



Biotube[®]

EasyPak[™] Pump Package

Installation Instructions

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DOCUMENT

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About These Instructions

This manual contains an Installation Overview and a set of Installation Steps.

Installation Overview – This is a simple overview of the installation steps. It is a reference only; complete instructions are found in the installation steps that follow.

Installation Steps – These provide general instructions for each installation step, along with references to installation documents for specific components. Many Orenco products come with installation instructions. All of these instructions are available in hard copy from Orenco. Contact your dealer or Orenco for copies, or find individual instructions online in the Orenco Document Library at www.orenco.com.

Before You Begin

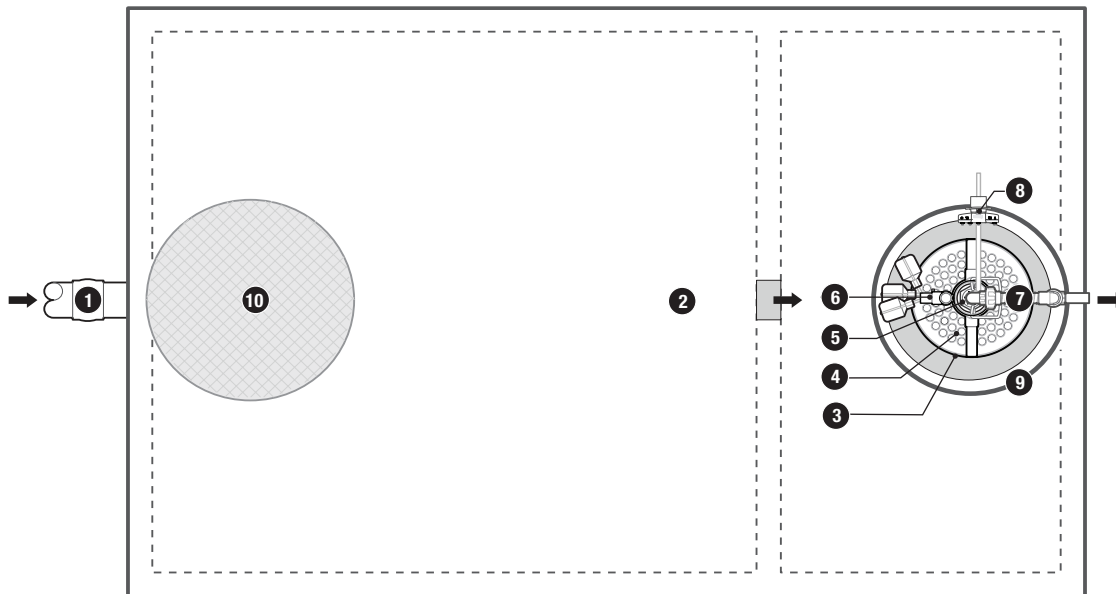
These instructions cover new installations. Contact your distributor or Orenco for retrofit information. Before beginning, read these instructions and any documents referenced in them, and confirm the instructions for all of these products are the most current available. Check our online Document Library at www.orenco.com to be sure your documents are current. You'll save time and money on installation day, and you'll get fewer call-backs.

Check the package components! Be sure all pump package components are present before beginning the installation. All EasyPak pump packages come with a Biotube EasyPak pump vault, Biotube effluent filter cartridge, and a discharge assembly. ClickTight packages include a ClickTight connector, ClickTight float switch assembly, ClickTight effluent pump, and ClickTight control panel. Non-ClickTight packages include a splice box, float switch assembly, effluent pump, and control panel. Contact your distributor or Orenco at www.orenco.com if any components are missing or damaged.

