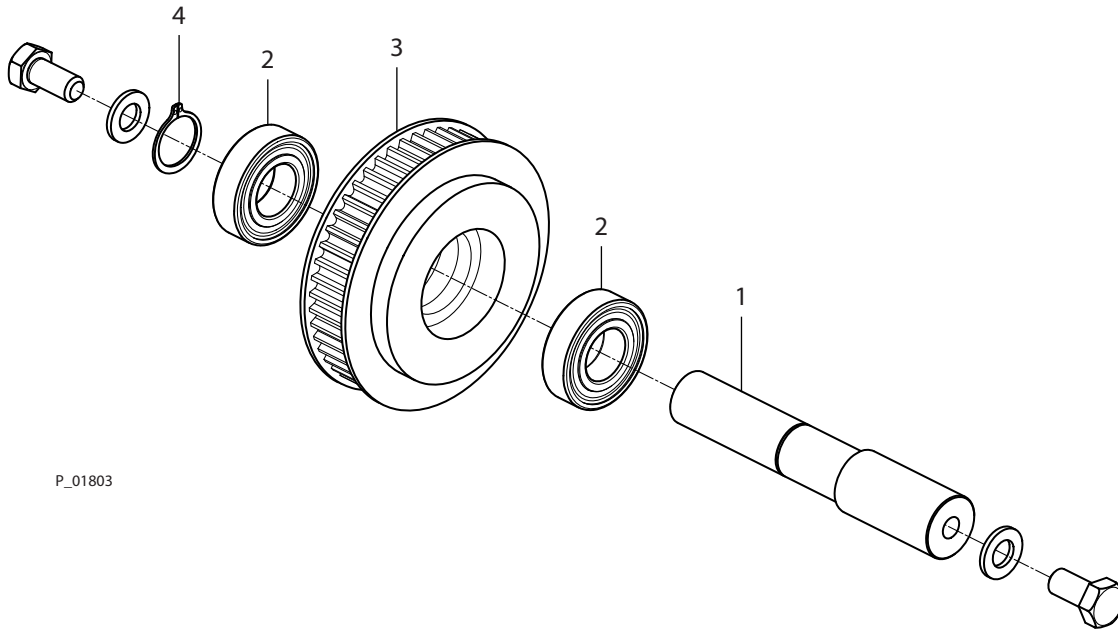


**Drive unit**

No.	K	Stk	Order No.	Designation
2		1	2330653	Counter bracket d25
3		1	2328950	Gear FRT60 120 ATEX V1
4	◆	1	2328956	Drive wheel V1
5		1	2335356	Gear shaft
6	◆	1	2334719	Spare VU 1-1800 toothed belt
6	◆	1	2334723	Spare VU 1-2400 toothed belt
6	◆	1	2334724	Spare VU 1-3000 toothed belt
9		1	2328947	5020 VU 1/HU 1 Kübler encoder
11		1	2335358	Y flange bearing

- ◆ Wearing part
- Not part of the standard equipment but available as a special accessory.
- ★ only available as a set

