



RH800 & 2000 BASIC INSTALLATION GUIDE





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



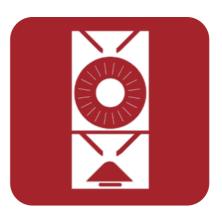
Legal & Safety



System Diagram



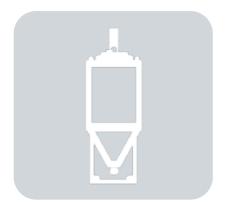
Drum & Frame



Rotary Head



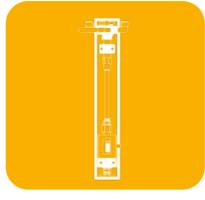
4-Pump Control



CBP Tanks



Calibration Kit



Flow Meter Kit



Pump Elements



Conveyor Control



Pictograms



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.



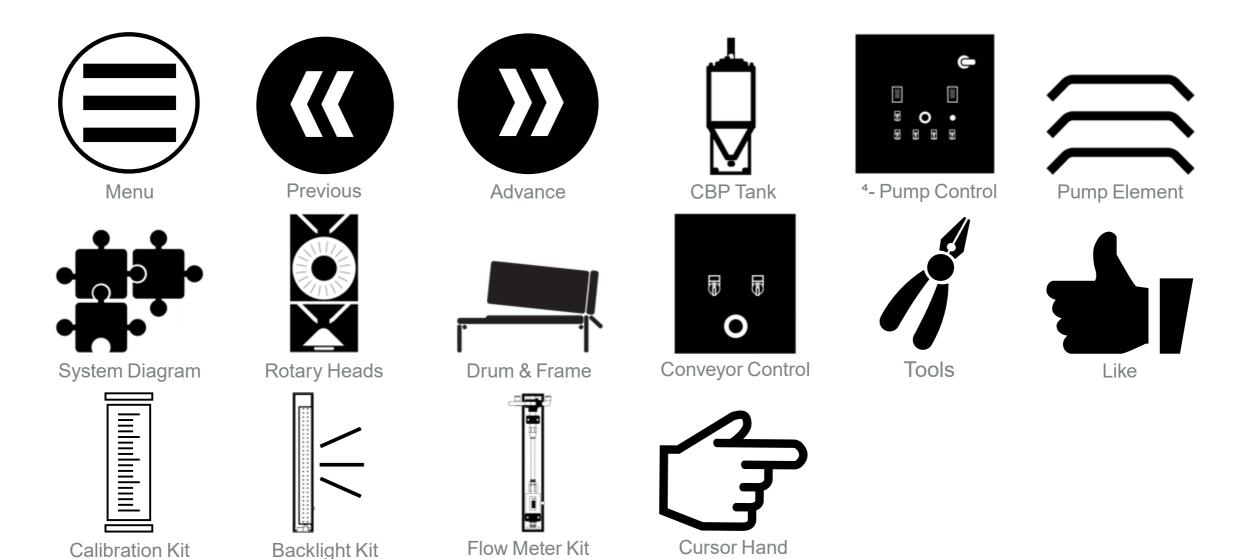






FOR PICTOGRAMS

Each Signifier displayed here is specific to this User Manual.









* SYSTEM DIAGRAM

Dry Weight (see system specifications page 5)

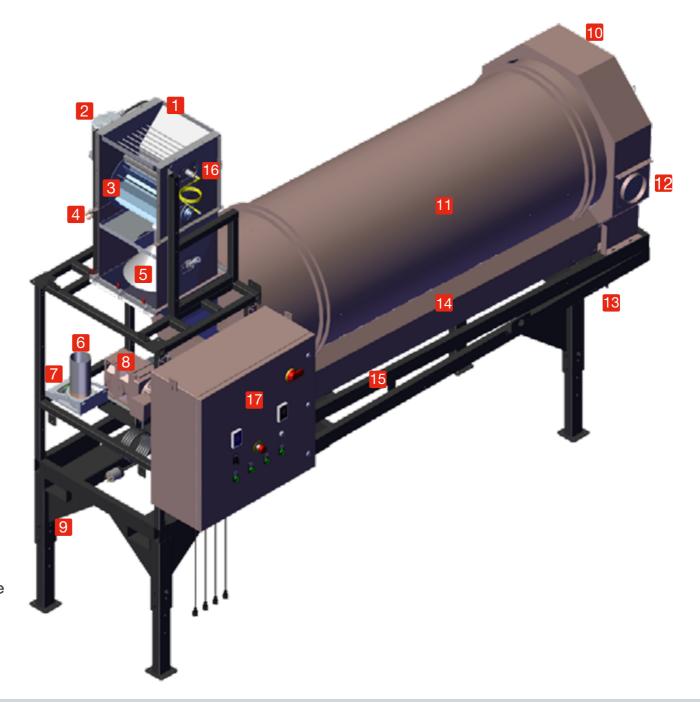
Service Required (see system specifications page 5)

