

Valco EPP6 Piston Pump

6:1 Electronic Piston Pump

Manual Number: MS010

Revision Date: 9/2017

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This manual written and designed at Valco Melton, 497 Circle Freeway Drive, Suite 490, Cincinnati, Ohio 45246.
<http://www.valcomelton.com>

Part Number: MS010

Written and printed in the USA.

Valco Cincinnati, Inc.

497 Circle Freeway Drive
Suite 490

Cincinnati, OH 45246

Tel: (513) 874-6550

Fax: (513) 874-3612

Email: sales@valcomelton.com

Web: <http://www.valcocincinnatiinc.com>

Valco Cincinnati Limited

Hortonwood 32

Telford, TFI 7YN, England

Tel: (+44) 1952-677911

Fax: (+44) 1952-677945

Email: sales@valco.co.uk

Web: <http://www.valco.co.uk>

Valco Cincinnati GmbH

Bonnerstrasse 349

40589 Dusseldorf-Benrath, Germany

Tel: +49 211 984 798-0

Fax: +49 211 984 798-20

Melton S.L.U.

Pol. Industrial Agustinos

calle G, n. 34

31160 Orcoyen, Navarra, Spain

Tel: (34) 948-321-580

Fax: (34) 948-326-584

Valco Melton France

Technoparc des Hautes Faventines

32 Rue Jean Bertin

26000 Valence

Tel: +33 (0)4 75 78 13 73

Fax: +33 (0)4 75 55 74 20

Declaration of Conformity

(According to EN 45014)



The following declaration is issued under the sole responsibility of the manufacturer:

Manufacturer: Valco Melton
A division of Valco
Cincinnati, Incorporated
411 Circle Freeway Drive
Cincinnati, OH 45246
USA

Authorized Representatives in Europe: Valco Cincinnati, Ltd. Melton S.L.U.
Unit 7-8 Pol. Industrial
Hortonwood 32 Agustinos
Telford TF1 7YN calle G, n. 34
England 31160 Orcoyen
Navarra, Spain

declares that the product:

Product Name: Valco EPP6 Piston Pump

complies with the following Council Directives:

Safety of Machinery: 2006/42/EC
Low Voltage Equipment: 2014/35/EU
EMC: 2014/30/EU
Reduction of Hazardous Substances (RoHS) 2011/65/EC

and conforms to the following standards:

Safety: EN60204-1:2006
EN13849-1
Risk: ISO12100:2010
EMC Emissions: EN61000-6-4:2007
EN61000-4-2
EMC Immunity: EN61000-6-2:2005
EN61000-4-3
EN61000-4-4
EN61000-4-5
EN61000-4-6
EN61000-4-8
EN61000-4-11

Place and Date: Cincinnati, Ohio USA
CE Mark first fixed 2006

Signature: Cincinnati, OH USA
David H. Swedes,
Vice President of
Engineering & Manufacturing

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Section 1 - Introduction

Valco Cincinnati has prepared this manual as an aid for installing, operating, and servicing the Valco EPP6 Piston Pump. The manual also contains a list of part numbers for replacement parts. If you need more information, please contact your Valco Cincinnati representative.

Description

The Valco EPP6 Piston Pump is a shop-air-driven, electronically controlled 6:1 pump designed for years of efficient, reliable fluid delivery. The Valco EPP6 is capable of continuous or intermittent operation at air pressure rates of between 20 and 60 psi.

Stainless steel construction and easy-to-follow maintenance procedures make the Valco EPP6 extremely dependable and durable.

With the EPP6 Piston Pump, cycling is achieved electronically. Two Reed switches are mounted to the cylinder. These are activated by a magnet attached to the piston. The switch signal is passed to an electronic control circuit mounted in the air motor that operates standard solenoid air valves. Flow is controlled by check valves that are mounted in the pump.

Section 2 - Safety and Use

Read Thoroughly Before Handling Equipment










WARNING!


Read and follow all safety precautions, warnings, cautions, and other recommendations in this manual. OTHERWISE, DEATH, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Read this entire section before handling the equipment.

Symbols

The following symbols may be used on the equipment and/or in this manual.

	This symbol represents a Caution or a Warning . <i>Cautions</i> draw special attention to anything that could damage equipment or cause the loss of data. <i>Warnings</i> draw special attention to anything that could injure or kill the reader. Both Cautions and Warnings are placed before the step they apply to.
	This symbol represents a Hot Surface .
	This symbol represents a Puncture Risk . It is usually used in regard to nozzle cleaning appliances and other sharp instruments that can cause puncture wounds and risk exposure to bloodborne pathogens and other debris.
	This symbol means that Working Gloves are required.
	This symbol means that Goggles are required.
	This symbol indicates a Shock Hazard. There is a presence of non-insulated dangerous voltage within the product's enclosure. This voltage may cause electrical shock or fire.
	This symbol indicates the need to Unplug/Disconnect All Power Sources and to let them de-energize before attempting any type of work or maintenance. Remember that there can still be energy in equipment, cords, and wires even when unplugged/disconnected.
	This symbol indicates the need to Lock Out All Power Sources and to let them de-energize before attempting any type of work or maintenance. If power is not locked out, the person working on the equipment may be injured or killed if someone unknowingly switches on the power to the equipment.
	This symbol indicates a Note. Notes point out something of special interest or importance to the reader. They give tips, hints, and information in addition to what is necessary for the step preceding it.

Owner Responsibilities

The owner of the equipment is under obligation to manage all safety information. Some examples include:

- Examine all safety materials and documents as well as jurisdictional laws and make certain all laws, recommendations, and other safety/hazard laws, certification requirements, training, and instructions are followed and kept current.
- Maintain all safety materials including tags, labels, documents, and MSDS information. Make certain they are distinct and can be read/understood. Replace any that are dirty, worn, or unreadable.
- Make sure all personnel who will handle, install, maintain, operate, fix, and work around the equipment have ready access to the safety information, training, and equipment according to jurisdictional authorities.

The owner of the equipment is under obligation to make certain that all instructions, requirements, and jurisdictional laws are met. Some examples include:

- Make sure there are regular inspections of equipment and safety devices.
- Have regular safety drills and inspections supervised by the proper authorities.
- Provide all required safety items, first aid equipment, and training.

The owner of the equipment is under obligation to make certain that all personnel who will handle, install, maintain, operate, fix, and work around the equipment are qualified, trained, and up-to-date with all information regarding the equipment. Some examples include:

- Make sure all personnel have the proper safety training, equipment, education, and abilities necessary for the job function according to safety instructions and all jurisdictional laws and regulations.
- It is strongly advised that personnel receive first-responder medical care training in case of burns, medical emergencies, or other injuries. Training should be kept up to date.
- Make sure all personnel understand and can follow safety policies and procedures for the organization as well as for the specific equipment.
- Make sure that all personnel are consistently trained, evaluated, free of alcohol and medications that may impair judgment and reflexes, and are tested for banned substances according to jurisdictional authorities.

Limitations of Use

Read this document and all information regarding the equipment before handling the equipment. The intended use of the equipment is stated in Section 1 of this manual.

Do not use this equipment for anything other than its intended use. Do not modify, change, or alter the equipment in any way. If you are unsure of the intended use and the limitations of use for the equipment, contact your Valco Melton Representative before handling the equipment.

Installation/Startup/Use Safety Information

Valco Melton hot melt units, cold glue units, controllers, inspection systems and all related accessories have the following universal safety precautions (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

WARNING!

Only qualified personnel should install the equipment. Valco Melton strongly recommends that a Valco Melton Technician install all equipment. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

WARNING!

The equipment should be installed so that it can be turned off at a location **away** from the equipment in case of injury, electrical problems, or malfunction. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!

Properly route all electrical wires. Never tamper with equipment. Only use approved and correct voltage, type of current, fuses, and other power supplies. Replace worn cords, hoses, etc. immediately. FAILURE TO OBSERVE WARNING MAY RESULT IN DEATH, PERSONAL INJURY, AND/OR EQUIPMENT DAMAGE.

WARNING!

Poor ventilation, smoking, and open flames can cause overheated hot melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

WARNING!

Never use any Valco Melton equipment in an explosive environment. Explosive environments include, but are not limited to, solvent-based cleaners or adhesives, explosive materials, radioactive materials, etc. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!

Equipment will start automatically when remotely controlled by triggering devices. Be sure to disable all triggering devices, carefully release hydraulic pressure, and disconnect air pressure before servicing or working near guns, valves, and other triggered devices. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Shut Down Safety Information

Valco Melton hot melt units, cold glue units, controllers, inspection systems and all related accessories have the following universal safety precautions (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

WARNING!



Purge the fluid pressure and the air pressure from the system before disconnecting/disabling any part of the system. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!



Disconnect and lock out all power before maintenance or other need to open the equipment. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!



Equipment may still be energized even if unplugged! When making adjustments or performing checkout procedures, stay clear of any moving mechanical parts and do not touch exposed electrical equipment or electrical connectors. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!



Disconnect/disable all mechanical and/or electrical devices that send activation signals to the gun(s), valve(s), melter pump(s), etc. This includes pattern controls, timers, input/output signals, etc. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!



Disable all triggering devices, relieve all residual pressure (hydraulic and air) and allow adhesive to cool before attempting to disconnect guns, hoses, valves, etc. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!



Never point an adhesive dispensing gun, valve, hose, air hose, or anything else at yourself or another person. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Hot-Melt-Specific, General Safety Information

Valco Melton hot melt units have the following universal safety precautions in addition to all other universal precautions previously mentioned (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

WARNING!



Never process any polyurethane reactive (PUR) hot melt or solvent-based material in a Valco Melton unit unless you are certain that the unit is compatible and is marked "PUR"! Read all instructions and MSDS sheets carefully, following manufacturer's instructions, especially regarding heat levels. If you have any question as to the compatibility of a Valco Melton unit for PUR hot melt, call your Valco Melton Representative before attempting to use the unit for PUR or solvent-based materials. OTHERWISE, HAZARDOUS FUMES, EXPLOSION, DEATH, OR PERSONAL INJURY COULD OCCUR.

WARNING!



Keep pump cover and electrical enclosures closed except during setup, service, and checkout procedures. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!

People with respiratory problems (e.g., asthma, bronchitis, etc.) should not work in the vicinity of molten adhesive. RESPIRATORY PROBLEMS MAY BE AGGRAVATED BY THE FUMES. Do not wear a face mask when working around molten adhesive. THE MASK MAY TRAP THE FUMES AND DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING!

Keep hot melt hoses away from walkways and the moving parts of hot melt systems. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

WARNING!

Hot surfaces! Do not touch! Use extreme caution when refilling the unit by hand. OTHERWISE, PERSONAL INJURY COULD OCCUR.

WARNING!

Wear protective gloves and goggles at all times around all machinery, especially hot melt. OTHERWISE, SERIOUS PERSONAL INJURY COULD OCCUR.

WARNING!

Never use an open flame to heat hot melt components or adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

What to Do if Contact with Hot Adhesive Occurs

If hot adhesive comes in contact with the skin, do the following:

WARNING!

Do not attempt to remove heated hot melt adhesive from the skin. OTHERWISE, SEVERE PERSONAL INJURY AND DEATH COULD OCCUR.

1. Immediately immerse the contacted area in clean, cold water.



It is strongly recommended that a source of clean, cold water be provided near the hot melt work area.

2. Cover the affected area with a clean, wet compress and call the emergency medical response system (such as 911) immediately.
3. Watch for and treat the subject for signs of shock while waiting for professional help to arrive.

What to Do if Inhalation of Adhesive Fumes Occurs

If adhesive fumes are inhaled, immediately follow these steps:

1. Take the victim away from the immediate work area.
2. Provide victim with fresh air.
3. Call the emergency medical response system (such as 911) immediately.

What to Do if Adhesive-Related Fire or Explosion Occurs

During the heating and melting process, the surface of the adhesive will be exposed to air. The mixture of polymer fumes and air can catch fire if the hot melt is overheated.

WARNING!

Poor ventilation, smoking, and open flames can cause overheated hot melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

WARNING!

Exposed arcing may ignite the fume/air mixture. Shield all electrical equipment from melt fumes to avoid exposed arcing. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

WARNING!

Do not use a water extinguisher to extinguish the fire! OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.












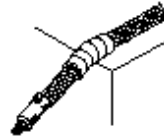


If the hot melt adhesive ignites, promptly perform the following steps:

1. Sound a fire alarm.
2. Evacuate the immediate area.
3. Turn off all local electrical equipment at the source.
4. Leave the area immediately if conditions are unsafe.

If you feel you can fight the fire **safely**, do **one** of the following:

- Smother the fire with a fire blanket.
- Aim a CO₂ fire extinguisher at the base of the flames.
- Aim a dry-powder fire extinguisher at the base of the flames.

Hose Safety Information

DO NOT		DO	
Do not use bindings, wire ties, or unapproved fasteners around the hoses.		Do use approved wrapping (P/N KAP0434), making sure the wrapping is slightly snug but not tight.	
Do not place hoses close together.		Do allow at least 2 inches (5.1 cm) between hoses for proper ventilation.	
Do not bend hoses sharply. Do not allow kinks or indentations in the hoses.		Do use a minimum bend radius of 10 inches for a 20-inch diameter coil hose.	
Do not use unapproved hooks to hang hoses. Do not wrap hoses over or around objects.		Do use a hose hanging kit (P/N 781xx827).	
Do not use the "one handed/one wrench" technique to attach or remove hoses. Do not wrench on any surface other than the large hexagon swivel nuts.		Do use two hands and two wrenches to tighten or loosen connections on hoses. Do wrench only on large hexagon swivel nuts.	
Do not allow hoses to rub against objects or to come into contact with sharp edges or points.		Do wrap the hoses in approved padding (P/N 795xx549) if the hoses must be installed where they will come into contact with objects.	
Do not use worn, damaged, or bent hoses.		Do inspect all hoses regularly for damage and/or wear and replace damaged or worn hoses immediately.	

