



OPERATING MANUAL

SCALPER GRAIN CLEANER METRA SGC



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INTRODUCTION

This operating manual is a unified operating document and is issued to each Pre-Cleaning Unit (hereinafter SGC).

This document is intended for studying the device, its safe operation, as well as for gaining experience working with it.

The manual includes information about the configuration, the appliance of the device, its technical characteristics, as well as safety instructions, information about the manufacturer and warranty conditions.

The manufacturer reserves the right to make changes to the design in order to improve the device. These changes may not be reflected in the manual.

1. PURPOSE AND INSTALLATION

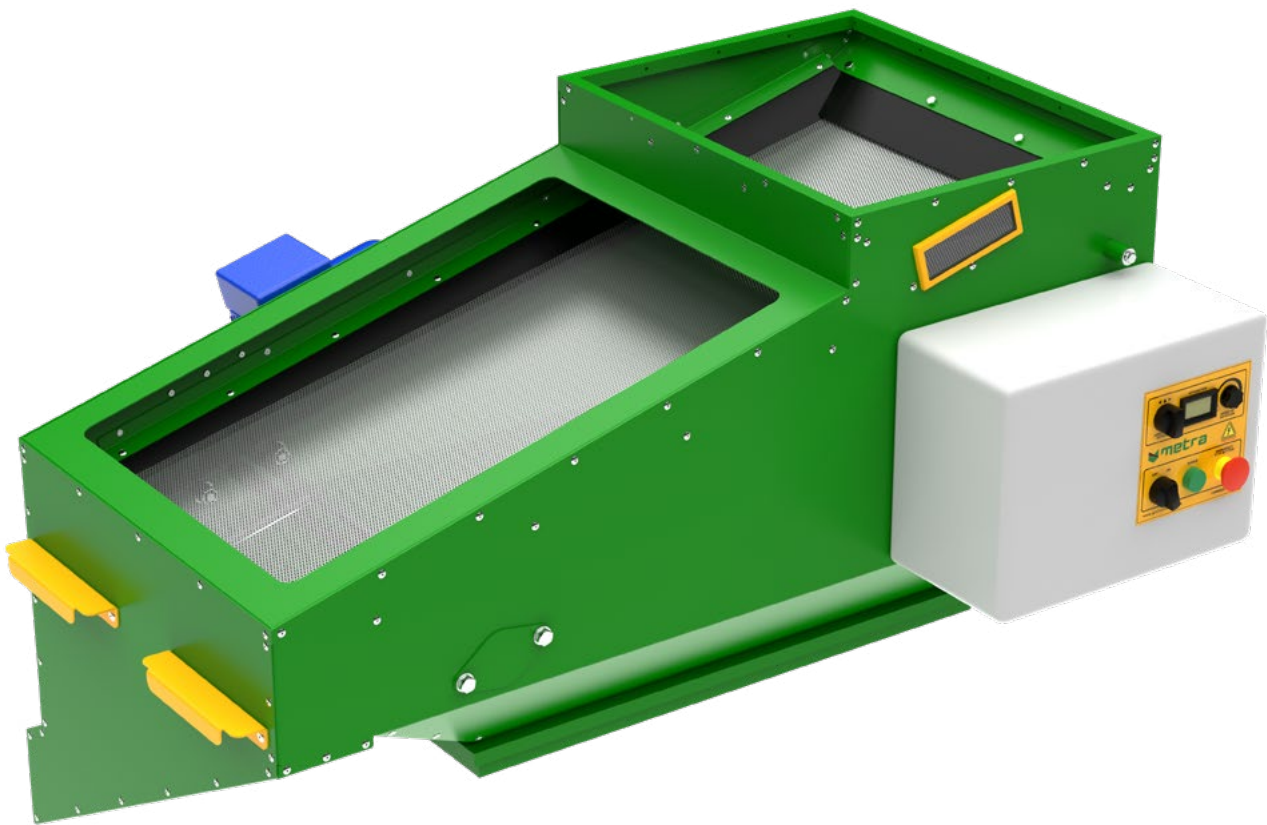
PURPOSE:

The SGC is designed for pre-cleaning of seed and commercial material: grain, leguminous, vegetable, melon, fodder, as well as any bulk mixtures.