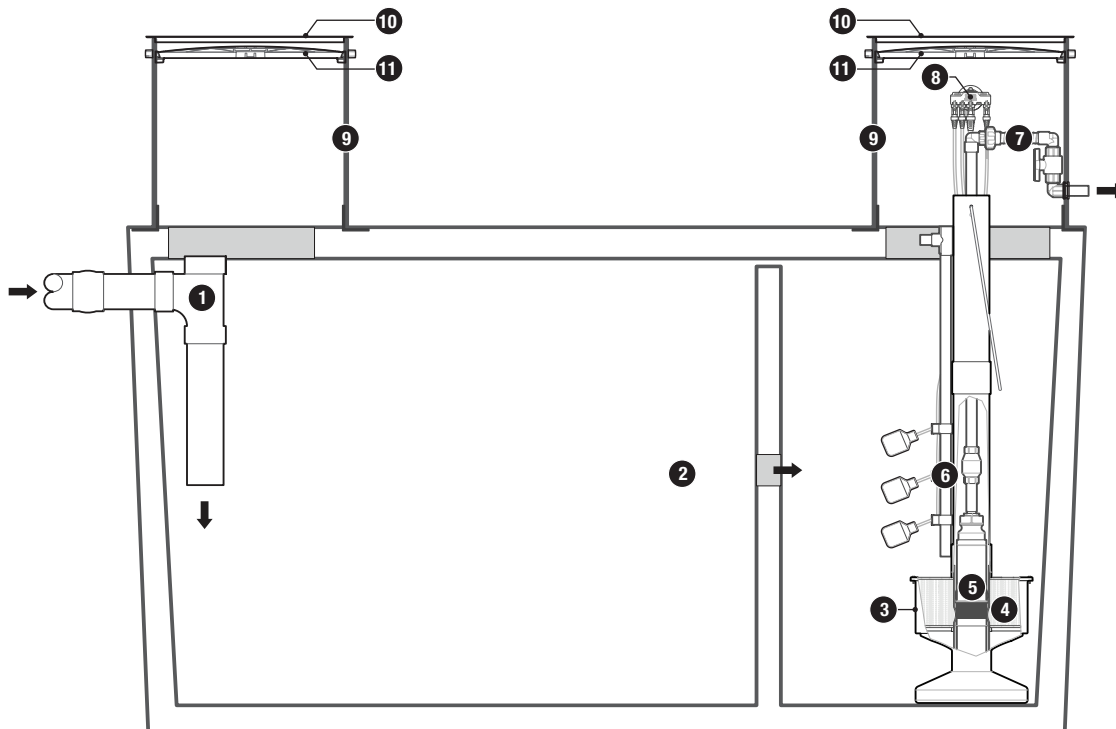


Note — All pipe diameters given are US nominal IPS pipe sizes. If you're using metric pipe, you may need adapters to connect to the US fittings supplied.

System Components



Top view (two-compartment concrete tank shown; see engineering drawings for project-specific configurations)



Side view (two-compartment concrete tank shown; see engineering drawings for project-specific configurations)

Biotube® EasyPak™ (shown with ClickTight™ compatible components)

- | | | |
|---|--|--|
| 1. Septic tank inlet and tee | 5. ClickTight compatible effluent pump | 9. Access riser |
| 2. Septic tank (two-compartment tank shown) | 6. ClickTight compatible float switch assembly | 10. Access lid |
| 3. Biotube EasyPak pump vault | 7. Discharge assembly | 11. Tank Shield™ safety barrier |
| 4. Biotube effluent filter cartridge | 8. ClickTight connector | 12. ClickTight control panel (not shown) |

Installation Overview

Step 1. Make sure the tank has been installed per the manufacturer's instructions and the engineer's or designer's specifications have been followed.

Step 2. Attach the tank adapters and access risers, if necessary.

Step 3. Attach the ClickTight or splice box to the access riser.

Step 4. Test the tank and tank-to-riser seams for watertightness.



Key Point — The tank and risers must pass the watertightness test before the installation can continue.

Step 5. Assemble the EasyPak pump vault, assemble and attach the float switch assembly, and assemble and place the pump discharge assembly.



IMPORTANT — DO NOT lift or lower the pump by the pump cord.

Step 6. Place the EasyPak in the pump tank.



IMPORTANT — It is critical for proper system function that the float switch and pump ClickTight connectors or cable and cord ends remain dry throughout the installation process.

Step 7. Route the pump discharge stub through the access riser and connect the pump discharge stub to the transport line.

Step 8. Mount the control panel, route the wiring, and make the wiring connections.

Step 9. Test the voltage and amperage of the pump.

Step 10. Test the function of the float switches and control panel.

Step 11. Perform final installation activities and cleanup.

Installation Steps

Step 1. Confirm Tank Placement



Note — Due to possible differences in the installation order, the tank may need to be placed in the excavation.

Before beginning the EasyPak installation, make sure the tank has been placed in its excavation per the manufacturer's instructions and the engineer's or designer's specifications.

Step 2. Attach Adapters and Risers



Key Point — Watertight tank adapter and riser seams are critical for proper system performance.



Notes

- Due to possible differences in the installation order, tank adapters and access risers may already be attached to the tank.
- Go to Step 3 if the adapters and risers have already been attached.

Step 2a. Attach the tank adapters per the manufacturer's instructions. See below for specific Orenco tank adapter installation instructions.

- [PRTA24 and PRTA30 Tank Adapter Installation Instructions, NIN-TA-PRTA-2](#)
- [Installing RRFTA30 Tank Adapters Instructions, NIN-TA-RRFTA-1](#)
- [Adapter Installation Instructions for Roth Tanks, NIN-RLA-RR-2](#)
- If you don't see instructions here for your type of tank or tank adapter, call your distributor for assistance.

Step 2b. Attach the access risers per the manufacturer's instructions.

