



# CBT UNITIZED INSTALLATION GUIDE 25, 50, 100 & 200





This is an interactive PDF. Click on an icon tile and navigate to a chapter of interest







Surge Hopper



Notes





Inspection



**Dust Evac** 



**Bowl & Frame** 



LP300 Tank



Weigh Scale



Powder Feeder

Users can advance or go back single pages by using quick navigation links shown below, right.

Users can navigate to the Menu by clicking on the Menu icon shown below, left.













# LEGAL & SAFETY

This manual contains technical information regarding Bayer SeedGrowth™ Equipment. Please read and understand these instructions completely before proceeding to install and operate the equipment. Bayer reserves the right to change specifications, models, components, or materials at any time without notice. For additional equipment information contact us at 1.800.634.6738. Please have this manual available when contacting Bayer.

Always use caution and common sense when working with any chemical. Read the product label and SDS carefully and follow their instructions exactly as described.

Optimal operating conditions for this piece of equipment requires an ambient temperature 32° F to +104° F (0° C to +40° C), relative humidity less than 90% (minimum condensation). Make necessary provisions to protect this piece of equipment against excessive dust, particles containing iron, moisture and against corrosive and explosive gases.

Our technical information is based on extensive testing and is, to the best of our current knowledge, true and accurate but given without warranty as the conditions of use and storage are beyond our control. Variables, such as humidity, temperature, change in seed size or variety and viscosity of chemical products can all affect the accuracy of the chemical application and seed coverage. To ensure the desired application rate and optimum seed coverage, check the calibration periodically throughout the day, and make adjustments as needed.

Any person who is involved in the installation or periodic maintenance of this equipment should be suitably skilled or instructed and supervised using a safe system of work. Isolate the treater before removing guards for maintenance.







# (I) EXPOSURE CONTROL

Always use caution and common sense when working with chemicals. Read the product label and SDS carefully and follow their instructions exactly as described. The following Personal Protective Equipment (PPE) recommendations and best practices help promote safe use in seed treatment.



Note: Exposure Control signs and labels conform to the requirements of ANSI Z535.4 or ISO 3864.



#### Wear protective clothing

Wear disposable or reusable coveralls with long sleeves.



#### Hand protection required

Wear chemical-resistant gloves.



#### Wear rubber boots

Wear chemical resistant rubber boots.



#### Labels

Label recommendations and directions for handling must be followed, including treatment procedure (use of sticker) as well as the safety requirements.



#### **Treatment products**

Keep products in a locked room that has been approved for crop protection products.



#### Wear a mask

Wear respiratory protection.



#### Eye protection required

Wear protective eyewear.



#### Calibration

Seed treatment equipment must be checked and calibrated regularly to ensure accurate and safe application.



#### Clean seed

Use well cleaned seed to avoid creation of polluted dust that will contaminate the machine, treating facility, workers, farmers and the environment during sowing.



#### Cleaning

Use a vacuum to clean machines. Avoid using compressed air for cleaning.



#### Laundry

Wash soiled reusable clothing separately. Workers must take a shower after each shift.



#### **Empty containers**

Non-returnable empty containers must be triple rinsed before they can be disposed. For others the recommendation of the producer must be followed.



#### Spillage

Spillage must be avoided; it must be thoroughly cleaned up to avoid contaminating the environment and waterways.



#### Maintenance

Keep machinery clean between treating sessions.







# ! REFERENCE SYMBOLS

Symbols and signal words are used to identify the level of hazard and help avoid personal injury.



Note: Safety signs and labels conform to the requirements of ANSI Z535.4 or ISO 3864.



#### **Shock Hazard**

Alerts that dangerous voltage may be



#### Warning

Alerts that a hazard may cause serious iniury or death.



#### Caution

Alerts that a hazard may cause minor or moderate injury.



#### Hand crush - moving parts

Alerts crushing is possible.



#### Pinch point

Keep hands away from pinch points.



#### **Rotating shaft**

Do not wear loose clothing around turning parts.



#### Disconnect

Disconnect to de-energize before opening.



#### Tools

Required tools for installation and maintenance.



### Use guards

Keep guards in place. Do not remove during operation.



#### **Parts**

Required parts for installation and maintenance.



#### Lifting

Requires two people to safely lift an item.



Calls attention to special information.



#### Lift points

**Center of gravity** 

Requires the use of proper rigging and lifting techniques based on the lift plan.

Indicates the center of gravity of the machine

to help assist when rigging and lifting.



#### Note

Emphasizes general information worthy of attention.



#### Example

Provides a problem or exercise that illustrates a method or principle.









# **FOR PICTOGRAMS**



Each Signifier displayed here is specific to this User Manual.



Menu



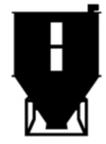
**Previous** 



Weigh Scale



Advance



Surge Hopper



**Dust Evac** 



**Control Panel** 



LP300 Tank

**Cursor Hand** 



Powder Feeder



Inspection





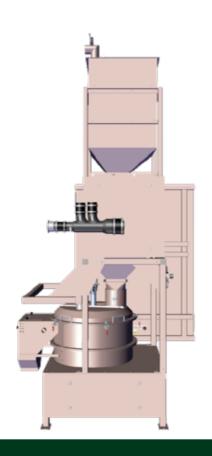


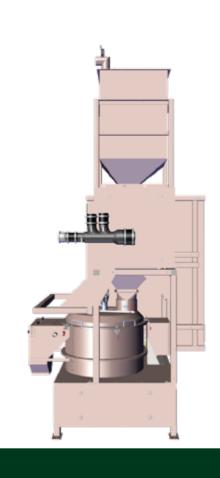


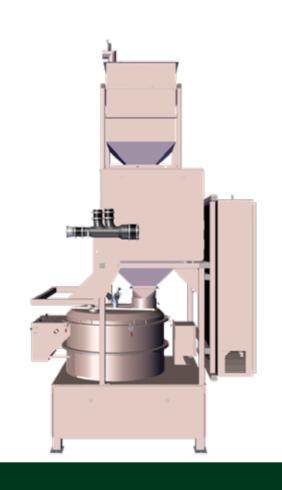


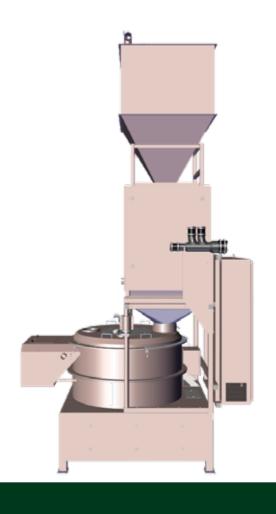
# / EXPLANATORY NOTES

# **CBT UNITIZED TREATER - NO OPTIONS, REF.**









### **EQUIPMENT SPECS**

#### **CBT25 TREATER & CONTROL**

Rated Capacity: 25 kg Dry Weight: 2224 Lbs [1009 Kg] Overall Width: 64.37 [1635 mm] Overall Length: 66.84 [1698 mm] Height: 127.35 [3235 mm]

