



INSTRUCTIONS

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

First choice when quality counts.™

FOR SUPPLYING ONE OR TWO AIR SPRAY GUNS

## Prince™ Air Powered Diaphragm Pump

*0.7 MPa, 7 bar (100 psi) Maximum Working Pressure*

### Model 214826, Series C

Basic portable sprayer

### Model 226928

Portable sprayer with air and fluid hoses,  
Series 700 spray gun, and atomizing air regulator

### Model 214827, Series B

Basic wall-mounted sprayer

### Model 226929

Wall-mounted sprayer with air and fluid hoses, spray  
gun, and atomizing air regulator

### Model 223837, Series A

Basic portable sprayer

### Model 223838

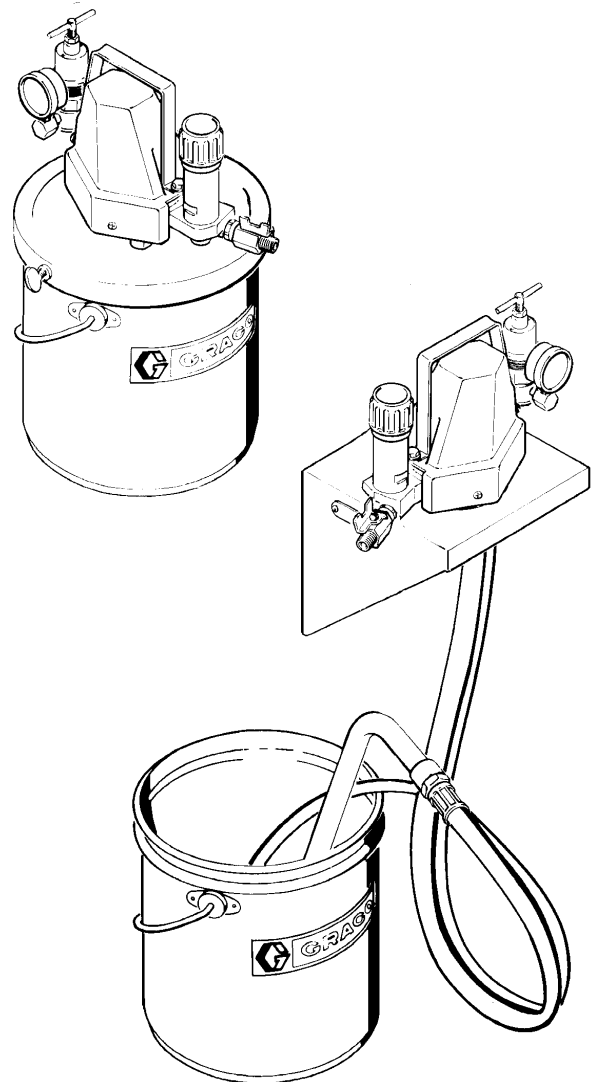
Portable sprayer with atomizing air regulator

### Model 223839

Portable sprayer with 7.6 m (25 ft) air and fluid hoses,  
Series 800 spray gun, 25W air cap, and atomizing air  
regulator

### Model 224269, Series A

Same as 223839 except has 15.2 m (50 ft) hoses



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# 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 corresponding instructions.

# ! WARNING



## PRESSURIZED FLUID 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 stop or deflect fluid leaks with your hand, glove, or rag.
- Follow the **Pressure Relief Procedure** on page 7 before cleaning, checking, or servicing the equipment.
- Tighten all fluid connections before each use.
- Check the hoses, tubes, and couplings daily. Replace parts immediately if worn, damaged, or loose. Permanently coupled hoses cannot be repaired.



## FIRE AND EXPLOSION HAZARD

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

- Ground the equipment, the object being sprayed, and all other electrically conductive objects in the spray area. See **Grounding** on page 6.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable vapors from the solvent or the fluid being sprayed.
- Do not smoke in the spray area.
- Extinguish all open flames or pilot lights in the spray area.
- Do not turn on or off any light switch in the spray area.
- Electrically disconnect all equipment in the spray area.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Do not operate a gasoline engine in the spray area.

# WARNING



INSTRUCTIONS



## EQUIPMENT MISUSE HAZARD

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

- This equipment is for professional use only.
- Read all the 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 the equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. This package has a **100 psi (0.7 MPa, 7 bar) maximum working pressure**.
- Use fluids that are compatible with the equipment wetted parts. See the **Technical Data** section of all the equipment manuals. Read the fluid manufacturer's warnings.
- *Aluminum pumps only:* Never use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use could result in a chemical reaction, with the possibility of explosion.
- Route the 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).
- Do not use the hoses to pull equipment.
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and other safety regulations.



## TOXIC FLUID HAZARD

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

- Know the specific hazards of the fluid you are using. Read the fluid manufacturer's warnings.
- Store hazardous fluid in an approved container. Dispose of the hazardous fluid according to all local, state, and national guidelines.
- Wear appropriate protective clothing, gloves, eyewear, and respirator.
- If the pump diaphragm fails, hazardous fluid may be exhausted along with the air.

# Typical Installation

## KEY FOR FIGS. 1 AND 2

100 series numbers (i.e., 116) are included with the complete Portable Sprayer Model 226928 or 223839.

200 series numbers (i.e., 221) are included with the complete Wall-Mounted Sprayer Model 226929.

Two digit numbers (i.e., 35) are included in the basic sprayers.

Alpha characters (i.e., A) are accessories and must be purchased separately.

22	Basic pump	123 –	Pail cover
35	Accumulator	– 234	Plastic tie
104 –	Pail	136/236	Air spray gun
109/209	Air regulator	137/237	Air hose
– 212	Suction hose	138/238	Fluid hose
– 213	Drain hose	139/239	Air atomizing kit
– 214	Suction tube	A	Bleed-type master air valve
116/216	Gauge	B	Air filter
120/220	Manifold	C	Ball valve
121/221	Ball valve	D	Fluid regulator

## Model 226928 or 223839, Portable Sprayer

Includes Basic Pump Model 214826 or 223837, air and fluid hoses, spray gun, and atomizing air regulator.

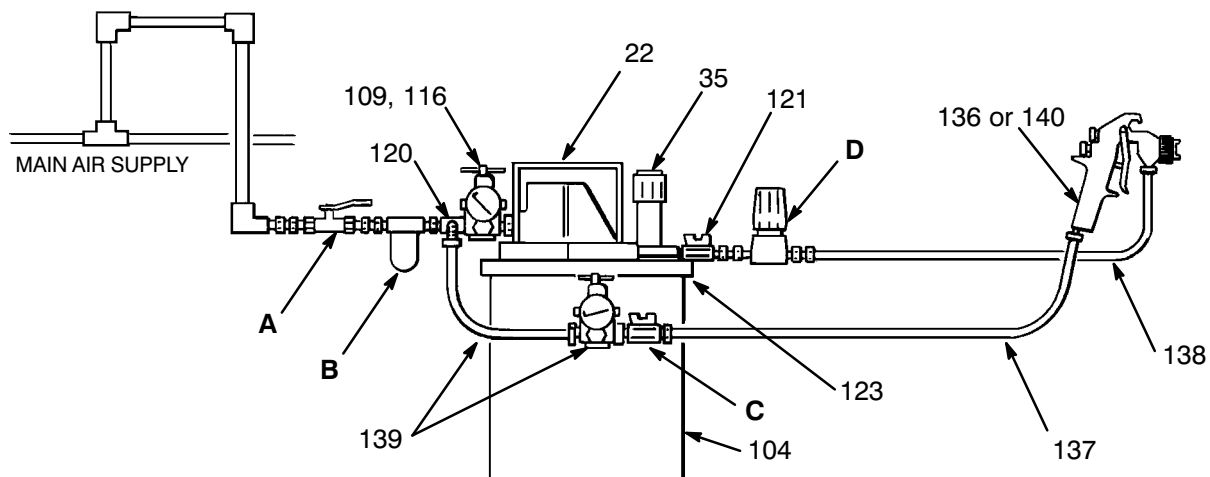


Fig. 1

# Typical Installation

## Model 226929, Wall-mounted Sprayer

Includes Basic Pump Model 214827,  
air and fluid hoses, spray gun, and atomizing air regulator.

