

# Electronic *POWERFIL* Metered Dispense Pumps

307637R

EN

Used for low-volume dispense of petroleum-base lubricants. For professional use only.

## Model 239702

Pump with gallon/quart/liter Electronic Meter

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

## Model 222602

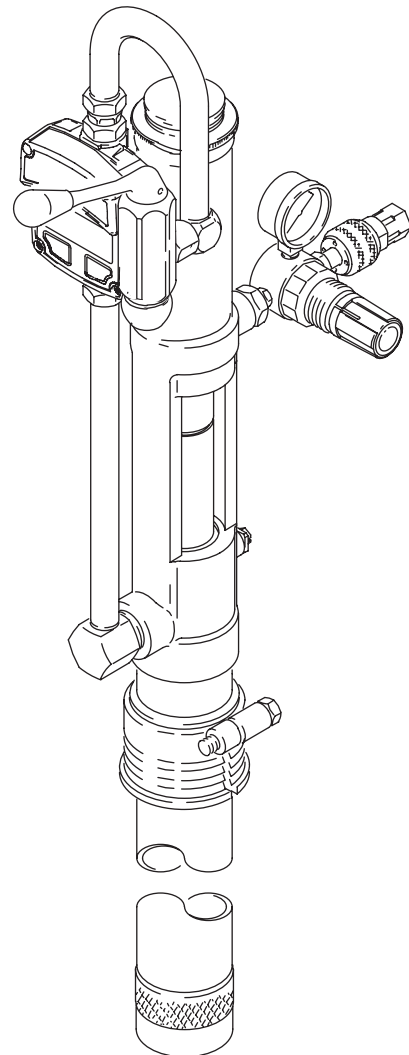
Unmetered pump

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







### Important Safety Instructions

Read all warnings and instructions in this manual. Save these instructions.



# Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <h2 style="margin: 0;">WARNING</h2>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources, such as cigarettes and portable electric lamps.</li> <li>• Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline.</li> <li>• Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area.</li> <li>• Use only grounded hoses.</li> <li>• <b>Stop operation immediately</b> if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>
	<p><b>PRESSURIZED EQUIPMENT HAZARD</b></p> <p>Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop spraying/dispensing and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.</li> </ul>
	<p><b>EQUIPMENT MISUSE HAZARD</b></p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See <b>Technical Data</b> in all equipment manuals.</li> <li>• Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.</li> <li>• Turn off all equipment and follow the <b>Pressure Relief Procedure</b> when equipment is not in use.</li> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.</li> <li>• Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.</li> <li>• Make sure all equipment is rated and approved for the environment in which you are using it.</li> <li>• Use equipment only for its intended purpose. Call your distributor for information.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul>

 **WARNING****PRESSURIZED ALUMINUM PARTS HAZARD**

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

**PERSONAL PROTECTIVE EQUIPMENT**

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer

# Installation

1. Apply thread sealant to the male threads of the bushing (20g) and install the air regulator (20) at the pump air inlet. (FIG. 1)
2. Apply thread sealant to the male threads of the elbow (11) and install the dispense valve assembly at the pump outlet. (FIG. 1)
3. Install the pump in the bung hole of a fluid supply container. Screw the bung adapter (A) tightly into the hole. Raise the pump about 1/2 inch (12 mm) from the bottom of the container. Tighten the bung adapter screw. (FIG. 1)

## Fluid and Solvent Compatibility



To reduce the risk of component rupture, which can result in serious bodily injury, all fluids used in this pump must be chemically compatible with the wetted parts shown on page 8. Consult your fluid supplier to ensure compatibility.