Capacity: (RH2000) up to 2,700bu/hr**

Image shown in top position -Leg height is adjustable to eight positions: 3 positions @ 4" [102] each increment

- 1 Seed Inlet
- 2 Seed Wheel Motor
- 3 Seed Wheel
- 4 Chemical Inlet
- 5 Atomizer
- 6 Calibration Cylinder
- 7 Portable Scale
- 8 Drum VFD Gear Motor
- 9 Adjustable frame
- 10 Dog House
- 11 Mixing Drum
- **Dust Evacuation Port**
- Seed Discharge
- 14 Drum Guard
- 15 Adjustable Drum Angle
- 16 Seed Sensor
- 4-Pump Controller

RH BASIC ASSEMBLY



^{**}Based on soybeans









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

System Specifications

79976011 RH 800 4-pump basic 30" drum system

- 79901194 RH 30" drum & frame assy dry weight: 1141.87 lbs [518 kg]
- 81765243 RH 800 head to 30" drum dry weight: 381.8 lbs [173 kg]
- 80049870 CBP 60 tank w/agit Is pump 100oz cc dry weight: 116.24 lbs [53 kg]
- 80992564 RH basic 230v/1ph 4-pump control dry weight: 160.00 lbs [73 kg]
- 79894651 30 gal poly inoculant tank dry weight: 88.7 lbs [40 kg]

79998821 RH 2000 4-pump basic 48" drum system

- 79487932 RH 48" drum & frame assy dry weight: 1966.53 lbs [892 kg]
- 81733384 RH 2000 head to 48" drum dry weight: 510.1 lbs [232 kg]
- 80049870 CBP 60 tank w/agit Is pump 100oz cc dry weight: 116.24 lbs [53 kg]
- 80992564 RH basic 230v/1ph 4-pump control dry weight: 160.00 lbs [73 kg]
- 79894651 30 gal poly inoculant tank dry weight: 88.7 lbs [40 kg]

80029381 RH 2000 4-pump basic 36" drum system

- 79472692 RH 36" drum & frame assy dry weight: 1258.03 lbs [572 kg]
- 81774897 RH 2000 head to 36" drum dry weight: 460.8 lbs [211 kg]
- 80049870 CBP 60 tank w/agit Is pump 100oz cc dry weight: 116.24 lbs [53 kg]
- 80992564 RH basic 230v/1ph 4-pump control dry weight: 160.00 lbs [73 kg]
- 79894651 30 gal poly inoculant tank dry weight: 88.7 lbs [40 kg]

Inspection

RH Basic System components ship separately:

- Treater Head Assembly (1)
- Drum & Frame Assembly (1)
- 4-Pump Control (1)
- Cone Bottom Poly (CBP) Tanks (2)

Remove all components and check for damage that may have occurred during shipping.

Report any damage IMMEDIATELY!



Treater Head crated



Drum & Frame wrapped



4-Pump Control (boxed)



CBP Tanks boxed







PDRUM & FRAME



Required assembly tools

- Forklift/material handling device
- Tin snips (1)
- 3/4" Socket Head Wrench (2)
- 5/16" Socket Head Wrench (1)





Drum & Frame Assembly

Step 1: Use a forklift to lift the Drum & Frame Assembly off the shipping truck.

• Fork pockets are provided at the end of the Drum Frame.



Step 2: Use tin snips to cut metal bands.

• Remove the RH Basic Complete Control from underneath the Drum Frame.





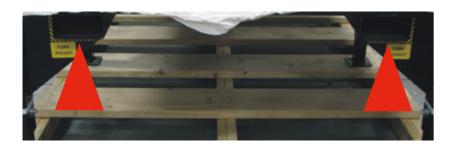




Step 3: Remove the protective covering from the Drum & Frame Assembly.



Step 4: Use a 3/4" socket head wrench to remove the 1/2" Drum Frame shipping bolts from the pallet.

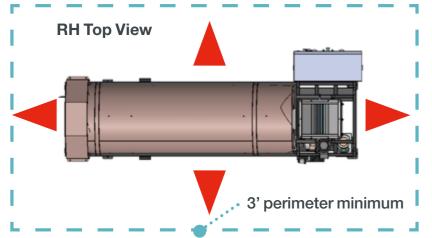


Step 5: Use a forklift to lift the Drum & Frame Assembly off the shipping pallet and place it in the desired location.









Plan accordingly!

- Locate the Treater on a solid, flat vibration-free surface and fasten down with anchors.
- The recommended location for all components of the treating system should be on one single floor.
- The Treater must be easily accessible to an electrical power source.
- Allow access to the treater from all sides for the purpose of operation, adjustments, maintenance and clean-up.



Warning! Drum band must be removed prior to running the Drum, to prevent damage to the Drum!



Caution! Removing Drum band can cause injury! Wear proper personal protective equipment: gloves and safety glasses. Place one hand on the banding above the cut, while standing to the side of the banding, as shown above. This will reduce the chance of banding flying out of control, causing injury. Discard used banding material responsibly.