- For attaching PVC risers to Orenco tank adapters, see [PVC Riser Installation Instructions, NIN-RLA-RR-1](#).
- For attaching Orenco fiberglass risers to Orenco tank adapters, see [Orenco Fiberglass Riser Installation Instructions, NIN-RLA-RF-1](#).

Step 3. Attach ClickTight or Splice Box

Attach the ClickTight connector or splice box (external or internal) to the access riser. See below for specific component installation instructions.

- [ClickTight & ClickTight Control Panel Installation Instructions, NIN-CLK-1](#)
- [External Splice Box \(SBEX\) Installation Instructions, NIN-SB-SBEX-1](#)
- [Internal Splice Box \(SB\) Installation Instructions, NIN-SB-SB-1](#)

Installation Steps

Step 4. Test Watertightness



Key Point — The tank and risers must pass the watertightness test before the installation can continue.

Follow the watertightness test in [PVC Riser Installation Instructions, NIN-RLA-RR-1](#), to test the tank and the tank-to-riser seams.

- Follow all applicable regulations for watertightness testing.
- Some manufacturers require a partial or full backfill around the tank before testing watertightness.

Step 5. Assemble EasyPak Components

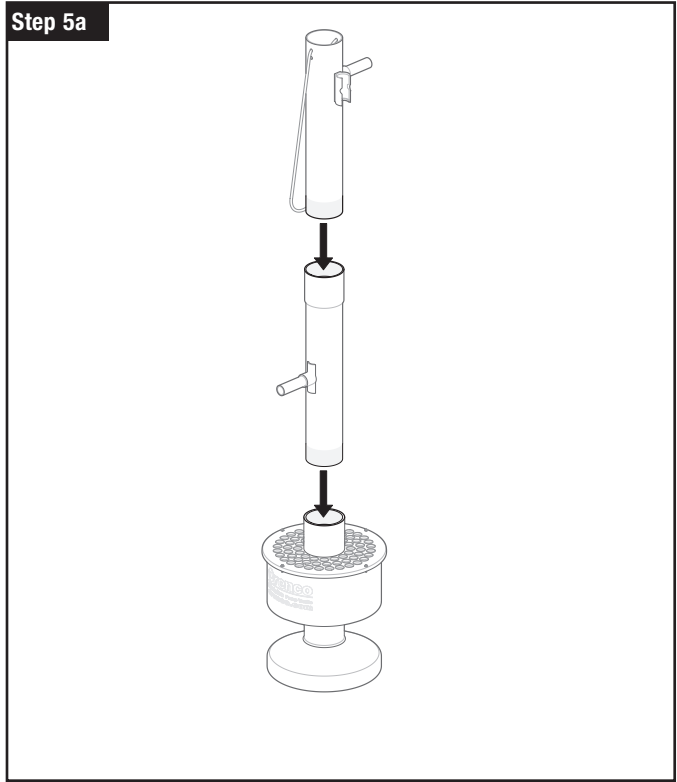
Step 5a. Assemble the flow inducer and pump vault.

1. Apply PVC primer to the bonding surfaces on the two flow inducer sections and on the vault's flow inducer stub.
2. Apply PVC cement to the bonding surfaces on the two flow inducer sections and on the vault's flow inducer stub.
3. Press the two flow inducer sections together.
 - Make sure the PVC handles are on opposite sides of the flow inducer for easy lifting.
4. Press the assembled flow inducer onto the vault's flow inducer stub.

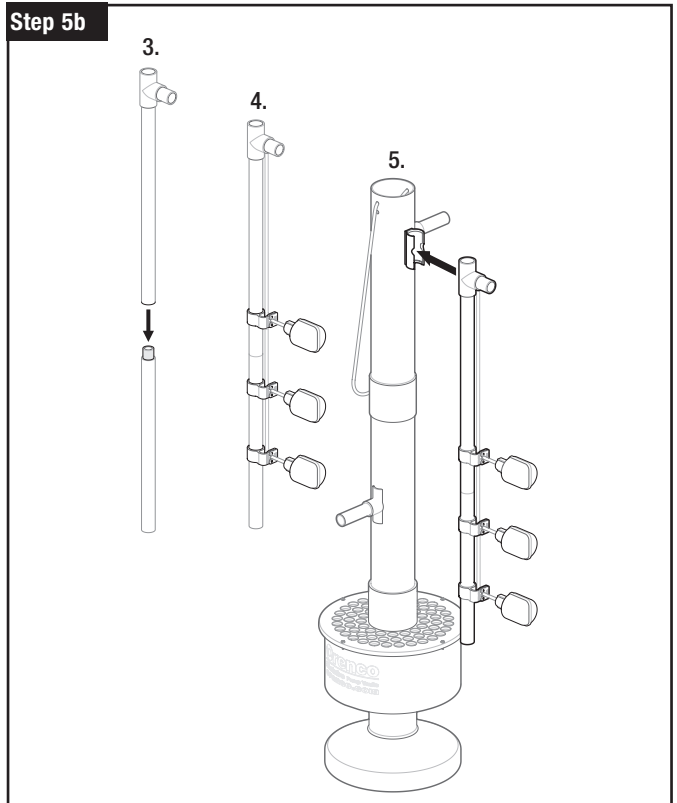
Step 5b. Assemble and attach the float switch assembly.

