

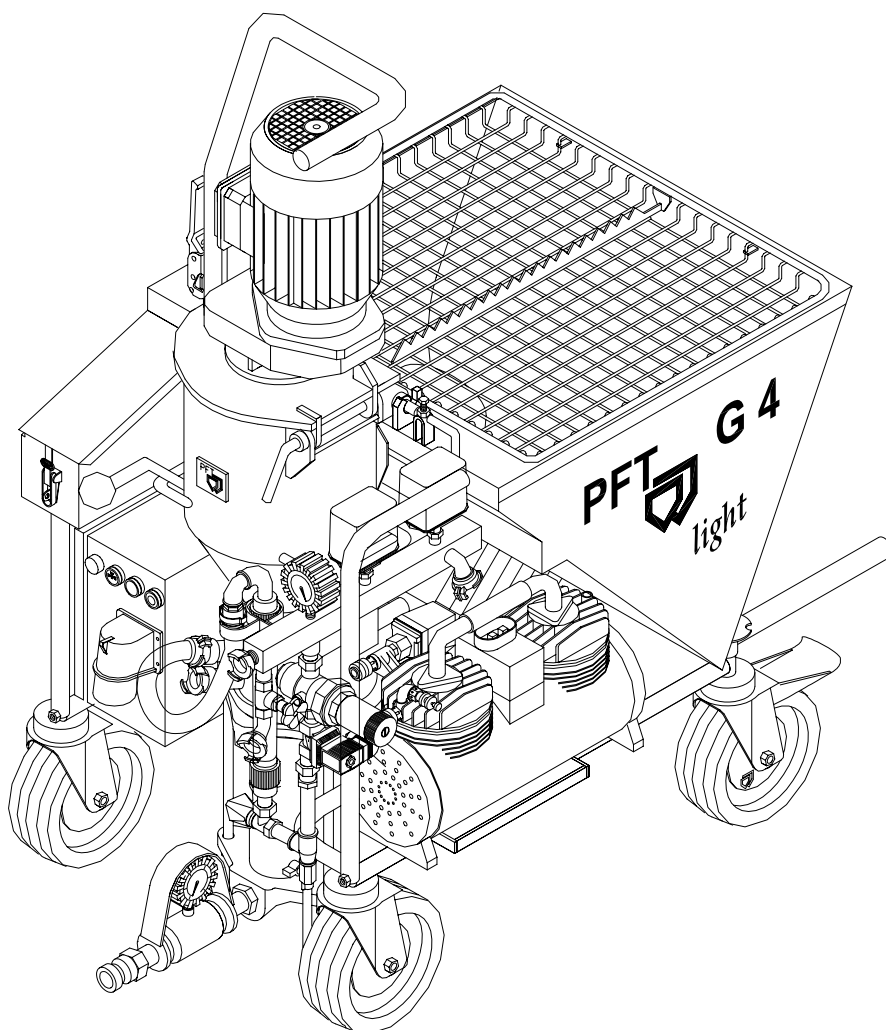
OPERATING INSTRUCTIONS

(Item number of operating instructions: 00 08 32 78)

(Item number of parts list: 00 07 26 95)

MIXING PUMP

PFT G 4 LIGHT PFT G 4 LIGHT II



WE KEEP THINGS MOVING



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Dear Customer,

Congratulations on your purchase. You have made a wise choice, because you appreciate the quality of a brand from a company with a name that exemplifies quality.

The **PFT G 4 LIGHT** mixing pump uses state-of-the-art technology. It was designed in a task-optimised way so that it can be a trustworthy aid for rough construction site conditions.

These operating instructions should always be stored and kept at hand at the machine's site of use. They contain information on the various functions of the system. Study the operating instructions thoroughly before starting the machine, as we claim no responsibility for accidents or damage to the machine caused by incorrect operation.

The **PFT G 4 LIGHT** mixing pump will be a trustworthy aid, if it is operated correctly and handled with care.

Initial inspection after delivery

An important task of all technicians delivering the **PFT G 4 LIGHT** mixing pump is the inspection of the machine settings at the end of the first work phase. The factory settings can be changed during the first operation. If these changes are not corrected in time, immediately after initial start-up, then problems during operation can be expected.

After putting the **PFT G4 LIGHT** mixing pump into service and giving appropriate instructions, after about two hours, the technician must always carry out the following checks / make the following settings settings:

- Water safety switch
- Pump pressure, backpressure
- Air safety switch
- Pressure reducer

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Proper use of the machine

The **PFT G 4 LIGHT** is a continuously operating mixing pump for pre-mixed machinable mortar with a particle size of up to 3 mm.

Follow all processing guidelines from the mortar manufacturer.

Functionality

The **PFT G 4 LIGHT** mixing pump is a continuously operating mixing pump for pre-mixed ready-to-use dry mortar. It can be filled either with bagged material or using the delivery or injection hood.

Please observe the processing guidelines of the material manufacturer.

The machine consists of portable individual components of small, handy dimensions and light weight that allow fast, convenient transport.

When operating the machine, the following aspects must be observed:

- Connection worksite power – control box
- Connection control box – pump motor
- Connection control box – compressor
- Connection compressor – air manifold
- Connection water supply – water manifold
- Connection air manifold – air hose
- Connection air hose – spraying gun
- Connection mixing tube – mortar pressure gauge
- Connection mortar pressure gauge – mortar hose
- Connection mortar hose – spraying gun

Basic safety instructions

The following terms and symbols are used in these operating instructions for particularly important information:

NOTE:

Special information for running the machine efficiently.

WARNING!

Special information, regulations and restrictions concerning the prevention of damage.

**WARNING!**

The machine should only be used if it is in technically perfect condition and in compliance with regulations. Pay attention to safety and the operating instructions. It is especially important to immediately eliminate all faults that could impair safety.

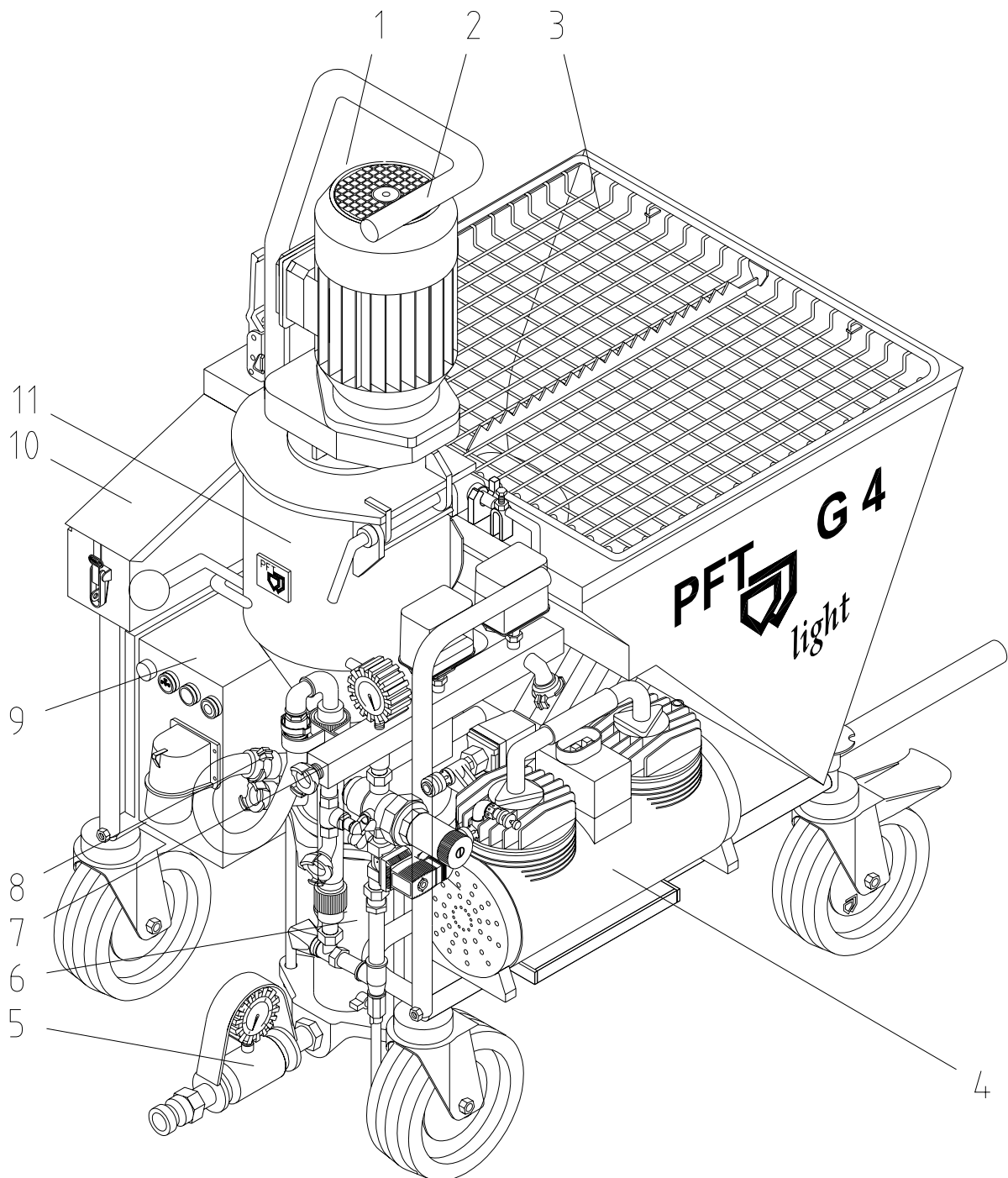
In order to make the operation of our machines as easy as possible for you, we would like to briefly inform you of the most important safety regulations. If you comply with these regulations, you will be able to use our machine in a safe and quality-assuring manner for a long time to come.

Basic safety instructions

1. Follow the safety instructions and danger warnings on the machine. Ensure that all instructions are legible!
2. Observe all instructions for switching the machine on and off, control indicators and signal lamps as stated in the operating instructions.
3. Set up the machine on firm and even ground and secure it against unintentional movements. It should neither tilt nor roll away. The machine must be set up in such a way that it cannot be hit by any falling objects. The controls must be freely accessible.
4. Inspect the machine for visible damage and defects at least once every shift! When doing so, pay special attention to electrical power cables, couplings, plugs, air, water and conveying lines. Any faults detected must be eliminated immediately.
5. All spare parts must comply with the technical requirements of the manufacturer. This is guaranteed for all original PFT parts.
6. The machine may only be connected to a worksite switchgear assembly with an FI safety switch (30 mA). If the machine has a 3-phase frequency converter, then the 30 mA FI safety switch of the worksite switchgear assembly must be sensitive to all currents.
7. The machine may only be put into service by trained or authorised personnel. Clearly define all lines of responsibility for operation, retrofitting, service and maintenance.
8. Personnel undergoing training should only be allowed to operate the machine under the supervision of experienced personnel.
9. All electrical work should be carried out by a qualified electrician or by trained personnel under the supervision of a qualified electrician and should comply with electro-technical regulations.
10. The machine must be completely switched off for maintenance and repair work. It must be ensured that it cannot be switched back on accidentally (for example, lock the main switch and remove the key, or attach a warning sign to the main switch).
11. If work is required on live components, a second person should be present to disconnect the power in the case of an emergency.
12. Depressurise all conveying systems before opening conveying lines.
13. Before cleaning the machine with a water jet, seal all openings through which water could enter, thereby impairing the safety and proper functioning of the machine (e.g.: electric motors and control boxes). After cleaning, remove all covers.
14. Only use original fuses with the prescribed amp ratings!
15. Disconnect the machine from any external power supply before you relocate it, even if you are only moving it a short distance. Prior to putting the machine back into service, it should be connected to the mains correctly.
16. The machine may only be moved by crane if it is firmly strapped to a Euro pallet. All removable parts must be dismantled first. Ensure that nobody enters the crane's danger area. All precautions must be taken to prevent parts from falling off.
17. Safety devices such as inclination switches, protective grilles, etc. must not be manipulated. Before starting work, the safety devices should be inspected separately.
18. Longer work breaks will cause the mortar to set, which would result in problems during operation. This is why the machine should always be emptied and cleaned (incl. spraying gun and conveying hoses) during long breaks.
19. Objects should never be placed in the dry mortar hopper or pump container.
20. If the permanent noise level exceeds 85 dB(A), appropriate noise protection devices must be provided.
21. The machine must be inspected by a specialist once a year. This inspection must be documented and include the following: visual inspection for damage, functional check, inspection of safety devices, high-voltage check of control box.
22. In case of frost, safety-relevant components could be damaged. If there is a danger of frost, always drain water from the machine.
23. The machine's lubrication and maintenance schedule must be complied with, otherwise the warranty claim will lose its validity.

