

Precision Telone Pressure Kit Instruction Guide and Setup Directions



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# Product Comparison Iron Work Parts

	Standard	Premier	
Tank(120, 250, 500 gallon options)	YES	YES	N
Drop Tubes & Guards	YES	YES	
Foot Blocks	YES	YES	
Bulk Head Module (check valve, orifice body, quick connect)		dules are used 3" black hose	
Filling Station	YES	YES	
Module Tower (stand)	1 TOWER	2 OR 3 TOW- ERS WITH STACK FOLD	

### Flow Control Parts

	Standard	Premier	
Manifold module	YES	YES	
Digital Flow Meter (with turbine)	NO	YES	PT OITH
On / Off and throttle valve with controller	ON / OFF VALVE ONLY	YES	KZ Valve
Site Glass	YES	YES	
Filter module	SINGLE FILTER 100 MESH	DOUBLE FIL- TERS 80 AND 120 MESH	
Nitrogen Application Regulator	YES	YES	105
Nitrogen Transfer Regulator	OPTIONAL	YES	

### Hose

	Standard Premier	
1/8" hose (red, yellow, or black)	YES	
¾" Fill hose	YES	0
½ " Supply hose	YES	
¾" Transfer hose	YES	0
½ " Filter drain & relief valve hose	YES	
¾"Vent hose	YES	0

### Read Before Proceeding

The following are suggestions on how to put your Pressure Kit together. You may find quicker and easier ways to install this kit. You may change the process/order of construction, but you should use the approved equipment. Read through the entire manual before starting! For tips on installing, see the Helpful Hints at the end of this manual.

#### Iron Works

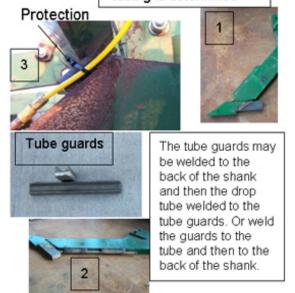
- Design and install rack for holding metal product tank and nitrogen bottle (These materials are not included in either the standard or premier kit).
- The weight of Telone II is 10.2 lb./gallon. Be sure to make the tank frame sturdy enough to handle the weight and vibration.
- The tanks may be mounted on the equipment or tractor.
- When installing the nitrogen rack, pay attention on how high it is placed to en-sure accessibility and ground clearance.
- Nitrogen rack can be designed to mount bottle vertical or horizontal. In either case ensure the nitrogen regulator is protected from possible damage.
- Mount metal tank on to the rack and secure.
- Attach Filling Station to the implement or tractor in a location that is easily accessible to hook up all necessary supply hoses.

ONLY USE NITROGEN TO PRESSURIZE TANK



Figure 1.

It is suggested that all shank welding be done with the shank removed from the implement, once the length of the tubing is determined



- 1. Find 1"x2"x6" metal stock (foot blocks) and cut to fit the heel of shank so it runs parallel with the ground. Weld foot blocks to the heel of the shank. Position above the ware point on the ripper point.
- 2. Determine the position of the tube guards on the back of the shank. Place the first tube guard no more than 1" away from foot block.
- 3. Determine the length of the drop tube. Tack weld and trip shank to check for clearance and position before continuing. You may decide to add protection (see picture) to prevent drop tube damage.
- 4. When adjusting length of drop tube cut off the bottom (non-threaded end). Pinch the bottom of the tube and grind out an opening to allow product flow.

(Continued on page 9)

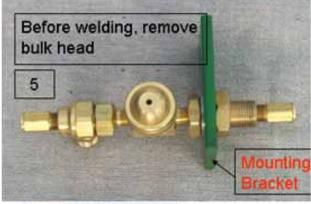




Figure 3.

#### Iron Works (cont.)

- 5. If using black 1/8" hoses Weld bulk head mounting bracket onto frame to hold Orifice body/Check valve assembly. Then put quick connects on both sides of the orifice body.
- 6. When using yellow or red 1/8" hose an orifice body/check valve assembly is not required. Hose will connect directly to the top of the drop tubes.
- 7. Attach quick connects to top of drop tubes.
- 8. Weld the module tower off center on the implement so that site glass and manifold are in view of the tractor operator. (See "Helpful Hints" on page 18)

#### Flow Control

- Find the filter module and slide it onto the module tower and secure close to the bottom of the tower.
   Leave enough space to attach the filter drain hoses. (If the dual filter module upgrade is used, place it in the same position as above).
- Following the placement of the filter on the module tower, slide on the on/off valve. Secure this on/off valve in place. (If the single filter module is not being used, go to "Flow Control Upgrades" on page 10 for instructions)
- Next slide on the 4 or 6 port manifold and secure at the top of the module tower
- Multiple manifolds will require additional stands
- Locate on/off switch and attach to module on/off valve and run the cord and switch to the tractor cab
- Leave plenty of loose cord to allow securing the cord the tractor and allow the implement to operate with out pulling on the cord
- Position switch box to the desired location. Then open switch box and cut



Figure 4.

#### Flow Control Upgrades

- Following the placement of the filter on the module tower, slide on the turbine module. Secure in place.
- Next slide on the on/off and throttle module and secure to the module tower.
- Finally, slide on the 4 or 6 port manifold and secure.
- · Attach the digital meter cable to the turbine.



- Attach the control switch to the KZ valves and place in an accessible location in the cab
- Place the site gauge stand at a spot that can be easily seen by the driver.



