

This manual contains important warnings and information.  
**READ AND KEEP FOR REFERENCE.**

INSTRUCTIONS

## Wall Mount

# 30:1 RATIO PRESIDENT® HYDRA-SPRAY® PUMP

3000 psi (210 bar) Maximum Working Pressure

100 psi (7 bar) Maximum Input Air Pressure

### Model 222-268, Series A

#### For cold spray systems

Includes pump and wall bracket

### Model 221-123

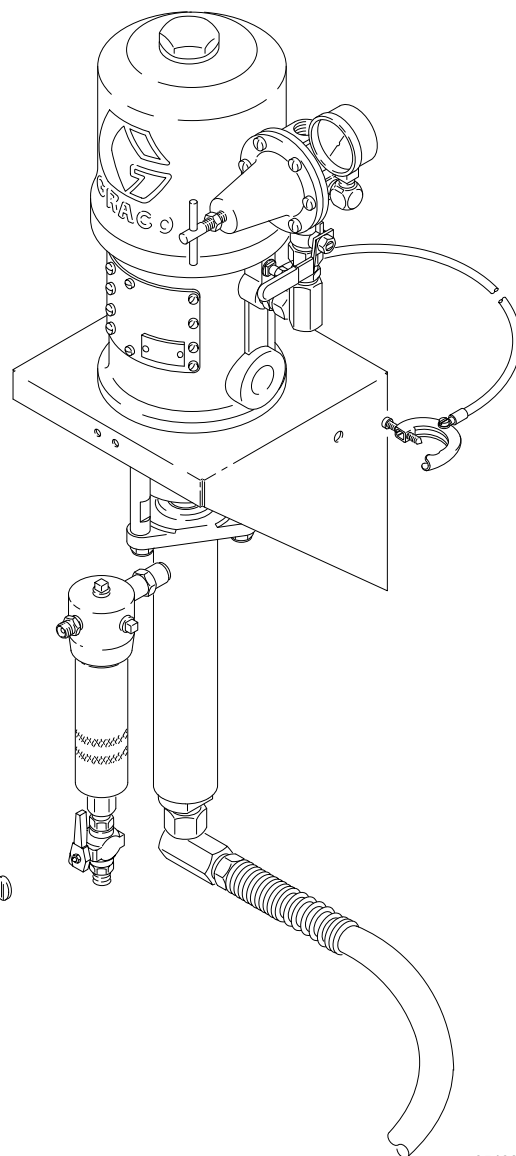
#### For heated spray systems

Includes pump 222-268, Viscon<sup>2</sup> Heater\*, heater mounting kit 222-269, and circulating kit 222-270

\* Specify desired voltage of heater  
(see page 18 for available models).

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**Model 222-268 Shown**

# Symbols

## Warning Symbol



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

## Caution Symbol



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 not sure, call Graco Technical Assistance at 1-800-543-0339.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. Do not exceed 100 psi (6,9 bar) air pressure to the motor. Refer to the pump instruction manual for the maximum fluid working pressure of this equipment.
- Do not exceed the maximum temperature rating of the lowest rated system component.
- 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.
- Do not use hoses to pull equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 82°C (180°F) or below -40°C (-40°F).
- Do not lift pressurized equipment.
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

# WARNING



## INJECTION HAZARD

Spray from the gun, leaks or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate medical attention.**
- Do not point the gun at anyone or at any part of the body.
- Do not put your hand or fingers over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Always have the tip guard and the trigger guard on the gun when spraying.
- Check the gun diffuser operation weekly. Refer to the gun manual.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 5 if the spray tip clogs and before cleaning, checking or servicing the equipment.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.
- Fluid hoses must have spring guards on both ends, to help protect them from rupture caused by kinks or bends near the couplings.



## 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.

# WARNING



## 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 5.
- 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.



## 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 5 to prevent the equipment from starting unexpectedly.

# Installation

## Grounding

To reduce the risk of static sparking, ground the pump and all other spray equipment used or located in the spray area. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this spray equipment.

1. *Pump*: use a ground wire and clamp (Fig 1).
2. *Air hoses*: use only electrically conductive air hoses.
3. *Fluid hoses*: use only electrically conductive fluid hoses.
4. *Air compressor*: follow manufacturer's recommendations.
5. *Spray gun or dispensing valve*: grounding is obtained through connection to a properly grounded fluid hose and pump.
6. *Object being sprayed*: according to your local code.
7. *Fluid supply container*: according to your local code.
8. *All solvent pails used when flushing*, according to local code. *Use only metal pails*, which are conductive, placed on a grounded surface. Do not place the pail on a non-conductive surface such as paper or cardboard, which interrupts the grounding continuity.

To ground the pump, loosen the grounding lug locknut (W) and washer (X). Insert one end of a 12 ga. (1,5 mm<sup>2</sup>) minimum ground wire (Y) into the slot in the lug (Z) and tighten the locknut securely. See Fig 1. Connect the other end of the wire to a true earth ground. Order Ground Wire and Clamp 222-011.

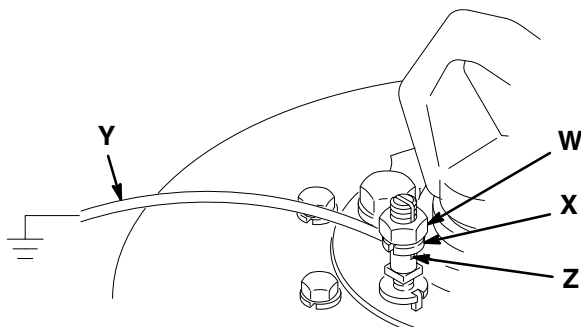


Fig. 1

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## ! WARNING



### INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, 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 tip.

## Pressure Relief Procedure

1. Engage the spray gun or dispensing valve safety latch.
2. Turn off the air to the motor.
3. Close the bleed-type master air valve (required).
4. Disengage the safety latch. Hold a metal part of the gun or valve firmly to a grounded metal pail. Trigger the gun or valve to relieve pressure.
5. Engage the safety latch.
6. Open the pressure drain valve. Leave the pressure drain valve open until you are ready to spray again.

If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen the tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Now clear the tip or hose obstruction.