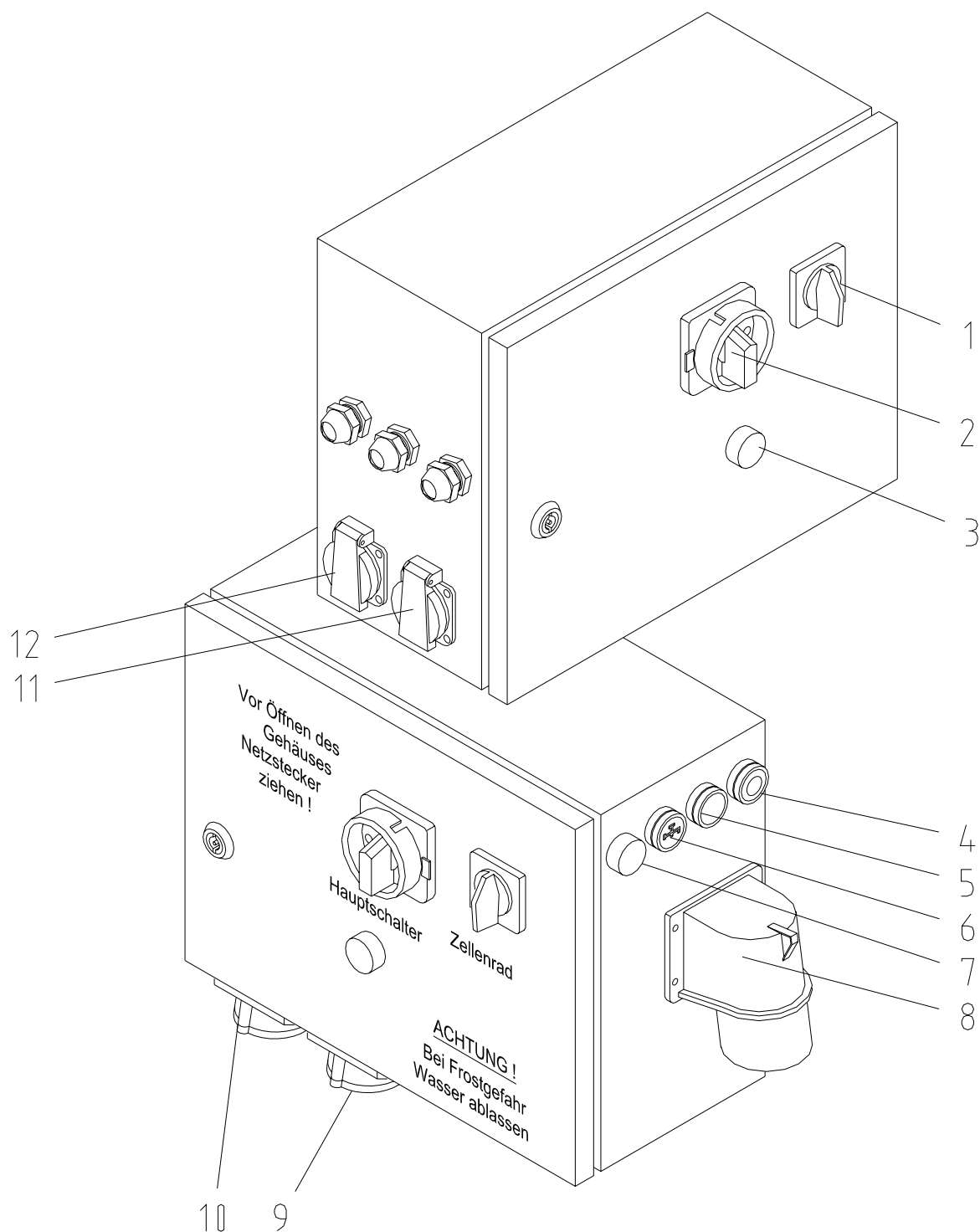
24. Any changes to the machine are not permitted. Knauf PFT GmbH & Co. KG will not accept any liability for claims if changes are made.
25. For pumps and mixing pumps, the following additional safety precautions must also be observed: Wear the following protective clothing when spraying: safety goggles, safety shoes, safety clothing, gloves, protective skin cream and respirator mask.
When unblocking hoses, stand away from the machine to avoid injury through high-pressure discharges of mortar. Always wear safety goggles. No other persons should be near the machine.
Only conveying hoses with an approved operating pressure of at least 40 bar may be used. The burst pressure of the conveying hose must be at least 2.5 times the operating pressure. The machine may not be operated without a mortar pressure gauge.
Depressurise all conveying systems before opening mortar pressure hoses. If the machine is remote-controlled by means of a spraying gun or remote control, the machine can be switched on and off at all times without anyone needing to work directly at the machine.

Overview of G4 LIGHT



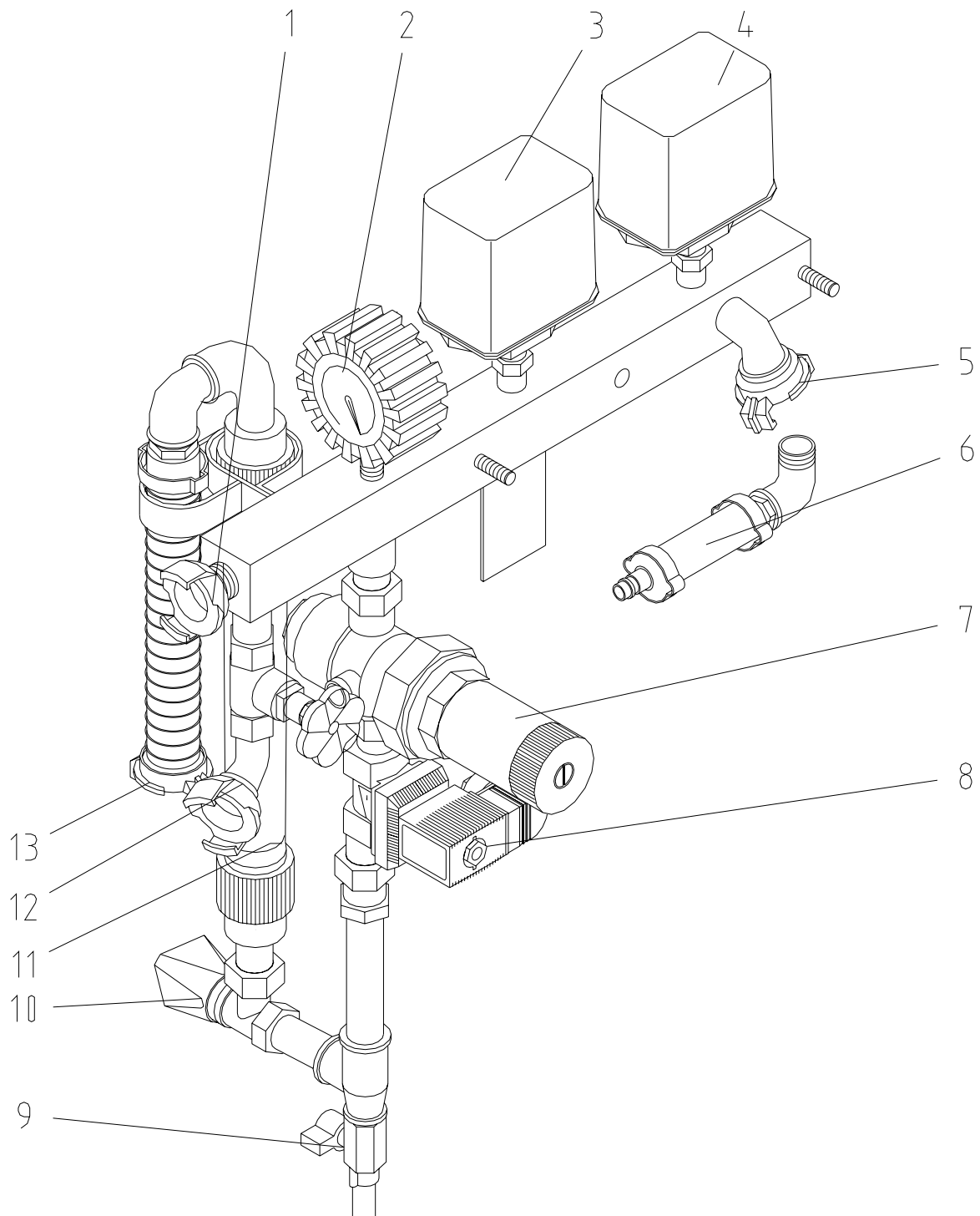
1. Mixer motor	2. Protection bail for motor
3. Protective grille	4. Compressor
5. Mortar pressure gauge	6. Pump
7. Water manifold	8. Water inlet
9. Control box	10. Tool box
11. Mixing tube	

Overview of control box



1. Star wheel selection switch Hand-0-Automatic	2. Main reversing switch
3. Orange "Change direction of rotation" control lamp	4. Red "Operation OFF" pressure switch
5. Green "Operation ON" light switch	6. Water flow button
7. Control lamp motor protection switch activated	8. Mains connection 32 A
9. CEE socket 7X16A pump motor	10. CEE socket 4X16 A continuous current/compressor
11. Grey earthing socket for water pump	12. Blue earthing socket for continuous current

Overview of water/air manifold



1. Water supply	2. Gauge for water operating pressure
3. Safety switch 1.9-2.2 bar closing unit	4. Safety switch 0.9-1.2 bar opening unit
5. Air to the spraying gun	6. Air from compressor pressure control
7. Pressure reducer	8. Solenoid valve
9. Tap ext. thread	10. Needle valve
11. Water flow meter	12. Water outlet valve
13. Water to mixing tube	

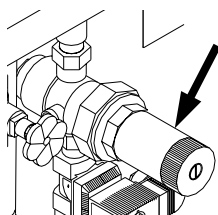
Inspection of the setting values (factory settings)

Safety switch

	Switching on the machine	Switching off the machine
Water	2.2 bar	1.9 bar
Air	0.9 bar	1.2 bar
Compressor	2.5 bar	3.1 bar

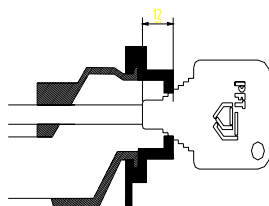
Compressor safety valve

4.0 bar against completely closed air pipe (factory setting and secured with knurled screw)



Pressure reducing valve:

1.9 bar at maximum flow (1000 l/h)

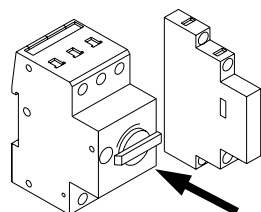


Air nozzle tube clearance

The gap between air nozzle tube and spray cap should always be equivalent to the diameter of the spray cap hole;

e.g.: 14 mm spray cap = 14 mm gap.

Adjust with item no. 20 19 02 23 spraying gun adjustment tool



Motor protection switch

	Output	Setting value	Description
Compressor / water pump		16 A	F1
Star wheel	0.3 kW	0.96 A	Q3
Mixer motor	5.5 kW	11.5 A	Q2

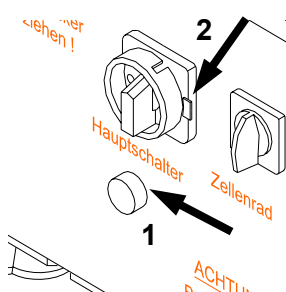
Yellow direction of rotation control lamp

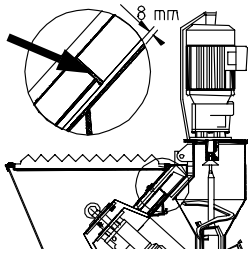
The **PFT G 4 LIGHT** mixing pump is equipped with a phase sequence relay that locks the machine if the direction of rotation is incorrect.

The star wheel must be turned in clockwise direction for right-hand rotation.

If the direction of rotation is incorrect (1 yellow control lamp lights up), turn the main reversing switch to zero position. Push the laterally protruding selection plate (2) to the opposite side to change the direction of rotation.

Then switch the machine back on.



**Star wheel**

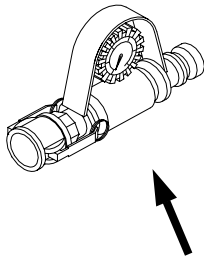
Gap from star wheel to hopper floor: factory setting approx. 8 mm

Rule of thumb:

1.5 x diameter of the largest ready-mix dry mortar particle. If required, the star wheel distance disk (item no. 20 10 19 00) can be installed for coarse plaster.

**WARNING!**

Mortar pressure gauges are always to be used in compliance with the safety regulations of the Builder's Guild.

**Mortar pressure gauge**

PFT mortar pressure gauges monitor the mortar consistency efficiently and easily.

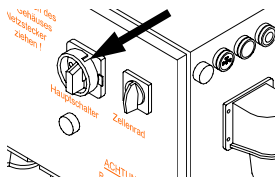
The mortar pressure gauge is part of the scope of delivery

Some advantages of the mortar pressure gauge:

- Constant monitoring of the correct conveying pressure
- Early detection of clogging or overloading of the pump motor
- Establishment of zero pressure
- Significant contribution to the safety of operating personnel
- Long service life of pump components

**WARNING!**

Before installing/removing the mortar pump, make sure that the main switch is off.

**NOTE:****Furthermore observe that:**

- A new rotor and a new stator need to be run in; real pressure values can only be determined after the first spraying.
- Pump components which do not achieve the specified operating pressure (25 bar) are worn out and must be replaced.

Checking the conveying pressure and backpressure

- Connect a 10 m conveying hose.
- Connect a pressure tester with outlet tap to the end of the hose.
- Open the pressure tester's ball valve.
- Switch on the machine and let run only with water (without dry material) until water emerges at the outlet tap (the hose has now been bled).
- Now connect the ball valve to the tap ext. thread.
- Let the pump run against the closed tap until there is no more increase in pressure.
- Switch off the machine.
- If the operating pressure is no longer reached, the maintenance-free pump must be replaced.
- Check the backpressure.
- A backpressure of approx. 2/3 of the conveying pressure of the screw pump should be maintained in the hose.

NOTE:

The test pressure with water should be 5 to 10 bar above the expected mortar conveying pressure! An adverse position of the screw pump in the liner will result in water flowing back to the mixing area accompanied by a distinct gurgling noise. Switch the machine on and off repeatedly until you find the position in which the rotor seals with the stator. If required, repeat this procedure several times.