INTALLATION:

Installation of SGC is possible both as an additional unit for a series of ADS grain cleaners, and as a separate unit as well.

It allows operation in closed areas, granaries, in the conditions of elevators, as well as in factories where processing of agricultural products takes place.



2. MAIN TECHNICAL CHARACTERISTICS

Table 1

Product name	Capacity / hour	Energy consumption	Weight
SGC-400	400 bushels in hour 10 tons in hour	0.5 HP 0.37 kW 220/380V, 50 Hz	133 lbs 60 kg

3. CONFIGURATION OF SGC

SGC is supplied to the consumer in a standard configuration. On the request of the customer, the configuration of the SGC can be changed, at the same time a corresponding contract is concluded.

The standard configuration includes:

- * SGC - 1 pc.
- * Operating manual - 1 pc.
- * Calibration frame with mesh - 1 pc.

4. CHARACTERISTIC FEATURES

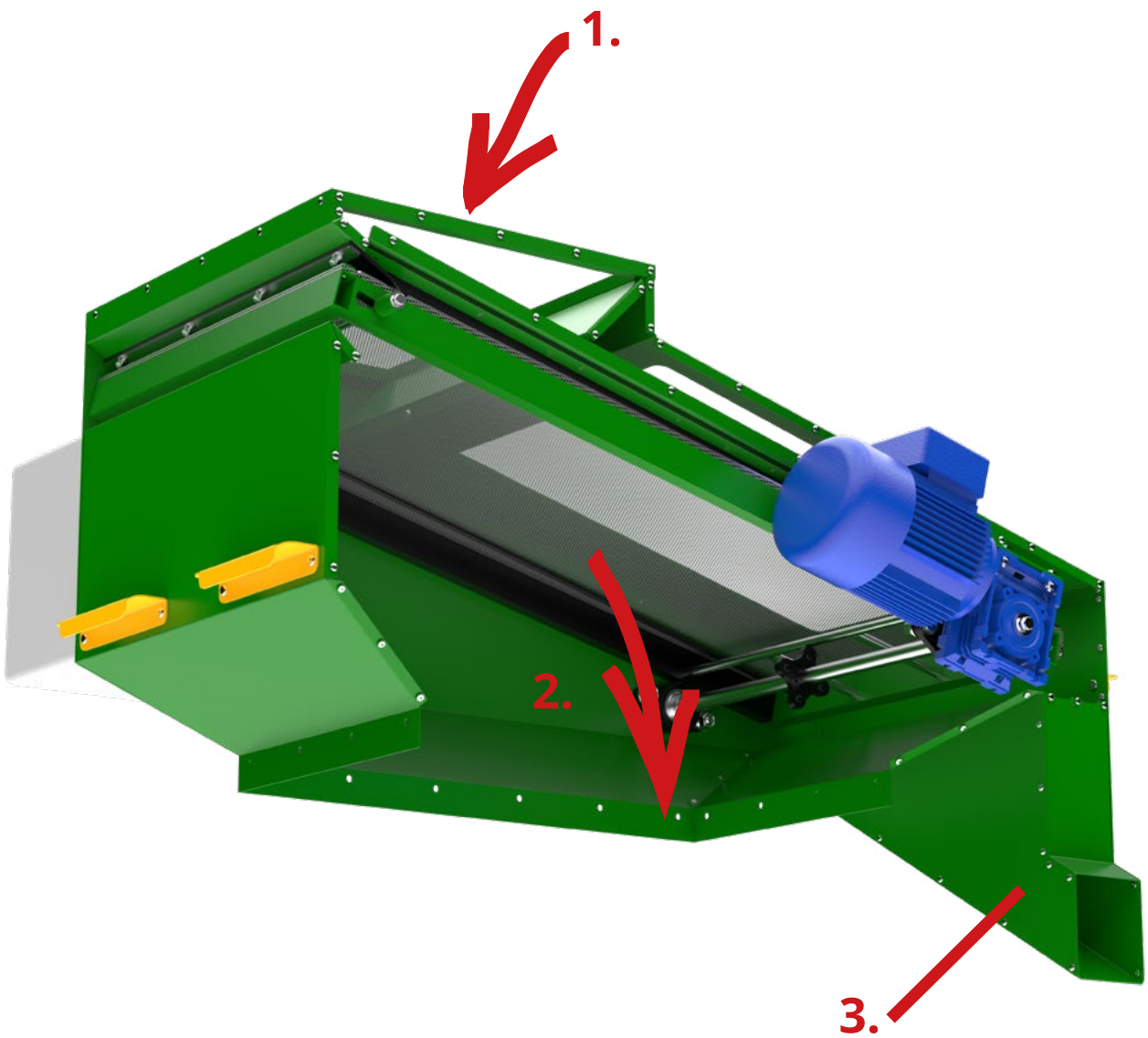
SGC is an auxiliary pre-cleaning device for aerodynamic grain cleaners, ADS-200, ADS-400 with a frame and a calibration mesh installed in it. The mesh is fixed on a removable frame, the mesh moves with the help of a gear motor and a crank mechanism. At the same time, performing back and forward movement of the frame with the mesh. The speed of rotation is controlled by a frequency converter.

