Instructions – Parts List

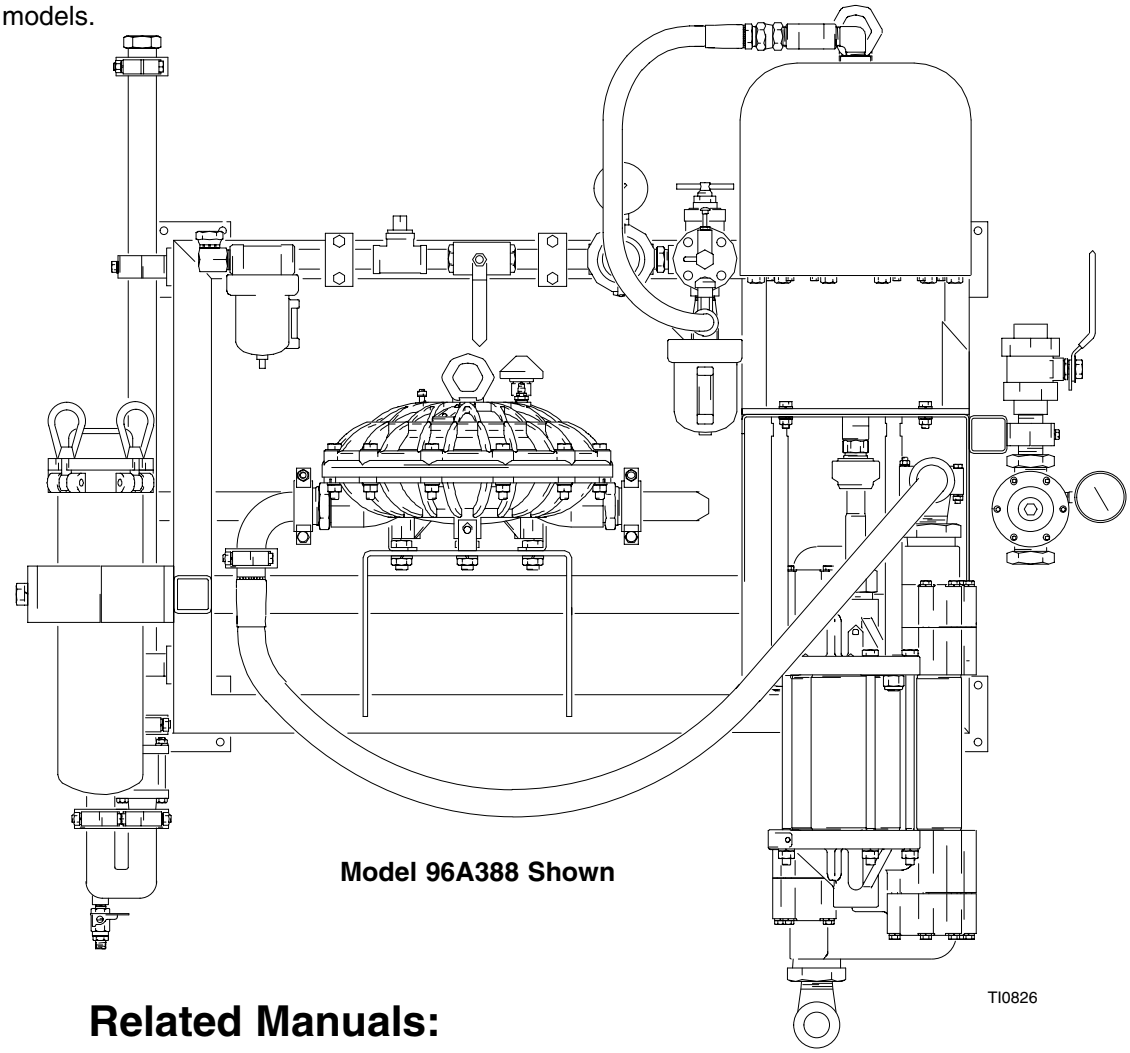
Parts

WALL MOUNT OR FLOOR STAND, HIGH-FLO®

3:1 and 4:1 Ratio King® Circulation Packages

310562 Rev.B

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



Model 96A388 Shown

TI0826

Related Manuals:

307107 Fluid Regulator
307628 Fluid Ball Valves
307707 Surge Tanks
307741 King Air Motors
308115 Fluid Regulators
308168 High Volume Air Regulators
308201 Runaway Valves
309136 3:1, 4:1 High Flo Plus Pumps

PROVEN QUALITY. LEADING TECHNOLOGY.

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

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Table of Contents

List of Models

Model	Pump	Description – Pump Model	Ratio	Maximum Fluid Working Pressure	Maximum Pump Air Input Pressure	Parts Page
96A388	King	Right Hand Pump Mount High Flo Plus™ 300	3:1	270 psi (1.9 MPa, 19 bar)	90 psi (0.6 MPa, 6.2 bar)	16
96A893	King	Right Hand Pump Mount High Flo Plus™ 300, Low Shear	3:1	270 psi (1.9 MPa, 19 bar)	90 psi (0.6 MPa, 6.2 bar)	16
96A784	King	Right Hand Pump Mount High Flo Plus™ 300	4:1	360 psi (2.5 MPa, 25 bar)	90 psi (0.6 MPa, 6.2 bar)	16
96A899	King	Right Hand Pump Mount High Flo Plus™ 300, Low Shear	4:1	360 psi (2.5 MPa, 25 bar)	90 psi (0.6 MPa, 6.2 bar)	16
96A647	King	Left Hand Pump Mount High Flo Plus™ 300	3:1	270 psi (1.9 MPa, 19 bar)	90 psi (0.6 MPa, 6.2 bar)	18
96A894	King	Left Hand Pump Mount High Flo Plus™ 300, Low Shear	3:1	270 psi (1.9 MPa, 19 bar)	90 psi (0.6 MPa, 6.2 bar)	18
96A785	King	Left Hand Pump Mount High Flo Plus™ 300	4:1	360 psi (2.5 MPa, 25 bar)	90 psi (0.6 MPa, 6.2 bar)	18
96A900	King	Left Hand Pump Mount High Flo Plus™ 300, Low Shear	4:1	360 psi (2.5 MPa, 25 bar)	90 psi (0.6 MPa, 6.2 bar)	18
96A907	King	Right Hand Pump Mount, Dual Filter High Flo Plus™ 300	3:1	270 psi (1.9 MPa, 19 bar)	90 psi (0.6 MPa, 6.2 bar)	20
96A926	King	Right Hand Pump Mount, Dual Filter High Flo Plus™ 300	4:1	360 psi (2.5 MPa, 25 bar)	90 psi (0.6 MPa, 6.2 bar)	20
96A908	King	Left Hand Pump Mount, Dual Filter High Flo Plus™ 300	3:1	270 psi (1.9 MPa, 19 bar)	90 psi (0.6 MPa, 6.2 bar)	22
96A927	King	Left Hand Pump Mount, Dual Filter High Flo Plus™ 300	4:1	360 psi (2.5 MPa, 25 bar)	90 psi (0.6 MPa, 6.2 bar)	22