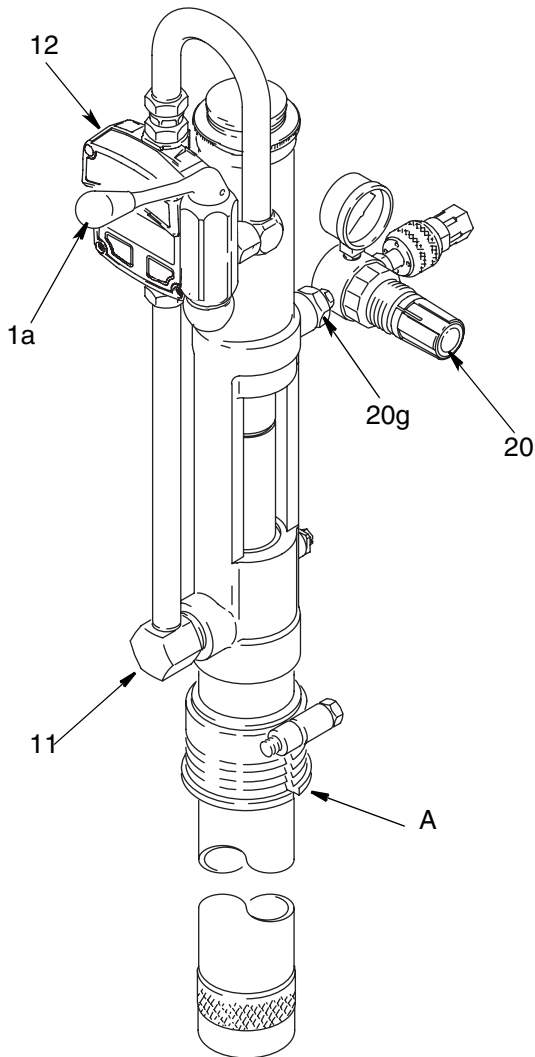


FIG. 1

# Operation



1. Start the pump. See instruction manual 307906, supplied.
2. To dispense fluid and adjust fluid flow from the valve, start with the air supply turned off at the regulator (20). Hold the valve handle (1a) in the **down**

position to open the valve. Slowly open the regulator until the desired fluid flow is obtained. Air pressure of 30-40 psi (0.21-0.28 MPa, 2.1-2.8 bar) is recommended to provide sufficient fluid flow without splashing.

To use the electronic meter, see instruction manual 308687, supplied, for detailed operating instructions.

# Maintenance

## Electronically Metered Models Only

For electronically metered models, see instruction manual 308687, supplied.

# Troubleshooting



Check all possible problems and causes before disassembling gun.

Problem	Cause	Solution
Valve will not dispense fluid	Pump is not operating	Check pump. See manual 307906
	Valve diffuser is clogged	Remove and clean valve diffuser
	Strainer, if used, is clogged	Remove and clean strainer
	Electronic meter is malfunctioning	Replace dispense meter. See manual 308687
Fluid flow from dispense valve is low or irregular	Pump is malfunctioning	Check pump. See manual 307906
	Valve diffuser is clogged	Remove and clean valve diffuser
	Strainer, if used, is clogged	Remove and clean strainer
Leakage at valve seat	Valve seal is worn or damaged	Replace
	Valve spring is weak or broken	Replace
Fluid meter registers incorrectly or not at all	Electronic control is malfunctioning	Replace. See manual 308687

## Service

### Dispensing Valve Service and Adjustment

- To clean or replace the valve seal (1f), screw the valve nozzle (1e) off the valve housing (1k). Remove the gasket (1h). Unscrew the retaining screw (1g) from the valve stem (1j). Remove the valve seal (1f). See the Parts Drawing, page 7. Clean and inspect all parts and replace as necessary. Reassemble the valve, making sure the gasket (1h) is in place.
- To adjust the dispensing valve, drive the pin (1m) out of the handle (1b) with a 1/8 in. drift pin. Remove the valve handle (1b) from the stem (1j). See Parts Drawing, page 7. Turn the adjusting nut (1c) upward until a small gap (0.040 in maximum) exists between the handle (1b) and the valve housing (1k) when the valve is reassembled. Reinstall the handle on the stem. Reinstall the pin.

**NOTE:** Clearance between the valve handle (1b) and the valve housing (1k) is necessary to ensure proper dispensing valve operation.

- To replace the valve stem (1j), spring (1l) or packings (1d), remove the valve handle (1b) as described above. Screw the valve nozzle (1e) off the valve housing (1k). Remove the gasket (1h). Screw adjusting nut (1c) off the valve stem. Pull the stem out through the bottom of the valve housing. See Parts Drawing, page 7. Clean and inspect all parts and replace as necessary. Reassemble valve. Adjust it as described above.

### Electronic Meter

See instruction manual 308687 (included).

