

REGO[®] SM SERIES

Whisking & Mixing
Machines – Original
Operating Instructions

REGO[®] SM 10 from Series B-016
REGO[®] SM 20 from Series A-008
REGO[®] SM 20L from Series C-020
REGO[®] SM 40 from Series FV-020
REGO[®] SM 60 from Series H-007



CONFECTIONERY
MACHINES



REGO HERLITZIUS

REGO HERLITZIUS



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Typ

Serien Nr.

Baujahr

Spannung (V)

Frequenz (Hz)

Leistung (kW)

Sicherung



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1 Introduction

These operating instructions are intended for

- Operating personnel
- Maintenance staff
- Purchasers

of the **REGO SM** mixing and beating machine.

Cleaning, care and maintenance of the machine must only be carried out by authorised persons who have read and understood this operating manual. It is the customer's responsibility to authorise persons to carry out cleaning, care and maintenance.

The operating instructions must always be kept within easy reach near the machine. Particular attention must be paid to:

- all safety instructions in this operating manual
- the general safety and accident prevention regulations
- the safety recommendations issued by trade associations and employers' liability insurance associations

The design of the machine ensures that, when used as intended, it can be set up, operated and maintained without endangering personnel. Before carrying out any set-up, maintenance or repair work, the machine must be switched off by unplugging the mains plug.

REGO HERLITZIUS reserves the right to make technical modifications and improvements to the machine described in this operating manual without prior notice. It is therefore possible that the illustrations may not correspond exactly to the model you are using.

We reserve all copyrights to this operating manual and the accompanying drawings and documents.



Any installation or repair work not carried out by authorised and qualified specialists, as well as any technical modifications to the machine, will invalidate the manufacturer's warranty and liability.

Qualified specialists are defined as persons who possess the skills and knowledge required for the design and operation of the electrical machine and its installation, and who have completed training in the identification and prevention of potential hazards.

In the event of a fault, please contact Rego Herlitzius to obtain authorised and qualified after-sales service.



QR code: Product registration



Please scan!

By registering, you secure your full warranty entitlement and also benefit from important service advantages.

Why register?

- Full warranty cover: Activate the full warranty cover for your appliance.
- Fast support: Should you require assistance, we can help you particularly quickly and accurately thanks to the details you provide.
- Product updates & news: Receive information on relevant product updates, notices or enhancements, if you wish.
- Optimal traceability: Your registration details enable us to process enquiries, maintenance requests and any spare part requirements efficiently.

How registration works:

1. Complete the form in full.
2. Enter the serial number, date of purchase and retailer.
3. Submit the form – and your product is registered.



2.1 General

The mixing and stirring machine must only be operated, maintained and repaired by authorised, trained and instructed personnel. These individuals must have received specific instruction on potential hazards and the installation of the machine.

When selling or hiring out the machine

- , please hand over this operating manual
- draw attention to the safety regulations

Unauthorised modifications or alterations to the machine that could compromise safety are not permitted. The operator is obliged to report any changes to the machine that could compromise safety to **REGO HERLITZIUS** immediately.

Before commencing any cleaning work on the machine, the main power supply must be disconnected and secured against accidental activation.

Non-ionising radiation is not deliberately generated, but is merely emitted as a technical by-product of the electrical equipment (e.g. electric motors, high-voltage power lines or solenoids). Furthermore, the machine does not contain any strong permanent magnets. Provided a safety distance (distance between the field source and the implant) of 30 cm is maintained, interference with active implants (e.g. pacemakers, defibrillators) can be ruled out with a high degree of certainty.



2.2 Intended use

The **REGO SM** mixing and kneading machine is a technical product intended for use at work and by persons aged 14 and over. It is intended exclusively for the preparation of food doughs in bakeries and kitchens (see **Chapter 3**).

Any use of the machine beyond this, e.g. the production or processing of hazardous substances, such as explosive substances in the chemical industry, is prohibited and requires authorisation. Installation in a hazardous, explosive atmosphere is not permitted.

Intended use also includes compliance with the manufacturer's instructions for installation (see **Section 4.3**), commissioning (see **Section 5**) and maintenance (see **Section 7**).

The **REGO SM** mixing and stirring machine is not suitable for continuous use. The actual service life depends on the users, the composition of the mixture and the state of maintenance of the machine.



The manufacturer accepts no liability for damage resulting from improper use.

2.3 Symbols

The following symbols are used in these operating instructions and must be observed carefully.



Caution! Safety notice

The “**Caution**” symbol indicates passages of text that are important for the safe operation of the machine. Please read these instructions very carefully.



High voltage!

Warning of dangerous electrical voltage



3 Dimensions and technical data

Machine type		REGO SM 10	REGO SM 20	REGO SM 20L	REGO SM 40	REGO SM 60
Mains voltage	Volt	1 ~ 230	1 ~ 230	3 ~ 400	3 ~ 400	3 ~ 400
Drive motor	kW/min ⁻¹	0.75/1420	1.5/1450	1.5/1450	3.0/1400	3.0/1430
Max. current	A	3.3	7.5	3.8	6	6
Protection	A	16	16	16	16	16
Frequency converter	kW/V	0.75 / 230	1.5 / 230	1.5 / 400	3.0 / 400	3.0 / 400
Operating speed	min ⁻¹	50 – 650	50 – 650	50 – 650	50 – 650	50 – 650
Sound emission pressure level	dB (A)	≤ 70 ± 2.5	≤ 70 ± 2.5	≤ 70 ± 2.5	≤ 70 ± 2.5	≤ 70 ± 2.5
Boiler size	litres	10 / 16	16 / 20	16 / 20	40 / 32 / 20	50 / 60
Dough	Litres min. max.	0.25 2	0.5 4	0.5 4	0.5 8	0.5 10
Mass	kg min. max.	0.25 8	1 16	1 16	1 32	1 32
Cream	kg min. max.	0.25 6	1 10	1 10	1 20	1 20
Dimensions Figs. 1–3 [mm]		REGO SM 10	REGO SM 20	REGO SM 20L	REGO SM 40	REGO SM 60
	A	198	216	217	243	300
	B	128	149	139	260	243 / 314
	C	-	-	480	575	610 / 708
	D	363	538	468	440	549 / 704
	E	434	429	501	407	580 / 900
	F	201	280	-	-	-
	Municipality	460	360	501	540	390
Height	H	810	1170	1520	1630	1770
Base width	BF	455	635	600	660	800
Depth	T	555	695	790	790	995
Foot depth	TF	490	690	740	690	970
Net weight	kg	70	140	200	280	350
Gross weight of carton	kg	90	160	240	315	395
Gross weight of shipping crate	kg	120	205	300	375	455

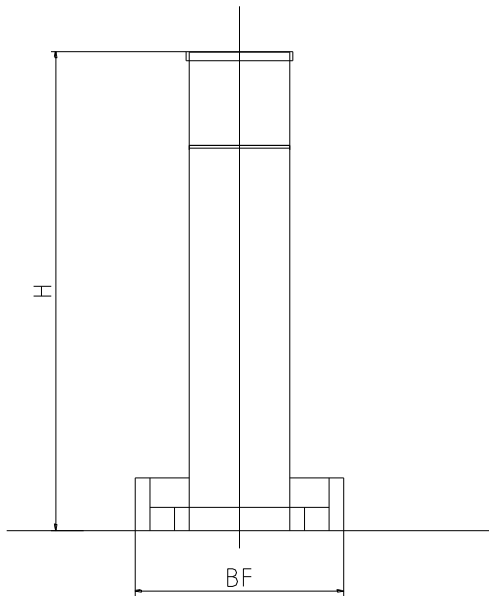
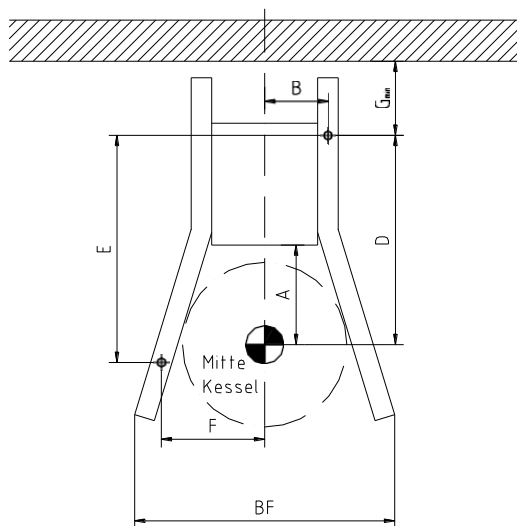
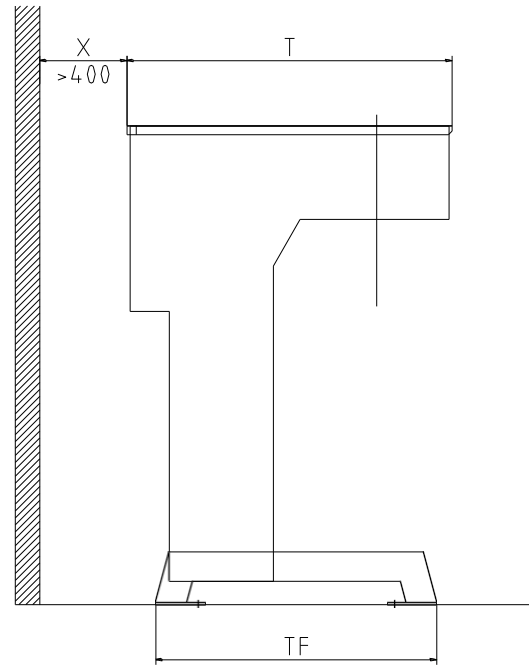
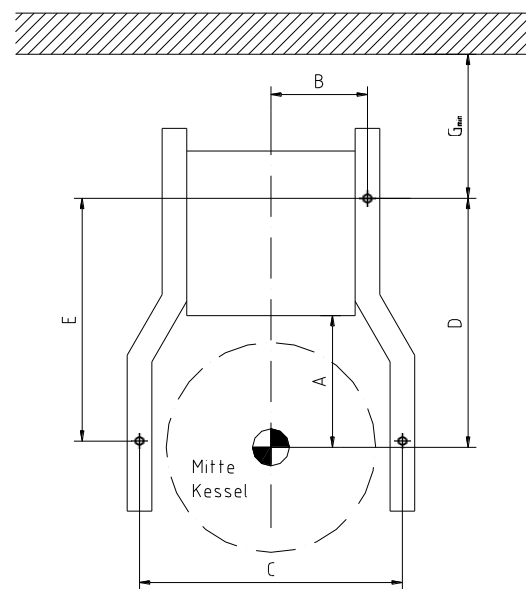


Fig. 1: Machine dimensions REGO SM...

Fig. 2: Installation dimensions
REGO SM 10 – REGO SM 20Fig. 3: Installation dimensions
REGO SM 40 – REGO SM 60



4 Transport and Installation

4.1 Transport

The machine is delivered bolted onto a disposable Euro pallet, enclosed in a cardboard box or crate.



To ensure safe transport, the machine should be moved to its installation site using a pallet truck or forklift, depending on its weight.

Please note any instructions on the outer carton:



Fragile

Indicates packages containing fragile or delicate contents. Handle the package with care; do not drop it or subject it to impact.



Protect from moisture

Protect parcels from moisture and keep them dry.



Centre of gravity

Be aware of the off-centre centre of gravity. Lift the machine carefully and check whether the load is tilting.

4.2 Unpacking

- Remove the strapping and lift off the cardboard box
- Check the machine order against the delivery note
- Immediately check the machine and accessories (see **Section 6.2: Standard Accessories**) for any transport damage and to ensure they are complete. In the event of damage or discrepancies, please contact **REGO HERLITZIUS's** customer service department immediately (see **Section 12**)



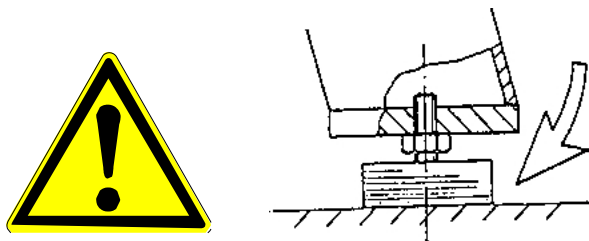
4.3 Installation

When selecting a location, ensure that the machine is not exposed to direct heat or hot vapours. The machine will be installed at the site by the manufacturer's service team or your own staff.

The wall clearance X (see Fig. 1, **Chapter 3: Dimensions and Technical Data**) must be at least 40 cm to ensure service access and adequate filter ventilation. To ensure stability, floor-standing units must be anchored to the floor. The diagonally offset fixing holes can be marked out and drilled using the installation dimensions (see Figs. 2 and 3, **Chapter 3: Dimensions and Technical Data**). The anchor bolts supplied are to be fitted in accordance with the enclosed assembly instructions (see **Chapter 4.4**).

To set up the beater and mixer, proceed as follows:

- Loosen the fixing bolts on the machine base/Euro pallet (floor-mounted machines)
- Lift the machine using a suitable pallet truck or forklift and remove the pallet
- The machine can be slid into its final position through the slotted holes in the machine base (floor-standing machines)
- The machine is fitted with a height-adjustable rubber foot to compensate for uneven floors.
To adjust the machine, proceed as follows:



- a Loosen the lock nut
- b Adjust the position by turning the rubber foot
- c Check that the machine is stable and finally retighten the lock nut

Bench-top machines should be set up on the corresponding work trolleys from Rego Herlitzius. These are fitted with 4 castors with locking brakes, which must be engaged before setting up the machine to ensure stability.

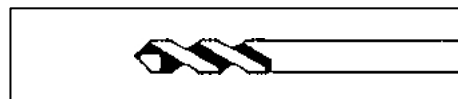
The table height should be 700 mm (SM10) or 500 mm (SM20) to achieve an optimal working height.

When disposing of the machine, care must be taken to ensure it is stable. To prevent the machine from tipping over, it should be stored lying flat.



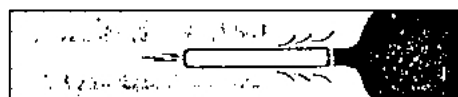
4.4 Assembly instructions for anchor bolts (for floor-standing machines only)

1. Drilling a hole



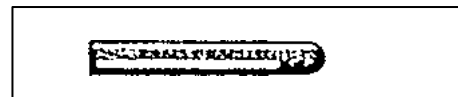
2. Clean the drill hole

Blow out from the deepest part of the drill hole!

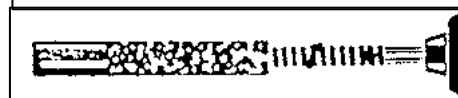


3. Check the composite anchor cartridge

Suitability for use is guaranteed if the glass cartridge is undamaged and its contents flow like honey. Insert the composite anchor into the cleaned drill hole.



4. Insert the threaded rod into the hammer drill using the setting tool and, using a combination of hammering and rotating movements (working speed 250–500 rpm),



drive it rapidly into the drill hole under strong pressure up to the mark. Then switch off the hammer drill immediately whilst still applying pressure.