#### **CBT50 TREATER & CONTROL**

Rated Capacity: 50 kg Dry Weight: 2256.7 Lbs [1024 Kg] Overall Width: 63.80 [1621 mm] Overall Length: 66.84 [1698 mm] Height: 127.35 [3235 mm]

#### **CBT100 TREATER & CONTROL**

Rated Capacity: 100 kg Dry Weight: 2738.2 Lbs [1242 Kg] Overall Width: 54.11 [1346 mm] Overall Length: 81.03 [2058 mm] Height: 141.10 [3584 mm]

#### **CBT200 TREATER & CONTROL**

Rated Capacity: 200 kg Dry Weight: 4139.2 Lbs [1878 Kg] Overall Width: 74.12 [1883 mm] Overall Length: 91.05 [2313 mm] Height: 181.00 [4597 mm]

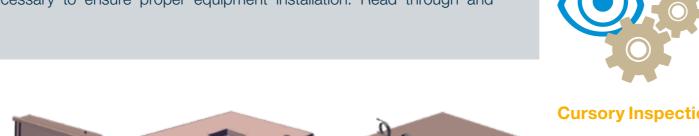


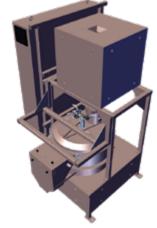




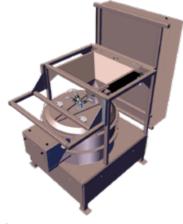
# **INSPECTION**

Several basic requirements are necessary to ensure proper equipment installation. Read through and understand this manual.

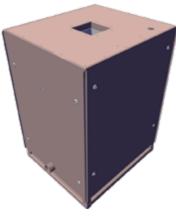




CBT25, 50 Bowl, Frame, Scale, Control Mounted



CBT100, 200 Bowl, Frame and Control Mounted



CBT100, 200 Weigh Scale Assembly



Surge Hopper Assembly

# **Cursory Inspection**

#### **CBT Unitized System components:**

- CBT25, 50: Bowl, Frame, Scale, Control Panel Assembly & Parts Kit (1)
- CBT100, 200: Bowl, Frame, Control Panel Assembly & Parts Kit (1)
- CBT100, 200: Weigh Scale & Frame Assembly (1)
- Surge Hopper Assembly with HI/LO Sensor Kit (1)
- Dust Evac Assembly (1)
- Dust Evac System (1)
- LP300 Tank Assembly & Parts Kit (1)

# Remove all crating and packaging from around each component.

• Check for damage that may have occurred during shipping **PRIOR** to removing components off of their respective shipping pallet.

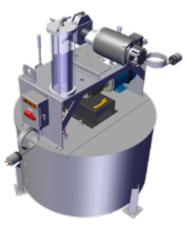
Report any damage IMMEDIATELY!



**Dust Evac Assembly** 



**Dust Evac System** 



LP300 Tank Assembly









# **BOWL & FRAME**



# **Required installation tools**

- Forklift/material handling device
- 3/4" Socket Head Wrench (1)
- 17mm & 15mm Wrenches
- 10mm Wrench (1)



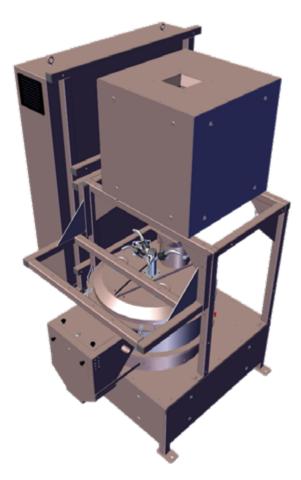




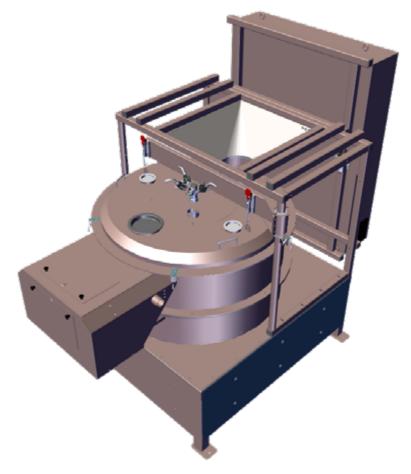




Tip hazard: Refer to the Lift Plan for proper lifting and placement of the Bowl & Frame Assembly.



CBT25, 50 Bowl, Frame, Scale, Control Mounted



CBT100, 200 Bowl, Frame and Control Mounted

# **Bowl & Frame Assembly - with Mounted Control Panel**

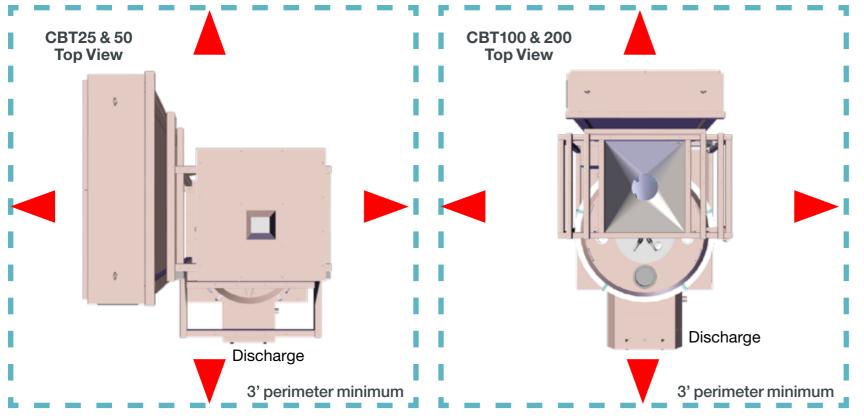
### Remove crating from pallet.