- An operating pressure of 30 bar should not be exceeded.
- The minimum conveying distance depends mainly on how the mortar flows. Heavy, coarse-grained mortar does not flow easily. Fluid material flows easily.
- It is recommended to reduce the length of the hose if you exceed an operating pressure of 30 bar.

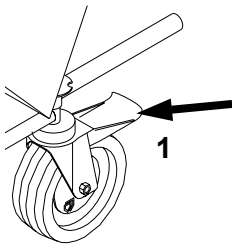
To avoid machine malfunctions and excessive wear on pump motor, mixing shaft and pump, always use original spare parts, such as

- PFT rotors
- PFT stators
- PFT mixing shafts
- PFT mortar pressure hoses.

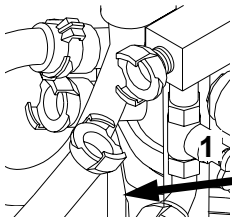
These wearing components are compatible with one another and form a single constructive unit together with the machine.

If you do not follow these recommendations, you will not only lose your warranty rights, but the quality of the mortar you are producing will also suffer!

Putting the machine into service



Lock the castor before starting the machine.



Connect the water intake to a $\frac{3}{4}$ " hose. Open the water intake to vent and clean the hose line. Close the water intake.
Connect the water hose to the water intake (1) or water pump.
Close the drainage valves on the water manifold.
At a water pressure below 2.5 bar, a water pump must be used.

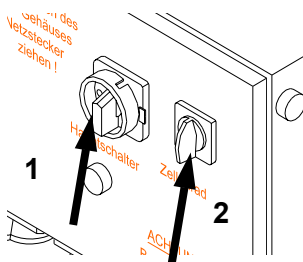


The machine may only be connected to a worksite switchgear assembly with 32 A fuse protection and a 30 mA FI safety switch that conforms to regulations. The connection cable should correspond to version H07 RN-F 5x4.0 mm². For 5-pin connections only, use the earthing socket to connect all 230 V consumers (such as portable lamps etc.) and the water pump.

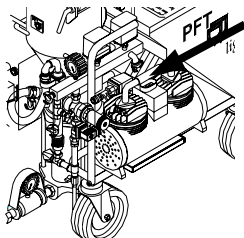


WARNING!

The protective grille must not be removed during operation or while preparing the machine.

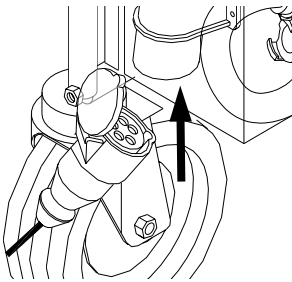


Before the control box is powered, the following must be observed:
Turn off the main reversing switch (1) ("0" position, lockable)
Turn the star wheel switch (2) to "0" position.

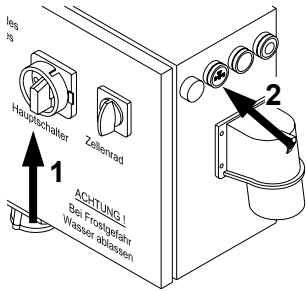


Switch off the compressor.

Operation as mixing pump



Connect the control box to the power supply.

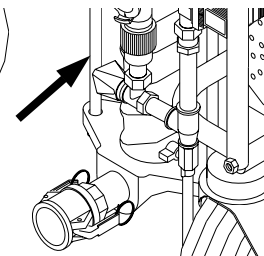


Turn the main reversing switch (1) to I position.
Press the water flow button (2) (water pump runs).



WARNING!

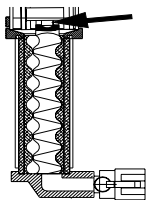
The **G 4 LIGHT** can also be supplied with water from a water barrel. If this is done, observe that a suction inlet with filter (item no.00 00 69 06) and a high pressure pump must be installed. (Bleed the water pump).



Adjust the water factor.

Adjust the expected water quantity at the needle valve (3). Follow the mortar manufacturer's specifications.

During operation: Every interruption of the spraying procedure results in minor irregularities of the mortar consistency. This normalises however, as soon as the machine has been working for a short while. So do not change the water quantity each time you detect irregularities, but instead wait until the consistency of the mortar emerging at the spraying gun has self-adjusted.



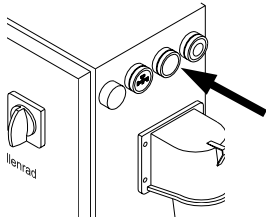
Check the water level (can be done with pump motor tilted).

IMPORTANT!

The **D6-3** pump unit **must** always be **pre-wetted**!



If the 7-pin connection plug is removed or if the mixing tube or mixing pump motor is tilted, the control circuit is interrupted (starting lock).



To put the machine into service, the green “Operation ON” pressure switch must be used again.

Turn the star wheel switch briefly to “Hand”.

The star wheel can be switched to the positions:

HAND

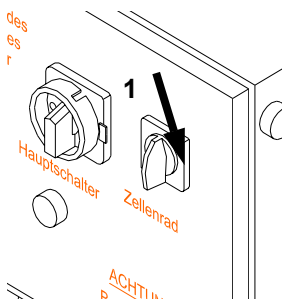
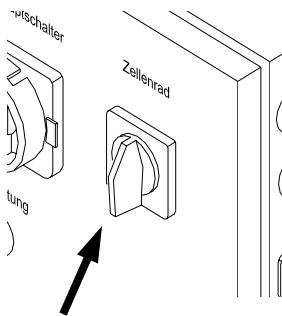
The star wheel always runs if the machine is connected and switched on. In this position, mortar can be added to the mixing area, if the pump is not running. For heavy or dispersion mortars we recommend “pre-wetting” it and the brief opening of the mixing area’s lower water supply so that excess water can be drained. (The control circuit must be interrupted by removing the blind plug.)

ZERO

The star wheel is switched off thus interrupting the supply of mortar to the mixing area, e.g. when cleaning the mixing area with a mixing cleaner or when adjusting the pump.

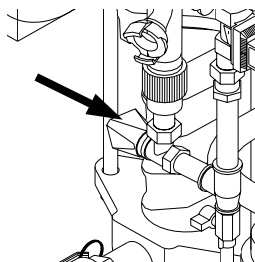
AUTOMATIC

The star wheel runs in synchronisation with the mixing pump and is switched on and off with the air pressure control or remote control.



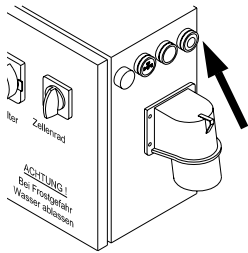
Fill the storage container with dry mortar.

Turn the star wheel switch (1) to automatic. The machine is now running. The mortar consistency can now be checked at the mortar outlet flange (do not connect the mortar hose yet). While the motor is running, adjust the water quantity to approx. 10 % above the reference value. The reference value is the water setting at which the mortar has the right flowing consistency, e.g.: Knauf MP 75 – reference value approx. 650 to 750 l/h.

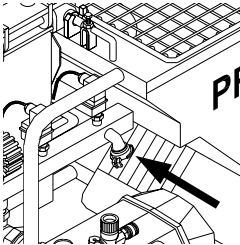


If mortar emerges, correct the water supply for the best consistency by adjusting the water quantity using the needle valve – visible at the cone of the water flow meter.

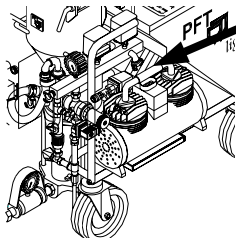
Turn the hand wheel in clockwise direction to reduce the flow of water. Turn it in the opposite direction to increase the flow.



Press the red “Operation OFF” pressure switch (the machine stops).



Connect the air hose to the air manifold and spraying gun



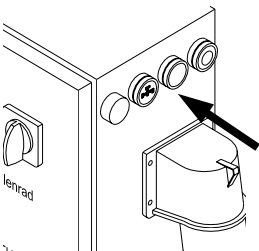
Switch on the compressor.

Connect all required mortar hoses to each other and flush with water to avoid hose blocks (do not leave water in hoses). To do so, use the cleaner coupling (in the tool bag). If the mortar quality is unknown, pour approx. 3 litres of lime or plaster slurry into the first hose after the machine.

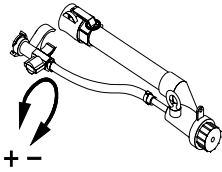
WARNING!



Make sure that the coupling is clean and correctly joined.
Connect the hoses to the mortar pressure gauge and again observe the mortar hose seal.
Connect the spraying gun (finishing coat gun or crimp valve gun) to the mortar hose.



Press the green “Operation On” pressure switch and open the air tap on the spraying gun. The machine starts; cleaning can now be started. At first, mortar of thin consistency emerges at the spraying gun, then mortar of the correct consistency. If required, use the needle valve for making further adjustments.



Open and close the air tap on the spraying gun to switch the machine on and off.

Mortar consistency

The mortar consistency is correct when the material on the surface being sprayed flows into itself, forming a consistent coat (we recommend that you apply material to wall surfaces from top to bottom). If the material is too dry, even mixing and spraying cannot take place. There may be clogging in the hose. Pump components are thus subject to greater wear and tear.

Spraying guns and nozzles

Use spraying nozzles of 10, 12, 14, 16 or 18 mm, depending on the mortar consistency. Larger nozzles reduce the projection speed and thus the rebound effect. Smaller nozzles create better atomisation. Note that the gap between the air nozzle tube and the nozzle outlet should correspond to the diameter of the nozzle.

Interruption of work

Warning!

Follow all instructions from the mortar manufacturer when interrupting spraying work.

It is recommended to clean the pump prior to longer interruptions. To do so, see the corresponding page 20 – Measures at the end of work and when cleaning.

Every interruption of the spraying procedure results in minor irregularities of the mortar consistency. This normalises however, as soon as the machine has been working for a short while. So do not change the water supply each time you detect irregularities, but instead wait until the consistency of the mortar emerging at the spraying gun has self-adjusted.

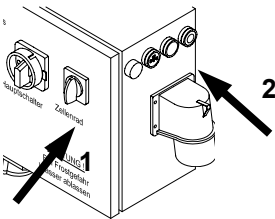
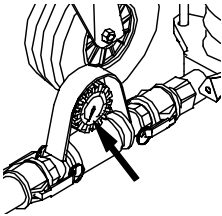


Measures at the end of work and when cleaning

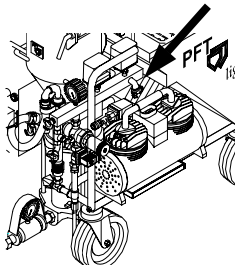


WARNING!

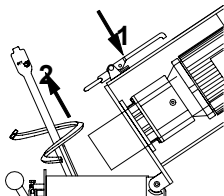
Prior to dismantling the screw pump and opening the motor tilt flange, make sure under all circumstances that pump and hoses are depressurised.



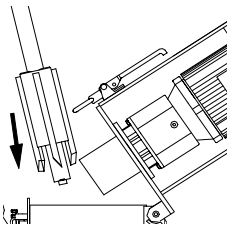
At the end of work, switch off the mortar supply (star wheel), turn the star wheel switch (1) to "0" position. Empty the mixing tube. Press the red "Operation OFF" pressure switch (2).



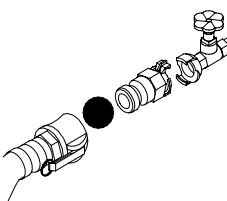
Switch off the compressor and open the tap on the spraying gun. Disconnect the mortar hose (only when depressurised).



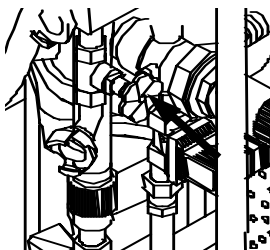
Release the snap lock (1) on the motor flange and tilt the motor. Remove and clean the mixing shaft (2). Clean the mixing area with a trowel.



Insert the cleaning shaft and mixing tube cleaning agent with the scrapers at the bottom. Close the motor flange and lock it with the snap lock. Press the green "Operation ON" pressure switch for approx. 5 - 10 seconds and let the machine run until the mixing tube is clean. Press the red "Operation OFF" pressure switch, remove the mixer cleaner. Install the cleaned mixing shaft. Close the motor flange and lock it with the snap lock.



To be cleaned, the hoses and mortar pressure gauge are connected to the water intake valve using the cleaner coupling (in the tool bag). This prevents the pump from damage. First a water-soaked sponge ball must be pressed into the hose inlet.



Then open the water valve until the sponge ball emerges at the end of the hose. The corresponding sponge balls must be used separately for different hose diameters.

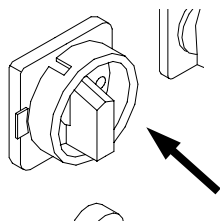
Repeat this procedure if required.

Clean the spraying gun separately under running water.

Close the water intake valve.

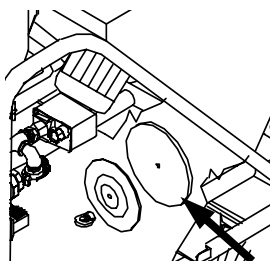
Depressurise the water hose by opening and then carefully disconnecting the water valve at the side.

Now disconnect the mains cable.



WARNING!

Prior to dismantling the hopper cleaning flap, the main switch must be turned off or the power supply must be disconnected.

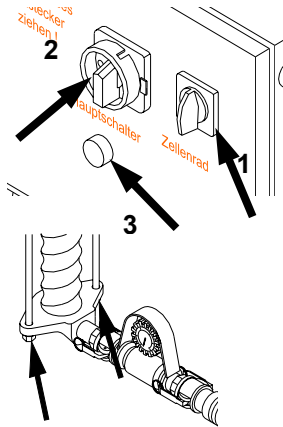


If the machine is not going to be used for several days, empty the material hopper. To do so, open the hopper cleaning flap and remove the star wheel, if required.

