# Instructions – Parts List

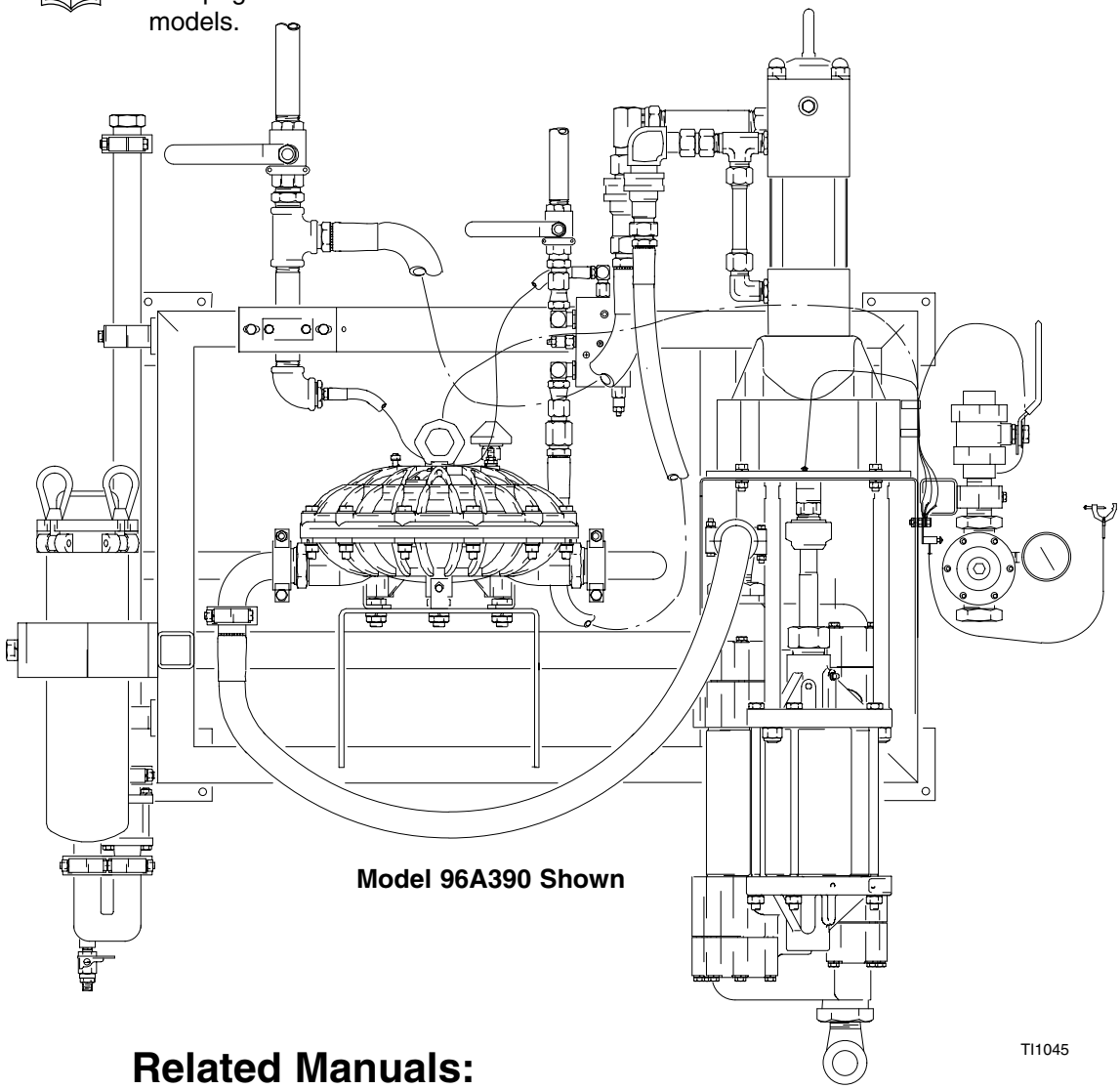
Parts

## WALL MOUNT OR FLOOR STAND, HIGH-FLO®

# Viscount II® 300 and 400, Circulation Packages

310570 Rev.B

**Read warnings and instructions.**
See page 2 for table of contents and list of models.



Model 96A390 Shown

TI1045

## Related Manuals:

**307107 Back Pressure Valve**
**307628 Low-Pressure Ball Valves**
**307707 Surge Tanks**
**308048 Quiet Viscount II Hydraulic Motor**
**308115 Back Pressure Regulators**
**309136 High-Flo Plus Pumps**

PROVEN QUALITY. LEADING TECHNOLOGY.

**GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441**


CE Ex II 2 G

# Table of Contents



# List of Models

| Model | Pump | Description – Pump Model | Maximum Fluid Working Pressure | Maximum Hydraulic Supply Pressure | Parts Page |
|---|---|---|---|---|---|
| 96A390 | Viscount II | Right Hand Pump Mount<br>High Flo Plus™ 300 | 300 psi<br>(2.1 MPa, 21 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 16 |
| 96A897 | Viscount II | Right Hand Pump Mount<br>High Flo Plus™ 300, Low Shear | 300 psi<br>(2.1 MPa, 21 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 16 |
| 96A788 | Viscount II | Right Hand Pump Mount<br>High Flo Plus™ 400 | 400 psi<br>(2.8 MPa, 28 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 16 |
| 96A901 | Viscount II | Right Hand Pump Mount<br>High Flo Plus™ 400, Low Shear | 400 psi<br>(2.8 MPa, 28 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 16 |
| 96A645 | Viscount II | Left Hand Pump Mount<br>High Flo Plus™ 300 | 300 psi<br>(2.1 MPa, 21 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 18 |
| 96A898 | Viscount II | Left Hand Pump Mount<br>High Flo Plus™ 300, Low Shear | 300 psi<br>(2.1 MPa, 21 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 18 |
| 96A789 | Viscount II | Left Hand Pump Mount<br>High Flo Plus™ 400 | 400 psi<br>(2.8 MPa, 28 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 18 |
| 96A902 | Viscount II | Left Hand Pump Mount<br>High Flo Plus™ 400, Low Shear | 400 psi<br>(2.8 MPa, 28 bar) | 1500 psi<br>(10.3 MPa, 103 bar) | 18 |

# Symbols

**Warning Symbol**

**⚠ WARNING**

This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

**Caution Symbol**

**⚠ CAUTION**

This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

## ⚠ WARNING

INSTRUCTIONS

### EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the **Technical Data** for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 180°F (82°C) or below –40°F (–40°C).
- Wear hearing protection when operating this equipment.
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

### PRESSURIZED EQUIPMENT HAZARD

Spray from the gun, hose leaks, or ruptured components can splash fluid in the eyes or on the skin and cause serious injury.

- Do not point the gun at anyone or at any part of the body.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Follow the **Pressure Relief Procedure** on page 10 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.

# ⚠ WARNING

## MOVING PARTS HAZARD

Moving parts, such as the air motor piston, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before servicing the equipment, follow the **Pressure Relief Procedure** on page 10 to prevent the equipment from starting unexpectedly.

## FIRE AND EXPLOSION HAZARD

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

- Ground the equipment and the object being sprayed. Refer to **Grounding** on page 9.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying immediately.** Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the spray area.
- Extinguish all open flames or pilot lights in the spray area.
- Do not smoke in the spray area.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not operate a gasoline engine in the spray area.

