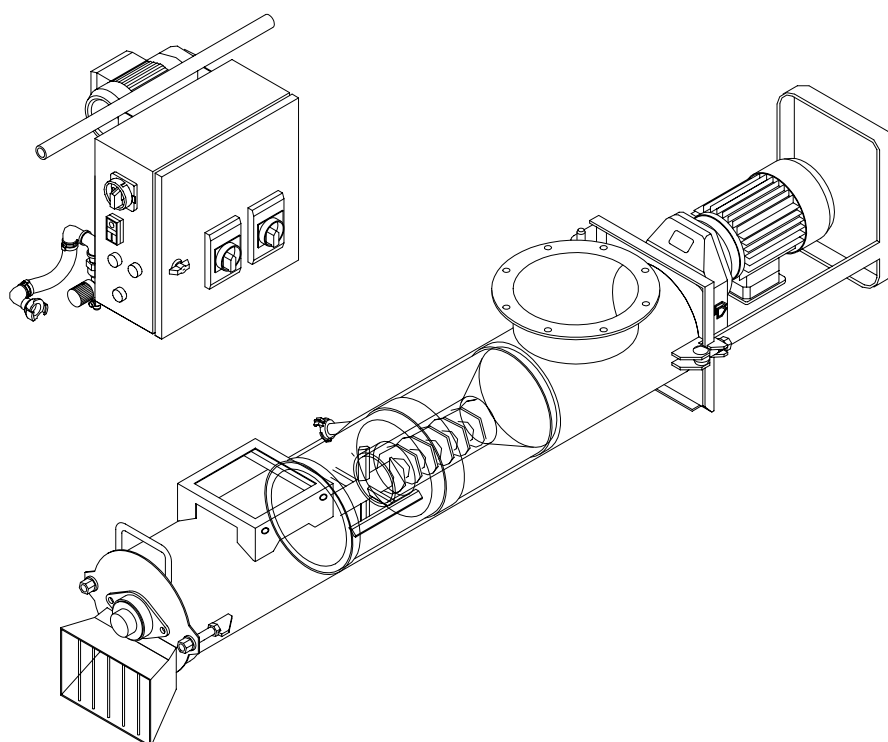


OPERATING INSTRUCTIONS
BAL.NR.00 05 41 39

PFT **HM 6 FU 230V HYMIX**



WE KEEP THINGS MOVING



Dear PFT customer

Congratulations on your purchase. You have made a good choice, as you appreciate the quality of a brand product from a good company.

The PFT **HM 6** is state-of-the-art. It has been designed in such an easy-to-use manner to provide you with a true assistant in the tough building site conditions.

These operating instructions should always be kept handy at the place of use of the machine. They inform you about the different functions of the equipment. Prior to starting the machine, the operating instructions must be studied thoroughly, as we will not accept any liability for accidents and material damage that have occurred as a result of incorrect operation.

When operated correctly and with careful treatment, the PFT **HM 6** will be a true assistant.

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Initial inspection after delivery

An indispensable task of all fitters who deliver the PFT **HM 6** is to check the machine settings after the initial starting up. The plant settings can change during the initial starting. If these are not corrected in good time, immediately after the warming up, there is a risk of breakdowns.

Fundamentally, after every supply fitter has successfully handed over and introduced the PFT **HM 6**, i.e. after the first two operating hours, the following checks and settings should be carried out:

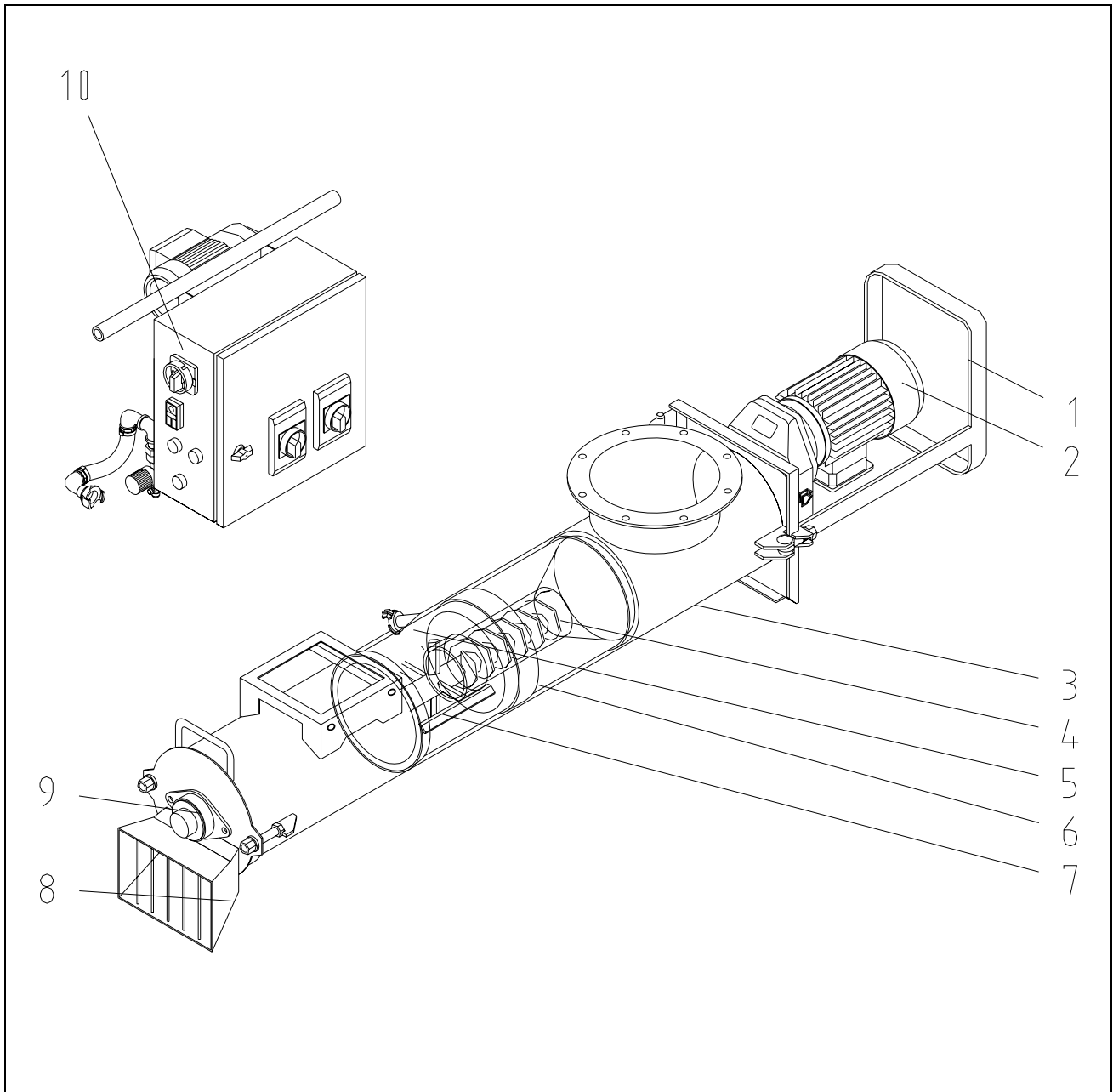
1. Function of the solenoid valve
2. Shaft connections
3. Setting the pressure reducer
4. Setting the motor safety switch
5. Water pressure switch

ATTENTION!