Clearing hose blocks



According to the safety regulations of the Builder's Guild, all personnel clearing hose blocks should wear safety goggles and should position themselves in such a way as to avoid injury by discharged mortar.

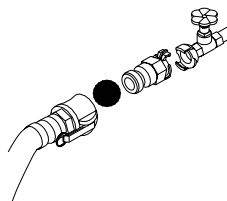


Switch off the star wheel motor (1).

Run the pump motor briefly in reverse, to do so: cover the outlet opening of the pump tube with foil.

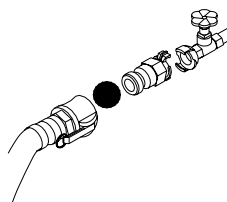
Turn the main reversing switch (2) to "0" position and move the selector disk (reverse direction of rotation, the yellow control lamp (3) lights up) until the pressure falls to 0 bar at the mortar pressure gauge.

Loosen the nut on the tie rod gently so that any residual pressure is released.

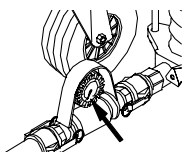


Undo the hose coupling and clean the hose.

Measures to taken in the event of a power failure



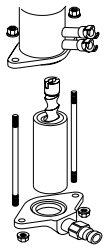
The mortar hoses must be cleaned immediately. Cleaning can be done at the water outlet valve. To do so, connect the cleaner coupling (in the tool bag) to the mortar hose first and then to the water outlet valve. Open the water valve to press out mortar. Then clean with sponge balls soaked in water.



WARNING!

Check that all hoses are depressurised before opening the couplings (observe the mortar pressure gauge)!





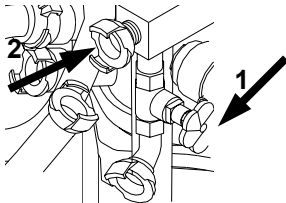
Undo the nuts on the tie rods and remove the pump. Press the rotor out of the stator and clean it thoroughly. Clean the pressure flange or agitator (ROTOMIX or ROTOQUIRL). Clean the mixing zone and mixing shaft with water and a trowel. Then reassemble the entire pump and prepare it for operation.

Measures to taken in the event of a breakdown of the water supply

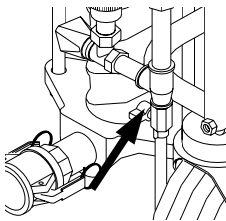
Use the suction inlet (item no. 00 00 69 06) and high pressure pump to supply the machine with clean water from a container.

Measures to taken if there is a risk of frost

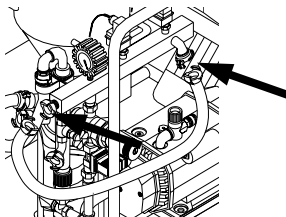
After cleaning the machine:
disconnect the water supply
and remove the mixing shaft.



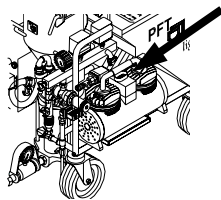
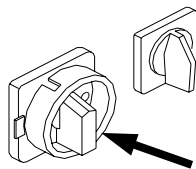
Open the water outlet valve (1) and relieve the water pressure in the hose. Close the water supply, pinch off the water hose (2) and empty it.



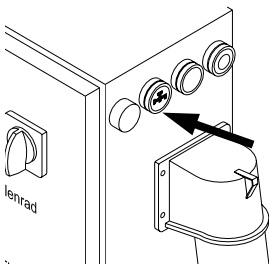
Open the outlet tap on the water manifold.



Remove the water hose from the spraying gun and attach it to the water inlet and outlet on the water manifold.



Turn on the main switch.
Switch on the compressor.



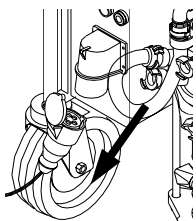
Press the water flow button. The water is now blown out of the manifold with compressed air (at 1.5 bar for approx. 1 minute)!

Empty the mixing pump by folding up the entire pump component.

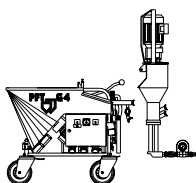
Disconnect and empty the mortar hoses.

The machine is now completely empty with the exception of a small rest in the screw pump. The machine must however still be started carefully the next day.

Transport



First disconnect the mains cable, then all other cable connections.



Remove the water supply lines.

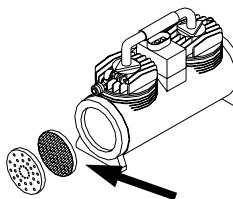
The **G 4 LIGHT** consists of two modules (mixing tube and material hopper), which can be transported separately.



WARNING!

Check that all hoses are depressurised before opening the couplings (observe the mortar pressure gauge).

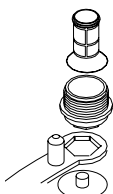
Maintenance



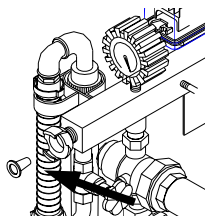
Clean the compressor filter once a week, depending on operation, by knocking out the dirt. Replace the filter if it is heavily soiled.

Note:

the coarse side of the filter should be on the inside!

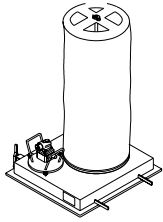


The water inlet filters in the pressure reducer should be removed and cleaned at least every two weeks. Replace if necessary.



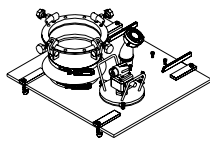
Check the water inlet filter every day.

Accessories



PFT injection hood E2 for G 4 LIGHT (item no. 20 60 02 13)

The PFT injection hood feeds mortar to the mixing pump with the help of the PFT SILOMAT pneumatic conveying system.



PFT delivery hood with electrical safety cabinet for G 4 LIGHT (item number 20 60 05 00)

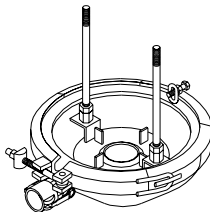
The PFT delivery hood feeds dry mortar into the mixing pump directly from the silo or dry mortar container. When the material hopper is empty, the mixing pump is switched off at the remote control socket.



ROTOMIX D pumps with size 35 coupling (item no. 20 11 80 00)

Agitator for the improved solubilisation and mixing of the material. Direct drive via rotor tangs. Volume approx. 1.2 litres.

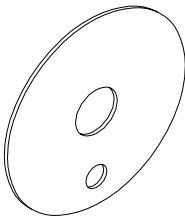
Make sure to follow all guidelines from the mortar manufacturer!



ROTOQUIRL II with size 35 coupling (item no. 20 11 84 00)

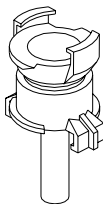
Agitator for the improved solubilisation and mixing of the material. Direct drive via rotor tangs. Volume approx. 4.2 litres.

Make sure to follow all guidelines from the mortar manufacturer!



Star wheel distance disk for coarse plaster (item no. 20 10 19 00)

Increases the gap between the star wheel and the floor of the material hopper by 3 mm.



Nozzle for water intake with Geka coupling (item no. 20 21 58 00)

For the improved injection of water into the mixing area with low water factor.



**00060554 High pressure pump AV3 with handle AV3 0.5 kW
PK65 230 V cpl.**

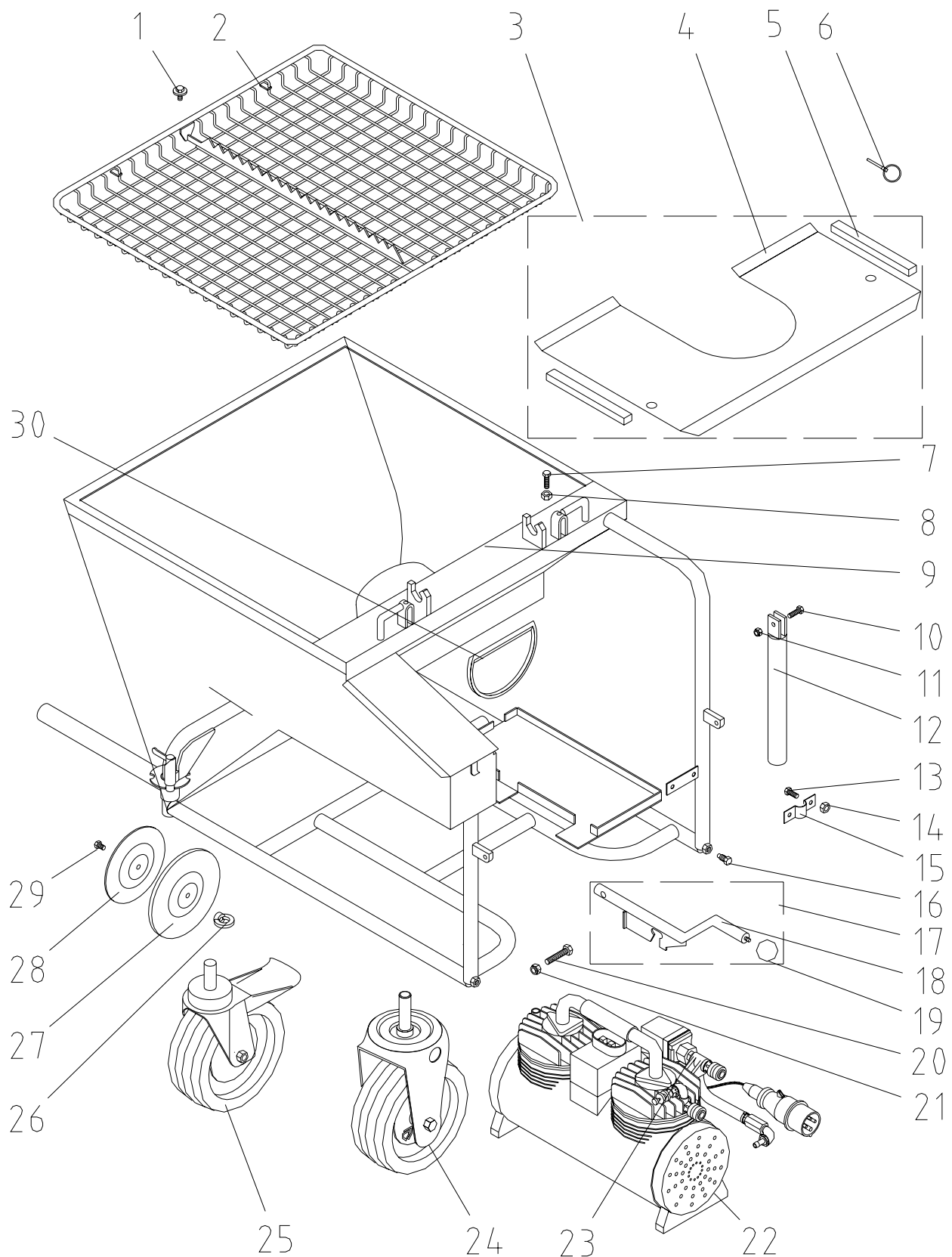
Fault – Cause – Remedy

How can problems with the **PFT G 4 LIGHT** mixing pump be avoided or eliminated quickly?

Fault	Cause	Remedy
The machine does not start!	Water Water pressure too low - Gauge indicates pressure below 2.2 bar	- Check the water supply - Clean the dirt filters - Switch on the high pressure pump
The machine does not start!	Electricity - Power supply okay? - FI safety switch activated? - Main switch turned on? - Fault indicator lamp lights up? - Motor protection switch activated? - Self-locking device not activated? - Contactor faulty? - Fuses faulty? - Water safety switch misadjusted?	
The machine does not start!	Air - Insufficient pressure gradient in the remote control due to blocked air pipe or air nozzle tube - Air safety switch misadjusted	Clean blocked air pipe or air nozzle tube !
The machine does not start!	Material - Too much dry material in the hopper or mixing area - Material in pump component too dry	Half-empty the hopper and restart WARNING! Turn off the main switch and pull the plug out first
Water isn't running (No display at flow meter)	- Solenoid valve (hole in membrane blocked) - Magnetic coil faulty - Pressure-reducing valve shut - Water inlet on pump tube blocked - Needle valve shut - Cable to solenoid valve faulty	
The pump motor does not start!	- Pump motor faulty - Connection cable faulty - Plug or built-in socket faulty - Motor protection switch faulty or activated	
The machine stops after a short while!	- Water inlet filter contaminated. - Pressure reducer filter dirty - Hose connection or water pipe too small - Water suction pipe too weak or too long	Clean or replace filter and Enlarge water inlet If necessary, connect additional high pressure pump

