



# ***P&L SPECIALTIES***

*MANUFACTURING THE FINEST STAINLESS STEEL EQUIPMENT*

## **CONSISTA HOPPER OPERATION MANUAL**

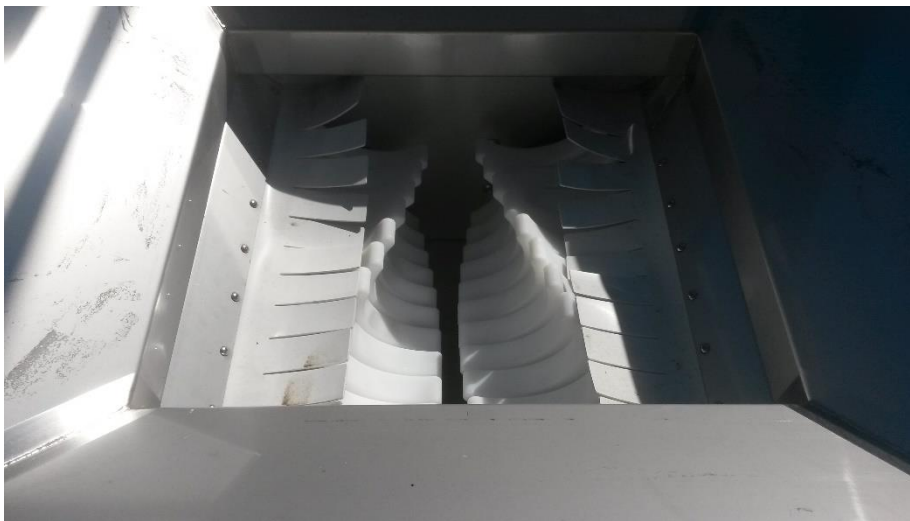
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## EQUIPMENT DESCRIPTION

The Consista Hopper is a vertical, gravity-fed grape/berry cluster metering hopper. It is designed for consistent and efficient transfer of 1/2-ton loads of grape clusters to a sorting conveyor or destemmer.

Its features include: all stainless-steel construction for durability and ease of cleaning, a programmable VFD (Variable Frequency Drive) for a complete range of speed control, fully-adjustable food-grade externally-driven sorting cogs, and hand-held remote-controlled power, speed and e-stop switches for convenience and safety.



**INSTALLATION, START UP AND OPERATION****! WARNING**

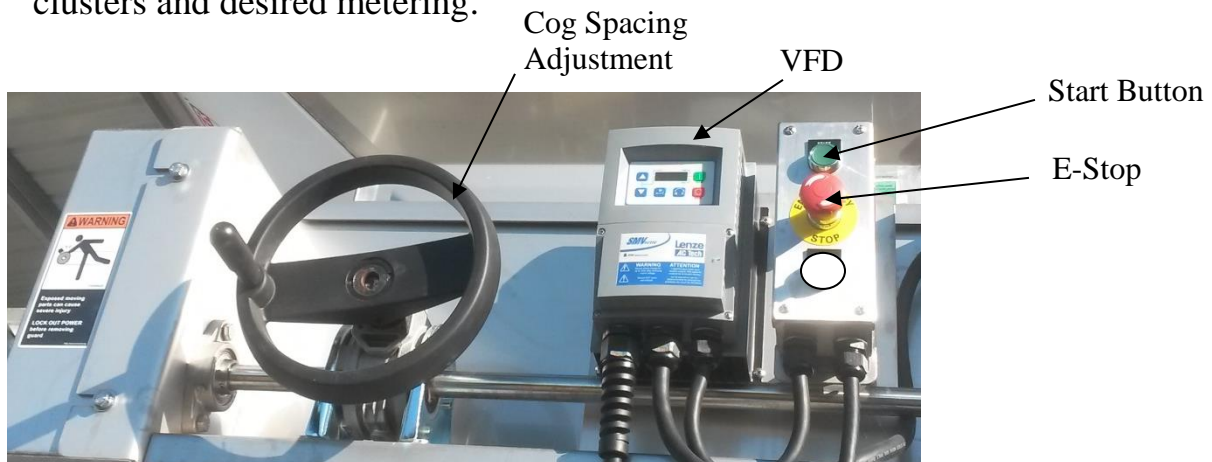
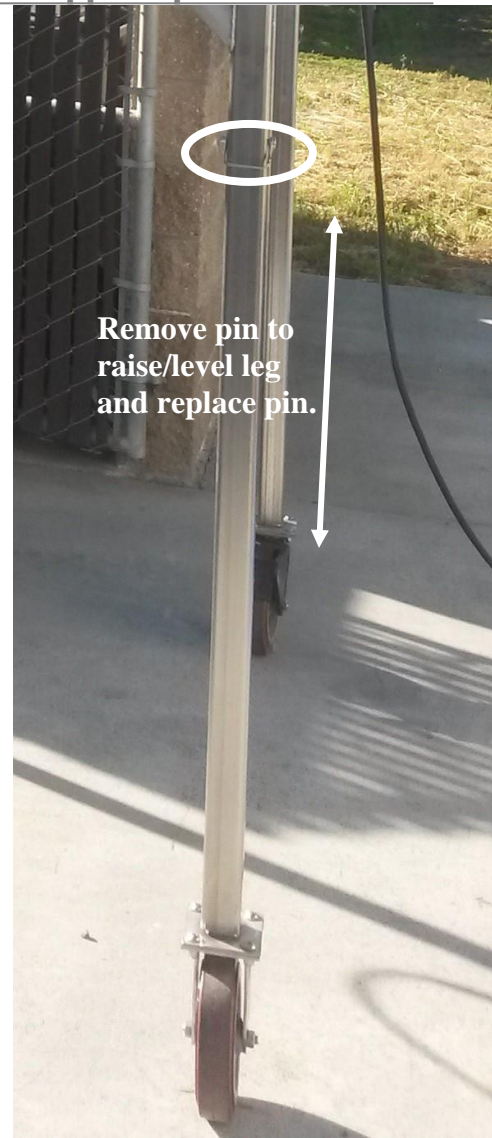
Prior to start up, disconnect the power to the unit and inspect the control panel for accumulated water or moisture. Ensure that all components are free from electrical short circuit. NEVER open the panel with the unit connected to power. Lock Out Tag Out procedures MUST be followed to properly lock out power before control panel is opened.