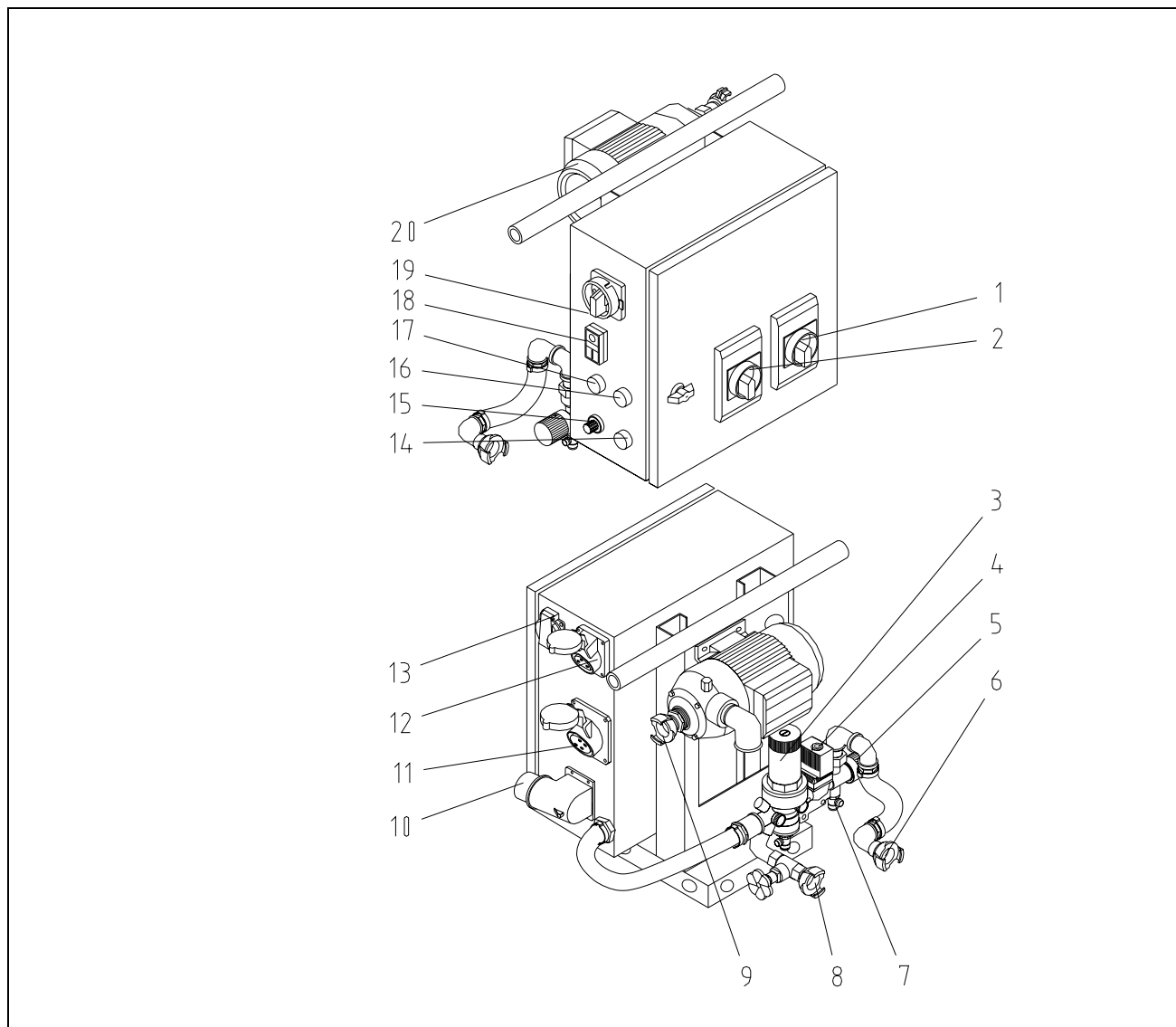
The enclosed guarantee card must be sent in – without a card there is no guarantee!



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- | | |
|----------------------------|----------------------------|
| 1. Tilting motor flange | 6. Rubber mixing tube |
| 2. Gear motor 4 KW | 7. Mixing shaft |
| 3. Mixing tube HM 6 | 8. Mortar outlet flange |
| 4. Metering shafts segment | 9. Rubber external bearing |
| 5. Water in-feed | 10. Controlling unit |



- | | |
|---|--|
| 1. Motor protection – control transformer | 11. Connection – motor cable |
| 2. Vibrator water pump | 12. Connection – level indicator probe |
| 3. Pressure reducer | 13. Vibrator connection |
| 4. Solenoid valve | 14. Reset key for frequency converter |
| 5. Water regulator valve | 15. Timer relay |
| 6. Water connection to mixing tube | 16. Motor fault |
| 7. Water drain tap | 17. No materials |
| 8. Water drain valve for cleaning | 18. Operation on/off switch |
| 9. Water connection from mains | 19. Main switch |
| 10. Connection – main current | 20. Water pump |

The PFT **HM 6** is a horizontal continuous mixer for factory-style pre-mixed mortar. It has been designed solely for silo operation.

Please observe the material manufacturer's processing guidelines.



The operating instructions give the following names and signs to particularly important information:

INFORMATION:

Special information referring to the efficient use of the machine.



ATTENTION!

Special information or instructions / prohibitions so as to prevent damage.

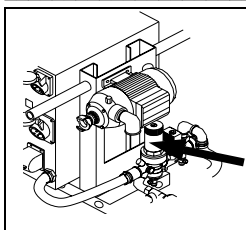
ATTENTION!

The machine may only be used in a technically impeccable state and as directed, and in a safety and danger conscious manner, whilst observing the operating instructions! Faults that could negatively influence the safety must be remedied immediately. Also considered to be use as directed is the observance of the operating instructions and the adherence to the inspection and maintenance conditions.

So as to make it as easy as possible for you to operate the machine, allow us to briefly acquaint you with the most significant safety regulations. If you observe these you will be able to work with our machine for a long time in a safe and qualitative way.

