



VACCINATOR PUMP

INSTALLATION AND MAINTENANCE MANUAL

PERISTALTIC METERING PUMPS SINCE 1957

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WARRANTY AND CUSTOMER SERVICE

LIMITED WARRANTY

Stenner Pump Company will for a period of one (1) year from the date of purchase (proof of purchase required) repair or replace – at our option – all defective parts. Stenner is not responsible for any removal or installation costs. Pump tube assemblies and rubber components are considered perishable and are not covered in this warranty. Pump tube will be replaced each time a pump is in for service, unless otherwise specified. The cost of the pump tube replacement will be the responsibility of the customer. Stenner will incur shipping costs for warranty products shipped from our factory in Jacksonville, Florida. Any tampering with major components, chemical damage, faulty wiring, weather conditions, water damage, power surges, or products not used with reasonable care and maintained in accordance with the instructions will void the warranty. Stenner limits its liability solely to the cost of the original product. We make no other warranty expressed or implied.

RETURNS

Stenner offers a 30-day return policy on factory direct purchases. Except as otherwise provided, no merchandise will be accepted for return after 30 days from purchase. To return merchandise at any time, call Stenner at 800.683.2378 for a Return Merchandise Authorization (RMA) number. A 15% re-stocking fee will be applied. Include a copy of your invoice or packing slip with your return.

DAMAGED OR LOST SHIPMENTS

Check your order immediately upon arrival. All damage must be noted on the delivery receipt. Call Stenner Customer Service at 800.683.2378 for all shortages and damages within seven (7) days of receipt.

SERVICE & REPAIRS

Before returning a pump for warranty or repair, remove chemical from pump tube by running water through the tube, and then run the pump dry. Following expiration of the warranty period, Stenner Pump Company will clean and overhaul any Stenner metering pump for a minimum labor charge plus necessary replacement parts and shipping. All metering pumps received for overhaul will be restored to their original condition. The customer will be charged for missing parts unless specific instructions are given. To return merchandise for repair, call Stenner at 800.683.2378 or 904.641.1666 for a Return Merchandise Authorization (RMA) number.

DISCLAIMER

The information contained in this manual is not intended for specific application purposes. Stenner Pump Company reserves the right to make changes to prices, products, and specifications at any time without prior notice.

SAFETY INFORMATION



▲ WARNING Warns about hazards that **CAN** cause death, serious personal injury, or property damage if ignored.



ELECTRIC SHOCK HAZARD



▲ WARNING ELECTRIC SHOCK HAZARD

Pump supplied with grounding power cord and attached plug. To reduce risk of electrical shock, connect only to a properly grounded, grounding type receptacle. Install only on a circuit protected by a Ground-Fault Circuit-Interrupter (GFCI).



▲ AVERTISSEMENT RISQUE DE CHOC ELECTRIQUE

Cette pompe est équipée d'une fiche de mise à terre. Pour réduire le risque de choc électrique, s'assurer que la fiche est bien raccordée à une prise de courant avec une connexion de mise à terre. Installer seulement sur un circuit protéger par un interrupteur protéger par une mise à la terre.



DO NOT alter the power cord or plug end.



DO NOT use receptacle adapters.



DO NOT use pump with a damaged or altered power cord or plug end. Contact the factory or an authorized service facility for repair.



▲ WARNING HAZARDOUS VOLTAGE

DISCONNECT power cord before removing motor cover for service. **Electrical service by trained personnel only.**



▲ WARNING EXPLOSION HAZARD

This pump is not explosion proof. **DO NOT** install or operate in an explosive environment.



▲ WARNING RISK OF EXPOSURE

Potential for burns, fire, explosion, personal injury, or property damage. To reduce risk of exposure, the use of proper personal protective equipment is mandatory.



▲ WARNING RISK OF FIRE HAZARD

DO NOT install or operate on any flammable surface.



▲ WARNING RISK OF CHEMICAL OVERDOSE

To reduce risk, follow proper installation methods and recommendations. Check your local codes for additional guidelines.



▲ WARNING This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction to concerning use of the appliance by a person responsible for their safety.

SAFETY INFORMATION continued



CAUTION Warns about hazards that **WILL** or **CAN** cause minor personal injury or property damage if ignored.



CAUTION PLUMBING

Metering pump installation must always adhere to your local plumbing codes and requirements. Be sure installation does not constitute a cross connection. Check local plumbing codes for guidelines.