The machine does not stop	<ul style="list-style-type: none"> - Air pressure safety switch misadjusted or faulty - Air hose or gaskets faulty - Air tap on spraying gun faulty - Compressor output insufficient - Air supply not connected to compressor 	<ul style="list-style-type: none"> - Adjust air pressure safety switch - Replace air hose or check compressor
No mortar flow (Air bubbles)	<ul style="list-style-type: none"> - Bad mixture in mixing tube - Mortar clogs, narrowing the mixing tube inlet - Inlet filter on mixing tube is wet - Mixing shaft faulty - Motor catch faulty 	<ul style="list-style-type: none"> Add more water If this doesn't help, clean or replace mixing shaft Dry mixing tube inlet and restart. Replace motor catch
Mortar flow "thick"	<ul style="list-style-type: none"> - Not enough water - Water safety switch misadjusted or faulty - Mixing shaft faulty; no original PFT mixing shaft - Pressure reducer misadjusted or faulty - Rotor worn, faulty - Stator worn or too loose at clamp - Clamp faulty (oval) - Inner wall of mortar hose faulty - Rotor too deep in pressure flange - No original PFT spare parts 	<ul style="list-style-type: none"> If there is not enough water, add more Increase water quantity by 10 % for approx. half a minute, then return slowly to normal setting Adjust to normal setting, readjust or replace pump components Eliminate any other faults. Replace mortar hose Check mixing shaft and motor catch
Water level rises in mixing tube during operation	<ul style="list-style-type: none"> - Backpressure in mortar hose higher than pump pressure - Rotor or stator worn - Hose block due to mortar being too thick (high pressure due to low water factor) 	<ul style="list-style-type: none"> Readjust stator or replace it. If necessary, also replace rotor. Remove hose blocks
Fault indicator lamp lights up	<ul style="list-style-type: none"> Overload - Motor protection switch (16 A) activated (pump motor) - Pump blocked with dry material - Insufficient water quantity - Star wheel motor safety switch activated - Clogged material in hopper 	<ul style="list-style-type: none"> Turn protection switch back on, clean mixing tube and increase water supply on starting the machine Clean hopper and star wheel

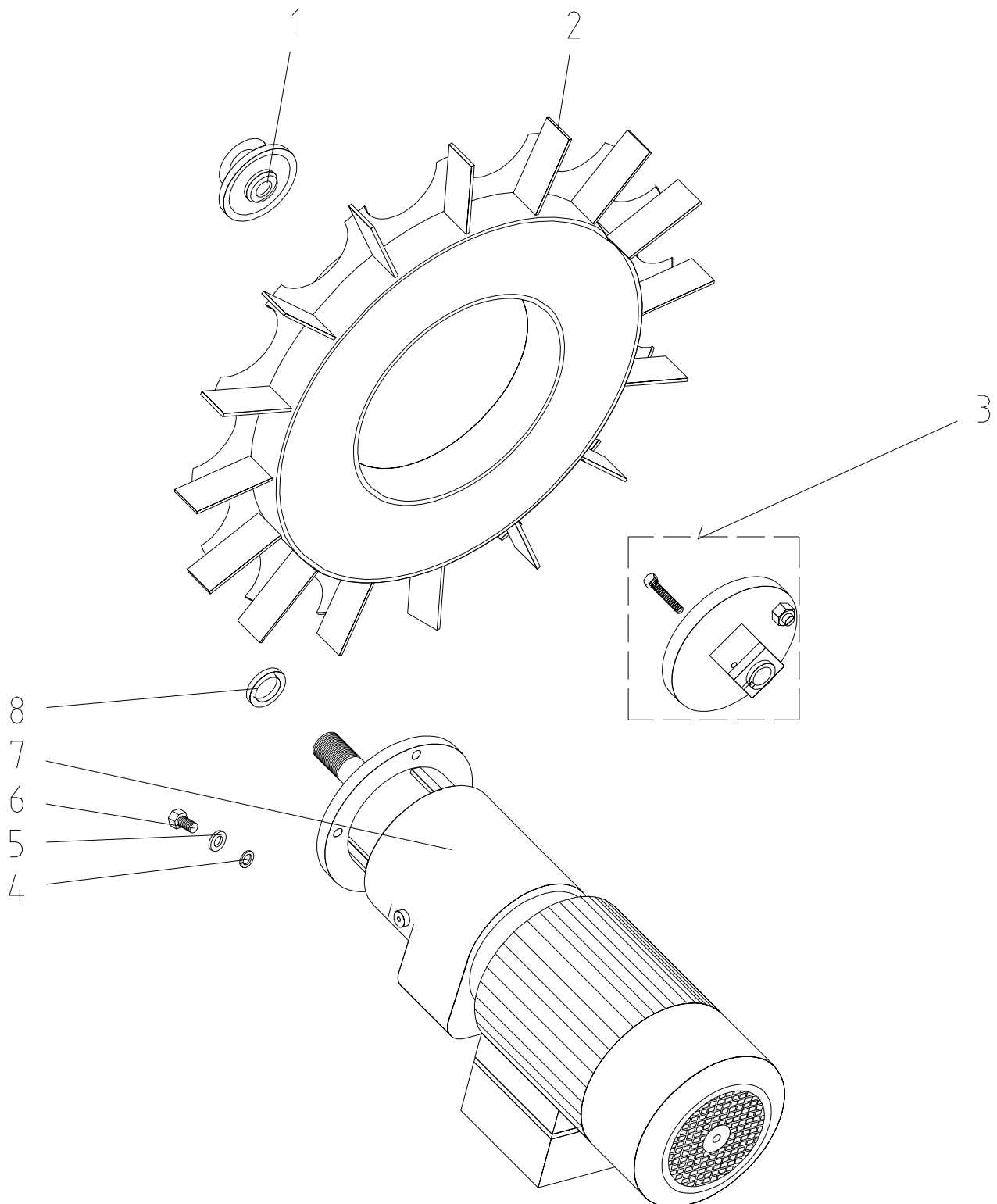
Explosion drawing of material hopper and frame



Spare parts list for material hopper and frame

Item	Qty	Item no.	Description
1	1	20 20 78 19	Hex screw M8 x 16 with collar
2	1	00 00 21 13	Protection grille with round steel frame
3	1	20 10 28 02	Dust guard G 4 with gaskets RAL 2004
4	1	00 00 13 40	Dust guard G 4 RAL 2004
5	1	20 10 28 06	Rubber support strips 20 x 15 x 200 one-sided adhesive coating
6	2	20 10 10 10	Splint D 4.5 with ring
7	1	20 20 78 10	Hex screw M8 x 25 DIN 933 zinc-plated
8	1	20 20 64 00	Hex nut M8 DIN 934 zinc-plated
9	1	20 10 33 00	Material hopper with frame G4
9	1	00 06 94 30	Material hopper with frame G 4 light RAL 2004 (I) G 4 Light II
10	2	20 20 78 00	Hex screw M 8 x 30 DIN 933 zinc-plated
11	2	20 20 72 00	Nut M8 DIN 985 zinc-plated
12	2	20 10 31 10	Folding carrying handle 340 mm
13	2	20 20 61 00	Hex screw M8 x 20 DIN 933 zinc-plated
14	2	20 20 64 00	Hex nut M8 DIN 934 zinc-plated
15	1	20 10 26 10	Fixing clamp for water manifold G 4 zinc-plated
16	4	20 20 96 02	Hex screw M10 x 20 DIN 561 zinc-plated (set screw)
17	1	00 01 13 86	Locking lever G 4 with knob
18	1	00 00 25 84	Locking lever for mixing tube G 4 with one catch
19	1	20 70 61 10	Knob shape C, DIN 319
20	1	20 20 96 01	Hex screw M10 x 45 DIN 933 zinc-plated
21	1	20 20 72 10	Nut M10 DIN 985 zinc-plated
22	1	00 00 79 15	Compressor LK 250 cpl.
23	1	20 13 51 01	Automatic switch-off device retrofit set K2
24	3	00 00 11 63	Castor 230 mm black cover
25	1	00 00 11 64	Double-stop castor 230 mm black cover
26	1	20 20 79 50	Ring nut M8 DIN 582 zinc-plated
27	1	20 10 14 01	Cleaning hole cover (exterior)
28	1	00 00 23 58	Sealing disk cleaning hole D=173 mm
29	1	20 20 78 01	Hex screw M8 x 16 DIN 933 zinc-plated
30	1	20 10 11 00	Drain opening gasket G 4 sponge rubber 20 x 15 x 670

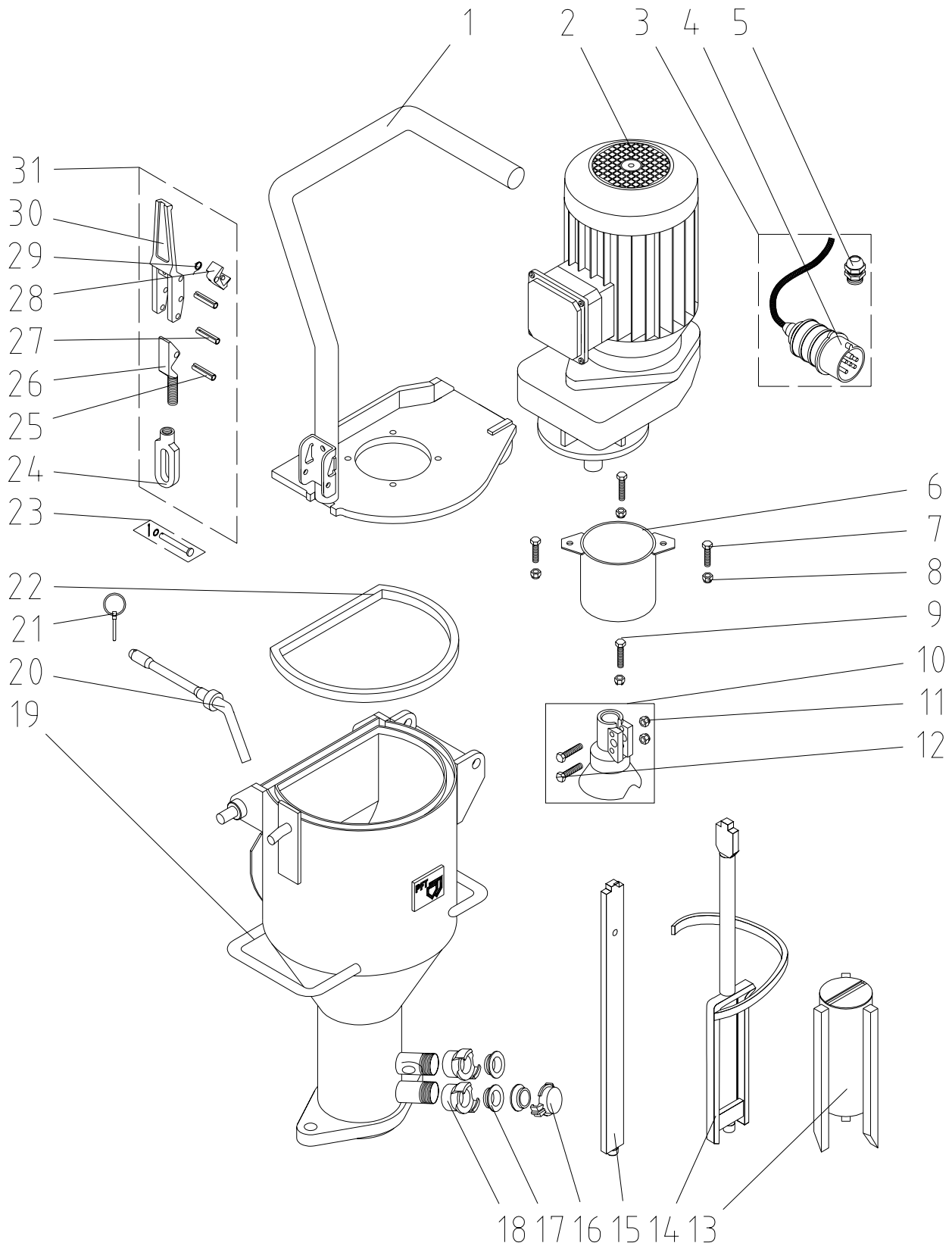
Spare parts drawing for star wheel



Spare parts list for star wheel

Item	Qty	Item no.	Description
1	1	20 10 17 10	Star wheel ring nut M24
2	1	20 10 15 00	Star wheel G4
2	1	00 04 91 79	Star wheel G 54, deep model RAL 2004 G 4 Light II
3	1	20 10 18 10	Star wheel fixing plate
4	4	20 20 91 10	Spring washer B 12 DIN 127 zinc-plated
5	4	20 20 90 00	Washer B 13 DIN 125 zinc-plated
6	4	20 20 99 61	Hex screw M12 x 20 DIN 933 zinc-plated
7	1	00 05 85 78	Gear motor ZFQ 38 0.3 kW 12 rpm RAL 2004
8	1	20 10 15 02	Star wheel distance disk 1.5 mm zinc-plated