#### Figure 5.

## Hoses Product Hoses

- On the Filling Station write a "P" on the side with the two valves and a "N" on the side with one valve.
- Locate the  $\frac{3}{4}$ " hose and run from the  $\frac{3}{4}$ " barb from the Filling Station to the tank outlet marked with a "P". Cut to proper length and secure with hose clamps.
- Connect 1/2" hose from hose barb on Filling Station to the filter located on the module tower and secure with hose clamps.
- Using the same size hose, connect the filter to the site glass and secure with hose clamps.
- Connect the on/off valve to the manifold and secure with hose clamps.
- Secure 1/2 " hose from bottom of filter to frame
- String out the 1/8" hose from manifold by following the frame to the farthest drop tube. Cut this hose and use as a pattern for the rest of the hoses.
- Cut all 1/8" hoses the same length. It is suggested that all red or yellow hose to be cut to 15 feet in length.
- Attach all 1/8" hoses from manifold to the check valve/orifice body. (See upgrade section for attachment of yellow or red 1/8" hoses)
- Attach the black 1/8" hose to the check valve/orifice body and then run a short black
- 1/8" hose to the quick connect on the drop tube.
- Be sure to place the hoses in an area safe from being pinched during implement operation.
- Carefully coil up all excess hose and secure. Coils should be approximately 1 foot in diameter to ensure proper flow.



Figure 6.

### Nitrogen Hoses



Figure 7.

- Install nitrogen tank in nitrogen rack
- Attach regulator to nitrogen tank
  Run nitrogen hose to nitrogen valve at
  the Filling Station

#### Premier:

#### Installing hoses without site glass stand

- From the filter attach the 1/2" supply hose to the turbine.
- Connect the turbine to the throttle valve (red indicator).
- Connect the throttle valve to the on/off valve (yellow indicator).
- Connect the on/off valve to the manifold.

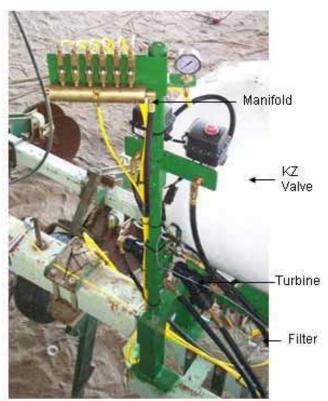


Figure 9.



Figure 8.

#### Installing hoses with glass stand

- From the filter attach the 1/2" supply hose to the turbine.
- Connect the turbine to the site gauge & stand.
- Due to the long length of hose required to connect to the site stand, DO NOT attach the hose to a plastic fitting. Always attach it to metal fittings for
- Connect the site gauge to the (KZ valves) throttle (red) and then to the on/off valve (yellow).
- Connect the on/off valve to the manifold.

#### Finishing Set Up

- Locate orifice body (if using), separate orifice body, place desired orifice within housing with numbered side up, close and tighten.
- If orifice bodies are not being used, connect the red or yellow hose directly to the quick connect on top of the drop tube

#### Checking for Leaks

- Pressurize the tank with desired amount of nitrogen.
- Check for leaks at the fittings with soapy water. If bubbles appear, tighten fitting to seal. If it will not seal, depressurize the tank and reseal the fitting.
- Once the system is tested, open all valves and ensure flow of nitrogen to the drop tubes.





Figure 10.



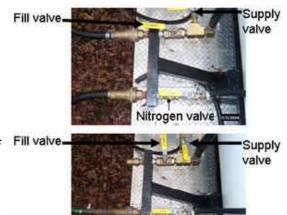
ONLY USE NITROGEN TO

PRESSURIZE TANK

### Operating Instructions

#### Filling

- Let off all pressure in the tank that was just leak tested by connecting the vent hose to the nitrogen coupler at the Filling Station and open the vent valve.
- Connect the transfer hose from the pig to the product valve at the Filling Station.
- · Open the fill line to the grower tank and close the product line to the filter
- Make sure the product valve on top of the grower tank, is open.
- Pressurize the pig with nitrogen
- Open the product valve on the pig.
- Transfer the contents of the pig into the grower tank.
- Do not over fill
- Once the product has been transferred to the grower tank, close the pig product valve.
- Disconnect the transfer hose
- Close the nitrogen line at the Filling Station and disconnect the vent hose
- Reattach the nitrogen bottle to the nitrogen valve at the filling station.
- Open the nitrogen bottle and set the regulator to the desired pressure
- Open the nitrogen line at the Filling Station to pressurize the grower tank
- Open the supply line to the filter. Be sure the applicator on/off valve on the tower is in the off position.
   (Continued on Next Page)



Nitrogen valve

Figure 11.

#### Filling Continued

- Filling set up:
  - Fill valve to tank is open.
  - Supply valve to filter is closed
  - Nitrogen valve is open
- Applying set up:
  - Fill valve is closed.
  - Supply valve is open
  - Nitrogen bottle is attached to nitrogen valve and the valve is open

#### Product Transfer - Set up



Figure 12.

#### Calibration

- See the enclosed Orifice Guide or Flow Sheet for calibration instructions
- When determining MPH, put the implement in the ground and utilize GPS or time the tractor for accurate speed. DO NOT use the tractor tachometer as the only source to determine MPH.

#### **Applying**

- Once calibration is complete and accurate, we are ready to apply.
- Pressurize the grower tank to the desired pressure. Care should be taken not to over pressurize as
  excess will have to be bled off.
- Ensure the applicator on/off valve is in the off position
- Turn on the supply valves to the filter
- Once in the field turn on the applicator on/off switch and beginning applying product

#### Clean Out

- At the end of the season and when grower tank is empty. Blow out all lines into the ground.
- Turn off fill line to grower tank. Turn on supply line to filter. Attach Nitrogen line from regulator to the product coupler at the Filling Station. Open applicator on/off switch and proceed to blow out all lines while operating the rig in the field
- Once system is cleaned out, leave grower tank pressurized (10 15 lbs nitrogen pressure).
- Keep the grower tank sealed at all times. If it is not sealed it will rust and a new tank will need to be purchased.