- Use a 3/4" socket head wrench to remove the 1/2" shipping bolts holding the Bowl & Frame Assembly on the pallet.
- Caution! Use proper rigging and lifting techniques to ensure safety during installation (see Tip Hazard note).
- Remove the Bowl & Frame Assembly and Spare Parts Kit from the shipping pallet.









### **Placement Surface**

The recommended location for all components of the treating system should be on one single floor.

- Locate the bowl & frame on a solid, flat vibration-free surface.
- Fasten the bowl & frame to the floor with anchors.

### Plan accordingly!

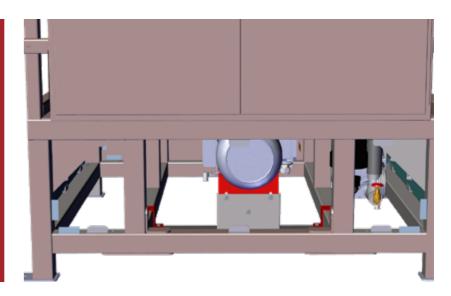
- Allow access to the machine from all sides for the purpose of adjustments, maintenance and clean-up.
- Maintain a minimum three foot perimeter, as shown left.

# **Bowl Motor Shipping Support Bracket - CBT200 Only**

Step 1: Use the quarter turn key to remove the back guard panel from the backside of the Bowl & Frame Assembly (underneath the mounted Control Panel).







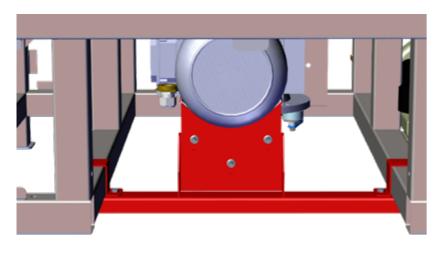


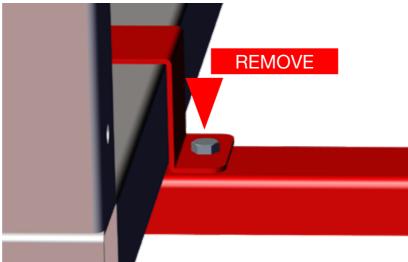


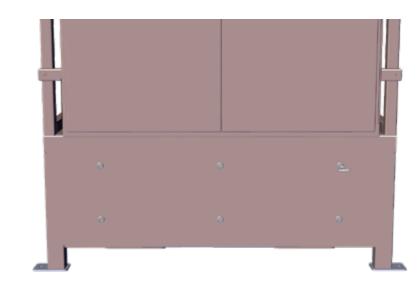


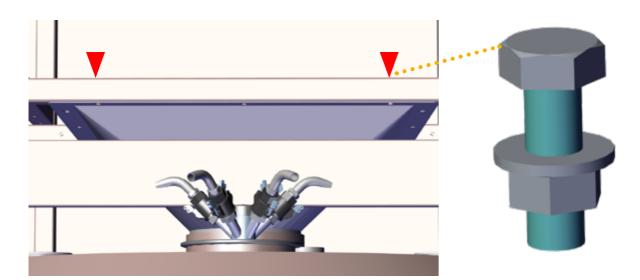
Step 2: Use 17mm & 15mm wrenches to remove the bolts and the red shipping support bracket under the bowl motor, as shown below.

Step 3: Replace the guard panel and use the quarter turn key to lock the guard panel in place.









**Step 4:** By hand, remove 8 sets of M10 hardware (bolts, nuts, washers) from the transition and scale support frame as shipped connected to the Bowl & Frame Assembly.

• Set the hardware sets aside - they are required in the next section to connect the Weigh Scale Assembly on top of the Bowl & Frame Assembly.

This completes the Bowl & Frame Installation section.







# .

# WEIGH SCALE



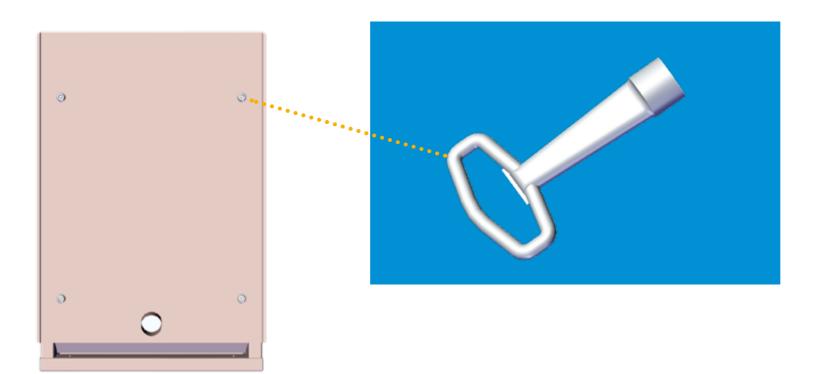
# **Required installation tools**

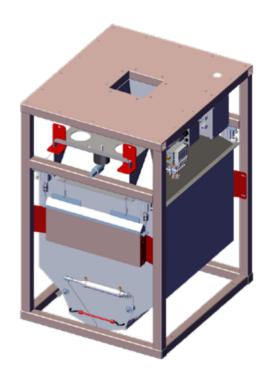
- Forklift/material handling device
- 3/4" Socket Head Wrench (1)
- 10mm Wrench (2)



# Weigh Scale & Frame Assembly - CBT100 & 200 Only

Step 1: Use the quarter turn key to remove all four guard panels from the Weigh Scale & Frame Assembly while it is still attached to the shipping pallet.