5. OPERATION OF SGC

The unit separates grain by size as it moves across a vibrating calibration screen. Grain is fed onto the upper section of the screen, which vibrates with a small stroke at high speed. As the screen moves back and forth, properly sized grain falls through the mesh. Oversized debris that cannot pass through the mesh slides off into a discharge chute leading to the waste hopper. Cleaned grain drops into the receiving hopper of the ADS grain cleaner—or other downstream equipment—for further processing or transport.

Main Process Steps

1. Feed raw grain onto the screen.
2. Collect calibrated (cleaned) grain from the product outlet.
3. Collect oversized waste from the waste chute.



6. MARKING

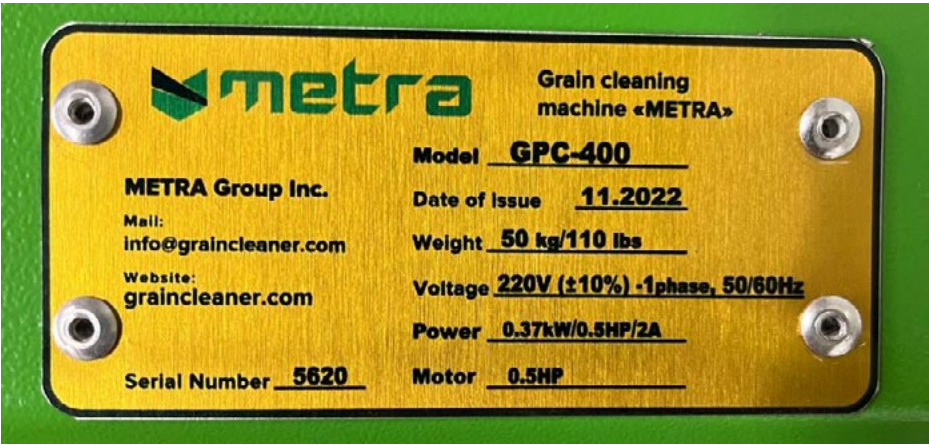
A nameplate is mounted on the outer surface of each SGC unit:

Device name: Pre-Cleaning Unit

Manufacturer: Metra Group

Serial number:

Production date:



7. SAFETY

The operator must have Level 1 authorization for non-electrical personnel (or an equivalent safety certificate).