### ONLY USE NITROGEN TO PRESSURIZE TANK

#### Troubleshooting

Product not flowing to site glass

Check to make sure the On/Off switch is operating

Check to make sure the valves are open at the grower tank

Check to make sure there is product in the grower tank

Check to make sure the grower tank is pressurized. If the tank is not pressurizing, in spect the check valve on the nitrogen line.

Clean out the filter

Product will not flow from pig to grower tank

Check to make sure the Filling Station vent line is connected and the valve is open

Check to make sure the pig is pressurized

Check to make sure the proper valves are open

Product will not flow evenly to each shank

Ensure all lines are the same length

Check to make sure the coiled 1/8" hose is not coiled any tighter than in 1 foot diam eter coils.

If check valve/orifice body is used be sure to run a minimum of 10 PSI at the check valve/orifice body assembly.

Check the condition of the diaphragm check valve. Check for bubbles/blistering and dust/dirt. Replace if necessary.

If screens are used, they must all be clean

Ensure all drop tubes are free and clear of debris

Digital meter is not showing a consistent flow

Check to make sure the throttle & on/off valve is located after the turbine.

Be sure there are no sharp turns in the supply line on either side of the turbine.

Adjust nitrogen pressure to improve sensitivity of product flow.

#### Additional Instructions

- Follow proper calibration methods
- Use the proper Personal Protective Equipment
- Keep nitrogen pressure on the grower tank at all times
- Each year, inspect all components prior to application and replace questionable parts.
- Calibrate each year and double check acres treated to the amount of product applied.
- Do not place any product lines or gauges containing product in the tractor cab

#### Maintenance Guide

Once application of Telone is complete, purge all Telone lines with nitrogen by following these steps1

#### Nitrogen System with Filling Station

- · Attach nitrogen line to the product side of the filling station
- Shut off product ball valve at the top of the tank
- Open both valves at the product side of the filling station
- Open the on-off valve and regulating valve2 to the system
- Open nitrogen supply to flush out remaining Telone in the line
  - Continue flushing until no Telone is seen coming from the outlet
  - Open valve on the bottom of the filter body to remove any remaining Telone in the filter body
- Turn off the nitrogen valve
- Remove filter element from filter body or bodies
  - Rinse element with diesel fuel and replace back into the filter body
- To improve the longevity of your pressure system it is suggested that you also flush the system with diesel fuel using the same steps from above
  - Check with your Certified Dealer or Chemical Container Inc on the availability of a diesel Flush Out Kit.
    - Instructions on the use of the Diesel Flush Out Kit are included in the guide
- Once purging is complete disconnect all hoses and close ball valves.
- Seal all open hoses by using duct tape to prevent intrusion by insects

#### Nitrogen System WITHOUT a Filling Station

- Remove the dry lock disconnect from the product side at the top of the tank
- Using a double male dry lock connector, insert into the female dry lock connector at the end of the hose going to the filter.
- Connect the female dry lock disconnect from the nitrogen bottle to the other side of the double male dry lock connector.
- Open the on-off valve and regulating valve to the system<sup>2</sup>
- Open nitrogen supply to flush out remaining Telone in the line
  - Continue flushing until no Telone is seen coming from the outlets
  - Open valve on the bottom of the filter body to remove any remaining Telone in the filter body
- Turn off the nitrogen valve
- Remove filter element from filter body or bodies
- Rinse element with diesel fuel and replace back into the filter body
- To improve the longevity of your pressure system it is suggested that you also flush the system with diesel fuel using the same steps from above
  - Check with your Certified Dealer or Chemical Container Inc on the availability of a diesel Flush Out Kit.

Instructions on the use of the Diesel Flush Out Kit are included in the guide

- Once purging is complete disconnect all hoses and close ball valves.
- Seal all open hoses by using duct tape to prevent intrusion by insects

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<sup>1</sup> If using orifice plates, remove before flushing/purging system

<sup>2</sup> This only applies to the Premier System Equipment Maintenance

#### Flush Out Kit Instructions<sup>3</sup>

- If using orifice plates, remove before flushing/purging system
- Fill Flush Out Kit with diesel
- · Connect positive and negative electrical terminals of the Flush Out Kit to a battery

#### Nitrogen System with Filling Station

- Attach Flush Out Kit line to the product side of the filling station
- Shut off product ball valve at the top of the tank
- Open both valves at the product side of the filling station
- Open the on-off valve and regulating valve4 to the system (connect to an electrical source to operate)<sup>4</sup>
- Turn on switch to the Flush Out Kit to begin purging process

  Continue flushing for two minutes after diesel is seen coming from the outlets
- Turn off the Flush Out Kit switch
- Once purging is complete disconnect all hoses and close ball valves.
- Seal all open hoses by using duct tape to prevent intrusion by insects.

#### Nitrogen System WITHOUT a Filling Station

- Remove the dry lock disconnect from the product side at the top of the tank
- Using a double male dry lock connector, insert into the female dry lock connector at the end of the hose going to the filter.
- Connect the female dry lock disconnect from the Flush Out Kit to the other side of the double male dry lock connector.
- Open the on-off valve and regulating valve to the system<sup>5</sup>
- · Switch on Flush Out Kit to start flow of diesel
  - Continue flushing until no Telone is seen coming from the outlets
  - Open valve on the bottom of the filter body to remove any remaining Telone in the filter body
- Turn off the Flush Out Kit switch
- Once purging is complete disconnect all hoses and close ball valves.
- Seal all open hoses by using duct tape to prevent intrusion by insects

#### Grower Tank

- Do Not leave the tank open to the atmosphere
- Always maintain nitrogen pressure on the tank
- Always use nitrogen as the gas in the tank
- Always filter product going in and out of the tank
- Never put any other liquid in the tank other than Telone\* products
- Do not weld or cut the tank

If using orifice plates, remove before flushing/purging system

<sup>4</sup> This only applies to the Premier System

<sup>5</sup> This only applies to the Premier System

### Helpful Hints

#### **Module Tower**

When attaching the module tower, you may want to put on a receiver post first for durability and removal for stor-

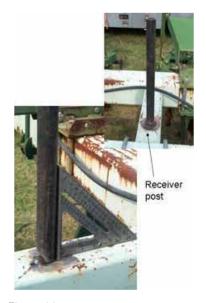


Figure 14.