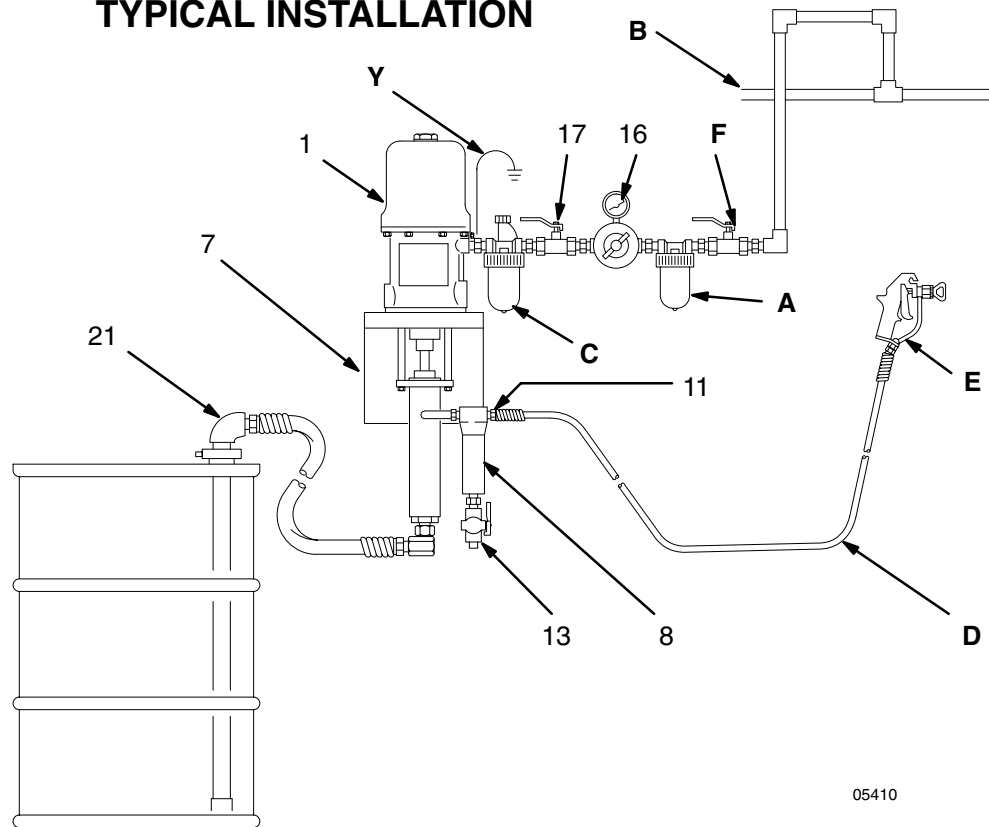
## Flushing

Before flushing, be sure the entire system and flushing pails are properly grounded. Refer to **Grounding**, at the left. Follow the preceding **Pressure Relief Procedure** and remove the spray tip before flushing. Hold a metal part of the gun firmly to the side of a metal pail and use the lowest possible fluid pressure during flushing.

## TYPICAL INSTALLATION

### KEY

- A Air Line Filter
- B Main Air Line
- C Air Line Lubricator
- D Fluid Hose
- E Spray Gun
- F Bleed-Type Master Air Valve (for accessories) (required)
- Y Ground Wire (required)
- 1 Pump
- 7 Pump Wall Bracket
- 8 Fluid Filter
- 11 Filter Outlet Nipple
- 13 Drain Valve (required)
- 16 Air Regulator (required)
- 17 Bleed-Type Master Air Valve (required, for pump)
- 21 Suction Kit



## INSTALLATION

Be sure that all operators read and understand this entire manual and the separate manuals supplied with components and accessories before using this equipment.

Reference numbers and letters in parentheses refer to the Typical Installation drawing, Figs. 1-4, and the parts drawings and lists on pages 14-17.

Accessories mentioned are available from your Graco distributor (see page 18). If you supply your own accessories, be sure they are adequately sized to meet your system's requirements.

The Typical Installation above is only an example. For assistance in designing a system to meet your particular needs, contact your Graco representative or Graco Technical Assistance (see back page).

### PUMP INSTALLATION

Refer to page 7 to install pump Model 222-268, for use in cold spray systems.

Refer to page 8 to install pump Model 221-123, for use in heated spray systems, or to convert pump Model 222-268 to a heated system.

To convert pump Model 222-268 to a heated unit, order the following:

- Viscon<sup>2</sup> Fluid Heater (choose one of three models)
  - Model 220-522 (120 V, single-phase, 16.7 Amp)
  - Model 220-523 (240 V, single-phase, 9.6 Amp)
  - Model 220-524 (480 V, single-phase, 4.8 Amp)
- Heater Mounting Kit 222-269
- Circulating Kit 222-270

## SYSTEM ACCESSORIES

Install an air line filter (A) in the main air line (B), to remove harmful dirt and moisture from the compressed air supply. To provide automatic lubrication of the air motor, install an air line lubricator (C) downstream from the bleed-type master air valve (17).

Install a second bleed valve (F) in the main air line, to isolate the accessories for servicing.

## ⚠ WARNING

The bleed-type master air valve (17) and the fluid drain valve (13) are **supplied** with your pump, to help reduce the risk of serious bodily injury including fluid injection, splashing in the eyes or on the skin, or 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 valve is located downstream from the air regulator.

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

## HOSE AND GUN CONNECTIONS

Connect one end of the fluid hose (D) to the filter outlet nipple (11) and the other to the fluid inlet of the gun (E). Do not install the spray tip in the gun yet. To use a second gun with the pump, refer to pages 11 and 12.

Close the bleed-type master air valve (17) and the air regulator (16). Connect the main air line (B) to the 1/2 npt(f) air regulator inlet.

## INSTALLING PUMP MODEL 222-268

Refer to Fig. 2.

**NOTE:** Apply pipe sealant to all male threads, except at swiveling connections.

1. Mount the pump wall bracket (7) 5 ft (1.5 m) above the floor. Be sure the wall is strong enough to support the weight of the pump and accessories, fluid, hoses, and stress caused during pump operation. Refer to **Mounting Dimensions** on page 19 and **Mounting Bracket manual 306-783**.
2. Install the gasket (2) and pump (1) on the wall bracket (7), aligning the two mounting holes in the gasket and pump with those in the bracket. To secure the pump, install the screws (6) and lockwashers

(supplied with the bracket) from below the wall bracket.

3. Apply pipe sealant (3) to one end of the 1/2 npt nipple (18) and screw the nipple into the pump's air inlet. Install the air regulator (16) and bleed-type master air valve (17) by screwing the swivel end of the union (19) onto the nipple (18). This completes installation of the air regulator assembly. *If you are installing a heated system, skip steps 4 through 6 and proceed to **Installing a Heated System** on page 8.*
4. Apply pipe sealant (3) and install the long 3/8 npt nipple (9) in the pump's fluid outlet. Connect the fluid filter (8) to this nipple.
5. Screw the swivel end of the suction kit (21) onto the pump fluid intake.
6. Connect the air and fluid hoses as described at left.

## GROUNDING

### **! WARNING**

Before operating the pump, ground the system as explained under **FIRE OR EXPLOSION HAZARD** on page 4 and **Grounding** on page 5.