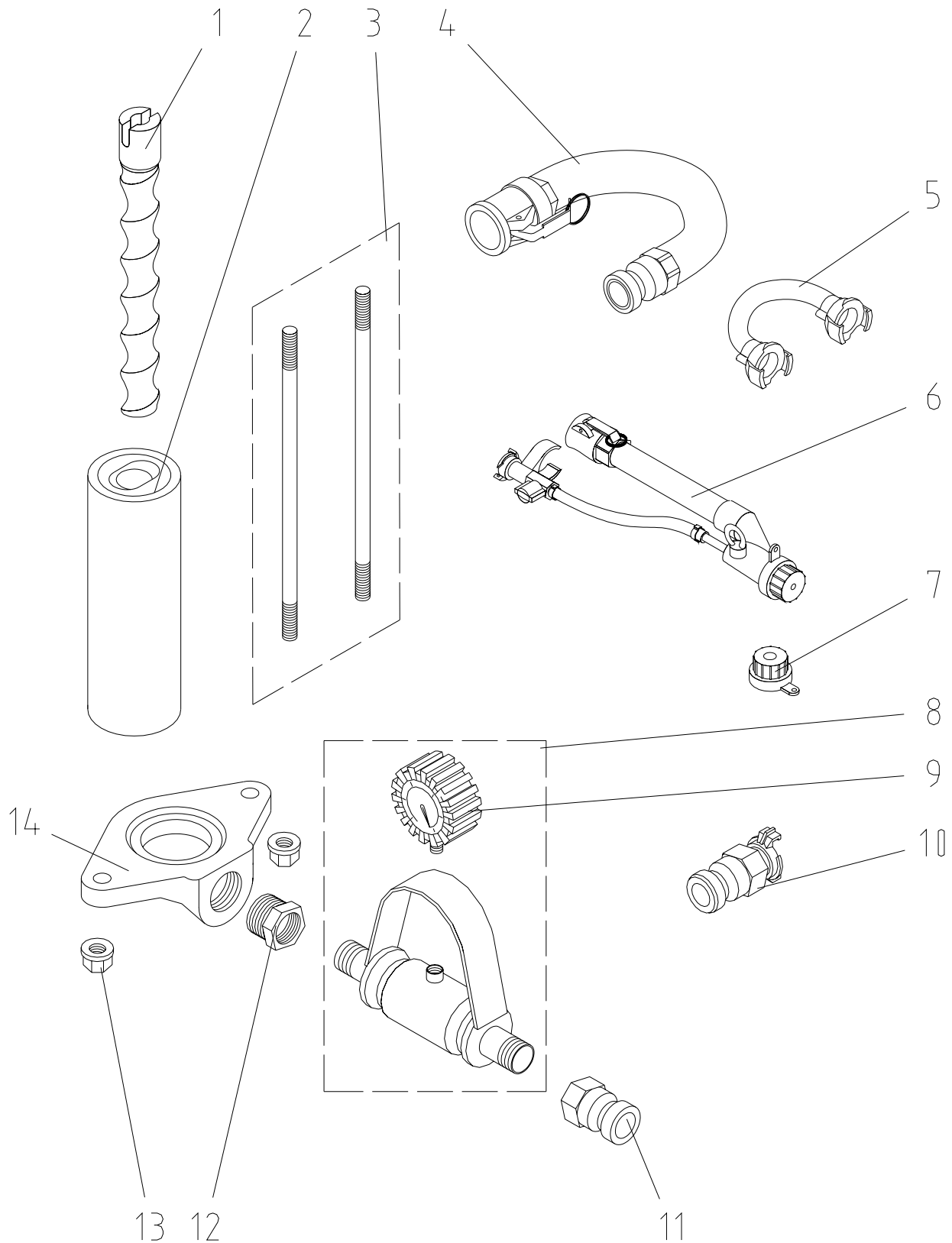
Spare parts drawing for mixing tube and gear motor



Spare parts list for mixing tube and gear motor

Item	Qty	Item no.	Description
	1	00 08 26 06	Mixing tube G 4 Light II cpl.
1	1	00 04 76 21	Tilt flange G 54 with tube bail RAL 2004
2	1	00 04 67 94	Gear motor EFQ 5.5 kW 400 rpm RAL 2004 1-level inclination switch
3	1	00 03 89 96	Motor connection cable 1.9 m CEE-St. 7x16 A M4
4	1	20 42 88 00	CEE plug 7 x 16 A 6h red no. 742
5	1	00 04 11 42	Connector skintop M 25 x 1.5
6	1	20 10 29 01	Protection tube for hauling bracket G4
7	2	20 20 78 00	Hex screw M8 x 30 DIN 933 zinc-plated
8	6	20 20 72 00	Nut M8 DIN 985 zinc-plated
9	2	20 20 78 01	Hex screw M8 x 35 DIN 933 zinc-plated
10	1	00 06 18 58	Hauling bracket, cast G 4 with round escape hopper
11	1	20 20 72 00	Nut M8 DIN 985 zinc-plated
12	1	00 02 32 71	Hex screw M8 x 40 DIN 931 zinc-plated
13	1	20 10 23 20	Mixing tube cleaner D and R pumps
14	1	20 10 35 10	Mixing shaft G 4/G 5 armoured RAL 2004
15	1	20 10 23 00	Cleaning shaft
16	1	20 20 16 50	Geka coupling blind plug
17	3	20 20 17 00	Geka coupling gasket (pack of 50 parts)
18	2	20 20 11 00	Geka coupling 1" IG
19	1	20 10 06 56	Mixing tube G 4 D-pump RAL 2004
20	1	20 10 12 02	Motor flange pin zinc-plated
21	1	20 10 10 10	Splint D 4.5 with ring
22	1	20 10 09 00	Tilt flange gasket G 4 sponge rubber 20 x 1
23	1	20 20 85 22	Cotter bolt 8 H 11 x 58 x 54 with washer
24	1	20 20 99 71	Nut for snap lock M14 x 1.5
25	2	20 54 76 02	Dowel pin 5 x 36 DIN 1481
26	1	20 20 99 74	Screw for snap lock
27	1	20 20 85 19	Dowel pin 8 x 40 DIN 1481
28	1	20 10 08 02	Snap lock locking device
29	1	20 10 08 04	Return spring
30	1	20 10 08 03	Snap lock lever
31	1	20 10 08 01	Snap lock with catch

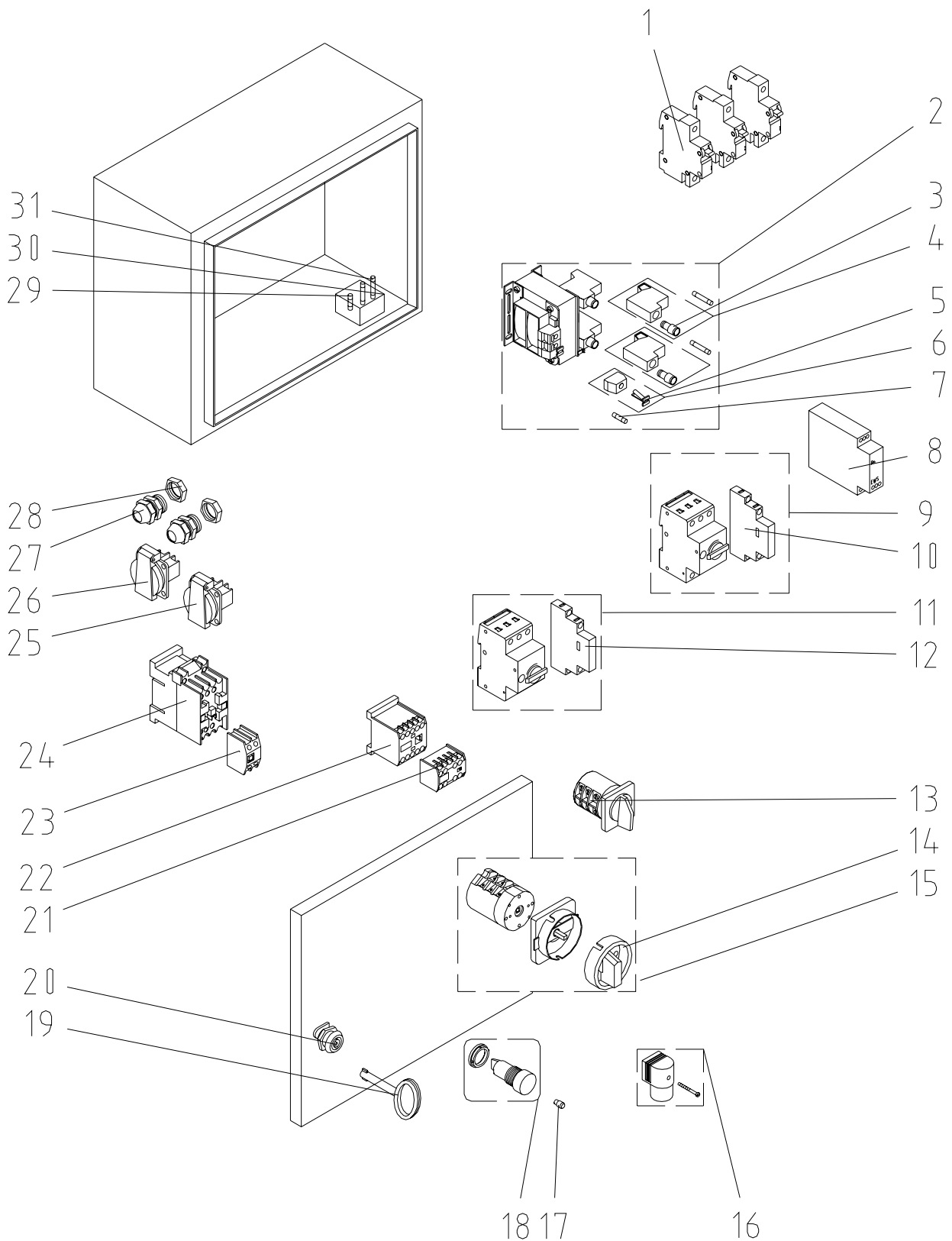
Spare parts drawing for pump unit



Spare parts list for pump unit

Item	Qty	Item no.	Description
1	1	00 06 58 79	Rotor D6-3 hardened chrome plating standard
1	1	00 06 70 15	Rotor D6-2T (for Twister 00063438) G 4 Light II
2	1	20 11 55 10	Stator D6-3 maintenance-free orange standard
2	1	00 06 34 38	Stator TWISTER D6-2 G 4 Light II
3	1	20 11 87 80	Tie rod M16 x 370 mm (1 set = 2 pieces)
4	1	20 21 00 01	Mortar pressure hose 25 mm 10 m cpl. LW 24
5	1	20 21 10 00	Water/air hose 1/2", 11 m with Geka
6	1	20 19 00 02	Spraying gun 25 mm LW24, nozzle 14 mm
7	1	20 19 10 02	Spray cap 16 mm (P)
8	1	00 00 24 70	Mortar pressure gauge 25 mm without coupling
9	1	20 21 61 10	Gauge 0-100 bar glycerine filled 1/4"
10	1	20 19 95 00	Cleaner coupling 25 V part, LW24 with Geka
11	1	20 19 93 00	Coupling 25 V component 1" IG LW 24
12	1	20 20 55 10	Reduction nipple 1 1/4" AG 1" IG no.241 zinc-plated
13	2	20 20 99 21	Nut M16 DIN 6331 zinc-plated
14	1	00 04 16 64	Pressure flange D pump G 4 zinc-pl. 1 1/4" IG