1. Apply PVC primer to the bonding surfaces on the float stem sections.
2. Apply PVC glue to the bonding surfaces on the float stem sections.
3. Press the two float stem sections together.
4. Install the float switches on the float stem and adjust the switches per the engineer's or designer's specifications.
 - For settings or adjustments, see [Float Switch Settings and Adjustments Instructions, NIN-MF-DA-1](#).
5. Attach the float switch assembly to the float bracket on the EasyPak's flow inducer.
 - For installation, see [Float Switch Assembly Installation Instructions, NIN-MF-1](#).

Step 5a

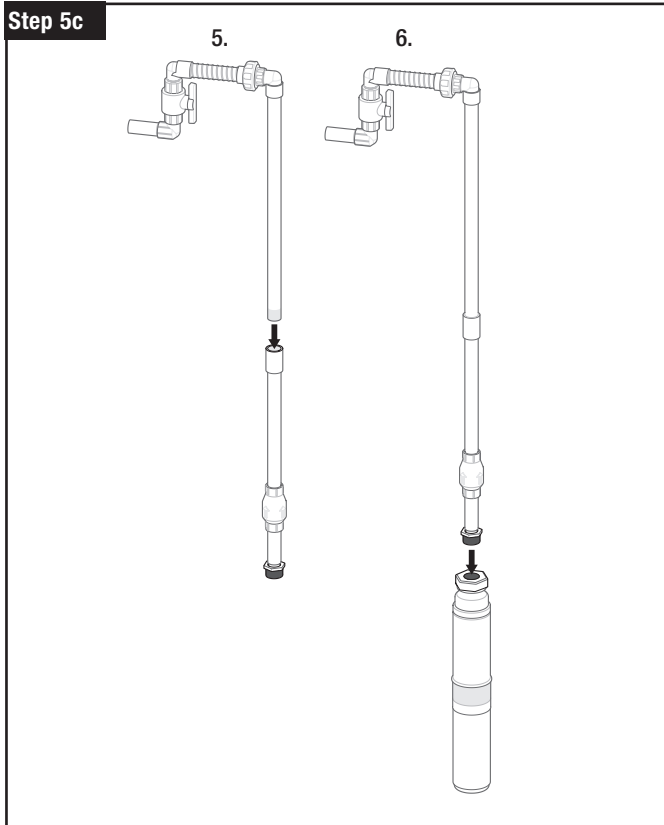


Step 5b



Installation Steps

Step 5c



Step 5. Assemble EasyPak Components, cont.

Step 5c. Assemble the pump and discharge assembly.

1. Dry fit the discharge assembly and check its length against the engineer's or designer's specifications.
2. Make any necessary length adjustments to the discharge assembly.
3. Apply PVC primer to the bonding surfaces on the discharge assembly pieces.
4. Apply PVC cement to the bonding surfaces on the discharge assembly pieces.
5. Press together the discharge assembly pieces.
6. Attach the discharge assembly to the pump.
 - Apply PTFE paste or tape to the threads on the bottom of the discharge assembly.
 - Screw the discharge assembly into the top of the pump.

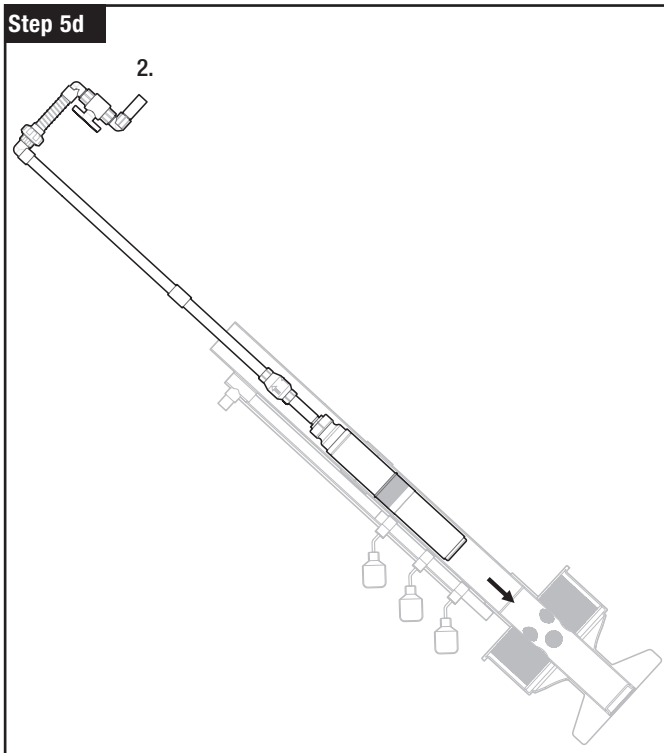
Step 5d. Place the pump discharge assembly in the pump vault.