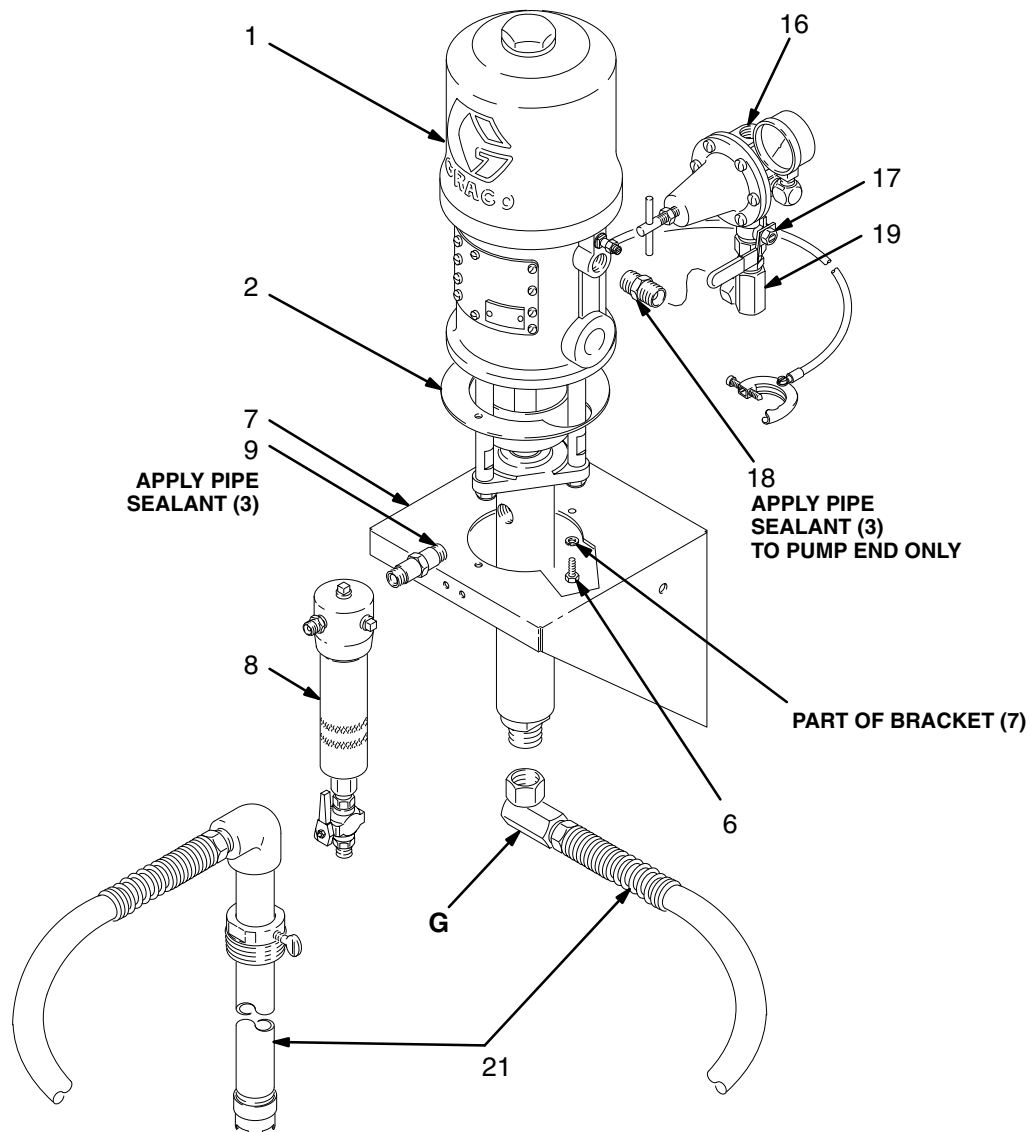


Fig. 2

## INSTALLING A HEATED SYSTEM

Use the following procedures to install Model 221-123 Heated System, or to convert an existing Model 222-268 to a heated system. The Viscon<sup>2</sup> Heater is available in three voltages (see page 18). Specify which voltage you desire.

To install the pump, first follow steps 1-3 under **Installing Pump Model 222-268** on page 7.

### WARNING

Heat causes fluid to expand. If fluid in the heated portion of your system is trapped with no where to expand, it can cause a system rupture. A system rupture can result in serious bodily injury and property damage. Be sure your system has an adequate way to handle heat expansion.

- Use flexible hoses between the heater and gun
- or, install a properly sized accumulator downstream from the heater
- or, install a pressure relief valve, pre-set to relieve pressure when it exceeds the system's maximum working pressure
- and, never install any shutoff device between the heater and gun. If you are using a fluid regulator before the gun, never use it as a shutoff device.

### WARNING

The Viscon<sup>2</sup> Heater must be installed by a qualified electrician in compliance with all state and local codes and regulations, to reduce the risk of electric shock or other serious bodily injury during installation or operation.

The power supply must match the heater's requirements (see **Accessories** on page 18). Refer to the Viscon<sup>2</sup> Heater Manual, 307-805, for further information.

## Installing Heater Mounting Kit 222-269

### WARNING

Before installing the heater, heater mounting kit and circulating kit, follow the **Pressure Relief Procedure** on page 5. Disconnect all hoses from the pump.

**NOTE:** Reference numbers marked with an asterisk (for example, 22\*) are included in kit 222-269.

Apply pipe sealant (3\*) to all male threads except at swiveling connections.

1. Be sure the wall is strong enough to support the weight of the heater, hoses, fluid, and stress caused during operation. Locate the heater wall bracket (22\*) holes 9.25" (235 mm) to the left of the pump bracket holes, and at the same height. Use the heater wall bracket as a template to mark the wall. See **Mounting Dimensions** on page 19.
2. Attach the heater wall bracket to the heater mounting posts with the M8 x 1.25 screws and lockwashers supplied with the heater (39).
3. Use M8 or 5/16" bolts of the appropriate length and lockwashers (not supplied) to fasten the heater bracket to the wall.
4. **If you are converting an existing pump**, remove the fluid filter (8) and long 3/8 npt nipple (9) from the pump fluid outlet. Discard the long nipple (9). See Fig. 2.
5. Install the 3/8 npt nipple (28\*) in the heater outlet. Screw the fluid filter (8) inlet onto this nipple. Unscrew the 1/4 npt nipple (11) from the filter outlet. Screw the elbow (40\*) into the filter outlet, and screw the nipple (11) into the elbow. See Fig. 3.
6. Screw the elbow (23\*) into the heater's inlet. Attach the heater hose (24\*) to the elbow. Attach the rigid end of the union (25\*) to the other end of the hose (24\*). See Fig. 3.
7. Screw the elbow (27\*) into the pump outlet. Screw the check valve (26\*) into the elbow. Be sure the arrow on the check valve points down. To complete the heater connection to the pump, screw the swivel end of the union (25\*) onto the check valve (26\*).



## Installing Circulating Kit 222-270

### **WARNING**

Before installing the heater, heater mounting kit and circulating kit, follow the **Pressure Relief Procedure** on page 5. Disconnect all hoses from the pump.

**NOTE:** Reference numbers marked with a symbol (for example, 29†), are included in kit 222-270.

Apply pipe sealant (3 †) to all male threads except at swiveling connections.

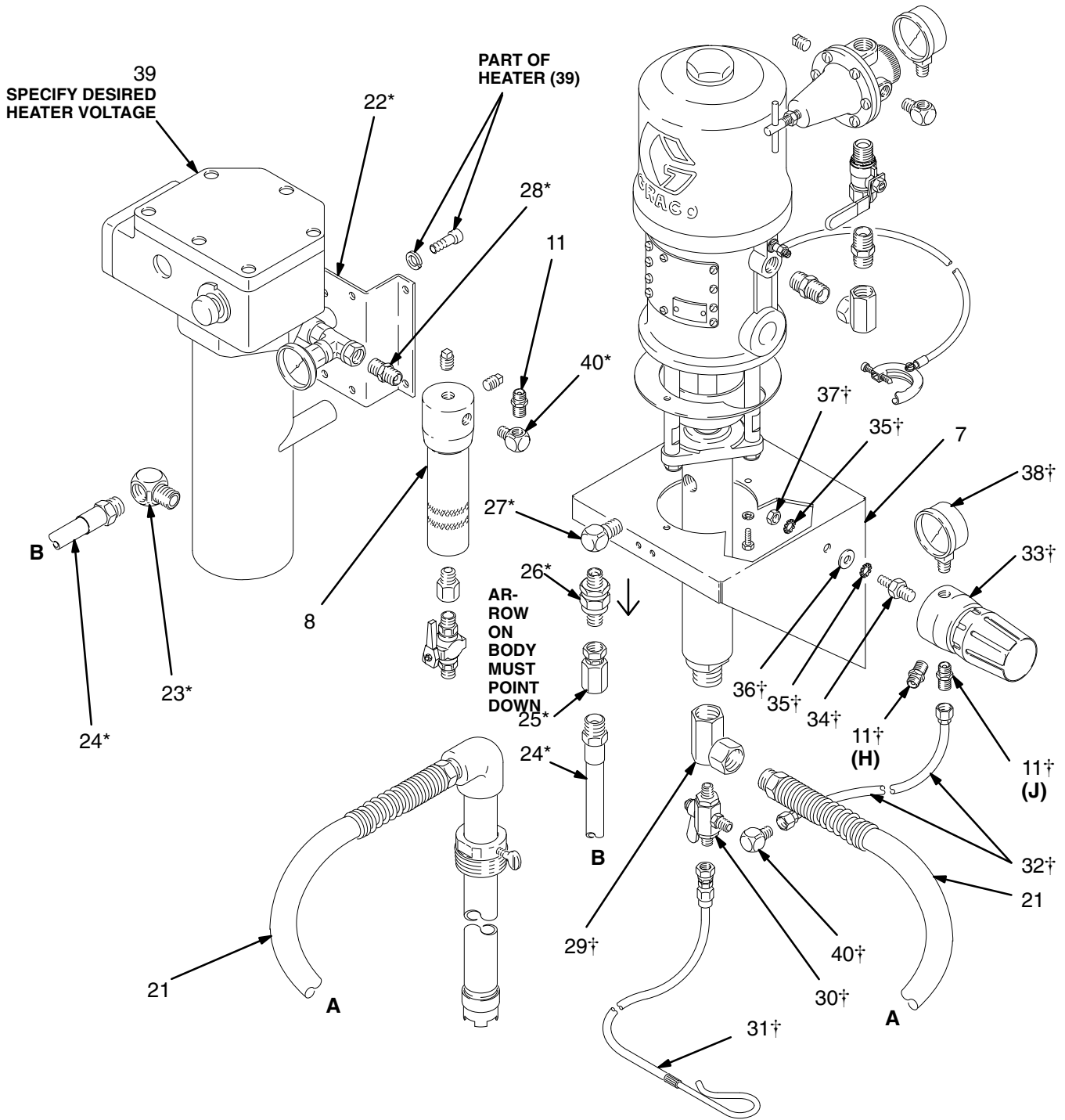
1. **If you are converting an existing pump**, remove the suction hose (21) from the pump's fluid intake. See Fig. 2.
2. Unscrew the swivel elbow (G) from the end of the suction hose (21) and discard the elbow. See Fig. 2. Screw the rigid end of the manifold (29 †) onto the pump intake, and attach its swivel end to the suction hose (21). See Fig. 3.
3. Screw the mounting stud (34†) into the outlet in the base of the back pressure regulator (33†). Install the fluid pressure gauge (38 †) in the inlet of the back pressure regulator. Remove the plugs from the optional inlet and outlet of the back pressure regulator. Install one 1/4 npt nipple (11†) in the regulator's optional outlet (J), and the other 1/4 npt nipple (11†) in the optional inlet (H).