Step 6: Use tin snips to cut the metal banding that holds the Drum down onto the Drum Frame during shipping.











Integrated Aspiration

- Only clean and dust-free seed should be used in the treating process.
- An exhaust unit supplied by the customer must be connected to a central aspiration system.
- Recommended aspiration: 500-600cfm.
- The six inch OD connection for the exhaust unit is located on the Doghouse (discharge end of drum).

Step 1: Use a 5/16" socket to remove the four (4) 10-32 hex head bolts and washers.

• Remove the Dust Collection Plate and Cover.



Step 2: Remove the Doghouse Cover.



Step 3: Replace the Dust Collection Plate and securely fasten the four (4) 10-32 washers and bolts.

This completes Drum Installation.









ROTARY HEAD



Required assembly tools

- Forklift/material handling device
- 3/4" Socket Head Wrench (2)
- 5/16" Socket Head Wrench (1)
- 1/2" Socket Head Wrench (2)









Rotary Head Assembly

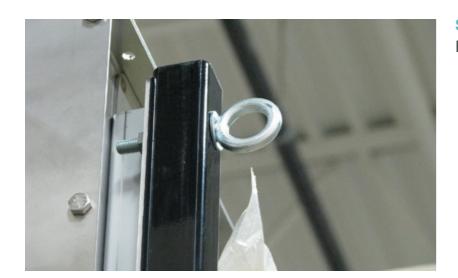
Step 1: Remove the plastic and crating around the Treating Head Assembly.

- Use a 3/4" socket head wrench to remove the 1/2" Treating Head Assembly shipping bolts holding the Head Assembly onto the pallet.
- Remove the Treating Head Assembly from the shipping crate.





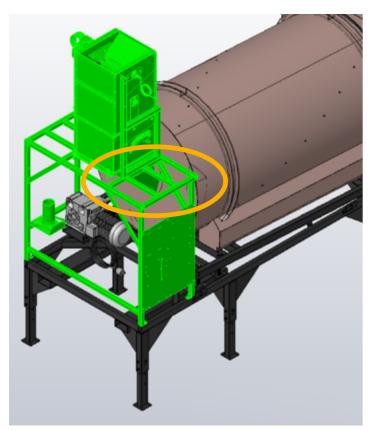




Step 2: Use the eyelets located on top of the Treating Head Assembly Frame to properly rig and securely lift the Treating Head Assembly off the shipping pallet.



Note: to ensure proper alignment, note the Treating Head Assembly orientation! The Transition fits inside the Drum opening, as shown below.



Step 3: Set the Treating Head Assembly on top of the Drum Frame.

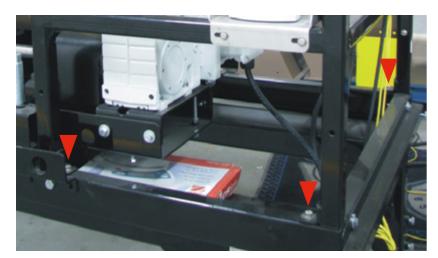








For best assembly results, use an anti-seize on all bolts.



Step 4: Use a 1/2" socket head wrench and factory supplied 5/16" hardware to fasten the Treating Head Assembly to the Drum Frame in this order: bolt+flat washer+[frame]+lock-washer+nut.

• Tighten securely.



Optional Surge Bin

Step 1: Use a 3/4" socket head wrench to remove the 1/2" Treating Head Assembly shipping bolts.









For best assembly results, use an anti-seize on all bolts.



Step 2: Use a forklift to set the Optional Surge Bin on top of the Treating Head Assembly Frame as shown below.

- Use a 1/2" socket head wrench and factory supplied 5/16" hardware to fasten the Surge Bin to the Treating Head Assembly Frame in this order: bolt+flat washer+[frame]+lock-washer+nut.
- Tighten securely.

Continued

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Remove the RED fork brackets once the Surge Bin is securely fastened to the Frame.









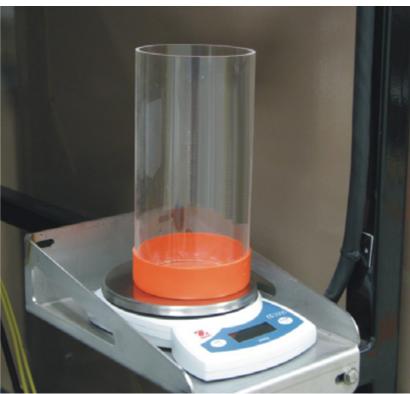


Portable Scale

Step 1: Cut the shrink wrap and remove the box of miscellaneous parts and the Portable Scale from the Treating Head Assembly frame.

• Remove the contents of the Portable Scale and Accessories from the shipping carton.





Step 2: Connect the Power Adapter to the back side of the Scale.

• Plug power cord into an external 120V AC power source.

Step 3: Set the Scale and Calibration Cylinder on the Scale Tray - connected to the Treating Head Frame.

This completes the Head and Optional Surge Bin Installation.









