

**Operation  
Manual**

**Liquid  
Compatibility  
Guide**



**Worker Safety and Environmental Compliance**



**Warning: Not all liquids and containers are safe for use with this pump. To reduce risk of injury, read and follow these instructions:**

### **Liquids**

- Use pump only with approved liquids as specified in Pump Compatibility Guide (up-to-date guide available on our web site). When replacing seals, always use the same type approved for use with your pump (see page 3). Improper use of pumps or seals will void all warranties, stated or implied.
- Do not dispense liquids at temperatures above 110°F (43°C).
- Before use, clearly mark pump with name of liquid to be dispensed. Clean pump thoroughly before using with another liquid.
- Rinse pump periodically when not in frequent use.

### **Containers**

- Use pump only with undamaged containers in good condition capable of maintaining an internal pressure of 10 pounds per square inch (psi). Do not use with thin-walled or damaged containers (see page 3).
- Release pressure before removing pump from container (see page 12).
- Do not leave the container pressurized while the pump is not in use.
- Remove pump and seal container before moving or transporting containers.
- Check internal pressure relief valve frequently (see page 5). Do not use pump if pressure relief valve is defective.

### **General cautions**

- Exercise caution when mixing liquids, especially hazardous chemicals.
- Always wear appropriate protective equipment when working with potentially hazardous substances.
- Do not burn discarded seals or other pump components. Check local health, safety and environmental codes and follow proper disposal procedures.
- Do not disassemble pump except to replace parts as shown on pages 20 - 23 of this manual. Any further disassembly may damage the pump and will void your warranty.

# Operation Manual

# Liquid Compatibility Guide



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## About the pumps

Constructed of 100% non-reactive polypropylene, the pumps are engineered for maximum safety and durability. Four models are available to handle almost any liquid – petroleum products, acids, caustics, solvents and even the most aggressive industrial chemicals and pesticides.

The pump can be installed in seconds and can be quickly moved from container to container. Siphon tubes are adjustable from 12 to 40 inches to fit most common container sizes. The pump can be used on containers with either externally or internally threaded neck openings.

## How it works

The pump works by pressurizing a container. To dispense liquids, simply open the tap. A few strokes of the plunger can pressurize any container from 2-gallon jugs to 55-gallon drums.

One-touch flow control dispenses liquids at a controlled rate to prevent waste, conserve inventory, and produces precisely measured amounts every time. Flow can be continuous, or adjusted to dispense liquids at any rate up to 4.5 gallons per minute, depending on viscosity.

## Safety features

The pumps have two safeguards to prevent overpressurization:

- An external pressure release valve can be opened to vent pressure manually before removing the pump from a container.
- As an additional safeguard, an internal pressure relief valve automatically opens if container pressure exceeds 8 psi.

## The pump is repairable

Do not throw this pump away. Properly serviced, the pump will last for years. See trouble shooting guide for common problems. O-ring replacement kits and other parts are available from your dealer should you need them.

## Operating parameters

Pressure	2-8 psi nominal, 8 psi maximum
Operating Temperature	32° to 110°F (0° to 43°C)
Storage Temperature	-4° to 122°F (-20° to 50°C)
Siphon tube length	9" to 40" (230 mm to 920 mm)
Container neck size	Small seal.....1.8-2.0" (44.4-52 mm) Medium seal .....2.0-2.2" (52.5-56 mm) Large seal .....2.2-2.4" (56.5-60 mm)
Maximum flow rates at 68°F	Water .....4.5 gallons per minute Oil (SAE 30).....1.0 gallons per minute
Viscosity Range	Best up to 2000 SSU, 270 CP, 300 CST

## Drum seal sizes

Small seal.....1.8" (44.4 mm)	Medium seal .....2.0 (52.5 mm)
Large seal.....2.25" (56.5 mm)	

## Liquid compatibility guidelines

The pumps are available in four models. Each is color-coded to indicate its type and compatibility with various substances.

Before use, you must check the Pump Compatibility Guide to choose the proper model for use with substances you intend to dispense. The guide lists all substances compatible with each pump model. Please review our website for the most current information.

<b>RED</b>	Nitrile drum seals, for use with most oils and petroleum-based liquids
<b>BLUE</b>	Ethylene propylene drum seals (EPDM), for use with general purpose chemicals
<b>BLACK</b>	Santoprene® drum seals For special applications only (see Pump Compatibility Guide)
<b>GREEN</b>	Viton® drum seals, for aggressive chemicals, acids and solvents



**WARNING:** Use of a pump with any non-approved substances may damage the pump and could cause risk of personal injury resulting from exposure to potentially hazardous substances.

## Container compatibility guidelines

The following guidelines must be observed for safe operation. **Failure to follow these guidelines may result in container rupture and potentially hazardous spills.**

- The pumps must be properly fitted to containers in good condition, and capable of withstanding an internal pressure of **10 psi**. Contact the container manufacturer if you are not certain that it can withstand this pressure. GoatThroat offers pressure release devices for **2 - 5 psi**.
- **Do not use the pumps with rusty, corroded or damaged containers.** Exercise caution when using the pumps with plastic containers, which may have thin walls or may have become brittle as a result of age or exposure to sunlight.
- Thin-walled containers may bulge or deform when pressurized. To reduce the risk of potentially hazardous spillage, always **use external supports** for thin-walled containers. We recommend placing thin-walled containers inside an external container before pressurizing.
- Container neck openings must be smooth, with no sharp edges, and capable of withstanding the force of the expanding drum seal.
- Fittings are available to adapt most containers for use with these pumps. Please see page 6 for more information.

## Check package contents

After unpacking, check to make sure your package includes all parts listed below in undamaged condition. Do not use the pump if any parts are missing or damaged.

- Pump.....1
- Drum seals .....1 or 3, depending on model \*\*
- Standoff .....1
- Siphon tube segments .....4
- Siphon tube connectors .....3
- Siphon tube foot piece .....1

\*\*Standard models come with medium size drum seal (2.0") which fit the Standoff. To fit other containers, large (2.25") and small (1.81") drum seals are available from your dealer.