4. Place a lockwasher (35†) and washer (36†) on the mounting stud, and insert the stud through the mounting hole in the right side of the pump wall bracket (7). Secure the regulator with a lockwasher (35†) and nut (37 †) on the inside of the pump wall bracket.
5. Install the CIRC end of the three-way ball valve (30†) in the open port of the pump fluid intake manifold (29†). Screw the elbow (40†) onto the IN branch of the three-way valve. Connect one end of the hose (32†) to this elbow, and the other end to the nipple (11†) at the back pressure regulator's optional outlet (J).
6. Connect the drain hose (31 †) to the DRAIN end of the three-way valve (30†).
7. Connect the fluid return line to the nipple (11†) at the back pressure regulator's optional inlet (H).
8. Connect the air and fluid hoses and gun as explained on page 7.

## GROUNDING

### **WARNING**

Before operating the pump, ground the system as explained under **FIRE OR EXPLOSION HAZARD** on page 4 and **Grounding** on page 5.



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Fig. 3

## CONVERTING TO A TWO-GUN SYSTEM

To convert your sprayer to a two-gun system, refer to the following applicable paragraph for your model. Order the parts listed, and perform the assembly procedure.

**Model 222-268 (Refer to Fig 4 and the Parts Drawing on page 14)**

### WARNING

Before performing this procedure, follow the **Pressure Relief Procedure** on page 5; and refer to **EQUIPMENT MISUSE HAZARD** and **INJECTION HAZARD** on pages 2 and 3. Disconnect all hoses from the pump.

For Model 222-268, order the following parts:

PART NO.	DESCRIPTION	QTY
162-453	NIPPLE; 1/4 npt x 1/4 npsm	1
208-663	GUN, airless spray	2
204-940	SWIVEL, straight; 1/4 npt(m) x 1/4 npsm(f)	2
223-540	HOSE, fluid; nylon; 1/4" (6 mm) I.D.; 1/4 npsm(fbe); 25 ft (7.6 m) long; 180°F maximum temperature rating	2

1. Remove the plug (10) from the optional outlet port of the fluid filter (8). Install a 162-453 Nipple (K) in its place. See Detail A of Fig 4.
2. Screw the first fluid hose (D) onto a swivel (L), then screw the swivel onto the fluid inlet of a gun (E). See Detail B of Fig 4. Repeat for the other hose, swivel and gun.
3. Screw the other end of the first hose onto one outlet nipple (11) of the fluid filter (8). Screw the second hose onto the other outlet nipple (K) of the fluid filter. See Detail A.

**Model 221-123 (Refer to Fig 4 and the Parts Drawing on page 16)**

### WARNING

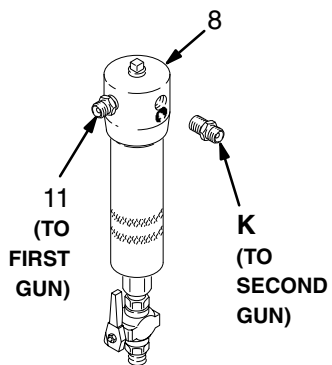
Before performing this procedure, follow the **Pressure Relief Procedure** on page 5; and refer to **EQUIPMENT MISUSE HAZARD** and **INJECTION HAZARD** on pages 2 and 3. Disconnect all hoses from the pump.

For Model 221-123, order the following parts:

PART NO.	DESCRIPTION	QTY
162-453	NIPPLE; 1/4 npt x 1/4 npsm	2
208-327	GUN, airless spray	2
222-263	HOSE KIT, fluid, insulated; nylon; 25 ft (7.6 m) long; 180°F maximum temperature rating	2
156-971	NIPPLE; 1/4 npt	1
104-984	TEE; 1/4 npt(f)	1

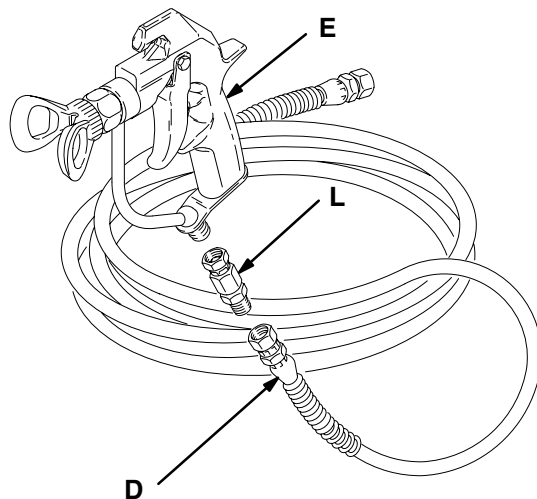
1. Remove the plug (10) from the top outlet port of the fluid filter (8). Install a 162-453 Nipple (K) in its place. See Detail C of Fig 4.
2. See Fig 3. Remove the nipple (11) from the optional inlet (H) of the back pressure regulator (33). Save the nipple for later use. Install a 156-971 Nipple (N) in its place. See Detail D of Fig 4.
3. Screw a 104-984 Tee (M) onto the nipple (N) as shown in Detail D of Fig 4. Install the nipple (11) removed in step 2 in one of the open ports of the tee. Install a 162-453 Nipple (K) in the other open port.
4. Screw the first insulated fluid hose kit (P) onto the fluid inlet of the gun (E). Repeat for the other hose kit and gun. See Detail E.
5. Connect the fluid supply line of the first hose kit (P) to the outlet nipple (11) of the fluid filter (8). Connect the fluid supply line of the second hose kit to the other outlet nipple (K). See Detail C. Similarly, connect the return lines of the hose kits (P) to the inlet nipples (11 and K) of the back pressure regulator (33). See Detail D.