## TOXIC FLUID HAZARD

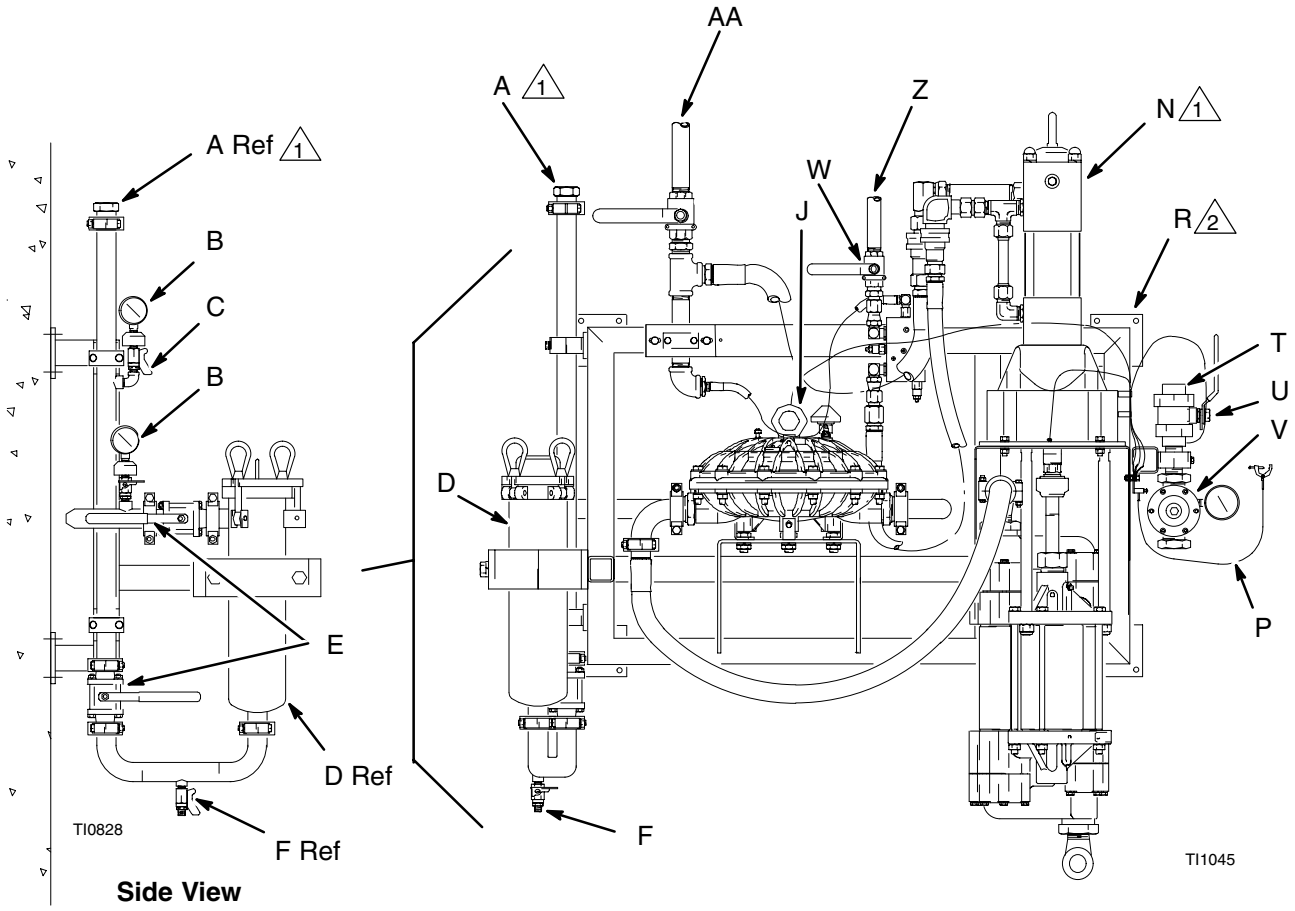
Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

# Component Identification

1 Ensure that there is 5 ft (1.5 m) overhead clearance for a wall mounted system and at least 7 ft (2.1 m) for a floor mounted system.

2 Mount the circulation package so the top of the bracket is 4 to 5 ft (1.2 to 1.5 m) above the floor.




**Model 96A390 Shown**

**KEY**

| | | | | | |
|---|---|---|---|---|---|
| A | Fluid Outlet | J | Fluid Surge Tank | V | Fluid Regulator and Gauge |
| B | Fluid Gauge and Dampener | N | Pump | W | Hydraulic Inlet Line Shutoff Valve |
| C | Fluid Gauge Ball Valve | P | Ground Wire | Z | Hydraulic Inlet |
| D | Fluid Filter | R | Wall Mount Frame | AA | Hydraulic Outlet |
| E | Filter Ball Valve | T | Fluid Return | | |
| F | Fluid Drain Valve | U | Fluid Return Ball Valve | | |

**Fig. 1**

# Setup

## ⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 10.

### Site Preparation

Fig. 1. **Relieve system pressure.** For installing any one of the packages listed in this manual, select a site with at least 5 ft (1.5 m) overhead clearance for the wall mounted systems and at least 7 ft (2.1 m) for the floor mounted systems.

Ensure that the wall is strong enough to support the weight of the circulation package and accessories, fluid, hoses, and stress caused during pump operation.

Bring a hydraulic supply line from the facility hydraulic supply (Z) to the circulation package location. Be sure all lines are properly sized and pressure-rated for the system. Use only electrically conductive hoses.

Install a hydraulic supply line shutoff valve (W) in the hydraulic line to isolate the line components for servicing.

Keep the site clear of any obstacles or debris that could interfere with the operator's movement.

Have a grounded, metal pail available for use when flushing the system.

### Supplied Components

Refer to Fig. 1.

## ⚠ WARNING

A master hydraulic valve (W) and a fluid drain valve (F) are supplied. These components help reduce the risk of serious injury, including splashing of fluid in the eyes or on the skin, and injury from moving parts if you are adjusting or repairing the pump.

The master hydraulic valve shuts off the hydraulic supply from the facility.

The fluid drain valve assists in relieving fluid pressure in the displacement pump, fluid filter, hose, and gun. Triggering the gun to relieve pressure may not be sufficient.

- **The hydraulic supply line shutoff valve (W)** is required in your system to isolate the line components for servicing. (See the preceding **WARNING.**)
- **The fluid drain valve (F),** is mounted on the bottom of the fluid filter bowl. The fluid drain valve is required in your system to relieve fluid pressure in the displacement pump, fluid filter, and surge tank. (See the preceding **WARNING.**)
- **The pump (N),** run by a hydraulic motor, circulates fluid throughout the system. See pump manual 309136 and hydraulic motor manual 308048 for further details.
- **The fluid filter (D)** includes a 60 mesh (250 micron) stainless steel element to filter particles from the fluid as it leaves the pump.
- **The fluid surge tank (J)** protects against surges in the fluid lines during gun use and system operation.
- **The fluid regulator and gauge (V)** controls fluid back pressure. The gauge provides a readout of the circulation system fluid pressure. See manual 307107 for further details.
- Fluid is returned to the circulation package from the system through the **fluid return ball valve (U).** See valve manual 307628 for further details.

# Setup

## ⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 10.

### Wall Mount installation of the Circulation Package

Fig. 1. The circulation package consists of the pump mounted on the wall mount frame. Also on the wall mount frame are hydraulic valves and controls, surge tank, fluid filter, and plumbing.

**NOTE:** Ensure that there is 5 ft (1.5 m) overhead clearance for a wall mounted system.

**NOTE:** Refer to Fig. 1, and to the Dimension drawing on page 24 and the Mounting Hole Layout on page 25.

1. **Relieve system pressure** prior to installation of circulation package. Follow **Pressure Relief Procedure** on page 10.
2. Ensure that wall is strong enough to support weight of circulation package, accessories, fluid plumbing, and stress caused during pump operation.
3. Using capable hoist, position wall mount frame (R) so that the top edge is 4 to 5 ft (1.2 to 1.5 m) above floor. Check that wall mount frame is level. Mark four holes on wall for each of four wall mount feet.
4. Drill holes where marked on wall.

## ⚠ WARNING

The wall mount frame (R) must be bolted to the wall. Do not simply hang the wall mount frame. Failure to do so may cause circulation package to fall causing equipment damage or personal injury.

5. Using capable hoist, lift circulation package back into position. Bolt wall mount frame (R) to wall. Use 1/2 in. bolts and washers to mount circulation package to wall. Use bolts that are long enough to keep wall mount frame from vibrating during operation.

### Single or Dual Floor Mount installation of the Circulation Package

Fig. 1. The circulation package consists of the pump mounted on the wall mount frame. Also on the wall mount frame are hydraulic valves and controls, surge tank, fluid filter, and plumbing.

**NOTE:** Ensure that there is 7 ft (2.1 m) overhead clearance for a floor mounted system.

**NOTE:** Refer to Fig. 1, and to the Single Mount Floor Stand drawing on page 20 or the Dual Mount drawing on page 21. Also refer to the Mounting Hole Layouts on page 25.

1. **Relieve system pressure** prior to installation of circulation package. Follow **Pressure Relief Procedure** on page 10.
2. Anchor either single or dual floor stand to floor using 1/2 in. bolts.

## ⚠ WARNING

Do not attempt to mount two circulation packages on a single mount floor stand. Use dual mount stand for dual or back–to–back installations. Failure to do so can result in mount failure causing equipment damage or personal injury

3. Using capable hoist, position wall mount frame (R) so that the top edge is level with the top edge of the floor stand. For dual, use second hoist and align with dual floor stand and first circulation package.
4. Bolt single unit or dual units to floor stand using 3/8 in. hardware.

# Setup

## Connect the Fluid Lines

Fig. 1. Connect system fluid supply line to the circulation package at fluid outlet (A). Close filter ball valves (E) to isolate the circulation package from the main fluid supply line.

Connect circulation package to the system fluid return line at fluid return (T). Close fluid return valve (U) to isolate the circulation package from the main fluid return line.