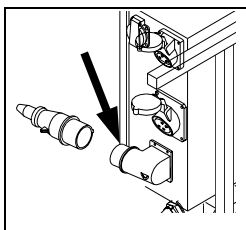
1. All safety and danger information on the machine must be observed and kept in a readable state!
2. The machine must be checked for any external damage and faults at least once per shift! If any safety-relevant changes must be made to the machine or its working manner, the machine must first be brought to an immediate standstill and the fault reported to the person responsible!
3. Do not make any modifications, add any attachments or make any conversions to the machine that would not guarantee the safety, without consultation with the supplier! This also applies to fitting unchecked "safety equipment"!
4. Spare parts must comply with the manufacturer's technical requirements. This is always ensured with original PFT parts!
5. Only trained or instructed personnel may use the machine. The responsibility for personnel who are operating, tooling, maintaining and servicing the machine must be clearly established!
6. Any personnel who are to be trained, taught, instructed or generally trained must be used under on the machine under the supervision of an experienced person!
7. Work on the electrical equipment of the machine may only be carried out by an electrician or by instructed persons under the supervision of an electrician, in accordance with electro technical regulations.
8. Switch-on and switch-off processes, control displays must be observed in accordance with the operating instructions.
9. If the machine is completely switched off for maintenance and service work, it must be secured against any unexpected restarting (e.g. lock the main switch and remove the key or attach a warning sign to the main switch).
10. Prior to cleaning the machine with the water jet, all the openings must be sealed, so that no water can penetrate (electromotor and switch cabinets) for safety and function reasons. After cleaning, remove the coverings completely.
11. Use only the original fuses with stipulated current!
12. If work is necessary on the live parts, a second person must be called upon who can break the current in the event of an emergency.
13. Even with a slight change in location, the machine must be interrupted from any external energy supply. Prior to restarting, the machine must again be properly connected to the mains.
14. The machine must be set up in a safe manner and secured against any undesired movement.
15. The pipelines must be laid safely and not around sharp edges!
16. Prior to opening the pipeline connection, a depressurised state must be achieved!
17. When remedying blockages, the person clearing the block must position him/herself in such a way that any escaping mortar cannot hit him/her. Protective goggles must also be worn. Other persons may not be situated in close vicinity to the machine!
18. If a continuous pressure level of 85 dB(A) is exceeded, a suitable sound insulation means must be provided.
19. When spraying, if necessary, suitable personal protection must be worn: protective goggles, protective clothing, gloves, possibly skin cream and breathing protection.
20. The machine must be checked by a specialist as and when required, however at least once per year.





Pressure reducing valve

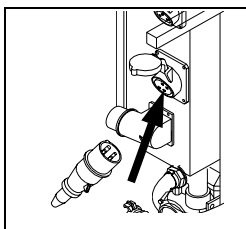
1.9 bar at 1000 l/h (maximum opening).



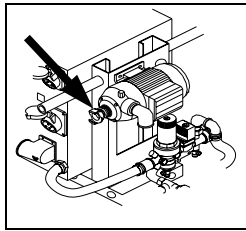
Power connection

In accordance with VDE conditions, connect the machine only to an assembly for construction site (with stipulated FI safety switch).

Use power cable 5x2.5mm² with CEE coupling 400 V, 3x16A PFT article number 20 42 33 50.



Connect a **mixer motor**.



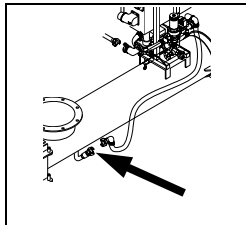
Water connection

Create a connection to a water supply with 3/4" pipe. Open the supply until water emerges at the end of the pipe so as to bleed the hose and clean out any dirt.

Close the supply.

Connect the water pipe to the water inlet (dust collector filter).

Open the supply.

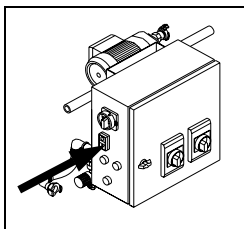


Connect the **water hose** from the needle valve on the mixing tube.

ATTENTION!

When working from a water container, a filter screen must be inserted in the suction basket (article number 00 00 69 06). (Bleed the water pump!)

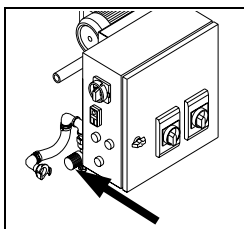




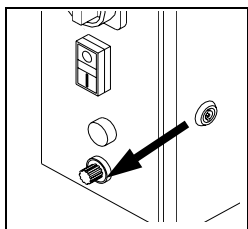
After the horizontal mixer **PFT HM 6** has been completely fitted and connected, the following procedure must take place:

Open the silo flap.

Switch on the **PFT HM 6** using the green **ON switch**.



Regulate the water quantity on the **needle valve**.



Set the rev counter control to the desired mixing time (0.5 to 10 minutes)

Attention!

When changing the time relay, you have to observe K6. The time control on the machine has to be set to the maximum when running in the remote rev counter mode. For running the machine without remote rev control, no bridge is required for the relay.



Mortar consistency

The needle valve must be adjusted in such a way that a trowel-consistency mortar emerges from the mortar outlet of the mixing tube.

Important

Observe the material manufacturer's guidelines.



Breaks in work

The maximum duration of breaks depends on the materials, and, above all, on the conditions of the construction site (external temperature, air humidity etc.).

How can problems with the PFT HM 6 be avoided or quickly remedied?

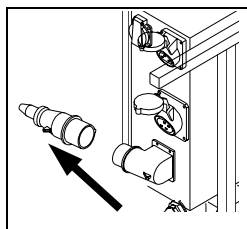
Problem	Possible cause	Remedy
Machine won't start up!	Power <ul style="list-style-type: none"> - Is the power supply in order? - Correct connection to the assembly for construction site? - Has the FI safety switch been triggered? - Has the main switch been switched on? - Has the motor cutout relay been triggered? 	Inspect the fault and remedy.
Machine won't start up!	Materials <ul style="list-style-type: none"> - Too much thick material in the material container or mixing zone. - Too dry material in the mixing tube. 	Remedy the fault, perhaps half empty the material container and start again. Water isn't running.
Machine won't start up!	Water <ul style="list-style-type: none"> - Solenoid valve (hole in the membrane is blocked). - Magnetic coil is faulty. - Pressure reducing valve is turned off. - Water inlet on the mixing tube is blocked. - Needle valve is faulty. - Cable to the solenoid valve is faulty. - Insufficient water pressure. 	Inspect and remedy the fault. Set to the correct value. Clean. Pressure increase pump.
Mixer motor won't start.	<ul style="list-style-type: none"> - Mixer motor is faulty. - Connection cable is faulty. - The plug or the built-in socket is faulty. - The motor safety switch is faulty or has been triggered. 	Inspect and remedy the fault.
Cannot increase the water flow.	<ul style="list-style-type: none"> - Dust collector filter is dirty. - Pressure reducing filter is dirty. - Hose connection or water pipe is too small. - The suction hose from the water container is too weak or too long. 	Clean the filter or replace it. Increase the water connection. Insert a pressure increase pump.
The mortar flow is interrupted.	<ul style="list-style-type: none"> - Bad mixture in the mixing tube. - Control tube has become damp, material has become lumpy and is narrowing the metering channel. 	Add more water: If this doesn't help then clean the control tube; dry the mixer tube inlet and start again.
The mortar flow is "thick and thin"	<ul style="list-style-type: none"> - Too little water. - Pressure reducing valve needs to be adjusted or is faulty. 	Regulate the water. Replace faulty parts.

- Metering and / or mixing shaft is / are blocked.
- Too long or too weak power cable.
- Too little material in the material container.



ATTENTION!

Maintenance and assembly work may only be carried out when the machine is without power (interrupt the power supply).



Cleaning

With a consistent daily operation, the PFT HM 6 needs only to be cleaned at the end of work.