Note: Rotating the hammer drill for too long will cause the borehole to empty, resulting in faulty installation. Anchors set without a hammer drill – e.g. anchor rods driven in with a hammer – will not achieve a bond and are therefore considered to be incorrectly installed. When tightening the nut, the recommended maximum torque must be observed.

5. Observe the curing time of the synthetic resin mortar before subjecting the anchorage point to load – **installations are also possible at low temperatures!**

Immediately after the times specified opposite have elapsed, the nut can be tightened securely (using a socket spanner).

Temperature in the drill hole	Curing times in curing time	
	Dry concrete	Wet concrete
+35°C	10 mins	20 mins
+30°C	10 mins	20 mins
+20°C	20 mins	40 mins
+10°C	60 mins	120 mins
+5°C	60 mins	120 mins
0°C	5h	10h

Type	Length mm	 Ø M	 Ø mm	 mm	 Nm
M 8	80	M 8	10	80	10
M 10	85	M 10	12	90	20
M 12	95	M 12	14	110	30
M 14	95	M 14	16	120	45
M 16	95	M 16	18	125	60
M 20	160	M 20	25	170	120
M 22	165	M 22	30	190	160
M 24 K	190	M 24	28	210	200
M 27 K	210	M 27	32	250	300
M 30 K	260	M 30	35	280	400
M 24	200	M 24	32	210	200
M 27	250	M 27	35	250	300
M 30	260	M 30	40	280	400



5 Commissioning



Electrical work must only be carried out by a qualified electrician!

Connection instructions

1. Check that the power rating on the type plate matches the mains voltage and fuse rating at the installation site



It is essential to observe the following regarding the supply circuit fuse:
Use the correct fuse rating!

- Neozett screw-in fuse (slow-blow)
- Class B medium-delay circuit breaker or
- Class K slow-blow

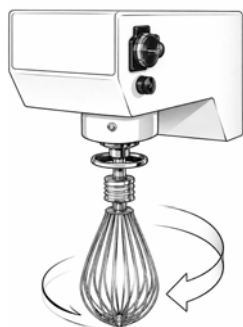
2. Plugs fitted at the factory are connected with the 'right' operating pole. If polarity reversal is required, this must be carried out at the socket and not on the plug.
3. Plug in the plug.
4. Check whether the red-and-yellow emergency stop switch is activated. If so, unlock it by turning the mushroom-head pushbutton in the direction of the arrow.

- Fuse
5. Turn the main switch to operating position **1**.



Each beater and mixer must be connected to its own RCD switch!

As a residual current device (RCD), a Type A unit must be used for single-phase frequency converters and a Type B unit (all-current sensitive) for three-phase frequency converters.



Stirring

In 'stirring' mode (LED indicator lit), the mixing tool rotates anti-clockwise; in 'beating' mode, it rotates clockwise (as viewed from the machine).

For better control, the swing adjustment can be set to the maximum position.

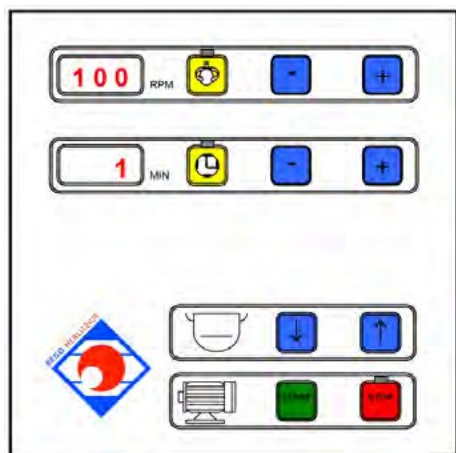


The machine must not be operated without the bowl securely clamped in place!



When the machine is switched off, the mixing tool must come to a standstill within 4 seconds whilst in the empty bowl. This function should be checked monthly.

The following points apply only to machines with automatic height adjustment (REGO SM 60):



6. Raise or lower the vessel by 'tapping' the arrow keys. **Check that the direction of vessel movement corresponds to the direction of the arrows on the keys.**

7. If the direction of movement is incorrect, disconnect the two live cables of the power lead at the

socket.



If the boiler is moved in the wrong direction, **the limit switch will be disabled**. A jam in the upper end position can be resolved by reversing the polarity or resetting the lifting motor.

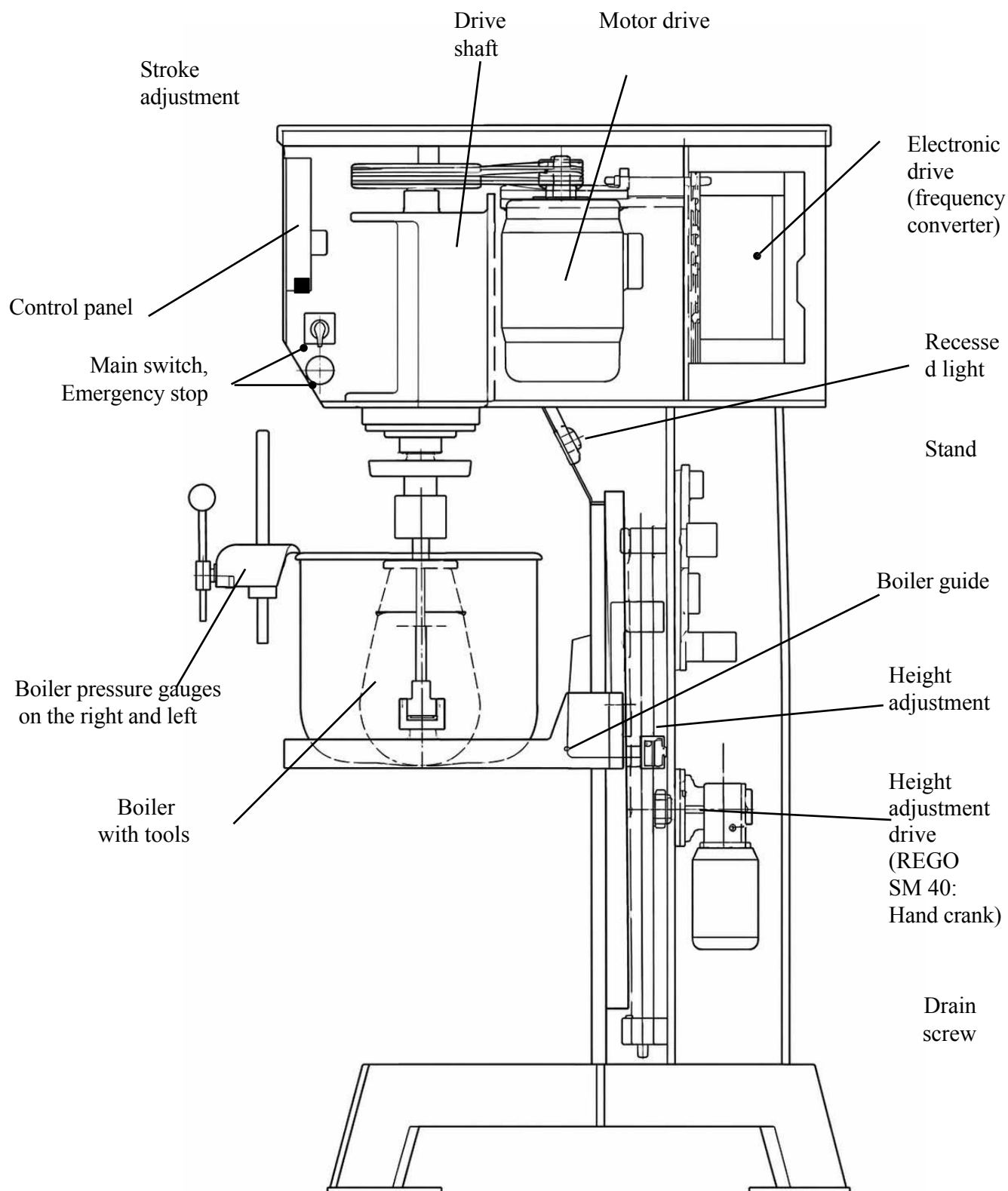
A blockage in the lower end position can be cleared by loosening the drain screw. This can be accessed via an opening in the base plate.