### 13.3 DEFLECTION UNIT



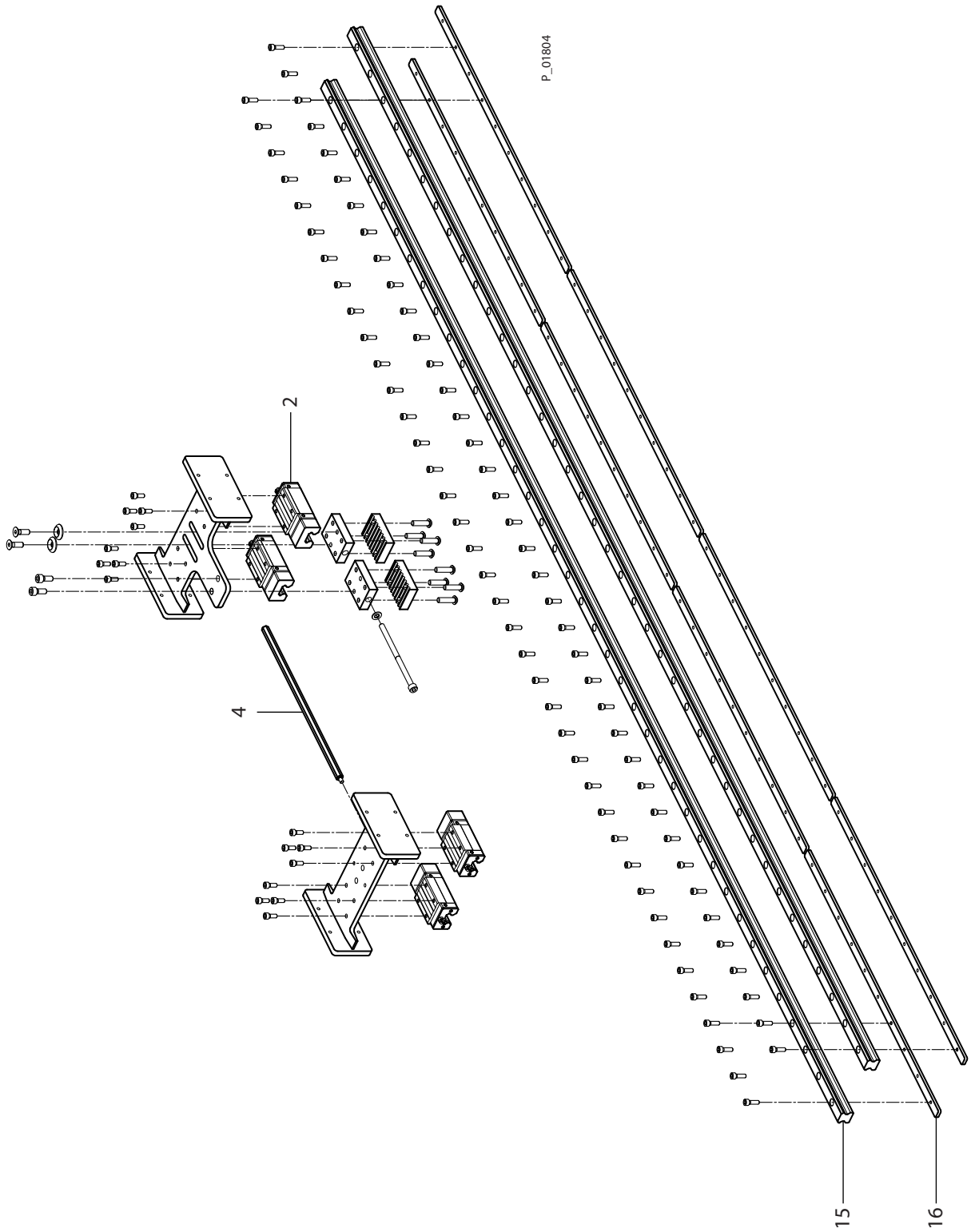
P\_01803

#### Deflection roller

Pos	K	Stk	Order No.	Designation
1		1	2330668	Deflection axis
2	◆	2	2328953	Ball bearing 6205-2RSH
3	◆	1	2328959	Toothed belt pulley
4		1	2330669	Seeger ring D26

- ◆ Wearing part
- Not part of the standard equipment but available as a special accessory.
- ★ only available as a set

### 13.4 GUIDE UNIT

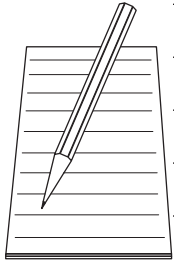


**Lifting slide**

Pos	K	Stk	Order No.	Designation
2	◆	4	2328941	VU 1/HU 1 guide roller cage
4		1	2330675	Spacer bolt
15		2	2330683	VU 1-1800 guide rail (L = 2,350 mm)
15		2	2335420	VU 1-2400 guide rail (L = 2,950 mm)
15		2	2335422	VU 1-3000 guide rail (L = 3,350 mm)
16		8	2335419	(VU 1-1800) perforated rail
16		10	2335419	(VU 1-2400) perforated rail
16		12	2335419	(VU 1-3000) perforated rail

