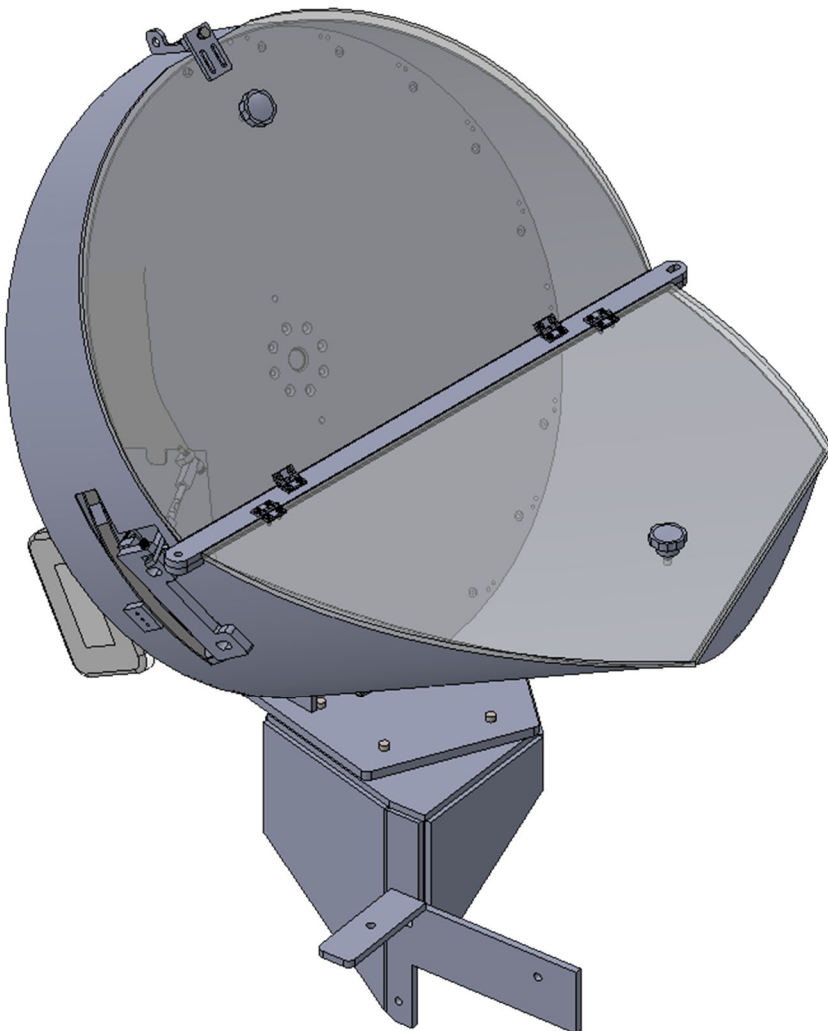




6R18 STAINLESS STEEL HOPPER OPERATING MANUAL

APRIL 2022



SILGAN EQUIPMENT

1301 DUGDALE ROAD

WAUKEGAN, IL 60085

847-336-0552

847-336-0562 FAX

WWW.SILGANEQUIPMENT.COM

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1. IMPORTANT BASIC INFORMATION

1.1 Parts Included with Delivery

The hopper is shipped broken down into the following constituents:

- Pre-installed hopper (drum with attached and installed parts)
- Cap chute
- Installation hardware (screws)

When a hopper is installed, the sealing machine is equipped with the following additional parts:

- Mounting pedestal
- Socket for power supply to hopper
- The rating plate is located on the rear of the hopper on the frame.