IMPORTANT — DO NOT lift or lower the pump by the pump cord.

1. Tilt the pump vault for easy access to the top of the flow inducer.
2. Gently lower the pump discharge assembly into the pump vault by the PVC discharge until the pump rests on the bottom of the vault.
3. Stand the pump vault upright and make sure the pump is still resting on the bottom of the vault.

Step 5d



Installation Steps

Step 6. Install EasyPak in Tank



IMPORTANT — It is critical for proper system function that the float switch and pump ClickTight connectors or cable and cord ends remain dry throughout the installation process.

Step 6a. Bag and secure the connectors or cables and cord.

1. Secure all of the float switches' connectors or cable ends in a water-resistant plastic bag.
2. Secure the pump connector or pump cord end in a water-resistant plastic bag.
3. Secure the bagged connectors or cable ends and cord to the top of the EasyPak flow inducer.

Step 6b. Place the EasyPak assembly in the outlet end of the tank.

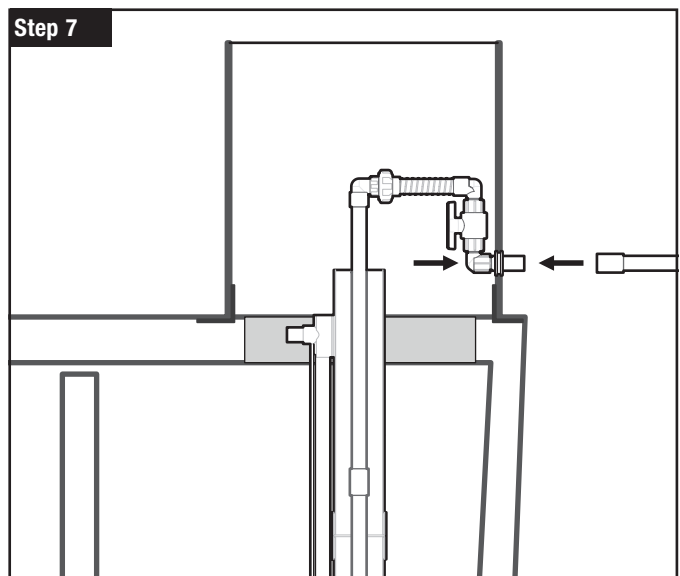
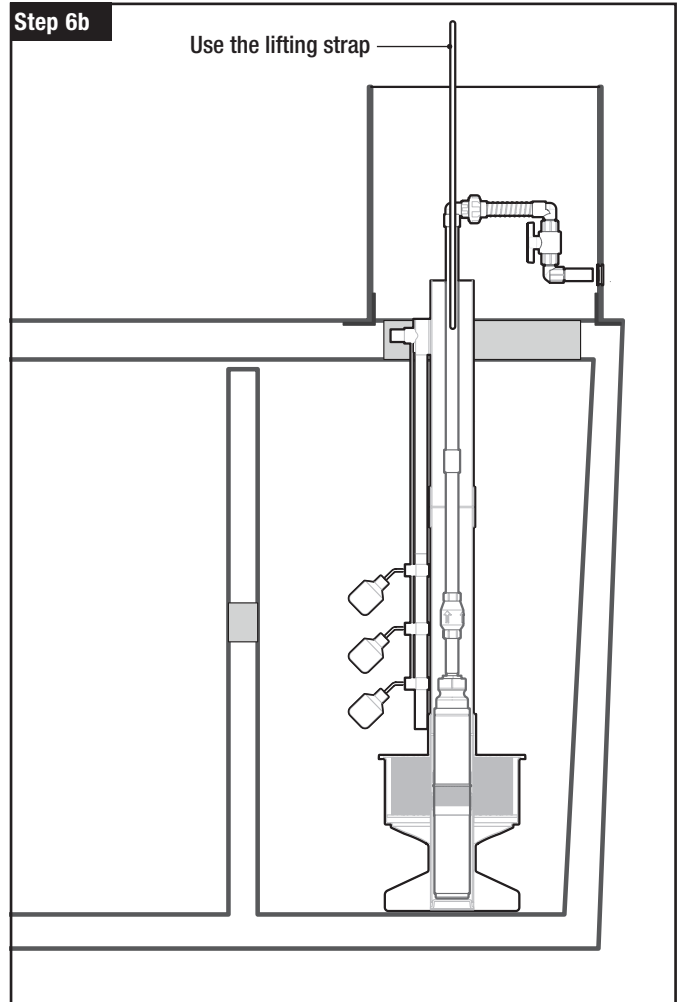
- Use the lifting strap at the top of the flow inducer to gently lower the assembly into the tank.