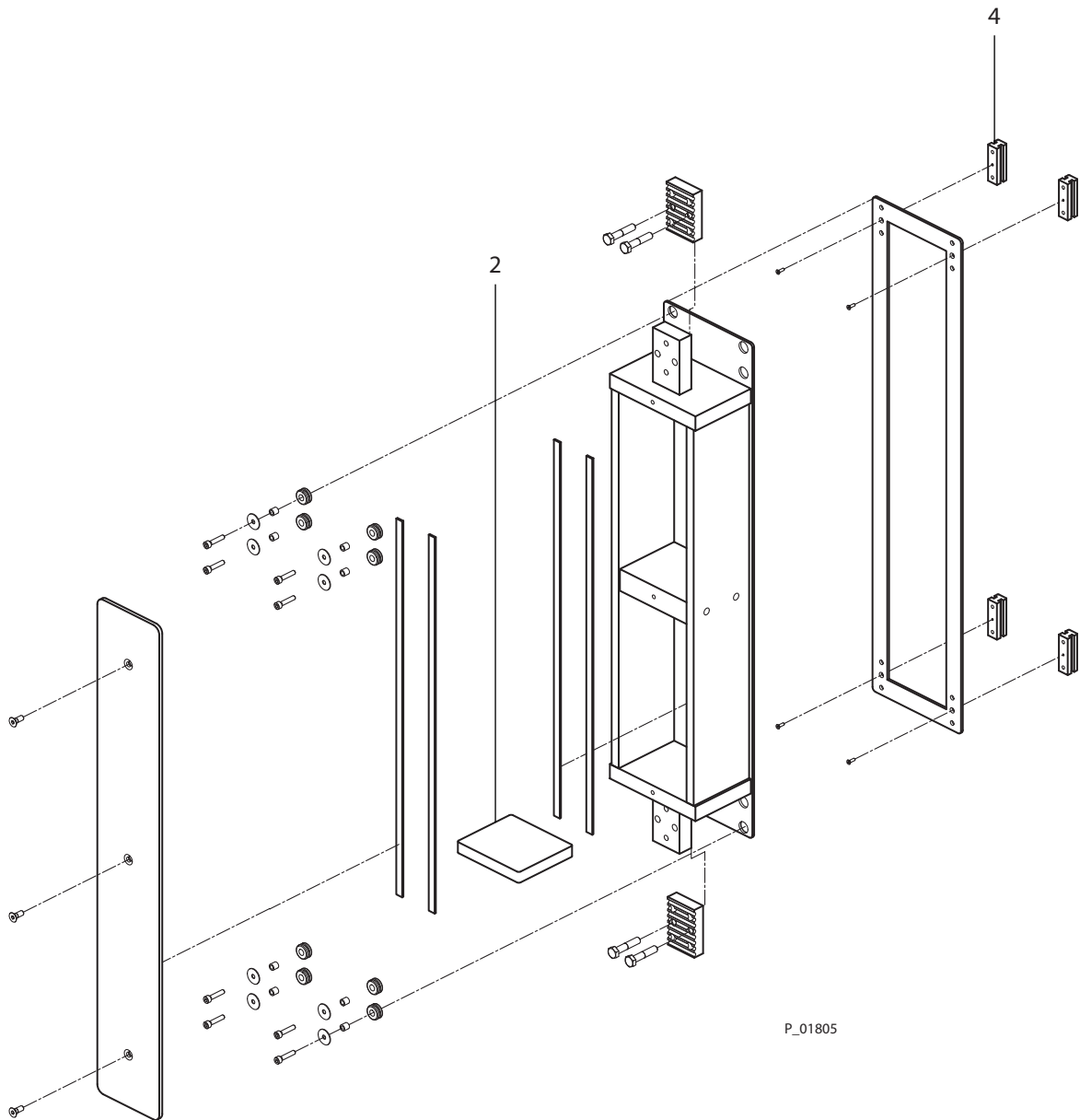
- ◆ Wearing part
- Not part of the standard equipment but available as a special accessory.
- ★ only available as a set