NOTICE: Indicates special instructions or general mandatory action.



This metering pump is portable and designed to be removable from the plumbing system without damage to the connections.



This is the safety alert symbol. When displayed in this manual or on the equipment, look for one of the following signal words alerting you to the potential for personal injury or property damage.



Acceptable for indoor and outdoor use.



Pour utilisation à l'intérieur et à l'extérieur.



Electrical installation should adhere to all national and local codes. Consult a licensed professional for assistance with proper electrical installation.



The use of an auxiliary safety device (not supplied), such as a flow switch or sensor, is recommended to prevent feed pump operation in the event of a recirculation pump failure or if flow is not sensed.



Point of injection should be beyond all pumps and filters.

MATERIALS OF CONSTRUCTION

All Housings

Polycarbonate

Peristaltic Tube* & Check Valve Duckbill

Santoprene®, FDA approved

Suction/Discharge Tubing & Ferrules

Polyethylene, FDA approved

Tube Fittings & Check Valve Fittings

Type 1 Rigid PVC, NSF listed

Connecting Nuts

Type 1 Rigid PVC or Polypropylene

All Fasteners

Stainless Steel

* Santoprene® is a registered trademark of Exxon Mobil Corporation.

ACCESSORY CHECKLIST

Contents

- 4 Connecting Nuts 1/4"
- 4 Ferrules 1/4"
- 1 Injection Check Valve
- 1 38 mm Vented Cap with tubing adapter
- 1 20' Roll of Suction/Discharge Tubing 1/4" White
- 1 Additional Pump Tube
- 1 Installation Manual

OUTPUT

Item Number Prefix	Pump Tube	Roller Assembly	Ounce per Minute	Pressure psi	Milliliters per Minute	Pressure bar
E10SHG	G	Black	0.36	80	10.5	5.5
Approximate Maximum Outputs @ 50/60Hz						



Turning the switch ON initiates a 375 minute run cycle. Turning the switch OFF stops the pump and resets the cycle.

At the end of a run cycle, the pump will stop and will not operate again until the switch is turned OFF to reset it.

NOTICE: The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.

INSTALLATION

ADDITIONAL SAFETY INSTRUCTIONS

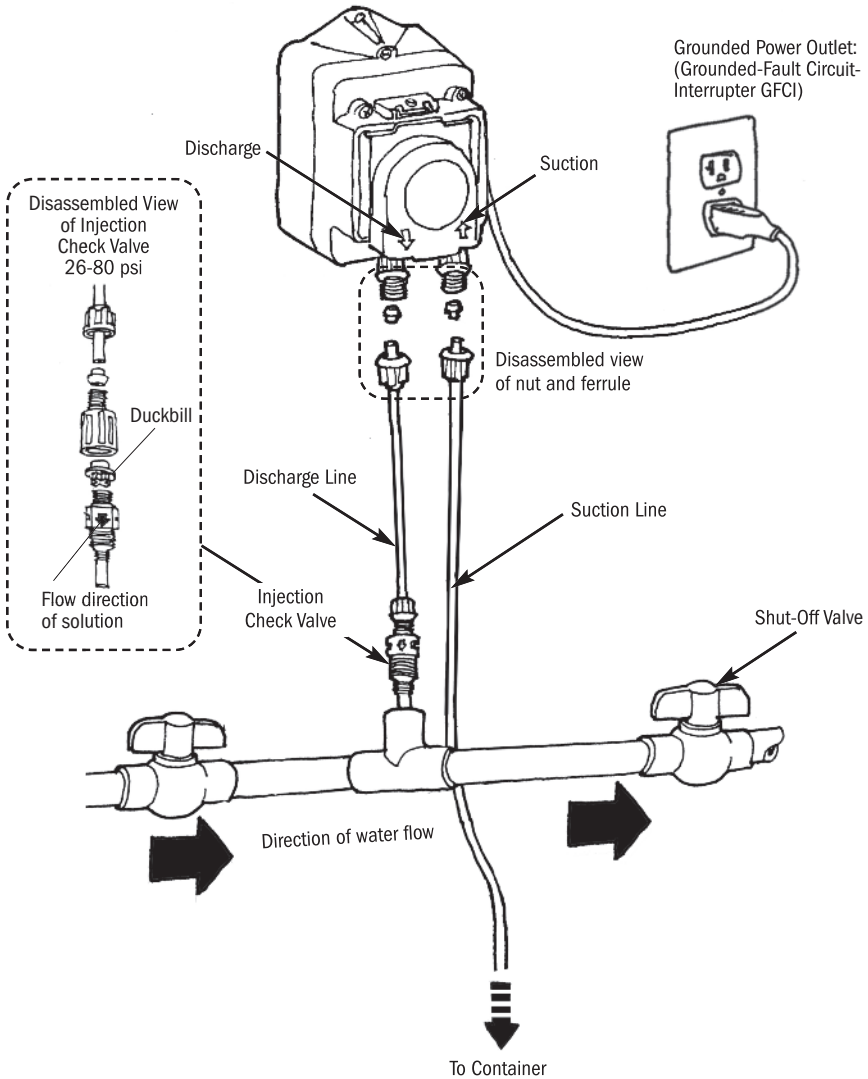
! **NOTICE:** Indicates special instructions or general mandatory action.