Bring a hydraulic supply line from the facility hydraulic supply (Z) to the circulation package location. Be sure lines are properly sized and pressure-rated for the system. Use only electrically conductive hoses.

Install a bleed-type shutoff valve (W) in the hydraulic line to isolate the components for servicing.

## Using the Quick Connectors

Fig. 2. To open a quick connector (A), loosen the captive screw (B) and open the connector. Slide the desired component into or out of the connector, close, and tighten the screw.

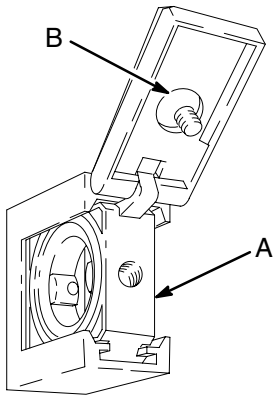



**Fig. 2**

# Setup

## Grounding

**⚠ WARNING**

**FIRE AND EXPLOSION HAZARD**
Before operating the circulation package, ground the system as explained below. Also read the section **FIRE AND EXPLOSION HAZARD** on page 4.

1. *Pump:* use the ground wire and clamp (A, supplied). See Fig. 3. Loosen the grounding lug locknut (W) and washer (X). Insert one end of the ground wire (A) into the slot in lug (Z) and tighten the locknut securely. Connect the ground clamp to a true earth ground.

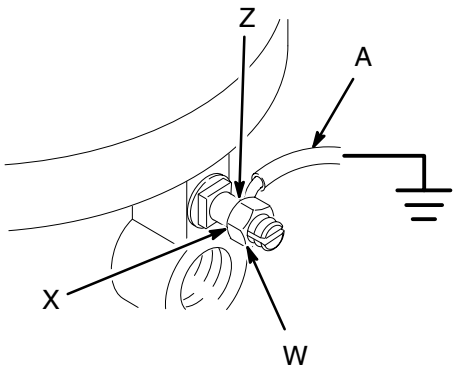



**Fig. 3**

2. *Fluid hoses:* use only electrically conductive hoses.

3. *Spray gun:* ground through connection to a properly grounded fluid hose and pump.

4. *Fluid supply container:* follow your local code.

5. *Object being sprayed:* follow your local code.

6. *Solvent pails used when flushing:* follow your local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts the grounding continuity.

7. *To maintain grounding continuity when flushing or relieving pressure*, hold a metal part of the spray gun firmly to the side of a grounded *metal* pail, then trigger the gun.

# Operation

## Pressure Relief Procedure

**⚠ WARNING**

**PRESSURIZED EQUIPMENT HAZARD**
The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. To reduce the risk of an injury from accidental spray from the gun, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying,
- check or service any of the system equipment,
- or install or clean the spray nozzle.

1. Fig. 4. Relieve the pressure of the entire system following applicable system pressure relief procedures. Ensure that system pressure is relieved before proceeding with step 2.
2. Close hydraulic supply line shutoff valve (W).
3. Trigger the gun at the last gun station to relieve fluid pressure. Maintain firm metal-to-metal contact between the gun and a grounded waste pail. Repeat for all gun stations.
4. Open the fluid drain valve (2) to relieve fluid pressure which may be trapped in the pump, plumbing, or hose.

If you suspect that pressure is not fully relieved after following the steps above, wrap a fitting near the pump outlet with a rag, and slowly and carefully loosen the fitting to relieve pressure. Be careful to protect your eyes from splashing.

## Packing Nut

Fig. 4. Before starting, fill the packing nut (AA) 1/3 full with Graco Throat Seal Liquid (TSL) or compatible solvent.

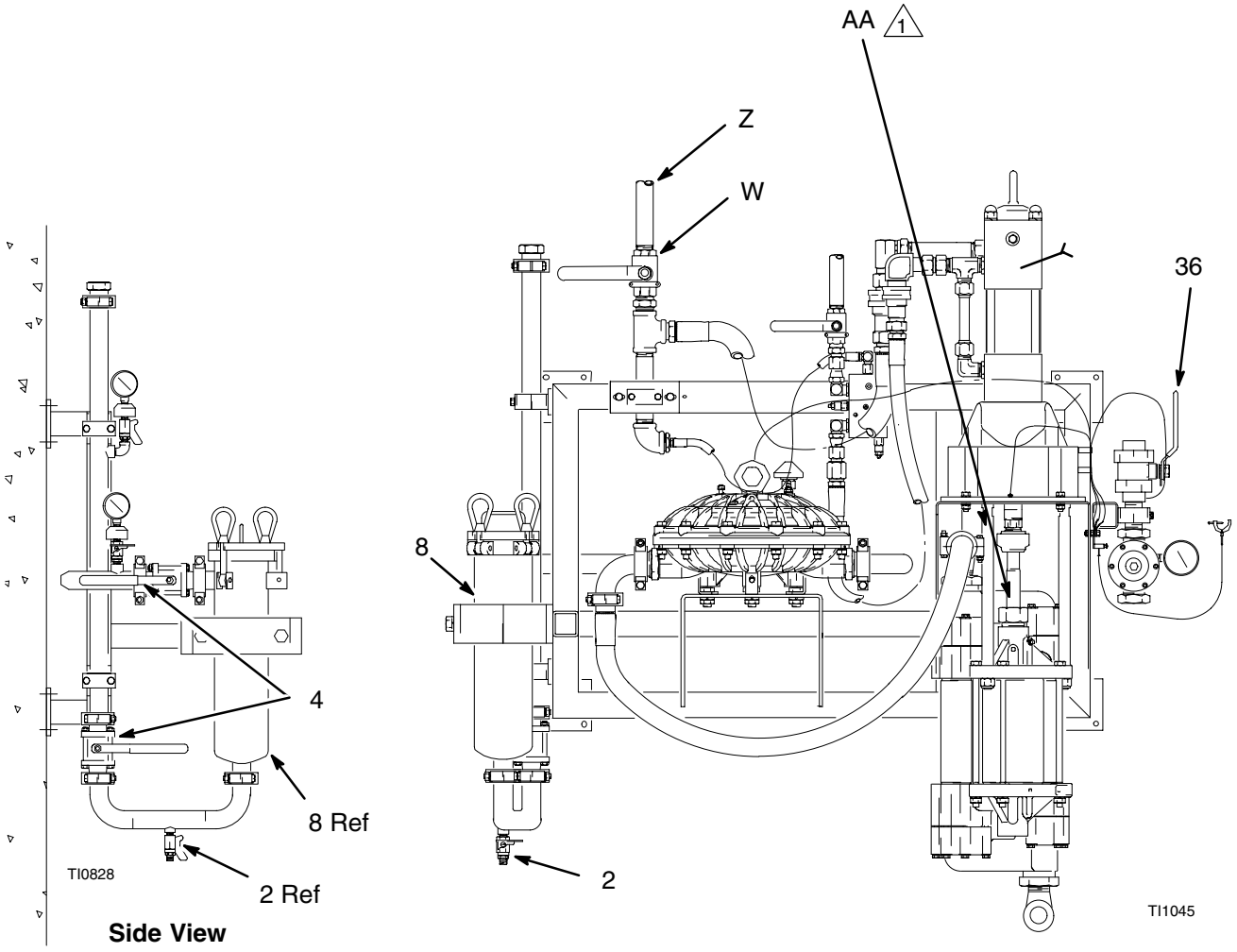
**⚠ WARNING**

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** at left.

The packing nut is torqued at the factory and is ready for operation. If it becomes loose and there is leaking from the throat packings, relieve pressure, then torque the nut to 34–40 N•m (25–30 ft-lb). Do this whenever necessary. Do not overtighten the packing nut.

## Flush the Circulation Package Before First Use

The circulation package is tested with lightweight oil, which is left in to protect the circulation package parts. If the fluid you are using may be contaminated by the oil, flush it out with a compatible solvent. See **Flushing** on page 13.




**Model 96A390 Shown**

1 Torque packing nut (H) to 34–40 N•m (25–30 ft-lb). Packing nut is partially hidden.

**Fig. 4**

# Operation

## Starting and Adjusting the Pump

1. Fig. 4. Open all fluid shutoff valves (4–two) (36).
2. Open the spray gun at the last gun station and keep it open while starting the pump.
3. Open the hydraulic supply line shutoff valve (W).
4. Run the pump until all air is purged from the fluid lines.
5. Count the cycle rate of the pump.
6. Close the flow control valve until the cycle rate and fluid pressure start to drop.
7. Open the flow control valve slightly until the cycle rate and fluid pressure return to the desired level. This method of setting the hydraulic controls ensures proper pump operation and will prevent pump runaway and damage if the fluid supply runs out.
8. Adjust the fluid pressure to the lowest setting necessary to get the desired results. Higher pressures may not improve the spray pattern and will cause premature component wear.
9. To adjust the spray pattern, follow the complete instructions in your gun manual.
10. One at a time, open any other guns in the system to purge air from the lines.