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

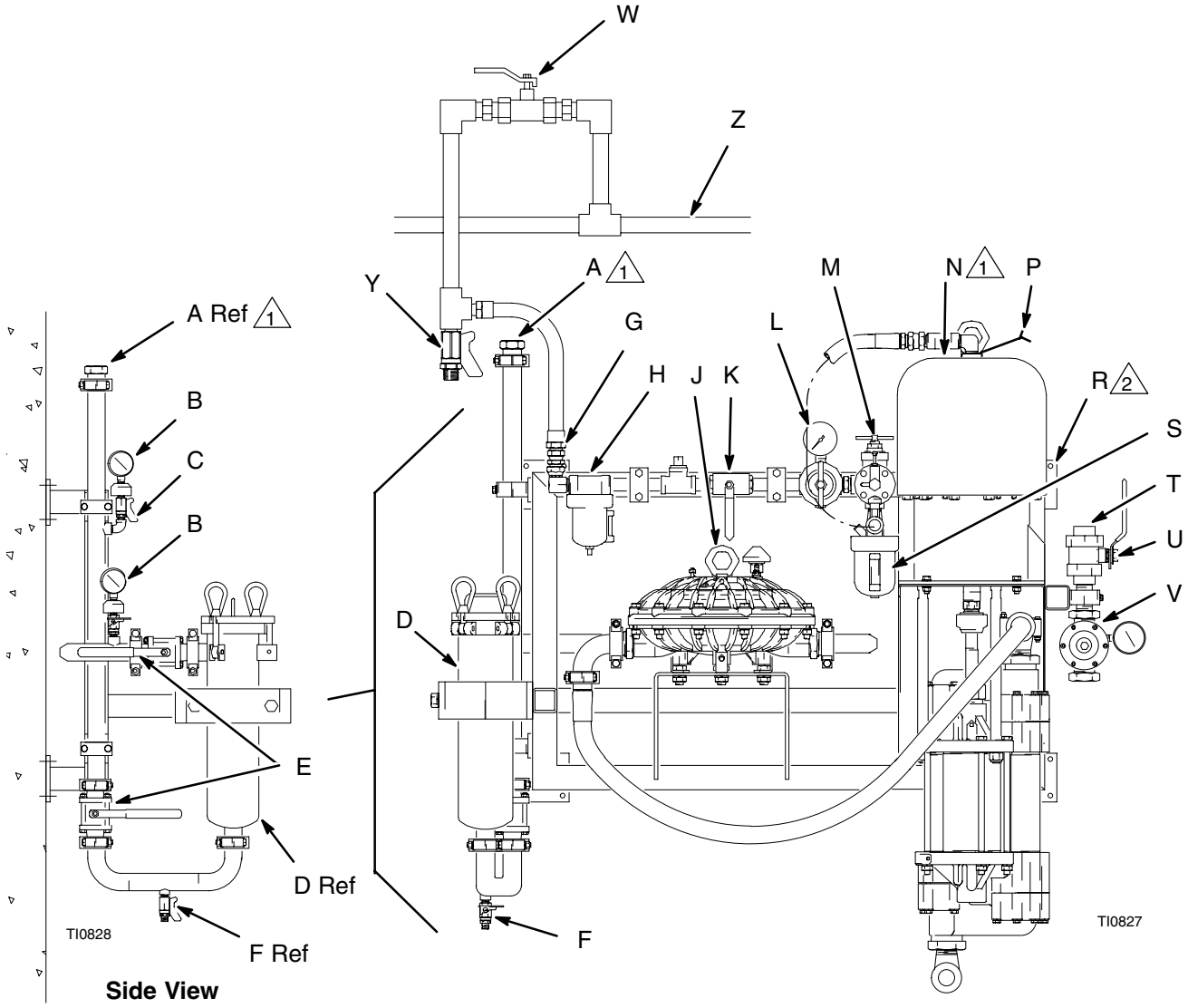
Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- 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.



Side View

Model 96A388 Shown

KEY

A Fluid Outlet
B Fluid Gauge and Dampener
C Fluid Gauge Ball Valve
D Fluid Filter
E Filter Ball Valve
F Fluid Drain Valve
G Air Supply Inlet
H Air Filter
J Fluid Surge Tank
K Air Motor Master Air Valve
L Air Regulator and Gauge
M Pump Runaway Control Valve
N Pump
P Ground Wire
R Wall Mount Frame
S Air Line Lubricator
T Fluid Return
U Fluid Return Valve
V Fluid Regulator and Gauge
W Bleed–type Master Air Valve (not supplied)
Y Air Line Drain Valve (not supplied)
Z Facility Air Supply

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.

Ensure that you have an adequate compressed air supply.

Bring an air supply line from the facility air supply (Z) to the circulation package location. Be sure all air lines are properly sized and pressure-rated for the system. Use only electrically conductive hoses. The air hose should have a 3/8 npt(m) thread.

Install a bleed-type shutoff valve (W) in the air line to isolate the air line components for servicing. Install a moisture trap and drain valve (Y) to help remove moisture and contaminants from the compressed air supply.

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 red-handled bleed-type master air valve (K) 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 bleed-type master air valve relieves air trapped between this valve and the pump after the air is shut off. Trapped air can cause the pump to cycle unexpectedly.

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 red-handled bleed-type master air valve (K)** is required in your system to relieve air trapped between it and the air motor when the valve is closed (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, hose, and gun. (see the preceding **WARNING**).

- **The pump air filter (H)** includes an air filter with a 40 micron polypropylene element, to remove harmful dirt and moisture from the compressed air supply.

- **The pump air regulator and gauge (L)** controls pump speed and outlet pressure by adjusting the air pressure to the pump. The gauge provides a readout of air pressure to the pump. See manual 308168 for further details.

- **The pump runaway control valve (M)** protects the pump against damage by a runaway air motor. See manual 308201 for further details.

- **The air line lubricator (S)** provides automatic lubrication of the air motor.

- **The pump (N),** run by air motor, circulates fluid throughout the system. See pump manual 309136 and air motor manual 307741 for further details.

- Fluid is supplied to the pump through the **fluid outlet (A).** Fluid pressure is monitored by the two **fluid gauges (B).**

- **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 outlet pressure. The gauge provides a readout of fluid pressure at the outlet. See manual 307107 for further details.

- Fluid is returned from the circulation package to the the system through the **fluid return 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 air filter, master air valve, air controls, lubricator, 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 28 and the Mounting Hole Layout on page 29.

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 air filter, master air valve, air controls, lubricator, 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 24 or the Dual Mount Floor Stand drawing on page 25. Also refer to the Mounting Hole Layouts on page 29.

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 supply inlet (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 outlet (T). Close fluid return valve (U) to isolate the circulation package from the main fluid return line.

Connect the Air Line

Fig. 1. Bring an air supply line from the facility air supply (Z) to the circulation package location. Be sure all air lines are properly sized and pressure-rated for the system. Use only electrically conductive hoses. Air hose should have a 3/8 npt(m) thread.

Install a bleed-type shutoff valve (W) in the air line to isolate the air line components for servicing. Install a moisture trap and drain valve (Y) to help remove moisture and contaminants from the compressed air supply.

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.

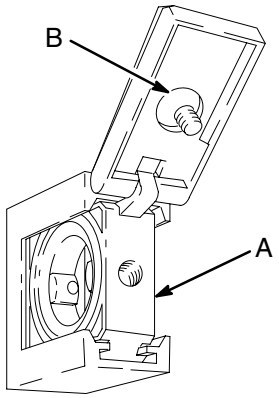


Fig. 2

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.

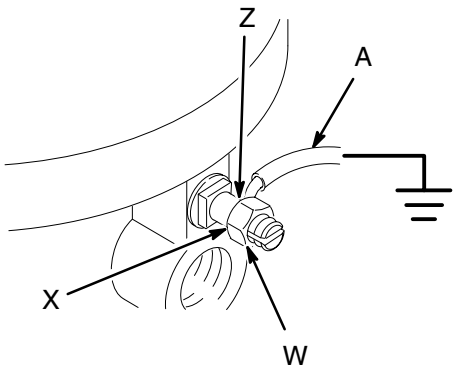


Fig. 3

2. *Air and fluid hoses:* use only electrically conductive hoses.

3. *Air compressor:* follow manufacturer's recommendations.

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

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

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

7. *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.

8. *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 the red-handled bleed-type master air valve (W, required in your system).
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.