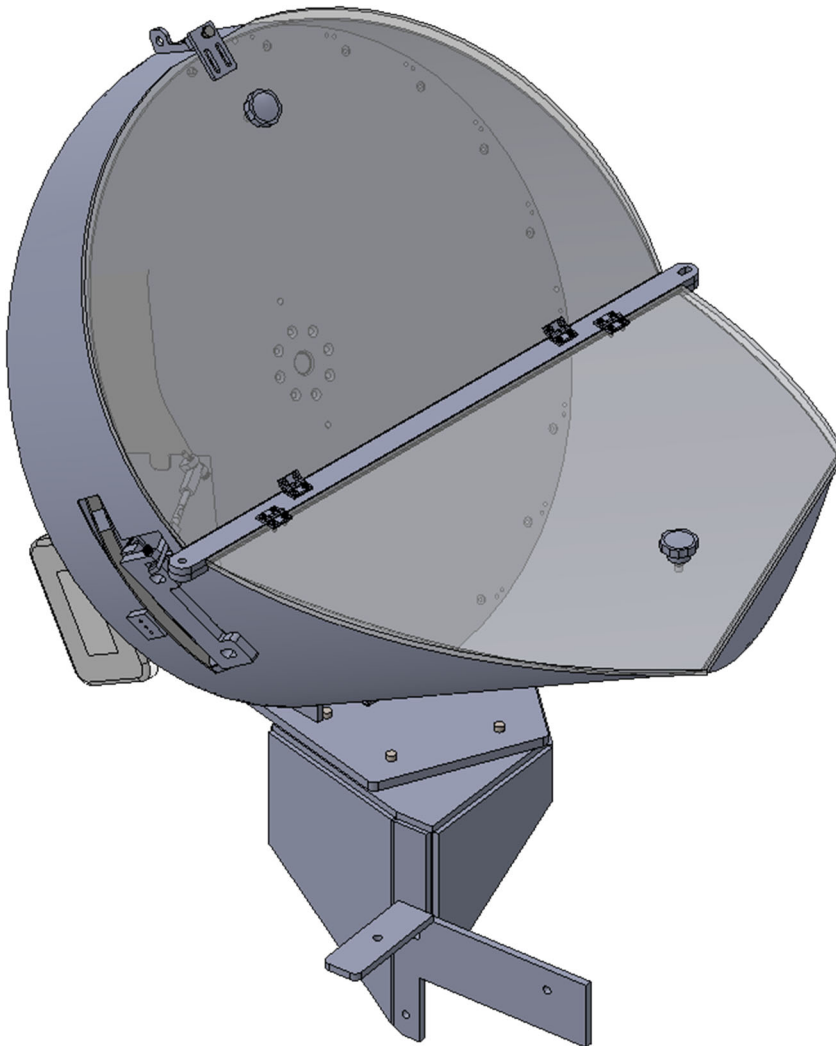


Figure 1-1: 3D Model of Hopper

1. IMPORTANT BASIC INFORMATION

1.2 Declaration of Conformity

The hopper is an optional equipment part of the sealing machine to which it is attached, and therefore does not have its own declaration of conformity. It is included in the conformity assessment for the sealing machine.

1.3 Responsibilities of Operating Company

The responsibilities of the operating company are listed in detail in the overall operating instructions for the sealing machine.

1.4 Notes on Illustrations for Symbols and Signal Words

In the present operating instructions, safety references are used to indicate hazards when operating the machine. These references are structured as follows:



Hazard

HAZARD

Draws attention to a hazardous situation, which will result in severe injury or death, if not avoided.



Warning

WARNING

Draws attention to a hazardous situation, which can result in severe injury or death, if not avoided.



Caution

CAUTION

Draws attention to a hazardous situation, which can result in minor injury.



Important

IMPORTANT

Provides information to avoid property damage or misuse.
Provides tips regarding the work to be performed.

1. IMPORTANT BASIC INFORMATION

1.5 Copyrights

Silgan Closures GmbH retains all rights to this document and all objects illustrated therein. This document may not be reproduced, copied or disclosed to third parties in any form whatsoever or used for any purposes except that for which it was given to the receiver without express prior approval from Silgan Closures GmbH. All attachments are integral parts of the operating instructions.

February 2019

Silgan Closures GmbH

1.6 External Interfaces

- Cap feed by operator through lower protective flap
- Console for mounting on sealing machine
- Cap chute for transferring caps to the sealing machine
- (Electrical) power supply
- Incorporation into sealing machine control circuit

1.7 Constituents of Documentation

- Drawing of machine
- Technical data

1.8 Service Address

Silgan Equipment Company

1301 Dugdale

Waukegan, IL 60085

847.336.0552

1. IMPORTANT BASIC INFORMATION

1.9 Environmental Requirements

When performing any type of work with the machine, always observe the legal obligations for waste avoidance and proper recycling/disposal. Ensure that water-endangering substances such as the following do not pollute the soil or escape into the sewer.

- Cleaning fluids/sprays containing solvents

Ensure that such substances are caught, stored, and transported in suitable containers and disposed of properly

2. SAFETY

2.1 Pictographs Used in this Manual

2.1.1 Prohibition Symbols

Symbol	Description
	Do not reach in.
	Use of gloves prohibited. This helps prevent accidents and injuries. Use of gloves would lead to an injury hazard.

Table 2-1: Prohibition Symbols

2. SAFETY

2.1.2 Warning Symbols

Symbol	Description
	This pictograph symbolizes a general hazard. It is used wherever graphic depiction of the hazard is not possible. Encounter such hazards with the necessary care and caution.
	Symbol for electrical hazard from direct or indirect contact between humans and live parts.
	Symbol warning of hazard of being pulled in
	Symbol warning of injury hazard posed by suspended loads or parts, which could possibly fall
	Symbol warning of slipping hazard. Possible causes: slick floors, leaking liquids
	Warning of hot surfaces

Table 2-2: Warning Symbols

2. SAFETY

2.1.3 Imperative Command Symbols

Symbol	Description
	Wear helmet.
	Wear safety shoes.
	Observe instructions for use.
	Lockout/Tag out Switch off main power supply switch and secure with padlock against unauthorized switch-on.
	Lockout/Tag out Ensure that the key to this padlock is in the position of the person performing the maintenance or repair work.

Table 2-3: Safety Symbols

2. SAFETY

2.2 Basic Safety Precautions

2.2.1 Observe Operating Instructions

Ensure that the operating instructions have been read and understood by all personnel and are observed during all work. For this reason ensure that the operating instruction are always readily available near the 6R18.

The company operating the system is responsible for the training and safety of the operating personnel. For this reason it is very important to actually hand over the operating instructions to those personnel affected. The operating company and operating personnel of the 6R18 are obligated to be familiar with and observe these operating instructions.

Operating personnel, assigned to transport, set up, operate service or repair the Stainless steel-Hopper, must have read and understood these operating instructions. It is the responsibility of the operating company to provide special instruction to operating personnel, who cannot read, making them aware of hazards involved with use of the equipment. Ensure that the 6R18 is operated only by personnel who have received training and instruction regarding the hazards involved.

2. SAFETY

2.2.2 Necessary Personnel Qualifications

Important: The manufacturer recommends having operators trained at the manufacturer's technical center or at the operating company's installation site.

Operating Personnel: Operators must be trained by the operating company for the assigned work and possible hazards in the event of improper action. Work going beyond configuration and operation during production, may be performed by the operators only when so specified in the instructions and expressly assigned to them by the operating company.

Skilled Personnel are employees, who, on the basis of their professional training, knowledge and experience as well as knowledge of the applicable standards and regulations, are capable of performing the work assigned to them as well as recognizing and avoiding possible hazards on their own.