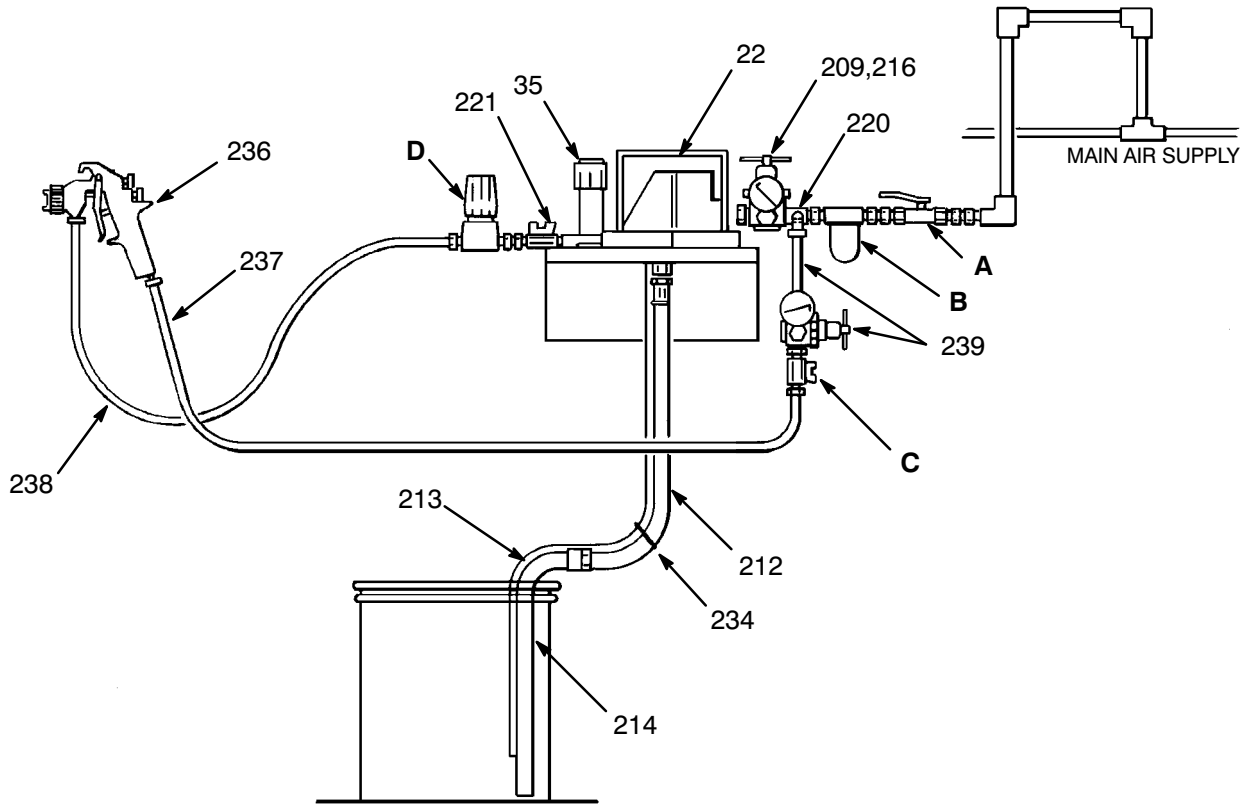


Fig. 2

## ACCESSORY CIRCULATION KIT 215222

For use with 214826 or 226928 sprayer.

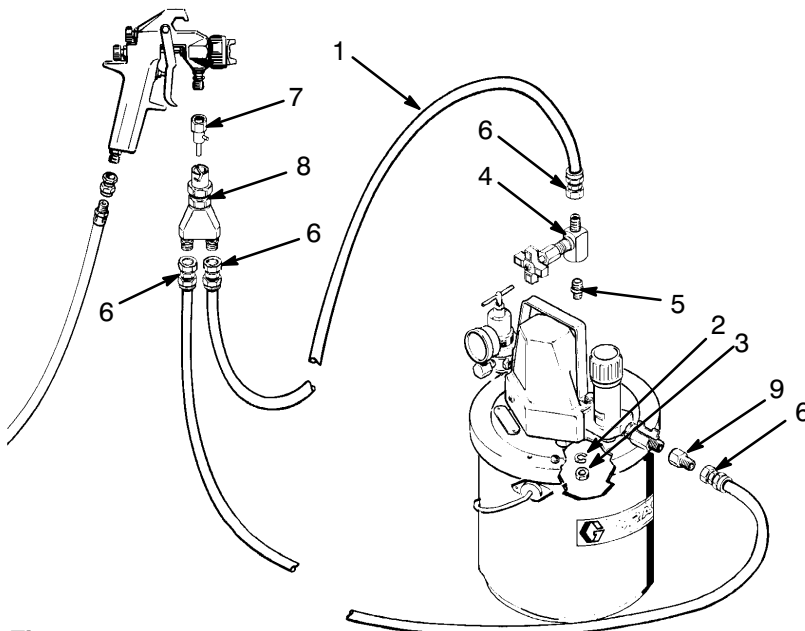


Fig. 3

Ref No	Part No.	Description	Qty
1	061132	HOSE, nylon, 1/4 in. ID, 30 ft (9 m) long	1
2	101390	LOCKWASHER, 3/8 in.	1
3	101731	LOCKNUT, 3/8 npt	1
4	102715	NEEDLE VALVE, 1/4 npt(f x m)	1
5	165198	NIPPLE, reducing, 3/8 npt to 1/4 npt	1
6	205447	COUPLING, hose	4
7	208087	COUPLER, twist lock; see manual 307016	1
8	210017	COUPLER, twist lock; see manual 307016	1
9	150287	BUSHING, 3/8 npt(f) x 1/4 npt(m)	1

# Installation

## All Sprayers

Connect the air and fluid hoses as shown in Figs. 1, 2, and 3.

### ⚠ WARNING

A bleed-type master air valve (A) is required in your system to help reduce the risk of serious bodily injury, including splashing in the eyes and injury from moving parts, if you are adjusting or repairing the pump. This valve relieves air trapped between itself and the pump after the air regulator is shut off. Trapped air can cause the pump to cycle unexpectedly. Locate the valve close to the pump.

Install a bleed-type master air valve (A, required) on the main air line to shut off and relieve air pressure to the pump. Install an air filter (B) to remove harmful contaminants from the compressed air supply.

## Wall-Mounted Sprayer

Connect the drain hose (213), suction hose (212), and suction tube (214) as shown in Figs. 2 and 4. Secure the drain hose to the suction hose with plastic ties (234).

Locate the fluid container under the sprayer and place the suction tube (214) and drain hose (213) into the container.

## Portable Sprayer

Connect the air and fluid hoses as shown in Fig. 1, or in Fig. 3 if Circulation Kit 215222 is used. Install the gun (136 or 140).

Setup options:

- Remove the pump from the pail (104) and place it on a full pail of fluid.
- Pour the fluid into the pail (104).
- Place the fluid container into the pail (104).

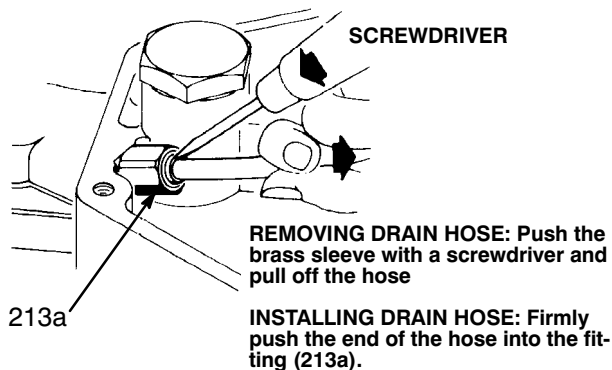


Fig. 4

## Ground the Sprayer

Static electricity is created by the high velocity flow of fluid through the pump and hose. When the static electricity is discharged, sparking occurs. Sparks can ignite vapors from solvents, the fluid being sprayed, dust particles, and other flammable substances, resulting in fire or explosion and serious bodily injury.

In a lower pressure system, static sparking is generally not a problem. However, some simple precautions should be taken to reduce the risk. Check your local fire code for detailed grounding instructions for your area and type of equipment, and ground all of this equipment.

1. *Pump:* connect a ground wire and clamp (supplied) to a true earth ground. **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 lug (Z) and tighten the locknut securely. See Fig. 5. Connect the other end of the wire to a true earth ground. Refer to the **Accessories** on page 18 to order a ground wire and clamp.
2. *Air compressor:* according to the manufacturer's recommendations.
3. *Object being sprayed:* according to local code.
4. *All solvent pails used when flushing:* according to local code. Use only metal pails, which are conductive. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.
5. *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a grounded metal pail, then trigger the gun.

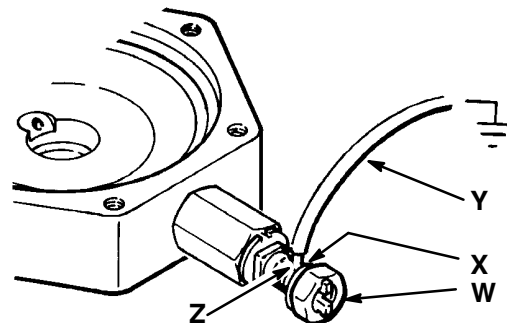


Fig. 5

# Operation

## Pressure Relief Procedure

To reduce the risk of serious bodily injury, including splashing fluid or solvent in the eyes or on the skin, or injury from moving parts, always follow this procedure when shutting off the pump, and before checking or repairing any part of the pump or spray system.

1. Shut off the main air supply.
2. Close the air regulator and the bleed-type master air valve (required in your system).
3. Trigger the gun to relieve fluid pressure.

*If you suspect that pressure is not fully relieved, hold the flats of the accumulator body with a wrench and unscrew the accumulator cap (35) two turns **maximum** to relieve fluid pressure. See the parts drawing on page 16.*

## Prepare the Fluid

Prepare the fluid according to the manufacturer's instructions. If an agitator is not used, carefully mix the fluid before use.

Some lightweight oil remains in the pumps after factory testing to prevent corrosion. If the oil will contaminate the fluid you are spraying, flush it out with a solvent compatible with the fluid to be pumped. The first few cycles will usually remove the oil.