Section 3 - Wiring Guidelines

WARNING!

Electrical installation should be accomplished only by experienced service personnel!
OTHERWISE, DEATH, PERSONAL INJURY, OR EQUIPMENT DAMAGE COULD OCCUR.

When routing low-voltage leads, follow these guidelines:

- Do not route low-voltage leads in the same conduit as wires carrying a high-current load.
- Do not route low-voltage leads adjacent to, or across wires carrying a high-current load. If low-voltage leads must cross or run parallel to wires carrying high current, keep the leads at least 6" (152 mm) from high-current wires.
- Do not splice or solder leads.
- Trim leads to the required length. Leads should be only as long as necessary for installation.
- All wiring should be in conduits or wireways.

Connecting the Supply of Electrical Power

WARNING!

Electrical connections should be made only by experienced service personnel!
OTHERWISE, DEATH, PERSONAL INJURY, OR EQUIPMENT DAMAGE COULD OCCUR.

When connecting the supply of electrical power, follow these guidelines:

- Connect the control to a “clean” supply of electrical power. Use a dedicated circuit if possible.

CAUTION!

If a dedicated circuit is not available, do not connect the control to a circuit that supplies high-amperage equipment—use another circuit such as a lighting circuit. Otherwise, equipment may not function properly.

Section 4 - Basic Features

Valco EPP6 Piston Pump Assembly

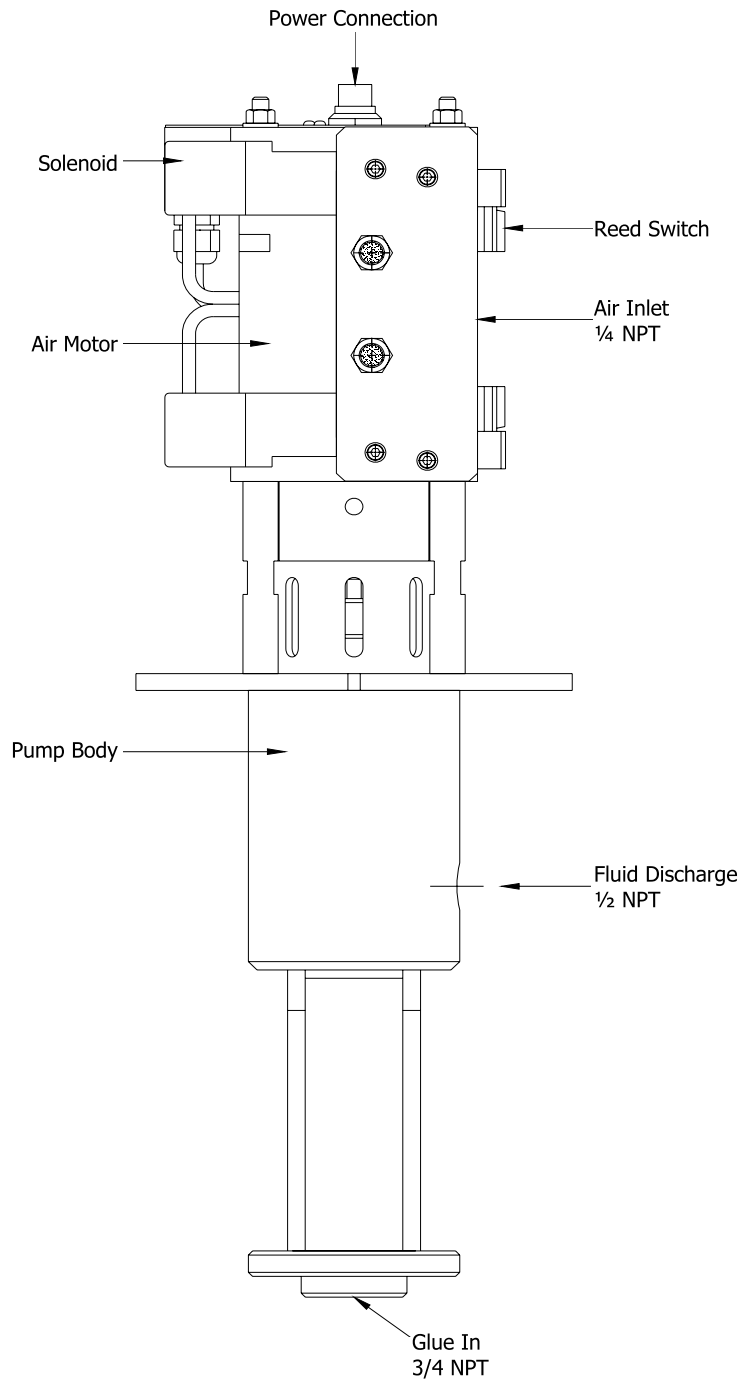


Figure 4-1. Valco EPP6 Piston Pump Assembly

Valco EPP6 Piston Pump Assembly - Continued

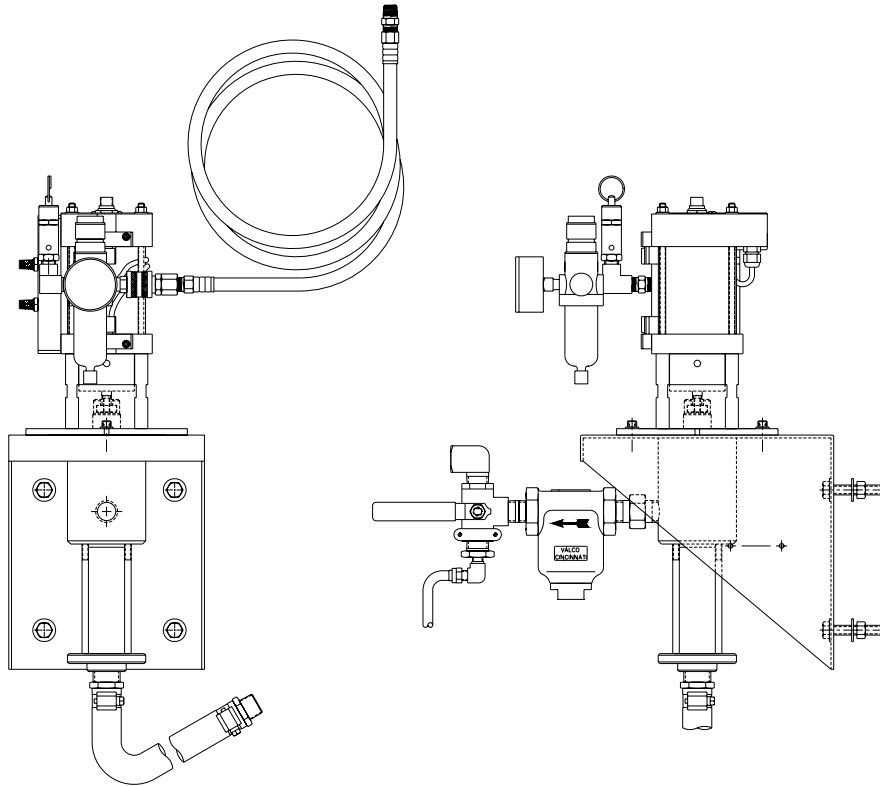


Figure 4-2. Valco EPP6 Wall Mount

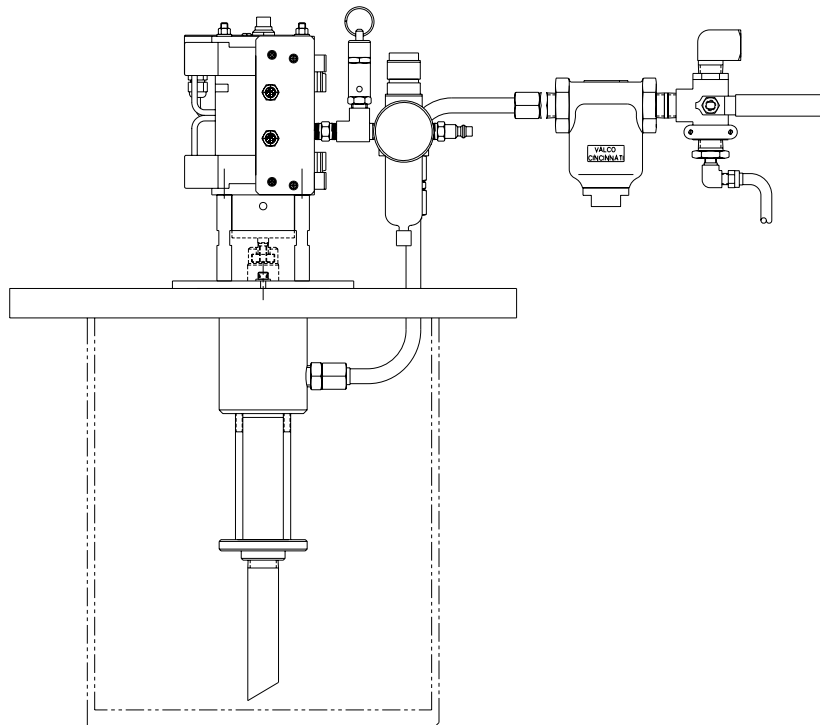


Figure 4-3. Valco EPP6 Pail Mount

Valco EPP6 Piston Pump Assembly - Continued

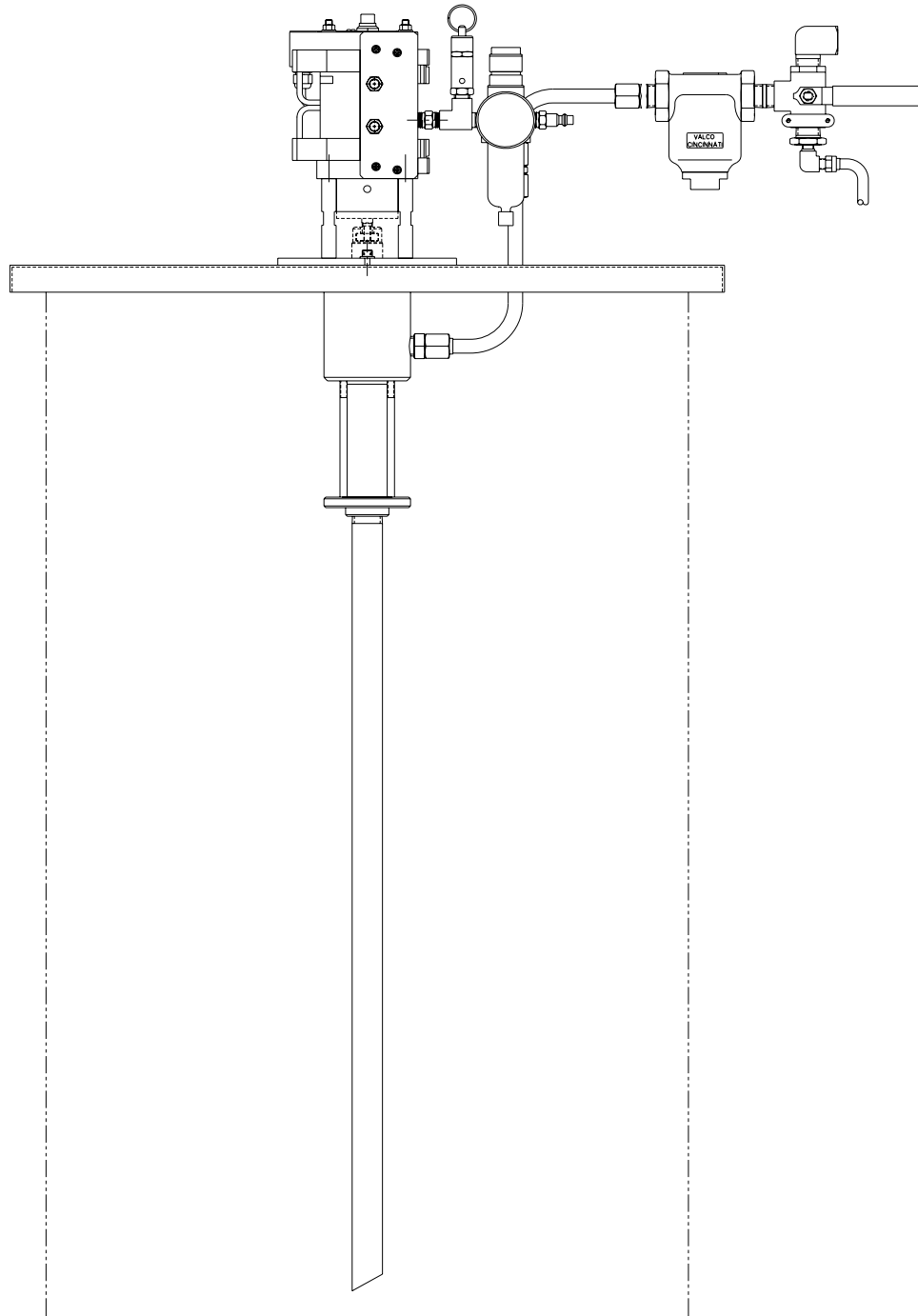



Figure 4-4. Valco EPP6 55-Gallon Drum Mount

Section 5 - Installation

Power Connections

The Valco EPP6 can be powered through either a 24-volt AC or DC remote power supply, or through any of the following Valco controls:

- Flexoseal 350
- VC450
- VC850
- VC9100
- VC350A
- VC350AG
- VC3500
- VC3700
- MCP-25
- MCP-42
- MCP-25/MS
- MCS System control

 The 24-volt remote power supply should be plugged into a 110-volt wall outlet.


