PEECON

Biga Stationary cut mix tub

USER MANUAL

2026

Biga stationary cut mix tub

The main function of this document is to ensure a safe and efficient interaction between man and machine. Save this document for future reference.

Peeters Group B.V. reserves the right to change parts at any time, without prior or direct notification to the customer.

The contents of this user manual may also be modified without prior notice. warning. For information regarding setting up, maintenance work or repairs in which this user manual not provided, please contact the technical service of your supplier.

This user manual has been compiled with all possible care, but Peeters Group B.V. cannot assume responsibility for any errors in this user manual or for the consequences of which.

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2. Introduction

2.1. Preface

Congratulations on the purchase of your new Peecon Biga stationary cutting and mixing tub. With this machine you are assured of quality and reliability.

The Peecon Biga series has been developed on the basis of an extensive research and testing program. One of the main objectives was to design machines that, in terms of use, operation, safety, maintenance, and service life, fully comply with the European directives and international standards applicable to feed mixer tubs.

Before operating the machine, read this manual carefully and make sure that you understand all the information provided. This will contribute to safe operation, optimal performance, and a long service life of the machine. Always keep the manual with the machine so that it can be easily consulted.

The most recent version of this manual can be requested from your dealer. A digital version is also available at: https://peecon.com/downloads.

If you have questions or encounter problems that are not addressed in this manual, please contact your dealer or Peeters Landbouwmachines B.V.

No warranty can be given for damage resulting from incorrect operation or improper use. If you are unsure about an operating, maintenance, or repair procedure, always consult a qualified professional.

The manufacturer reserves the right to make changes to the machine without prior notice. The illustrations, dimensions, and weights in this manual may also be subject to change and are therefore not binding.

Authorized persons are persons who:

- Have acquired a certain level of knowledge through education/training (internal training specifically for the Biga feed mixer wagon) and possess the skills required to operate the machine.

Technically qualified persons are persons who:

- Are authorized and have acquired a certain level of technical knowledge (at least vocational education level) through education/training, and are familiar with the machine's technology and aware of the possible dangers and risks.
- Are authorized to adjust, operate, clean, and perform maintenance on the machine (for example, a service technician from Peeters Landbouwmachines B.V.).

2.2. Warranty and liability

In order to avoid misunderstandings, please read this manual in full. We have paid a lot of attention to the safety and functionality of your machine. Below you will find the most important information about warranty and liability.

Every machine is carefully checked at the factory to rule out material and manufacturing defects. Peeters Landbouwmachines B.V. will replace defective parts under warranty free of charge for a period of 12 months or the first 750 operating hours after delivery (whichever is reached first), with the exception of components subject to wear under normal use.

The following cases will void the warranty:

- If you deviate from the operating and maintenance instructions in this manual, without written permission from the manufacturer.
- When maintenance is not carried out according to the prescribed maintenance schedule. All maintenance work must be documented.
- When non-original parts are used in maintenance or repairs. Original parts are listed in the parts list, downloadable via https://peecon.com/downloads.
- If the user statement below is not fully completed, signed, scanned and submitted by the customer.
- If changes are made to the machine without explicit permission of Peeters Landbouwmachines B.V.
- When the machine is resold.

The warranty is limited to the supply of replacement parts and **does not** cover:

- Loss of revenue due to machine downtime.
- Transport costs to and from a workshop.
- Costs for special tools.
- Costs for mechanics.

For warranty claims, please contact your dealer. The costs of parts might initially be charged and will be reimbursed after inspection by an authorised dealer or by Peeters Landbouwmachines B.V.

User statement

Write down the following information about your machine to help you report problems and order parts.

1. Model: Biga _____ 2. Delivery date: _____

3. Machine serial number: _____

By signing, the user confirms that the manual has been fully read and understood:

Name: _____ Signature: _____

2.3. EG Declaration of Conformity

PEETERS GROUP
The Dutch innovators
Munnikenheiweg 47 | 4879 NE Etten-Leur | NL

CE

Technical documentation available on site aforementioned manufacturer.

EG DECLARATION OF CONFORMITY

Biga

The undersigned hereby certifies that the machine:

Brand:	Biga
Models:	Peecon Biga (VMW/VME/VML/VMS/VMP/VMT)
Building year:	……
Series nr:	510 . . . .
Category:	Feed mixer (Intended for mixing and spreading silage/livestock feed)

Complies with the following European directives:

- (EU) 2023/1230 — Machinery directive
- NEN-EN 703:2021 EN — Processing of silage

D.P.M. Peeters
Managing director

Location: Etten-Leur
Date: . .-. .-. . . .

2.4. Safety instructions

Improper or careless operation can lead to accidents. Therefore, read all instructions carefully, follow the safety instructions and make sure all instructions are understood. Also make sure the manuals of other machine components, such as the PTO shaft, are fully read and understood by the user of the machine.

WARNING! *The terms 'left', 'right', 'front' and 'rear' are always considered from the length of the machine, in which the platform is considered to be the front of the machine.*

In this manual, different symbols are used:

Symbol	Meaning
	WARNING FOR DANGER OR DESCRIPTION Warnings and additional information.
	TIPS AND OPINIONS Suggestions and advice to make your work easier.

Tip! *Based on the information on the VIN plate, the dealer and/or Peeters Landbouwmachines B.V. can better identify the machine. Be sure to always add this information with requests for warranty or replacement parts.*

2.5. Type designation

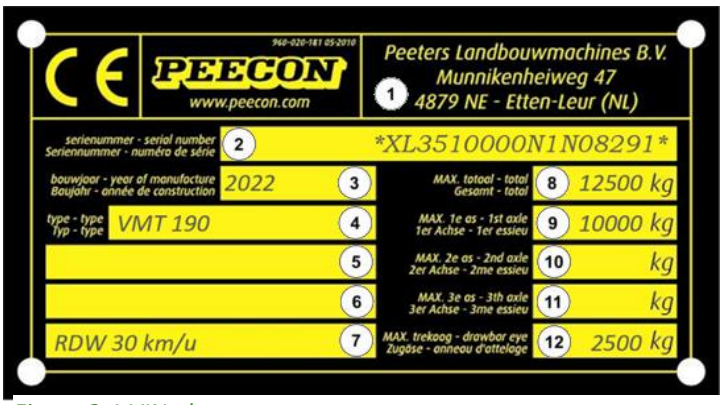
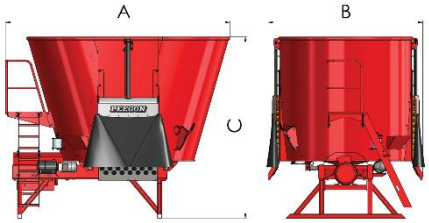


Figure 2-1 VIN plate

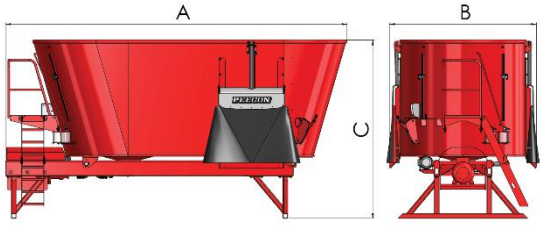
1	Manufacturer's contact details	7	Reserved for additional data
2	Serial number (identification number)	8	The maximum total weight of the machine
3	Year of manufacture of the machine	9	N/A for Biga bio cutting mixer
4	Execution of the machine	10	N/A for Biga bio cutting mixer
5	Reserved for additional data (e.g. homologation number)	11	N/A for Biga bio cutting mixer
6	Reserved for additional data	12	N/A for Biga bio cutting mixer

3. Technical specifications



Biga Stationary		6-200	7,5-200	10-200	10-230	12-230	15-245s
Capacity	m^3	6	7,5	10	10	12	15
Length	mm	3045	3575	3620	3845	4005	5565
Width	mm	2220	2220	2220	2520	2520	2670
Height	mm	2015	2265	2565	2270	2570	2570
Diameter bottom	mm	2000	2000	2000	2300	2300	2450
Weight	kg	1950	2750	2400	2625	2800	3325
Loading capacity	kg	2400	3000	4000	4000	4800	6000
Required horsepower	kW	22,5*	30*	37*	45*	45*	55*

*** required power with reductor**



Biga Bio		12-230s	15-245s	20-230s	24-230s	30-245s	40-245s	60-245s	80-245s
Capacity	m^3	12	15	20	24	30	40	60	80
Length	mm	4030	4235	6120	6230	6720	7000	9490	11970
Width	mm	2350	2500	3430	3430	3500	3500	3500	3500
Height	mm	2840	3780	2550	2840	3090	3600	3600	3600
Diameter bottom	mm	2300	2450	2300	2300	2450	2450	2450	2450
Weight	kg	5000	5900	8250	8500	10200	10800	16800	22800
Loading capacity	kg	4800	6000	8600	9600	12000	20000	30000	40000
Required horsepower	kW	22,5*	30*	45*	50*	60*	60*	90*	120*

*** required power with reductor**

4. Application of the machine

This machine is intended exclusively for the following application:

- Mixing and, if necessary, cutting the loaded feed ration.

When using the machine, you must always follow the instructions in this manual. This applies to both the operating instructions and the safety instructions provided by the manufacturer.

The electrical installation to which the stationary Biga is connected must comply with the specifications prescribed by Peeters Landbouwmachines B.V. and must be installed by a certified and qualified electrician. Pay close attention to the specifications and instructions in the manual supplied with the electric motor.

Carrying out structural modifications or extensions without the manufacturer's permission is not permitted. Such modifications may lead to unsafe situations and can cause serious or fatal injury.

The machine may only be operated when no persons or animals are present in the danger zone.

5. Important security measures

WARNING! *Please read this manual carefully before using the machine. Consult the manual if you have any questions or problems. Check that the factory settings are unchanged and that no parts have been detached during transport. Make sure that all warning signs are present and in the right place.*

5.1. General

The operator is always responsible for damage and/or accidents caused by improper use or non-compliance with safety regulations.