6 Machine description and Operation

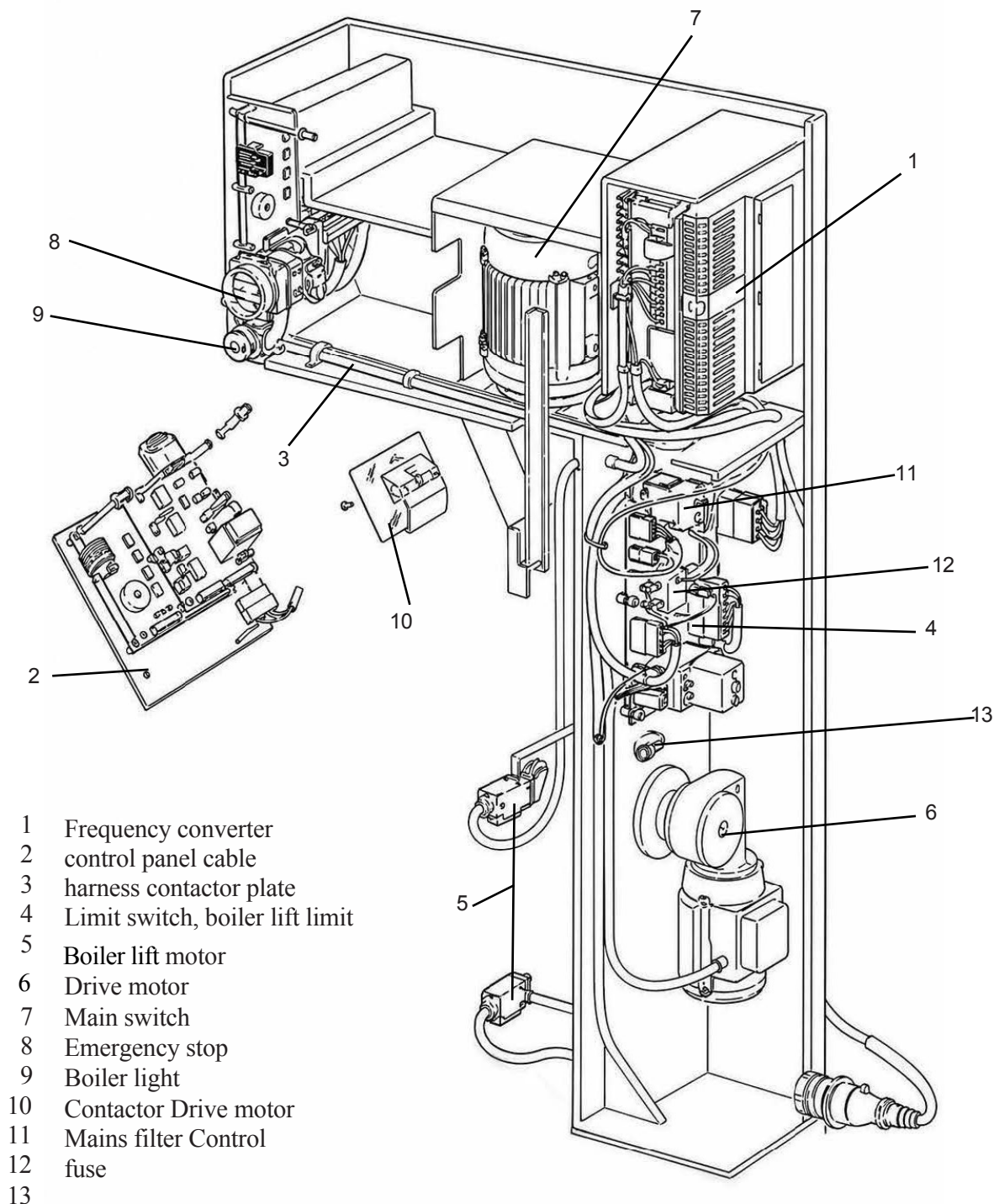
6.1 Machine description

6.1.1 REGOSTAND SM 20L, SM 40 and SM 60 floor-standing machines



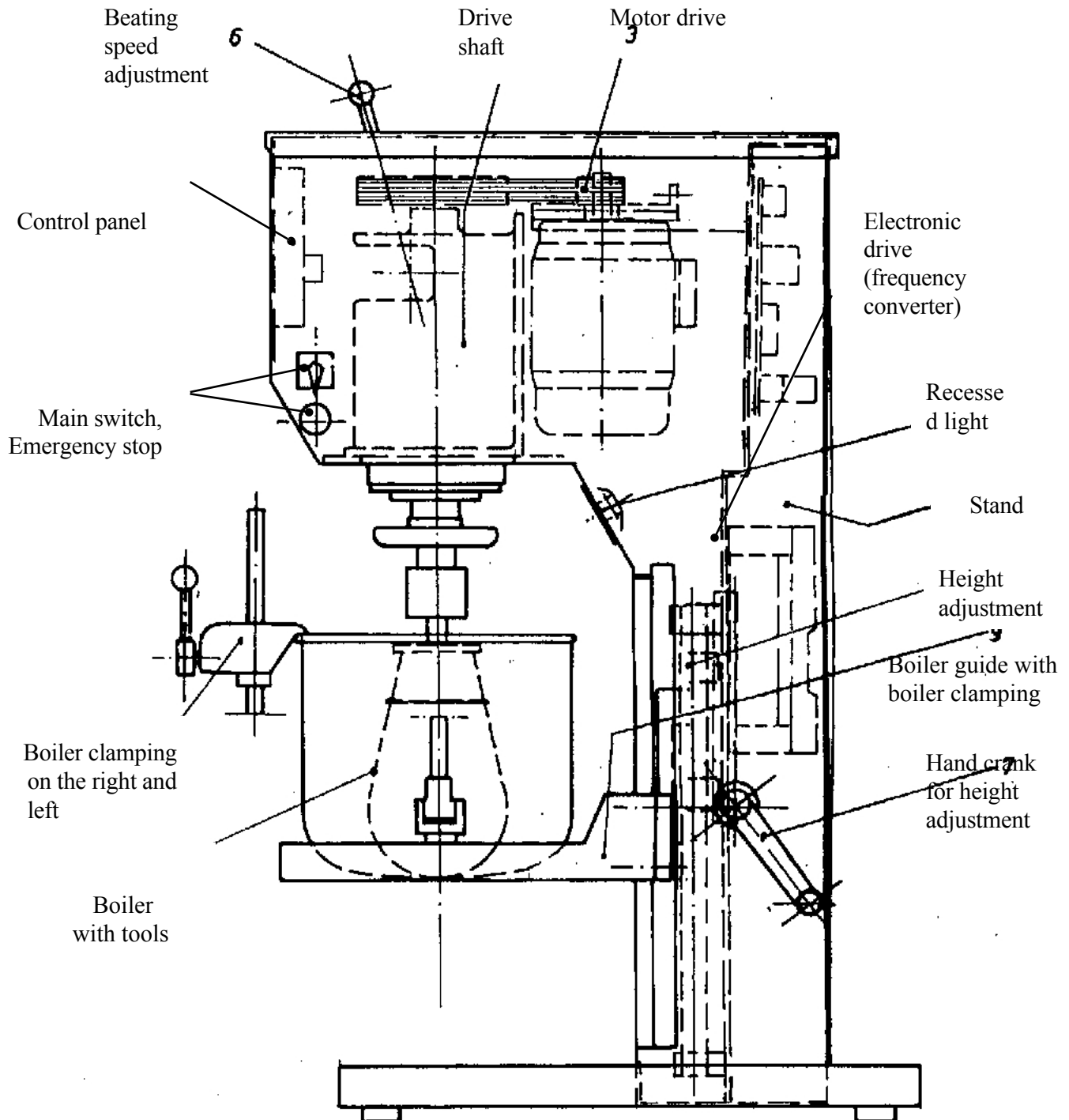


6.1.2 Location of electronic components 's floor-standing machines



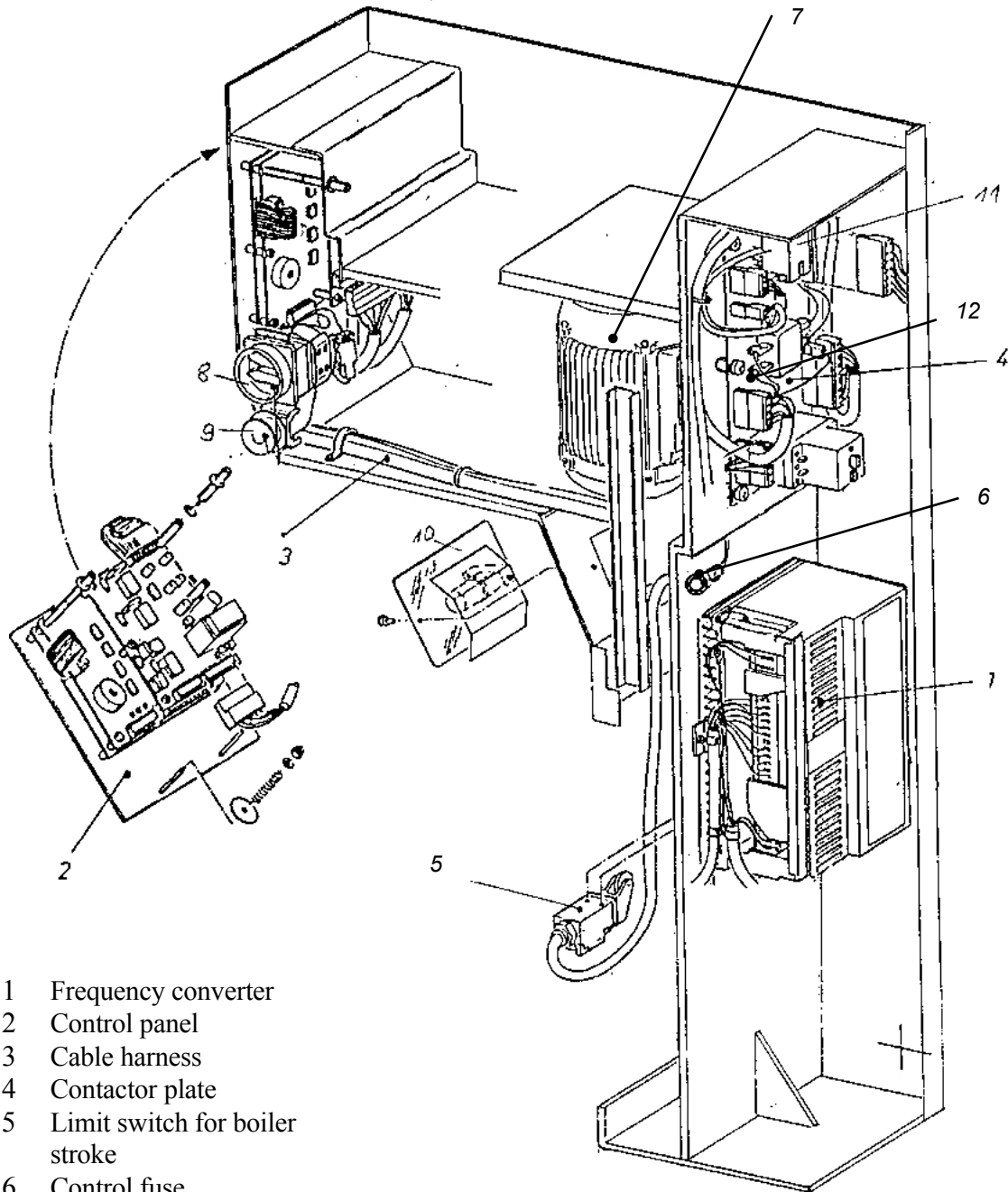


6.1.3 Benchtop machines REGO SM 10 and SM 20





6.1.4 Location of electronic components Table-top machines



- 1 Frequency converter
- 2 Control panel
- 3 Cable harness
- 4 Contactor plate
- 5 Limit switch for boiler stroke
- 6 Control fuse
- 7 Drive motor
- 8 Main switch
- 9 Emergency stop
- 10 Boiler indicator light
- 11 Contactor Drive motor
- 12 Mains filter



6.2 Standard – Accessories

The mixers are fitted with the following accessories as standard:

- 1 mixing bowl
- 1 whisk and 1 mixing paddle
- 1 piston press
- White all-purpose high-performance grease
- 3 composite anchor cartridges (floor-standing machines only)
- Operating instructions

6.3 Switching on and Switching off



Main switch

Emergency stop

1. Unlock the red and yellow emergency stop switch by turning it in the direction of the arrow.
2. Turn the main switch to operating position 1.
3. Insert and secure the boiler. (See **Section 6.5: Inserting and securing the boiler**)



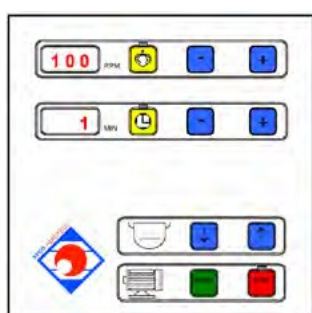
The machine must not be operated without the boiler clamped in place!

CAUTION!

Keep body parts away from the working area of the mixing tools. Do not reach into the bowl whilst the machine is running, and never lie or sit underneath the bowl. In an emergency, press the emergency stop switch!



4. Move the vessel to its upper end position using the 'Vessel Lift' button or the hand crank (see **Section 6.10, Vessel Lift**). If you have activated the start memory function (see **Section 6.10**), the beating and mixing machine will run at minimum mixing speed.
5. Press the START button. The speed automatically adjusts to the minimum stirring speed.
6. The agitator can be stopped at any time using the machine stop button.

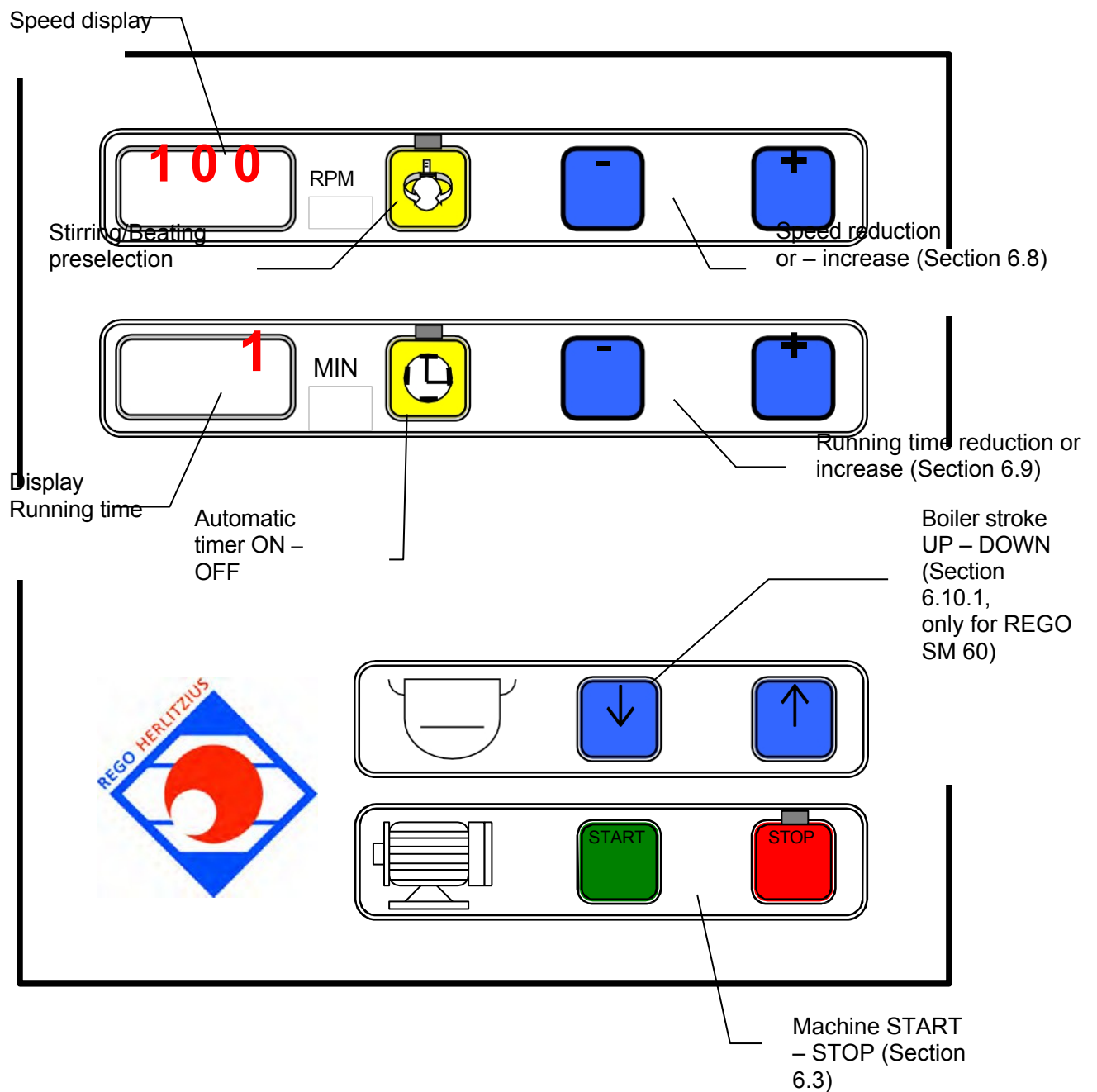




6.4 Control panel



The membrane keypad on the control panel must be protected from damage at all times!

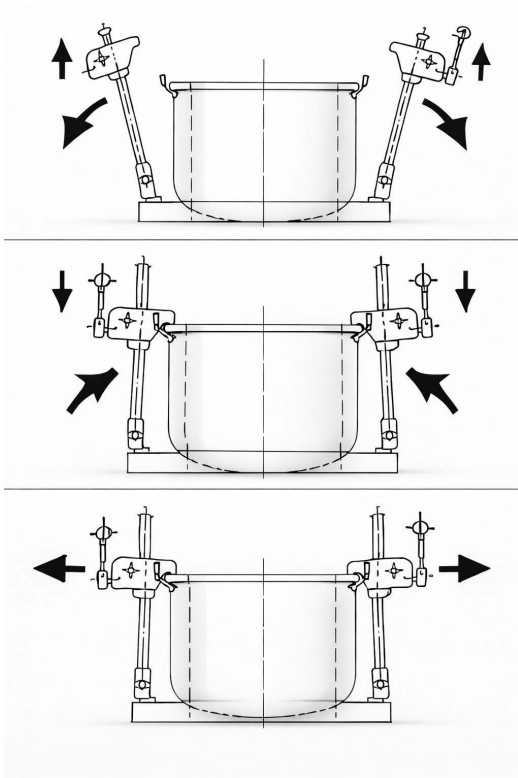




6.5 Insert the bowl and clamp the ' ' in place



Lower the bowl holder



Spread the kettle
clamps outwards



Lift the clamping tabs



Insert the boiler

Fold the boiler clamps inwards until they
touch the boiler wall



Slide the clamping tabs onto the edge of
the boiler



Clamp the boiler by turning the clamping
levers in one direction

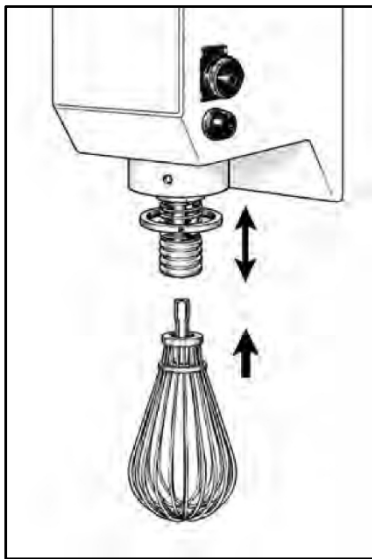
The position of the toggle can be adjusted by
pulling it out



Check that the boiler is
fit of the drum!



6.6 Insert the tool

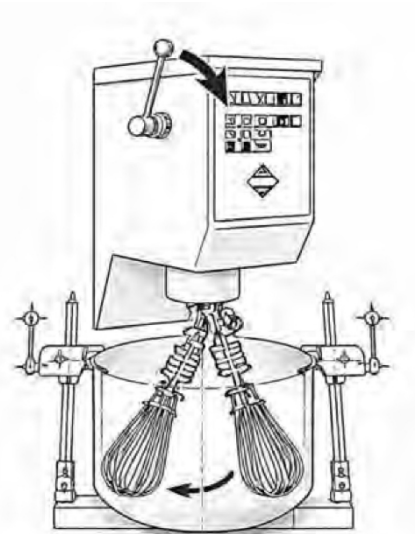


- Slide the clamping sleeve upwards
- Insert the tool shank into the mixing shaft until the locking mechanism clicks into place
- Slide the clamping sleeve down
- Check that it is securely in place



Only insert the tool when the machine is at a standstill!
Switch off the main switch!

6.7 Adjusting the swing angle



The desired tool deflection is set by operating the adjustment lever. The adjustment locks automatically in any position.



When working with the impact and mixing machine, a safety clearance of at least 120 mm must be maintained between the top edge of the tool and the edge of the vessel! This dimension must be taken into account when purchasing tools or vessels!

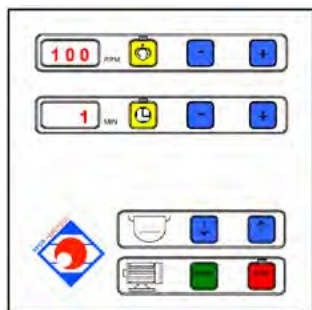
Avoid the tool striking the bowl wall!



To extend the service life of the drive shaft, it is advisable to set it to the zero position (straight, without swing) when starting the machine!