### **WARNING**

Many fluids are flammable and/or toxic. Follow the manufacturer's instructions on using the fluid and on wearing protective clothing and equipment. Be sure the fluids you use are compatible with the pump's wetted parts. See page 20.

## All Sprayers

Turn all regulators fully counterclockwise. Open the bleed-type master air valve (A) to the pump and increase the pressure at the air regulator (209) to make the pump work slowly. Open the fluid regulator (D). Direct the gun nozzle into the pail. Open the fluid outlet shutoff valve (221) and trigger the gun (236) – *without atomizing the air* – until the fluid flows smoothly from the gun.

**NOTE:** For easier priming of heavy fluid, unscrew the accumulator cap (35) two turns **maximum**. If the cap is unscrewed more than four turns, leakage may occur.

### **WARNING**

To reduce the risk of unscrewing the accumulator body from the lower housing, which could cause serious bodily injury, **always** hold the flats of the accumulator body with a wrench as you loosen the accumulator cap.

### **WARNING**

To reduce the risk of overpressurizing the system, which could result in component rupture and cause serious bodily injury, **never** exceed 7 bar (100 psi) *maximum incoming air pressure* to the pump.

Open the atomizing air regulator (239) to the gun. Always use the lowest air pressure for a good spray pattern. Higher pressures cause premature spray tip and pump wear.

Use a fluid regulator (D) if pump pulsations affect the spray pattern or if the fluid pressure required is less than 1 bar (15 psi).

# Operation

WALL-MOUNTED SPRAYER SHOWN

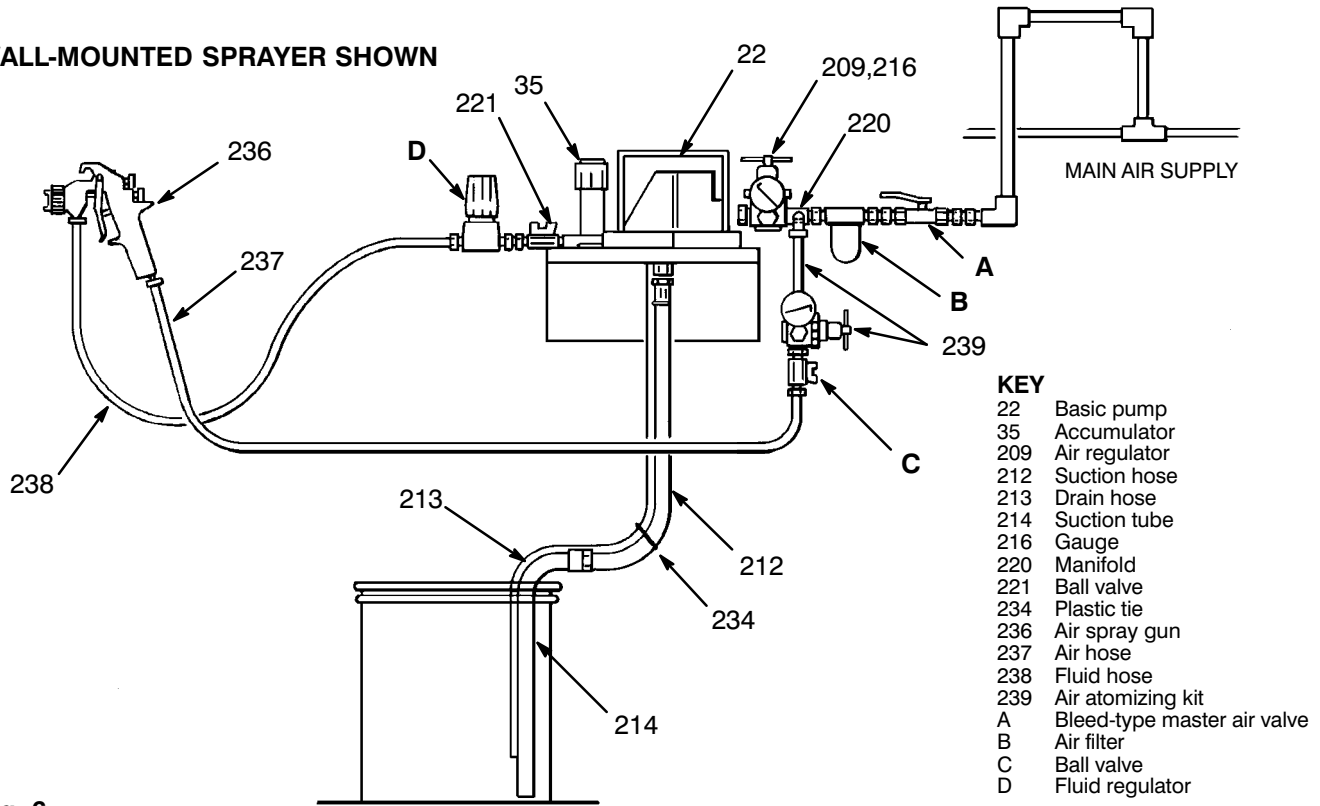


Fig. 6



# Operation

## Accumulator

The accumulator's air chamber dampens pressure pulses when the pump cycles. It can also regulate how much fluid goes to the pump and how much is sent to the fluid container.

Unscrew the accumulator cap (35) two turns **maximum** to drain the fluid back to the pail or container. Unscrewing the cap opens the air chamber to the drain line.

To help keep the fluid moving and in suspension, only partially unscrew the accumulator cap. Then just part of the fluid goes back to the pail and the rest goes to the gun. Note that the more fluid you send back to the pail, the less pressure is available for spraying.

## Daily Shutdown

Follow the **Pressure Relief Procedure** on page 7. Unscrew the accumulator cap (35) one turn and immerse the gun nozzle (only) in solvent. Keep the pump filled with fluid to reduce the need for flushing. Don't disconnect the hoses or gun.

**NOTE: When using a fast drying fluid, flush immediately!** Leave the pump full of solvent and immerse the suction tube, drain hose, and nozzle in a container of solvent. Make sure all fluid and air pressure has been relieved.

When starting the pump, make sure the pump is **free of all solvent** before placing it in the fluid to be sprayed. Run the sprayer for a minute or two with the accumulator cap unscrewed one turn to ensure a good mix.

## Cleaning

### **WARNING**

Many fluids are flammable and/or toxic. Follow the manufacturer's instructions on using the fluid and on wearing protective clothing and equipment. Be sure the fluids you use are compatible with the pump's wetted parts. See page 20.

1. Reduce the air pressure to the pump. Shut off the atomizing air valve (C) to the gun.
2. Wall-Mounted Pump. Take the suction tube (214) and drain hose (213) out of the fluid.  
  
Portable Sprayer. Remove the sprayer from the pail.
3. Direct the gun nozzle into the pail and trigger it until the fluid stops flowing. Relieve all air pressure to the sprayer by closing the bleed-type master air valve (A).
4. Place the suction tube and drain hose into a container of compatible solvent. Open the bleed-type master air valve (A) to the pump.
5. Direct the gun into the container and trigger it – *without atomizing the air* – until fluid coming from the gun is clean.
6. Direct the gun towards the suction tube and drain hose to clean them.
7. Release the gun trigger. Screw the accumulator cap all the way in. Then unscrew the accumulator cap two turns, which fully opens the air chamber to the drain line. Operate the pump for 12 cycles. Then screw the accumulator cap fully in and purge the pump, several times, if necessary. Be sure to relieve all air and fluid pressure.
8. Clean the outside of the pump with a solvent-dampened rag.

### **CAUTION**

To avoid corrosion, **never** store the sprayer with ketone solvent or water in it. If ketone solvent or water has been used, flush the sprayer with mineral spirits before storage.

# Troubleshooting

## WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 7.

1. **Relieve the pressure.**
2. Check all possible causes and problems before disassembling the pump.

Problem	Cause	Solution
Pump doesn't start	Air valve in valve body (4e) is worn or stuck	Remove, clean, or replace.
	Damaged rocker arm (31)	Remove, clean, or replace.
	Not enough air pressure	Increase.
	Exhaust muffler (51) plugged or iced	Clean; use air filter.
Continuous leaking at exhaust	Air valve in valve body (4e) is worn or stuck	Remove, clean, or replace.
	Exhaust muffler (51) plugged or iced	Clean; use air filter.
Pump stops while gun is triggered	Damaged rocker arm (31)	Remove, clean, or replace.
	Accumulator cap (35) is screwed out too far	Tighten.
	Intake valve (3) is dirty or worn	Clean or replace.
	Outlet valve (2) is dirty or worn	Clean or replace.
Pump operates but no output	Fluid container is empty	Fill.
	Accumulator cap (35) is loose	Tighten.
	Intake valve (3) is dirty or worn	Clean or replace.
	Outlet valve (2) is dirty or worn	Clean or replace.
Pump operates but output is low	Not enough air pressure	Increase.
	Exhaust muffler (51) is plugged or iced	Clean; use air filter.
	Accumulator cap (35) is screwed out too far	Tighten.
	Intake valve (3) is dirty or worn	Clean or replace.
	Outlet valve (2) is dirty or worn	Clean or replace.