Step 7. Connect Discharge to Transport Line

Step 7a. Lubricate the discharge assembly's stub and the grommet in the riser's discharge penetration.

Step 7b. Push the discharge assembly stub through the grommet in the discharge penetration.

Step 7c. Use PVC/ABS cement to glue the discharge assembly stub or flex hose stub to the transport line.



Installation Steps

Step 8. Mount and Wire Control Panel



Key Points

- Orenco recommends this step be performed by a licensed and qualified electrician.
- DO NOT mount the control panel on an exterior wall other than a garage or shop wall! The motor contactor makes a sound while engaging and disengaging that can be disruptive to residents.
- Follow all applicable regulations for placement of the control panel.
- Follow all applicable regulations and electric codes.
- Mount the panel in a service-friendly location within sight of the tank.



Note — Due to possible differences in the installation order, the control panel may already be mounted.

Step 8a. Mount the control panel per the instructions included with it.

Step 8b. Route and install any necessary electrical conduit.

Step 8c. Route all wiring into the control panel and connect the panel, pump, float switches, and other equipment per the manufacturer's instructions and schematics and the engineer's or designer's specifications.

- In non-ClickTight systems, use watertight wire connectors to avoid electrical shorts and other issues.

Step 8d. Seal the conduit at the control panel and at the splice box with UL-listed sealing foam, putty, silicone sealant, or an Orenco conduit seal kit.

Step 9. Test Pump Voltage and Amperage

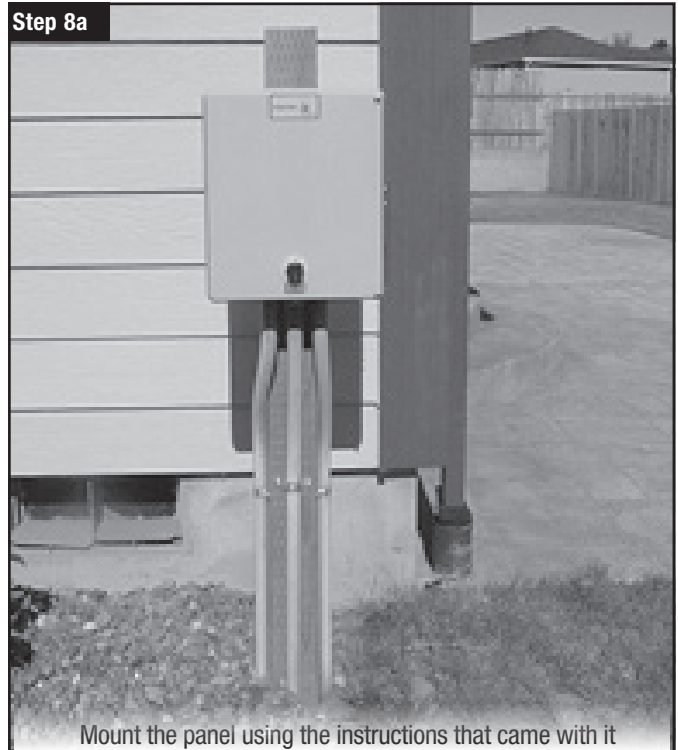
Step 9a. Before beginning the test, make sure the system meets the following conditions.

- There is enough liquid in the tank to safely run the pump – at least 4in (100mm) above the bottom float switch.
- The pump doesn't run dry during testing.
- The control panel has power.
- Any generator used for pump operation can supply enough starting amperage to the pump(s).

Step 9b. Open the discharge plumbing valve and service connections.

Step 9c. Unsnap the float switch assembly from the bracket and remove it from the riser.

- If the assembly includes a Redundant Off/Low-Level Alarm float switch, place it in the up position.



Installation Steps

Step 9. Test Pump Voltage and Amperage, cont.

Step 9d. Turn on the control panel's pump circuit and control circuit breakers.

Step 9e. Use the panel wiring diagram as a reference to test the following voltages and amperage.