The cleaning is carried out in 5 stages

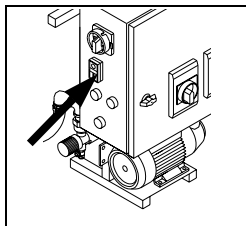
1. Close the silo flap.
2. Open the needle valve.
3. As soon as a very diluted mortar emerges, connect the PFT HM 6.
4. Open the screws on the mortar outlet and remove the mortar outlet flange.
5. Remove the mixing shaft and clean with water.

ATTENTION!

No water must reach the bearing or the electrical parts (plug, main switch, terminals etc.).

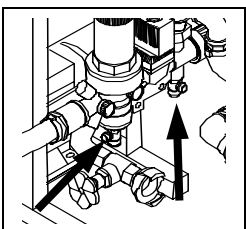
When fitting the cleaned parts, ensure that they are dry and clean.





Measures in the event of a power failure

The PFT HM 6 is equipped with a restart block. After a power failure, the unit must again be brought into operation by pressing the green ON switch.



Measures in the event of water failure

The PFT HM 6 shall come to a standstill in the event of water failure. As soon as the fault has been remedied, the PFT HM 6 shall again mix normally.

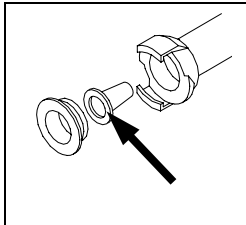
Measures in the event of a danger of frost

In the event of a danger of frost, the water fitting of the PFT HM 6 must be emptied. To do this:

- depressurise the water supply and uncouple,
- open the drain tap on the fitting block,
- pull out the power cable,
- depressurise the water supply and uncouple,
- place the mixing tube with the mixing shaft in the transport support and secure with snap fasteners.



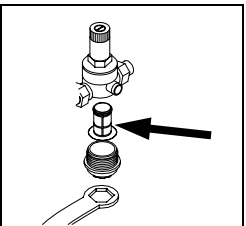
Maintenance



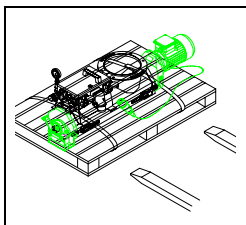
ATTENTION!

Maintenance and assembly work may only be carried out when the machine is without power!

After use, the PFT HM 6 must be checked for any damage to bearings, drive pin jaw, connecting elements, hose and cable connections.



The dust collector filter in the water gully as well as in the pressure reducer valve must be removed and cleaned every 2 weeks and, if necessary, replaced. The filter cup must be opened using a special key (article number 20 10 24 00).