4-PUMP CONTROL PANEL

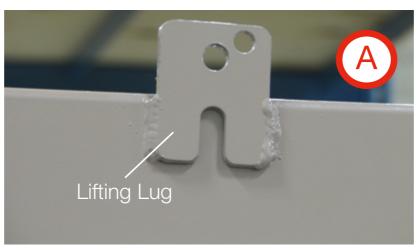


Required assembly tools

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







4-Pump Complete Control Panel

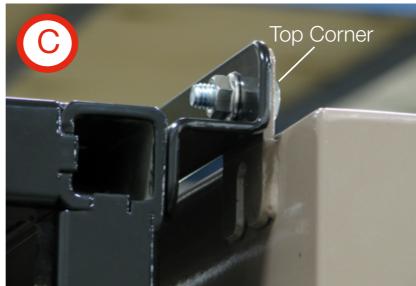
Step 1: Use the Lifting Lugs (welded to the top sides of the Control Panel), to lift and connect the Control Panel to the RH Head Frame **(A)**.



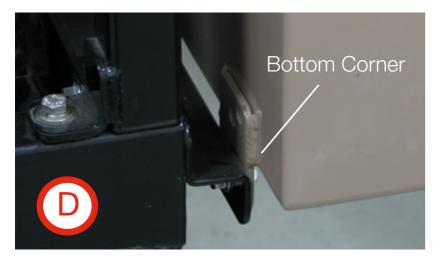








Step 2: Align top Control Tabs (both sides of the Control Panel) with Frame Tabs **(B & C)**.



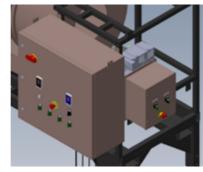
Step 3: Align bottom Control Tabs (both sides of the Control Panel) with Frame Tabs (D).

- Fasten in place with factory-supplied hardware in the following order...
- Bolt+Flat Washer+[Control Tab+Frame Tabs]+Lock Washer+Nut.
- Securely tighten.

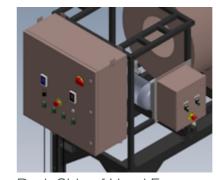
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Note: The RH Basic Control Panel can be remotely wall mounted as a fourth option.

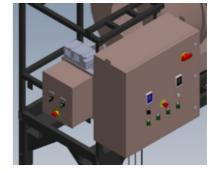
Panel Mounting Options...



Right Side of Head Frame



Back Side of Head Frame

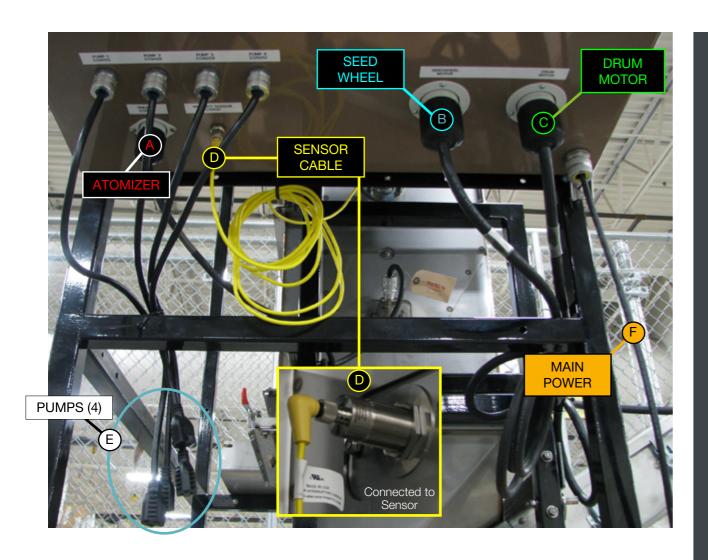


Left Side of Head Frame









A. ATOMIZER (TREATER) MOTOR

Connect the Atomizer Power Cord to the receptacle - marked **TREATER**.

B. SEED WHEEL MOTOR

Connect the Seed Wheel Power Cord to the receptacle - marked **SEED WHEEL MOTOR**.

C. DRUM MOTOR

Connect the Drum Gear Motor Power Cord to the receptacle - marked **DRUM MO- TOR**.

D. HOPPER SENSOR CABLE

Connect the yellow Inlet Hopper Low Level signal cable to the bottom of the Control Panel - marked **PRODUCT SENSOR**. The other end is connected to the Seed Wheel sensor on the Head Assembly (see insert photo) from the factory.

E. PUMP MOTORS (4)

Connect Pump Motor Power Cords to Pump receptacles - marked **PUMP 1, PUMP 2, PUMP 3 & PUMP 4**.

F. MAIN POWER

Connect the Main Power Cord to an external **230V** power service.

AUXILIARY POWER SERVICE

Ensure there is multiple **120V** external power service for all Auxiliary Power Cords (agitation motors, LED light, Scale, etc).

This completes the 4-Pump Complete Control Panel Installation.









CBP TANKS



Required assembly tools

- 7/16" Socket Head Wrench (2)
- Tubing Cutter





Chemical Tanks - Power Requirements

Remove chemical tanks from their shipping boxes and place them near the Treater Control.