- !** Read all safety hazards before installing or servicing the pump. The pump is designed for installation and service by properly trained personnel.
- !** Use all required personal protective equipment when working on or near a metering pump.
- !** Install the pump so that it is in compliance with all national and local plumbing and electrical codes.
- !** Use the proper product to treat potable water systems, use only additives listed or approved for use.
- !** Inspect tube frequently for leakage, deterioration, or wear. Schedule a regular pump tube maintenance change to prevent damage to pump and/or spillage.
- !** Pump is not recommended for installation in areas where leakage can cause personal injury or property damage.

MOUNT PUMP

- !** Select a dry location (to avoid water intrusion and pump damage).
 - !** To prevent pump damage in the event of a pump tube leak, never mount the pump vertically with the pump head up.
 - !** DO NOT mount pump directly over any solution tanks. Keep tanks covered.
 - !** To prevent motor damage, verify with a volt meter that the receptacle voltage corresponds with the pump voltage.
1. Plug cord into receptacle and turn the pump on.
 2. Activate the pump by the switch and verify rotation of the roller assembly within the pump head. Disconnect power.

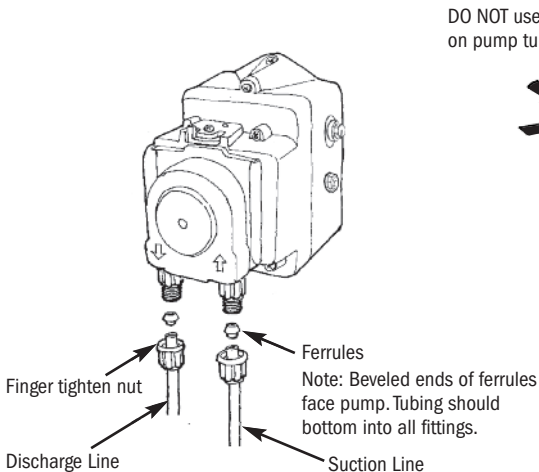
INSTALLATION DIAGRAM



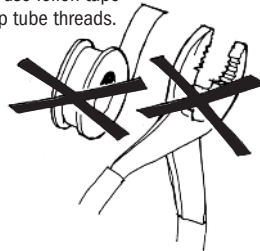
INSTALLATION continued

INSTALL SUCTION LINE TO PUMP HEAD

1. Uncoil the suction/discharge line.
- !** Allow sufficient slack to avoid kinks and stress cracks. Always make a clean square cut to assure that the suction line is burr free. Normal maintenance requires trimming.
2. Make connections by sliding the line(s) through connecting nut and ferrule and finger tighten to the corresponding tube fittings.
3. Finger tighten nut to the threaded tube fitting while holding the tube fitting.
- !** Over tightening the ferrule and nut with a wrench may result in damaged fittings, crushed ferrules, and air pick up.
- !** DO NOT use thread sealant tape on pump tube connections or tools to tighten connections.



DO NOT use Teflon tape on pump tube threads.




use pliers.

INSTALLATION continued

INSTALL SUCTION LINE TO SOLUTION CONTAINER

1. Mix solution according to the vaccine supplier's instructions. Install vented cap on solution container.
2. Make connections by sliding the suction line through connecting nut and ferrule and finger tighten to the corresponding tube fitting on the vented cap adapter.
3. Finger tighten nut to the threaded tube fitting while holding the tube fitting.
4. Place inverted container in a suitable bracket or holder.