OPERATING MANUAL



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**13.5 COUNTERWEIGHT**



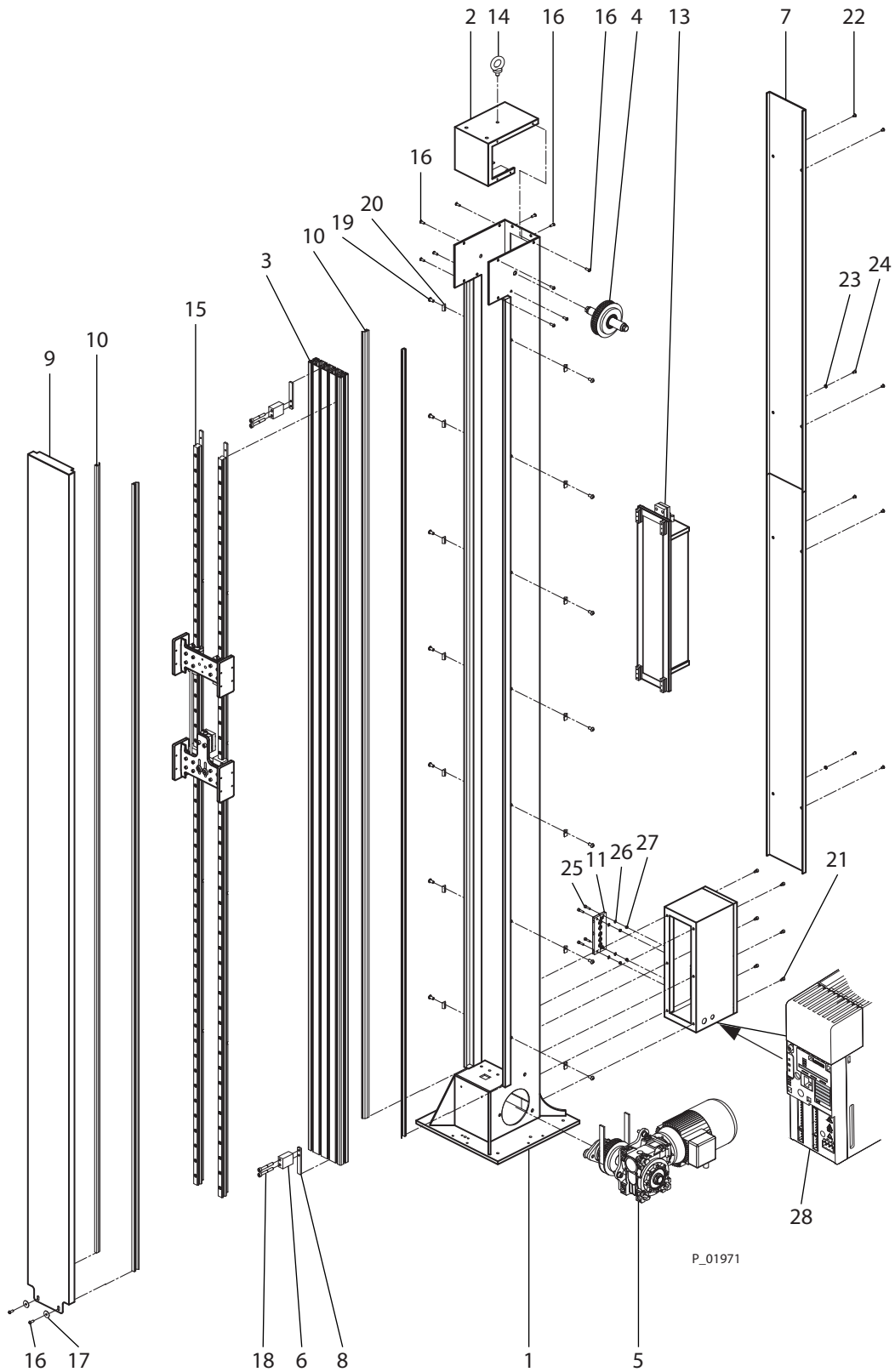
P\_01805

**Counterweight slide**

Pos	K	Stk	Order No.	Designation
2		1	2336261	VU 1 counterweight
4		4	2328946	VU 1 counterweight guide element

- ◆ Wearing part
- Not part of the standard equipment but available as a special accessory.
- ★ only available as a set