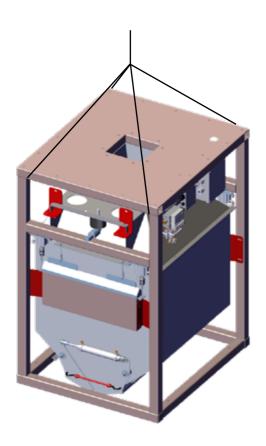






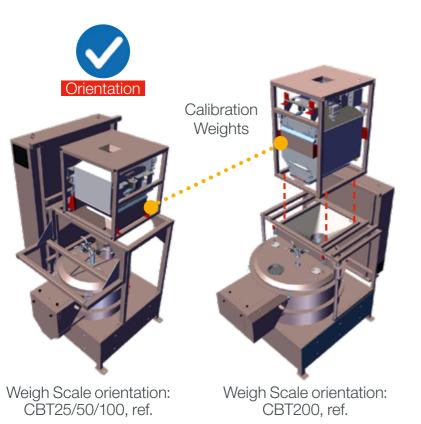


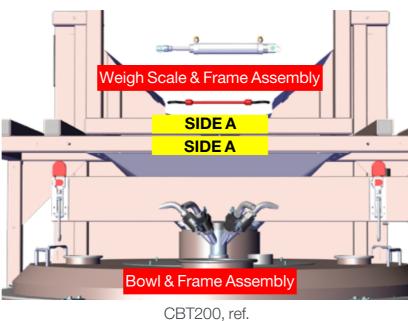




### **Step 2:** Remove crating from pallet.

- Use a 3/4" socket head wrench to remove the 1/2" shipping bolts holding the Weigh Scale & Frame Assembly on the pallet.
- Use proper rigging and lifting techniques to ensure safety during installation.
- Remove the Weigh Scale & Frame Assembly from the pallet.
- Set the Weigh Scale & Frame Assembly on top of the Bowl & Frame Assembly scale support frame, as shown left.





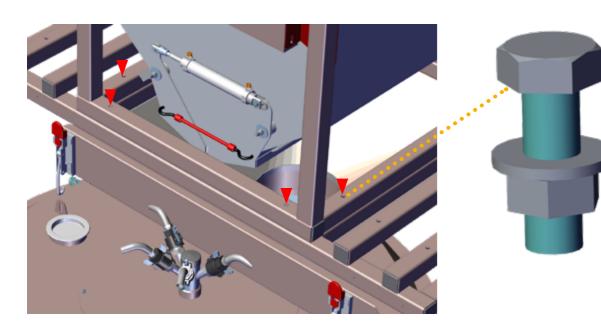
**Step 3:** Set the Weigh Scale & Frame Assembly on top of the Bowl & Frame Assembly scale support frame, as shown left.

- Note the orientation of the Weigh Scale Calibration Weight position of the CBT25, 50 and 100 compared to that of the CBT200!
- Ensure the Weigh Scale & Frame Assembly and Bowl & Frame Assembly scale support frames are aligned correctly: SIDE A to SIDE A.
- Bowl & Frame Assembly sticker matches the scale support frame sticker on the Bowl & Frame Assembly, as shown left.



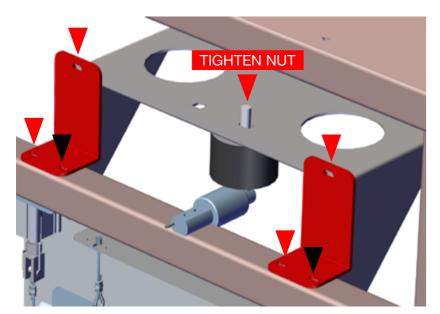






### Step 4: Align the frame holes.

- Fasten the Weigh Scale & Frame Assembly to the Bowl & Frame Assembly scale support frame with the M10 hardware (previously removed bolts, nuts, washers from the transition support frame, page 8) in the following order:
- Bolt+flat washer+[weigh scale frame+support frame]+flat washer+lock-washer+nut.
- Use a 10mm Wrench to securely tighten hardware in place.



# **Load Cell Shipping Brackets - Both Sides of the Scale**

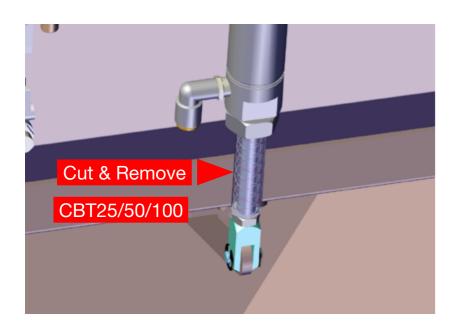
Use 10mm wrench to remove the red load cell shipping brackets on **BOTH** sides of the weigh scale.

- The weigh scale will lower on top of each rubber stop.
- Use a 3/4" socket & ratchet to tighten down the nut in the middle of both rubber stops to hold the weigh scale in place.





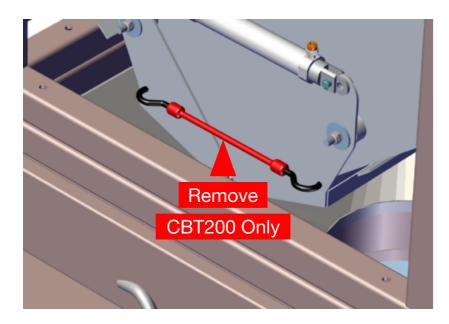




# **CBT25/50/100 Weigh Scale Hopper Cylinder Shipping Stop Kit**

Remove the hopper cylinder shipping stop kit.

• Cut the wire tag and the vinyl tubing around the hopper air cylinder.



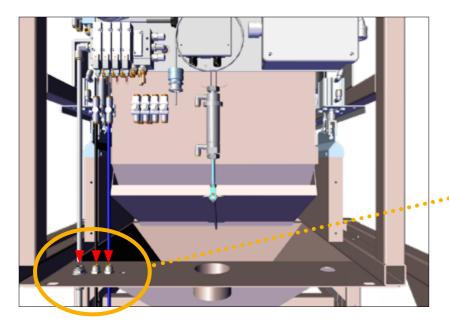
# **CBT200 Weigh Scale Hopper Discharge Door Bungee**

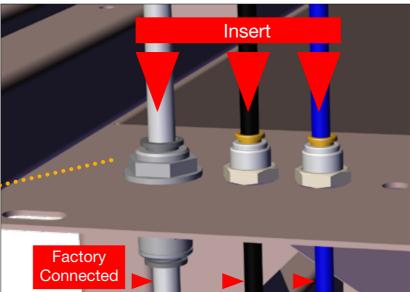
Remove the red hopper discharge door bungee cord.









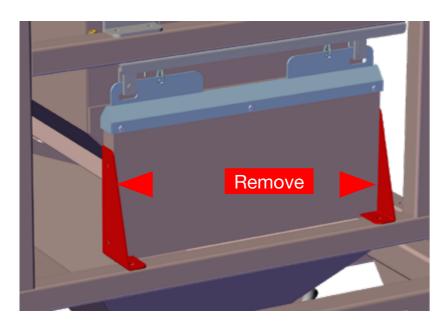


# Weigh Scale Air Lines

**Step 1:** From the factory **WHITE**, **BLACK** and **BLUE** air line tubes will be hanging inside the weigh scale frame.