#### Trash Guards

Trash guards may be attached to prevent the soil and trash from rapping around product hose and causing damage.



Figure 16.



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Figure 13.



Figure 15.

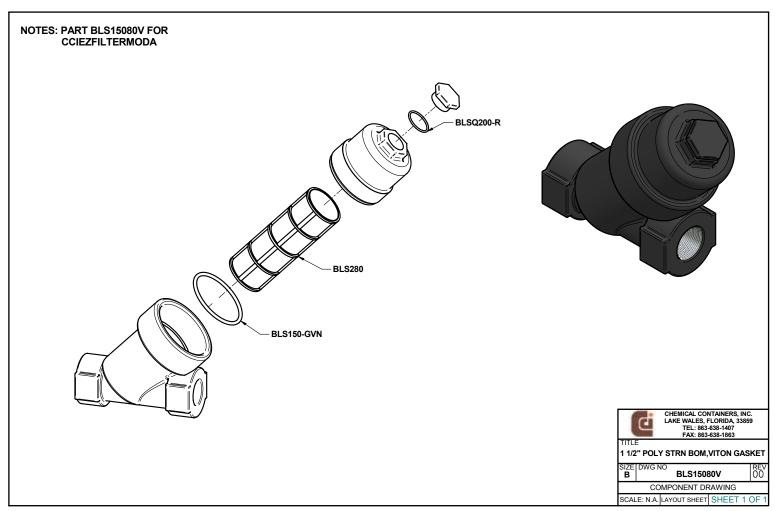
#### Nitrogen Rack

- When designing the nitrogen rack, make a receiver spot for placing the nitrogen tank.
- This will help maintain control of the nitrogen bottle as you lift it into place

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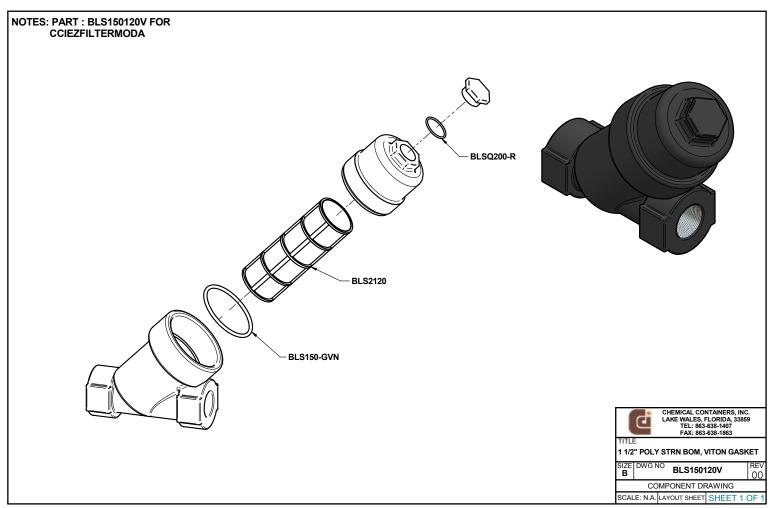
### Assembly Diagrams & Replacement Parts

### Banjo 80 Mesh Filter



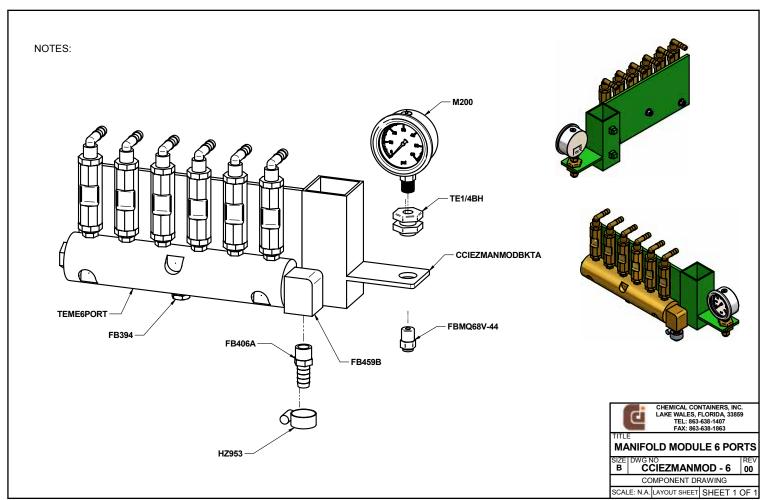
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### Banjo 120 Mesh Filter



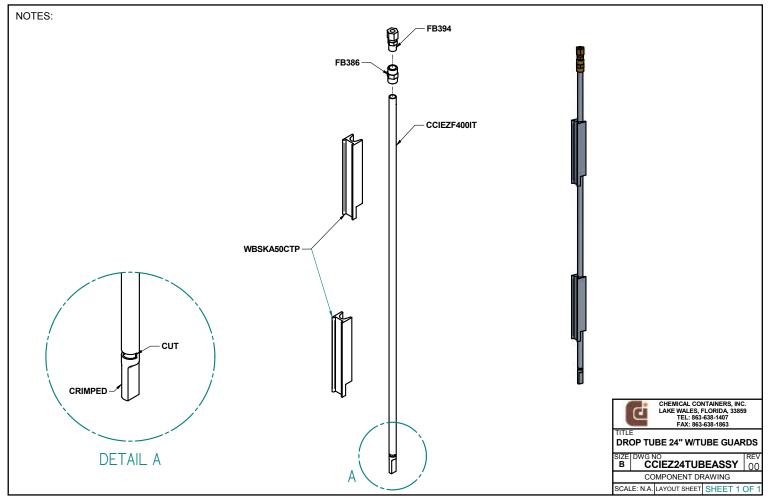
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### 6 Row Manifold Assembly



