USER MANUAL

CBT LW 8-PUMP CONTROL
25, 50, 100 & 200
START-UP GUIDE
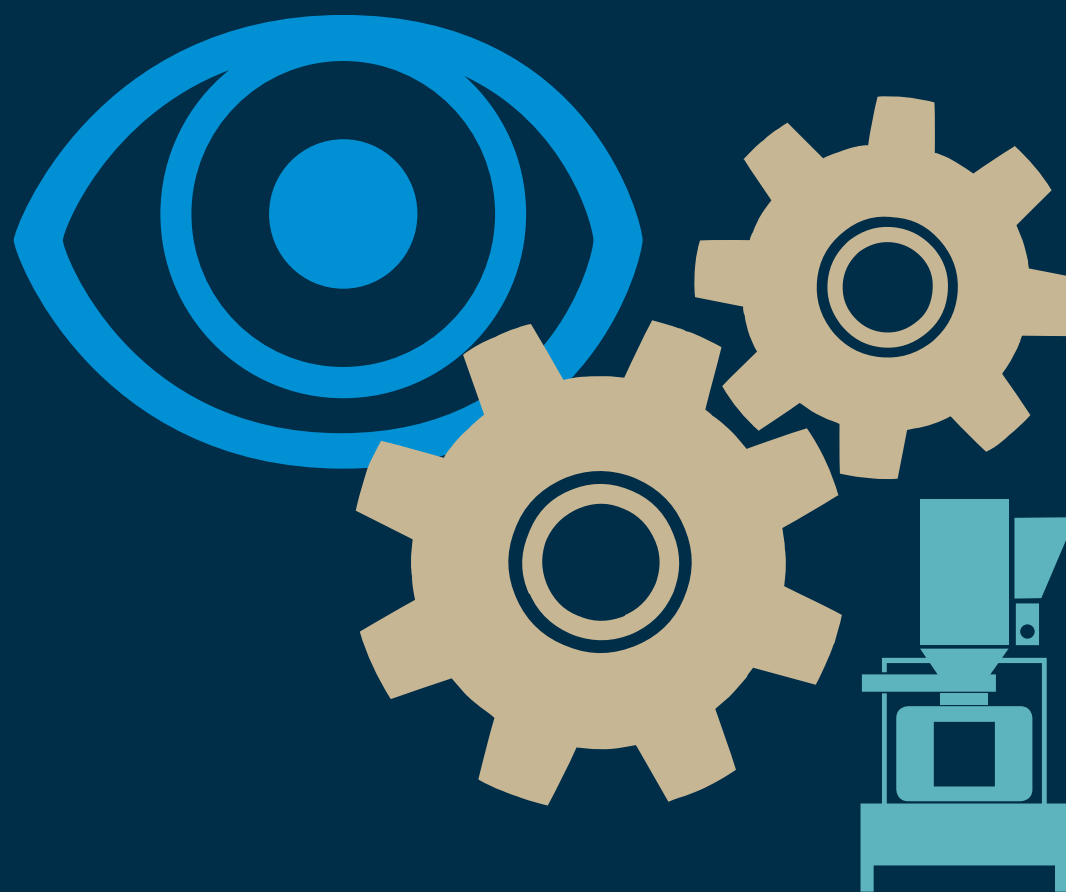
BAYER

MENU

Legal & Safety

Weigh Scale

Initiate System

Scale Calib.
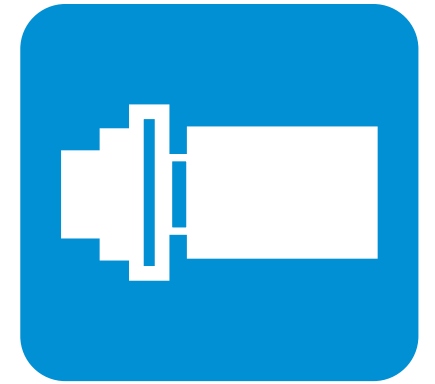
Devices

Options
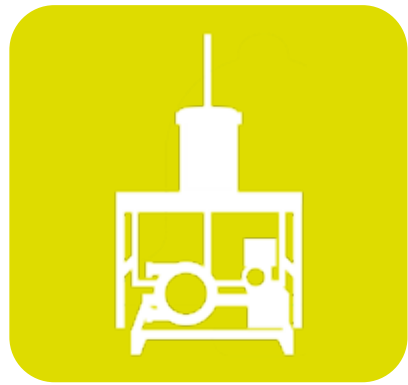
Pump Stations

Powder Feeder

Pictograms

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.

⚠ 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 present.

Warning

Alerts that a hazard may cause serious injury 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.

Use guards

Keep guards in place. Do not remove during operation.

Lifting

Requires two people to safely lift an item.

Lift points

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

Center of gravity

Indicates the center of gravity of the machine to help assist when rigging and lifting.

Tools

Required tools for installation and maintenance.

Parts

Required parts for installation and maintenance.

Tip

Calls attention to special information.

Note

Emphasizes general information worthy of attention.

Example

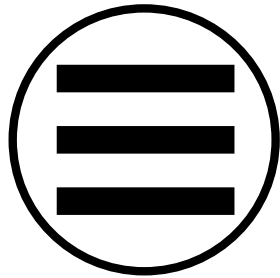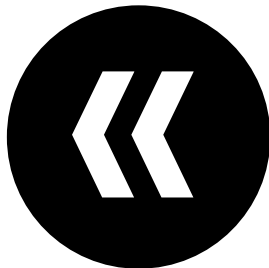Provides a problem or exercise that illustrates a method or principle.

PICTOGRAMS

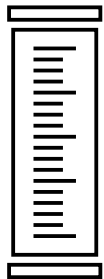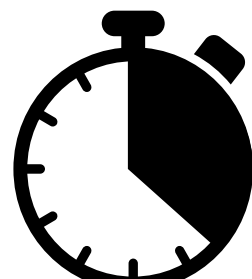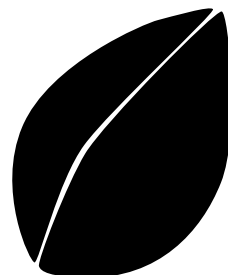|		
Menu	Previous	Advance
Initiate System	Products	Touchscreens
Cursor Hand	Powder Feeder	Pump Stations
Devices	Control Panel	Dosing Pump
Like	Supply Pump	Calibration
Options	Time	Seed
Weigh Scale	Check	
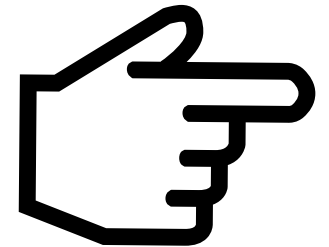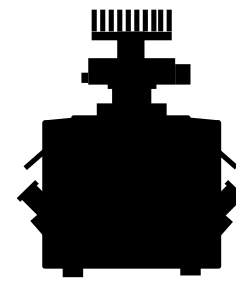
WEIGH SCALE

Use this guide when starting up the system. Each section is designed as a checklist and should be followed in the order that it is presented.

At the end of each section, a blue check mark (shown below) is displayed, indicating the User may advanced to the next section of the Startup Guide.

Required tools

- Quarter Turn Key
- ¾" Socket & Ratchet
- 10mm Wrench
- Wire Cutter or Snips

Weigh Scale & Frame Assembly

Use the quarter turn key to remove all four guard panels from the Weigh Scale & Frame Assembly, as shown below

Continued ➲

Note: Prior to using the CBT LW 8-pump runtime application to treat seed, it is important to physically check the Weigh Scale Assembly to ensure all connections were made either at the factory or during the installation process.
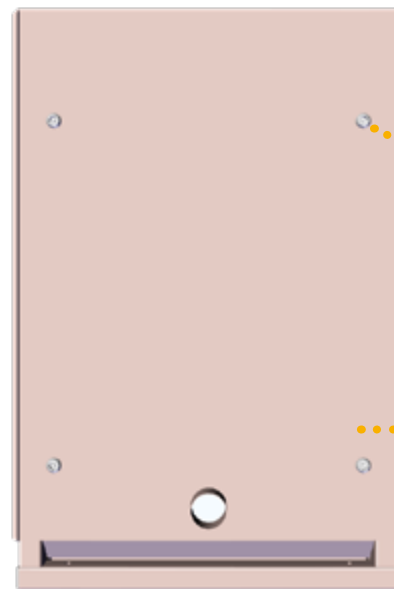
Quarter Turn Key, ref.
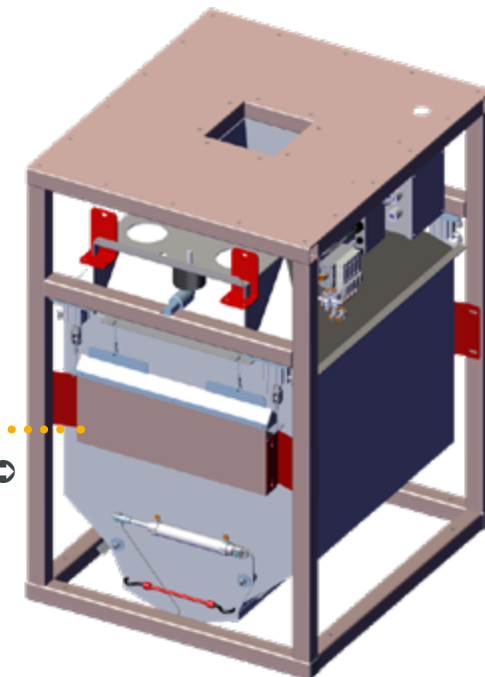
Weigh Scale Guards Removed ➲

Weigh Scale with Guards

Load Cell Shipping Brackets - Both Sides of the Scale

Ensure these have been removed. Use a 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.
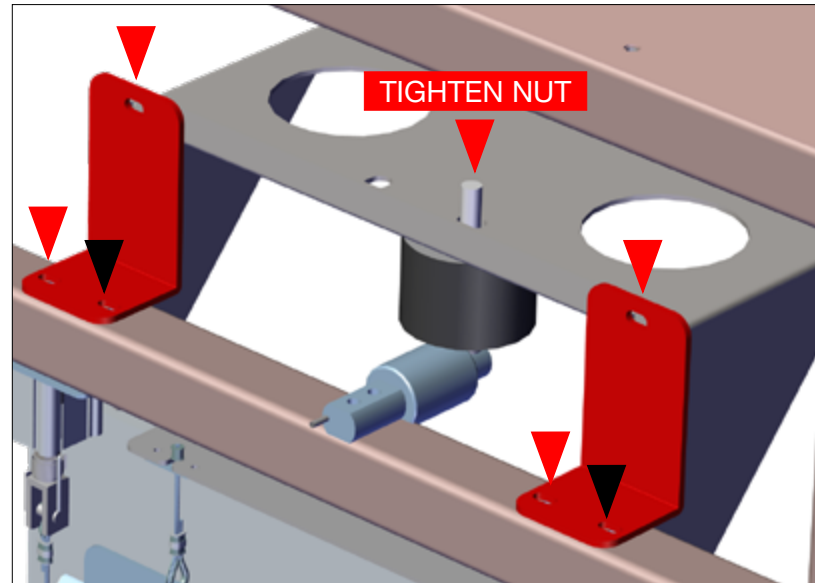
Calibration Shipping Brackets

Ensure these have been removed. Use a 10mm wrench to remove both **RED** calibration shipping brackets from both Calibration Weights (both sides of the Weigh Scale).
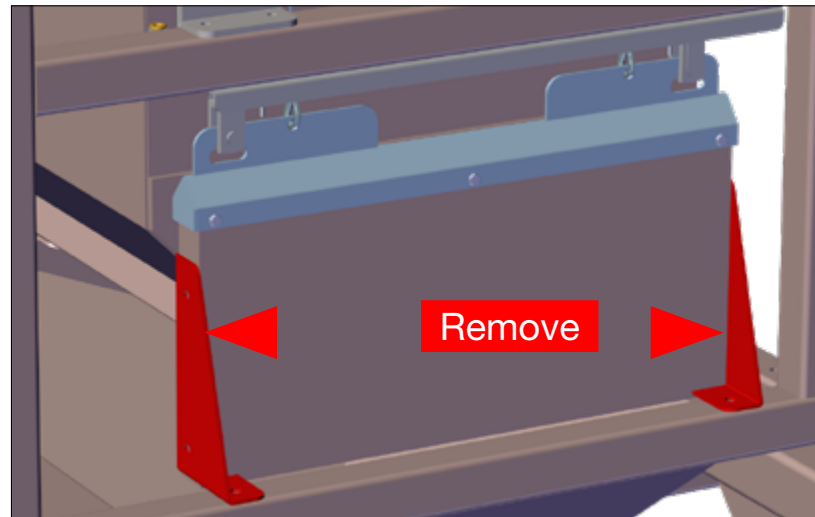
CBT200 Weigh Scale Hopper Discharge Door Bungee

Remove the red hopper discharge door bungee cord

Continued ⮑
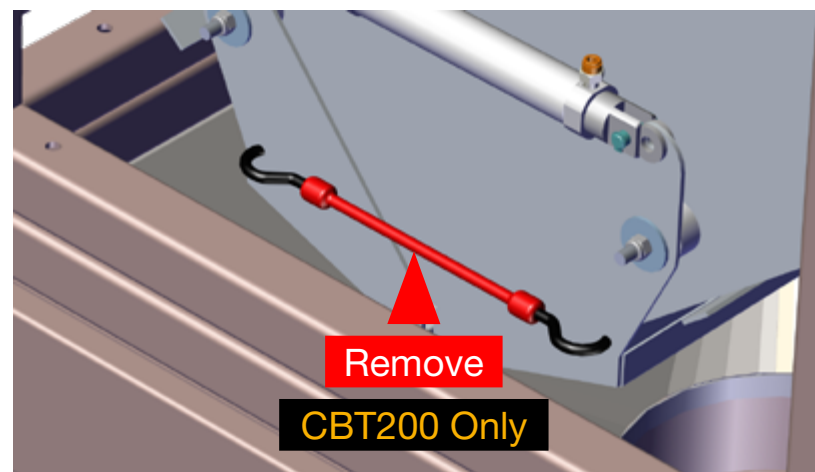
CBT25/50/100 Weigh Scale Hopper Cylinder Shipping Stop Kit

Remove the hopper cylinder shipping stop kit.

- Cut the wire tag and the vinyl tubing around the hopper air cylinder.
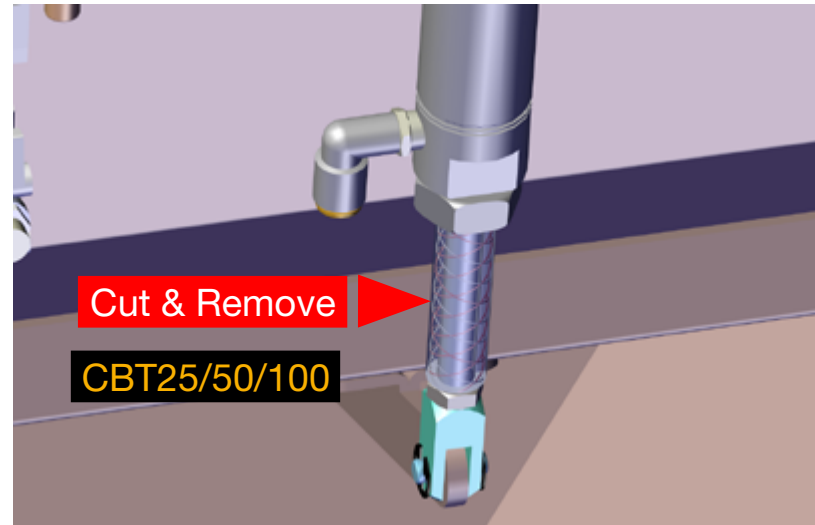
Weigh Scale Air Lines

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**
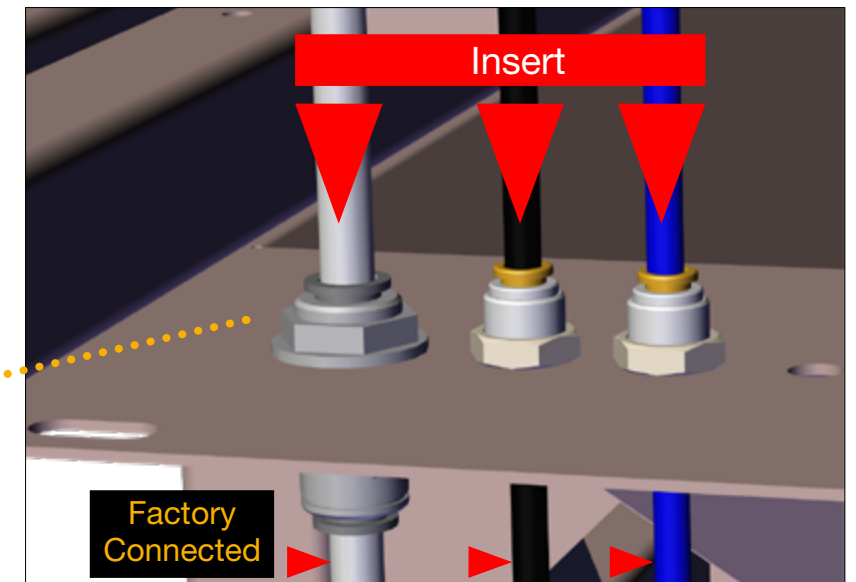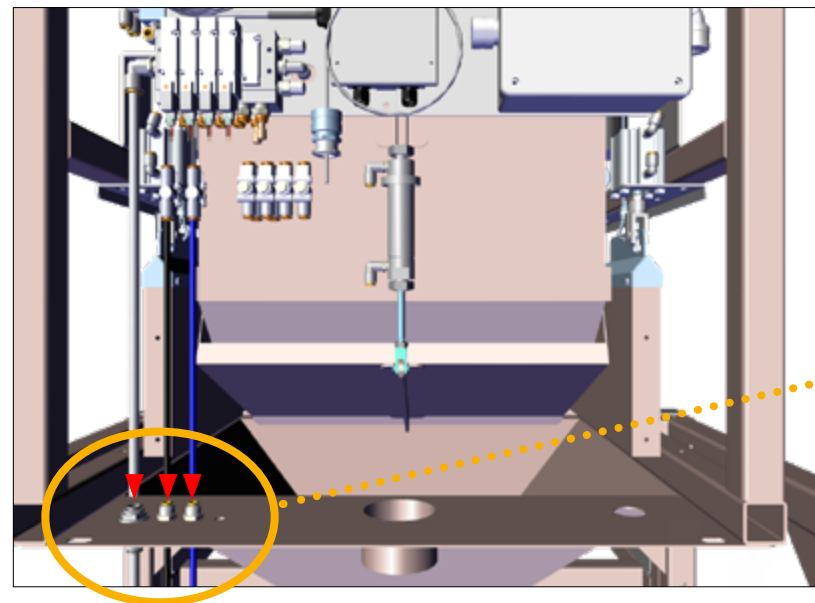
Compressed Air

Ensure shop air is connected to the filter regulator assembly on the scale support frame.

- The working pressure range requirement is 1cfm @ 80psi.
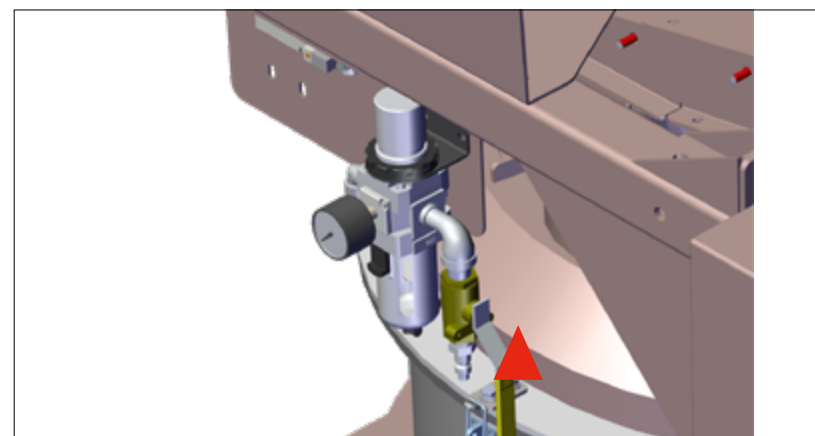
INITIATE SYSTEM

⚠️ **Warning! Prior to start-up procedures, ensure the following steps have been completed as part of the installation process:**

1. A licensed electrician has connected power to the control panel.
2. A licensed electrician has turned on all the circuit breakers and motor switches.
3. A licensed electrician has ensured the control panel is safe to use.

Initiate the PLC

Ensure service (power) is connected to the Main Control Panel.

Step 1: Ensure the **Red E-Stop** knob is <u>not</u> engaged: Twist Right and Pull Out.

Step 2: Flip the **Control Panel Power Lever UP**. The top Panel Power light turns **ON**.

Step 3: Push and hold for one second the **Boot Battery Backup Button:**
- Button light **ON** indicates Control Power is **ON**.
- The PLC boots and displays the run time application program on the HMI touch panel.

This completes the Initiate System Section

HMI touch panel

E-Stop
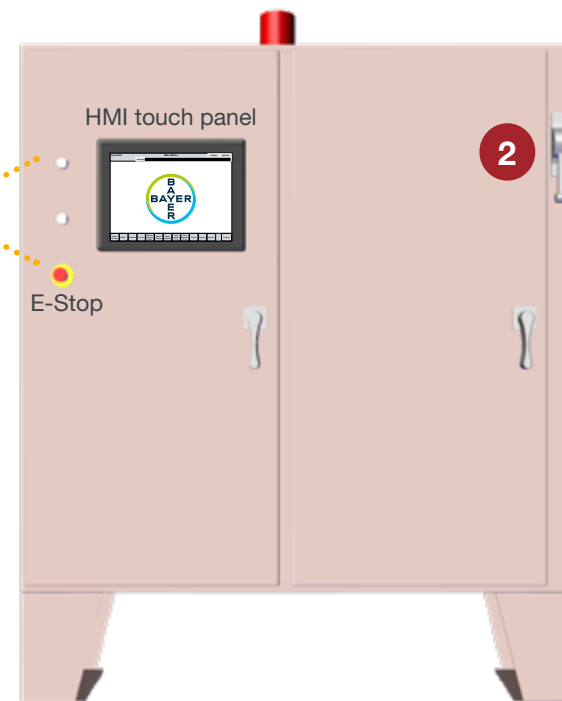
Main Control Panel, ref.

Control Panel Power Lever **UP**

Calibration Screen - Hopper

ENSURE THE WEIGH SCALE DOES NOT HAVE ANY SEED IN THE HOPPER!

Step 1: Touch the **HOPPER Low Calibrate** button icon:

- Verify the **HOPPER current Weight (Kg)** value displayed is zero.