The Bio cut mix tub may only be used for mixing, cutting and dosing biomass. Use for other purposes is not permitted.

Before each use, check the following points:

- Carefully inspect the machine for visible damage and loose parts.
- Make sure the side doors are completely closed.
- If present, check the operation of the safety installation. Peeters Landbouwmachines B.V. is not responsible for the safety installation on the machine.
- Make sure that no loaded product can fall out or get blown out of the machine.
- Check that no one is in the hazard zone of the machine.
- Never exceed the maximum load and load volume (as indicated on the VIN plate).
- Study the safety instructions.

WARNING! *We draw your attention to a number of situations where extra caution is required, to ensure your own safety and that of others in the area.*

The following situations require extra caution:

- Always look around the machine before turning it on.
- Pay extra attention to people, animals and especially children that could enter the hazard zone.
- Ensure good visibility while working.
- It is forbidden to enter or reside on the platform of the machine when de augers are driven.
- Do not enter the hazard zone of the machine when the machine is switched on.
- Do not enter the bio cut mix tub. The augers have razor-sharp blades that can cause serious injury.

In addition to the instructions in this manual, please adhere to the generally applicable safety and accident prevention regulations. Get familiar with all systems, controls and their functions before using the machine.

- Check the state of the safety features on the machine before each use, both before loading and before mixing.
- If your machine is equipped with a PTO shaft, please read the PTO shaft manual carefully before using the machine.
- Always wear tight-fitting clothing and avoid loose-fitting garments, as these can get caught on the rotating components of the machine.
- Keep in mind that the augers may continue to spin for some time after turning off the machine.
- The machine may only be operated by one person at a time.
- Secure the machine before leaving the operating position: turn off the main switch and lock it with a (pad) lock.
- Do not come near rotating parts when the machine is in operation.
- Only work with machines whose protective shieling is complete and intact.
- Repair any damage or wear to the paint immediately before working with the machine. If the machine is still covered by the warranty, please contact your dealer or the manufacturer first before repairs are carried out.
- Regularly check the condition of the hydraulic hoses. Replace damaged hoses directly with ones that are SAE 100 R2A or DIN 20022/2 certified.
- Never attempt to seal leaks in a working hydraulic system by hand. Oil can penetrate through the skin and cause blood poisoning.
- Clean, lubricate or maintain the machine only when it is completely switched off and locked. To make the machine safe to work on the main switch should be turned off and locked in the off position.
- The operating position must always be occupied during operation.
- Turn off the electric motors as soon as the mixing tub is completely turned off, to avoid unnecessary wear and energy consumption.
- Check the knives and bolts of the auger weekly for excessive wear. Loose blades that end up in the biomass product can cause dangerous situations.

5.2. Hazard zone

No one should be in the hazard zone while the machine is in use.

- Sides: maintain a minimum distance of 5 meters
- Front and rear: maintain a minimum distance of 5 meters

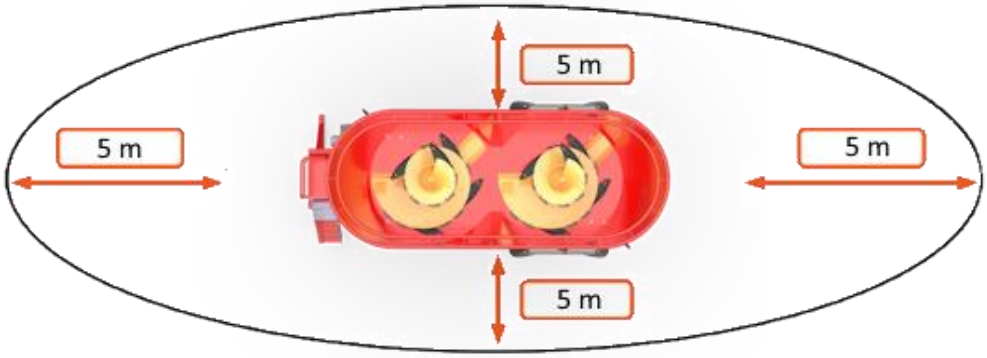


Figure 5-1 Hazard zone

***WARNING!** It is forbidden to step onto the platform while loading or unloading the mixing tub.*

The machine produces less than **80 dB(A)**. Hearing protection is not mandatory, but may be recommended depending on ambient noise. Make sure hearing protection is always available.

5.3. Requirements of the foundation

The required foundation depends on the specific soil on which it will be placed. The foundation requirements mentioned below serve only as an example. Peeters Landbouwmachines B.V. is not responsible for the foundation of the machine, always consult a licensed and competent contractor or installer.

5.3.1. Stable soil

Stable soil, such as compacted sand, is considered a good surface to build on. As a result, the foundation requirements are lower than for other soil types.

	MINIMUM REQUIRED
THICKNESS	300 mm
QUALITY	C30/37
SUBSTANTIATION	300 mm mixing granulate
REBAR	Double Ø10-Ø14 mm top and bottom, with areas thickened under the legs with Ø16 mm reinforcement
ANCHORING	M16x250 8.8 Chemical or collapsed

5.3.2. Unstable soil

Unstable soil, such as (soft) clay soil, is considered a poor surface to build on. As a result, the foundation requirements are higher than with other soil types.

	MINIMUM REQUIRED
THICKNESS	350-400 mm
QUALITY	C30/37
SUBSTANTIATION	300 mm mixing granulate
REBAR	Double Ø12-Ø16 mm top and bottom, with areas thickened under the legs with Ø16 mm reinforcement
ANCHORING	M16x300 8.8 Chemical or collapsed

5.4. Installing the machine

Important safety requirements regarding the installation of the machine:

- When lifting the machine, only lifting equipment suitable for the machine weight should be used. The weight of the machine is stamped on the VIN plate of the machine.
- Ony Lift the machine at the indicated lifting points.
- The anchoring of the machine may only be carried out with the prescribed fastening materials.
- The foundation on which the machine will be placed must meet the foundation requirements for the application and soil type.

> ***WARNING!*** *The prescribed lifting points are the only points at which the machine can be lifted safely. When other lifting points are used, dangerous situations can arise. The machine can also be seriously damaged when using the wrong lifting points.*

5.5. Lifting and lashing points

Depending on the specific cutting mixer, the lifting and lashing points can be found at different positions. Suitable points are always marked with a sticker, as seen in Figure 5-2. Inappropriate lifting point are marked with the stickers like Figure 5-3. The machine can be severely damaged when these points are used as lifting or tie down points. An overview of the possible locations for the lifting and tie down points can be seen in Figure 5-4. The chassis can be used to tie down the machine during transport.

Figure 5-2 suitable lifting point

Figure 5-3 Unsuitable lifting point

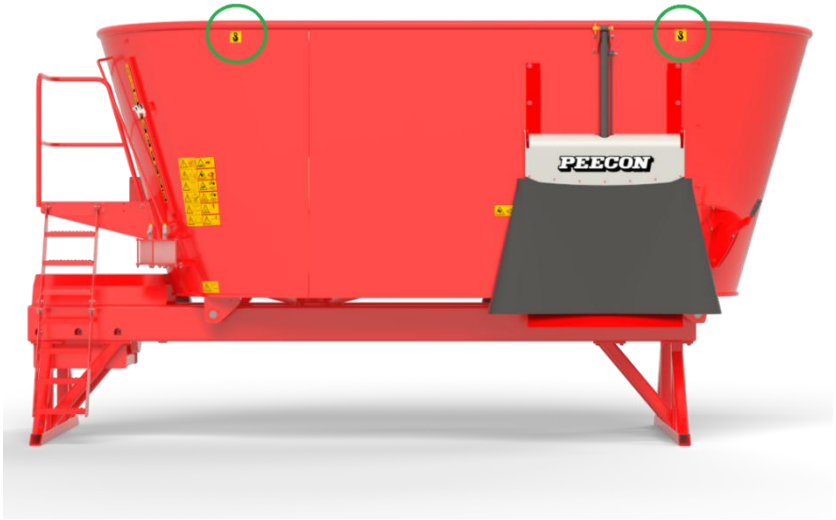


Figure 5-4 Possible locations for suitable lifting points

5.6. Connecting the machine

Important safety instructions regarding the connection of the machine:

- Connect the machine's electrical system in accordance with locally applicable regulations and standards.
- The Peecon Biga stationary cutting-mixing tub is supplied without an electrical connection or motor control. Connecting these may only be performed by a certified and qualified installer. Peeters Landbouwmachines B.V. is not responsible for the machine's electrical installation.
- The electrical installation must comply with the requirements specified in the supplied manual of the electric motor.

5.7. Using the machine

- Wear close-fitting clothing. Loose clothing increases the risk of entanglement.
- Familiarize yourself with all components and operating functions before starting work.
- Only operate the machine if all protective covers and safety devices are correctly installed and closed.
- Do not allow any persons near the machine during operation.
- Never exceed:
  - The maximum permitted loading volume.
  - The maximum permitted load weight.
  - The maximum permitted electric motor power.

***WARNING!** Always check the danger zone for the presence of people before switching on and operating the machine.*

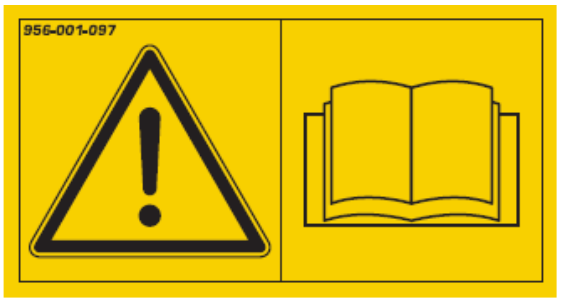
5.8. Safety symbols

Your stationary cut mix tub is equipped with safety and warning labels. These indicate where risks are present, despite the machine's safe design.