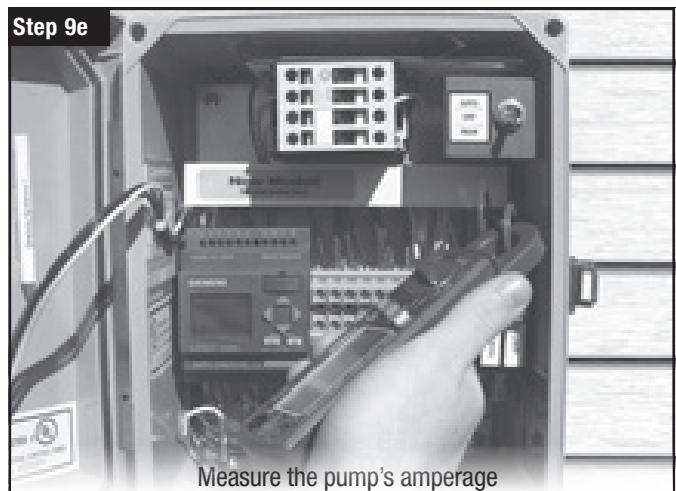
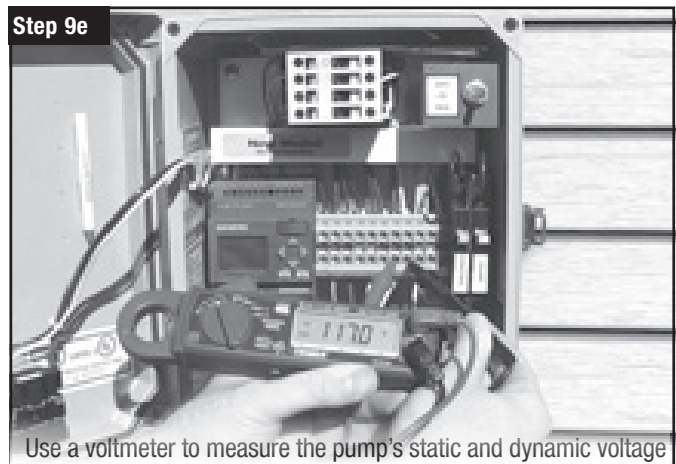
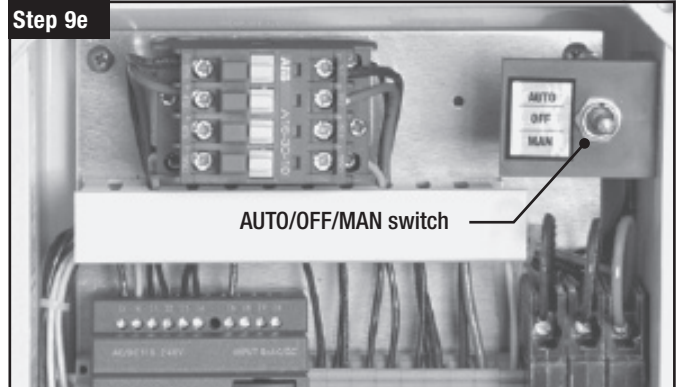
- **Static pump voltage:** With the panel's AUTO/OFF/MAN switch set to OFF, measure the static voltage between the top wire of the pump breaker and the pump neutral terminal.
- **Dynamic pump voltage:** With the panel's AUTO/OFF/MAN switch set to MAN and the pump running, measure the dynamic voltage between the pump terminals in the control panel, once the voltage stabilizes.
- **Pump amperage:** With the panel's AUTO/OFF/MAN switch set to MAN and the pump running, measure the amperage of the pump wire loop(s) above the pump circuit breaker.
 - Don't mistakenly measure the control breaker.

Step 9f. Record operational data on the panel's log sheet, located in the control panel's door pouch.

- If the difference between the pump's static and dynamic voltage is more than 10%, check for correctly sized wiring between:
 - The pump and control panel.
 - The service panel and control panel.
- See [Orenco Pump Wire Table, NCH-PU-PU-3](#), for more information.

Step 9g. Perform end-of-test activities.

1. Turn off the pump circuit and control circuit breakers.
2. Disconnect the generator, if used.
3. Close the discharge plumbing valve and service connections.



Installation Steps

Step 10. Test Float Switches and Panel

Step 10a. Before beginning the test, make sure the system meets the following conditions.

- There is enough liquid in the tank to safely run the pump – at least 4in (100mm) above the bottom float switch.
- The pump doesn't run dry during testing.
- The control panel has power.
- Any generator used for pump operation can supply enough starting amperage to the pump(s).

Step 10b. Perform an operational test of the float switches in the float switch assembly. See below for details.

- For ClickTight float switches and panels, see [ClickTight & ClickTight Control Panel Installation Instructions, NIN-CLK-1](#).
- For EasyPak float switches and panels without ClickTight, follow the instructions below that match the float switch configuration and panel.

Demand-Dose: "Y, G" or "Y, G, W" Float Switch Assemblies (MVP-S, S1, or S1RO Control Panels)

1. Place the Pump On/Off and the Redundant Off/Low-Level Alarm (if included) switches in the up position.
 - The pump begins to run.
2. Place the High-Level Alarm switch in the up position.
 - The audible alarm sounds.
 - The panel door alarm light turns on.
3. Place the High-Level Alarm switch in the down position.
 - The audible alarm goes silent.
 - The panel door alarm light turns off.
4. Place the Pump On/Off switch in the down position.
 - The pump stops running.
5. Place the Redundant Off/Low-Level Alarm switch (if included) in the down position.
 - The audible alarm sounds.
 - The panel door alarm light turns on.
 - On MVP panels, the panel door alarm light begins to blink.