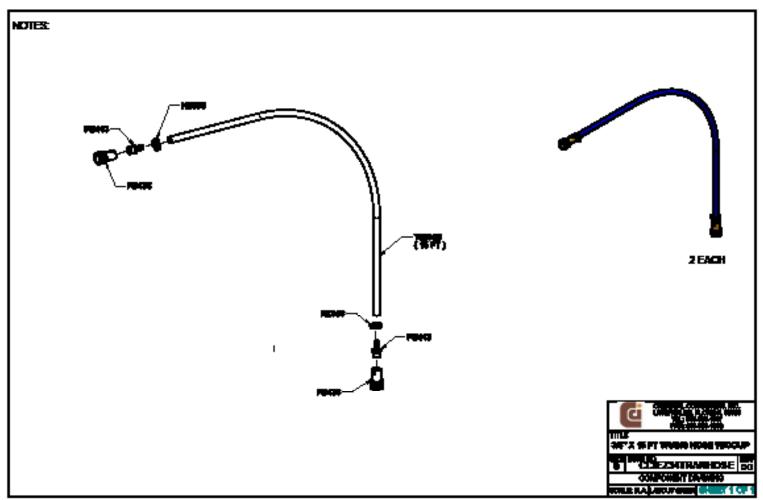
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### 24" Drop Tube



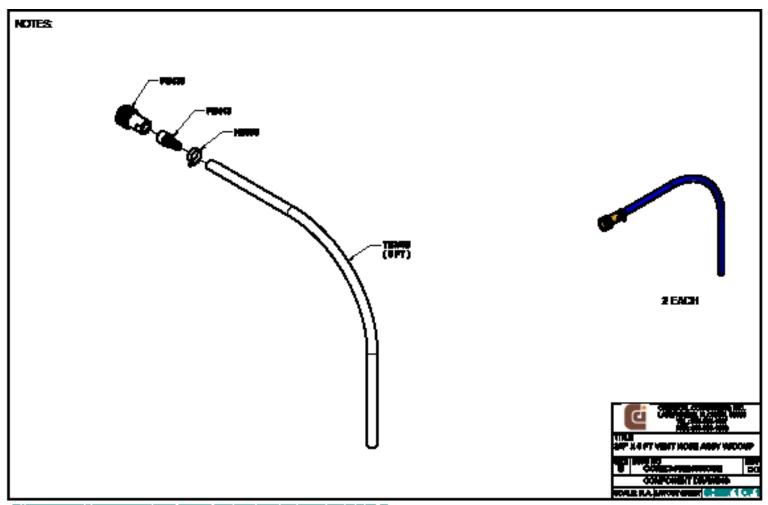
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### Transfer Hose



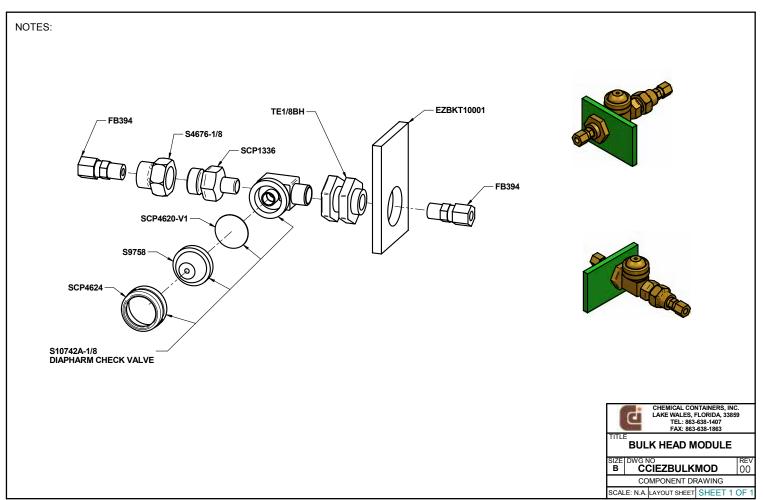
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### Vent Hose



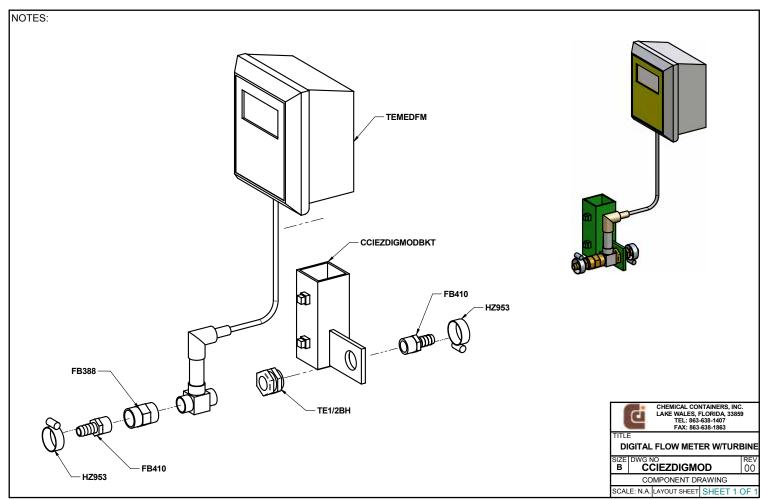
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### Check Valve Assembly