Step 2: Touch the **LOWER CAL WT ON** button icon: both calibration weights lower down onto the load cells

Continued ➲
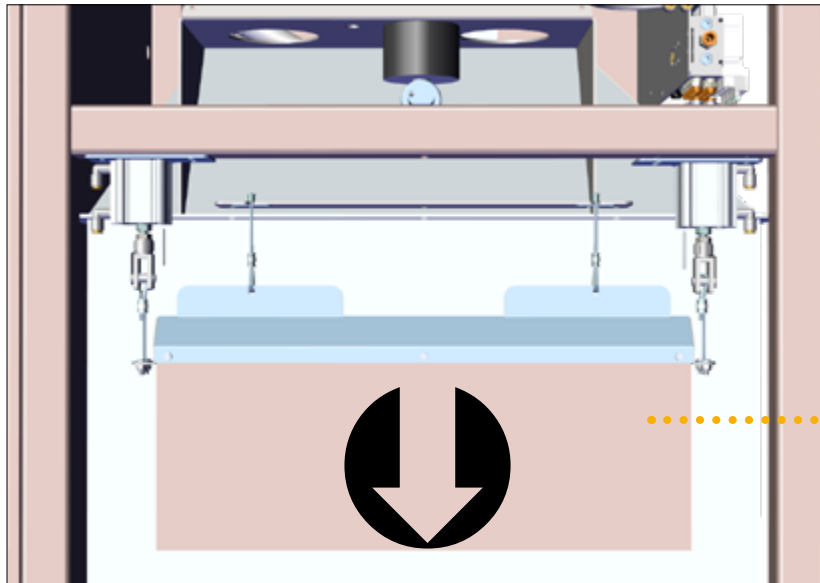
Weigh Scale Hopper Calibration Weight Lowered, ref.

| DEFAULT | Calibration | LOG IN | LOG OUT |

Message:

	LT 1	LT 2
High Cal Amount (grams)	0.0	0.0
Current Weight (grams)	0	0
	Low Calibrate	Low Calibrate
	High Calibrate	High Calibrate

	LT 5
High Cal Amount (grams)	0.0
Current Weight (grams)	0.0
	Low Calibrate
	High Calibrate

	PT 1	HOPPER
High Cal Amount (Kgs)	0.0	0.0
Current Weight (Kgs)	0.0	0.0
	Low Calibrate	Low Calibrate
	High Calibrate	**LOWER CAL WT ON**

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

Calibration Screen - Hopper

The **High Calibrate & LIFT CAL WT OFF** buttons appear when the **Low Calibrate & LOWER CAL WT ON** buttons are touched (previously page, 11).

Step 1: Touch the **High Calibrate** button icon.

Each Scale has two certified calibration weights, both displaying a different numerical weight value, such as 22.702 + 22.704. Add the values together = **45.406**.

Step 2: Touch the **High Cal Amount (Kg)** numeric field and enter the combined **45.406** numerical weight value on the pop-up key pad: key pad closes.

- The **High Cal Amount (Kg)** numeric field value then displays: **45.406**, as shown.

- The **High Cal Amount (Kg)** weight value remains unchanged once entered in the numeric field.

Step 3: Touch the **LIFT CAL WT OFF** button icon: Both calibration weights lift up off of the load cells.

Weigh Scale Hopper Calibration Weight Raised, ref.

| DEFAULT | Calibration | | LOG IN | LOG OUT |

Message: ▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐▐

LT 1

High Cal Amount (grams) [0.0]
Current Weight (grams) [0]
[Low Calibrate]
[High Calibrate]

LT 2

[0.0]
[0]
[Low Calibrate]
[High Calibrate]

LT 5

High Cal Amount (grams) [0.0]
Current Weight (grams) [0.0]
[Low Calibrate]
[High Calibrate]

PT 1

High Cal Amount (Kgs) [0.0]
Current Weight (Kgs) [0.0]
[Low Calibrate]
[High Calibrate]

HOPPER

[45.406]
[0.0]
[High Calibrate]
[LIFT CAL WT OFF]

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

Calibration weight sticker

50.051 Lbs. / 22.702 Kgs.

Calibration weight sticker detail

| 1 | 45.406 |
| 0 ~ 100000 |

7	8	9
4	5	6
1	2	3
.	0	-
ESC	←	↵
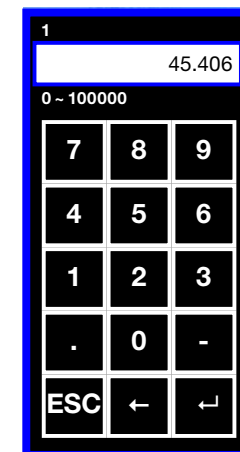
Pop-up Key Pad

Replace scale guard panels

Use the quarter turn key to lock each guard panel latch.
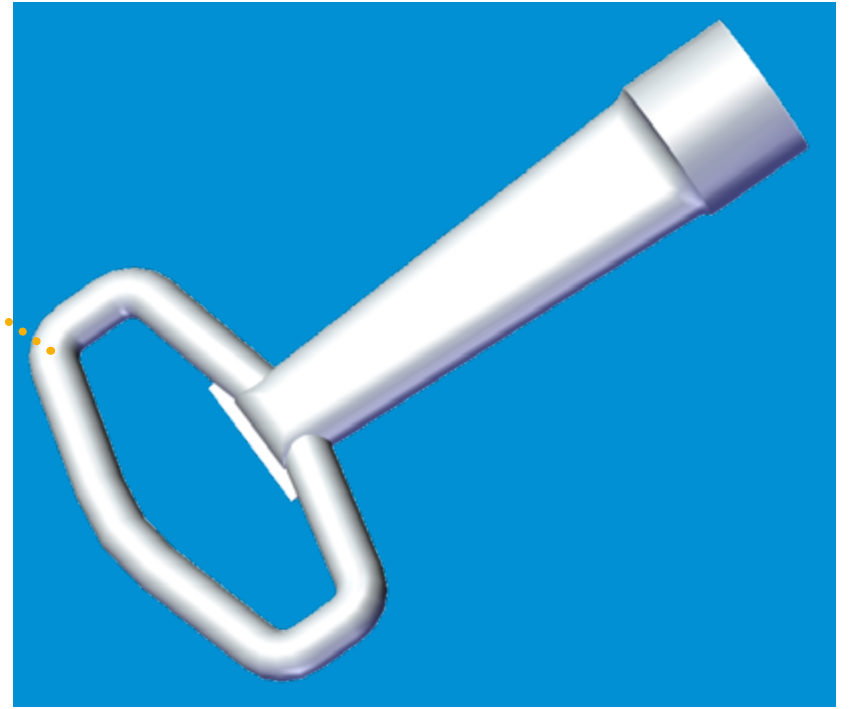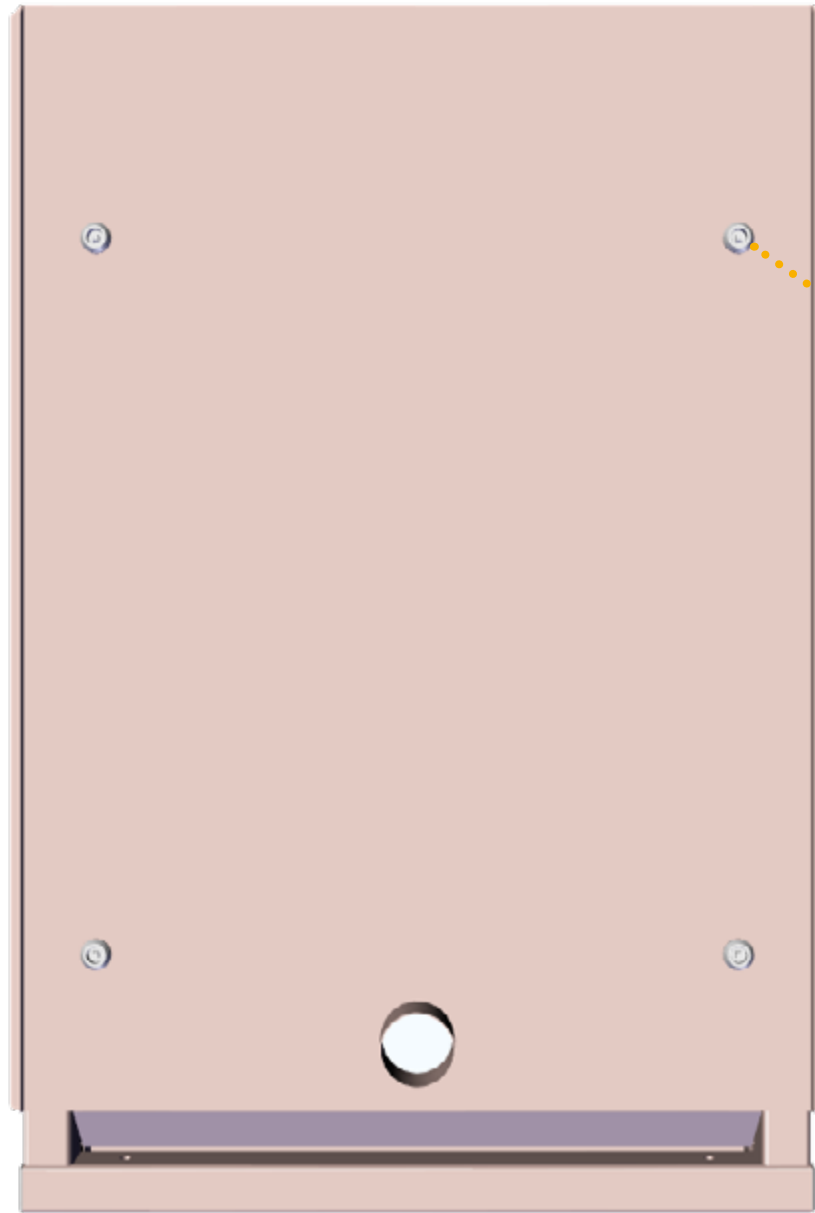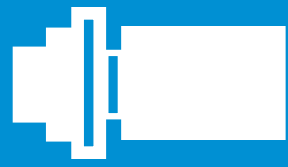
Weigh Scale with Guards

Main Menu Screen

Prior to using the CBT LW 8-pump runtime application to treat seed, it is important to manually operate each device allocated for use on the machine.

The following pages help explain how to turn on devices, operate them in both forward and reverse in energized and de-energized modes.

Step 1: Touch the **Bowl Graphics** button icon: navigates to the **Bowl Graphic Screen**

Continued ➲

DEFAULT	Main Menu	LOG IN	LOG OUT

Message:

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | B R | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

14
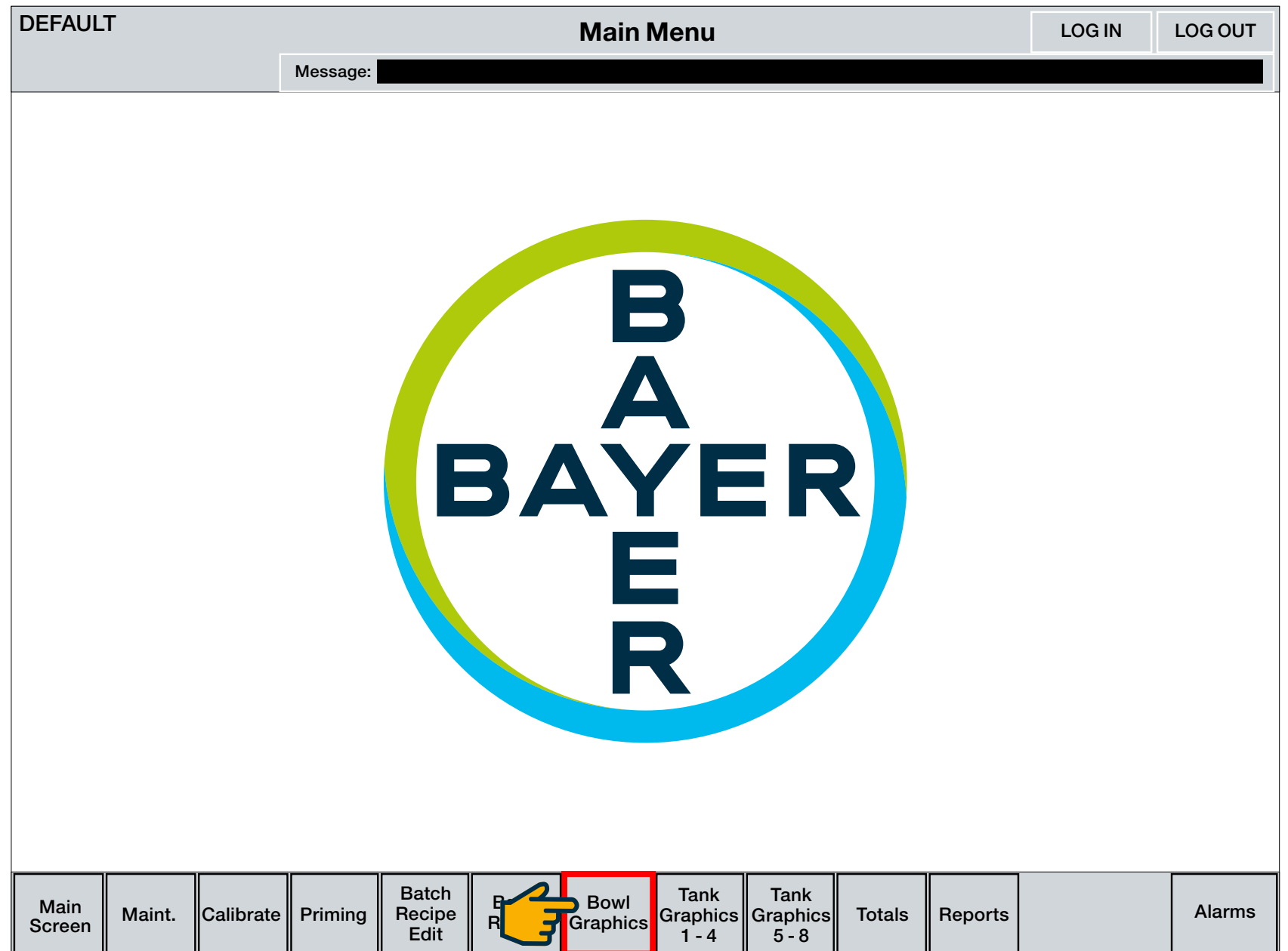
Bowl Graphic Screen

Step 1: Touch the **SV1** device icon: displays the **STORAGE HOPPER SUPPLY VALVE 1** device pop-up on the Bowl Graphic Screen as a layer (shown right)

Continued ➲

STORAGE HOPPER	STORAGE HOPPER	STORAGE HOPPER
SUPPLY VALVE 1	**SUPPLY VALVE 1**	**SUPPLY VALVE 1**
ENERGIZED	**DE-ENERGIZED**	**DE-ENERGIZED**
Auto / **Manual** 👉	Auto / **Manual**	👈 **Auto** / Manual
👈 **Energize** / De-Energize	Energize / **De-Energize** 👉	Energize / De-Energize
Failsafe Active	Failsafe Active	Failsafe Active
Control Options	**Control Options**	**Control Options**
Enable Soft Lock Disabled	Enable Soft Lock Disabled	Enable Soft Lock Disabled
Close	Close	**Close** 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **SV1** device on the Bowl Graphic Screen. 🔲

Step 2: Touch the **Energize** button on the pop-up. By touching, **Energize** button is highlighted and displays the word **ENERGIZED** in the message bar highlighted in green (as shown above).

The Storage Hopper Supply Valve **SV1** opens (listen for the sound of the door opening).

Step 3: Touch the **De-Energize** button on the pop-up. By touching, **De-Energize** button is highlighted and displays the word **DE-ENERGIZED** in the message bar (as shown above).

The Storage Hopper Supply Valve **SV1** closes (listen for the sound of the door closing).

Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **SV1** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Repeat this process for **SV2** (device icon displays the same results as **SV1**).

Bowl Graphic Screen

Step 1: Touch the **Calibration Weight** device icon: displays the **HOPPER CALIBRATION SV** device pop-up on the Bowl Graphic Screen as a layer (shown right)

DEFAULT

Bowl Graphic

LOG IN   LOG OUT

Message:

SV1   SV2

Bowl Feed Hopper

Air Pressure
SWITCH
OFF

Calibration Weight

Powder 1

HOP-WT
180.0 Kg

PT1-VIB

PT1-WT
725.1 Kg

PT1-VFD
OP   0.0 g/sec

HOP-SV

DIS-SV

Bowl

BOWL VFD
OP   0.0 %

BLOWER

ATOMIZER

HOPPER
CALIBRATION SV
DE-ENERGIZED
Auto   Manual
Energize   De-Energize
Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged
Acknowledge Alarm
Fault Reset
Close

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

CALIBRATION SV

DE-ENERGIZED

Auto	**Manual**
Energize	**De-Energize**

Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

CALIBRATION SV

ENERGIZED

Auto	**Manual**
Energize	De-Energize

Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

CALIBRATION SV

ENERGIZED

Auto	Manual
Energize	De-Energize

Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **CALIBRATION SV** device on the Bowl Graphic Screen.

Step 2: Touch the **De-Energize** button on the pop-up. By touching, **De-Energize** button is highlighted and displays the word **DE-ENERGIZED** in the message bar (as shown above).

The Hopper **CALIBRATION SV** lowers both Calibration Weights (listen for the sound lowering the weights).

Step 3: Touch the **Energize** button on the pop-up. By touching, **Energize** button is highlighted and displays the word **ENERGIZED** in the message bar highlighted in green (as shown above).

The Hopper **CALIBRATION SV** raises both Calibration Weights (listen for the sound raising the weights).

Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **CALIBRATION SV** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Bowl Graphic Screen

Step 1: Touch the **HOP-SV** device icon: displays the **HOPPER SUPPLY VALVE** device pop-up on the Bowl Graphic Screen as a layer (shown right)

Continued ➲

HOPPER

SUPPLY VALVE

ENERGIZED

Auto	**Manual** 👉
👉 **Energize**	De-Energize

Failsafe Active

Control Options

| Enable | Soft Lock Disabled |

Close

HOPPER

SUPPLY VALVE

DE-ENERGIZED

Auto	**Manual**
Energize	**De-Energize** 👉

Failsafe Active

Control Options

| Enable | Soft Lock Disabled |

Close

HOPPER

SUPPLY VALVE

DE-ENERGIZED

👉 **Auto**	Manual
Energize	De-Energize

Failsafe Active

Control Options

| Enable | Soft Lock Disabled |

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **HOP-SV** device on the Bowl Graphic Screen.

Step 2: Touch the **Energize** button on the pop-up. By touching, **Energize** button is highlighted and displays the word **ENERGIZED** in the message bar highlighted in green (as shown above).

The Hopper Supply Valve **HOP-SV** opens (listen for the sound of the door opening).

Step 3: Touch the **De-Energize** button on the pop-up. By touching, **De-Energize** button is highlighted and displays the word **DE-ENERGIZED** in the message bar (as shown above).

The Hopper Supply Valve **HOP-SV** closes (listen for the sound of the door closing).
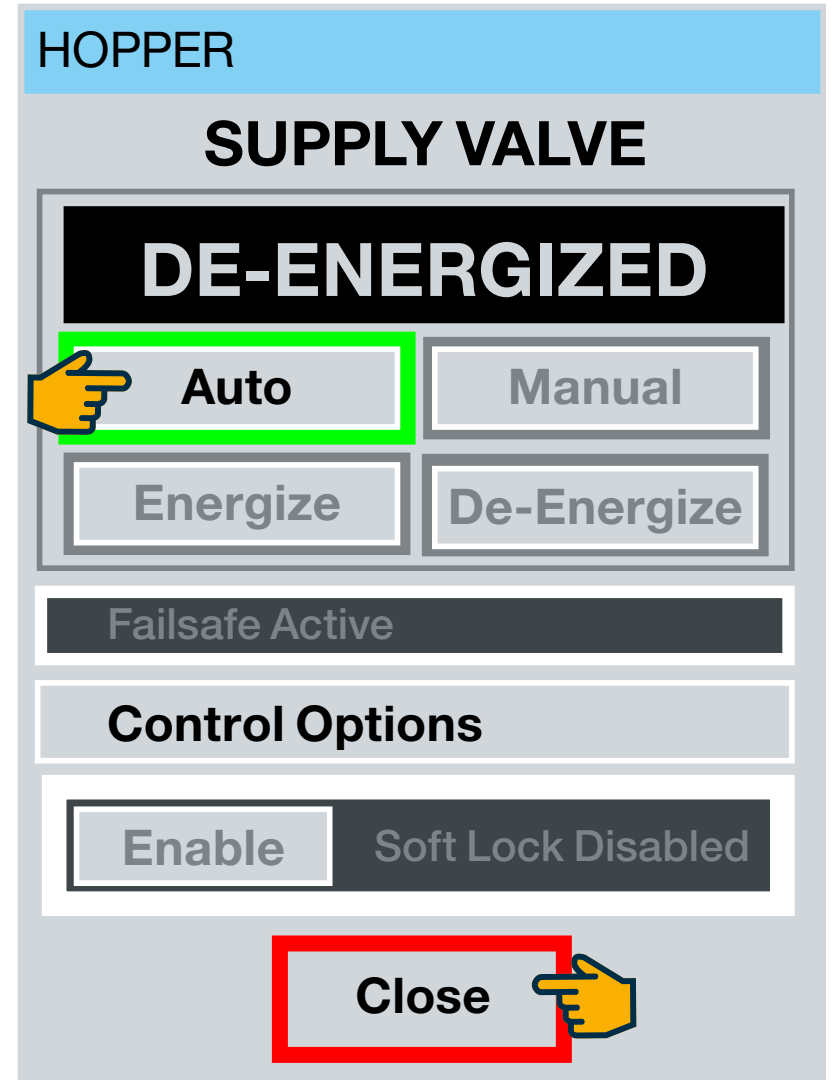
Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **SV1** device on the Bowl Graphic Screen.