Air Requirements

The pump requires filtered and regulated shop air; 20 psi minimum, 60 psi maximum.


Installing the Pump

Specific installation procedures for the Valco EPP6 Piston Pump depend on the fluid you use and your particular application requirements. Basic Valco EPP6 Pump installation and setup involves the following steps:

1. Mount and fasten the pump to the wall mounting bracket (580xx410), the pail mounting lid (560xx781), or the 55-gallon drum mounting lid (561xx141).

 Wall mounting brackets, pail lid assemblies, and 55-gallon drum covers are available from Valco Cincinnati.

2. Install plant air supply to the air motor.

 If the pump is equipped with a Valco Cincinnati air filter/regulator (594xx160), plant air is connected to a quick-disconnect fitting in the input port of the regulator. A 10-foot air-supply hose with disconnect is available from Valco.

Installing the Pump - Continued

3. Install a second pump as a back-up if desired.



A pump/back-up pump installation is recommended when fluid is supplied in vats. With the availability of two pumps, vat replacement, pump service, and purging can be accomplished without system shutdown.

4. Connect the suction hose.
5. Discharge the hose, air line, and power cable.
6. Turn on the power and open the air regulator until the pump starts.
7. Cycle the pump slowly until all the air is purged from the pump and hoses.
8. As long as the pump and lines are primed and adequate air pressure is supplied, the EPP6 pump will start and stop as the valve is opened and closed.

Section 6 - Operation

Operating the Pump

CAUTION!

Do not use filled adhesives! Fillers are usually clay, which will damage the pump shaft and seals severely.

To operate the Valco EPP6 Piston Pump, follow these steps:

1. Make sure the air regulator pressure setting is zero (0) psi:
2. Connect the electrical power.
3. Turn on the air supply and power to the pump.
4. Adjust the air regulator to slowly increase the air pressure to the desired flow rate. DO NOT operate continuously above 60 cycles per minute.



For efficient operation, air pressure should be adjusted to the lowest cycling rate that does not decrease flow rate. This may be the maximum flow rate for your particular conditions.

During operation of the pump, you may notice that one solenoid becomes warm. This is a normal condition.

If the pump speeds up noticeably without a proportionate increase in flow as air pressure is increased, the pump may be starting to cavitate. This can be caused by excessive restriction in suction lines, or the suction line diameter may need to be increased. If suction line checks out for size and tightness, cavitation can be stopped by adjusting the air regulator to reduce air pressure.

Section 7 - Maintenance

Cleaning the Exterior of the Pump

CAUTION!



Never hose or steam-clean the unit. If the surrounding area is cleaned in this manner, protect the unit by covering it with plastic or other waterproof material. OTHERWISE, EQUIPMENT DAMAGE COULD OCCUR.

When cleaning the pump, keep the electrical control box enclosure closed. OTHERWISE, EQUIPMENT DAMAGE COULD OCCUR.

To clean the exterior of the Valco EPP6 Piston Pump, follow these steps:

1. Turn off the main power.
2. Use a damp cloth and clean the pump and air motor with a mild soap-and-water solution.

Maintenance Tips

- Never allow the pump to run dry. A dry pump will quickly accelerate to a high speed and possibly damage itself. If the pump accelerates quickly or is running too fast, stop it immediately and check the fluid supply. If the supply container is empty and air has been pumped into the lines, refill the container and prime the pump and lines with fluid. Be sure to eliminate all air from the fluid system.
- For an overnight shutdown, turn off the power and relieve the pressure.
- During startup, the shaft seal may leak a small amount of glue. This glue will dry and ball up around the shaft. When this happens, turn off the power to the pump, lift the clear shaft guard, and remove the dried glue. If the leak does not stop and a significant amount of wet glue leaks past the seal without drying up, it is time to replace the shaft seal.

Separating the Air Motor and the Pump

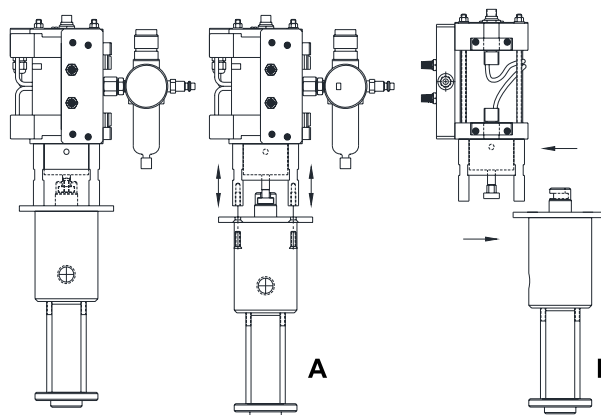


Figure 7-1. Separating the Air Motor and the Pump

1. Remove the screws from the underside of the pump base and pull apart (A).
2. Pull air motor coupling out of the pump shaft (B).

Removing and Assembling Pump Seals

Disassembly

1. Disassemble the bottom portion of the pump as shown in Figure 7-2.
2. Discard all components labeled "x".
3. Thoroughly clean all other components.

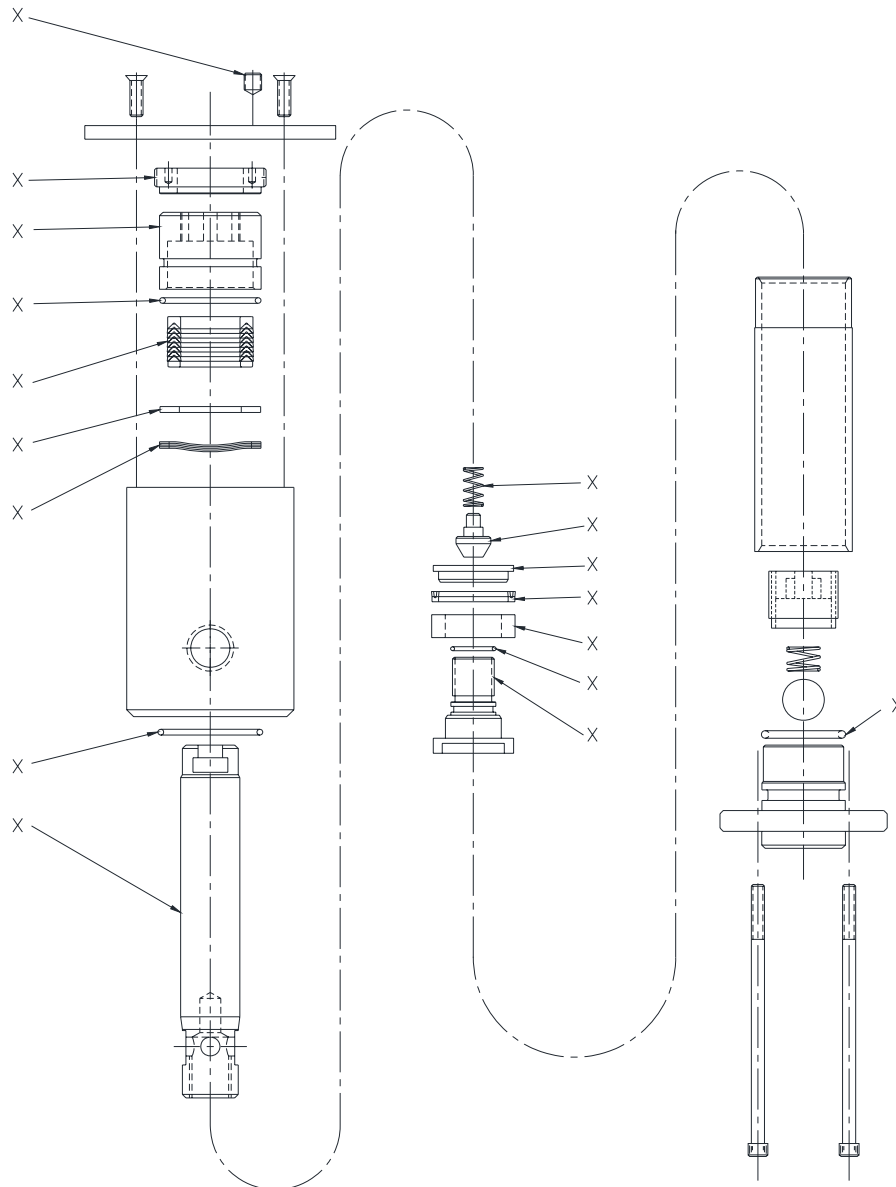


Figure 7-2. Disassembly

Reassembly

1. Reassemble the pump as shown in Figure 7-3.
2. Apply Superlube where noted.
3. Reattach the air motor.

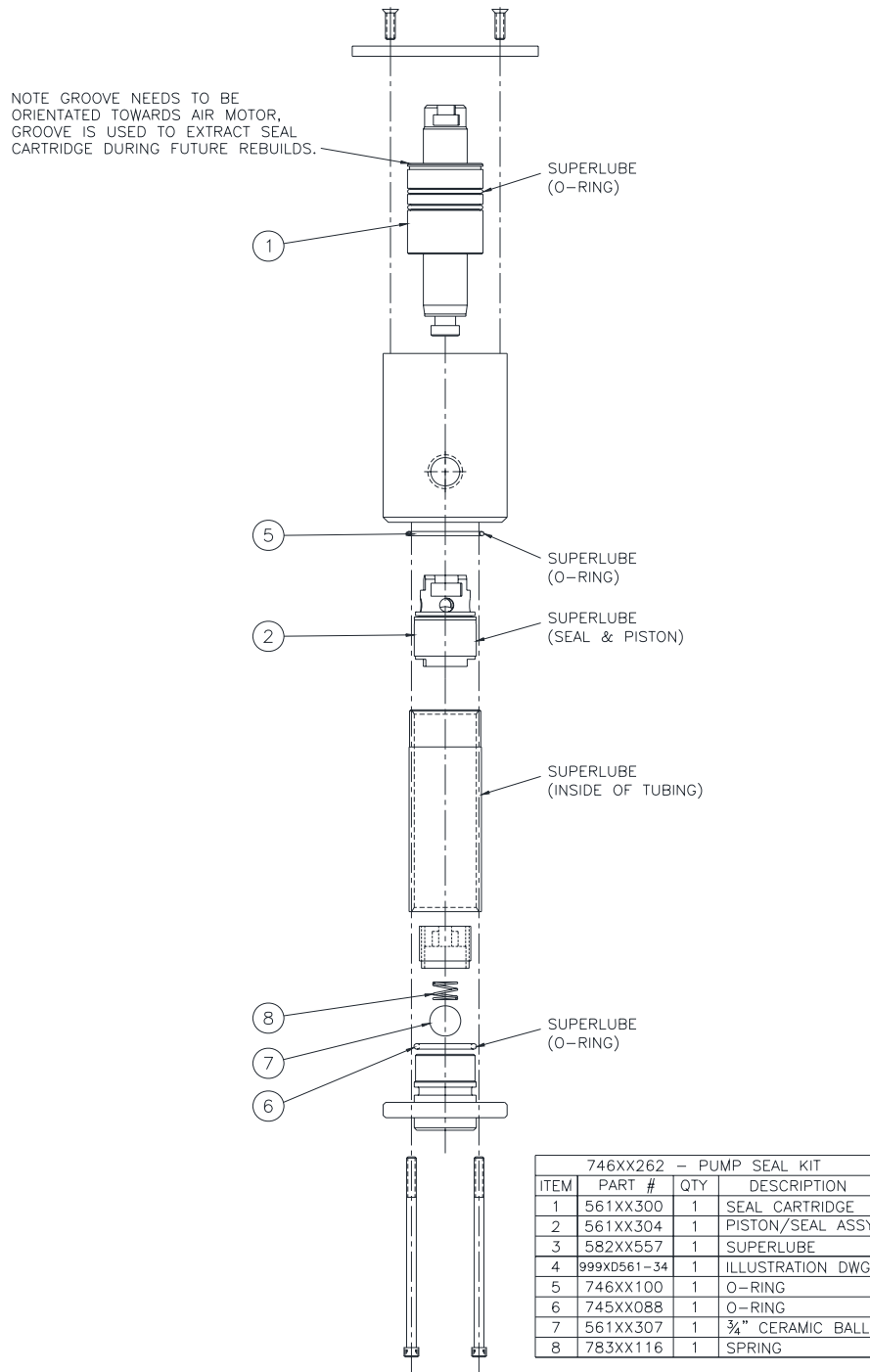


Figure 7-3. Reassembly

Pump Body Assembly

Refer to Figure 7-4.