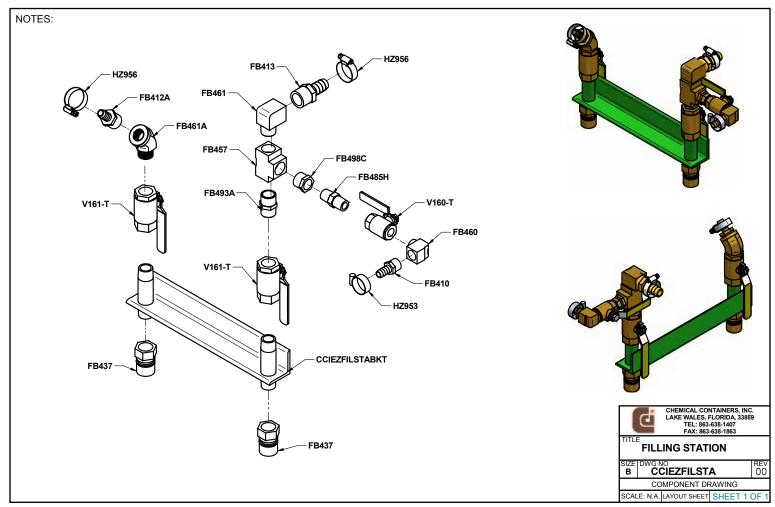
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### Digital Flow Meter



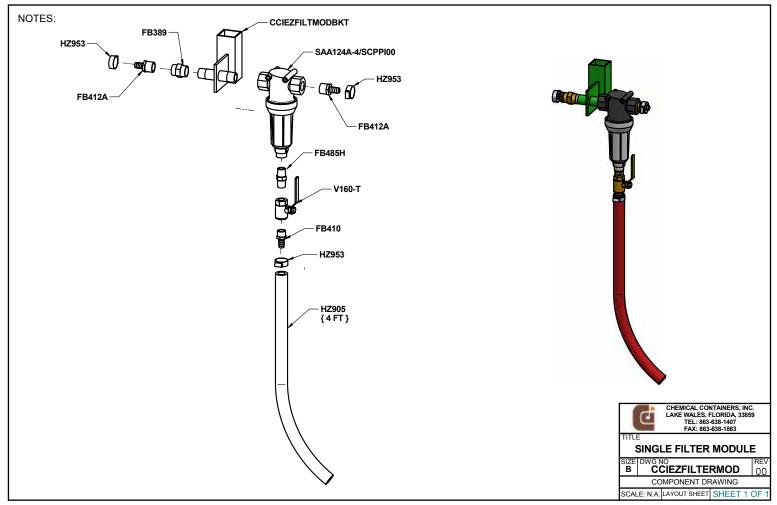
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### Filling Station



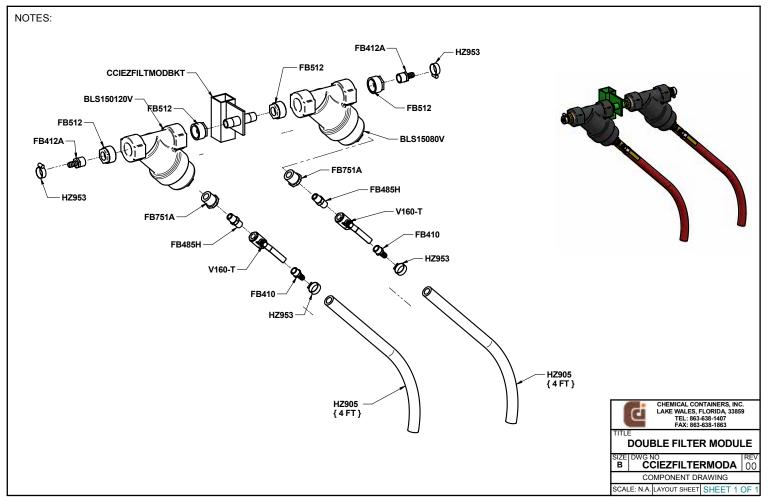
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### Single Filter Assembly



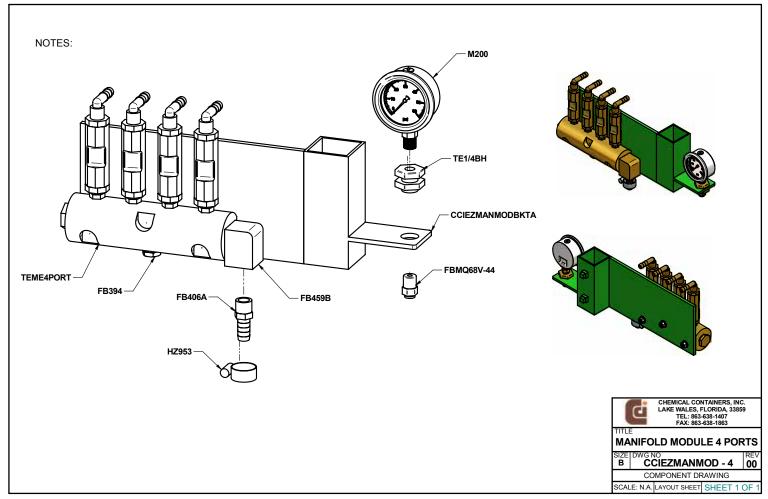
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### Double Filter Assembly



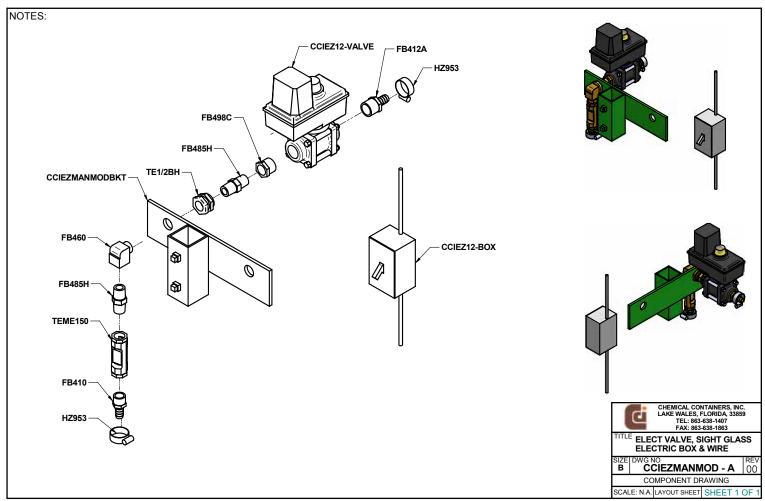
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### 4 Row Manifold Assembly