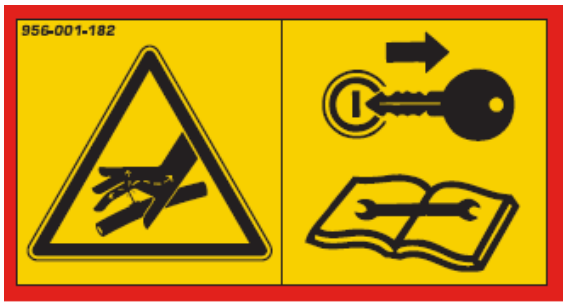
Always read the manual before operating the machine. Regularly check that the labels are present and clearly readable. If they are damaged or illegible, do not continue using the machine and have the labels replaced by your dealer.

WARNING!** To ensure safe operation for every (new) user, the labels must always be clean and clearly legible. If damaged, they must always be replaced. **Warning stickers are available through your dealer.

5.8.1. . Explanation of safety symbols



Before commissioning, read and observe the manual and safety instructions.



These hoses can cause personal injury and environmental damage. Work on the hydraulic system only when it is completely depressurized.

Touching rotating shafts and wearing loose clothing create a risk of entanglement and being pulled into rotation with the shaft.

It is prohibited to stand on or underneath the machine while it is operating or moving. During loading, no one is allowed to stand behind the mixer wagon.

It is strictly prohibited to climb onto or step onto the platform. Do not allow anyone to load the machine manually from the platform (risk of falling in).

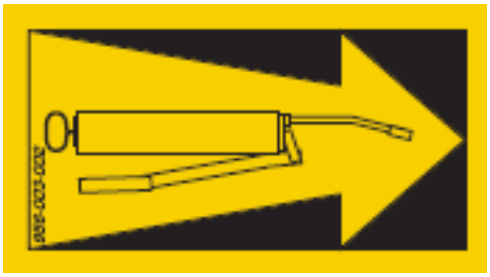
Check the lubrication points every 10 operating hours to prevent wear and high repair costs. Use the specified type of grease. If in doubt, contact your dealer.

It is not recommended to compress the load inside the mixing chamber. Doing so may cause damage or malfunctions to the tractor or the machine.

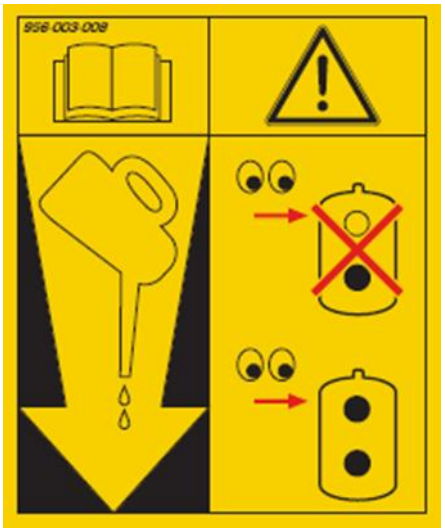
Keep a safe distance from rotating parts. Always switch off the machine and remove the ignition key before performing any maintenance.

Driving forward with the PTO engaged is permitted. Reversing is only allowed with the PTO disengaged, unless a reversible PTO is used (pay attention to the direction of rotation).

Risk of entanglement and cutting hazards near the mixing chamber. Stay away from the discharge opening. Always remove the ignition key and disconnect the PTO before performing any work.



One or more lubrication points are located here. Lubricate them according to the maintenance schedule.



Ensure that the oil level in the planetary gearbox is visible in the upper sight glass (applicable only to models with a steel oil reservoir).

Ensure that the oil level in the planetary gearbox is above the minimum and below the maximum level (applicable only to models with a transparent plastic oil reservoir).

This is a lifting point. Use only these points to lift the machine.

Not a lifting point. Do not attach cables, chains, or any other lifting equipment here. Doing so may cause damage to the machine.

The position of the (front) discharge door(s) can be read on the side of the tub via the indicator and the corresponding decal. At position “0,” the door is closed; at position “9,” it is fully open.

The position of the rear discharge door(s) can be read on the front of the tub via the indicator and the corresponding decal. At position “0,” the door is closed; at position “9,” it is fully open.

5.8.2. All possible safety symbols on the machine

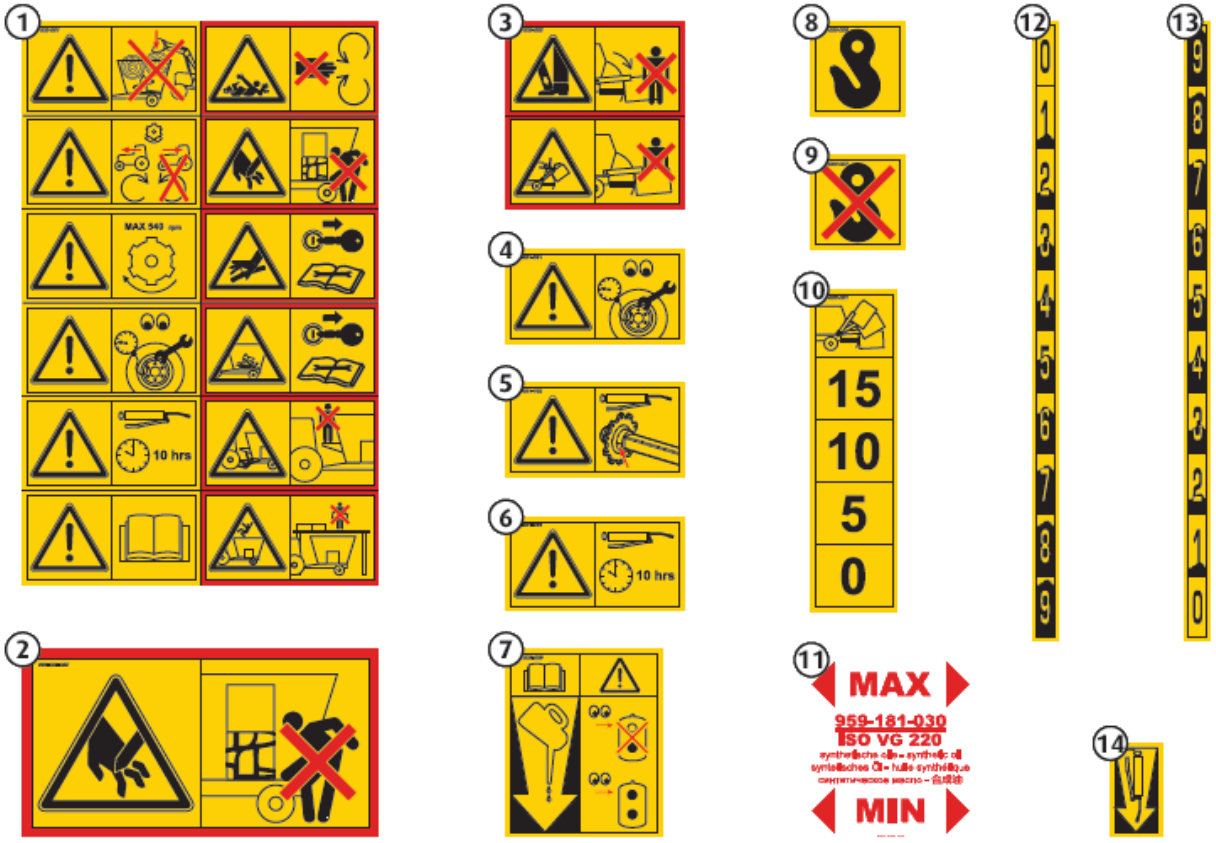


Figure 5-5 All possible safety symbols on the machine

Figure 5-6 Safety symbols on a Biga stationary cut mix tub

5.9. Extreme conditions

This section describes extreme conditions. If you encounter such situations, be aware that the system may malfunction.

The recommended operating and ambient temperature is between **-30 °C** and **+40 °C**. When operating at lower temperatures:

- Wear of hydraulic seals increases.
- The risk of damaged hydraulic hoses and brittle fractures in the steel structure is higher.
- Important measure: at low temperatures, only load the machine with lighter loads than normally permitted.

Before starting work at low temperatures:

- Allow the oil to circulate through the system for several minutes.
- Perform all operations slowly and repeatedly so that the seals become flexible before being subjected to full pressure.

When working in extremely hot conditions:

- Be aware that the hydraulic oil can become very hot.
- If the oil temperature exceeds +80 °C, the oil may evaporate and the seals can be damaged.
- If the electric motors driving the augers become too hot, they may fail or deliver reduced power. Also, avoid touching the electric motors during or shortly after use, as this can cause burns.