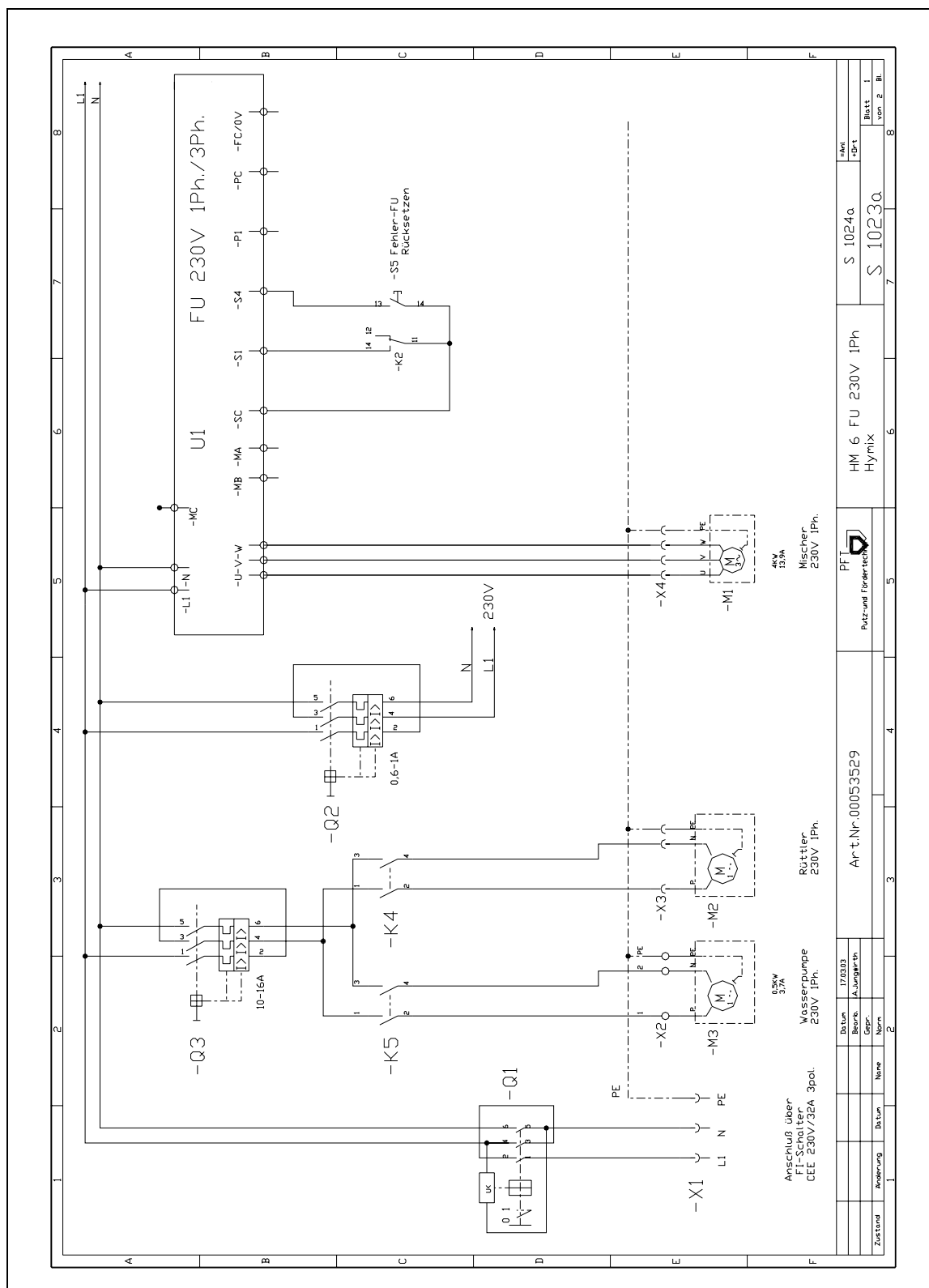


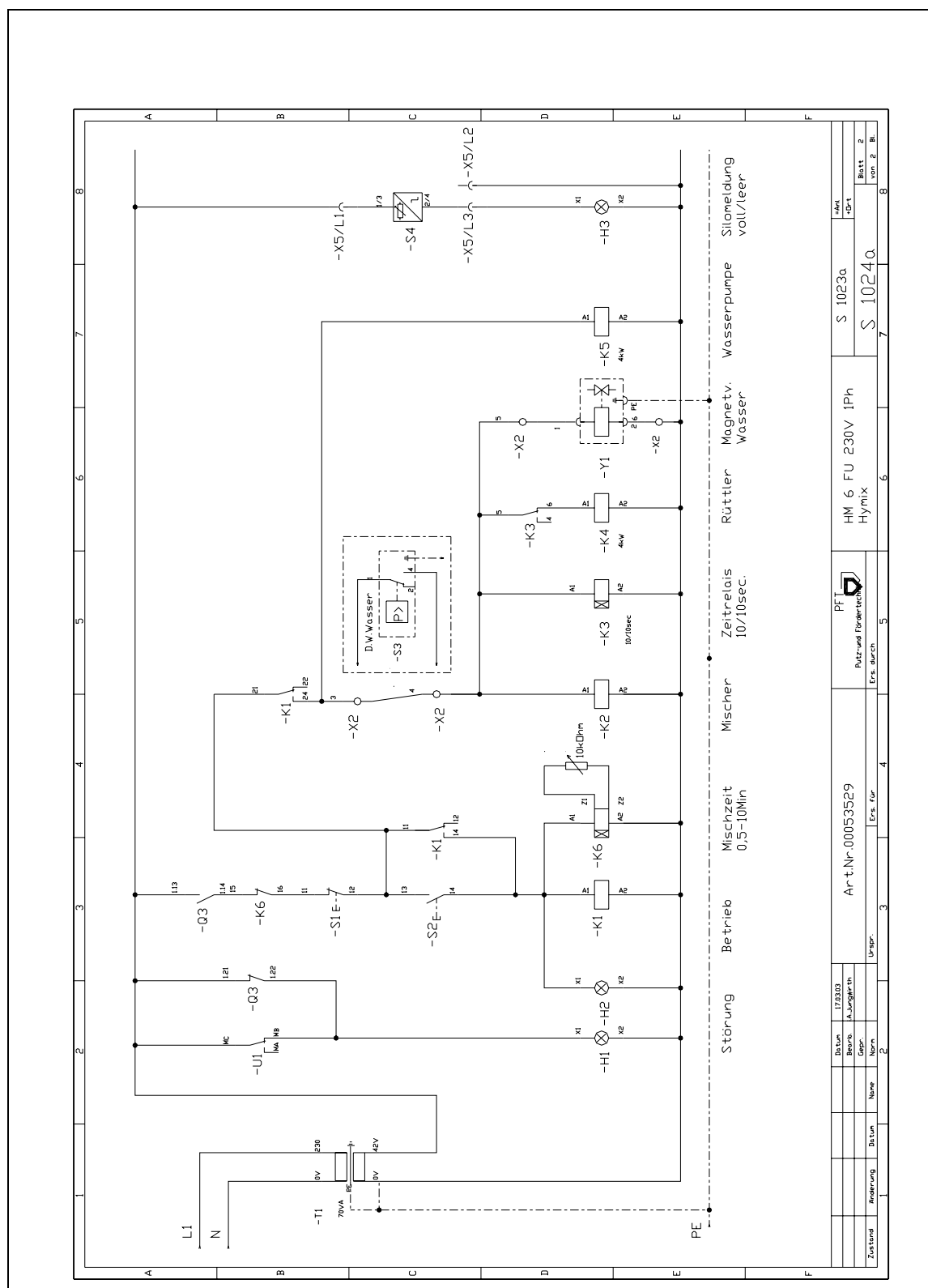
Transportation

Transport the HM 6 only when secured on a Euro pallet!

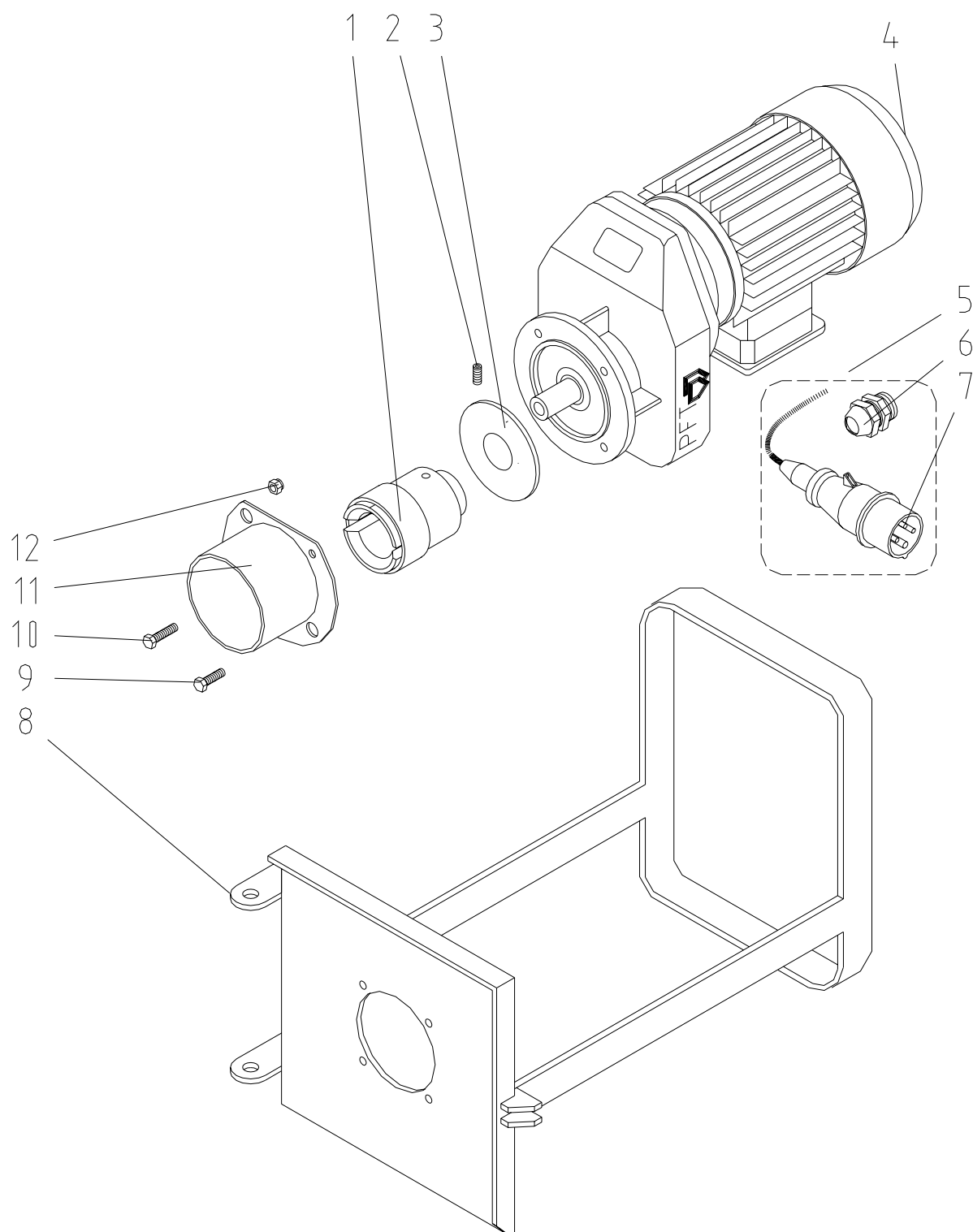
HM 6 is not suitable for crane transportation!

Prior to transportation, pull out the power cable, depressurise the water supply and uncouple.