1. Insert spring (#57) and backup washer (#56) into the pump body (#29).
2. Insert seal stack (#30) into bearing (#31),
3. Install O-ring (#32) and grease the outside of the bearing.
4. Press the bearing with the seal stack into the pump body (#29) as shown.
5. Install gland nut (#33) into the pump body (#29). DO NOT TIGHTEN GLAND NUT.
6. Lightly coat the shaft (#37) with grease or STP oil treatment and press down through bearing and seals.
7. Tighten the gland nut down to 18 foot-pounds using the spanner tool (561xx110) and a torque wrench.
8. Assemble piston components (38, 39, 40, 41, 42 & 43) and thread onto shaft.

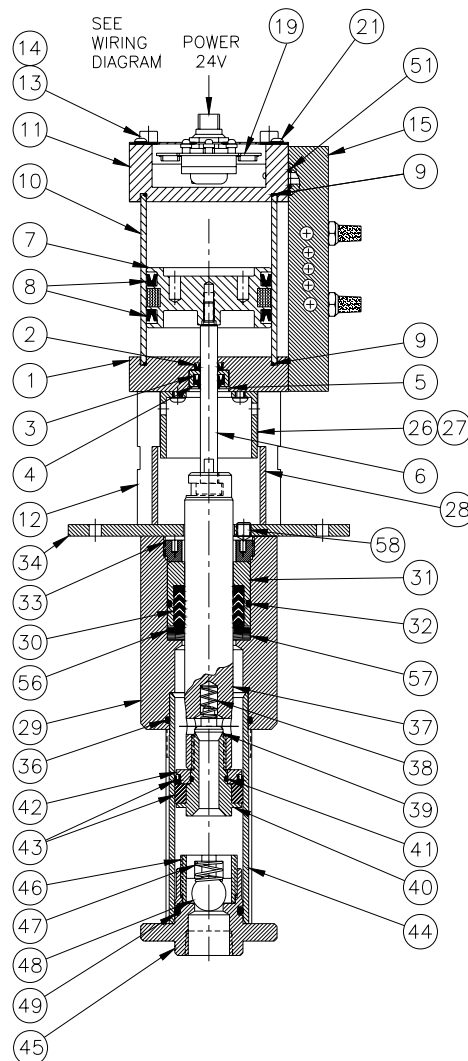
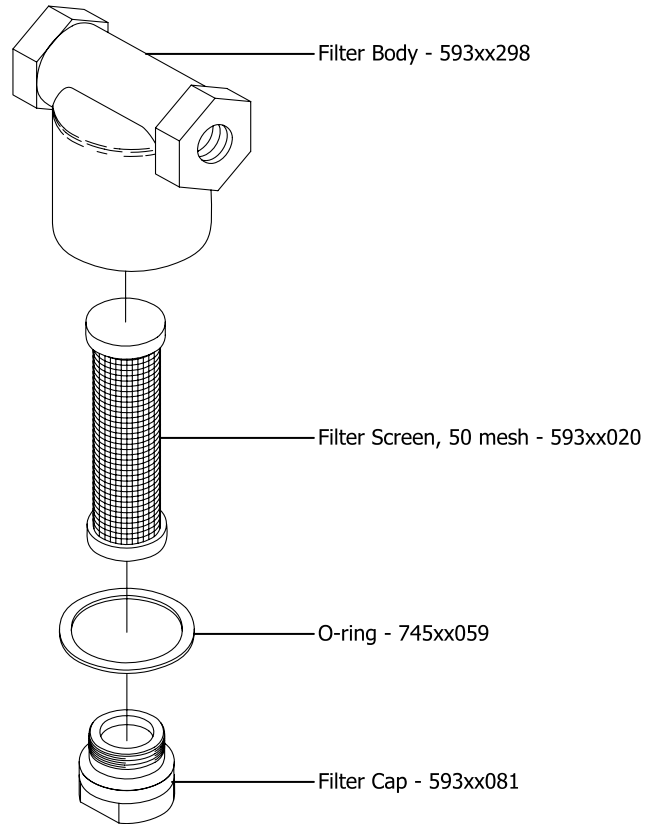


Figure 7-4. Pump Body Assembly

Cleaning the Fluid Filter

The fluid filter should be cleaned regularly. To clean the filter, follow these steps:

1. Remove the filter cap.
2. Remove the filter screen.
3. Clean the filter screen with either a mild vinegar-and-water solution or a propane torch.



Section 8 - Troubleshooting

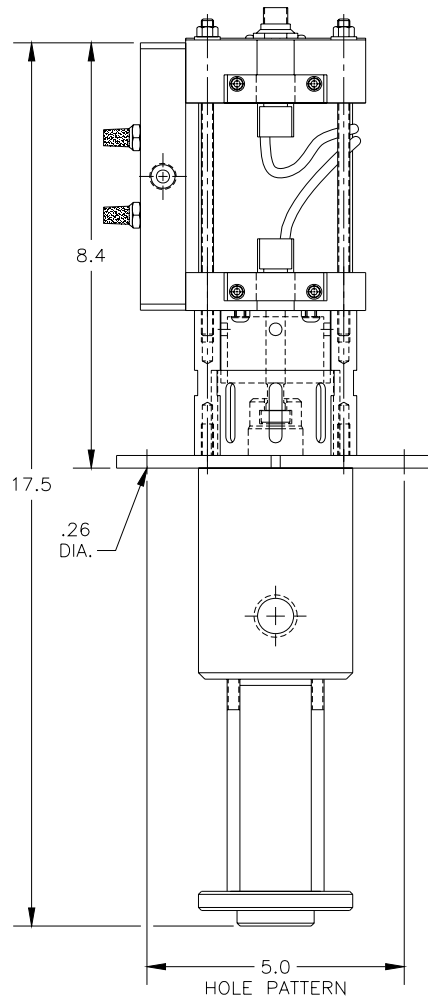
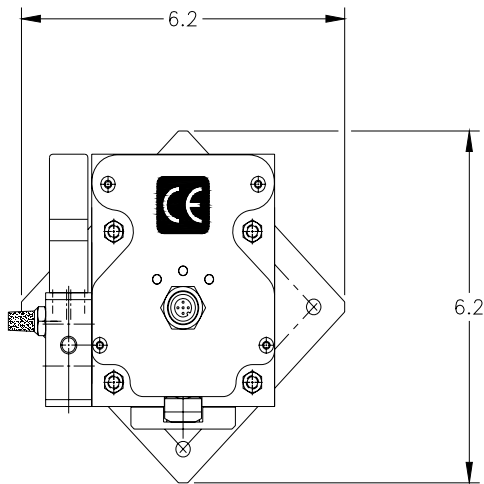
This section contains troubleshooting procedures for the Valco EPP6 Piston Pump.

Problem	Possible Cause	Possible Solution
Pump will not start	Electrical:	
	Power input LED out	Check line fuse. Check plant power supply. Replace PC board/transformer assembly.
	No electrical service	Check plant power supply.
	Service cable faulty	Repair or replace service cable.
	Line fuses out	Replace line fuses.
	Faulty 4-way solenoid	Replace solenoid.
	Faulty reed switch	Test switches with magnet. Replace if needed.
	Pneumatic:	
	Regulator pressure gauge at zero	Check plant air supply. Open master air valve. Turn regulator adjusting knob clockwise.
	Regulator pressure gauge not at zero; solenoid valves not operating	Check air lines to valves.
Mechanical:		
Pumped solidified fluid	Check strainers and filters. Service the suction and discharge lines. Service the check valves. Service the pump.	
Fluid flow is not steady	Suction leakage	Test and repair suction components..
	One or more check valves not seating correctly	Shut pump down and service the check valves.
	Clogged valve nozzle	Clean valve nozzle.
Pump runs without flow	Suction leakage	Test and repair suction components.
	Blocked suction line	Check and clean suction strainer if used. Check installation.
	One or more check valves not seating properly. Down Stroke = Lower check Up Stroke = Piston check	Shut pump down and service the check valves.
	Pump is sucking in air	Check all fittings. Use pipe sealant to seal fittings.
Pump speeds up noticeably without a proportionate increase in flow as air pressure is increased	The pump may be beginning to cavitate due to excessive restriction in suction lines or insufficient suction-line diameter.	If suction line checks out for size and tightness, cavitation can be stopped by turning the regulator knob counterclockwise to reduce air pressure.

Section 9 - Specifications

This section contains specifications for the Valco EPP6 Piston pump.

Height:	17.5 inches (444 mm)
Width:	6.2 inches (157 mm)
Depth:	6.2 inches (157 mm)
Weight:	14.45 lbs. (6.57 kg)
Air Inlet:	1/4 inch NPT
Inlet:	One 3/4-inch NPT
Outlet:	One 1/2-inch NPT
Power Requirements:	24 volts AC or DC
Air Requirements:	Filtered and regulated shop air; 20 psi minimum, 60 psi maximum



Section 10 - Part Number List

How to Order Parts

To order parts, please contact your closest Valco office by mail, phone, or Email:

USA

Valco Cincinnati, Inc.
497 Circle Freeway Drive
Suite 490
Cincinnati, OH 45246
Tel: (513) 874-6550
Fax: (513) 874-3612
Email: sales@valcomelton.com
Web: <http://www.valcocincinnatiinc.com>

England

Valco Cincinnati Limited
Hortonwood 32
Telford, TFI 7YN, England
Tel: (+44) 1952-677911
Fax: (+44) 1952-677945
Email: sales@valco.co.uk
Web: <http://www.valco.co.uk>

Germany

Valco Cincinnati GmbH
Bonnerstrasse 349
40589 Dusseldorf-Benrath, Germany
Tel: +49 211 984 798-0
Fax: +49 211 984 798-20

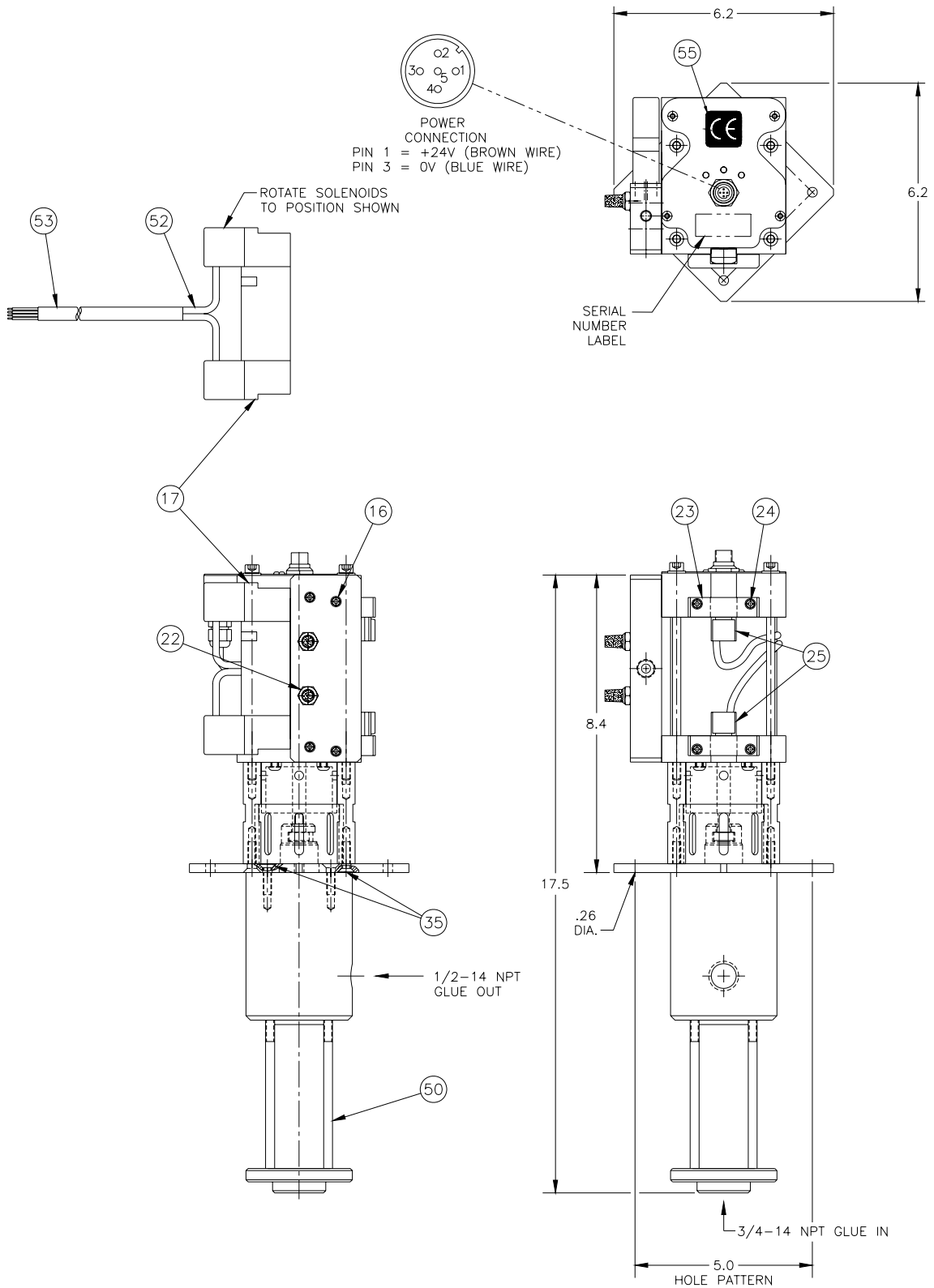
Spain

Melton S.L.U.
Pol. Industrial Agustinos
calle G, n. 34
31160 Orcoyen, Navarra, Spain
Tel: (34) 948-321-580
Fax: (34) 948-326-584

