



OPERATING MANUAL

METRA GPC



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INTRODUCTION

This document is an Operating Manual (Certificate) supplied with each METRA GPC. It is for familiarizing oneself with the equipment, the safety operation, and acquisition of operating skills.

Each person must study this Certificate before installing or operating the Metra ADS Grain Cleaner. This document contains information about the METRA GPC, its technical specification, safety instructions, information about the manufacturer and warranty conditions.

During the entire operation period, the user must keep a record of the operation quality of the product, taking notes and recording in the appropriate section of the Certificate.

The manufacturer reserves the right to change the design to improve the equipment. These changes may not be reflected in this Certificate.

PRODUCT OVERVIEW

Product name:

METRA GPC

Identification:

METRA GPC

Manufacturer:

Serial number _____

Production date _____

20____

1. PURPOSE

1.1. Purpose:

The METRA GPC is designed for efficient preliminary cleaning of all types of seeds and cereal grains and is used for removing large impurities out of the source material.

1.2. Mounting and usage:

The METRA GPC mounting is possible both as an attachment to a unit for the entire lineup of Metra Separators and as an independent unit.

The usage of the METRA GPC is possible:

- on farms;
- on grain elevators as well as terminals and processing plants.

2. BASIC TECHNICAL SPECIFICATIONS

Table 1

Model	Capacity	Dimensions: length - width - height	Energy consumption	Weight
GPC-400	400 bushels in hour 10 tons in hour	47.2x45.3x51.5 in 1198x1150x1309 mm	1.3 - 2.0 HP 1.0 - 1.5 kW, 220V, 60 Hz	600 lbs 270 kg
GPC-2000	2000 bushels in hour 50 tons in hour	78.7x37.7x39.4 in 2000x960x1000 mm	1.0 - 2.0 HP 0.75 - 1.5 kW, 220V, 60 Hz	1110 lbs 500 kg

3. CONFIGURATION

The METRA GPC is supplied in basic configuration.
If desired, the equipment can be changed after a new contract.

Standard components include:

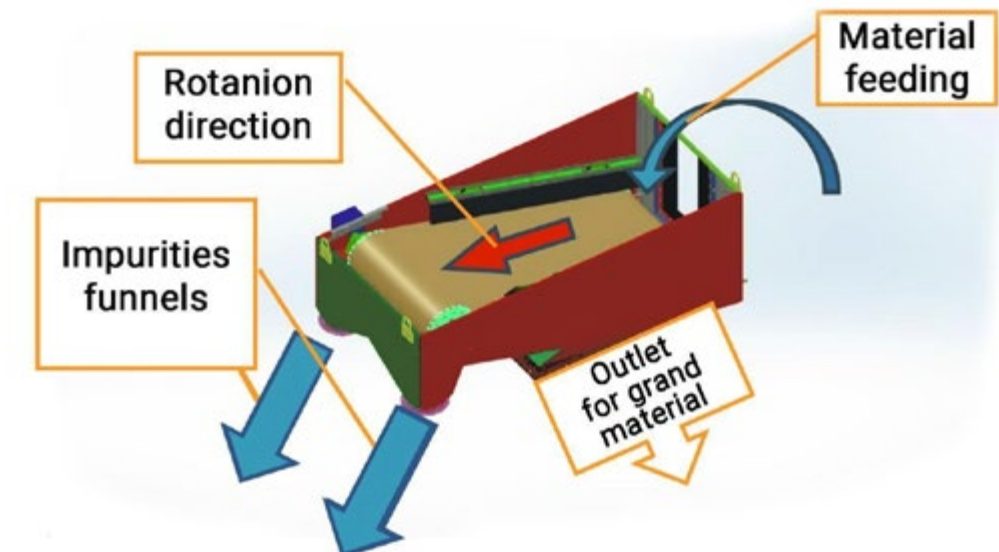
1. METRA GPC - 1 pc.
2. Certificate - 1 pc.
3. Grading mesh - 1 pc.
4. Flexible grain pipe - 5 m.