## Pump inspection

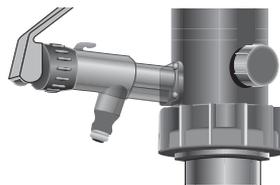
To help ensure safe and reliable operation, the following inspections should be performed each time the pump is fitted to a container:

- **New pump contamination check:** A new pump may need special treatment before use to preserve chemical purity. Silicone lubricants are applied to some pump parts during manufacture. If you intend to dispense solvents which could dissolve this lubricant, the pump should be cleaned and flushed with the solvent before initial use. (see page 19)
- **Used pump contamination check:** If the pump has previously been used, it should be flushed and cleaned thoroughly to prevent potential contamination or a dangerous reaction. (see page 19)
- **Drum seal inspection:** Inspect the drum seal to make sure it is in good condition. The seal should be replaced if it shows any signs of damage or deterioration.
- **Tap operation check:** Test the tap for proper operation as shown below. The tap should remain in free-flow position until manually closed. When closed, the tap piston should travel freely to the fully closed position.

Open tap fully



Close tap fully

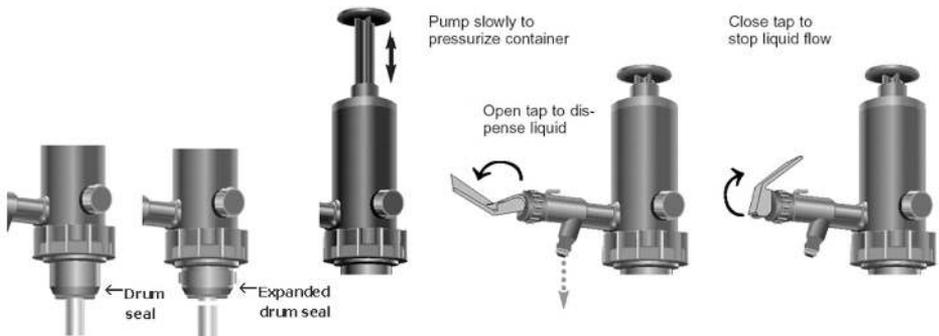


- **Internal pressure relief check:** Pick up the pump and place one hand over the Manifold inlet (bottom) so that it is sealed with firm pressure. Grasp the Piston top with the other hand and pull out the Piston to the end of its travel. Push the Piston in to create pump pressure against the hand sealing the Manifold. This pressure should occur within the first 1/2 inch of plunger travel. No air leaking sound should be heard from the pump.



## How the pump operates

When you screw the drum seal expander clockwise, the drum seal is compressed between the bottom lip of the pump and the retaining ring. This produces a “donut” which pushes against the wall of your container for an air tight fit. Air leaks at any point in the system will reduce the pump’s effectiveness. Pressure is added using the piston on top of the pump. Opening the tap lets the fluid flow.



**Pump assembly overview**



Please read all instructions thoroughly before beginning assembly. We have found this to be of great value when assembling your first pump. Each step below has step-by-step instructions on the following pages.

1. Select and install adapters or fittings on to the container.
2. Select and install drum seal on to the pump.
3. Assemble the siphon tube to the correct length.
4. Install the pump onto the fitting or container.

**1. Select and install adapters or fittings on to the container.**

Examine the opening of your container to decide what you have. Common openings and their fittings are described below. Follow installation instructions on the packaging which accompanies each adapter.

**Pump Standoff**

If using the pump with a 20, 30 or a 55 Gallon container with 2" npt opening, please use the provided 4" standoff kit. Without it, the spout can hit the edge of the container. Use of the Standoff will also give the drum seal a much longer life.



**Buttress Adapters**

You may have containers which have a coarse thread - such as you see here. The drum seals are not pliable enough to work with these large threads. There are buttress adapters for these special openings: 2.25" for most Asian manufactured drums, 2.5" for most U.S. drums, and 2.75" for most European drums. These adapters are sold with a large o-ring to assist with the seal on the container.



2.5" Adapter



2.25" Adapter

### Rieke® Flex Spout® Adapter

This adapter allows the pumps to be used on containers which feature a Rieke® FlexSpout® or the Rieke FSII. This eliminates tipping of the container and associated spill hazards. Supplied with Nitrile washer as standard, EPDM and Viton® washers are also available.



### Metal Can Adapter

This adapter allows the pumps to be used on metal containers which feature an external thread. Dimensions of opening on container are approximately 54mm O.D. and 38mm I.D. Supplied with Nitrile washer as standard, EPDM and Viton® washers are also available.



### 83-B Adapter

This adapter allows the pumps to be used on containers such as Nalgene which have an 83mm external thread. Supplied with Nitrile washer as standard, EPDM and Viton® washers are also available.



### 12 Inch Standoff

The 12-inch standoff allows the receiving container to be placed on top of the drum for easier transfer.



## 2. Installing drum seal on the pump

Drum seals are provided in one or three sizes depending on the model you have. Be sure to choose the size seal which most closely fits the container opening, standoff or other specialty fitting. If none of the three sizes can form a tight seal, the container cannot be used with pump.

### Drum seal sizes

Small seal.....1.8" (44.4 mm) Medium seal .....2.0 (52.5 mm)  
 Large seal.....2.25" (56.5 mm)

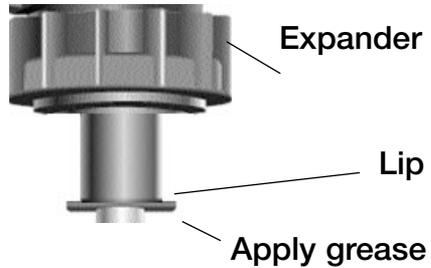
**1 Select drum seal** which is the closest fit to the opening on the container, standoff, buttress or other fitting.

### 2 Apply grease to pump lip

Apply a very small amount of Molykote 111 or other silicone grease to the bottom lip to improve ease of installation of drum seal.

**For clean room installation,** do not use grease. Soak drum seal in hottest water available for 2-5 minutes until it is pliable.