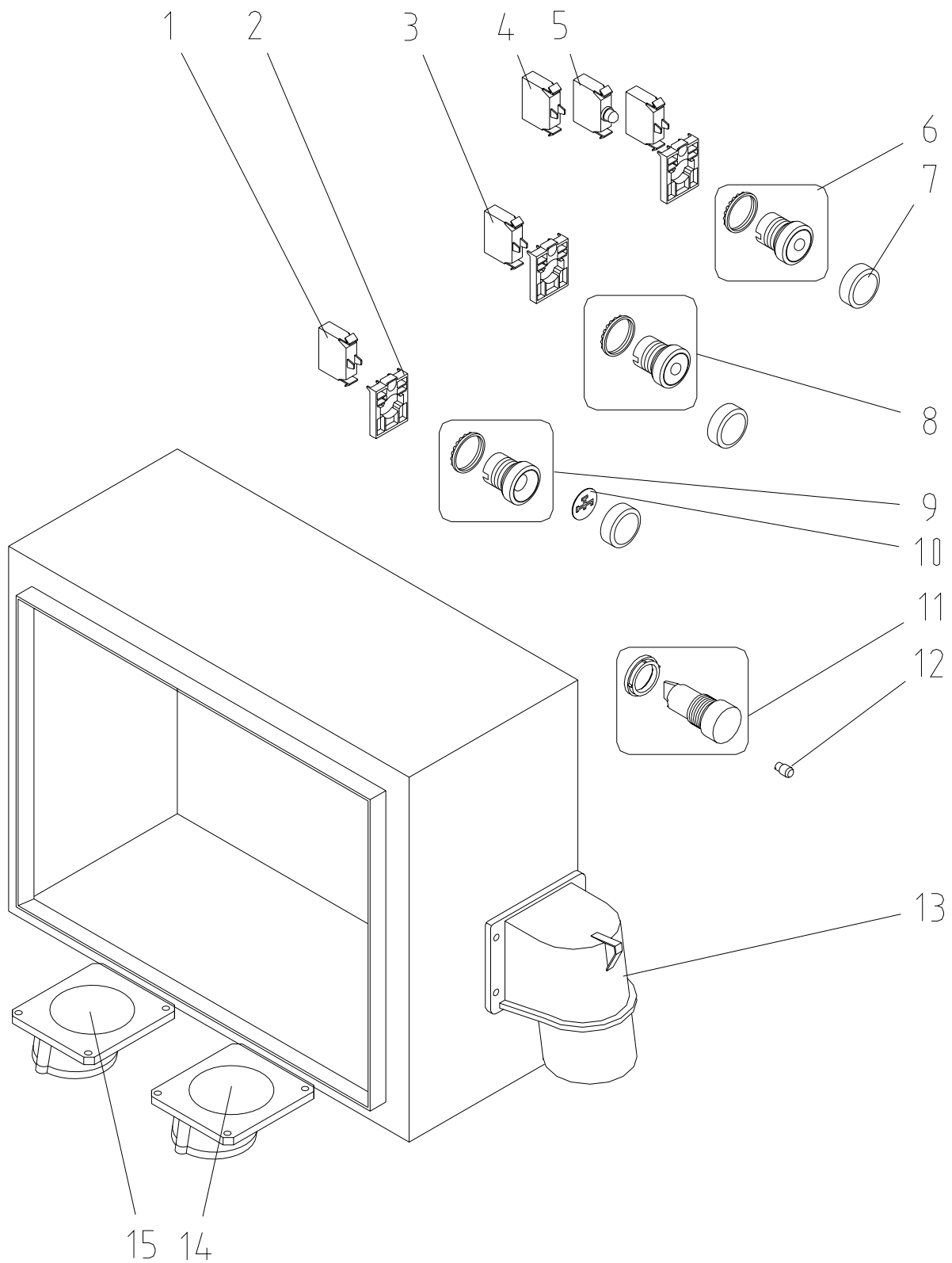
Spare parts drawing for control box



Spare parts list for control box

Item	Qty	Item no.	Description
		00 06 58 59	Control box G 4 Light 400 V
1	3	20 41 93 10	Automatic protection 16 A single-ended
2	1	00 02 21 38	Transformer unit 400 V/42 V 70 VA NEW
3	1	00 00 73 72	Fuse insert holder / black
4	1	20 41 92 50	Safety fuse TRKS 4/1-SI (5 x 30)
5	1	00 00 73 73	Angular fuse insert holder/orange
6	1	20 41 92 30	Safety fuse grey 20 mm fuse
7	1	20 41 90 21	Fine fuse 5 x 20, 2.0 A, slow-blow
8	1	20 45 27 51	Phase sequence relay 200-500 V with 2 change-over contacts
9	1	00 00 93 71	Motor protection switch 0-16 PKZM 10-16 A
10	1	00 02 14 01	Auxiliary contact NHI-11-PKZO
11	1	00 04 26 00	Motor protection switch 1-1.6 A PKZM 0-1.6 (P)
12	1	00 02 14 01	Auxiliary contact NHI-11-PKZO
13	1	20 45 55 00	Hand-O-Automatic switch 400 V
14	1	20 45 52 01	Knob for main reversing switch item 455200
15	1	20 45 52 00	Main reversing switch
16	1	00 02 20 63	Solenoid valve plug
17	1	20 45 91 01	Light bulb 42 V 2 W plug-type socket BA 9S
18	1	00 00 22 50	Control lamp plug-type socket yellow without electric bulb front installation
19	1	20 44 45 00	Key for control box
20	1	00 03 62 49	Control box lock (two-way key bit)
21	1	20 45 04 20	Auxiliary contact 20 DIL E assembly
22	1	20 44 66 10	Automatic plumb level DIL EM 10 42 V 50 Hz/48 V 60 Hz
23	1	20 44 69 10	Auxiliary contact 11 DIL M
24	1	20 44 71 00	Automatic plumb level DIL OM 42 V
25	1	20 42 72 10	Grey panel mounted earthing socket
26	1	20 42 72 00	Blue panel mounted earthing socket
27	2	00 04 11 27	Connector skintop M20 x 1.5
28	2	00 04 11 45	Nut skintop M20 x 1.5
29	1	20 41 90 20	Fine fuse 5 x 20, 2.5 A, slow-blow
30	1	00 02 22 25	Foamed rubber fuse block
31	2	20 41 90 70	Fine fuse 5 x 30, 0.5 A

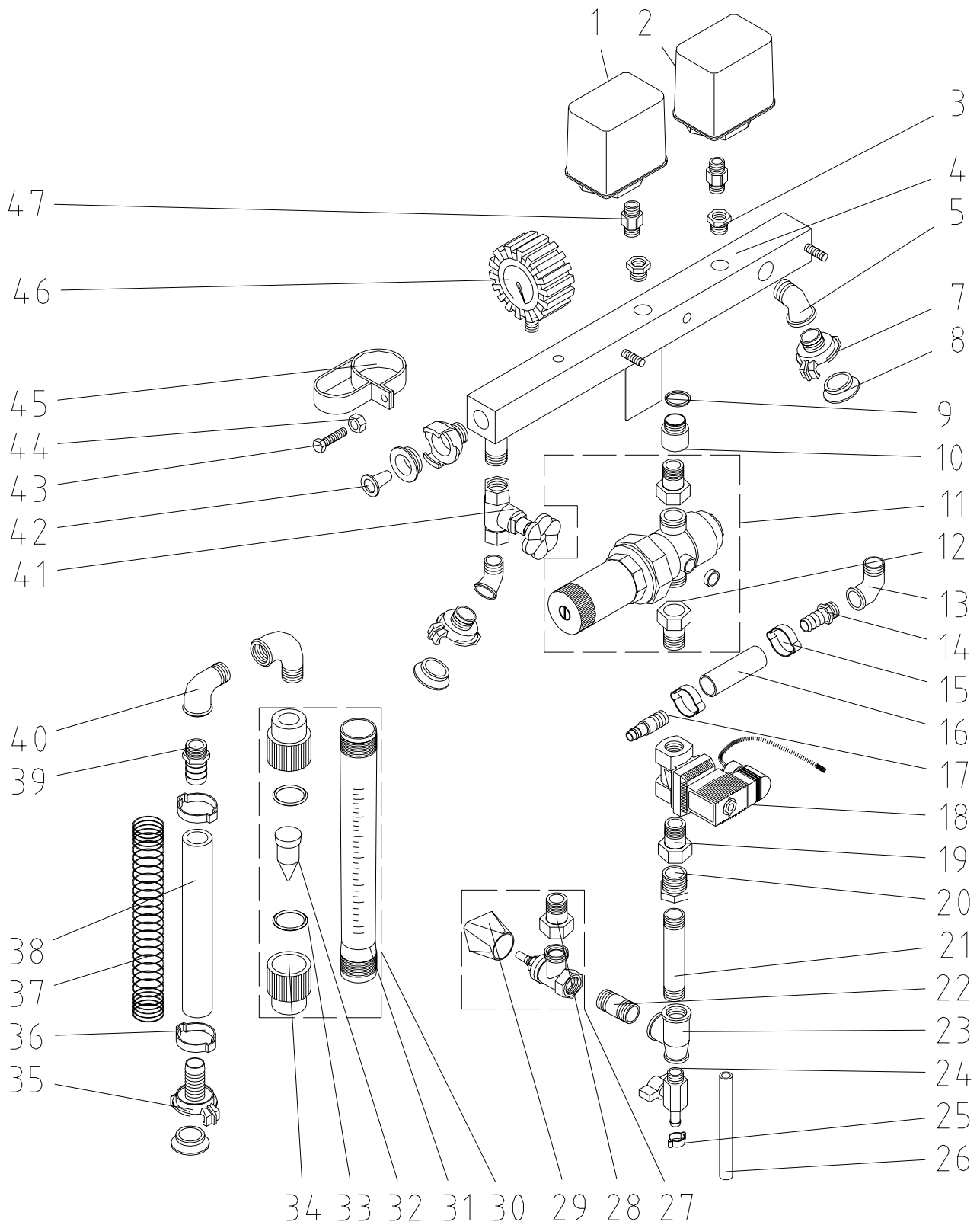
Spare parts drawing for control box



Spare parts list for control box

Item	Qty	Item no.	Description
1	2	00 05 38 35	Contact element 1 closing unit M22
2	3	00 05 38 34	Fixation adapter for switch elements
3	1	00 05 38 36	Contact element 1 opening unit M22
4	1	00 05 38 86	LED – resistor – series element for 42 V
5	1	00 05 38 80	Green illuminated element 12-30 V
6	1	00 05 38 37	Red pressure switch Off M22
7	3	00 05 38 30	Round membrane for pressure switch IP 67 M22-T-D
8	1	00 05 38 33	Green light switch M22
9	1	00 05 38 39	Pressure switch without sensor plate M22
10	1	00 05 38 42	Sensor plate for pressure switch black liquid M22
11	1	00 00 22 51	Control lamp plug-type socket red without electric bulb front installation
12	1	20 45 91 01	Light bulb 48 V 2 W plug-type socket BA 9 S
13	1	20 42 51 00	CEE device plug 5 x 32 A 6h red no. 391
14	1	20 42 74 00	CEE panel mounted socket 7 x 16 A 6h red no. 738
15	1	20 42 66 00	CEE panel mounted socket 4 x 16 A 6h red no. 1467, flange 92 x 100

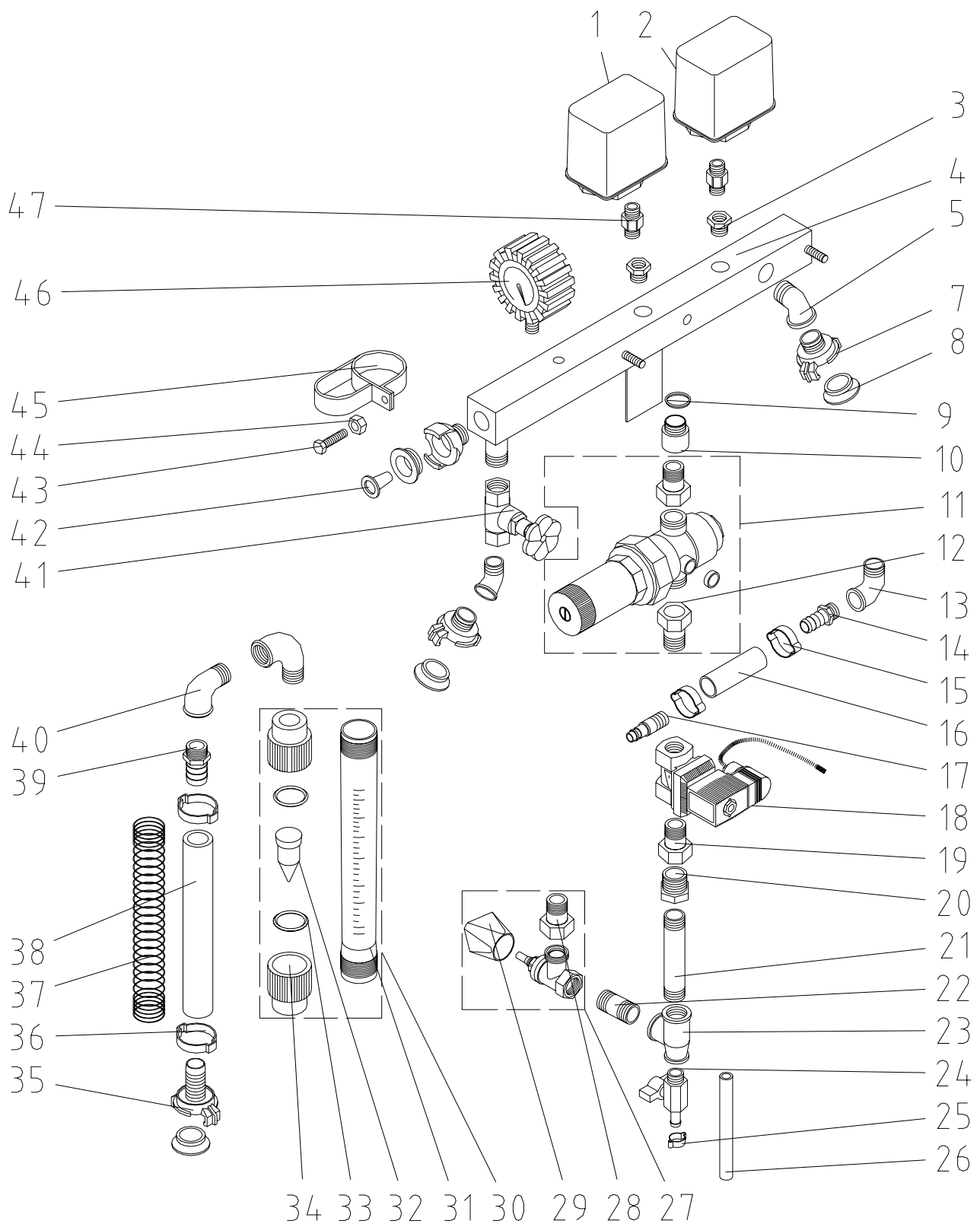
Spare parts drawing for water manifold



Spare parts list for water manifold

Item	Qty	Item no.	Description
1	1	20 13 51 10	Safety switch type PT/5 1/4" 1.5-2.5 bar 3-pin opening unit
2	1	00 06 61 98	Safety switch type LP/3 0.3-5 bar 1/4" 2-pin closing unit
3	2	20 20 51 12	Reduction nipple 3/8" AG 1/4" IG no. 241 zinc-plated
4	1	20 10 25 00	Water-air distributor tube
5	2	20 20 38 00	Curved section 1/2" IG-AG 45° no. 122 zinc-plated
7	3	20 20 09 00	Geka coupling 1/2" AG
8	4	20 20 17 00	Geka coupling gasket
9	1	20 10 26 01	Gasket USIT TM 120 NBR 28 x 20.7 x 1.5
10	1	20 20 34 20	Lever for cleaning hole 1/2" x 20 MS DIN 3523
11	1	00 00 15 58	Pressure reducer D06F 1/2"
12	2	20 20 31 07	Nipple 1/2" AG flat with reducer nut 3/4"
13	1	20 20 36 00	Curved section 3/8" IG-AG no. 92 zinc-plated
14	1	20 19 04 00	Hose screw joint 3/8" AG socket 1/2"
15	2	20 20 25 00	Hose clip 20-23 (pack of 10)
16	1	20 21 35 00	Water/air hose 1/2" x 580 mm
17	1	20 20 21 00	EWO coupling V component 1/2" socket
18	1	20 15 26 13	Solenoid valve 1/2" 42 V type 6213 A, cpl.
19	1	20 20 31 07	Nipple 1/2" AG flat with reducer nut 3/4"
20	1	20 20 51 11	Reduction nipple 3/4" AG 1/2" IG DIN 3523 30 mm MS
21	1	20 20 33 00	Double nipple 1/2" x 100 no. 23 zinc-plated
22	1	20 20 34 00	Double nipple 1/2" x 40 no. 23 zinc-plated
23	1	20 20 45 21	T-piece 1/2" 1/2" 3/8" IG no. 130 zinc-plated
24	1	20 19 03 20	Tap 3/8" AG with socket 10 mm
25	1	20 20 26 10	Hose clip 15-18 (pack of 10)
26	1	20 19 05 30	Hose section 9 mm x 220 mm
27	1	20 15 77 00	Needle valve 1/2" type 6701
28	1	20 20 31 05	Nipple 1/2" conical with reducer nut 3/4" for item no. 20157700
29	1	20 15 78 00	Needle valve handle 1/2"
30	1	20 18 30 00	Water flow meter 100-1,000 l/h cpl.
31	1	20 18 31 00	Plastic tube 100-1000 l/h
32	1	20 18 34 00	Cone (WDFM type 1500)
33	2	20 18 32 00	O-ring 28 x 3.5 DIN 3771-NBR 70
34	2	20 18 33 10	Reduction piece 1" AG - 1/2" IG plastic
35	1	20 20 16 00	Geka coupling 3/4" socket
36	2	20 20 29 00	Hose clip 28-31 (pack of 10)
37	1	20 20 30 05	Floating trowel mounting device for 3/4" water/air hose 580 mm
38	1	20 21 36 19	Water/air hose 3/4" x 580 mm