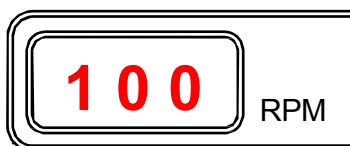
6.8 Stirring speed



Increase the stirring speed continuously



Decrease stirring speed continuously



The stirring speed display shows the selected speed setting. When the Start button is pressed, the stirring speed automatically sets to the minimum value **of 50**; when the Stop button is pressed, it sets to **0**.

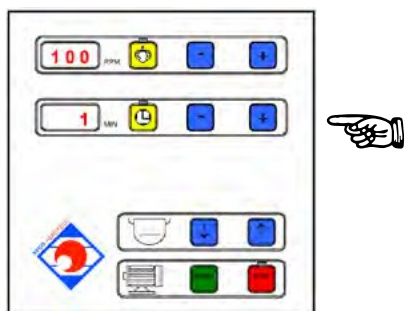


Selector switch for the 'Stir' or 'Whisk' operating modes. When set to 'Stir', the LED indicator lights up!

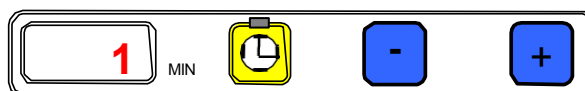
Changes to the stirring speed can be made whilst the machine is running!



6.9 Automatic operation without Programme memory



1. Clamp the bowl in place as described in **section 6.5** and move it to the upper end position. If you have activated the start memory function (see **section 6.10**), the whisk and mixer will run at minimum speed during this process.
2. Set the desired stirring speed as described in **Section 6.8**
3. Set the desired stirring time in minutes using the keypad (+ and – keys)



Automatic
Timer Button



Start machine



Machine stop

4. Activate the automatic mode by pressing the automatic timer button. The mixing speed and mixing time set on the displays are applied. Automatic mode is indicated by the LED on the automatic timer button lighting up.
5. Start the machine. The preset programme will now run automatically.
6. The mixing time can be adjusted whilst the programme is running. The final minute is counted down in seconds. Once the programme has finished, the original value reappears on the display.
7. Once the programme has finished, the machine stops automatically. The LED on the stop button lights up and an audible signal indicates the end of the programme.
8. End the programme by pressing the stop button. The whisk and mixer is now ready for manual operation again.

- The programme can be repeated by pressing the automatic timer and START buttons again.

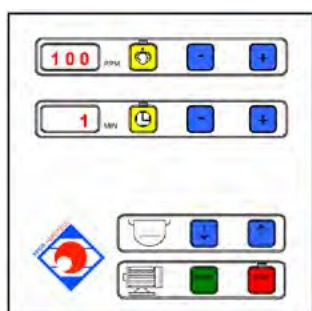


6.10 Bowl stroke

The machines are equipped with a *'start memory' function*: if the start button is pressed twice before the bowl is raised, the beater and mixer will run at the preset mixing speed once a safety distance of 120 mm has been reached (see **section 6.7**).

6.10.1 REGO SM 60

To protect the tool and the bowl, the bowl's stroke is limited by limit switches.

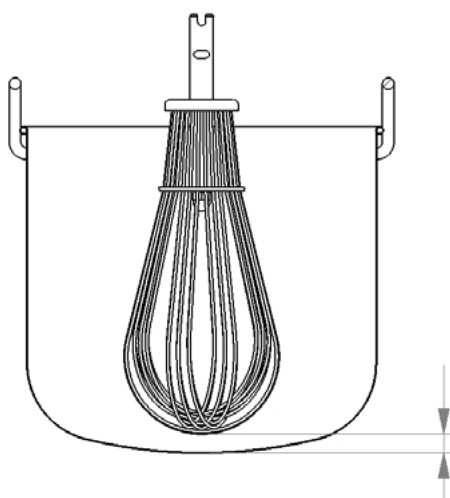


Lower the vessel!

The drum stroke is switched off by a limit switch when the drum reaches its lower position



Raise the boiler!



The system switches off before the tool touches the bottom of the boiler.

6.10.2 REGO SM 10 – REGO SM 40

The kettle's height can be adjusted using a hand crank. When the crank is no longer being turned, it locks into a detent and the kettle is secured against slipping. The end positions are secured by mechanical devices. If the start button is pressed twice before cranking the machine upwards, the beating and mixing machine will run at the set mixing speed once a safety distance of 120 mm has been reached (see **section 6.7**).



6.11 Bowl lifting mechanism (REGO SM 60 only)



The bowl lift is driven by a gear motor and can be accessed by removing the rear, lower stand cover.

The dedicated motor protection switch is located above the gear motor.

The circuit breaker trips in the event of a motor overload. The circuit breaker resets automatically after a certain period of time

6.12 's electronic drive (frequency converter)



An electronic drive (frequency converter) is located in the upper rear section of the machine frame. The frequency converter has been factory-set and must not be adjusted by the user.

It is not affected by the polarity of the supply cable. It automatically controls the correct direction of rotation of the stirring shaft in every connection.

Please observe the safety instructions when handling frequency converters (see the manufacturer's operating instructions).

Electrical equipment poses a hazard!

The equipment described in sections 6.11 and 6.12 carries dangerous electrical voltages and controls rotating mechanical parts. Failure to follow the instructions in this operating manual may result in death, serious personal injury or significant damage to property.

Electrical equipment must only be installed, operated, used and maintained by qualified personnel.

Qualified personnel are defined as individuals who possess the skills and knowledge required for the design and operation of electrical equipment and its installation, and who have completed training in the identification and prevention of potential hazards.



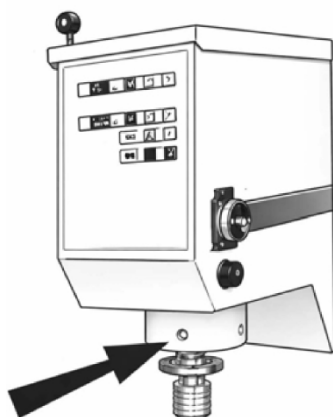


7 Maintenance and Cleaning



We recommend having a thorough inspection carried out annually by authorised specialists.

7.1 Lubrication



Lubricate the drive shaft bearings every 8–10 operating hours



Any greases that may come into contact with food are food-grade. Please use only Castrol Optileb GR UF 1 for lubricating your beater and mixer, in accordance with the enclosed data sheets.



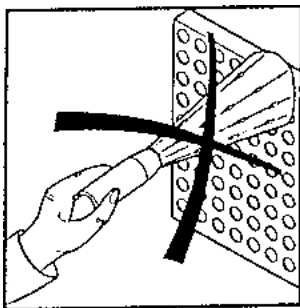
7.2 Filter replacement (only for REGO SM 20L, SM40 & SM 60)



The filter should be replaced depending on the level of contamination and at the latest after 6 months. To do this, proceed as follows:

- Open the filter housing
- Remove the filter mat
- Insert the new filter mat
- Close the filter housing again

7.3 Cleaning the machine



No!



Unplug the machine!

When cleaning all parts of the machine (in particular the boiler, tools and all parts inside the protective cover), use only lukewarm water or a mild soapy solution; under no circumstances use harsh or abrasive cleaning agents or solvents. Do not rinse the machine with a water jet, hose, spray nozzle or high-pressure cleaner.

Please grease bare parts with a food-grade grease after cleaning (no cooking oil!).

Optileb GR UF Series

Speciality greases that are physiologically safe, NSF H1 registered

Description

Castrol Optileb GR UF (previously known as the Castrol Obeen UF range) are light-coloured, natural-coloured speciality greases. They are physiologically safe and NSF H1 registered. Castrol Optileb GR UF greases are therefore particularly suitable for use in the food and beverage industry, as well as in the pharmaceutical sector, where there is a direct risk of the lubricant coming into contact with the product or its packaging.

Application

Castrol Optileb GR UF 00 is suitable for gearboxes and gear motors lubricated with fluid grease, as well as for centralised lubrication systems in filling plants, packaging stations and carton folders.

Castrol Optileb GR UF 1 is suitable as a tap, sealing and bearing grease, for the long-term lubrication of rolling and plain bearings, and for fillers, bottle washers, labellers, cappers, filling machines, conches and cyclones.

Application notes

The lubrication specifications of the plant or machine manufacturers must be observed. Operating temperature range: -40 °C to +140 °C

Advantages

- Physiologically harmless, NSF H1 registered
- Odourless, tasteless and colourless
- Resistant to cold and hot water
- Very easy to pump
- Good corrosion protection properties

Technical data

Characteristic	Method	Unit	Optileb GR UF	
			00	1
Colour/Appearance	Visual	-	whitish to amber-coloured, transparent	
Base thickener	-		aluminium complex	
Base oil	-	-	Synthetic base oil	
NLGI consistency class	DIN 51818	-	00	1
Walk penetration Pw 60	DIN ISO 2137	1/10 mm	420	320
Dropping point	DIN ISO 2176	°C	+195	+225
Corrosion protection for copper, 24 h, +100 °C	DIN 51811	Corrosion grade	1b	
SKF-Emcor Distilled water	ISO 11007	Corrosion grade	0/1	
Water resistance	DIN 51807-1	Grade	0–90	

Subject to standard manufacturing tolerances.

The product range designation was changed in 2015. The old product range designation was Castrol Obeen UF range.

Optileb GR UF range 20

May 2021

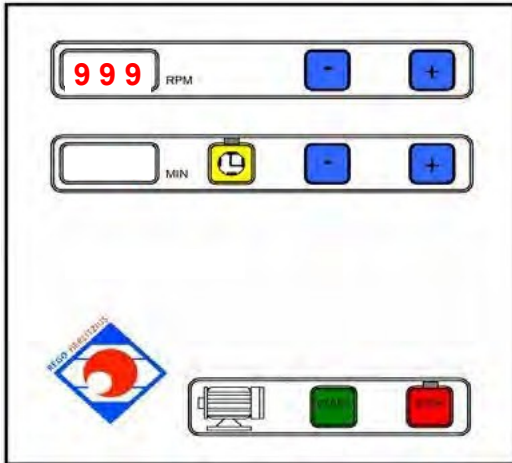
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Castrol Germany GmbH, Überseeallee 1, 20457 Hamburg 040
303352300
www.castrol.com



8 Malfunction S



In the event of a fault, the stop LED lights up and a beep sounds. The beep can be silenced by pressing the stop button.

The fault code 999 appears in the speed display. An error code number is shown in the running time display.

If the fault cannot be rectified, please contact **REGO HERLITZIUS Customer Service (Chapter 12)**.



8.1 Minor faults that can be rectified by the operator

Code	Error message	Possible cause	Solution
7	Start button is stuck	The Start button was held down for too long.	Switch the main switch off and then on again.
8	Lift button is stuck	Only for machines with two-hand operation: The side lift button is stuck.	Release the lift button, switch the main switch off and then on again.
9	Emergency stop activated!	The emergency stop button has been pressed.	Release the emergency stop button.
10	Button stroke is jammed	The 'Raise' or 'Lower' buttons have been held down for too long.	Switch the main switch off and then on again.
-	Boiler not at top position	The upper limit switch has not yet been activated when the "START" has not yet been activated.	Continue raising the kettle; the stirring tool will start to rotate.
-	Bowl at the bottom	The "START" button is pressed twice, but the vessel is still in the lower end position.	Continue raising the kettle; the stirring tool will start to rotate.
-	Hood open	The protective hood limit switches have not been activated.	Lock the protective cover in place; check the status of the limit switches

Fault	Possible cause	Remedy
<i>The machine does not start after pressing the START button</i>	The upper boiler limit switch has not been activated	Check the switch status
	Excessive overload on the drive motor due to boiler fill level	Reduce the fill level
	The limit switches on the protective covers have not been activated	Check the switch status



8.2 Faults to be rectified by qualified personnel



CAUTION!

Troubleshooting must only be carried out by trained qualified personnel. Before working on the machine, ensure the power supply is disconnected – **unplug the mains plug!**

Code	Error message	Possible cause	Remedy
1-5	Internal Error	Hardware fault!	You must contact customer service!
6	Upper sensor faulty	The upper boiler limit switch has not been activated.	The upper limit switch is faulty, there is a wiring fault, or the lifting mechanism is faulty.
7	Start button is stuck	The start button is faulty.	Replace the control panel.
8	Lift button is stuck	Only for machines with two-hand operation: The side lift button is faulty or there is a wiring fault.	Replace the lift button, check the wiring.
10	Lift button stuck	The 'Raise' and 'Lower' buttons are faulty.	Replace the control panel.
11	Fault	There is a fault in the frequency converter.	See Section 6.12 or the separate operating instructions for the frequency converter – Chapter: Faults – Causes – Troubleshooting.
12	Motor protection – lifting	The motor temperature of the lifting gear is too high or it is jammed.	See Section 6.11
13	Upper sensor faulty	The upper (centre) and lower limit switches have been activated simultaneously.	Wiring fault, limit switch has come loose
14	-	Fan motor temperature too high, fan blocked	Check fan, check fan wiring



Fault	Possible cause	Remedy
<i>The main switch cannot be switched on</i>	1 or 3-phase supply voltage is not fully present	Measure the supply voltage – check the supply fuse
	Defective switching mechanism	Replace the main switch
<i>After switching on the main switch, the RCD on site trips.</i>	- The wrong RCD switch has been fitted, or the machine does not have its own RCD - Leakage current too high	- Connect the machine to its own RCD (see Chapter 5: Commissioning) - Measuring the leakage current
<i>After switching on the main switch, the fuses on the supply line trip</i>	During initial commissioning: Unsuitable or outdated circuit breakers (fast-acting trip characteristic), particularly for 230V appliances	Check the circuit breakers; use circuit breakers with a medium-speed or slow-speed tripping characteristic (see Chapter 5: Commissioning)
	Faulty main switch	Replace the main switch
	Faulty input rectifier in the frequency converter	- Disconnect the mains plug - Wait approx. 10 minutes - Replace the frequency converter
<i>The stop button on the control panel lights up immediately after switching on the machine or whilst processing batches</i>	Fault caused by a control panel error (e.g. following improper cleaning)	Replace the control panel
	Fault caused by a faulty cable connection or frequency converter	Check all cable connections and plugs, and the frequency converter thoroughly
<i>Failure of the digital speed and time display on the control panel</i>	No power supply to the feed cable	- Check the voltage using a meter (not a phase tester) - Check the supply fuse, mains plug, main switch and emergency stop button
	- Component fault on the control panel - Water damage caused by improper cleaning	Replace the control panel
	Failure of a fuse element (630mA fast-acting or 400mA medium-acting glass tube fuse) on the machine	- Open the fuse box on the right-hand side panel - Remove the fuse, check it and replace it if necessary



Fault	Possible cause	Remedy
<i>The tank lifting function cannot be operated via the push-buttons</i>	Push-button on the control panel is faulty	Replace the control panel
	Power supply via the supply cable is not fully present; contactor K has not energised	Check the supply circuit fuse, measure the voltage, check the mains plug, check the contactor coil
	The lift motor's circuit breaker has tripped: the motor is overloaded or the boiler lift was operated in the wrong direction	- Check the motor windings if necessary - Clear the obstruction in the boiler lift mechanism (see section 6.11)
	Limit switch contacts for the boiler lift limit are faulty	Test the contacts for continuity and replace if necessary
	Lifting gear motor defective	Replace the lifting gear motor
<i>The boiler stroke is not stopped when the limit switch is activated</i>	During initial commissioning of the machine, the boiler stroke direction does not correspond to the push-buttons	See Chapter 5: Commissioning
<i>The machine does not start after pressing the START button</i>	Power supply via the supply cable is not fully present	Check the supply cable fuse, measure the voltage, check the mains plug
	Lower boiler limit switch defective (audible signal when START is pressed)	Replace the limit switch
	Start signal from the control panel / frequency converter is missing	Check the cable connection – replace the control panel
	Drive motor V-belt broken or loose	Replace or retension the V-belt
	Damaged motor winding in the drive motor	Replace the drive motor
	Drive shaft is jammed	Replace the drive shaft

Once assembly work on the machine frame has been completed, the cover plates must be reattached to the machine body using the appropriate fixing bolts and nuts.