 Each Tank Agitation Motor requires an external 115V AC/1ph/3FLA power source.









LS Pump Control Kit

The LS Pump Control Kit ships from the factory in the CBP Tank box.

Step 1: Remove from package and attach to the Tank Stand.

• Locate the Mount Plate in the position as shown left.



Step 2: Insert the U-bolt from behind the Tank Stand Frame and push through the Mount Plate.

- Use a 7/16" wrench and fasten in place in the following order: U-bolt+[Frame+Mount Plate]+lock washer+nut.
- Securely tighten.
- Repeat on other side of Mount Plate.



Step 3: Plug the LS Pump Power Cord into the receptacle on the backside of the Pump Controller.

• Power Cord is rectangular with three prongs and is connected to the Pump.









Step 4: Connect the LS Control Power Cord to the corresponding receptacle underneath the RH Basic Complete Control marked **PUMP 1-4**, as shown left.

• Connect each LS Control Power Cord used.

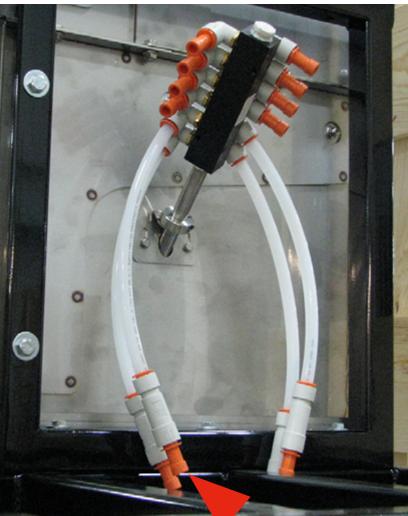












Treatment Line Connection Without a Flow Meter Kit

Step 1: Insert one end of the 1/2" Tubing into the Pump Valve Outlet Press Lock fitting on the side of the Pump Assembly, as shown far left.

Step 2: Remove a plug and insert the other end of the 1/2" Tubing into the Treater Chemical Inlet Assembly Press Lock Fitting, as shown left.

This completes the CBP Tank Installation.







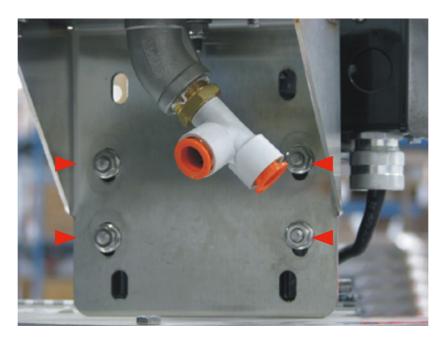
CALIBRATION KIT



Required assembly tools

- 7/16" Socket Head Wrench (2)
- Tubing Cutter

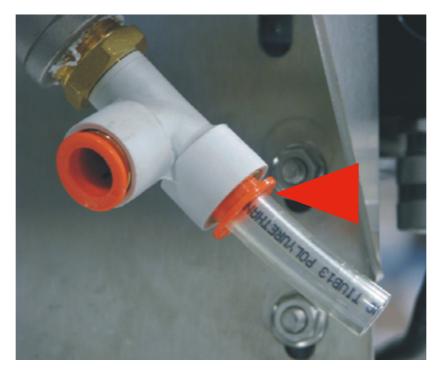




Optional Calibration Kit

Step 1: Connect the Calibration Mount Plate to the Tank Agitation Motor Base with factory supplied hardware in this order:

- bolt+[Tank Motor Mount + Calibration Mount Plate]+wiz nut.
- Tighten securely.



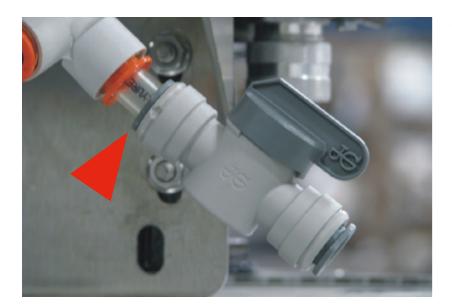
Step 2: Cut a 3" piece of 1/2" Tubing.

• Press it into the 1/2" Male Run Tee (attached to the bottom of the Calibration Cylinder) as shown.

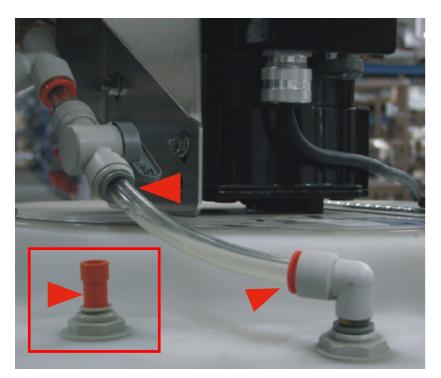








Step 3. Connect the 1/2" Plastic Shutoff Valve to the piece of 1/2" Tubing.