**Step 2:** Insert each tube into the press lock fitting inside the transition (top side), in the order as shown left. Each tube needs to correspond with the color that is already connected to the underside (outside) of the transition from the factory as follows:

WHITE to WHITE
BLACK to BLACK
BLUE to BLUE



# **Calibration Shipping Brackets**

Use a 10mm wrench to remove both **RED** calibration shipping brackets from both Calibration Weights (both sides of the Weigh Scale).

This completes the Weigh Scale & Frame Installation section.









# **SURGE HOPPER**



# **Required installation tools**

- Forklift/material handling device
- 3/4" Socket Head Wrench (1)
- Metal Cutting Device

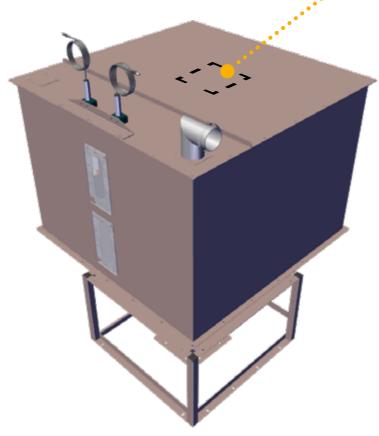






Field Cut Inlet Hole







Tip: recommend cutting a seed inlet hole into the top of the Surge Hopper prior to installing it on top of the weigh scale! Cut per Customers' discretion on size and placement.

# **Surge Hopper Assembly**

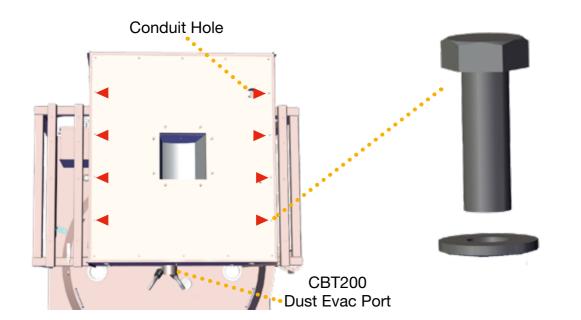
# Remove crating from pallet.

- Use a 3/4" socket head wrench to remove the 1/2" shipping bolts holding the Inlet Hopper Assembly on the pallet.
- Use proper rigging and lifting techniques to ensure safety during installation.
- Remove the Inlet Hopper Assembly from the pallet.



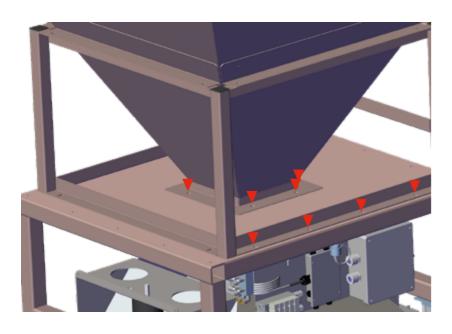


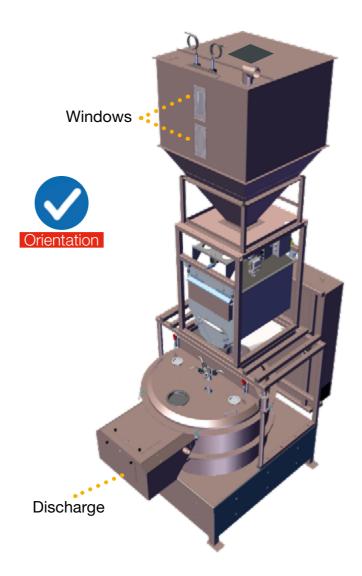




**Step 2:** Use a 3/4" wrench to remove the factory installed 1/2" bolt and washers from on top of the Weigh Scale Assembly, eight (8) sets total.

• Set the hardware sets aside - they are used to connect the Inlet Hopper Assembly to the Weigh Scale Assembly in the next Step 3 below.





**Step 3:** Orient the Inlet Hopper Assembly Windows towards the **FRONT** (discharge) of the machine, as shown left.

- Set the Inlet Hopper Assembly on top of the Weigh Scale Assembly, as shown left.
- Align the bolt holes of the Inlet Hopper Assembly side rails with the bolt holes on top of the Weigh Scale Assembly.

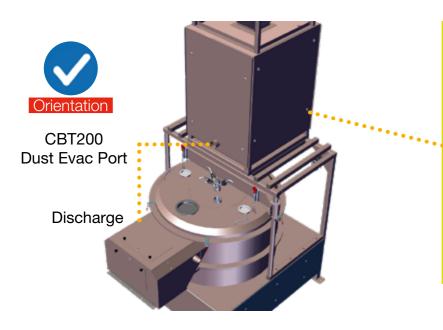
**Step 4:** Use the removed hardware (Step 2 above) eight sets of 1/2" bolt and washers to connect the Inlet Hopper Assembly to the Weigh Scale Assembly.

- Use the hardware shipped with the Inlet Hopper Assembly to connect the center flange to the Weigh Scale Assembly.
- Securely tighten all hardware in place with a 3/4" wrench.







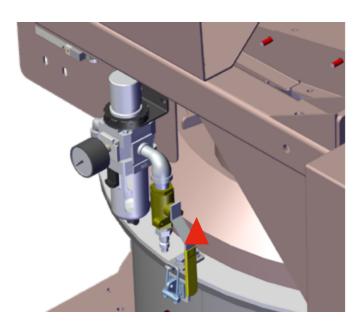




# Weigh Scale Guards

Replace all four (4) Weigh Scale Assembly guard panels.

- Use the quarter turn key to lock the guard panels in place.
- **CBT200 only:** orient the guard panel with the dust evacuation port **OUT** towards the **FRONT** (discharge) side of the Bowl & Frame Assembly, as shown left.



# **Compressed Air**

Connect shop air to the filter regulator assembly on the scale support frame.

- Optimum compressed air supply must be guaranteed.
- Only filtered, dry compressed air may be connected.
- The working pressure range requirement is 1cfm @ 80psi.