France

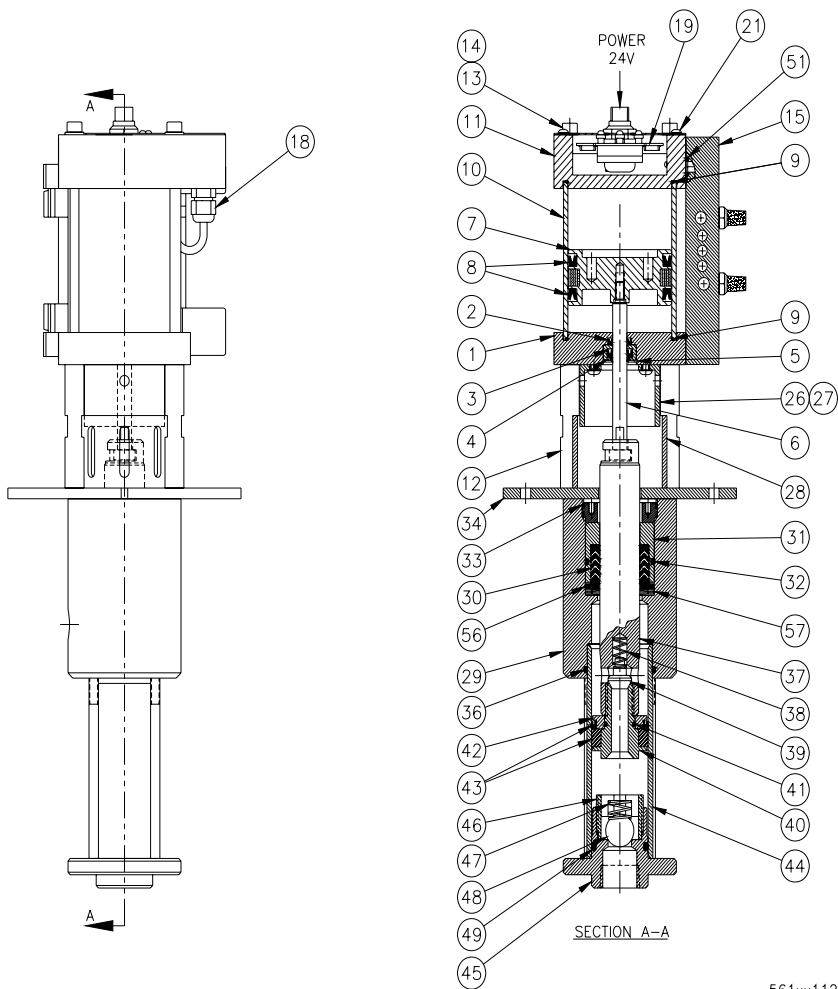
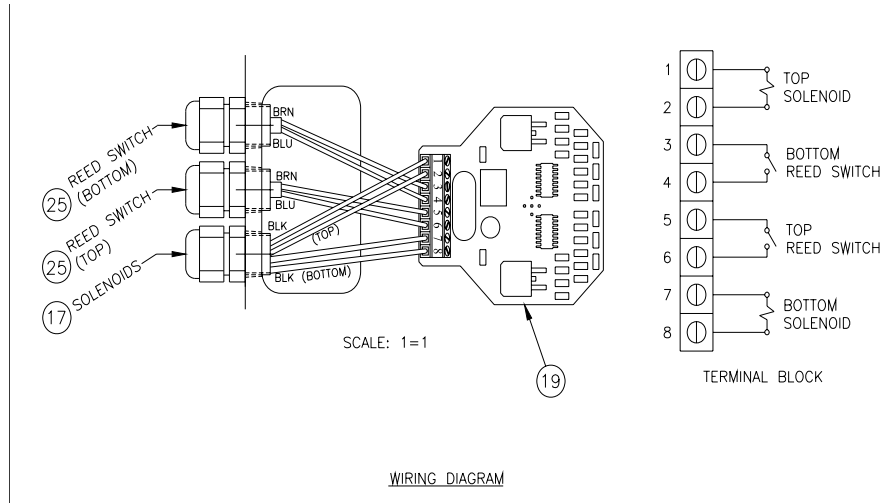
Valco Melton France
Technoparc des Hautes Faventines
32 Rue Jean Bertin
26000 Valence
Tel: +33 (0)4 75 78 13 73
Fax: +33 (0)4 75 55 74 20

EPP6 6:1 Piston Pump Assembly (561xx112)



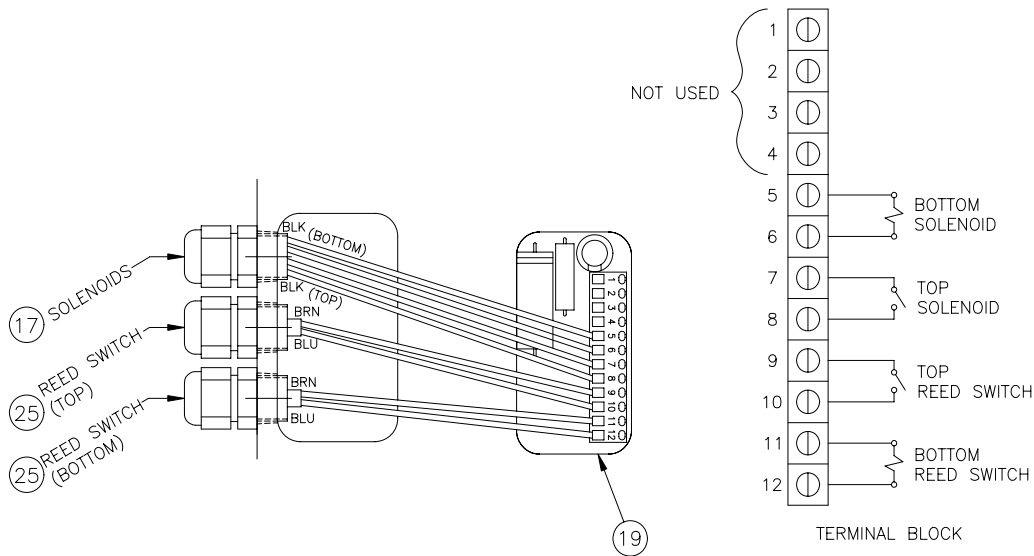
EPP6 6:1 Piston Pump Assembly (561xx112) - Continued

Wiring after 01/2007



EPP6 6:1 Piston Pump Assembly (561xx112) - Continued

Wiring before 01/2007



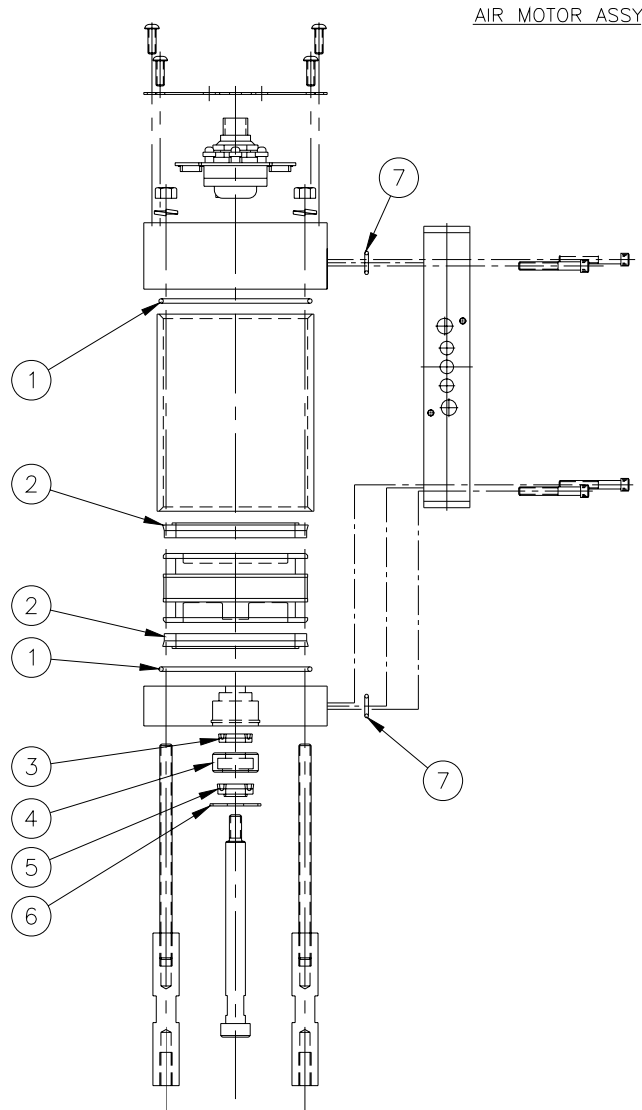
WIRING DIAGRAM—CIRCUIT BOARD PRE-01/07

Item	Part Number	Description	Qty
1	561xx114	Lower air motor plate	1
2	746xx097	U-packing seal	1
3	746xx096	Rod wiper	1
4	561xx115	Bushing, seal, air motor	1
5	783xx117	Retaining ring	1
6	561xx187	Piston rod, EPP6	1
7	561xx189	Magnetic piston assembly	1
8	746xx018	Piston seal	2
9	745xx388	O-ring	2
10	561xx118	Air motor seal EPPS	1
11	561xx177	Pump control box, EPP6	1
12	561xx121	Pump spacer	4
13	784xx600	Split lock washer	4
14	884xx088	Screw	4
15	561xx123	Air manifold assembly	1
16	784xx116	Screw	4
17	411xx865	4-way solenoid	1
18	066xx109	Cord grip	3
19	151xx611	Control board assembly	1
21	784xx996	Screw	4
22	411xx602	Exhaust muffler	2

EPP6 6:1 Piston Pump Assembly (561xx112) - Continued

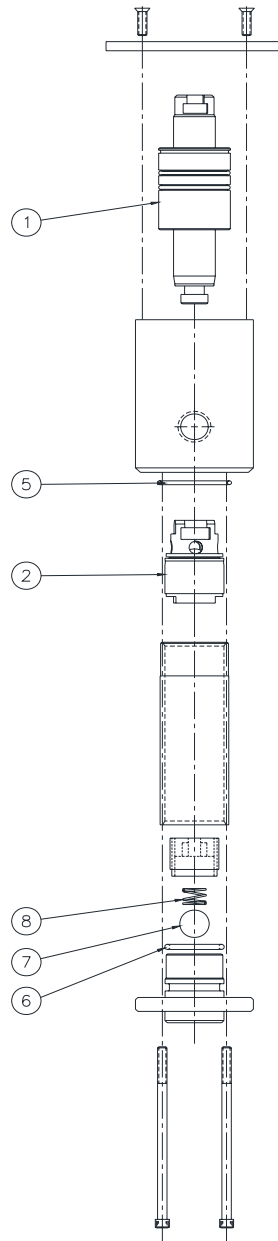
Item	Part Number	Description	Qty
23	561xx126	Clamp	2
24	784xx067	Screw	4
25	485xx092	Reed switch	2
26	561xx127	Shaft guard	1
27	784xx125	Screw	3
28	561xx128	Guard	1
29	561xx129	Pump body	1
30	746xx098	Seal, v-ring stack	1
31	561xx190	Seal bearing	1
32	746xx099	O-ring	1
33	561xx131	Gland nut	1
34	561xx132	Mounting plate	1
35	784xx041	Screw	8
36	746xx100	O-ring	1
37	561xx133	Shaft	1
38	783xx115	Spring	1
39	561xx134	Check, piston, poppet	1
40	561xx135	Piston body	1
41	745xx023	O-ring	1
42	561xx136	Piston cap	1
43	746xx101	Piston seal and bearing	1
44	561xx137	Pump tube	1
45	561xx138	Check, lower	1
46	561xx139	Ball retainer	1
47	783xx116	Spring	1
48	560xx961	Ball retainer	1
49	745xx088	O-ring	1
50	784xx576	Screw	4
51	745xx103	O-ring	2
52	094xx001	Tubing	10
53	094xx004	Tubing	5
55	781xx109	CE label	1
56	561xx191	Backup washer	1
57	783xx236	Wave spring	1
58	884xx232	Set Screw	1

Seal Kit, Air Motor (746xx102)