**3 Make sure drum seal expander** is fully retracted.



### 4 Put the drum seal on

Push the drum seal completely over the lip. Make sure the seal rests on top of the lip and flush to the retaining disk. Sometimes, using the palm of the hand to push the seal on gives the best results. You will have to push quite hard to get the seal over the lip. The rubber will not break. Squeeze the drum seal around the lip to seat it completely on top of the lip.



Seal sits on top of lip

**WARNING:** The drum seal must be completely on the top of the lip or the pump won't work.



Remove any visible grease or liquid from the drum seal, lip and wall of adapter or container opening to prevent the pump from unintentionally ejecting out of the container when pressure is added.

### 3. Assemble and install the siphon tube

#### 1. Assemble siphon tube

Measure container depth and assemble siphon tube segments as needed. Segments can be cut. Tubes and connectors must be assembled tightly together.

#### 2. Fit foot piece to siphon tube

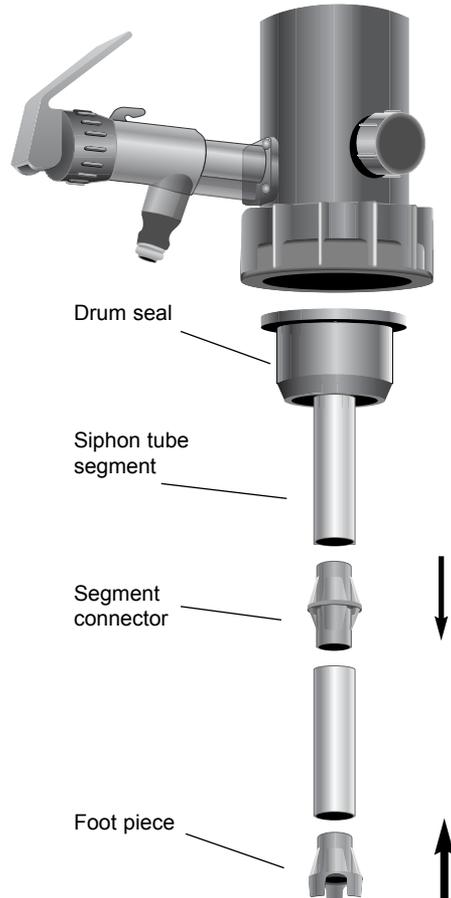
Attach foot piece to bottom length of siphon tube (portion nearest bottom of container). This piece helps prevent clogging and maintains proper fluid flow.

#### 3. Determine final length of tube

Final assembled length should be cut to 1/2 inch higher than the top of fitting or drum so that tube is wedged firmly between pump and the bottom of the container when installed.

Failure to do so may result in loss of siphon tube in drum.

First pump segment must be inserted and then twisted **at least 1 inch** into pump body to secure it.



**CAUTION:** Insert siphon tube as far as it will go into the pump, and join all parts tightly and securely so the siphon assembly cannot come apart inside the container.

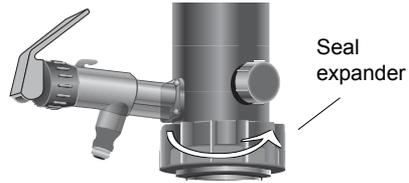
Failure to follow these directions may require you to purchase an additional siphon tube kit.



**4. Fit pump to container, standoff or other fitting** Before fitting the pump to any container or fitting, make sure both the drum seal and the container neck or fitting opening are clean and free of contaminants or grease that could prevent an air-tight seal or allow pumps to slip out after adding pressure.

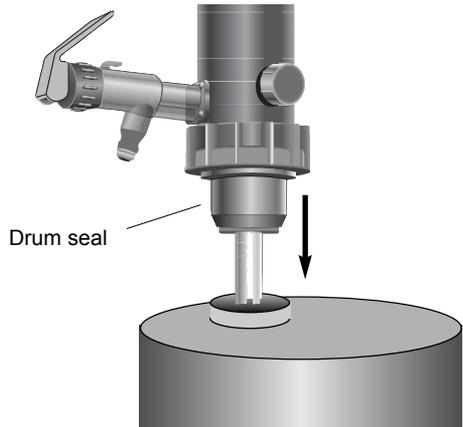
**1 Loosen drum seal expander**

Loosen seal expander completely (turn fully counterclockwise).



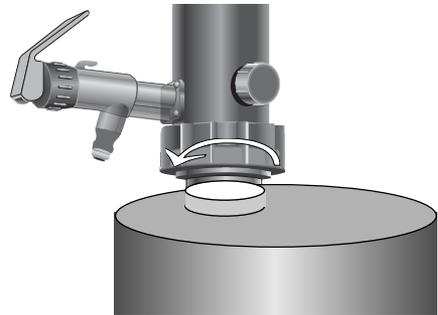
**2 Insert pump**

Insert drum seal fully into standoff, container neck opening or other fitting. Make sure siphon tube is long enough to firmly extend from the bottom of the container to 1/2 inch above standoff or container opening.



**3 Tighten collar**

Keeping pump firmly pressed down, tighten seal expander until firmly fitted to container neck opening.

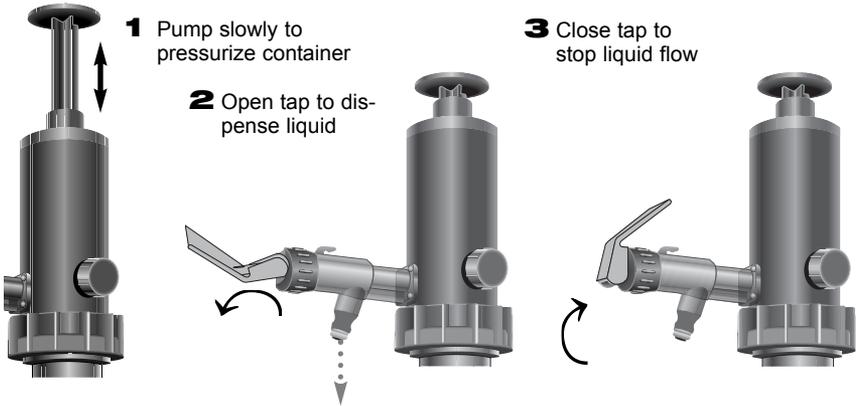


**4 Check fit**

Check fit by attempting to gently pull the pump up and away from the container. If properly fitted, the pump should remain firmly attached.