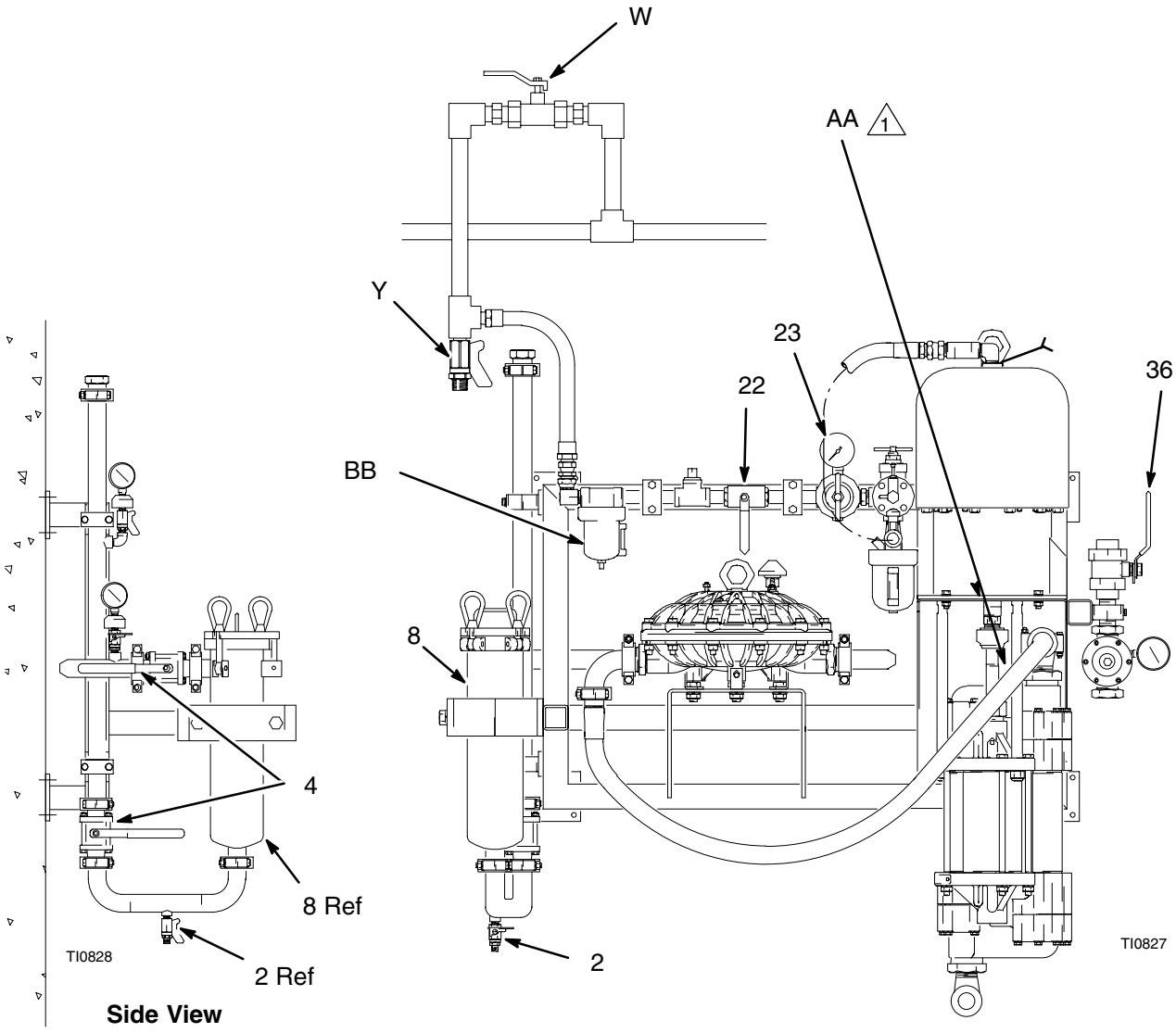
⚠ WARNING

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 96A388 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 bleed-type master air valves (W, 22).

4. Slowly open air regulator (23) until the pump starts. The air regulator controls the pump speed and fluid outlet pressure.

5. 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. Use the air regulator (23) to adjust the pump speed and fluid pressure until the spray is completely atomized.

6. To adjust the spray pattern, follow the complete instructions in your gun manual.

7. When you have achieved the desired spray pattern, release the gun trigger. The pump will continue to cycle as long as air is supplied.

8. 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 air 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 overpressurizing your system, which could cause component rupture and serious injury, *never exceed the specified maximum air input pressure to the pump* (see **Technical Data** on page 26).

⚠ 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).

Maintenance

Air Filter Service

1. Fig. 4. Every day, drain contaminants from the bowl before reaching the baffle level by opening the drain at the bottom of the bowl (BB).

⚠ WARNING

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

2. Clean the air filter regularly to maximize filtering efficiency and to avoid excessive pressure drop. Fully relieve pressure to remove the bowl (BB).

3. Clean the filter element and bowl using household soap and water or denatured alcohol. Use compressed air to blow out the filter body. Blow the filter element out from the inside.

4. Clean the sight glass thoroughly. Do not leave solvent residue in the sight glass as it may attack or weaken the glass. If the sight glass appears damaged, replace it immediately.

Troubleshooting

⚠ WARNING

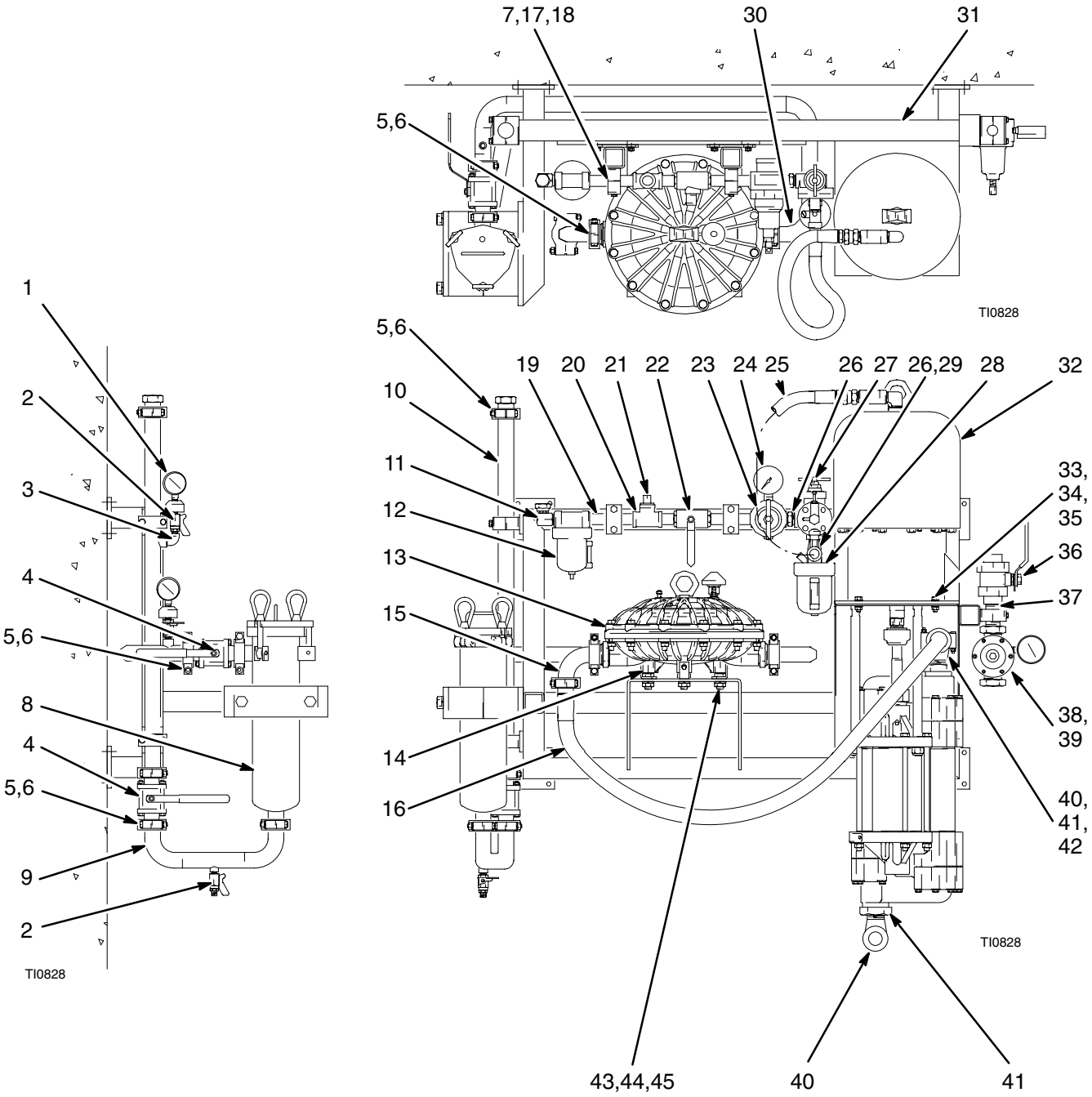
To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** (page 10).

For pump service see manual 309136. For air motor service see manual 307741.

Problem	Cause(s)	Solution(s)
Pump output low on both strokes	Restricted air or 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 air or 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 air motor	See 307741.
	Fluid dried on piston rod	Disassemble and clean pump. Stop pump at bottom of stroke. See 309136.