Step 4: Remove the 1/2" Calibration Port Plug from the top of the Tank.

- Cut to fit a piece of 1/2" Tubing.
- Press it into the 1/2" Plastic Shutoff Valve.
- Press the other end into the 1/2" 90° Elbow Press-lock Fitting and install on top of the CBP Tank as shown.

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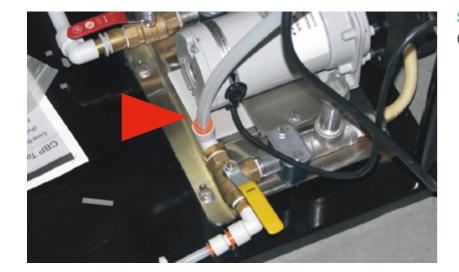




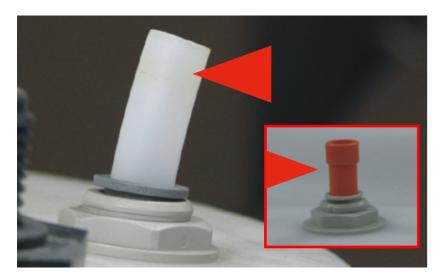




Step 5: Connect one end of 1/2" Recirculation Tube to the 1/2" Male Run Tee located underneath the Calibration.



Step 6: Cut to fit and connect the other end of the Vent Tube to the Press-lock Fitting on the pump, located underneath the CBP Tank.



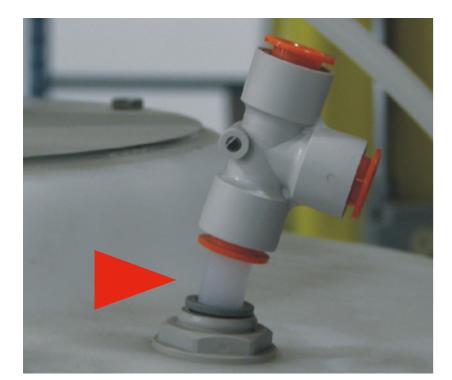
Step 7: Remove the second Vent Plug from the top of the CBP Tank.

- Cut a 2" piece of 1/2" Tubing.
- Press it into the 1/2" Vent Press-lock Fitting.

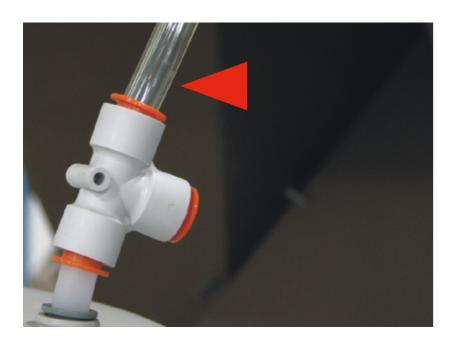








Step 8: Press the 1/2" Union Tee onto the 2" piece of tubing.



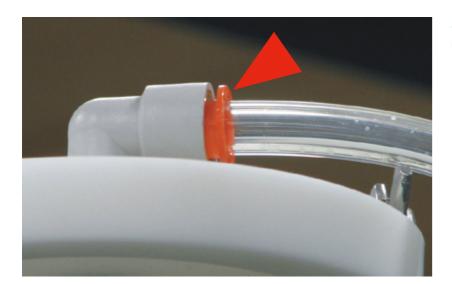
Step 9: Press the remaining 1/2" Tubing into the 1/2" Union Tee.

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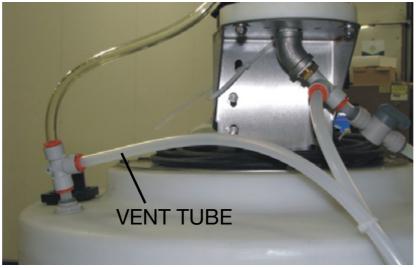


Step 10: Cut to fit and connect the remaining piece of 1/2" Tubing to the 90° elbow press-lock fitting, located on top of the Calibration Tube.



Step 11: Connect one end of the 1/2" Vent Tube to the 1/2" Union Tee.





Step 12: Cut to fit and connect the other end of the Vent Tube to the 1/2" Press-lock Fitting on the pump, located underneath the Tank.

This completes the Top Mount Calibration Kit Installation.







FLOW METER KIT



Required assembly tools

- 7/16" Socket Head Wrench (2)
- Tubing Cutter



Note: refer to the **FLOW METER USER MANUAL** shipped with the flow meter for complete Display Box installation and operation instructions.





Optional Basic Flow Meter Kit

The Flow Meter Kit ships from the factory in a separate box.

Step 1: Remove from package and attach to the CBP Tank Stand.

• Locate the Flow Meter Assembly in the position as shown left.









Step 2: Insert the U-bolt from behind the Tank Stand Frame and push through the Mount Plate.

- Use a 7/16" wrench to fasten in place in the following order: U-bolt+[Frame+Mount Plate]+washer+lock nut.
- Securely tighten.
- Repeat on other end of Flow Meter Assembly.