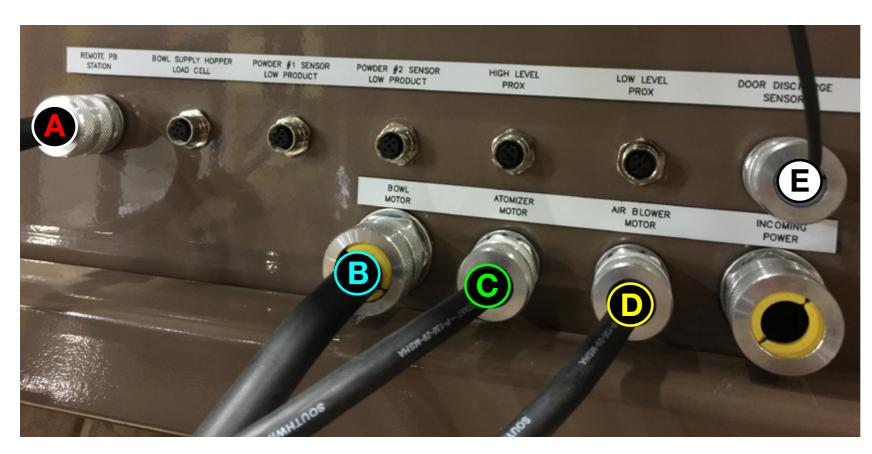
This completes the Surge Hopper Installation section.







# **CONTROL PANEL**



#### **Control Panel Connections**

The following connections to the Control Panel are made at the factory (as shown in the picture, left) and do not require further connectivity...

A = Remote Start/Stop Control Power Cord

**B** = Bowl Motor Power Cord

C = Atomizer Motor Power Cord

**D** = Air Blower Motor Power Cord

**E** = Bowl Discharge Door Signal Wire



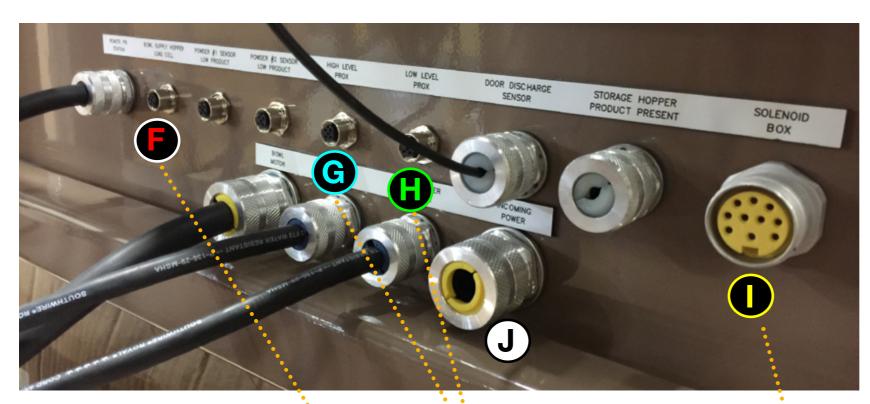






Warning: ensure a licensed electrician lands power to the Control Panel according to the National electrical codes for the area. Refer to wiring diagrams provided inside the control panel.





The following connections to the Control Panel require connection...

**F** = Bowl Supply Hopper Gray Load Cell Wire (from Scale)

**G** = High Level Prox Cable (from Surge Hopper)

**H** = Low Level Prox Cable (from Surge Hopper)

I = Solenoid Box Yellow 10-pin Cable (from Scale)

J = Ensure a licensed electrician lands power to the Control Panel (labeled Incoming Power).

Powder #1 & 2 Sensor Low Product connections are made only if Optional Powder is used (refer to Powder Section).

Storage Hopper Product Present is an option.

This completes the Control Panel Installation section.



Bowl Supply Hopper Gray Load Cell Wire and Solenoid Box Yellow 10-pin Cable shipped out of Weigh Scale conduit hole top side .....



F: Bowl Supply Hopper Load Cell Gray Wire



G & H: High & Low Prox Cables shipped on top of Surge Hopper



I: Solenoid Box Yellow 10-pin Cable







# DUST EVAC SYSTEM



# **Required installation tools**

- 1/2" Socket Head Wrench (2)
- Slot Screwdriver
- Hose Cutter



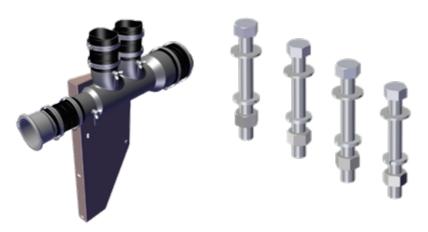




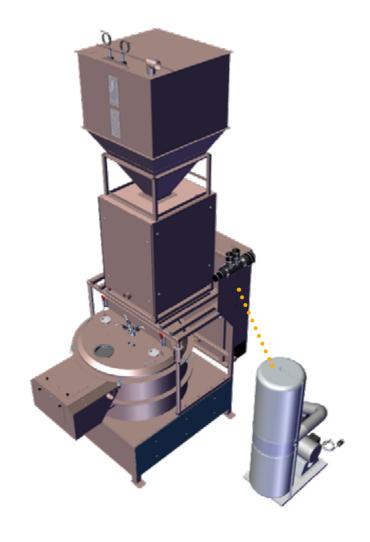




Refer to installation guide shipped with the Dust Evac Assembly System.







### **Dust Evac Assembly**

### Installation requires two people.

Remove the Dust Evac Assembly and hardware from packaging.

- Remove the Dust Evac System from packaging and place in close proximity to the treater and on the same side as the Dust Evac Assembly, as shown left.
- 5/16-18 x 2-1/2" HEX BOLT SS (4)
- 5/16" FLAT WASHER SS (8)
- 5/16-18 HEX NUT SERRATED FLANGE: SS (4)

Step 1: Connect the Dust Evac System Power Cord to the underside of the Control Panel marked: DUST EVAC (as shown far left).



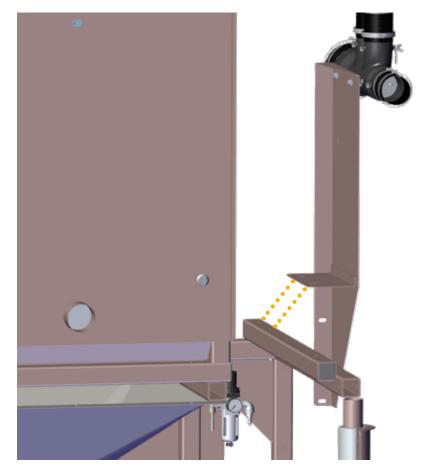




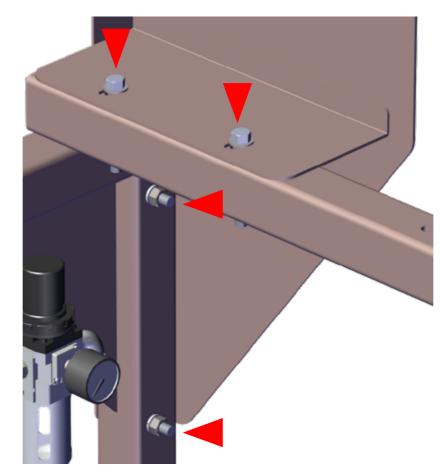
Step 2: Lift and set the Dust Evac Assembly onto the Bowl & Frame in the position as shown, below left (may require two people to lift and hold in place).