Electricians are employees, who, on the basis of their professional training, knowledge and experience as well as knowledge of the applicable standards and regulations, are capable of performing work on electrical equipment as well as recognizing and avoiding possible hazards on their own. Electricians are trained especially for the work environment, in which they are involved and are familiar with the relevant standards and regulations.

Skilled Service Personnel are employees, who, on the basis of their professional training, knowledge and experience as well as knowledge of the applicable standards and regulations, are capable of performing work on mechanical and pneumatic systems as well as recognizing and avoiding possible hazards on their own. Skilled service personnel are trained especially for the work environment, in which they are involved and are familiar with the relevant standards and regulations.

Transport Personnel: During transport work one person is to be authorized to supervise the work and coordinate all work on the machine. Ensure that only trained transport personnel are used. The personnel must be familiar with the hazards so that safe action can be assumed.

Installation Personnel: Ensure that installation work is performed by experienced and technically qualified personnel (skilled personnel). Supervision is to be realized by the company itself or by a person authorized by the company, to ensure that the installation work is accomplished properly.

Cleaning Personnel: Familiarized personnel must be trained by the operating company for the assigned work and possible hazards in the event of improper action.

2. SAFETY

2.3 Intended Use

The hopper serves for delivering Twist-Off® caps (lobe-type caps), Press-On Twist-Off® caps, Band guard caps, or Plasti-Twist® caps. The caps can be metal or plastic. The maximum through-put capacity depends on the type of machine and container diameter. To process the various containers and caps, it may be necessary to install additional equipment or make conversions using the configuration parts provided for this purpose.

Ensure that the machine is used only in a technically perfect state and as intended in a hazard- and safety-conscious manner.

Use as intended also includes reading all installation and operating instructions as well as observing all provisions, particularly the safety precautions contained therein. Moreover it is necessary to ensure that all inspection and maintenance work is performed at the specified intervals.

In cases of doubt confer with Silgan White Cap Manufacturing GmbH.

The machine has been constructed according to recognized safety standards. However personnel can be endangered or damage can result when used improperly. Any other type of use is not intended.

2. SAFETY

2.4 Foreseeable Misuse

When operating the machine it is strictly prohibited to bypass the protection and safety devices or render them ineffective. It is only permissible to remove mechanical protective devices for the duration of the installation, maintenance or repair work. Any use other than as intended, is not permissible; this includes, for example:

- Use of unsuitable or untrained personnel
- Processing containers, whose shape, dimensions, weight or material deviates from the standards specified in the data sheet
- Use of service products or auxiliary supplies not coordinated with the manufacturer or not approved in the operating instructions
- Transporting containers, whose shape, dimensions, weight or material deviates from the standards specified in the operating instructions
- Modification of the electrical system or control
- Operation without guards or protective devices
- Operation in the face of safety-relevant malfunctions or in faulty condition
- Failure to observe the safety equipment and established accident prevention regulations, as well as failure to observe service and testing deadlines
- Loading of external programs or modification of programs by unauthorized persons
- Making unauthorized modifications
- Entry of incorrect parameters
- Improper cleaning using high pressure equipment
- Use of excessively high pressure for energy supply (risk of breakage)
- The manufacturer assumes no liability whatsoever for damage resulting from use other than intended.

2. SAFETY

2.5 Residual Hazards and Safety Precautions

The machine was designed according to the state of the art in observance of current safety requirements. Nonetheless residual hazards still exist, which require prudent handling. The existing residual hazards and basic safety precautions are listed in this chapter.

	HAZARD
	Warning! Falling hazard • Exercise increased caution when performing installation work at elevated heights. • Use suitable climbing aids. • Observe all requirements for provision and use of climbing aids applicable in your specific country. In Germany this is TRBS 2121, Part 2, Status 12/2018 as well as DGUV 208-016.

Table 2-4: Slip/Fall Hazards

	HAZARD
	Hazard from incorrect operation. • Familiarizing them with all machine functions and controls.

Table 2-5: Operator Hazards

	HAZARD
	Danger of being pulled in by drum • Do not work on machine with bracelets, chains or long, open hair. Take off jewelry and rings. • Wear close-fitting work clothing. • Open lower protective flap only for feeding in caps and close again immediately

Table 2-6: Pinch/Pull In Hazards

2. SAFETY

2.6 Protective Devices

The machine is provided with a series of protective devices and functions to protect personnel from accidents and in emergency situations. The operating company is responsible for regularly checking the protective devices for proper function. Use of the machine with faulty protective devices is strictly prohibited.

Ensure that the following safety equipment is always in proper, functioning condition, and installed correctly.

- Simple layout of opening flap
- Tools are required to open the upper opening flap

2.7 Emergency Stop Switch

The emergency stop for the sealing machine serves for switch-off. The hopper does not have its own emergency stop switch.

2.8 Personal Protective Equipment

Wear following personal protective equipment when performing activities specified:

Symbol	Description
	Protective helmet - for transport work.
	Non-slip safety shoes - generally.
	Cut-resistant protective gloves - when removing broken glass from machine head, when working on hot surfaces

Table 2-7: Required PPE

2.9 Behavior in Emergencies

Observe emergency plans issued by the operating company.

3. TECHNICAL DATA

3.1 Technical Data

The hopper is pre-set for one type of cap when shipped.

Operating Conditions

The machine is designed for use in industrial environments.

