



# FSA052, FSA102, and FSA151 Series

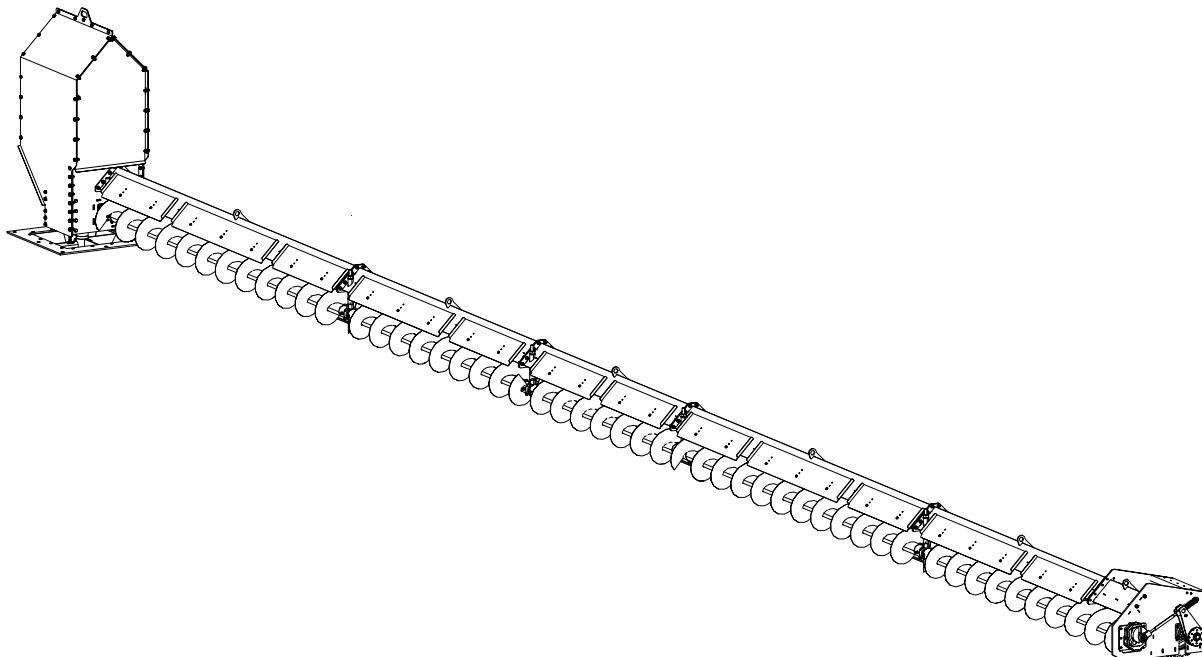
## Sweep Auger Assembly, Operation, and Maintenance Instructions

This manual applies to the following models:

**FSA05210 – FSA05236**

**FSA10215 – FSA10236**

**FSA15115 – FSA15136**



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.

Part Number: 8210-30071 R0

Revised: September 2024

Original Instructions

This product has been designed and manufactured to meet general engineering standards. Other local regulations may apply and must be followed by the operator. All personnel must be trained in the correct operational and safety procedures for this product. Use the sign-off sheet below to record initial and periodic reviews of this manual with all personnel.

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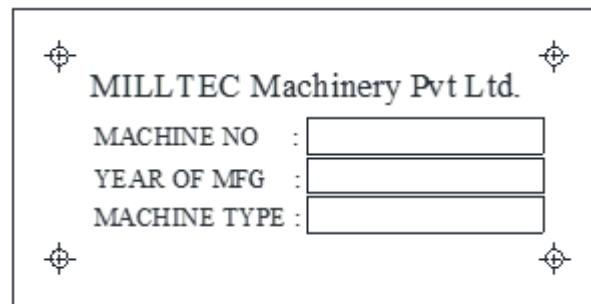
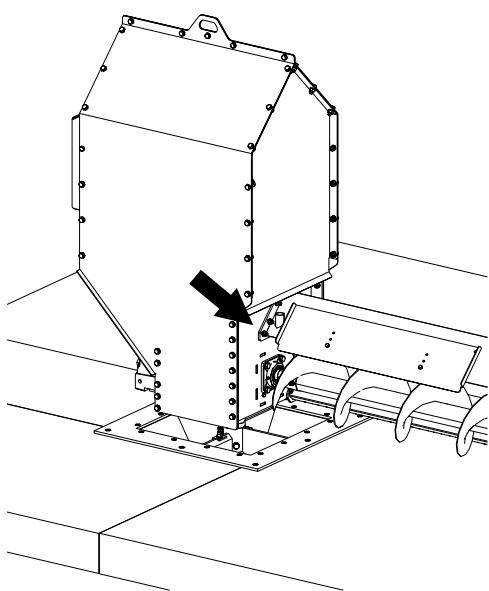
# 1. Introduction

This manual will help you safely use and maintain the sweep auger. Read and follow the manual before using. Keep the manual handy to refer to and review it with others.

## 1.1. Serial Number Location

The serial number location for your sweep auger is shown in the figure below. Have the serial number ready when ordering parts or requesting service or other information. Record information in the table below for easy reference.

<b>Model Number</b>	
<b>Serial Number</b>	
<b>Date Received</b>	



## 1.2. Intended Use

The sweep auger is intended for use as listed below and described throughout this manual. Use in any other way shall void the warranty and invalidate all liability of AGI Milltec for any personal injury or property damage incurred.

### Intended use for the sweep auger

- The sweep augers are designed, manufactured and sold for conveying the following granular and powdered products:
  - Wheat
  - Maize
  - Soybeans

- Sunflower seeds
- Rice
- Paddy rice
- Other cereals

The Customer assumes full and sole liability if the machine is used to store products other than those listed above, unless such use has been expressly authorised by the Manufacturer.

- The sweep augers are designed for 10 loading/unloading cycles per year and can operate in environments with ambient temperatures between -20°C and +40°C.

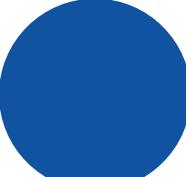
 **WARNING** Using equipment for products other than those specified may create a risk of explosion.

# 2. Safety

Good safety practices prevent accidents. Always take time to use the sweep auger safely and don't shortcut or ignore safety information. Inform others of safety hazards and how to prevent them.

## 2.1. About Safety Information in this Manual

Safety alert words and symbols are used in this manual. When you see them, follow their messages to prevent injury, death, or equipment damage. The table below explains what they mean.

Safety Alert Symbols	Safety Alert Words
 This symbol indicates a safety hazard.	<b>DANGER</b> Serious injury or death will occur.
 This action is required.	<b>WARNING</b> Serious injury or death could occur.
 This action is not allowed.	<b>CAUTION</b> Minor or moderate injury could occur. <b>NOTICE</b> Property damage may occur.

## 2.2. Preventing Safety Hazards

Follow the information below to prevent safety hazards.

Read and Understand the Safety Information
 Before operating or maintaining: <ul style="list-style-type: none"><li>• Follow the information in this manual and on the safety decals.</li><li>• Keep this manual with the sweep auger.</li><li>• Keep the safety decals clean and legible.</li></ul>

## Keep the Sweep Auger in Good Condition



For safe operation and to prevent unnecessary downtime:

- Do not modify the sweep auger.
- Maintain the sweep auger and inspect it before using.
- Make sure all parts are in good condition and guards are in place.

## Develop a Work Site Safety Program



To keep workers safe and prevent accidents:

- Provide instructions and review the information in this manual initially and annually with workers.
- Follow a health and safety program. Contact the local occupational health and safety organization for information.
- Follow all applicable local codes and regulations.

## Keep a Safe Work Area



To prevent accidents, slips, trips, and falls:

- Keep the work area clean and free of debris.
- Have another trained person nearby who can shut down the sweep auger in case of an accident.
- Do not allow others in the work area.

## Lock-out the Sweep Auger before Maintaining or Inspecting



To prevent injury:

- Know how to shut-off and lockout power before servicing, maintaining, inspecting, or cleaning.

## Keep Away from Rotating Flighting



To prevent serious injury or death:

- KEEP AWAY from rotating auger, shafts, pulleys, belts, chains and sprockets.
- NEVER touch the auger. Use a stick or other tool to remove an obstruction or clean out.

## Keep Away from Rotating Parts



To prevent serious injury or death:

- Keep body, hair, and clothing away from rotating parts.

## Enter the Bin Safely



To prevent serious injury or death:

- Never enter a silo when loading or unloading.
- Always try to work and solve problems without entering the silo.
- Only enter when all power is locked out and not loading or unloading.
- Unload only as described in the operation section of this manual.
- Close/lock all access doors when not in use.
- When entering through the roof, have a body harness tethered to a lifeline controlled by two others outside the silo. One worker should be able to see the inside worker through the inspection hatch.
- Always wear a dust-filtering respirator when entering the silo. Grain dust and spores when inhaled into the lungs can cause severe reactions leading to hospitalization in some cases. Persistent exposure may cause “farmer’s lung,” which can eventually be fatal.
- Clean up dust deposits when the bin is empty. Use tools and equipment that will not generate sparks. Make sure equipment is sealed to keep dust from escaping. This will help to prevent respiratory issues, fires, and in extreme cases catastrophic explosions from accumulated dust deposits if airborne.
- Before working inside the silo, ventilate the area by opening the vents or by other equivalent means to force air into the silo to prevent an oxygen-deficient atmosphere. Inadequate oxygen is very harmful to your health and can cause death. Exposure to carbon dioxide can cause drowsiness, headache and even death due to suffocation. Test the atmosphere. If the carbon dioxide hazard cannot be reduced or eliminated or you cannot test the atmosphere, use a correctly fitted and appropriate respirator.

In an emergency situation:

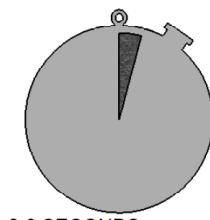
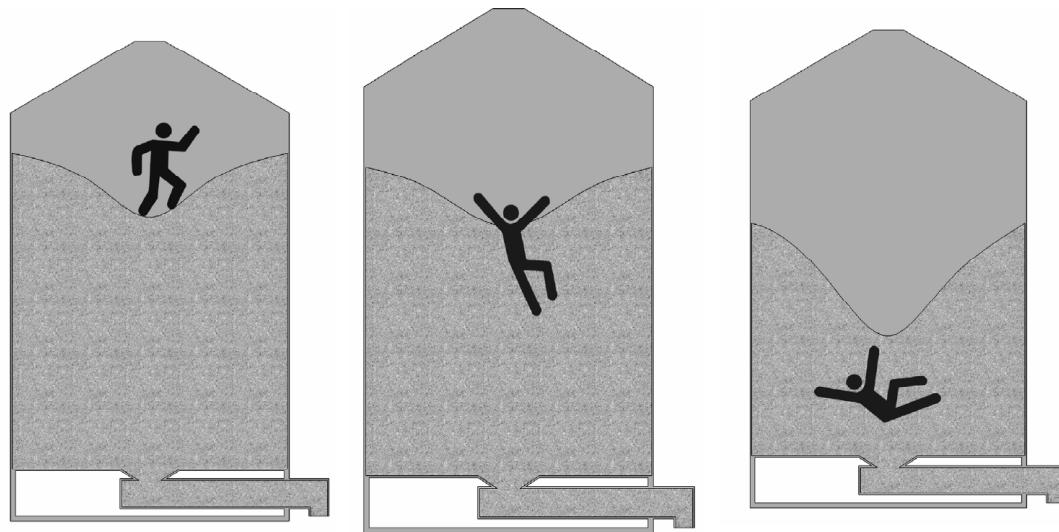
- If you become covered in flowing grain, cup your hands over your mouth and take short breaths. This may keep you alive until help arrives. A person outside can ventilate the silo by turning on the fan (if equipped). Do not run heaters as this will fill the silo with carbon monoxide
- If you need to rescue someone inside the silo, call emergency responders and only attempt to rescue using non-entry rescue procedure/equipment. One worker should stay outside the bin to focus on the victim while the other goes/calls for help.
- Do not enter the silo unless you are trained for rescue, equipped, and relieved by another attendant. It takes more than 1000 lb (4.5kN) 4.5kN (1000 lb) of force to remove someone buried below the surface.

## Keep Away from Flowing Grain



This information may also apply to fertilizer where the silo is intended for fertilizer storage.

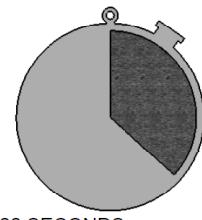
- Grain flows in a funnel-shaped path when unloading. This vortex of grain behaves very much like a water drain. Velocity increases as grain flows from the silo wall at the top of the grain mass into a small vertical column at the center of the silo.
- In the event that you are trapped in the silo as it is unloading, move as quickly as possible toward the silo wall; keep yourself elevated above the material by walking on the flowing mass while staying as close as possible to the silo wall.
- Flowing grain will not support the weight of a person. Submersion happens within seconds.



AFTER THE UNLOADING EQUIPMENT  
STARTS, YOU HAVE 2-3 SECONDS  
TO REACT.



IN 4-5 SECONDS YOU ARE  
TRAPPED.



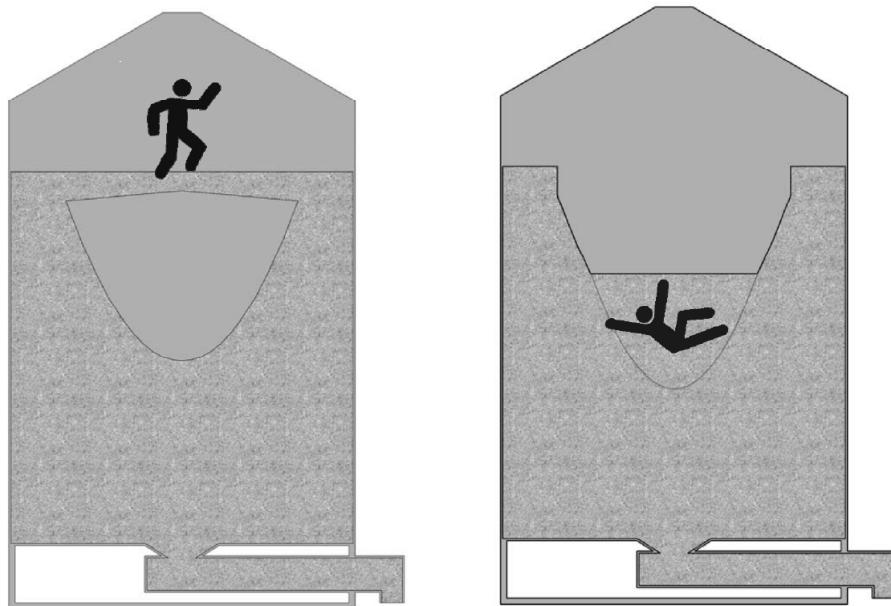
AFTER 22 SECONDS, YOU ARE  
COMPLETELY COVERED.

## Watch for and Keep Away from Bridged Grain



This information may also apply to fertilizer where the silo is intended for fertilizer storage.

- Never enter a silo from the roof if you don't know its unloading history. Grain can "bridge" across a silo, creating an empty air space below. A person can easily break through this bridge and become trapped, risking suffocation.
- To identify bridged grain, look for a funnel shape on the surface of the grain after having removed some of the grain. If surface is undisturbed, the grain has bridged and formed a crust.
- Never walk on the grain crust. The crust rarely becomes strong enough to support the weight of a person.
- To remove bridge, try breaking the bridge from the inspection hatch or peak. Use a pole to hit the surface, securing it with a rope in case it is dropped. Be aware that chunks of crusted grain can move down to the auger and limit flow.

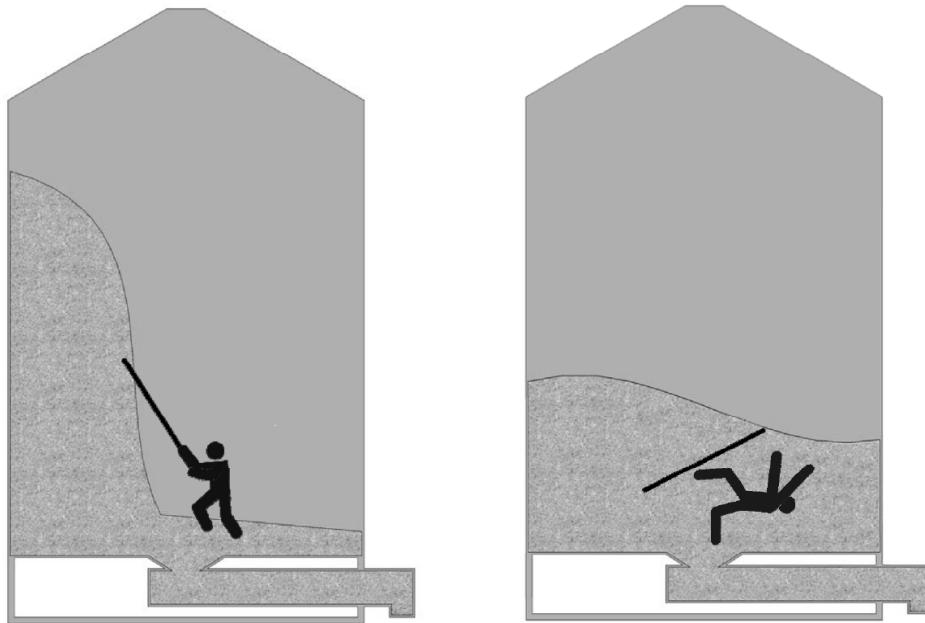


## Keep Away from a Vertical Wall of Grain



This information may also apply to fertilizer where the silo is intended for fertilizer storage.

- Vertical walls of grain are created when the silo is partially empty. Poking at the wall can make the grain avalanche and submerge a person.
- Do not enter the silo to break down grain that has set up. Break grain mass from top of the silo outside.



## Prevent Combustible Dust Fires and Explosions



If sufficient dust is airborne and a spark or flame is present, the dust may be flammable and a flash fire or explosion could occur.

To prevent:

- Shut down the sweep auger and remove dust from the interior after operating or if dust has accumulated.
- Make sure dust is not escaping from the sweep auger other than designated locations.
- Never replace a component or motor with a different specification than was originally supplied. Components and motors are specifically designed for the application to prevent fires and explosions.
- Do not use anything near the sweep auger that may produce a flame or spark unless the air and sweep auger are free of dust. Do not use a match/lighter, grinder, welder, or power saw. Use explosion-proof lights, electric tools, and flashlights.

## Use Electric Motors Safely



To prevent electrocution:

- Have electric motors and controls installed and serviced by a qualified electrician to meet local codes and standards.
- Replace electrical wiring and cords that are worn or are not in good condition.
- Place the main power switch in the locked position when not using the equipment or before maintaining it.
- If reset is required, disconnect all power before resetting the motor.

## Use appropriate Personal Protective Equipment (PPE)



### Hard Hat

Help to protect the head.



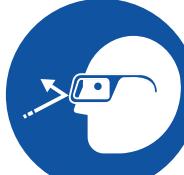
### Steel-Toe Boots

Protect feet from falling debris.



### Work Gloves

Protect hands from sharp and rough edges.



### Safety Glasses

Protect eyes from debris.



### Coveralls

Protect the skin.



### Fire Extinguisher

Keep for use in case of an accident. Store in a visible and accessible place.



### First-Aid Kit

Keep properly-stocked and available.

## 2.3. Safety Decal Locations and Replacements

Read and follow all safety decals.

Know where they are located.

Replace all safety decals that are missing, damaged, or faded.

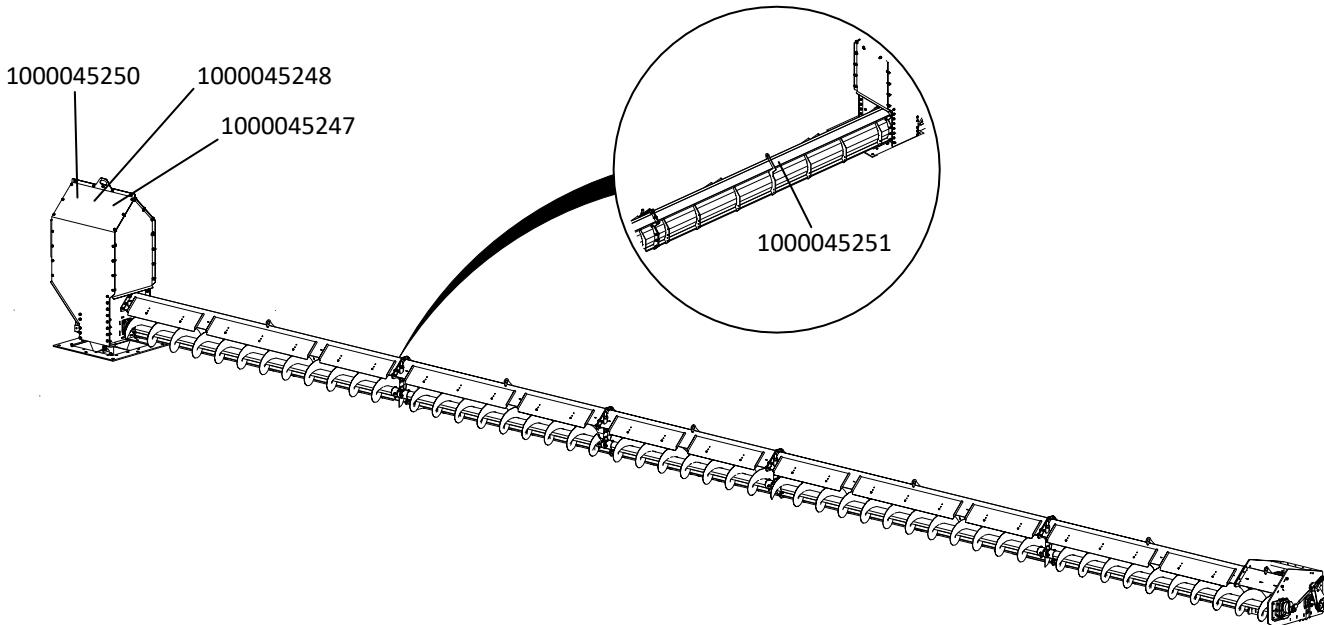
Click the [link](#), scan the QR code, or contact your local AGI representative for **free replacements**.



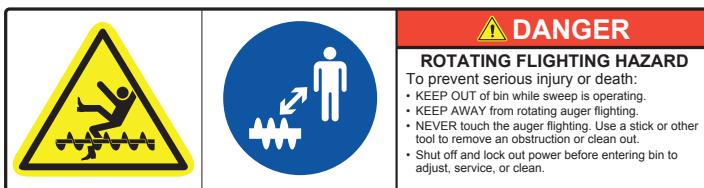
### To replace a safety decal:

1. Make sure the area is clean, dry, and the temperature is above 50°F (10°C).
2. Decide on the position before removing the backing paper.
3. Align the decal and press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and smooth the remaining portion of the decal in place.
5. Use a pin to pierce small air pockets and smooth out using the decal backing paper.

### Safety Decal Part Numbers

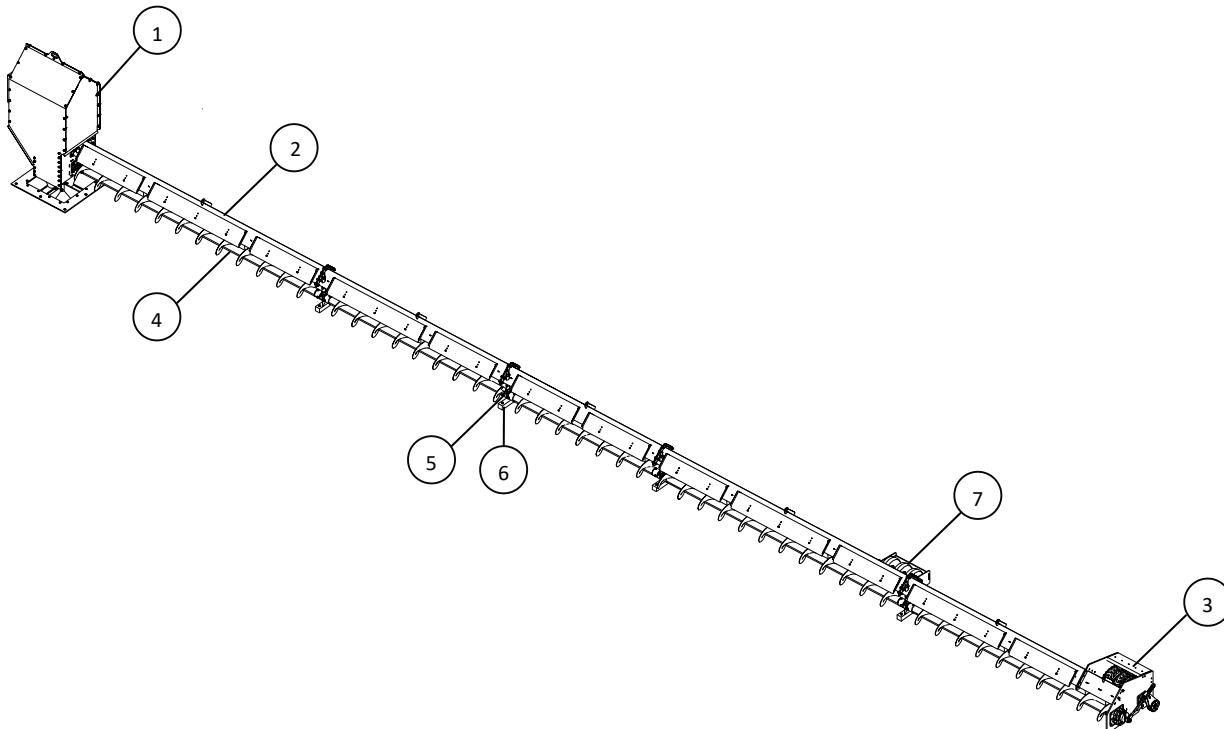


## Safety Decals and Part Numbers

**1000045250****1000045247****1000045251****1000045248**

# 3. Features

Figure 1. Typical Sweep Auger



Item	Description
1	Head Assembly
2	Backboard
3	Drive Wheel
4	Flighting

Item	Description
5	Intermediate Joint
6	Support Plate
7	Second Drive Wheel (used for larger models)

# 4. Pre-Assembly

## 4.1. Check the Shipment

---

Unload the sweep auger parts at the assembly site and compare the packing slip to the shipment contents. Ensure that all items have arrived and that none are damaged. Take pictures of shipments prior to, or just after, unloading if there are any damages.

Report missing or damaged parts immediately to ensure that proper credit is received from AGI Milltec or your representative, and to ensure that any missing parts can be shipped quickly to avoid holding up the assembly process.

**Important**

Do not assemble or install damaged components.

## 4.2. Unload the Shipment

---

1. Determine the appropriate area for unloading the shipment.
2. Make sure the area is clear before unloading.
3. Unload the sweep auger parts on a solid and clean flat surface.

 **CAUTION** Use proper unloading and lifting techniques to prevent injury or component damage.

4. Thoroughly inspect components for any damage.
5. Compare the packing slip to the shipment and confirm all items have arrived.
6. Report missing or damaged parts to AGI Milltec or your representative. Report immediately to receive proper credit and so missing parts can be shipped quickly. Take pictures of shipments after unloading if there are any damaged parts.

**Important**

Do not assemble or install damaged components.

## 4.3. Required Lifting Equipment

---

Ensure you use proper lifting equipment. The following are some considerations when selecting the lifting equipment:

- Ensure that the lifting capacity is sufficient to handle both static and dynamic loads.

 **DANGER** Overloading lifting equipment's capacity can result in substantial property damage or severe personal injury.

- Make sure that the operators are trained and certified to operate the lifting equipment.
- Make sure that the lifting equipment is regularly maintained.

## 4.4. Product Storage

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If storing components before installation, follow the instructions below to prevent dirt and moisture accumulation, damage, or injury. Damage to components resulting from improper storage is not covered by warranty.

- Store motors indoors in a clean, dry, and vibration-free environment. If storing for long-term, follow the manufacturer's storage requirements.
- Do not lay bundles on the bare ground. Raise all bundles 6" to 8" off the ground on wood blocks or timbers.
- All other bundles material should be placed so that they are well sloped to promote good drainage.
- Temporary storage can be provided by erecting a simple framework supporting a waterproof tarp.
- All hardware boxes should be stored inside. These are not waterproof, and will deteriorate in normal weather conditions, allowing moisture to contact the parts inside.
- Keep all bundles dry before assembly of the sweep auger.
- Start assembly as soon as possible.

**Note**

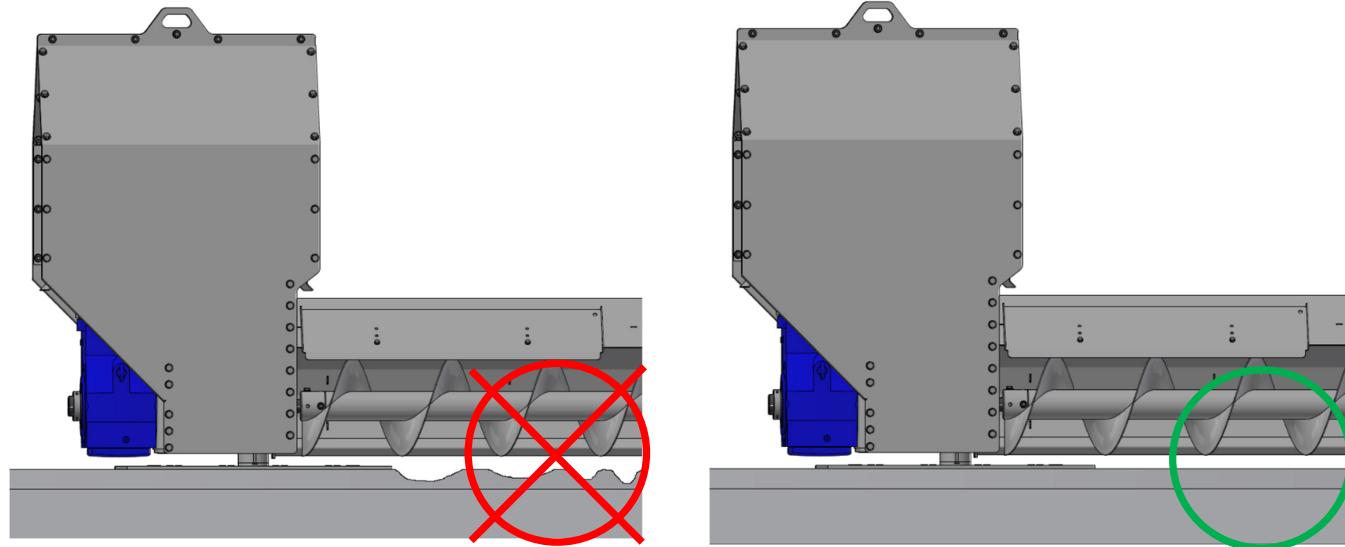
Storage exceeding 6 months is not recommended.

## 4.5. Site Preparation

For the sweep auger to work correctly and safely inside the silo, it is essential to:

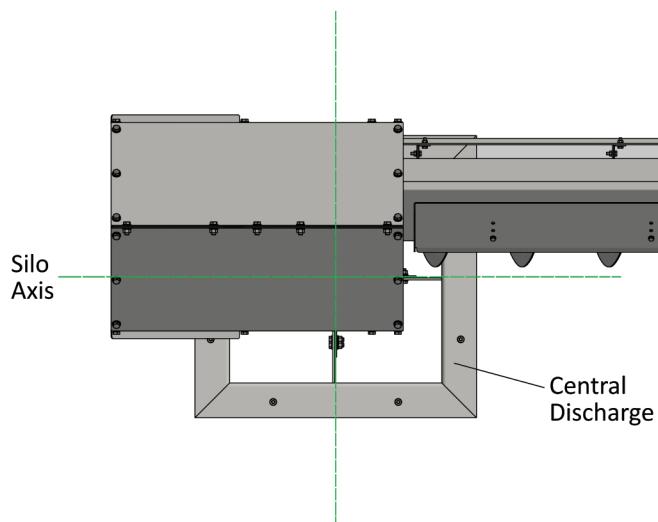
- Ensure that the floor flatness complies with the design requirements and is free of irregularities, damage, and fragility.

**Figure 2. Example of Uneven Flooring and Flat Flooring**

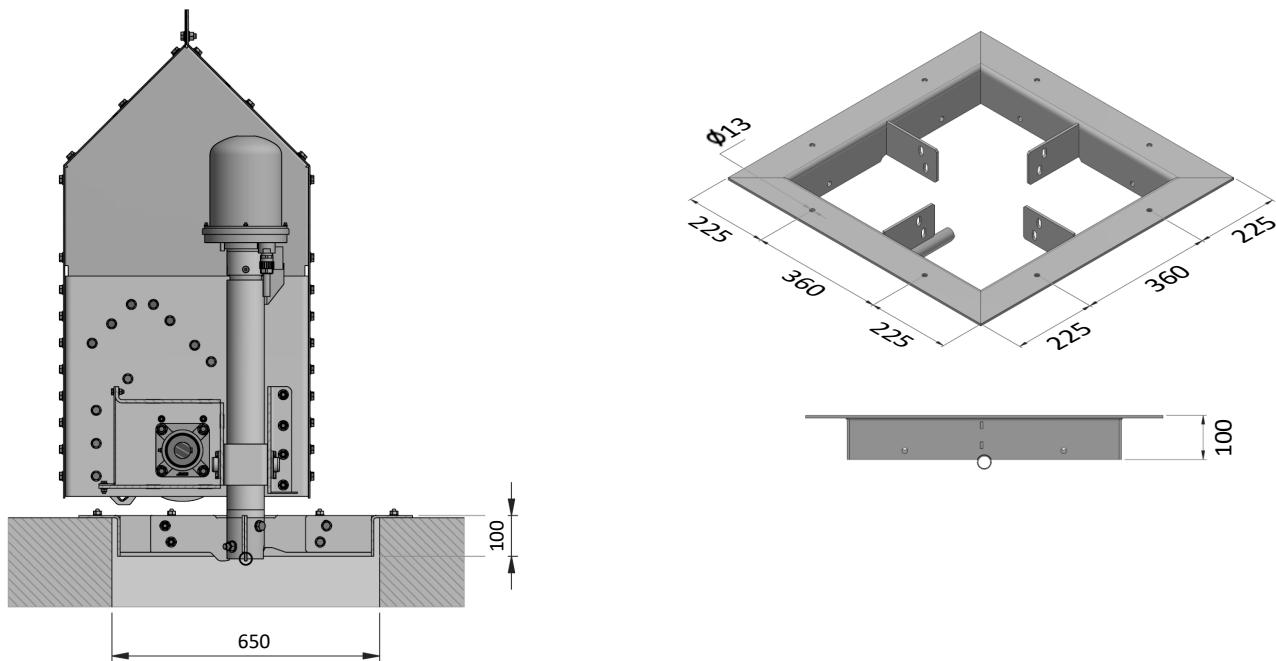


- Check that the central discharge opening is centered in the silo.

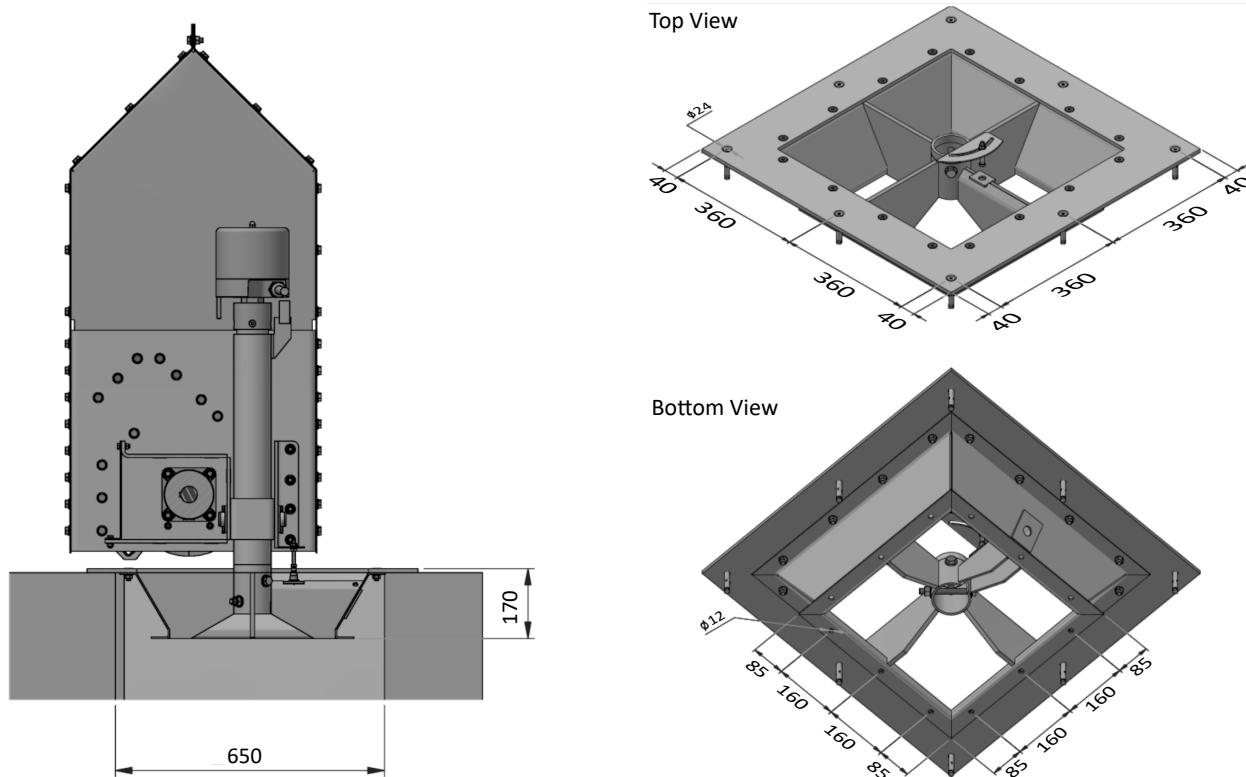
**Figure 3. Correct Positioning of the Machine Relative to the Silo Axis**



- Confirm that the central discharge opening meets the required dimension.