# Troubleshooting

Problem	Cause	Solution
Excessive surges	O-ring (37) is worn or damaged	Replace.
	Outlet valve (2) is worn	Clean or replace.
	Not enough air pressure	Increase.
	Exhaust muffler (51) is plugged or iced	Clean; use air filter.
Leaking at the accumulator cap	O-ring (37) is worn or damaged	Replace.
Air escaping through gun after pump stops	Diaphragm (13) is damaged	Replace.
Leaking at the diaphragm (13) or at the stem (16)	O-ring (14) is worn	Replace.

**NOTE:** Metric and U.S. sized wrenches are needed to service the pump.  
To remove the drain tube, see Fig. 4, page 6.

# Service

**NOTE:** To reduce down time, have repair parts available. See Repair Kit 214835 and 220238.

## **Rocker Arm Refer to Fig. 8.**

1. Clean pump as instructed in **Operation** section.
2. Disconnect the air hose from the air regulator. Refer to Fig. 1 or 2.
3. Remove the exhaust muffler (51), air regulator (109 or 209), handle (47), and cover (45).
4. Remove the two retaining rings (33) from the pin (32). Push the rocker arm (31) down. Remove the pin (32) and then the rocker arm. Clean and inspect all parts; replace if necessary.
5. Reassemble. Grease all the joints of the rocker arm (31) with lubricant such as motorcycle chain lube or STP®.

## **Air Valve Refer to Fig. 7.**

1. Follow steps 1 to 4 of **Rocker Arm**, above.
2. Remove the air regulator from the pump air inlet fitting. Refer to Fig. 1 or 2.
3. Unscrew the locknut (4p).
4. Unscrew and remove the valve assembly (4). Remove the stem (4m) from the body (4e). Remove the washer (4n) and the two o-rings (4j) from the inside grooves of the valve body.
5. Clean and carefully inspect all parts for wear or damage; check the rubber poppet (4k) and the o-rings (4f & 4g) in the outside grooves of the valve body. Replace parts as needed.
6. Reassemble the air valve (4). Be careful when inserting the stem (4m) into the valve body (4e) to avoid damaging the o-rings (4j).
7. Install the air valve assembly on the pump. Be sure the rocker arm (31) is set on the toggle pin (30). Move the rocker arm to make sure the stems (16 and 4m) move freely in the center of the retainer (18) and the valve body (4e) walls.
8. Reassemble the pump. Grease all the joints of the rocker arm (31) with lubricant such as motorcycle chain lube or STP®.

## **Diaphragm Refer to Fig. 7.**

The diaphragm (13) has a long working life. Most problems occur from dirt and lack of lubrication. Do not disassemble the diaphragm unless it is really necessary. Check the possible causes of the problem in the Troubleshooting Chart.

1. Follow steps 1 to 4 of **Rocker Arm**, to the left.
2. Use a 5 mm hex wrench to unscrew the six capscrews (6) from the upper housing (5). Remove the upper housing from the lower housing (1).
3. Hold the flats of the diaphragm stem (16) with a wrench, and unscrew the capscrew (10) from the bottom of the lower housing (1).
4. Remove the two plates (12) from the diaphragm (13).
5. Thoroughly grease the diaphragm stem (16), o-ring (14), and center hole of the upper housing (5).
6. Carefully slide the stem (16) into the spring retainer (18), shuttle (19), spring (15), and upper housing (5). Secure the clip (17).
7. Place the diaphragm (13) between the two plates (12) with its PTFE (**shiny**) side facing down towards the fluid inlet. Be sure the side of the plates with the **rounded edge is facing towards the diaphragm**, allowing the diaphragm to flex with less wear.
8. Place the gasket (11) over the capscrew (10). Apply Loctite® 242 or the equivalent to the capscrew threads. Screw the capscrew into the diaphragm stem (16). Torque it to 17 N•m (12 ft-lb).
9. Reassemble the pump. Install the six capscrews (6), and torque them oppositely and evenly to 7 N•m (5 ft-lb).
10. Grease all the joints of the rocker arm (31) with lubricant such as motorcycle chain lube or STP®.