 **Only connect to solution container using the vented cap provided. Solution will not be entirely fed and will not feed at the proper rate if the solution container is not adequately vented.**

 **Follow recommended mixing procedures according to the manufacturer.**

 **DO NOT operate pump unless additive is completely in solution. Turn pump off when replenishing solution.**

 **Allow sufficient slack to avoid kinks and stress cracks. Always make a clean square cut to assure that the suction line is burr free. Normal maintenance requires trimming.**

 **Over tightening the ferrule and nut with a wrench may result in damaged fittings, crushed ferrules, and air pick up.**

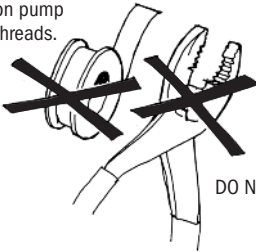
 **DO NOT use thread sealant tape on pump tube connections or tools to tighten connections.**

INSTALLATION continued

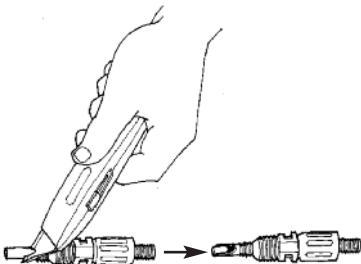
INSTALL DISCHARGE LINE TO PUMP HEAD AND INJECTION POINT

1. Make a secure finger tight connection on the discharge fitting of the pump head as instructed in Install Suction Line instructions.
- !** **DO NOT use thread sealant tape on pump tube connections or tools to tighten connections.**
- !** **WARNING** **HAZARDOUS PRESSURE: Shut off water or circulation system and bleed off any system pressure.**
- !** **Locate a point of injection beyond all pumps and filters or as determined by the application.**
2. A 1/4" or 1/2" Female NPT (FNPT) connection is required for installing the injection fitting. If there is no FNPT fitting available, provide one by either tapping the pipe or installing FNPT pipe tee fitting.
 3. Wrap the Male NPT (MNPT) end of injection fitting with 2 or 3 turns of threading tape. If necessary, trim the injection fitting quill as required to inject product directly into flow of water.

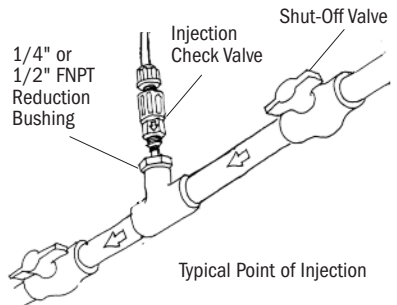
DO NOT use Teflon tape on pump tube threads.



DO NOT use pliers.



Trim injection fitting end as needed.



Typical Point of Injection

INSTALLATION continued

4. Hand tighten the injection fitting into the FNPT fitting.
 - a. Install connecting nut and ferrule to the pump discharge tubing. Insert discharge tubing into injection fitting until it reaches base of fitting.
 - b. Finger tighten connecting nut to fitting.
5. Turn pump on and re-pressurize system. Observe flow and check all connections for leaks.



The injection point and fitting require periodic maintenance to clean any deposits or buildup. To allow quick access to the point of injection, Stenner recommends the installation of shut-off valves.

TROUBLESHOOTING – DRIVE ASSEMBLY



WARNING

HAZARDOUS VOLTAGE:

DISCONNECT power before service. **Electrical service should be performed by trained personnel only.**

PROBLEM	POSSIBLE CAUSE	SOLUTION
Noise is excessively loud	Lubrication is insufficient Gears or gear posts are worn	Grease gears and gear posts Inspect/replace gears and gear posts
Drive assembly does not work	Electrical supply is faulty DC motor is damaged Power cord is damaged	Check supply voltage circuit Replace drive assembly Replace drive assembly
Drive assembly runs; output shaft does not	Worn or damaged gears	Replace gears as needed
Phenolic gear is stripping	Gear posts worn Rusted helical gear Insufficient lubrication	Replace gear posts and phenolic gear Buff off helical gear and replace phenolic gear Replace phenolic gear and lubricate with AquaShield®
Output shaft does not turn	Worn or damaged roller assembly Worn or damaged gears Damaged circuit board	Replace roller assembly Replace gears as needed Replace drive assembly