6. Functioning of the machine

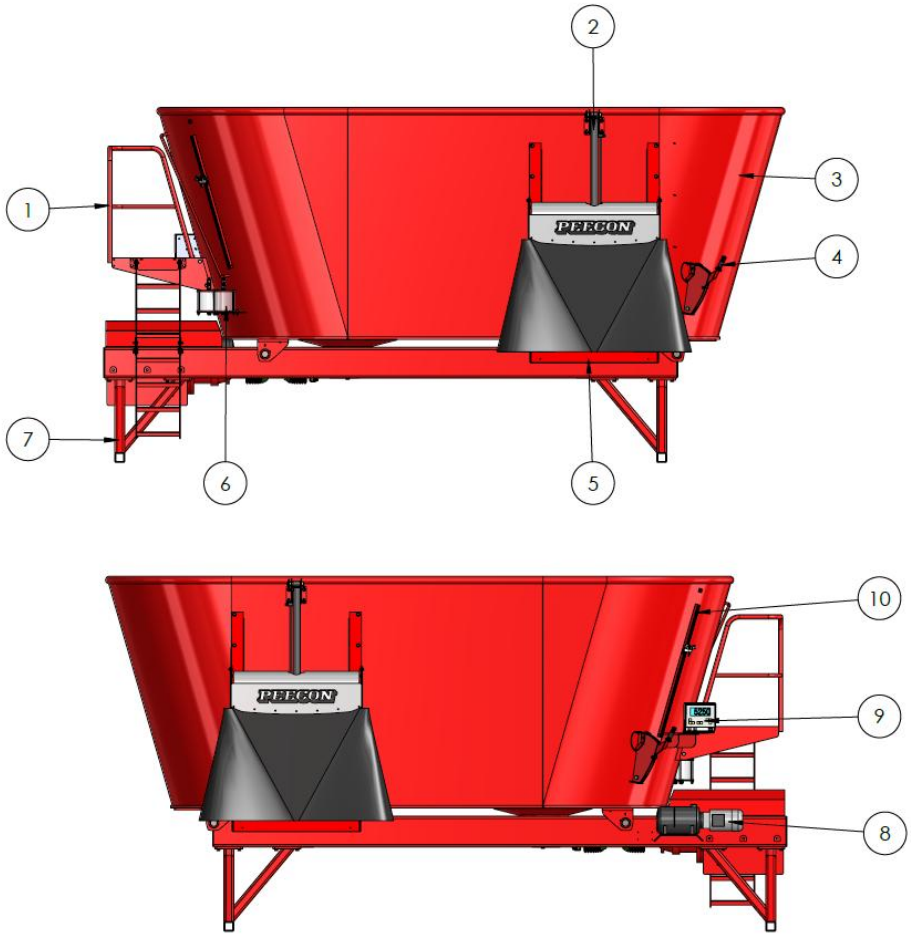
The various feed components are loaded into the machine. The order and speed of loading are essential for achieving a proper mixing process.

In the mixing chamber, the feed is reduced in size by the cutting action of the blades on the rotating auger. Depending on the structure of the components, additional counter-blades on the outside of the mixing chamber can be engaged to accelerate the cutting process.

The shape and rotation of the auger push the feed upwards and guide it back down along the wall of the mixing chamber. Filling the chamber to approximately 90% of its capacity provides the most efficient mixing result.

Once the mixing process is complete and a homogeneous mixture has been achieved, the feed can be discharged by opening the discharge doors. The amount of mixture released can be controlled by moving the discharge doors up or down until the desired output is reached.

Depending on the options selected, the machine may be equipped with a discharge conveyor, which can transport the feed to the further feeding system.



1	Platform	6	Auger drive oil reservoir
2	Hydraulic discharge door cylinder	7	Support leg
3	Mixing chamber	8	Hydraulic functions drive
4	Counter-blade control lever	9	Weighing system display and control panel
5	Discharge door	10	Discharge door position indicator

7. First commissioning

7.1. Chassis

Depending on the configuration of your machine, the number of augers, type of chassis, drive system, and method of discharging the feed mixture may vary.

A Biga stationary cutting-mixing tub can be equipped with one, two, or three augers. There are two different types of augers (see Chapter 9.4). However, for stationary cutting-mixing tubs, only the Type 2 auger is used.

Chassis configurations are divided into two groups.

7.1.1. Self-supporting Chassis

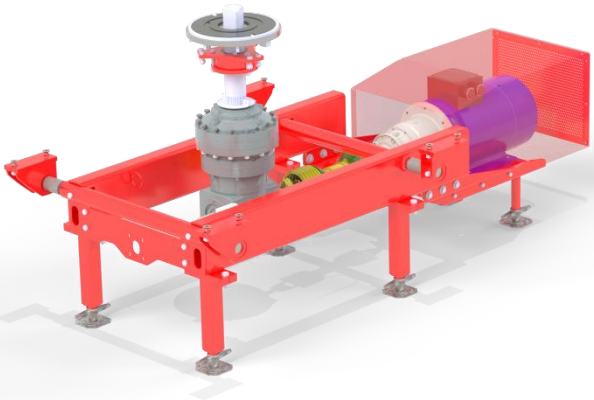
A self-supporting box-type chassis on which the tub is mounted. The entire tub, including the auger drive, rests on 4 to 10 load cells, depending on the size of the tub and the number of augers.

Characteristics of the free-standing discharge chassis:

- One or two electric motors
- Adjustable or fixed legs of various lengths
- Always indirect auger drive

7.1.2. Individual Chassis per Auger

Each auger is supported by its own chassis. The entire tub rests on 4 load cells per auger. Each auger is driven by its own electric motor.



Characteristics of the individual chassis per auger:

- Four load cells per auger
- Each auger is powered by its own electric motor
- Augers can be driven either directly or indirectly

7.2. Power Take-Off (PTO) shaft

WARNING! *Only use a PTO shaft with a complete, intact and properly secured protective cover. Always check that the PTO shaft is installed correctly.*

The auger drive of the Biga cutting mixer can be driven directly or indirectly. **Only the indirect drive** uses a PTO to connect the electric motor to the planetary auger drive.

It is important that the PTO shaft length is checked while installing the PTO shaft in the indirect auger driveline. This is also important the PTO shaft is replaced. The following steps must be followed to check and correct the length of the PTO shaft:

1. After connecting, check the length of the power take-off. The outer pipe must still have at least **15 cm of glide space.** If necessary, shorten the power take-off as follows:
2. Pull the axle halves apart and place them side by side in the shortest operating position of tractor and implement.
3. Draw the outer protective tube at the correct length.
4. Disassemble the protective tubes and cut off the registered part.
5. Shorten the inner tube to the same length.
6. Shorten the outer and inner profile tube to the same length as the sawn-off protective tube. Make sure they are cut perpendicular to the length of the shaft, then burr them off and clean any remaining metal shavings.
7. Lubricate the inner profile.

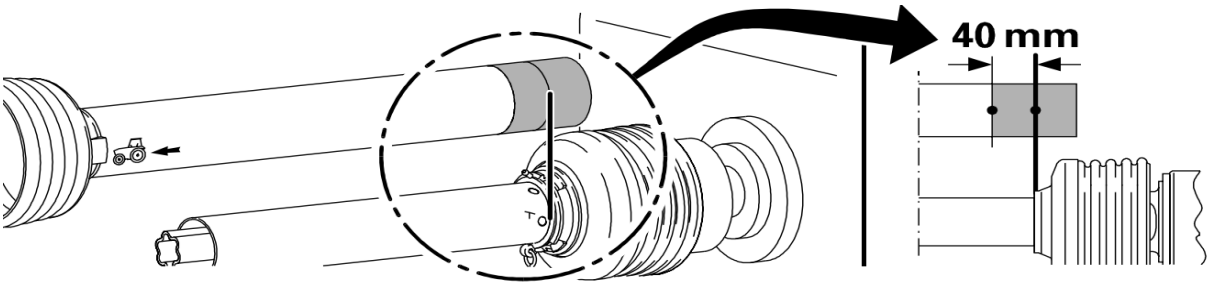


Figure 7-1 PTO shaft

In case the PTO shaft is equipped with a shear bolt, it has to be installed on the end that connects to the machine. Clean all parts and apply grease, before assembly.

7.3. Hydraulic hoses

The Bio cut mix tub is equipped with one hydraulic cylinder per unloading door. The control system for this cylinder must be designed and connected by an approved and certified installer. Peeters Landbouwmachines B.V. is not responsible for the hydraulic system on the Bio cut mix tub.

7.4. Electric motor

The stationary cutting mixer comes standard with one or more electric motors. The power and number of these electric motors depends on the specific version of the bio cut mix tub. The manual of the electric motor is supplied with the machine. Consult this manual for the motor and connection specifically.

7.6. Weighing system

The bio cut mix tub is equipped with an i.FeedGood M 3030 weighing computer as standard. This computer is connected to the loadcells, so that it can accurately measure the load in the mix tub. This weighing computer is equipped with an analogue signal, ranging from 4 mA to 20mA. This signal corresponds to the measured weight in the cut mix tub.

Figure 7-2 Peecon control interface i.FeedGood weighing computer (left)

The connection for this signal is provided via an M12 5-pin female connector. The pin layout is shown in the table below. More information can be found in the manual supplied with the i.FeedGood system.

4-20 mA signal	
Pin	Function
1	+12/24 V (max 200 mA)
2	Signal output
3	0 (12/24 V)
4	Not connected
5	Not connected

7.7. Long-term storage of machine

In case the machine is decommissioned for more than 1 month, special preparations should be carried out.

- Clean the machine well, including the inside of the cut mix tub. Please note the regulations that apply when cleaning the machine.
- Carry out the complete lubrication procedure of the machine, with the prescribed lubricants.
- Blank pieces of metal must be greased.
- Grease piston rods of hydraulic cylinders to prevent corrosion

8. Using the machine

Always check that the machine is in good condition before using it. Check that all hydraulic hoses and the electrical connection are properly connected and functioning. Also check the oil level of the planetary drive, the optional fluid coupling and pay attention to any damage to parts. Once you have checked this, you can turn on the machine.

For safe operation, you should pay extra attention to the following points:

- Inspect the entire machine for visible cracks or deformations.
- Inspect the foundation of the machine for cracking and damage and check that the anchor bolts are tightened to specification.
- Check if the discharge door opens and shuts.
- Test the machine functions, including the hydraulic functions, for any defects.
- Check the hydraulic hoses and lines for signs of leaks or damage. Make sure that the flexible hydraulic lines are not getting caught or stuck in parts of the machine, as this can damage the hydraulic lines.
- Check the hydraulic cylinders for signs of leaks.
- Inspect the rubber flaps at the discharge door for cracks and tears. The discharge door is only safe to use when the rubber flap is present and intact.
- Make sure there is enough oil for the hydraulic system.
- Check the oil level of the planetary drive. The minimum and maximum level is indicated on the corresponding oil tank.
- If applicable, check whether the conveyor belt functions correctly.
- Inspect the bolt connections on the auger. Pay extra attention to the bolt that connect the knives to the auger.