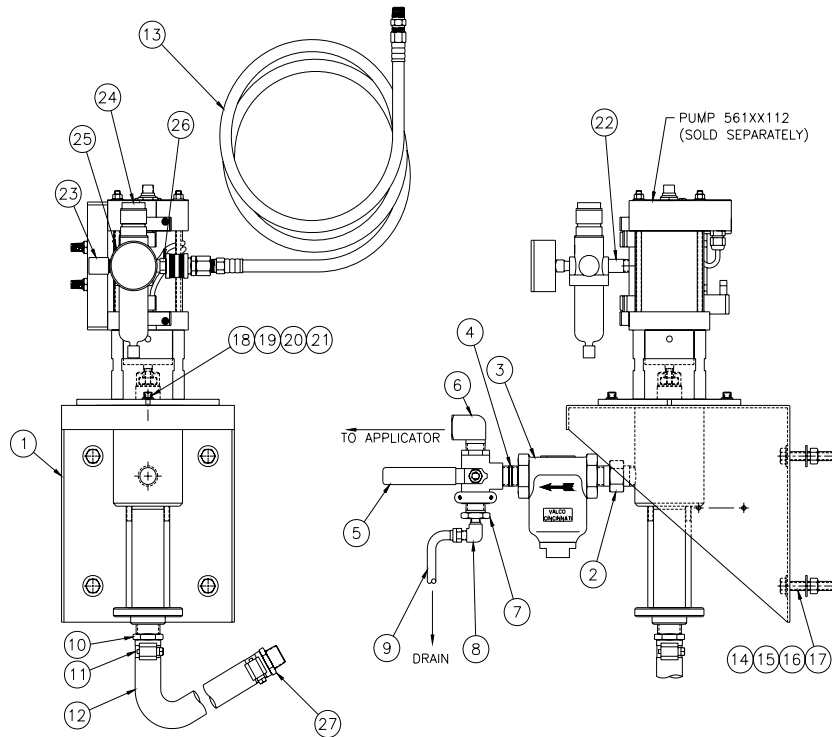
Item Number	Quantity	Part Number	Description
1	2	745xx388	O-ring
2	2	746xx018	Piston Seal
3	1	746xx097	Seal, U-Packing
4	1	561xx115	Bushing, Seal, Air Motor, EPP6
5	1	746xx096	Wiper, Rod
6	2	783xx117	Ring-Retaining
7	1	745xx103	O-ring
8	1	999XC746-004	Illustration drawing

Pump Seal Kit (746xx262)



Item	Part Number	Description
1	561XX300	ASSY SEAL CARTRIDGE EPP6
2	561XX304	PISTON & SEAL ASSY
3	782XX557	GREASE SILICONE W/PTFE
4	999XD561-34	ILLUSTRATION DRAWING
5	746XX100	O-RING
6	745XX088	O-RING
7	561XX307	BALL CERAMIC 3/4" GRADE 28
8	783XX116	SPRING

Pump Wall Mount Assembly (561xx109) without pop safety (requires high pressure hose)



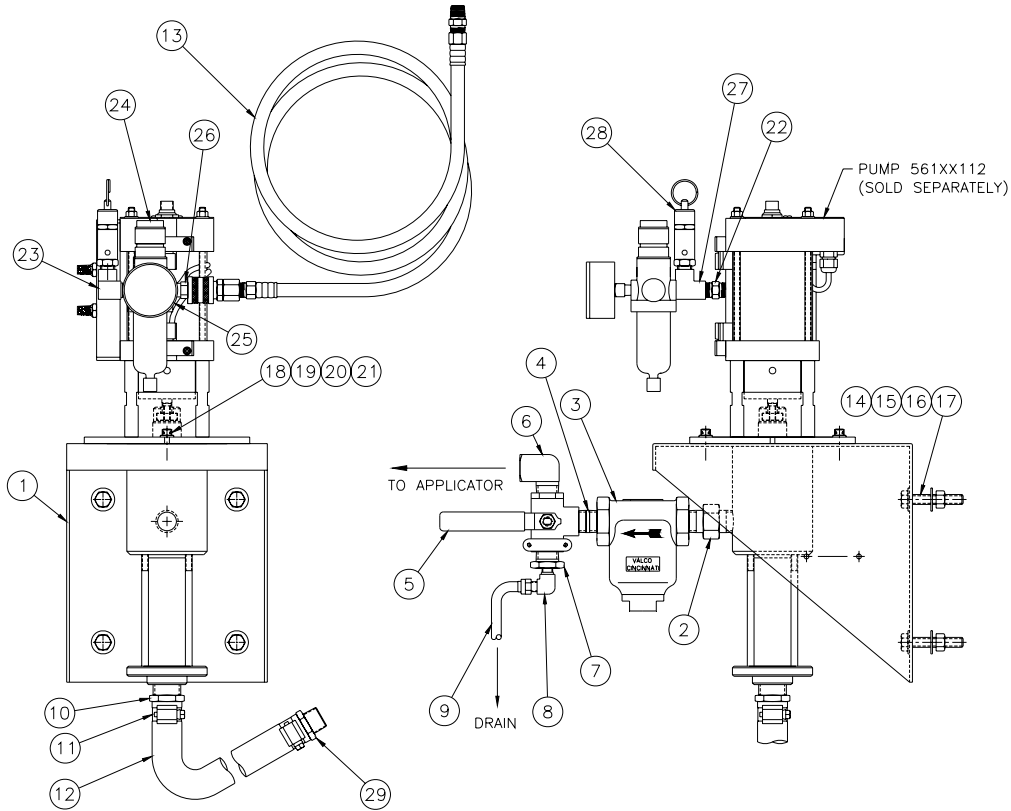
561xx109.DWG

Item Number	Quantity	Part Number	Description
1	1	580xx410	Wall Mounting Bracket
2	1	799xx513	Union Nipple 1/2 NPT
3	1	593xx299	Fluid Filter Assy; 50 mesh
4	1	797xx124	Close Nipple M-M 1/2
5	1	703xx309	Valve
6	2	797xx009	Street Elbow F-M 1/2 x 1/2
7	1	797xx049	Bushing M-F 1/2 x 1/4
8	2	797xx343	Male Elbow 3/8 x 1/4
9	72	755xx009	Tubing
10	1	792xx295	Fitting, Barb, 3/4 SS
11	1	795xx883	Clamp
12	120	755xx522	Tubing; PVC, .75"
13	1	755xx012	Input Air Hose 80R
14	4	798xx646	HHCS Zinc 3/8-16 x 2
15	4	798xx762	Flat Washer-SAE Zinc 3/8
16	4	798xx740	Lock Washer Zinc 3/8
17	4	798xx691	Hex Nut Zinc 3/8-16
18	2	798xx158	SHCS, M6 x 20, SS

Pump Wall Mount Assembly (561xx109) - Continued

Item Number	Quantity	Part Number	Description
19	2	798xx302	Flat Washer Zinc, M6
20	2	798xx593	Lock Washer Split M6
21	2	798xx301	Hex Nut M6, Zinc
22	1	797xx089	Long Nipple ¼ x 2
23	1	797xx007	Street Elbow-90, F-M ¼ x ¼
24	1	594xx160	Filter Regulator-Air, 5-125 psi
25	1	786xx001	Gauge 960LP
26	1	752xx004	Male Quick Disconnect
27	1	792xx296	Fitting, Barb, 3/4 x ½ S.S.

Pump Wall Mount Assembly (561xx152) with pop safety (150 psi max, no pressure hose required)



999XC561-04.DWG

Item Number	Quantity	Part Number	Description
1	1	580xx410	Wall Mounting Bracket
2	1	799xx513	Union Nipple 1/2 NPT
3	1	593xx299	Fluid Filter Assy; 50 mesh
4	1	797xx124	Close Nipple M-M 1/2
5	1	703xx309	Valve
6	2	797xx009	Street elbow-90 F-M 1/2 x 1/2
7	1	797xx049	Bushing M-F 1/2 x 1/4
8	2	797xx343	Male Elbow 3/8 x 1/4
9	72	755xx009	Tubing
10	1	792xx295	Fitting, Barb, 3/4 SS
11	1	795xx883	Clamp
12	120	755xx522	Tubing; PVC, .75"
13	1	755xx012	Input Air Hose 80R
14	4	798xx646	HHCS Zinc 3/8-16 x 2
15	4	798xx762	Flat Washer-SAE Zinc 3/8
16	4	798xx740	Lock Washer Zinc 3/8

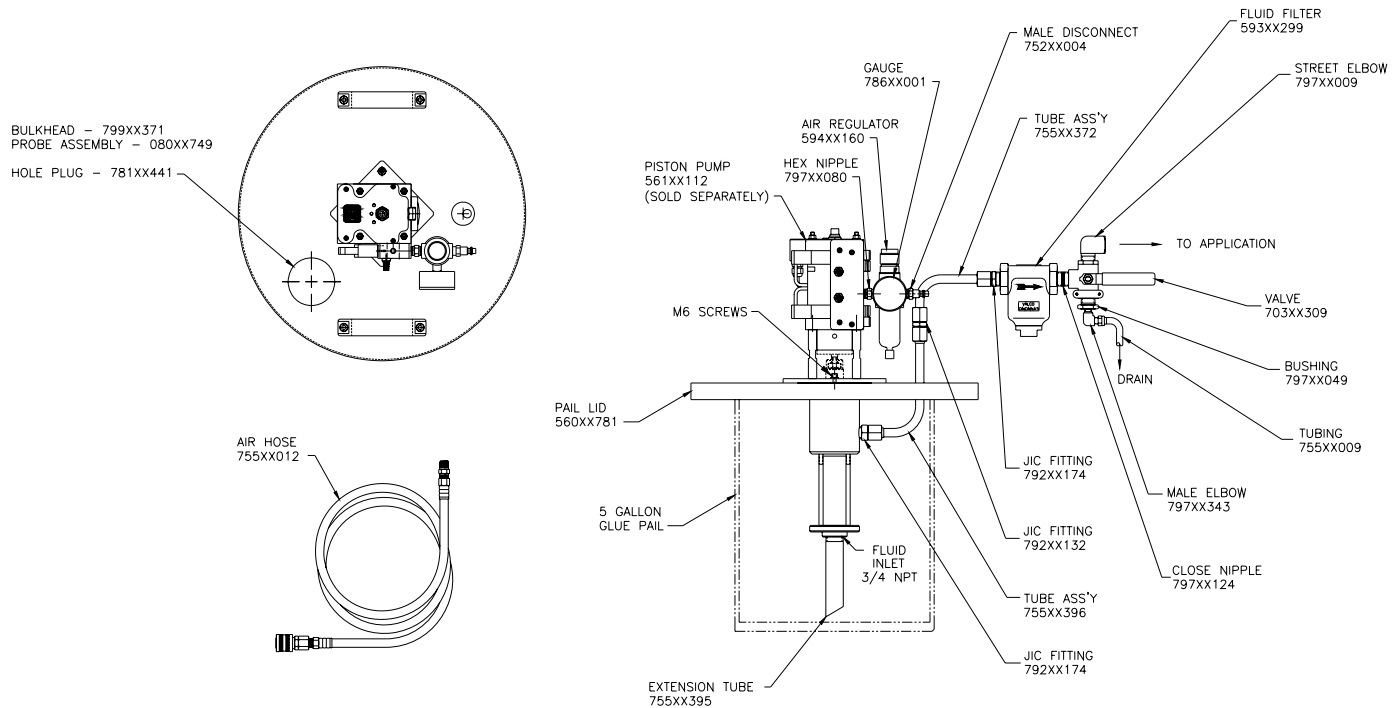
Pump Wall Mount Assembly (561xx152) - Continued

Item Number	Quantity	Part Number	Description
17	4	798xx691	Hex Nut Zinc 3/8-16
18	2	798xx158	SHCS, M6 x 20, SS
19	2	798xx302	Flat Washer Zinc, M6
20	2	798xx593	Lock Washer Split M6
21	2	798xx301	Hex Nut M6, Zinc
22	1	797xx080	Hex Nipple M-M ¼
23	1	797xx007	Street Elbow-90, F-M ¼ x ¼
24	1	594xx160	Filter Regulator-Air, 5-125 psi
25	1	786xx001	Gauge 960LP
26	1	752xx004	Male Quick Disconnect
27	1	797xx019	Street Tee F-F-M ¼
28	1	703xx041	Pop Safety Relief Valve
29	1	792xx296	Fitting, Barb ¾ x ½, SS
30	1	999xc561-04	Dwg. Illustration, Wall Mount Pump

Pump Pail Mount Kit

(561xx107 w/Probe, 561xx108 without Probe)

without pop safety (requires high pressure hose)