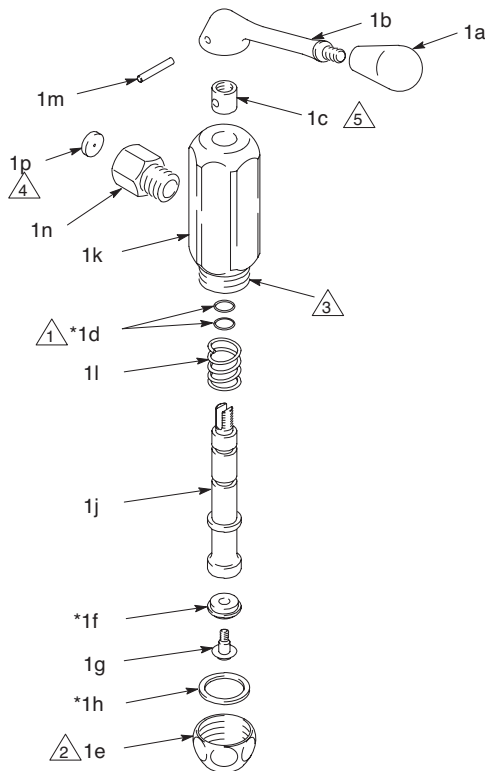


# Parts

## Ref 1, Model 220110 Dispensing Valve

Ref.	Part	Description	Qty.
1a	108789	KNOB, handle	1
1b	154773	HANDLE	1
1c	154891	NUT, adjusting	1
1d*	154594	PACKING, o-ring, nitrile rubber	2
1e	166779	NOZZLE, valve	1
1f*	156312	SEAL, valve, nitrile rubber	1
1g	156311	SCREW, valve	1
1h*	154779	GASKET	1
1j	154781	STEM, valve	1
1k	179932	HOUSING, valve	1
1l	150534	SPRING, compression	1
1m	155473	PIN, 5/32 in. x 1 in. long	1
1n	112122	ADAPTER, 3/8 in. (m x f) npt	1
1p	190223	RESTRICTOR	1

\* Recommended "tool box" spare parts. Keep on hand to reduce downtime.



- 1 Apply lubricant to o-ring.
- 2 Torque to 120 to 130 in-lb (14 to 15 N.m).
- 3 Apply lubricant to housing threads.
- 4 Press fit.
- 5 Turn nut (1c) upward until a small gap (0.040 in. max) exists between the handle (1b) and the housing (1k). Step 2 under maintenance.

## Unmetered Dispense Pump Model 222602, without meter

Ref.	Part	Description	Qty.
101	222103	PUMP, see 307906 for parts	1
102	218115	UNMETERED DISPENSE KIT, see parts below	1
103	109125	HOSE, air, 1/4" ID, 1/4" npt(mbe), 72" long	1

