Parts

Instructions – Parts List

15:1 RATIO FIRE-BALL ®

Undercoater Pumps

307879

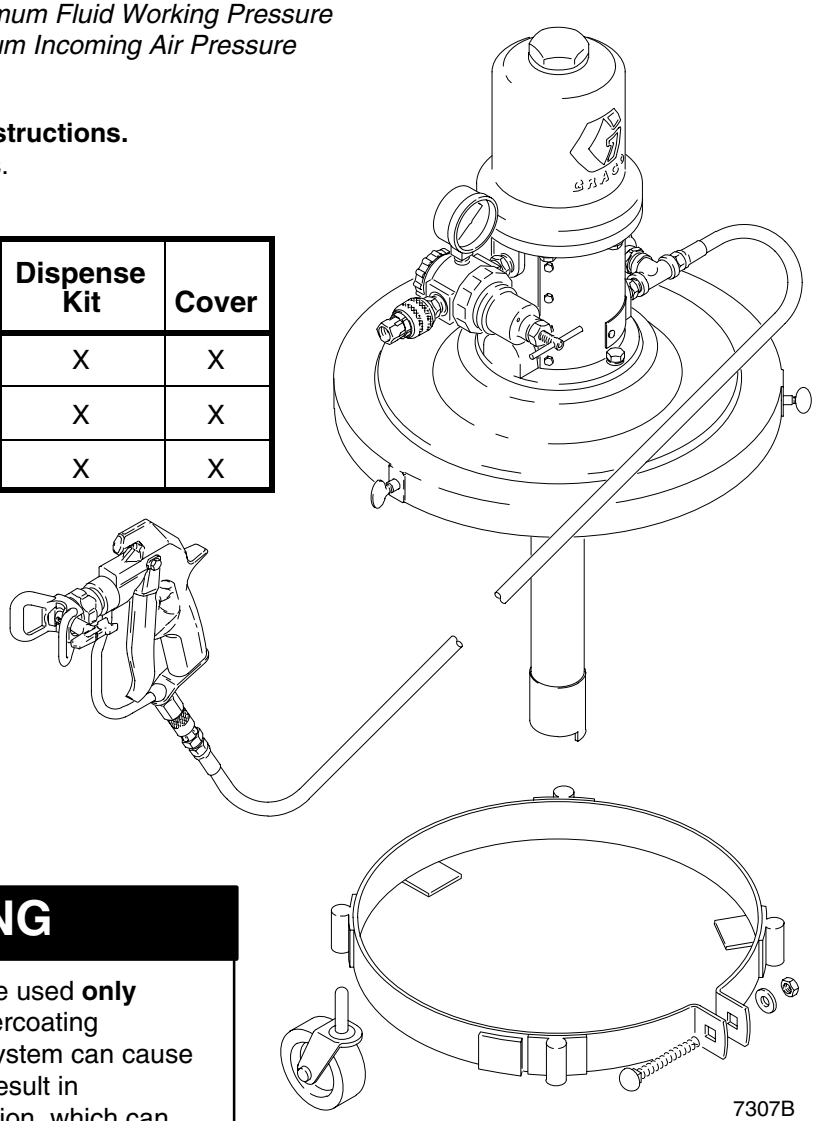
Rev. P

Portable and stationary units for filled undercoating materials.

2250 psi (16 MPa, 157 bar) Maximum Fluid Working Pressure
180 psi (1.2 MPa, 12 bar) Maximum Incoming Air Pressure

Read warnings and instructions.
See page 3 for warnings.

Model No.	Size, Type	Dispense Kit	Cover
222077	35 lb, portable	X	X
226342	120 lb, rollaround	X	X
226269	400 lb, stationary	X	X



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Model 226342

⚠ WARNING

These systems are designed to be used **only** in pumping petroleum-based undercoating materials. Any other use of the system can cause unsafe operating conditions and result in component rupture, fire, or explosion, which can cause serious bodily injury, including fluid injection.

PROVEN QUALITY. LEADING TECHNOLOGY.

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

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Warnings

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

INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause an extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause a 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 dispensing valve at anyone or at any part of the body.
- Do not put hand or fingers over the spray tip.
- Do not stop or deflect fluid 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.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun/valve trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 7 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.
- Tighten all the 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.

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.

⚠ WARNING

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 and the object being sprayed. See **Grounding** on page 5.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or the fluid being sprayed.
- Extinguish all the open flames or pilot lights in the spray area.
- Electrically disconnect all the equipment in the spray area.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not smoke in the spray area.
- Do not operate a gasoline engine in the spray area.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.