## Pump operation

Maintain a slow, smooth pumping action to build up pressure in the container. Liquid can be dispensed in small amounts by manually controlling the tap, or dispensed in a continuous flow by leaving the tap in the fully open position. If tap leaks or sticks in open position, inspect tap washer and O-ring for wear and replace if worn (see page 16 - 18).



### Add pressure to maintain fluid flow



As the fluid is dispensed, the volume of the fluid goes down. As the fluid volume goes down, the space for the air is increased. Therefore, add air to keep the pressure up and the fluid flowing

For most liquids in smaller containers, only a few strokes will produce sufficient pressure to maintain a steady flow. More viscous fluids, or liquids in larger containers, may require 10-20 strokes or more.

The pump can pressurize a container to a **maximum of 8 psi**. As a safety precaution, all pumps are fitted with an internal pressure relief valve that will open automatically if pressure exceeds 8 psi.

A slight loss in container pressure over time is normal. However, in normal circumstances, about half of the initial pressure should be maintained for up to 60 minutes after the container is pressurized.

To help maintain cleanliness of the pump and chemical, the pump should be left fitted to the container until it is empty.



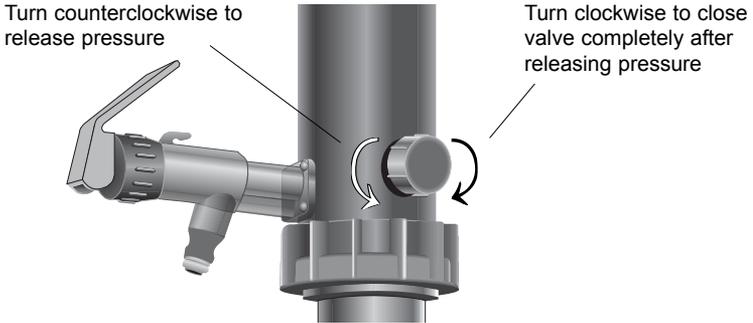
### WARNINGS:

- After you stop dispensing, please tap the spout to release small drops of fluid held by vacuum.
- Do not lean over a pressurized container. If improperly fitted, the drum seal could become loose during use, ejecting the pump with potentially hazardous force.
- Keep containers away from heat sources. Exposure to heat or sunlight may increase container pressure and cause unexpected release of liquid when the tap is opened. Never use with liquids at temperatures above 110°F (43°C).

## Manual pressure release

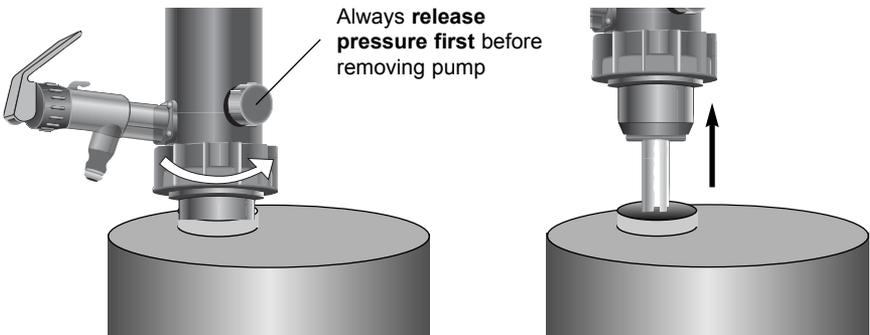
A manual pressure release valve on the side of the pump can be opened to vent pressure. Pressure must be released before removing the pump from a container.

When the pump is not in use, pressure should be released and the tap valve should be left fully closed to help prevent accidental spillage.



## To remove pump from container

To remove the pump, **release pressure** as shown above, then loosen the drum seal expander and pull the pump and siphon tube out of the container.



### WARNINGS:

- Do not attempt to remove the pump from a pressurized container.
- Do not move or transport any container with the pump attached. Remove pump and seal container before moving.
- Always exercise caution when working with toxic substances. During pressure release, high concentrations of potentially hazardous vapors may be released.

## **SCP-6500 Pumps for Hazardous and Flammable liquids**

Key components of these pumps are made from a carbon-filled plastic which is electro-statically conductive, meeting N.F. P. A. 77 Paragraph 6.4.1.3, which states "To prevent the accumulation of static electricity in conductive equipment, the total resistance of the ground path to earth should be sufficient to dissipate charges that are otherwise likely to be present. A resistance of 1 megohm ( $10^6$  ohms) or less is generally considered adequate." SCP-6500 exceed this requirement by delivering 80 Kohm ( $10^3$  ohms). All components of this new pump which come in contact with the fluid are created with conductive plastic, so there is grounding of the liquid, the pump, and, with correct bonding, to the container. Featuring a lug with a 6' ESD grounding wire on the front of the pump, and made with conductive plastic, the SCP-6500 Pumps also comes with a 48-inch long siphon tube, setting a new industry standard.

**SCP Pump assembly overview** Please read all instructions thoroughly before beginning assembly. We have found this to be of great value when assembling your first pump. Each step below has step-by-step instructions on the previous pages.

1. Select and install adapters or fittings on to the container.
2. Select and install drum seal on to the pump.
3. Use only the provided Static Conductive siphon tube. It is angled on the bottom to allow fluid flow. It must touch the bottom of the container for proper grounding. Cut it to the correct length, making sure it touches the bottom of the container.
4. Install the pump onto the fitting or container.
5. Connect alligator clip of ESD grounding wire to appropriate ground before dispensing liquids.
6. If using pump with remote discharge nozzle, this must be factory assembled to guarantee ESD continuity.



## **SVP- 6800 Solvent Vapor Degreaser Pumps**

The SVP-6800 Pump series are designed to eliminate loss of evaporative fluids. They feature a GT300 Pump with Viton seals, a remote discharge nozzle, FEP lined hose from the pump to the tap, and a seamless siphon tube which will reach below the chillers of the vapor degreaser and above the fluid chamber.