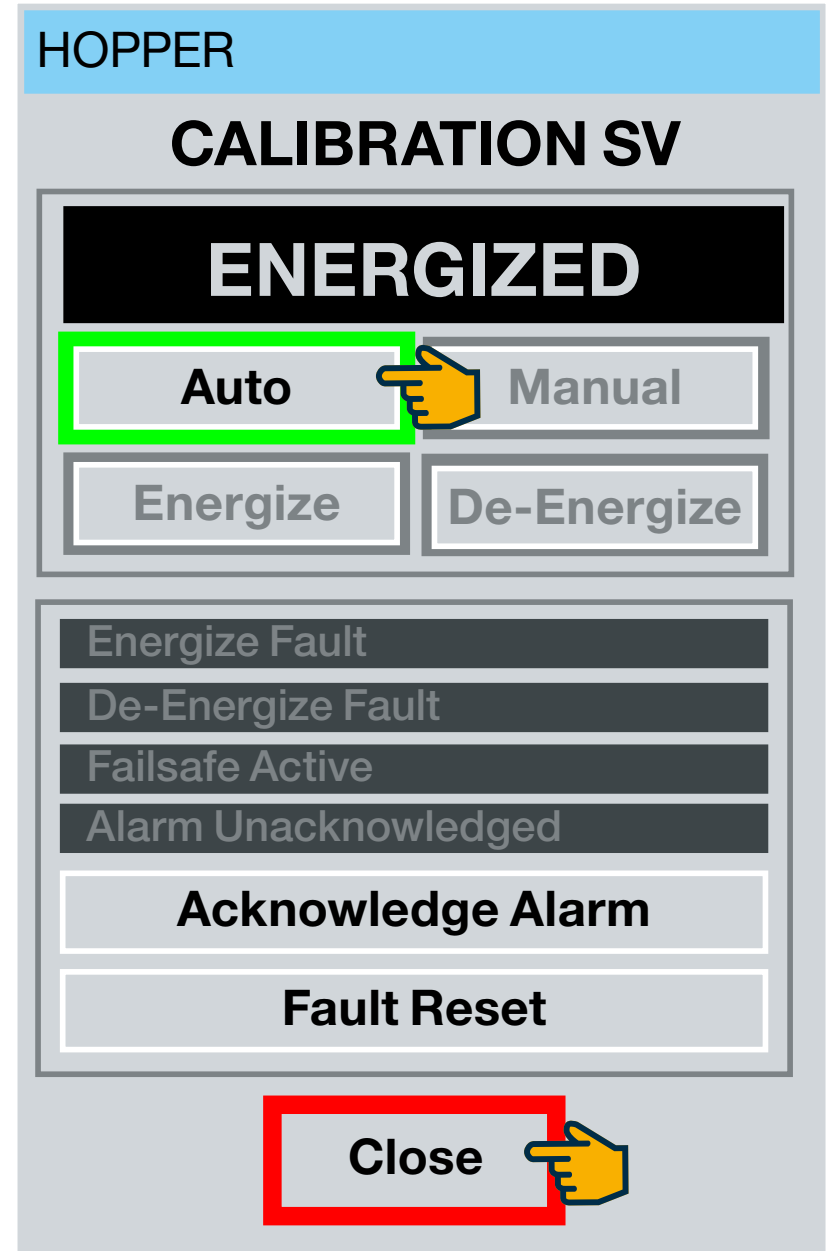**Step 5:** Touch the **Close** button: pop-up closes.

Bowl Graphic Screen

Step 1: Touch the **DIS-SV** device icon: displays the **BOWL DISCHARGE DOOR SV** device pop-up on the Bowl Graphic Screen as a layer (shown right)

Continued ➲

BOWL

DISCHARGE DOOR SV

ENERGIZED

Auto	Manual 👉
👈 Energize	De-Energize

Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

BOWL

DISCHARGE DOOR SV

DE-ENERGIZED

Auto	Manual
Energize	De-Energize 👉

Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

BOWL

DISCHARGE DOOR SV

DE-ENERGIZED

👈 Auto	Manual
Energize	De-Energize

Energize Fault
De-Energize Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **DIS-SV** device on the Bowl Graphic Screen. 🔲

Step 2: Touch the **Energize** button on the pop-up. By touching, **Energize** button is highlighted and displays the word **ENERGIZED** in the message bar highlighted in green (as shown above).

The Bowl Discharge Door Valve **DIS-SV** opens (listen for the sound of the door opening).
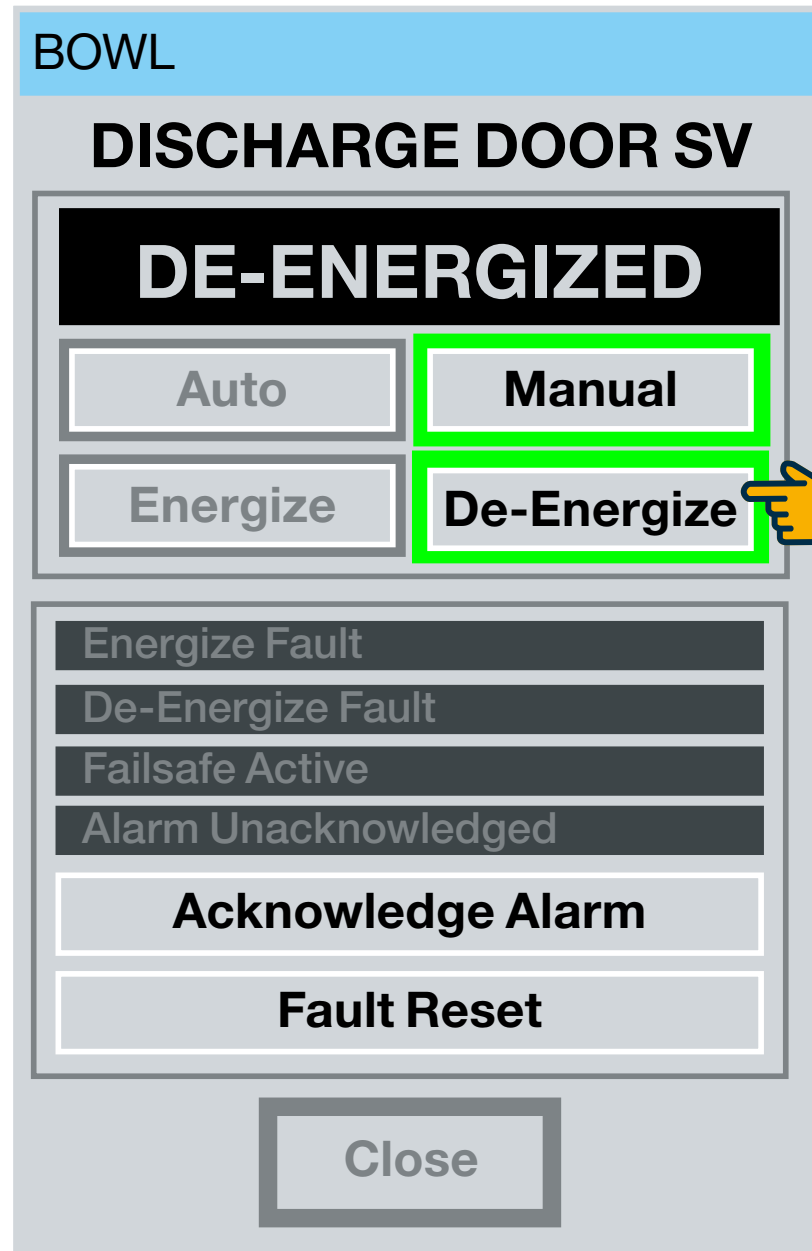
Step 3: Touch the **De-Energize** button on the pop-up. By touching, **De-Energize** button is highlighted and displays the word **DE-ENERGIZED** in the message bar (as shown above).

The Bowl Discharge Door Valve **DIS-SV** closes (listen for the sound of the door closing).
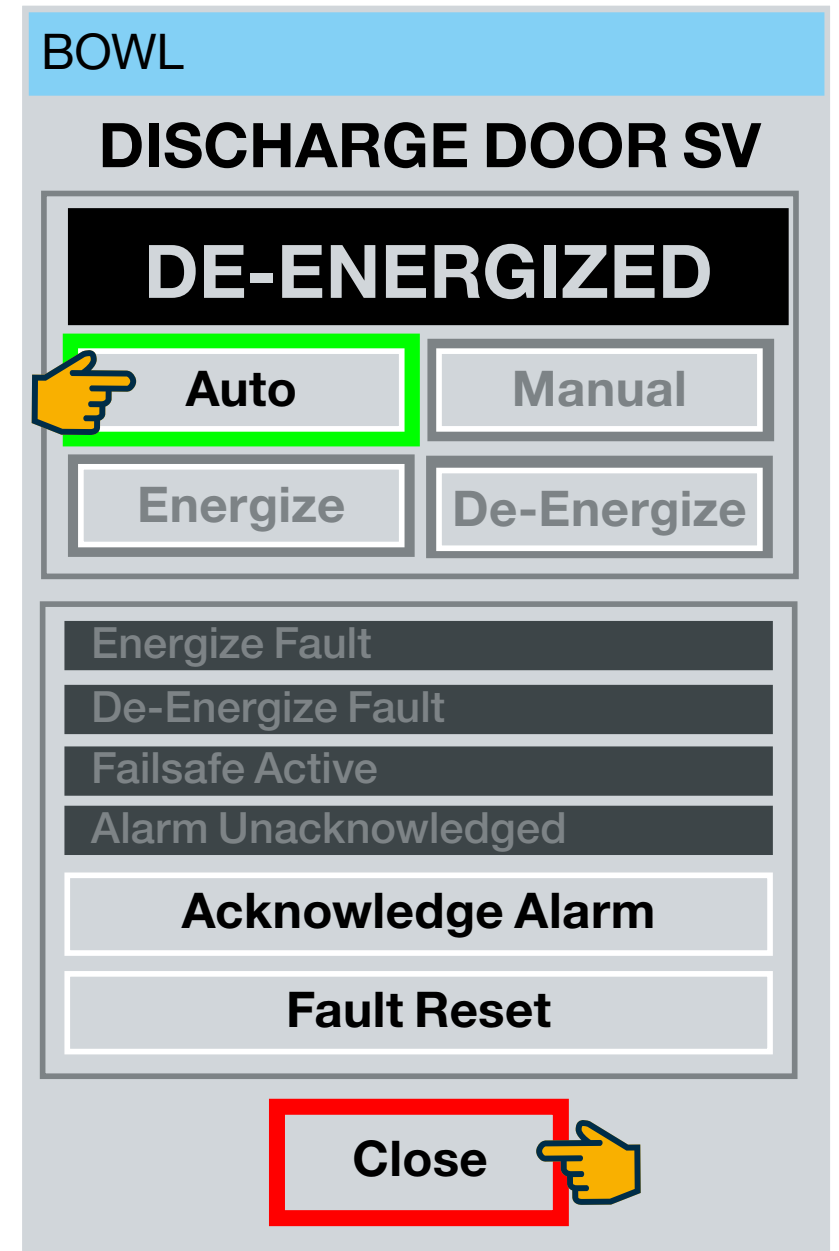
Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **DIS-SV** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

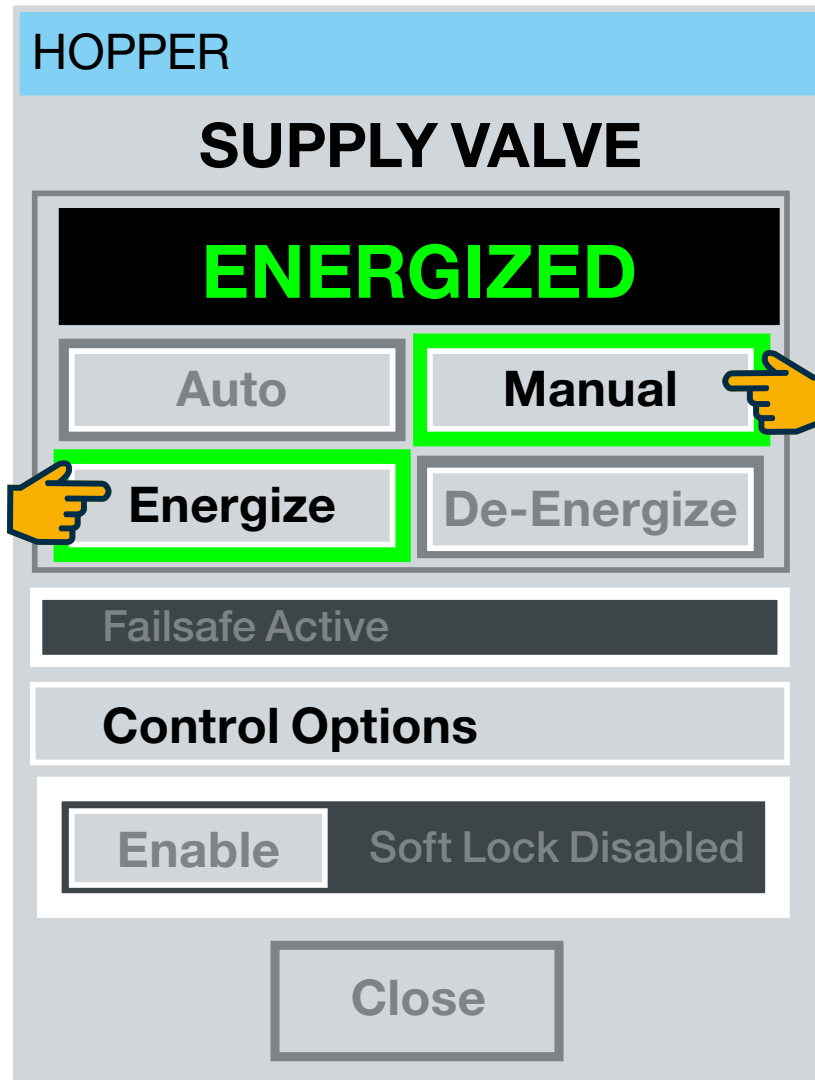## Bowl Graphic Screen

Step 1: Touch the **BLOWER** device icon: displays the **BOWL AIR BLOWER MOTOR** device pop-up on the Bowl Graphic Screen as a layer (shown right)

Continued ➲

AIR BLOWER MOTOR

RUNNING

Auto	**Manual** 👉
👉 **Start**	Stop

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

AIR BLOWER MOTOR

STOPPED

Auto	**Manual**
Start	**Stop** 👉

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

AIR BLOWER MOTOR

STOPPED

👉 **Auto**	Manual
Start	Stop

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm
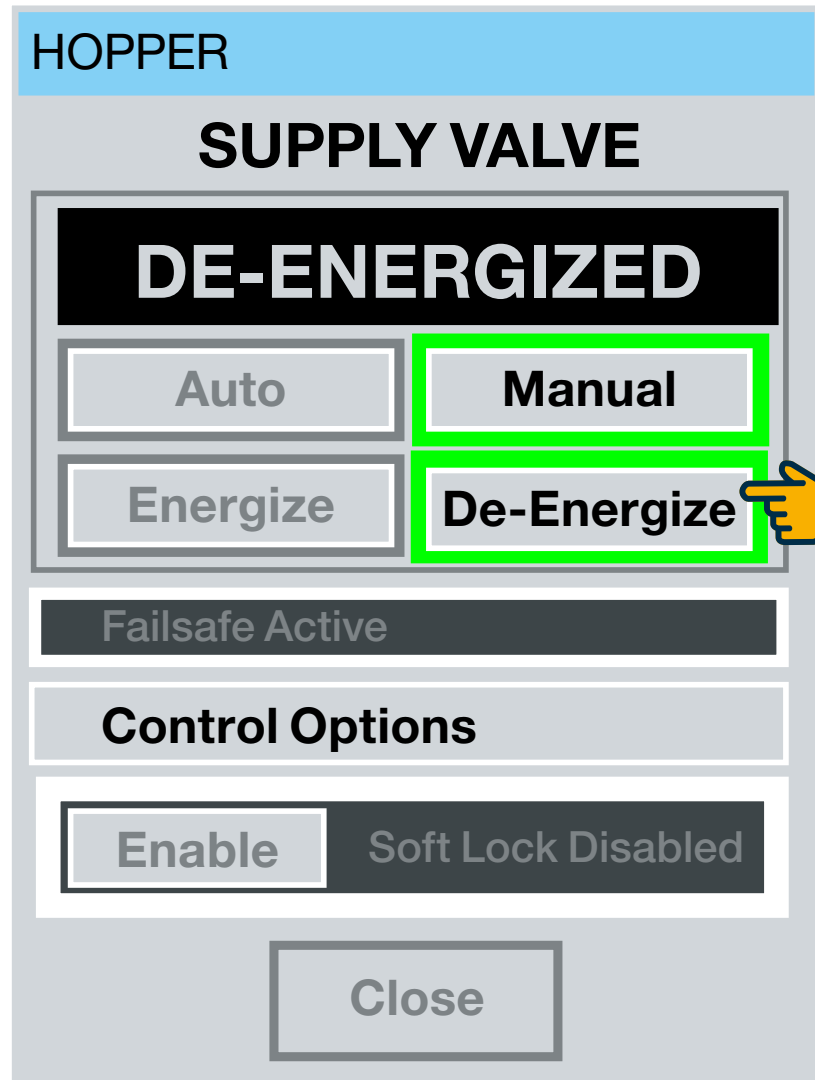
Fault Reset

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **BLOWER** device on the Bowl Graphic Screen.

Step 2: Touch the **Start** button on the pop-up. By touching, **Start** button is highlighted and displays the word **RUNNING** in the message bar highlighted in green (as shown above).

The Bowl Air Blower Motor **BLOWER** turns on (listen for the sound of the blower motor running).

Step 3: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar (as shown above).

The Bowl Air Blower Motor **BLOWER** turns off (listen for the sound of the blower motor stopped).

Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **BLOWER** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Bowl Graphic Screen

Step 1: Touch the **ATOMIZER** device icon: displays the **BOWL ATOMIZER MOTOR** device pop-up on the Bowl Graphic Screen as a layer (shown right)
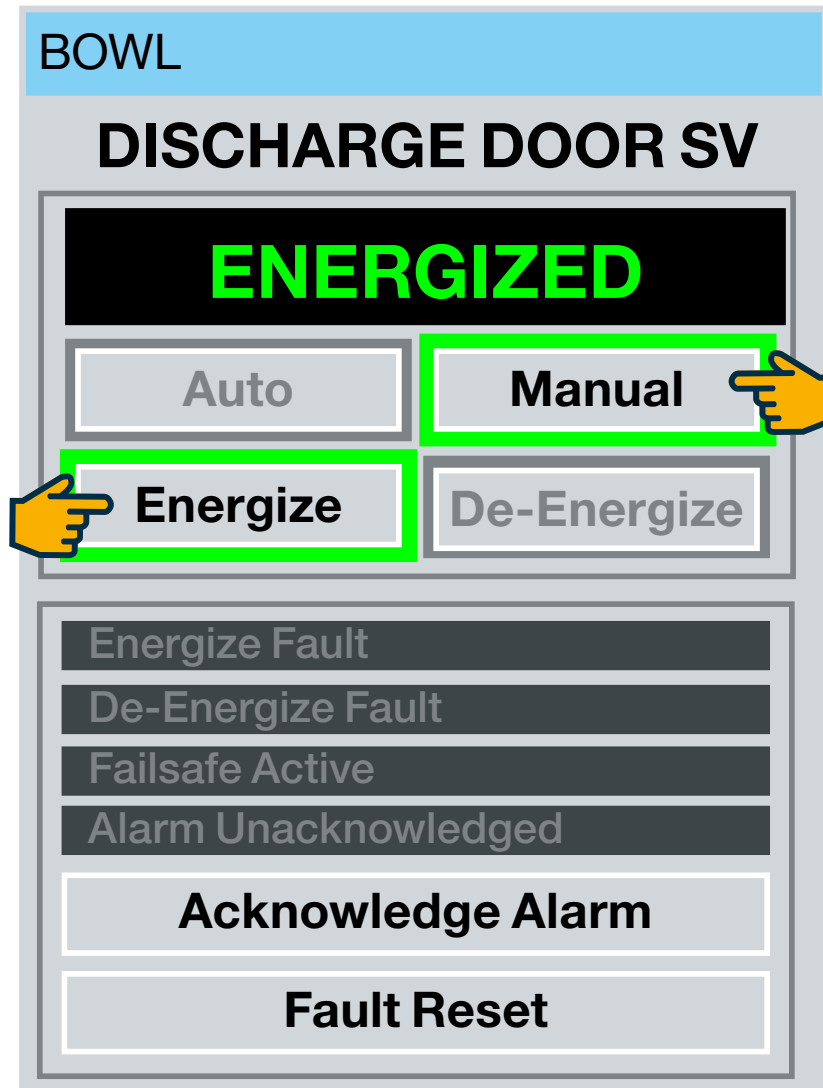
Continued ➲

DEFAULT   **Bowl Graphic**   LOG IN   LOG OUT

Message:

SV1   SV2

Bowl Feed
Hopper   Air Pressure
                                  SWITCH
                                    OFF
Calibration Weight
                        Powder 1

HOP-WT   PT1-VIB
        180.0 Kg

                    PT1-WT
                        725.1 Kg   PT1-VFD
                                    OP   0.0 g/sec
HOP-SV

                            DIS-SV

        Bowl

BOWL VFD   BLOWER
OP   0.0 %

            ATOMIZER

BOWL

ATOMIZER MOTOR

STOPPED

| Auto | Manual |

| Start | Stop |

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

BOWL

ATOMIZER MOTOR

RUNNING

Auto	**Manual** 👉
👉 **Start**	Stop

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

BOWL

ATOMIZER MOTOR

STOPPED

Auto	**Manual**
Start	**Stop** 👉

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

BOWL

ATOMIZER MOTOR

STOPPED

👉 **Auto**	Manual
Start	Stop

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

**Acknowledge Alarm**

Fault Reset

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **ATOMIZER** device on the Bowl Graphic Screen. 🔲

Step 2: Touch the **Start** button on the pop-up. By touching, **Start** button is highlighted and displays the word **RUNNING** in the message bar highlighted in green (as shown above).

The Bowl Atomizer Motor **ATOMIZER** turns on (listen for the sound of the atomizer motor running).

Step 3: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar (as shown above).

The Bowl Atomizer Motor **ATOMIZER** turns off (listen for the sound of the atomizer motor stopped).

Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **ATOMIZER** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Bowl Graphic Screen

Step 1: Touch the **BOWL VFD** device icon: displays the **BOWL VFD** device pop-up on the Bowl Graphic Screen as a layer (shown right)
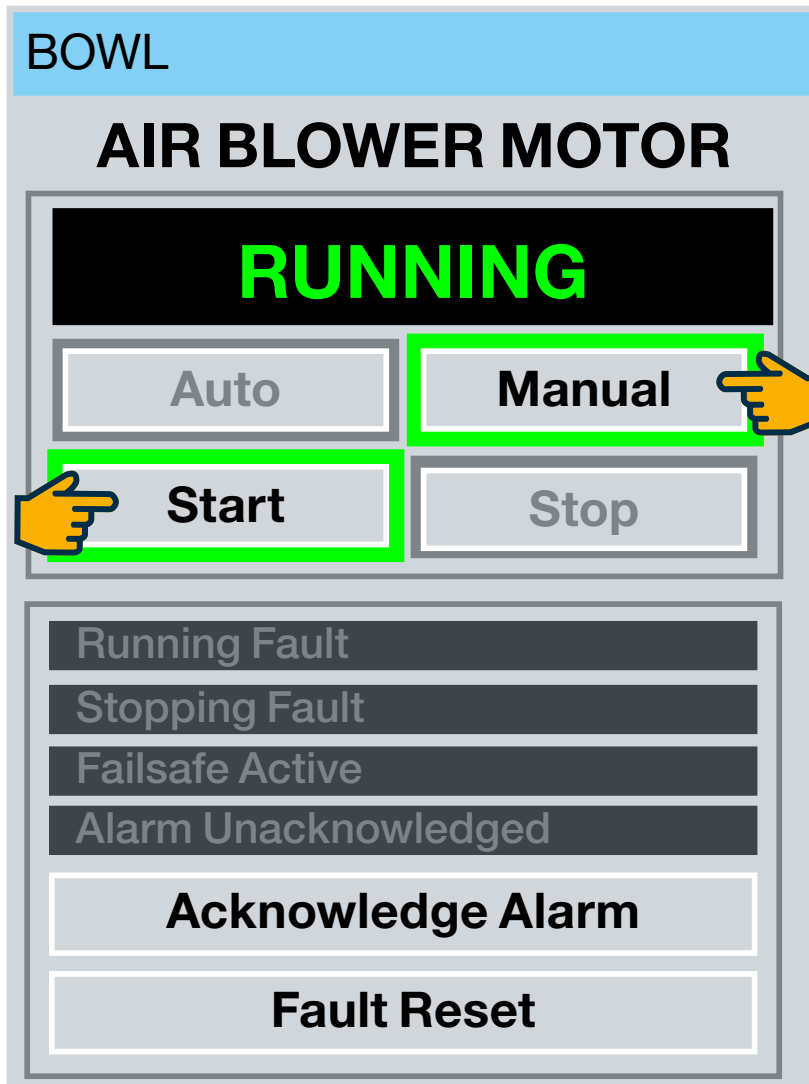
Continued ➲

BOWL

VFD

OP	0.0 %

RUNNING

Auto	**Manual** 👉
👉 **Start**	Stop

Manual Setpoint	0	%

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

BOWL

VFD

OP	0.0 %

STOPPED

Auto	**Manual**
Start	**Stop** 👉

Manual Setpoint	0	%

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

BOWL

VFD

OP	0.0 %

STOPPED

👉 **Auto**	Manual
Start	Stop

Manual Setpoint	0	%

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **BOWL VFD** device on the Bowl Graphic Screen. 🚹

Step 2: Touch the **Start** button on the pop-up. By touching, **Start** button is highlighted and displays the word **RUNNING** in the message bar highlighted in green (as shown above).

The Bowl Motor **BOWL VFD** turns on (listen for the sound of the bowl motor running).

Step 3: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar (as shown above).

The Bowl Motor **BOWL VFD** turns off (listen for the sound of the bowl motor stopped).

Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **BOWL VFD** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Bowl Graphic Screen

Step 1: If Powder is enabled on the machine, touch the **PT1-VIB** device icon: displays the **POWDER FEEDER 1 VIBRATOR** device pop-up on the Bowl Graphic Screen as a layer (shown right)

POWDER FEEDER 1

VIBRATOR

ENERGIZED

Auto	Manual
Energize	De-Energize

Failsafe Active

Control Options

Enable | Soft Lock Disabled

Close

POWDER FEEDER 1

VIBRATOR

DE-ENERGIZED

Auto	Manual
Energize	De-Energize

Failsafe Active

Control Options

Enable | Soft Lock Disabled

Close

POWDER FEEDER 1

VIBRATOR

DE-ENERGIZED

Auto	Manual
Energize	De-Energize

Failsafe Active

Control Options

Enable | Soft Lock Disabled

Close

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **PT1-VIB** device on the Bowl Graphic Screen.

Step 2: Touch the **Energize** button on the pop-up. By touching, **Energize** button is highlighted and displays the word **ENERGIZED** in the message bar highlighted in green (as shown above).

The Powder Feeder 1 Vibrator **PT1-VIB** turns on (listen for the sound of the vibrator running).
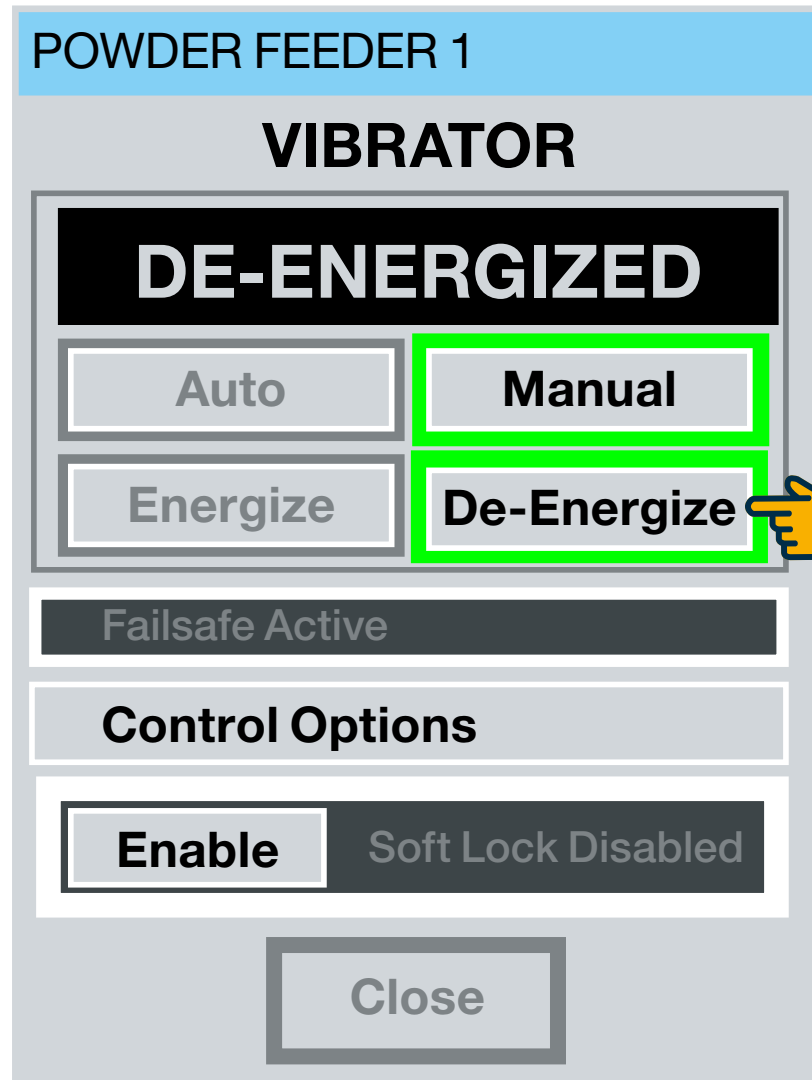
Step 3: Touch the **De-Energize** button on the pop-up. By touching, **De-Energize** button is highlighted and displays the word **DE-ENERGIZED** in the message bar (as shown above).

The Powder Feeder 1 Vibrator **PT1-VIB** turns off (listen for the sound of the vibrator stopped).
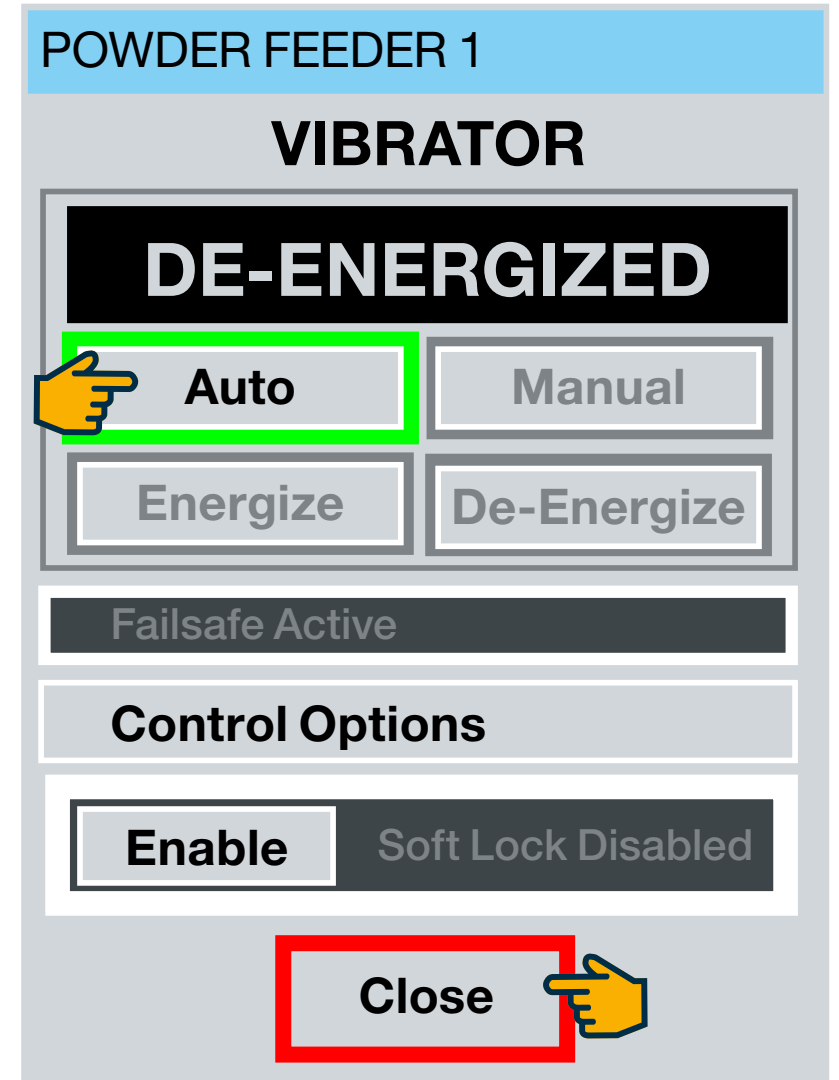
Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **PT1-VIB** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Repeat this process for **PT2-VIB** if Powder Feeder 2 is enabled (device icon displays the same results as **PT1-VIB**).

Bowl Graphic Screen

Step 1: If Powder is enabled on the machine, touch the **PT1-VFD** device icon: displays the **POWDER FEEDER 1 VFD** device pop-up on the Bowl Graphic Screen as a layer (shown right)

Continued ➲

DEFAULT	Bowl Graphic	LOG IN	LOG OUT

Message:

SV1   SV2

Bowl Feed Hopper

Air Pressure
SWITCH
OFF

Calibration Weight

Powder 1

HOP-WT
180.0 Kg

PT1-VIB

PT1-WT
725 Kg

PT1-VFD
OP   0.0 g/sec

HOP-SV

DIS-SV

Bowl

BOWL VFD
OP   0.0 %

BLOWER

ATOMIZER

POWDER FEEDER 1

VFD

OP   0.0%

STOPPED

Auto	Manual
Start	Stop
Manual Setpoint	0 g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Main Screen	Maint.	Calibrate	Priming	Batch Recipe Edit	Batch Recipe	Bowl Graphics	Tank Graphics 1 - 4	Tank Graphics 5 - 8	Totals	Reports		Alarms

POWDER FEEDER 1

VFD

OP	**0.0** %

RUNNING

Auto	**Manual** 👉
👉 **Start**	Stop

Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

POWDER FEEDER 1

VFD

OP	**0.0** %

STOPPED

Auto	**Manual**
Start	**Stop** 👉

Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

POWDER FEEDER 1

VFD

OP	**0.0** %

STOPPED

👉 Auto	Manual
Start	Stop

Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **PT1-VFD** device on the Bowl Graphic Screen. 🔲

Step 2: Touch the **Start** button on the pop-up. By touching, **Start** button is highlighted and displays the word **RUNNING** in the message bar highlighted in green (as shown above).

The Powder Feeder 1 Motor **PT1-VFD** turns on (listen for the sound of the Motor running).

Step 3: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar (as shown above).

The Powder Feeder 1 Motor **PT1-VFD** turns off (listen for the sound of the Motor stopped).

Step 4: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **PT1-VFD** device on the Bowl Graphic Screen.

Step 5: Touch the **Close** button: pop-up closes.

Repeat this process for **PT2-VFD** if Powder Feeder 2 is enabled (device icon displays the same results as **PT1-VFD**).

Bowl Graphic Screen

Step 1: Touch the **Main Screen** button icon: navigates to the **Main Screen.**
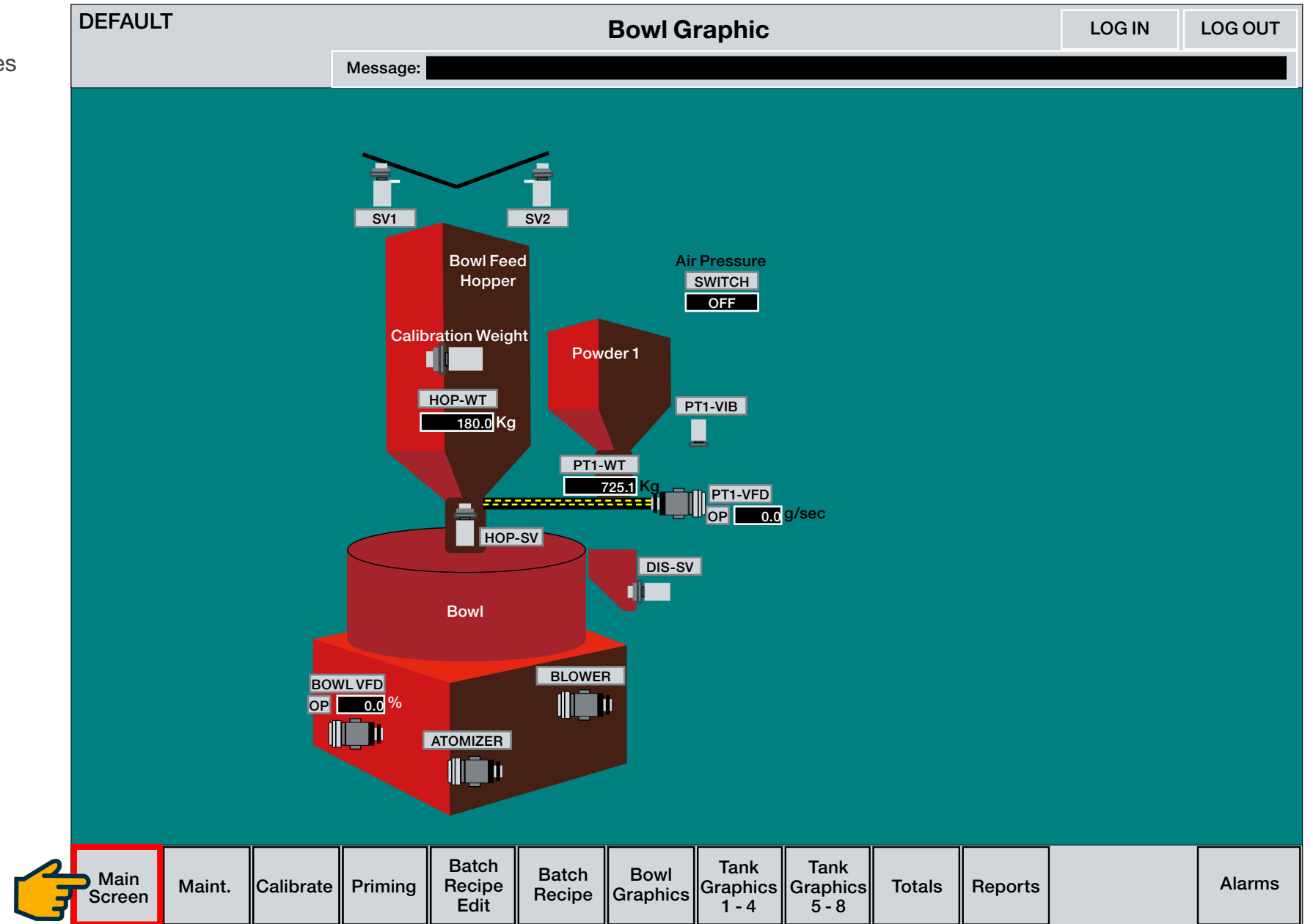
Main Menu Screen - Authentication - log-on procedures

Log into the system as **Manager** to create or make changes to a recipe and enable/disable options.

Step 1: Touch the **LOGIN** button icon: displays the **Login** pop-up touch pad.

Step 2: Touch **User Name [F2]** button icon and enter a user name on the keyboard pop-up.

Step 3: Then touch the ↵ **ENTER** button icon: keyboard pop-up closes.

Step 4: Touch **Password [F3]** button icon and enter a password on the keyboard pop-up.

Step 5: Then touch the ↵ **ENTER** button icon: keyboard pop-up closes.

Step 6: Then touch the **Login [Enter]** button icon: Login pop-up closes.

Authenticity verified >>**MANAGER** login name replaces **DEFAULT** on the message bar (circled, top left hand corner of the screen) and the **Options** button icon now displays on the task bar next to the **Reports** button icon.

Step 7: Touch the **Options** button icon: navigates to the **Options Screen**

MANAGER **Main Menu** LOG IN   LOG OUT

Message:

BAYER

Login

| User Name [F2] | ******* | Login [Enter] |
| Password [F3] | ******* | Cancel [Esc] |

Result:

Save As...

| ******* |

1	2	3	4	5	6	7	8	9	0	-	=
q	w	e	r	t	y	u	i	o	p	[	]
a	s	d	f	g	h	j	k	l	;	'	
z	x	c	v	b	n	m	,	.	/	\	
SHF	CAP	INS	SPACE	<<	>>	ESC	CLR	←	

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Options | Alarms |

Options Screen

Step 1: Touch the **Equipment Options** button icon: Navigates to the **Equipment Options Screen**

Continued ↻

MANAGER   **Options**   LOG IN   LOG OUT

Message: ▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬

Batch Parameters

Min Batch Weight	50	Kg
Max Batch Weight	225	Kg
Liquid OK Low	-10	% / 100
Liquid OK High	10	% / 100
Power OK Low	-15	% / 100
Powder OK High	15	% / 100

Powder Hopper 1

Slow Addition	0	g
Slow Speed	0	g/Sec
Max Grams Per Sec	12	g/Sec
Reset Overshoot	5	g

Start-Up Questions

○ Skip Start-Up Questions

Recapture Timers

Initial Draw Down on Liquid Tank	10	Sec
Time To Recapture Discharge Hoses	60	Sec
Time To Recaoture Supply Hoses	60	Sec

Seed Hopper

Reset Overshoot	0	Kg
Hopper Waiting For Seed Timer	3600	Sec
Estimated Surge Bin Weight at Low Level	0	Kg

Sequence Reset

Liquid Tank Options

Equipment Options 👉

PLC Revision = ****************
HMI Revision = ****************

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Options | | Alarms |

Equipment Options Screen

Under **Enable Options**

All options are disabled by default. Touch each button field to use with the system. The button field will fill with a black dot, which enables the device. Enable the number of Liquid Tanks 1-8 to be used.

Subsequent Liquid Tank Detail boxes will appear for each Liquid Tanks 1-8 selected above (as shown; LT1 & 2) where the Supply Valve, Discharge Valve and Rinse Valves can be enabled (as shown).

Enable Powder Hoppers, if used.

• **Liquid Tanks [1-8]** the Liquid Tank icons will display on the Tank Graphics 1-4 & 5-8 Screens.
• **Powder Hopper [1 & 2]** Powder Hopper icons will appear on the Bowl Graphics Screen.
• All of the options selected on this screen will appear on the Calibration Screen.

Step 1: Touch the **Options** button icon: navigates to the **Options Screen**

| MANAGER | Equipment Options | LOG IN | LOG OUT |

Message:

Enable Options
- ● Liquid Tank 1
- ● Liquid Tank 2
- ○ Liquid Tank 3
- ○ Liquid Tank 4
- ○ Liquid Tank 5
- ○ Liquid Tank 6
- ○ Liquid Tank 7
- ○ Liquid Tank 8
- ● Powder Hopper 1
- ○ Powder Hopper 2
- ○ AWDS Control Enabled
- ● Immediate Refill Enable

Liquid Tank 1
- ● Supply Valve
- ● Discharge Valve
- ● Rinse Valve

Liquid Tank 2
- ○ Supply Valve
- ○ Discharge Valve
- ○ Rinse Valve

PLC Revision = ****************
HMI Revision = ****************

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Options | Alarms |

Options Screen

Step 1: Touch the **Liquid Tank Options** button icon: navigates to the **Liquid Tank Options Screen**

Continued ➲

MANAGER | **Options** | LOG IN | LOG OUT

Message: ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Batch Parameters

Min Batch Weight	50	Kg
Max Batch Weight	225	Kg
Liquid OK Low	-10	% / 100
Liquid OK High	10	% / 100
Power OK Low	-15	% / 100
Powder OK High	15	% / 100

Powder Hopper 1

Slow Addition	0	g
Slow Speed	0	g/Sec
Max Grams Per Sec	12	g/Sec
Reset Overshoot	5	g

Start-Up Questions

◯ Skip Start-Up Questions

Recapture Timers

Initial Draw Down on Liquid Tank	10	Sec
Time To Recapture Discharge Hoses	60	Sec
Time To Recaoture Supply Hoses	60	Sec

Seed Hopper

Reset Overshoot	0	Kg
Hopper Waiting For Seed Timer	3600	Sec
Estimated Surge Bin Weight at Low Level	0	Kg

Sequence Reset

Liquid Tank Options 👉

Equipment Options

PLC Revision = ****************
HMI Revision = ****************

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Options | | Alarms |

Liquid Tank Options Screen

Liquid Tank 1 & 2 for each Liquid Tanks 1-8 selected on the Equipment Options Screen (up to eight) options can all be changed by touching the numerical button icon: a key pad pop-up displays where changes can be made.

- Touch either **Options** button icons will navigate to the **Options Screen**.