### 13.6 RECIPROCATOR TOWER



P\_01971

**Reciprocator tower**

Pos	K	Stk	Order No.	Designation
6		2	2330681	VU mechanical stop
7		2	2330689	VU 1-1800 cover plate, rear
7		2	2335374	VU 1-2400 cover plate, rear
7		2	2335376	VU 1-3000 cover plate, rear
8		2	2330682	Fixing screw
9		1	2330679	VU 1-1800 cover plate, front (L = 2,770 mm)
9		1	2335596	VU 1-2400 cover plate, front (L = 3,370 mm)
9		1	2335597	VU 1-3000 cover plate, front (L = 3,970 mm)
10	◆	1	2334733	VU 1-1800 sealing lips set (4 pieces)
10	◆	1	2334735	VU 1-2400 sealing lips set (4 pieces)
10	◆	1	2334737	VU 1-3000 sealing lips set (4 pieces)
28		1	2328939	VU 1 frequency converter

- ◆ Wearing part
- Not part of the standard equipment but available as a special accessory.
- ★ only available as a set



## 14 DECLARATION OF WARRANTY AND CONFORMITY

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### 14.1 IMPORTANT NOTES ON PRODUCT LIABILITY

As a result of an EC regulation effective from January 1, 1990, the manufacturer shall only be liable for his product if all parts originate from him or are approved by him, and if the devices are properly mounted, operated and maintained.

The manufacturer will not be held liable or will only be held partially liable if third-party accessories or spare parts have been used.

With genuine WAGNER accessories and spare parts, you have the guarantee that all safety regulations are complied with.

### 14.2 WARRANTY CLAIM

Full warranty is provided for this device:

We will at our discretion repair or replace free of charge all parts which within 24 months in single-shift, 12 months in 2-shift or 6 months in 3-shift operation from date of receipt by the purchaser are found to be wholly or substantially unusable due to causes prior to the sale, in particular faulty design, defective materials or poor workmanship.

The type of warranty provided is such that the device or individual components of the device are either replaced or repaired as we see fit. The resulting costs, in particular shipping charges, road tolls, labour and material costs will be borne by us except where these costs are increased due to the subsequent shipment of the device to a location other than the address of the purchaser.

We do not provide warranty for damage that has been caused or contributed to for the following reasons:

Unsuitable or improper use, faulty installation or commissioning by the purchaser or a third party, normal wear, negligent handling, defective maintenance, unsuitable coating products, substitute materials and the influence of chemical, electrochemical or electrical agents, except when the damage is attributable to us.

Components that have not been manufactured by WAGNER are subject to the original warranty of the manufacturer.

Replacement of a component does not extend the period of warranty of the device.

The device should be inspected immediately upon receipt. To avoid losing the warranty, we or the supplier company are to be informed in writing about obvious faults within 14 days upon receipt of the device.

We reserve the right to have the warranty compliance met by a contracting company.

The services provided by this warranty are dependent on evidence being provided in the form of an invoice or delivery note. If the examination discovers that no warranty claim exists, the costs of repairs are charged to the purchaser.

It is clearly stipulated that this warranty claim does not represent any constraint on statutory regulations or regulations agreed to contractually in our general terms and conditions.

### 14.3 DECLARATION OF CONFORMITY

Herewith we declare that the supplied version of

- VU 1 Reciprocator, order no. 2327615, 2327616, 2327617

complies with the following provisions applying to it:

- 94/9/EC (ATEX Directive)
- 2006/42/EC (Machinery Directive)
- 2004/108/EC (EMC Directive)

Applied standards, in particular:

- DIN EN 50050: 2007
- DIN EN 12100
- DIN EN 13463-1
- DIN EN 61457

Applied national technical standards and specifications, in particular:

Identification:

CE  II 3D T4 IP45

#### EC Certificate of Conformity

The CE certificate of conformity is enclosed with this product. If needed, further copies can be ordered through your WAGNER dealer by specifying the product name and serial number.