**DETAIL A: HOSE CONNECTIONS AT FLUID FILTER (MODEL 222-268)**



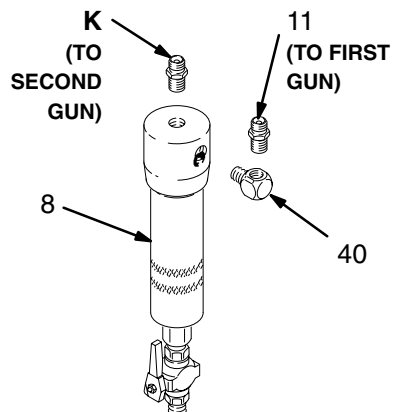
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**DETAIL B: ASSEMBLY OF HOSE AND GUN (MODEL 222-268)**



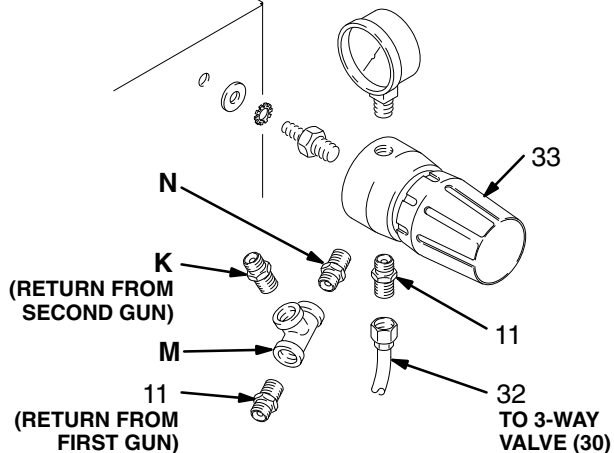
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**DETAIL C: HOSE CONNECTIONS AT FLUID FILTER (MODEL 221-123)**



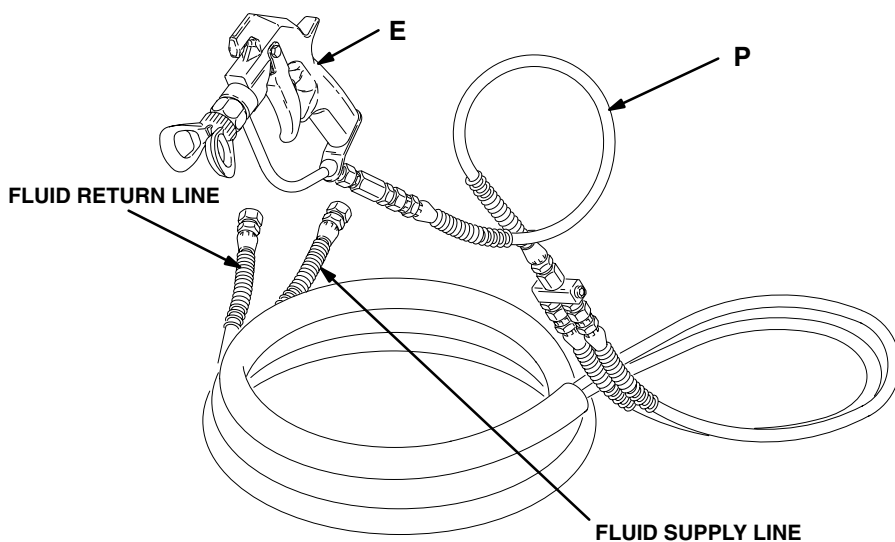
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**DETAIL D: CONNECTIONS AT BACK PRESSURE REGULATOR (MODEL 221-123)**



05416

**DETAIL E: ASSEMBLY OF HOSE KIT AND GUN (MODEL 221-123)**



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Fig 4

# Operation/Maintenance

## **WARNING**

Before performing this procedure, follow the **Pressure Relief Procedure** on page 5. Disconnect all hoses from the pump.

## **WARNING**

For your safety, before operating the equipment be sure all operators have read and fully understand all the warnings, cautions and instructions in this manual and all manuals supplied with each component or accessory.

### Flush the Pump Before Using

Pumps are tested with lightweight oil which is left in to protect the pump parts. To prevent contamination of the fluid, flush the pump with a compatible solvent before using it.

## **WARNING**

*Before flushing*, be sure the entire system and flushing pails are properly grounded. Refer to **Grounding** on page 3. Follow the **Pressure Relief Procedure Warning** on page 5, and *remove the spray tip from the gun*. Always use the lowest possible fluid pressure, and maintain firm metal-to-metal contact between the gun and the pail during flushing to reduce the risk of fluid injection, static sparking, and splashing in the eyes or on the skin

### Starting and Adjusting the Pump

Be sure the air regulator and bleed-type master air valve are closed. **DO NOT INSTALL THE SPRAY TIP YET!**

Place the suction tube (21) in the fluid pail. Open the bleed-type master air valve. Hold a metal part of the spray gun firmly to the side of a grounded metal pail and trigger the gun. Slowly open the air regulator until the pump starts. Allow the pump to cycle slowly until all the air is pushed out of the fluid lines. Release the gun trigger and engage the safety latch; the pump will stall against the pressure.

With the pump and lines primed, and with adequate air pressure and volume supplied, the pump will start and stop as the spray gun is triggered and released.

Follow the **Pressure Relief Procedure Warning** on page 5, then install the spray tip in the gun.

Use the air regulator to control the pump speed and fluid pressure. Always use the lowest pressure necessary to achieve the desired results. Higher pressures waste fluid and cause premature wear of the pump packings and spray tip.

Keep the wet-cup filled with Graco Throat Seal Liquid (TSL) to help prolong the packing life. Check the tightness of the packing nut weekly. The packing nut should be tight enough to prevent leakage – no tighter. Always follow the **Pressure Relief Procedure Warning** on page 5 before adjusting the packing nut or adding TSL.

Never allow the pump to run dry of the fluid being pumped. A dry pump will quickly accelerate to a high speed, possibly damaging itself. If your 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 supply container and prime the pump and lines with fluid, being sure to eliminate all air from the fluid system, or flush the pump as described in **Shutdown and Care**, following.

### Heated Systems

Operating instructions for a heated circulating system are provided in the Viscon<sup>2</sup> Heater manual, 307-805. Read and understand all warnings and instructions in the heater manual before operating a heated system.

In circulating systems, adjust the back pressure regulator (33) and pump air regulator (16) to obtain proper spray pressure at the gun and maintain sufficient circulation flow to prevent fluid settling.

The three-way ball valve (30) selects either fluid circulation or draining. To circulate fluid back to the pump, turn the handle toward the CIRC end of the valve. To drain fluid, turn the handle toward the DRAIN end.