# Service

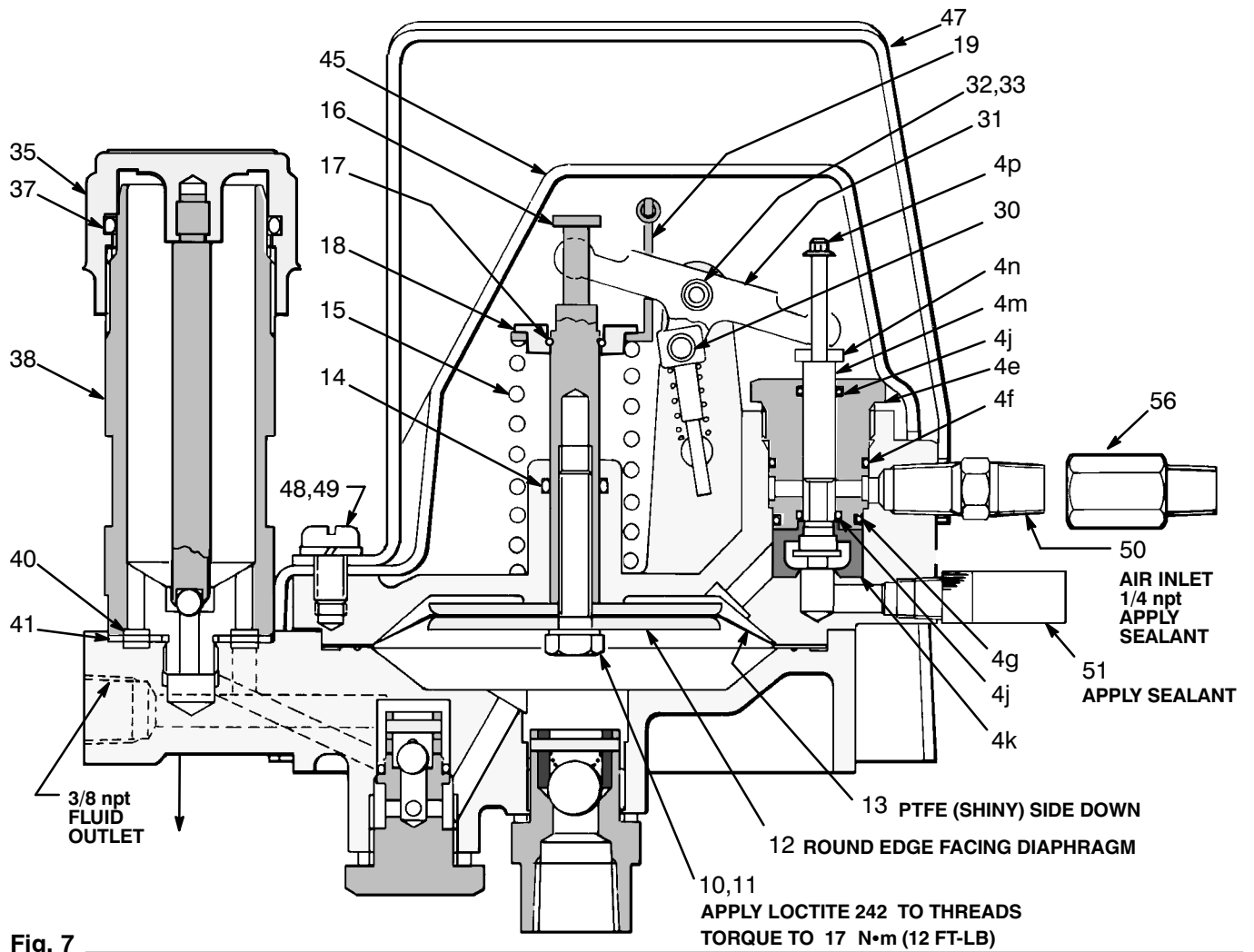


Fig. 7

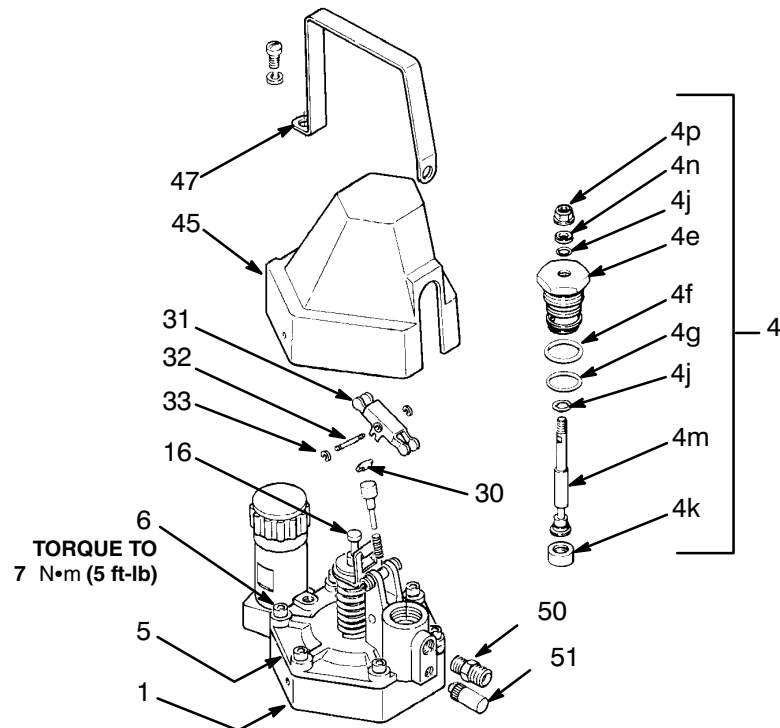
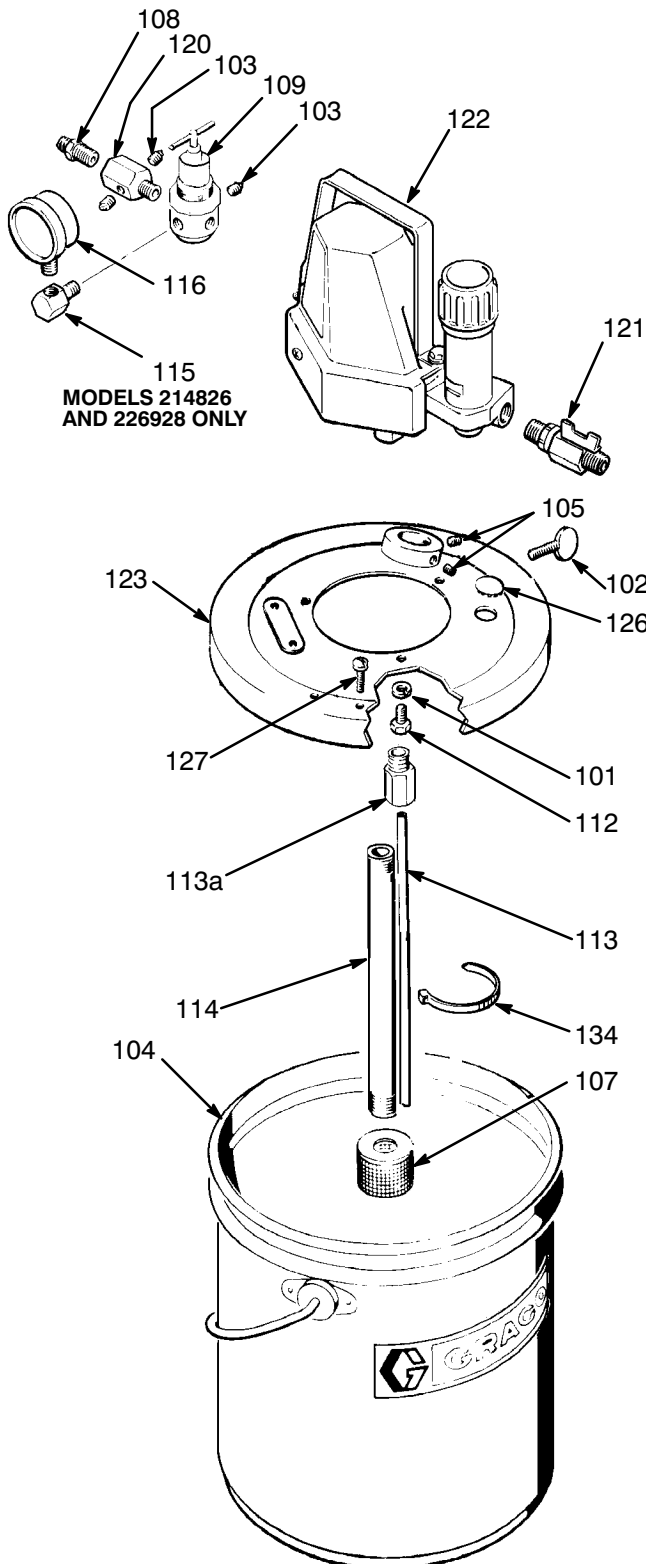


Fig. 8

# Portable Sprayer Parts

**Model 214826** Includes items 101 – 134

**Model 223837** Includes items 101 – 134



Ref No.	Part No.	Description	Qty
101	100016	LOCKWASHER, 1/4 in.	3
102	100220	SCREW, thumb, 5/16-18 x 1 in.	3
103	100403	PLUG, pipe, 1/8 nptf	3
104	101108	PAIL	1
105	101962	SCREW, set, 1/4-20 x 3/8 in.	2
107	187146	STRAINER <i>Model 214826</i>	1
108	162485	NIPPLE, 3/8 npt x 3/8 npsm	1
	164672	NIPPLE, 3/8 nt x 1/4 nspm	1
109		AIR REGULATOR, 0-4 bar (0-60 psi), 21 bar (300 psi) maximum inbound air <i>see manual 308167 for parts</i>	1
	104815	<i>For Model 214826</i>	1
	110341	<i>For Model 223837</i>	1
112	104966	SCREW, hex hd, M6 x 1.0	3
113	220407	HOSE, drain includes, item 13a	1
113a	108503	.FITTING, tube, 1/8 npt	1
114	183086	TUBE, suction	1
115	158962	ELBOW, street, <i>Model 214826 only</i>	1
116		GAUGE, air pressure, 0-7 bar (0-100 psi)	1
	160430	<i>For Model 215826</i>	1
	108190	<i>For Model 223837</i>	1
120	176242	MANIFOLD	1
121	208393	VALVE, ball, 3/8 npt(mbe)	1
122	963685	BASIC PUMP, <i>see page 16 for parts</i>	1
123	214828	COVER, pail	1
126	102521	PLUG	1
127	102790	SCREW, slot head, 10-24 x 3/4 in.	2
134	103473	TIE, plastic	1

**Model 226928** Includes items 135 – 139

**Model 223839** Includes items 137-141, 145

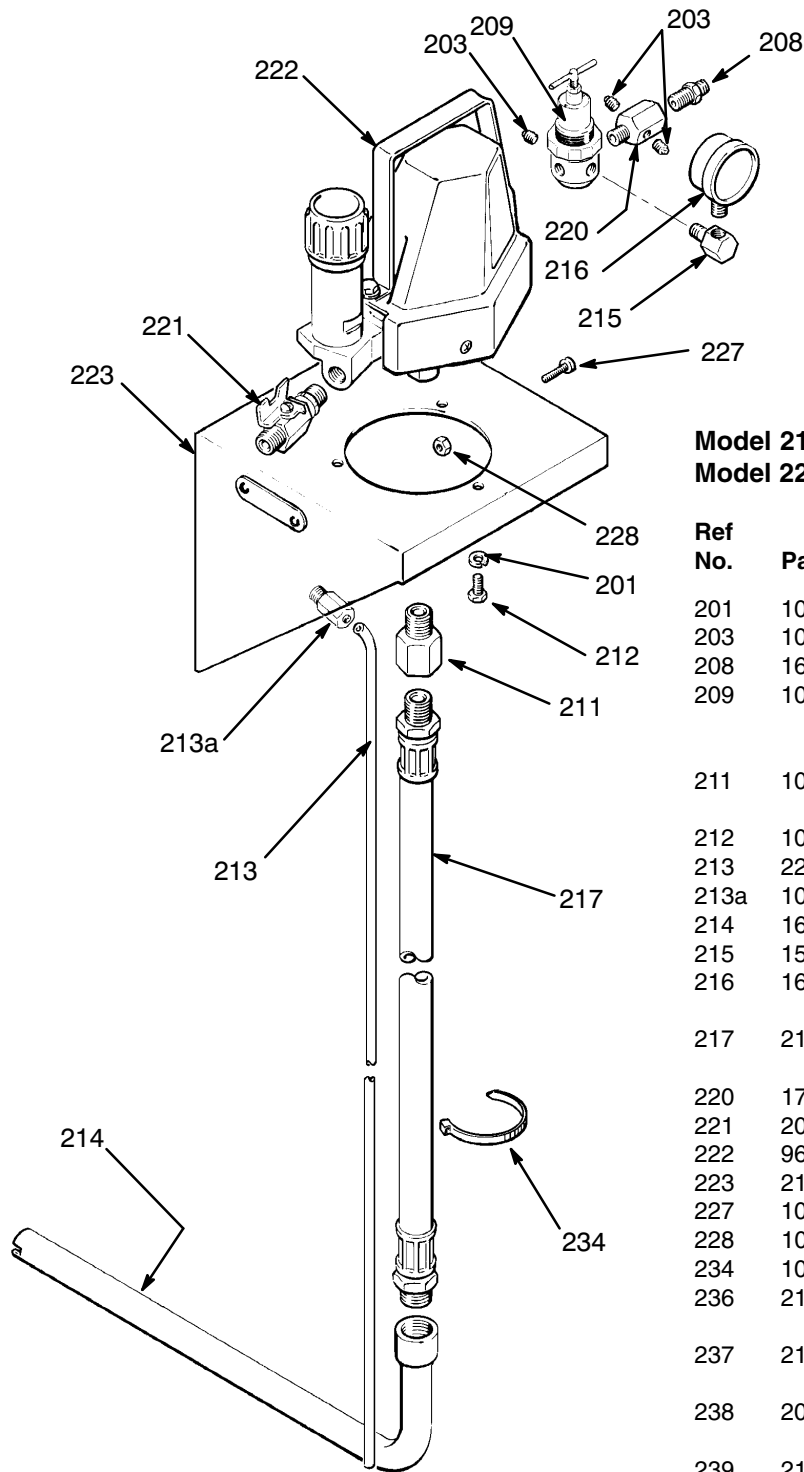
**Model 223838** Includes items 139, 141