WARNING! *The auger knives are razor sharp. It is possible that the bolts that connect the knives to the auger can loosen up. These knives can cause dangerous situations when they end up in the animal feed!*

WARNING! *Never use the machine when people or animals are in the hazard zone. The machine may only be operated by one qualified person at a time.*

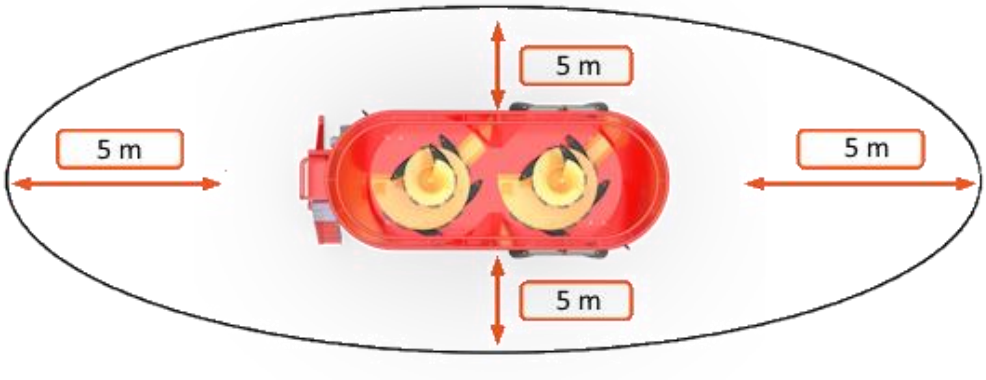


Figure 8-1 Hazard zone

8.1. Control system

The Peecon Biga stationary cut mix tub does not come with a control system. This must be designed and installed on the machine by an approved and certified installer. Peeters Landbouwmachines B.V. is not responsible for the control system or installation of the machine.

8.2. Loading

Ensure that no people are present in the immediate vicinity and that there is sufficient space to maneuver the machine used to load the feed components.

Never fill the mixing chamber completely to the top edge. This causes excessive load on the drive system and reduces the quality of the mixing process. The exact permissible fill height depends on the model you are using. While filling, make sure that the attachment does not come into contact with the augers or the mixing tub.

During loading, the augers may rotate at a maximum speed of 20 rpm while the feed components are being added. Large quantities of feed, such as full bales, must not be tipped in all at once but added in portions. This reduces the required power and saves energy. Always tip the feed gradually and from the lowest possible height to minimize peak loads on the augers.

8.2.1. Load order

For an efficient mixing process, light components should be loaded first and the heaviest components last. In this way, the heavier materials can sink through the mixture more quickly. In practice, however, it may be desirable to deviate from this order, for example when using specific feed components.

The sequence below serves as a general guideline:

1. Start by loading long or lighter, structure-rich products such as hay.
2. Then add concentrates or pelleted feed.
3. If applicable, minerals can now be added.
4. Next, load grass silage.
5. This is followed by maize and/or grain silage.
6. Finish with products that have a high moisture content, such as brewers' grains, beets, or orange peels.
7. Liquid components such as molasses may be added last, if required.

8.3. Mixing

The duration of the mixing process largely depends on the composition of the feed mixture. The guideline below can be adjusted based on experience to achieve an optimal result:

1. **Mixing time:** After loading the feed components, allow the machine to mix for an additional 5 to 8 minutes until a homogeneous mixture is obtained.
2. **Counter knives:** Engage the counter knives if necessary to achieve a higher cutting intensity.
3. **Speed:** During mixing, the augers should rotate at a speed of 20 to 30 rpm.

8.4. Unloading

1. Check whether the auger drive is engaged and switch it on if necessary.
2. Switch on the conveyor belt (optional) at the correct speed.
3. Open the discharge door. By varying the height of the slide, you control the rate at which the feed is discharged. The height can be read on the indicator.
4. Select the correct discharge speed to distribute the feed evenly.
5. When the mixing chamber is almost empty, the auger speed can be increased to remove the remaining feed.
6. Switch off the conveyor belt (optional).
7. Switch off the auger drive.
8. Close the discharge door completely.

WARNING! *After disabling the auger drive, the augers and the corresponding driveline can continue to rotate for some time.*

9. Maintenance of machinery and personal protective equipment (PPE)

Maintenance is essential for efficient functioning of the cut mix tub and extends the service life of the machine. Always use the prescribed personal protective equipment (PPE) when working with or on the machine.

Before performing any maintenance, cleaning or repair work, ensure that the following safety measures and PPE are met:

- The main switch of the machine is switched off and locked in the off position.
- The residual pressure in the hydraulic system has been released.
- A safe working environment has been created.
- You are wearing the required personal protective equipment: working gloves, safety glasses and safety shoes.

Work may only be carried out by qualified personnel who have read and understood all operating and safety instructions in this manual.

9.1. Maintenance intervals

○ = check/lubricate/refill ● = replace	For every use	Every week	First 10 hours	First 150 hours	Every 8 hours	Every 25 hours	Every 50 hours	Every 100 hours	Every 250 hours	Every 1000 hours	Every year
1: Check for damage or excessive wear	○										
2: Lubricate universal joints PTO shaft(s)								○			
3: Inspect hydraulic hoses and lines		○									○
4: Check and tighten bolts and nuts			○						○		
5: Lubricate the PTO shaft							○				
6: Oil planetary reductor auger	○		○	●			○			●	●
7: Regrease the machine					○						
8: Visually check auger knives		○							○		
9: Hydraulic oil			○							●	●
10: Cleaning discharge belt (optional)		○									
11: Clean hydraulic cylinders							○				
12: Oil fluid coupling										●	●
13: Oil electric motor reductor				●						●	●
14: Check and regrease electric motor											○

9.2. Specifications liquids

WARNING! *Use of unspecified oil may void the warranty of the affected components.*

	Type	Quantity	Article number
Oil planetary reductor auger	ISO VG 220	± 20 Liters	959-181-025

9.3. Auger drivelines

9.3.1. Indirect drive

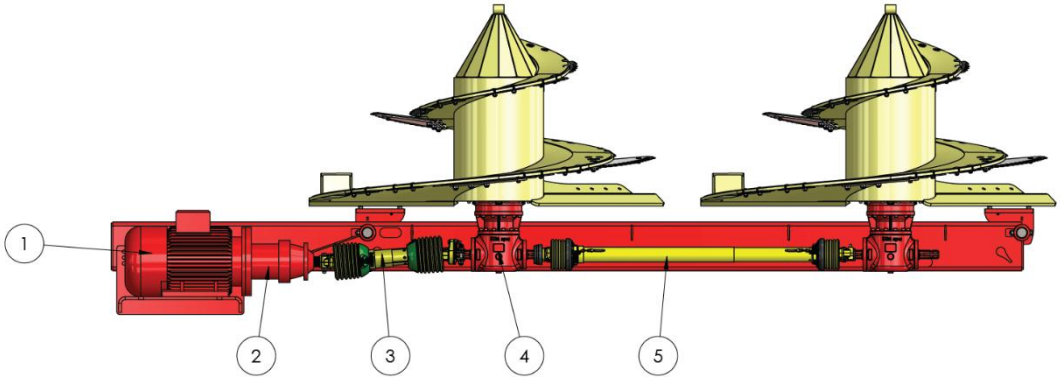


Figure 9-1 Indirect auger driveline

1	Electric motor	4	Planetary auger reductor
2	Reductor gearbox electric motor	5	Long PTO shaft
3	Short PTO shaft		

9.3.2. Direct drive

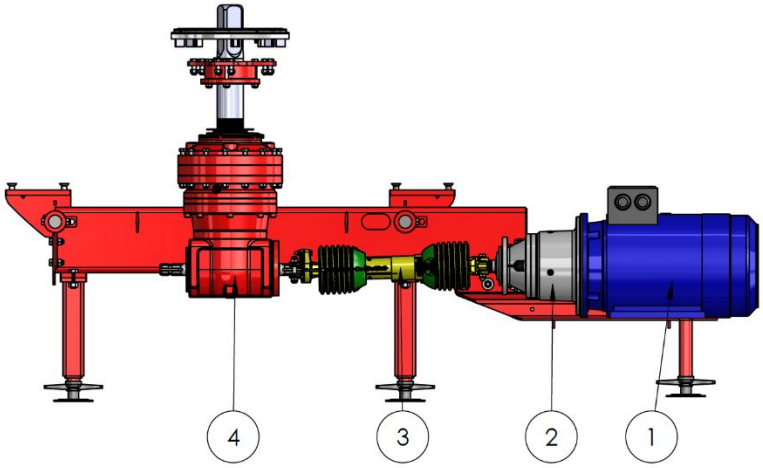


Figure 9-2 Direct auger drive

1	Electric motor	3	Short PTO shaft
2	Reductor gearbox electric motor	4	Planetary auger reductor

9.3.3. Planetary auger reductor

Type of oil	Synthetic oil EP220
Amount of oil per auger reductor	± 20 Liters
Service interval	Refer to the maintenance intervals mentioned in chapter 9.1

The planetary reductor gearbox, on which the augers are mounted, is filled with synthetic oil. This oil ensures the lubrication of the gears and bearings inside of the gearbox.

According to the maintenance interval, the oil must be replaced at least **once every 2 years** or after a maximum of **1,000 operating hours.** Regularly check the oil level: the level should never fall below the minimum indicated on the reservoir. Add oil as soon as the level in the reservoir starts to approach this line.

Type 2 augers (see Chapter 9.4.2 Auger type 2) use a plain bearing at the top of the gearbox. This plain bearing needs to be lubricated with grease. This is done at the centralized grease nipple mount.

Figure 9-3 Oil reservoir planetary reductor gearbox

Both types of planetary reductor gearbox are equipped with an oil drain plug (1) at the bottom, as can be seen in **Fout! Verwijzingsbron niet gevonden.** and **Fout! Verwijzingsbron niet gevonden.**. The old oil can be drained ou t through these plugs.

To change the oil, firstly all the old oil needs to be completely drained out of the reductor gearbox. Blow any remaining old oil out of the lines using compressed air. Be sure to collect and dispose of the waste oil in accordance with applicable local laws and regulations.