**Figure 4. Head Dimensions — FSA052 Series**

Dimensions are in mm

**Figure 5. Head Dimensions — FSA102 and FSA151 Series**

Dimensions are in mm

## 4.6. Before You Begin

---

Before you assemble the sweep auger:

- Familiarize yourself with all the sub-assemblies, components, and hardware that make up the equipment.
- Have all parts and components on hand, and arrange them for easy access.
- Separate the hardware (bolts, nuts, etc.) and lay them out into groups for easier identification during assembly.

# 5. Assembly

## 5.1. Assembly Safety

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**⚠️ WARNING**

- All electrical connections shall be made by a qualified electrician and must meet the applicable local codes and regulations.
- Do not take chances with safety. The components can be large, heavy, and hard to handle. Always use the proper tools, rated lifting equipment, and lifting points for the job.
- Do not stand on, under, or near any component that is not secured.
- Carry out assembly in a large open area with a level surface.
- Always have two or more people assembling the sweep auger.
- Make sure you have sufficient lighting for the work area.
- Tighten all fasteners according to their specifications. Do not replace or substitute bolts, nuts, or other hardware that is of lesser quality than the hardware supplied by the manufacturer.

## 5.2. Overview of Assembly and Installation

---

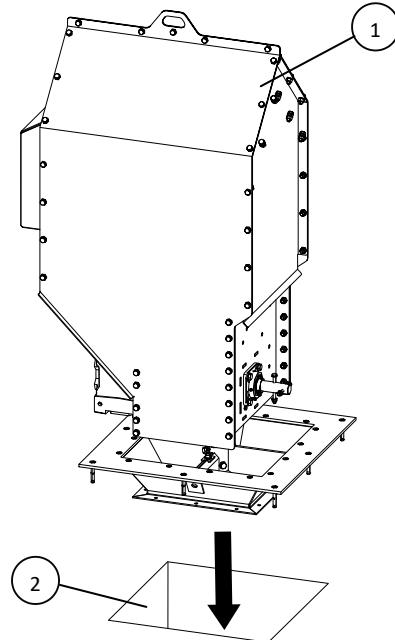
The following steps outline the assembly for the sweep auger. The assembly process for FSA052 and FSA102 series are identical. Note that the component dimensions vary depending on the model. Refer to [Section 10.2 – Layout Diagrams – FSA052 Series](#) on page 57 and [Section 10.3 – Layout Diagrams – FSA102/FSA151Series](#) on page 84 for the specific components required for each model.

1. [Section 5.3 – Installing the Head into the Central Discharge](#) on page 23
2. [Section 5.4 – Installing the Flighting, Rear Wheels, and Backboard Sections](#) on page 23
3. [Section 5.5 – Installing the Support Plates](#) on page 29
4. [Section 5.7 – Installing the Drive Wheel](#) on page 31
5. [Section 5.8 – Accessories](#) on page 34
6. [Section 5.9 – Electrical Connections](#) on page 37
7. [Section 5.10 – Grounding](#) on page 37
8. [Section 5.11 – Completing the Machine Installation](#) on page 37
9. [Section 5.12 – Functional Testing of the Sweep Auger](#) on page 38

## 5.3. Installing the Head into the Central Discharge

1. Lift the head by the designated lifting point and position it over the central discharge opening.

**Figure 6. Installing Head into the Central Discharge**



Item	Description
1	Head
2	Central Discharge

2. Align the base of the head with the silo axis.
3. Secure the head to the central discharge using the provided bolts.

## 5.4. Installing the Flighting, Rear Wheels, and Backboard Sections

1. Refer to the layout diagram for the model you are installing for the types and quantities of flighting and backboard needed, and the exact order that they must be installed.
2. Orient the flighting as shown in [Figure 7](#).

**Figure 7. Proper Orientation of the Flighting**

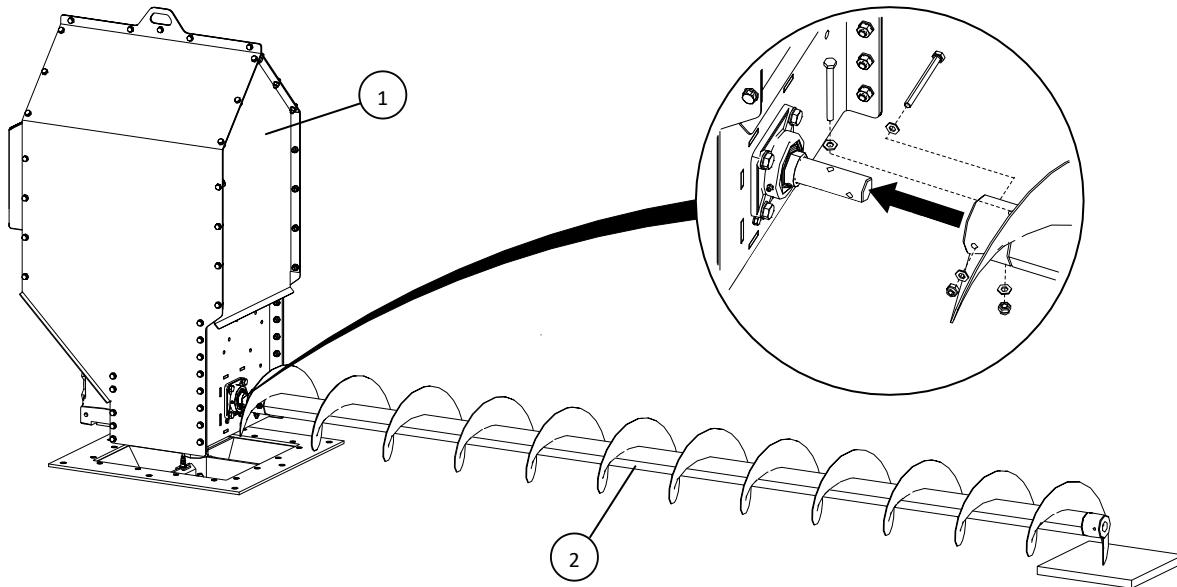


**Important**

The flighting rotates in a counterclockwise direction. Properly orient the flighting during installation to ensure material will flow towards the central discharge.

3. Slide the first flighting section to the head shaft and secure with the supplied M10x110 bolts.

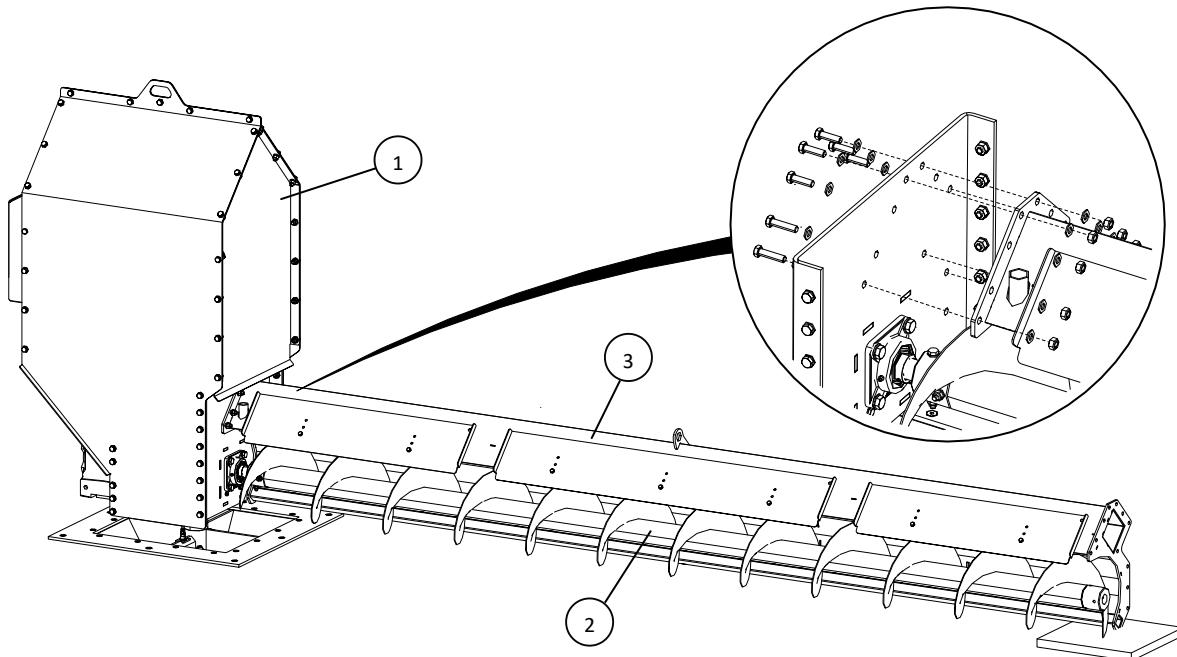
**Figure 8. Installing the Flighting**



Item	Description
1	Head
2	Flighting

4. Install the first backboard section to the head with M12x40/M12x50 bolts. Use a wooden alignment support (provided, see [Section 10. – Appendix on page 54](#)) to hold up the other end of the backboard.

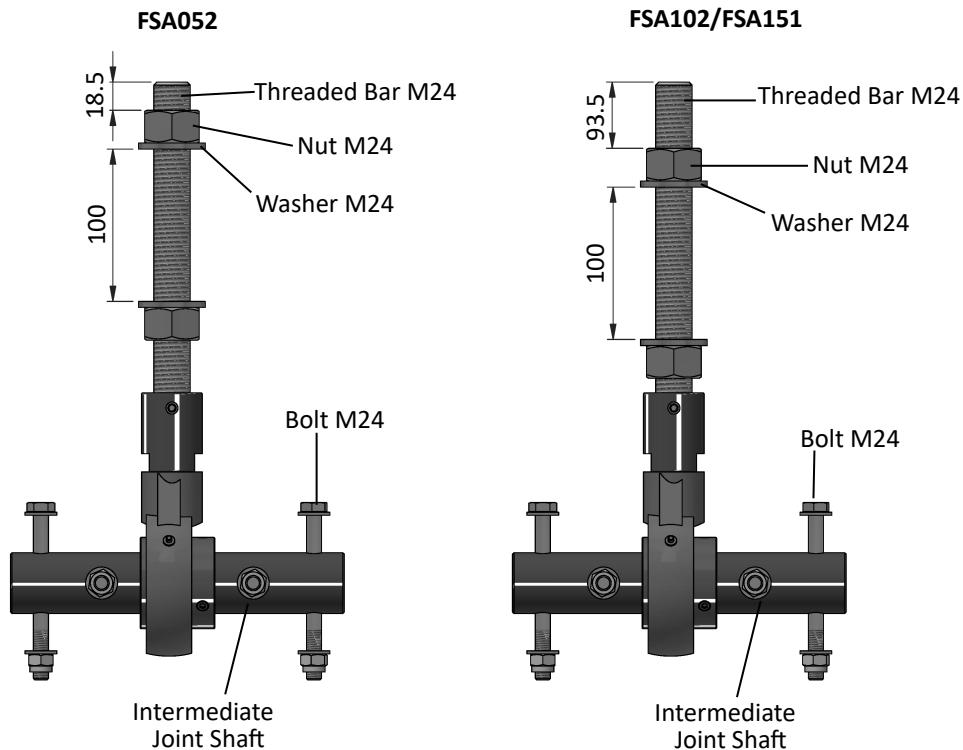
**Figure 9. Installing the Backboard Section**



Item	Description
1	Head
2	Flighting
3	Backboard

5. Use the intermediate joint assembly to connect two flighting sections.
  - a. Adjust the position of the intermediate joint locking nuts. Refer to the following illustrations for the correct placement of the locking nuts based on the series of the sweep auger.

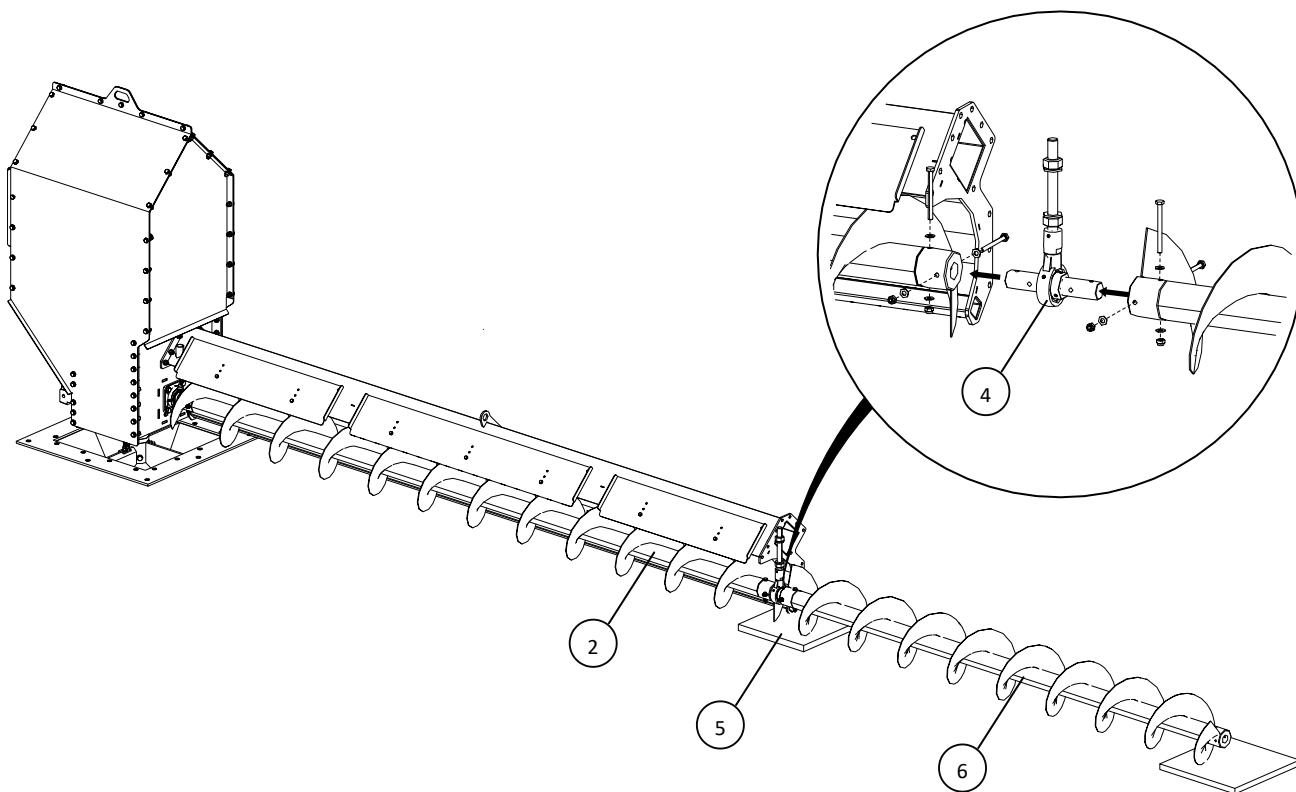
**Figure 10. Intermediate Joint Bolt Positioning**



**Important**

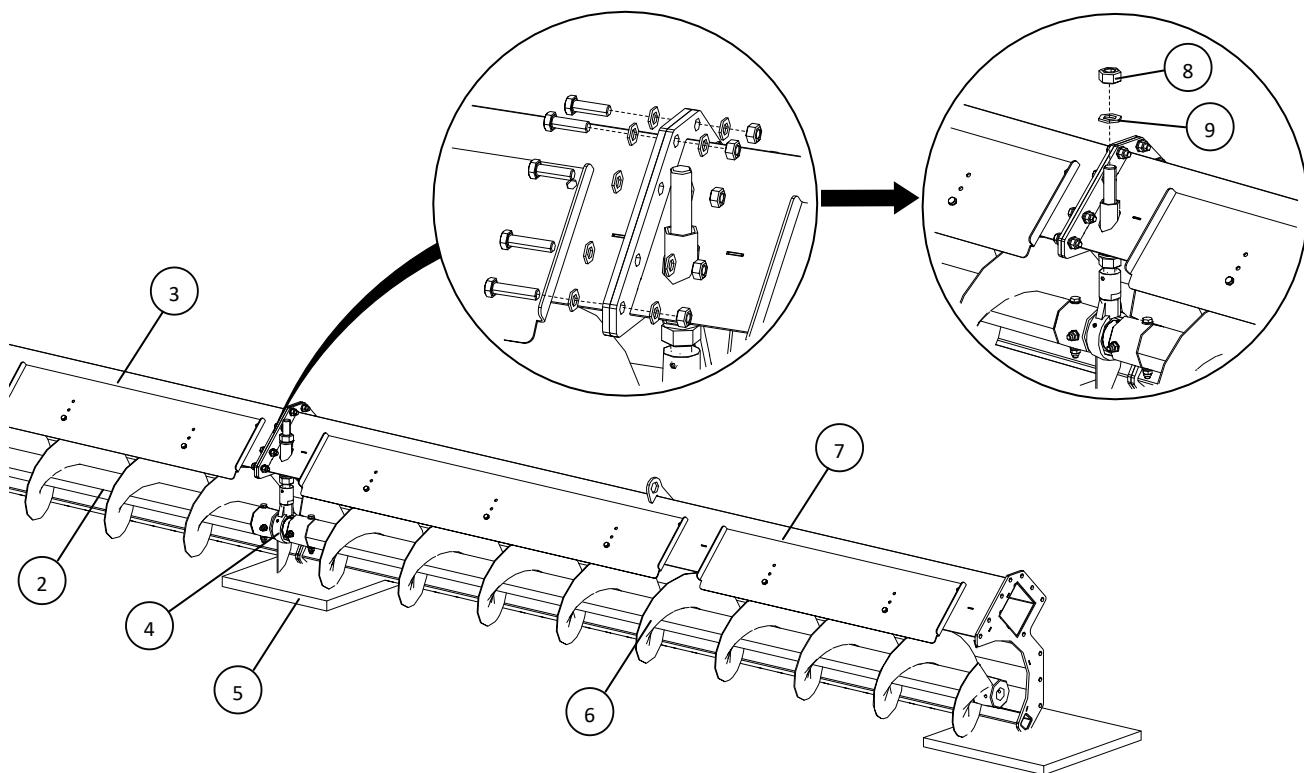
Adjust the locking nuts to ensure proper alignment of the flighting and the head shaft.

- b. Insert the intermediate joint into the flighting shaft and secure in place using M10x110 bolts. Do not tighten the flighting bolts at this stage. Tighten them after completing the machine assembly to ensure proper alignment.
6. Remove and save the nut and washer located on the top of the threaded bar. These will be used to secure the backboard once it is installed.
7. Slide the next flighting section onto the intermediate joint. Ensure to orient the flighting as shown in [Figure 7](#). Secure using M10x110 bolts.

**Figure 11. Installing the Intermediate Joint**

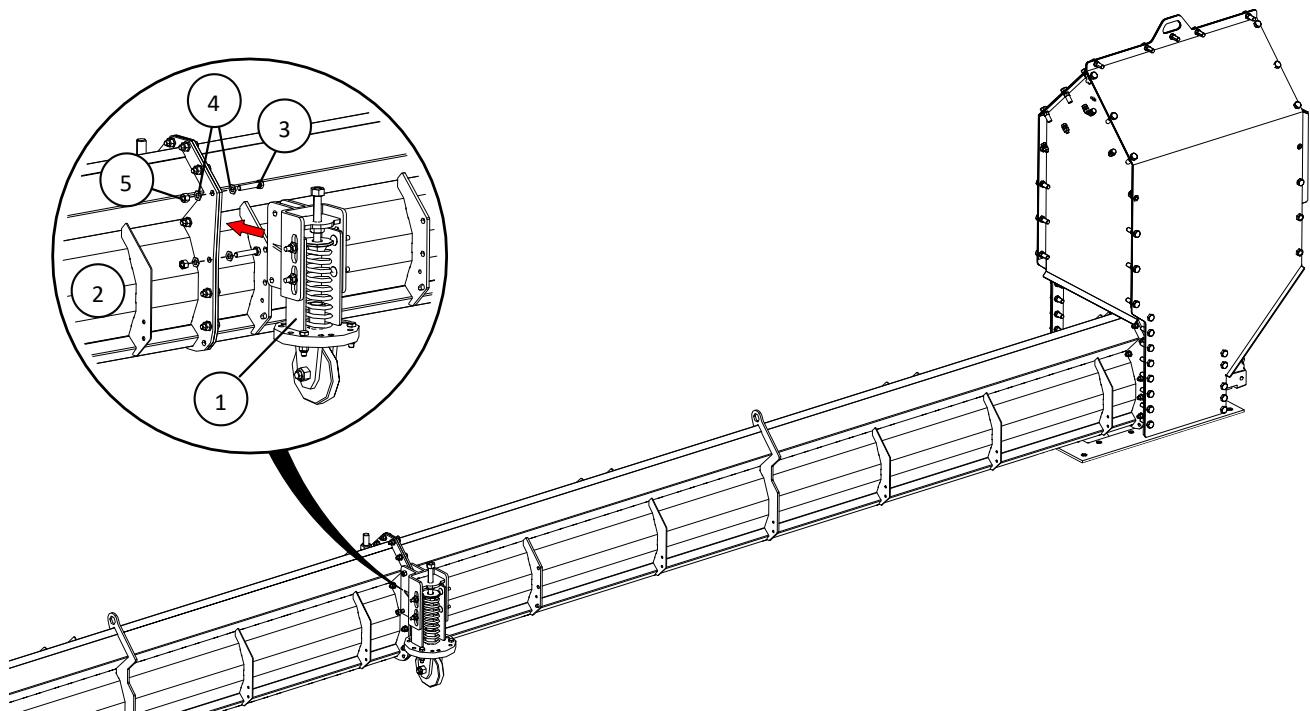
Item	Description
2	Flighting
3	Case
4	Intermediate Joint
5	Wooden Alignment Support
6	Flighting

8. Install the next backboard section, guiding it over the threaded bar. Use the wooden alignment support to align adjacent cases. Secure them together using M12x40 and M12x50 bolts.
9. Along with the backboard section, install the rear wheel using two M12x60 bolts.
10. Use the washer and nut removed in [Step 6](#) to secure the case to the intermediate joint. See [Figure 14](#) for the proper nut clearance.
11. Check for proper alignment.

**Figure 12. Installing the Next Case Section**

Item	Description
2,6	Flighting
3,7	Backboard
4	Intermediate Joint

Item	Description
5	Wooden Alignment Support
8	Nut M24
9	Washer M24

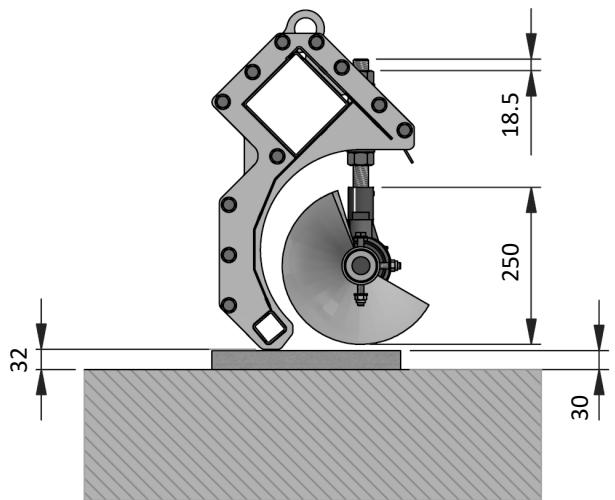
**Figure 13.** Installing the Rear Wheel

Item	Description
1	Rear Wheel
2	Backboard
3	M12x60 Bolt

Item	Description
4	Nut M12
5	Washer M12

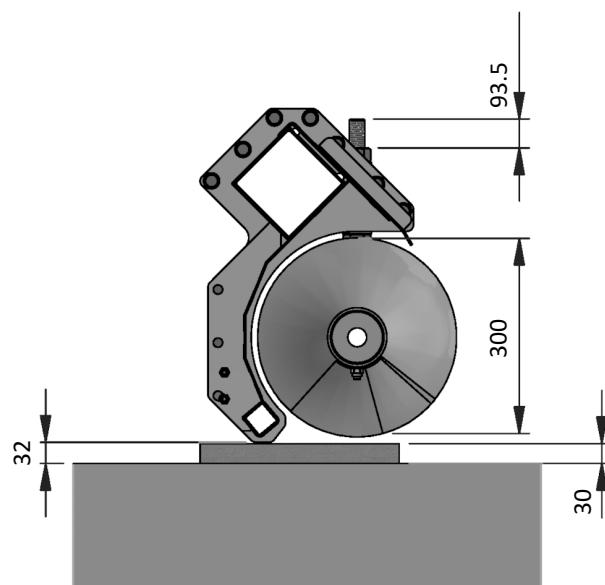
**Figure 14.** Completed Intermediate Joint Assembly – Dimensions and Clearances

FSA052 – 250 mm Diameter Screw



Dimensions are in mm

FSA102/FSA151 – 300 mm Diameter Screw



12. Install all flighting, rear wheels, and backboard sections using the same installation procedures. Check alignment throughout the installation process.
13. Once all flighting and backboard sections are installed, removed the wooden alignment supports and then install the support plates. See [Section 5.5 – Installing the Support Plates on page 29](#).

## 5.5. Installing the Support Plates

1. Measure 2.5° from the silo unload axis as shown in [Figure 15](#).

**Note**

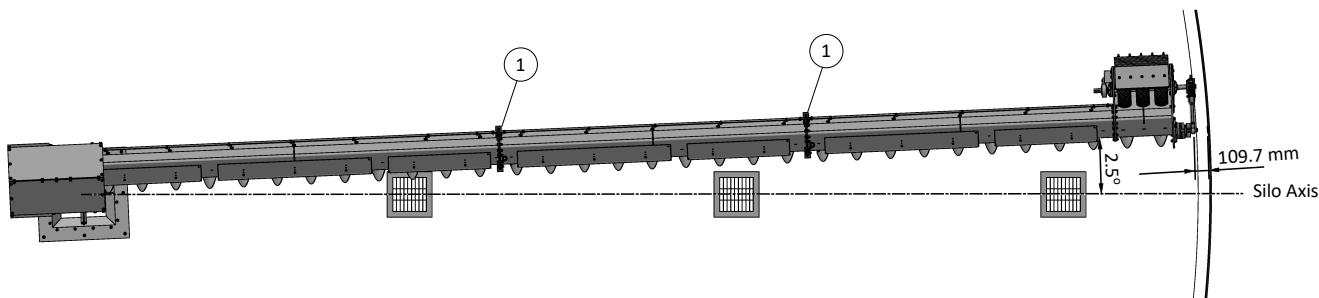
This is the sweep auger starting or parking position.

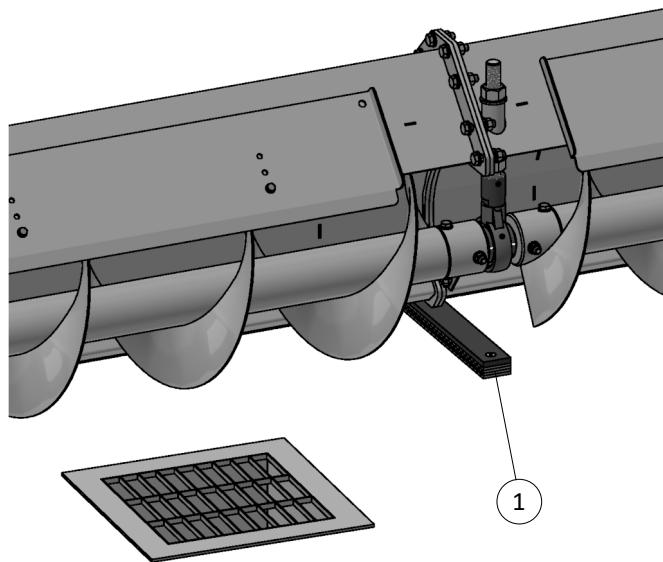
2. Identify all backboard bolted joints when the sweep auger is in its starting or parking position. Install a support plate beneath each identified location.

**Important**

To reduce stress on the joints when the flighting is in its starting or parking position, all back bolted joints must be resting on a support plate.

**Figure 15. Starting or Parking Position**



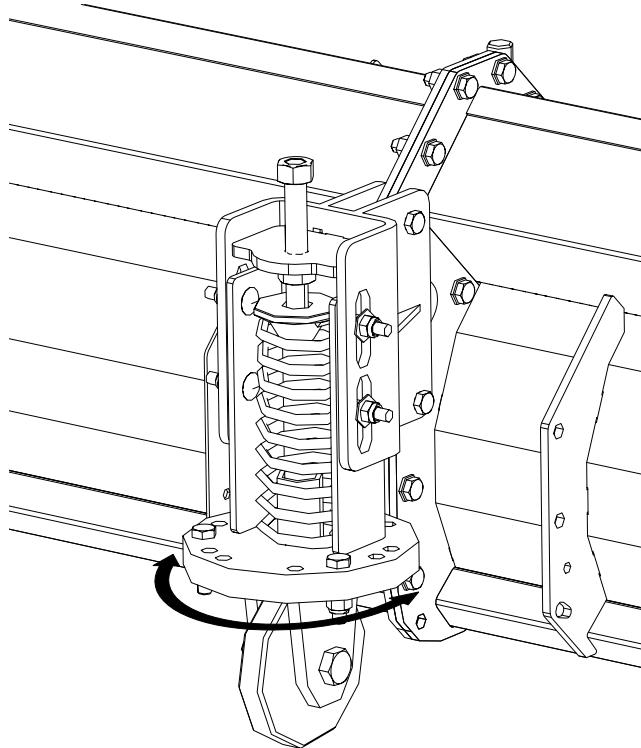
**Figure 16. Support Plate**

Item	Description
1	Support Plate

## 5.6. Adjusting the Alignment of the Rear Wheels

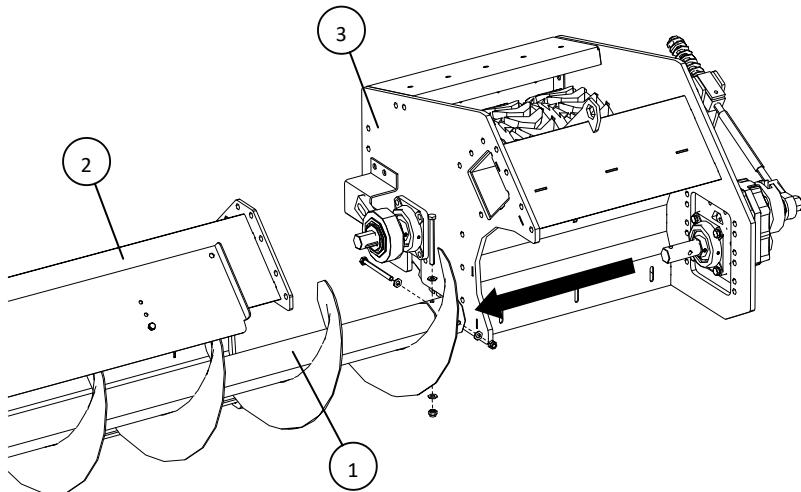
---

Adjust the rear wheels to align with the scribed wheel paths at each radius where they are located. For each wheel, rotate the disk plate overtop of the wheel and position the bolts in the hole settings which enable the angle of the wheel to align with the scribed wheel path on the floor.

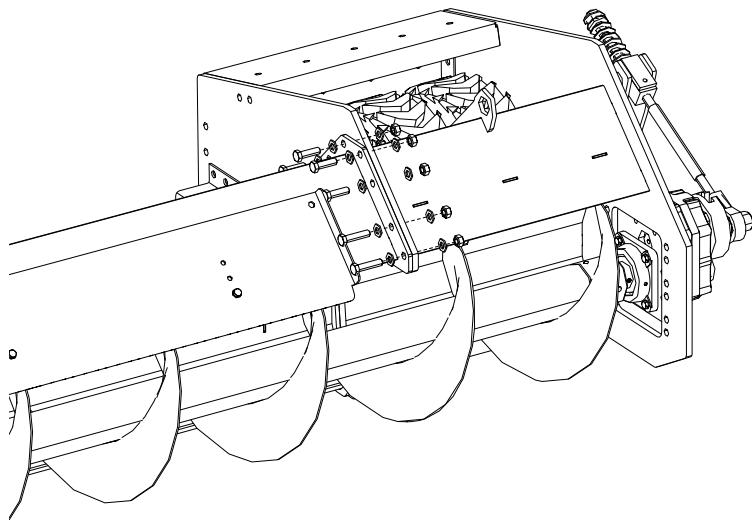
**Figure 17. Adjust Alignment of Rear Wheels**

## 5.7. Installing the Drive Wheel

1. Attach the drive wheel shaft to the flighting and secure using M10x110 bolts.
2. Secure the drive wheel to the backboard using M12x50 bolts.

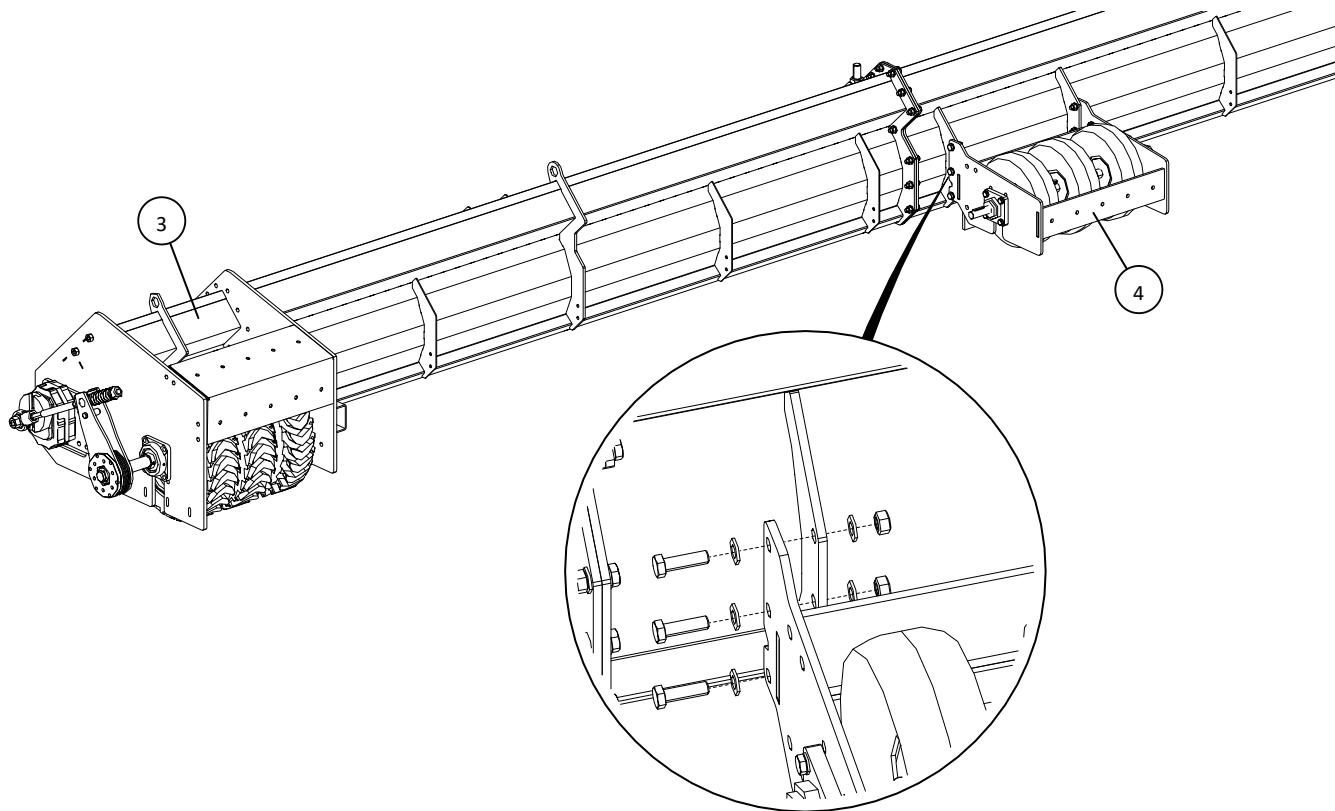
**Figure 18. Installing the Drive Wheel**

Item	Description
1	Flighting
2	Backboard
3	Drive Wheel



3. For FSA05226 – FSA05236 and FSA10226 – FSA10236 models, a second drive wheel must be installed.
  - a. Attach the second drive wheel to the plates on the second-to-last backboard with M12x40 bolts.