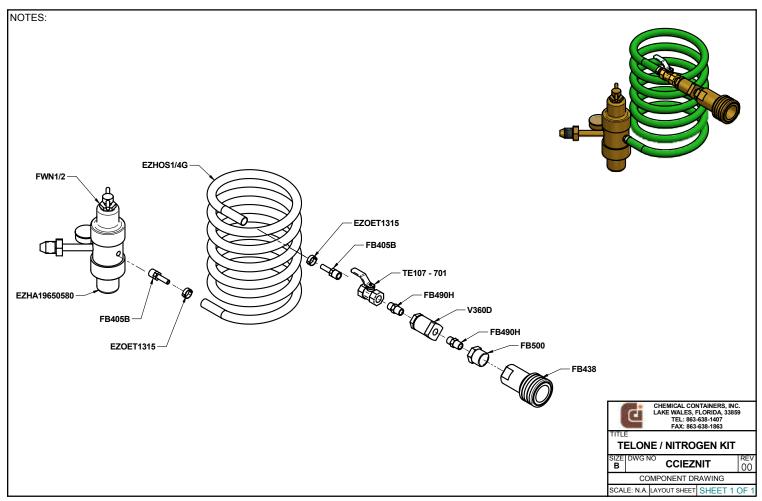
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#### On/Off Valve - Standard Kit



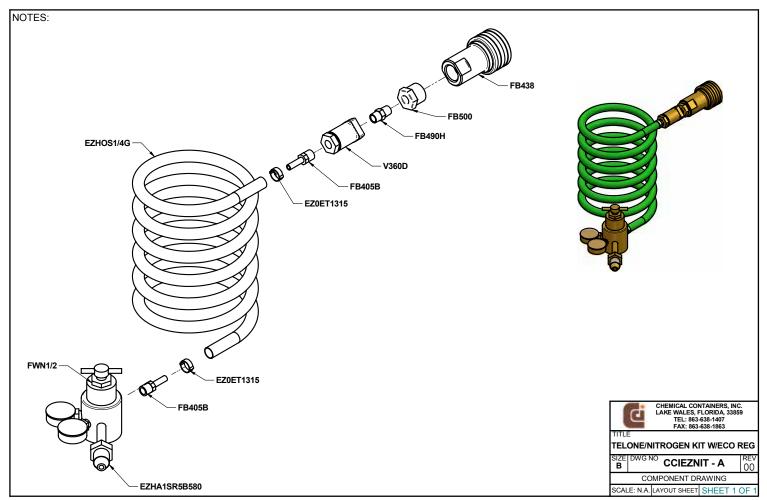
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### Nitrogen Regulator



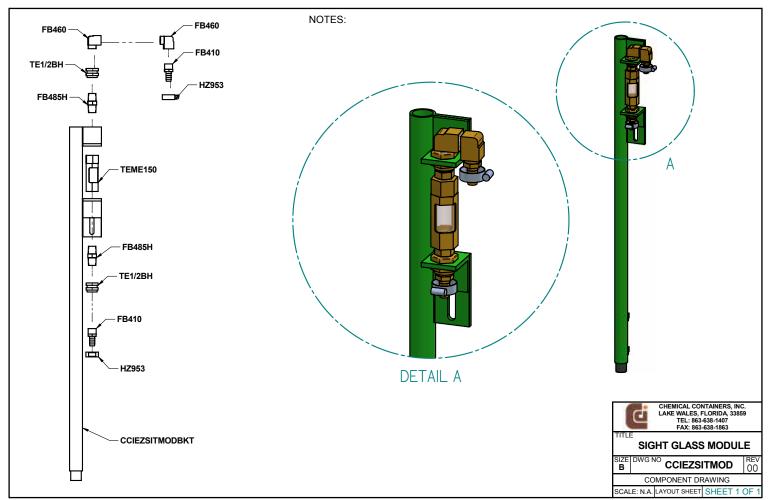
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### Transfer Regulator



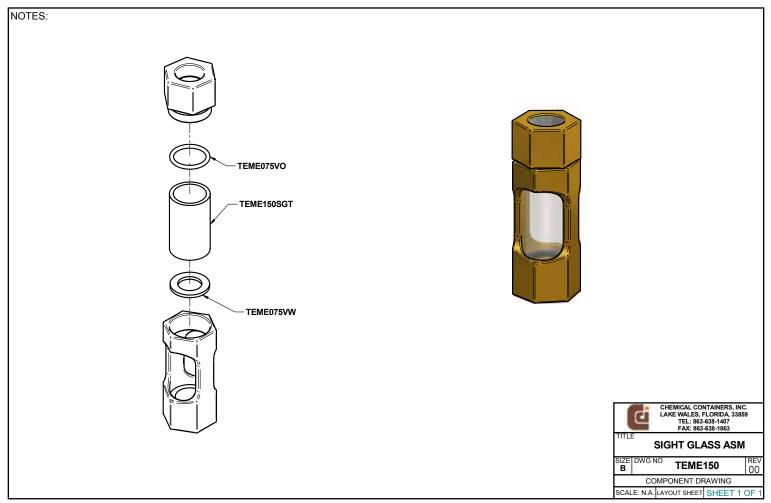
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#### Site Glass and Stand