- Roofed and closed rooms
- Vibration-free
- Ambient temperature: +5°C to + 40°C

Auxiliary and Operating Materials

- Cleaning agents

Rating Plate

The rating plate is located on the rear of the hopper on the frame. Further information:

- Machine year of production

Subject	Value
Year of Production	See Rating Plate
Planned Service Life	Unlimited General Overhaul by Manufacturer after 15 years
Dimensions (L x W x H)	810mm x 850mm x 830mm
Weight of machine	65 kg
Mains voltage	230/400 V AC, 50/60 Hz
Power	0.25 kW
Cap diameter	27mm to 110mm
Type of caps	Same as for sealing machine
Rotary speed of turntable	10 to 50 revolutions per minute

Table 3-1: Technical Data

4. SYSTEM DESCRIPTION

4.1 Operation

The hopper serves for aligning various caps for food containers such as Twist-Off® caps. The caps can have a diameter of 27 to 110 mm. The achievable production rate depends on the size and type of cap. The table below provides guide values for RT caps.

As a rule, the caps are filled into the hopper manually. The fill quantity is approximately one case of caps. The caps can be fed in through the lower protective flap in the hopper drum. In the drum the caps are conveyed sorted by an inclined, rotating plate with transport pins (*Figure 4-4*). Agitators on the plate mix the caps. The transport pins pick up the caps lying with the inside of the caps against the plate. The caps are transferred into the chute in the correct position by an ejector plate and fed to the sealing machine.

In the automatic mode the hopper is controlled (switched on/off) by a sensor in the cap chute. The speed can be adjusted with the potentiometer on the inverter. It is necessary to adjust the delivery rate to the specific cap diameter, type and line capacity. The adjustment range of 1 to 10 corresponds to 10 to 50 revolutions per minute Set-up and maintenance work can be performed through the upper protective flap. This flap remains closed during normal operation. Various inserts are available for different types and diameters of caps (*Figure 4-3*). It may also be necessary to replace the cap chute.

Cap diameter	Delivery rate (guide values)
RT 53mm	approx. 270 caps/minute
RT 66mm	approx. 190 caps/minute
RT 82mm	approx. 100 caps/minute

Table 4-1: Cap Diameters and Delivery Rates

4. SYSTEM DESCRIPTION

4.2 Layout

The hopper comprises the following components, among others (*Figure 4-2*):

Hopper Console (mounted on sealing machine head)

Drum: Upper protective flap, Lower protective flap, Turntable, Motor, Ejector plate, Chute

Cap Chute It is produced primarily of stainless steel. The two covers (upper and lower protective flaps) are transparent plastic.

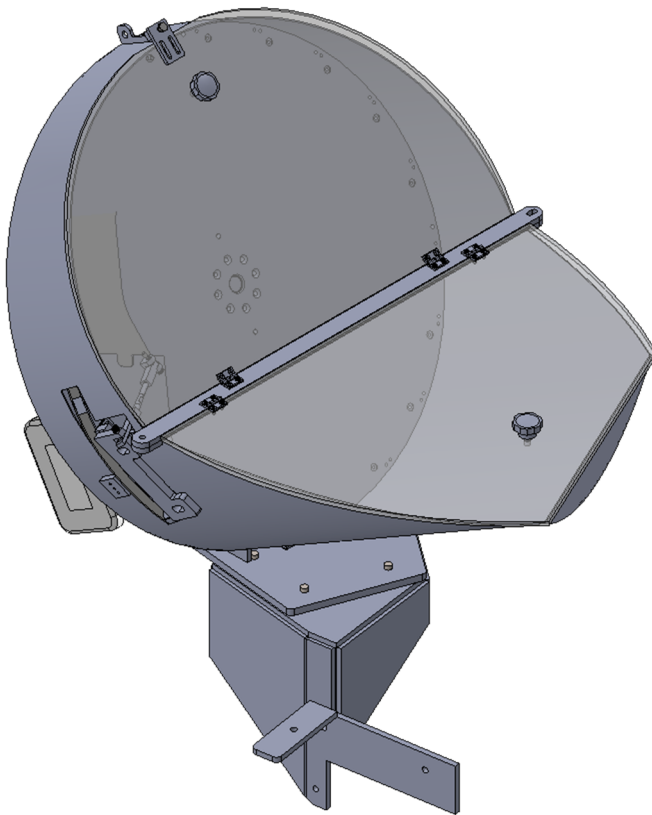


Figure 4-2: 3D Model of Hopper



Figure 4-3: Insert (Removed)

4. SYSTEM DESCRIPTION

Connections

The hopper is mounted on a console attached to the sealing machine (*Figure 4-4*). The electrical connection for the hopper is also located on this console. Power is supplied by the sealing machine (400 Volt, 3-phase) socket with auxiliary contacts.