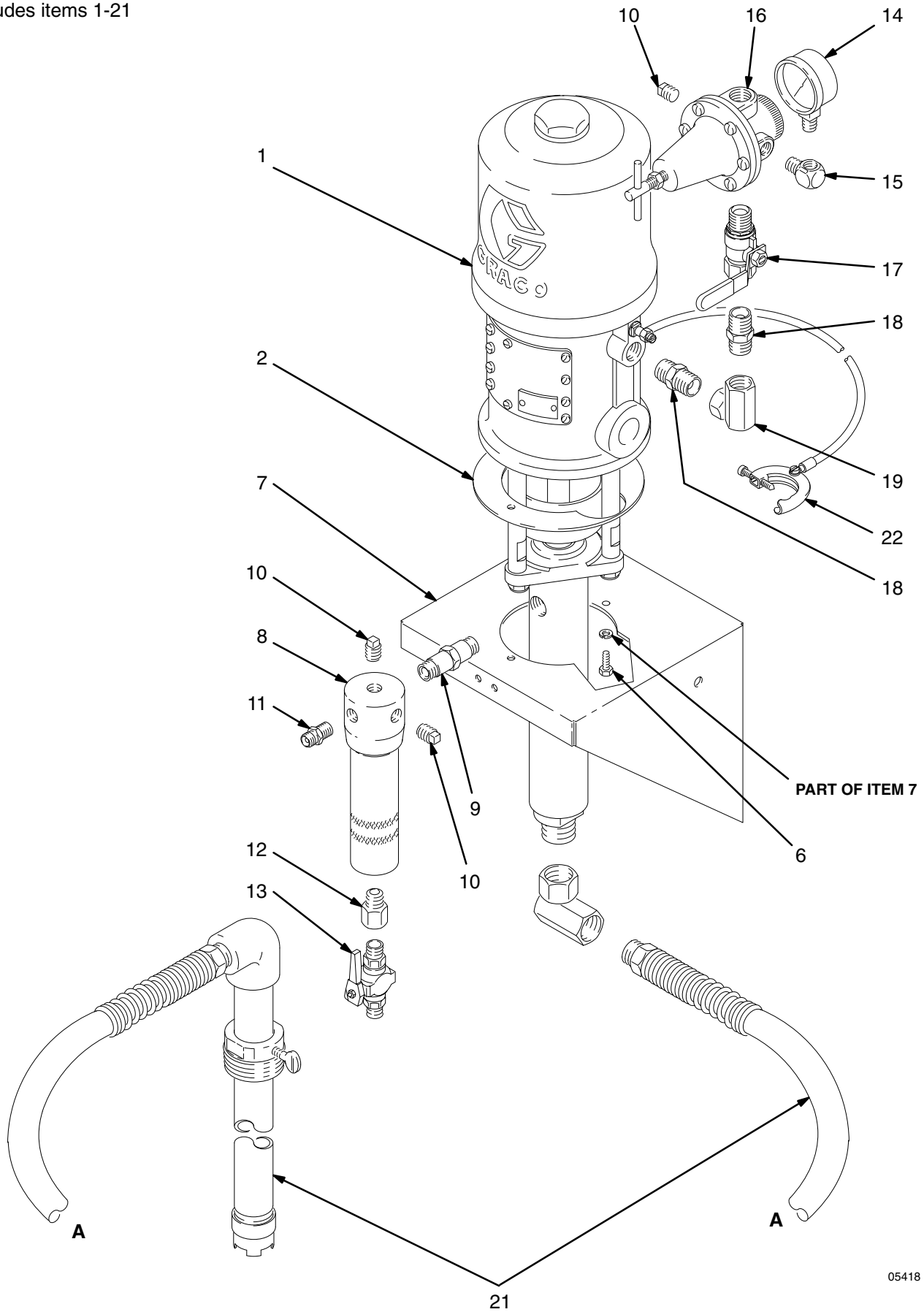
### Shutdown and Care

Always follow the **Pressure Relief Procedure Warning** on page 5 whenever you shut off the pump. Stop the pump at the bottom of its stroke to keep fluid from drying on the exposed displacement rod and damaging throat packings.

Always flush the pump with a compatible solvent before the fluid can dry on the displacement rod, and at the end of each day. If you are pumping water-based fluid, flush first with water and then with mineral spirits. If you are pumping oil-based fluids, flush with mineral spirits only. Relieve pressure and leave the mineral spirits in the pump to prevent corrosion.