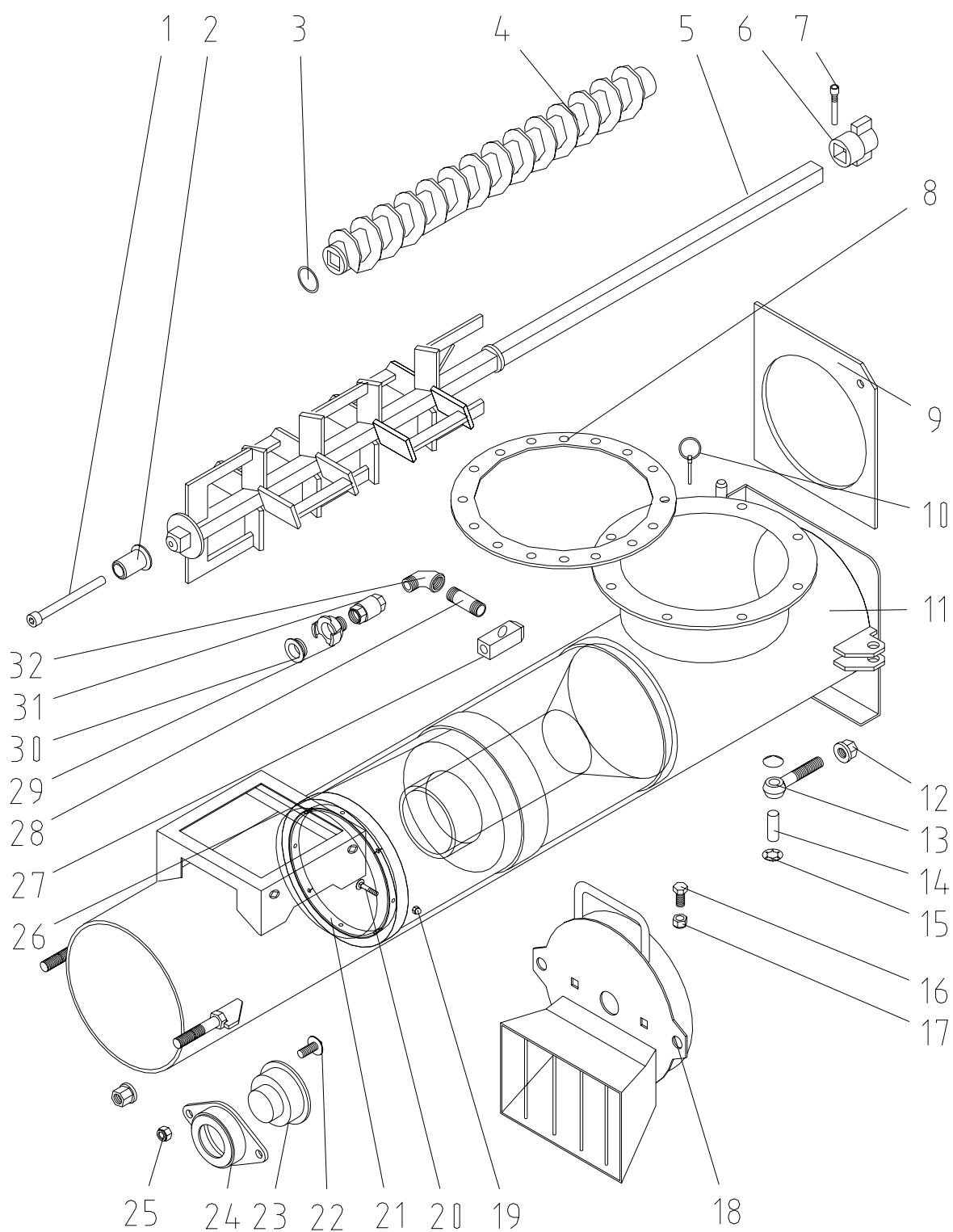




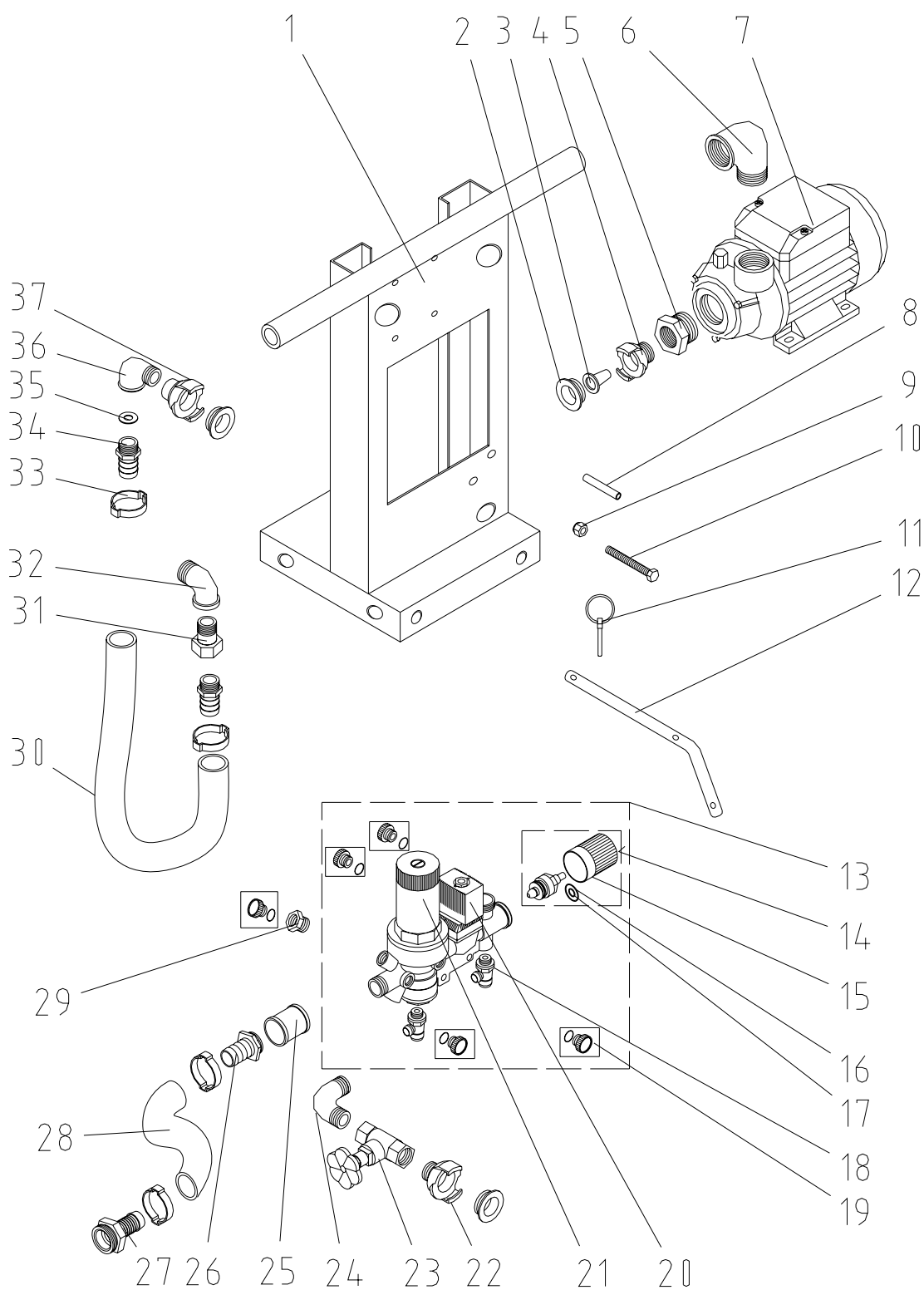
Spare parts list – drive motor assembly	17
Spare parts list – mixing tube assembly	19
Spare parts list – water fitting assembly	21
Spare parts list – switch cabinet assembly	23