Parts

Right Hand Mount Models: 96A388, 96A893, 96A784, 96A899
3:1 and 4:1 Ratio, King Pumps



Model 96A388 Shown

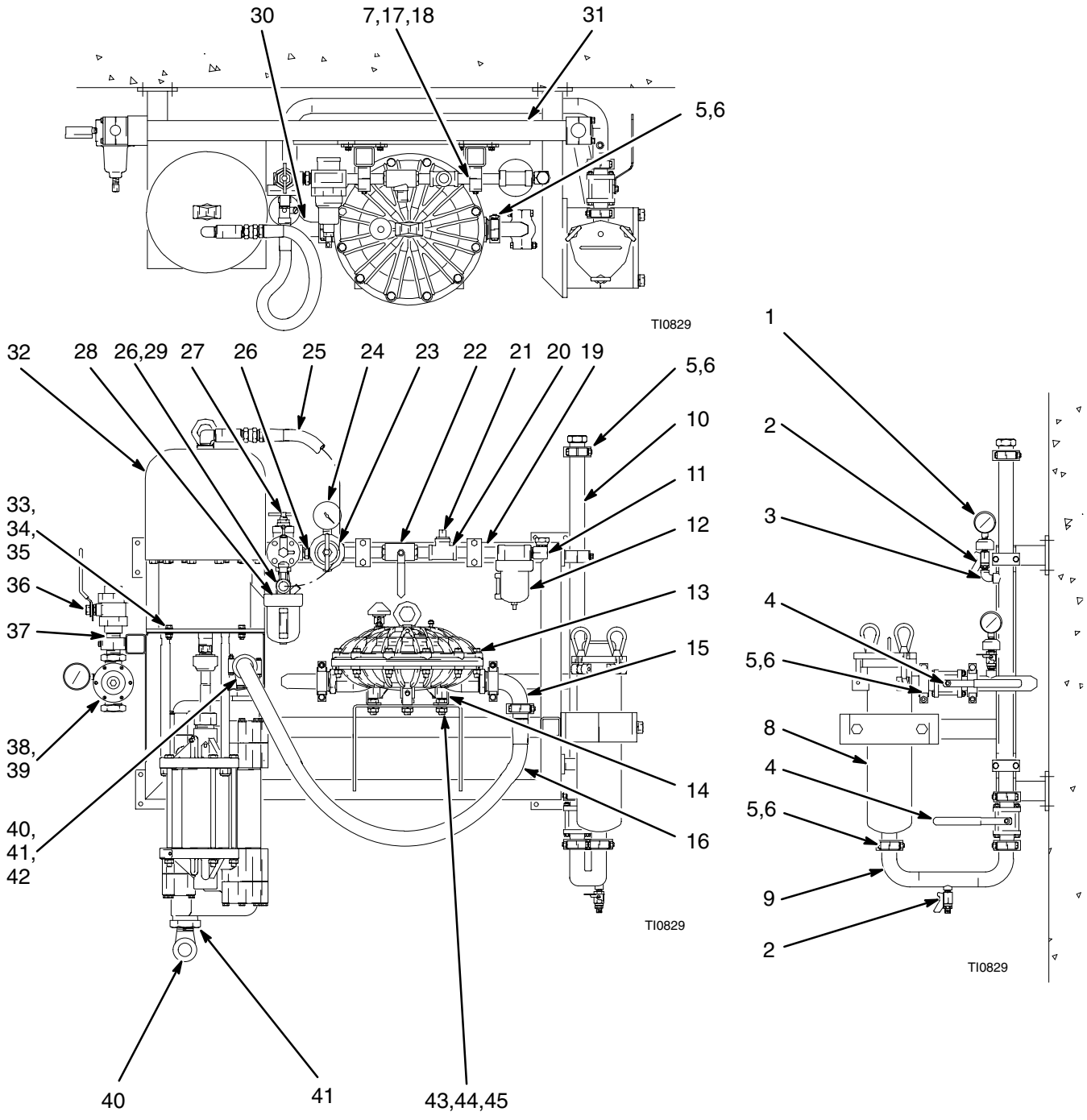
Parts

Right Hand Mount Models: 96A388, 96A893, 96A784, 96A899
3:1 and 4:1 Ratio, King 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	515036	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”	8
6	51A306	GASKET, sanitary, Teflon, 1–1/2”	8
7	618119	BRACKET, pipe support, 3/4”	2
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	160327	UNION, 90°, swivel, 3/4”	1
12	106150	FILTER, air, 3/4” npt	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
19	516830	NIPPLE, pipe, 3/4” npt	2
20	166466	TEE, pipe, 3/4” npt	1
21	C19260	PLUG, pipe, 3/4” npt	1
22	107141	VALVE, ball, air, 3/4” npt	1
23	180187	REGULATOR, air, 3/4” npt	1
		See 308168 for parts	
24	100960	GAUGE, air, 0–200 psi, 1/4 npt	1
25	214956	HOSE, air, 3/4 x 2”	1
26	100627	NIPPLE, pipe, 3/4” npt	2
27	224040	VALVE, runaway, 3/4” npt	1
		See 308201 for parts	
28	214849	LUBRICATOR, air, 3/4” npt	1
29	C19515	ELBOW, street, 3/4” npt	1
30	618097	HEADER, surge tank discharge,1–1/2”	1
31	618094	FRAME, wall mount	1
32	243749	PUMP, 3:1 King, sst	1
		(used on 96A388 and 96A893)	
		See 309136 for parts	
	243747	PUMP, 4:1 King, sst	1
		(used on 96A784 and 96A899)	
		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 96A388 and 96A784)	
		See 307107 for parts	
	224486	REGULATOR, low shear, sst	1
		(used on 96A893 and 96A899)	
		See 307107 for parts	
39	515992	BUSHING, reducer, sst, 1–1/4x1” npt	2
		(used on 96A388 and 96A784)	
	516306	BUSHING, reducer, sst, 1–1/2x1” npt	2
		(used on 96A893 and 96A899)	
40	516037	ELBOW, street, 90°, sst, 1–1/4” npt	2
41	515983	BUSHING, reducer, sst, 2x1–1/4” npt	2
42	518312	ADAPTOR, tube, 1–1/2 x 1”	2
43	516582	SCREW, hex hd, 5/8 x 1”	3
44	100128	WASHER, lock, 5/8”	3
45	100127	NUT, hex, 5/8”	3

Parts

Left Hand Mount Models: 96A647, 96A894, 96A785, 96A900
3:1 and 4:1 Ratio, King Pumps



Model 96A647 Shown

Parts

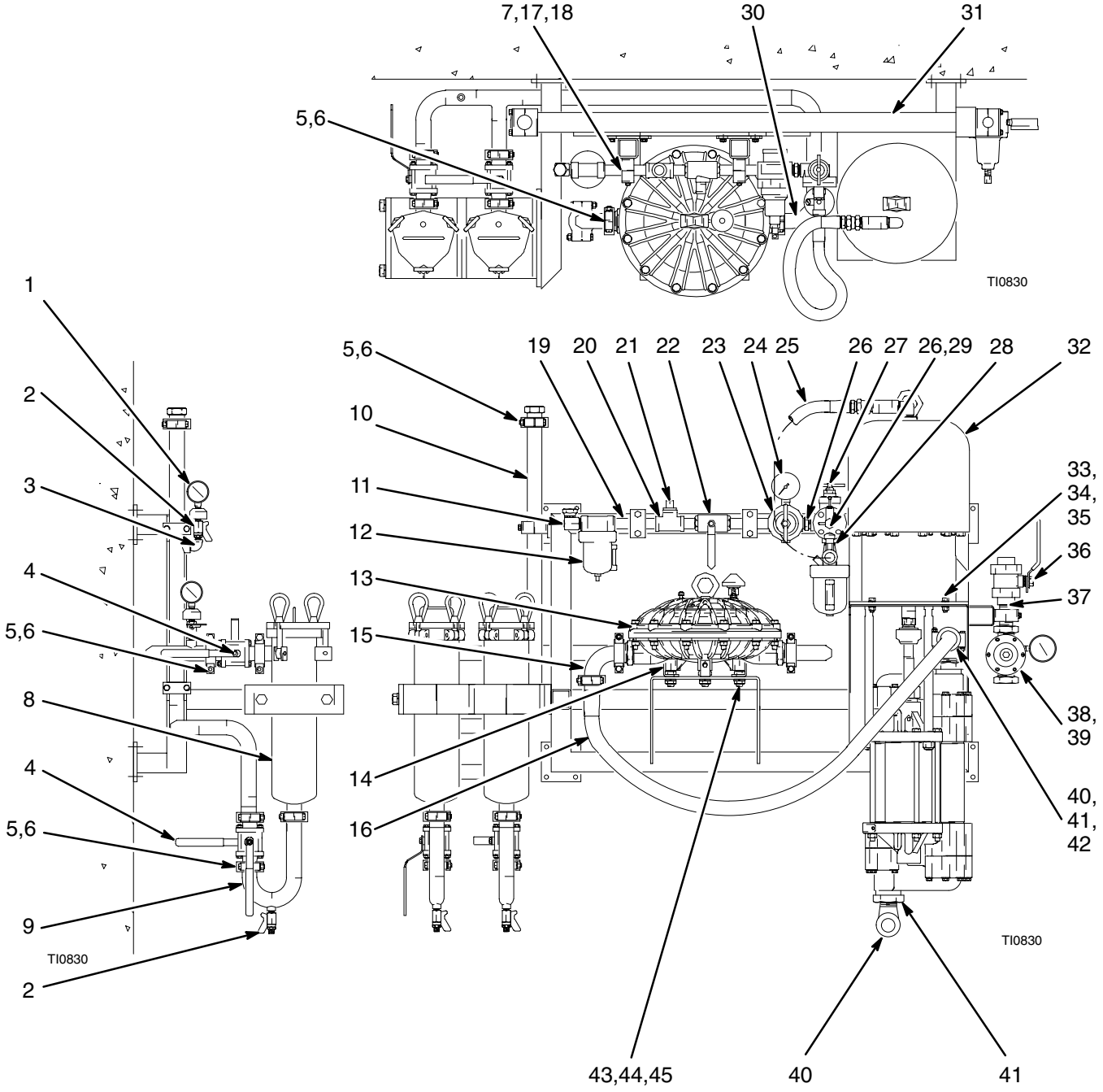
Left Hand Mount Models: 96A647, 96A894, 96A785, 96A900
3:1 and 4:1 Ratio, King Pumps