### **SVP-6800 Pump assembly overview**

**Please read all instructions thoroughly before beginning assembly. Each step below has step-by-step instructions on the previous pages.**

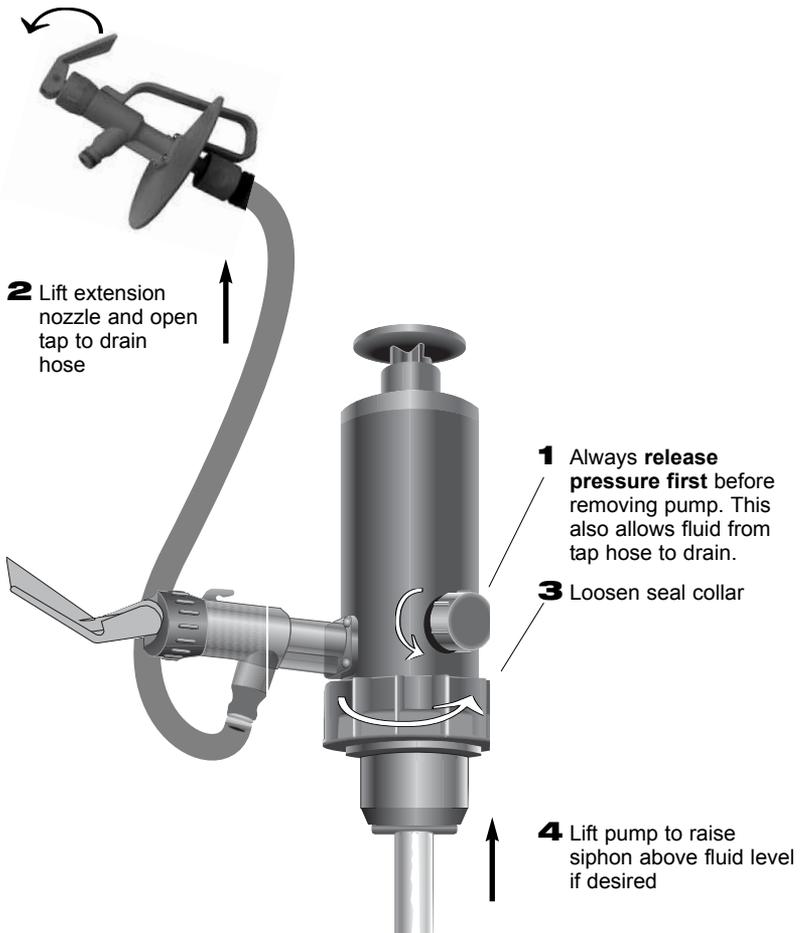
- 1. Be very careful when handling the FEP line tubing because it creases easily. The creases cannot be undone and can restrict flow. For best results, always keep the tubing either straight or curled in the direction you received it.**
- 2. Select and install adapters or fittings on to the container.**
- 3. Select and install drum seal on to the pump.**
- 4. Install the pump onto the fitting or container.**
- 5. Push hard seamless tube onto outlet of nozzle and cut to length as necessary.**



## Using the remote discharge nozzle

If the pump is fitted with an optional remote discharge tap, always close the tap immediately after use. When the tap is open, liquid could be siphoned from the container if the nozzle is held lower than the level of liquid in the container.

To avoid accidental spills, always drain the extension hose after use.



**Using the pump with shop air**

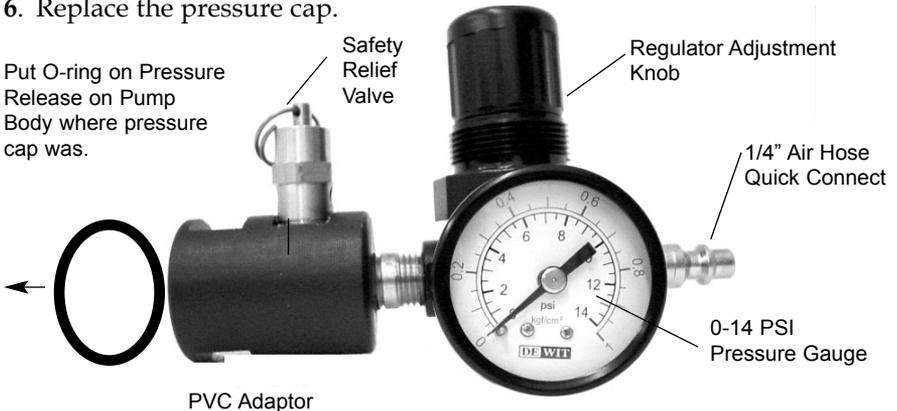
Adapters are available to use the pump with shop air, compressors, If appropriate, install filters or use with oil-less air compressor. For flammable liquids, use only nitrogen.

**To install and operate**

1. Remove the pressure relief valve cap from the side of your pump.
2. Install attached O-ring on the tap body where the pressure cap was.
3. Screw the adapter on in place of the cap. Keep the cap in a safe place.
4. Make sure the air regulator adjustment knob is completely closed.
5. Connect air hose from shop air or compressor to adapter.
6. Lift knob on regulator and turn clockwise to 1 PSI, then gradually increase to 2 PSI. Your container may swell slightly from the pressure. Release knob to drop and lock in place.
7. If you want a faster flow or if fluid is to be delivered above 6' vertical, increase pressure to 4 - 6 PSI.
8. The external safety relief valve will open automatically if air pressure exceeds 6-7 PSI. If this happens please reduce air pressure and close the safety relief valve completely.
9. If supplied, use anti-tamper kit to prevent over-pressurizing vessels.

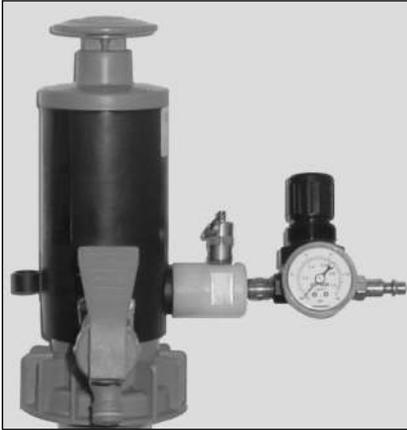
**To remove**

1. Close airflow completely.
2. Disconnect air hose from adapter.
3. Open the safety relief valve on the system manually by pulling up, and wait for air pressure to be released.
4. Shut off regulator.
5. Unscrew the adapter from the pump, including the O-ring.
6. Replace the pressure cap.