# Parts Drawing

Model 222-268, Series A  
Includes items 1-21



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# Parts List

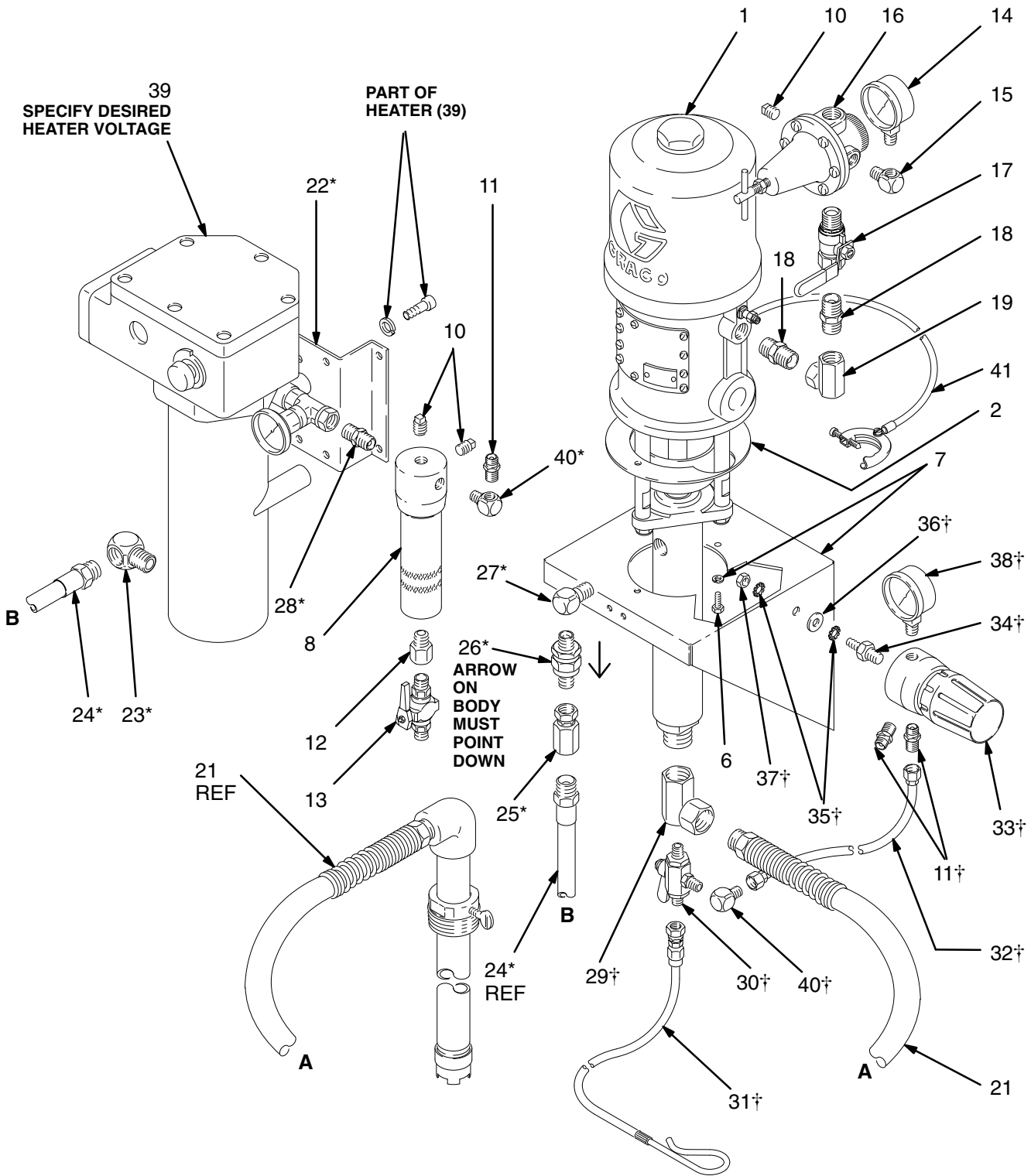
## Model 222-268, Series A

Includes items 1-21

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	223-586	30:1 PRESIDENT PUMP See 306-981 for parts	1	14	101-180	GAUGE, pressure, air; 0-200 psi (0-14 bar)	1
2	166-392	GASKET	1	15	187-357	ELBOW, street, 90°; 1/4 npt (m x f)	1
3	110-110	SEALANT, pipe, sst; 6 ml (not shown)	1	16	206-197	AIR REGULATOR 1/2 npt(f) inlet and outlet; 0-125 psi (0-9 bar) range	1
6	100-270	CAPSCREW, hex hd; 1/4-20 x 5/8" long	2	17	113-269	VALVE, air, bleed-type; 1/2 npt (m x f)	1
7	207-365	BRACKET, wall, pump See 306-783 for parts	1	18	158-491	NIPPLE; 1/2 npt	2
8	218-029	FLUID FILTER See 307-273 for parts	1	19	157-416	UNION, 90°; 1/2 npt(f) x 1/2 npsm(f) swivel	1
9	156-850	NIPPLE; 3/8 npt; 2.5" (64 mm) long	1	20	206-994	THROAT SEAL LIQUID (not shown)	1
10	100-509	PLUG, pipe, sq hd; 1/4 npt	3	21	208-259	SUCTION KIT	1
11	162-453	NIPPLE; 1/4 npt x 1/4 npsm	1	22	237-569	GROUND WIRE, assembly; 25 ft	1
12	150-286	ADAPTER; 3/8 npt (m x f)	1				
13	210-658	DRAIN VALVE; 3/8 npt(mbe) See 306-861 for parts	1				

# Parts Drawing

Model 221-123  
Includes items 1-40



05412



# Parts List

**Model 221-123**  
Includes items 1-40

REF NO.	PART NO.	DESCRIPTION	QTY
1	223-586	30:1 PRESIDENT PUMP See 306-981 for parts	1
2	166-392	GASKET	1
3	110-110*†	SEALANT, pipe, sst; 6 ml (not shown)	1
6	100-270	CAPSCREW, hex hd; 1/4-20 x 5/8" long	2
7	207-365	BRACKET, wall, pump See 306-783 for parts	1
8	218-029	FLUID FILTER See 307-273 for parts	1
10	100-509	PLUG, pipe, sq hd; 1/4 npt	3
11	162-453†	NIPPLE; 1/4 npt x 1/4 npsm	3
12	150-286	ADAPTER; 3/8 npt (m x f)	1
13	210-658	DRAIN VALVE; 3/8 npt(mbe) See 306-861 for parts	1
14	101-180	GAUGE, pressure, air; 0-200 psi (0-14 bar)	1
15	187-357	ELBOW, street, 90°; 1/4 npt (m x f)	1
16	206-197	AIR REGULATOR 1/2 npt(f) inlet and outlet; 0-125 psi (0-9 bar) range	1
17	113-269	VALVE, air, bleed-type; 1/2 npt (m x f)	1
18	158-491	NIPPLE; 1/2 npt	2
19	157-416	UNION, 90°; 1/2 npt(f) x 1/2 npsm(f) swivel	1
20	206-994	THROAT SEAL LIQUID (not shown)	1
21	208-259	SUCTION KIT	1
22	183-982*	BRACKET, wall, heater	1
23	158-683*	ELBOW, 90°; 1/2 npt (m x f)	1
24	235-022*	HOSE, fluid; nylon; 1/2" ID; cpld 1/2 npt (mbe); 3' (0.9 m) long	1
25	161-077*	UNION, adapter; 1/2 npt(f) x 3/8 npsm(f)	1
26	206-962*	CHECK VALVE; 3/8 npt (mbe)	1
27	155-699*	ELBOW, street, 90°; 3/8 npt (mbe)	1
28	156-849*	NIPPLE; 3/8 npt	1
29	166-998†	MANIFOLD, inlet; 1/4 npt(f) x 3/4 npt(f) x 3/4 npsm(f) swivel	1
30	214-711†	BALL VALVE, three-way; 1/4 npt(m) See 306-861 for parts	1
31	206-965†	HOSE, drain; nylon; 1/4" ID; cpld 1/4 npsm(f)	1
32	206-966†	HOSE; PTFE; 1/4" ID; cpld 1/4 npsm (fbe) swivel; 18" (457 mm) long	1
33	206-819†	REGULATOR, back pressure See 306-860 for parts	1
34	156-953†	STUD, mounting; 1/4 npt x 3/8 unc (mbe)	1
35	100-639†	LOCKWASHER; 3/8"	2
36	100-023†	WASHER, flat; 3/8"	1
37	100-307†	NUT, full, hex; 3/8-16 unc	1
38	102-814†	GAUGE, pressure, fluid 0-5000 psi (0-350 bar)	1
39	—	VISCON <sup>2</sup> HEATER Order desired voltage (see page 18)	1
40	100-840*†	ELBOW, street, 90°; 1/4 npt (m x f)	2
41	237-569	GROUND WIRE, assembly; 25 ft	1

\* Included in Heater Mounting Kit 222-269.

† Included in Circulating Kit 222-270.

## HEATER MOUNTING KIT 222-269

Required to convert Model 222-268 Cold Sprayer to a heated unit. The heater is not included in this kit and must be ordered separately, by desired voltage (see page 18). Kit consists of:

Ref. No.	Qty
3	1
22	1
23	1
24	1
25	1
26	1
27	1
28	1
40	1

**NOTE:** Part No. 100-081 Bushing is included in kit 222-269, but is not used with this pump.

## CIRCULATING KIT 222-270

Required to convert Model 222-268 Cold Sprayer to a circulating unit. The heater is not included in this kit and must be ordered separately, by desired voltage (see page 18). Kit consists of:

Ref. No.	Qty
3	1
11	2
29	1
30	1
31	1
32	1
33	1
34	1
35	2
36	1
37	1
38	1
40	1

# Accessories

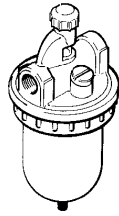
## USE GENUINE GRACO PARTS AND ACCESSORIES

### AIR LINE LUBRICATOR

250 psi (17.5 bar) MAXIMUM WORKING PRESSURE

214-848 1/2 npt inlet and outlet

214-849 3/4 npt inlet and outlet

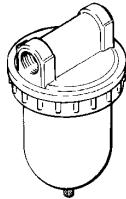


### AIR LINE FILTER

250 psi (17.5 bar) MAXIMUM WORKING PRESSURE

106-149 1/2 npt inlet and outlet

106-150 3/4 npt inlet and outlet



### STAINLESS STEEL AIRLESS SPRAY GUN

5000 psi (350 bar) MAXIMUM WORKING PRESSURE

208-327 .037" orifice, 2-finger trigger

208-663 .090" orifice, 2-finger trigger

208-664 .090" orifice, 4-finger trigger

220-954 .090" orifice, 2-finger trigger, RAC™ IV DripLess™ tip guard

### GROUNDING BUNA-N AIR SUPPLY HOSE

175 psi (12 bar) MAXIMUM WORKING PRESSURE

Part No.	ID	Length	Thd. Size
205-418	1/2" (13 mm)	6 ft (1.8 m)	1/2 npt(m)
205-216	1/2" (13 mm)	15 ft (4.5 m)	1/2 npt(m)
205-273	1/2" (13 mm)	25 ft (7.6 m)	1/2 npt(m)
208-594	1/2" (13 mm)	50 ft (15 m)	1/2 npt(m)

### BACK PRESSURE REGULATOR 206-819

3000 psi (210 bar) MAXIMUM WORKING PRESSURE

Use in circulating system fluid return line to regulate back pressure to gun and maintain proper circulating pressure.