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.
- The **maximum working pressure** of the 15:1 Ratio Fire-Ball pumps is 2250 psi (16 MPa, 157 bar) at a maximum air operating pressure of 180 psi (1.2 MPa, 12 bar). Never operate the pump at a higher air or fluid working pressure. Do not exceed the maximum working pressure of the lowest rated system component.
- 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.
- 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.

United States Government safety standards have been adopted under the Occupational Safety and Health Act. You should consult these standards—particularly General Standards, Part 1910, and Construction Standards, Part 1926.

Installation

Grounding

⚠ WARNING

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

Static electricity is created by the flow of fluid through the pump and hose. If the pump is not properly grounded, sparking may occur, and the system may become hazardous. Sparking may also occur when plugging in or unplugging a power supply cord. Sparks can ignite fumes from solvents, dust particles and other flammable substances, whether you are operating indoors or outdoors, and can cause a fire or explosion and serious bodily injury and property damage.

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

- *Pump or sprayer:* If using an electric sprayer, plug the power supply cord or extension cord, each equipped with an undamaged three-prong plug, into a properly grounded outlet. Do not use an adapter. All extension cords must have three wires and be rated for 15 amps. If using another type of sprayer or pump, ground it by connecting a grounding wire (12 ga minimum) from the pump or sprayer's grounding lug to a true earth ground.

- *Air compressor or hydraulic power supply:* Follow the local code.

- *Fluid hoses:* Use only electrically conductive hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity.

- *Spray gun:* Obtain grounding through connection to a properly grounded fluid hose and sprayer or pump.

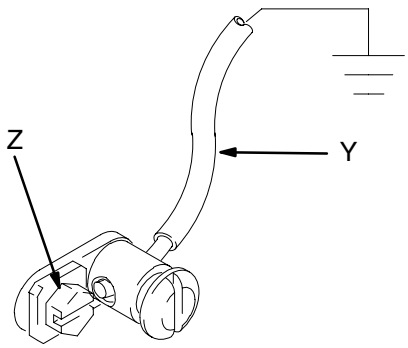
- *Supply container:* Follow the local code.

- *Object being sprayed:* Follow the local code.

- *All solvent pails used when flushing:* Follow the 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.

- *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.

To ground the pump, remove the ground screw (Z) and insert through the eye of the ring terminal at end of ground wire (Y). Fasten the ground screw back onto the pump and tighten securely. Connect the other end of the ground wire to a true earth ground. See Fig. 1. *To order a ground wire and clamp, order Part No. 222011.*



TI1052

Fig. 1

Installation

Assembling the Unit

- Refer to the appropriate parts drawing on pages 9 through 11 to assemble your unit. Use thread sealant on all male connections, except at swivels.

- *For Models 222077 & 226269:* Remove the cover from the supply drum and install the pump and cover. Tighten the cover thumbscrews.

- *For Model 226342 only:* Assemble the dolly. Place the opened drum on the dolly. Tighten the nut onto the carriage bolt to secure the drum.

Air Line and Accessories

NOTE: Install the air line accessories in the order shown in the **Typical Installation** drawing.

1. Install a pump runaway valve (G) to shut off the air to the pump if the pump accelerates beyond the pre-adjusted setting. A pump that runs too fast can be seriously damaged.

2. Install an air line lubricator (F) for automatic air motor lubrication.

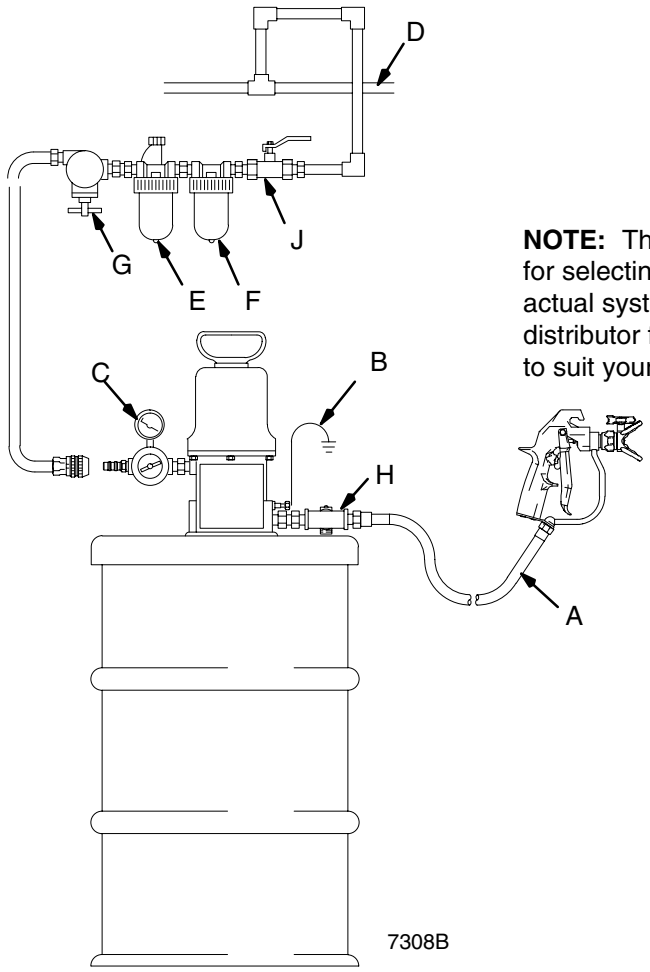
3. Install the air regulator (C) to control pump speed and pressure.

