

Pre-cleaner USER GUIDE

60S+

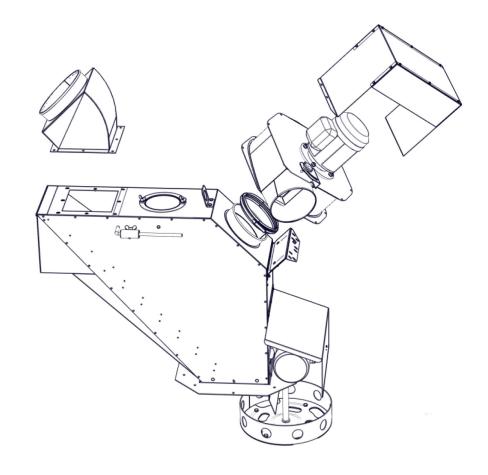
60S

60B+

60B

60SC

60BC



Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.





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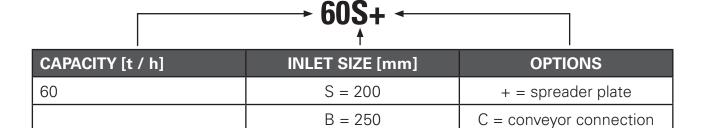
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INTRODUCTION

This manual contains instructions on using the pre-cleaner.

The type designation of the pre-cleaner is the following:



In order to ensure efficient use and safe installation of the equipment, read all the instructions carefully. Additionally, make sure that any other persons present on-site are aware of all the safety essentials. Keep this manual on hand and introduce it to any new personnel members.

If you need more information or assistance, contact your dealer or call the service number of Mepu Ltd.





WARRANTY AND WARRANTY CONDITIONS

The product is intended for professional use. Installation, use and maintenance of the equipment require normal general knowledge and skills related to machines and equipment that a professional farmer should presumably possess.

Warranty conditions

The dryer machinery is covered by a 12-month warranty from the commissioning date, but the maximum duration of the warranty is 18 months from the invoice date of the Goods. Mepu Oy cannot be held responsible for any defects discovered after the aforementioned time limits. Mepu Oy undertakes to eliminate any design, raw materials, or workmanship-related faults in the Goods through repair or replacement. Mepu Oy is not responsible for any other direct or indirect damages or losses.

The warranty does not cover faults arising from materials provided by the Purchaser or structural solutions specified or set out by the Purchaser. Moreover, Mepu Oy's warranty and liability for faults do not cover minor faults and deviations that exert no substantial influence on the use and functionality of the dryer machinery. The warranty does not cover faults caused by any factors discovered after transfer of the burden of risk. For example, the warranty does not cover faults caused by failure to comply with the use and storage conditions specified for the Goods or instructions for use, or improper use of the Goods. In this connection, inter alia, feeding the equipment with material significantly differing from the average quality of the material processed or with material that does not belong in the equipment is also considered improper use, for example, feeding of grain dryers with material of significantly higher-than-average moisture content and / or of significantly higher-than-average weed and / or other impurities (such as rocks, dirt or foreign objects) content, or feeding of material containing large rocks onto the conveyors. The warranty does not cover faults arising from inadequate maintenance or incorrect installation carried out by the Mepu Oy, or faults arising from modifications or repairs performed without the Seller's written consent. Moreover, the warranty does not cover normal wear and tear.

Whenever a fault is detected, the Seller is required to submit a written fault report without undue delay. The fault report must describe the nature of the fault. If there is reason to assume that the fault could cause additional damage, use of the Goods must be discontinued and the fault report submitted immediately. Otherwise, the Purchaser shall lose its right to submit claims regarding damages that could have been avoided by immediate termination of the use and/or submission of a fault report. If the Purchaser has reported a fault and it is determined that the Goods are free of faults covered by Mepu Oy's warranty, Mepu Oy shall have the right of demanding compensation for the work and expenses incurred because of the fault report. If intervention with Goods other than those delivered by Mepu Oy is required in order to repair a fault, Mepu Oy shall not be responsible for the related works and expenses. If a fault in some component of the Goods has been eliminated, Mepu Oy shall be liable for the repaired or replaced component in the same way as for the original delivery for 18 months. However, Mepu Oy shall not be liable for faults in any component of the Goods or damage caused by the Goods for longer than 36 months from the beginning of the original liability period.