**NOTE:** In a circulating system, the pump will continue to cycle as long as hydraulic fluid is supplied. In a direct supply system, the pump starts when the gun is opened, and stops when the gun is closed.

### ⚠ WARNING

**COMPONENT RUPTURE HAZARD**
To reduce the risk of serious injury, including splashing in the eyes or on the skin, and property damage, never exceed the maximum air/hydraulic and fluid working pressure of the lowest rated component in your system. See **EQUIPMENT MISUSE HAZARD, System Pressure**, on page 3 and **Technical Data** on page 22.

### ⚠ CAUTION

Do not allow the pump to run dry. It will quickly accelerate to a high speed, causing damage. If your pump is running too fast, stop it immediately and check the fluid supply. If the container is empty and air has been pumped into the lines, refill the container and prime the pump and the lines, or flush and leave it filled with a compatible solvent. Eliminate all air from the fluid system.

## Shutdown

### ⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 10.

For overnight shutdown, stop the pump at the bottom of its stroke to prevent fluid from drying on the exposed displacement rod and damaging the throat packings. **Relieve the pressure.**

Always flush the pump before the fluid dries on the displacement rod. See **Flushing** on page 13.

# Maintenance

## Preventive Maintenance Schedule

The operating conditions of your particular system determine how often maintenance is required. Establish a preventive maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your system.

## Flushing

**⚠ WARNING**

**FIRE AND EXPLOSION HAZARD**
Before flushing, read the section **FIRE AND EXPLOSION HAZARD** on page 4. Be sure the entire system and flushing pails are properly grounded. Refer to **Grounding** on page 9.

Fig. 4. Flush the pump:

- Before the first use
- When changing colors or fluids
- Before fluid can dry or settle out in a dormant pump (check the pot life of catalyzed fluids)
- Before storing the pump.

Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency.

**⚠ WARNING**

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 10.

1. Fig. 4. Relieve the pressure.
2. Remove the air cap and spray tip from the gun. See the gun manual.
3. Fig. 4. Remove the filter element from the fluid filter (8). Reinstall the filter bowl.
4. Hold a metal part of the gun firmly to the side of a grounded *metal* pail.
5. Start the pump. Always use the lowest possible fluid pressure when flushing.
6. Trigger the gun. Flush the system until clear solvent flows from the gun.
7. Release the gun trigger and lock the trigger safety. The pump will continue to cycle as long as air is supplied.
8. Direct drain hose into a waste container. Continue flushing until clear fluid comes from the hose.
9. Relieve the pressure.
10. Clean the air cap, spray tip, and fluid filter element separately, then reinstall them.

## Fluid Filter Service

**⚠ WARNING**

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 10.

1. Fig. 4. Relieve the pressure.
2. Replace the fluid filter as required to maximize filtering efficiency and to avoid excessive pressure drop.
3. Close two filter ball valves (4). Open filter drain valve (2) and partially loosen filter top to allow fluid in filter to drain into waste container.
4. Install new filter, close filter drain valve (2) and open filter ball valves (4).

# Troubleshooting

## ⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** (page 10).

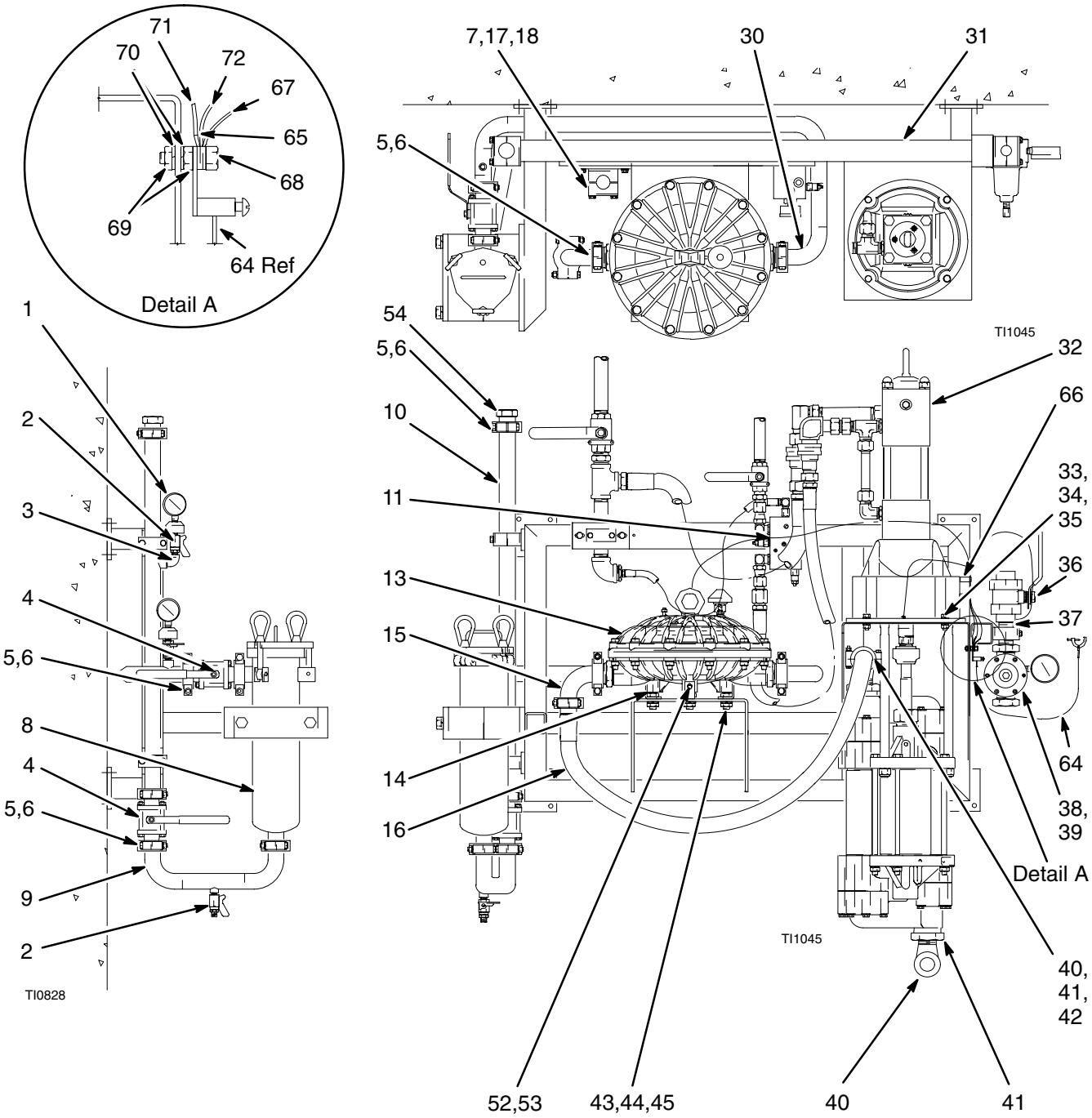
For pump service see manual 309136. For hydraulic motor service see manual 308048.

| Problem | Cause(s) | Solution(s) |
|---|---|---|
| Pump output low on both strokes | Restricted hydraulic lines | Clear any obstructions; be sure all valves are open; increase pressure. |
| | Empty fluid supply | Refill and reprime pump. In an air-powered system, use pump runaway valve. |
| | Clogged fluid outlet line, valves, etc. | Clear. |
| | Worn packings | Tighten packing nut; replace all packings. See 309136. |
| Pump output low on only one stroke | Held open or worn check valve | Check and repair. See 309136. |
| | Worn piston packings | Replace. See 309136. |
| No output | Improperly installed ball check valves | Check and correct. See 309136. |
| Pump operates erratically | Exhausted fluid supply | Refill and reprime pump. In an air-powered system, use pump runaway valve. |
| | Held open or worn check valves | Check and repair. See 309136. |
| | Worn piston packings | Replace. See 309136. |
| Pump does not operate | Restricted hydraulic power supply lines | Clear any obstructions; be sure all shut-off valves are open; increase pressure. |
| | Exhausted fluid supply | Refill and reprime pump. |
| | Clogged fluid outlet line, valves, etc. | Clear. |
| | Damaged hydraulic motor | See 308048. |
| | Fluid dried on piston rod | Disassemble and clean pump. Stop pump at bottom of stroke. See 309136. |