1. Visually inspect the unit for any signs of damage, cracks, fatigue or loose components. Any damaged components should be repaired or replaced immediately. See P&L Specialties' contact information on the last page of this manual.
2. Visually inspect the internal area of the unit for any foreign objects that may have accumulated during storage or shipping. Remove any foreign objects before energizing machine.

**! WARNING**

Never operate unit unless ALL side covers and guards are in place and ALL locking casters are in the locked position.

3. Position, raise and level the unit to ensure safe and stable operation with the sorting belt. A forklift or hoist will be required to lift machine. The leg length can be adjusted by removing the pin at approximately 3ft above the caster. After adjusting each leg, replace the pin. Make certain that the caster wheels are all facing the same direction and that the caster brakes are all in the locked position.
4. Connect the unit to the appropriate power source (voltage/phase).
5. Ensure that the Emergency Stop Buttons are pulled out.
6. Press the START button on the main control panel or hand-held remote control to start machine.
7. Allow unit to run freely for 1-5 minutes before loading any product. Check that machine is running properly.
8. Dump up to 1/2-ton of grapes or berries into the top funnel of the hopper.
9. Using the speed dial on the hand-held remote control, slowly increase the berry metering speed to desired level.
10. Using the cog-spacing adjustment wheel, adjust the cog spacing for size of clusters and desired metering.





### Hand-Held Remote

Start Button

Stop Button

Speed Dial

11. **Do not adjust the variable-frequency drive (VFD).** If VFD adjustments are necessary, or in the event of a malfunction, contact P&L Specialties for maintenance.

12. Additional berries may be added as required. Do not fill hopper past top of hopper inlet walls. This could result in instability and berries falling off the top of the hopper.

## SHUT DOWN AND STORAGE

1. To stop machine, press the OFF button and then press the E-stop button on the control panel or on the hand-held control.
2. If stopping for a shift change or prolonged period, turn the speed dial to the slowest setting.
3. Disconnect machine from power by following the accepted lockout/tagout procedure.
4. Ensure both side covers are installed properly on machine (see side cover removal/install process below).
5. If storing machine, cover inlet of hopper to repel moisture, dust and foreign objects.

### **! WARNING**

Never operate unit unless ALL side covers and guards are in place and ALL wheels are in the locked position.



**! WARNING**

Always ensure that ALL personnel are free and clear of the equipment prior to and during operation. Always power down and let the unit come to full and complete stop then disconnect the power prior to performing and service or maintenance to the unit. Lock Out Tag Out procedures MUST be followed to properly lock out power before maintenance is performed or side covers/guards are removed.

**! WARNING**

Long hair and loose clothing present a danger of entanglement with the machine. Ensure no clothing or hair is in close proximity with moving parts on the conveyor.

## **SIDE COVER REMOVAL AND REPLACEMENT**

Side covers may need to be removed for maintenance of the machine. To remove covers:

1. Use a crescent or 9/16" wrench or socket wrench to loosen the four hex-head bolts on the sides of the covers. Do not remove bolts completely.

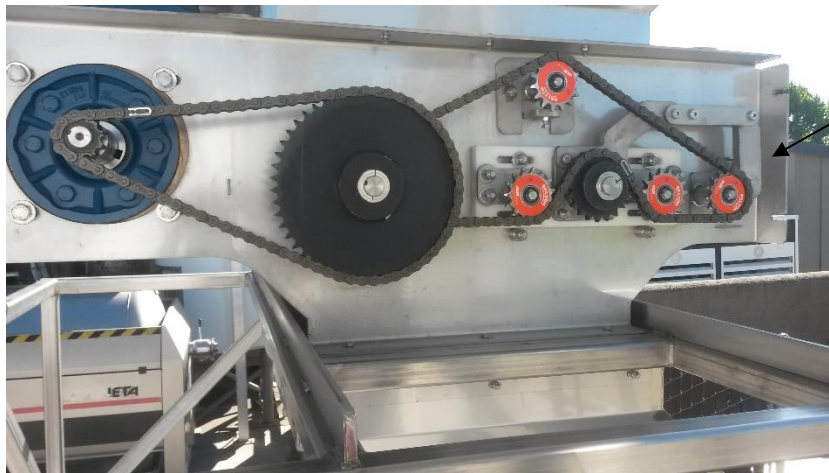


2. Using two handles on top of covers, pull the cover away from the machine sliding the cover off the bolts.



Use handles at top of covers to remove.