4-pin receptacle 4-pin connector



Signal cable connected to Flow Meter

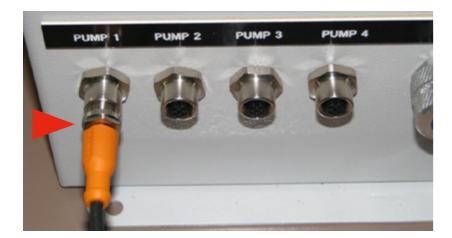
Step 3: Connect the signal cable to the bottom of Flow Meter Assembly.

- CAREFULLY slide the signal cable into the receptacle.
- Align the receptacle shoulder with the connector notch (when aligned, receptacle pins will push into the connector).
- Screw the shield on tight.

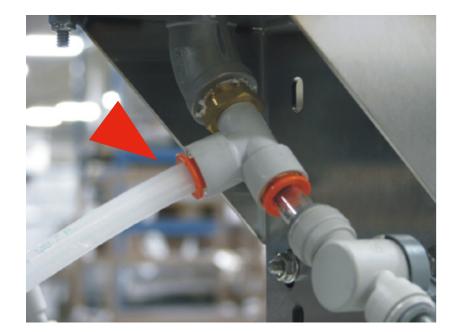








Step 4: Connect the other end of the signal cable to bottom of the 4-Pump Display Box.



Step 5: Connect one end of the 1/2" Recirculation Tube to the 1/2" Male Run Tee located underneath the Calibration Tube.

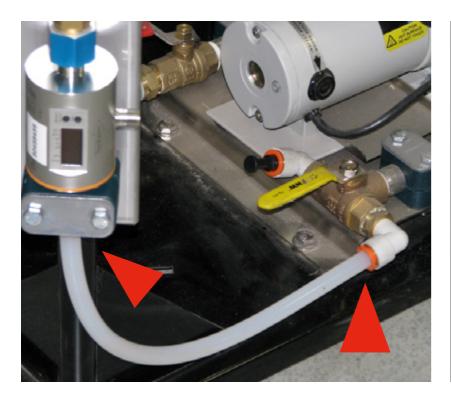


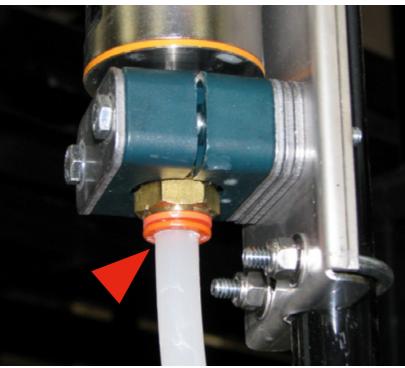
Step 6: Connect the other end of Tubing to the 1/2" Press-lock Fitting on the Flow Meter Assembly (right side).











Step 7: Connect one end of the 1/2" Transfer Tube to the 1/2" Press-lock Fitting on the pump, located underneath the Tank.

• Cut to fit and connect the other end of the Transfer Tube to the 1/2" Press-lock Fitting underneath the Flow Meter, as shown.



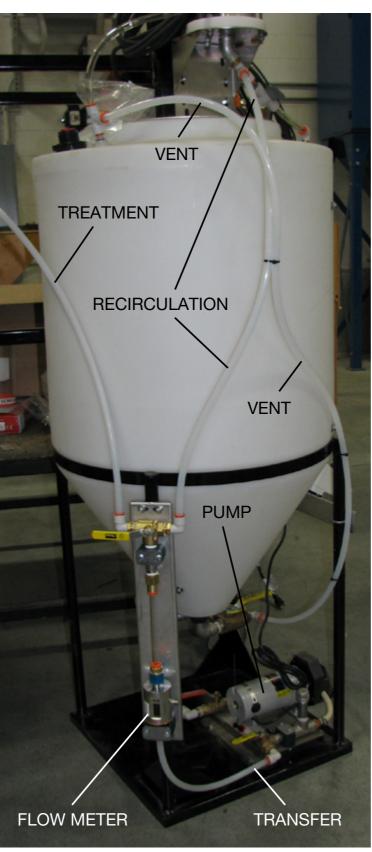
Step 8: Connect one end of the 1/2" Treatment Tube to the 1/2" Press-lock Fitting on the Flow Meter Assembly (left side).











Example of Tank connections

Step 9: Remove a plug and insert the other end of the 1/2" Tubing into the Treater Chemical Inlet Assembly Press Lock Fitting.

This completes the Flow Meter Kit Installation.







PUMP ELEMENT CHANGE





Pump Element Connection

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









Step 2: Insert the Element press lock fitting into the Tank Elbow to the right of the Pump.

• Connect the other press lock fitting into the Pump Discharge Plumbing Assembly to the left of the Pump.



Step 3: Insert the factory supplied Pump Element onto the Pump Rollers.

• Ensure the Pump Element lays on the roller and behind the clips on the Head, as shown.



Step 4: Align the Pump Element on the Pump Head grooves to ensure a proper fit, as shown (may require two people).