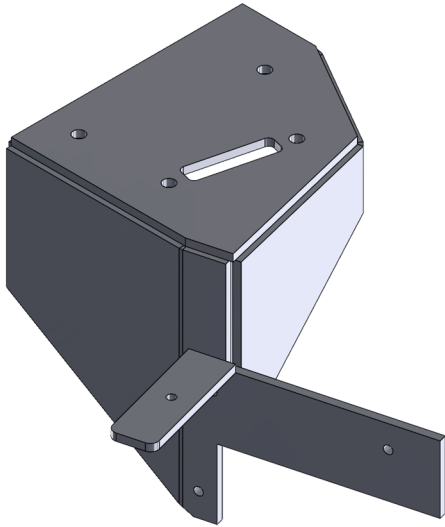
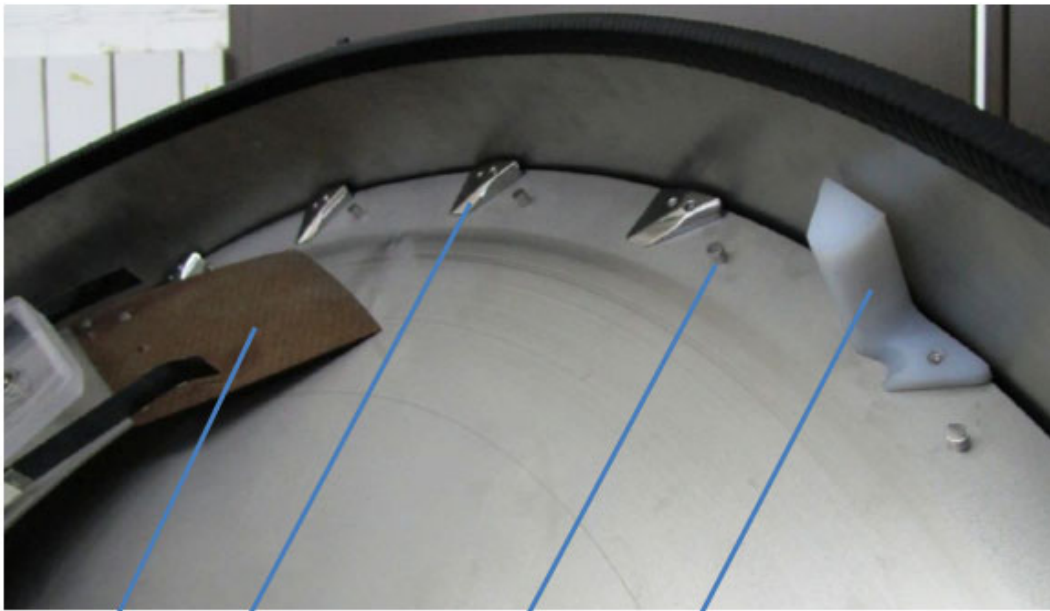


Figure 4-4: Console for Mounting Hopper



1	Ejector plate	3	Pin/transport pin
2	Deflector	4	Agitator

Figure 4-5: Drum with Open Upper Flap

5. SET-UP AND INSTALLATION CONDITIONS

5.1 Dimensions and Weights

It is necessary to ensure that the permissible floor loading capacity at the installation site is sufficient for the Stainless steel-Hopper. Here it is necessary to consider the entire weight of the system during operation (*Section 3.1*).

5.2 Set-Up Plan and Space Requirement

Install hopper on sealing machine as specified by Silgan Closures GmbH. Position and install the system parts and electrical feed lines as shown in the manufacturer's specifications. The defined dimensions for determining the entire space requirement are given in the hopper drawings. Provide for sufficient free space in the operator's working area

5.3 Supply Connections

The connections for media supply required for assembly, installation, start-up and operation of the Stainless steel-Hopper must be prepared and ready for use before setup is started. This is provided by the sealing machine with which the hopper is delivered.

5.4 Storage Conditions

Machine components which cannot be set up immediately at the installation site, should be stored in their packaging where they are protected from the effects of weather and other foreign influences.

Storage should be accomplished as follows:

- The storage conditions should be identical to the ambient operating conditions.
- Leave components in their original packaging until starting installation and keep in a weather-protected location.
- Cover components so that they are protected from intensive radiation from the sun, dust, moisture and freezing.
- When stored outdoors, place machine parts on a wooden foundation.

Liability for any damage occurring during storage is governed exclusively by the delivery contract.

5. SET-UP AND INSTALLATION CONDITIONS

5.5 Instructions for Waste Disposal

Remove foil, beams, pallets and all types of packaging from the individual components. When disposing of the individual packaging materials, observe all laws applicable at the site. Separate all materials occurring according to type (plastics, metals, wood, etc.). Recycle substances whenever possible. Take possible occurrence or development of substances, which could pollute the environment, into consideration from the very beginning.

6. TRANSPORT

6.1 Basic Instructions for Transport

Transport equipment inside plant only in the presence of a service technician from the manufacturer. This technician will take over supervision and coordinate all transport work. The following rules of behavior apply for transport of machine parts as a matter of principle:

- Ensure that transport work is performed only by qualified personnel, observing the safety precautions.
- Always consider the weight of the machine part when selecting suitable hoisting equipment.
- When transporting machine parts use only hoisting and slinging gear in proper condition.
- Always have a route guard posted along the transport path.
- Cordon off and secure transport routes so that unauthorized personnel cannot enter the hazard area.
- Observe permissible floor loads along the transport route.
- Secure all parts against slipping. Remove loose parts or tools.
- Install any transport securing devices completely and correctly.



	WARNING
   	Injury hazard from falling loads. • Cordon off the installation area for unauthorized personnel when setting up the machine. • Never walk under suspended loads. • Check hoisting equipment for proper layout and permissible capacity. • Wear personal protective equipment.

Table 6-1: Transporting Equipment Hazards

6. TRANSPORT

6.2 Specific Instructions for Transport

The hopper is delivered on a pallet. The machine can be lifted and moved with this pallet. A lifting eye is provided on the top of the drum for on-site transport (*Figure 6-2*). Attach appropriate slinging gear to this lifting eye to transport the hopper.

Removing From the Capper

- Switch off sealing machine and secure against being switched back on without authorization.
- Disconnect hopper from (electrical) power feed and disconnect sensor connection.
- Empty drum.
- Remove cap chute.
- Secure hopper on lifting eye using suitable hoisting gear.
- Tension hoisting gear without lifting composite machine.
- Mechanically decouple hopper from sealing machine. For this purpose unscrew corresponding bolts.
- Set down and secure on pallet.
- Transport with suitable lifting device, e.g. industrial truck.