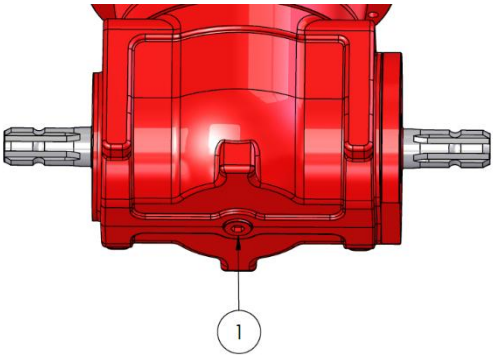


Figure 9-5 Planetary gearbox EC3320/FE

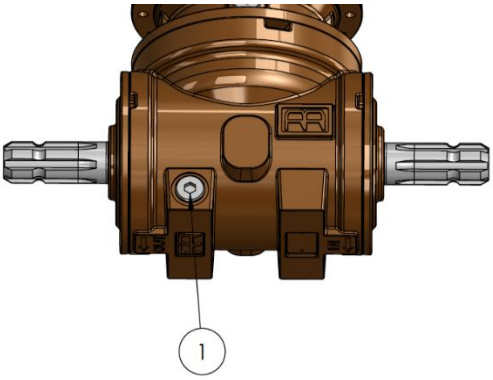


Figure 9-4 gearbox RR1800

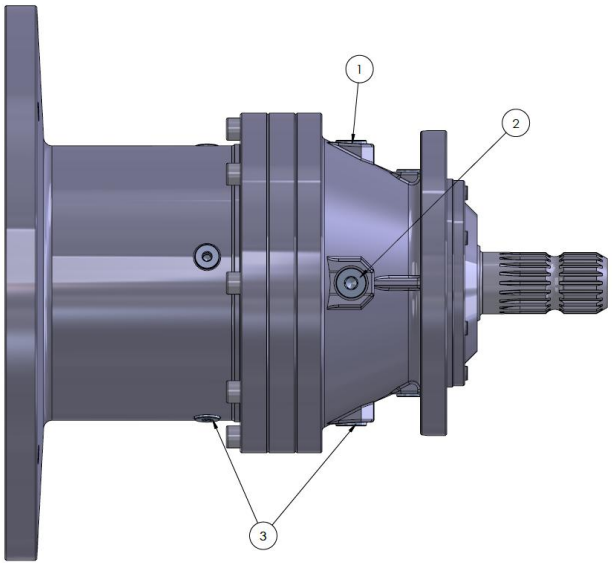
When the gearbox is fully drained, reinstall the drainplug and refill with the prescribed type and amount of oil. Make sure that the gearbox is fully filled and no air gap is left in the top of the housing. You can check this by connecting a vacuum pump to the vent hose on top of the gearbox. As soon as oil comes through the hose, the housing is fully filled and the gearbox oil is successfully changed.

WARNING! *Deviating from the prescribed oil type may void the warranty on the affected components.*

9.3.4. Planetary reductor electric motor

In the case of an **indirectly driven auger,** the gearbox at the front of the electric motor is lubricated with oil. The prescribed oil is the same as that for the planetary auger drive. For further technical information, please refer to the supplied RR manual.

Type of oil	ISO VG 220
Amount of oil	0,9 Liters
Service interval	Refer to the maintenance intervals mentioned in chapter 9.1



1	Fill plug
2	Level plug
3	Drain plug

Oil change

Start by opening the fill plug (1) and the drain plug (3) and let all of the oil drain out of the housing. When all the oil has drained out, retighten the drain plug (3). To start refilling the planetary gearbox the level plug (2) needs to be opened. Start filling the gearbox by adding oil to the fill plug (1) opening, until oil starts to come out of the level plug (2). First retighten the level plug (2) and then the fill plug (1). The oil in the gearbox has now been changed correctly and the reductor is now ready to use again.

9.3.5. PTO shafts

The gearboxes of the **indirectly driven** auger driveline are interconnected with a PTO shaft. The number of drive shafts on the machine depends on the number of augers the machine is equipped with. The universal joints at both ends of the axles needs to be regreased after every 100 operating hours.

PTO shafts and their components must meet specific requirements, in order to guarantee a safe and optimal working order. Please contact your dealer or Peeters Landbouwmachines B.V. directly for replacement PTO shafts and components.

Type of grease	Texaco Multifak Premium 3
Service interval	Refer to the maintenance intervals mentioned in chapter 9.1

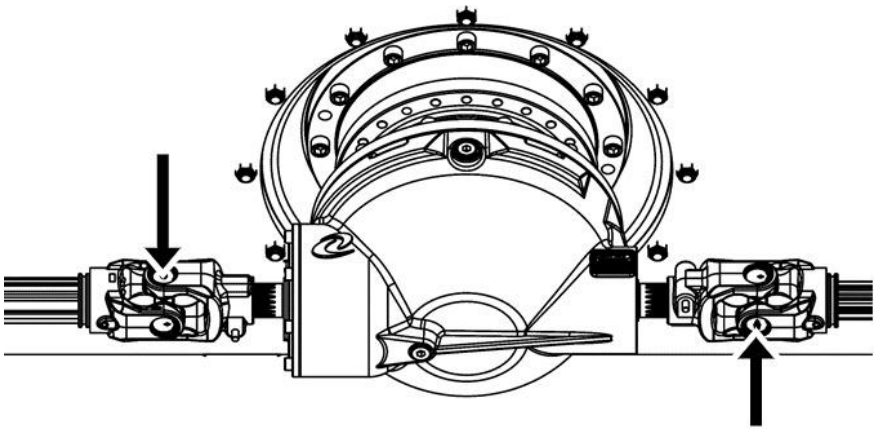


Figure 9-6 Grease points on the PTO shaft

9.4. Wear rim

The machine can optionally be equipped with a sacrificial wear rim. This is an additional metal surface on the inside of the mixing chamber, which protects the mixing tub from wear and tear. This wear rim can be made of different materials and can therefore have a wide ranging lifespan, depending on the specific process of which the machine is part.

If the wear rim is worn down too far, it can come loose and cause serious damage inside the mixing tub. It is therefore important to inspect the condition of the wear rim on a weekly basis. Pay particular attention to the parts of the wear rim closest to the bottom of the mixing tub and near bends, as these locations are subject to the heaviest wear and tear.

Also pay close attention to the fasteners of the wear rim. The wear rim can be bolted or welded in place. When these connections experience excessive wear, the wear rim can come detached. This can cause serious damage to the bio cut mix tub and the augers.

9.5. Augers

> ***WARNING!*** *Always verify that the machine is turned off and that the main switch is locked in the off position before entering the mixing chamber. Secure the machine and make sure that no one can turn on the machine.*

The auger knives are sharp and can cause serious injury. Always wear appropriate personal protective equipment. Cover the cutting edges of the blades before performing any work in the mixing chamber. Please note: when the machine is equipped with magnets, tools and other metal objects are also attracted to these magnets. Electronics can also be damaged by the magnetic field.

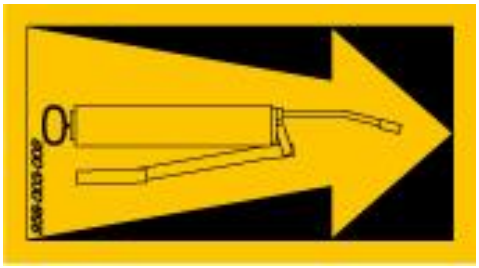
Once the machine is made safe to work on, work can take place inside the mixing chamber. To enter the mixing chamber, open one of the dosing doors completely. This door must then be secured or blocked so that it cannot close unexpectedly. Make sure there is always a second person outside the machine to help and provide assistance in case of emergency.

Peeters Landbouwmachines B.V. utilizes two different types of auger, of which only type 2 is used for bio cutting mixer applications. Only type 2 auger will be explained in this manual.