EC DECLARATION OF CONFORMITY OF THE MACHINERY



Manufacturer

Name of the company:	Mepu Ltd
Address:	Mynämäentie 59, 21900 Yläne, Finland

Laite

Description:	pre-cleaner			
Type:	60S+/60S/60B+/60B/60SC/60BC			

Directives and standards

We hereby declare that the equipment complies with the directives:	2006/42/EC 2004/108/EC 2006/95/EC						
Harmonised standards (or parts / clauses) that have been used:	EN 349 + A1 EN 547-2 + A1 EN 547-3 + A1 EN ISO 12100 EN ISO 13857 EN 60204-1:2006						
Other technical standards and specifications that have been used:	EN 953						

Signature of authorized person

Date and place:	12.6.2015 Yläne
Signature:	1: U.C. liro Uusi-Salava
Title:	Product development Manager / Mepu Ltd



SAFETY

The general safety section contains instructions related to all safety routines. Instructions pertaining to certain specific subjects (for example, assembly-related safety) can be found in the respective section. Always read all the instructions, not only the summary of safety practices, before commencing any operations with the equipment.

YOU are responsible for SAFE use and maintenance of the product. YOU need to make sure that you and any other persons working in the vicinity of the product are aware of all procedures and information related to SAFETY and contained in this manual. Remember – YOU are the key to safety. Good safety practices will keep you and the people around you safe. Make these procedures a functional part of the safety programme.

- The user or operator is responsible for reading, understanding, and following the manual's safety instructions. All accidents can be avoided.
- The equipment owner needs to provide guidance and go through the instructions prior to commissioning of the equipment and at least once a year with all the employees before they are allowed to use the equipment. Untrained users/operators expose themselves and bystanders to the risk of serious or fatal injuries.
- Use the equipment only for its intended purpose.
- Do not modify the equipment in any way. Unauthorised modifications may impair the functionality and / or safety and affect the product's service life. Any modification of the product voids the warranty.
- Keep children and unauthorised persons away from the work area.
- Keep first aid means available at all times and make sure you know how to use them.
- A fire extinguisher must be readily available at the work site. Keep it in a visible place.
- Electrical equipment: Before electrical equipment maintenance, adjustment or repair, disconnect the plugs, set all switches to the neutral or OFF position, stop the motors, remove the ignition key or disconnect the power supply, and wait for all moving parts to stop.
- Use proper personal protection equipment:
 - hard hat
 - work gloves
 - anti-slip safety shoes
 - safety goggles
 - hearing protection
 - coveralls







- Comply with good work area practices:
 - Keep the usage area clean and dry.
 - Make sure the electrical outlets and tools are properly grounded.
 - Use adequate lighting for works performance.
 - Consider SAFETY! Work SAFELY!



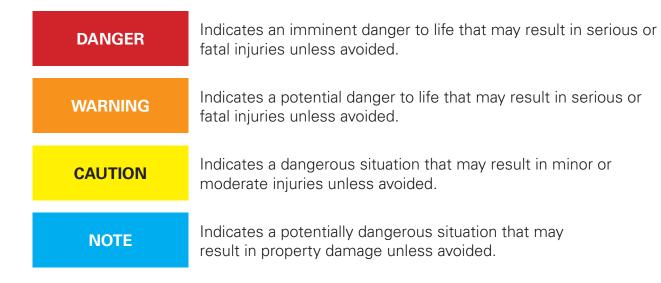
General safety instructions

The safety-related warning sign marks important safety instructions on the product and in the manual. If you see this symbol, consider the possible risk of serious or fatal injury. Follow safety instructions.



Signal words

Pay attention to the following signal words in the safety instructions: DANGER, WARNING, CAUTION, and NOTE. The signal words used in the safety instructions have been chosen based on the following definitions.



Important safety instructions for dryer user

MEPU grain dryers have been designed to be as safe as possible. However, depending on local conditions, installation, and equipment configuration, the user needs to consider some safety precautions when using or servicing the device.



Unexpected starting

Before performing any maintenance operations, always turn off the main power of the grain dryer. Get to know the operation of dryer control.



Instructions for use

Read all the instructions on use of the grain dryer equipment prior to installation and commissioning.



Main switch

Before servicing the dryer or opening the covers of dryer equipment, turn the main switch to the 0 position.







1. Operation principle

1. Grain inlet (model-specific)

There are two grain inlet sizes: 200mm and 250mm.

2. Grain levelling plate

The levelling plate distributes the incoming grain column over the entire pre-cleaner width.