8.3 Safety devices

- **Limit switches:** Machines with automatic bowl lift are controlled by limit switches, ensuring that the bowl cannot move beyond its end positions. A separate limit switch is used on all mixing and stirring machines to enable stirring.

Item No. 000158292: Limit switch IS + IÖ

- **Emergency stop switch**

Item No. 000157245: Emergency stop mushroom pushbutton Ø40 INO

- **ATV320 frequency converter**

Item No. 000340128 (REGO SM 20L): 1.5 kW 380–500 V

Item No. 000340130 (REGO SM 40 from serial no.: FV-020-xxx): 3.0 kW 380–480 V

Item No. 000340130 (REGO SM 60 from serial no.: H-007-xxx): 3.0 kW 380–480 V

- **FR-D720S frequency converter**

Item No. 000149574 (REGO SM 20): 1.5 kW 200–240 V

Item No. 000149560 (REGO SM 10): 0.75 kW 200–240 V



Faulty safety devices must be repaired immediately by an authorised electrician! Use only original spare parts from Rego Herlitzius!

Repaired machines must only be put back into operation once they have been fully reassembled.

Risk of injury!



9 Tools

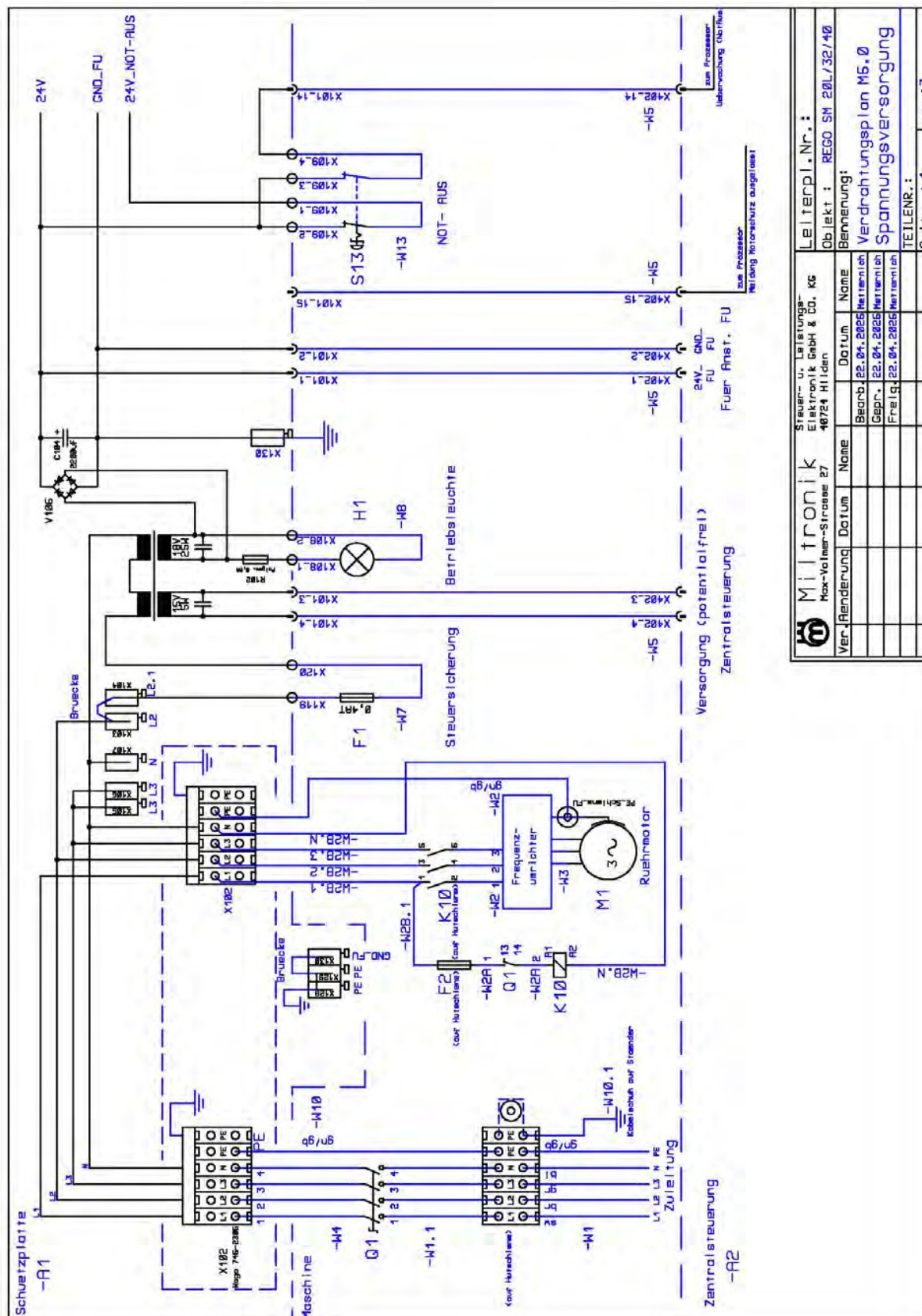
Please ensure that you use only the original tool from **REGO HERLITZIUS** for your dimensions:

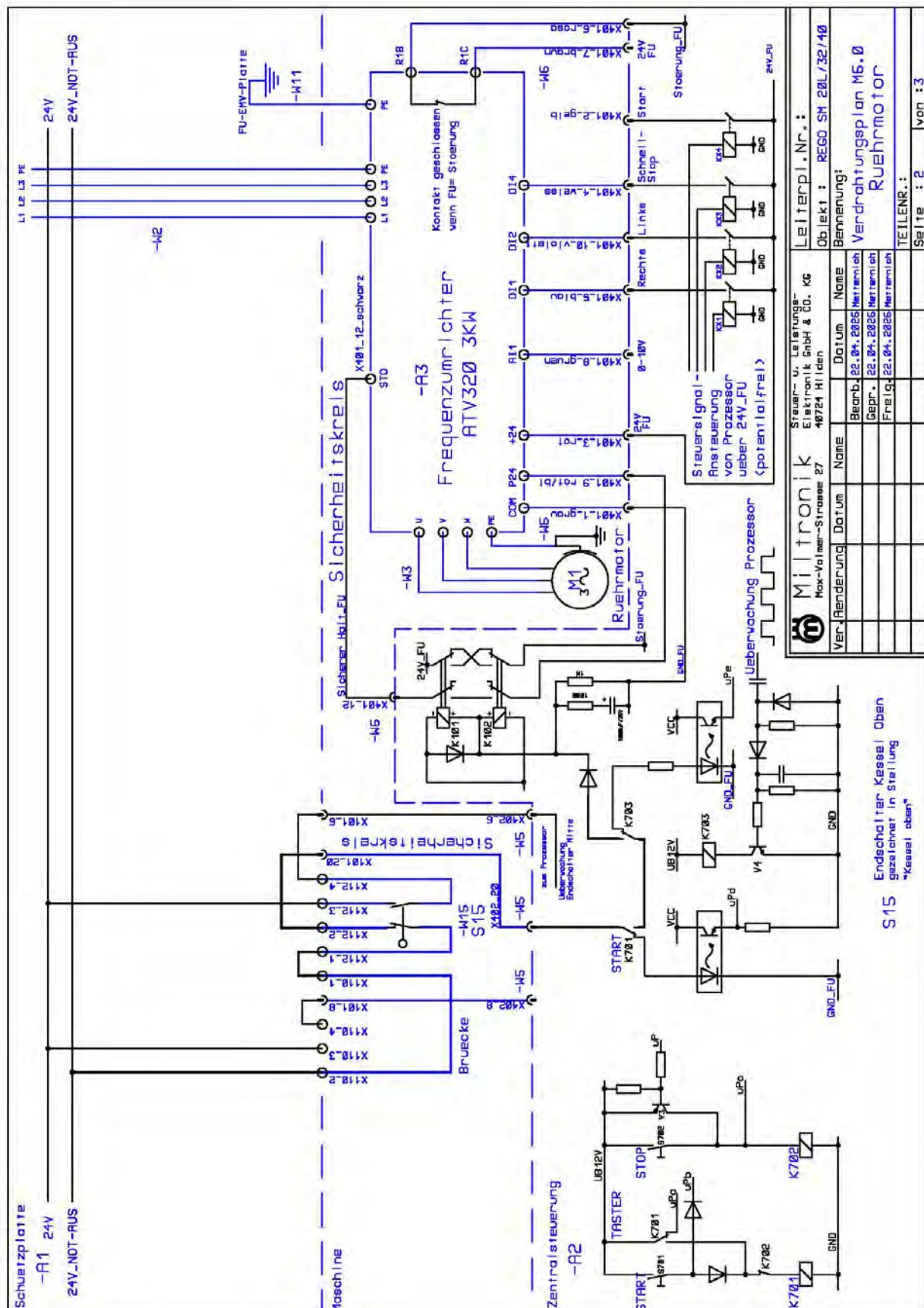
	REGO SM 10	REGO SM 20	REGO SM 20L	REGO SM 40	REGO SM 60
 Whisk for light loads	<i>10l</i> <i>Item no.</i> 392510 Tool length 295 mm (only in Combination with <i>16l boiler</i> <i>Item No.</i> 000160691)	<i>20l</i> <i>Item No.</i> 392518 Tool length 360 mm <i>16l</i> <i>Item no.</i> 392514 Tool length e 385 mm	<i>20l</i> <i>Item no.</i> 392518 Tool length 360 mm <i>16l</i> <i>Item no.</i> 392514 Tool length e 385 mm	<i>40l</i> <i>Item No.</i> 392527 Tool length e 525 mm <i>32l</i> <i>Item no.</i> 392528 Tool length e 540 mm <i>20l</i> <i>Item No.</i> 000160636 Tool length 555 mm	<i>60l</i> <i>Item no.</i> 392547 Tool length e 540 mm
 Whisk For medium-duty loads, particularly using the 'all-in' method	<i>10 l</i> <i>Item no.</i> 392512 Tool length 295 mm (only in combination with <i>16-litre kettle, item no.</i> 000160691)	<i>20l</i> <i>Item No.</i> 392520 Tool length 360 mm <i>16 l</i> <i>Item No.</i> 392516 Tool length 385 mm	<i>20 l</i> <i>Item No.</i> 392520 Tool length 360 mm <i>16l</i> <i>Item No.</i> 392516 Tool length 385 mm	<i>40 l</i> <i>Item No.</i> 392539 Tool length 525 mm <i>32l</i> <i>Item no.</i> 392540 Tool length 540 mm <i>20 l</i> <i>Item No.</i> 000156523 Tool length 555 mm	<i>60 l</i> <i>Item No.</i> 392549 Tool length 540 mm

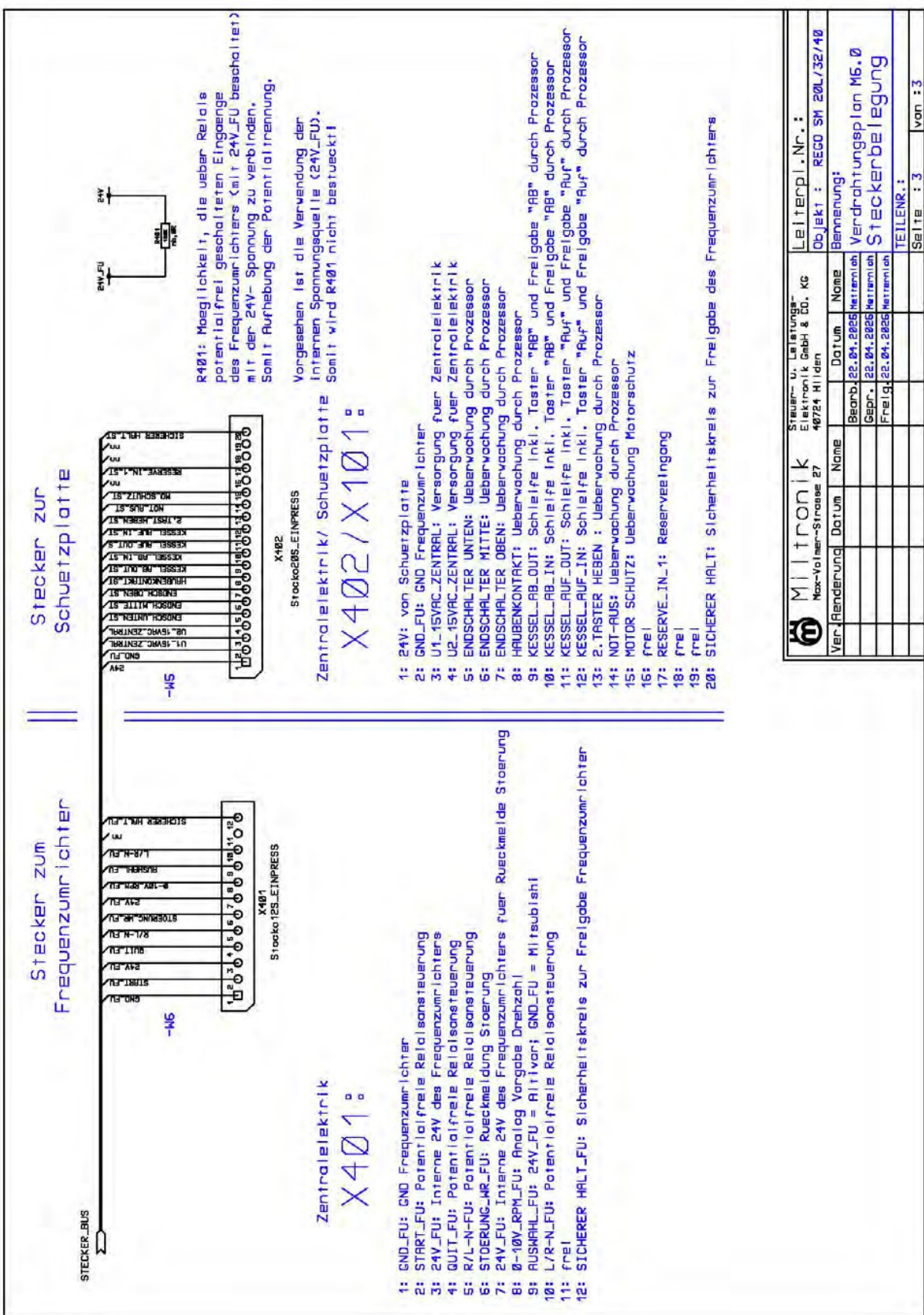


10 Circuit diagrams

10.1 REGO SM 10 and SM 20







1: GND_FU: GND Frequenzumrichter

2: START_FU: Potentiolfreie Relaissteuerung

3: 24V_FU: Interne 24V des Frequenzumrichters

4: R/L-N_FU: Potentiolfreie Relaissteuerung

5: STÖRUNG_WR_FU: Rückmeldung Störung

6: 24V_FU: Interne 24V des Frequenzumrichters

7: 0-10V-RPM_FU: Analog Vorgabe Drehzahl

8: AUSWAHL_FU: 24V_FU = Aktivator; GND_FU = Mitsubishi

9: L/R-N_FU: Potentiolfreie Relaissteuerung

10: frei

11: freier

12: SICHERER HALT_FU: Sicherheitskreis zur Freigabe Frequenzumrichter

1: 24V: von Schutzplatte

2: GND_FU: GND Frequenzumrichter

3: U1-15VAC_ZENTRAL: Versorgung fuer Zentralelektrik

4: U2-15VAC_ZENTRAL: Versorgung fuer Zentralelektrik

5: ENDSCHALTER UNTEN: Ueberwachung durch Prozessor

6: ENDSCHALTER MITTE: Ueberwachung durch Prozessor

7: ENDSCHALTER OBEN: Ueberwachung durch Prozessor

8: HUBENKONTAKT: Ueberwachung durch Prozessor

9: KESSEL-AB-OUT: Schliefe Inkl. Taster "AB" und Freigabe "AB" durch Prozessor

10: KESSEL-AB-IN: Schliefe Inkl. Taster "AB" und Freigabe "AB" durch Prozessor

11: KESSEL-AUF-OUT: Schliefe Inkl. Taster "Auf" und Freigabe "Auf" durch Prozessor