Step 1: Touch the **Options** button icon: navigates to the **Options Screen**

Continued ↻

MANAGER	Liquid Tank Options	LOG IN	LOG OUT

Message:

Liquid Tank 1		
Slow Addition	0	g
Slow Speed	0	g/Sec
Max Grams Per Sec	150	g/Sec
Recapture Speed	100	g/Sec
Reset Overshoot	0	g

Liquid Tank 2		
Slow Addition	0	g
Slow Speed	0	g/Sec
Max Grams Per Sec	150	g/Sec
Recapture Speed	100	g/Sec
Reset Overshoot	0	g

Options

Equipment Options

PLC Revision = ****************
HMI Revision = ****************

Main Screen	Maint.	Calibrate	Priming	Batch Recipe Edit	Batch Recipe	Bowl Graphics	Tank Graphics 1 - 4	Tank Graphics 5 - 8	Totals	Reports	Options	Alarms

Options Screen

Step 1: Touch the **Calibrate** button icon: navigates to the **Calibration Screen (page 38)**

Continued ➲

| MANAGER | Options | LOG IN | LOG OUT |

Message:

Batch Parameters

Min Batch Weight	50	Kg
Max Batch Weight	225	Kg
Liquid OK Low	-10	% / 100
Liquid OK High	10	% / 100
Power OK Low	-15	% / 100
Powder OK High	15	% / 100

Powder Hopper 1

Slow Addition	0	g
Slow Speed	0	g/Sec
Max Grams Per Sec	12	g/Sec
Reset Overshoot	5	g

Start-Up Questions

○ Skip Start-Up Questions

Recapture Timers

Initial Draw Down on Liquid Tank	10	Sec
Time To Recapture Discharge Hoses	60	Sec
Time To Recaoture Supply Hoses	60	Sec

Seed Hopper

Reset Overshoot	0	Kg
Hopper Waiting For Seed Timer	3600	Sec
Estimated Surge Bin Weight at Low Level	0	Kg

Sequence Reset

Liquid Tank Options

Equipment Options

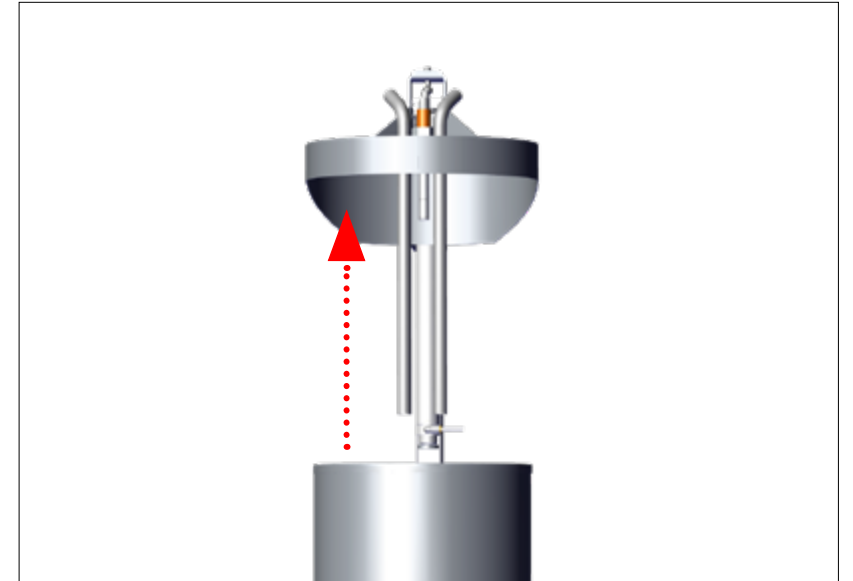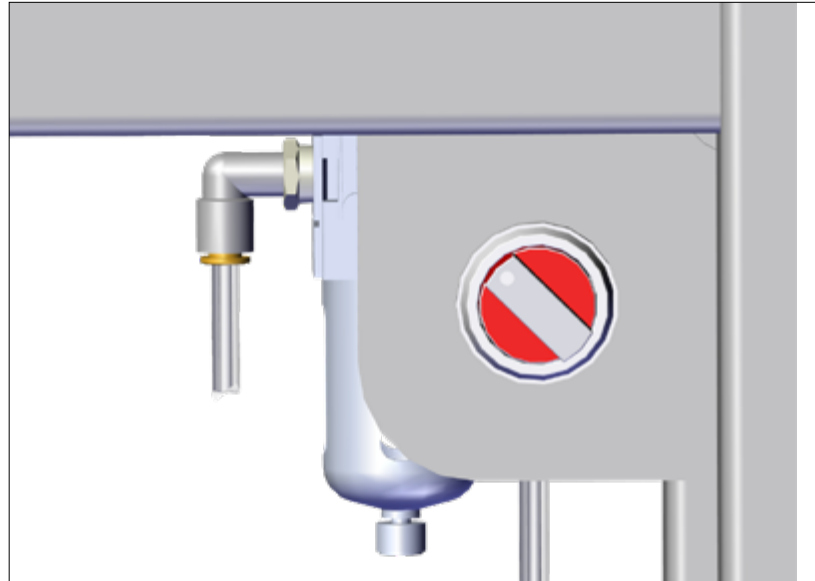PLC Revision = ****************
HMI Revision = ****************

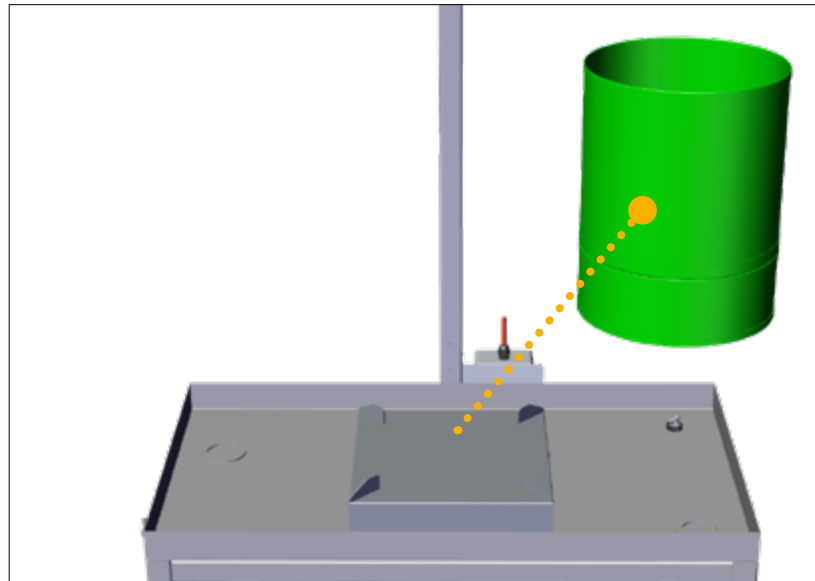| Main Screen | M... | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Options | | Alarms |

20L LW Pump Station Scale Calibration

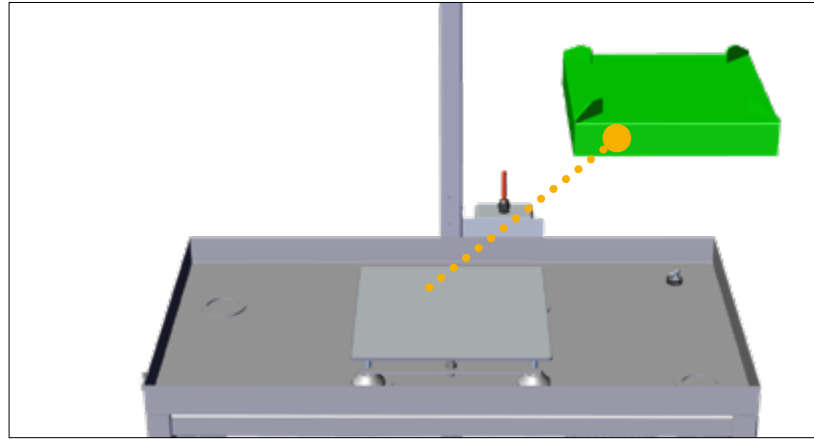**Step 1:** Turn the operation switch **UP** to raise the cover.

**Step 2:** Remove the supply tank from the scale cover

Continued ➲

**Step 3:** Remove the scale cover from the scale top plate.

Step 4: Adjust the scale top plate for use.

- Use a 1/2" crescent wrench to thread the four nuts on the four bolts up to the bottom of the bolt head.

- Then screw down the four bolt heads to the bottom of each nut.

- Use a level to ensure the scale top plate is level.

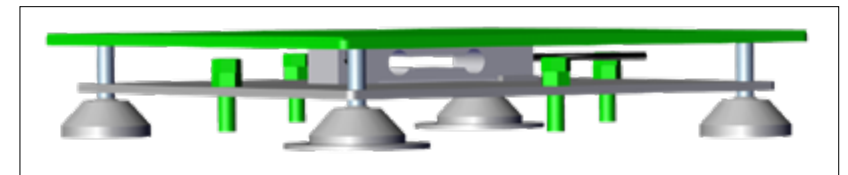- Adjust by hand (UP or DOWN) the four (4) feet for flatness of the scale.
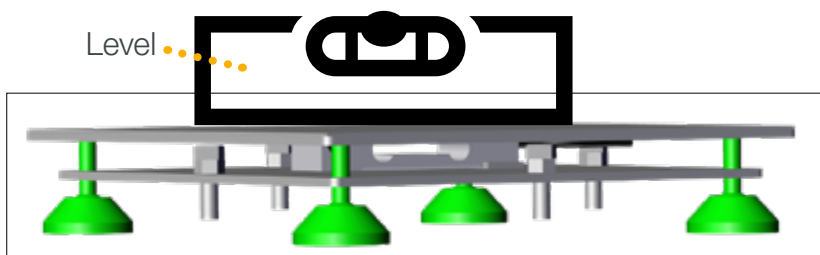
Continued ➲
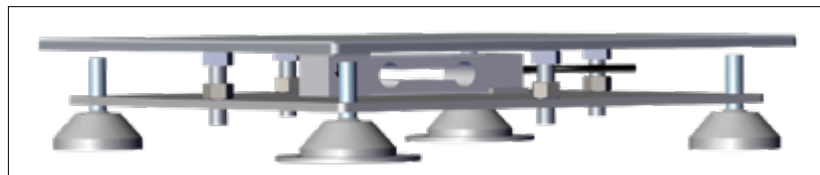
Scale Top Plate in Ship Mode (raised up off of the Load Cell)
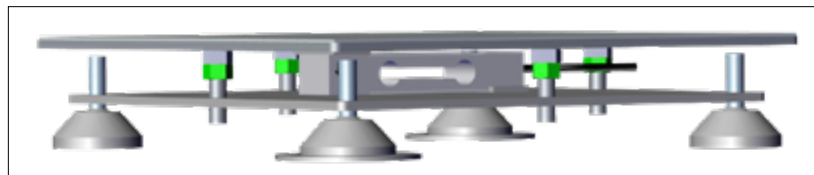
Four (4) Nuts threaded UP to the Bolt Head
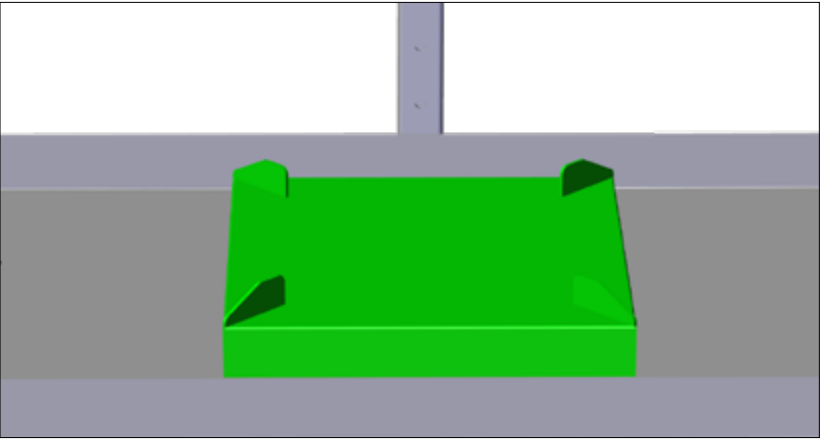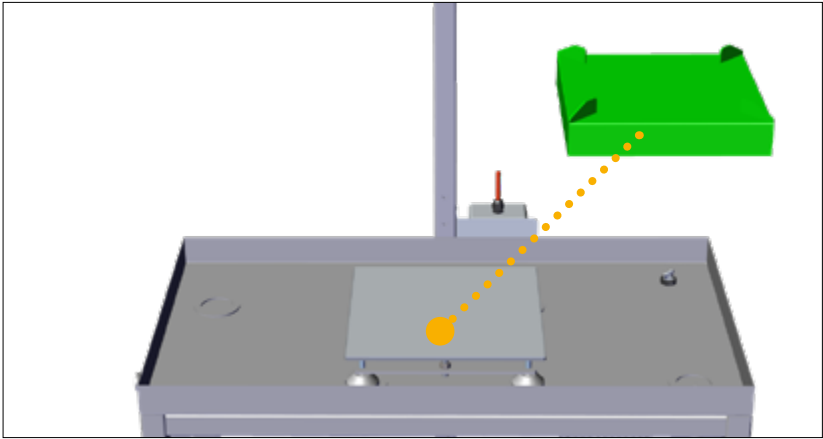

Hardware and Top Plate lowered on Load Cell
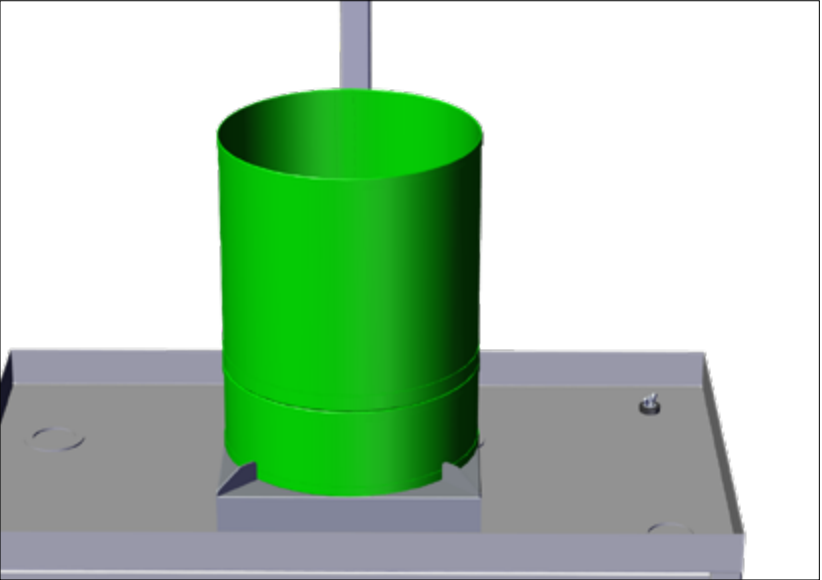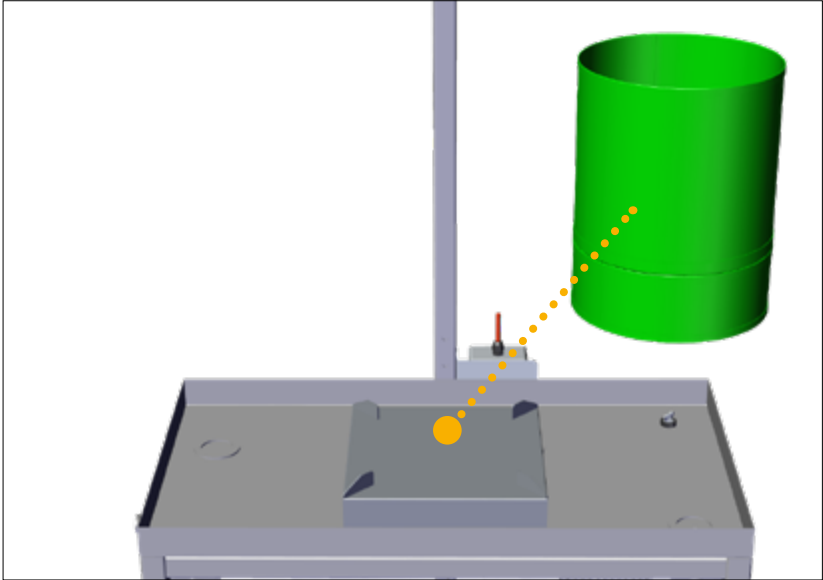

Adjust Feet and use level to level the Top Plate

Step 5: Replace the scale cover on the scale top plate.

Step 6: Replace the supply tank on the scale cover.

Continued ➲

Calibration Screen - LT1 Pump Scale

Step 1: Touch the Low Calibrate button icon.
- Verify the **Current Weight (grams)** displays a numerical value of zero grams, as shown.

Step 2: Touch the High Cal Amount (grams) field.
- Enter 10,000 grams (10kg weight used) numerical value on the pop-up keypad as the test weight and enter: pop-up closes

Continued ➲

Keypad
```
1
            10000
0 ~ 100000
7    8    9
4    5    6
1    2    3
.    0    -
ESC  ←    ↵
```

Calibration Screen

MANAGER   **Calibration**   LOG IN   LOG OUT

Message:

LT 1
High Cal Amount (grams)   0.0
Current Weight (grams)   0
Low Calibrate
High Calibrate

LT 2
0.0
0
Low Calibrate
High Calibrate

LT 5
High Cal Amount (grams)   0.0
Current Weight (grams)   18000
Low Calibrate
High Calibrate

PT 1
High Cal Amount (Kgs)   0.0
Current Weight (Kgs)   18000
Low Calibrate
High Calibrate

HOPPER
90.350
180.000
Low Calibrate

LOWER CAL WT ON

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

- The **High Cal Amount (grams) field** now displays a numerical value of 10,000 grams

Step 4: Place a 10kg weight in the 20L Tank, as shown below.

Step 5: Touch the **High Calibrate** button icon.
- Verify the **Current Weight (grams)** now displays a value of 10,000 grams, which matches the **High Cal Amount (grams)** value, as shown.

Step 6: Remove the calibration weight from out of the supply tank.

Step 7: Turn the operation switch **DOWN** to lower the cover onto the tank, as shown right, **LT1** is complete.

Step 8: Repeat the scale calibration (steps 1-7) for each pump station enabled: **LT1 - 8**.

Step 9: Touch the **Tank Graphics 1-4** button icon: navigates to the **Tank Graphics 1-4 Screen**

Continued ➲

MANAGER   **Calibration**   LOG IN   LOG OUT

Message:

	LT 1	**LT 2**
High Cal Amount (grams)	10000.0	0.0
Current Weight (grams)	10000	0
	Low Calibrate	Low Calibrate
	High Calibrate	High Calibrate

	LT 5
High Cal Amount (grams)	0.0
Current Weight (grams)	18000
	Low Calibrate
	High Calibrate

	PT 1	**HOPPER**
High Cal Amount (Kgs)	0.0	90.350
Current Weight (Kgs)	18000	180.000
	Low Calibrate	Low Calibrate
	High Calibrate	LOWER CAL WT ON

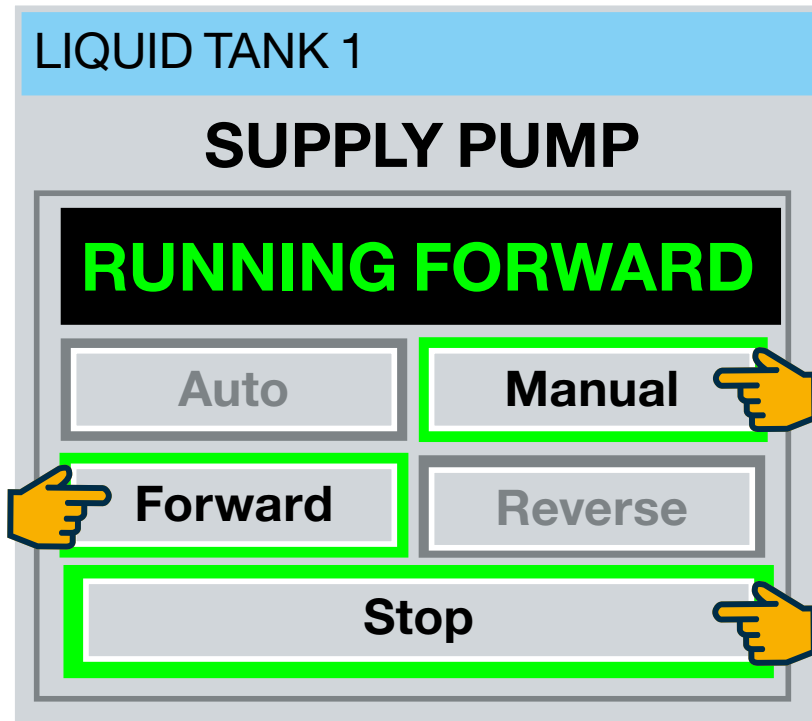| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Alarms |

Liquid Tanks 1-4 Screen - Supply Pump Pop-up

Test each Supply Pump Motor manually in forward and reverse modes.

Step 1: Touch the **SUPPLY** graphic: displays the **LIQUID TANK 1 SUPPLY PUMP** device pop-up on the Liquid Tanks 1-4 Screen as a layer (shown right)

Continued ➲

| MANAGER | Liquid Tanks 1 - 4 | LOG IN | LOG OUT |

Message:

From Work Tank   From Work Tank

PX
OFF

PX
OFF

LT 1
WT
0.0 grams

LT 2
WT
0.0 grams

SUPPLY   DISCH
OP   0.0 g/sec

SUPPLY   DISCH
OP   0.0 g/sec

To Bowl   To Bowl

LIQUID TANK 1

SUPPLY PUMP

STOPPED

Auto	Manual
Forward	Reverse
Stop	

Running Forward Fault
Stopping Forward Fault
Running Reverse Fault
Stopping Reverse Fault
Both Direction Run Request Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

| Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

LIQUID TANK 1

SUPPLY PUMP

RUNNING FORWARD

Auto	Manual 👉
👈 Forward	Reverse
Stop 👉	

LIQUID TANK 1

SUPPLY PUMP

RUNNING REVERSE

Auto	Manual 👉
Forward	Reverse 👉
Stop 👉	

LIQUID TANK 1

SUPPLY PUMP

STOPPED

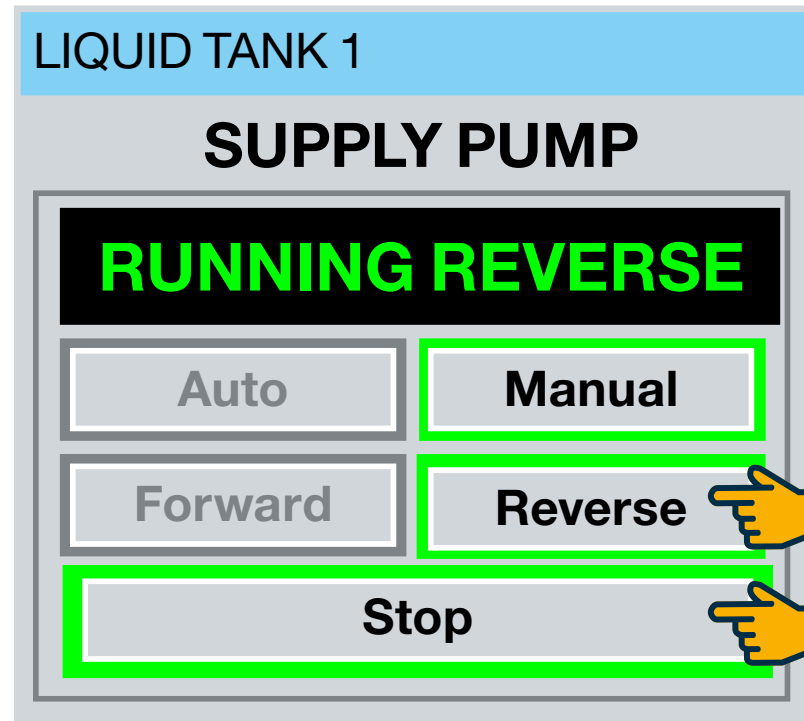| 👈 Auto	Manual
Forward	Reverse
Stop	

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **SUPPLY** pump on the Liquid Tanks 1-4 Screen. 🏭

Step 2: Touch the **Forward** button on the pop-up. By touching, **Forward** button is highlighted and displays the word **RUNNING FORWARD** in the message bar highlighted in green (as shown above).

The Liquid Tank 1 **SUPPLY** pump motor runs in the forward direction (look & listen for the sound of the pump Motor running).

Step 3: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar.

Step 4: Touch the **Reverse** button on the pop-up. By touching, **Reverse** button is highlighted and displays the word **RUNNING REVERSE** in the message bar highlighted in green (as shown above).