3. Stairs

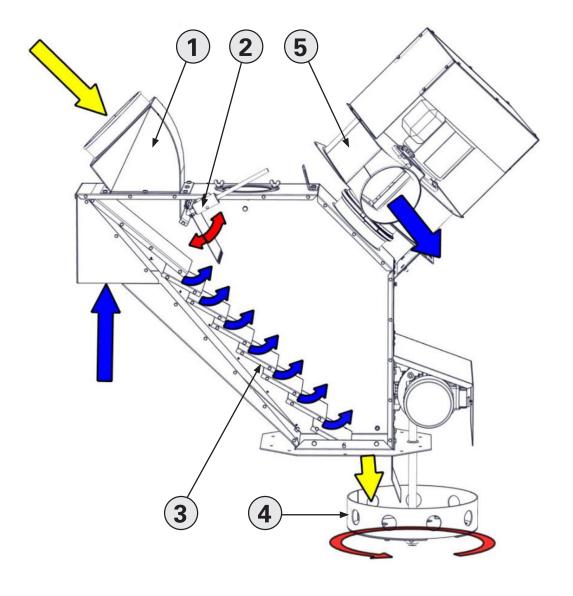
Air flow from under the stairs passes through the grain, carrying away debris and dust.

4. Spreader plate (model-specific)

The spreader plate spreads the grain arriving from the pre-cleaner.

5. Fan

The fan sucks air from the pre-cleaner.





2. Installation

To be considered in connection with installation:

- The installation base must be level and sufficiently stable.
- Ensure sufficient air supply to the pre-cleaner.
- Strong underpressure at the grain outlet reduces pre-cleaning efficiency. Take care of sufficient compensation air supply to the space below the outlet.
- Strong overpressure at the grain outlet reduces pre-cleaning efficiency and ejects debris and dust from the pre-cleaner's air intake. Strong overpressure could press the grain levelling plate (B) shut, in which case the grain inlet pipe is blocked. Take care of sufficient air circulation in the space below the outlet.
- In connection with grain piping installation, make sure to avoid excessive grain flow speeds. Two-metre vertical piping causes excessive grain transfer speeds preventing proper functioning of the pre-cleaner. In such a case, a grain decelerator must be installed. In case of longer drops, installation of several grain decelerators may be required. Bends are not allowed at the pre-cleaner's grain inlet connection a straight pipe section must always be used.

2.1. Electrical connections

The motors must be equipped with motor protection switches. Contact your local licensed electrician and have the motor protection switches installed.

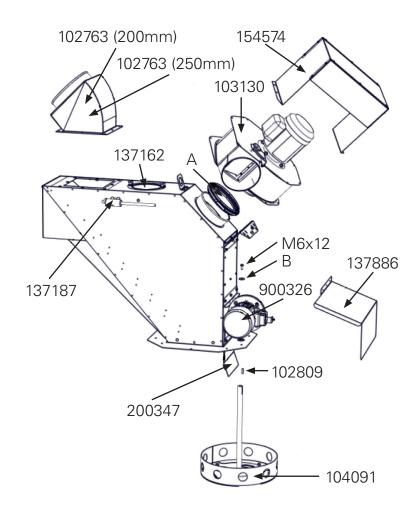
Fan 1,5 kW 2,7 ASpreader plate 0,55 kW 1,0 A



3. Assembly

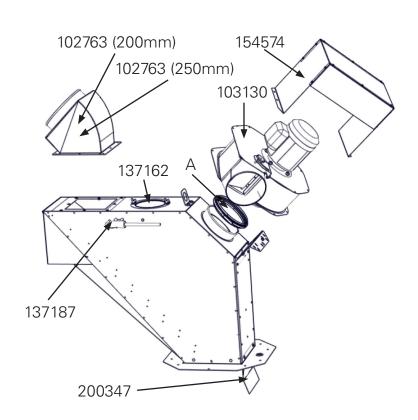
3.1. Pre-cleaner with spreader plate (101974_1 / 101974_3)

Remove the packaging and assemble the parts required according to the figure.



3.2. Pre-cleaner without spreader (101974_2, 101974_4, 101974_5 ja 101974_6)

Remove the packaging and assemble the parts required according to the figure.





4. Operating

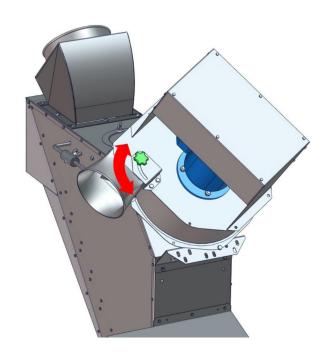
4.1. Initial adjustments

Adjust the pre-cleaner fan damper halfway. Adjust the holes in spreader plate bottom halfway. For spreader plate height, see chapter 4.4.