# Notes

# Parts

**Right Hand Mount Models: 96A390, 96A897, 96A788, 96A901**
**300 and 400, Viscount II Pumps**




**Model 96A390 Shown**

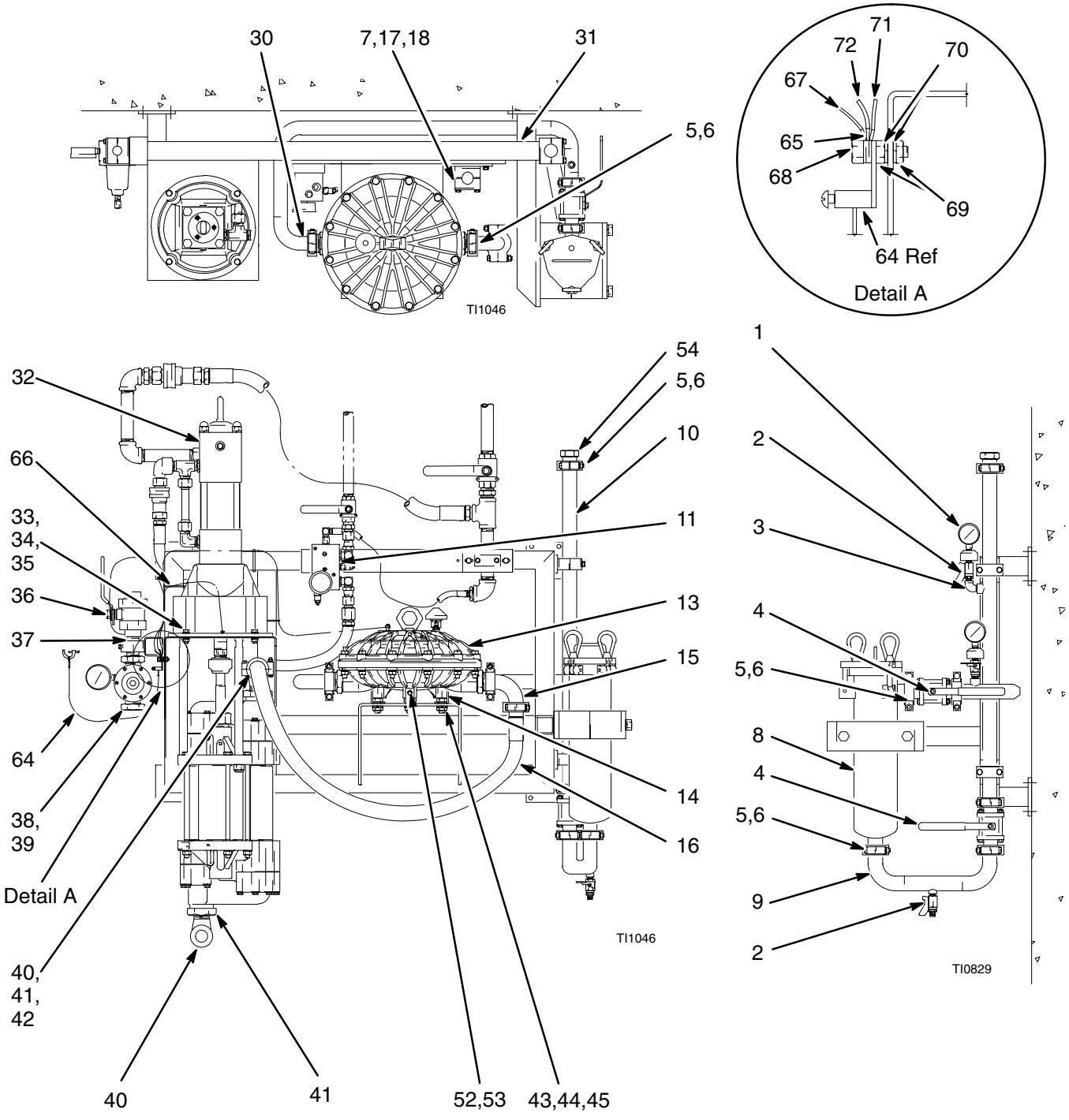
# Parts

## Right Hand Mount Models: 96A390, 96A897, 96A788, 96A901 300 and 400, Viscount II Pumps

| Ref No. | Part No. | Description | Qty |
|---|---|---|---|
| 1 | 515571 | GAUGE and DAMPENER, sst | 2 |
| 2 | 237528 | BALL VALVE, sst, 1/4" npt | 2 |
| | | See 307628 for parts | |
| 3 | 516036 | ELBOW, street, 90°, sst, 1/4" npt | 1 |
| 4 | 515564 | BALL VALVE, sst, 1–1/2" npt | 2 |
| 5 | 51A297 | CLAMP, sanitary, sst, 1–1/2" | 9 |
| 6 | 51A306 | GASKET, sanitary, Teflon, 1–1/2" | 9 |
| 7 | 618095 | BRACKET, pipe support, 1" | 1 |
| 8 | 916367 | FILTER, model 12, sst, 1–1/2" | 1 |
| 9 | 618096 | HEADER, filter discharge, 1–1/2" | 1 |
| 10 | 618098 | HEADER, discharge, 1–1/2 x 1–1/4" | 1 |
| 11 | 917069 | KIT, installation | 1 |
| 13 | 238985 | TANK, surge, 1–1/2" | 1 |
| | | See 307707 for parts | |
| 14 | 180783 | BRACKET, angle | 3 |
| 15 | 51A796 | ELBOW, 90°, sst, 1–1/2" | 1 |
| 16 | 51B381 | HOSE, material, 1–1/2 x 4" | 1 |
| 17 | 100057 | SCREW, hex hd, 5/16 x 18–3/4" | 2 |
| 18 | 100214 | WASHER, lock, 5/16" | 2 |
| 30 | 618097 | HEADER, surge tank discharge,1–1/2" | 1 |
| 31 | 618094 | FRAME, wall mount | 1 |
| 32 | 243755 | PUMP, 300 Viscount II, sst | 1 |
| | | (used on 96A390 and 96A897) | |
| | | See 309136 for parts | |
| | 243753 | PUMP, 400 Viscount II, sst | 1 |
| | | (used on 96A788 and 96A901) | |
| | | See 309136 for parts | |
| 33 | C19126 | SCREW, hex hd, 3/8 x 1–3/4" | 4 |
| 34 | C19213 | WASHER, lock, 3/8" | 4 |
| 35 | 100307 | NUT, hex, 3/8" | 4 |
| 36 | 515551 | VALVE, double union, sst, 1" npt | 1 |
| 37 | 516772 | NIPPLE, sst, 1" x 4" | 1 |
| 38 | 208997 | REGULATOR, standard, sst | 1 |
| | | (used on 96A390 and 96A788) | |
| | | See 307107 for parts | |
| | 224486 | REGULATOR, low shear, sst | 1 |
| | | (used on 96A897 and 96A901) | |
| | | See 307107 for parts | |
| 39 | 515992 | BUSHING, reducer, sst, 1–1/4x1" npt | 2 |
| | | (used on 96A390 and 96A788) | |
| | 516306 | BUSHING, reducer, sst, 1–1/2x1" npt | 2 |
| | | (used on 96A897 and 96A901) | |
| 40 | 516037 | ELBOW, street, 90°, sst, 1–1/4" npt | 2 |
| 41 | 515983 | BUSHING, reducer, sst, 2x1–1/4" npt | 2 |
| 42 | 51B289 | ADAPTER, 1–1/4 npt x 1.5" | 1 |
| 43 | 516582 | SCREW, hex hd, 5/8 x 1" | 3 |
| 44 | 100128 | WASHER, lock, 5/8" | 3 |
| 45 | 100127 | NUT, hex, 5/8" | 3 |
| 52 | 100469 | SCREW, cap, hex hd | 3 |
| 53 | C19199 | WASHER, plain | 3 |
| 54 | 51B312 | ADAPTER, tube, 1–1/2 x 1" | 1 |
| 64 | 220011 | GROUND WIRE ASSY, 25 ft | 1 |
| 65 | 101896 | TERMINAL, ring | 4 |
| 66 | 112278 | WRAP, tie, electrical | 4 |
| 67 | 236297 | CLAMP ASSY, grounding | 1 |
| 68 | 115248 | SCREW, cap, hex hd | 1 |
| 69 | 100166 | NUT, full, hex | 2 |
| 70 | 100718 | WASHER | 2 |
| 71 | 220089 | CONDUCTOR, ground | 1 |
| 72 | 065136 | WIRE, copper, electrical | 1 |