**Model 224269** Includes items 139-145

Ref No.	Part No.	Description	Qty
135	214826	SPRAYER, <i>see parts list above</i>	1
136	217750*	SPRAY GUN, Series 700, with 1.2 mm (.047 in.) orifice tip, <i>see manual 307452 for parts</i>	1
137	210867*	HOSE, air, 8 mm (5/16 in.) ID, cpld 1/4 npsm, 7.6 m (25 ft) long	1
138	205142*	HOSE, fluid, 9.5 mm (3/8 in.) ID, cpld 3/8 npsm, 7.6 m (25 ft) long	1
139	214882	AIR ATOMIZING REGULATOR KIT <i>see page 18 for parts</i>	1
140	217832*	SPRAY GUN, Series 800 <i>see manual 307380</i>	1
141	223837	SPRAYER, <i>see parts list above</i>	1
143	210868*	HOSE, fluid, cpld 1/4 npsm, 8 mm (5/16 in.) ID, 15.2 m (50 ft) long	1
144	205143*	HOSE, fluid, cpld 3/8 npsm, 9.5 mm (3/8 in.) ID, 15.2 m (50 ft) long	1
145	110818*	AIR CAP, 25W	1

\*Items not shown. Refer to Typical Installation Drawings.

# Wall-Mounted Sprayer Parts

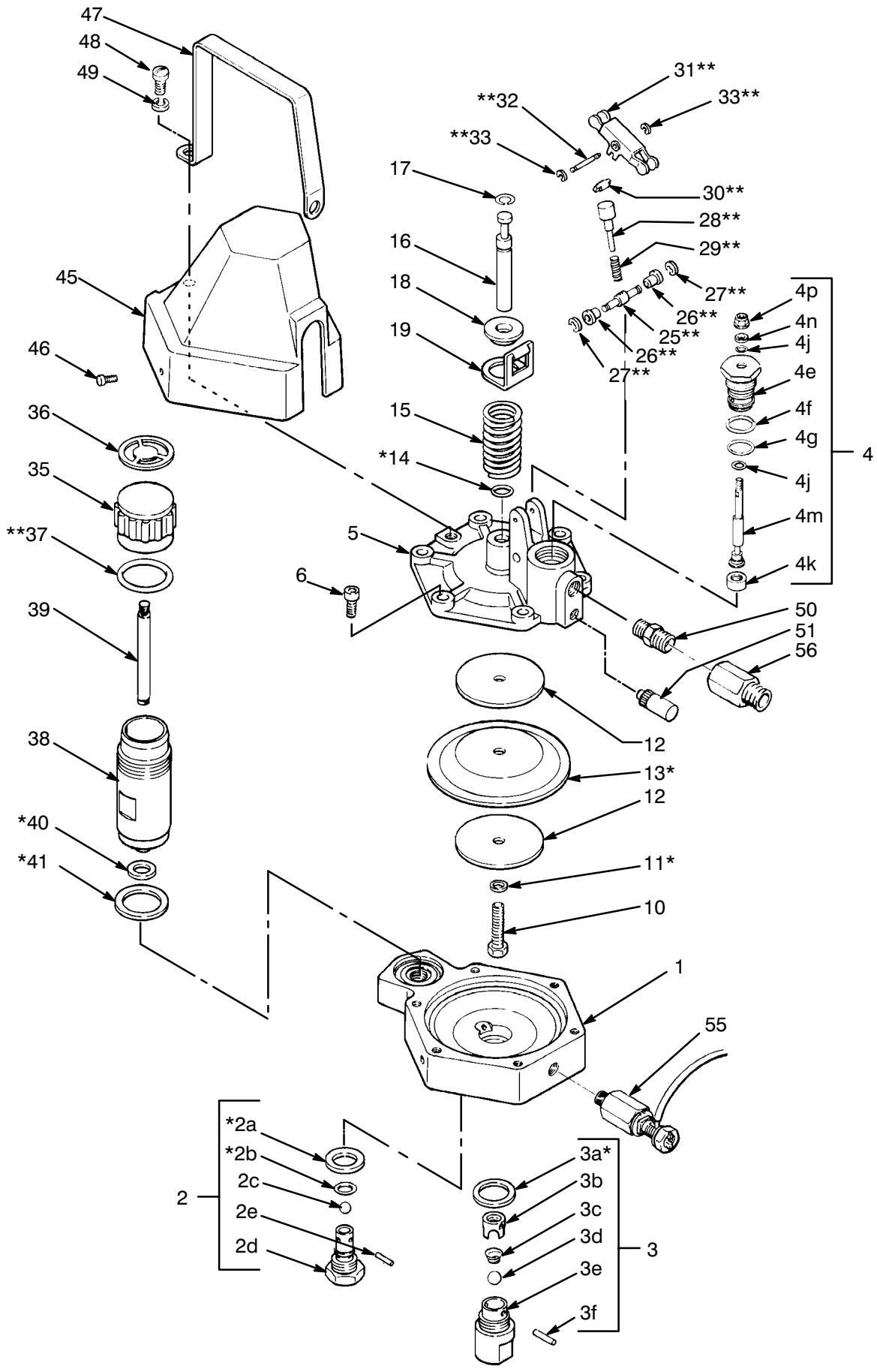


**Model 214827** Includes items 201–234

**Model 226929** Includes items 201–239

Ref No.	Part No.	Description	Qty
	201	LOCKWASHER, 1/4 in.	3
	203	PLUG, pipe, 1/8 npt(f)	3
	208	NIPPLE, 3/8 npt(m) x 3/8 npsm	1
	209	AIR REGULATOR, 0–4 bar (0–60 psi), 21 bar (300 psi) max. inbound air <i>see 308167 for parts</i>	1
	211	BUSHING, reducing, 1/2 npt(m) x 3/4 npt(f)	1
	212	SCREW, hex hd, M6 x 1.0	3
	213	HOSE, drain includes item 9a	1
	213a	. FITTING, tube, 1/8 npt	1
	214	TUBE, suction	1
	215	ELBOW, street, 1/4 npt(f) x 1/8 npt(m)	1
	216	GAUGE, air pressure, 0–7 bar (0–100 psi)	1
	217	SUCTION HOSE, static free, 3/4 in. ID, 1 m (3.5') 3/4 npt(mbe)	1
	220	MANIFOLD	1
	221	BALL VALVE, 3/8 npt	1
	222	BASIC PUMP, <i>see page 16 for parts</i>	1
	223	BRACKET, pump mounting	1
	227	SCREW, slotted head, 10–24 x 3/4 in.	2
	228	NUT, hex, 10–24	2
	234	TIE, plastic	3
	236	GUN, air spray with 1.2 mm (0.047 in.) orifice tip, <i>see manual 307542 for parts</i>	1
	237	HOSE, air, 8 mm (5/16 in.) ID, cpld 1/4 npsm, 7.6 m (25 ft) long	1
	238	HOSE, fluid, 9.5 mm (3/8 in.) ID, cpld 3/8 npsm, 7.6 m (25 ft) long	1
	239	AIR ATOMIZING REGULATOR KIT <i>see page 18 for parts</i>	1

# Basic Pump Parts





# Basic Pump Parts

## Model 963685, Series C

Includes items 1–56

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	104948	HOUSING, lower	1	18	104926	RETAINER, spring	1
2	841500	OUTLET VALVE ASSEMBLY		19	841503	SHUTTLE	1
		Includes items 2a–2e	1	25	844430**	PIN, rocker	1
2a	844412*	. GASKET aluminum	1	26	844431**	BEARING	2
2b	848440*	. O-RING; PTFE	1	27	848446**	RING, retaining	2
2c	101823	. BALL	1	28	841504**	SHAFT, rocker	1
2d	844410	. BODY, valve	1	29	104958**	SPRING, compression	1
2e	844411	. PIN	1	30	844425**	PIN, toggle	1
3	841501	INTAKE VALVE ASSEMBLY		31	841505**	ARM, rocker	1
		Includes items 3a–3f	1	32	844424**	PIN, arm	1
3a	844413*	.GASKET, aluminum	1	33	848227**	RING, retaining	2
3b	104945	.GUIDE, ball aluminum	1	35	104914	CAP, accumulator	1
3c	104944	.SPRING	1	36	844429	LABEL	1
3d	101874	.BALL	1	37	165053*	O-RING, PTFE	1
3e	104942	.PIN	1	38	104921	BODY, accumulator, SST	1
3f	104943	.BODY, valve	1	39	104916	NEEDLE	1
4	841502	AIR VALVE ASSEMBLY		40	104922*	GASKET, aluminum	1
		includes items 4e–4g, 4j–4p	1	41	104923*	GASKET, PTFE	1
4e	844415	. BODY, valve	1	45	841507	COVER	1
4f	104954*	. O-RING buna-N	1	46	104935	SCREW, slotted hd, M4 x 10	2
4g	104953*	. O-RING buna-N	1	47	844428	HANDLE	1
4j	161416*	. O-RING Thiokol®	2	48	848445	SCREW	1
4k	170708	. VALVE, poppet	1	49	179089	WASHER, spring	1
4m	844507	. STEM, valve	1	50	156971	NIPPLE, short, 1/4 npt(m)	1
4n	844508	. WASHER	1	51	104950	MUFFLER, exhaust	1
4p	848130	. LOCKNUT	1	55	841508	GROUNDING ASSEMBLY	1
5	844414	HOUSING, upper	1	56	159840	ADAPTER, 1/4 npt(f) x 1/8 npt(m)	1
6	104929	CAPSCREW, soc hd, M6 x 16	6				
10	104934	CAPSCREW, hex hd, M8 x 1.25	1				
11	104933*	GASKET, aluminum	1				
12	104931	PLATE, membrane	2				
13	104932*	DIAPHRAGM, PTFE coated fabric	1				
14	156082*	O-RING, buna-N	1				
15	104927	SPRING, compression	1				
16	104924	STEM, diaphragm	1				
17	104925	CLIP	1				

\* Included in repair kit 214835.