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	515036	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”	8
6	51A306	GASKET, sanitary, Teflon, 1–1/2”	8
7	618119	BRACKET, pipe support, 3/4”	2
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	160327	UNION, 90°, swivel, 3/4”	1
12	106150	FILTER, air, 3/4” npt	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
19	516830	NIPPLE, pipe, 3/4” npt	2
20	166466	TEE, pipe, 3/4” npt	1
21	C19260	PLUG, pipe, 3/4” npt	1
22	107141	VALVE, ball, air, 3/4” npt	1
23	180187	REGULATOR, air, 3/4” npt	1
		See 308168 for parts	
24	100960	GAUGE, air, 0–200 psi, 1/4 npt	1
25	214956	HOSE, air, 3/4 x 2”	1
26	100627	NIPPLE, pipe, 3/4” npt	2
27	224040	VALVE, runaway, 3/4” npt	1
		See 308201 for parts	
28	214849	LUBRICATOR, air, 3/4” npt	1
29	C19515	ELBOW, street, 3/4” npt	1
30	618097	HEADER, surge tank discharge,1–1/2”	1
31	618237	FRAME, wall mount, left hand	1
32	243749	PUMP, 3:1 King, sst	1
		(used on 96A647 and 96A894)	
		See 309136 for parts	
	243747	PUMP, 4:1 King, sst	1
		(used on 96A785 and 96A900)	
		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 96A647 and 96A785)	
		See 307107 for parts	
	224486	REGULATOR, low shear, sst	1
		(used on 96A894 and 96A900)	
		See 307107 for parts	
39	515992	BUSHING, reducer, sst, 1–1/4x1” npt	2
		(used on 96A647 and 96A785)	
	516306	BUSHING, reducer, sst, 1–1/2x1” npt	2
		(used on 96A894 and 96A900)	
40	516037	ELBOW, street, 90°, sst, 1–1/4” npt	2
41	515983	BUSHING, reducer, sst, 2x1–1/4” npt	2
42	518312	ADAPTOR, tube, 1–1/2 x 1 ”	2
43	516581	SCREW, hex hd, 5/8 x 3/4”	3
44	100128	WASHER, lock, 5/8”	3
45	100127	NUT, hex, 5/8”	3