12: KESSEL-AUF-IN: Schliefe Inkl. Taster "Auf" und Freigabe "Auf" durch Prozessor

13: 2-TASTER HEBEN : Ueberwachung durch Prozessor

14: NOT-AUS: Ueberwachung durch Prozessor

15: MOTOR SCHUTZ: Ueberwachung Motorschutz

16: frei

17: RESERVE_IN_1: Reserveeingang

18: frei

19: frei

20: SICHERER HALT: Sicherheitskreis zur Freigabe des Frequenzumrichters

Steuer- u. Leistungs-Elektronik GmbH & Co. KG

Max-Vollmer-Straße 27

46724 Hilden

Leiterpl.-Nr. :

Objekt : REGO SM 20L/32/40

Bemerkung:

Vordrhtungsplan M6.0

Steckerbelegung

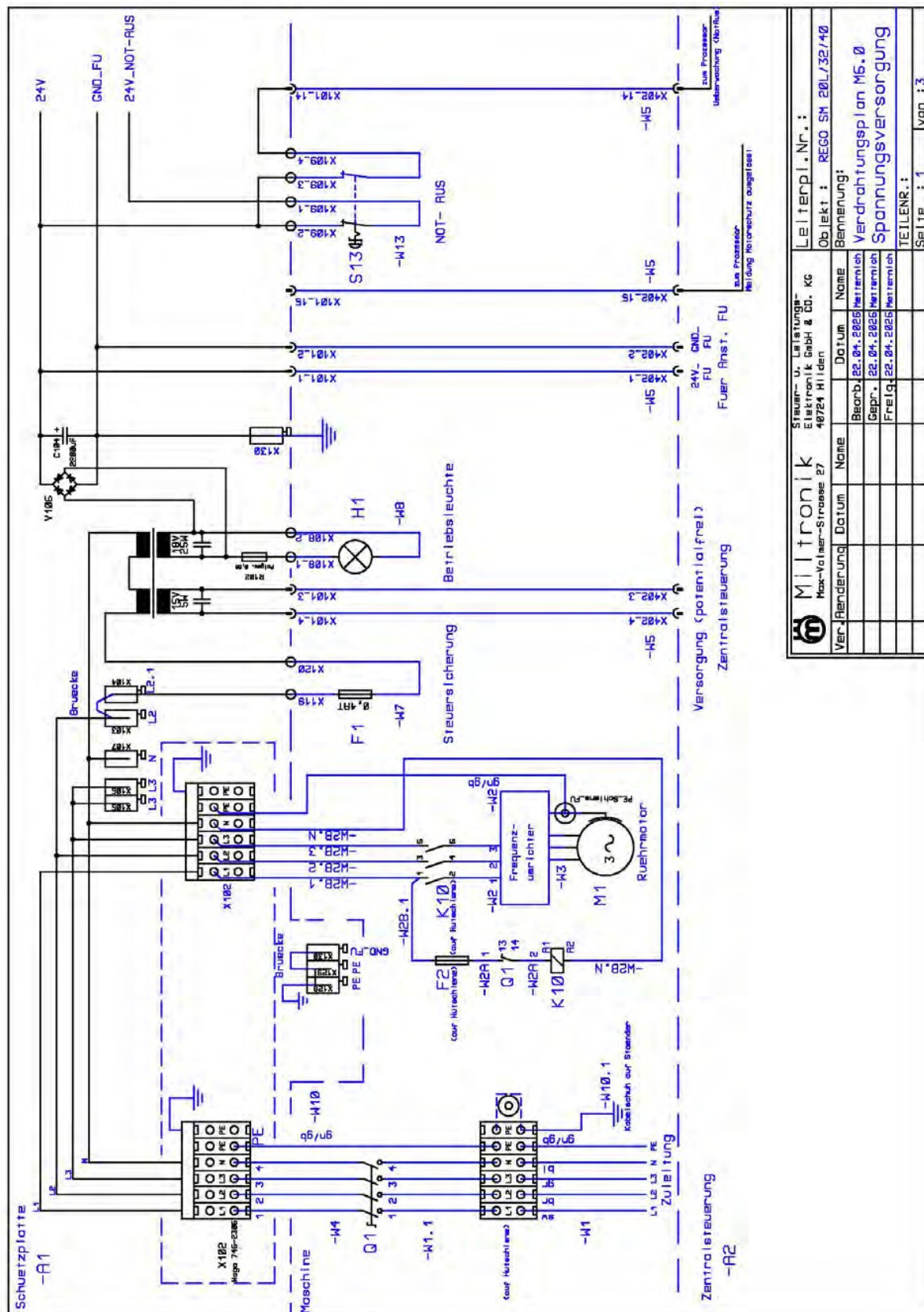
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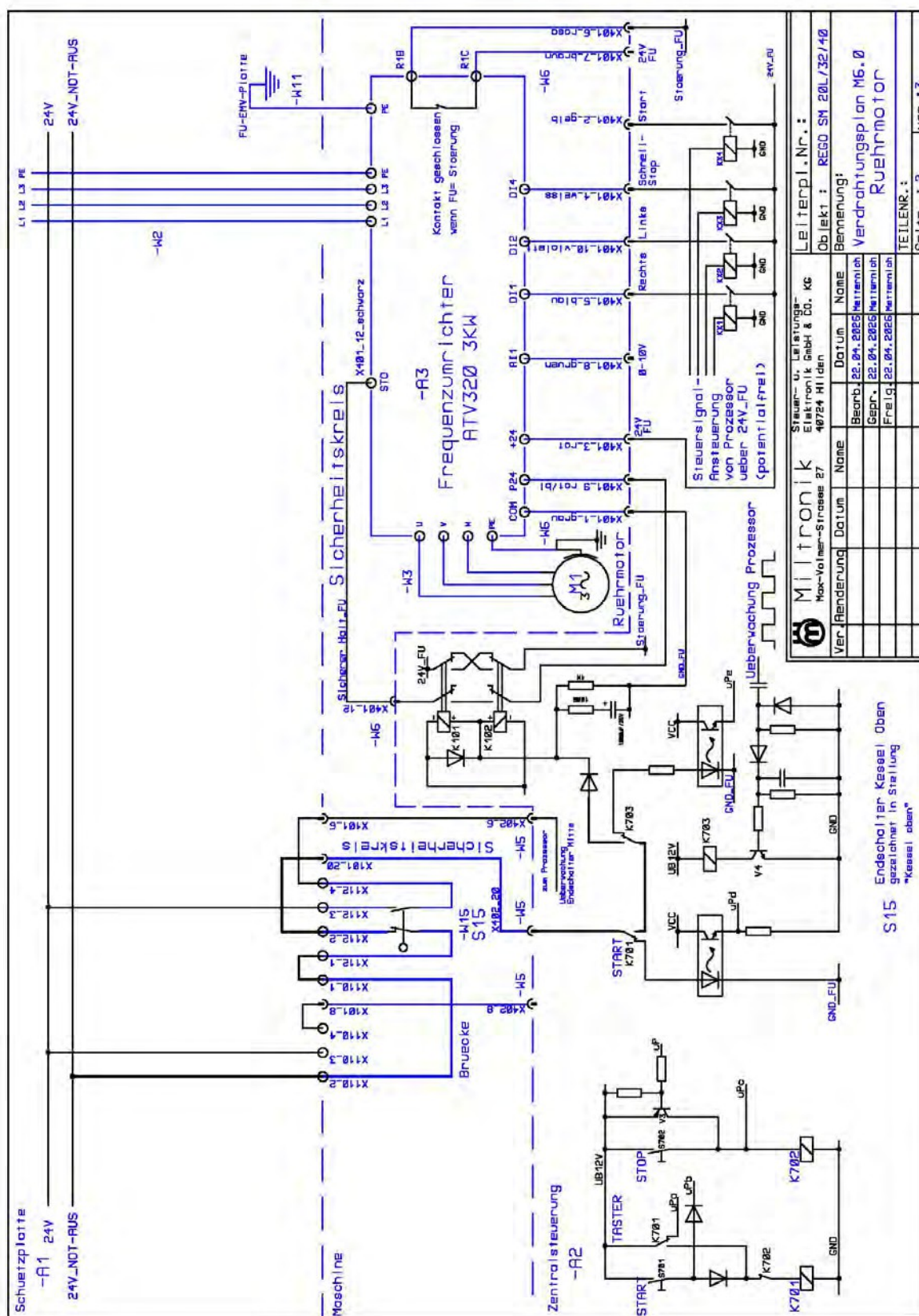
Seite : 3