4. On the main air supply line from the compressor, install an air line filter (E) to remove harmful dirt and contaminants from your compressed air supply.

⚠ CAUTION

Do not hang air accessories directly on the air inlet. The fittings are not strong enough to support accessories and may cause one or more to break. Provide a bracket on which to mount accessories.

Typical Installation



NOTE: This typical installation is only a guide for selecting and installing a system; it is not an actual system design. Contact your Graco distributor for assistance in designing a system to suit your needs.

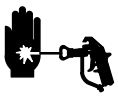
KEY

A Fluid dispense line
B Pump ground wire
C Air regulator
D Main air supply line
E Air filter
F Pump lubricator
G Pump runaway valve
H Fluid drain valve
J Bleed-type master air valve

Operation

Pressure Relief Procedure

⚠ WARNING



INJECTION HAZARD
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
- Install or clean the spray tips

1. Engage the gun trigger stop.
2. Shut off the power supply to the pump and open any air bleed valves in the system.
3. Disengage the gun trigger stop.
4. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
5. Engage the gun trigger stop.
6. Open the fluid drain valve, and have a container ready to catch the drainage.
7. Leave the drain valve open until you are ready to use the system again.

If you suspect that the gun, hose, or spray tip is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut, outlet accessory nut, or hose end coupling, and relieve pressure gradually, then loosen completely, then clear the tip or hose.

Operation

Start-up: Single or Multiple Pump Systems

1. Close the air regulators and bleed-type master air valves to all but one pump.
2. Open the master air valve from the compressor.
3. For the pump that is connected, trigger the dispensing valve into a grounded metal waste container, making firm metal-to-metal contact between the container and valve. Open the bleed-type master air valve and open the pump air regulator slowly, just until the pump is running. When the pump is primed and all air has been pushed out of the lines, release the trigger.
4. If you have more than one pump, repeat this procedure for each pump.

NOTE: When the pump is primed, and with sufficient air supplied, the pump starts when the dispensing valve is opened and shuts off when it is closed.

5. Set the air pressure to each pump at the lowest pressure needed to get the desired results.

⚠ WARNING

The maximum working pressure of each pump in your system may not be the same. To reduce the risk of over-pressurizing any part of your system, be sure you know the maximum working pressure rating of each pump and its connected components. Never exceed the maximum working pressure of the lowest rated component connected to a particular pump.

To determine the fluid output pressure using the air regulator reading, multiply the ratio of the pump by the air pressure shown on the regulator gauge. For example:

10:(1) ratio x 100 psi air =1000 psi fluid output

[10:(1) ratio x 7 bar air = 70 bar fluid output]

[10:(1) ratio x 0.7 MPa air = 7 MPa fluid output]

Limit the air to the pump so that no air line or fluid line component or accessory is over-pressurized.

6. 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, prime the pump and lines with fluid, or flush it and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system.

⚠ CAUTION

Never allow the pump to run dry of the fluid being pumped. A dry pump quickly accelerates to a high speed, possibly damaging itself, and it may get very hot.

NOTE: A pump runaway valve can be installed on the air line to automatically shut off the pump if it starts to run too fast. See page 6.

7. Read and follow the instructions supplied with each component in your system.
8. Whenever you shut off the system, always follow the **Pressure Relief Procedure**.