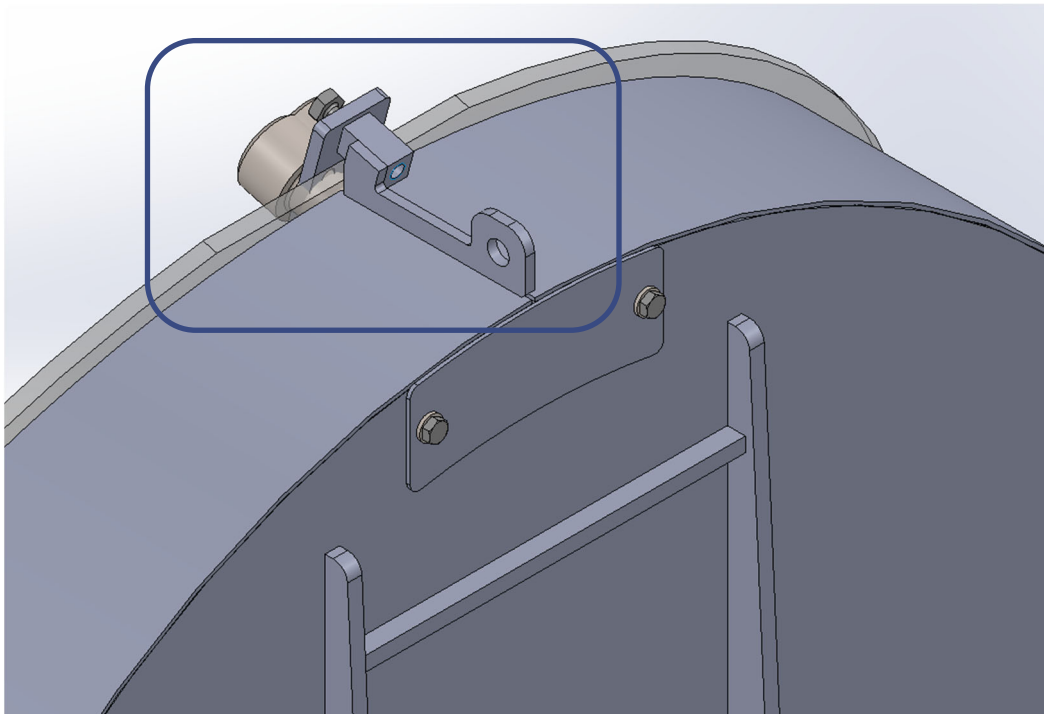


Figure 6-2: Lifting Eye Feature Attached to Hopper

7. INSTALLATION

7.1 Installation

As a rule the hopper is handed over to the client by the manufacturer completely assembled and ready for use at the planned installation site. The following instructions for set-up, installation and connection are provided for information only.

7.2 Safety

Assembly and installation should be performed only by trained, and, where applicable, authorized, skilled personnel while observing all assembly and installation codes and safety precautions. As a rule, set-up and installation are accomplished by the manufacturer.

When setting up the machine the following specific hazards can occur:

- Incorrectly set down or improperly fastened machine parts can fall down or tumble over.
- The ends of live lines and components can lead to injury from electrical shock.
- Parts laying loose on top of one another can slip and fall.
- Improperly laid lines (e.g. bending radius too small) can cause smoldering and cable fires.
- Incorrect bolt tightening torques can result in severe injury and property damage.

When setting up the machine always observe the following safety precautions. This helps prevent lethal injuries, damage to the machine and other property damage.

- Ensure that configuration work such as assembly and installation of the machine is performed only by qualified personnel, observing the safety precautions.
- Ensure that the floor at the machine set-up location is capable of supporting the weight of the system. Here it is necessary to consider the entire weight of the machine.
- Before starting the set-up work, inspect the individual machine parts for transport damage.
- Check the machine parts delivered for completeness.
- Ensure that only authorized personnel are present in the work area and that no other personnel are endangered by the set-up work.
- Ensure that hazardous substances are handled properly.
- Route all machine connections - lines, hoses and piping - so that they do not produce stumbling points.
- When laying the lines, hoses or piping, observe the specified bending radiuses.
- Observe specified tightening torques for bolt connections.
- Observe handling specifications (e.g. earthing, etc.) for components endangered by electrostatic discharge.
- Wear appropriate personal protective equipment, particularly safety shoes.

7. INSTALLATION



WARNING

Injury hazard from falling loads.

- Cordon off the installation area for unauthorized personnel when setting up the machine.
- Never walk under suspended loads.
- Check hoisting equipment for proper layout and permissible capacity.
- Wear personal protective equipment.

Table 7-1: Transporting Equipment Hazards

7.3 Installation and Connection of Hopper

Prerequisite: All infrastructure connections can be completed by appropriately trained, skilled personnel (*Section 5*).

7.3.1 Mechanical Connections to the Capper

Prerequisite: Screw the hopper console to the sealing machine head.

- Lift hopper onto sealing machine console with aid of hoisting equipment.
- Bolt hopper to console.
- Remove hoisting gear.
- Screw on and adjust cap chute between hopper and sealing machine.

7. INSTALLATION

7.3.2 Electrical Connections

- Connect hopper power plug to socket in console on sealing machine.
- Connect hopper sensor to cap chute between hopper and sealing machine and adjust, as required.



HAZARD	
	Hazard from electrical power. • Observe regulations of local authorities! • Ensure that parts where an electrical hazard can occur are installed or protected in such a manner that they cannot be touched by personnel.

Table 7-2: Electrical Power Hazards

8. INITIAL SET-UP AND OPERATION

8.1 Starting Up the System for the First Time

As a rule initial operation will be accomplished by the manufacturer's service personnel. During this procedure, the final acceptance inspection for correct set-up is performed on site. Always observe the following points to prevent damage to the equipment or lethal injury during initial operation of the Stainless steel-Hopper.

Principles for Start-Up:

- Observe information in sealing machine operating instructions.

8.2 Setting Up for Production

The settings required for matching to the cap size and production are explained in the following chapters. At the time of delivery the machine is preliminarily set for a certain cap. Final adjustment is accomplished on site by the manufacturer's service personnel. The set-up tables provided below are required to change the type of cap.