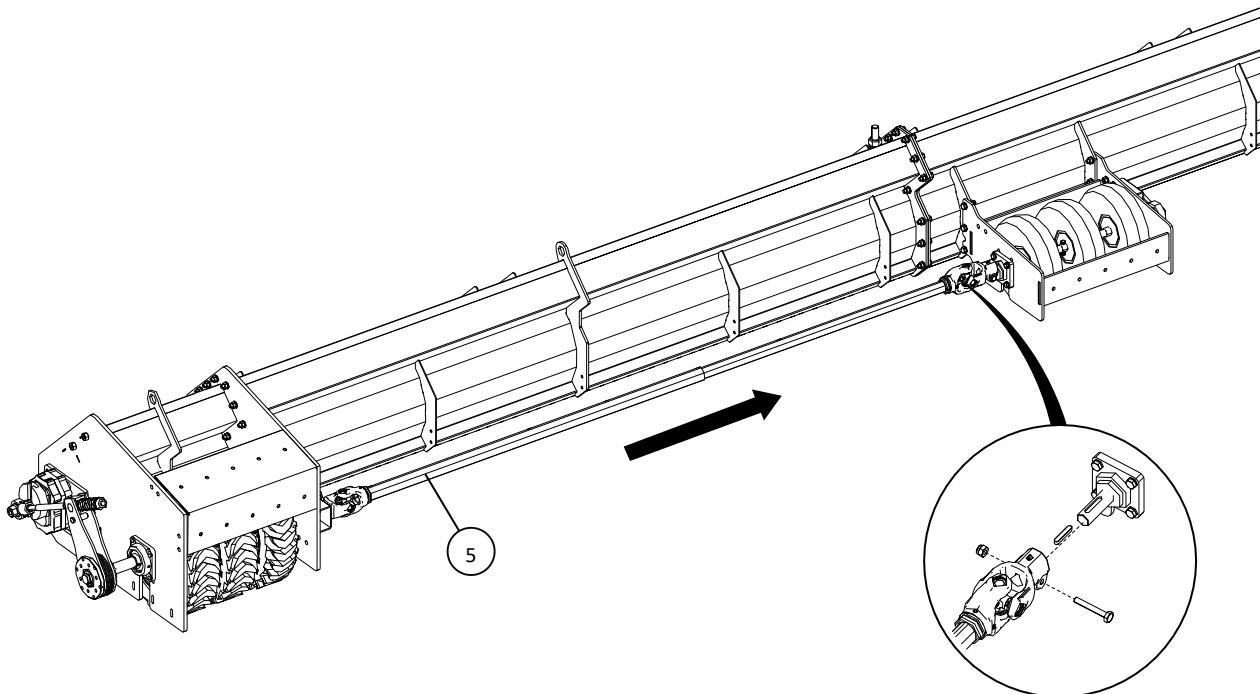
**Figure 19. Installing the Second Drive Wheel (FSA05226 – FSA05236 and FSA10226 – FSA10236 Models)**



Item	Description
3	Drive Wheel
4	Second Drive Wheel

- b. Connect the universal joint to the drive wheel shaft and extend the telescoping tube until it reaches the second drive wheel shaft. Securely fasten both connections.

**Figure 20. Installing the Universal Joint**



Item	Description
5	Driveshaft with Universal Joints

## 5.8. Accessories

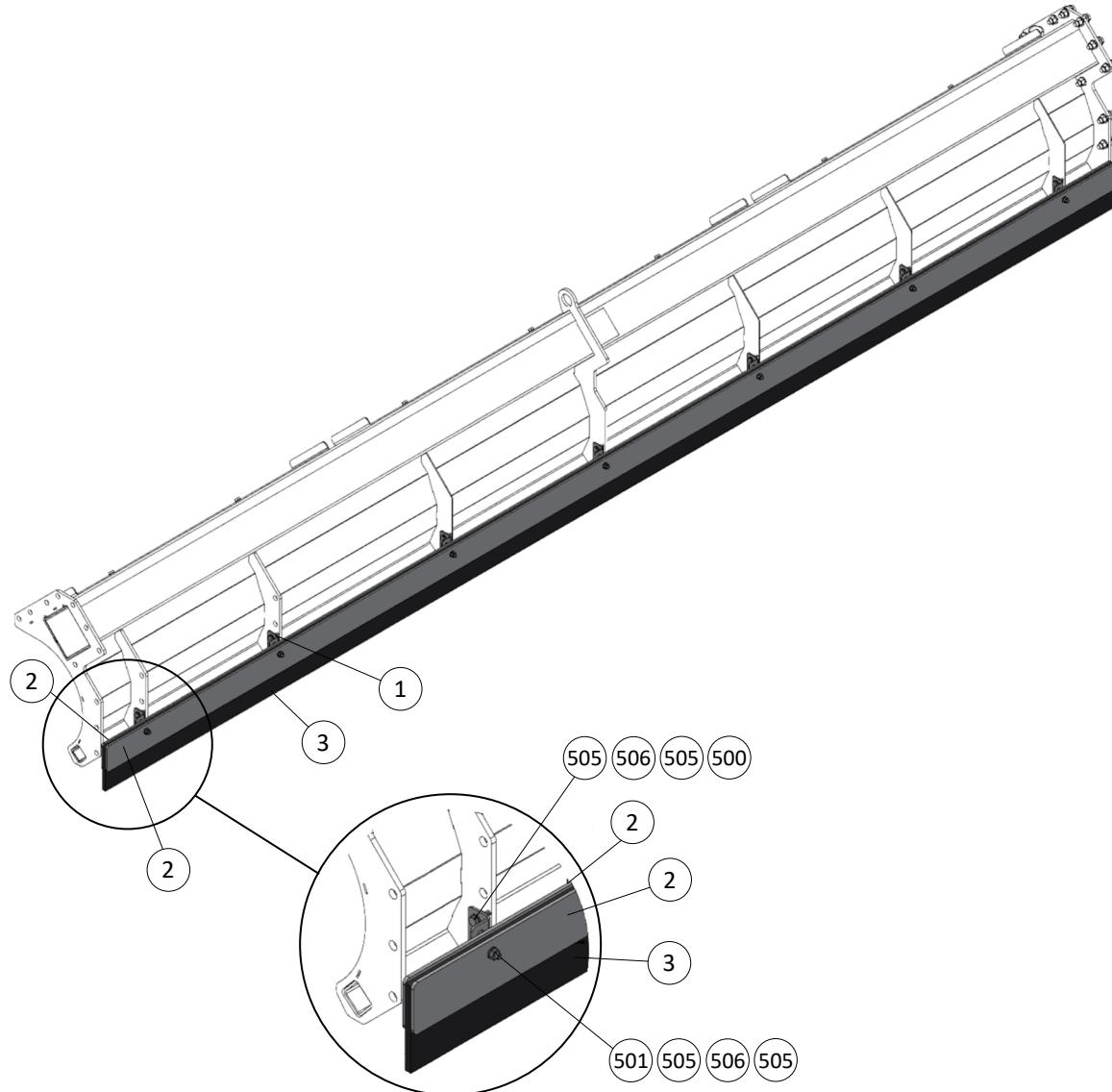
This section covers the accessories you can purchase for both FSA052 and FSA102 series.

### 5.8.1 Installing the Floor Cleaning Brush

The cleaning brush keeps the floor clean, without the need for personnel to be inside the silo. Before installing the brush, make sure that the floor is flat and free of irregularities to optimize cleaning.

1. Identify the correct brush required for each type of the backboard. Refer to the tables on the following page.
2. Install the brush support brackets (1) to the plates on the backboard.
3. Attach the rubber attachment plates (2) and antistatic rubber (3) to the support brackets (1) using the supplied hardware.

**Figure 21. Floor Cleaning Brush**



<b>BRUSH FOR CASE TYPE 4</b>			
<b>FSA052/102/151 B105377335</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	4	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477334
500	8	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	4	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	24	Washer ISO 7089-8-200 HV	1000000091
506	12	Nut M8-8- ISO4032	1000000029

<b>BRUSH FOR CASE TYPE 5</b>			
<b>BRUSH KIT B105377326</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	5	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477332
500	10	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	5	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	30	Washer ISO 7089-8-200 HV	1000000091
506	15	Nut M8-8- ISO4032	1000000029

<b>BRUSH FOR CASE TYPE 5 - SHORT</b>			
<b>FSA052/102/151 B105377338</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	5	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477337
500	10	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	5	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	30	Washer ISO 7089-8-200 HV	1000000091
506	15	Nut M8-8- ISO4032	1000000029

<b>BRUSH FOR CASE TYPE 6</b>			
<b>BRUSH KIT B105377341</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	5	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477340
500	10	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	5	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	30	Washer ISO 7089-8-200 HV	1000000091
506	15	Nut M8-8- ISO4032	1000000029

<b>BRUSH FOR CASE TYPE 6 - SHORT</b>			
<b>FSA052/102/151 B105377344</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	5	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477343
500	10	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	5	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	30	Washer ISO 7089-8-200 HV	1000000091
506	15	Nut M8-8- ISO4032	1000000029

<b>BRUSH FOR CASE TYPE 7</b>			
<b>BRUSH KIT B1053773448</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	5	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477347
500	14	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	7	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	42	Washer ISO 7089-8-200 HV	1000000091
506	21	Nut M8-8- ISO4032	1000000029

<b>BRUSH FOR CASE TYPE 8</b>			
<b>FSA052/102/151 B105377351</b>			
<b>Item</b>	<b>Quantity</b>	<b>Description</b>	<b>Part No.</b>
1	5	External Brush Support Bracket	B105474722
2	2	Antistatic Rubber Attachment Plate	B105477333
3	1	Antistatic Rubber for Brush	B105477350
500	14	HH Screw M8x25 - 8.8 - ISO 4017	1000000088
501	7	HH Screw M8x40 - 8.8 - ISO 4017	1000000403
505	42	Washer ISO 7089-8-200 HV	1000000091
506	21	Nut M8-8- ISO4032	1000000029

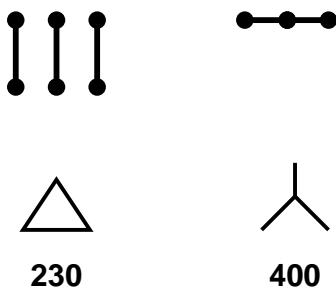
## 5.9. Electrical Connections

The electric control panel and related connection equipment are not supplied with the machine. Connecting the machine to a control panel must be arranged by the Customer unless alternative contractual agreements are made.

**DANGER** All electrical connections must be carried out by qualified personnel, strictly adhering to the country's installation regulations.

**NOTICE** When connecting the motor to the electrical power supply, ensure that the direction of rotation of the flighting is correct. If not, switch the connections.

The following diagram shows two different types of possible connection to obtain the required level of voltage, a star connection and a delta connection.



## 5.10. Grounding

Insert a grounding wire beneath the head of one of the bolts joining the steel sheets of the structure. Tighten the same bolt to secure it.

**Note**

Use a 16 mm<sup>2</sup> copper wire or braid. Make sure to crimp the terminals to provide a secure connection.

## 5.11. Completing the Machine Installation

1. Check the size of the corresponding *dead zone* for the sweep auger model. Refer to [Section 10.2 – Layout Diagrams – FSA052 Series on page 57](#) and [Section 10.3 – Layout Diagrams – FSA102/FSA151Series on page 84](#) for the *dead zone* value for each model.

**Note**

The dead zone is the distance between the drive wheel and the wall of the silo. It varies depending on the sweep auger model. In any case, the distance must not be less than 50 mm for proper machine operation.

2. Check the flighting and backboard for proper alignment.
3. Tighten the bolts of the intermediate joints.
4. Ensure that the flighting is parallel to the bottom of the bin. Verify that the distance from the silo floor to the lowest point of the case is approximately 32 mm.

**Note**

The 32 mm clearance ensures the support plates do not obstruct the movement of the sweep auger.

## 5.12. Functional Testing of the Sweep Auger

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### Important

The sweep auger start-up and testing can only be performed if the Customer provides documentation certifying the conformity of the electrical system with safety regulations. The Manufacturer declines all responsibility for damage to persons or property that is caused by incorrect or negligent execution of the electrical system, unless alternative contractual agreements are made.

Before running a test of the machine, perform a final inspection to ensure:

- that all parts that require lubrication are properly lubricated
- that there are no obstructions in the center discharge, sweep's flighting, or sweep's path along the bin floor.
- that the direction of rotation of the flighting is correct

### Note

The flighting rotates counterclockwise for both FSA052 and FSA102 series.

- that the power voltage corresponds to the control unit requirement and that it matches with the voltage shown on the motor label
- all intermediate outlets are closed
- that the flighting does not interfere with the silo floor and that there is a distance of 32 mm between the machine and the floor (lowest point of the case)



Only operate the machine automatically once completely installed inside the silo and secured. Do not operate the machine outside the silo or bypass the automation. Adopt precautionary measures to prevent accidents before starting the machine (for example, static or mobile, lockable safety guards). In particular, the access door to the silo is to be considered as a safety protection and should be equipped with a locking device, or alternatively, with an appropriate removable locking system, that can only be deactivated using specific equipment.

Check that the material is correctly emptied from the silo during full-load testing and check that the amperage draw is within the correct limits.

1. Perform a test-run of the sweep (one full revolution around the silo).
2. During testing monitor the following:
  - Observe the clearance between the backboard and the concrete floor.
  - Observe the end of the sweep around the whole bin and note the position in its revolution which has the minimum clearance to the bin wall.
3. Once proper functional operation has been verified, move the sweep to the "start/park position".
4. Shut down and lock out all power sources.

# 6. Operation

For optimal operation, follow these safety precautions, checklists, and instructions.

## 6.1. Operation Safety

### **WARNING**

- Keep away from rotating and moving parts, including the flighting, drive components, shafts, and bearings.
- Do not enter the grain silo or truck while the sweep auger is operating.
- Always operate with guards, covers, and shields in place.
- Have another trained person nearby who can shut down the equipment in case of accident.
- Keep the work area clear of bystanders.
- Keep the work area clean and free of debris.
- Ensure maintenance has been performed and is up to date.



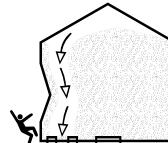
Refer to your silo operation manual for specific operating and safety information for your silo.

## 6.2. Bin Unload Overview

The bin unload system operates by first opening the center sump to remove 70–80% of grain by gravity (see “A” in [Figure 22](#)). Next, the intermediate sumsps are opened when the center sump runs empty to free the sweep (see “B” in [Figure 22](#)). Lastly, the bin sweep is operated to remove the remaining 20–30% of grain (see “C” in [Figure 22](#)).

### **WARNING**

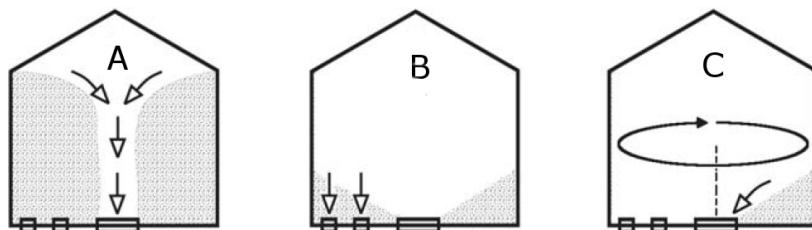
To prevent serious injury or death from bin collapse, the center sump must be open first to empty bin.



### **NOTICE**

Make certain there are adequate vents installed on the bin to prevent a vacuum from forming in the upper portion of the bin during unloading. The pressures on the roof caused by such a vacuum could damage or cause structural failure to the bin roof.

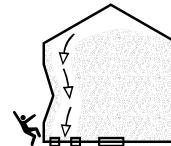
**Figure 22. Grain Bin Overall Emptying Procedure**



## 6.3. Bin Unload Overview

The silo unload system operates by first opening the central discharge to remove 70–80% of grain by gravity (see “A” in [Figure 23](#)). Next, the intermediate discharge outlets are opened when the central discharge runs empty to free the sweep (see “B” in [Figure 23](#)). Lastly, the silo sweep is operated to remove the remaining 20–30% of grain (see “C” in [Figure 23](#)).

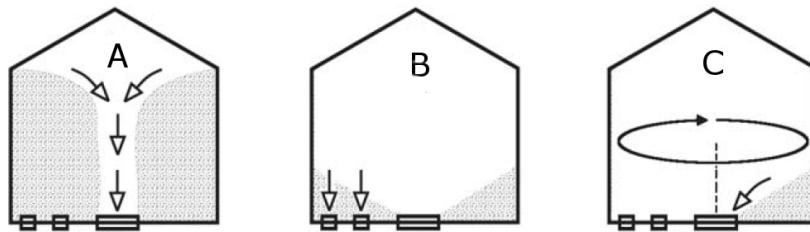
**WARNING** To prevent serious injury or death from silo collapse, the central discharge must be open first to empty silo.



**NOTICE**

Make certain there are adequate vents installed on the silo to prevent a vacuum from forming in the upper portion of the silo during unloading. The pressures on the roof caused by such a vacuum could damage or cause structural failure to the silo roof.

**Figure 23. Grain Silo Overall Emptying Procedure**



## 6.4. Operation of the Sweep Auger

Perform the following steps in order to fully unload the grain silo.

1. Unload the grain from the central discharge.
2. When grain flow from the central discharge stops flowing, open the intermediate discharge outlets.
3. After grain has stopped flowing into intermediate discharge outlets, shut down and lock out all power to the silo unload system. Close all intermediate discharge outlets.
4. Wait for the airborne dust inside the silo to settle to prevent a potential explosion.
5. Start under-floor unloading auger, then start the sweep auger. Operate the sweep auger until all grain has been removed from the bin.
6. When grain flow stops and the bin is clean, allow the bin sweep to travel around the bin until it returns to its starting/parking position. See [.](#)

**NOTICE** Failure to park the bin sweep in the “start/park position” could result in damage to the sweep auger, underfloor auger, and/or aeration floor.

**Important**

The sweep auger is designed for 10 loading/unloading cycles per year. Exceeding this is not recommended.

## 6.5. Emergency Shutdown

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In an emergency situation:

1. Stop or shut down the power source immediately and lockout power.
2. Ensure the sweep auger components come to a stop before inspecting.
3. Correct the emergency situation before resuming work.

## 6.6. Restarting with a Full Underfloor Auger

---

When the silo unload system is shut down inadvertently or due to an emergency, the system may still be filled with grain.

1. Close all intermediate sump gates and center gate.
2. Lock out power and remove as much of the grain as possible from the silo unload system using a grain vac or other tool.



Do not use your hands, feet, or other similar bodily means.

3. If guards or covers have been opened or removed, close or replace them before restarting the unit.
4. Once the problem is corrected, restart the machine.



**Never** attempt to start when under load. Starting under load may result in damage to the silo unload system if grain is not removed as much as possible. Such damage is considered abuse of the equipment and will not be covered under warranty.

5. Once the silo unload system has been started, you may resume normal operation.

## 6.7. Cleanup

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1. Clean out any remaining grain with a grain vac, shovels, and/or brooms.
2. Clean up (remove) all settled dust deposits.



Buildup of dust inside the grain silo and around the sweep auger and underfloor auger could lead to a dust explosion if not removed regularly.

## 6.8. Extended Shutdown / End of Season

---

After the season's use, the sweep auger should be thoroughly inspected. Repair or replace any worn or damaged components and complete maintenance as described in [Section 7. – Maintenance on page 42](#) to prevent any unnecessary downtime at the start of the next season.

# 7. Maintenance

Proper maintenance will improve safety, efficiency, and will keep the sweep auger operating reliably.

## 7.1. Maintenance Safety



- Keep components in good condition. Follow the maintenance procedures.
- Ensure the service area is clean, dry, and has sufficient lighting.
- Do not modify any components without written authorization from the manufacturer. Modification can be dangerous and result in serious injuries.
- Shut down and lock out power before maintaining equipment.
- All electrical maintenance must be performed by a qualified electrician in accordance with all applicable local codes and standards.
- After maintenance is complete, replace all guards, service doors, and/or covers.
- Use only genuine AGI Milltec replacement parts or equivalent. Use of unauthorized parts will void warranty. If in doubt, contact AGI Milltec or your local dealer.

## 7.2. Maintenance Procedures

Follow the Maintenance Schedule below. Keep good records of the hours the sweep auger has been operated and the maintenance performed.

### Inspect the Exterior of the Sweep Auger

**Frequency:** Every 50 hours

**Before starting:** Lockout/Tagout power.

**Procedure:**

1. Remove any buildup from the sweep auger.
2. Check the backboard and flighting for wear or damage.
3. Check tightness of bolts/nuts, fasteners, and hardware (re-torque if necessary).
4. Check that the discharge and intake areas are free of obstructions
5. Check that all safety decals are in place and are legible.
6. Ensure all guards are in place and in good working order.

### Inspect the Intermediate Joints

**Frequency:** First 10 hours and Every 100 hours

**Before starting:** Lockout/Tagout power.

**Procedure:** Inspect all joints for signs of damage and cracks. Ensure that all bolts and nuts are secure. Replace bolts, if necessary..

## Inspect the Support Plate

**Frequency:** First 10 hours

**Before starting:** Lockout/Tagout power.

**Procedure:** Check the dimension of the support plate. Replace if thickness is 8 mm or less.

## Inspect the Bearings

**Frequency:** Every 100 hours

**Before starting:** Lockout/Tagout power.

**Procedure:** Check all bearings for damage or wear. Ensure that all seals are intact

## Lubricate the Bearings and U-Joints

**Frequency:** As required.

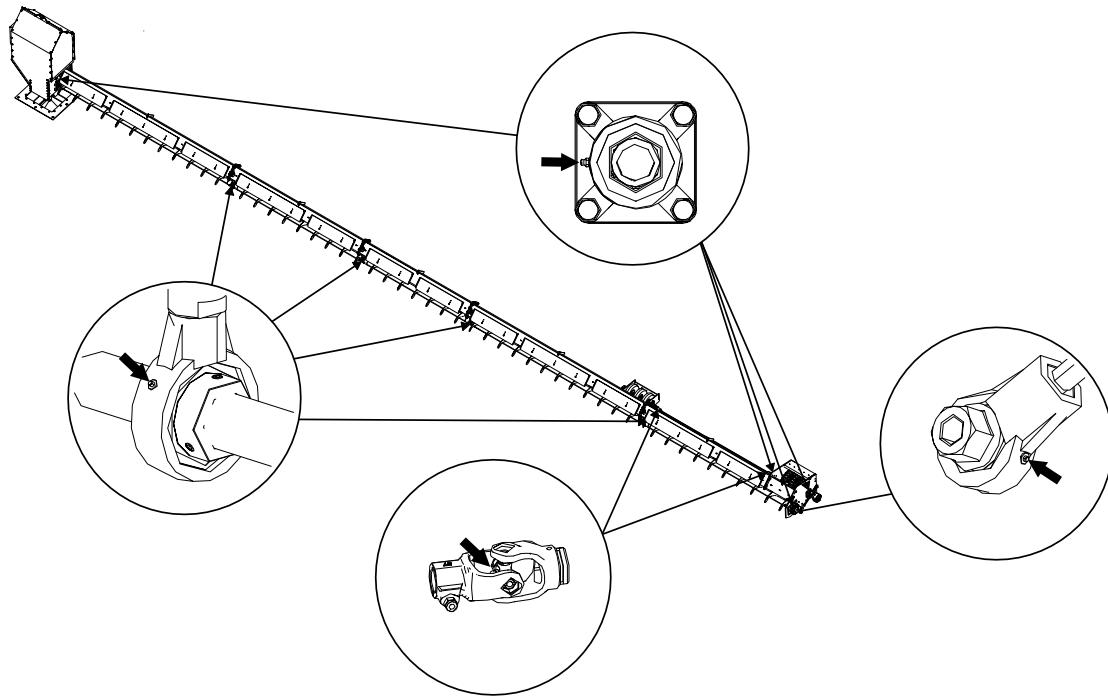
### Note

The lubrication frequency of a bearing is dependant upon speed, load, and working environment. Determine the lubrication frequency that suits your specific operating conditions.

**Required:** Use the grease specified in the manufacturer's documentation.

### Procedure:

1. Locate the lubrication points.
2. Apply grease at each lubrication point until a small amount of grease is forced out of the bearing ends.



## Inspect the Electric Motor

**Frequency:** Every 50 hours

**Before starting:** Lockout/Tagout power

**Procedure:**

1. Check the exterior of the electric motor for damage.
2. Check that mounting bolts are tightened to proper torque. Refer to [Section 10.4 – Bolt Torque](#) on page 107 for fastener torque specifications.
3. Follow manufacturer specific instructions for routine maintenance of electric motor.

## Check the Electrical Wiring and Connections

**Frequency:** Every 50 hours

**Before starting:** Lockout/Tagout power.

**Procedure:**

1. Check for frayed/exposed wiring. Replace wiring as necessary.
2. Check all wiring connections. Tighten and secure wiring connections as required.

## Gear Reducer Maintenance

**Frequency:** Every 100 hours

**Before starting:** Lockout/Tagout power

**Procedure:**

1. Check the exterior of the gear reducer for damage.
2. Check the gear reducer seals for leakage. Replace seals as required. Refer to gear reducer manufacturer's documentation.
3. Check the gear reducer's breather vent for obstructions and clogging.

**NOTICE — Restricted breather vent may cause drive seal leakage and premature seal failure.**

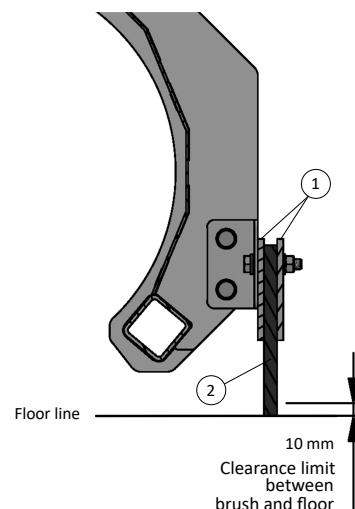
4. Clean or replace the breather vent as needed.

## Check the Brush

**Frequency:** Every 100 hours

**Before starting:** Lockout/Tagout power.

**Procedure:** Check the clearance between the brush and the floor. Ensure the gap is no more than 10 mm. If the clearance is greater than 10 mm, adjust the rubber attachment plates and antistatic rubber positions to maintain proper cleaning functionality.



Item	Description
1	Antistatic Rubber Attachment Plate
2	Antistatic Rubber

## 7.3. Replacement Parts

### Ordering Replacement Parts

Call 1(800) 425-8431. Provide the following information.

- Equipment to repair sales order number.
- Part number and paint color, when applicable. Refer to the installation drawing (if this sweep auger came with an installation drawing), packing list, or invoice.
- Priority level of the order.
- Your name, complete mailing address, and phone number.



# 8. Troubleshooting

Find causes and solutions to common problems that can be encountered.

**WARNING** Shut down and lock out all power sources before diagnosing any of the causes or attempting any of the solutions below.

If there is a problem that is difficult to solve, even after having read through this section, please contact your representative or AGI. Have this manual and the serial number available.

**Table 1. Sweep Related Problems**

Problem	Cause	Solution
Excessive vibration, loud noise (including “squeaking”), or knocking	Flighting bearing(s)/seal(s) worn out	Replace affected flighting bearing(s)
	Damaged/bent flighting or inadequate flighting clearances	Bend flighting back to original shape. Ensure no tips are catching. If this doesn’t work, replace flighting.
	Loose set screw(s) on pillow block bearing(s), resulting in flighting moving toward bin wall	Reset flighting clearance. Re-tighten set screw(s).
Motor is running but the auger is not turning	Shearing of shank head keyway	Replace the key
	Worm gear reduction unit	Replace gear reduction unit
Sweep flighting is not functioning	Obstruction in the flighting	Remove obstruction
	Electric motor malfunctioning	Check electrical systems
Sweep advancing excessively slow around the silo	Grain condition wet, hard-packed, and/or moldy	Sweep will perform poorly if grain is not in proper condition
Sweep stops advancing around the silo	Obstruction in sweep	Remove obstruction
	Uneven floor	Level the floor so that the flighting will not touch the floor  Position the lateral rubber to the topmost hole. If the rubber overlaps the floor, trim it flush to the floor.
Poor grain movement by sweep flighting.	Obstruction in sweep	Remove obstruction
	Damaged or bent flighting	Bend flighting back to original shape. If this doesn’t work, replace flighting.
Poor capacity	Worn flighting	Replace flighting
	Bent flighting	Repair flighting once cause has been identified

**Table 1 Sweep Related Problems (continued)**

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Flighting rotates but product does not advance	Flighting rotating in wrong direction	Change direction of rotation
	Flighting bent due to incorrect direction of rotation or damaged by a foreign object	Dismantle flighting, repair it and change direction of rotation, or remove foreign object
	Shearing of shank/flighting connection bolts due to excessive strain	Check and repair flighting and then replace bolts
Grain is flowing over backboard of sweep	Grain is avalanching faster than sweep flighting can remove it	A second revolution around bin may be necessary
Poor grain removal by center sump	Obstruction caught in center sump	Remove obstruction

# 9. Specifications

## 9.1. Construction Features

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The sweep auger consists of:

- Fully bolted head with motor unit housing
- Galvanised steel cases to support the spiral screws
- Carbon steel spiral screws
- Intermediate supports for spiral screws
- Feed foot with wheels
- Second feed foot with wheels (used for larger models)

## 9.2. Capacities

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Series	Capacity*
FSA052	64 m <sup>3</sup> /h
FSA102	128 m <sup>3</sup> /h
FSA151	192 m <sup>3</sup> /h

\*Based on a specific weight of 0.78 t/m<sup>3</sup>

## 9.3. Dimensions and Power Requirements

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Table 2. FSA052 Series

Silo Model	Silo Diameter (m)	Sweep Auger Model	Sweep Auger Radius (mm)	Power (kW)
FP 10	9.1	FSA05210	4437.7	3
FP 11	10.01	FSA05211	4892.7	3
FP 12	10.92	FSA05212	5347.7	3
FP 13	11.83	FSA05213	5802.7	4
FP 14	12.74	FSA05214	6257.7	4
FP 15	13.65	FSA05215	6712.7	4
FP 16	14.56	FSA05216	7167.7	4
FP 17	15.47	FSA05217	7622.7	5.5
FP 18	16.38	FSA05218	8077.7	5.5
FP 19	17.29	FSA05219	8532.7	5.5
FP 20	18.2	FSA05220	8987.7	5.5

**Table 2 FSA052 Series (continued)**

Silo Model	Silo Diameter (m)	Sweep Auger Model	Sweep Auger Radius (mm)	Power (kW)
FP 21	19.11	FSA05221	9442.7	5.5
FP 22	20.02	FSA05222	9897.7	7.5
FP 23	20.93	FSA05223	10352.7	7.5
FP 24	21.84	FSA05224	10807.7	7.5
FP 25	22.75	FSA05225	11262.7	7.5
FP 26	23.66	FSA05226	11617.7	7.5
FP 27	24.57	FSA05227	12072.7	7.5
FP 28	25.48	FSA05228	12527.7	7.5
FP 29	26.39	FSA05229	12982.7	7.5
FP 30	27.3	FSA05230	13437.7	11
FP 31	28.21	FSA05231	13892.7	11
FP 32	29.12	FSA05232	14347.7	11
FP 33	30.03	FSA05233	14802.7	11
FP 34	30.94	FSA05234	15257.7	11
FP 35	31.85	FSA05235	15712.7	11
FP 36	32.76	FSA05236	16167.7	11

**Table 3. FSA102 Series**

Silo Model	Silo Diameter (m)	Sweep Auger Model	Sweep Auger Radius (mm)	Power (kW)
FP 15	13.65	FSA10215	6712.7	7.5
FP 16	14.56	FSA10216	7167.7	7.5
FP 17	15.47	FSA10217	7622.7	7.5
FP 18	16.38	FSA10218	8077.7	9.2
FP 19	17.29	FSA10219	8532.7	9.2
FP 20	18.2	FSA10220	8987.7	9.2
FP 21	19.11	FSA10221	9442.7	9.2
FP 22	20.02	FSA10222	9897.7	9.2
FP 23	20.93	FSA10223	10352.7	11
FP 24	21.84	FSA10224	10807.7	11
FP 25	22.75	FSA10225	11262.7	11
FP 26	23.66	FSA10226	11617.7	11
FP 27	24.57	FSA10227	12072.7	15

**Table 3 FSA102 Series (continued)**

<b>Silo Model</b>	<b>Silo Diameter (m)</b>	<b>Sweep Auger Model</b>	<b>Sweep Auger Radius (mm)</b>	<b>Power (kW)</b>
FP 28	25.48	FSA10228	12527.7	15
FP 29	26.39	FSA10229	12982.7	15
FP 30	27.3	FSA10230	13437.7	15
FP 31	28.21	FSA10231	13892.7	15
FP 32	29.12	FSA10232	14347.7	15
FP 33	30.03	FSA10233	14802.7	15
FP 34	30.94	FSA10234	15257.7	15
FP 35	31.85	FSA10235	15712.7	15
FP 36	32.76	FSA10236	16167.7	15

**Table 4. FSA151 Series**

<b>Silo Model</b>	<b>Silo Diameter (m)</b>	<b>Sweep Auger Model</b>	<b>Sweep Auger Radius (mm)</b>	<b>Power (kW)</b>
FP 35	31.85	FSA15135	15712.7	22
FP 36	32.76	FSA15136	16167.7	22

## 9.4. Auger Models and Applications

**Table 5. Auger Models for Wheat and Cereals**

		WHEAT (0.78 t/m <sup>3</sup> )							
Capacity (t/h)		35		50		100		150	
Capacity (m <sup>3</sup> /h)		45		64		128		192	
Number of Rings Narrow		UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39
Number of Rings Shallow		UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30
Silo Models	6	CST	CSTF	—	—	—	—	—	—
	7	CST	CSTF	—	—	—	—	—	—
	8	CST	CSTF	—	—	—	—	—	—
	9	CST	CSTF	—	—	—	—	—	—
	10	CST	CSTF	FSA052	FSA052	—	—	—	—
	11	CST	CSTF	FSA052	FSA052	—	—	—	—
	12	CST	CSTF	FSA052	FSA052	—	—	—	—
	13	CST	CSTF	FSA052	FSA052	—	—	—	—
	14	CST	CSTF	FSA052	FSA052	—	—	—	—
	15	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	16	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	17	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	18	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	19	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	20	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	21	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	22	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	23	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	24	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	25	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	26	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	27	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	28	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	29	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	30	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	31	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	32	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	33	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151

**Table 5 Auger Models for Wheat and Cereals (continued)**

		WHEAT (0.78 t/m <sup>3</sup> )							
Capacity (t/h)		35		50		100		150	
Capacity (m <sup>3</sup> /h)		45		64		128		192	
Number of Rings Narrow		UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39
Number of Rings Shallow		UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30
	34	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	35	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	36	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151

**Table 6. Auger Models for Rice and Abrasive Materials**

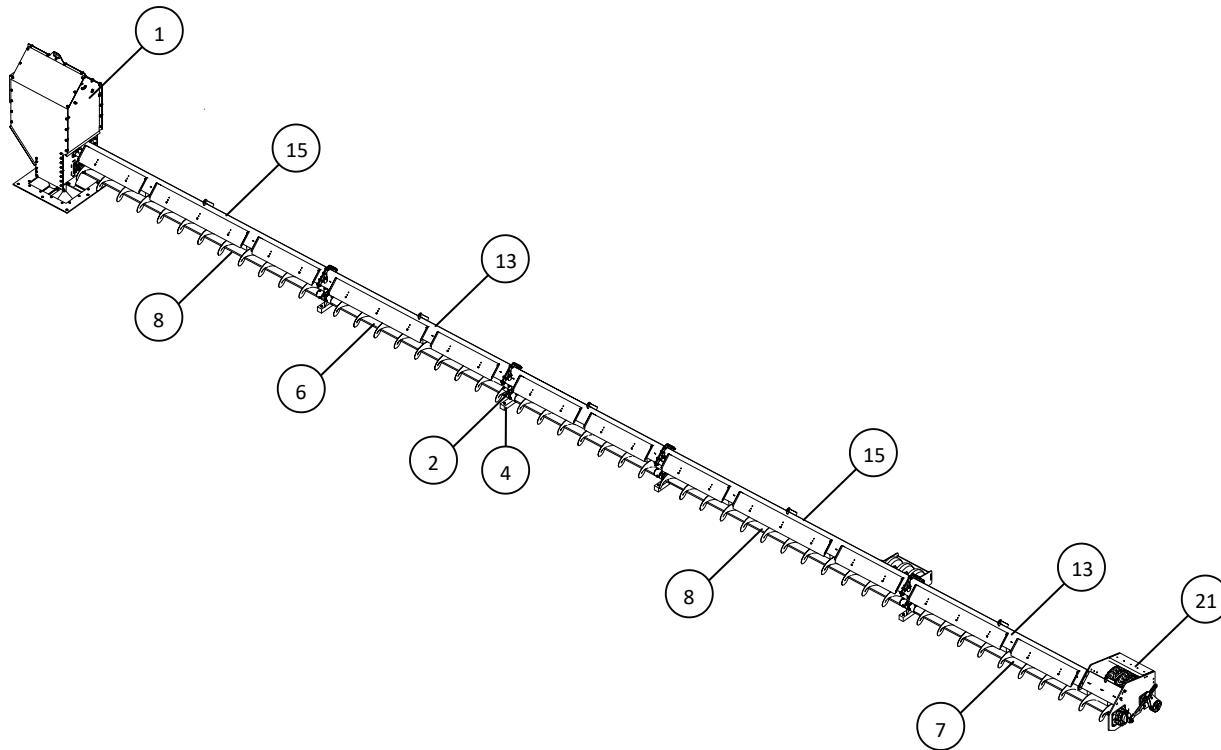
		PADDY RICE (0.60 t/m <sup>3</sup> )							
Capacity (t/h)		27		38		76		153	
Capacity (m <sup>3</sup> /h)		45		64		128		255	
Number of Rings Narrow		UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39
Number of Rings Shallow		UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30
Silo Models	6	CST	CSTF	—	—	—	—	—	—
	7	CST	CSTF	—	—	—	—	—	—
	8	CST	CSTF	—	—	—	—	—	—
	9	CST	CSTF	—	—	—	—	—	—
	10	CST	CSTF	FSA052	FSA052	—	—	—	—
	11	CST	CSTF	FSA052	FSA052	—	—	—	—
	12	CST	CSTF	FSA052	FSA052	—	—	—	—
	13	CST	CSTF	FSA052	FSA052	—	—	—	—
	14	CST	CSTF	FSA052	FSA052	—	—	—	—
	15	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	16	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	17	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	18	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	19	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	20	CST	CSTF	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	21	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	22	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	23	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	24	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151

**Table 6 Auger Models for Rice and Abrasive Materials (continued)**

		PADDY RICE (0.60 t/m <sup>3</sup> )							
Capacity (t/h)		27		38		76		153	
Capacity (m <sup>3</sup> /h)		45		64		128		255	
Number of Rings Narrow		UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39	UP TO 20	UP TO 39
Number of Rings Shallow		UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30	UP TO 15	UP TO 30
	25	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	26	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	27	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	28	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	29	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	30	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	31	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	32	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	33	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	34	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	35	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151
	36	—	—	FSA052	FSA052	FSA102	FSA102	FSA151	FSA151

# 10. Appendix

## 10.1. Parts Lists



### Note

- The illustration above is a representative example and may not include all the components listed in the following tables.
- Refer to [Section 10.2 – Layout Diagrams – FSA052 Series on page 57](#) and [Section 10.3 – Layout Diagrams – FSA102/FSA151Series on page 84](#) for a list of components included in each model.