⚠ WARNING

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

Parts

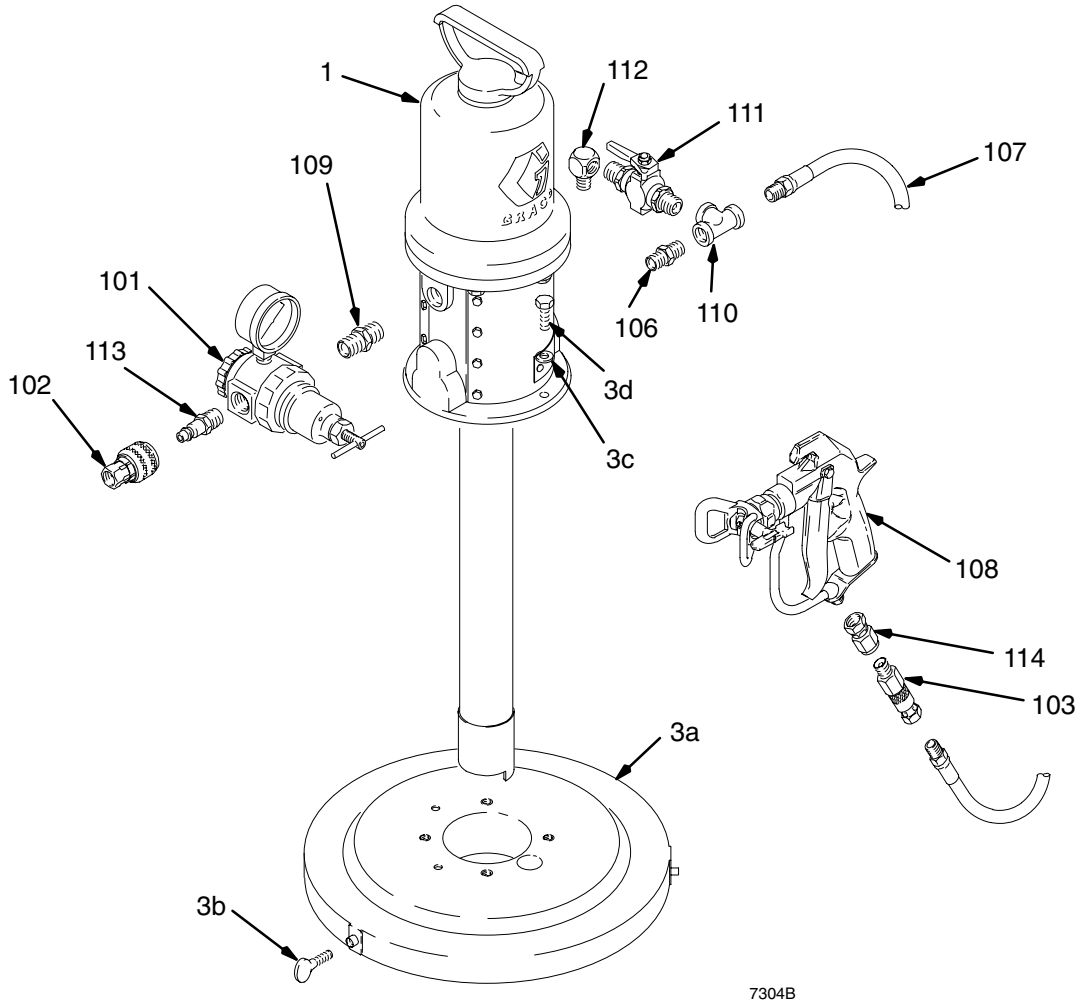
Model 222077

35-lb Pail Size Unit

Ref No.	Part No.	Description	Qty
1	206405	PUMP, 15:1 Ratio Fire-ball; See 306531 for parts.	1
2	222079	DISPENSE KIT; See Parts List at right.	1
3	222058	COVER; Includes items 3a to 3d	1
3a	206522	•COVER, pail	1
3b	100220	•THUMBSCREW	3
3c	100916	•LOCKWASHER	2
3d	100922	•CAPSCREW	2

Dispense Kit 222079

Ref No.	Part No.	Description	Qty
101	109075	AIR REGULATOR; See 308167 for parts.	1
102	114558	COUPLER, quick disconnect	1
103	239663	SWIVEL; See 306861 for parts.	1
106	156971	NIPPLE, 1/4 npt	1
107	109165	HOSE, fluid, cpld	1
108	234237	SPRAY GUN; See 309092 for parts.	1
109	156849	NIPPLE, 3/8 npt	1
110	104984	TEE, pipe; 1/4 npt	1
111	210657	BALL VALVE; See 306861 for parts.	1
112	100940	ELBOW, street; 1/4 npt	1
113	169971	FITTING, pin	1
114	155570	UNION, swivel; 1/4 npsm (f) x 1/4 npt (f)	1