Step 3: Connect the Dust Evac Assembly to the frame using the supplied hardware in the following order (top-to-bottom / Outside-to-inside):

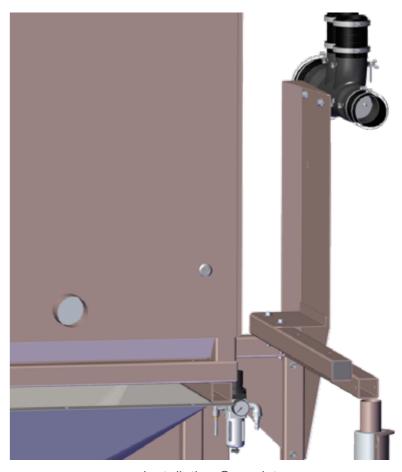
- Bolt+flat washer+[bowl frame]+flat washer+serrated flange nut.
- Use 1/2" Wrenches to securely tighten hardware in place.







Fasten to Bowl Frame



Installation Complete



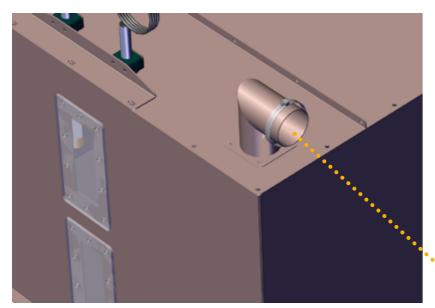




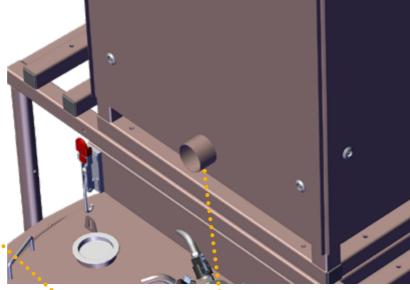
### Step 4: Make the following hose connections.

- Use hose cutter to cut factory supplied hose to fit, as shown below.





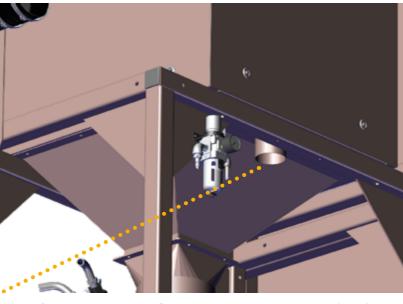
Surge Hopper Dust Port (3.0")



CBT200 Weigh Scale

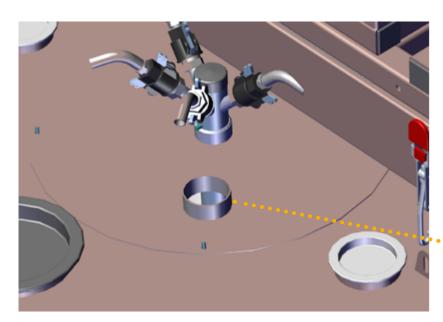


Dust Port (3.0")

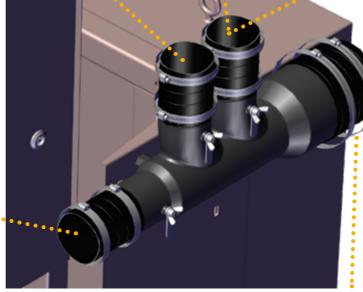


Additional dust ports are available on the side

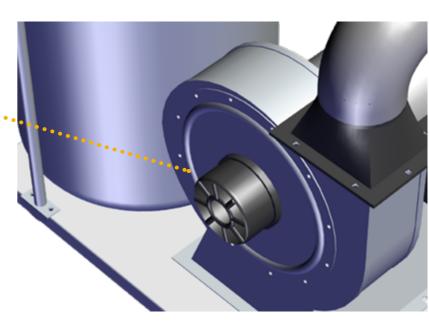
CBT25, 50 & 100 Scale Transition Dust Port (3.0")



Bowl Cover Dust Port (3.0")



Dust Evac Assembly (mounted) - Outlet Port (5.0")



Dust Evac System Inlet Port (5.0")









# LP300 TANK



# **Required installation tools**

- Material handling device
- 3/4" Socket Head Wrench (1)
- Crescent Wrench
- Slot Screwdriver

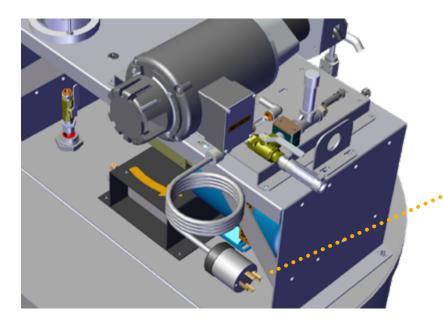


### **LP300 Tank Assembly**

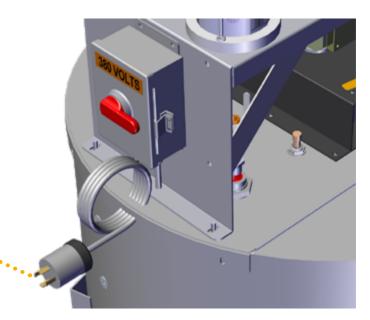
#### Remove crating from pallet.

- Use a 3/4" socket head wrench to remove the 1/2" shipping bolts holding the LP300 Tank Assembly on the pallet.
- Use proper rigging and lifting techniques to ensure safety during installation to locate the LP300 Tank Assembly near the treater.

Step 1: Connect the Liquid Pump #1 and Tank Agitator #1 Power Cords to the underside of the Control Panel marked: LIQUID PUMP #1 & AGITATOR #1 (as shown below).