4.2. Fan adjustment

Adjustment of the fan must be performed observing the cleaning results. Adjust the damper in the 'open' direction until you hear 'throbbing' of the grain in the cleaner. After this, reverse the damper slightly in the 'close' direction and fix it in this position.

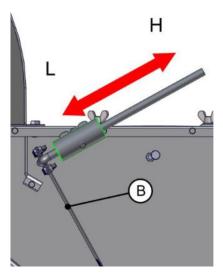
Check the cleaning results, in order to avoid grains ending up among the debris. Note that the cleaning results change as the grain and debris dry. In case of lighter grains such as rape, lower the fan adjustment in order to avoid grains ending up among the debris because of the fan.



4.3. Levelling plate adjustment

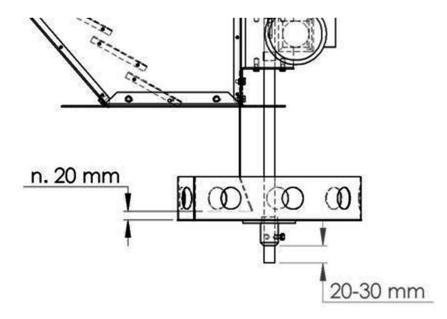
The levelling plate (B) is intended for distributing the incoming grain volume as widely as possible over the pre-cleaner stairs (C), in order to ensure maximum cleaning efficiency. A correctly adjusted levelling plate sways lightly during the filling and drying. If the levelling plate is too heavy, it could lead to pre-cleaner blockage. If the levelling plate is too light, it fails to level the grain volume, leading to poor cleaning efficiency.

When adjusting the levelling plate, note that when the weight is moved in the L direction, the levelling plate becomes lighter, and when the weight is moved in the H direction, the levelling plate becomes heavier. A good initial adjustment is as light as possible, i.e., the weight is moved as far as possible in the L direction. Lock the weight in its place using the dedicated thumbscrew.





4.4. Spreader plate adjustment



In case of default setting, approx. 20 - 30mm of the spreader plate shaft is visible under the spreader plate. The guide plate is adjusted to the distance of approx. 10 - 20mm from the plate bottom.

A feature characteristic to spreader plate operation is that when the dryer is filled, more grain tends to accumulate at the grain space sides than under the plate. However, if the grain surface at the end facing the elevator is clearly higher than at the opposite side, raise the plate by approx. 20 - 30mm. In the opposite situation, lower the plate by approx. 20 - 30mm. In the final stage of drying, the grain passes faster through the plate and the grain surface at the grain space central part is higher than at the edges.

The spreading results can be changed by adjusting the plate hole settings. If the holes are closed, more grain is thrown to the sides, and if the holes are opened, grain piles up under the plate.

If it is necessary to spread more grain to the other side because of the filling guard position, you can change the direction of rotation of the spreader plate motor.





5. Cleaning / annual maintenance

Clean the pre-cleaner after each season and check before the beginning of new season that the pre-cleaner is clean after the winter. Straws and other debris may accumulate at the pre-cleaner inlet, work surfaces, and spreader plate. Clean the motors annually, making sure their cooling ribs are free of debris and dust. In case of oil leaks from the spreader plate motor, check the oil level and add oil, if necessary. A regular gearbox oil may be used for this purpose. Otherwise, the motors are maintenance-free. The oil capacity is 0,15l. Compliant synthetic oil grades:

	*T°C ISO/SAE	ENI	SHELL	ESSO	MOBIL	CASTROL	ВР
NMRV 025 ÷ 150 NMRV 063 ÷ 110 HW 030 ÷ 040	(-25) ÷ (+50) ISO VG320	TELIUM VSF320	TIVELA OIL S320	-	SHC 632	ALPHASYN PG320	ENERGOL SG-XP320