TROUBLESHOOTING – PUMP HEAD

PROBLEM	POSSIBLE CAUSE	SOLUTION
Components are cracking	Incompatibility with fluid	Check compatibility
Visible fluid in pump head	Pump tube rupture/leak	Replace pump tube and ferrules
No pump output; pump head rotates	Depleted solution container Suction line leak Ferrules installed incorrectly or damaged Injection point is clogged Clogged suction/discharge tubing Life of pump tube is exhausted Pump cover not secured properly	Replenish solution Inspect or replace suction line Replace compression ferrules Inspect and clean injection point Clean and/or replace as necessary Replace pump tube Ensure that pump cover is properly latched
Low pump output; pump head rotates	Pump tube is worn Rollers worn or broken Injection point is restricted High system back pressure Pump cover not secured properly	Replace pump tube Install new roller assembly Inspect and clean injection point Confirm system pressure does not exceed 80 psi (5.5 bar) Ensure that pump cover is properly latched
No pump output; pump head doesn't rotate	Roller assembly is stripped Faulty board Drive assembly problem	Replace roller assembly Replace drive assembly Refer to Troubleshooting – Drive Assembly
Pump output is high	Roller assembly is broken	Replace roller assembly







TROUBLESHOOTING – PUMP TUBE

! **NOTICE:** A leaking pump tube damages the metering pump. Inspect pump frequently for leakage and wear. Refer to Tube Replacement section for additional safety precautions and instructions.


PROBLEM	POSSIBLE CAUSE	SOLUTION
Tube leaking	Pump tube ruptured Calcium or mineral deposits Excessive back pressure Tube is twisted Tube not centered	Replace pump tube and ferrules Clean injection fitting, replace pump tube and ferrules Ensure system pressure does not exceed 80 psi (5.5 bar) Replace pump tube and ferrules Replace pump tube and ferrules
Tube life is shortened	Mineral deposits at injection point Sediment blockage at injection fitting Seized rollers caused abrasion on tube Exposure to heat or sun	Remove deposits, replace pump tube and ferrules Replace vent cap Clean roller assembly or replace Do not store tubes in high temperatures or in direct sunlight
Tube connection is leaking	Missing ferrule on suction or discharge line Crushed ferrule Ferrule in wrong orientation	Replace ferrule Replace ferrule Reverse orientation of ferrule

TUBE REPLACEMENT – SAFETY INFORMATION



WARNING RISK OF EXPOSURE

-  To reduce risk of exposure, check the pump tube regularly for leakage. At the first sign of leakage, replace the pump tube.
-  To reduce risk of exposure, the use of proper personal protective equipment is mandatory when working on or near metering pumps.
-  To reduce risk of exposure, and also prior to service, shipping, or storage, pump generous amounts of water or a compatible buffer solution to rinse pump.
-  Consult MSDS sheet for additional information and precautions for the additive in use.
-  Personnel should be skilled and trained in the proper safety and handling of the additive in use.
-  Inspect tube frequently for leakage, deterioration, or wear. Schedule a regular pump tube maintenance change to prevent damage to pump and/or spillage.






CAUTION PINCH POINT HAZARD

-  Use extreme caution when replacing pump tube. Be careful of your fingers and **DO NOT** place fingers near rollers.

WARNING HAZARDOUS PRESSURE EXPOSURE

-  Use caution and bleed off all resident system pressure prior to attempting service or installation.
-  Use caution when disconnecting discharge tubing from pump. Discharge may be under pressure. Tubing may contain fluid being metered.

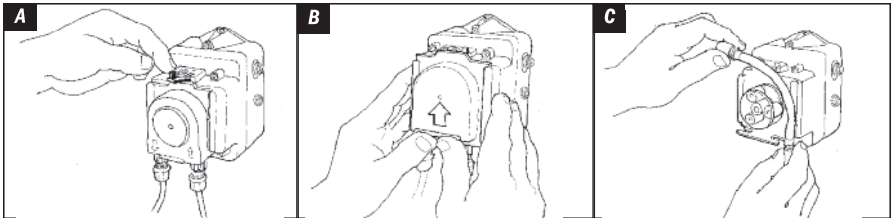
NOTICE: Indicates special instructions or general mandatory action.