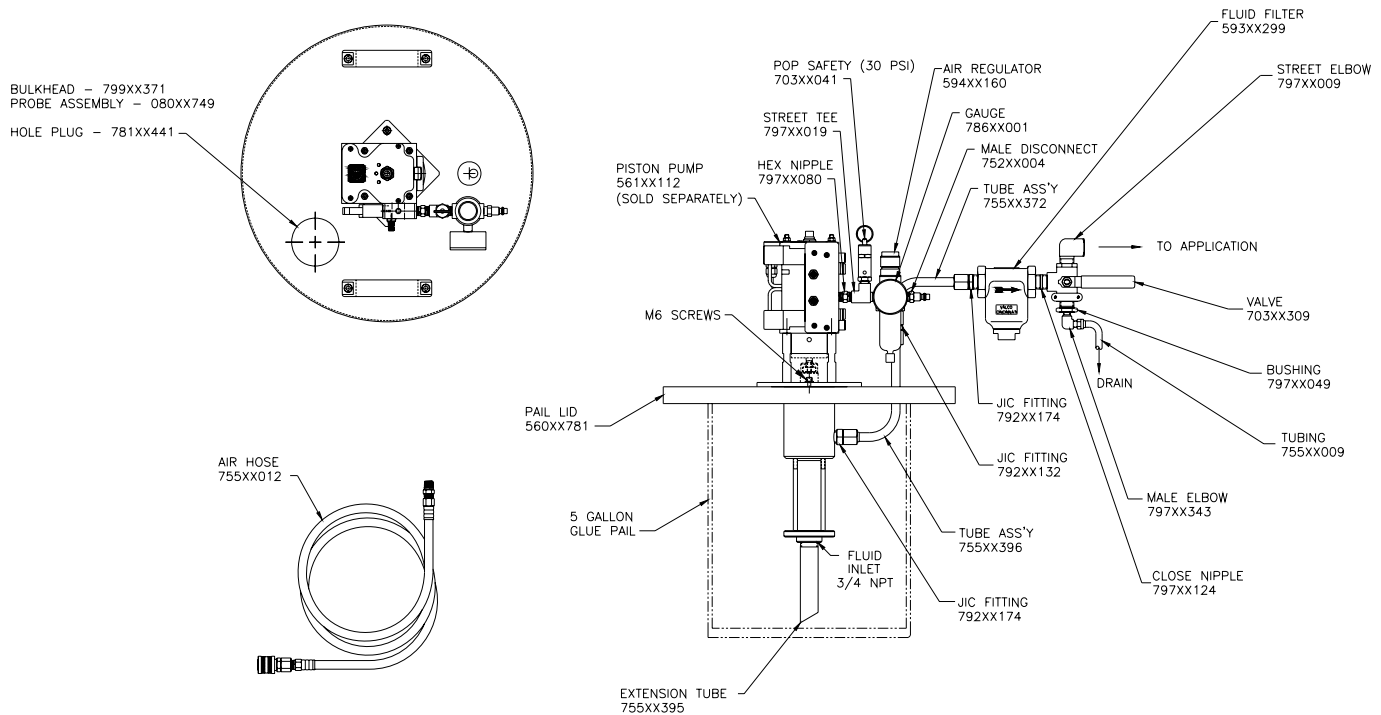
999XC560-30.DWG

Item Number	Quantity	Part Number	Description
1	1	560xx781	Pail Lid Assy.
2	2	792xx174	Conn. 1/2 NPT x 3/4-16 JIC, SS
3	1	755xx396	Tube Assy.
4	1	792xx132	Fitting, JIC - 1/2 x 1/2, SS
5	1	755xx372	Tube Assy. Pump
6	1	593xx299	Fluid Filter Assy., 50 mesh
7	1	797xx124	Close Nipple M-M 1/2
8	1	703xx309	Valve
9	1	797xx049	Bushing M-F 1/2 x 1/4
10	1	797xx343	Male Elbow-90 3/8i x 1/4
11	72	755xx009	Tubing
12	1	797xx009	Street Elbow-90 F-M 1/2 x 1/2
13	1	755xx395	Extension Tube
14	1	755xx012	Input Air Hose 080R
15	1	797xx080	Hex Nipple M-M 1/4
16	1	594xx160	Filter Regulator-Air 5-125 psi
17	1	786xx001	Gauge 960LP
18	1	752xx004	Male Quick Disconnect

Pump Pail Mount Kit (561xx107 w/Probe, 561xx108 without Probe) - Continued

Item Number	Quantity	Part Number	Description
19	2	798xx158	SHCS, M6 x 20, SS
20	2	798xx302	Flat Washer, M6 Zinc
21	2	798xx593	Lock Washer Split M6
22	2	798xx301	Hex Nut M6 Zinc
23	1	799xx371	Bulkhead – 2" NPT, Plastic (only with 561xx107 Kit)
24	1	080xx749	Probe Assembly (only with 561xx107 Kit)
25	1	999xc560-30	Illustration drawing, Pail Mount EPP6

Pump Pail Mount Kit (561xx149 w/Probe, 561xx150 without Probe) with pop safety (150 psi max, high pressure hose not required)



999XC561-02.DWG

561xx149

Item Number	Quantity	Part Number	Description
1	1	560xx781	Pail Lid Assy.
2	2	792xx174	Conn. 1/2 NPT x 3/4-16 JIC, SS
3	1	755xx396	Tube Assy.
4	1	792xx132	Fitting, JIC - 1/2 x 1/2, SS
5	1	755xx372	Tube Assy. Pump
6	1	593xx299	Fluid Filter Assy., 50 mesh
7	1	797xx124	Close Nipple M-M 1/2
8	1	703xx309	Valve
9	1	797xx049	Bushing M-F 1/2 x 1/4
10	1	797xx343	Male Elbow-90 3/8i x 1/4
11	72	755xx009	Tubing
12	1	797xx009	Street Elbow-90 F-M 1/2 x 1/2
13	1	755xx395	Extension Tube
14	1	755xx012	Input Air Hose 080R
15	1	797xx080	Hex Nipple M-M 1/4
16	1	594xx160	Filter Regulator-Air 5-125 psi

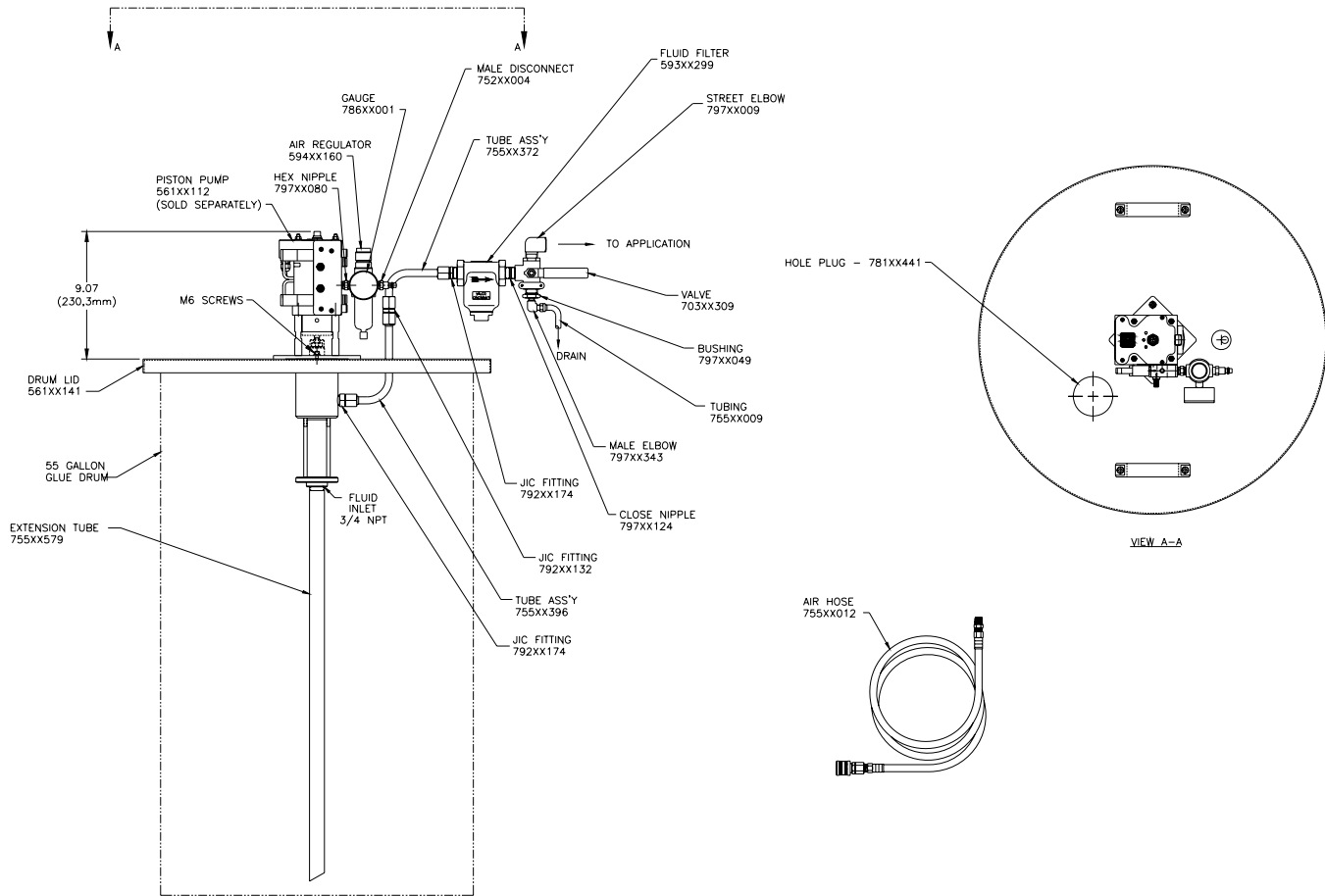
561xx149 - Continued

Item Number	Quantity	Part Number	Description
17	1	786xx001	Gauge 960LP
18	1	752xx004	Male Quick Disconnect
19	2	798xx158	SHCS, M6 x 20, SS
20	2	798xx302	Flat Washer, M6 Zinc
21	2	798xx593	Lock Washer Split M6
22	2	798xx301	Hex Nut M6 Zinc
23	1	799xx371	Bulkhead – 2” NPT, Plastic
24	1	080xx749	Probe Assembly
25	1	797xx019	Street Tee F-F-M ¼
26	1	703xx041	Pop Safety Relief Valve
27	1	999xc561-02	Illustration drawing, Pail Mount Pump

561xx150

Item Number	Quantity	Part Number	Description
1	1	560xx781	Pail Lid Assy.
2	2	792xx174	Conn. ½ NPT x ¾-16 JIC, SS
3	1	755xx396	Tube Assy.
4	1	792xx132	Fitting, JIC – ½ x 1/2, SS
5	1	755xx372	Tube Assy. Pump
6	1	593xx299	Fluid Filter Assy., 50 mesh
7	1	797xx124	Close Nipple M-M ½
8	1	703xx309	Valve
9	1	797xx049	Bushing M-F ½ x ¼
10	1	797xx343	Male Elbow-90 3/8i x ¼
11	72	755xx009	Tubing
12	1	797xx009	Street Elbow-90 F-M ½ x ½
13	1	755xx395	Extension Tube
14	1	755xx012	Input Air Hose 080R
15	1	797xx080	Hex Nipple M-M ¼
16	1	594xx160	Filter Regulator-Air 5-125 psi
17	1	786xx001	Gauge 960LP
18	1	752xx004	Male Quick Disconnect
19	2	798xx158	SHCS, M6 x 20, SS
20	2	798xx302	Flat Washer, M6 Zinc
21	2	798xx593	Lock Washer Split M6
22	2	798xx301	Hex Nut M6 Zinc
23	1	781xx441	Hole Plug
24	1	797xx019	Street Tee F-F-M ¼
25	1	703xx041	Pop Safety Relief Valve
26	1	999xc561-02	Illustration drawing, Pail Mount Pump

Pump 55-Gallon Drum Mount (561xx140) without pop safety (requires high pressure hose)



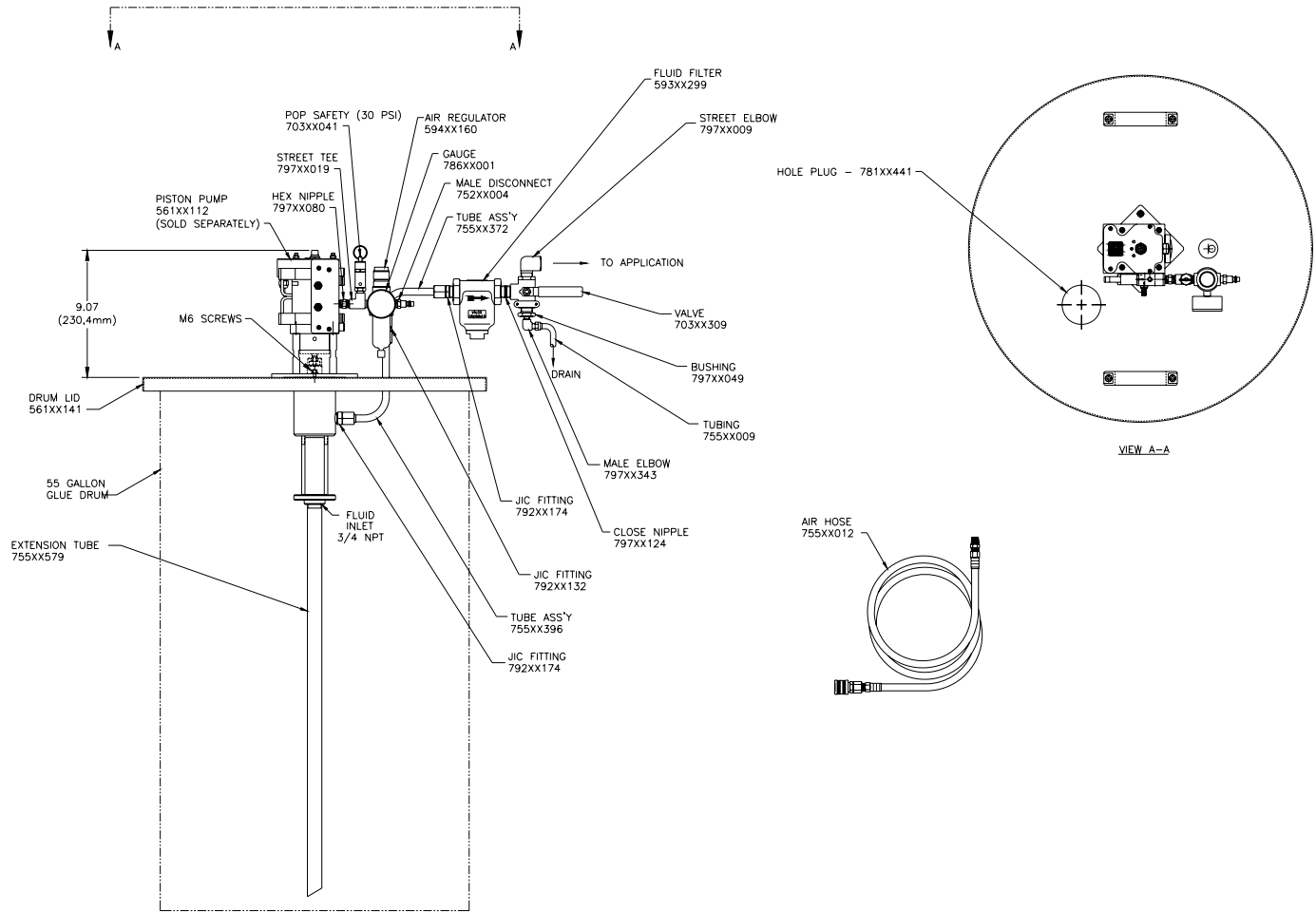
999XD561-01.DWG

Item Number	Quantity	Part Number	Description
1	1	561xx141	Drum Lid Assy. EPP6
2	2	792xx174	Conn. 1/2 NPT x 3/4-16 JIC, SS
3	1	755xx396	Tube Assy.
4	1	792xx132	Fitting, JIC - 1/2 x 1/2, SS
5	1	755xx372	Tube Assy. Pump
6	1	593xx299	Fluid Filter Assy., 50 mesh
7	1	797xx124	Close Nipple M-M 1/2
8	1	703xx309	Valve
9	1	797xx049	Bushing M-F 1/2 x 1/4
10	1	797xx343	Male Elbow-90 3/8i x 1/4
11	72	755xx009	Tubing
12	1	797xx009	Street Elbow-90 F-M 1/2 x 1/2
13	1	755xx579	Extension Tube
14	1	755xx012	Input Air Hose 080R