Before starting work with the machine, the operator must follow these safety requirements:

- Check that all visible grounding (protective-neutral) conductors are securely connected and that grounding contacts, plugs, and sockets are firmly fastened.
- The total resistance of all grounding points on the neutral wire of the power-supply line must not exceed 10 ohms (per Section 1.7.103 of the electrical code).
- Connection plugs must be designed so they cannot be inserted into sockets with a higher rated voltage than specified on the plug.
- Before connecting, make sure the supply voltage matches the rating of the socket.
- When connecting the equipment, keep cables and power cords from being stretched, tangled, or loaded with objects.
- Do not allow direct contact of wires or cables with hot, wet, or oil-treated surfaces.

When working with treated seeds, operators must have current medical clearance and use appropriate personal protective equipment.

If the SGC is operated without a dust-collection (aspiration) system, the operator must wear safety goggles and a respirator.

Installation or disassembly of the SGC may be performed only after the equipment is fully disconnected from electrical power. All work must be done on a level, stable surface in compliance with all applicable safety codes and installation standards. Installation and adjustment of the equipment must be performed only by certified technicians.

ATTENTION — DO NOT DO THE FOLLOWING

It is forbidden to:

- 1. Operate the SGC without first reading and understanding this operation manual.**
- 2. Operate the SGC without proper grounding.**
- 3. Operate the SGC if the supply voltage is outside the required range: 220 V $\pm$ 10% or 380 V $\pm$ 10%.**
- 4. Operate the SGC with any protective covers or guards for moving parts removed.**
- 5. Open any components or panels that are under electrical voltage.**
- 6. Make changes to the frequency-converter program.**
- 7. Operate the SGC if the operator does not have Level 1 non-electrical authorization (or equivalent).**
- 8. Operate the SGC in locations where it may be exposed to rain, snow, fog, dew, or other precipitation.**

8. INSTALLATION OF SGC

Installation must be done using a lift or forklift, or by personnel trained by the manufacturer.

Recommendations for installing SGC

- When installing the SGC inside a building or hangar, provide at least 1,200 mm (48 in.) of clearance on all sides for maintenance access.
- Maintain at least 1,500 mm (60 in.) of vertical clearance above the unit.

SGC Installation Steps Before Operation:

- Place the SGC in its final operating location.
- If installing on an ADS grain cleaner: set the SGC on top of the receiving hopper, using the lifting loops specified for the separator model.
- If installing as a stand-alone unit: position the SGC in a properly prepared area or bunker.

9. STARTING AND SETTING UP THE SGC

If needed, install a loading and discharge conveyor to keep the separation process continuous.

1. Starting the SGC

- Reset the Emergency Stop button by turning it.
- Turn the Network switch to ON. The Network indicator light will come on when power is supplied.
- On the frequency converter, set the speed control knob to the minimum position
- Press the RUN/STOP button on the frequency converter to start the unit.
- When the screen begins to move, use the speed control knob to select the desired screen speed.
- If needed, press the FWD/REV button on the frequency converter to reverse the screen direction.
- To stop the screen, press the RUN/STOP button
- To shut down the SGC, turn the ignition switch to OFF.
- For an emergency stop, press the Emergency Stop button.

2. Setting Up the SGC for Operation.

- Start the SGC as described above and ensure a steady, even flow of grain into the machine. The operator must watch the feed to keep separation consistent. Use the speed control to adjust the screen speed for the best removal of large and small fractions. Increasing the screen speed improves removal of larger debris, but do not set it so high that cleaned grain falls into the waste chute.
- When properly adjusted, the SGC can remove up to 60% of waste from incoming material, depending on grain quality. Cleaned grain exits through the calibrated-material outlet. If the SGC is installed as an add-on to an ADS separator, the cleaned material feeds directly into the ADS receiving hopper for further cleaning or calibration. This combination increases separator capacity while maintaining high calibration quality.
- For the best pre-cleaning results, make sure the openings in the calibration screen match the size of the grain being processed. If needed, replace the screen frame with one that has the correct mesh size.