Parts

Right Hand Mount Dual Filter Models: 96A907 and 96A926

3:1 and 4:1 Ratio, King Pumps



Model 96A907 Shown

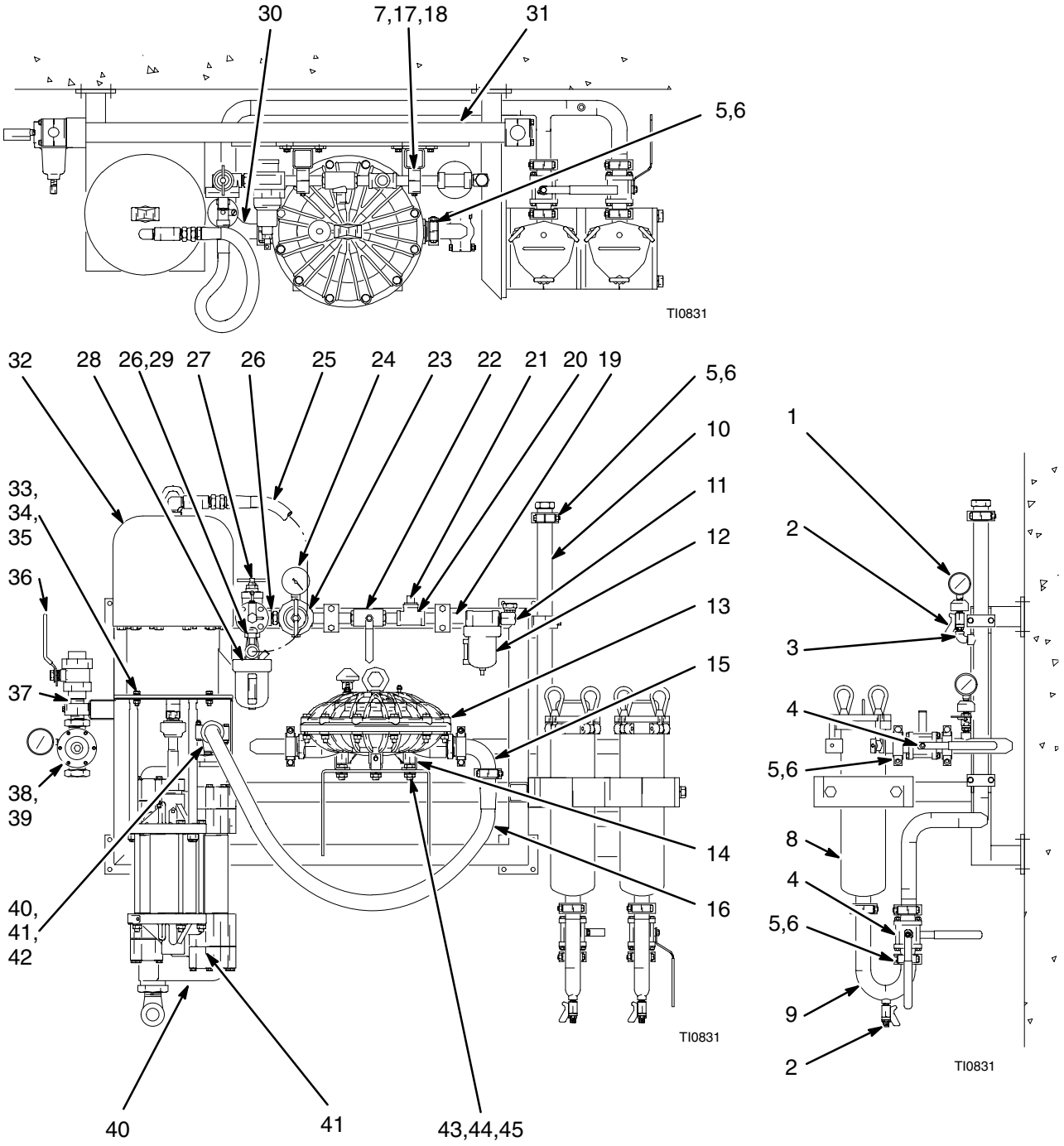
Parts

Right Hand Mount Dual Filter Models: 96A907 and 96A926
3:1 and 4:1 Ratio, King 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	515036	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”	8
6	51A306	GASKET, sanitary, Teflon, 1–1/2”	8
7	618119	BRACKET, pipe support, 3/4”	2
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	160327	UNION, 90°, swivel, 3/4”	1
12	106150	FILTER, air, 3/4” npt	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
19	516830	NIPPLE, pipe, 3/4” npt	2
20	166466	TEE, pipe, 3/4” npt	1
21	C19260	PLUG, pipe, 3/4” npt	1
22	107141	VALVE, ball, air, 3/4” npt	1
23	180187	REGULATOR, air, 3/4” npt	1
		See 308168 for parts	
24	100960	GAUGE, air, 0–200 psi, 1/4 npt	1
25	214956	HOSE, air, 3/4 x 2”	1
26	100627	NIPPLE, pipe, 3/4” npt	2
27	224040	VALVE, runaway, 3/4” npt	1
		See 308201 for parts	
28	214849	LUBRICATOR, air, 3/4” npt	1
29	C19515	ELBOW, street, 3/4” npt	1
30	618097	HEADER, surge tank discharge,1–1/2”	1
31	917070	FRAME, wall mount, rh, dual filter	1
32	243749	PUMP, 3:1 King, sst	1
		(used on 96A907)	
		See 309136 for parts	
	243747	PUMP, 4:1 King, sst	1
		(used on 96A926)	
		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 96A907 and 96A926)	
		See 307107 for parts	
		See 307107 for parts	
39	515992	BUSHING, reducer, sst, 1–1/4x1” npt	2
		(used on 96A907 and 96A926)	
40	516037	ELBOW, street, 90°, sst, 1–1/4” npt	2
41	515983	BUSHING, reducer, sst, 2x1–1/4” npt	2
42	518312	ADAPTOR, tube, 1–1/2 x 1”	2
43	516582	SCREW, hex hd, 5/8 x 1”	3
44	100128	WASHER, lock, 5/8”	3
45	100127	NUT, hex, 5/8”	3

Parts

Left Hand Mount Dual Filter Models: 96A908 and 96A927
3:1 and 4:1 Ratio, King Pumps



Model 96A908 Shown

Parts

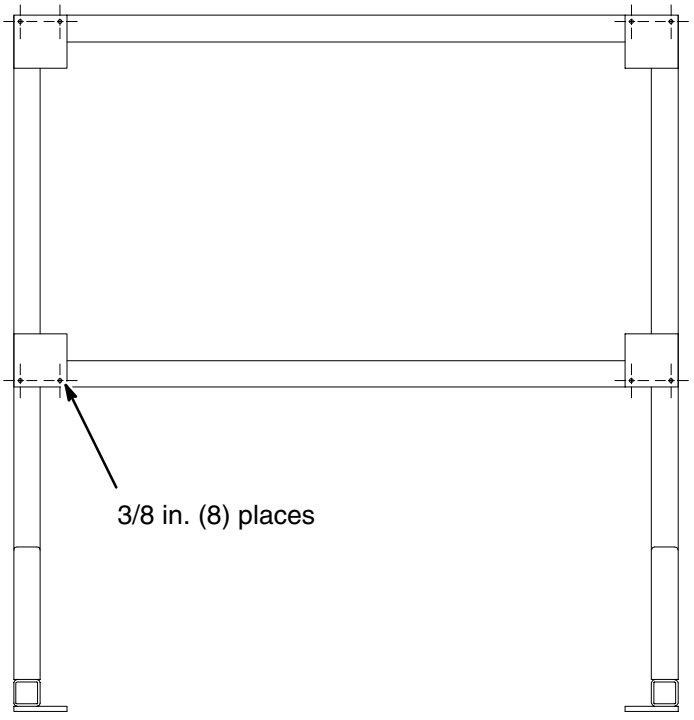
Left Hand Mount Dual Filter Models: 96A908 and 96A927
3:1 and 4:1 Ratio, King Pumps

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	515036	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”	8
6	51A306	GASKET, sanitary, Teflon, 1–1/2”	8
7	618119	BRACKET, pipe support, 3/4”	2
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	160327	UNION, 90°, swivel, 3/4”	1
12	106150	FILTER, air, 3/4” npt	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
19	516830	NIPPLE, pipe, 3/4” npt	2
20	166466	TEE, pipe, 3/4” npt	1
21	C19260	PLUG, pipe, 3/4” npt	1
22	107141	VALVE, ball, air, 3/4” npt	1
23	180187	REGULATOR, air, 3/4” npt	1
		See 308168 for parts	
24	100960	GAUGE, air, 0–200 psi, 1/4 npt	1
25	214956	HOSE, air, 3/4 x 2”	1
26	100627	NIPPLE, pipe, 3/4” npt	2
27	224040	VALVE, runaway, 3/4” npt	1
		See 308201 for parts	
28	214849	LUBRICATOR, air, 3/4” npt	1
29	C19515	ELBOW, street, 3/4” npt	1
30	618097	HEADER, surge tank discharge,1–1/2”	1
31	917072	FRAME, wall mount, Lh, dual filter	1
32	243749	PUMP, 3:1 King, sst	1
		(used on 96A908)	
		See 309136 for parts	
	243747	PUMP, 4:1 King, sst	1
		(used on 96A927)	
		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 96A908)	
		See 307107 for parts	
		See 307107 for parts	
39	515992	BUSHING, reducer, sst, 1–1/4x1” npt	2
		(used on 96A908 and 96A927)	
40	516037	ELBOW, street, 90°, sst, 1–1/4” npt	2
41	515983	BUSHING, reducer, sst, 2x1–1/4” npt	2
42	518312	ADAPTOR, tube, 1–1/2 x 1”	2
43	516582	SCREW, hex hd, 5/8 x 1”	3
44	100128	WASHER, lock, 5/8”	3
45	100127	NUT, hex, 5/8”	3

Parts

Single Mount Floor Stand, Model 618124

TI0832



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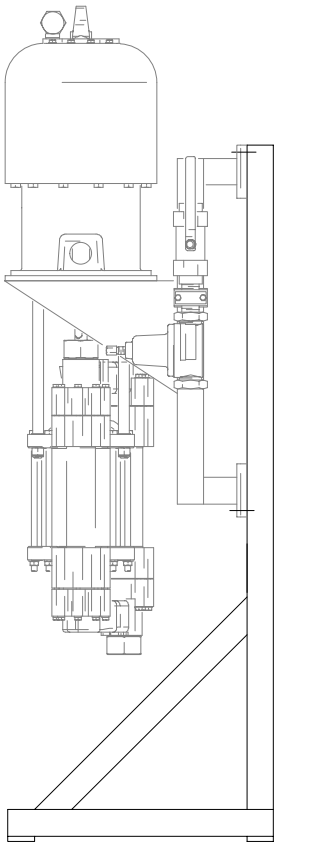
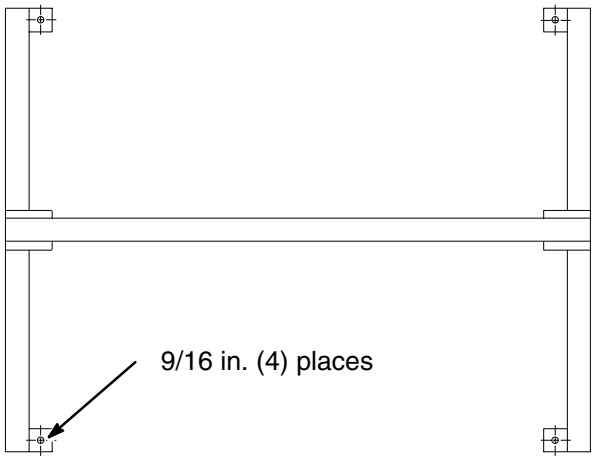


TI0832

Model 618124

Parts

Dual Mount Floor Stand, Model 618125



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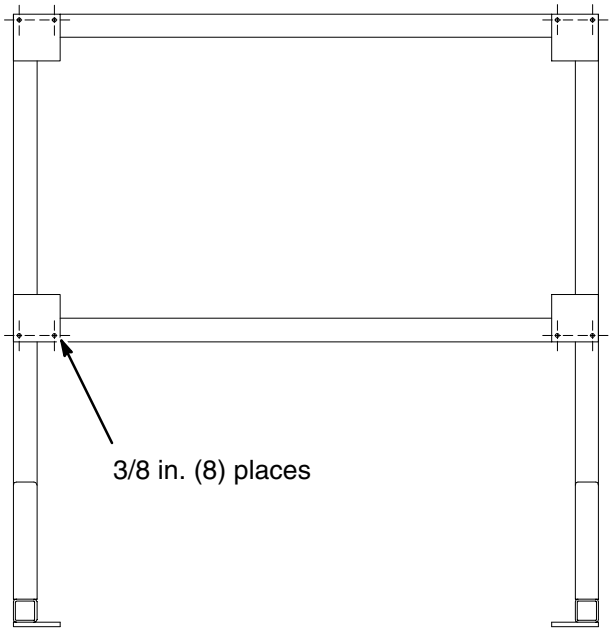