## Shop Air/Compressor Adapter

Featuring a pressure regulator and an external pressure safety valve, the compressor setup connects to a standard ½" quick disconnect hose and delivers fluids at up to 4.5 gallons per minute with a working pressure of only 2 - 4 PSI.

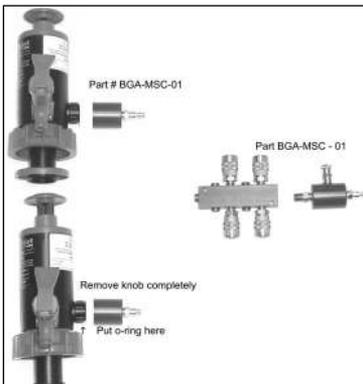


## GT Multi-Pump System

Designed to expand capability and streamline operations where multiple process chemicals are dispensed, the GT Multi-Pump Dispensing System allows simultaneous multiple liquid transfer stations to operate from a single compressor line with only 2 - 6 psi. The basic system can handle up to four pumps simultaneously, and additional system components can be added to meet any requirement.

## GT Anti-Tamper Kit

The GT Anti-Tamper Kit prevents unintentional over-pressurization of containers when using the Shop Air Adapter or GT Multi-Pump System.



GT Multi-Pump System



GT Anti-Tamper Kit

**Remote Discharge Tap**

Remote Discharge Taps are available for point of use delivery of liquids. All standard hoses are PVC. We offer specialty hose selections for fluids not compatible with PVC including FEP lined tubing, Tygon 2075 and Tygon 4040.



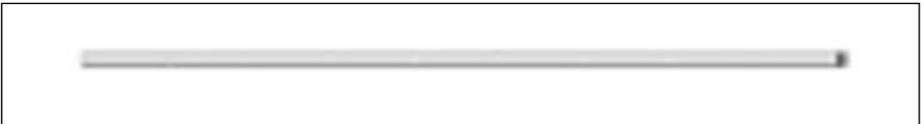
**O-ring Repair Kit**

Just the essential O-ring and other necessary elastomeric parts are available for all user-accessible parts in Nitrile, EPDM, Santoprene and Viton.



**Single Siphon Tube**

This seamless 38-inch tube is recommended for oily or very viscous fluids. Standard tubing can allow viscous fluids to leak, or admit air at joined sections. The seamless tube assures a smooth, uncontaminated flow.



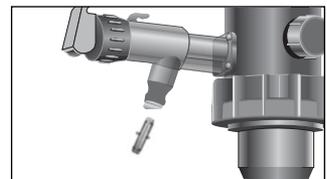
**GT Filter Pak**

This kit allows for screening of fluids with an 80 x 80 stainless 304 mesh. Kits are available in Nitrile, EPDM and Viton.



**Spout Reducer**

This adapter allows easy filling of containers with small necks.





## Flushing and cleaning

After use, the pump may be flushed and cleaned to use with other liquids. Always make sure the flushing agent used is compatible with any fluids previously dispensed and with fluids you intend to dispense.

**Never use abrasives to clean any portion of the pump.** To clean the exterior of the pump, use a cloth dampened with a mild solution of detergent and water. After cleaning, allow the pump to dry in air away from direct sunlight, heat, grease and other potential contaminants.

**To Clean:** Wearing gloves, remove all tubes from pump and turn the pump upside down. Open the tap, and run water or other neutralizing fluid through the center of the pumps. Fluid will come out of the tap. Alternatively, use the pump as usual but with an appropriate cleaning fluid.



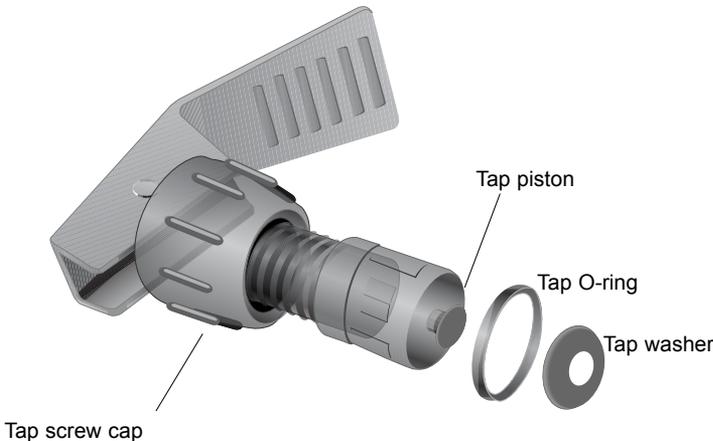
**CAUTION:** Do not burn discarded seals or other pump components. Check local health, safety and environmental codes and follow proper disposal procedures. Always dispose of hazardous waste or contaminated liquids in a proper fashion.

## Maintenance inspections

The pump should be inspected at least every 2-3 months to ensure safe and efficient operation (see page 4-5). If unused for more than 3 months, the pump must be visually inspected and the O-rings lubricated with Molykote® 111 compound.

## Replacing tap washers and O-rings

Periodically check tap washer and O-rings (both at the tap and at the pressure release valve) for wear, and replace if necessary. A replacement kit containing both O-rings and a tap washer is available from your dealer. After installing a new O-ring, smear a small amount of Molykote 111 lubricant around the ring and the adjacent area.



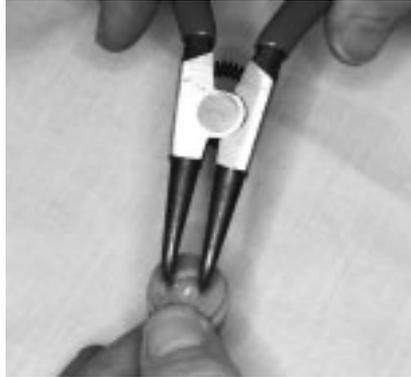
**Replacing tap washers and O-rings, continued**

- 1** Unscrew tap valve screw cap.



- 2** Remove tap washer and/or o-ring with small, flat-headed screwdriver.