The Liquid Tank 1 **SUPPLY** pump motor runs in the reverse direction (look & listen for the sound of the pump Motor running).
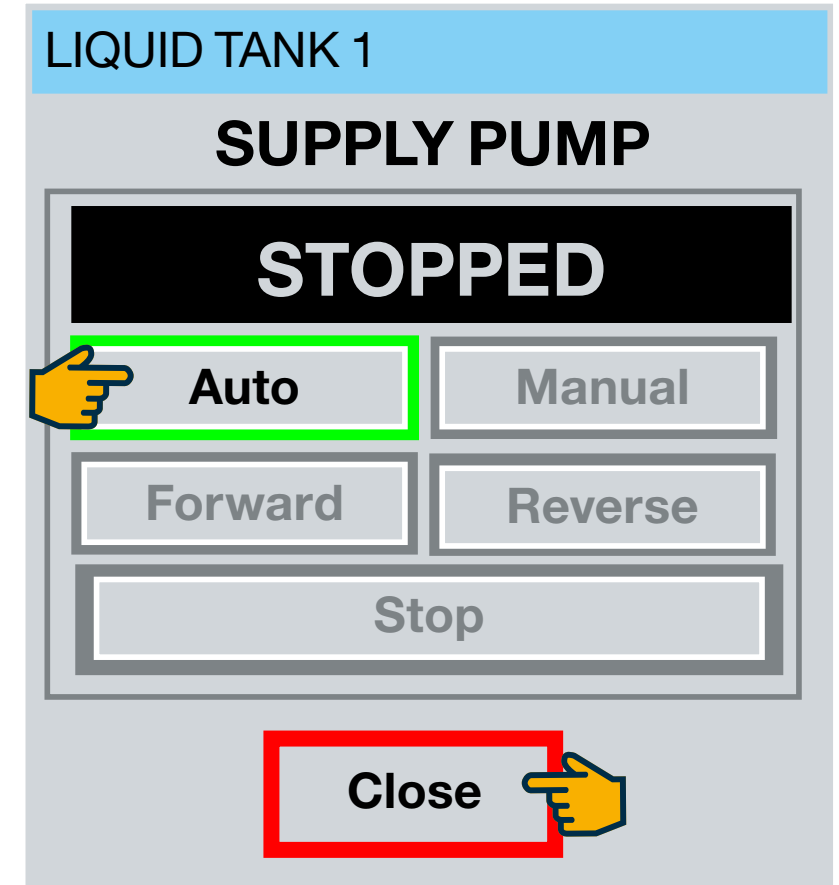
Step 5: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar.

Step 6: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **SUPPLY** pump on the Liquid Tanks 1-4 Screen.

Step 7: Touch the **Close** button: pop-up closes.

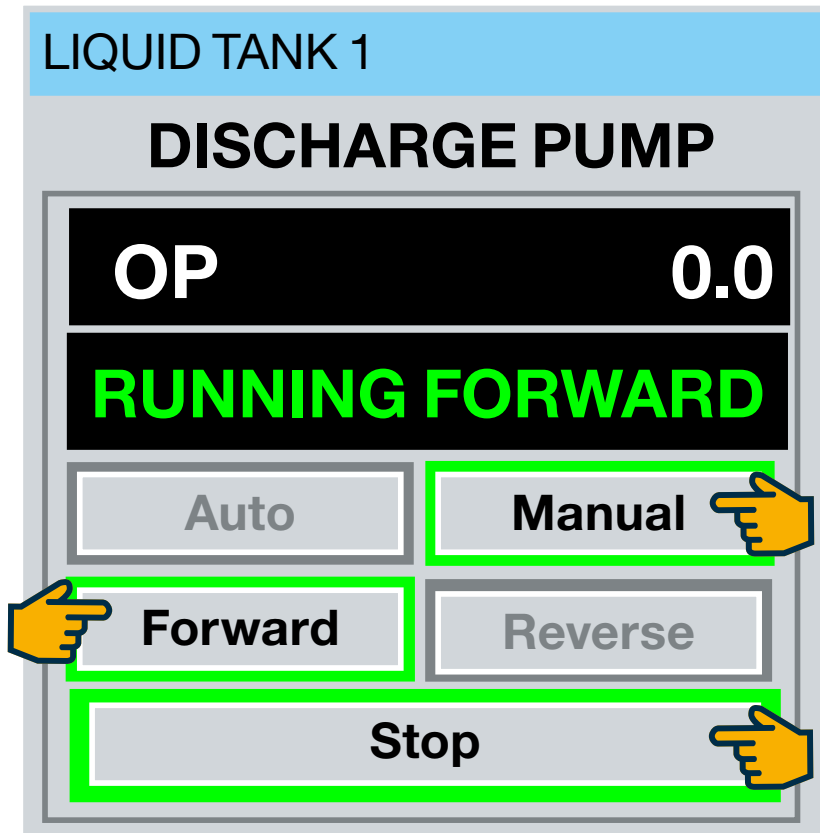## Liquid Tanks 1-4 Screen -Discharge Pump Pop-up

Test each Discharge Pump Motor manually in forward and reverse modes.

Step 1: Touch the **DISCH** graphic: displays the **LIQUID TANK 1 DISCHARGE PUMP** device pop-up on the Liquid Tanks 1-4 Screen as a layer (shown right)

MANAGER

Liquid Tanks 1 - 4

LOG IN   LOG OUT

Message:

From Work Tank

From Work Tank

LIQUID TANK 1

DISCHARGE PUMP

OP   0.0

STOPPED

Auto	Manual
Forward	Reverse
Stop	

Manual Setpoint   0

PX   OFF

PX   OFF

LT 1   WT   0.0   grams

LT 2   WT   0.0   grams

Running Forward Fault
Stopping Forward Fault
Running Reverse Fault
Stopping Reverse Fault
Both Direction Run Request Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

SUPPLY   DISCH   OP 0.0 g/sec

SUPPLY   DISCH   OP 0.0 g/sec

Close   Reset Overshoot

To Bowl

To Bowl

| Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

LIQUID TANK 1

DISCHARGE PUMP

OP	0.0

RUNNING FORWARD

Auto	Manual 👉
👈 Forward	Reverse
Stop 👉	

LIQUID TANK 1

DISCHARGE PUMP

OP	0.0

RUNNING REVERSE

Auto	Manual
Forward	Reverse 👈
Stop 👉	

LIQUID TANK 1

DISCHARGE PUMP

OP	0.0

STOPPED

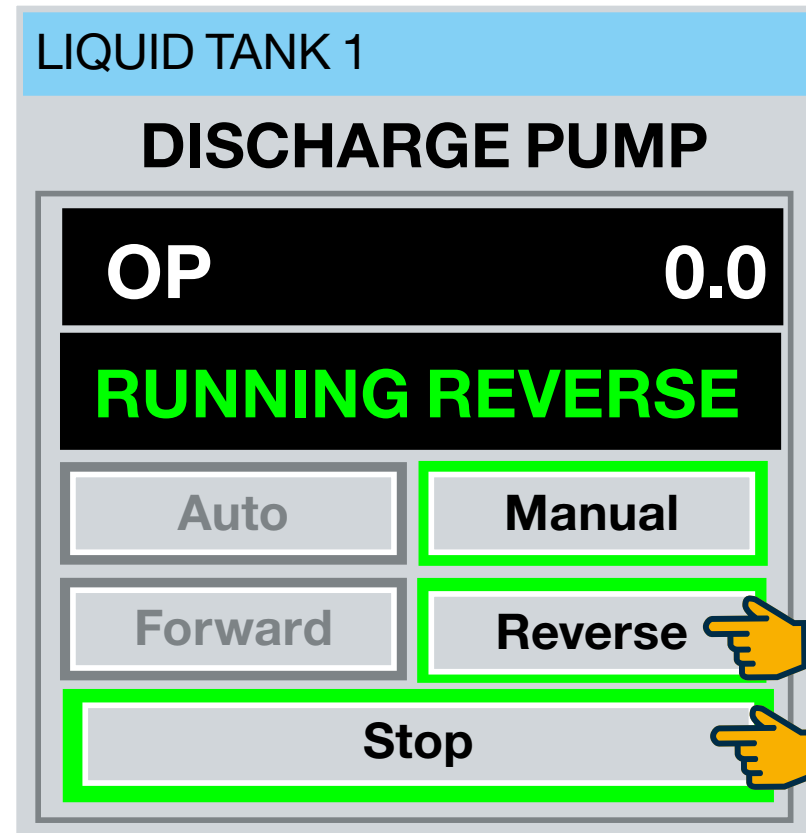| 👈 Auto	Manual
Forward	Reverse
Stop	

Close 👉

Step 1: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **DISCHARGE** pump on the Liquid Tanks 1-4 Screen. 🔧

Step 2: Touch the **Forward** button on the pop-up. By touching, **Forward** button is highlighted and displays the word **RUNNING FORWARD** in the message bar highlighted in green (as shown above).

The Liquid Tank 1 **DISCHARGE** pump motor runs in the forward direction (look & listen for the sound of the pump Motor running).

Step 3: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar.

Step 4: Touch the **Reverse** button on the pop-up. By touching, **Reverse** button is highlighted and displays the word **RUNNING REVERSE** in the message bar highlighted in green (as shown above).

The Liquid Tank 1 **DISCHARGE** pump motor runs in the reverse direction (look & listen for the sound of the pump Motor running).
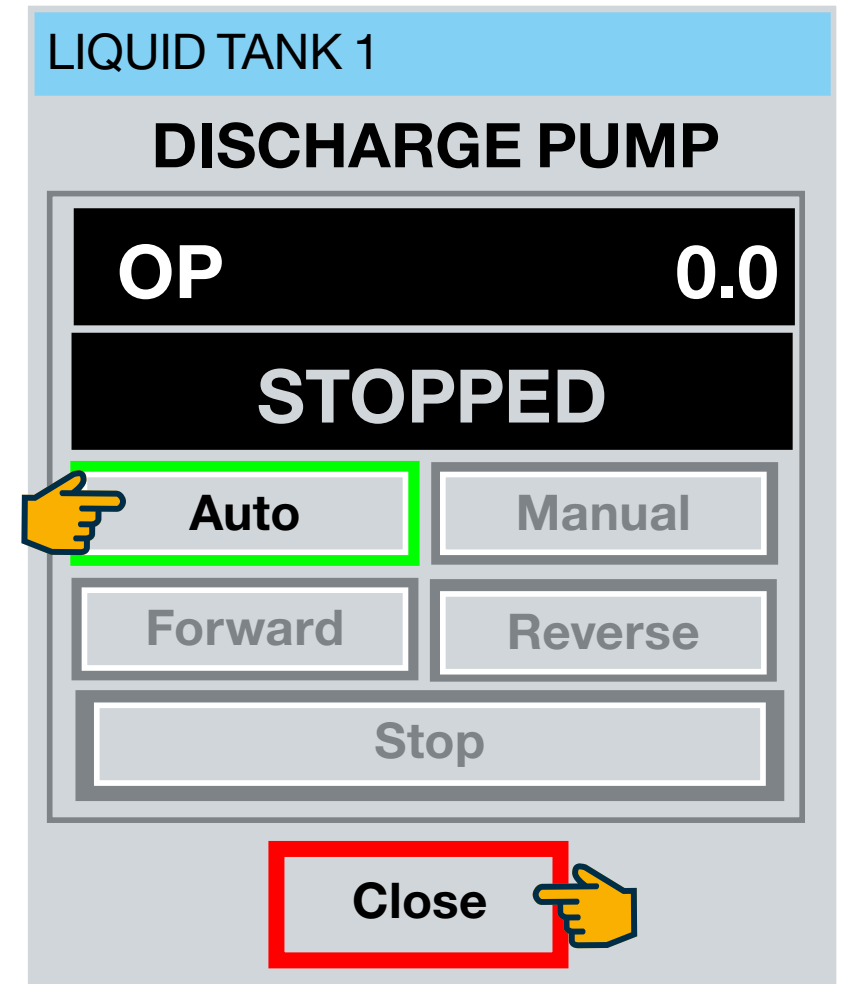
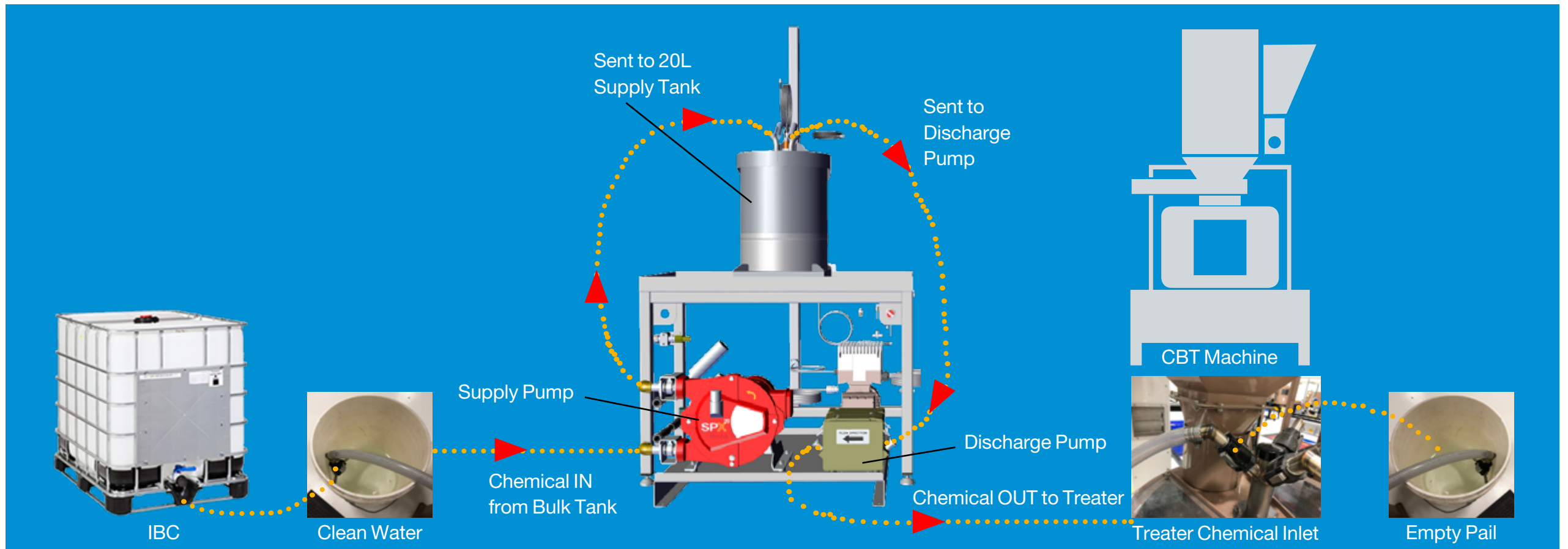**Step 5:** Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar.

Step 6: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **DISCHARGE** pump on the Liquid Tanks 1-4 Screen.

Step 7: Touch the **Close** button: pop-up closes.

Sent to 20L Supply Tank

Sent to Discharge Pump

CBT Machine

Supply Pump

Discharge Pump

Chemical IN from Bulk Tank

Chemical OUT to Treater

IBC

Clean Water

Treater Chemical Inlet

Empty Pail

Water Test

For Start-up, test each 20L Pump Station tubing / fitting connection from the chemical source to the treater chemical inlet with water for leaks.

Step 1: Disconnect **SUPPLY PUMP** tubing from the chemical source (IBC) and place it in a 5 gallon bucket of clean water.

Step 2: Disconnect **DISCHARGE PUMP** tubing from the treater chemical inlet and place it in an empty 5 gallon bucket.

Step 3: Ensure the 20L Tank Lid is in the **DOWN** position (sitting on top of the 20L Tank, shown left) for each one used: Liquid Tanks 1-8
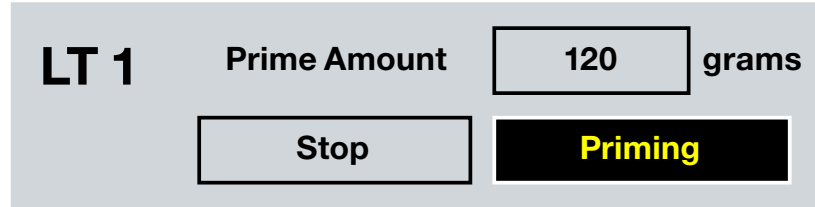
Priming Screen

Step 1: Touch the **LT1 Start** button icon.

- The word **Idle** displays as **Priming**.
- The **Start** button icon toggles to **Stop.**
- Allow the system to pump all five gallons of water through the 20L Pump Station and fill the empty five gallon bucket.
- Check tubing / fitting connections for leaks.

LT 1	**Prime Amount**	**120**	**grams**
	Stop	**Priming**	

Step 2: Touch the **LT1 Stop** button icon: priming stops.
- The word **Priming** displays **Idle**.
- The **Stop** button icon toggles to **Start**.
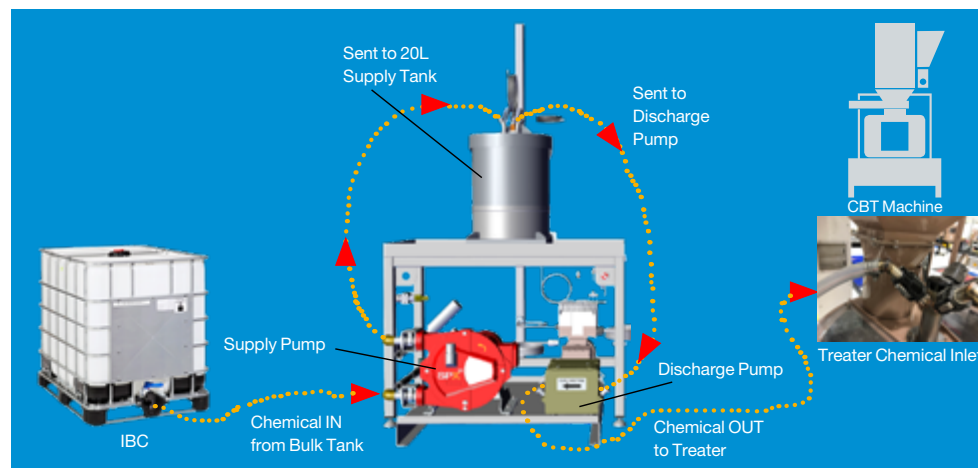
Step 3: Connect the **SUPPLY PUMP** tubing to the chemical source (**IBC**).

Step 4: Connect the **DISCHARGE PUMP** tubing to the **treater chemical inlet**.

Step 5: Repeat this process for all enabled pump stations on the Liquid Tanks 1-8 and Priming Screens.

Step 6: Touch the **Tank Graphics 1-4** button icon: navigates to the **Tank Graphics 1-4 Screen**

Liquid Tanks 1-4 Screen - Prime the lines

Prime chemical product from the source through each Supply Pump Motor manually into the 20L Tank.

Step 1: Touch the **SUPPLY** graphic: displays the **LIQUID TANK 1 SUPPLY PUMP** device pop-up on the Liquid Tanks 1-4 Screen as a layer (shown right).

Step 2: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **SUPPLY** pump on the Liquid Tanks 1-4 Screen.

Step 3: Touch the **Forward** button on the pop-up. By touching, **Forward** button is highlighted and displays the word **RUNNING FORWARD** in the message bar highlighted in green (as shown above).

As Liquid Tank 1 **SUPPLY** pump motor runs in the forward direction, watch the Tank Weight grams number increase, as chemical product fills the Tank to around 5000 grams to complete prime.

Step 4: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar.

Step 6: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **SUPPLY** pump on the Liquid Tanks 1-4 Screen.

Step 7: Touch the **Close** button: pop-up closes.

Step 8: Repeat this process for all enabled Supply Pumps on the Liquid Tanks 1-4 Screen.

Liquid Tanks 1-4 Screen - Discharge Pump Pop-up - Element Calibration

For Pump Element calibration, users must be logged into the system as **MANAGER** in order for the expanded **LIQUID TANK 1 DISCHARGE PUMP** device pop-up version to display, as shown right.

The Pump Element Calibration determines the maximum amount of chemical it can put through the Pump, because each chemical differs, depending upon the viscosity and the distance the chemical travels from the source to the 20L Pump Station.

Step 1: Touch the **DISCH** graphic: displays the **LIQUID TANK 1 DISCHARGE PUMP** device pop-up on the Liquid Tanks 1-4 Screen as a layer (shown right).

Under **Max Grams Per Second** block the **Duration Timer** should be set at the same rate as the recipe, or in this case run the Pump for **15** seconds for an accurate reading, as shown.

Step 2: Disconnect the **DISCHARGE PUMP** treatment line tube from the Chemical Inlet Assembly on the Mixing Bowl Cover (determine which one is connected to **LT1** pump station) and place tube end in an empty 5 gallon bucket, as shown below

Continued ➲

Liquid Tanks 1 - 4

LOG IN   LOG OUT

Message:

From Work Tank
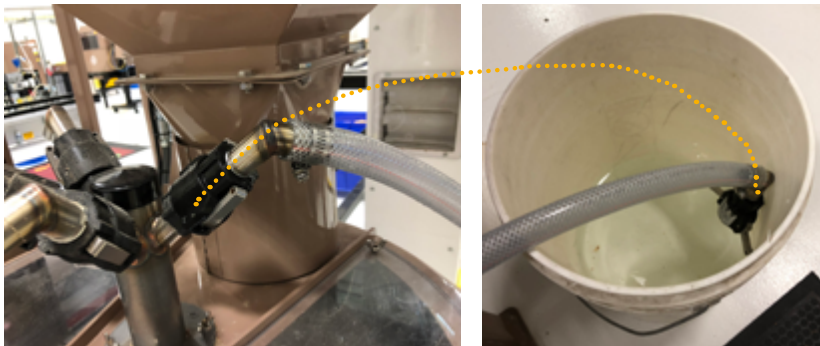
LIQUID TANK 1

DISCHARGE PUMP

OP   0.0 g/sec

STOPPED

Auto   Manual

Forward   Reverse

Stop

Manual Setpoint   1   g/sec

Running Forward Fault
Stopping Forward Fault
Running Reverse Fault
Stopping Reverse Fault
Both Direction Run Request Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close   Reset Overshoot

Feedback Timer

Start/Stop Time   2   sec

Control Options

Enable   Soft Lock Disabled
Enable   Fault Mask Disabled

Max Grams Per Second

Auto Calculate   0   g/sec

Duration Timer   15   sec

PX
OFF

LT 1
WT
0.0   grams

SUPPLY   DISCH
OP   0.0 g/sec

To Bowl

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

Step 3: Touch the **Auto Calculate** button icon: the pump will run, filling the 20L Tank up to 18000 grams of chemical product (set from the factory) for a duration of 15 seconds, then automatically stops.

Step 4: Touch the **Close** button icon: pop-up closes.

Step 5: Connect the treatment line tube to the Chemical Inlet Assembly on the Mixing Bowl Cover.