**Table 7. FSA052 Series**

ITEM	PART NUMBER	DESCRIPTION
1	FSA102/FSA151MH	MOTORISED HEAD
2	B105374561	CASE INTERMEDIATE JOINT ASSEMBLY FSA 52/102/151
3	B105476643	WOODEN ALIGNMENT SUPPORT (NOT SHOWN)
4	B105376626	SUPPORT PLATE FOR IDLE CASE
5	FSAS300LPSSXA / FSAS300LPSSXR	EXTENSION-SIDE SCREW TYPE 5/ WITH OVERLAY
6	FSAS300LP6SX / FSAS300LP6SX	EXTENSION-SIDE SCREW TYPE 6/ WITH OVERLAY
7	FSAS300LP7SX / FSAS300LP7SX	EXTENSION-SIDE SCREW TYPE 7/ WITH OVERLAY
8	FSAS300LP8SX / FSAS300LP8SX	EXTENSION-SIDE SCREW TYPE 8/ WITH OVERLAY

**Table 7 FSA052 Series (continued)**

ITEM	PART NUMBER	DESCRIPTION
9	FSAS300LP9SXA / FSAS300LP9SXR	EXTENSION-SIDE SCREW TYPE 9/ WITH OVERLAY
10	B105374568 / B105374667	EXTENSION-SIDE SCREW TYPE 5/ WITH OVERLAY
11	B105374567 / B105374666	EXTENSION-SIDE SCREW TYPE 6/ WITH OVERLAY
12	FSA2CASE105	AUGER CASE TYPE 5
13	FSA2CASE106	AUGER CASE TYPE 6
14	FSA2CASE107	AUGER CASE TYPE 7
15	FSA2CASE108	AUGER CASE TYPE 8
16	B105374588	AUGER CASE TYPE 5 - SHORT
17	B105374661	AUGER CASE TYPE 6 - SHORT
18	B105374559	INTERMEDIATE SUPPORT WHEEL FSA 52-102-151
19	B105374564	SECOND WHEEL FSA 52- 102-151
20	30CAFSA100	UNIVERSAL JOINT FOR SECOND WHEEL
21	FSA052FT	FEED FOOT FSA52-102-151

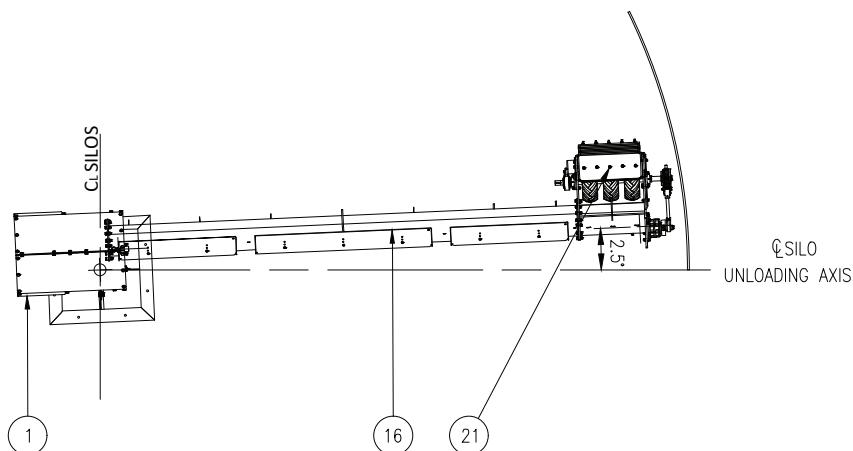
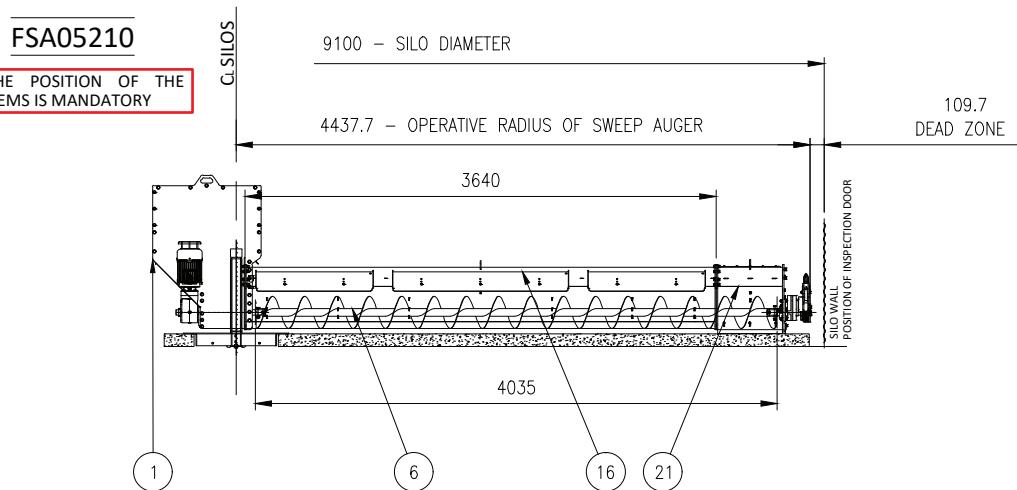
**Table 8. FSA102/FSA151 Series**

ITEM	PART NUMBER	DESCRIPTION
1	FSA102/FSA151MH	MOTORISED HEAD
2	B105374561	CASE INTERMEDIATE JOINT ASSEMBLY FSA 52/102
3	B105476643	WOODEN ALIGNMENT SUPPORT
4	B105376626	SUPPORT PLATE FOR IDLE CASE
5	FSAS300LPSSXA / FSAS300LPSSXR	EXTENSION-SIDE SCREW TYPE 5/ WITH OVERLAY
6	FSAS300LP6SXA / FSAS300LP6SXR	EXTENSION-SIDE SCREW TYPE 6/ WITH OVERLAY
7	FSAS300LP7SXA / FSAS300LP7SXR	EXTENSION-SIDE SCREW TYPE 7 / WITH OVERLAY
8	FSAS300LP8SXA/FSAS300LP8SXR	EXTENSION-SIDE SCREW TYPE 8/ WITH OVERLAY
9	FSAS300LP9SXA / FSAS300LP9SXR	EXTENSION-SIDE SCREW TYPE 9/ WITH OVERLAY
10	B105374568 / B105374667	EXTENSION-SIDE SCREW TYPE 5/ WITH OVERLAY
11	B105374567 / B105374666	EXTENSION-SIDE SCREW TYPE 6/ WITH OVERLAY
12	FSA2CASE105	AUGER CASE TYPE 5
13	FSA2CASE106	AUGER CASE TYPE 6
14	FSA2CASE107	AUGER CASE TYPE 7
15	FSA2CASE108	AUGER CASE TYPE 8
16	B105374588	AUGER CASE TYPE 5 - SHORT
17	B105374661	AUGER CASE TYPE 6 - SHORT
18	B105374559	INTERMEDIATE SUPPORT WHEEL FSA 52-102-151
19	B105374564	SECOND WHEEL FSA 52- 102 - 151

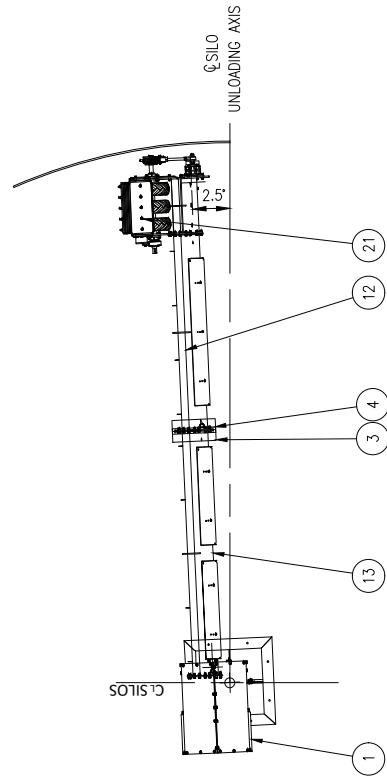
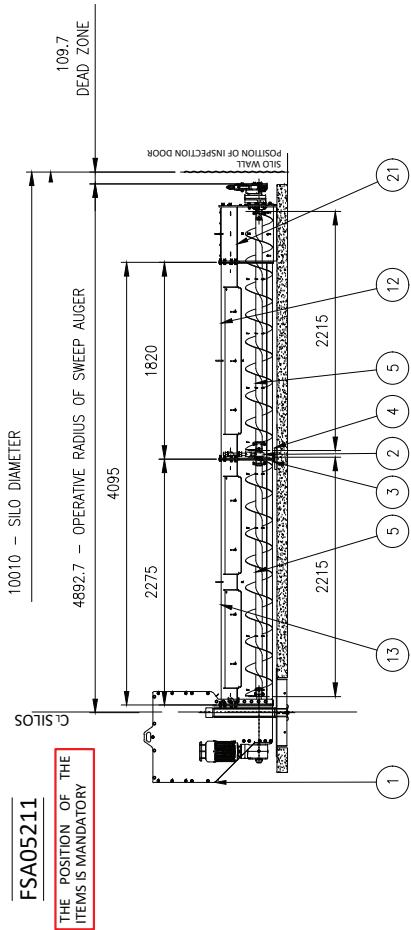
**Table 8 FSA102/FSA151 Series (continued)**

ITEM	PART NUMBER	DESCRIPTION
20	30CAFSA100	UNIVERSAL JOINT FOR SECOND WHEEL
21	FSA052FT	FEED FOOT FSA52-102- 151

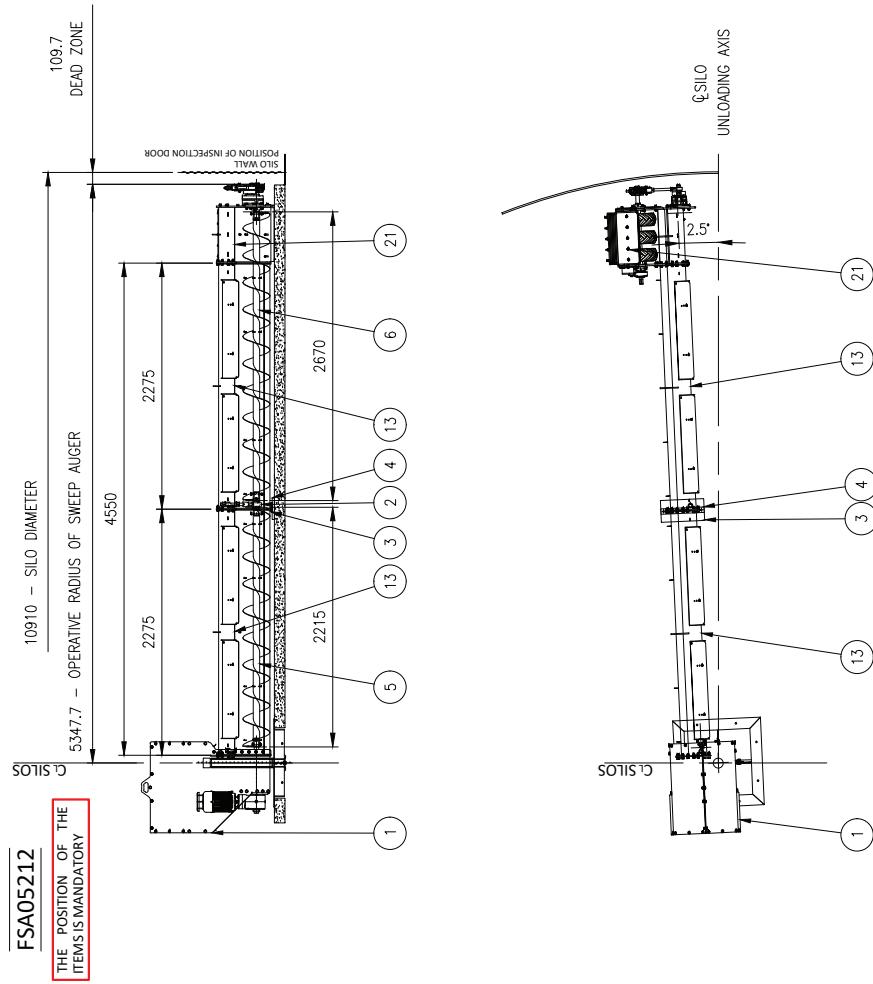
## 10.2. Layout Diagrams – FSA052 Series



	Items	(1)	(6)	(16)	(21)
MOD. 10	Description	MOTOR DRIVE	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL
FSA05210	Code	***	FSAS250LP9SX / FSAS250LP9SXR	FSA2CASE 108	***
	Quantity	1	1	1	1
*** The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)					

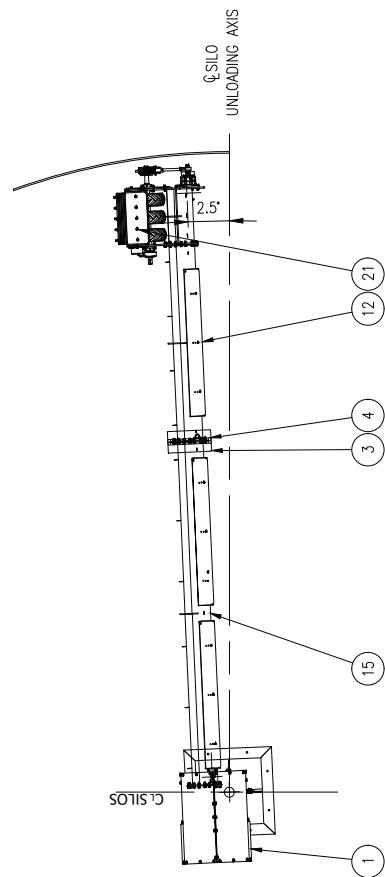
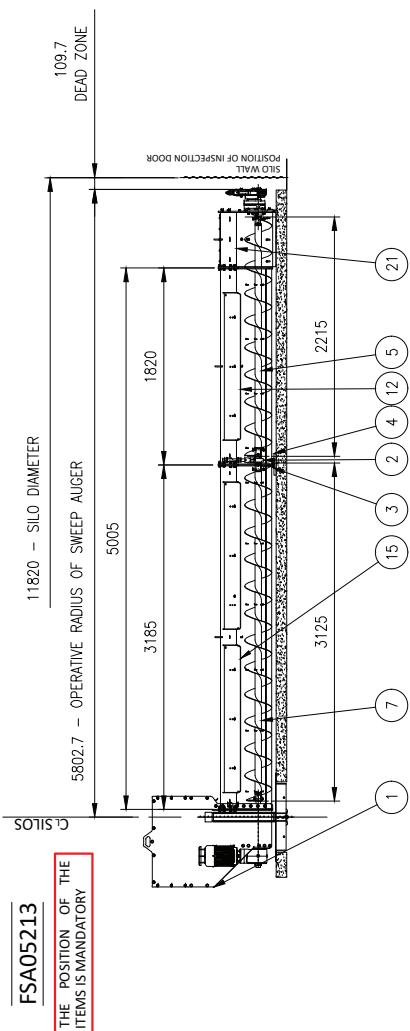


Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	
MOD. 11	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL								
FSA05211	Code	***	B105374561	B105476643	B105376626	FSA250LP55XA / FSA250LP55XR	FSA2CASE 104	FSA2CASE 105	***							
	Quantity	1	1	1	1	1	2	1	1	1	1	1	1	1	1	



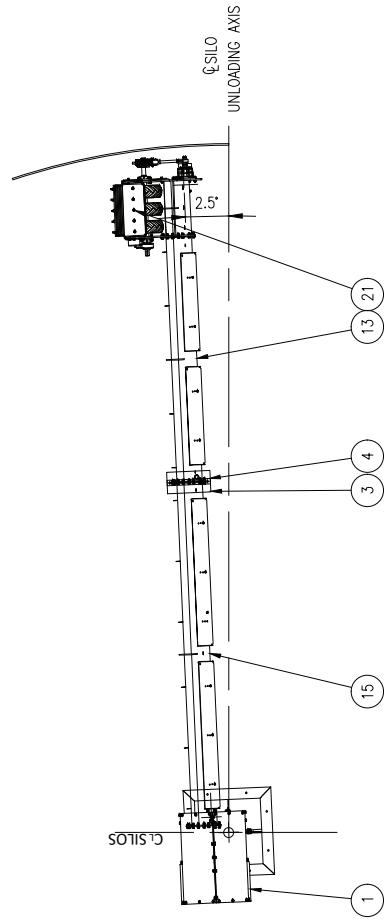
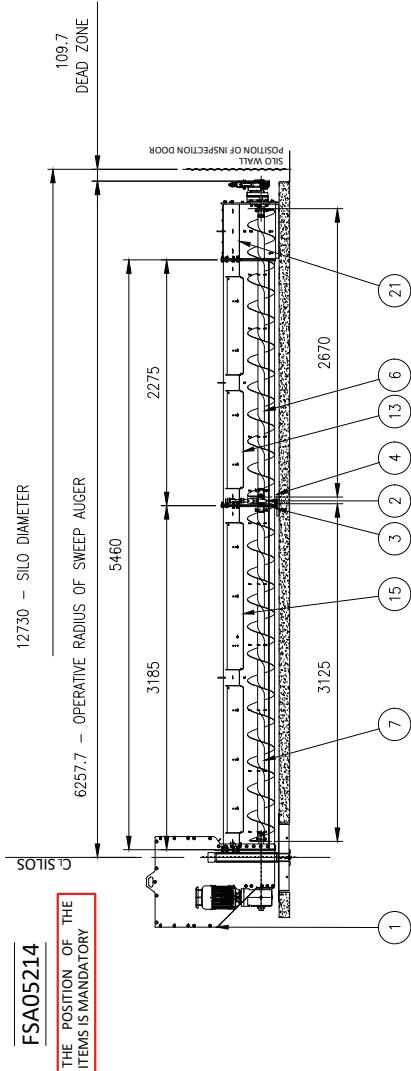
Items	①	②	③	④	⑤	⑥	⑬	⑫
MOD. 12 Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL
FSA05212 Code	***	B10534561	B105476643	B105376626	FSAS250LPSSXA / FSAS250LPSSXR	FSAS250LPSSXA / FSAS250LPSSXR	FSAS2CASE105	***
Quantity	1	1	1	1	1	1	2	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



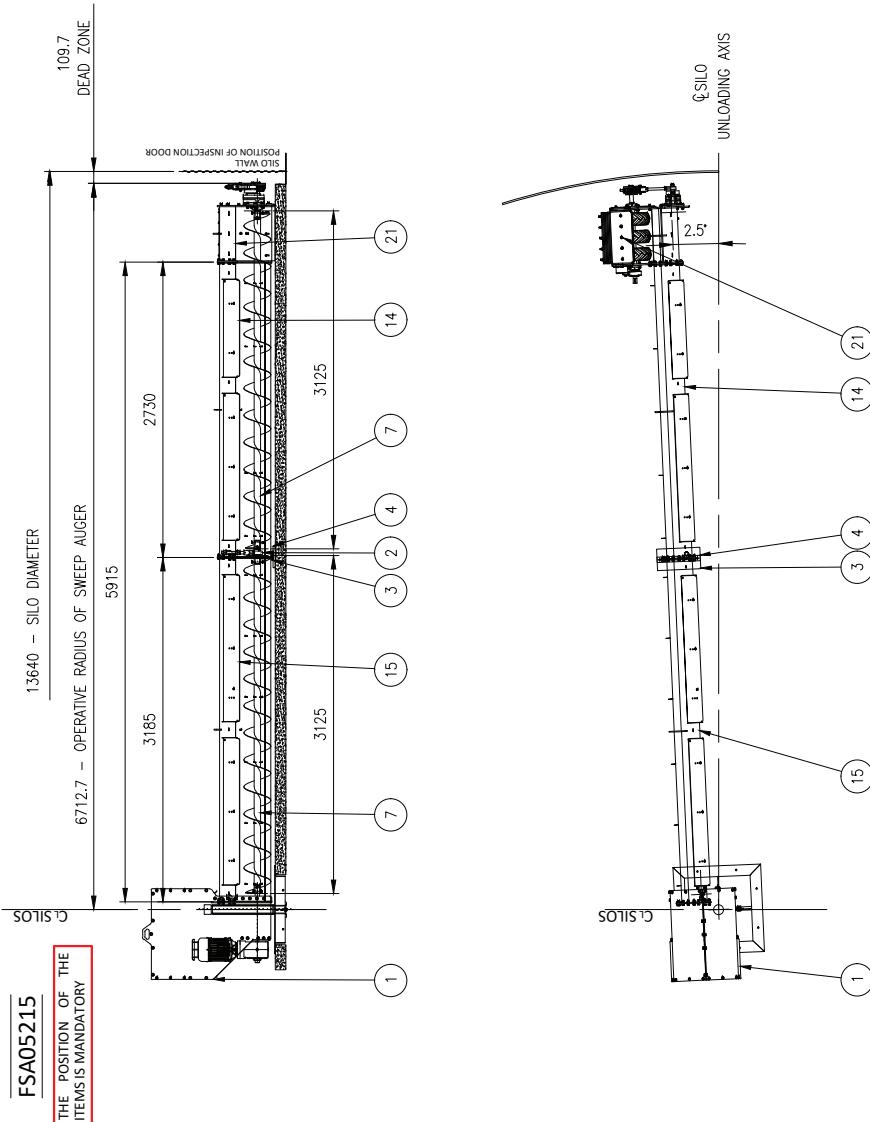
	Items	①	②	③	④	⑤	⑦	⑪	⑯	⑯
MOD. 13	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL
FSA05213	Code	***	B105374561	B105476643	B105376626	FSAS250LP5XKA / FSAS250LP7XKA	FSAS250LP5XKR / FSAS250LP7XKR	FSAS250LP5XKA / FSAS250LP7XKA	FSAS250LP5XKR / FSAS250LP7XKR	FSAS2CASE 104 / FSAS2CASE 107 ***
	Quantity	1	1	1	1	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



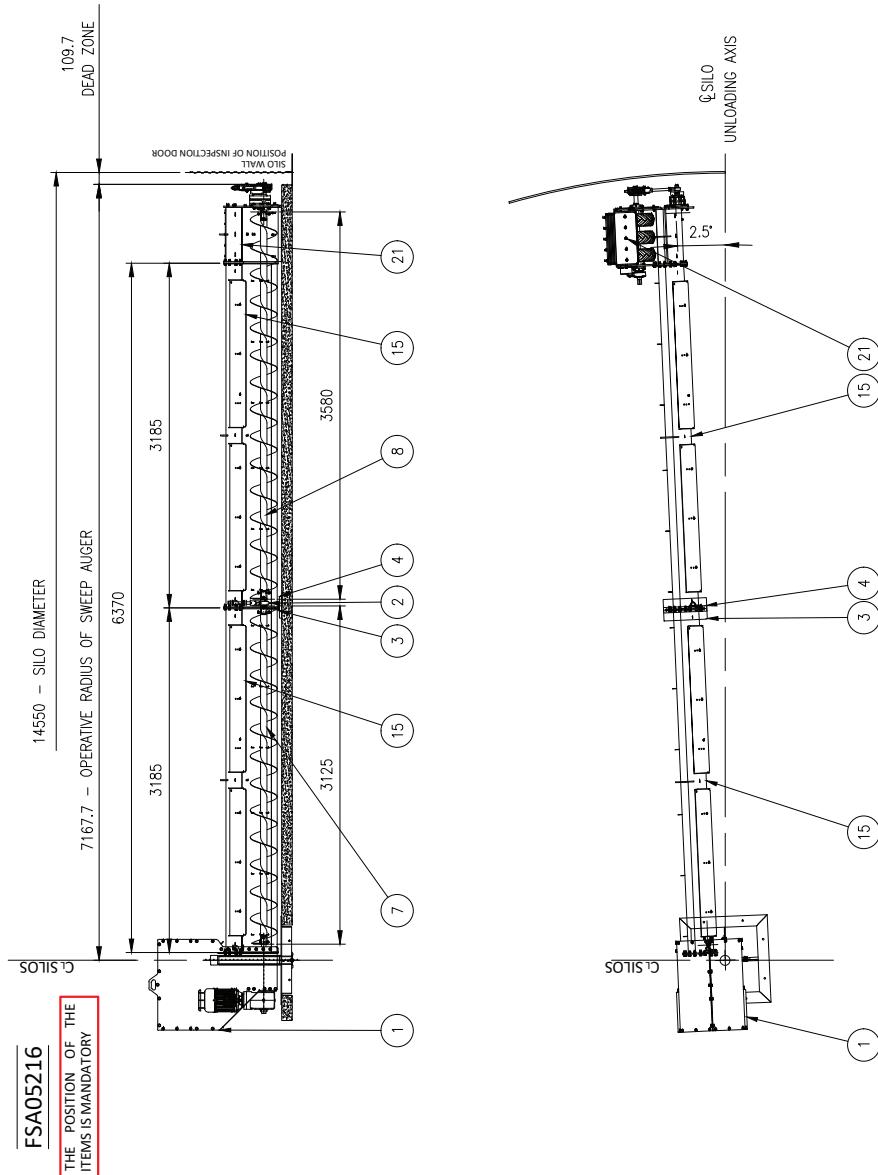
	Item	①	②	③	④	⑥	⑦	⑬	⑯	⑯	⑯
MOD. 14	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL
FSA05214	Code	***	B105374561	B105476643	B105376626	FSAS250LP65XA / FSAS250LP75XA	FSAS250LP65XR / FSAS250LP75XR	FSACASE105	FSACASE107	***	
	Quantity	1	1	1	1	1	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



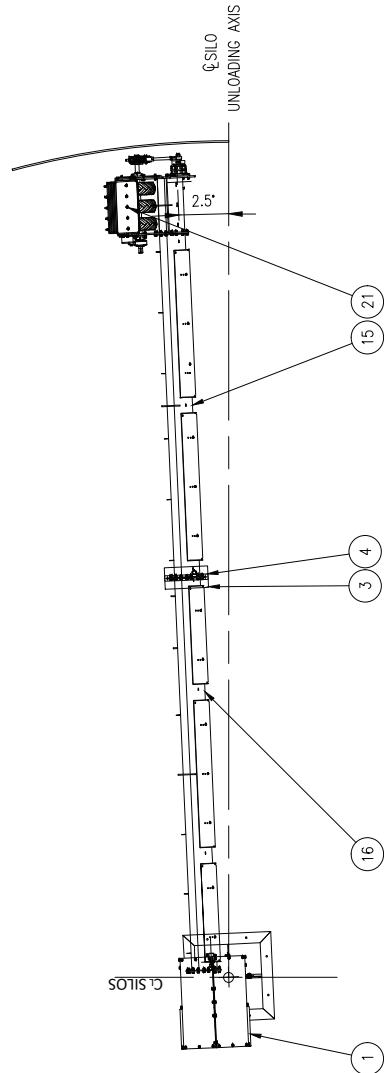
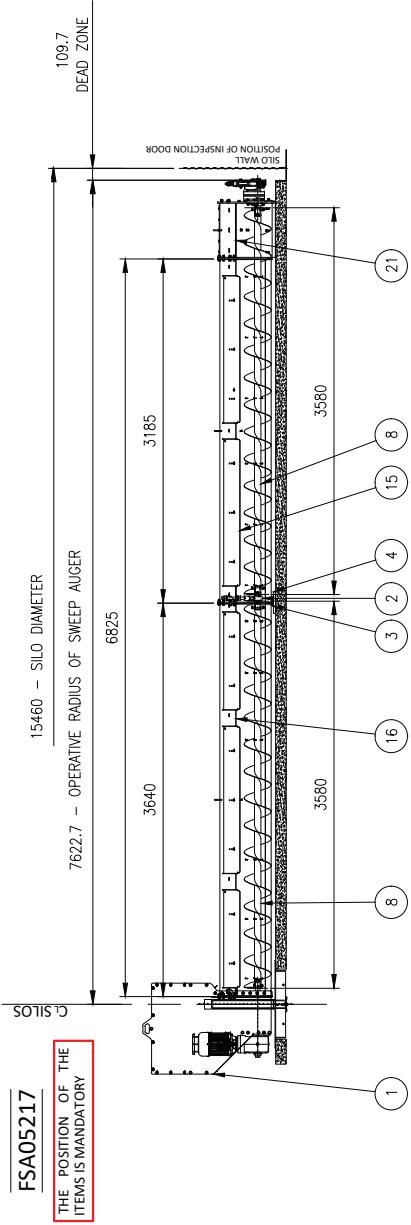
Items	①	②	③	④	⑤	⑦	⑯	⑮	⑯
MOD. 15	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL
FSA05215	Code	***	B105374561	B105476643	B105376626	FSA250LP7SXA / FSA250LP7SR	FSA2CASE 106	FSA2CASE 107	***
	Quantity	1	1	1	1	2	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



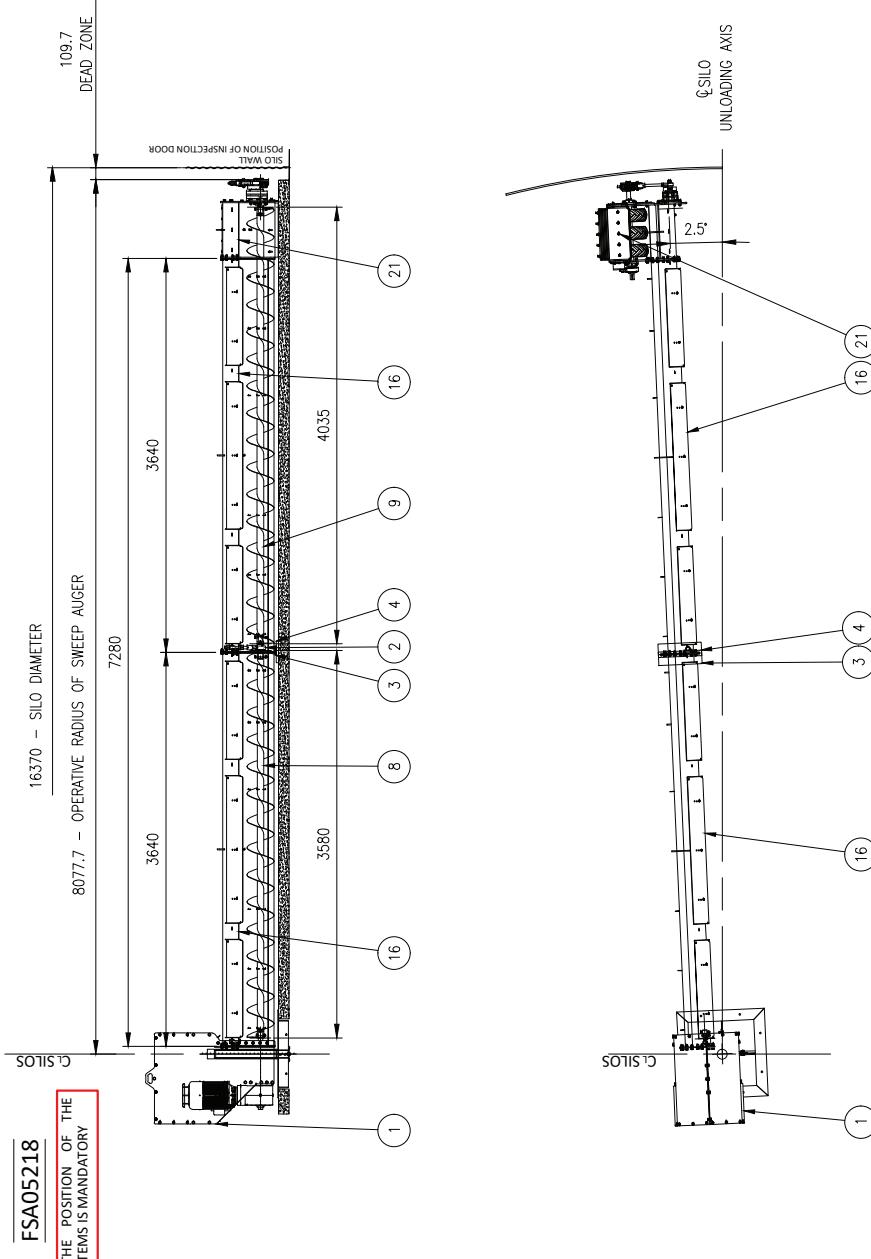
	Items	①	②	③	④	⑦	⑧	⑯	⑯
MOD. 16	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL
FSA05216	Code	***	B105374561	B105476643	B105376626	FSAS250LP75XA / FSAS250LP85XA	FSAS250LP75XR / FSAS250LP85XR	FS25CASE107	***
	Quantity	1	1	1	1	1	1	2	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



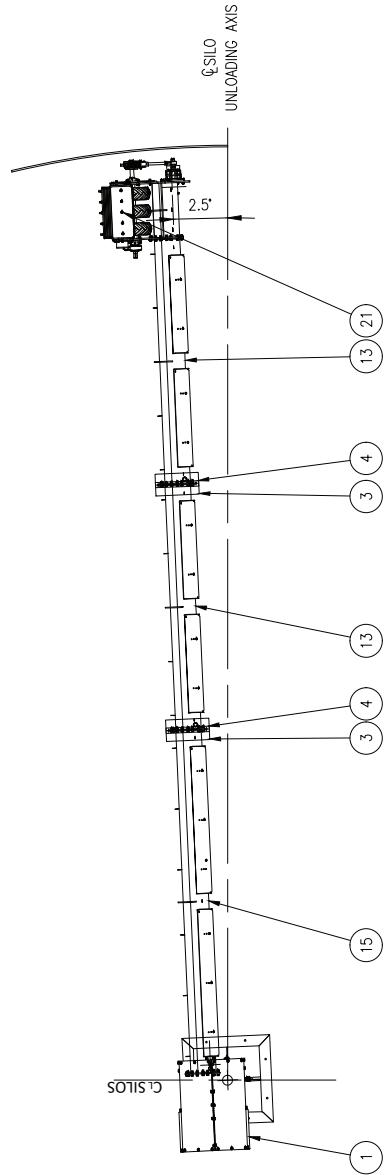
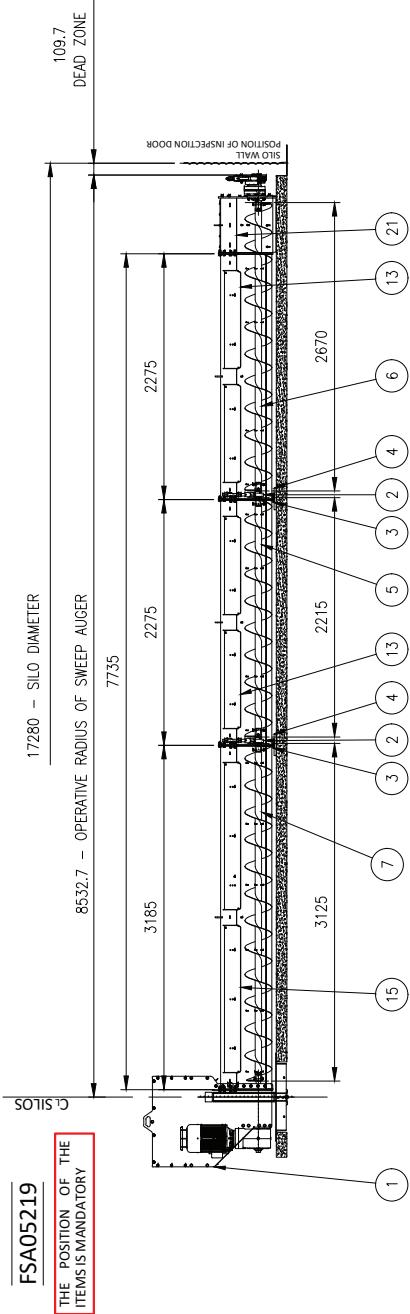
	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲
MOD_17	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING
FSA05217	Code	***	B105374561	B105476643	B105376626	FSA250LP8SX / FSA250LP8XR	FSA2CASE 107	FSA2CASE 108												
	Quantity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