Important to remember:

You can increase the SGC's throughput only up to the point where cleaning quality begins to decline or clean grain starts exiting with the waste. Because this threshold varies by crop, the operator must determine the limit for each type of grain.

10. REPLACING THE SCREEN

SAFETY:

- **Shut off and lock out power.** Turn the main disconnect to OFF and be sure the machine is fully stopped.
- **Wait until all moving parts have come to a complete stop.**
- **Carry out cleaning of SGC.**
- **Wear gloves; mesh edges and metal parts can be sharp.**

SCREEN MOUNTING OVERVIEW:

- **Rear side:** Two guide tabs fit into matching slots in the frame. They set the correct position. (Picture 2) and (Picture 3)
- **Front side:** Three locking studs snap into three holes on the front frame rail. (Picture 4)
- **Front handles:** Provide a safe grip for lifting and sliding the screen.

REMOVING THE SCREEN:

- **Open the access panel.** Unlock and lift the front cover/access panel (eccentric/flag lock at the front). (Picture 1)
- **Remove the screen.** Lift the front part up to release the front clips, then pull the screen toward you—the rear slots will come out of their slots. Remove the screen from the machine.

INSTALLING A NEW SCREEN:

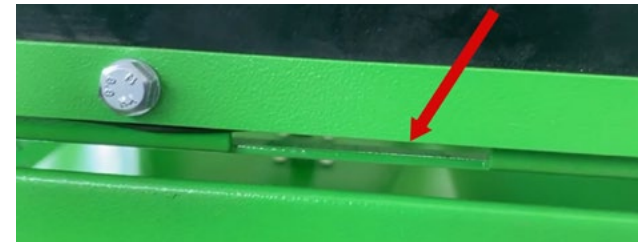
1. **Orient the screen.** Find two grooves/tabs on the rear edge and two slots for them on the frame. Make sure that three retaining rivets are visible on the front edge.
2. **Insert the back side.** Insert the rear grooves of the screen precisely into the slots in the frame. The screen should lie on the guides without skewing.
3. **Check the rubber sheet.** Hold the rubber curtain so that it lies on top of the new screen and does not get between the screen and the frame.
4. **Snap the front edge into place.** Align the three fastening rivets with the holes on the front frame bar and press down on the screen from above using the handles until it snaps into place.
5. **Check the fit.** The rear grooves are fully seated in their slots, with no play. All three front fasteners are inserted into the holes. The rubber sheet lies flat on top of the screen.
6. **Close the access panel.** Lower the front panel and secure the lock.



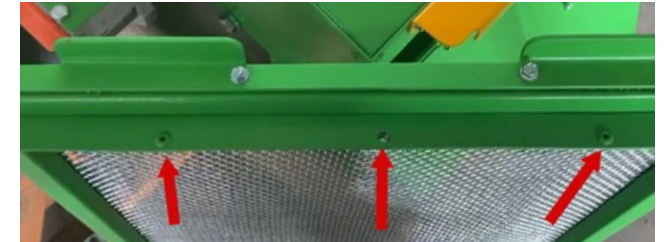
Picture 1



Picture 2



Picture 3



Picture 4

11. MAINTENANCE

SGC CLEANING AND MAINTENANCE:

During operation, regularly clean the SGC and inspect the calibration screen to prevent excessive sagging. Check the frame, crank mechanism, and bearings, and replace lubricants as needed to keep the machine in proper working condition.

ATTENTION! All cleaning must be performed only after the SGC is completely disconnected from the power supply.

SGC Cleaning Procedure

- Clean the SGC regularly according to how quickly it clogs, but at least once every three working days.
- Disconnect the SGC from the power supply before cleaning
- Remove dust and dirt from the machine's exterior
- Clear all remaining material from the calibration screen.
- Check that the screen frame moves smoothly and without obstruction.