## Electronic Metered Dispense Pump, Model 239702, with gallon/quart/pin/liter electronic meter

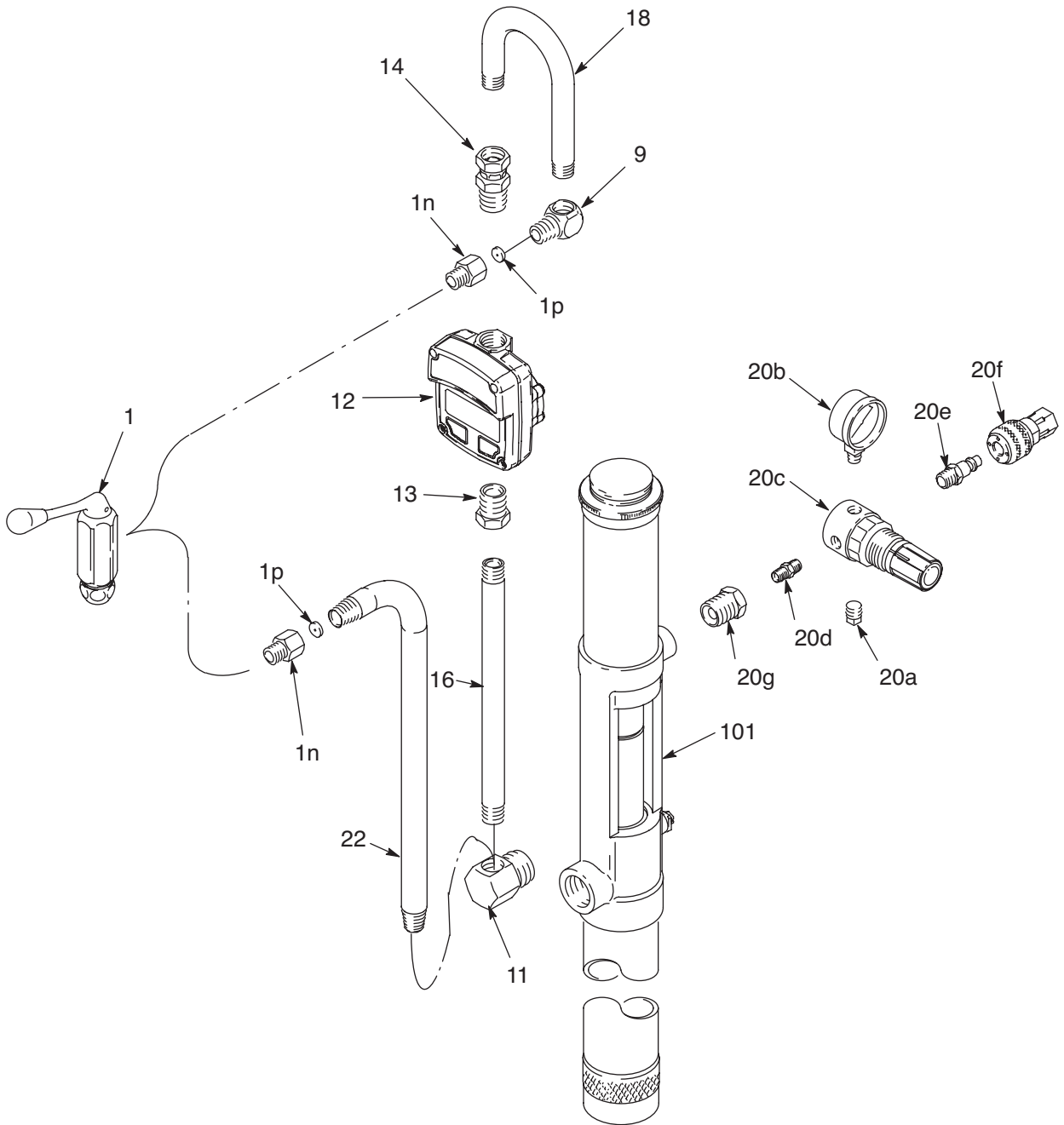
Ref.	Part	Description	Qty.
101	222103	PUMP, see 307906 for parts	1
102	239703	ELECTRONIC METERED DISPENSE KIT, See parts below	1

## Unmetered Dispense Kit, Model 218115, Series E, Includes items 1, 11, 20, 22

## Metered Dispense Kit, Model 239703, Series E, Includes items 1-20

Ref.	Part	Description	Qty.
1	220100	VALVE, dispense	1
9	155699	ELBOW, street, 3/8 npt (m x f)	1
11	157619	ELBOW, street, 3/8 npt (f) x 3/4 npt (m)	1
12	239824	ELECTRONIC METER, See manual 308687	1
13	158212	BUSHING, 3/8 npt (f) x 1/2 npt (m)	1
14	158256	UNION, adapter, 1/2 npt (m) x 3/8 npsm (f) swivel	1
16	186034	TUBE	1
18	185163	TUBE	1
20	218316	AIR REGULATOR KIT, includes items 20a-20g	1
20a	100403	PLUG, pipe, 1/8 npt	1
20b	104655	GAUGE, air pressure, 0-60 psi (0-0.42 MPa, 0-4.2 bar)	1
20c	104815	REGULATOR, air pressure, 0-60 psi (0-0.42 MPa, 0-4.2 bar)	1
20d	103656	NIPPLE, pipe, 1/8 npt	1
20e	169969	FITTING, air coupler, 1/8 npt (m)	1
20f	114558	COUPLER, air quick disconnect, 1/4 npt (f) inlet	1
20g	100030	BUSHING, pipe, 1/4 npt (m) x 1/8 npt (f)	1
22	179928	TUBE	1





## Technical Data

See manual 308687 for electronic meter technical data.

See manual 307906 for pump technical data.

# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale 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.

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# Graco Information

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**TO PLACE AN ORDER**, contact your Graco distributor or call to identify the nearest distributor.

**Phone:** 612-623-6928 or **Toll Free:** 1-800-533-9655, **Fax:** 612-378-3590

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Original instructions. This manual contains English. MM 307637

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