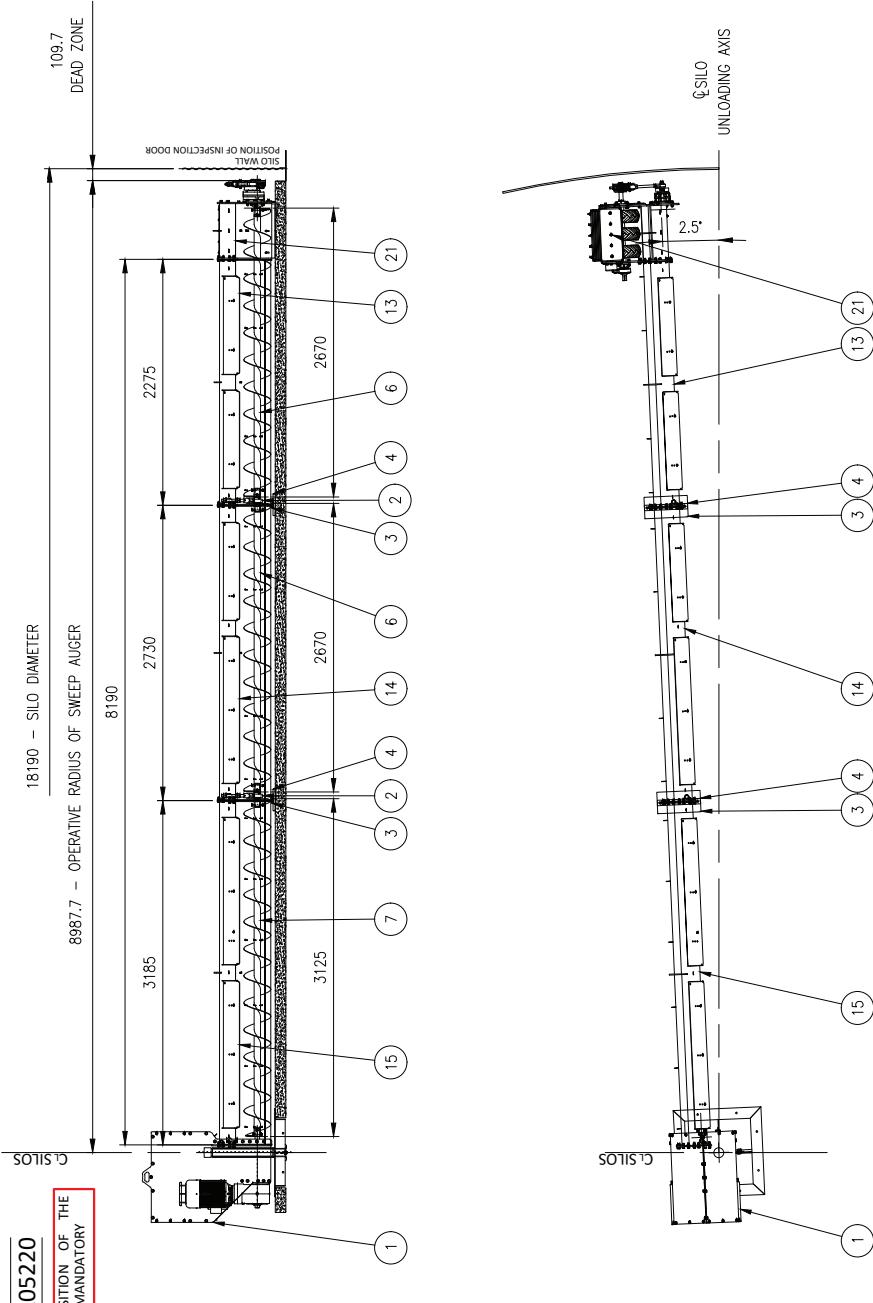
Items	①	②	③	④	⑧	⑨	⑯	㉑
MOD. 18	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING
FSA05218	Code	***	B105476643	B105376626	FSAS250LP8SX / FSAS250LP9SX	FSAS250LP8SX / FSAS250LP9SX	FS2CASE 108	***
	Quantity	1	1	1	1	1	2	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



Items	①	②	③	④	⑤	⑥	⑦	⑬	⑯	⑭	⑮	⑯
MOD. 19	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL
FSA05219	Code	***	B105374561	B105476643	B10537626	FSAS250LP5SX / FSAS250LP5XR	FSAS250LP7SX / FSAS250LP7XR	FSAS250LP6SX / FSAS250LP6XR	FSAS250LP7SX / FSAS250LP7XR	FSAS2CASE 105	FSAS2CASE 107	***
	Quantity	1	2	2	2	1	1	1	1	2	1	1

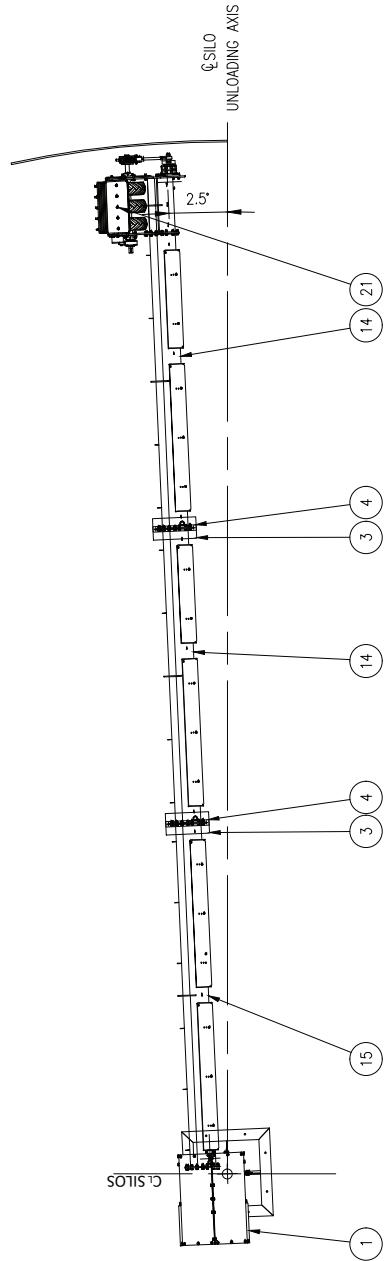
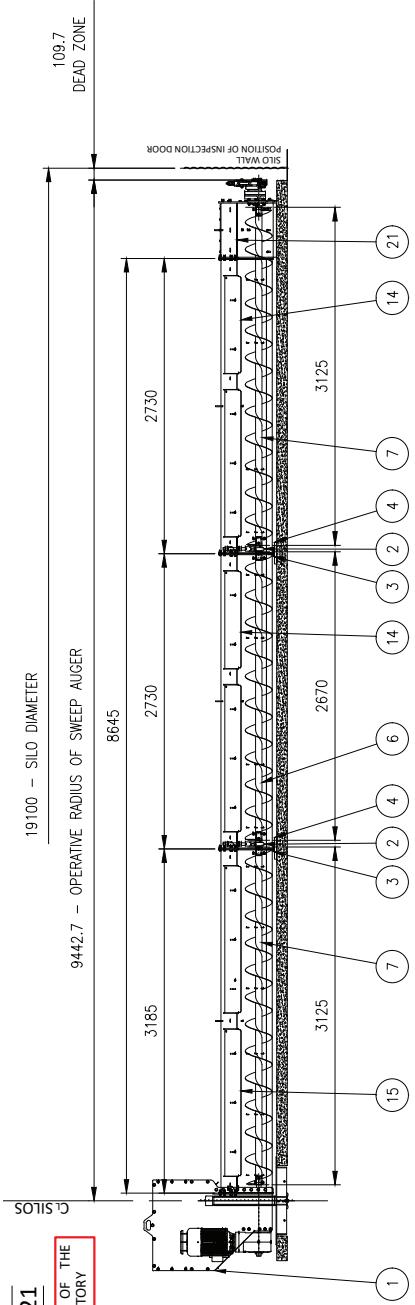
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
MOD. 20	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL							
FSA05220	Code	***	B105374561	B105476643	B105376626	FSAS250LP6SX A / FSAS250LP7SX A	FSAS250LP6SX R / FSAS250LP7SX R	FSACASE .105	FSACASE .106	FSACASE .107	***					
	Quantity	1	2	2	2	2	2	1	1	1	1	1	1	1	1	

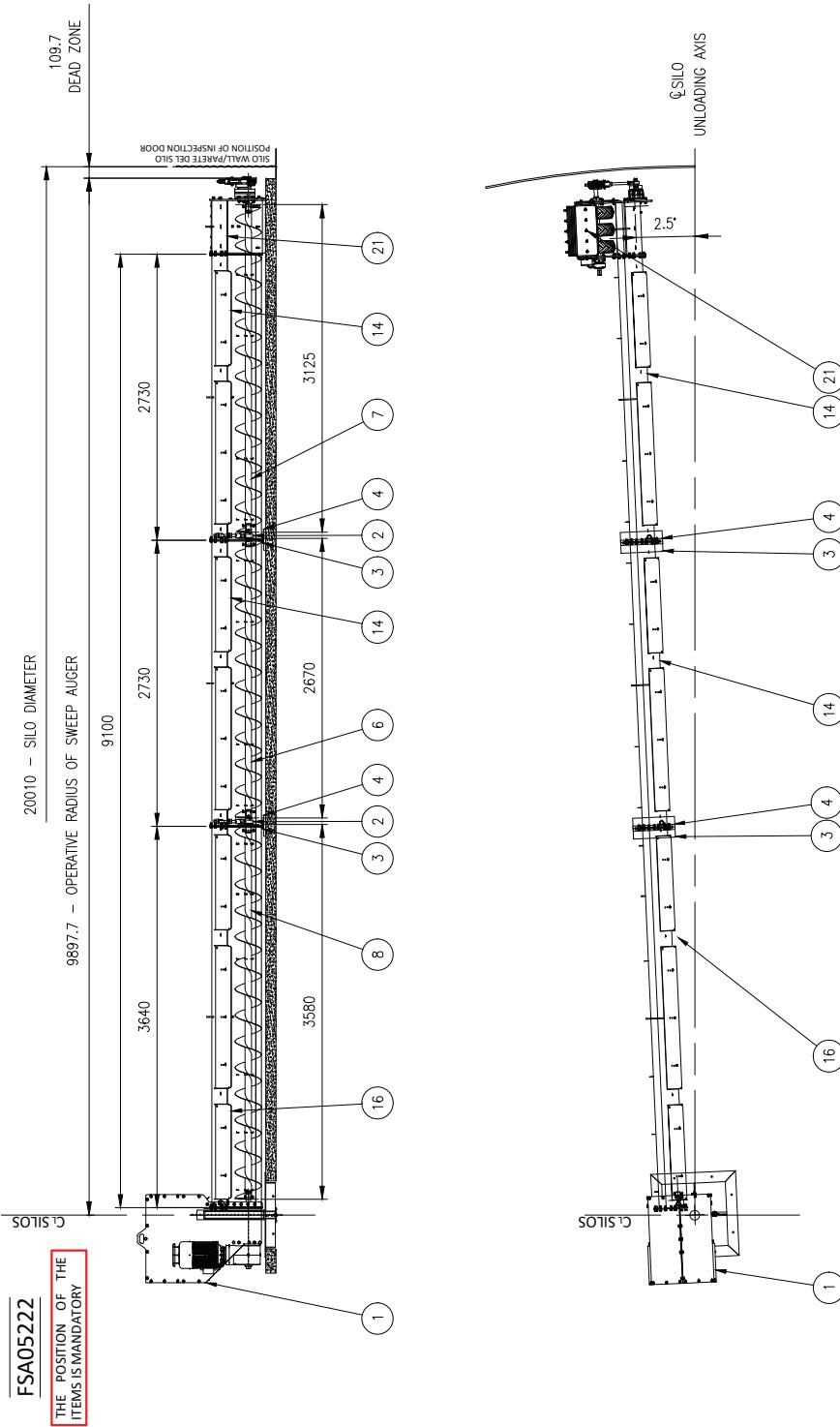
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)

FSA05221  
THE POSITION OF  
ITEMS IS MANDATORY



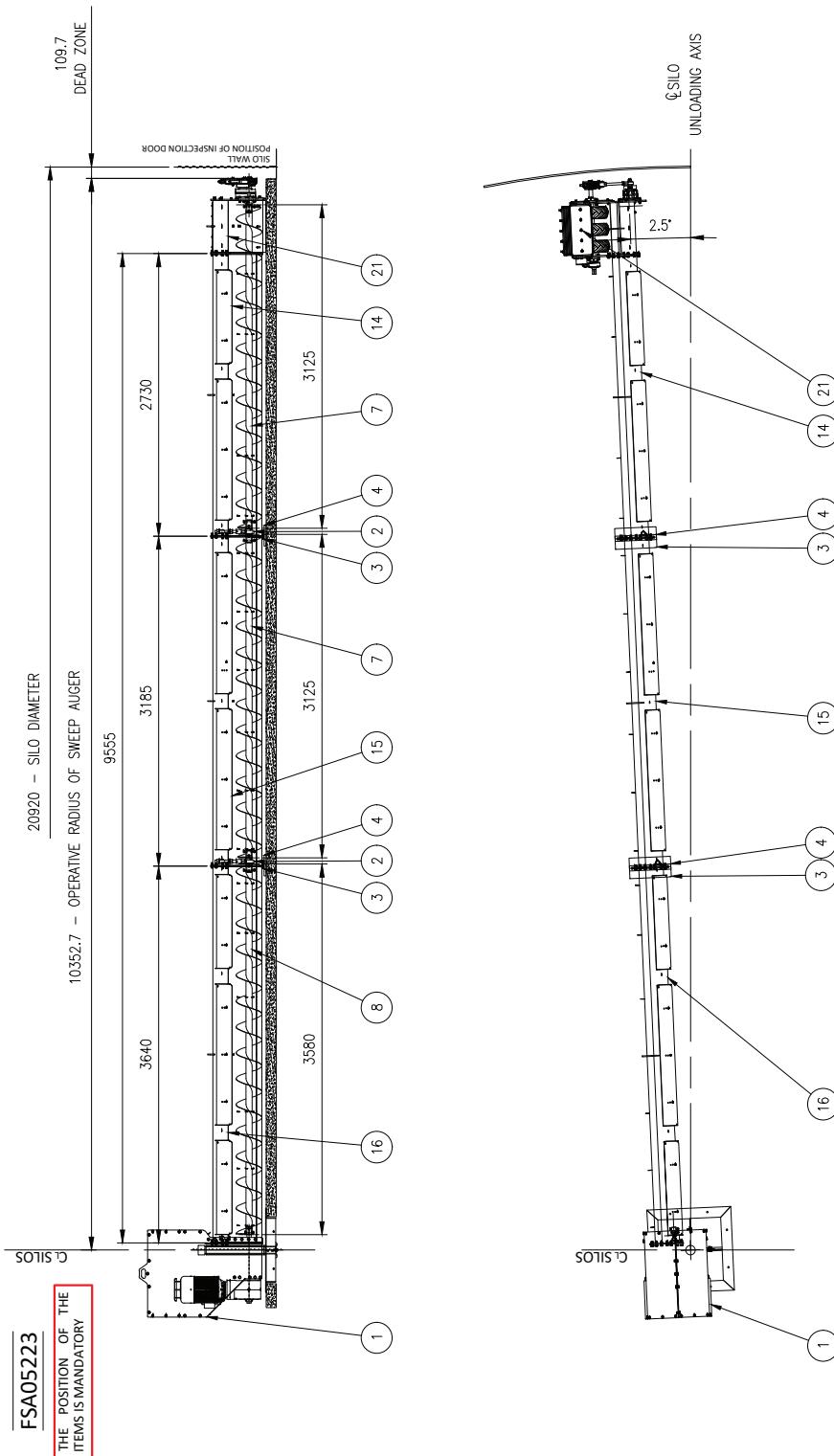
	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱
MOD. 21	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD BACKBOARD	DRIVE WHEEL										
FSA05221	Code	***	B105374561	B105476643	B103376626	FSA250LP6SX / FSA250LP6SXR	FSA250LP7SX / FSA250LP7SXR	FSA2CASE 106	FSA2CASE 107	***									
	Quantity	1	2	2	2	1	1	2	2	1	2	1	2	1	1	1	1	1	

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



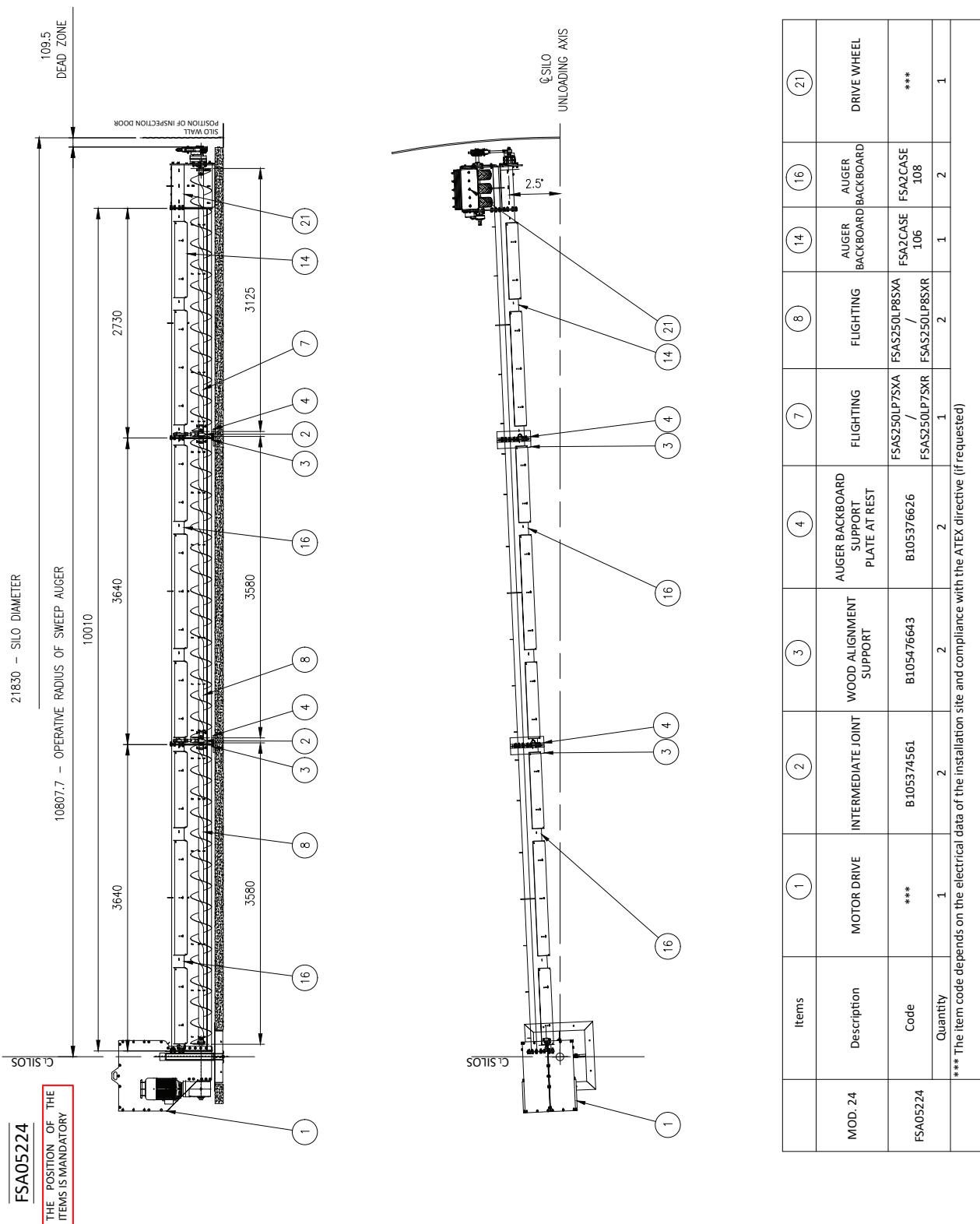
Items	(1)	(2)	(3)	(4)	(6)	(7)	(8)	(14)	(16)	(21)
MOD. 22	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL
FSA05222	Code	***	B105374561	B105476643	B105376626	FSAS250LP6XKA / FSAS250LP7SXKA	FSAS250LP8SXKA / FSAS250LP7SXK	FSAS250LP8SXKA / FSAS250LP7SXK	FSA2CASE106	***
	Quantity	1	2	2	1	1	1	1	1	1

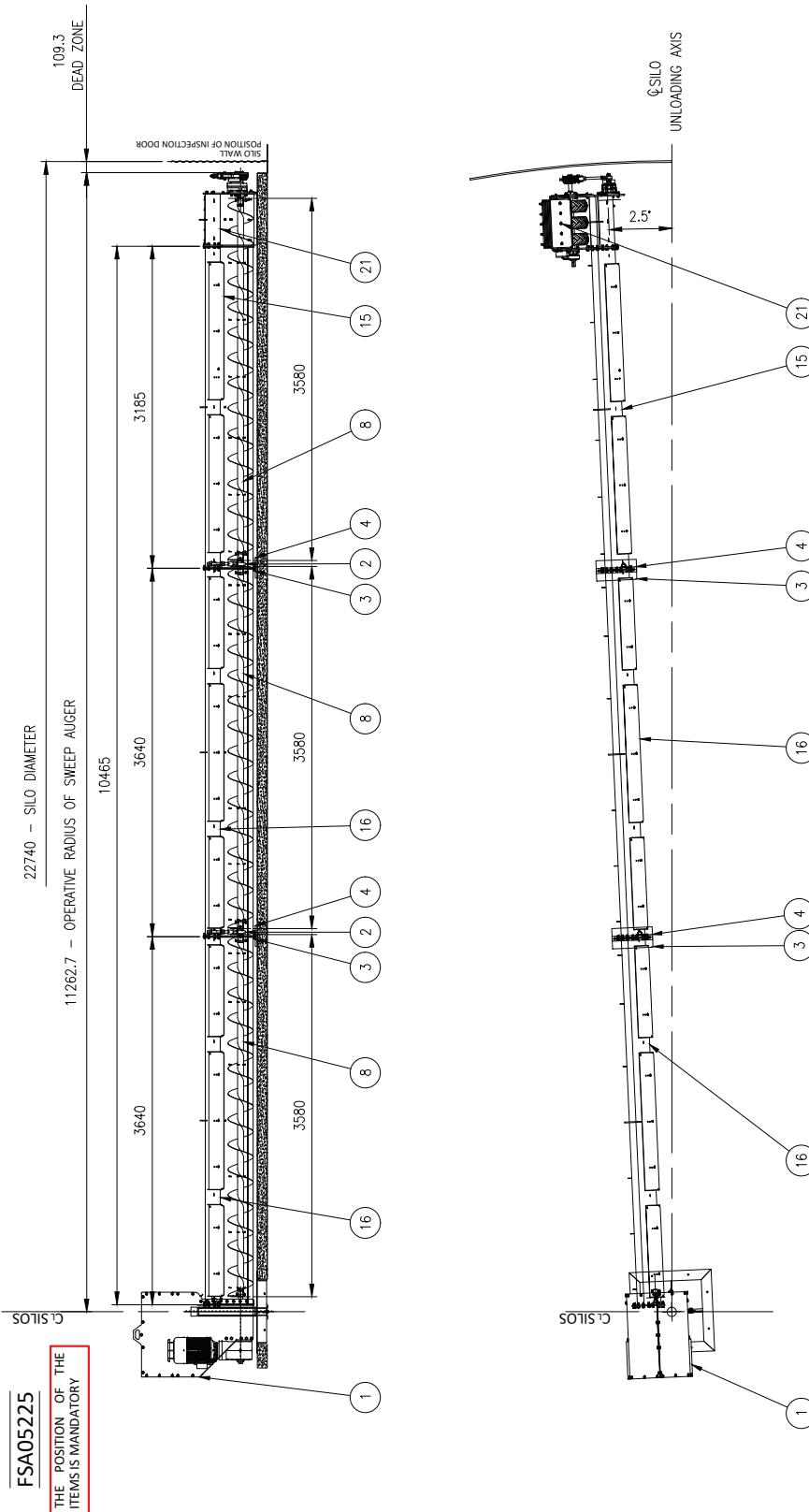
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



MOD. 23	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING												
FSA05223	Code	***	B105374561	B105476643	B105376626	FSAS250LP85XA / FSAS250LP75XR												
	Quantity	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

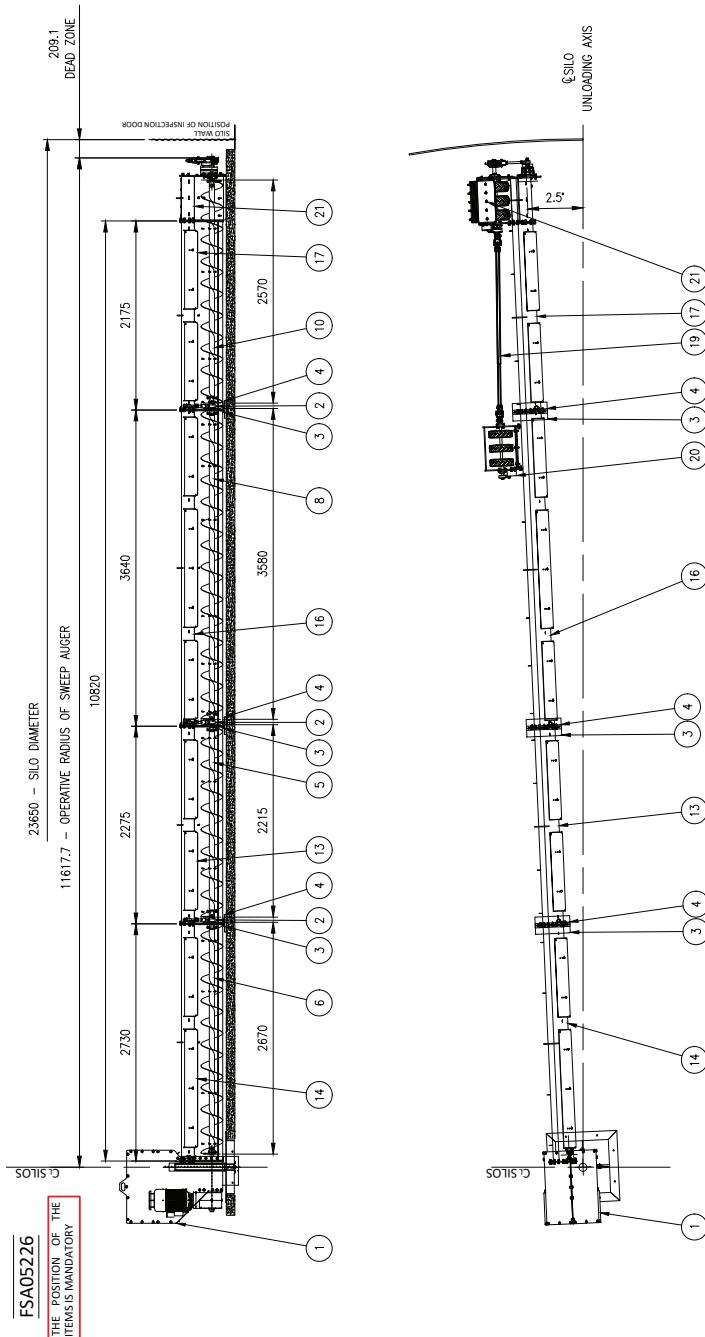
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)





	Items	①	②	③	④	⑧	⑯	⑯	⑯	⑯	⑯
MOD. 25	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL
FSA05225	Code	***	B105374561	B105476643	B105376626	FSAS250LP8SYA / FSAS250LP8XR	FSAS2CASE 107	FSAS2CASE 108	FSAS2CASE 108	FSAS2CASE 108	***
	Quantity	1	2	2	2	3	1	2	1	2	1

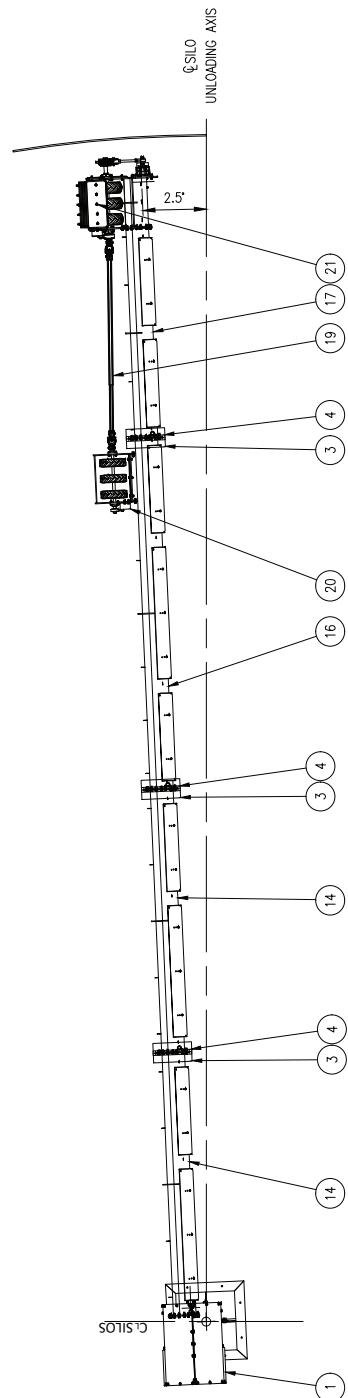
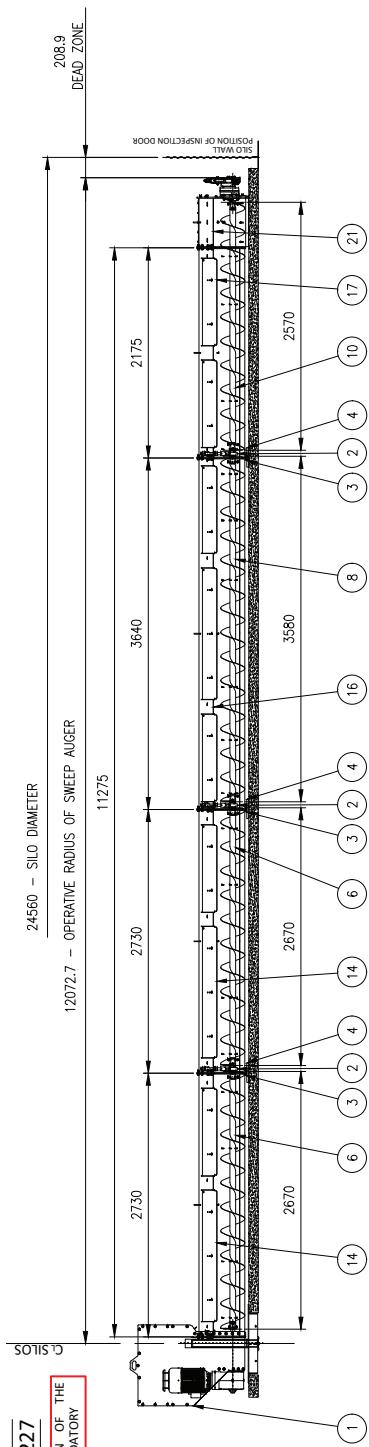
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑲	㉑	㉒
MOD. 26	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	SECOND DRIVE WHEEL	DRIVE SHAFT WITH U-JOINT	DRIVE WHEEL					
FSA05226	Code	***	B105374561	B105476643	B105376626	B105376626	B105376626	B105376626	FSA250LP5SKA / FSA250LP6SKA	FSA250LP5SKA / FSA250LP6SKA	FSA250LP5SKA / FSA250LP6SKA	FSA250LP5SKA / FSA250LP6SKA	FSA2CASE 105	FSA2CASE 105	FSA2CASE 105	FSA2CASE 105	FSA2CASE 105	FSA2CASE 105	FSA2CASE 105	FSA2CASE 105
*** The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)	Quantity	1	1	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1

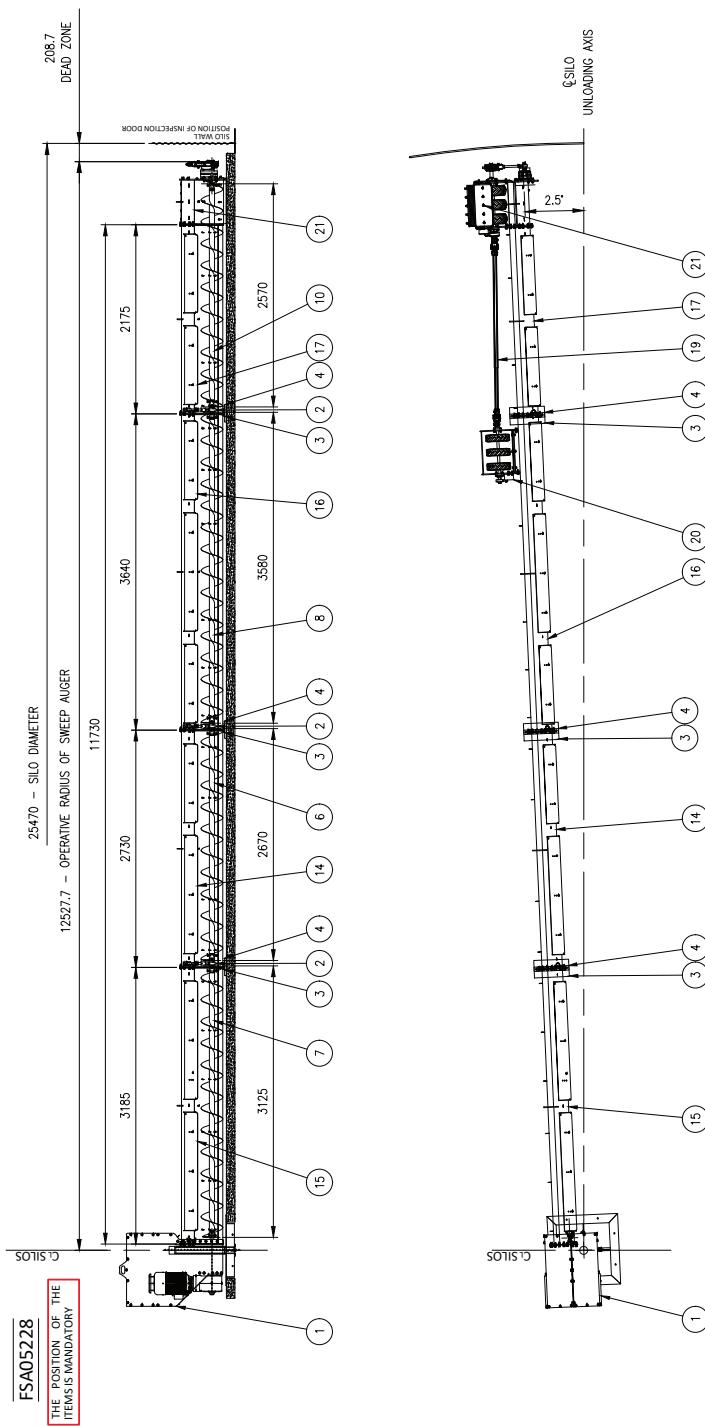
24560 - SILO DIAMETER  
SOS  
SA05227

**THE POSITION OF THE  
ITEMS IS MANDATORY**

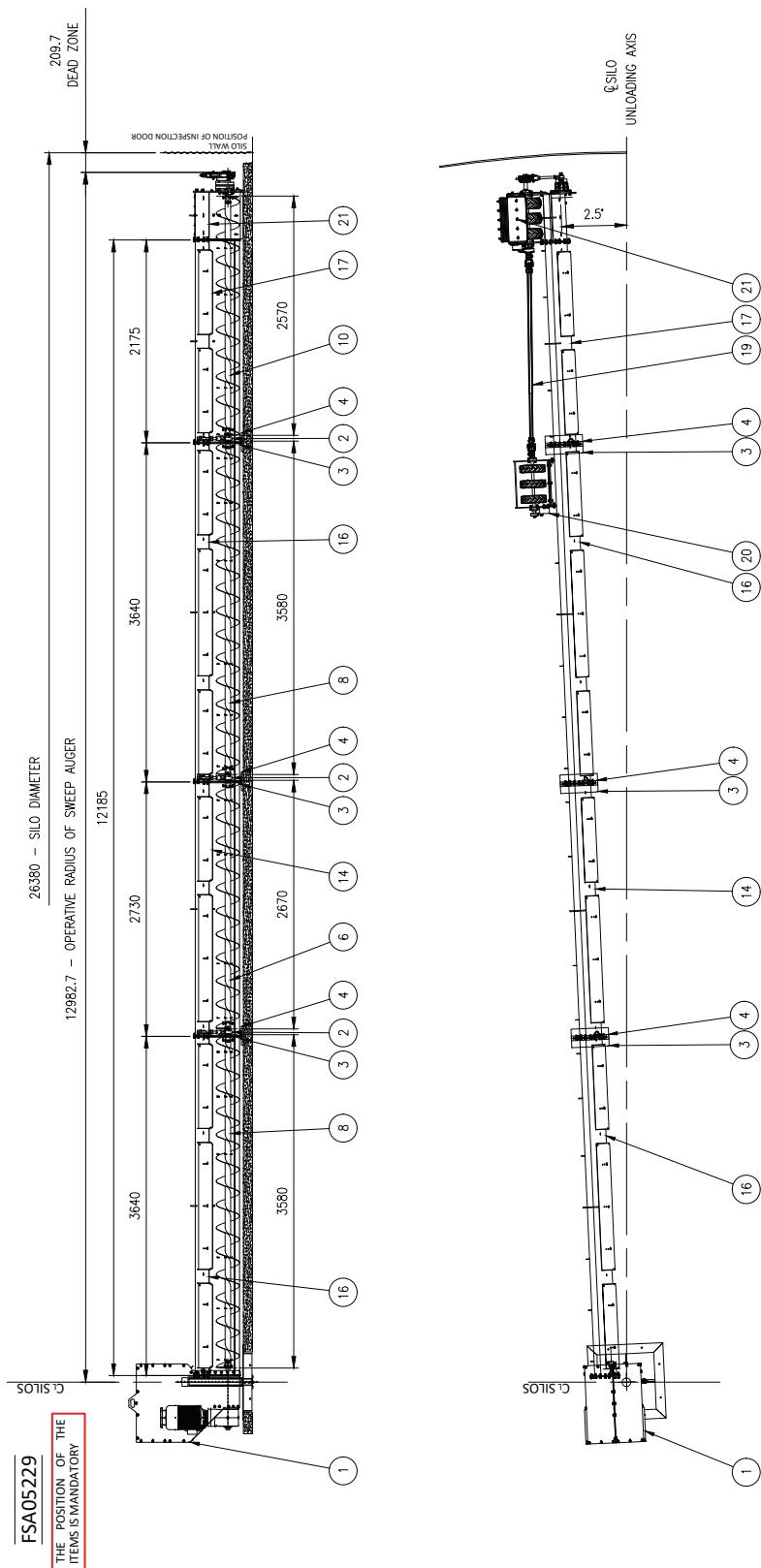


	Item	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑲	⑳	⑷
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	SECOND DRIVE WHEEL	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL	(21)	(21)	(21)	
MOD. 27																					
FSA05227	Code	***	B105374561	B10537663	FSAS250LP6SKA / FSAS250LP8SKA FSAS250LP6SKR / FSAS250LP8SKR	B105374821 / B105374972	FSAS2CASE 106	FSAS2CASE 108	FSAS2CASE 108	FSAS2CASE 108	B10537454	B10537454	B10537454	B10537454	30CAFSA100	***	***	***	***	***	***