Step 6: Pour the spent product from the 5 gallon bucket back into the product source or 20L tank. **DO NOT DISCARD CHEMICAL DOWN FLOOR DRAIN!**

Step 7: Repeat the pump calibration process (steps 1-5) for each pump station enabled* on the **Tank Graphics 1-4 Screen** and **Tank Graphics 5-8 Screen**

MANAGER | **Liquid Tanks 1 - 4** | LOG IN | LOG OUT

Message:

From Work Tank

PX
OFF

LT 1
WT
18000.0 grams

SUPPLY | DISCH
OP 0.0 g/sec

To Bowl

LIQUID TANK 1
DISCHARGE PUMP

OP 0.0 g/sec

RUNNING FORWARD

Auto	Manual
Forward	Reverse
Stop	

Manual Setpoint | 1 | g/sec

Running Forward Fault
Stopping Forward Fault
Running Reverse Fault
Stopping Reverse Fault
Both Direction Run Request Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close | **Reset Overshoot**

Feedback Timer

Start/Stop Time | 2 | sec

Control Options

Enable | Soft Lock Disabled
Enable | Fault Mask Disabled

Max Grams Per Second

Auto Calculate | 150 | g/sec

Duration Timer | | sec

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Alarms |

Liquid Tanks 1-4 Screen - Discharge Pump Pop-up - Prime Discharge Pump

Step 1: Touch the **DISCH** graphic: displays the **LIQUID TANK 1 DISCHARGE PUMP** pop-up on the Liquid Tanks 1-4 Screen as a layer (shown right).

Step 2: Touch the **Manual** button on the pop-up: **Manual** button is highlighted and displays the manual mode icon next to the **DISCHARGE** pump on the Liquid Tanks 1-4 Screen.

Step 3: Touch the **Forward** button on the pop-up. By touching, **Forward** button is highlighted and displays the word **RUNNING FORWARD** in the message bar highlighted in green (as shown above).

As Liquid Tank 1 **DISCHARGE** pump sends chemical product to the Chemical Inlet on the Treater.

Step 4: Touch the **Stop** button on the pop-up. By touching, **Stop** button is highlighted and displays the word **STOPPED** in the message bar.

Step 5: Touch the **Auto** button on the pop-up: **Auto** button is highlighted and removes the manual mode icon next to the **SUPPLY** pump on the Liquid Tanks 1-4 Screen.

Step 6: Touch the **Close** button: pop-up closes.

Step 7: Repeat this process for all enabled Supply Pumps on the Liquid Tanks 1-4 Screen.

Screen graphic

MANAGER — Liquid Tanks 1 - 4 — LOG IN — LOG OUT

Message:

From Work Tank

PX
OFF

LT 1
WT
0.0 grams

SUPPLY — DISCH
OP 0.0 g/sec

To Bowl

LIQUID TANK 1
DISCHARGE PUMP
OP 0.0
RUNNING FORWARD
Auto | Manual
Forward | Reverse
Stop
Manual Setpoint 0

Running Forward Fault
Stopping Forward Fault
Running Reverse Fault
Stopping Reverse Fault
Both Direction Run Request Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm
Fault Reset
Close | Reset Overshoot

LIQUID TANK 1
DISCHARGE PUMP
OP 0.0
STOPPED
Auto | Manual
Forward | Reverse
Stop
Manual Setpoint 0

Running Forward Fault
Stopping Forward Fault
Running Reverse Fault
Stopping Reverse Fault
Both Direction Run Request Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm
Fault Reset
Close | Reset Overshoot

Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | Alarms

POWDER FEEDER

✎ Note: Prior to using the CBT LW 8-pump runtime application to treat seed, it is important to physically calibrate the Powder Feeder to ensure the correct amount of powder product is applied during the treatment process.

⚠ **Warning! Exercise extreme caution when working with chemicals! Wear proper PPE >>**

Portable Gram Scale

Step 1: Plug in the Portable Bench Scale Power Cord (115V AC) to an external power source.

- Turn **ON** (touch) the Portable Scale Power **On/Off** button.

- Set the empty collection tray on the Scale and touch the **On/Off ZERO** button to zero out the Scale.

- The digital readout should display **0.00** value.

- Remove the collection tray from the Scale.
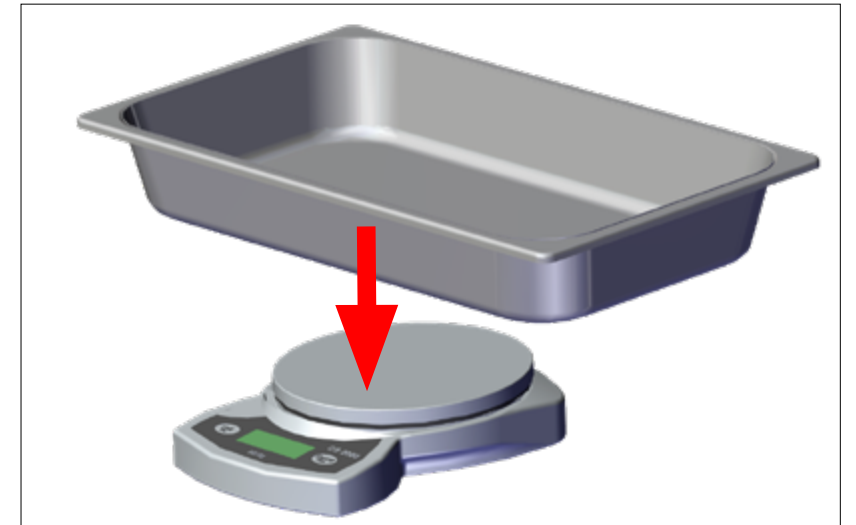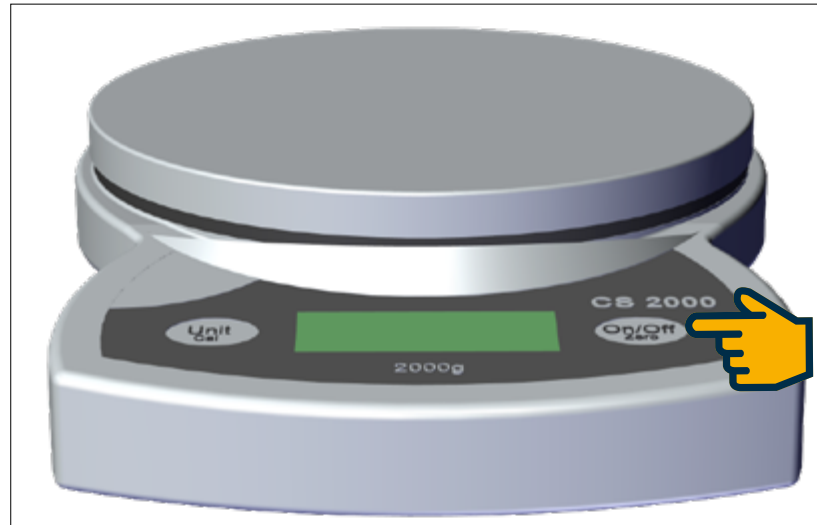
CBT25, 50 & 100 Style

Step 1: Release the clamps and remove the middle section of the Powder Tube.

Step 2: Place the collection tray underneath the discharge tube, as shown
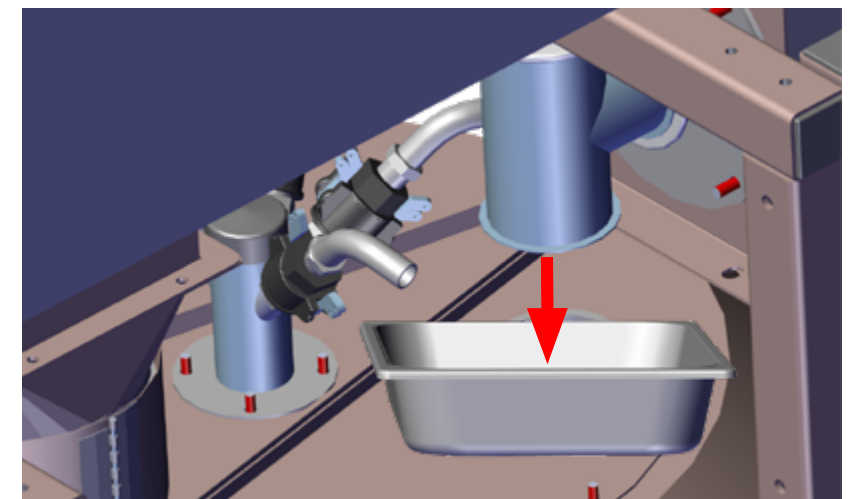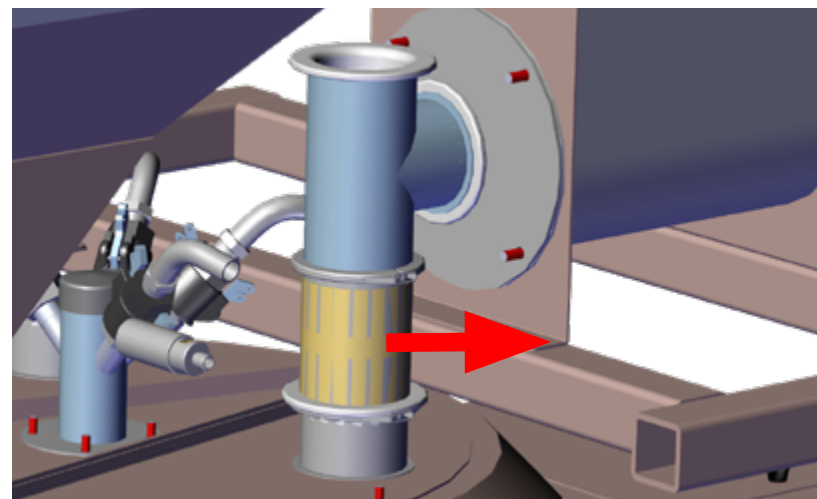
Continued ➲

CBT200 Style Only

Step 1: Release the clamps and remove the middle section of the Powder Tube.

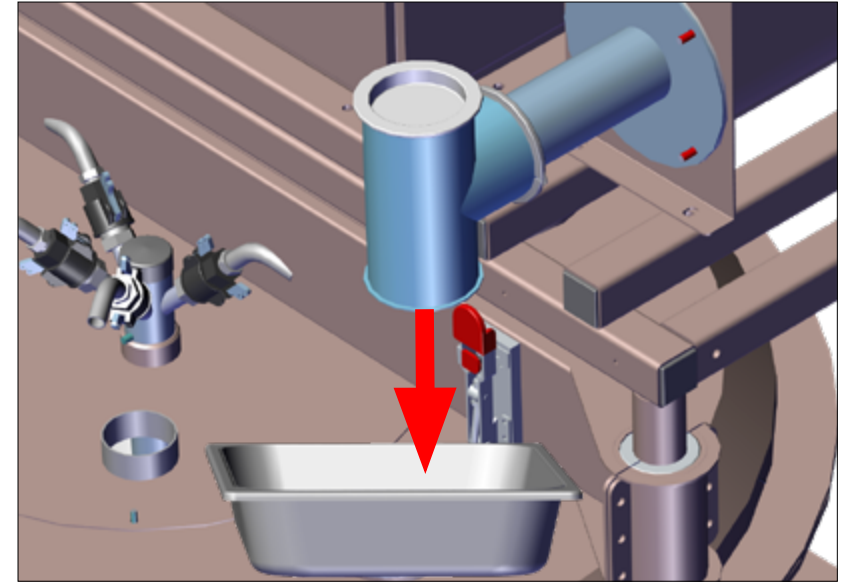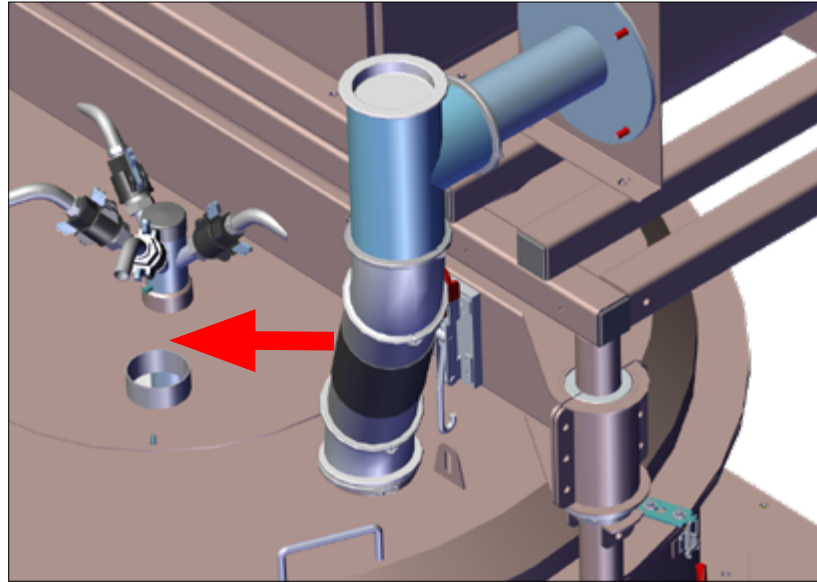**Step 2:** Place the collection tray underneath the discharge tube, as shown.

Powder Feeder Hopper

Step 1: Open the Hopper Lid and fill it with Powder Product

Bowl Graphic Screen - VFD Pop-up

The PLC is programmed to run a series of four powder calibration tests, at four different Auger motor speeds. The faster the Auger motor runs, the more powder product it dispenses. The slower the Auger motor runs, the less powder product it dispenses.

After completing the powder calibration process, the PLC creates a bell curve to apply powder product accurately.

Step 1: Touch the **PT1-VFD** device icon: displays the expanded **POWDER FEEDER 1 VFD** device pop-up

Continued ➲

| MANAGER | Bowl Graphic | LOG IN | LOG OUT |

Message:

- SV1
- SV2
- Bowl Feed Hopper
- Air Pressure
  - SWITCH
  - OFF
- Calibration Weight
- Powder 1
- PT1-VIB
- HOP-WT
  - 180.0 Kg
- PT1-WT
  - 725.1 Kg
- PT1-VFD
- HOP-SV
- DIS-SV
- Bowl
- BOWL VFD
  - OP 0.0 %
- BLOWER
- ATOMIZER

POWDER FEEDER 1

VFD

OP 0.0 g/sec

STOPPED

Auto	Manual
Start	Stop
Manual Setpoint	0 g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Feedback Timer

Start/Stop Time 2 sec

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Start Calibration

GPS at 60Hz: 20
GPS at 45Hz: 15
GPS at 30Hz: 10
GPS at 15Hz: 5

Close

| Main Screen | Maint. | Calibrate | Priming | Batch Recipe Edit | Batch Recipe | Bowl Graphics | Tank Graphics 1 - 4 | Tank Graphics 5 - 8 | Totals | Reports | | Alarms |

Powder Feeder 1 - VFD Pop-up

Under the **Max Grams Per Second** box, the **Start Calibration** area displays four settings describing the Auger output at four different motor speeds.

The GPS (Grams Per Second) set at the factory and will change with each powder calibration.

Certain factors can affect the calibration. Therefore, it is recommended to calibrate the powder auger at different intervals, depending upon time of day, temperature and humidity when treating seed.

Step 1: Touch the **Start Calibration** button icon

Continued ⟳

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto	Manual

Start	Stop

| Manual Setpoint | 0 | g/sec |

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Start Calibration 👉

GPS at 60Hz: 20
GPS at 45Hz: 15
GPS at 30Hz: 10
GPS at 15Hz: 5

First Test - Run at 60Hz

The **Auto** button icon is highlighted.

Under the **Max Grams Per Second** box...

The **Start Calibration** button icon toggles to **Calibrating** and is highlighted.

Three button icons now replace the GPS list (as previously shown on page 53):

- **Cancel button icon**: cancels the **Start Calibration** process initiated previously on page 53.

- **Calibration Duration At Each Speed?** With a numerical value box / sec. This should be left at five **(5)** seconds, which is the typical duration the Auger motor runs during application time. Touch it to change the numerical value, if needed, but not recommended.

- **Run at 60Hz button icon**: the text will change after each test run, which is the button to touch to actually run the powder calibration test.

Step 1: Touch the **Run at 60Hz** button icon

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto	Manual
Start	Stop

Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time	2	sec

Control Options

Enable	Soft Lock Disabled
Enable	Fault Mask Disabled

Max Grams Per Second

Calibrating

Calibration Duration At Each Speed?	5	sec

Cancel	Run at 60Hz

Powder Feeder 1 - VFD Pop-up

The message at the top displays: **RUNNING** in green, as shown.

The message: *Running at 60Hz Speed*... in green displays on the **Max Grams Per Second box**, as shown.

The Powder Auger Motor will run at 60Hz for the set duration time of five **(5)** seconds and dispense a certain number of grams of product into the collection tray previously placed underneath the Auger Tube (see pages 50 & 51)

Continued ➭
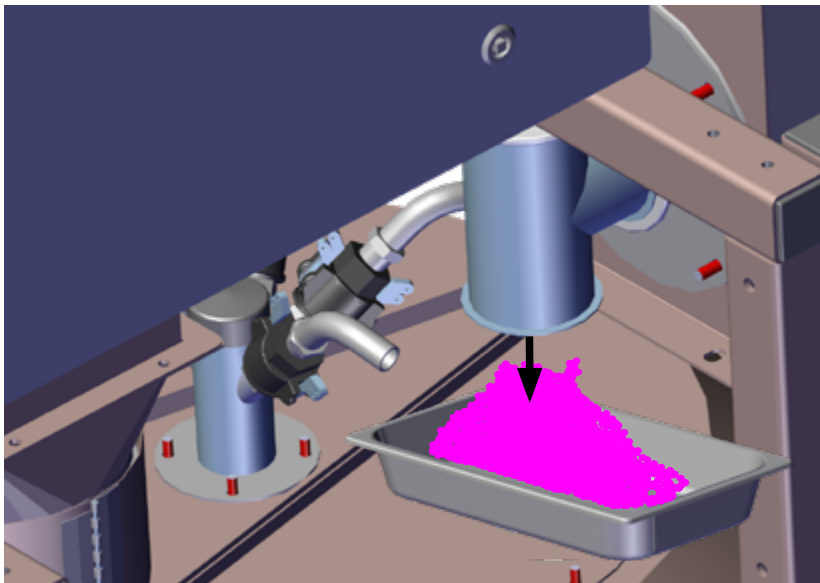
POWDER FEEDER 1

VFD

| OP | 0.0 g/sec |

RUNNING

| Auto | Manual |

| Start | Stop |

| Manual Setpoint | 0 | g/sec |

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Calibrating

Running at 60Hz Speed...

Cancel

The Auger Motor stops running after five seconds and the message at the top displays: **STOPPED**, as shown.

A new question and box button icon displays under the **Max Grams Per Second Box:**

How Many Grams Were Collected At 60Hz Speed?

This is how many grams of dispensed powder product was weighed on the grams scale?

Step 1: Remove the collection tray from underneath the Auger Tube and weigh it on a grams scale.

- Note the exact amount of dispensed Powder Product = Example: **40** grams

Step 2: Touch the **Zero** button icon: numerical keypad displays as a layer on top of the **Powder Feeder 1 VFD** Pop-up.
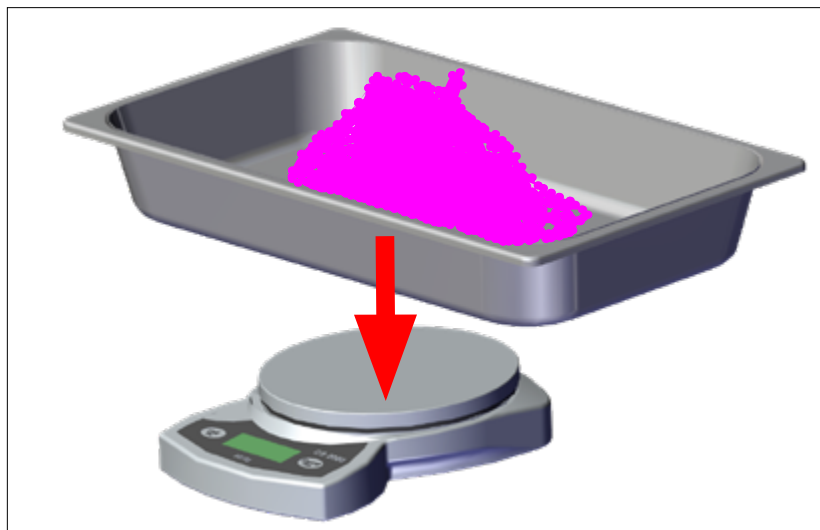
= 40 grams

POWDER FEEDER 1

VFD

| OP | 0.0 g/sec |

STOPPED

Auto	Manual
Start	Stop
Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 60Hz Speed? | 0 |

Cancel

Powder Feeder 1 - VFD Pop-up

Step 1: Enter the numerical value of **40** grams on the pop-up keypad and press Enter: pop-up keypad closes.

Under the **Max Grams Per Second Box:** displays the numerical value of **40** in the box button icon, as shown.

Step 2: Empty collection tray contents back into the Powder Hopper.

- Wipe clean the collection tray.

Step 3: Set the empty collection tray on the Scale and touch the **On/Off ZERO** button to zero out the Scale.

- The digital readout should display **0.00** value.
- Remove the collection tray from the Scale and place it underneath the Auger Tube.

POWDER FEEDER 1

VFD

OP   0.0 g/sec

STOPPED

| Auto | Manual |

| Start | Stop |

| Manual Setpoint | 0 | g/sec |

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 60Hz Speed?   40

Cancel

Keypad:
```
1
        40
0 ~ 100000
7   8   9
4   5   6
1   2   3
.   0   -
ESC ←   ↵
```

Step 1: Touch the **Run at 45Hz** button icon

Continued ⤴

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto	Manual
Start	Stop

Manual Setpoint   0   g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time   2   sec

Control Options

Enable   Soft Lock Disabled
Enable   Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were
Collected At 60Hz Speed?   40

Cancel   **Run at 45Hz**

63

Powder Feeder 1 - VFD Pop-up

The message at the top displays: **RUNNING** in green, as shown.

The message: ***Running at 45Hz Speed***... in green displays on the **Max Grams Per Second box**, as shown.