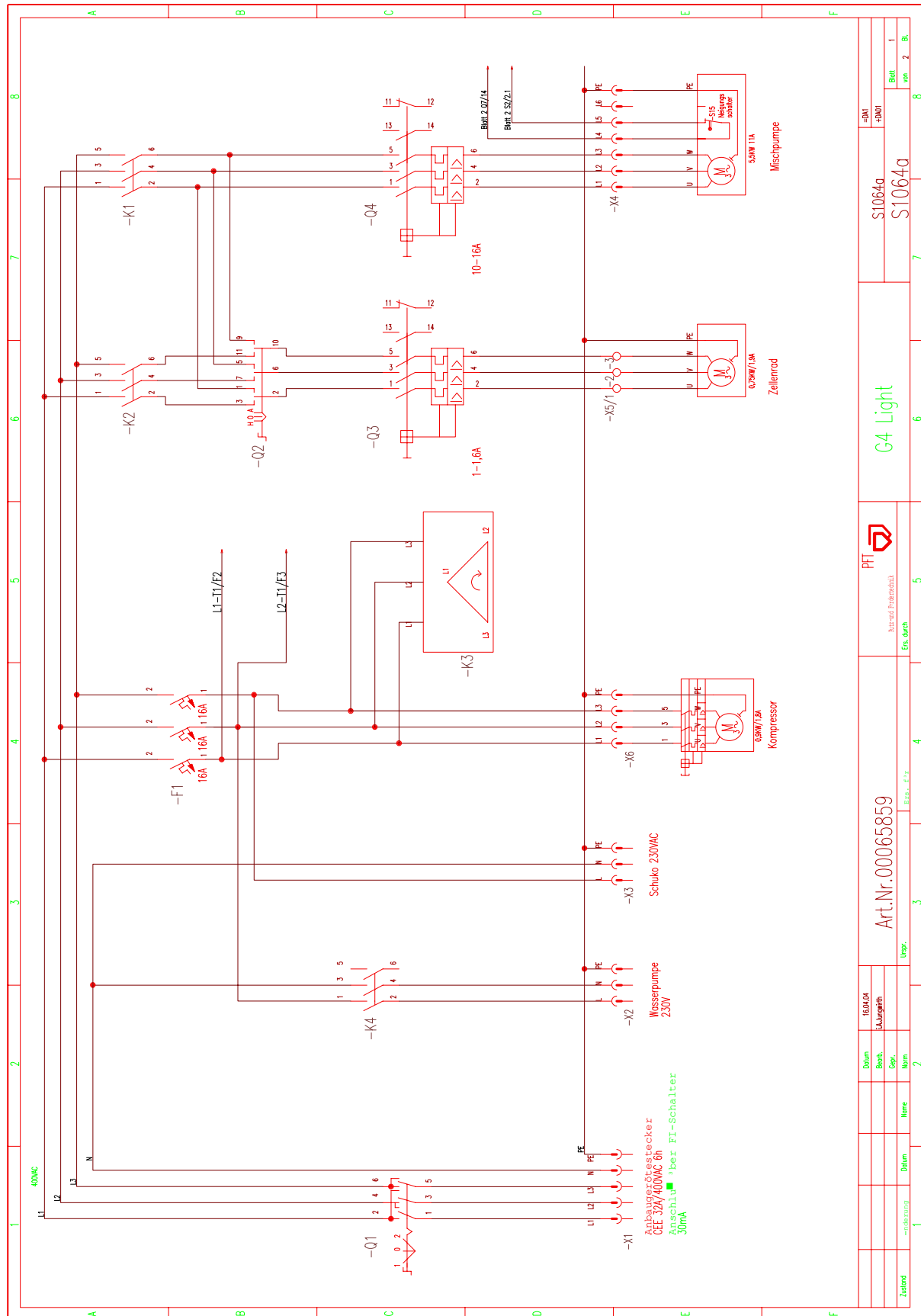
Spare parts drawing for water manifold



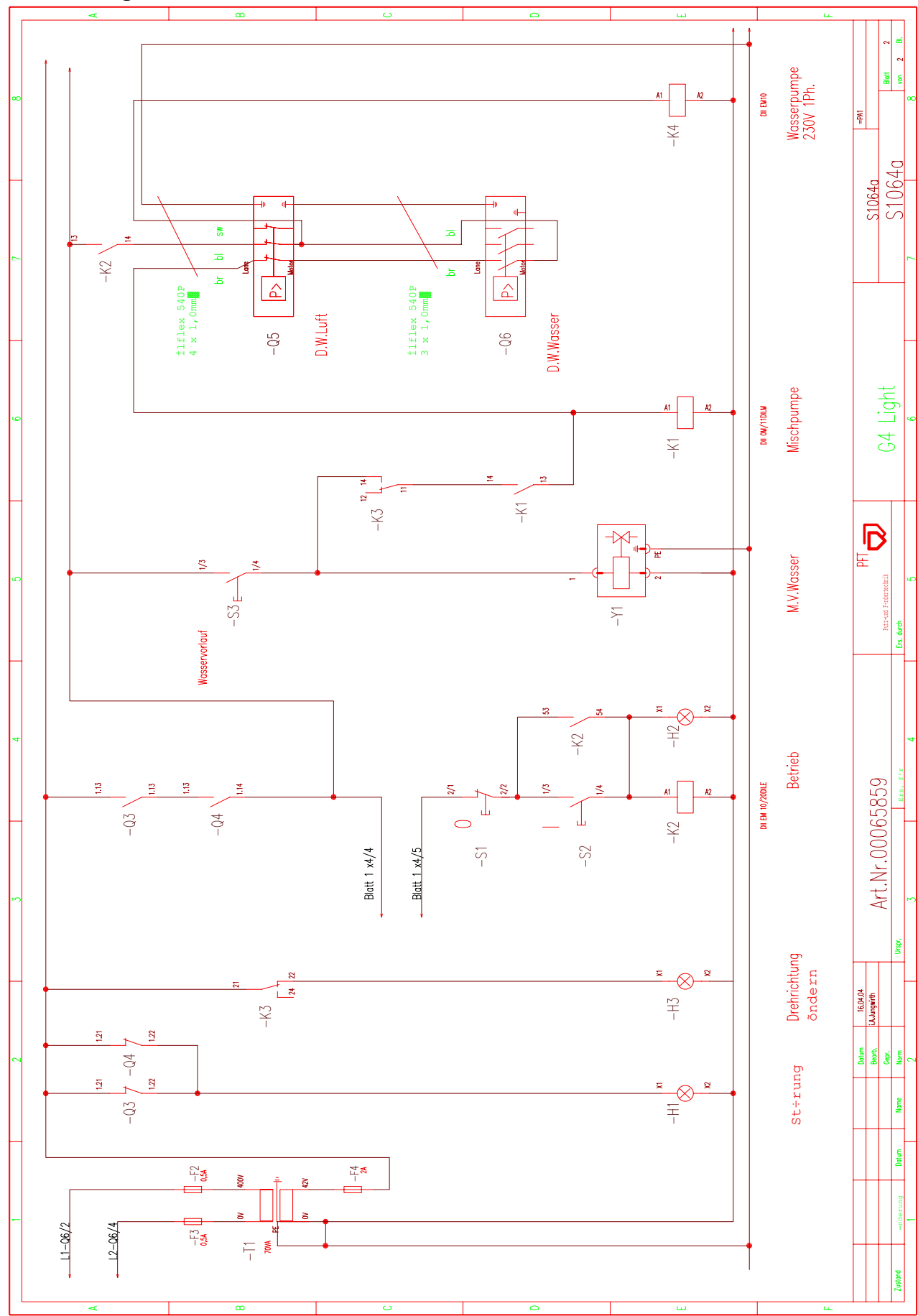
Spare parts list for water manifold

Item	Qty	Item no.	Description
39	1	20 19 04 42	Hose screw joint 1/2" AG socket 3/4"
40	2	20 20 36 10	Curved section 1/2" IG-AG no. 92 zinc-plated
41	1	20 21 52 00	Tap 1/2" without drain
42	1	20 15 20 00	Water inlet filter for Geka coupling
43	1	20 20 78 00	Hex screw M8 x 30 DIN 933 zinc-plated
44	1	20 20 64 00	Hex nut M8 DIN 934 zinc-plated
45	1	20 10 26 11	Water flow meter clamp 150-1,500 l/h
46	1	20 21 60 00	Gauge 0-10 bar 1/4" bottom, D = 63 mm
47	2	20 20 37 12	Screw joint 1/4" AG brass

Circuit diagram



Circuit diagram



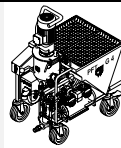
Check list for annual specialist inspection (master copy)

The inspection must be carried out once a year by a specialist as per ZH1/575. As a verification of this inspection, the machine and the control box are given an inspection label. The inspection log is to be presented on demand.

Date of inspection:	Inspector:	Signed:	Machine number:

Component	Inspection feature	is OK	Recondition/ replace
Material hopper	Check all welded seams		
Material hopper	Destruction due to corrosion or deformation?		
Mixing area	Check wall of tube for wear! Minimum wall thickness 1.5 mm		
Mixing shaft	Wear check of wedge profile in mixing area!		
Mixing shaft	Wear check of pump coupling!		
Protective grille	Is the protective grille still even?		
Frame	Check all welded seams		
Frame	Check firm fit of all screwed joints!		
Frame	Check if distorted! It must be firm and not tip!		
Rolls	Do the rolls turn well?		
Gear motor ZFQ38 0.3 kW	Is the thread for the star wheel ring nut M 24 still OK, allowing ease of movement?		
Gear motors	Connection cable OK?		
Water flow meter	Is the control glass still clearly transparent and sealed?		
Solenoid valve	Functional check		
Pressure reducing valve	Functional check, check 1.9 bar setting.		
Control box	Visual inspection for defects		
Control box	Functional check		
Control box	Are all labels legible and in good condition?		
Control box	High voltage check with 1000 V		
Control box	Functional check of all safety switches!		
Control box	Functional check of all control lamps!		
Control box	Check firm fit of all cable connections!		
Type sign	Available and legible		
Operating instructions	Available		
Mortar pressure gauge	Functional check!		

Technical data

Machine designation	G 4 LIGHT 00 06 46 04 G 4 LIGHT II 00 07 26 95	
Machine type	Mixing pump	
Machine use	Masonry mortar, reinforcing mortar, scratchwork, cement plaster, insulating plaster, screed mortar, filling compounds, reconstruction mortar, levelling compounds, liquid filler, bounding mortar, lime plaster, reconstruction plaster, floor mortar and joining mortar.	

1. Dimensions		Unit
Length	1050	mm
Width	720	mm
Height	1550	mm
Filling/connection height	910	mm
Water supply		inch
Output height HM		
Material volume		L

2. Weights		
Weight of motor unit	19	kg
Weight of pump unit / mixing tube	81	kg
Weight of manifold, adapter etc. mixing shaft		kg
Weight of compressor	24	kg
Weight of control box		kg
Weight of material hopper, middle section		kg
Overall weight	259	kg

3. Electrical data*		
Connected load	5.5 / 400	KW rpm
Fuse protection	32	A
Connecting cable		mm ²
Connection voltage	400 V 3 phase 50 Hz	V
Control voltage		V
Machine's nominal current		A
Fuse supply		A

4. Pump*		
Rotor/stator pump output	6-35	L/min
Pumping distance / height	50/25	m
Max. operating pressure D 6-3	30	bar
Max. operating pressure D 6-2	20	bar
Pump motor drive output	5.5	KW
Star wheel motor drive output	0.3	

5. Compressor*		
Compressor output	0.9/1450	KW
Max. operating pressure	3.5	bar
Compressor drive output		KW
Compressor air output	250	L/min
Pumping capacity		L/min

6. Important machine numbers	
Control box order no.	
Circuit plan no.	1064a
Machine no.	
Control box no.	00 06 58 59
Parts list number G4 LIGHT	00 06 46 04
Parts list number G4 LIGHT II	00 07 26 95
BAL no.	00 06 88 65
Mixer motor no.	
Pump motor no.	00 02 15 85
Star wheel motor no.	00 05 85 78
Water pump no.	
Compressor no.	00 00 79 15

* Approximate value depending on conveying height, pump condition and version, mortar quality, composition and consistency

WE KEEP THINGS MOVING



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