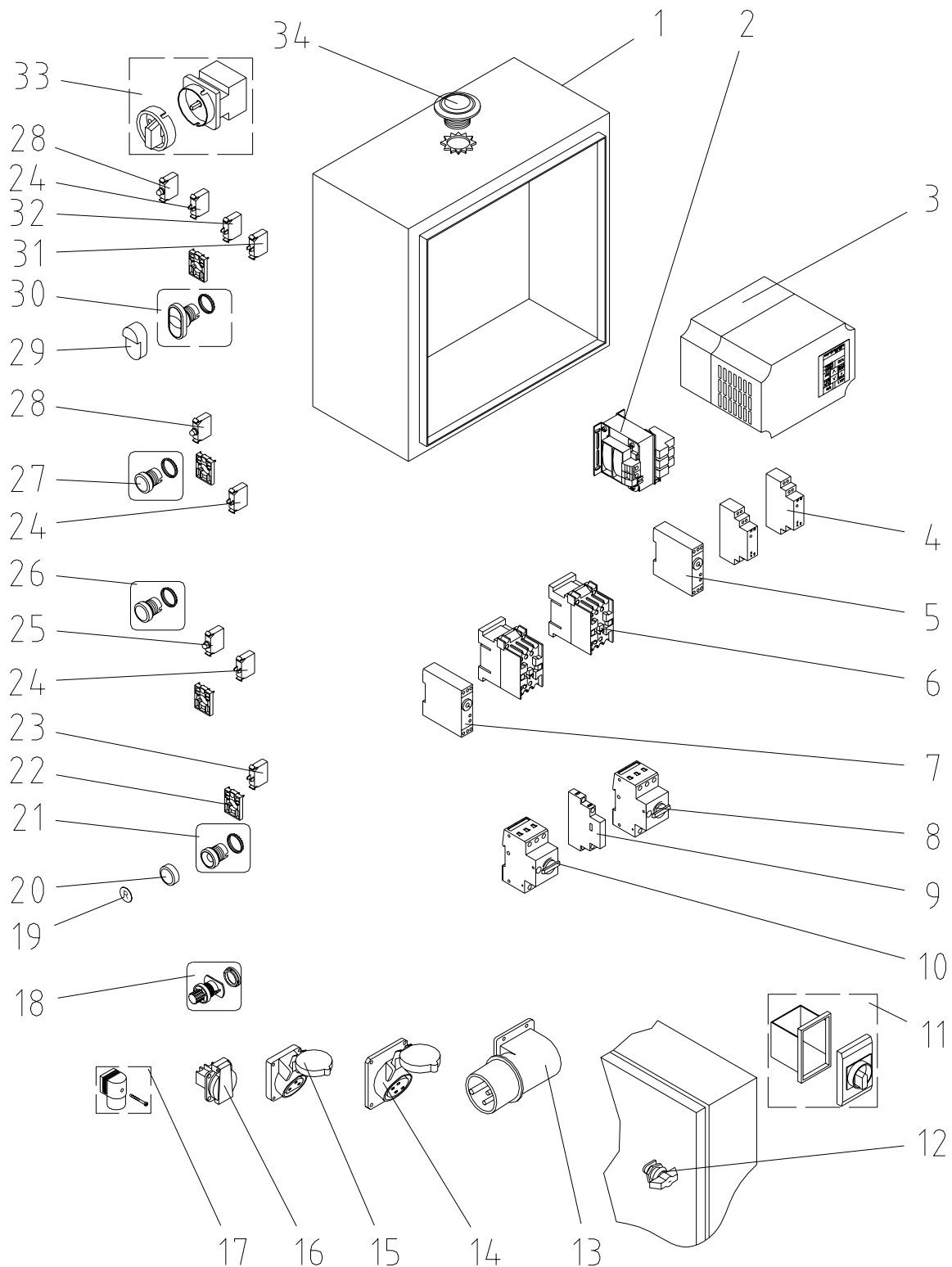
Pos.	Pcs.	Article no.	Article description
1	1	20 54 57 01	Drive pin jaw HM3 / HM5 25mm hole mi
2	1	20 20 96 03	Threaded pin with hexagon screw M8 x 20 DIN 916
3	1	20 54 57 02	Sealing ring – drive sealing D 107x40x5
4	1	00 05 36 03	Drive motor EFQ68 4KW 273U/min RAL2004
5	1	20 42 41 33	Motor connection cable 1.9m CEE-plug 4x 16A 9h blue loop 5mm
6	1	00 04 11 27	Skintop screw connections M 20 x 1.5
7	1	20 42 79 01	CEE connector 4 x 16A 9h blue No. 251
8	1	00 03 99 54	Tilting motor flange HM 6 RAL2004
9	2	20 20 78 10	Socket screw M 8 x 25 DIN 933 galvanised
10	2	20 20 78 00	Socket screw M 8 x 30 DIN 933 galvanised
11	1	20 10 29 05	Protective pipe for drive pin jaw HM 3/HM 5
12	4	20 20 72 00	Locknut M8 DIN 985 galvanised



Pos.	Pcs.	Article no.	Article description
1	1	00 05 35 92	Allen screw M12 x 60 galvanised
2	1	00 05 62 88	Shaft adapter for rubber external bearing
3	1	20 19 63 24	O-ring 43 x 3 DIN 3770-NBR 70
4	1	00 04 76 64	Metering segment 45 L HM 6 RAL2004
5	1	00 04 76 62	Mixing shaft for alternating metering shafts HM 6 RAL2004
6	1	00 04 76 94	Drive pin jaw for metering / mixing shafts HM 6 RAL2004
7	1	00 02 32 61	Allen screw M8 x 50 galvanised
8	1	20 70 62 02	Rubber gasket D 330x260x4 with 24 holes
9	1	00 05 50 58	Seal for motor flange
10	1	20 10 10 10	Folding split-pin D 4.5 with ring
11	1	00 03 99 56	Mixing tube HM 6 RAL2004
12	3	20 20 99 21	Flanged nut M16 DIN 6331 galvanised
13	1	20 20 85 00	Eye bolt M16 x 80 DIN 444 galvanised
14	1	20 70 58 02	Bolts A16 H11 x 50 pieces galvanised 1.5 x 30°
15	2	20 20 86 04	Fast fastener with cap 16s x N 2 7
16	2	20 20 99 63	Socket screw M12 x 25 DIN 933 galvanised
17	2	20 20 89 00	Locknut M12 DIN 985 galvanised
18	1	00 03 99 60	Mortar outlet flange HM 6 RAL2004
19	8	20 20 62 01	Safety nut M6 DIN 985 galv.
20	8	20 20 63 09	Screw M6 x 25 DIN 603 galvanised
21	4	00 05 50 55	Tension segment dosing zone rubber HM 6 galvanised
22	2	00 04 51 37	Saucer-head screw M12 x 30 DIN 603 galvanised
23	1	00 05 27 41	Rubber external bearing HM 6
24	1	00 05 35 69	Bracket for rubber external bearing HM 6 RAL2004
25	2	20 20 89 00	Locknut M12 DIN 985 galvanised
26	1	00 04 13 91	Dosing zone – rubber HM 6
27	1	00 04 29 10	Insert for water gully HM 6 unl.
28	1	20 20 34 01	Double nipple 1/2" x 60 Nr.23 galvanised
29	1	20 20 09 00	Totally enclosed coupling 1/2" AG
30	1	20 20 17 00	Totally enclosed coupling sealing
31	1	20 21 90 50	Return check valve 1/2" IG
32	1	20 20 36 10	Elbow 1/2" IG-AG no. 92 galvanised