- 3** Pre-heat the rubber washer in boiling water to reduce the risk of damage. Fit the washer to the tap piston by finger manipulation or tools. Take care not to split the rubber washer. If the rubber is split, remove and replace with a serviceable one.



- 4** Fit the valve piston o-ring to the valve piston. Place a very light smear of silicone grease on the o-ring. Do not use grease for clean room operations.



- 5** Slip the valve piston assembly back into the tap body. Ensure that the o-ring is not pinched when assembling. Rotate the piston until the guides are engaged. Push the piston until it is fully seated in the bore. Screw the cap home, being careful not to cross-thread the cap and the tap body. Do not over-tighten the cap.

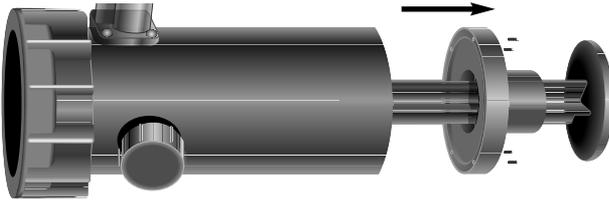


- 6** Operate the tap to ensure free movement of the tap piston.

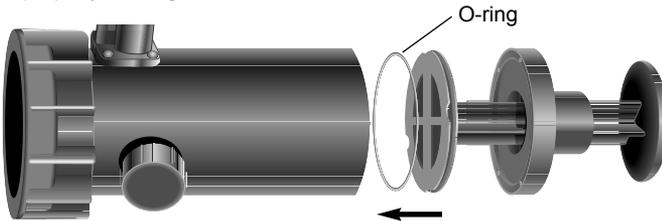
## Replacing piston O-rings

Periodically check the piston O-ring for wear, and replace if necessary. Replacement O-rings are available from your dealer.

- 1** Remove 4 screws, then remove cap and piston from pump



- 2** Use flat head screwdriver to pry O-ring from piston. Lubricate inside body barrel with small amount of Molykote111 compound. and fit replacement o-ring it to piston, making sure it is seated properly in the groove.



- 3** Replace piston. Align tab on underside of cap with hole on pump body noting line-up down, then replace and tighten screws.



## Replacing drum seals

Drum seals are color-coded. For safe operation, drum seals must match the color coding of the pump.

<b>Red drum seal</b>	Nitrile; use only with <b>red</b> pumps (oils and petroleum-based liquids)
<b>Blue drum seal</b>	Ethylene propylene (EPDM); use only with <b>blue</b> pumps (general purpose chemicals)
<b>Green drum seal</b>	Viton; use only with <b>green</b> pumps (aggressive chemicals and solvents)
<b>Black drum seal</b>	Santoprene®; for special applications only (see Compatibility Guide)

### Drum seal sizes

Small seal.....1.8" (44.4 mm)    Medium seal .....2.0 (52.5 mm)  
 Large seal.....2.25" (56.5 mm)



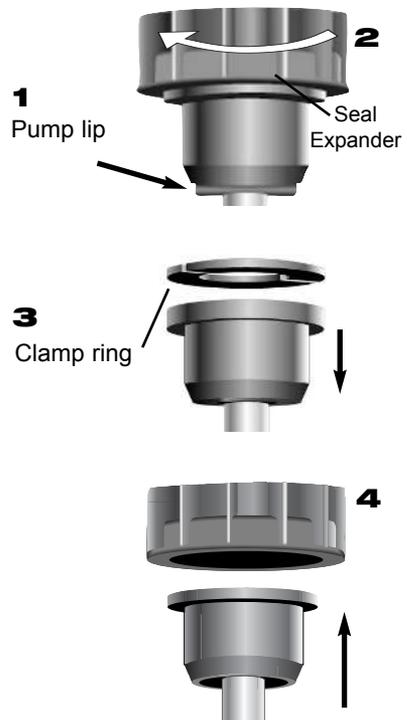
**WARNING:** Drum seals must match pump color coding. Replacing a seal with the wrong type may contaminate some types of chemicals or damage the pump which could cause risk of personal injury resulting from exposure to potentially hazardous substances.

**1** To remove old drum seal, ease leading inner edge of drum seal out and over the lip on base of pump body using small flat head screwdriver.

**2** Screw seal expander clockwise as far as possible which pushes drum seal down and off pump. For small drum seal, soak bottom of pump with drum seal in hottest water available for 2 - 5 minutes to facilitate removal.

**3** Re-tighten seal expander to expose clamp ring. Push drum seal off of pump with clamp ring.

**4** Lubricate lip of pump body with Molykote 111 compound. For clean room operations, do not use grease. Soak replacement drum seal in hottest water available for 2 - 5 minutes. Press new drum seal into position. The seal should fit snugly on the lip.



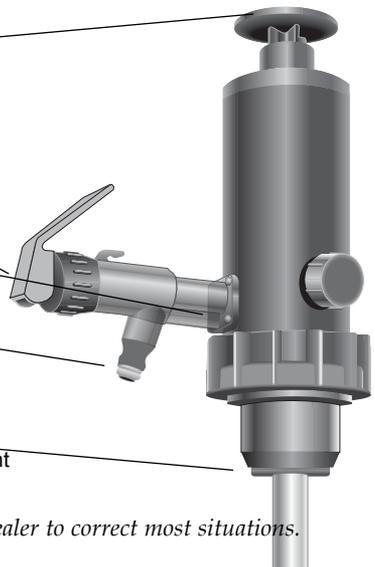
## Troubleshooting guide for new pump installation