The Powder Auger Motor will run at 45Hz for the set duration time of five **(5)** seconds and dispense a certain number of grams of product into the collection tray previously placed underneath the Auger Tube

POWDER FEEDER 1

VFD

OP	0.0 g/sec

RUNNING

Auto	Manual
Start	Stop

Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time	2	sec

Control Options

Enable	Soft Lock Disabled
Enable	Fault Mask Disabled

Max Grams Per Second
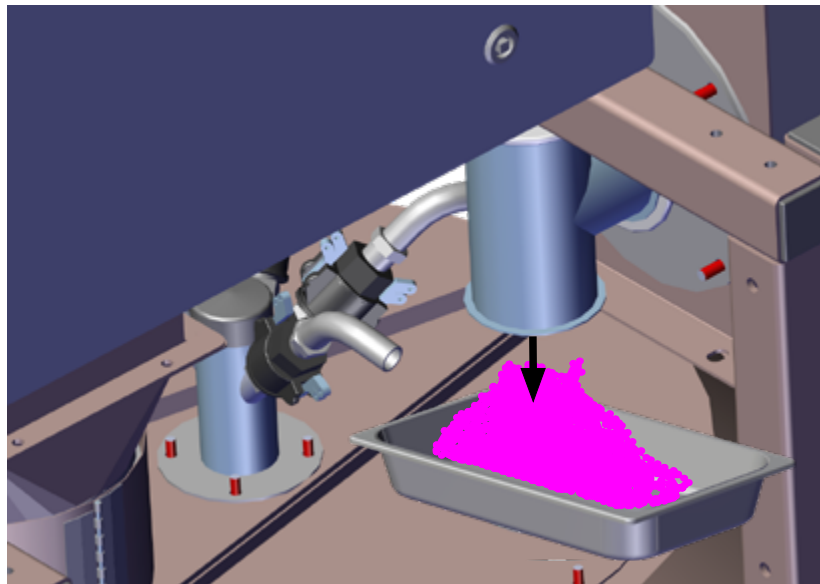
Calibrating

Running at 45Hz Speed...

Cancel

Powder Feeder 1 - VFD Pop-up

The Auger Motor stops running after five seconds and the message at the top displays: **STOPPED**, as shown.

A new question and box button icon displays under the **Max Grams Per Second Box:**

**How Many Grams Were Collected At 45Hz Speed?**

This is how many grams of dispensed powder product was weighed on the grams scale?

Step 1: Remove the collection tray from underneath the Auger Tube and weigh it on a grams scale.

- Note the exact amount of dispensed Powder Product = Example: **30** grams

Step 2: Touch the **Zero** button icon: numerical keypad displays as a layer on top of the **Powder Feeder 1 VFD** Pop-up
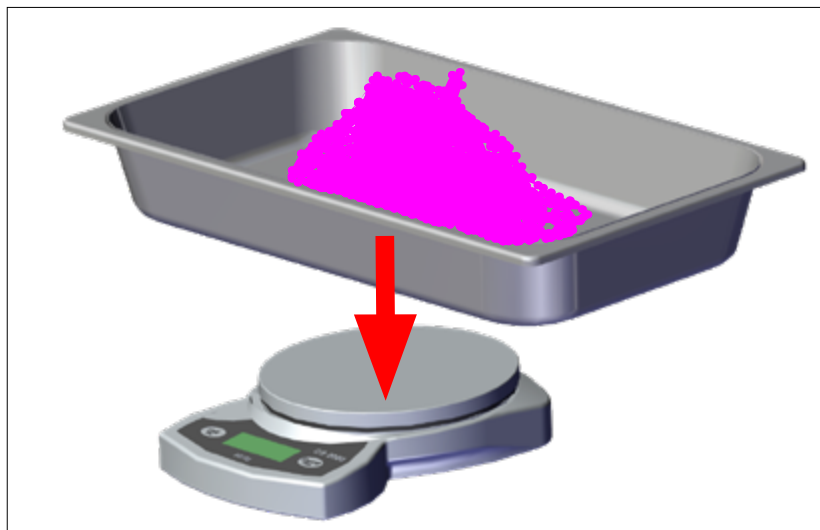
= 30 grams

POWDER FEEDER 1

VFD

| OP | 0.0 g/sec |

STOPPED

| Auto | Manual |
| Start | Stop |

Manual Setpoint | 0 | g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time | 2 | **sec**

Control Options

Enable | Soft Lock Disabled
Enable | Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 45Hz Speed? | 0

Cancel

Powder Feeder 1 - VFD Pop-up

Step 1: Enter the numerical value of **30** grams on the pop-up keypad and press Enter: pop-up keypad closes.

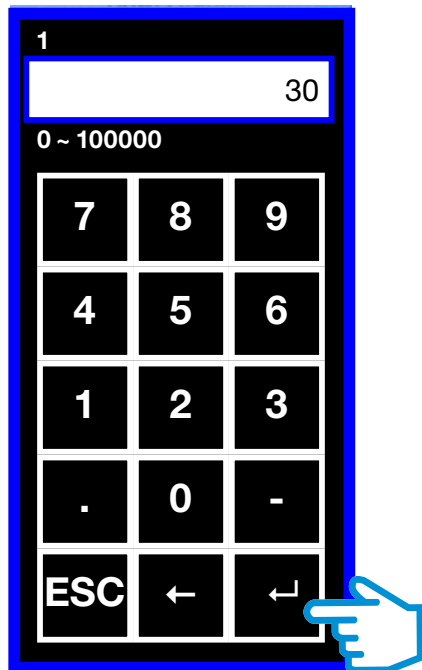Under the **Max Grams Per Second Box:** displays the numerical value of **30** in the box button icon, as shown.

Step 2: Empty collection tray contents back into the Powder Hopper.

- Wipe clean the collection tray.

Step 3: Set the empty collection tray on the Scale and touch the **On/Off ZERO** button to zero out the Scale.

- The digital readout should display **0.00** value.

- Remove the collection tray from the Scale and place it underneath the Auger Tube.

1		
		30

0 ~ 100000

7	8	9
4	5	6
1	2	3
.	0	-
ESC	←	↵

POWDER FEEDER 1

VFD

OP	0.0 g/sec
STOPPED	

Auto	Manual
Start	Stop
Manual Setpoint	0 g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time	2	sec

Control Options

Enable	Soft Lock Disabled
Enable	Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 45Hz Speed? | **30**

Cancel

Step 1: Touch the **Run at 30Hz** button icon

Continued ⟳

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto　　**Manual**

Start　　**Stop**

Manual Setpoint　　0　g/sec

Running Fault

Stopping Fault

Failsafe Active

Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time　　2　**sec**

Control Options

Enable　Soft Lock Disabled

Enable　Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were
Collected At 45Hz Speed?　　30

Cancel　　**Run at 30Hz**

Powder Feeder 1 - VFD Pop-up

The message at the top displays: **RUNNING** in green, as shown.

The message: *Running at 30Hz Speed*... in green displays on the **Max Grams Per Second box**, as shown.

The Powder Auger Motor will run at 60Hz for the set duration time of five **(5)** seconds and dispense a certain number of grams of product into the collection tray previously placed underneath the Auger Tube

POWDER FEEDER 1

VFD

OP   0.0 g/sec

RUNNING

| Auto | Manual |

| Start | Stop |

Manual Setpoint   0   g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time   2   sec

Control Options

Enable   Soft Lock Disabled
Enable   Fault Mask Disabled

Max Grams Per Second
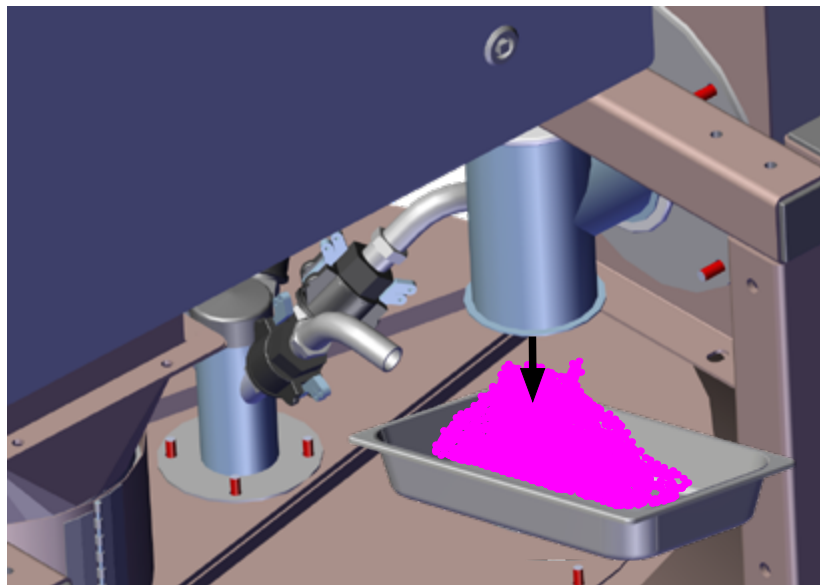
Calibrating

Running at 30Hz Speed...

Cancel

Powder Feeder 1 - VFD Pop-up

The Auger Motor stops running after five seconds and the message at the top displays: **STOPPED**, as shown.

A new question and box button icon displays under the **Max Grams Per Second Box:**

**How Many Grams Were Collected At 30Hz Speed?**

This is how many grams of dispensed powder product was weighed on the grams scale?

Step 1: Remove the collection tray from underneath the Auger Tube and weigh it on a grams scale.

- Note the exact amount of dispensed Powder Product = Example: **20** grams

Step 2: Touch the **Zero** button icon: numerical keypad displays as a layer on top of the **Powder Feeder 1 VFD** Pop-up

Continued ➲
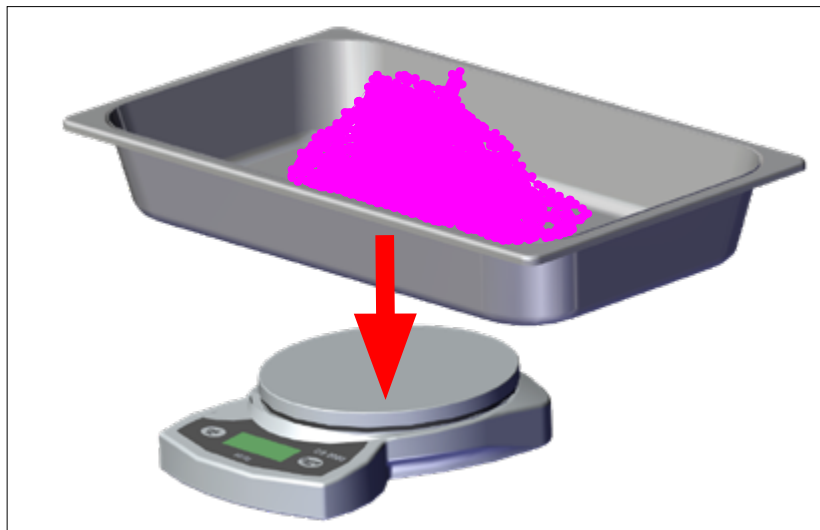
= 20 grams

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto	**Manual**
Start	Stop
Manual Setpoint	0 g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time	2	**sec**

Control Options

Enable	Soft Lock Disabled
Enable	Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 30Hz Speed?   0

Cancel

Powder Feeder 1 - VFD Pop-up

Step 1: Enter the numerical value of **20** grams on the pop-up keypad and press Enter: pop-up keypad closes.

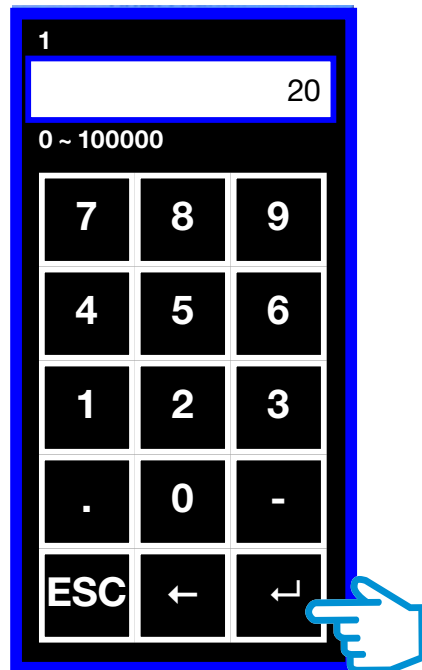Under the **Max Grams Per Second Box:** displays the numerical value of **20** in the box button icon, as shown.

Step 2: Empty collection tray contents back into the Powder Hopper.

- Wipe clean the collection tray.

Step 3: Set the empty collection tray on the Scale and touch the **On/Off ZERO** button to zero out the Scale.

- The digital readout should display **0.00** value.
- Remove the collection tray from the Scale and place it underneath the Auger Tube.

Continued ➲

POWDER FEEDER 1

VFD

| OP | 0.0 g/sec |

STOPPED

| Auto | Manual |

| Start | Stop |

| Manual Setpoint | 0 | g/sec |

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 30Hz Speed? | 20 |

Cancel

Keypad:

```
1
        20
0 ~ 100000
7  8  9
4  5  6
1  2  3
.  0  -
ESC ←  ↵
```

Step 1: Touch the **Run at 15Hz** button icon

Continued ➲

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto   **Manual**

Start   **Stop**

Manual Setpoint   0   g/sec

Running Fault

Stopping Fault

Failsafe Active

Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time   2   **sec**

Control Options

Enable   Soft Lock Disabled

Enable   Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were
Collected At 30Hz Speed?   20

Cancel   **Run at 15Hz**

Powder Feeder 1 - VFD Pop-up

The message at the top displays: **RUNNING** in green, as shown.

The message: *Running at 15Hz Speed*... in green displays on the **Max Grams Per Second box**, as shown.

The Powder Auger Motor will run at 60Hz for the set duration time of five **(5)** seconds and dispense a certain number of grams of product into the collection tray previously placed underneath the Auger Tube

Continued ⮌

POWDER FEEDER 1

VFD

OP	0.0 g/sec

RUNNING

Auto	Manual
Start	Stop

Manual Setpoint	0	g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time	2	sec

Control Options

Enable	Soft Lock Disabled
Enable	Fault Mask Disabled

Max Grams Per Second
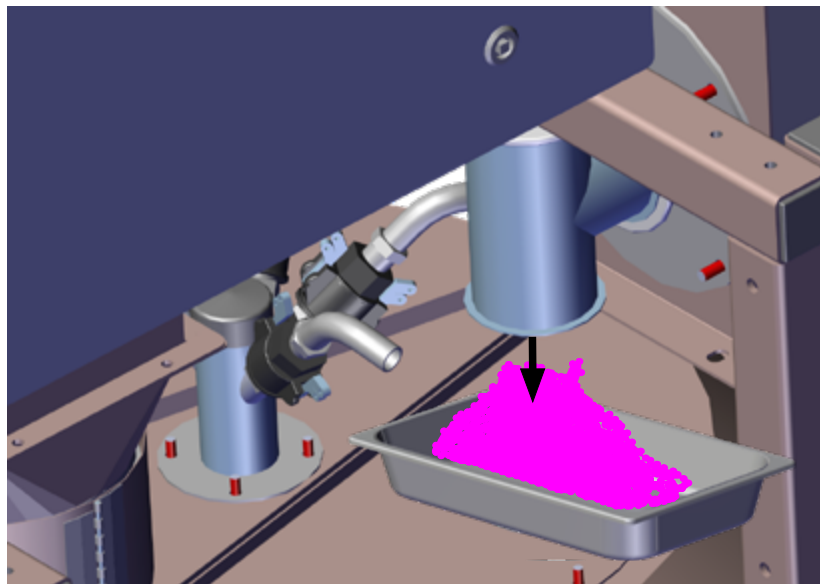
Calibrating

Running at 15Hz Speed...

Cancel

Powder Feeder 1 - VFD Pop-up

The Auger Motor stops running after five seconds and the message at the top displays: **STOPPED**, as shown.

A new question and box button icon displays under the **Max Grams Per Second Box:**

**How Many Grams Were Collected At 15Hz Speed?**

This is how many grams of dispensed powder product was weighed on the grams scale?

Step 1: Remove the collection tray from underneath the Auger Tube and weigh it on a grams scale.

- Note the exact amount of dispensed Powder Product = Example: **10** grams

Step 2: Touch the **Zero** button icon: numerical keypad displays as a layer on top of the **Powder Feeder 1 VFD** Pop-up

Continued ↻
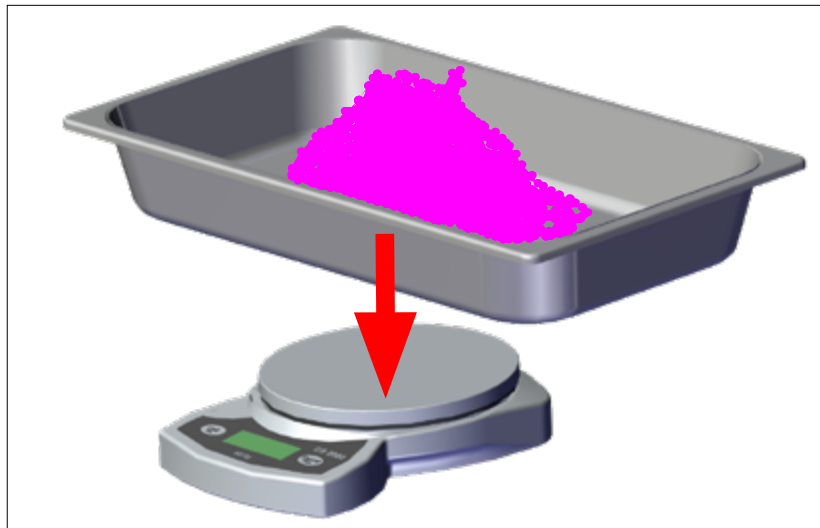
= 10 grams

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto	Manual
Start	Stop

Manual Setpoint	0 g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time	2 sec

Control Options

Enable	Soft Lock Disabled
Enable	Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 15Hz Speed? 0
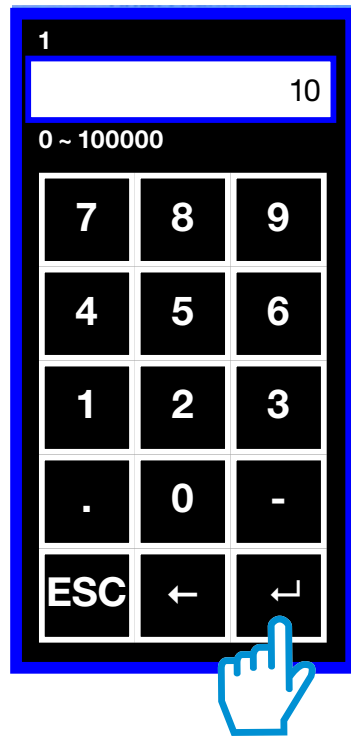
Cancel

Powder Feeder 1 - VFD Pop-up

Step 1: Enter the numerical value of **20** grams on the pop-up keypad and press Enter: pop-up keypad closes.

Under the **Max Grams Per Second Box:** displays the numerical value of **20** in the box button icon, as shown.

Step 2: Empty collection tray contents back into the Powder Hopper.

- Wipe clean the collection tray

Keypad

```
1
              10
0 ~ 100000
  7    8    9
  4    5    6
  1    2    3
  .    0    -
 ESC   ←    ↵
```

POWDER FEEDER 1

VFD

OP	0.0 g/sec

STOPPED

Auto	Manual
Start	Stop

| Manual Setpoint | 0 | g/sec |

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Calibrating

How Many Grams Were Collected At 15Hz Speed?   10

Cancel

Step 1: Touch the **Finish** button icon

Continued ⮌

POWDER FEEDER 1

VFD

OP   0.0 g/sec

STOPPED

| Auto | Manual |

| Start | Stop |

Manual Setpoint   0   g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

Start/Stop Time   2   sec

Control Options

Enable   Soft Lock Disabled
Enable   Fault Mask Disabled

Max Grams Per Second

Calibrating

How Many Grams Were
Collected At 15Hz Speed?   10

Cancel   Finish

Powder Feeder 1 - VFD Pop-up

Under the **Max Grams Per Second** box, the **Start Calibration** area displays four new settings based on the previous calibration.

The **Calibrating** button icon toggles to **Start Calibration**.

Step 1: Replace the middle section of the Powder Tube and secure in place with the clamps.

End of Powder Calibration
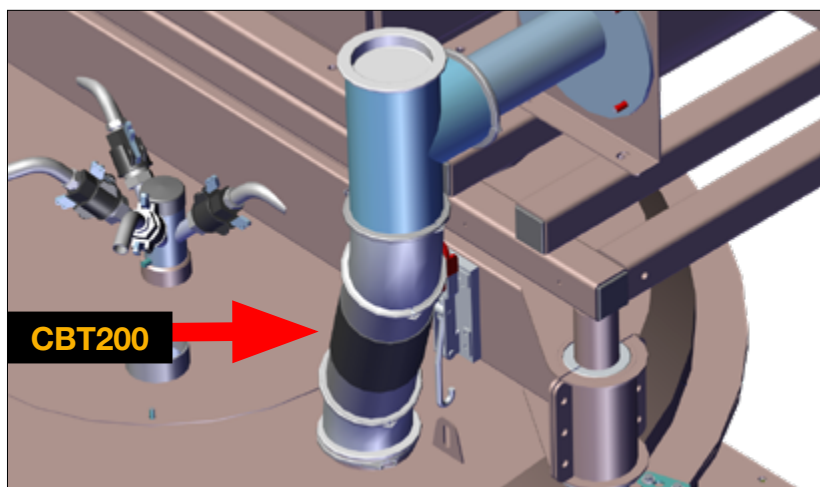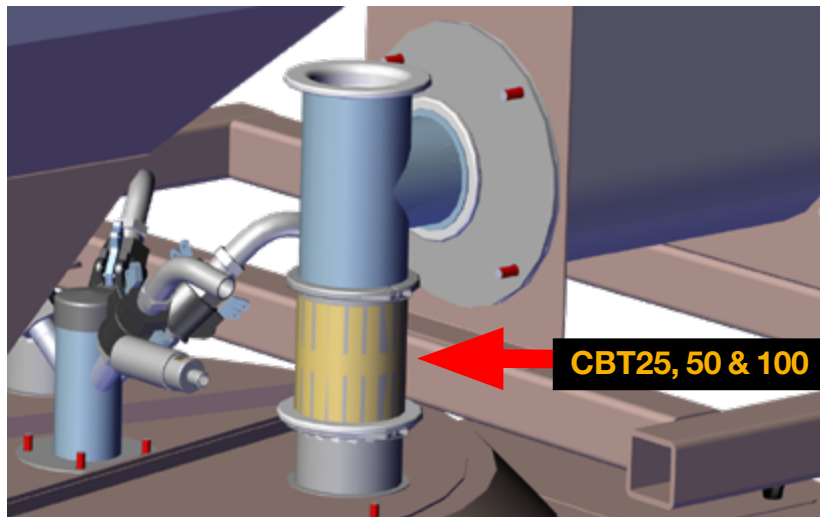
CBT25, 50 & 100

CBT200

Proceed to the CBT LW 8-Pump Operation Guide

POWDER FEEDER 1

VFD

| OP | 0.0 g/sec |

STOPPED

Auto	Manual
Start	Stop
Manual Setpoint	0 g/sec

Running Fault
Stopping Fault
Failsafe Active
Alarm Unacknowledged

Acknowledge Alarm

Fault Reset

Close

Feedback Timer

| Start/Stop Time | 2 | sec |

Control Options

| Enable | Soft Lock Disabled |
| Enable | Fault Mask Disabled |

Max Grams Per Second

Start Calibration

GPS at 60Hz: 40
GPS at 45Hz: 30
GPS at 30Hz: 20
GPS at 15Hz: 10

CBTLW8PMPCNTRLSTRTGUIDE20211018