4. DISTINCTIVE FEATURES

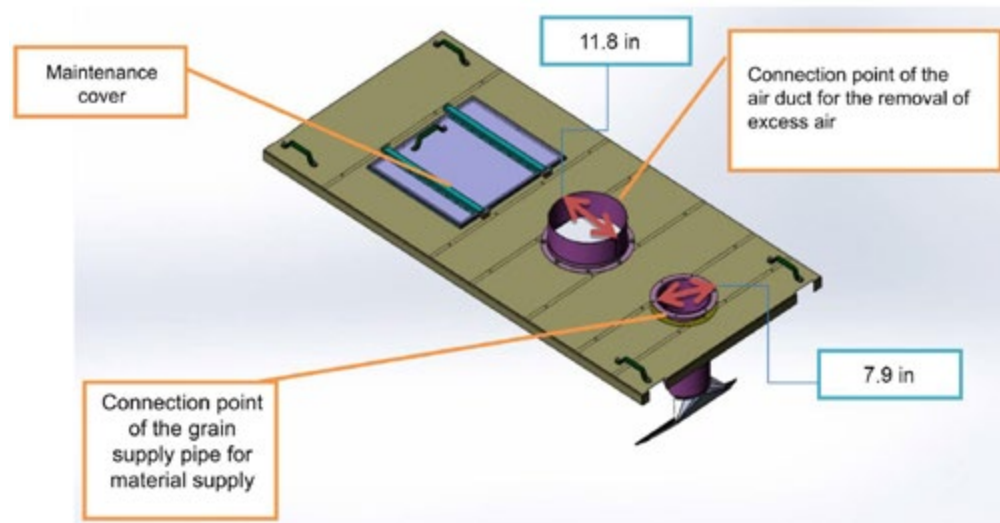
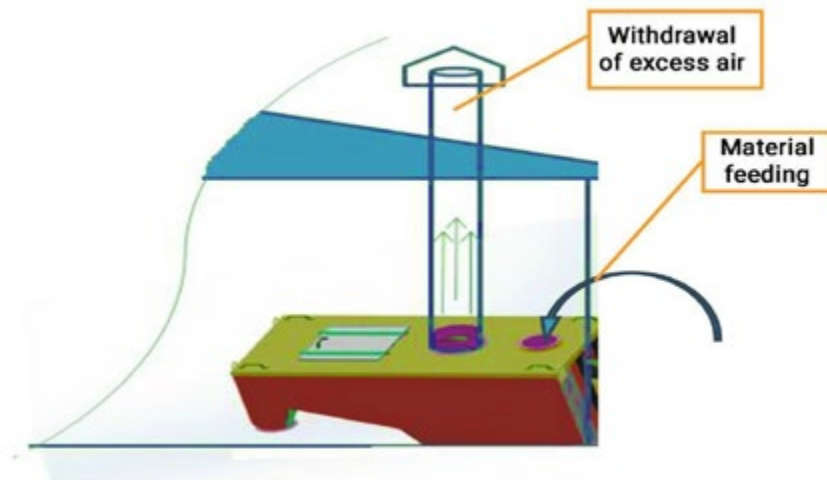
The METRA GPC is a hopper with an inner grading mesh. The grading mesh is mounted on a removable frame which rotates driven by the gear motor. A frequency converter controls rotation speed.

5. OPERATION

The METRA GPC removes large impurities from the grain heap when it passes through the grading mesh. Initially the source material is fed onto the rotating grading mesh, and then after falling through the mesh, grain becomes separated from the large impurities (stones, straw etc.) and falls into the hopper of the Metra Separator, or another receiving device for further processing.



Remember that when operating the METRA GPC the material being fed into the hopper may create excessive pressure. For the removal of excess air, the cover of the METRA GPC is equipped with a duct flange of 300 mm in diameter allowing the excess air to be vented.