Pump 55-Gallon Drum Mount (561xx140) - Continued

Item Number	Quantity	Part Number	Description
15	1	797xx080	Hex Nipple M-M ¼
16	1	594xx160	Filter Regulator-Air 5-125 psi
17	1	786xx001	Gauge 960LP
18	1	752xx004	Male Quick Disconnect
19	2	798xx158	SHCS, M6 x 20, SS
20	2	798xx302	Flat Washer, M6 Zinc
21	2	798xx593	Lock Washer Split M6
22	2	798xx301	Hex Nut M6 Zinc
23	1	781xx441	Hole Plug
24	1	999xd561-01	Illustration drawing Drum Mount

Pump 55-Gallon Drum Mount (561xx151) with pop safety (150 psi, high pressure hose not required)



999XD561-03.DWG

Item Number	Quantity	Part Number	Description
1	1	561xx141	Drum Lid Assy. EPP6
2	2	792xx174	Conn. 1/2 NPT x 3/4-16 JIC, SS
3	1	755xx396	Tube Assy.
4	1	792xx132	Fitting, JIC - 1/2 x 1/2, SS
5	1	755xx372	Tube Assy. Pump
6	1	593xx299	Fluid Filter Assy., 50 mesh
7	1	797xx124	Close Nipple M-M 1/2
8	1	703xx309	Valve
9	1	797xx049	Bushing M-F 1/2 x 1/4
10	1	797xx343	Male Elbow-90 3/8i x 1/4
11	72	755xx009	Tubing
12	1	797xx009	Street Elbow-90 F-M 1/2 x 1/2
13	1	755xx579	Extension Tube

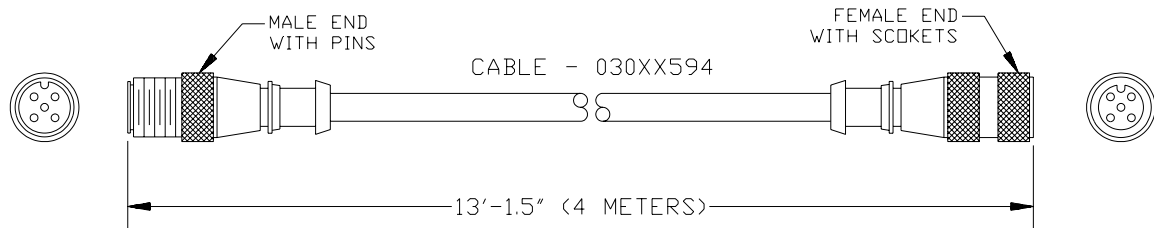
Pump 55-Gallon Drum Mount (561xx151) - Continued

Item Number	Quantity	Part Number	Description
14	1	755xx012	Input Air Hose 080R
15	1	797xx080	Hex Nipple M-M ¼
16	1	594xx160	Filter Regulator-Air 5-125 psi
17	1	786xx001	Gauge 960LP
18	1	752xx004	Male Quick Disconnect
19	2	798xx158	SHCS, M6 x 20, SS
20	2	784xx183	Flat Washer, M6 SS
21	2	784xx375	Lock Washer M6 Ext. Tooth
22	2	793xx491	Nut, M6
23	1	781xx441	Hole Plug
24	1	797xx019	Street Tee F-F-M ¼
25	1	703xx041	Pop Safety Relief Valve
26	1	999xd561-03	Illustration drawing Drum Mount Pump

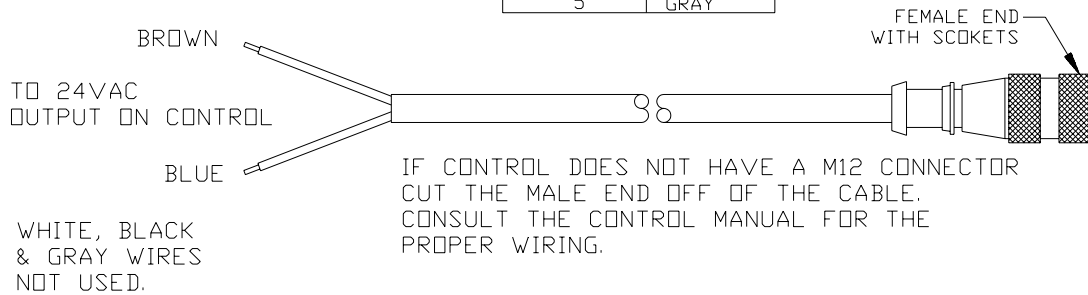
Miscellaneous

Power Supply Cables

Part Number	Description
030xx594	13-foot (4.0 m) connector cable, M12 5-pin connector both ends
030xx604	20-foot (6.0 m) (field-wireable)
030xx604	20-foot (6.0 m) connector cable (field-wireable)
030xx596	33-foot (10.0 m) connector cable (field-wireable)
030xx738	33-foot (10.0 m) connector cable M12 5-pin connector both ends - STANDARD CABLE
030xx739	50-foot (15.0 m) connector cable M12 5-pin connector both ends
030xx740	66-foot (120.0 m) connector cable M12 5-pin connector both ends



PIN NUMBER	WIRE COLOR
1	BROWN
2	WHITE
3	BLUE
4	BLACK
5	GRAY



030xx592.DWG

Section 11 - Warranty

Warranty Information

Valco Cincinnati, Inc. warrants its equipment worldwide against defects in material and workmanship as outlined in this section.

Liability of the company is limited to repair of the product, or replacement of any part shown to be defective, and does not extend to defects caused by accidents, misuse, abuse, neglect, tampering or deterioration by corrosion. This warranty does not cover those items determined by Valco Cincinnati, Inc. to be normal wear items such as seals, O-rings, diaphragms, springs, etc.

Reconditioned equipment, unless specified otherwise at the time of purchase, will be warranted as described above for a period of ninety (90) days from the date of shipment by Valco Cincinnati.

Components purchased by Valco Cincinnati, Inc. from others for inclusion in its products are warranted only to the extent of the original manufacturer's warranty. In no event shall Valco Cincinnati, Inc. be liable for indirect or consequential damages arising out of the use of Valco Cincinnati products.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to Valco Cincinnati, Inc. for examination and verification. If claimed defect is verified, repairs or replacements will be made F.O.B. Cincinnati, Ohio, U.S.A. or ex-works Telford, U.K. If the inspection of the equipment does not disclose any defect of workmanship or material, any necessary repairs will be made at a reasonable charge and return transportation will be charged.

This is the only authorized Valco Cincinnati, Inc. warranty and is in lieu of all other expressed or implied warranties, representations or any other obligations on the part of Valco Cincinnati, Inc.

Cold Glue Equipment and Electronic Controls


The warranty for cold glue equipment and electronic controls for a period of one (1) year from the date of shipment by Valco Cincinnati, Inc.

Hot Melt Units, Hoses, Valves, Guns, and Related Equipment

All hot melt components except cast-in heating elements are warranted for a period of six (6) months from the date of shipment by Valco Cincinnati. Cast-in heaters carry an additional, pro-rated warranty not to exceed three (3) years from the date of shipment by ValcoMelton, a Valco Cincinnati, Inc. company.

Section 12 - Service

If a problem with your system persists, contact a ValcoMelton Technical Support representative. If your need is urgent, we encourage you to contact our corporate office in Cincinnati, Ohio, U.S.A. at (513) 874-6550. If the problem cannot be resolved, Valco Cincinnati, Inc. will promptly arrange to have a technical representative visit your facility. Any charges for a service call will be quoted at that time. Any part that fails during the warranty period shall be returned prepaid to Valco Cincinnati, Inc. by the customer for disposition.

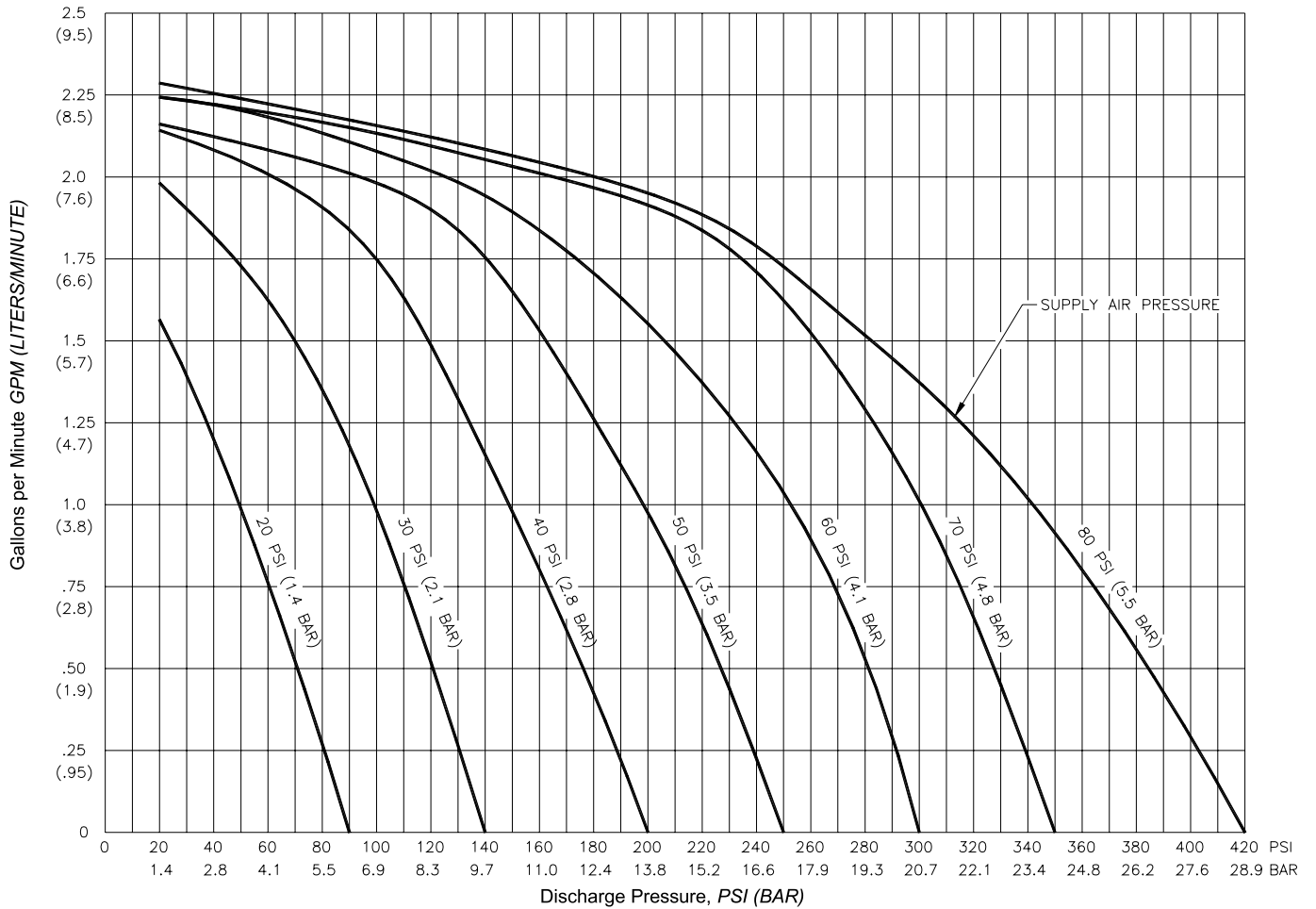
 Upon request, ValcoMelton personnel are available to repair or replace such parts at the customer's facility. Charges for this service include travel time and expenses.

If an equipment problem is the result of customer abuse, improper installation or operation, all travel time, labor, parts, and expenses will be charged to the customer.

If the responsibility for a problem cannot be absolutely determined, the customer will be charged for travel time and expenses only. No charge will be made for parts and labor.

Appendix A - Performance Charts

EPP6 Pump, Flow Rate (Oil, SAE 30w, 250cp)



EPP6 Pump, Air Consumption