# Parts

**Left Hand Mount Models: 96A645, 96A898, 96A789, 96A902**
**300 and 400, Viscount II Pumps**




**Model 96A645 Shown**

# Parts

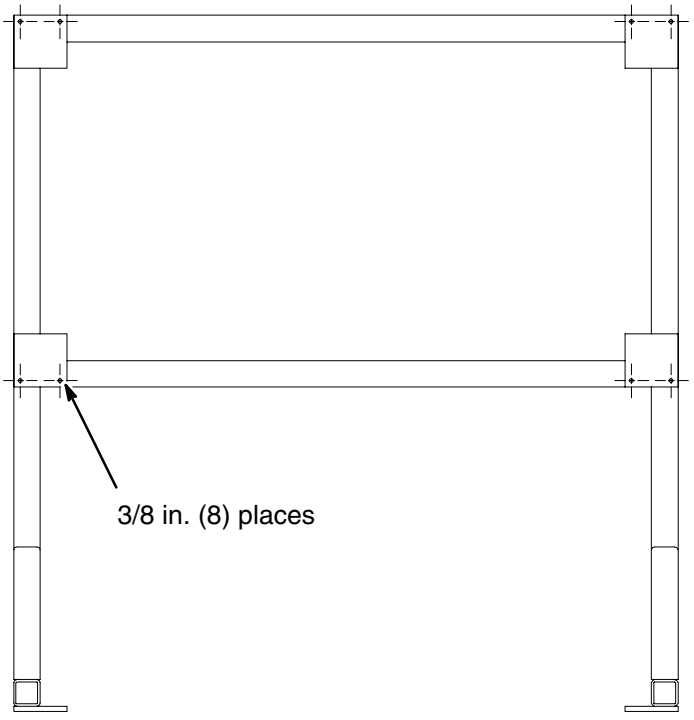
## Left Hand Mount Models: 96A645, 96A898, 96A789, 96A902 300 and 400, Viscount II Pumps

| Ref No. | Part No. | Description | Qty |
|---|---|---|---|
| 1 | 515571 | GAUGE and DAMPENER, sst | 2 |
| 2 | 237528 | BALL VALVE, sst, 1/4" npt | 2 |
| | | See 307628 for parts | |
| 3 | 516036 | ELBOW, street, 90°, sst, 1/4" npt | 1 |
| 4 | 515564 | BALL VALVE, sst, 1–1/2" npt | 2 |
| 5 | 51A297 | CLAMP, sanitary, sst, 1–1/2" | 9 |
| 6 | 51A306 | GASKET, sanitary, Teflon, 1–1/2" | 9 |
| 7 | 618095 | BRACKET, pipe support, 1" | 1 |
| 8 | 916367 | FILTER, model 12, sst, 1–1/2" | 1 |
| 9 | 618096 | HEADER, filter discharge, 1–1/2" | 1 |
| 10 | 618098 | HEADER, discharge, 1–1/2 x 1–1/4" | 1 |
| 11 | 917074 | KIT, installation | 1 |
| 13 | 238985 | TANK, surge, 1–1/2" | 1 |
| | | See 307707 for parts | |
| 14 | 180783 | BRACKET, angle | 3 |
| 15 | 51A796 | ELBOW, 90°, sst, 1–1/2" | 1 |
| 16 | 51B381 | HOSE, material, 1–1/2 x 4" | 1 |
| 17 | 100057 | SCREW, hex hd, 5/16 x 18–3/4" | 2 |
| 18 | 100214 | WASHER, lock, 5/16" | 2 |
| 30 | 618097 | HEADER, surge tank discharge,1–1/2" | 1 |
| 31 | 618237 | FRAME, wall mount | 1 |
| 32 | 243755 | PUMP, 300 Viscount II, sst | 1 |
| | | (used on 96A645 and 96A898) | |
| | | See 309136 for parts | |
| | 243753 | PUMP, 400 Viscount II, sst | 1 |
| | | (used on 96A789 and 96A902) | |
| | | See 309136 for parts | |
| 33 | C19126 | SCREW, hex hd, 3/8 x 1–3/4" | 4 |
| 34 | C19213 | WASHER, lock, 3/8" | 4 |
| 35 | 100307 | NUT, hex, 3/8" | 4 |
| 36 | 515551 | VALVE, double union, sst, 1" npt | 1 |
| 37 | 516772 | NIPPLE, sst, 1" x 4" | 1 |
| 38 | 208997 | REGULATOR, standard, sst | 1 |
| | | (used on 96A645 and 96A789) | |
| | | See 307107 for parts | |
| | 224486 | REGULATOR, low shear, sst | 1 |
| | | (used on 96A898 and 96A902) | |
| | | See 307107 for parts | |
| 39 | 515992 | BUSHING, reducer, sst, 1–1/4x1" npt | 2 |
| | | (used on 96A645 and 96A789) | |
| | 516306 | BUSHING, reducer, sst, 1–1/2x1" npt | 2 |
| | | (used on 96A898 and 96A902) | |
| 40 | 516037 | ELBOW, street, 90°, sst, 1–1/4" npt | 2 |
| 41 | 515983 | BUSHING, reducer, sst, 2x1–1/4" npt | 2 |
| 42 | 51B289 | ADAPTER, 1–1/4 npt x 1.5" | 1 |
| 43 | 516582 | SCREW, hex hd, 5/8 x 1" | 3 |
| 44 | 100128 | WASHER, lock, 5/8" | 3 |
| 45 | 100127 | NUT, hex, 5/8" | 3 |
| 52 | 100469 | SCREW, cap, hex hd | 3 |
| 53 | C19199 | WASHER, plain | 3 |
| 54 | 51B312 | ADAPTER, tube, 1–1/2 x 1" | 1 |
| 64 | 220011 | GROUND WIRE ASSY, 25 ft | 1 |
| 65 | 101896 | TERMINAL, ring | 4 |
| 66 | 112278 | WRAP, tie, electrical | 4 |
| 67 | 236297 | CLAMP ASSY, grounding | 1 |
| 68 | 115248 | SCREW, cap, hex hd | 1 |
| 69 | 100166 | NUT, full, hex | 2 |
| 70 | 100718 | WASHER | 2 |
| 71 | 220089 | CONDUCTOR, ground | 1 |
| 72 | 065136 | WIRE, copper, electrical | 1 |

# Parts

## Single Mount Floor Stand, Model 618122


TI0832

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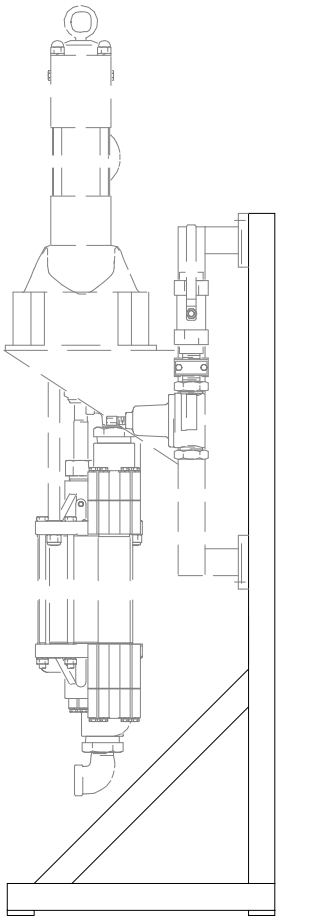
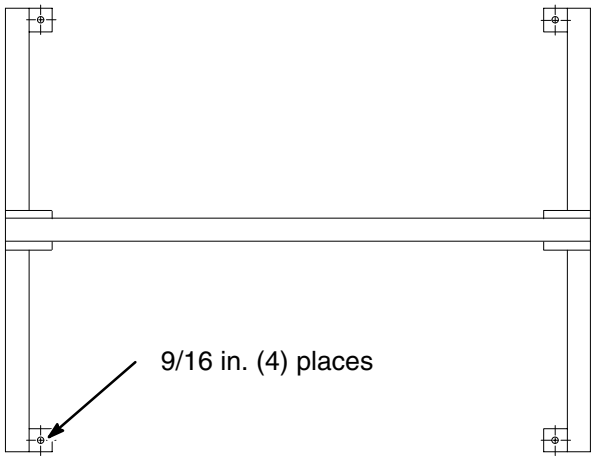