<b>PROBLEM</b>	<b>DIAGNOSTIC CHECK</b>	<b>SEE PAGE</b>
No fluid is coming out of the tap.	Is the drum seal put firmly on pump body? If the drum seal is not correctly installed, no pressure will build up and therefore, no fluid can be dispensed.	8
	Are you using the correct fitting for the bung with sufficient teflon tape to prevent air leaks? Air leaks at any point in the system will prevent it from working.	6,7
	Is siphon tube installed correctly and attached to the pump body? If the siphon tube has become disconnected from the pump body, no fluid can be dispensed.	9
	If using a very thick fluid in excess of 2000 SSU (thicker than 10W30 oil), you may experience a very slow flow.	
A small amount of fluid comes out and then it stops.	Is the foot piece installed at the bottom end of the siphon tube? If not, the fluid cannot flow freely up through the tube.	9
The fluid spits	If the fluid viscous or oily, use a single siphon tube. Air can enter the fluid stream at connection points with a standard siphon tube set-up and cause spitting.	18
My container bulges	Containers need to be able to withstand up to 10 PSI or need to be put in a systems with external support. Purchase external low pressure release. Use less pressure.	3
The pump leaks from the tap when I dispense fluids.	Check compatibility between the pump and the fluid to ensure they will work correctly together. If you are using the wrong pump, this failure will take place in 2 - 4 weeks. See website for latest compatibility information.	3
The pump leaks from the tap when I am not dispensing fluids.	Check compatibility between the pump and the fluid to ensure they will work correctly together. If you are using the wrong pump, this failure will take place in 2 - 4 weeks. See website for latest compatibility information.	3

## Troubleshooting guide for existing installation

<b>PROBLEM</b>	<b>DIAGNOSTIC CHECK</b>	<b>SEE PAGE</b>
No fluid is coming out of the tap.	Raise main body piston and let it go. If it drops without pushing, replace the main body piston o-ring.	22
	Conduct a pressure test to see if there is resistance in the non-return valve (check valve). If there is no resistance, the non-return valve has failed. Replace the main pump body/manifold.	5
	Is siphon tube installed correctly and attached to the pump body? If the siphon tube has become disconnected from the pump body, no fluid can be dispensed.	9
The pump leaks from the tap when I dispense fluids.	Purchase replacement o-ring/tap washer kit and replace tap o-ring. See below for more diagnostics.	20
The pump leaks from the tap when I am not dispensing fluids.	Purchase replacement o-ring/tap washer kit and replace tap washer. See below for more diagnostics.	21

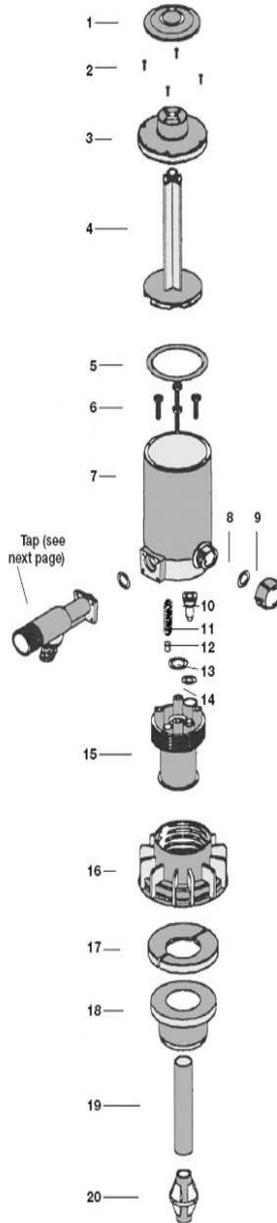
- 1** Main piston does not have any resistance  
- To repair, replace main piston o-ring
- 2** Tap leaks when open  
- To repair, replace tap o-ring
- 3** Tap leaks when closed but pressurized  
- To repair, replace o-ring
- 4** Tap leaks when closed but pressurized  
-To repair, replace tap washer
- 5** Fluid comes out and is found on container  
-To repair, call supplier for repair or replacement



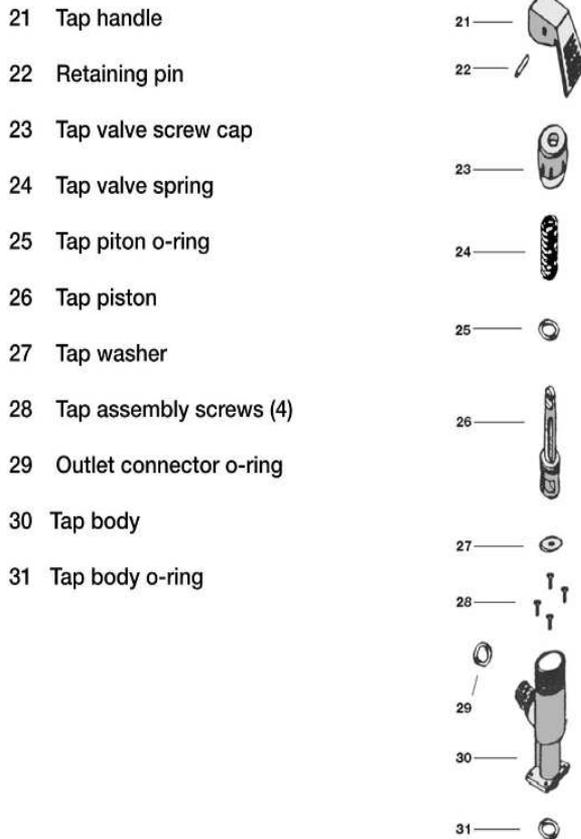
*Replacement o-ring kits are available from your dealer to correct most situations.*

## Pump components

- 1 Piston screw cap
- 2 Body cap screws (4)
- 3 Body cap
- 4 Main body piston
- 5 Piston o-ring
- 6 Manifold screws (4)
- 7 Pump body
- 8 Pressure release valve o-ring
- 9 Pressure release knob
- 10 Non-return valve (check valve)
- 11 Safety release spring
- 12 Safety release plug
- 13 Sub-assembly o-ring
- 14 Manifold o-ring
- 15 Pump manifold
- 16 Drum seal expander
- 17 Drum seal retaining ring
- 18 Drum seals (3 sizes)  
 Small.....1.81" (44.4mm)  
 Medium .....2.00" (52.5mm)  
 Large.....2.25" (56.5mm)
- 19 Siphon tube (4)
- 20 Siphon tube connector



## Tap components





**Your GT Pump  
is Guaranteed to Work.**

If you have any questions about its operation,  
or if it fails to meet your expectations,  
please call your dealer.

This pump is repairable. Do not throw it away.  
Proper maintenance should give a 10 year life.



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