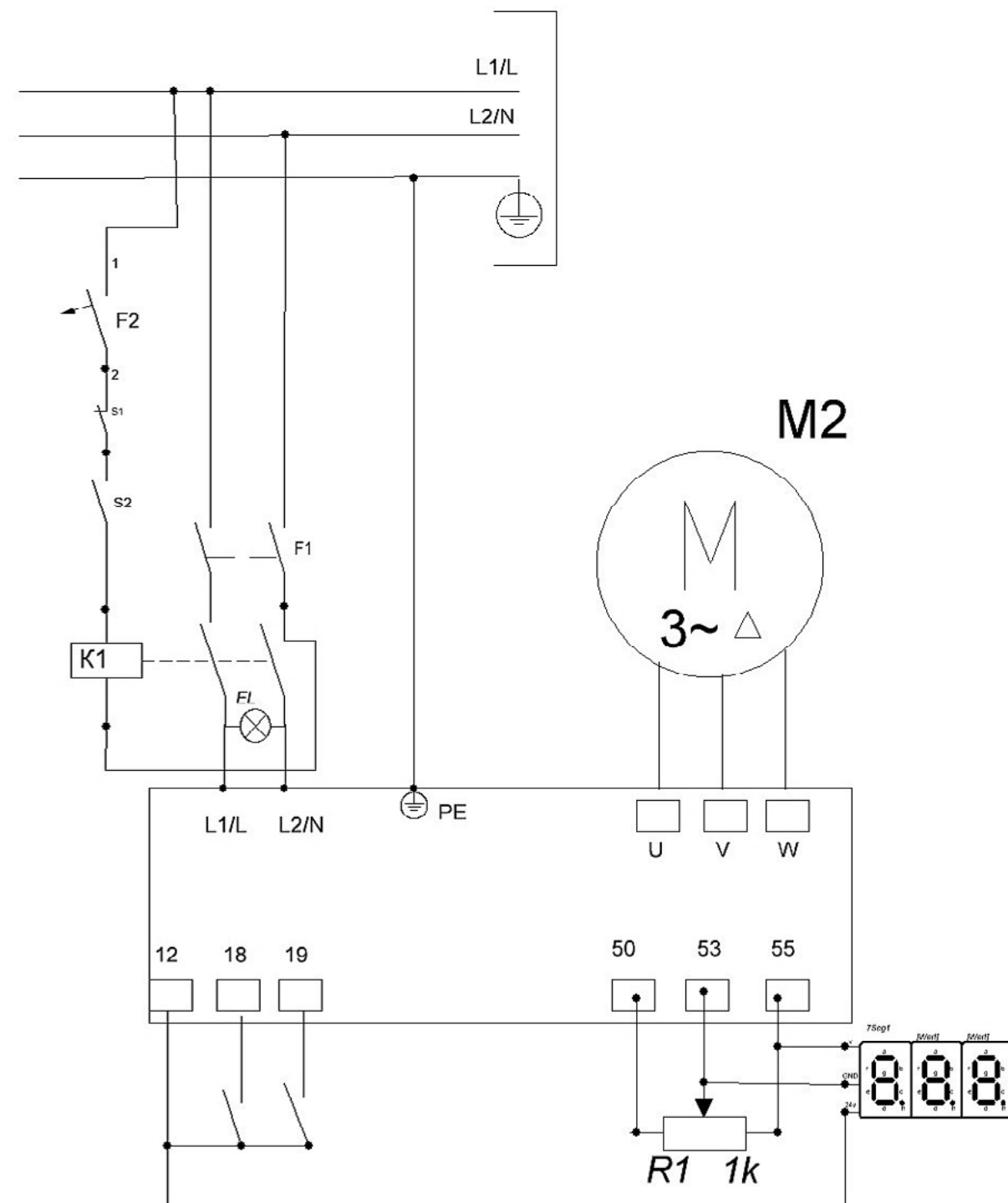
Before Storage or Long-Term Shutdown

- Thoroughly clean the SGC.
- Inspect and tighten all fasteners on moving parts and mechanisms as needed.