TI1665A

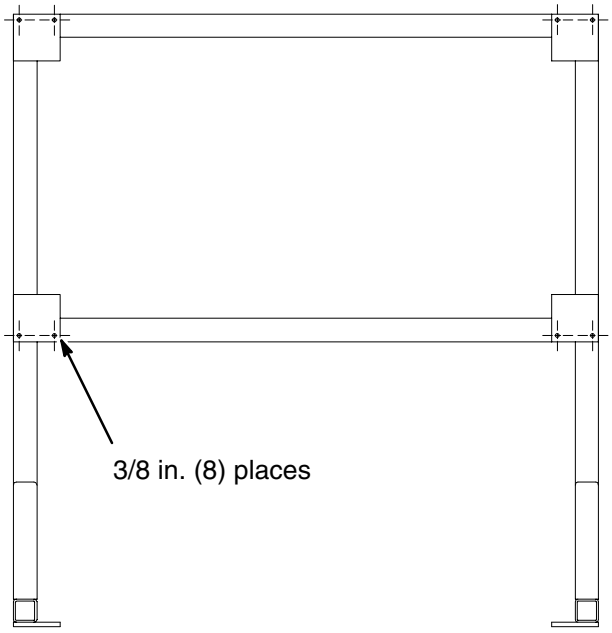
**Model 618122**

# Parts

## Dual Mount Floor Stand, Model 618123




TI0833

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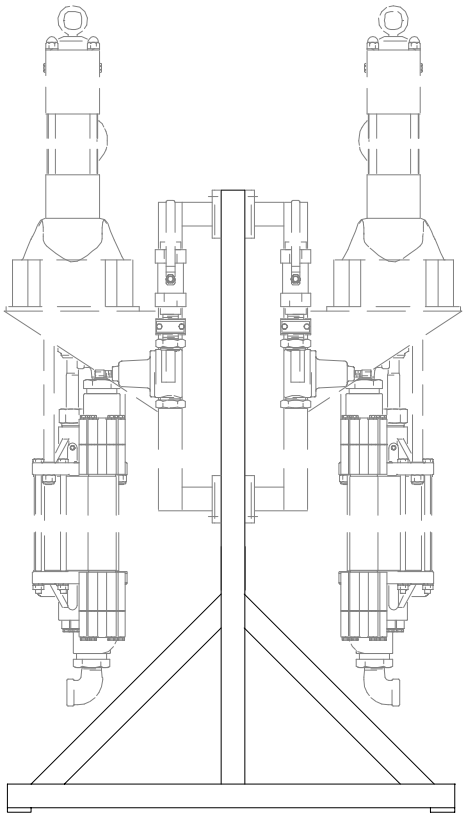


TI1665A

**Model 618123**

# Technical Data

## Viscount II 300 Pumps, Models 96A390, 96A645, 96A897, and 96A898

| Category | Data |
|---|---|
| Maximum Fluid Working Pressure | 2.1 MPa, 21 bar (300 psi) |
| Maximum Hydraulic Fluid Pressure | 10.3 MPa, 103 bar (1500 psi) |
| Fluid Flow at 60 Cycles per Minute | 237 liter/min (63 gpm) |
| Cycles Per Liter (gallon) | 0.24 (0.93) |
| Maximum Recommended Pump Speed | 60 cycles per minute |
| Maximum Hydraulic Motor Fluid Temperature | 54°C (134°F) |
| Wetted parts | Stainless Steel, Teflon®, Ultra High Molecular Weight Polyethylene |

*Teflon® and Viton® are registered trademarks of the Du Pont Co.*

## Performance Charts

**To find Fluid Outlet Pressure** (psi/MPa/bar) at a specific fluid flow (lpm/gpm) and operating hydraulic pressure (psi/MPa/bar):

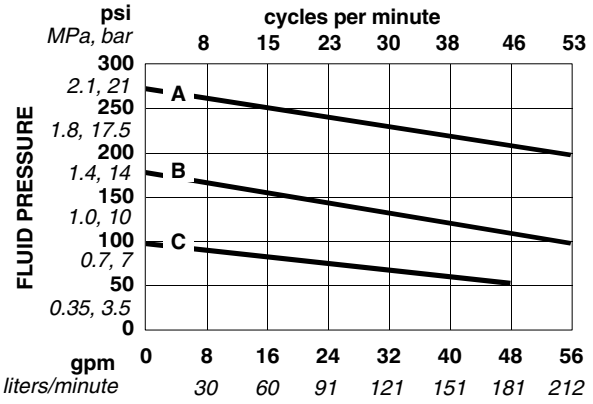
1. Locate desired flow along bottom of chart.
2. Follow vertical line up to intersection with selected fluid outlet pressure curve (black). Follow left to scale to read fluid outlet pressure.

**To find Motor Hydraulic Oil Consumption** (l/min or gpm) at a specific fluid flow (l/min or gpm):

1. Locate desired flow along bottom of chart.
2. Read vertical line up to intersection with hydraulic oil consumption curve (dashes). Follow left to scale to read hydraulic oil consumption.

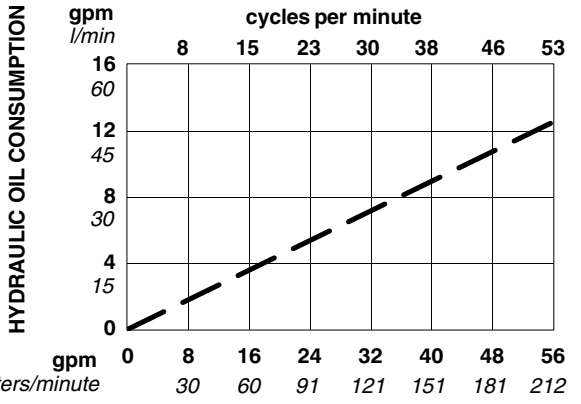
**A** 10.3 MPa, 103 bar (1500 psi) hydraulic pressure
**B** 7.2 MPa, 72.4 bar (1050 psi) hydraulic pressure
**C** 4.1 MPa, 41 bar (600 psi) hydraulic pressure

### Fluid Outlet Pressure




**FLUID FLOW (TEST FLUID: NO. 10 WEIGHT OIL)**

### Hydraulic Oil Consumption




**FLUID FLOW (TEST FLUID: NO. 10 WEIGHT OIL)**

# Technical Data

## Viscount II 400 Pumps, Models Models 96A788, 96A789, 96A901, and 96A902

| Category | Data |
|---|---|
| Maximum Fluid Working Pressure | 2.8 MPa, 28 bar (400 psi) |
| Maximum Hydraulic Fluid Pressure | 10.3 MPa, 103 bar (1500 psi) |
| Fluid Flow at 60 Cycles per Minute | 178 liter/min (47 gpm) |
| Cycles Per Liter (gallon) | 0.34 (1.3) |
| Maximum Recommended Pump Speed | 60 cycles per minute |
| Maximum Hydraulic Motor Fluid Temperature | 54°C (134°F) |
| Wetted parts | Stainless Steel, Teflon®, Ultra High Molecular Weight Polyethylene |

*Teflon® and Viton® are registered trademarks of the Du Pont Co.*

## Performance Charts

**To find Fluid Outlet Pressure** (psi/MPa/bar) at a specific fluid flow (lpm/gpm) and operating hydraulic pressure (psi/MPa/bar):

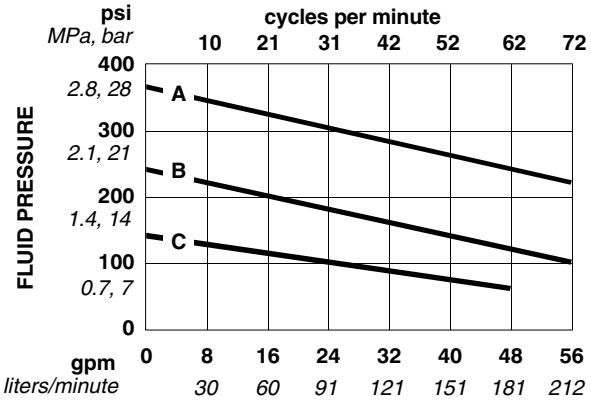
1. Locate desired flow along bottom of chart.
2. Follow vertical line up to intersection with selected fluid outlet pressure curve (black). Follow left to scale to read fluid outlet pressure.

**To find Motor Hydraulic Oil Consumption** (l/min or gpm) at a specific fluid flow (l/min or gpm):

1. Locate desired flow along bottom of chart.
2. Read vertical line up to intersection with hydraulic oil consumption curve (dashes). Follow left to scale to read hydraulic oil consumption.