Example picture of METRA GPC 2000

6. LABELING

6.1. The METRA GPC labeling:

The outer surface of each METRA GPC should have a plate attached.

1. Name of the manufacturer;
2. Model and type of the METRA GPC;
3. Designation of technical specifications the METRA GPC corresponds to.
4. Serial number of METRA GPC (Pre-Cleaner).
5. Date (year and month) of manufacture.

7. SAFETY REGULATIONS

Before operating the METRA GPC, the user must comply with the following safety requirements:

Check the reliability of the connection of visible ground (protective earth) conductors to the equipment, availability and reliability of grounding contacts fastening, plugs, sockets, and connectors;

Total resistance of earthing devices: all re-grounding neutral conductor transmission line shall not exceed 10 Ohms.

The construction of connector plugs must be so that they cannot be plugged in with a higher nominal voltage than the rated METRA GPC voltage. Prior to connecting, make sure that suitable voltage is applied according to the connector base diagram. Avoid pulling and twisting of cables or power cords when connecting the equipment. Do not subject them to mechanical stress & do not put loads on them. Avoid direct contact between the wire and cable with hot, wet, oily surfaces or objects.

CAUTION!

Mounting (dismounting) of the METRA GPC is to be performed only when equipment is de-energized.

Mounting (dismounting) of the METRA GPC is to be performed only by following all the mounting (dismounting) rules and requirements.

FORBIDDEN!

- Do not operate the METRA GPC without reading the operating instructions.
- Do not operate the METRA GPC without grounding.
- Do not operate the METRA GPC when the power supply voltage is non-compliant with electrical installation code requirements, namely for voltage 220V + - 10%.
- Do not operate the METRA GPC without any protective elements of the rotating parts.
- Do not open units and blocks under voltage.
- Do not make changes in the program of the frequency converter.
- Do not operate the METRA GPC in places where precipitation may fall on it (rain, snow, fog, dew etc.).

8. MOUNTING

Mounting of the Pre-Cleaner should be performed by staff trained by the manufacturer.

8.1. Recommendations for mounting of the Metra GPC

When mounting the Pre-Cleaner, the fitter needs to have at least 47.2 in. of free space from all sides to provide ease of maintenance.

8.2. The Metra GPC mounting procedure before operation:

Mount the METRA GPC to the location of further operation.

1. When mounting the METRA GPC on the METRA Grain Cleaner's hopper, the METRA GPC is to be mounted on the top of the hopper using fixing bolts.
2. When installing the METRA GPC as a single unit, it is to be mounted on a specially prepared area or bunker.
3. Install feed and discharge conveyor so as to provide a continuous separation process (The conveyors will be available as an option, if necessary).

8.3. Connection to power supply:

The Metra MGC connection to power mains must be performed by a qualified electrician having electrical safety access.

- Connect the ground to the general grounding circuit.
- Connect the power cable to the network.

9. ADJUSTMENT PROCEDURE

9.1. Switching on the METRA GPC:

1. Reset the button 'EMERGENCY STOP' by turning it.
2. Set the 'NETWORK' knob to 'ON' position. Indicator lights will turn on in the presence of voltage.
3. Set the 'SPEED' knob to the middle position.
4. Switch on the power of the frequency converter, by setting the power lever to the 'ON' position.
5. Switch off the METRA GPC by setting the handle to the 'OFF' position.
6. The Pre-Cleaner emergency stop is carried out by pressing the 'EMERGENCY STOP' button.