Pos.	Pcs.	Article no.	Article description
1	1	00 05 80 90	Fitting rack RAL2004 HM 6
2	3	20 20 17 00	Sealing for totally enclosed coupling
3	1	20 15 20 03	Dust collector filter – totally enclosed coupling
4	1	20 20 09 10	Totally enclosed coupling 3/4" AG
5	1	20 20 50 00	Reducing nipple 1" ext. thread-3/4"int. thread no. 241 galv.
6	1	20 20 36 20	Elbow 1" IG-AG Nr. 92 galvanised
7	1	00 00 14 99	Pressure increase pump AV3 Pkm65-1 230V 1Ph
8	2	00 04 40 49	Spacer tube for water fitting - HM 6 galvanised
9	2	20 20 72 00	Locknut M8 DIN 985 galvanised
10	2	20 20 77 10	Socket screw M8 x 70 DIN 933 galvanised
11	2	20 10 10 10	Splint D 4,5 with ring
12	2	00 05 81 34	Hinged bolt for HM 6 galvanised
13	1	00 03 92 86	Fitting block red metal DK 06 FN-1/2" E
14	1	00 04 04 26	Regulator valve insert, complete red metal
15	1	00 04 05 80	Handle for regulator valve red metal
16	1		O-ring 18 x 2.5 DIN 3771-NBR 70
17	1		O-ring 6 x 1.5 DIN 3771-NBR 70
18	2	00 04 04 28	Drain valve for fitting block – red metal
19	5	20 15 61 00	Plugs with O-ring R 1/4" for D06FN
20	1	00 01 96 06	Solenoid valve for armature block G 5
21	1	00 01 96 07	Pressure reducing valve for manifold brass
22	1	20 20 09 00	Totally enclosed coupling 1/2" AG
23	1	20 21 52 00	Locking tap 1/2" without emptying
24	1	20 20 35 11	Tube bend 1/2" 90 ° AG-AG no. 3 galvanised
25	1	20 20 30 01	Bushing 3/4" no. 270 galvanised
26	1	20 19 04 41	Pipe screwing 3/4" AG with nozzle
27	1	20 19 04 43	Pipe screwing 1" AG with nozzle 3/4"
28	1	20 20 36 06	Water / air hose 3/4" x 400mm
29	1	20 20 51 12	Reducing nipple 3/8" AG 1/4" IG no. 241 galvanised
30	1	20 21 36 25	Water / air hose 3/4" x 900mm
31	1	20 20 31 05	Nipple 1/2" conical with spigot nut 3/4" for article no 20157700
32	1	20 20 36 10	Elbow 1/2" IG-AG no. 92 galvanised
33	4	20 20 29 00	Hose clamp 28-31 (VPE=10pieces)
34	2	20 19 04 42	Pipe screwing 1/2" AG nozzle 3/4"
35	1	00 00 16 32	Disc 19 x 6 x 1.5 galvanised
36	1	20 20 36 10	Elbow 1/2" IG-AG no. 92 galvanised
37	1	20 20 13 00	Totally enclosed coupling 1/2" IG



Pos.	Pcs.	Article no.	Article description
1	1	00 05 35 30	Empty housing HM 6 FU 230 Hymix RAL7032/Struk
2	1	00 02 21 74	Control transformer 230V/400V-42V 70VA without fuses
3	1	00 02 26 48	Frequency converter 230V 4KW 17.6A TYPE: CI
4	2	20 44 81 20	Switching relay 42V 2 reverser
5	1	20 45 27 20	Impulse pause relay 42V 10sec. cycle
6	2	20 44 71 00	Air break contactor DIL 0M 42V
7	1	00 04 43 57	Timer relay 0.5 to 10 minutes for remote rev counter NGZP 31
8	1	00 04 25 99	Motor safety switch 0.63-1A PKZM 0-1
9	1	00 02 14 01	Auxiliary contact NHI-11-PKZO
10	1	00 04 26 02	Motor safety switch 10-16A PKZM 0-16 (P)
11	2	00 05 35 33	Insulated material for motor safety switch
12	1	00 05 35 79	Lock for switch cabinet (Tommy grip)
13	1	00 00 24 69	CEE connector 3 x 32A 6h blue no. 381
14	1	00 02 20 55	CEE built-in socket 4 x 16A 9h blue T121/780
15	1	20 42 64 00	CEE built-in socket 3 x 16A 12h white no.1272
16	1	20 42 72 10	Built-in socket - Schuko grey
17	1	00 02 20 63	Connector for solenoid valve
18	1	00 04 43 56	Remote rev counter 10 kOhm for time relay
19	1	00 05 38 43	Front unit for press button blue/reset M 22
20	1	00 05 38 30	Membranes round for pressure switch
21	1	00 05 38 39	Press button without front unit
22	4	00 05 38 34	Fastening adapter M 22
23	1	00 05 38 35	Contact-element 1 make contact M 22
24	3	00 05 38 86	LED - resistor - additional series resistor 42 V
25	1	00 05 38 79	Luminous element red 12-30V
26	1	00 05 38 75	Front cap for the signal lamp red M 22
27	1	00 05 38 74	Front cap for the signal lamp yellow M 22
28	2	00 05 38 81	Luminous element white 12-30V
29	1	00 05 38 31	Membranes angular for double pressure switch M22-TDD
30	1	00 05 38 32	Luminous push-button key on/off M 22
31	1	00 05 38 35	Contact-element 1 make contact M 22
32	1	00 05 38 36	Contact-element 1 break contact M 22
33	1	20 45 52 03	Main switch 230V
34	1	00 04 46 67	Pressure compensation disc

Drive	Drive motor 4 kW, 230 V, 50 Hz, three phase
Current consumption	6.35 A
Number of revolutions	280 min ⁻¹
Dims. Length of everything	2005 mm
Width of everything	330 mm
Total weight	ca.150 kg
Power connection	Three phase 230 V / 50 Hz, 16 A Supply 5 x 2.5 mm ² , only connect to assembly for construction site with FI safety switch
Safeguarding	3 x 16 A carriers
Water connection	Hose ³ / ₄ “, with at least 2.5 bar water pressure when machine is running
Mortar output	25-50 l/min fresh mortar, depending on quality, consistency and metering shaft equipment
Continuous pressure level	72 ± 1 dB(A)

WE KEEP THINGS MOVING



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