### FLUID PRESSURE REGULATOR 206-661

3000 psi (210 bar) MAXIMUM WORKING PRESSURE

Use at each gun drop in multiple gun systems, to regulate fluid pressure to each gun.

### GROUNDING NYLON FLUID HOSE

3000 psi (210 bar) MAXIMUM WORKING PRESSURE

Part No.	ID	Length	Thd. Size
214-700	3/16" (4.8 mm)	2 ft (610 mm)	1/4 npsm (f) swivel
214-701	3/16" (4.8 mm)	3 ft (914 mm)	1/4 npt(m) x 1/4 npsm(f) swivel
223-540	1/4" (6.4 mm)	25 ft (7.6 m)	1/4 npsm (f) swivel
223-541	1/4" (6.4 mm)	50 ft (15.2 m)	1/4 npsm (f) swivel
214-703	3/8" (9.5 mm)	25 ft (7.6 m)	3/8 npt (m) be
214-705	3/8" (9.5 mm)	50 ft (15.2 m)	3/8 npt (m) be
214-920	3/8" (9.5 mm)	100 ft (30.4 m)	3/8 npt (m) be

### INSULATED HOSE KIT 222-263

3000 psi (210 bar) MAXIMUM WORKING PRESSURE

25 ft. (7.6 m) nylon fluid hose for use with heated systems. Includes in-line fluid filter, circulating manifold, and 3 ft. (0.9 m) whip hose.

### VISCON<sup>2</sup> FLUID HEATER

4000 psi (276 bar) MAXIMUM WORKING PRESSURE

Specify desired voltage when ordering (see below). Heater reduces fluid viscosity for easier spraying. Stainless steel. Refer to Instruction Manual 307-805.

Model 220-522 (120 V, single-phase, 16.7 Amp)

Model 220-523 (240 V, single-phase, 9.6 Amp)

Model 220-524 (480 V, single-phase, 4.8 Amp)

### VISCON<sup>2</sup> HEATER CORD 110-160

12 gauge, rated at 105° C.

**WARNING:** Not for use in hazardous areas containing flammable materials or fumes.

### HEATER CONVERSION KITS

Use to convert pump Model 222-268 to a heated spray system. See pages 16 and 17 for parts. Viscon<sup>2</sup> Heater must be ordered separately.

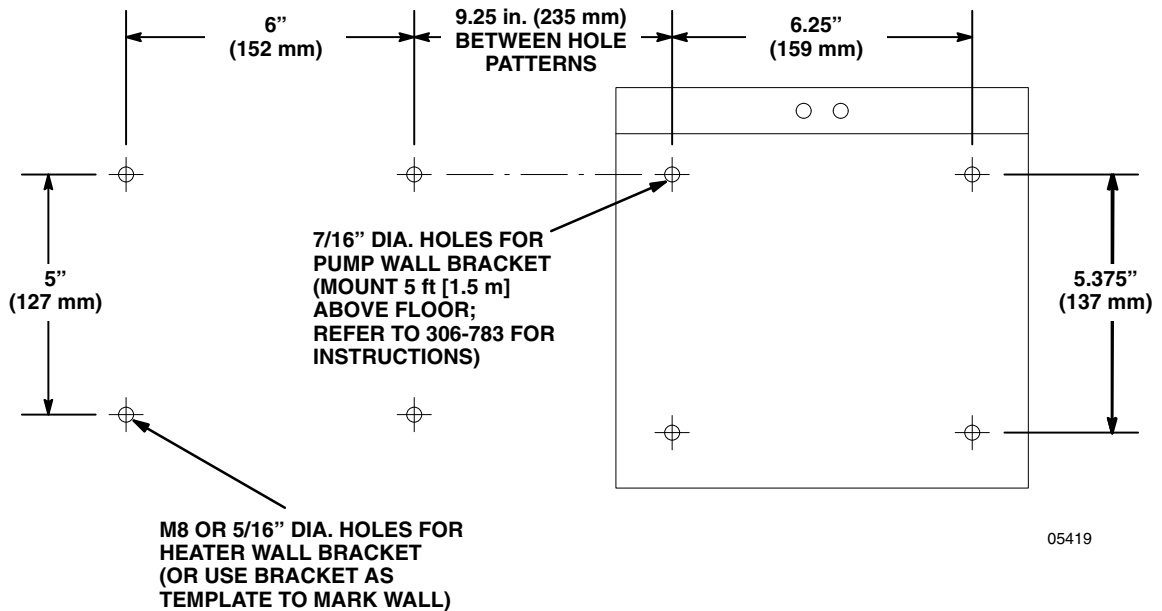
222-269 Heater Mounting Kit

222-270 Circulating Kit

### SST PIPE SEALANT 110-110

Apply to all non-swiveling pipe connections. 6 ml supply.

# Dimensions



## Technical Data

Maximum working pressure	3000 psi (210 bar)
Maximum incoming air pressure	100 psi (7 bar)
Ratio	30:1
Fluid flow at 60 cpm	1.0 gpm (3.8 liters/min)
Air consumption	approx. 23 scfm (0.79 m <sup>3</sup> /min) at 1.0 gpm (3.8 liter/min) flow rate at 70 psi (4.8 bar) air pressure
Wetted parts	See separate component instruction manuals
Sound Data*	
Sound Pressure Level	94 dB(A)
Sound Power Level	108 dB(A)
Weight	
222-268	65 lb
221-123	See weight of individual components
Maximum fluid temperature†	
222-268	180°F
221-123	180°F

\* Sound level measured at stated system conditions: 222-268 and 221-123; 100 psi air, at 60 cpm. Sound level measured per ISO 3744-1981.

† In most cases the hose is the limiting factor to the temperature factor to the temperature rating. For higher temperature applications, contact Graco or your local distributor for additional information.

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## Manual Change Summary

Added sound level data to comply with CE marking requirements. Added technical data. Added temperature ratings for 223-540 and 222-263 hoses. Added a thermal expansion warning. Replaced old warnings with new warnings. Changed manual to one color. Replaced scanned art with electronically drawn art. Added ground wire assembly 237-569 to bill of materials of 222-268 and 221-123. Deleted grounding clamp 103-538 and ground wire 208-950 from accessories. Replaced bleed-type air valve 107-142 with bleed-type air valve 113-269.

# The Graco Warranty and Disclaimers

## WARRANTY

Graco warrants all equipment manufactured by it 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. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven 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, 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 with Graco equipment of 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 claim. 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.

## DISCLAIMERS AND LIMITATIONS

THE TERMS OF THIS WARRANTY CONSTITUTE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND ARE IN LIEU OF ANY OTHER WARRANTIES (EXPRESS OR IMPLIED), INCLUDING WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY NON-CONTRACTUAL LIABILITIES, INCLUDING PRODUCT LIABILITIES, BASED ON NEGLIGENCE OR STRICT LIABILITY. EVERY FORM OF LIABILITY FOR DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS IS EXPRESSLY EXCLUDED AND DENIED. IN NO CASE SHALL GRACO'S LIABILITY EXCEED THE AMOUNT OF THE PURCHASE PRICE. ANY ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN TWO (2) YEARS OF THE DATE OF SALE.

## EQUIPMENT NOT COVERED BY GRACO WARRANTY

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motor, 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.

# Graco Phone Numbers

**TO PLACE AN ORDER**, contact your Graco distributor, or call this number to identify the distributor closest to you: **1-800-367-4023 Toll Free**

**FOR TECHNICAL ASSISTANCE**, service repair information or assistance regarding the application of Graco equipment: **1-800-543-0339 Toll Free**

**Sales Offices:** Atlanta, Chicago, Detroit, Los Angeles  
**Foreign Offices:** Belgium, Canada, England, Korea, Switzerland, France, Germany, Hong Kong, Japan

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