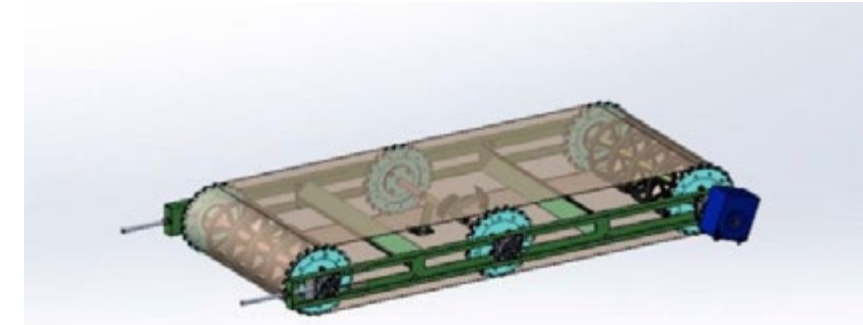
When the METRA GPC is supplied with the Metra Separators, it is powered from the Metra separator. In this case, items 1 and 2 are not required.

Press the 'EMERGENCY STOP' button only in cases of emergency!

9.2. Operating modes settings:

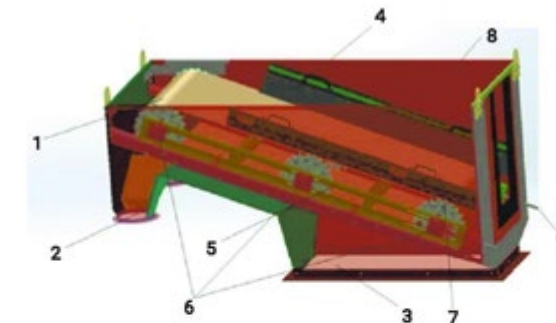
1. Switch 'ON' the METRA GPC as described above.
2. During operation of the METRA GPC, the user should control constant supply of feed material to be separated. Set the baffles in upward position, so they are in '0' position.
3. Use the speed control knob to choose the speed of the grading mesh rotation, so to maximize the separation of large and small fractions. Please note that increasing the grading mesh rotation speed may allow the improving of selection for the major fractions, but care must be taken so that there is no pick-up and removing of the needed grain material into the waste bins through the impurity tunnels.
4. In this mode, when properly adjusted, the METRA GPC is able to remove 30% to 60% of the original waste material, depending on the quality of the feed material.
5. To obtain a better preliminary cleaning, it may be necessary to make sure that the cells of the grading mesh correspond to the size of the material. If necessary, replace the mesh.

Please note: The capacity of the METRA GPC can be increased (the amount of grain fed into the separation chamber can be increased) until the process of cleaning gets worse. **The extent of cleaning quality improvement varies for different commodities, so the user is to determine individually.**



The grading mesh replacement procedure shall be as follows:

1. De-energize the METRA GPC.
2. Perform the METRA GPC cleaning.
3. Remove all the protective casing.
4. Remove the geared motor from the drive shaft.
5. Remove the frame with the grading mesh using a crane or by hoist.
6. Lower the frame on a flat, clean surface.
7. Release the tension device and reduce the maximum shaft.
8. Remove the grading mesh, moving it aside.
9. Set the desired mesh size.
10. The tensioner may potentially stretch the mesh, hence make sure that drive and support shafts are parallel to each other.
11. Install the frame with a grid in the hopper
12. Check the smoothness of the grading mesh rotation.
13. Set geared motor to the drive shaft.
14. Install all protective casing.
15. Switch on the METRA GPC with no grain supply. Make sure that the grading mesh rotation occurs smoothly without jumps or delays.



1. The Grading Mesh
2. Impurities Tunnel
3. Outlet For Graded Material
4. Protective Casing
5. Frame
6. Bearings
7. Drive Shaft
8. The Pre-Cleaner Housing
9. Adjusting Screws

10. MAINTENANCE

The METRA GPC cleaning:

The METRA GPC cleaning should be done during operation. Ensure tension of grading mesh is preventing sagging or excessive tension. Check and carry out timely replacement of lubricant. Monitor the status of the grading mesh, gears and bearings.

Caution! All work on the METRA GPC cleaning should be carried out only after having verified that the equipment is de-energized.

The METRA GPC cleaning should be performed regularly, depending on the pollution, but not less than once every three days.