8.2.1 Adjusting the Delivery Rate

The motor inverter receives a digital start signal from the machine and then accelerates to the preset speed. The inverter is equipped with a potentiometer for infinite adjustment of the speed, and thus the delivery rate. The adjustment range of 1 to 10 corresponds to speeds of 10 to 50 revolutions per minute.

- Unscrew cover (*Figure 8-2*).
- Adjust frequency inverter with appropriate tool.
- Reattach cover.



CAUTION

Hot surfaces on drive motor

- Wear protective gloves, if necessary

Table 8-1: Safety Caution

8. INITIAL SET-UP AND OPERATION



Figure 8-2: Hopper Drive, Frequency Inverter with Cover unscrewed

8. INITIAL SET-UP AND OPERATION



WARNING

Injury hazard!

Observe the following points to prevent lethal injuries or damage to the machine when setting up the machine:

- Before performing any work, disconnect the power supply and secure against being switched back on without authorization.

Table 8-3: Transporting Equipment Hazards

Changing Inserts

It may be necessary to change the insert. Information for selecting the insert is available from the manufacturer.

- Open upper protective flap with tool.
- Remove insert from holder by pulling up.
- Install proper insert to fit new type of cap.
- Close upper protective flap properly.

Replacing the Cap Chute

It may be necessary to replace the cap chute. Information for selecting the cap chute is available from the manufacturer.

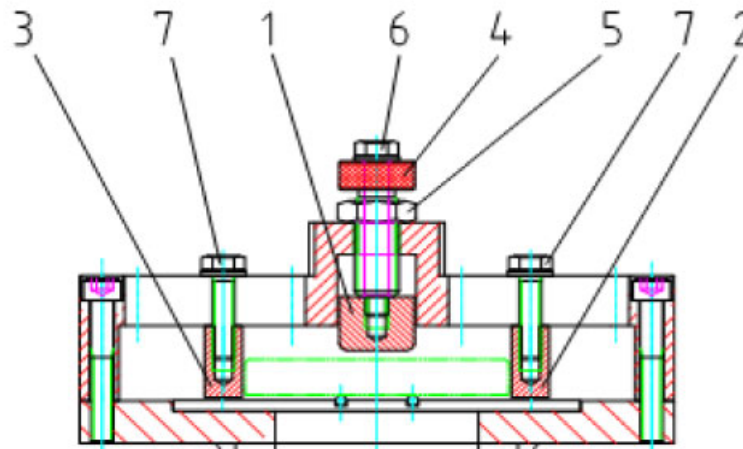
- Remove cap chute between hopper and sealing machine.
- Install matching cap chute to fit new type of cap.

8. INITIAL SET-UP AND OPERATION

Adjusting the Cap Chute

It may be sufficient to adjust the passage width and height of the cap chute. This process corresponds to the instructions for “Pre-centering for caps in cap feed” in the operating instructions for the sealing machine.

- Move upper cap track (1) to upper position as follows:
Unscrew 2 hex. head bolts (6),
Unscrew 2 counter nuts (5),
Screw 2 knurled screws (4) up.
- Move lateral guide rails (2 and 3) apart by loosening four hex. head bolts (7) and move lateral guide rails outward until caps fit between rails.
- Fill entire feed with caps.
- Press lateral guide rails together so that caps are clamped. Then move entire package until caps are located in the center. Pay attention to proper transition to cap feed on sealing machine.
- Adjust lateral guide rails to a clearance of approx. 2 mm is present for the caps on each side. Tighten hex. head bolts (7).
- Adjust upper cap track so there is approx. 2 mm clearance between the top of the caps and the rail. Tighten hex. head bolt (6). Tighten counter nuts (5).
- Function test: Proper passage of caps and smooth entry into delivery station.



1	Upper cap track	5	Counter nuts
2	Lateral guide rail	6	Hex. head bolt
3	Lateral guide rail	7	Hex. head bolt
4	Knurled screw		

Figure 8-4: Cap Feed Drawing

9. OPERATION

9.1 Safety

	WARNING
	Injury hazard from moving drum and parts hurled out • Do not wear gloves when replenishing caps. • The upper protective flap remains closed during operation. • During operation open lower protective flap only to replenish caps. • Do not reach into drum during operation.

Table 9-1: Safety Warning

9.2 Operating modes

Automatic mode

Production mode A sensor is mounted on the cap chute to detect whether or not a cap is present. If the chute is empty, the hopper is switched on automatically.

9.3 Switching on machine

This is accomplished by the sealing machine, to which the hopper is attached.

9.4 During production

- Open lower protective cap.
- Fill hopper with caps.
- Close lower protective flap.

9.5 Switching off machine

This is accomplished by the sealing machine, to which the hopper is attached.

10. TROUBLESHOOTING

10.1 Safety



WARNING	
  	Injury hazard! Observe the following points to prevent lethal injuries or damage to the machine when setting up the machine: • Ensure that malfunctions are remedied only by appropriately qualified personnel. • Before performing any work, disconnect the power supply and secure against being switched back on without authorization.

Table 10-1: Troubleshooting and Maintenance Safety

10.2 Troubleshooting

Troubleshooting		
Problem	Possible Cause	Action
Caps disengage from the transport pins and are not transferred to the ejector plate.	The transport pins have come loose and the transport lug no longer fits.	Check and readjust transport pins.
Caps are all rejected at the ejector plate.	1. Insert does not match caps present. 2. The drum is filled with wrong caps.	1. Change the insert 2. Replace the drum with the correct caps.
Hopper runs even though a sufficient amount of caps are present in the cap chute.	The sensor is requires adjustment.	Adjust the sensor.
Caps do not slide through the cap chute.	1. Caps present do not fit in the cap chute. 2. Cap chute is not properly adjusted. 3. The drum is filled with wrong caps.	1. Use the appropriate caps for that chute or replace the cap chute. 2. Adjust the cap chute to the cap dimensions. 3. Replace the drum with the correct caps.

