

Fire-Ball[®] 300 and 425 Grease Pumps

307880P

EN

Stationary installations and mobile units for pumping non-corrosive and non-abrasive lubricants.

50:1 Ratio 300 Pumps: 5000 psi (35 MPa, 350 bar) Maximum Working Pressure

50:1 Ratio 425 Pumps: 4000 psi (28 MPa, 276 bar) Maximum Working Pressure

75:1 Ratio 425 Pumps: 4000 psi (28 MPa, 276 bar) Maximum Working Pressure



Important Safety Instructions

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

See page 2 for model information, including approvals.



These systems are designed to be used in pumping non-corrosive and non-abrasive lubricants only. 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.

Models

Stationary Units (Including Hose Kit, Cover and Follow Plate)




Part No.	Pump	Type	CE
225014	50:1 Fire-Ball 300	120 lb.	
241034	50:1 Fire-Ball 300	120 lb	✓
223108	50:1 Fire-Ball 425	120 lb	
241039	50:1 Fire-Ball 425	120 lb	✓
244635	75:1 Fire-Ball 425	120 lb	
24M271	75:1 Fire-Ball 425	120 lb	✓
225016	50:1 Fire-Ball 300	400 lb	
241035	50:1 Fire-Ball 300	400 lb	✓
225781	50:1 Fire-Ball 425	400 lb	
241040	50:1 Fire-Ball 425	400 lb	✓
244636	75:1 Fire-Ball 425	400 lb	
24M272	75:1 Fire-Ball 425	400 lb	✓

Mobile Units (Including Hose Kit, Cover, Follow Plate and Hold Down Kit)

Part No.	Pump	Type	CE
225085	50:1 Fire-Ball 300	120 lb.	
241036	50:1 Fire-Ball 300	120 lb	✓
223107	50:1 Fire-Ball 425	120 lb	
241041	50:1 Fire-Ball 425	120 lb	✓
243817	75:1 Fire-Ball 425	120 lb	
24M273	75:1 Fire-Ball 425	120 lb	✓
222071	50:1 Fire-Ball 300	400 lb	
241037	50:1 Fire-Ball 300	400 lb	✓
222075	50:1 Fire-Ball 425	400 lb	
241042	50:1 Fire-Ball 425	400 lb	✓
243818	75:1 Fire-Ball 425	400 lb	
24M274	75:1 Fire-Ball 425	400 lb	✓

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, 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.

 WARNING	
	<p>FIRE AND EXPLOSION HAZARD</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"> • Use equipment only in well ventilated area. • Eliminate all ignition sources, such as cigarettes and portable electric lamps. • Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Ground all equipment in the work area. • Use only grounded hoses. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Do not point dispensing device at anyone or at any part of the body. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.



WARNING



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- 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.
- Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.



TOXIC FLUID OR FUMES HAZARD

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

- Read MSDSs to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.



PERSONAL PROTECTIVE EQUIPMENT

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:

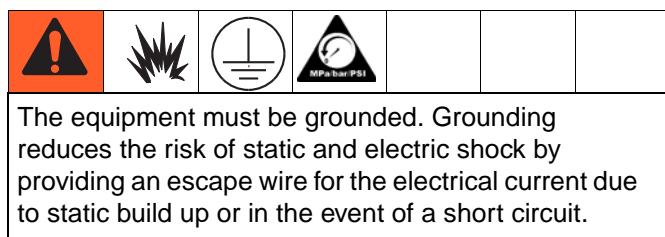
- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Installation

- Reference number and letters in parentheses in the text refer to call outs in the figures and drawings.
- Always use genuine Graco Parts and Accessories, available from your Graco distributor.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the dispense valve firmly to the side of a grounded metal pail, then trigger the dispense valve.

Grounding



Pump: use ground wire and clamp as shown in FIG. 1. Remove the ground screw (Z) and insert through the eye of the ring terminal at the end of the ground wire (Y). Fasten the ground screw back onto the pump and tighten securely. To order a ground wire and clamp order part number 222011.