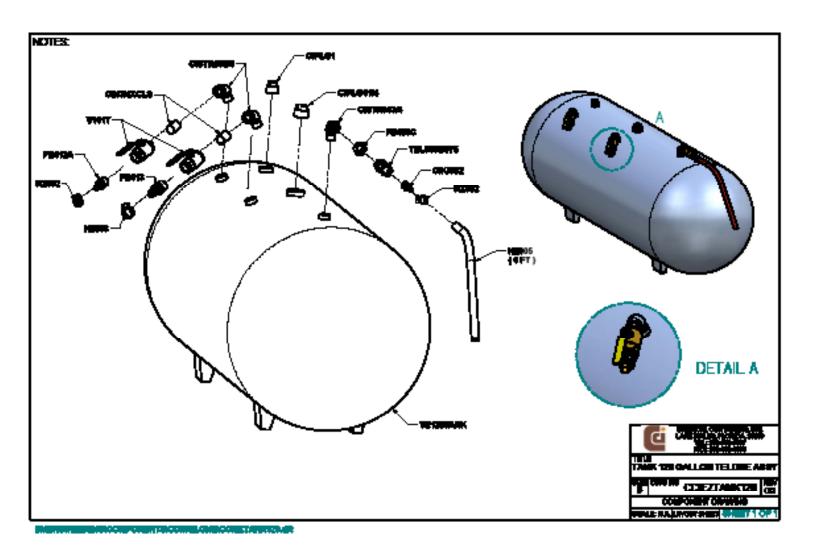
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### Site Glass Assembly

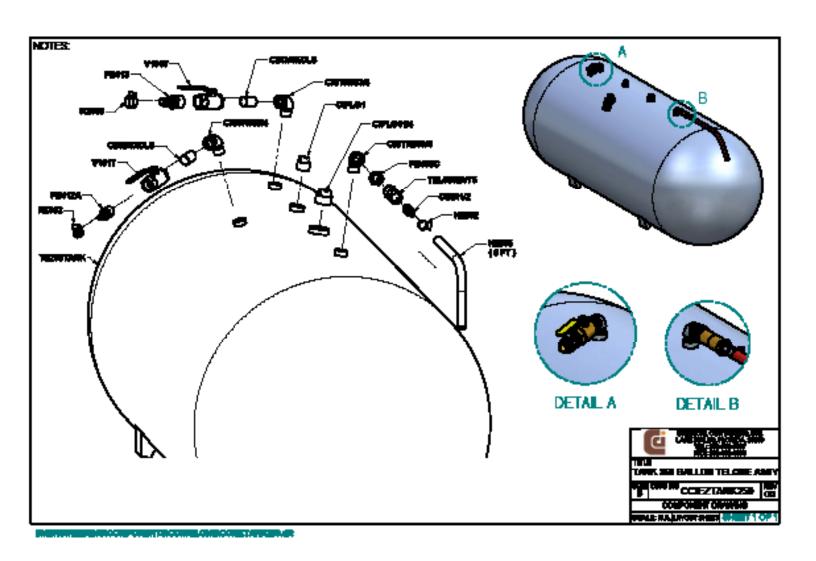


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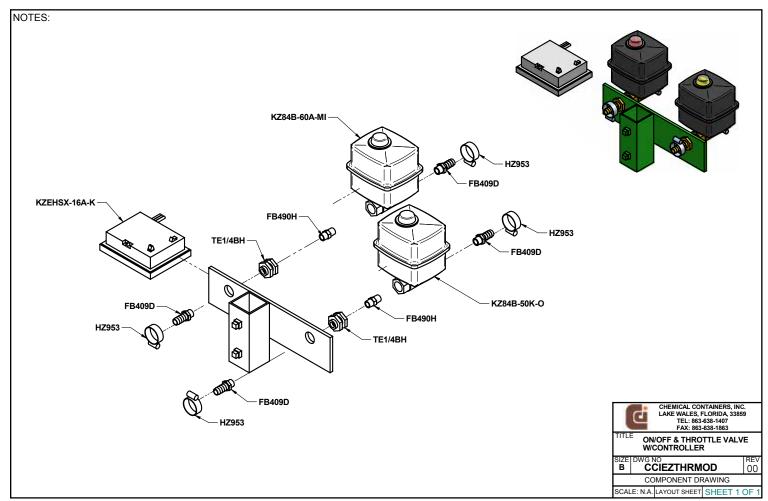
### 120 Gallon Tank



### 250 Gallon Tank

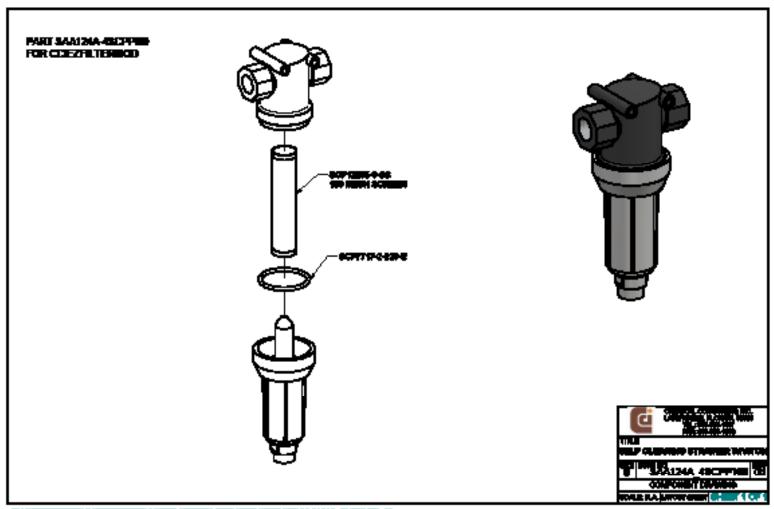


### On/Off Throttling Valves - Premier Kit



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### Single Filter Only



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