Demand-Dose: "Y, B, R" or "Y, B, R, W" Float Switch Assemblies (MVP-S, S1, or S1RO Control Panels)

1. Place the Pump Off and the Redundant Off/Low-Level Alarm (if included) switches in the up position.
2. Place the Pump On switch in the up position.
 - The pump begins to run.
3. Place the High-Level Alarm switch in the up position.
 - The audible alarm sounds.
 - The panel door alarm light turns on.
4. Place the High-Level Alarm switch in the down position.
 - The audible alarm goes silent.
 - The panel door alarm light turns off.
5. Place the Pump On switch in the down position.
 - The pump continues to run.
6. Place the Pump Off switch in the down position.
 - The pump stops running.
7. Place the Redundant Off/Low-Level Alarm switch (if included) in the down position.
 - The audible alarm sounds.
 - The panel door alarm light turns on.
 - On MVP panels, the panel door alarm light begins to blink.

Timed-Dose: "YG, R" or "YG, R, W" Float Switch Assemblies (S1PT or S1PTRO Control Panels)

1. Place the Timer On/Off and the Redundant Off/Low-Level Alarm (if included) switches in the up position.
 - The Off light on the timer in the control panel turns on.
 - The timer counts down and runs the pump when the Off cycle is complete if the Timer On/Off switch remains in the up position (during normal operation).
2. Place the High-Level Alarm switch in the up position.
 - The audible alarm sounds.
 - The panel door alarm light turns on.
 - The pump turns off automatically if using the timer override function.
3. Place the High-Level Alarm switch in the down position.
 - The audible alarm goes silent.
 - The panel door alarm light turns off.
 - The pump turns off automatically if using the timer override function.
4. Place the Timer On/Off switch in the down position.
 - The Off light on the timer in the control panel turns off.
5. Place the Redundant Off/Low-Level Alarm switch (if included) in the down position.
 - The audible alarm sounds.
 - The panel door alarm light turns on.

Installation Steps

Step 10. Test Float Switches and Panel, cont.

Timed-Dose: “Y, R, W” or “YG, R, W” Float Switch Assemblies (MVP-S Control Panels)

1. Go to the “LOGO!” unit’s “input” screen, per the instructions supplied in the panel.
2. Place the Redundant Off/Low-Level Alarm switch in the up position.
 - The #1 input is highlighted.
3. Place the Timer On/Off switch in the up position.
 - The #2 input is highlighted.
 - The timer counts down and runs the pump when the “Off” cycle is complete if the Timer On/Off switch remains in the up position (during normal operation).
4. Place the High-Level Alarm switch in the up position.
 - The #4 input is highlighted.
 - The audible alarm sounds.
 - The panel door alarm light turns on.
 - The #3 input is highlighted if the timer override function is used.
5. Place the High-Level Alarm switch in the down position.
 - The audible alarm silences.
 - The panel door alarm light turns off.
 - The #4 input is not highlighted.
 - The #3 input is not highlighted if the timer override function is used.
6. Place the Timer On/Off switch in the down position.
 - The #2 input is not highlighted.
7. Place the Redundant Off/Low-Level Alarm switch in the down position.
 - The audible alarm sounds.
 - The panel door alarm light blinks.
 - The #1 input is not highlighted.
 - The alarm condition ends when the Redundant Off/Low-Level Alarm float switch is back in the up position.

Step 10c. If the panel doesn’t perform as it’s supposed to, check the wiring diagram for proper wiring. Contact your distributor for assistance.

Step 10d. Snap the float switch assembly back into the bracket.

- Make sure the float switches can move freely up and down without interference from each other or contact with the vault wall.
- For settings or adjustments, see [Float Switch Settings and Adjustments Instructions, NIN-MF-DA-1](#).

Step 10e. Neatly coil any excess lengths of float switch cord and secure them in the riser.

- Make sure the coils don’t tangle with the float switches.

Step 10f. Place the AUTO/OFF/MAN switch on the control panel to AUTO.

Step 10g. Make sure the control panel circuit breakers are turned on.

Step 10h. Close the control panel door.

Step 11. Final Installation Steps



Note — Due to possible differences in the installation order, some final installation steps may or may not be completed at the time of the EasyPak installation.

Step 11a. Check the pump package, connections, fittings, and other EasyPak components for correct, completed installation and accessibility.

Step 11b. Secure the Tank Shield(s), if included, in the access risers.

Step 11c. Secure the access lid(s) on the tank.

Step 11d. Backfill all of the electrical conduit and plumbing runs.

Step 11e. Finish backfilling the tank excavation per the manufacturer’s instructions and the engineer’s or designer’s specifications.