NOTE: Two outlet valve o-rings (2b) are included with the kit. The one you use depends on the pump in your system. *If you have pump 214825 with a black (Viton®) o-ring, use the black o-ring in the kit. If you have pump 963680 or 963685 with a white (PTFE) o-ring, use the white o-ring in the kit.*

\*\* Included in repair/conversion kit 220238.

# Regulator Kit Parts

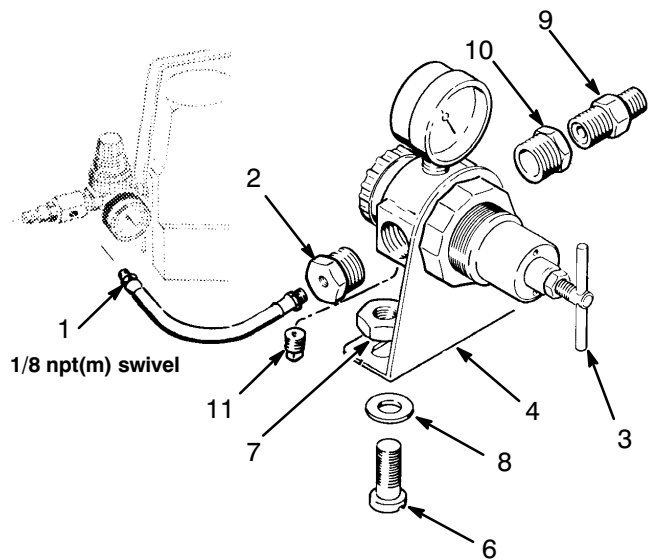
## REGULATOR KIT 214882

0–125 psi (0–9 bar) Maximum Working Pressure

300 psi (21 bar) Maximum Inlet Pressure

For atomizing the air supply to the gun.

REF NO.	PART NO.	DESCRIPTION	QTY
1	164724	AIR HOSE, 1/4 in. ID, 254 mm (10 in.) long, cpld 1/8 npt(m) x 1/8 npt(m) swivel	1
2	100329	BUSHING, pipe, 1/2 npt(m) x 1/8 npt(f)	1
3	104267	AIR REGULATOR <i>see manual 308167 for parts</i>	1
4	105252	BRACKET, mounting	1
5	160430	GAUGE, air pressure, 0–7 bar (0–100 psi)	1
6	102790	SCREW, slotted head, 10–24 x 3/4 in.	2
7	100179	NUT, hex, 10–24	2
8	153271	WASHER, 10–24	2
9	165198	NIPPLE, reducing, 3/8 npt to 1/4 npt	1
10	100081	BUSHING, 1/2 npt to 3/8 npt	1
11	100509	PLUG, pipe, 1/4 npt	1



## Accessories

### AIR SUPPLY HOSE TO GUN, Buna-N

200 psi (14 bar) Maximum Working Pressure

Part No.	ID	Length	Thd. Size
210866	5/16 in.	4.5 m (15 ft)	1/4 npsm
210867		7.6 m (25 ft)	
210868		15.2 m (50 ft)	

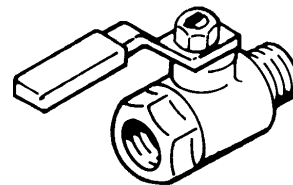
### Bleed-type Master Air Valve (Required In Your System)

300 psi (21 bar) Maximum Working Pressure

Relieves air trapped in the air line between the pump air inlet and this valve when closed.

**107141** 3/4 npt(mx f) inlet & outlet

**107142** 1/2 npt(m x f) inlet & outlet



### AIR SUPPLY HOSE TO PUMP, Buna-N 061209

200 psi (14 bar) Maximum Working Pressure

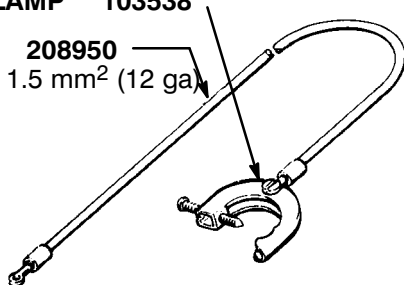
Has reusable 3/8 npsm fittings.

Specify length when ordering.

### GROUNDING CLAMP 103538

### GROUND WIRE 208950

7.6 m (25 ft) long 1.5 mm<sup>2</sup> (12 ga)



### Fluid Supply Hose nylon Tube, Rubber Cover

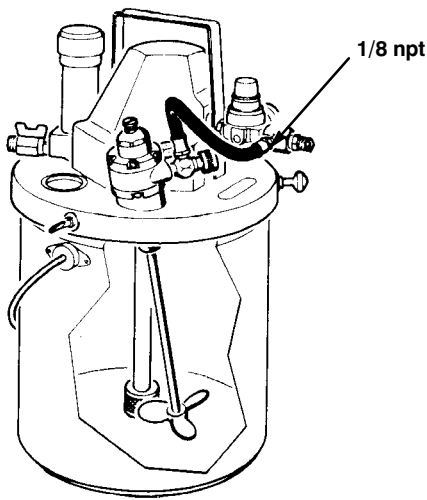
300 psi (21 bar) Maximum Working Pressure

Part No.	ID	Length	Thd. Size
205160	3/8 in.	4.5 m (15 ft)	3/8 npsm
205124		7.6 m (25 ft)	
205143		15.2 m (50 ft)	

# Accessories

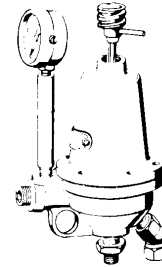
## Agitator 205588

100 psi (7 bar) Maximum Working Pressure  
See manual 306565 for parts.



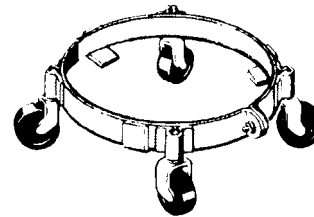
## Fluid Pressure Regulator 203831

250 psi (18 bar) Maximum Inbound Pressure  
0–60 psi (0–4 bar) Regulated Pressure



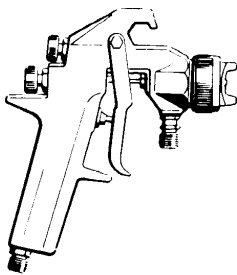
## Dolly 205054

Use with portable units for roll around convenience.



## Air Spray Guns

200 psi (14 bar) Maximum Working Pressure  
See manual 307452 for available gun combinations.

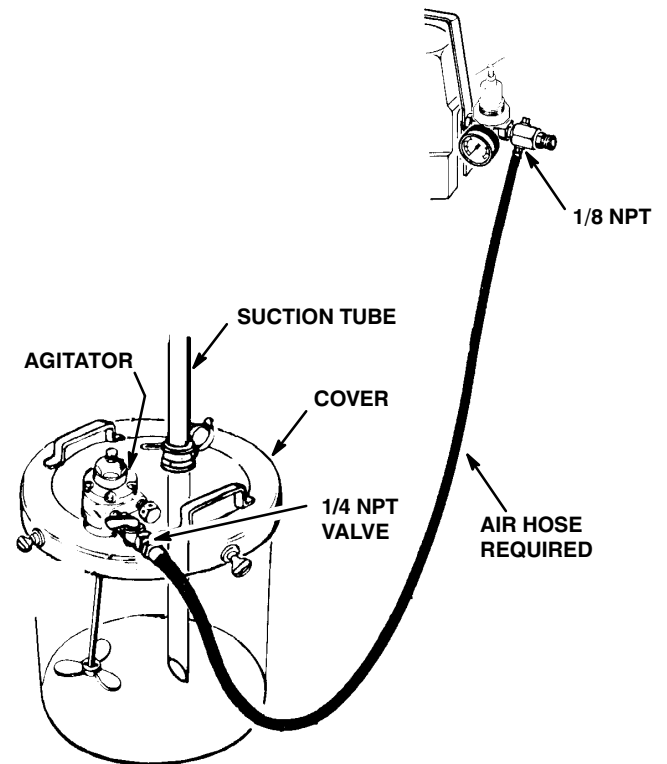
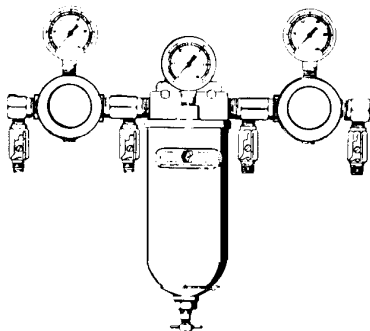


## Cover Mounted Agitator 226086

120 psi (8 bar) Maximum Working Pressure  
Fits 5 gallon pails for agitation of paint in original shipping container. Has port for inserting suction tube. Requires air hose for connecting air supply to regulator.