After Storage

- Wipe away dust and dirt with a soft cloth.
- Check that the calibration frame moves smoothly.
- Perform maintenance on the electric motor if required.

12. CIRCUIT DIAGRAM



13. TRANSPORTATION OF THE SGC

TheSGCmaybetransportedbyroadorrailincompliancewithallcargo-transportregulations. Placement and securing of the load must follow current technical requirements for loading and tie-down.

Loading and Unloading:

Use a forklift, lifting equipment, or trained personnel.
When shipping the SGC in a covered vehicle, it may be transported without packaging or with partial protective packaging to prevent mechanical damage.

14. MANUFACTURER'S WARRANTY

Product name:

Manufacturing company:

Serial number:

Date of sale:

Signature:

The manufacturer guarantees that the machine meets all stated specifications, provided the transportation, storage, installation, and operating instructions in this manual are followed.

The warranty period is 12 months from the date of sale.

Warranty conditions:

Warranty repair refers to the replacement or repair of parts with a manufacturing defect that manifested itself in work, which led to a malfunction. The decision to accept a defective product for repair is made by a service employee of the manufacturer's plant after getting acquainted with it during the maintenance of this product.

The buyer has the right to a free repair during the entire warranty period in the event of a malfunction due to the manufacturer's shortcomings.

1. Warranty repair of the equipment takes place after the customer provides a fully filled in warranty card.
2. Equipment subject to warranty repair must be provided by the customer to the service department. Departure and repair of the equipment at its location by the repair team is possible, but this must be agreed in additional written documents. The cost of travel and accommodation of repair service specialists is paid for by the client.
3. Warranty obligations do not extend to materials and parts that wear out during operation, namely: wheels of carts, tires, gaskets for sealing, protective covers, mesh, and the like.

Warranty obligations do not extend to the following cases:

1. The serial number of the equipment submitted for warranty service does not match the serial number specified in the warranty card and/or other written documents.
2. Unauthorized penetration into machine nodes.
3. Changes in the software setting of the frequency converter.
4. Improper storage and deconservation of the machine.
5. Present or hidden mechanical damage to the equipment, which occurs due to violations of the rules of transportation, storage or operation.
6. A violation of the «Rules and conditions of operation» concerning this type of equipment was detected during the repair process.
7. The presence of foreign objects in the middle of the equipment body, regardless of their nature, if the possibility of this is not recorded in the technical documentation or passport for this machine.
8. Connecting the equipment to the electrical network with a higher nominal electrical voltage than the one declared by the manufacturer.
9. Failure of the equipment due to unstable parameters of the voltage in the electricity network.
10. Any unauthorized design changes and repair work.
11. Failure of the equipment due to force majeure factors and/or the influence of third parties.
12. Installation, adjustment, training carried out by non-certified specialists.

The manufacturer is not liable for any direct or indirect damages, lost profits, or other losses incurred by the customer as a result of equipment failure.

The manufacturer is also not responsible for safe or proper operation of the machine if the operating or storage instructions have been violated.

For all warranty and post-warranty service questions, please contact:

15. CERTIFICATE ON ADMISSION

SGC

No _____ « » 20__

Manufactured in accordance with all required technical specifications and certified as fit for operation.

(Signature)

(Stamp)

Date:

STORAGE

The SGC must be stored in a dry, well-ventilated area and protected from moisture and foreign objects.

Date		Conditions of storage	Type of storage	Note
Accepted for storage	Remove from storage			

REPAIR

Date	Operating time from the work start / hours	Operating time after the last repair / hours	Reason for repair	Information about repair



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