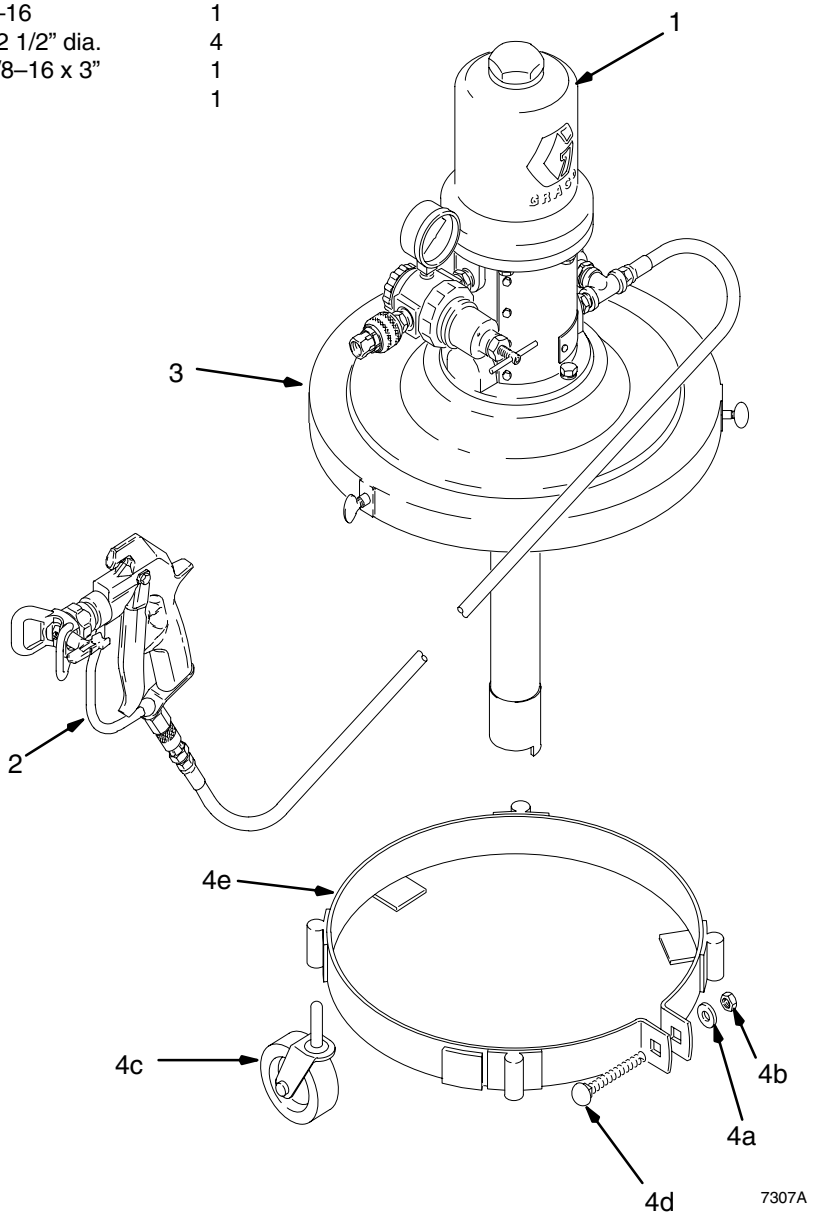


Parts

Model 226342

120-lb Drum Size Unit with Dolly

Ref No.	Part No.	Description	Qty
1	206699	PUMP, 15:1 Ratio Fire-ball; See 306531 for parts.	1
2	222079	DISPENSE KIT; See Parts List on page 9.	1
3	204574	COVER; See 306345 for parts.	1
4	204144	BASE, dolly; Includes items 4a to 4d	1
4a	100023	WASHER, flat; 5/16”	1
4b	100307	NUT, full hex; 3/8–16	1
4c	101851	CASTER, wheel, 2 1/2” dia.	4
4d	102971	BOLT, carriage; 3/8–16 x 3”	1
4e	205419	CLAMP, dolly	1