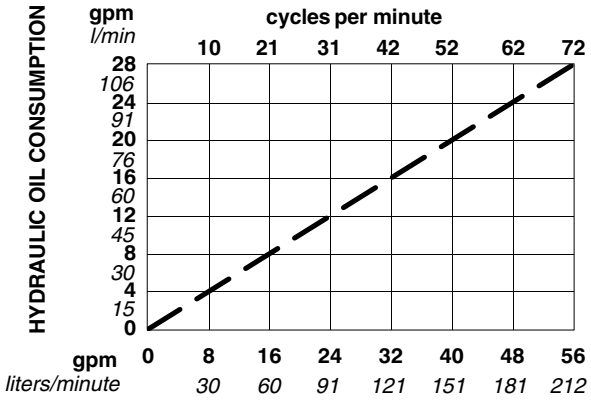
**A** 10.3 MPa, 103 bar (1500 psi) hydraulic pressure
**B** 7.2 MPa, 72.4 bar (1050 psi) hydraulic pressure
**C** 4.1 MPa, 41 bar (600 psi) hydraulic pressure

### Fluid Outlet Pressure




**FLUID FLOW (TEST FLUID: NO. 10 WEIGHT OIL)**

### Hydraulic Oil Consumption

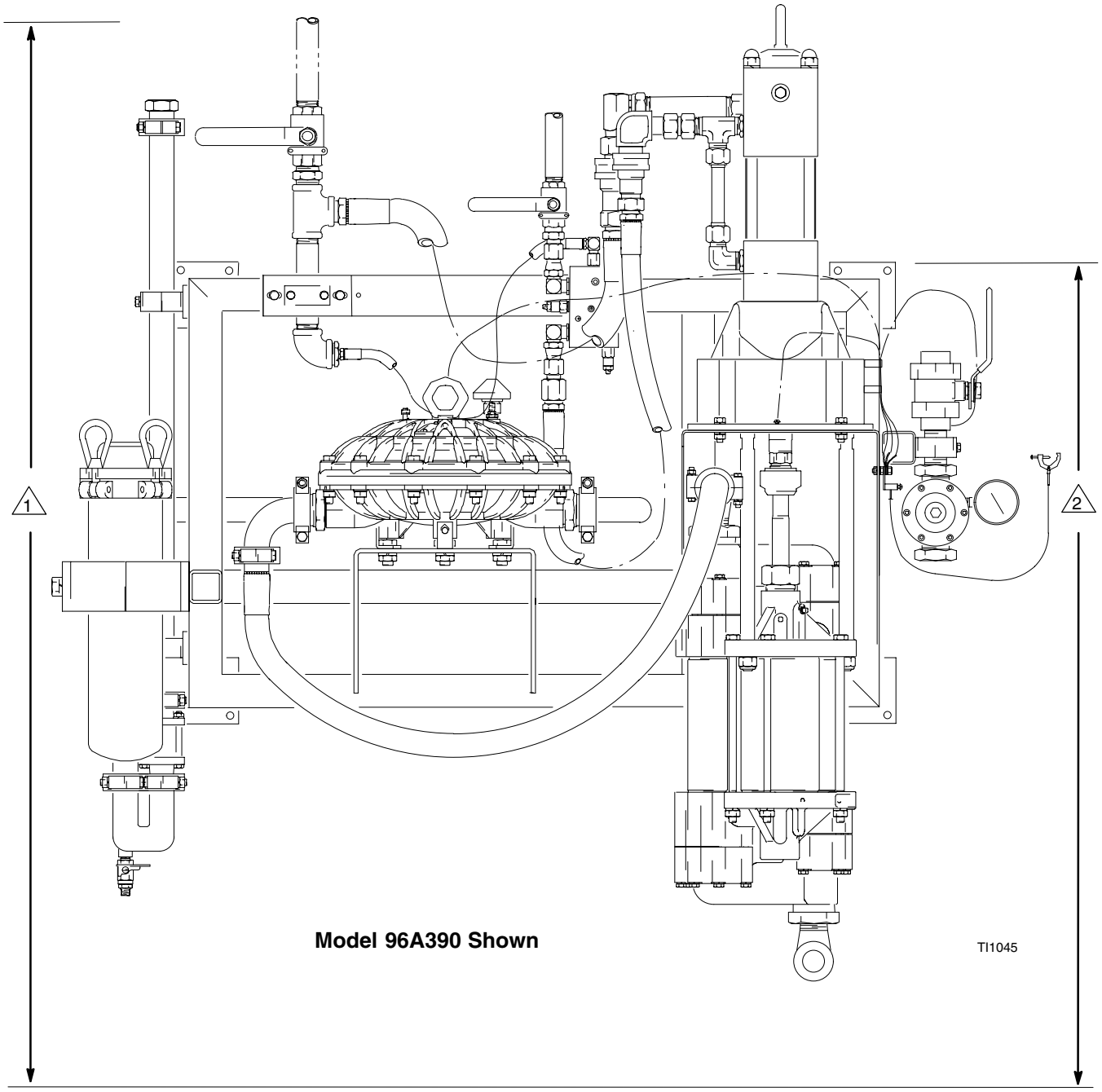



**FLUID FLOW (TEST FLUID: NO. 10 WEIGHT OIL)**

# Dimensions

1 Ensure that there is 5 ft (1.5 m) overhead clearance for wall mounted systems and at least 7 ft (2.1 m) for floor mounted systems.

2 Mount the circulation package so the top of the bracket is 4 to 5 ft (1.2 to 1.5 m) above the floor.

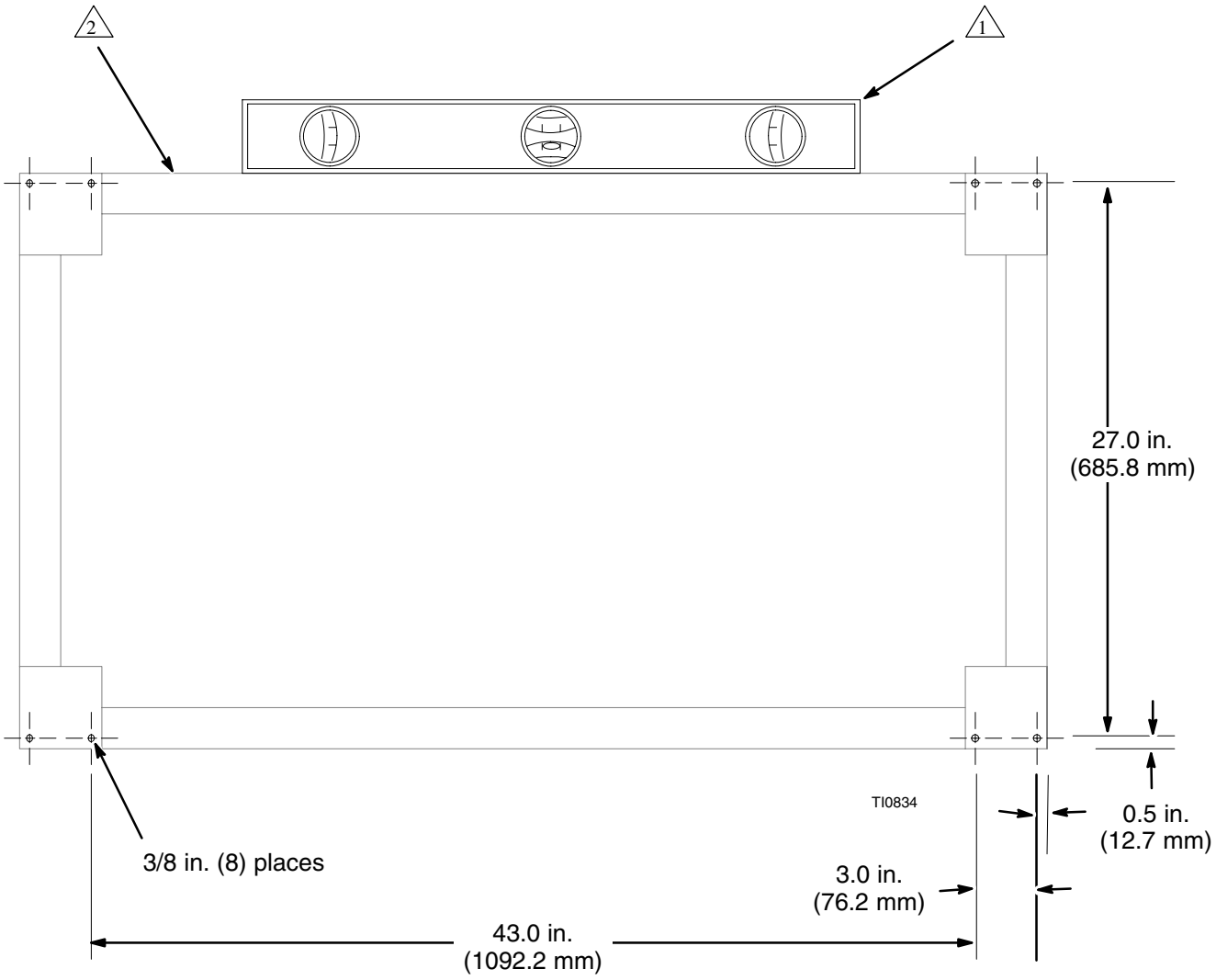



**Model 96A390 Shown**

# Mounting Hole Layout

1 Check that the wall frame is level before bolting it to the wall.

2 Mount the wall frame so the top edge is 4 to 5 ft (1.2 to 1.5 m) above the floor.




**Wall Frame 618094 (right hand mount )**
**or 618237 (left hand mount)**

# Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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**612–378–3505 Fax**

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