-  **DO NOT** apply grease, oil, or lubricants to the pump tube or housing.
-  Prior to pump tube replacement, inspect the entire pump head for cracks or damaged components. Ensure rollers turn freely.
-  Rinse off fluid residual and clean all fluid and debris from pump head components prior to tube replacement.
-  **DO NOT** pull excessively on pump tube. Avoid kinks or damage during tube installation.
-  Inspect the suction/discharge tubing, injection point (into pipe), and injection fitting for blockages after any tube rupture. Clear or replace as required.

TUBE REPLACEMENT

PREPARATION

1. Follow all safety precautions prior to tube replacement.
2. Prior to service, pump water or a compatible buffer solution through the pump and suction/discharge line to remove fluid and avoid contact.
3. Turn pump off.
4. Disconnect the suction and discharge connections from pump head.

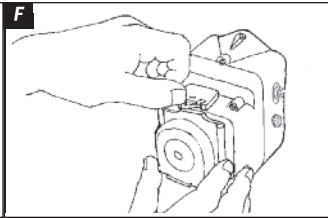
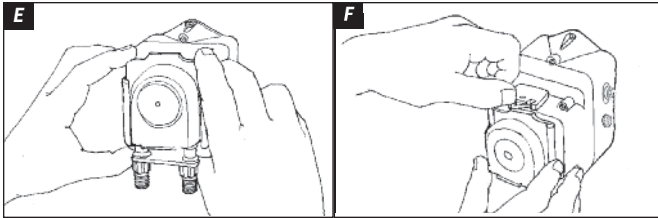
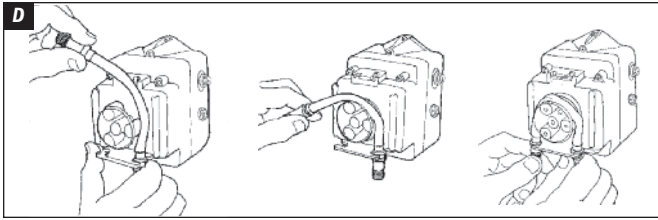


REMOVE TUBE

! Always unplug pump before doing maintenance work.

1. Unplug the pump.
2. Remove the locking screw on the latch (CE models only). Slide the vertical tab 180 degrees from left to right to unlock the cover latch. *Illustration A*
3. To slide cover off, push up on the raised edge. *Illustration B*
4. Release the fittings from the slots to remove the tube. *Illustration C*
5. Remove roller assembly.
6. Use non-citrus all-purpose cleaner to clean residue from pump head housing, roller, and cover.
7. Check cover for cracks. Replace if cracked.
8. Ensure rollers spin freely.
9. Replace roller assembly if seized, excessive side play from bore wear, or if rollers are visibly worn.
10. Re-install roller assembly.