Parts

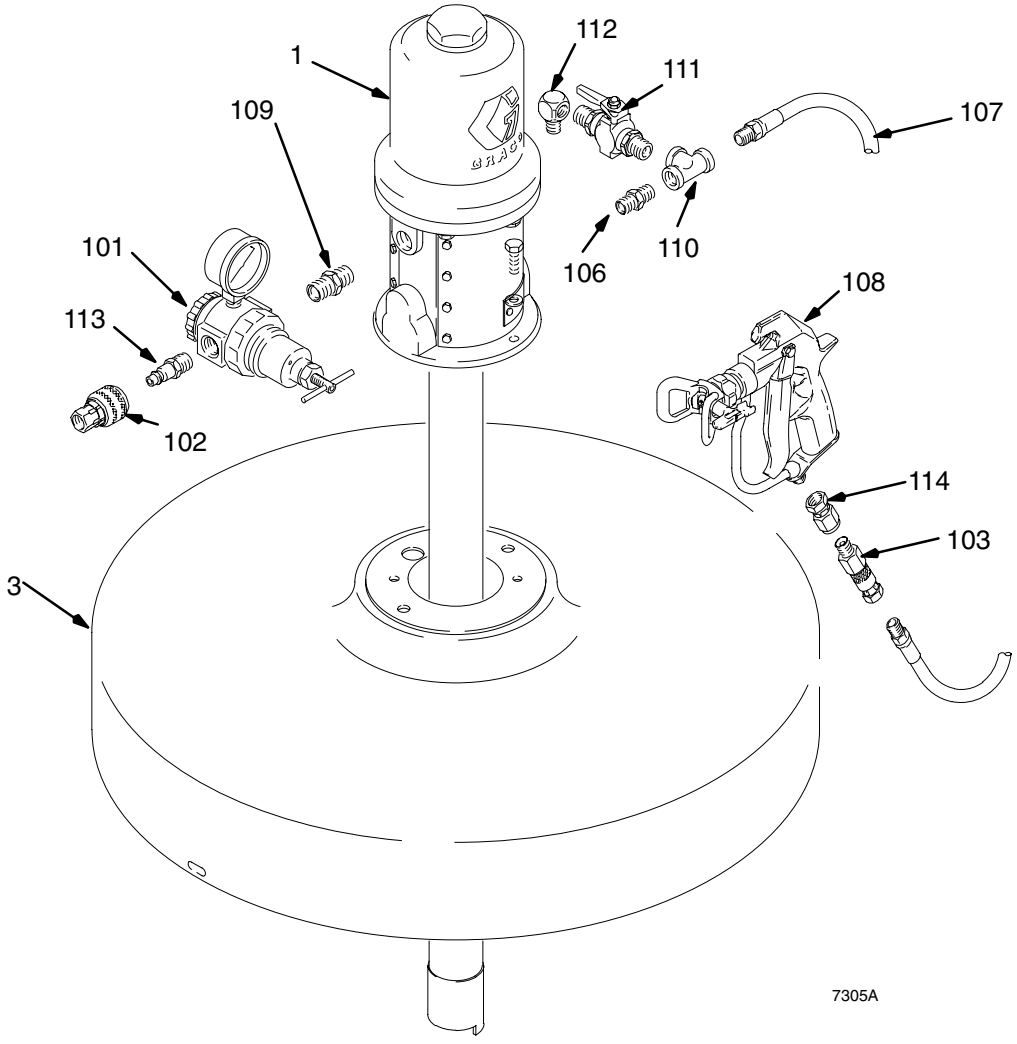
Model 226269

400-lb Stationary Drum Size Unit

Ref No.	Part No.	Description	Qty
1	206700	PUMP, 15:1 Ratio Fire-ball; See 306531 for parts.	1
2	222082	DISPENSE KIT; See Parts List at right.	1
3	200326	COVER; drum	1

Dispense Kit 222082

Ref No.	Part No.	Description	Qty
101	109075	AIR REGULATOR; See 308167 for parts.	1
102	114558	COUPLER, quick disconnect	1
103	239663	SWIVEL; See 306861 for parts.	1
106	156971	NIPPLE, 1/4 npt	1
107	109167	HOSE, fluid, cpld	1
108	234237	SPRAY GUN; See 309092 for parts.	1
109	156849	NIPPLE, 3/8 npt	1
110	104984	TEE, pipe; 1/4 npt	1
111	210657	BALL VALVE; See 306861 for parts.	1
112	100840	ELBOW, street; 1/4 npt	1
113	169971	FITTING, pin	1
114	155570	UNION, swivel; 1/4 npsm (f) x 1/4 npt (f)	1



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 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.

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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:

1–800–533–9655 Toll Free
612–623–6928
612–378–3590 Fax

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