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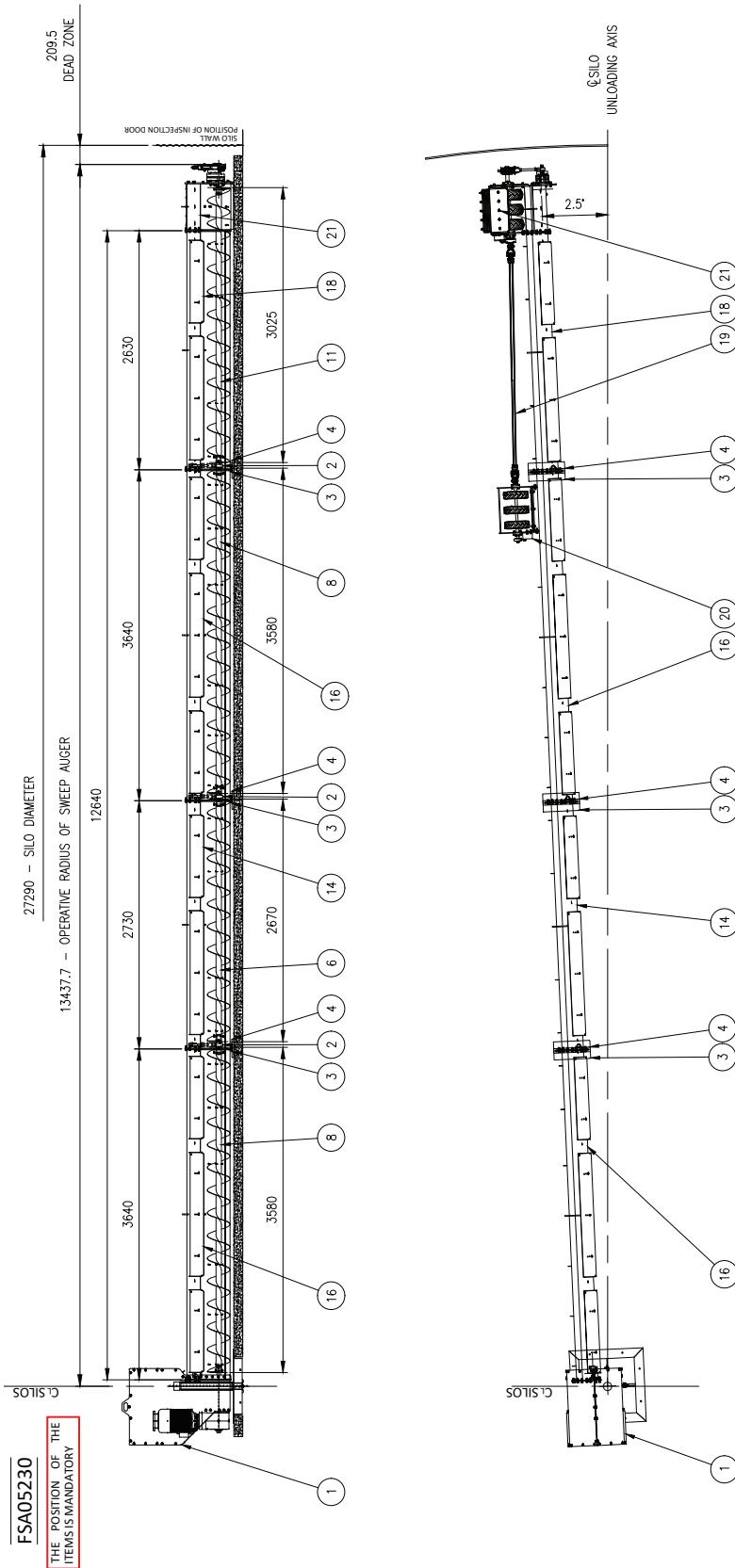


MOD. 28	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	SECOND DRIVE WHEEL	DRIVE SHAFT WITH U-JOINT	DRIVE SHAFT WITH U-JOINT	DRIVE WHEEL									
FSA05228	Code	***	B105374561	B105476643	B105376626	FSAS250LP6SKA	FSAS250LP7SKA	FSAS250LP7SKA	FSAS250LP7SKA	FSAS250LP7SKA	B105374921 / B105374972	B105374921 / B105374972	B105374921 / B105374972	B105374921 / B105374972	30CAF100	***								

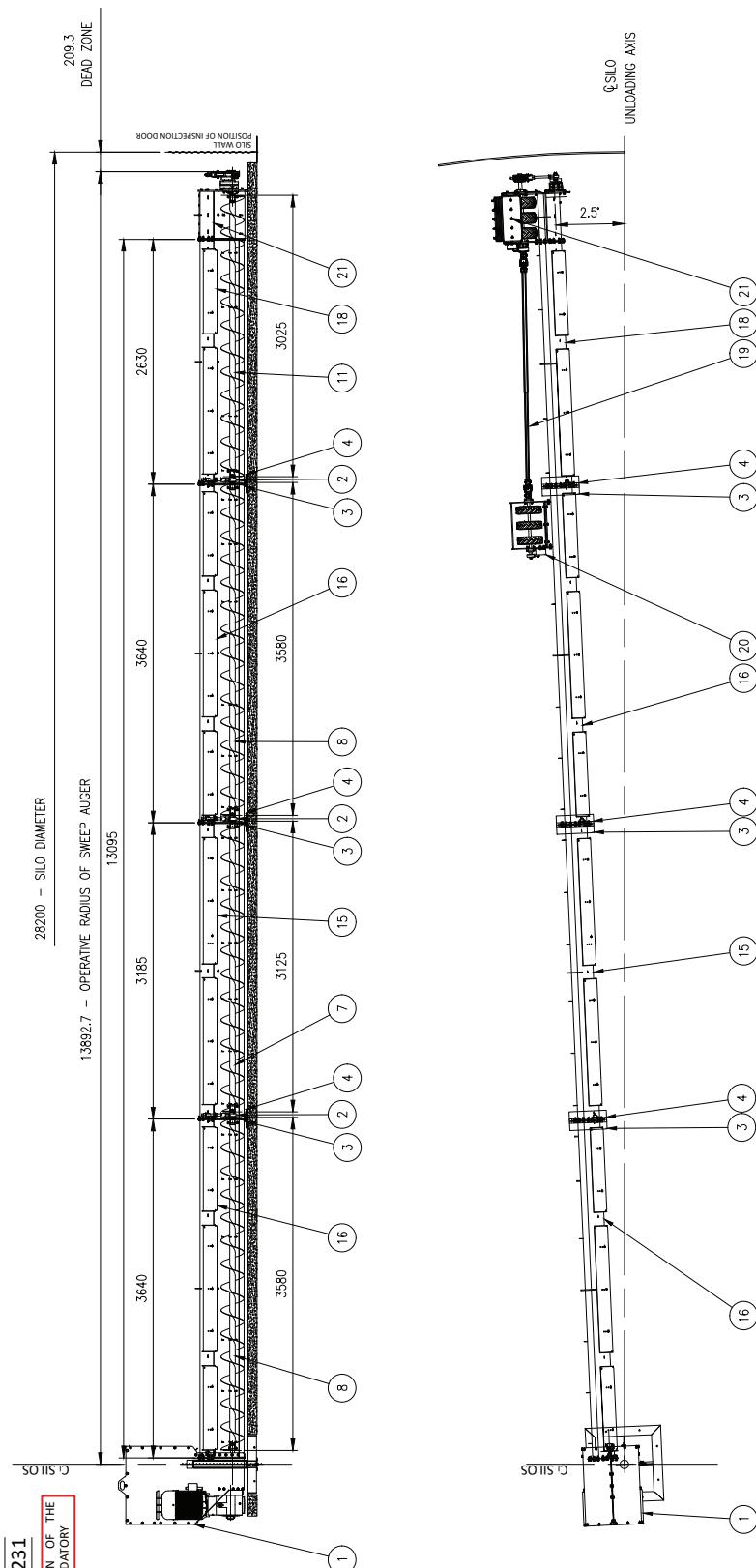


MOD. 29	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑳	⑳
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	SECOND DRIVE WHEEL	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL					
FSA05229	Code	***	B105374561	B105476643	B105376626	FSA2250LP65XA / FSA2250LP65XR	FSA2250LP85XA / FSA2250LP85XR	S02.5374821 / S02.5374972	FSA2CASE B105374564	B1053745 106	B105374545 108	B105374545 88	B105374545 106	B105374545 108	30CAFSA100	***					
	Quantity	1	3	3	3	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	

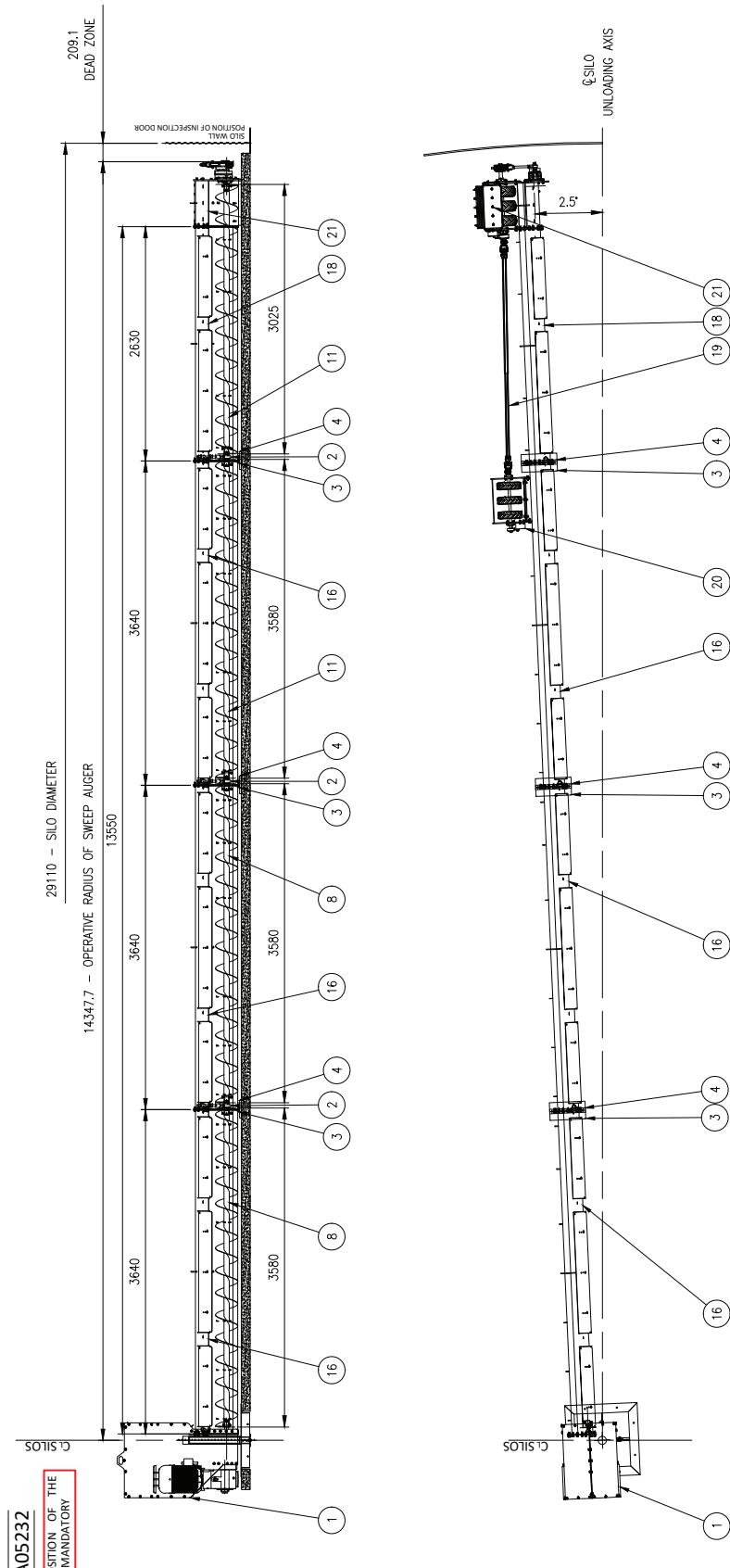
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



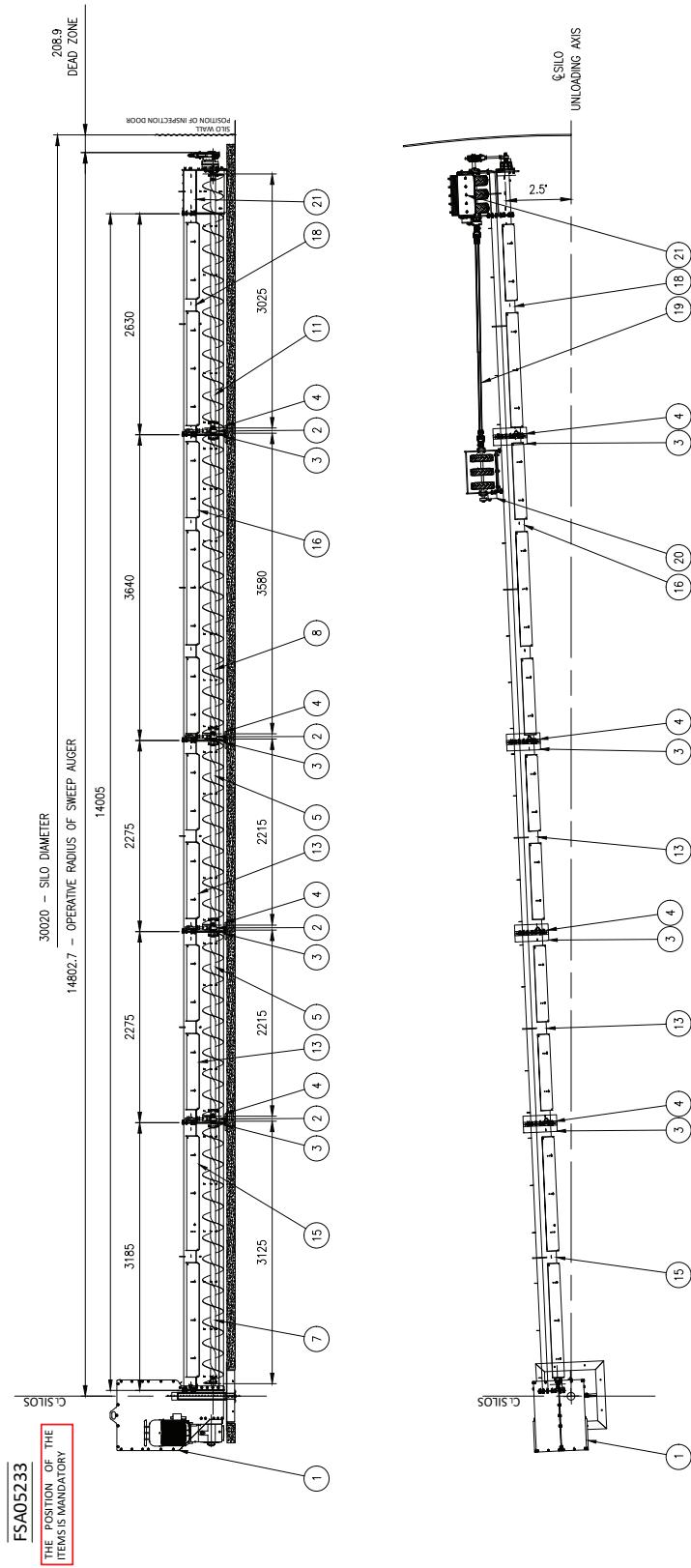
MOD. 30	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	㉑	㉑	
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT PLATE AT REST	AUGER BACKBOARD	FLIGHTING	FLIGHTING	AUGER BACKBOARD	DRIVESHAFT WITH U-JOINT	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL										
FSA05230	Code	***	B105374561	B105476643	B105376626	FSAS250LP6SKA / FSAS250LP6SKR	FSAS250LP6SKA / FSAS250LP6SKR	B105374967 / B105374974	30CAFS100	***											
	Quantity	1	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	



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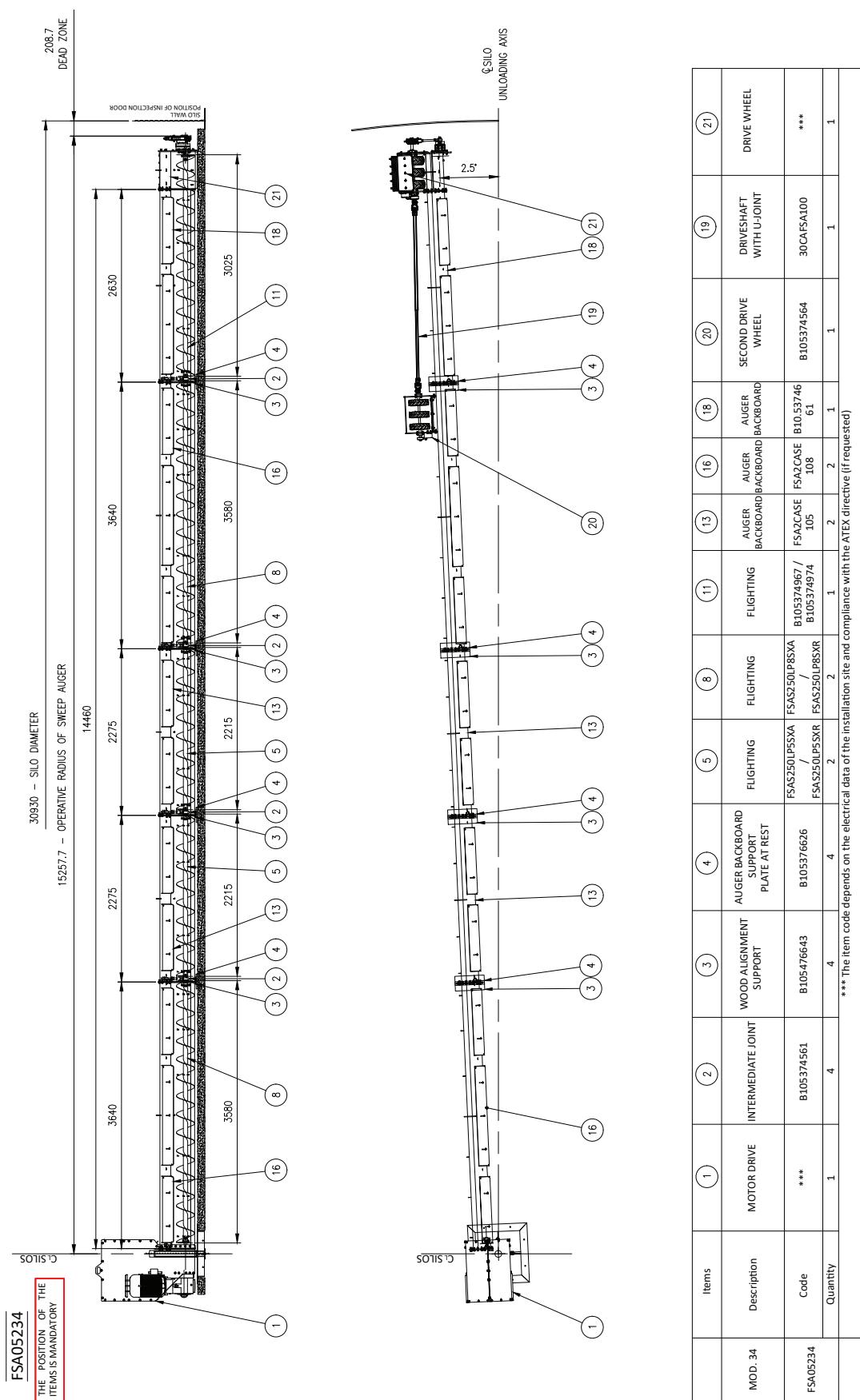


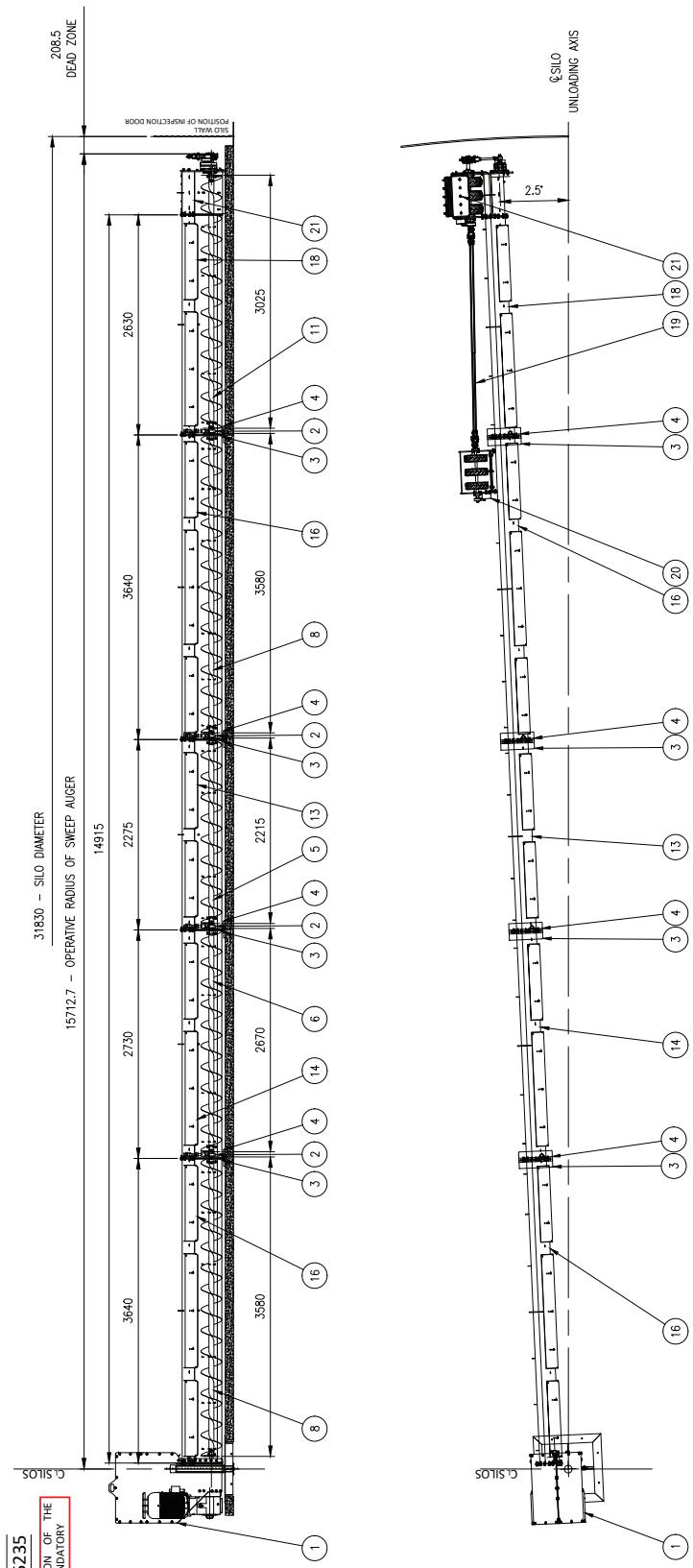
	Items	(1)	(2)	(3)	(4)	(8)
MOD. 32	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTIN
FSA05232	Code	***	B105374561	B105476643	B105376626	FSAS250UP / FSAS250UP
Quantity	1	3	3	3	3	3



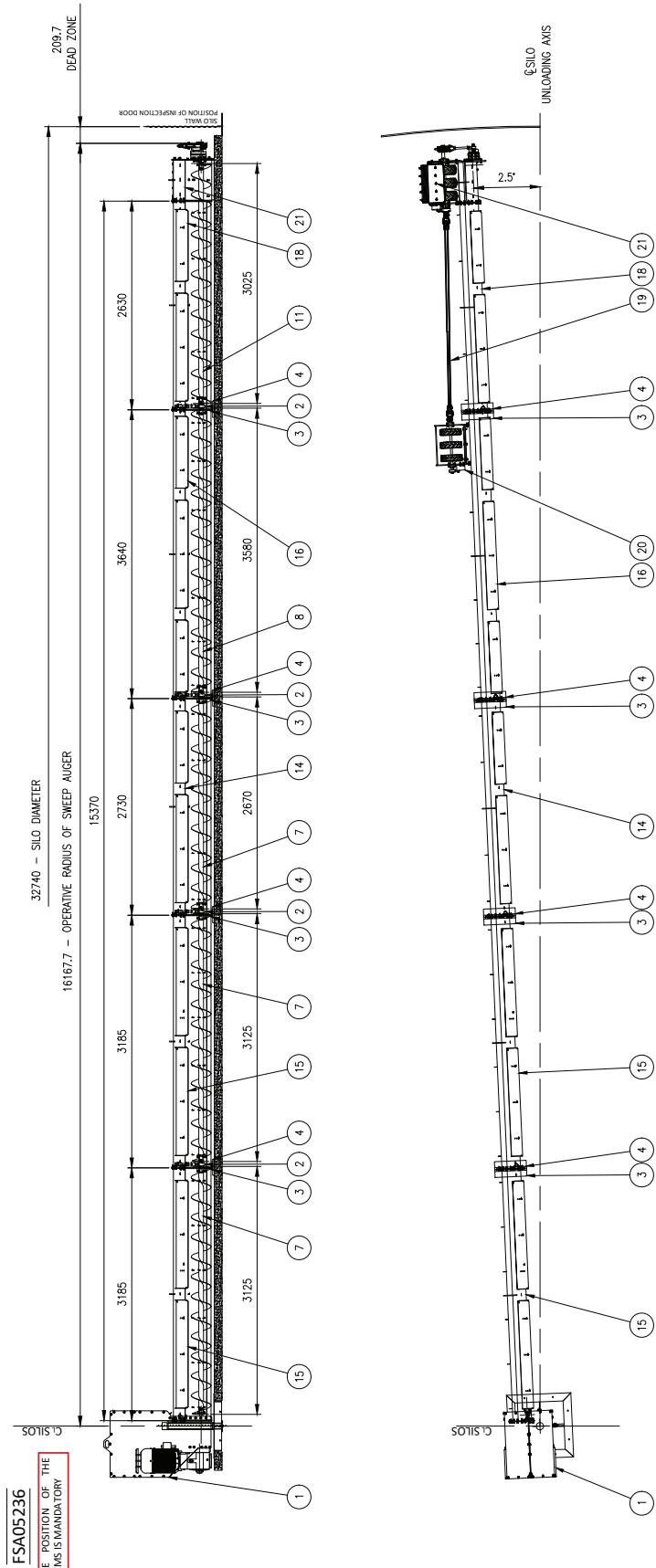
MOD. 33	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑲	㉑	
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD PLATE	AUGER BACKBOARD BACKBOARD	AUGER BACKBOARD BACKBOARD	DRIVE SHAFT WITH U-JOINT	SECOND DRIVE WHEEL						
FSA05233	Code	***	B105374561	B105476643	B105376626	FSAS250LP5SKA / FSAS250LP7SKA	FSAS250LP7SKA / FSAS250LP8SKA	FSAS250LP8SKA / FSAS250LP8SKR	FSAS250LP8SKR / FSAS250LP7SKR	FSAS250LP7SKR / FSAS250LP8SKR	B105374067 / B105374974	FSA2CASE1 105	FSA2CASE1 107	B105374564	B105374564	30CAFA100	***				

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



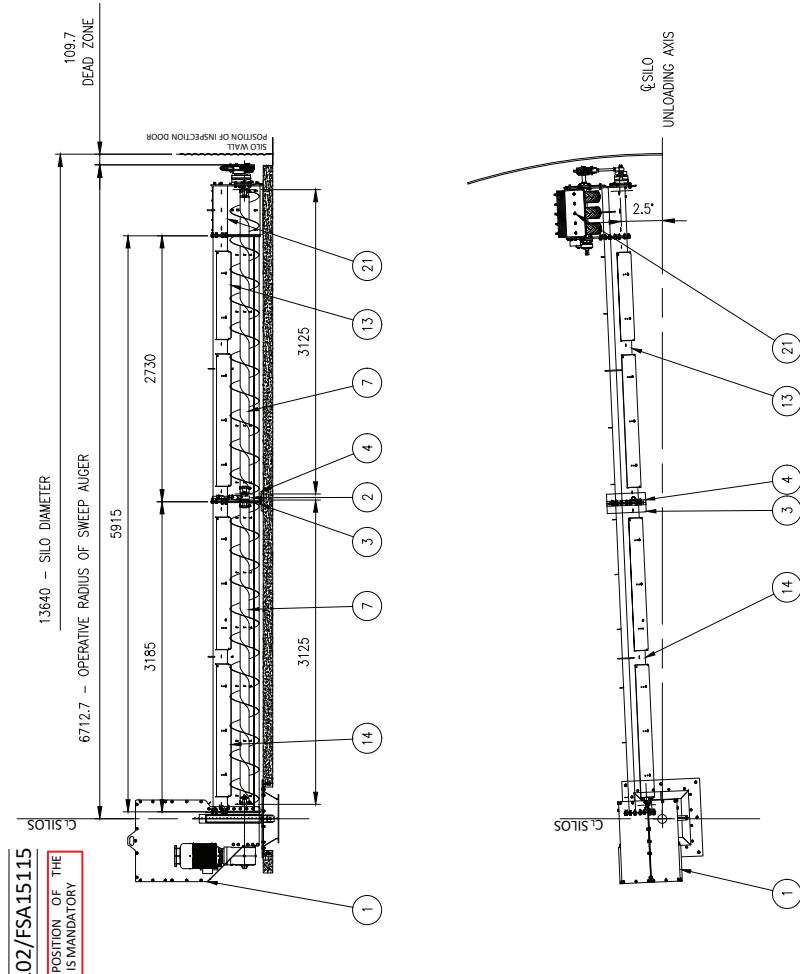


Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	SUPPORT PLATE AT REST	FLIGHTINNITI
Code	***	B105374561	B10576643	B10576636	F5A52501P1 / F5A52501P1
Quantity	1	4	4	4	1



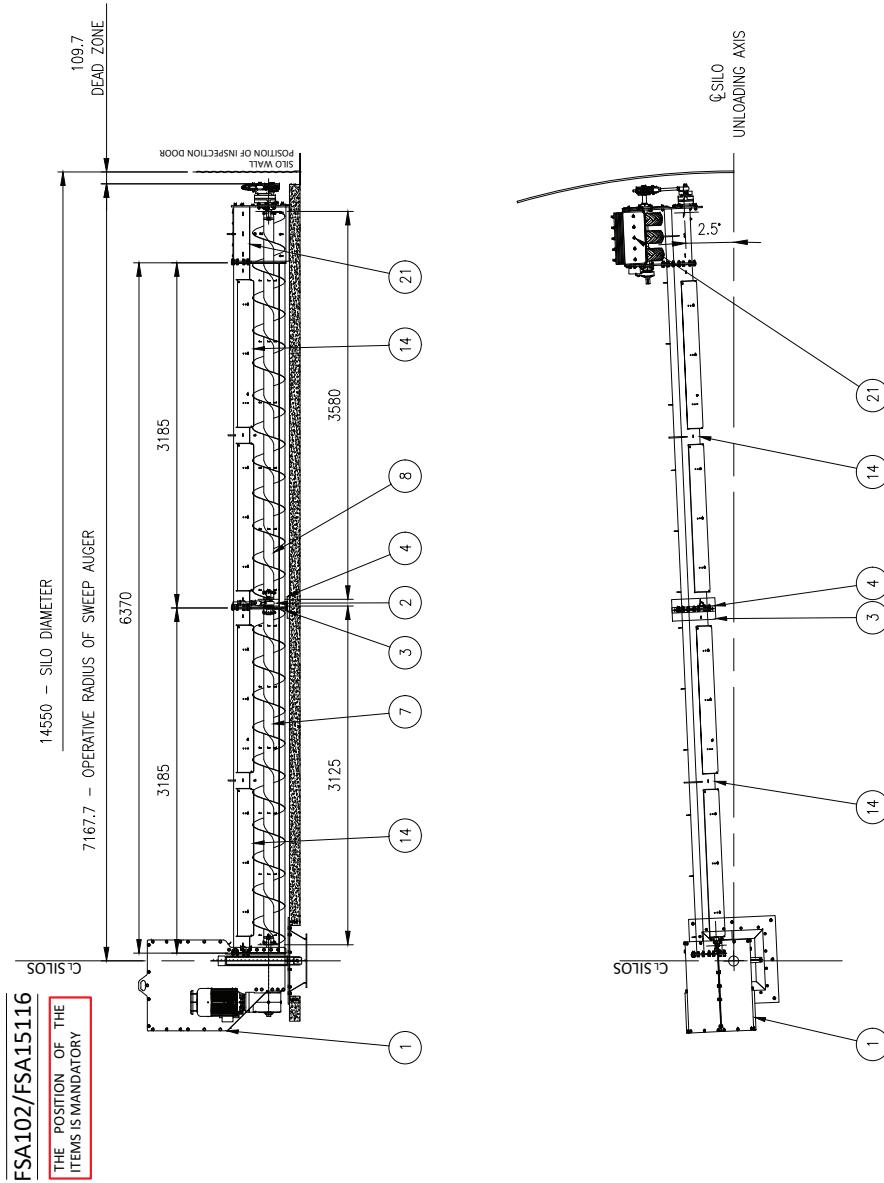
	Items	(1)	(2)	(3)	(4)	(5)
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING
Mod. 36						
FSAS250236	Code	***	B105374561	B105476643	B105376626	FSAS250LR A/ FSAS250LP R

## 10.3. Layout Diagrams – FSA102/FSA151Series



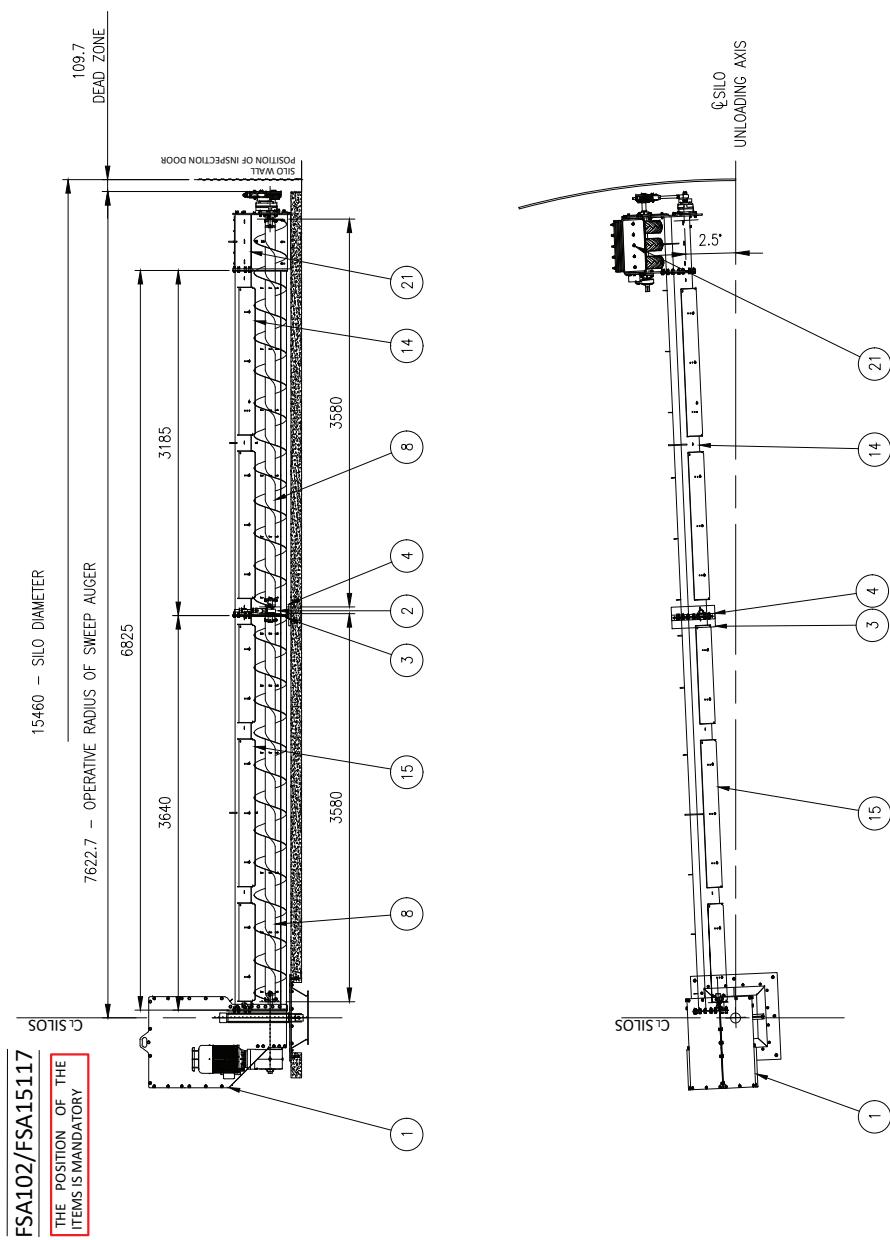
Items	①	②	③	④	⑦	⑬	⑭	⑯
MOD. 15	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	AUGER BACKBOARD	DRIVE WHEEL
FSA102/ FSA15115	Code	***	B105374561	B105476643	B105376626	FSAS300LP75XA / FSAS300LP75XR	FSA2CASE 106 107	***
Quantity	1	1	1	1	1	2	1	1

\* \*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)