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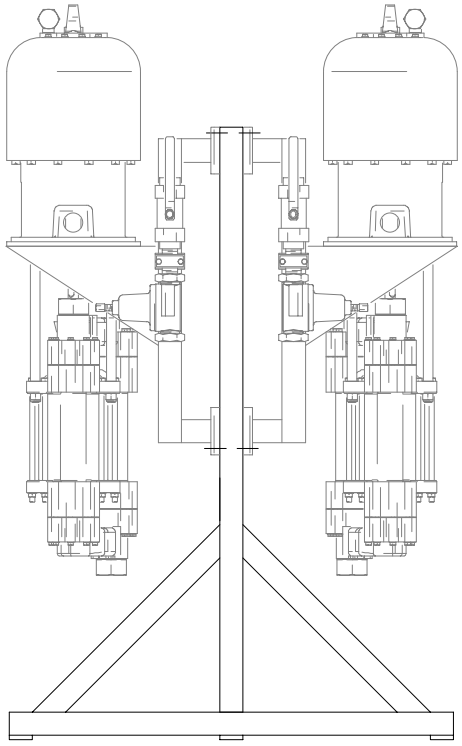


TI0833

Model 618125

Technical Data

3:1 Ratio King Pumps, Models 96A388, 96A647, 96A893, 96A894, 96A907, & 96A908

Category	Data
Maximum Fluid Working Pressure	1.9 MPa, 19 bar (270 psi)
Air Operating Range	0.28–0.6 MPa, 2.8 – 6.2 bar (40 – 90 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
Wetted parts	*Models 243749 and 243750:* Stainless Steel, Teflon®, Ultra High Molecular Weight Polyethylene

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

Sound Pressure Levels (dBa)

(measured at 1 meter from unit)

	Input Air Pressures at 15 cycles per minute		
Air Motor	**40 psi (0.28 MPa, 2.8 bar)**	**70 psi (0.48 MPa, 4.8 bar)**	**90 psi (0.6 MPa, 6.2 bar)**
Quiet King	77.9 dB(A)	79.2 dB(A)	87.5 dB(A)

Sound Power Levels (dBa)

(tested in accordance with ISO 9614–2)

	Input Air Pressures at 15 cycles per minute		
Air Motor	**40 psi (0.28 MPa, 2.8 bar)**	**70 psi (0.48 MPa, 4.8 bar)**	**90 psi (0.6 MPa, 6.2 bar)**
Quiet King	85.2 dB(A)	86.6 dB(A)	95.2 dB(A)

Performance Charts (pump only)

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

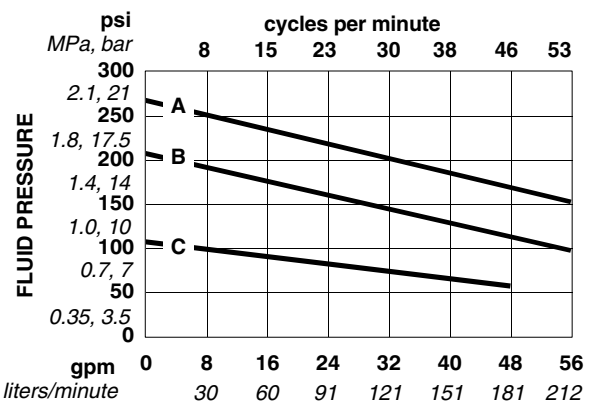
1. Locate desired flow along bottom of chart.
2. Follow vertical line up to intersection with selected fluid outlet pressure curve (black). Follow left to scale to read fluid outlet pressure.

To find Pump Air Consumption (m^3/min or scfm) at a specific fluid flow (lpm/gpm) and air pressure (psi/MPa/bar):

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

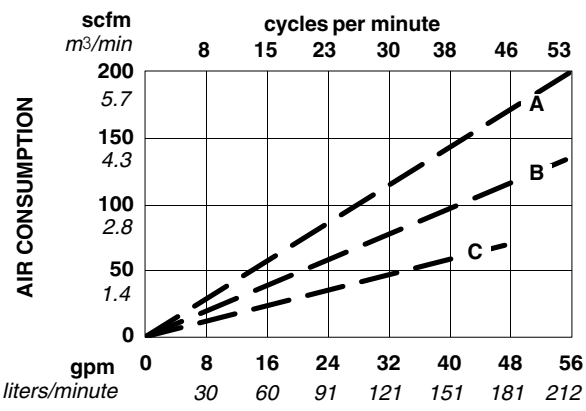
A 0.6 MPa, 6.2 bar (90 psi) air pressure
B 0.49 MPa, 4.9 bar (70 psi) air pressure
C 0.28 MPa, 2.8 bar (40 psi) air pressure

Fluid Outlet Pressure



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

Air Consumption



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

Technical Data

4:1 Ratio King Pumps, Models 96A784, 96A785, 96A899, 96A900, 96A926, & 96A927

Category	Data
Maximum Fluid Working Pressure	2.5 MPa, 25 bar (360 psi)
Air Operating Range	0.28–0.6 MPa, 2.8 – 6.2 bar (40 – 90 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
Wetted parts	*Model 243739:* Carbon Steel, Stainless Steel, Teflon®, Ultra High Molecular Weight Polyethylene *Models 243747 and 243748:* Stainless Steel, Teflon®, Ultra High Molecular Weight Polyethylene

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

Sound Pressure Levels (dBa)

(measured at 1 meter from unit)

	Input Air Pressures at 15 cycles per minute		
Air Motor	**40 psi (0.28 MPa, 2.8 bar)**	**70 psi (0.48 MPa, 4.8 bar)**	**90 psi (0.6 MPa, 6.2 bar)**
Quiet King	77.9 dB(A)	79.2 dB(A)	87.5 dB(A)

Sound Power Levels (dBa)

(tested in accordance with ISO 9614–2)

	Input Air Pressures at 15 cycles per minute		
Air Motor	**40 psi (0.28 MPa, 2.8 bar)**	**70 psi (0.48 MPa, 4.8 bar)**	**90 psi (0.6 MPa, 6.2 bar)**
Quiet King	85.2 dB(A)	86.6 dB(A)	95.2 dB(A)

Performance Charts (pump only)

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

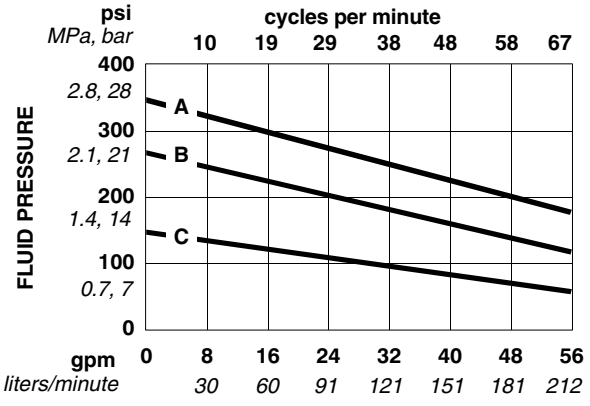
1. Locate desired flow along bottom of chart.
2. Follow vertical line up to intersection with selected fluid outlet pressure curve (black). Follow left to scale to read fluid outlet pressure.