6. Troubleshooting

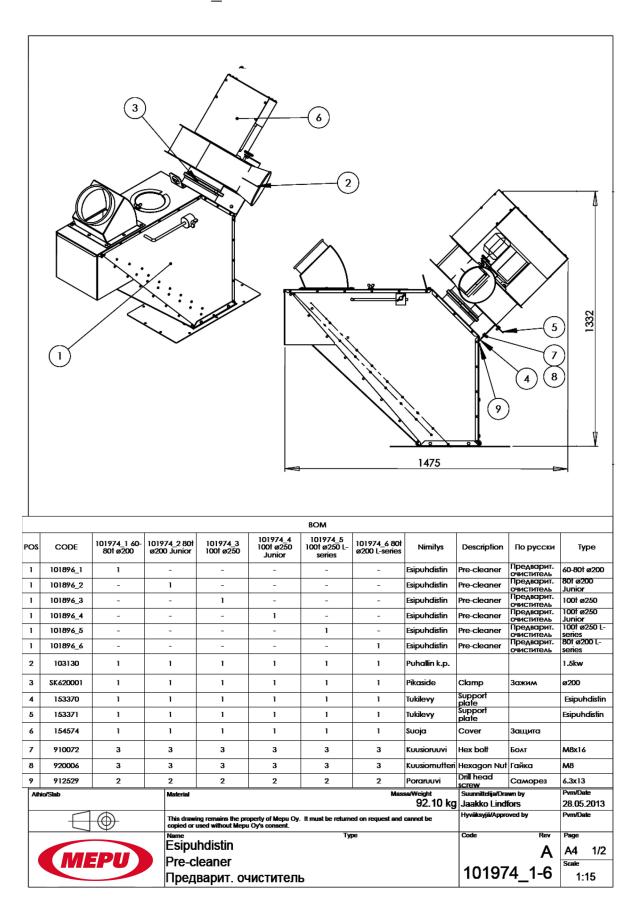
Before starting any maintenance procedures turn off main power.

PROBLEM	POSSIBLE CAUSE	REMEDY			
Pre-cleaner is	Grain bin is full	Remove grain from the grain bin.			
blocked	Grain levelling plate is too heavy	Move the weight in the L direction.			
	Air humidity condensates in the pre-cleaner / excessive air humidity	Perform the first filling with minimum grain supply. This way the grain removes the humidity from the pre-cleaner.			
Spreader	Too much grain in the bin /	Remove grain from the grain bin.			
plate motor protection trips	motor failure	Have an electrician replace the motor.			
Fan motor	Pre-cleaner is full of grain /	Remove grain from the grain bin.			
protection trips	motor failure	Have an electrician replace the motor.			
Pre-cleaner removes grain	Fan intake air setting is too high	Adjust the pre-cleaner fan damper towards 'close'.			
Too much grain accumulates in the centre	Holes in the spreader plate centre part are too large	Adjust the spreader plate base holes towards 'close'.			
Too much grain accumulates at the sides	Spreader plate holes are too small	Adjust the spreader plate base holes towards 'open'.			