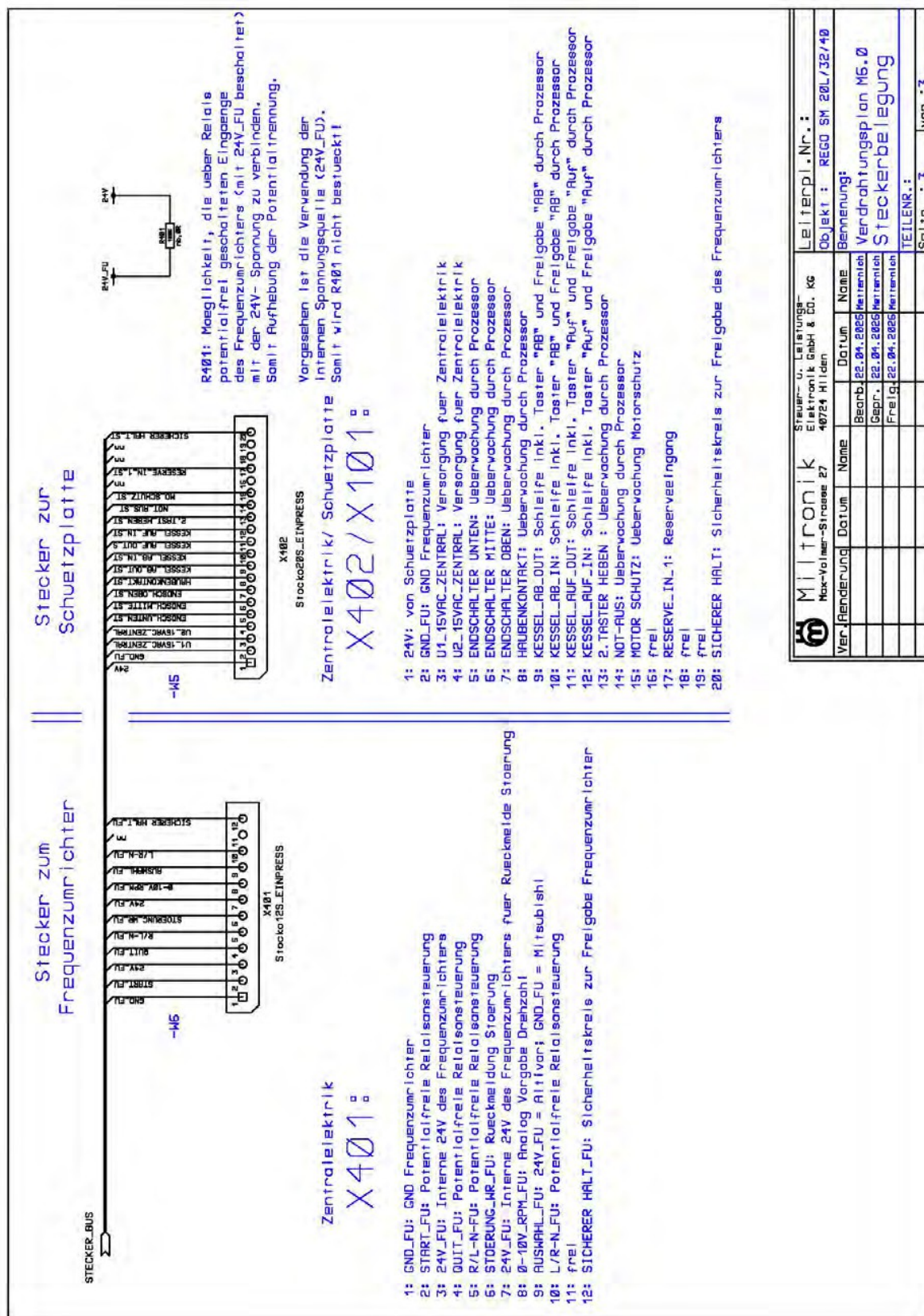
von : 3



10.2 REGO SM20L

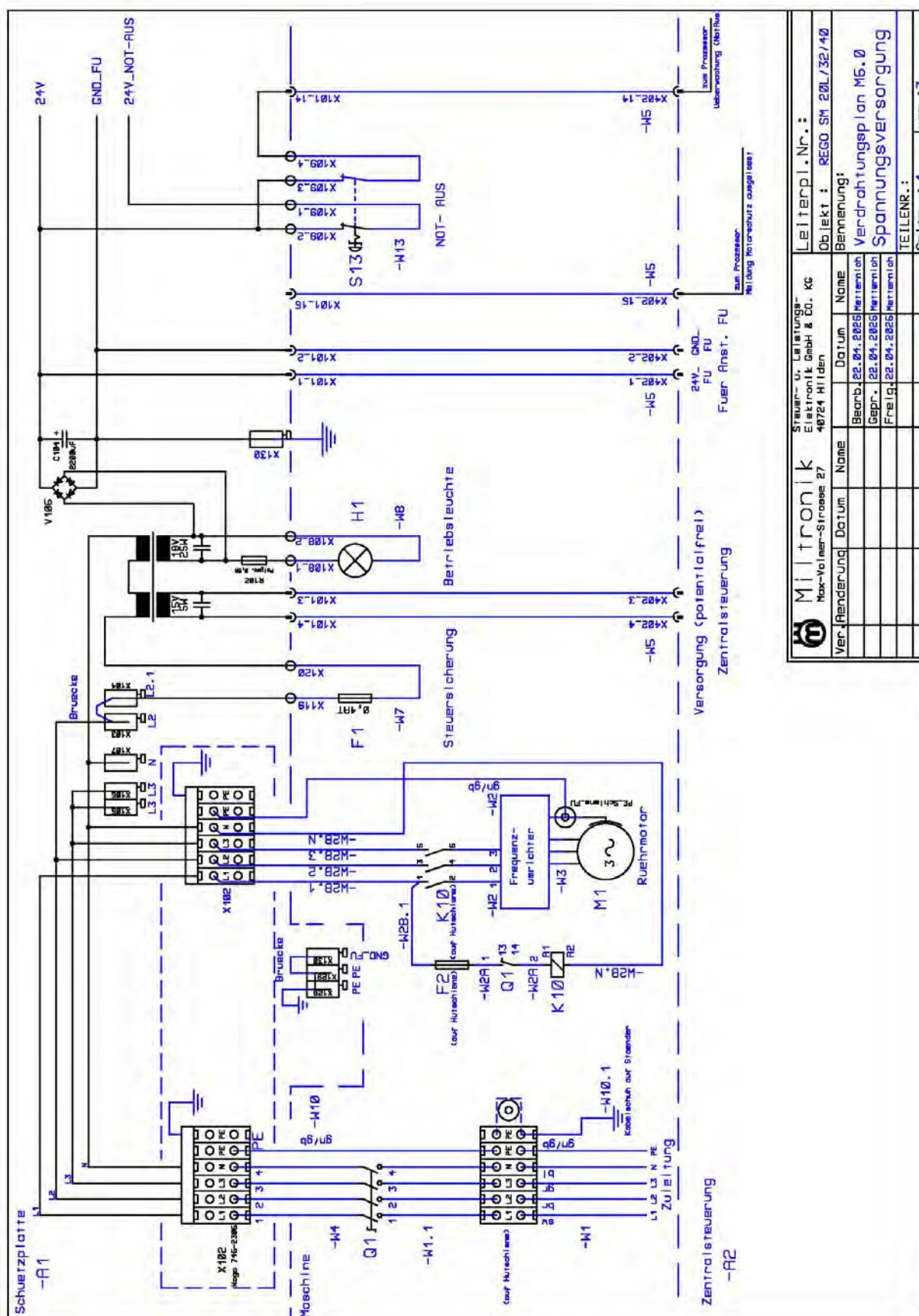


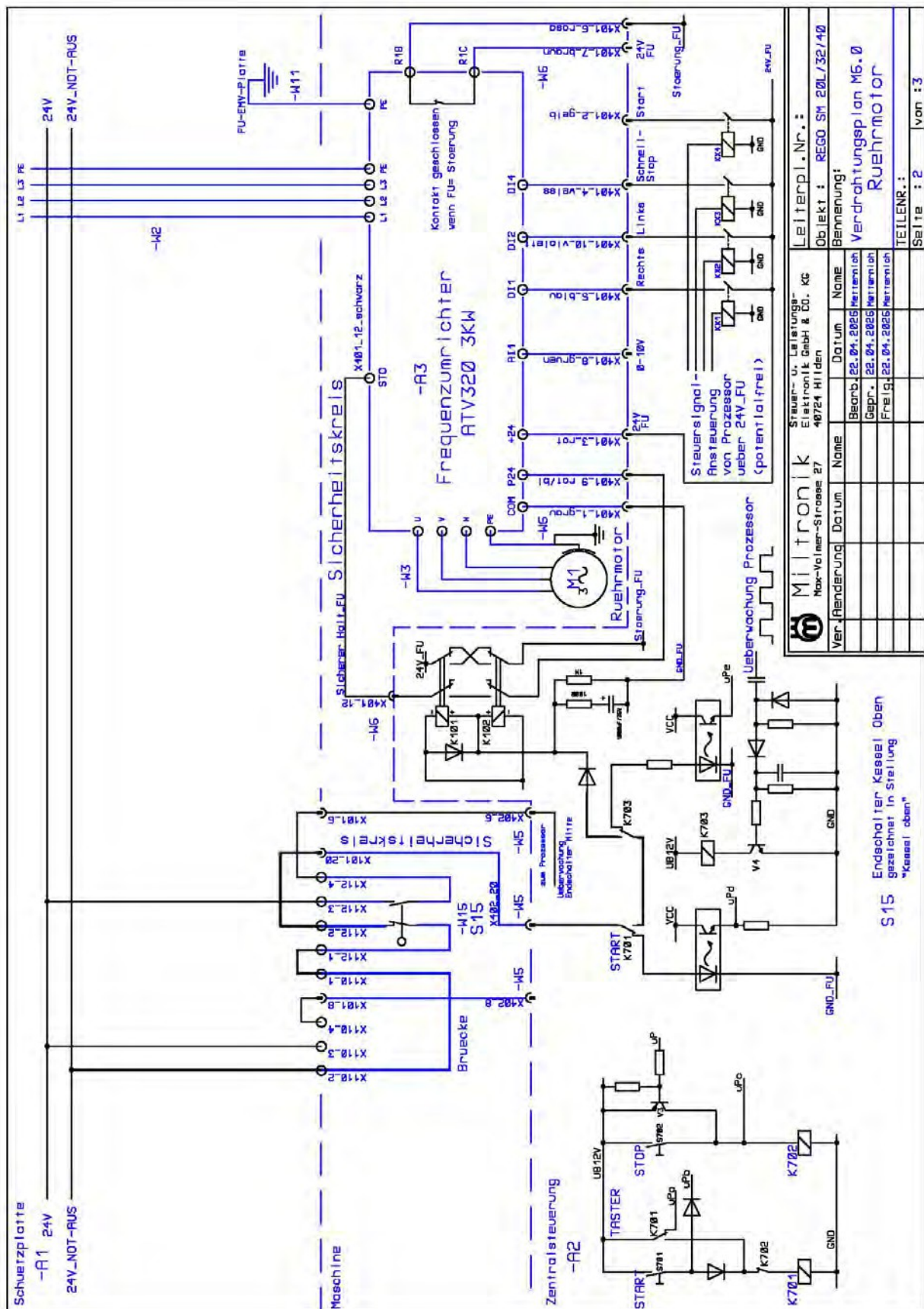


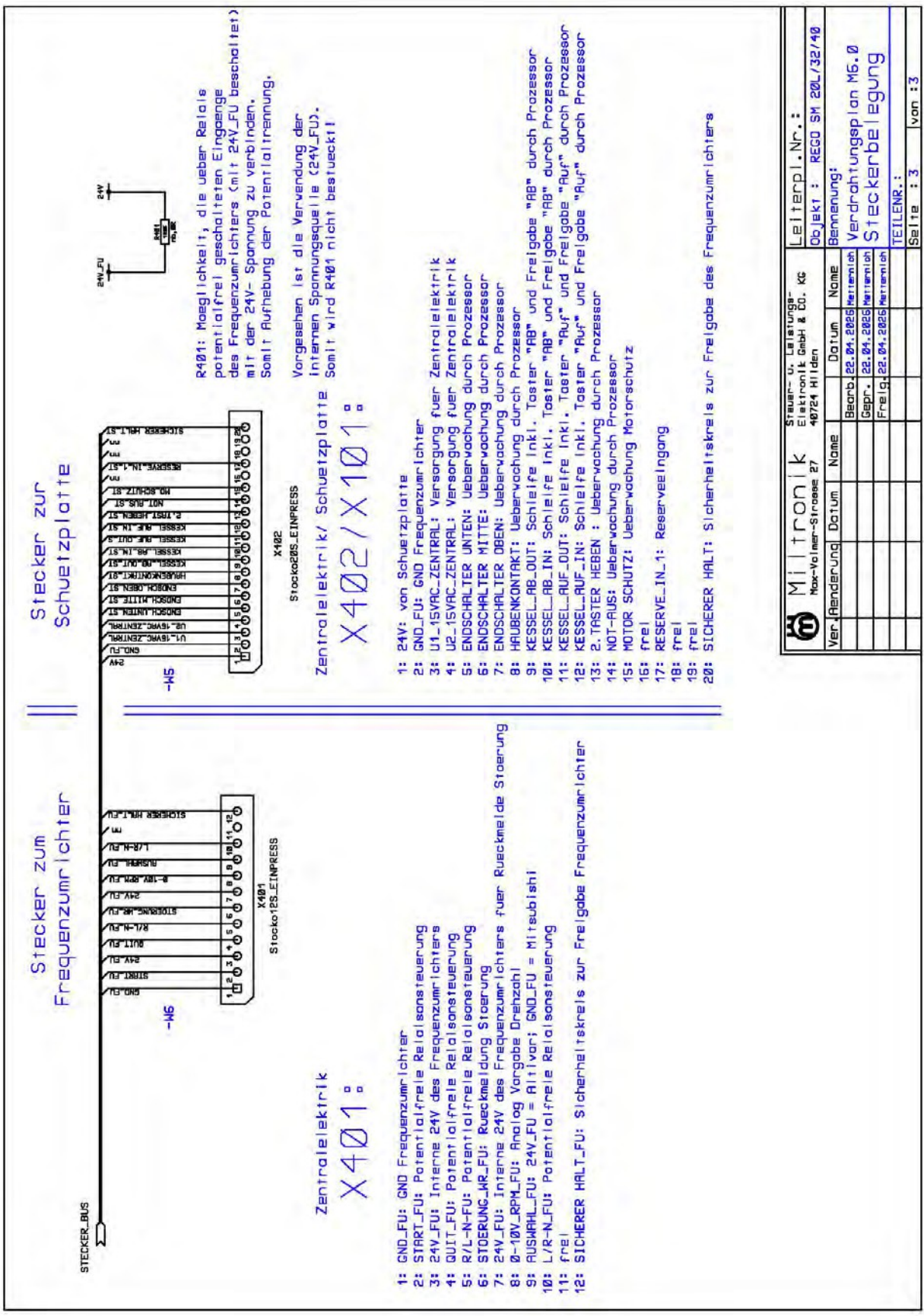




10.3 REGO SM40 from serial no.: FV-020- xxx







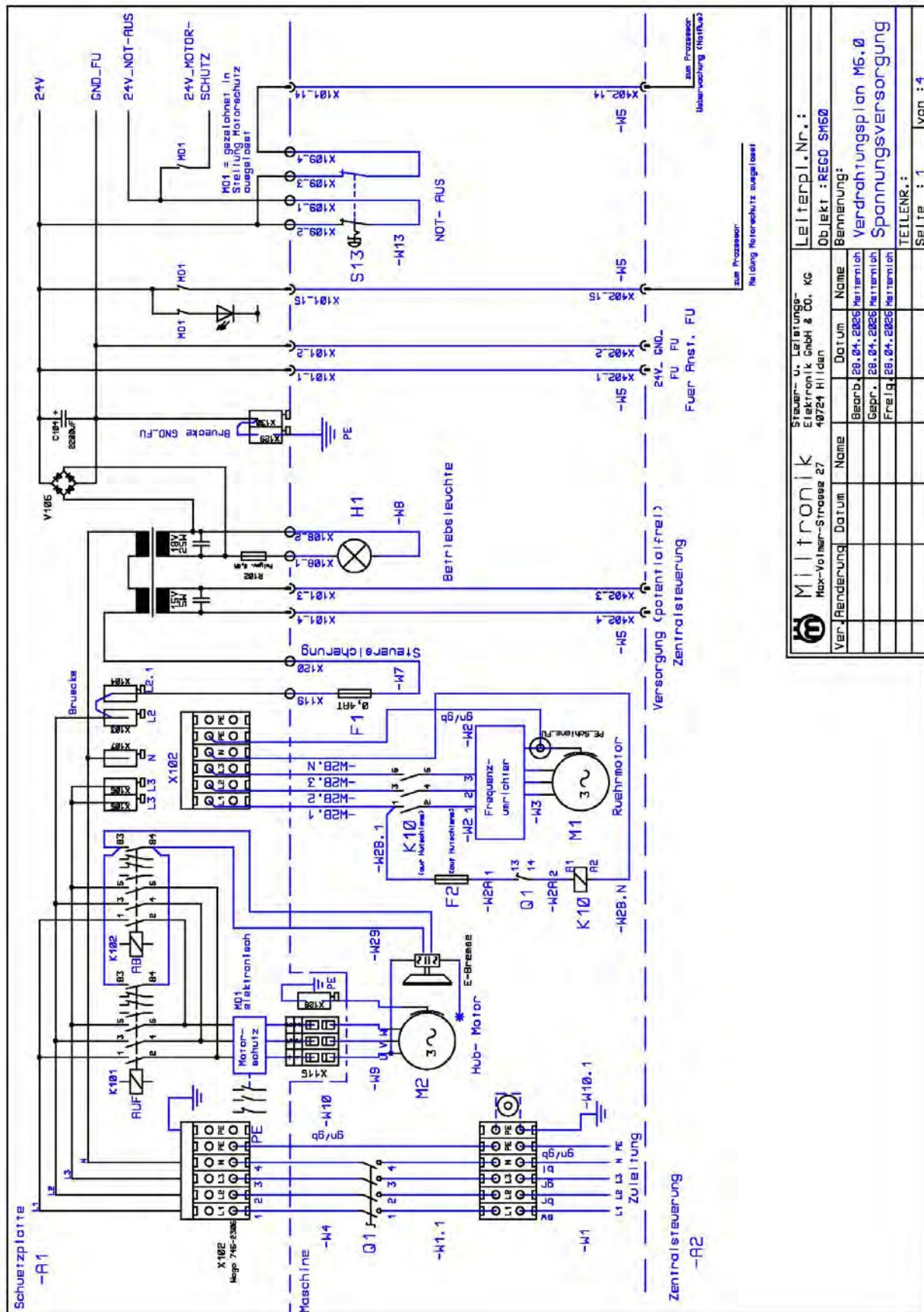
R401: Möglichkeit, die ueber Relaisle potentialfrei geschalteten Eingänge des Frequenzumrichters (mit 24V_FU beschaltet) mit der 24V- Spannung zu verbinden. Somit Aufhebung der Potentialtrennung.