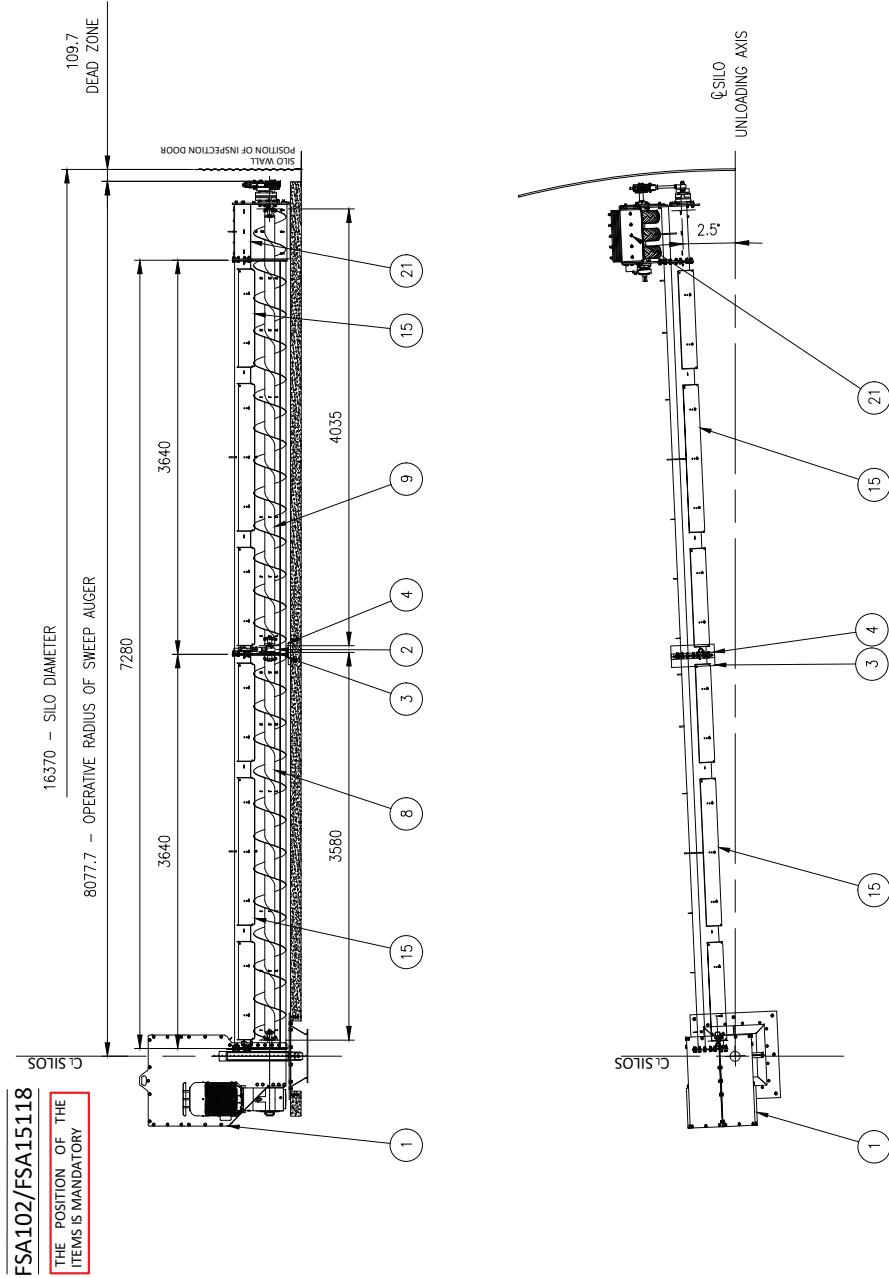


Items	①	②	③	④	⑦	⑧	⑯	⑯
MOD. 16	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD
FSA102/ FSA15116	Code	***	BJ05374561	B105476643	B10537626	FSAS300LP75XA / FSAS300LP75XR	FSAS300LP85XA / FSAS300LP85XR	FSA2 CASE FSA107 ***
	Quantity	1	1	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)

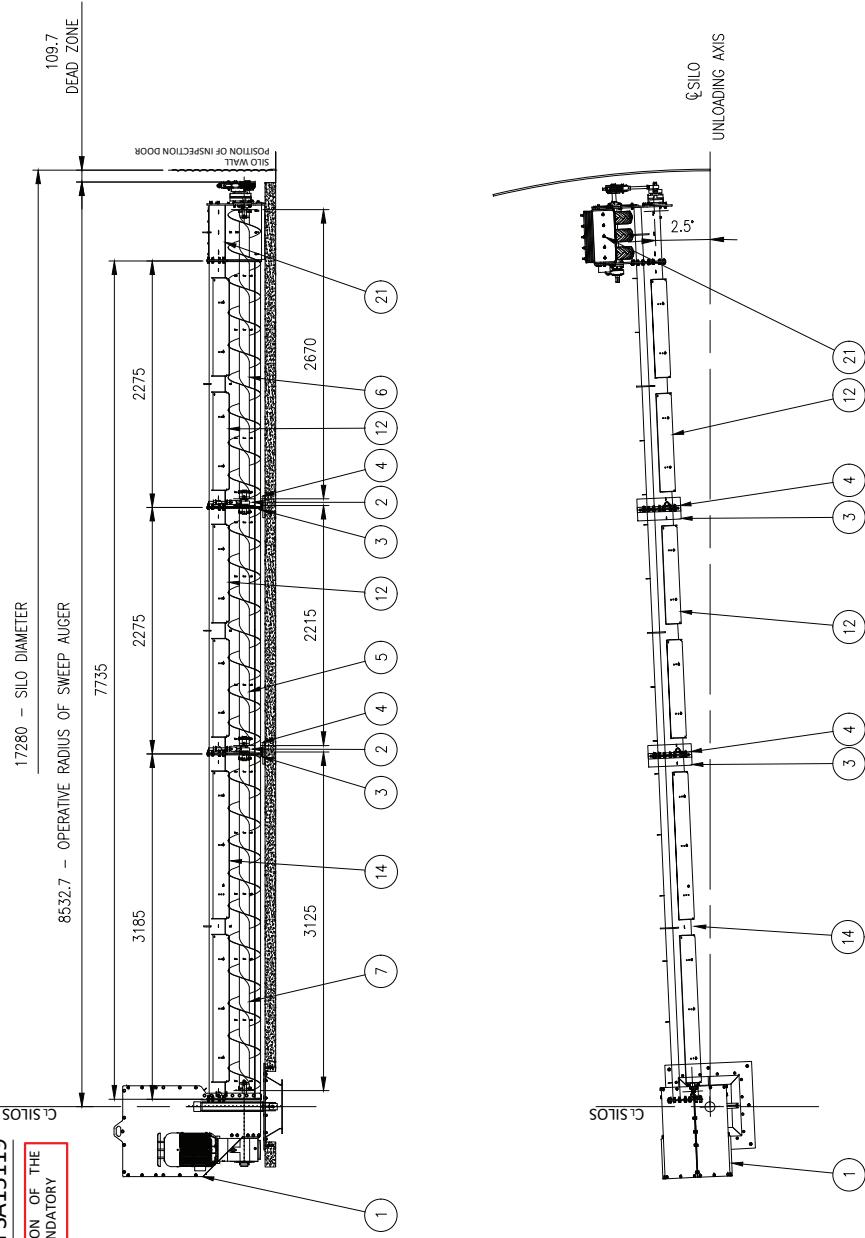


\*\*\*\*\* That item code denotes on the electrical data of the installation cite and compliance with the AT&T directive (if connected).

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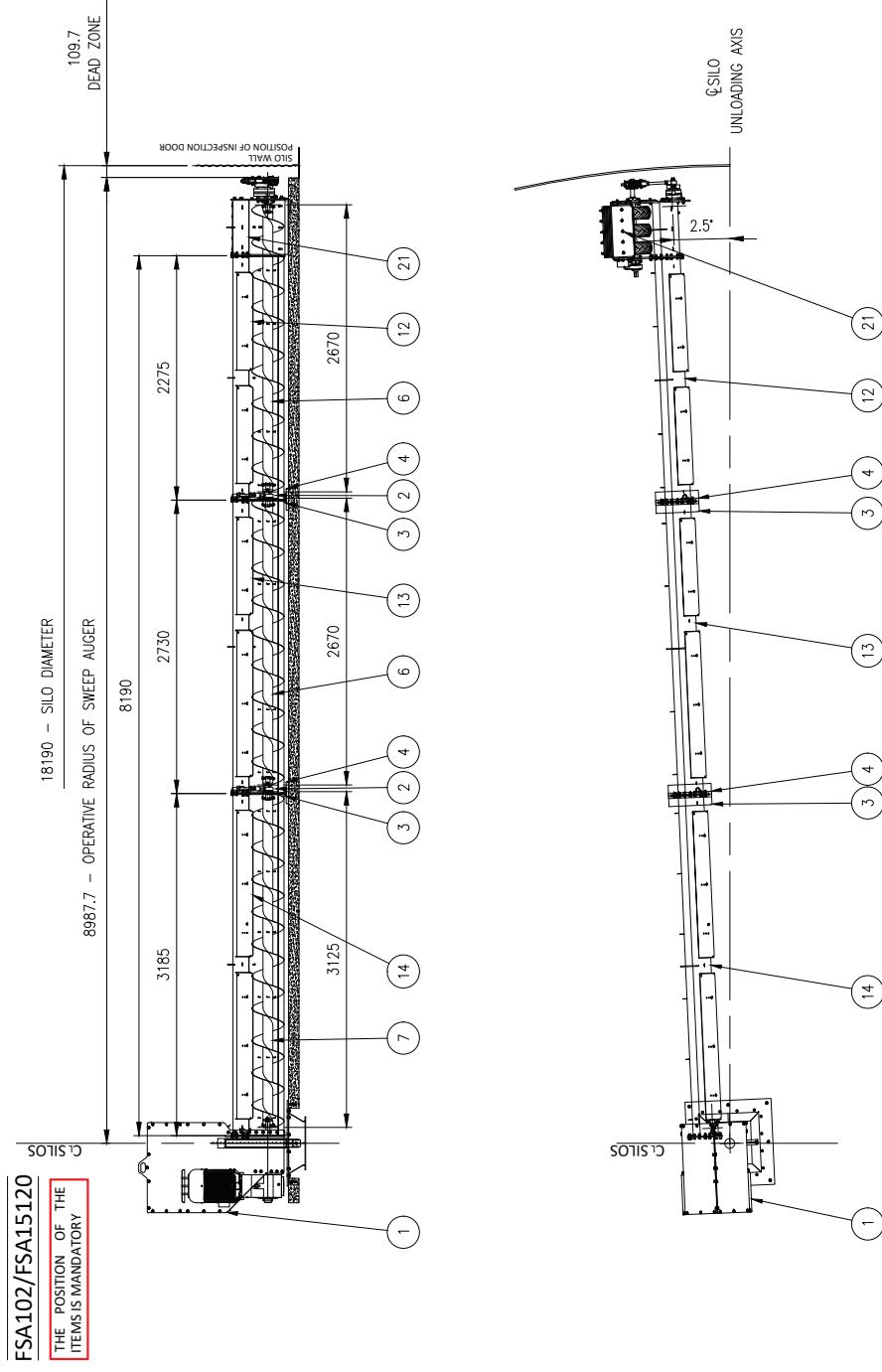
EFSA102/FSA15119

THE POSITION OF THE  
ITEMS IS MANDATORY



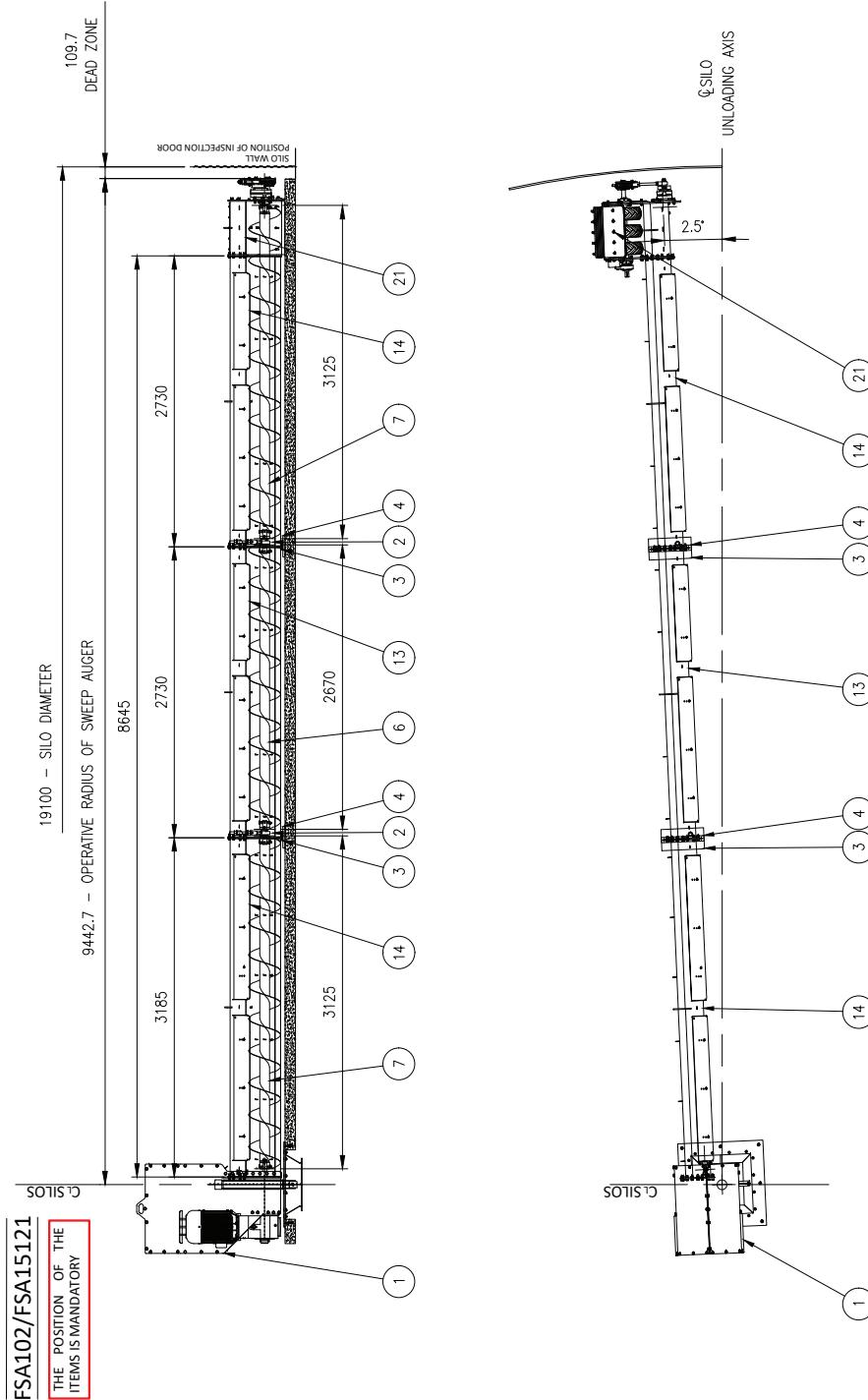
	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
MOD. 19	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL	
FSAS102/ FSAS15119	Code	***	B105374561	B105476643	B105376626	FSAS300LP55XA / FSAS300LP55XR	FSAS300LP65XA / FSAS300LP65XR	FSAS300LP75XA / FSAS300LP75XR	FSAS2CASE 105	FSAS2CASE 107	***	***	***	***	***	***	
Quantity	1	1	2	2	2	1	1	1	1	2	1	2	1	2	1	1	

\*\*\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



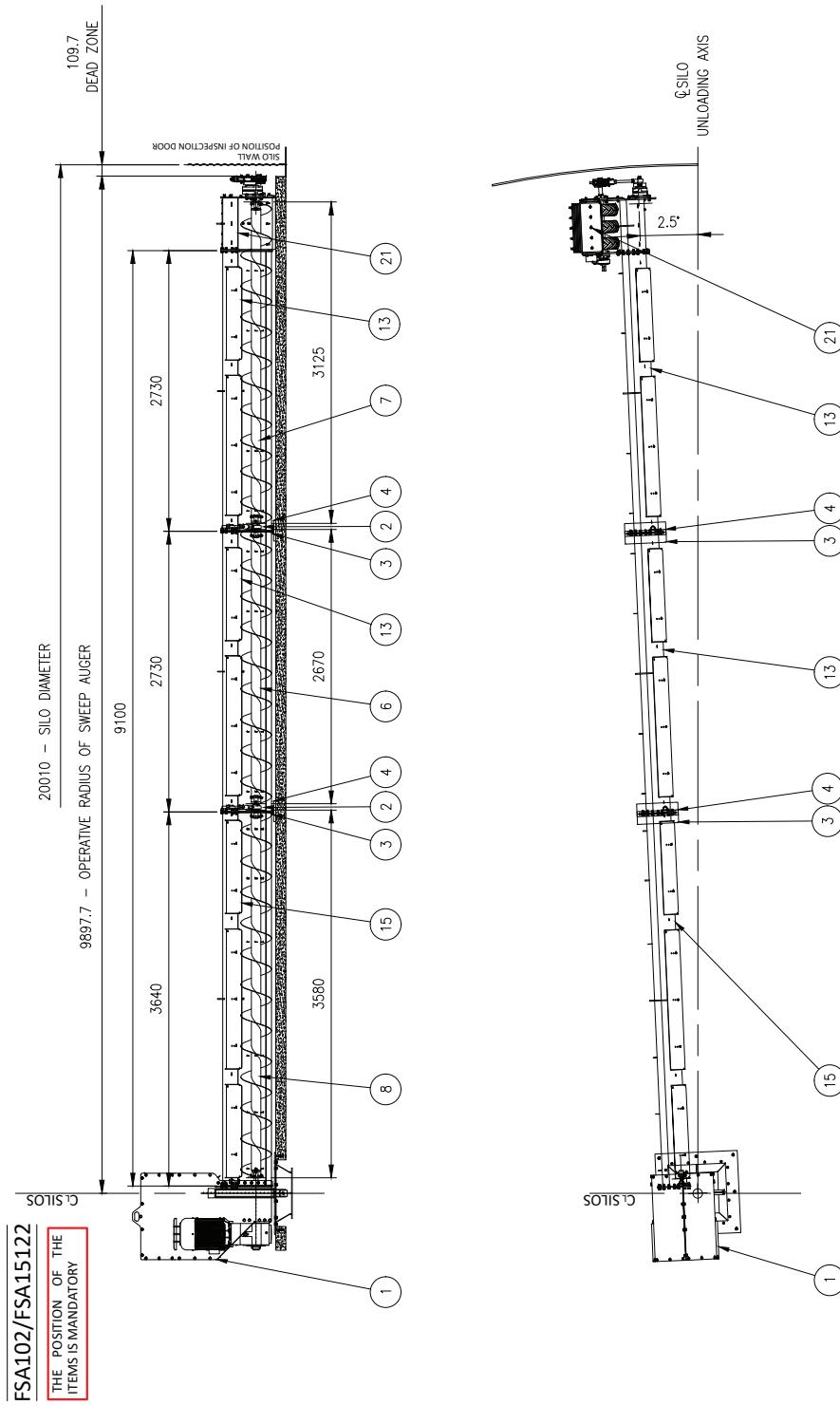
MOD. 20	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST											
FSA102/ FSA15120	Code	***	B105374561	B105476643	B105376626	FSAS300LP65XA / FSAS300LP65XR	FSAS300LP75XA / FSAS300LP75XR	FS2CASE 105	FS2CASE 106	FSACASE 07						***

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



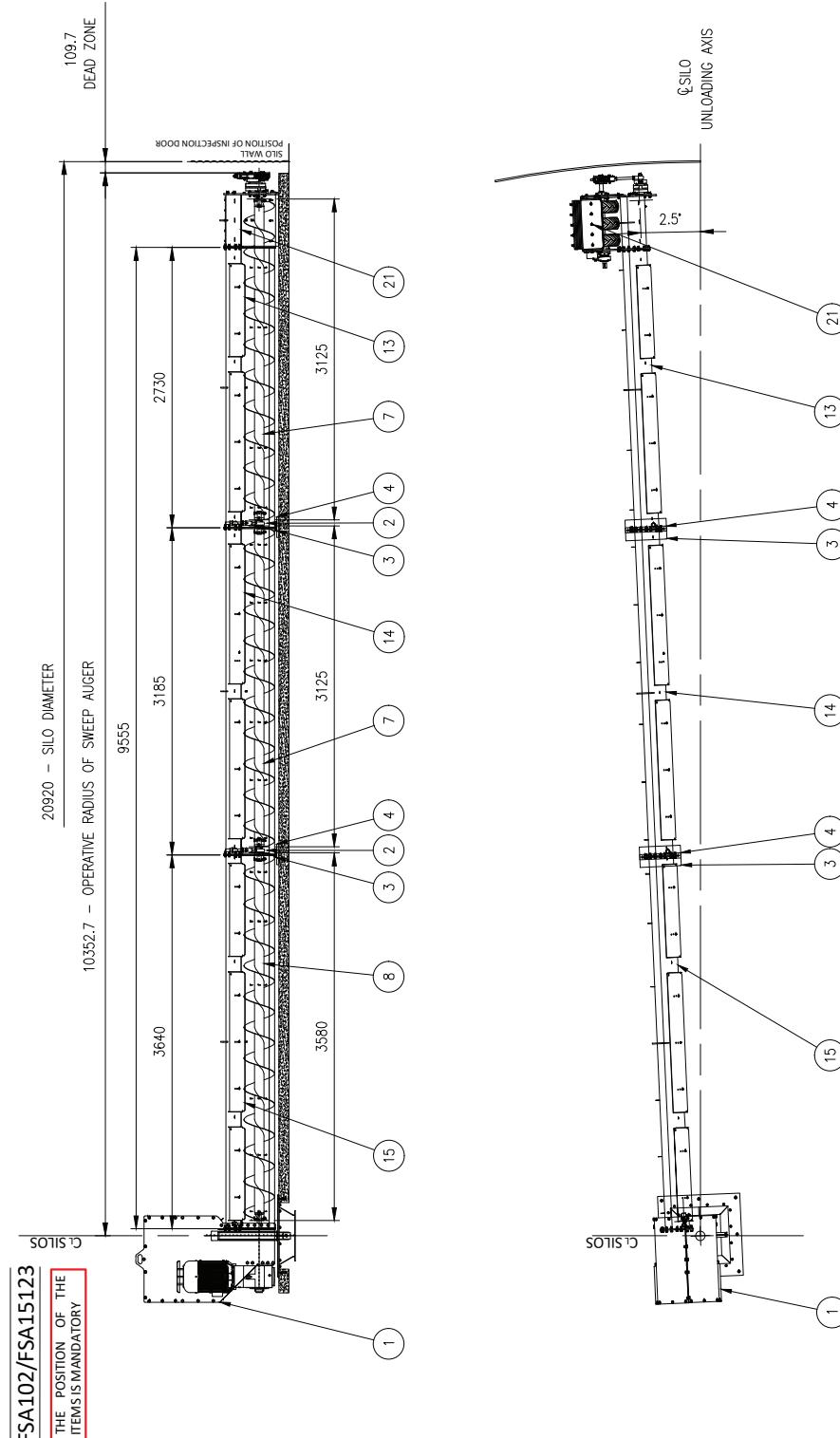
MOD. 21.	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST		FLIGHTING	FLIGHTING										
FSA102/ FSA15121	Code	***	B10537451	B105476643	B105376626	FSAS300LP6SX / FSAS300LP7SX / FSAS300LP6SX / FSAS300LP7SX	FSAS300LP7SX / FSAS300LP6SX / FSAS300LP7SX / FSAS300LP6SX / FSAS300LP7SX	FSA2CASE FSA2CASE FSA2CASE FSA2CASE FSA2CASE	107 106 106 106 107	1 2 2 2 2	1 2 2 2 2	1 1 1 1 1						
	Quantity	1	2	2	2	1	2	2	1	2	2	1	2	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



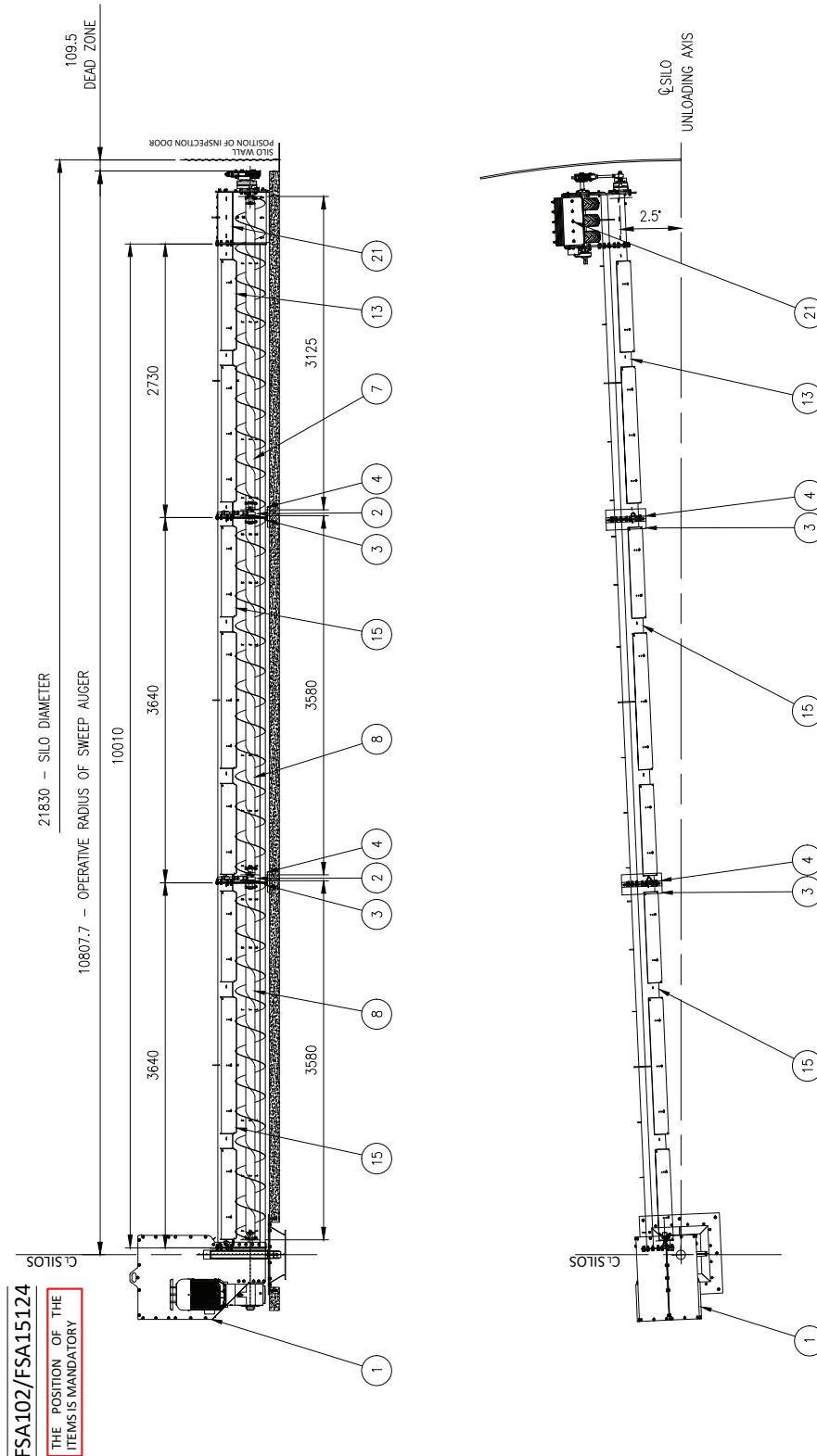
MOD. 22	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
	MOTOR DRIVE		INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST		FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING								
FSA102/ FSA15122	Code	***	B1053/4561	B1054/76643	B1053/6626	FSAS300LP6SX	FSAS300LP7SX	FSAS300LP8SX	FSAS300LP9SX	FSAS300LP7SX	FSAS300LP8SX	FSAS300LP9SX	FSAS300LP7SX	FSAS300LP8SX	FSAS300LP9SX	FS42CASE	FS42CASE	***

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



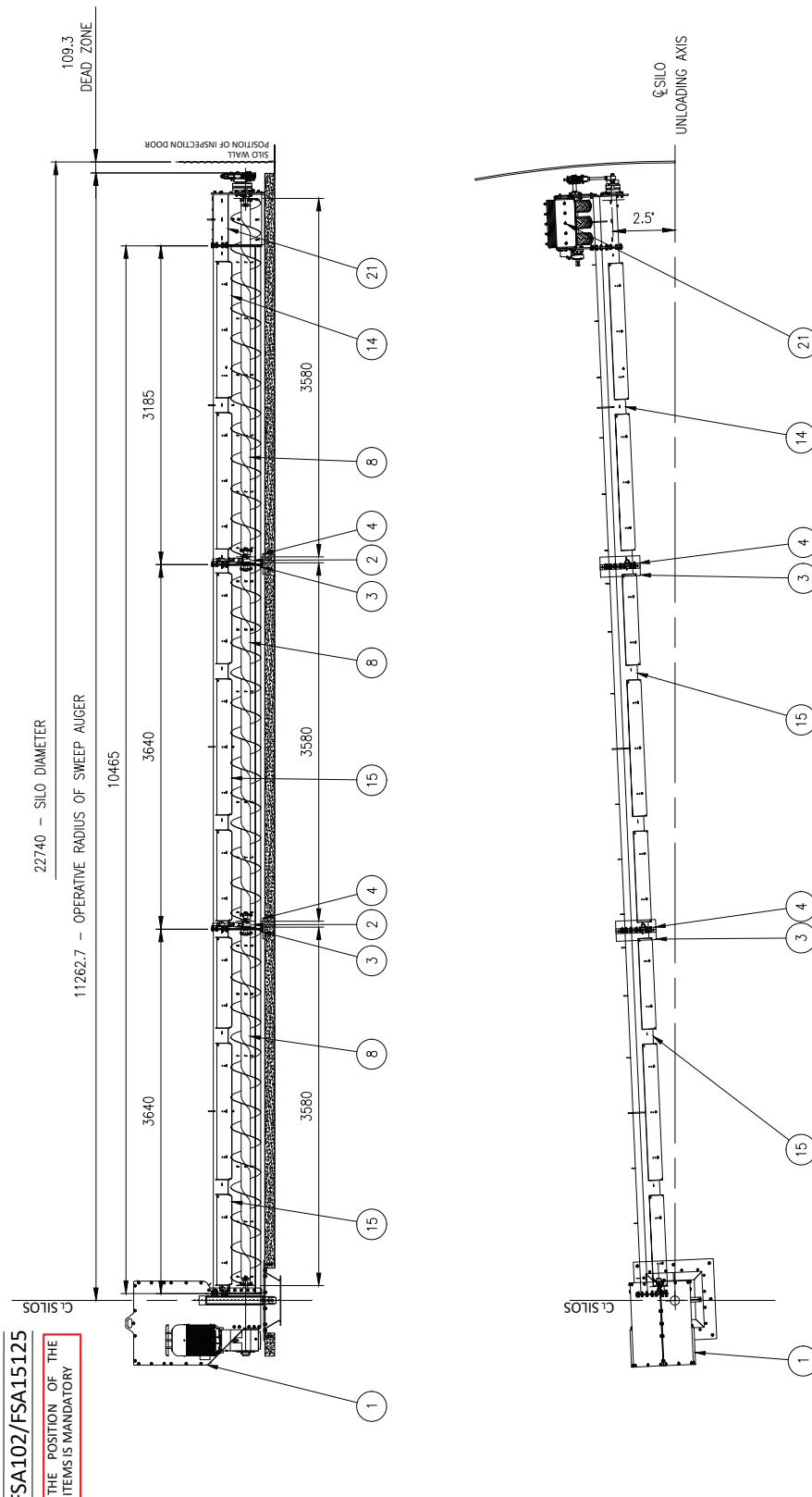
MOD. 23	Items	①	②	③	④	⑦	⑧	⑬	⑭	⑮	⑯	
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL	
FSA102/ FSA15123	Code	***	B105374561	B105476643	B105376626	FSAS300LP8SX / FSAS300LP7SX	FSAS300LP8SX / FSAS300LP7SX	FSAS300LP8SX / FSAS300LP7SX	FSAS2CASE 106	FSAS2CASE 107	FSAS2CASE 108	***

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



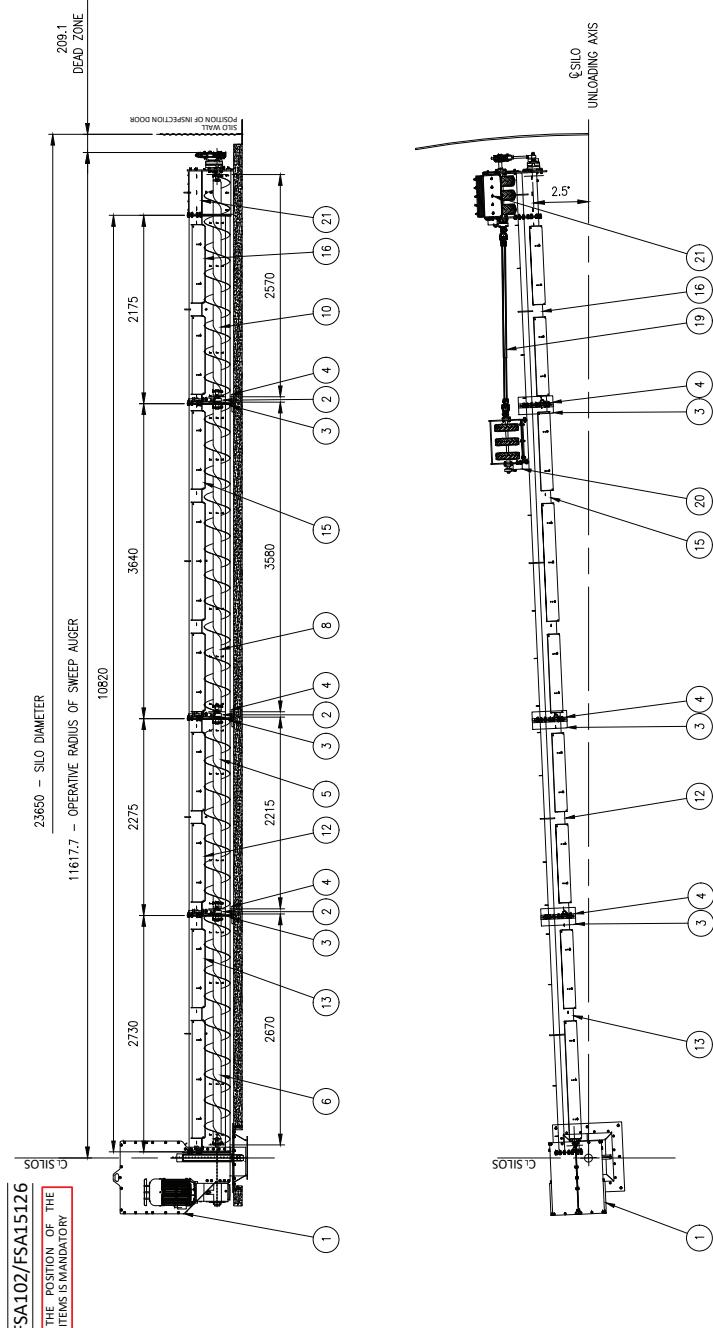
	Items	①	②	③	④	⑤	⑦	⑧	⑯	⑯	⑯	⑯
MOD. 24	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL		
FSA102/ FSA15124	Code	***	B105374561	B105476643	B10537626	FSAS300LP7SX / FSAS300LP75XR	FSAS300LP8SX / FSAS300LP85XR	FSAA2CASE 106	FSAA2CASE 108	***		
	Quantity	1	2	2	2	1	2	1	2	1	2	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



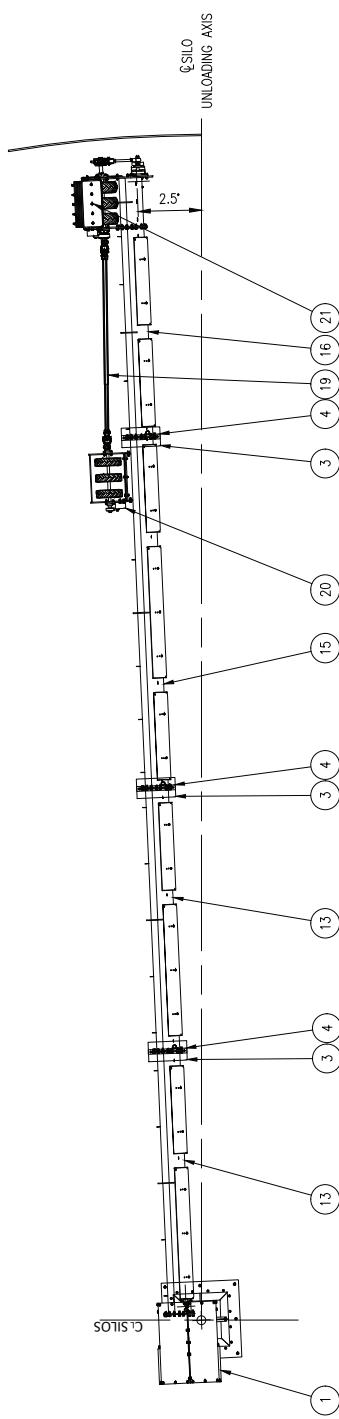
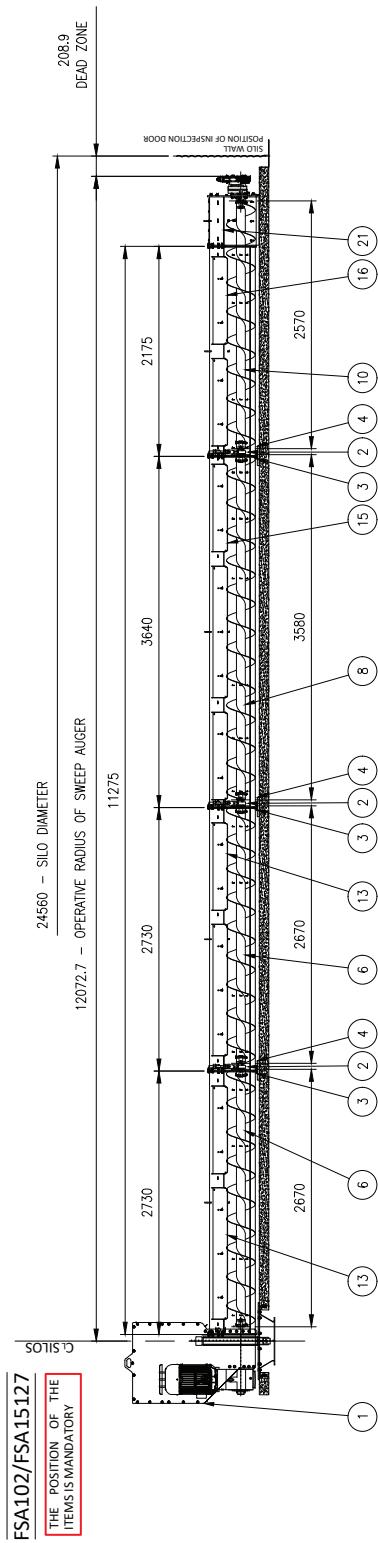
MOD. 25	Items	①	②	③	④	⑧	⑯	⑮	⑯
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	DRIVE WHEEL
FSA102/ FSA15125	Code	***	B105374561	B105476643	B103376626	FSA300LP85XA / FSA300LP85XR	FSA2CASE 107	FSA2CASE 108	***
	Quantity	1	2	2	2	3	1	2	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)