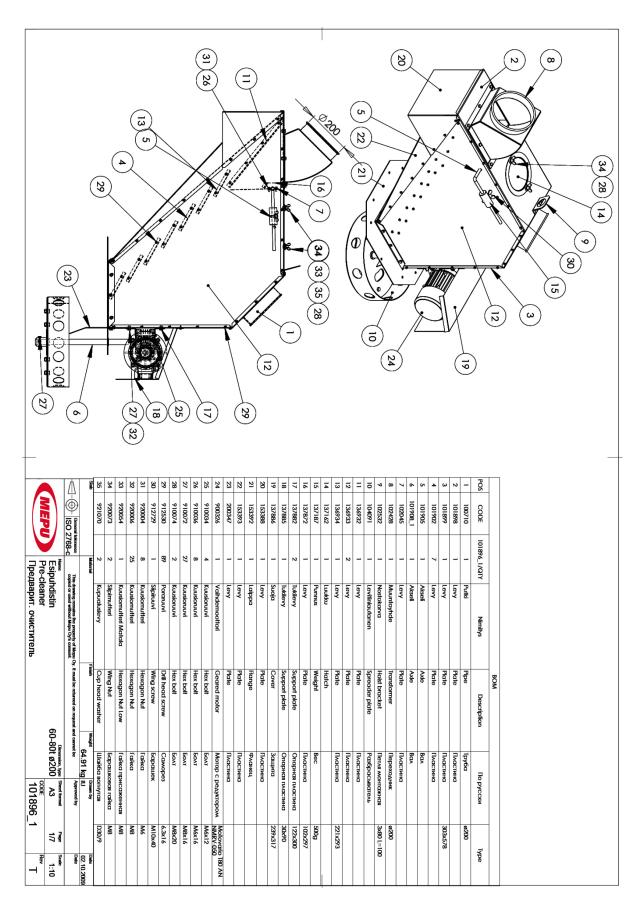
7. Spare parts

7.1. Pre-cleaner 101974_1-6



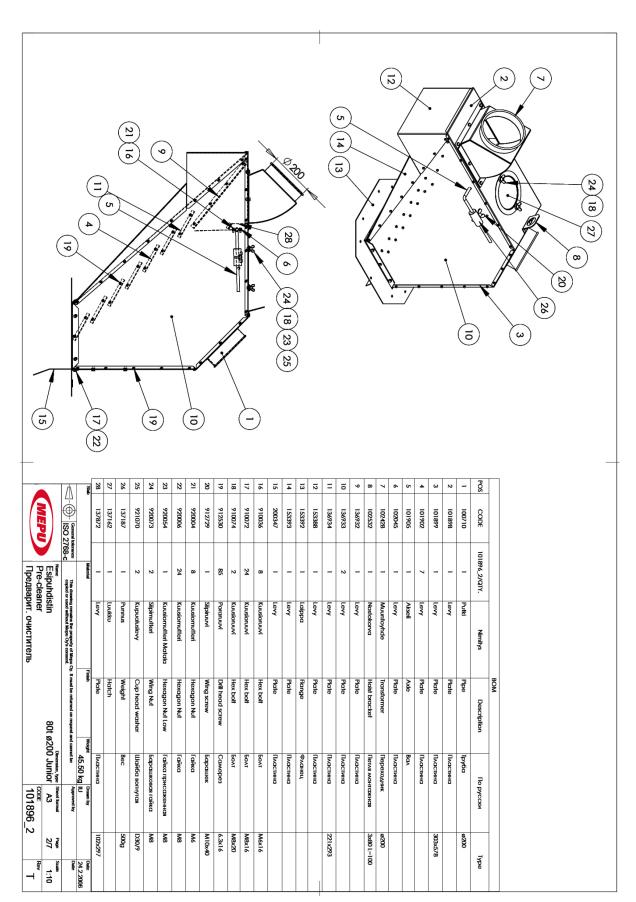


7.2. Pre-cleaner 60S+ 101896_1



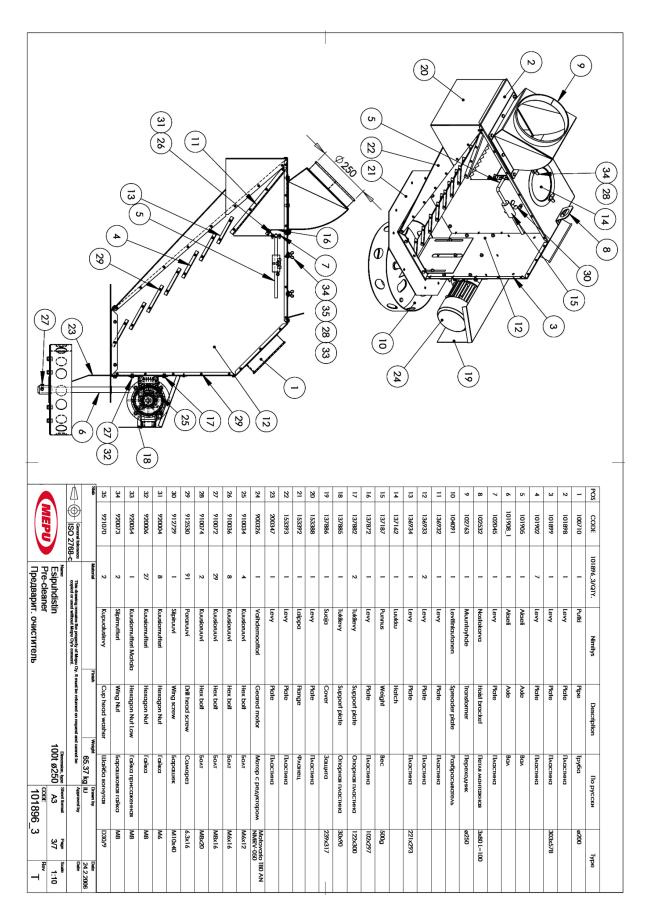


7.3. Pre-cleaner 60S 101896_2



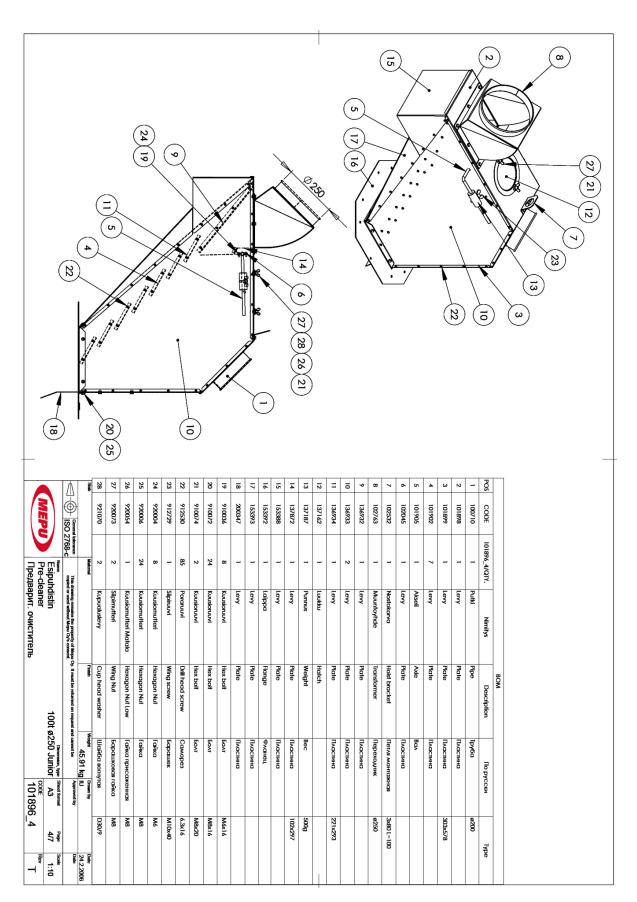


7.4. Pre-cleaner 60B+ 101896_3



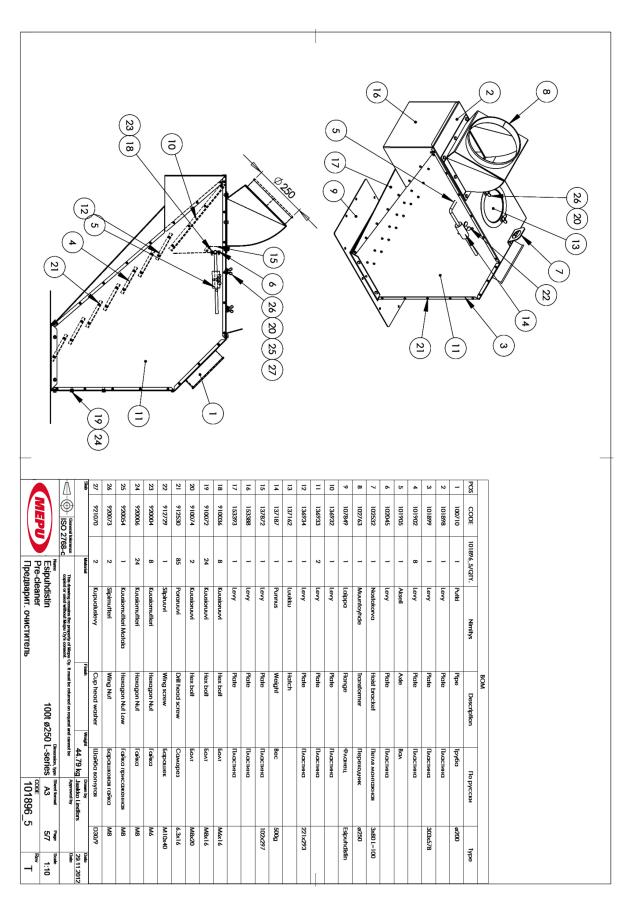