Step 5: Use the Pump Handle to close the Pump Head.



IP Pump Only

Set the Pump Head Tension Adjustment Knob to #3 setting.

This completes the Pump Element Change procedure.









CONVEYOR CONTROL









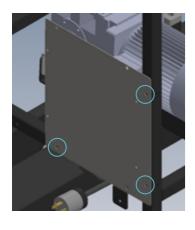
Optional Conveyor Control Kit

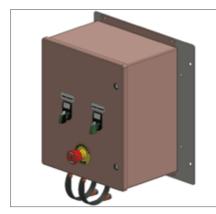
The Conveyor Control Kit ships from the factory in a separate box.

• Remove from packaging and attach to the Treater Frame.

Step 1: Two (2) Male connectors are provided with the kit (located inside the Conveyor Control).

Wire them to the INFEED and OUTFEED conveyor wire leads.





Step 2: Locate the Elevator Control on or near the treating head assembly (Elevator Control is mounted to the Mount Plate from the factory (can be remote mounted).

- Fasten the Plate in place using the following order: bolt+[Mount Plate+Frame]+washer+lock nut.
- Use a 7/16" Socket Head Wrench to securely tighten.







Step 3: Connect the High Level Sensor Assembly to the Hopper top (pre-drilled holes).

- Use a crescent wrench to remove the plastic plug on the side of the Hopper.
- Thread in the Low Level Sensor.
- Carefully connect the High and Low Level Sensor Cables to the end of each Sensor.



BIN LOW

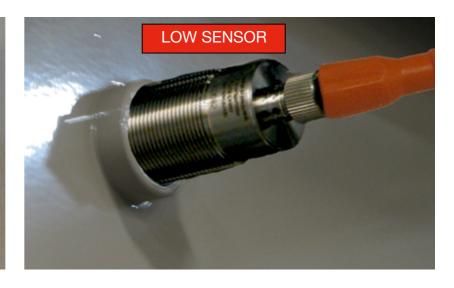
SENSOR

Conveyor Control bottom

BIN HIGH

SENSOR







LOW Level Sensor



HIGH Level Sensor

Step 4: Connect the High and Low level Sensor Cables to the bottom of the Conveyor Control.

- Ensure **HIGH SENSOR** (located on top of the inlet) is connected to the sensor connection on the bottom of the control box marked: **BIN HIGH SENSOR**.
- Connect **LOW SENSOR** (located on the side of the hopper) is connected to the sensor connection on the bottom of the control box marked: **BIN LOW SENSOR**.









Step 5: Connect the INLET conveyor power cord to INFEED power receptacle on the bottom of the Conveyor Control.

- Connect the **OUTLET** conveyor power cord to **OUTFEED** power receptacle on the bottom of the Conveyor Control.
- Ensure connectivity is correct!

This completes the Conveyor Control Kit Installation.





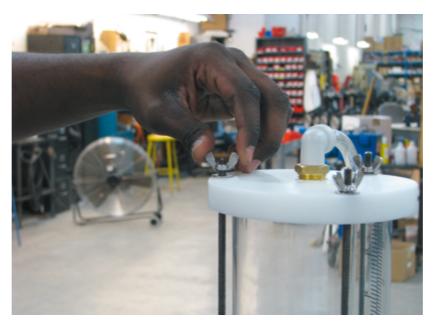


| BACKLIGHT KIT



Required assembly tools

• 3/4" Open Box Wrench





Optional Backlight Kit

Designed to backlight 100oz Top Mount Calibration Kit Cylinder. Helps improve clarity when reading chemical level through heavy viscosity during calibration.

Step 1: Remove existing wing nut from the top of the Calibration Cylinder.

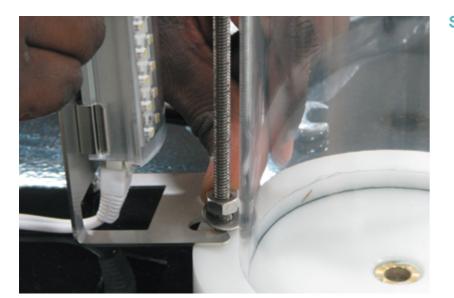


Step 2: Loosen the existing lower nut connected to the same stud as previous Step 1.

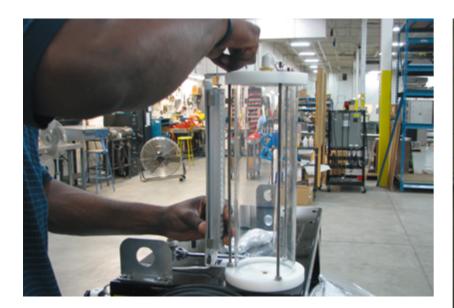








Step 3: Slide the Backlight Kit bracket under the lower nut and over the top stud.





Backlight Kit for 100oz Beakers

Step 4: Re-tighten the wing nut on the stud and the lower nut.

• Connect the power cord to an external 115V AC power source.

This completes the Back Light Kit Installation.











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