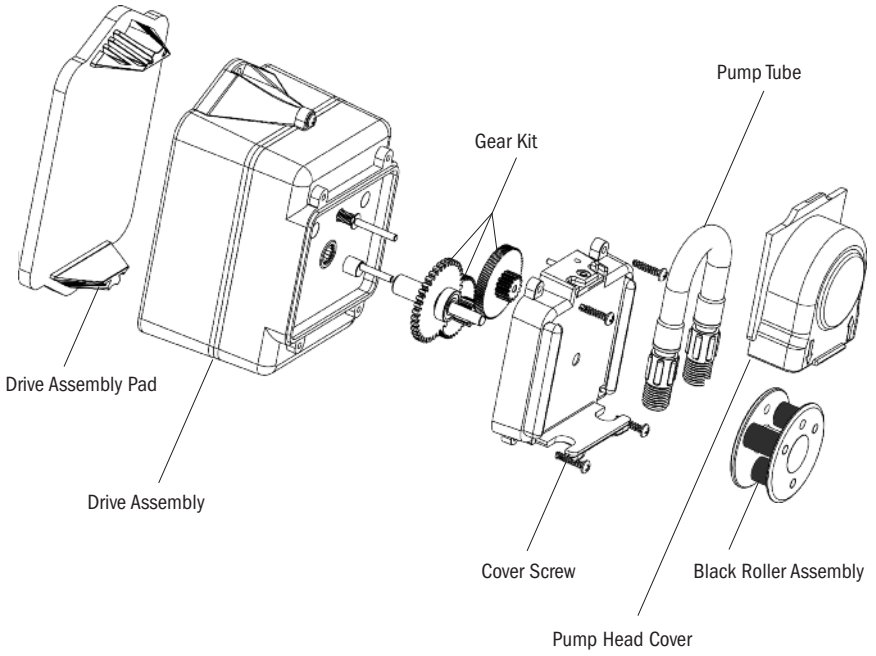
TUBE REPLACEMENT continued



INSTALL NEW TUBE

1. To install new tube, insert one fitting into slot, pull tube around the center of the roller assembly and insert second fitting into the other slot. *Illustration D*
2. Align tube housing cover with track and slide over tube until fully closed. *Illustration E*
3. Plug the pump in.
4. Run the pump at full speed for one minute to relax the tube.
5. To lock cover in place, press down on the cover while turning the vertical tab 180 degrees from right to left. Install the Phillips head locking screw (CE models only). *Illustration F*
6. Run pump at full speed for one minute to verify operation.
7. Reconnect the suction and discharge lines.
8. Prime pump.

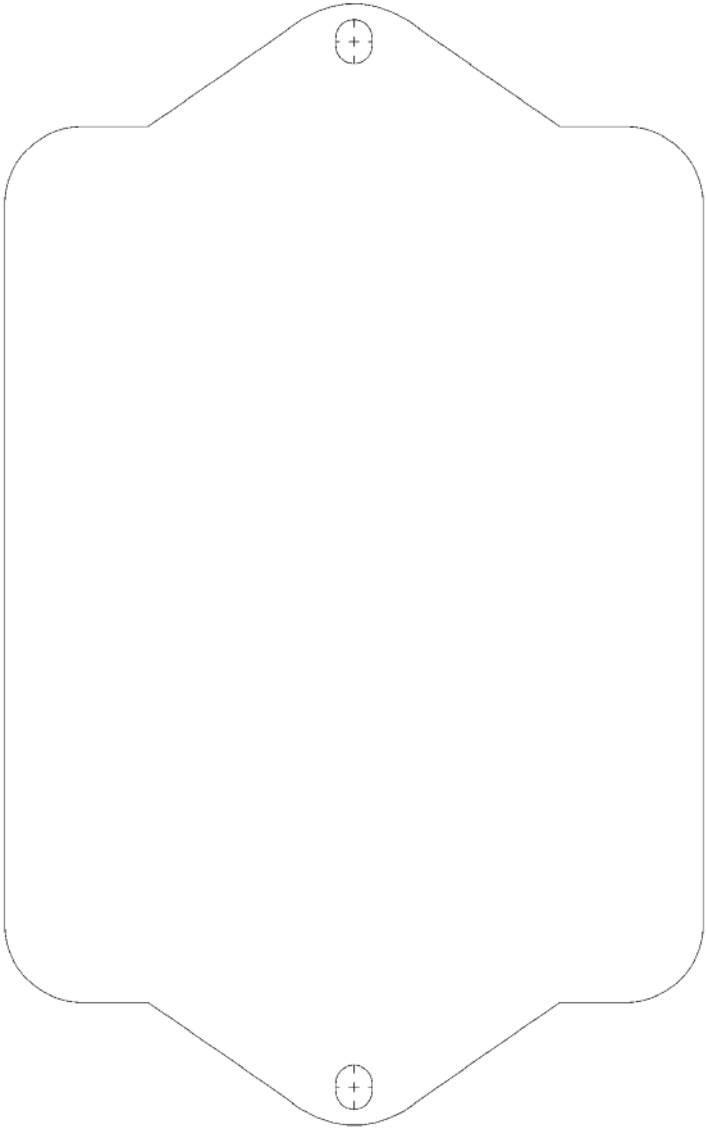
EXPLODED VIEW



PARTS

DESCRIPTION	PART NUMBER	UM
DC Motor, brushless <i>not shown</i>	EC301	EA
Gear Kit <i>includes spacers, screws & AquaShield®</i>	EC310	KIT
Drive Assembly Pad	EC302	EA
Black Roller Assembly	EC351	EA
Pump Tube, ferrules 1/4"	EC30G-2	2-PK
Pump Head Cover	EC355	EA
Mounting Kit <i>For wall mount or Stenner tank</i>	EC303	KIT

MOUNTING TEMPLATE






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