**Pump Element Connections** 

**Step 1:** Use the Pump Handle to open the Pump Head.



Step 2: Lay the Pump Element (either #26 or #73) on the Pump Rollers.



Step 3: Insert Element press lock fitting into the Tank Elbow on the right hand side of the Pump Head.









**Step 4:** Connect the other press lock fitting into the Pump Discharge Plumbing Assembly on the left hand side of the Pump Head.



Step 5: Align the Pump Element on the Pump Head grooves to ensure proper fit (may require two people).



Step 6: Use the Pump Handle to close the Pump Head.









**Treatment Line Connection** 

**Step 1:** Remove the 3/8" Reducer Plug from the Pump Assembly.



**Step 2:** Insert one end of 1/2" Tubing into the Pump Outlet Press Lock fitting.



Step 3: Insert the other end of 1/2" Tubing into the Treater Inlet Assembly Press Lock Fitting.









Do not leave the washout valve connected when finished draining. Remove it and replace with the brass plug.



**Optional Washout Valve** 

Step 1: Remove the 1/2" brass hex head plug (use crescent wrench).



Step 2: Thread in the Washout Valve Assembly and tighten securely.



Step 3: Slide a Hose Clamp on 3/4" Tubing and then over the brass hose barb fitting.

• Tighten Hose Clamp with a slot screwdriver.

This completes the LP300 Tank Installation section.







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# POWDER FEEDER



# **Required installation tools**

- Material handling device
- 3/4" Socket Head Wrench (1)
- 1/2" Socket Head Wrench (2)





# **Optional Powder Feeders - CBT200**

**Step 1:** Use a 3/4" socket head wrench to remove the 1/2" shipping bolts holding the Powder Feeder Assembly onto the shipping pallet.



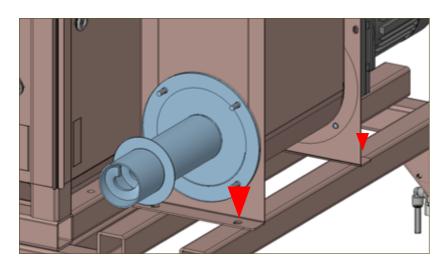
**Step 2:** Use proper rigging and lifting techniques to ensure safety when installing the Powder Feeder Assembly.

• Open the Powder Feeder Lid and connect rigging to each side (approximate dry weight: 70Kg)



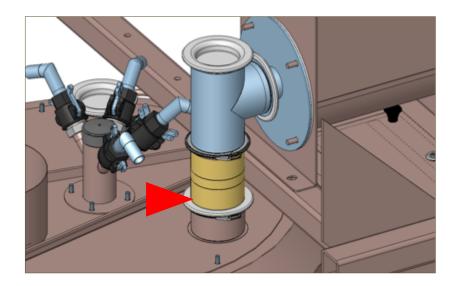






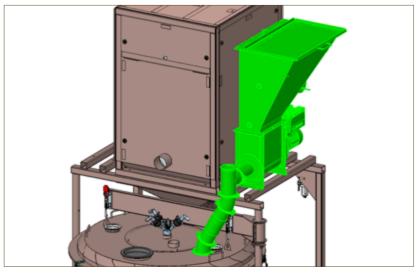
Step 3: Lift and set the Powder Feeder Assembly on the Scale Support Frame (Auger Tube faces OUT toward the Bowl).

- Align the four drilled holes on the Support Frame.
- Fasten in place with supplied hardware: four (4) 5/16-18 x 2.50 Hex Bolt, Washer and serrated Nut and 1/2" socket in this order:
- bolt+flat washer+[frame]+Serrated nut.
- Tighten securely in place.



Step 4: Connect the Powder Tubing to the end of the Auger Tube and to the top of the Bowl Cover.





CBT200 with Powder Feeder Assembly installed, ref.

**Step 5:** Connect the Powder Feeder White Signal Cable to the Main Control Panel.

• Repeat steps 1-5 if secondary Power Feeder is used









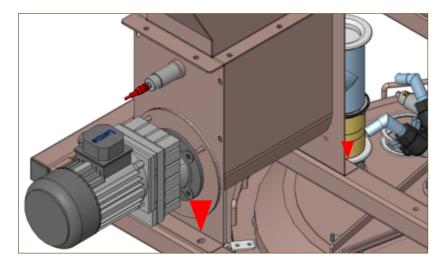
# Optional Powder Feeders - CBT25, 50 & 100

**Step 1:** Use a 3/4" socket head wrench to remove the 1/2" shipping bolts holding the Powder Feeder Assembly onto the shipping pallet.



Step 2: Use proper rigging and lifting techniques to ensure safety when installing the Powder Feeder Assembly.

• Open the Powder Feeder Lid and connect rigging to each side (approximate dry weight: 70Kg).



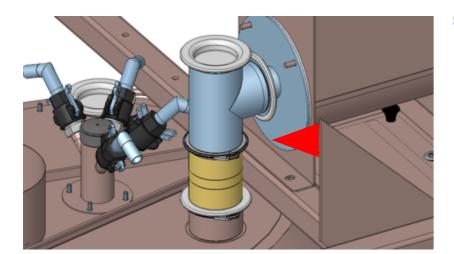
Step 3: Lift and set the Powder Feeder Assembly on the Powder Frame (Auger Tube faces IN toward the Scale).

- Align the four drilled holes on the Support Frame.
- Fasten in place with supplied hardware: four (4) 5/16-18 x 2.50 Hex Bolt, Washer and serrated Nut and 1/2" socket in this order:
- bolt+flat washer+[frame]+Serrated nut.
- Tighten securely in place.



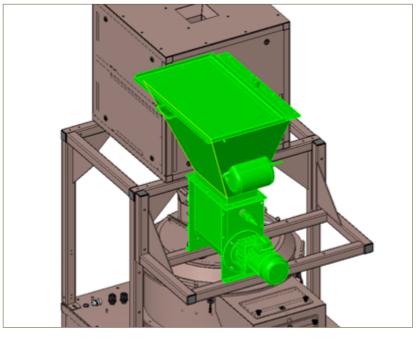






Step 4: Connect the Powder Tubing to the end of the Auger Tube and to the top of the Bowl Cover.





CBT25/50 & 100 with Powder Feeder Assembly installed, ref.

**Step 5:** Connect the Powder Feeder White Signal Cable to the Main Control Panel.

• Repeat steps 1-5 if secondary Power Feeder is used

This completes the Powder Feeder Section









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