Table 10-2: Troubleshooting

10. TROUBLESHOOTING

Adjusting Transport Pins

The transport pins have a small lug. It is therefore necessary for them to be set at a certain angle in relation to the deflector (*Figure 10-3*). It is practical to have a template for adjustment of the pushers and deflectors in order to correctly adjust the positions of the pushers in relation to the deflectors.

A covered opening is located on the rear of the hopper to allow access to the locating screws for the deflectors and pushers (*Figure 10-4, 10-5*).



Figure 10-3: Pusher and Deflector Angles

10. TROUBLESHOOTING



Figure 10-4: Adjustment Opening Cover



Figure 10-5: Adjustment Opening with Cover Removed

11. MAINTENANCE

11.1 Maintenance

There are no service points on the hopper. Observe the general instructions for maintenance of the hopper found in the capper's operating manual.

12. CLEANING

12.1 Cleaning

The machine construction is based primarily on corrosion-resistant materials such as stainless steel and suitable plastics. Cleanliness and hygiene are essential in the food processing industry. Train cleaning personnel with regard to the work to be performed on the 6R18 hopper. It is necessary to describe the hazard points and behavior in emergency situations.

Cleaning Procedure

To maintain proper function, clean the 6R18 hopper at least once per day in a three shift operation.

- Isolate the 6R18 hopper from all energy sources. Employ a lock-out / tag-out procedure.
- Open the lower protective cap.
- Remove all caps.
- Remove contamination with a whisk broom and wipe off funnel with a moist cloth.
- Remove the cover plate (*Figure 12-1*).
- Allow any debris or contamination to fall out of the cover plate. Clean and sanitize.
- Reinstall the cover plate.
- Re-energize the unit according to a lock-out / tag-out procedure.
- See the instructions for starting up the unit in the capper's operating instructions.

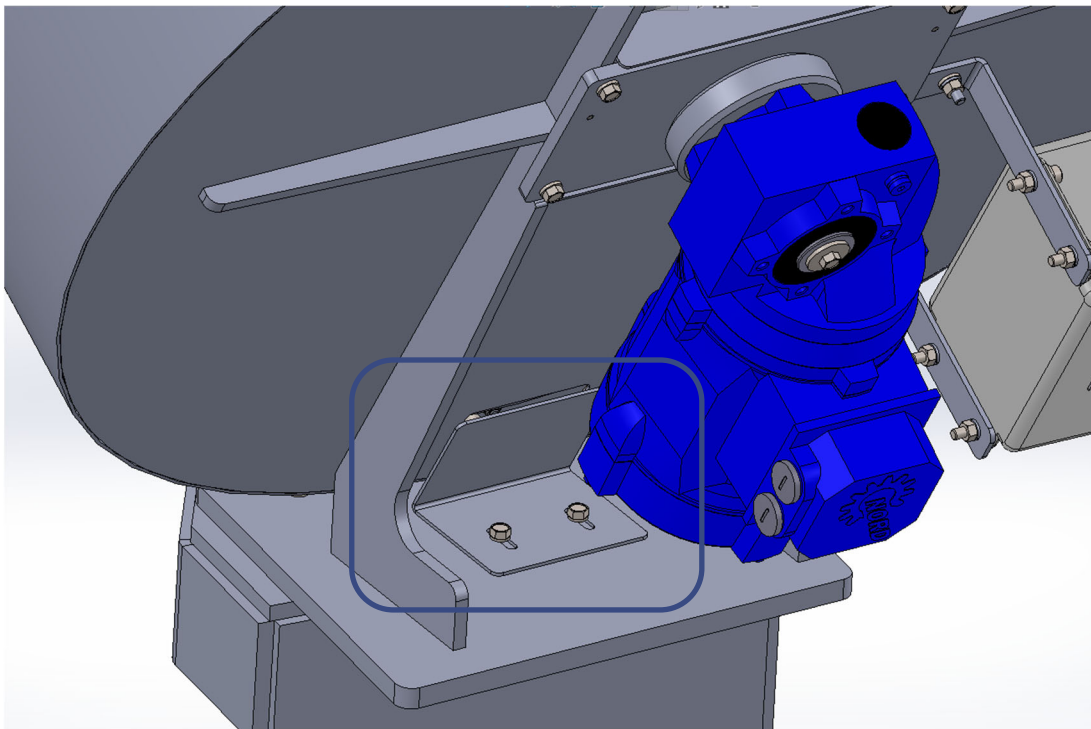


Figure 12-1: Cover Plate for Cleaning

13. SHUTDOWN, DISASSEMBLY, DISPOSAL

13.1 Shutdown, Disassembly, Disposal

Observe the general instructions for the hopper found in the capper's operating manual.

14. ORDERING SPARE PARTS

14.1 Ordering Spare Parts

Spare Parts If you want to order spare parts, please provide the following information:

- Type of machine (refer to technical data sheet)
- Brief description of the part(s) in question
- Part number(s) listed in the Parts Catalog

Change parts and wear parts When ordering a complete set of change parts, please provide the following information:

- Machine type (see specification sheet)
- Previous processed cap types
- New cap types to be processed
- Modified jar shape (sample).

Silgan Equipment Company

1301 Dugdale

Waukegan, IL 60085

847-336-0552

Customer Service Direct Dial: 847-625-3756 or 847-625-3757

Customer Service Fax: 847-336-0562