#### Order number:

Reciprocator VU 1 23xxxx

# 15 ELECTRICAL CONNECTION PLAN

## WIRING DIAGRAM VERTICAL UNIT

**X1**

**X5**

**X105 - IT**

**X105 - IT**

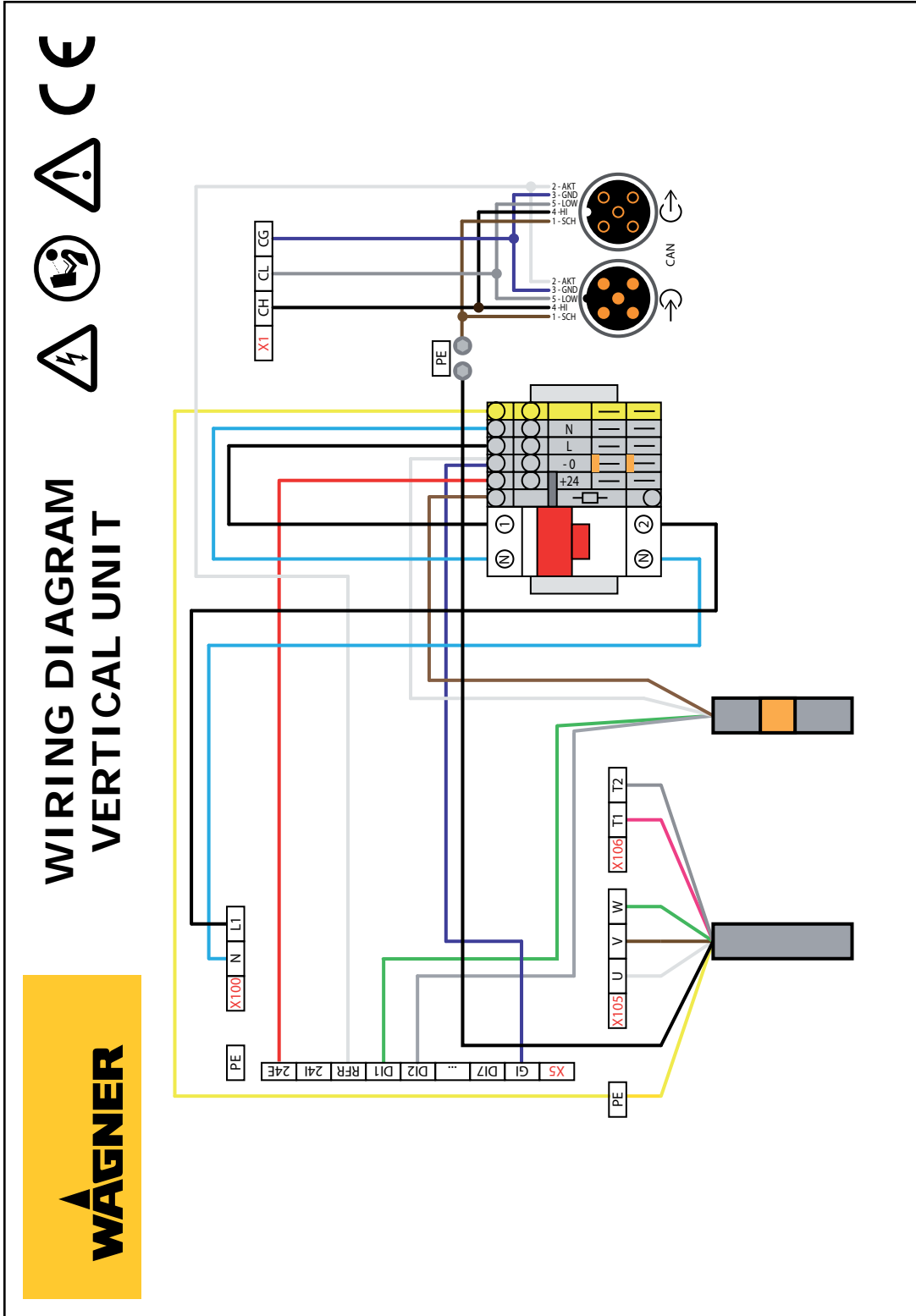
**X106**

**X100 - IT**

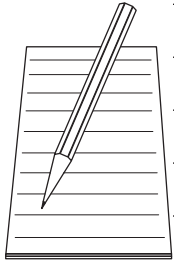
**CanOpen Node 21 Configuration**

**CanOpen Node 22 Configuration**

	ENG204	F	UL	LI, N	PE
6	C6	6	C6	6	6
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15	C15	15	C15	15	15
18-10					
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OPERATING MANUAL



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## OPERATING MANUAL



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Order No. 2330732

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