3. To reinstall cover, hang it on all 4 bolts and slide the cover onto the bolts using the channels cut into the sides of the cover.



Left side of control panel – gear/shaft chain drive. Lube zerk fittings on bearings when required.



Right side of control panel – gear/shaft chain drive. Lube zerk fittings on bearings when required.

## **IN THE EVENT OF MALFUNCTION**

If the machine malfunctions in any way (clogging, entanglement, misalignment, etc.), immediately stop the machine either by turning it off at the control station or by depressing the emergency stop button at either side of the machine. **Before removing any guards, the machine must be properly locked out of power as described in the Lockout/Tagout procedure.**

## **EMERGENCY STOP OPERATION**

If an emergency or malfunction occurs, depress an emergency stop button. These stops are large, red and say “Emergency” on them. They are located at the center of both sides of the machine. Upon pressing the emergency stop button, the machine will power down. After the situation is resolved, the emergency stop button must be reset. **If maintenance is required or the guards are removed, the machine must first be properly locked/tagged out.**

## **LOCK OUT TAG OUT REQUIRED**

Always comply with all ASME, NFPA and OSHA guidelines for the proper **Lock Out Tag Out** procedures. This piece of equipment must be **Locked Out and Tagged Out** before and during any cleaning and/or removal of the guards (side covers) without exception.

This equipment is equipped with a flexible power cord and will have had your specific plug installed on the end of the power cord. This is the plug that must be removed from the power receptacle as part of the **Lock Out Tag Out** procedure. As said above follow all applicable **Lock Out Tag Out** procedures and ensure only trained personnel perform this task. It is the owner/operators’ responsibility to ensure all operators are trained properly in **Lock Out Tag Out** and that only trained personnel operate this machinery and perform the **Lock Out Tag Out** procedure.

## **SERVICE AND MAINTENANCE**

### **WARNING**

Always ensure that ALL personnel are free and clear of the equipment prior to and during operation. Always power down and let the unit come to full and complete stop then disconnect the power prior to performing and service or maintenance to the unit. Lock Out Tag Out procedures **MUST** be followed to properly lock out power before maintenance is performed or side covers/guards are removed.



## CLEANING

The cleaning procedure is as follows:

- 1) Disconnect and lock out power to unit.
- 2) Ensure all caster wheels are locked.
- 3) Wash unit as necessary (water, ozonated water or slightly corrosive detergents are acceptable cleaning agents).
- 4) While cleaning, do not spray electrical or control boxes.
- 5) After washing, allow all components to dry thoroughly, inspect unit to ensure electrical and control boxes are dry.



## **! WARNING**

Never power wash the control panel or emergency stop button station.

## MAINTENANCE

### DAILY:

1. Visually inspect the unit for any signs of damage, cracks, fatigue or loose components. Any damaged components should be repaired or replaced immediately. See P&L Specialties' contact information on the last page of this manual.
2. Remove any accumulated or loose material from the unit.

### WEEKLY:

1. Wash the inside of the hopper.

### MONTHLY/SEASONAL:

1. Lubricate all zerk fittings.
2. If storing, ensure unit is dry and cover.
3. Lubricate drive chain.

**Coverage in outdoor and/or humid climates may cause condensation to accumulate. After storage inspect unit for condensation build up and ensure unit is thoroughly dry.**



# ***P&L SPECIALTIES***

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## **Sources Cited in Consista Hopper Equipment Operation Manual**

- 1) OSHA 3170-02R: Safeguarding Equipment and Protecting Employees from Amputations, p. 28-30
  - References ASME B20.1 and CEMA in safeguarding practices around equipment.
- 2) CEMA Brochure No. 201-2006, Oct. 2013 – Safety Label Guidelines
  - This publication outlines CEMA-approved safety stickers, their meanings and suggested locations.
- 3) CEMA Bulk Handling Conveyor Operation Safety Video
- 4) California Building Codes (CBC) Title 24
  - In Chapter Sec. 3000 p.417
- 5) ASME/ANSI B20.1-2012, Safety Standard for Conveyors and Related Equipment.
- 6) ANSI Z244.1 – American National Safety Standards for Lockout/Tagout of Energy Sources – Minimum Requirements
- 7) Title 29, Code of Federal Regulations (29 C.F.R) Part 1910.147, The Control of Hazardous Energy (Lockout/Tagout).
- 8) Title 29 C.F.R. Part 1910.147 Subpart O – Machinery and Machine Guarding
- 9) Title 29 C.F.R. Part 1926.555 – Safety and Health Regulations for Construction: Conveyors
- 10) NFPA 79 2015 – Electrical Standard for Industrial Machinery