7.5. Pre-cleaner 60B 101896_4



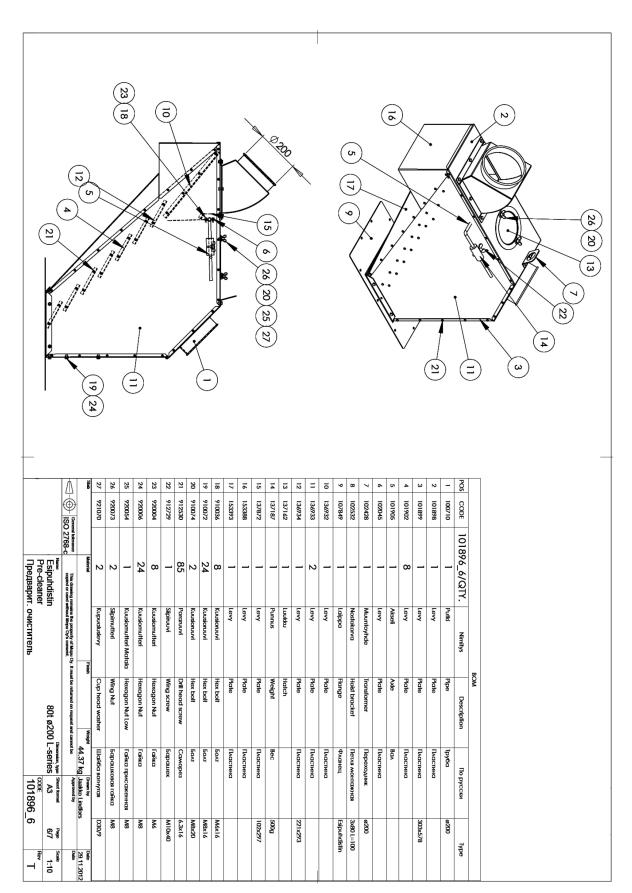


7.6. Pre-cleaner 60SC 101896_5



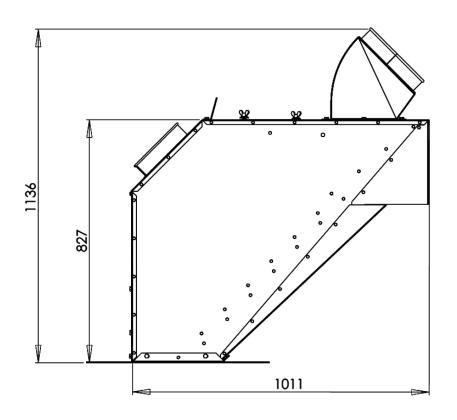


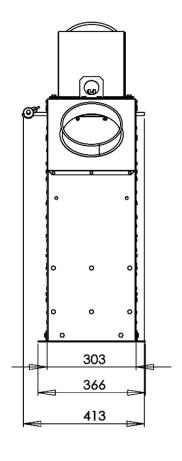
7.7. Pre-cleaner 60BC 101896_6





7.8. Pre-cleaner 60SC/60BC 101896_5

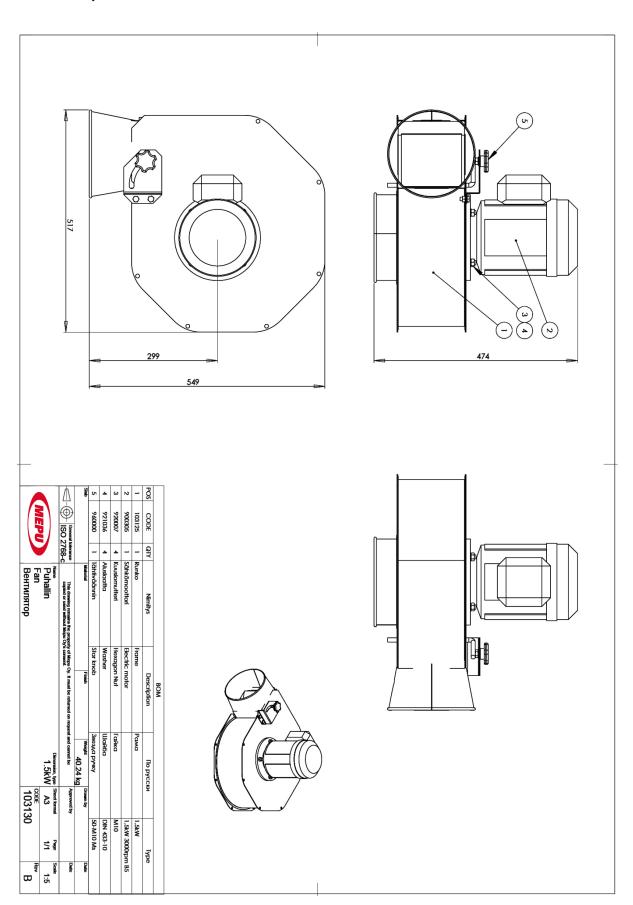




Slab	Material	Finish	Weight	Drawn by		Date
			44.79 kg	Jaakko Lindfors	;	29.11.2012
General tolerance	inis drawing remains the property of Mepu Cy, it must be returned on request and cannot be			Approved by		Date
SO 2768-c						
	Name		Dimension, type		Page	Scale
	Esipuhdistin	100t ø2	250 L-series	A3	7/7	1:10
(MEPU)	Pre-cleaner			CODE		Rev
	Предварит. очиститель			101896_	5	T



7.9. Fan 1,5 kW 103130







MEPU Ltd