9.5.1. Type 2 auger

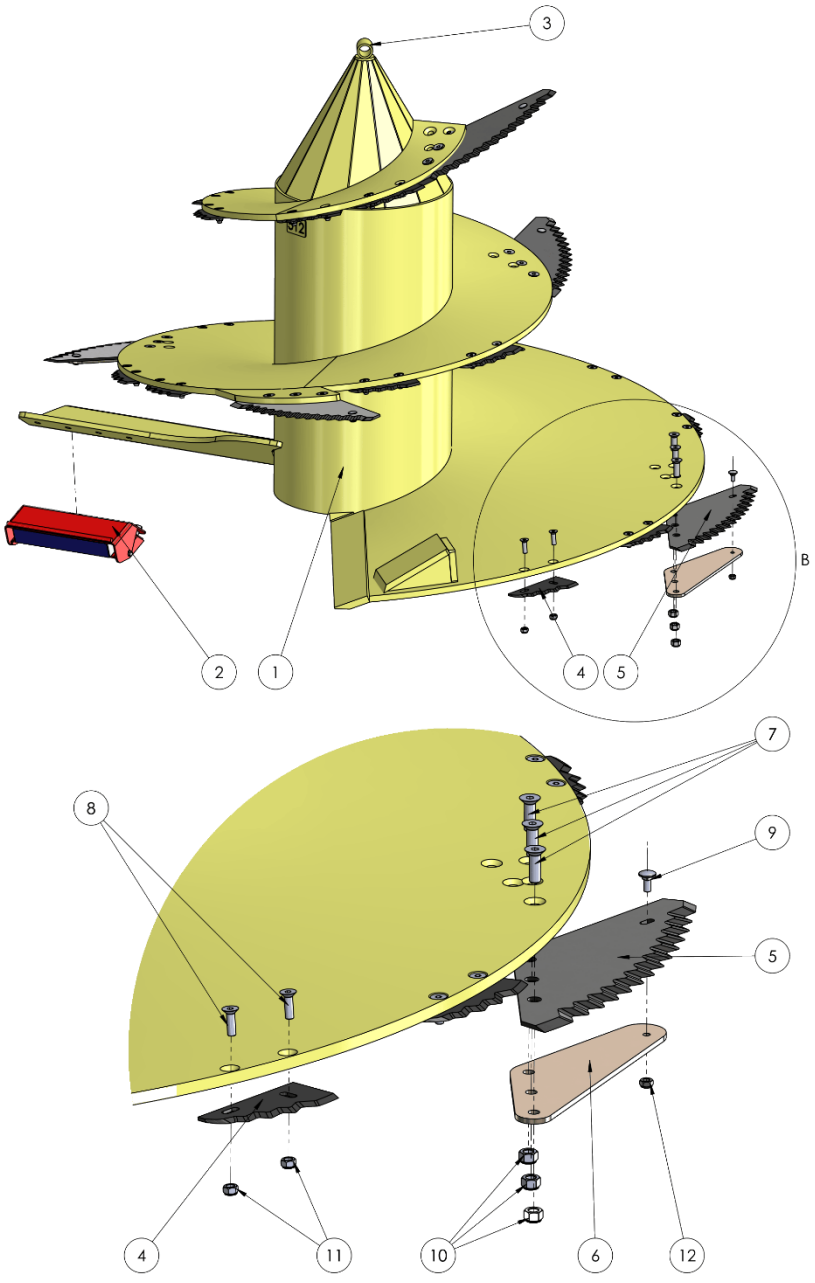
Lubrication

The augers are equipped with plain bearings that are lubricated with grease. This is done via grease lines, whose grease nipples are located at the front of the machine. In order to simplify greasing the machine, a centralized grease nipple block with one or more lubrication points is mounted on one central location on the machines. Always apply grease according to the maintenance schedule. The grease points on the machine are marked by the stickers below.



Auger construction

The type 2 auger can be easily be lifted from the machine for maintenance or repair. This is done by lifting the auger on the lifting eye (4), without the need to disassemble parts. This allows maintenance work to be carried out outside the machine, instead of inside the mixing chamber.



DETAIL B
SCALE 1 : 5

1	Auger construction	7	Hex bolt M16x50 10.9
2	Auger magnet (optional)	8	Hex bolt M12x40 10.9
3	Lifting eye	9	Stainless steel carriage bolt M10x25 8.8
4	Small knife	10	Nyloc nut M16 8.8
5	Large knife	11	Nyloc nut M12 8.8
6	Knife Reinforcer 8 mm HD 450	12	Gl.verz.nyloc nut M10 8.8

9.5.1. Replacing auger knives

WARNING! *Be careful when using tools or other metal objects in the vicinity of magnets. Please note that when (dis)assembling auger knives, they are also attracted by the magnets in the auger, the mixing tub and the discharge guide plate.*

Sharp knives are essential for a good quality of the biomass mixture and an efficient mixing process. When the blades are worn, larger mixing components are no longer cut as fine and more power is needed for the mixing process, leading to higher energy consumption. New auger knives are available at Peeters Landbouwmachines B.V. via https://peecon.com/contact/.

9.6. Magnets

WARNING! *Users of pacemakers or other medical devices should keep a good distance from the machine. Magnetic fields can cause interference or damage to these devices.*

WARNING! *Magnetic fields can damage electronics. Keep equipment such as computers, measuring tools, debit cards and other electronic components away from the machine.*

Optionally, the output slides can be equipped with magnets to remove any metal particles from the biogas mixture. In addition, it is possible to place a magnet in the mixing tub wall.

If material remains on the magnets, it must be removed to prevent it from entering the biogas mixture again. First, make sure that all safety measures have been taken. Then carefully remove all metal parts and grit from the magnets.

9.7. Discharge door

The discharge guide plates under the discharge door ensure that the processed biogas product is spread further away from the machine.

Optionally, these discharge guide plates can be equipped with hydraulic cylinders, making them movably. In addition, it is possible to equip the discharge guide plates with magnets.

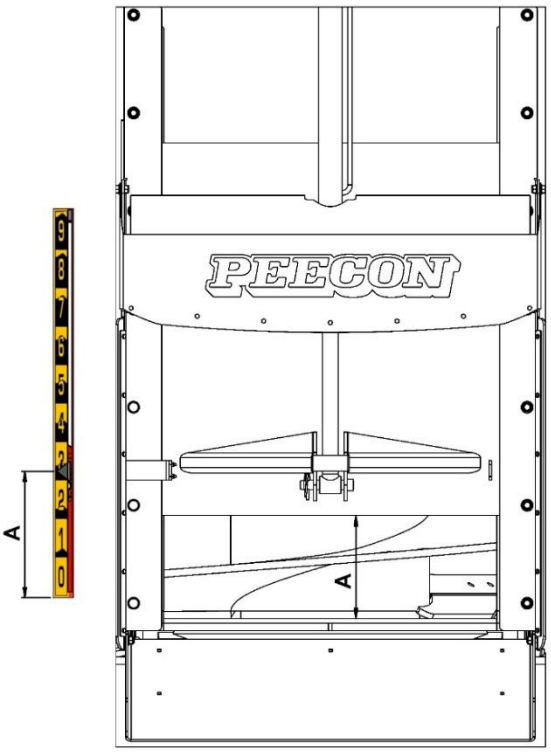


Figure 9-7 Loose door

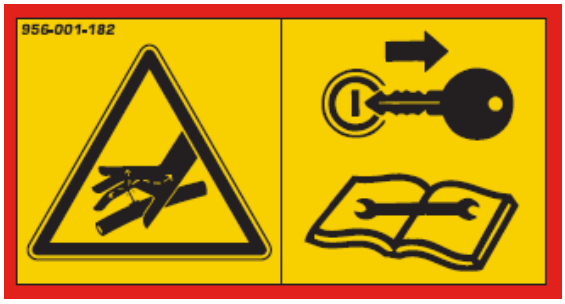
9.8. Hydraulic hoses

⚠	***WARNING!*** *Never look for a hydraulic leak by hand. High-pressure oil can penetrate the skin and cause blood poisoning. Immediately consult a medical expert if skin contact with High-pressure oil has occurred.*
⚠	***WARNING!*** *Before working on the hydraulic system and its components, check that the hydraulic system is completely pressure-free. Dismantling a component that is still under pressure can cause serious injury.*

Hydraulic hoses and lines must be checked by an expert for damage and wear at least **once a year.** If damage or wear is detected, the relevant part must be replaced or repaired immediately before the machinery is put back into service.

New hoses must meet the minimum required quality: **SAE 100 R2A according to DIN 20022/2.**

Always avoid contact with leaking liquids under pressure. If work on the hydraulic system takes place, the system must be completely pressure-free.



9.9. Tightening torque bolted connections

After the first 8 hours of operation, all bolt joints and wheel nuts must be checked and tightened at the correct tightening moment.

Dimension	Spanner width (mm)	Tightening torque (Nm)
M8	13	27
M10	17	57
M12	19	101
M14	22	148
M16	24	230
M18	27	348
M20	30	464
M22	32	634
M24	36	798
M27	41	1176
M30	46	1597

9.10. Electric motor

The electric motor can optionally be equipped with service-free bearing. This means that the bearing in the electric motor do not need to be regreased. The remaining periodic maintenance on the electric motor still has to be carried out.

9.10.1. Lubricating electric motor

WARNING! *Use only the prescribed type of grease for regreasing the electric motor. The prescribed grease type differs from the grease type used to regrease the rest of the machine.*

If the electric motor is equipped with regreaseable bearings, these must be lubricated at least once every year or after 20,000 operating hours. These motors have a lubricating nipple at the top, on both the front and rear of the rotor. In case of doubt about the need to lubricate the electric motor, contact your dealer or Peeters Landbouwmachines B.V.

Type of grease	Esso Unirex N2 or N3 Mobil Mobilith SHC 100 Shell Albida EMS2 Klüber Klüberplex BEM 41-132 FAG Arcanol TEMP110 Lubcon Turmogrease L802 EP PLUS Total Multiplex S 2 A
Service interval	Every year or 20,000 operating hours

Lubricating electric motor:

1. Ensure the machine is safe to work on. Start by turning off the main switch and locking it in the off position.
2. Depending on the machine type, it may be necessary to remove the protective cover above the electric motor.
3. Open the caps of the individual grease nipples at the top of the engine and clean the grease nipples. Contaminants can be introduced in the grease if the grease nipples are not cleaned beforehand. These contaminants can cause damage to the bearings or blockages in the internal lubrication system, which significantly shortens the lifespan of the electric motor.
4. Lubricate the bearings with the first **half** of the prescribed amount of grease.
5. Turn on the main switch and let run the engine for a few minutes (5-10 minutes) at 1500 rpm.
6. Turn off the motor and main current, remember to make the machine safe to work on by locking the main switch, before working on the machine.
7. Lubricate the bearings with the second **half** of the prescribed amount of grease. The bearings are now properly regreased with the total prescribed amount of grease.
8. The machine can now be used normally again, so the main switch can be turned back on again.
9. After 1 to 2 hours of operation, the caps of the grease nipples at the top of the electric motor can be closed. Make sure that the machine is safe to work on before closing the grease nipple caps!

BUILD SIZE ELECTRIC MOTOR	AMOUNT OF GREASE PER BEARING
180	30 g per bearing
200	40 g per bearing
225	50 g per bearing
250	60 g per bearing
280	60 g per bearing

Table 1 Amount of grease for different motor sizes

9.10.2. Cleaning electric motor

The electric motor is cooled by means of a fan attached to the end of the rotor shaft. This fan is shielded, which means that the supply of fresh cooling air can be hindered by dirt and debris. Clean the cooling fan shielding at least once a year. This extends the life of the electric motor and allows it to function optimally.