To find Pump Air Consumption (m^3/min or scfm) at a specific fluid flow (lpm/gpm) and air pressure (psi/MPa/bar):

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

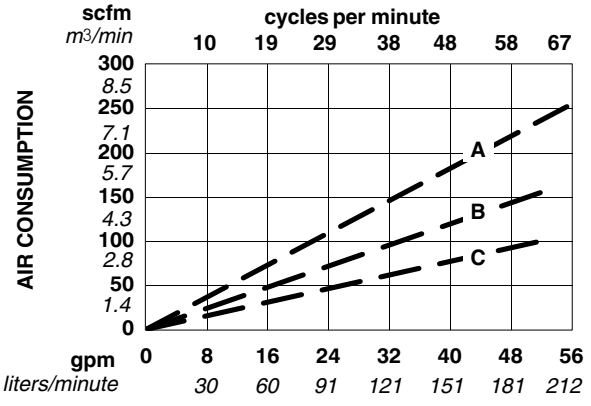
A 0.6 MPa, 6.2 bar (90 psi) air pressure
B 0.49 MPa, 4.9 bar (70 psi) air pressure
C 0.28 MPa, 2.8 bar (40 psi) air pressure

Fluid Outlet Pressure



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

Air Consumption

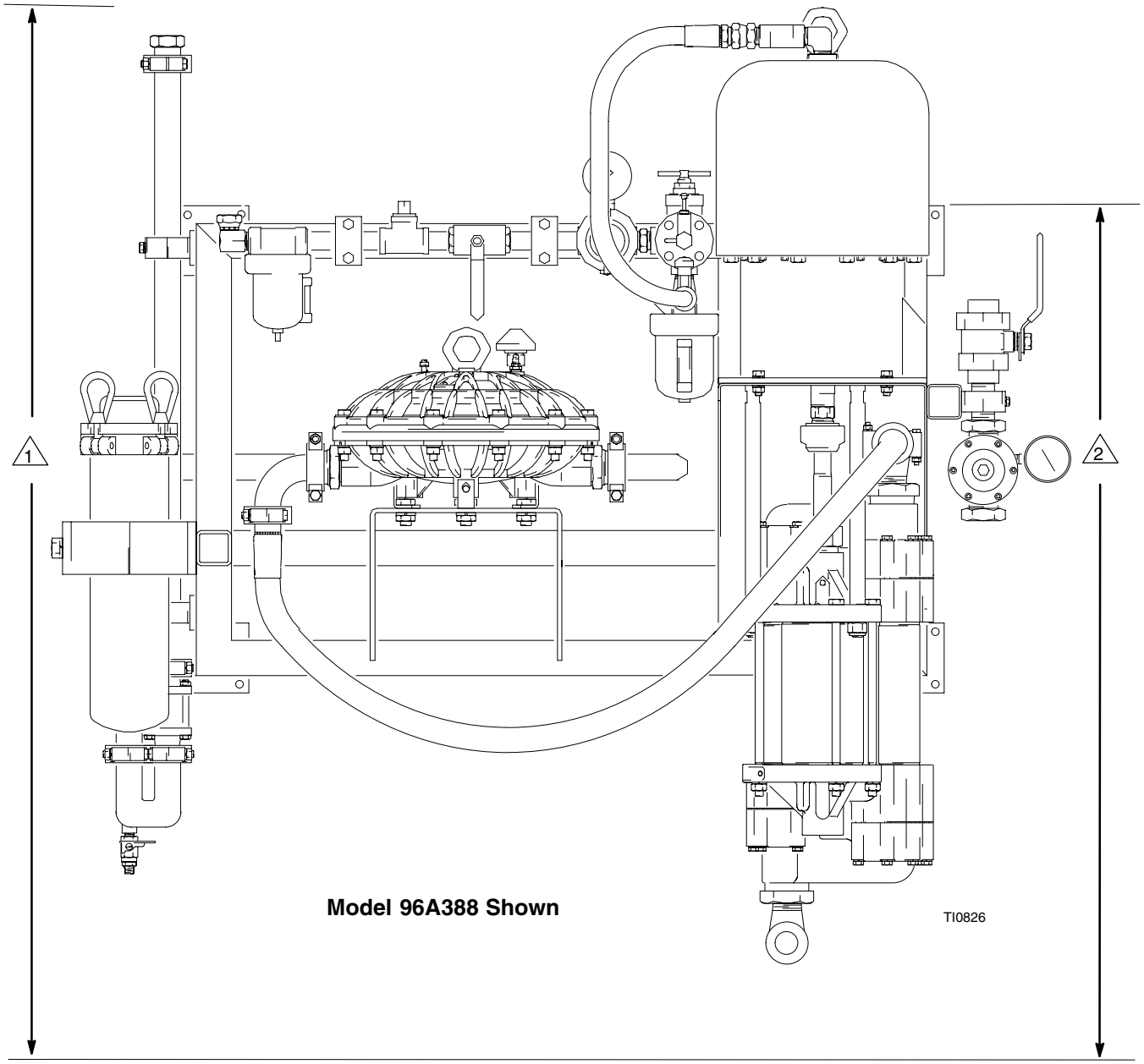


FLUID FLOW (TEST FLUID: NO. 10 WEIGHT OIL)

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.

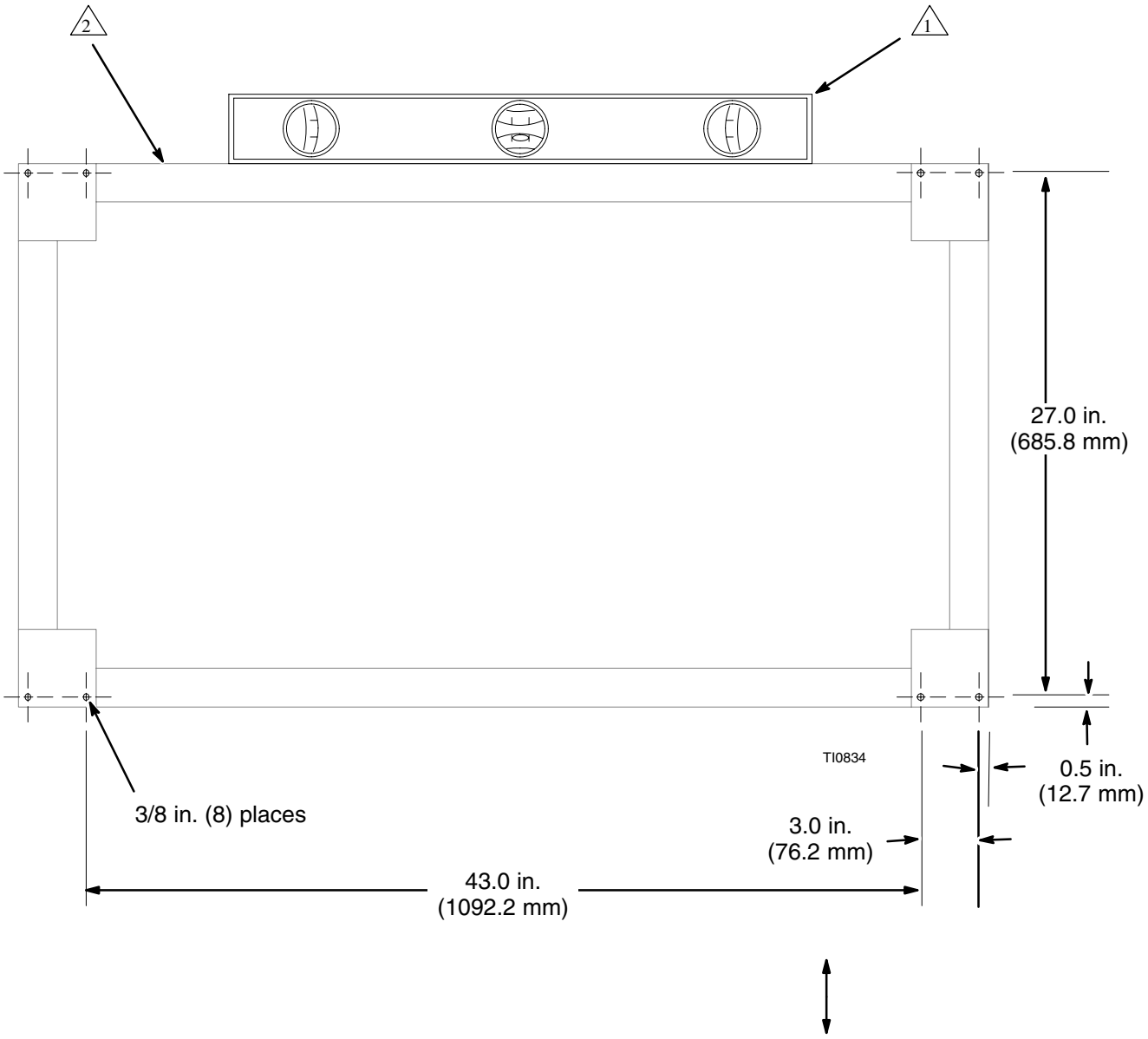


Model 96A388 Shown

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 618237 (parts list item 31)

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.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non–Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

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.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

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.

FOR GRACO CANADA CUSTOMERS
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Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:
1–800–367–4023 Toll Free
612–623–6921
612–378–3505 Fax

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Sales Offices: Minneapolis, Detroit
International Offices: Belgium, Korea, Hong Kong, Japan

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