## Air Filter, Moisture Separator, Air Regulator Kit 202660

180 psi (12 bar) Maximum Working Pressure  
With regulators incorporated.

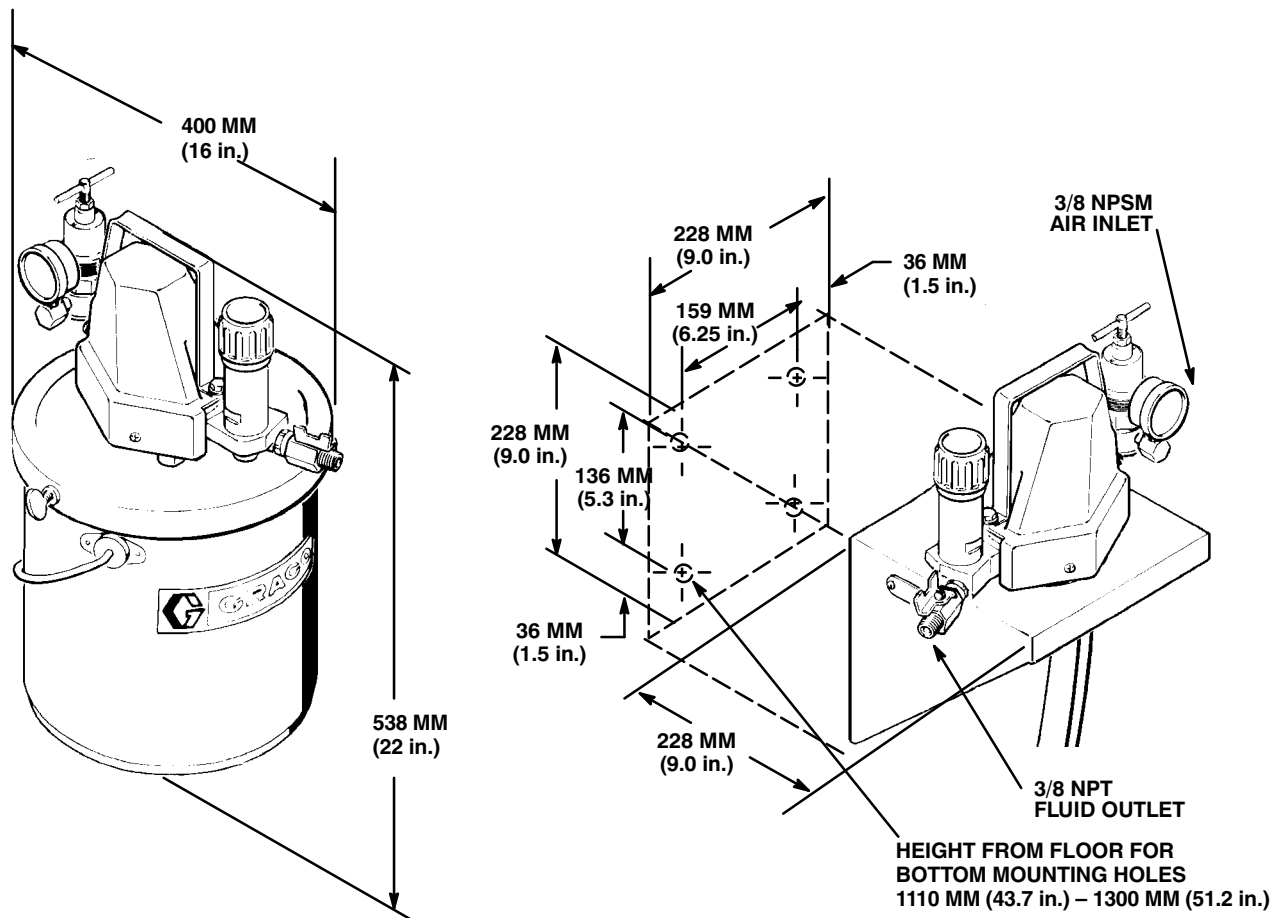


# Technical Data

Air Pressure Range	..... 1.5 bar (22 psi) minimum to 7 bar (100 psi ) maximum
Air Consumption	..... approximately 0.01 m <sup>3</sup> /min per liter of fluid at 4 bar (0.43 cfm per gallon of fluid at 50 psi)
Delivery	..... 2.9 liter/min (0.77 gpm)
Recommended Maximum Pump Speed	..... 35 cycles/minute
Fluid Outlet Pressure	..... 6 bar (90 psi)
Wetted Parts	..... stainless steel, aluminum, PTFE, Viton® brass (drain tube fitting 108503 only), buna-N
Weight	..... 7.6 kg (16.7 lb) without pail, hose, or gun

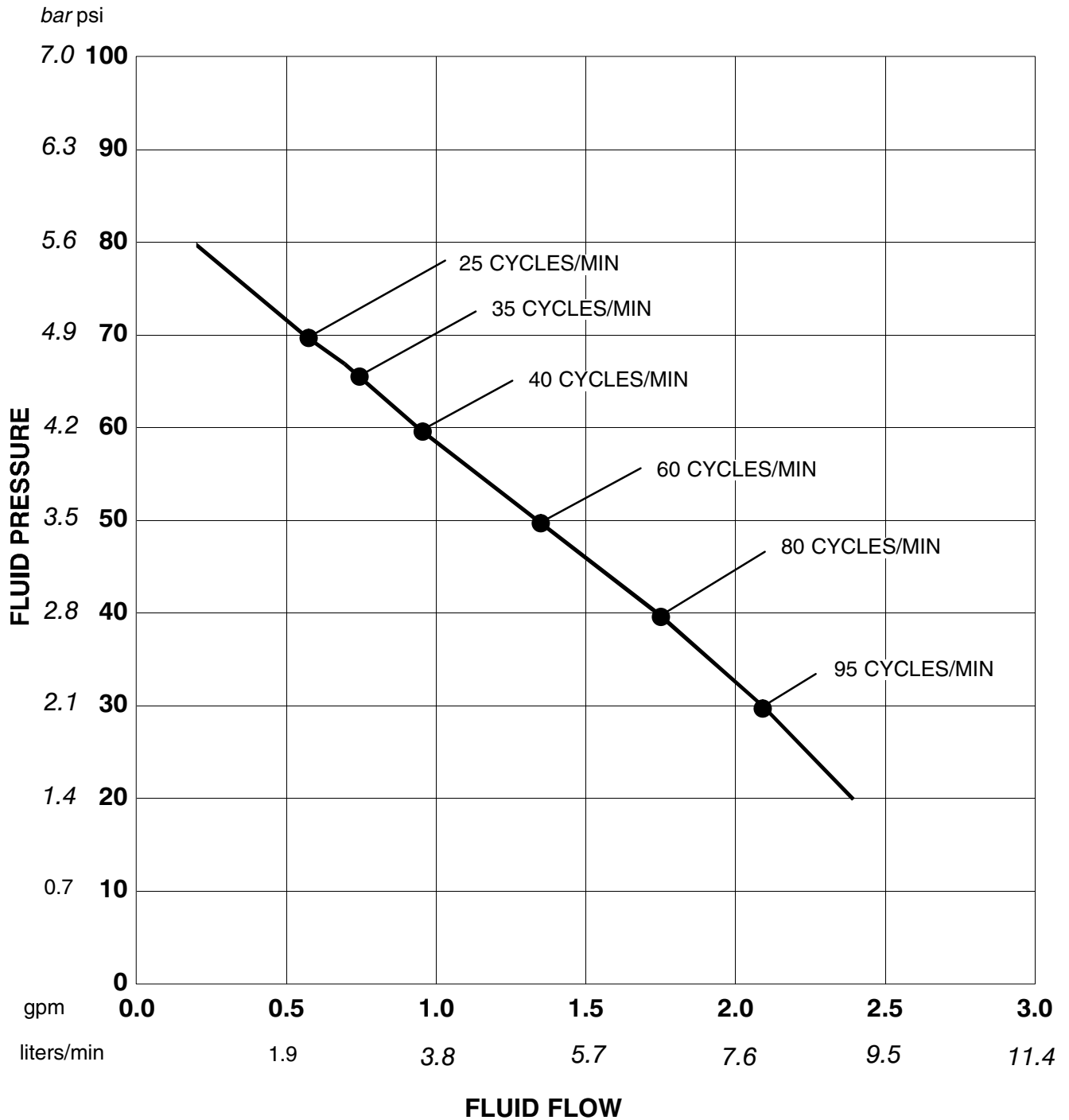
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## Dimensions



# Performance Chart

MAXIMUM AIR INPUT – 7 bar (100 psi)



# 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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