1. De-energize the METRA GPC.
2. Remove dust and mud deposits from the housing unit.
3. Remove dirt from the protective surfaces.
4. Remove all the protective surfaces in order to remove dirt from the chain and gears.
5. Remove all dirt from the grading mesh.
6. Make sure that nothing interferes with the rotation of the grading mesh.
7. Install protective surface.

Before transferring the METRA GPC to storage or preservation, it is necessary to perform the METRA GPC cleaning, check the fastening reliability of the moving parts, assembly mechanisms and carry out tightening, if necessary.

When withdrawing the METRA GPC from storage and preservation, it is necessary to remove dust and dirt deposits using a soft cloth, check the smoothness of the rotation calibration mesh, if necessary, to carry out maintenance of the motor.

11. TRANSPORTATION

The METRA GPC can be transported by any mode of transport, according to the shipping rules.

Placing and securing of cargo is carried out in accordance with the current technical rules of cargo loading and securing.

Loading and unloading of the METRA GPC is performed in two ways: either by forklift or crane.

When transporting the METRA GPC in covered vehicles, transportation without shipping packaging or with partial packaging which provides protection against mechanical damage is allowed.

12. WARRANTY

Product name:

METRA GPC - _____

Manufacturer: _____

Serial number _____ Delivery date _____ 20____

(signature)

(print full name)

Stamp here

The manufacturer guarantees the accordance of the METRA GPC to specifications TS U 29.3-37090655-001:2010 provided that the requirements of transportation and operation prescribed in this Certificate are followed.

13.1. Terms of warranty:

Warranty repair is the replacement of cracked or broken parts, and parts with initial defect, detected during operation and/or caused the breakdown.

- The manufacturer service personnel makes the decision on the adoption of a defective equipment on maintenance service.
- The buyer has the right of free repair during the warranty period.
- The warranty applies to the power unit, frequency converter and frames.
- The warranty repair is performed in case of presenting by the buyer a fully filled warranty card.
- The warranty does not apply to materials and parts, which are considered as wear during operation: wheels, tires, sealing elements, protection covers.

13.2. Warranty interruption:

Warranty obligations may be interrupted in the following cases:

1. Discrepancy of the METRA GPC serial number to warranty the serial number fixed in the warranty card and/or other written agreements.
2. If unauthorized penetration into METRA GPC parts is detected.
3. Changes to the software settings of the frequency converter.
4. Improper storage and preservation of the METRA GPC.
5. The presence of visible or sheltered mechanical damages of the METRA GPC caused by transportation, storage or user rules violation identified before or during the warranty repair process.
6. Connection of the METRA GPC to the electric mains with higher nominal voltage than stated by the manufacturer.
7. Presence of foreign objects inside the METRA GPC, regardless of their nature, if the possibility of such is not specified in the technical documentation and certificate for this machine.
8. Breakdown of the METRA GPC due to failures in the power supply network.
9. Any unauthorized design changes and repairs of the METRA GPC.
10. The Metra Separator breakdown caused by force majeure factors exposure.
11. The mounting, adjustment and training which are carried out by non certified specialists.

The manufacturer shall not be liable for any lost profits or other damages resulting from the breakdown of the METRA GPC

The manufacturer shall not be liable for any breakdown caused by the transportation, storage or user rules violation of the METRA GPC.

Warranty period of the METRA GPC is 12 months since the date of delivery.

(signature of the buyer)

(print full name of the buyer)

13. CERTIFICATE OF SALE

METRA GPC - _____

No. _____

made in accordance with the requirements of specifications TSU 29.3-37090655-001:2010, and is found fit for service.

(signature)

(print full name)

Stamp here

20____ / _____ / _____
(year / month / day)

14. STORAGE

- Storage of the METRA GPC is carried out in a dry & ventilated space.
- Rainfall and foreign object precipitation is not allowed.

Date		Storage conditions	Storage type	Remarks
Accepted for storage	Withdrawn from storage			

15. REPAIR

Date	Operating time since the beginning of operation period, hours	Operating time after the last repair, hours	Reason for repair	Information about repair