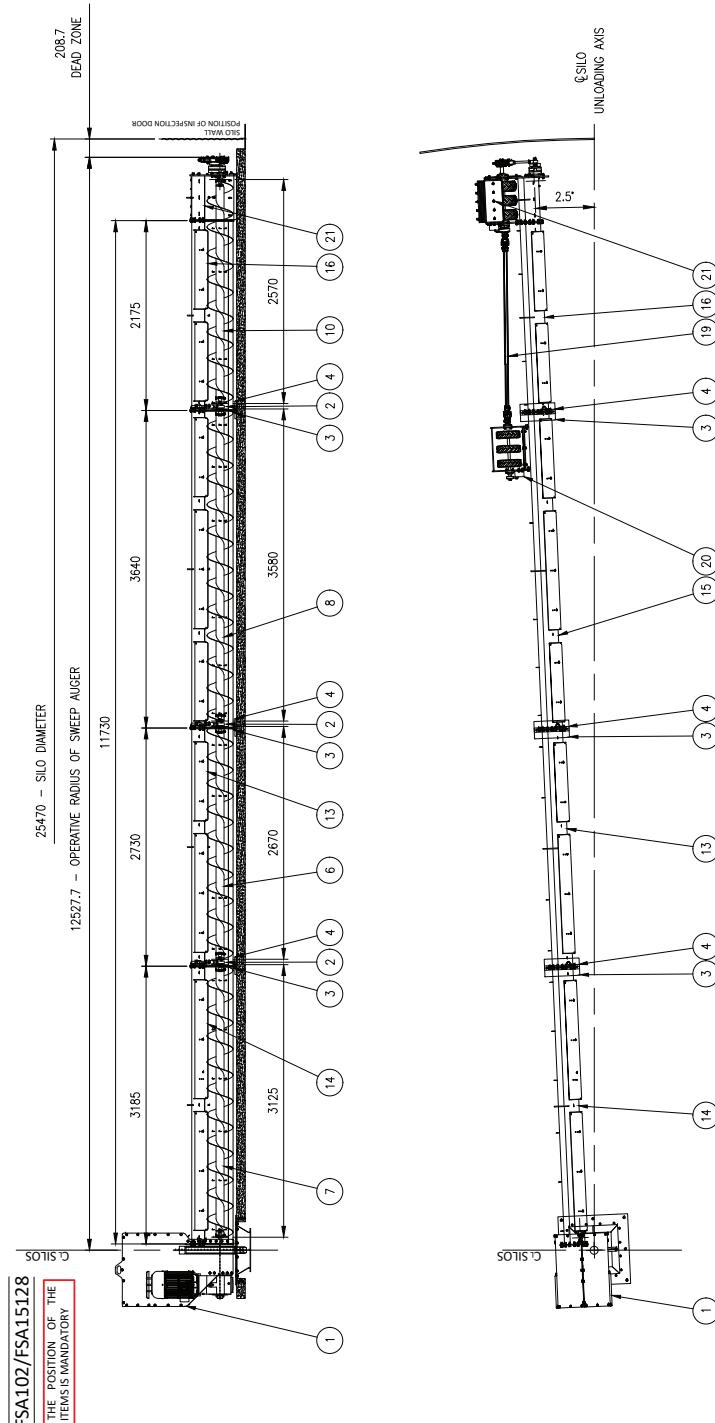


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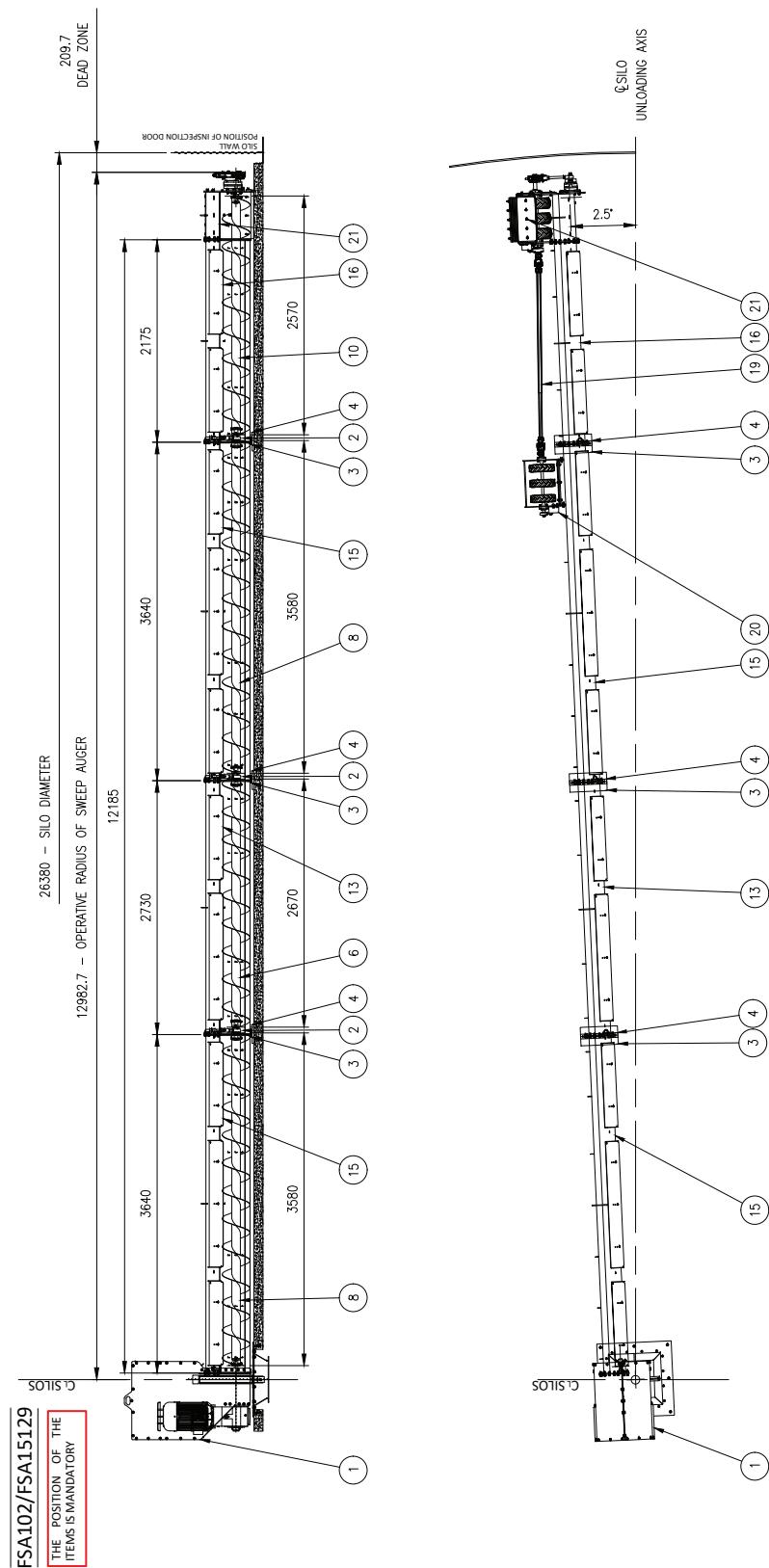


	Items	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
MOD. 27	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	SECOND DRIVE WHEEL	SECOND DRIVE WHEEL	DRIVESHAFT WITH U-JOINT	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL	DRIVE WHEEL			
FSA102/ FSA15127	Code	***	B105374561	B105476643	B105376626	FSA3300LP65XA / FSA3300LP85XA	B105374568 / B105374667	FSA2CASE 106	FSA2CASE 108	B105374545 88	B105374564 88	B105374564 88	B105374564 88	B105374564 88	B105374564 88	30CAFSA100	30CAFSA100	***	***			
	Quantity	1	3	3	3	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	

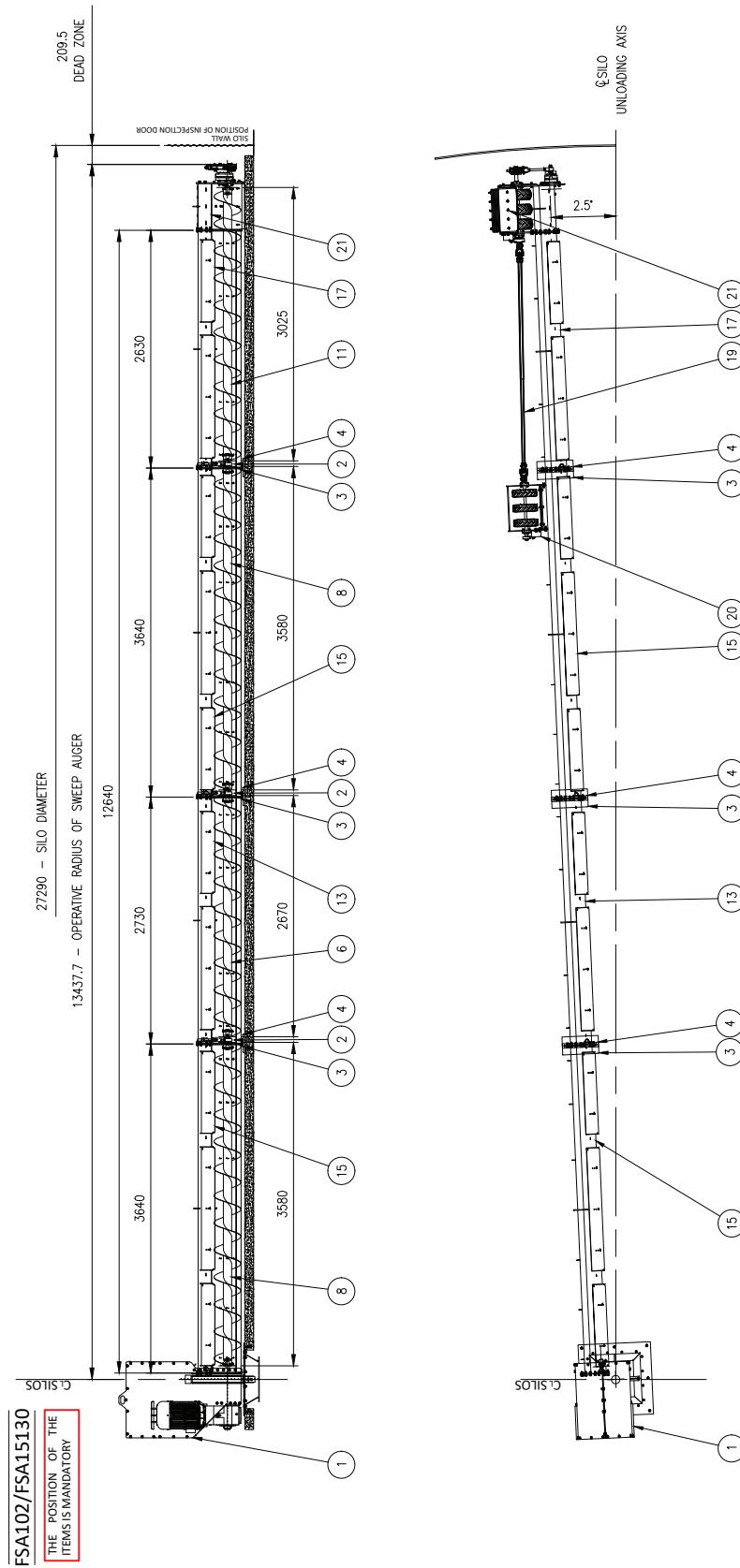


	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	㉑
MOD. 28	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	BACKBARD BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	SECOND DRIVE WHEEL	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL
FSA102/ FSA15128	Code	***	B105374561	B105476643	B105376626	FSAS300LP65XA / FSAS300LP75XA	FSAS300LP65XR / FSAS300LP75XR	FSAS300LP85XA / FSAS300LP85XR	B105374568 / B105374657	FSAC2CASE 106	FSAC2CASE 107	FSAC2CASE 108	FSAC2CASE 83	B105374564	B105374564	B105374564	B105374564	30CAFS100	***	***
Quantity		1	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



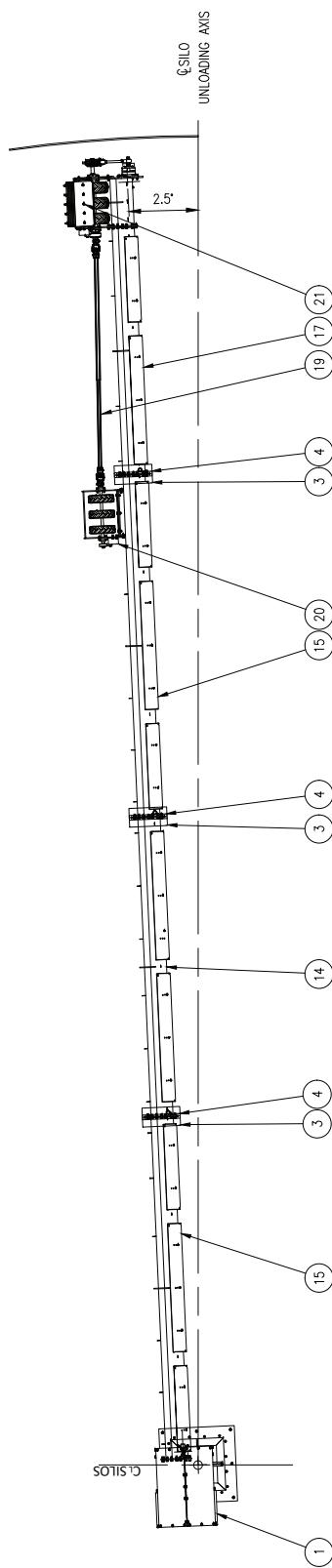
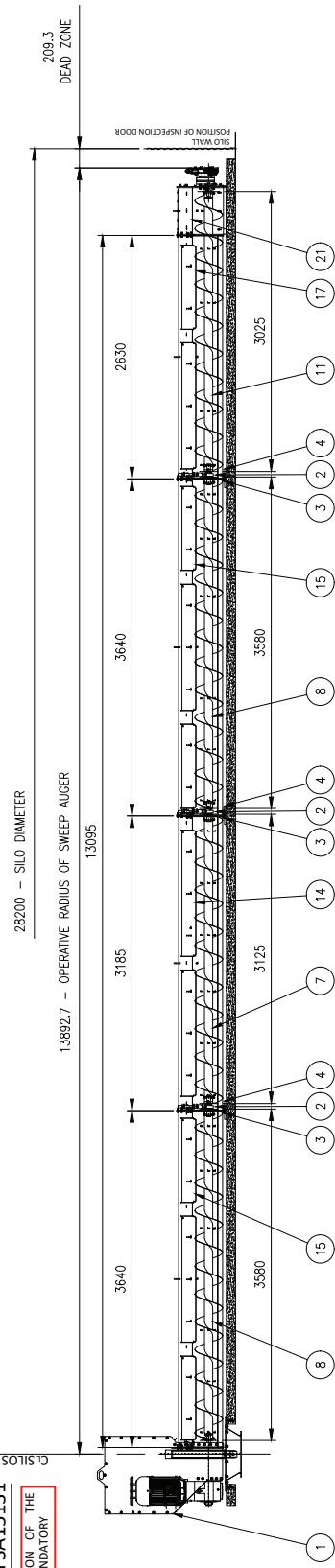
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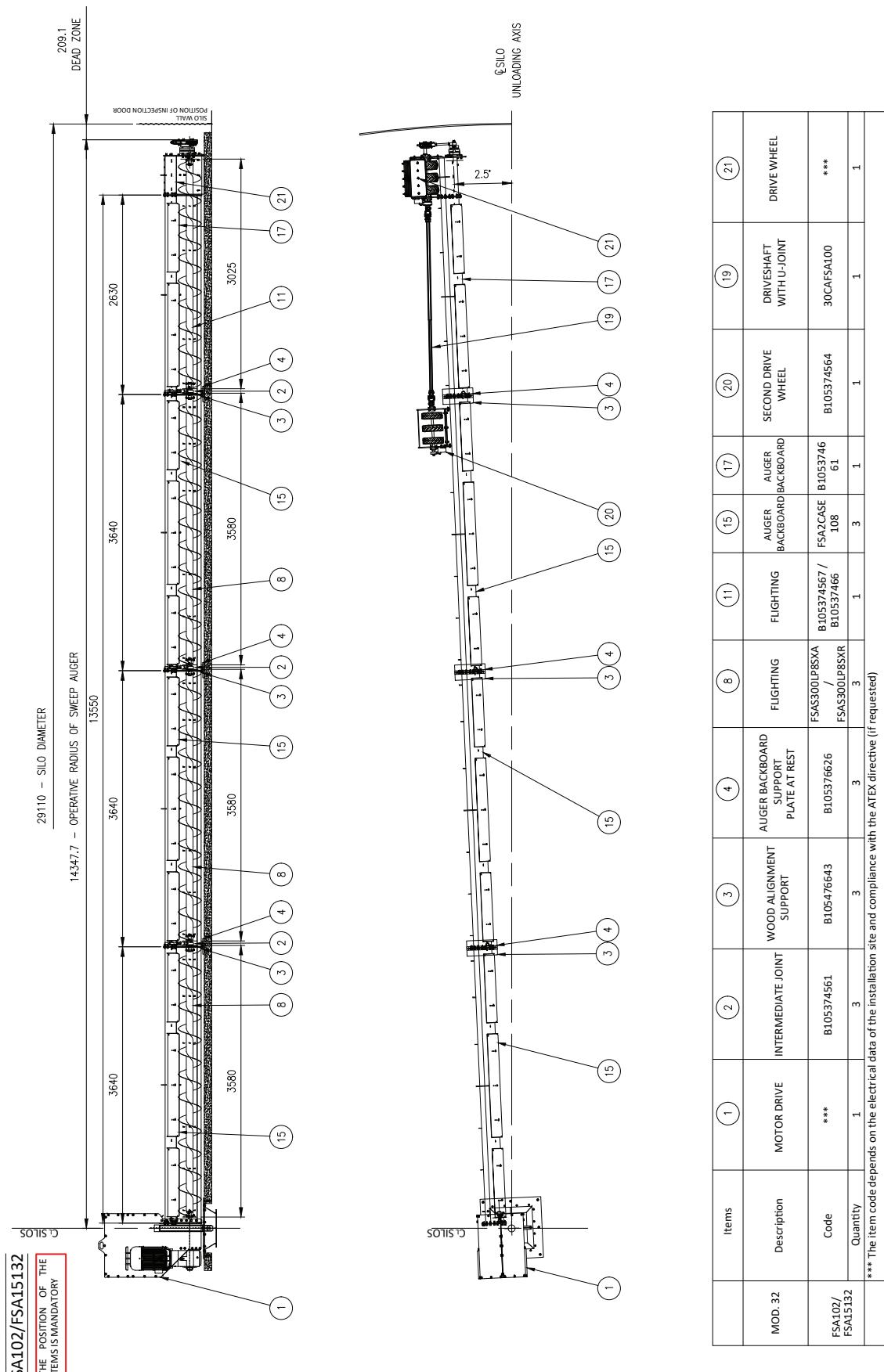
	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	㉑
MOD. 30	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD SUPPORT PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	SECOND DRIVE WHEEL	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL	DRIVE WHEEL	DRIVE WHEEL	DRIVE WHEEL
FSA102/ FSA15130	Code	***	B105374561	B105476643	B105376626	FSAS300LP65XA / FSAS300LP65XR	FSAS300LP85XA / FSAS300LP85XR	FSAS300LP85XA / FSAS300LP85XR	FSAS2CASE106 / B105374666	FSAC2CASE108	B105374564	B105374564	B105374564	30CAFS100	***				
Quantity		1	3	3	3	1	2	1	1	2	1	1	1	1	1	1	1	1	

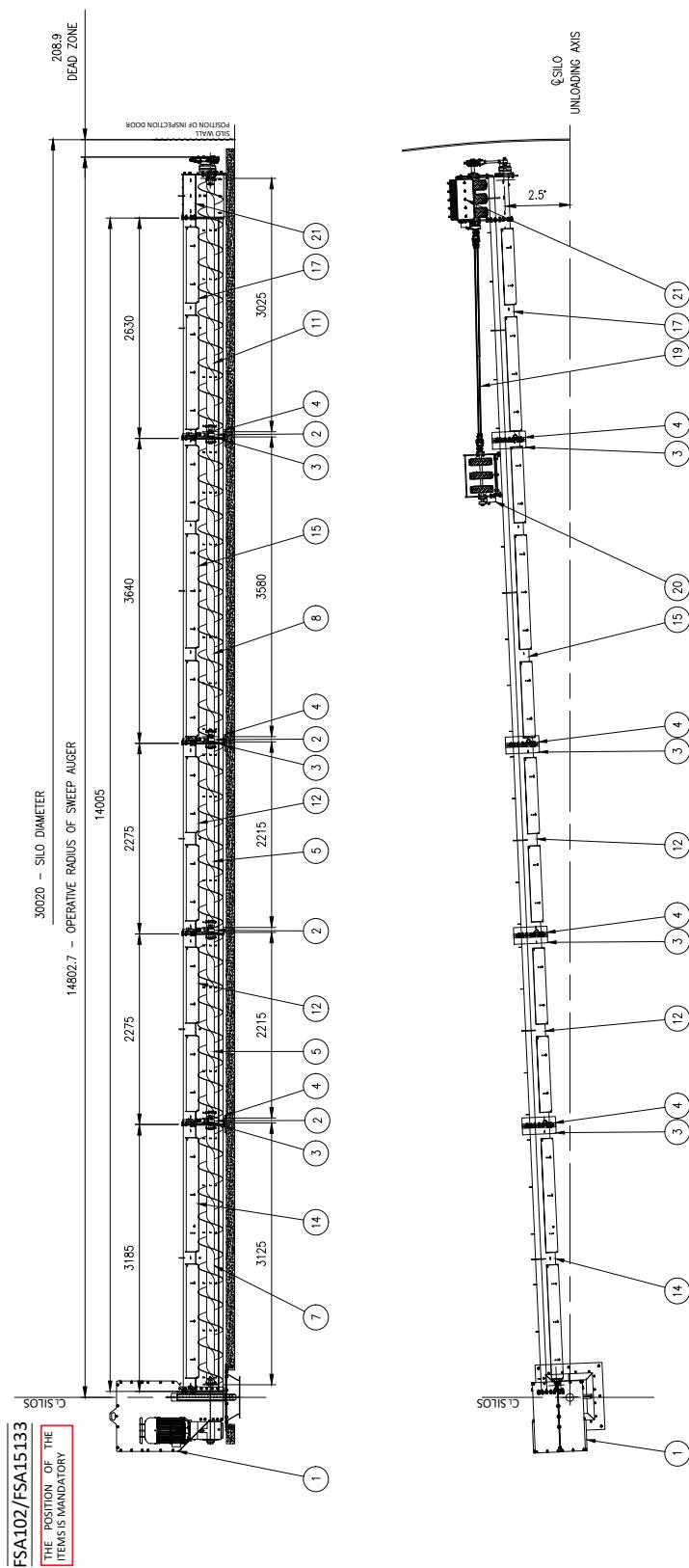
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)

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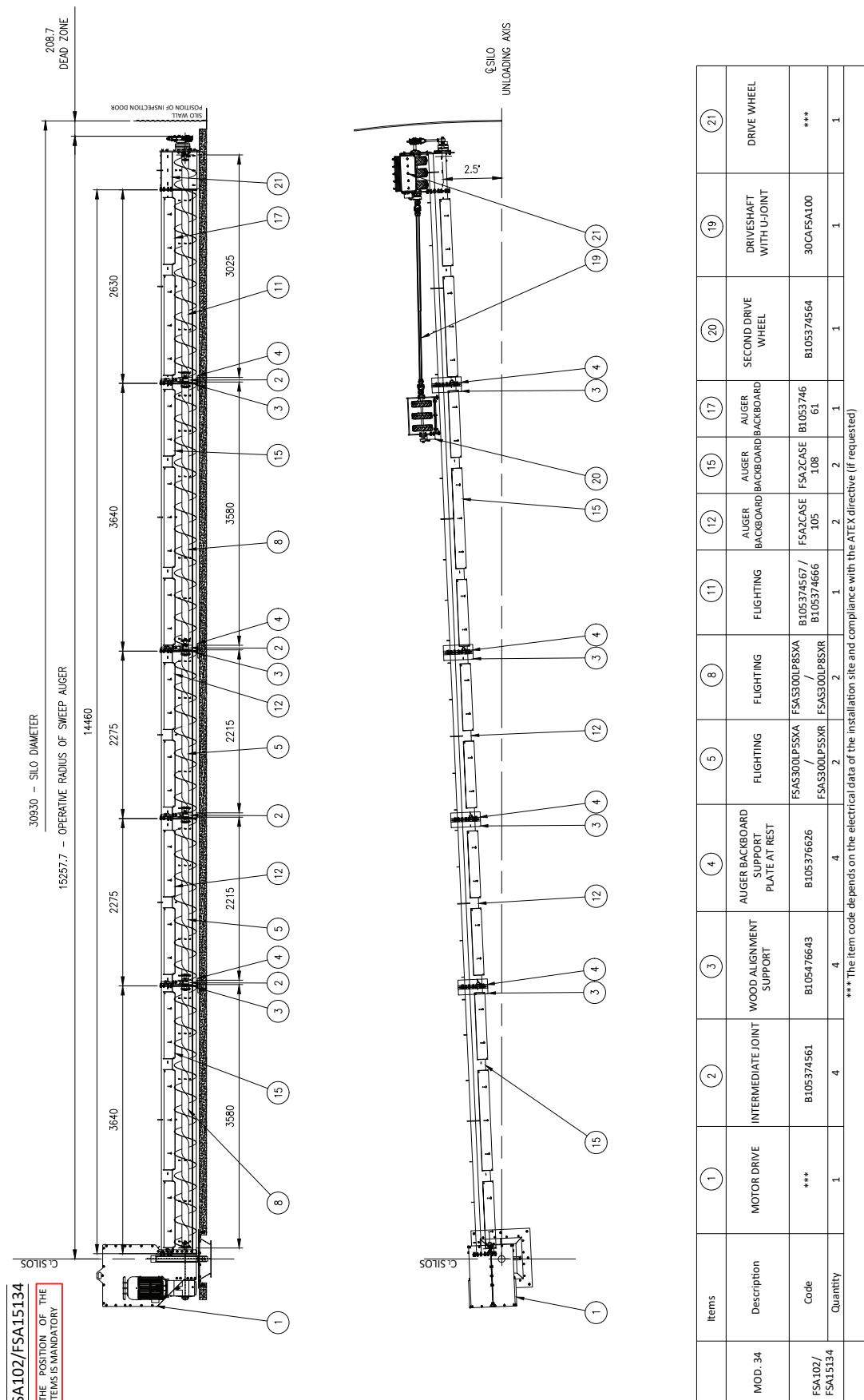
	Items	①	②	③	④	⑦	⑧	⑪	⑭	⑮	⑯	⑰	⑲	㉑	㉒	
MOD. 31	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT PLATE AT REST	AUGER BACKBOARD SUPPORT PLATE	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	SECOND DRIVE WHEEL	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL	DRIVE WHEEL	DRIVE WHEEL	
FSA102/ FSA15131	Code	***	B105374561	B105476643	B105376626	FSAS300LP75XA / FSAS300LP75XR	FSAS300LP85XA / FSAS300LP85XR	B105374567 / B105374666	B105374564	B105374564	B105374564	B105374564	30CAFSA100	***	1	1
***	Quantity	1	3	3	3	1	2	1	2	1	1	1	1	1	1	

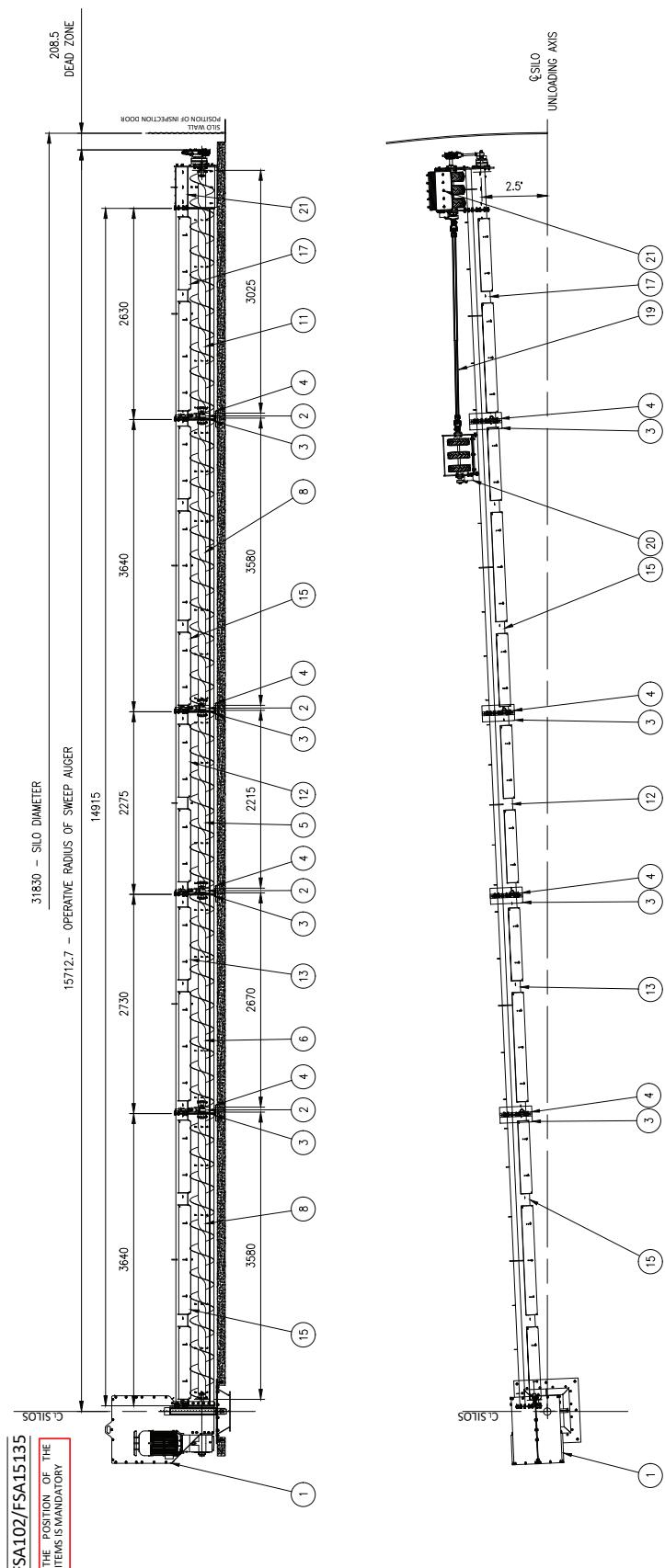




MOD. 33	Items	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	㉑	
	Description	MOTOR DRIVE	INTERMEDIATE JOINT	WOOD ALIGNMENT SUPPORT	AUGER BACKBOARD PLATE AT REST	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	BACHBOARD	BACHBOARD	BACHBOARD	BACHBOARD	AUGER	AUGER	SECOND DRIVE	DRIVESHAFT	DRIVE WHEEL	
FSA102/ FSA15133	Code	***	B105374561	B105476643	B105376646	FSA300LP5SKA / FSA300LP7SKA	FSA300LP7SKA / FSA300LP8SKA	B105374567 / B105374666	FSA2CASE1 / FSA2CASE1	FSA2CASE1 / FSA2CASE1	B10537456	B10537456	B10537456	B10537456	107	105	08	105	30CAFSA100	***
	Quantity	1	4	4	4	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1

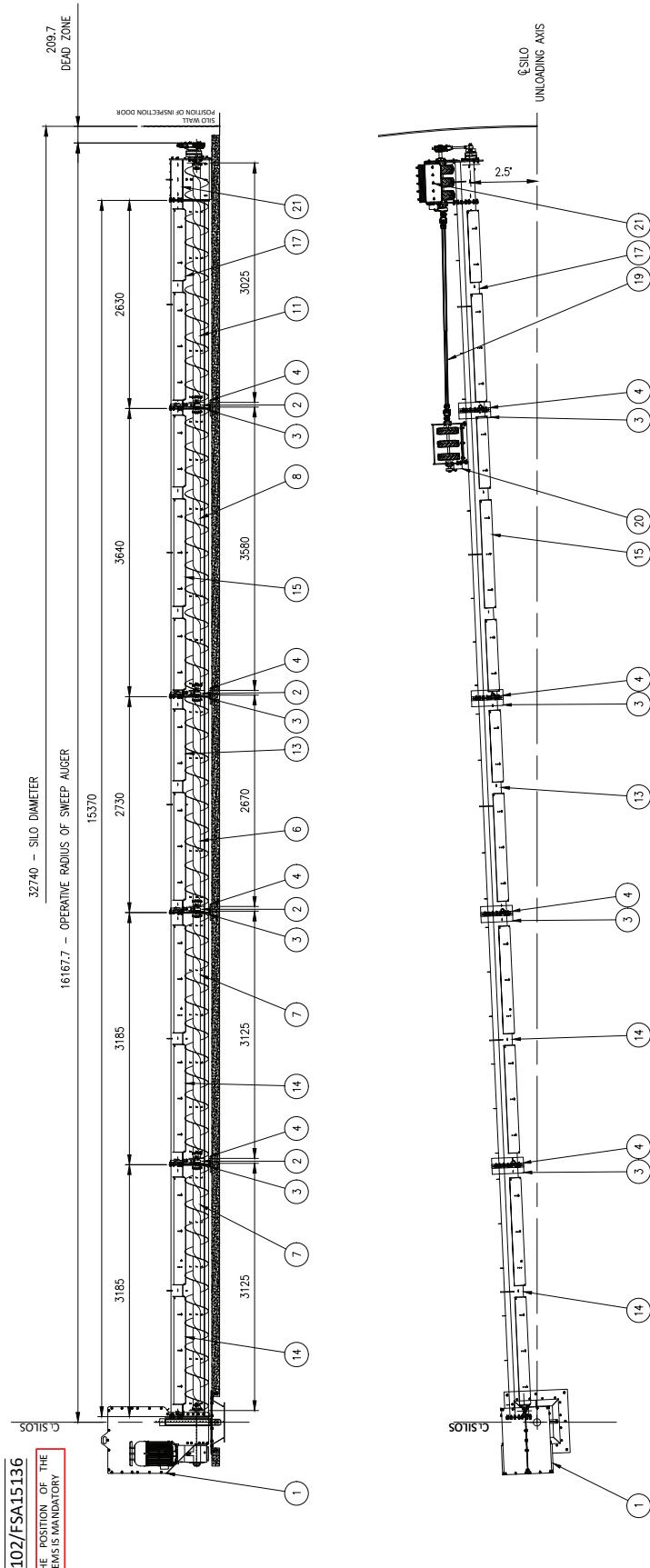
\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)





Items	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(11)	(12)	(13)	(15)	(17)	(20)	(19)	(21)
MOD. 35	Description	MOTOR DRIVE	INTERMEDIATE JOINT	AUGER BACKBOARD SUPPORT PLATE AT REST	WOOD ALIGNMENT SUPPORT	FLIGHTING	FLIGHTING	FLIGHTING	FLIGHTING	AUGER BACKBOARD	AUGER BACKBOARD	AUGER BACKBOARD	DRIVESHAFT WITH U-JOINT	DRIVE WHEEL	
FSA102 / FSA151.35	Code	***	B105374561	B105476643	B105376626	FSAS300LP65KA / FSAS300LP85KA / FSAS300LP55KR	FSAS300LP65KA / FSAS300LP85KA / FSAS300LP55KR	FSAS300LP65KR	FSAS300LP85KR	S02.5324567 / S02.532374666	FSA2CASE 105	FSA2CASE 108	B105374564 61	30CAFSA100	***
Quantity			4	4	1	1	2	1	1	2	1	1	1	1	1

\*\*\* The item code depends on the electrical data of the installation site and compliance with the ATEX directive (if requested)



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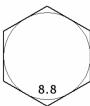
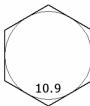
## 10.4. Bolt Torque

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**Table 9** provides the correct torque values for various bolts. The bolt diameter is measured to the outside of the threads. When tightening all bolts, tighten the nut on the bolt to the torque specified in the table, unless otherwise specified. Do not replace or substitute bolts, nuts, or other hardware that is of lesser strength than the hardware supplied by the manufacturer.

Torque values indicated below are valid for non-greased or non-oiled threads and head, unless otherwise specified. Therefore, do not grease or oil bolts unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

**Table 9. Metric Bolt Torque**

<b>Bolt Diameter</b>				
	<b>(N·m)</b>	<b>(ft·lb)</b>	<b>(N·m)</b>	<b>(ft·lb)</b>
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710

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Please include the part number listed on the cover page in your message.