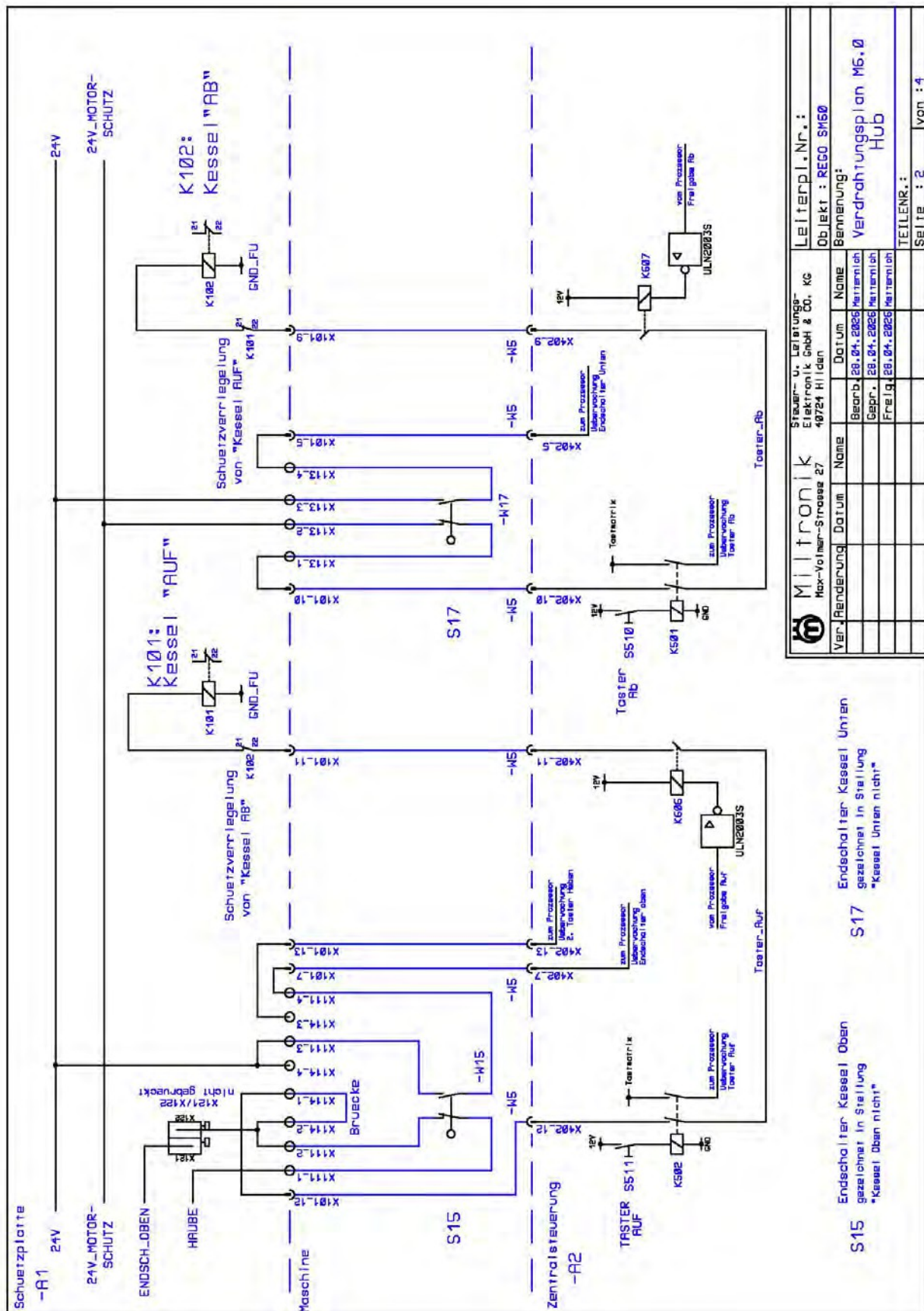
Vorgesehen ist die Verwendung der internen Spannungsquelle (24V_FU). Somit wird R401 nicht bestueckt!

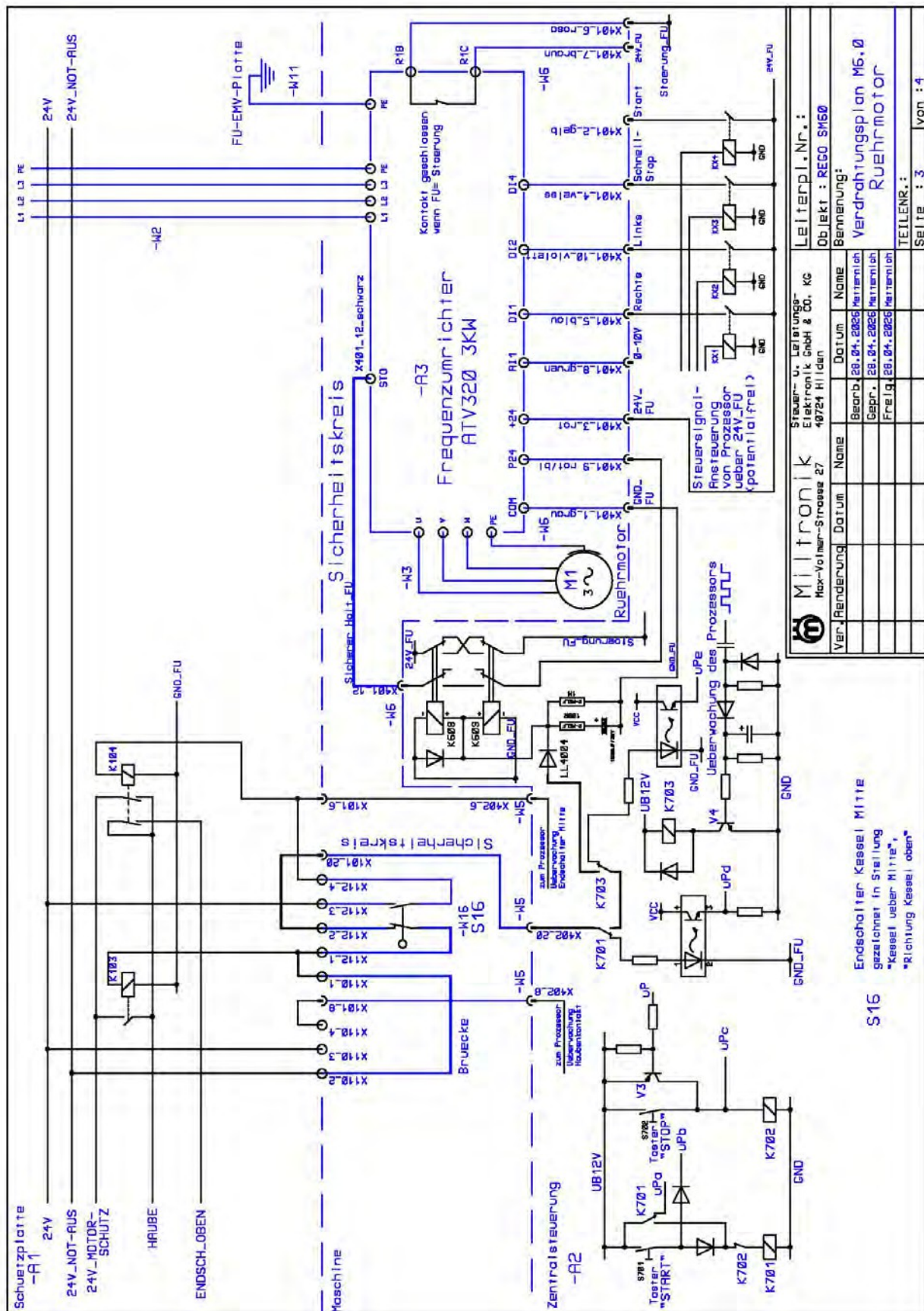
 Miltatronik		Steuer- u. Leistungs-Elektronik GmbH & Co. KG		Leiterpl.-Nr.:	
Max-Volmer-Strasse 27		40724 Hilden		Objekt : REGO SM 20L/32/40	
Veränderung	Datum	Name	Datum	Benennung:	
				Verdrahtungsplan M6.0	
				Steckerbelegung	
				TEILENR.:	
				Seite : 3 von : 3	



10.4 REGO SM60 from serial no.: H-007- xxx









Stecker zum Frequenzumrichter

STECKER_BUS

1 2 3 4 5 6 7 8 9 10 11 12

12V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU

Stecker zur Schutzplatte

1 2 3 4 5 6 7 8 9 10 11 12

24V
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU

Zentralelektrik

X401

Stocko125_EINPRESS

1: GND_FU: GND Frequenzumrichter
2: START_FU: Potentialfreie Relaisansteuerung
3: 24V_FU: Interne 24V des Frequenzumrichters
4: QUIT_FU: Potentialfreie Relaisansteuerung
5: R/L-N_FU: Potentialfreie Relaisansteuerung
6: STOERUNG_WR_FU: Rueckmeldung Stoerung
7: 24V_FU: Interne 24V des Frequenzumrichters fuer Rueckmeldung Stoerung
8: 0-10V_RPM_FU: Analog Vorgabe Drehzahl
9: AUSWAHL_FU: 24V_FU = Altivar; GND_FU = Mitsubishi
10: L/R-N_FU: Potentialfreie Relaisansteuerung
11: frei
12: SICHERER HALT_FU: Sicherheitskreis zur Freigabe Frequenzumrichter

Zentralelektrik/ Schutzplatte

X402

Stocko285_EINPRESS

1: 24V: von Schutzplatte
2: GND_FU: GND Frequenzumrichter
3: U1-15VAC_ZENTRAL: Versorgung fuer Zentralelektrik
4: U2-15VAC_ZENTRAL: Versorgung fuer Zentralelektrik
5: ENDSCHALTER_UNTEN: Ueberwachung durch Prozessor
6: ENDSCHALTER_MITTE: Ueberwachung durch Prozessor
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17: RESERVE_IN-1: Reservierung
18: frei
19: frei
20: SICHERER HALT: Sicherheitskreis zur Freigabe des Frequenzumrichters

R401: Moeglichkeit, die ueber Relais potentialfrei geschalteten Eingange des Frequenzumrichters (mit 24V_FU beschaltet) mit der 24V- Spannung zu verbinden. Somit Aufhebung der Potentialtrennung.

Vorgesehen ist die Verwendung der internen Spannungsquelle (24V_FU). Somit wird R401 nicht bestueckt!

24V

24V FU

R401

Milttronik

Stadler- u. Leistungs-Elektronik GmbH & Co. KG

Max-Planck-Strasse 27

40724 Hilden

Ver. Rendung

1 2 3 4 5 6 7 8 9 10 11 12

12V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU
24V FU

1: 24V: von Schutzplatte
2: GND_FU: GND Frequenzumrichter
3: U1-15VAC_ZENTRAL: Versorgung fuer Zentralelektrik
4: U2-15VAC_ZENTRAL: Versorgung fuer Zentralelektrik
5: ENDSCHALTER_UNTEN: Ueberwachung durch Prozessor
6: ENDSCHALTER_MITTE: Ueberwachung durch Prozessor
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11: KESSEL_AUF_OUT: Schliefe inkl. Taster "Auf" und Freigabe "Auf" durch Prozessor
12: KESSEL_AUF_IN: Schliefe inkl. Taster "Auf" und Freigabe "Auf" durch Prozessor
13: 2.TASTER_HEBEN: Ueberwachung durch Prozessor
14: NOT-AUS: Ueberwachung durch Prozessor
15: MOTOR SCHUTZ: Ueberwachung Motorschutz
16: frei
17: RESERVE_IN-1: Reservierung
18: frei
19: frei
20: SICHERER HALT: Sicherheitskreis zur Freigabe des Frequenzumrichters

Leiterpl.Nr.:
Objekt : RECO SMS0
Benennung:
Verdrahtungsplan M6.0
Steckerbelegung
TEILENR.:
Seite : 4
von : 4



11 Certificates

11.1 Handover Certificate



Please sign and return a copy of this report to us after the machines have been handed over so that you can be added to our customer service records.

This machine has been delivered to you and the following checklist items have been carried out as part of the induction:

1. Setting up the machine

Type

Machine No.

2. Is the direction of rotation correct? ☐

3. Do the safety devices work properly? ☐

4. Operating the machine

Memory programming ☐

Switching on and off ☐

Boiler stroke ☐

Inserting and clamping the die ☐

Inserting the tool ☐

Stirring speed ☐

Automatic mode ☐

Bowl lift gear ☐

Frequency converter ☐

**5. Maintenance and cleaning**

Lubrication..... ☐

Filter cleaning ☐

Cleaning the machine..... ☐

6. Troubleshooting explained? ☐**7. Accessories**

Tools..... ☐

Heating ☐

Protective cover..... ☐

Operating instructions..... ☐

Training / briefing carried out by: Name: Signature: Date:	Customer: Name: Signature: Street: Town/city: Telephone:
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REGO HERLITZIUS
Bakery and confectionery machinery



Original EC Declaration of Conformity

We hereby declare that the design of the:

<i>Description</i>	Whisking and mixing machines
<i>Type:</i>	SM 20; 20L; 40; 60
<i>Serial No.:</i>	_____
<i>Year of manufacture:</i>	_____

complies with the following relevant provisions, which were in force on the date of issue stated below:

EU Directive 2006/42/EC	Machinery
EU Directive 2014/30/EU	Electromagnetic Compatibility

Harmonised standards applied, in particular:

Type A:	EN ISO 12100:2011-03		
Type B:	EN ISO 13857:2008-06	EN 60204-1:2011-01	EN 13849-1:2008-12
	EN 61000-6-2:2006-03	EN 61000-6-4:2011-09	EN 55011:2011-04
Type C:	EN 1672-2:2009-07	EN 454:2010-10	

Name of the authorised representative for documentation: Peter Prüll
Address of the authorised representative: see manufacturer's address

Wuppertal, 21 June 2024

Holger Protte
[Managing Director]

REGO HERLITZIUS GmbH
Hatzfelder Straße 115

Email: mail@rego-herlitzius.com

D-42281 Wuppertal
Tel: +49 - 202 / 269200-10



12 Customer Service

We wish you every success with your new machine:



REGO HERLITZIUS GmbH
Bakery and confectionery machinery

Hatzfelder Straße 115 – 42281 Wuppertal – Germany

☎ +49(0)202 / 269200-10
mail@rego-herlitzius.com

🖨 +49(0)202 / 269200-11
www.rego-herlitzius.com

REGO HERLITZIUS is committed to continuing to support your machine in the future. Should any faults occur, please notify your dealer or contact us directly. We will assist you as quickly as possible. Please provide us with the following information in the event of complaints or customer service requests:

- Machine type
- Serial number
- the name of the dealer from whom you purchased your machine



BENEFIT FROM OUR STRENGTHS:

- Close collaboration with our customers and partners
- Over 90 years' experience – first hammer mill in 1926
- User-friendly and innovative products
- Reliable service with quick response times
- Head office in Wuppertal (North Rhine-Westphalia) with a global sales and dealer network
- Covering the entire value chain, including development, manufacturing, quality control, marketing, sales and service

REGO HERLITZIUS GMBH
Bäckerei- und Konditorenmaschinen



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