9.11. Cleaning the machine

The machine should be cleaned on a regular basis. Cleaning the machine extends the lifespan of the machine and prevents corrosion from forming on the machine. The exact cleaning interval depends on the specific application of the Peecon Biga Bio cut mix tub.

The electrical equipment on the machine is IP55 rated. This means that these are only weatherproof and should not be sprayed down with a pressure washer. If cleaning is carried out with a pressure washer, a number of additional precautionary steps must be followed:

- Avoid spraying on electronic equipment, such as weighing computers and loadcells.
- Maintain a minimum distance of 300 mm from the painted components, preferably with a minimum angle of 30 ° to the surface of the machine.
- Avoid the safety stickers. These stickers can be damaged by the use of a pressure washer.

General cleaning conditions

- Do not use aggressive cleaning agents. In particular gasoline, petroleum and mineral oils. These agents can damage the paintwork and hydraulic pipes.
- Inspect all safety stickers on the machine for damage after cleaning. The safety stickers have to be replaced if they have been damaged.
- Check the hydraulic system for leaks.
- Regrease the entire machine after clearing.

10. Troubleshooting

For more information about troubleshooting the machine, please consult the table below or surf to https://peecon.com/troubleshooting/.

Malfunction	Cause	Measure/Solution
Breaking bolt of PTO shaft breaks (indirect drive only)	Loading speed too high	Gradually add the feed components to the mixing bowl.
	Loading capacity exceeded	Load machine up to 90% of the total volumetric capacity.
	Restart of mixing process after standstill	Change loading order of feed components.
	Knives no longer sharp enough	Mount sharp knives.
	Incorrect auger speed	Check the incoming speed of the planetary auger drive. Check the outgoing speed of the electric motor
	Mixing tub overloaded	Load the machine up to 90% of the volumetric capacity.
	The auger is blocked.	Check why the auger is giving too much resistance. And remove any blocking.
	Electric motor switched on too abruptly	Contact the installer who connected the machine and have the electric motor start-up time lengthened.
Quality of feed mixture insufficient	Load order of feed components	Load the coarse and heavy feed components first and load finer and lighter component last.
	Machine overloading	Load machine up to 90% of the volumetric capacity.
	Way of loading	Wait until the previously loaded batch has had time to be processed, before adding a new batch.
	Knives no longer sharp enough	Mount sharp knives.
	Machine is at an angle	Place machine on flat surface.
	Speed of augers incorrect	Check auger speed. The correct speed will have to be determined experimentally.
	Counter knife not pulled out	Pull out the counter-knife.
	Too many knives	Remove lower blades.
	Processed feed mixture is not cut sufficiently	Check sharpness knives. Allow machine longer mixing time.
Auger knife broken	Knife is incorrectly mounted	When mounting, check that the knife is flat on the auger and can be mounted without bending.
	Heavy material tipped on top of auger	Gradually inject feed components into the machine. Give the blades time to process coarse material.
Gearbox makes noise	Oil level	Check oil levels and refill if necessary.
	Defect in gearbox	Check if metal grinding or small pieces of metal are present in the gearbox.
Uneven discharge	discharge door opened too far	Reduce the opening for an even output.

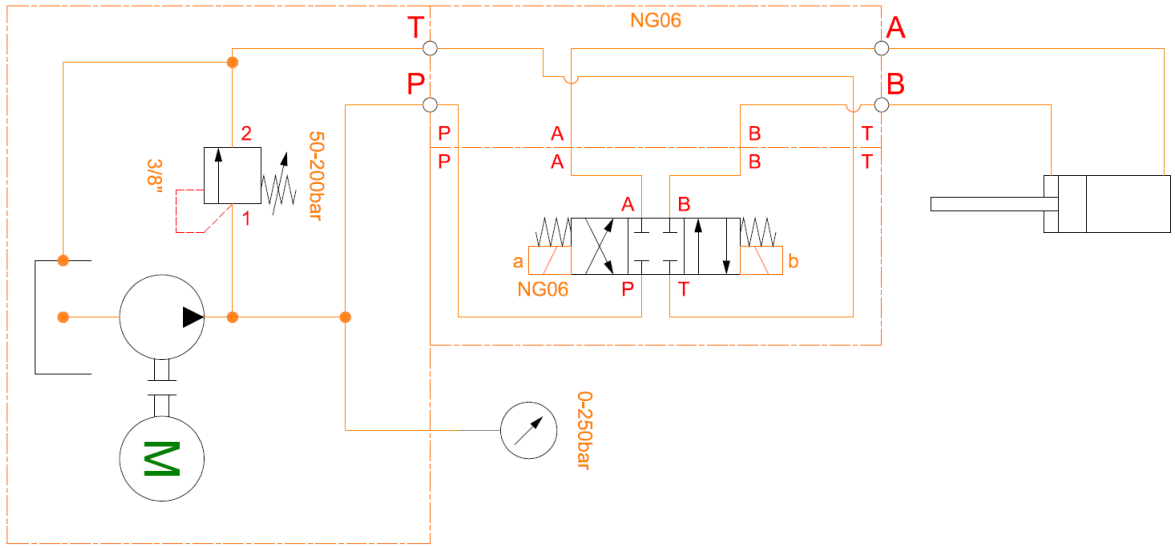
The machine does not mix well	Adjust the incoming speed	Increase or decrease auger speed. Please contact the installer.
	Change the loading order to optimize the mixing process	Check the loading order.
	The auger knives are not properly adjusted	The large knives on the augers can be placed in two different positions. Move the blades to the unused position.
	The counter blades have not been pushed in	Operate the counter knives and slide them in.

11. System diagrams

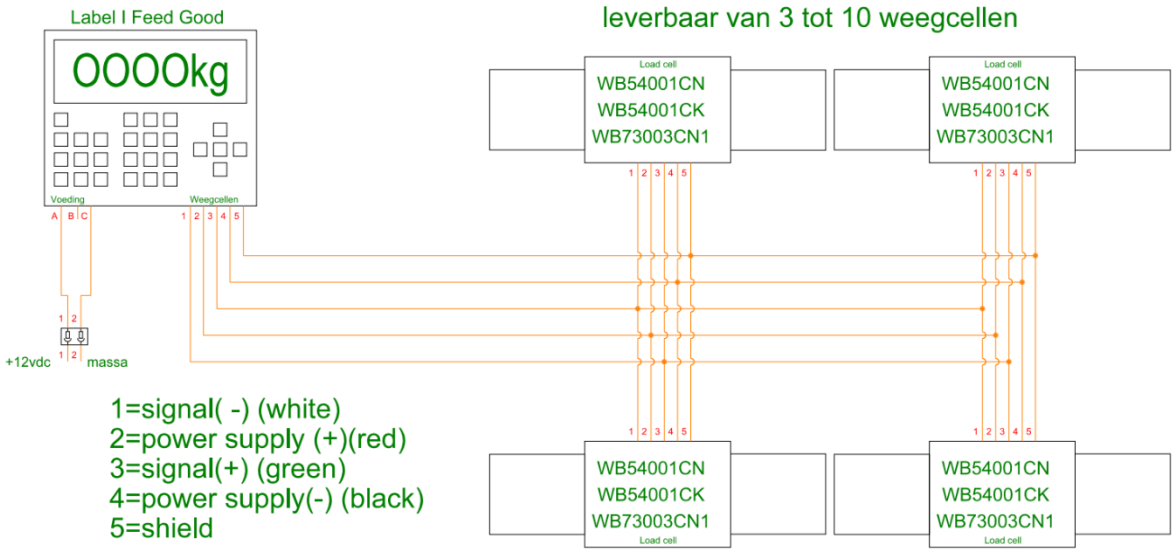
Only the weighing system on the Peecon Biga feed cut mix tub will be pre-installed on the machine. The other systems need to have a control system designed and installed by an approved and certified installer.

Peeters Landbouwmachines B.V. is not responsible for these system. However, a number of example diagrams are given below indicating how the machine can be connected.

11.1. Hydraulic diagram (Example)



11.2. Weighing system diagram - Biga (Connected by Peeters Landbouwmachines B.V.)



12. Safety Data Sheets liquids

This chapter contains the safety data sheets of the fluids and lubricant that might be present in the machine from factory. The use of these fluids and lubricants is recommended, but it is also possible to use alternative fluids and lubricants, provided they meet the same standards.

WARNING! *Never mix different fluids or lubricants unless expressly authorized by the lubricant manufacturer. Mixing lubricants can result in unwanted chemical reactions, causing the machine components to become severely damaged.*

12.1. Planetary gearboxes

STANDARD	APPLIED LUBRICANT
ISO VG 220	Q8 El Greco 220 synthetic https://www.q8oils.com/product/q8-el-greco-220/
ISO VG 320	Shell Omala S4 WE 320 https://www.epc.shell.com/DocumentManagement/blobDocumentDownload?DocId=112457452

12.2. General purpose grease

STANDARD	APPLIED GREASE
ISO 6743-09	Texaco Multifak Premium 3 https://cglapps.chevron.com/sdspds/SDSDetailPage.aspx?docDataId=443804&docFormat=PDF

12.3. Electric motor grease

PRODUCT	OFFICIAL SDS DOWNLOAD SOURCE
ESSO / MOBIL UNIREX N2	https://www.msds.exxonmobil.com/psims/psims.aspx
ESSO / MOBIL UNIREX N3	https://www.msds.exxonmobil.com/psims/psims.aspx
MOBILITH SHC 100	https://www.msds.exxonmobil.com/psims/psims.aspx
SHELL ALBIDA EMS2	https://www.epc.shell.com/home/HomeSetup?inLang=EN
KLÜBERPLEX BEM 41-132	https://www.klueber.com/global/en/downloads/
ARCANOL TEMP110	https://www.schaeffler.com/en/products-and-solutions/industrial-lubrication/arcanol/
TURMOGREASE L802 EP PLUS	https://www.lubcon.com/service/safety-data-sheets/
TOTAL MULTIPLEX S 2 A	https://mymsds.totalenergies.com