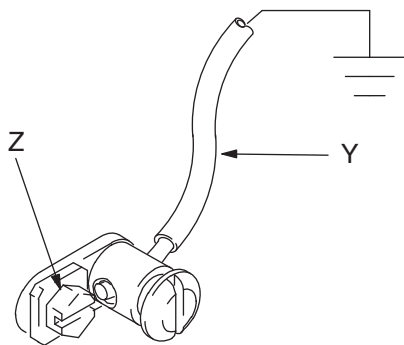


FIG. 1

Air and fluid hoses: use only electrically conductive hoses.

Air compressor: follow manufacturer's recommendations.

Dispense valve: ground through connection to a properly grounded fluid hose and pump.

Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts grounding continuity.

Typical Installation for Stationary Mountings

NOTE: See page 8 for the mobile installation. See page 7 for hose and air accessory installation

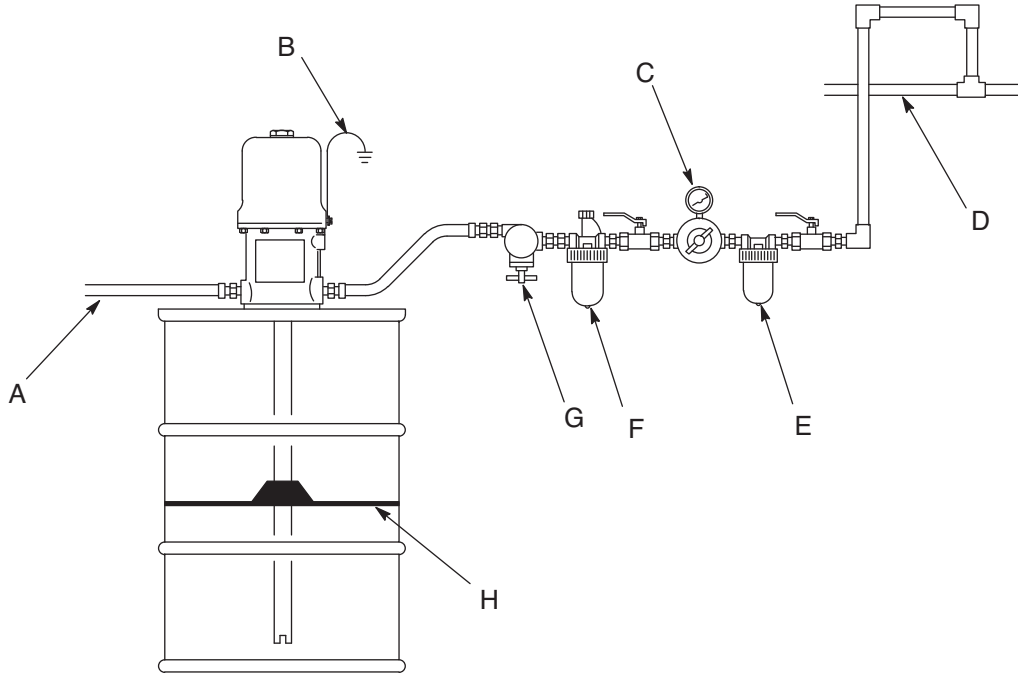


FIG. 2

- | | | | |
|---|----------------------|---|--------------------|
| A | Fluid Dispense Line | E | Air Filter |
| B | Pump Ground Wire | F | Pump Lubricator |
| C | Air Regulator | G | Pump Runaway Valve |
| D | Main Air Supply Line | H | Follow Plate |

Stationary Mounting Layout

- Plan the layout for easy operator access to the pump air controls, sufficient room to change drums, and a secure platform.
- For ease in changing drums, install a pump elevator.

Open Drum, Cover Mounted Pumps

Models 225014, 225016, 225781, 223108, 244635, 244636, 241034, 241035, 241039, 241040, 24M271 and 24M272.

- Remove the original drum cover.
- Place the cover (3) on the drum and fasten it with the screws and washers provided. Carefully guide the pump rise tube through the mounting gasket.

Installing the Hose Kit (see FIG. 3)

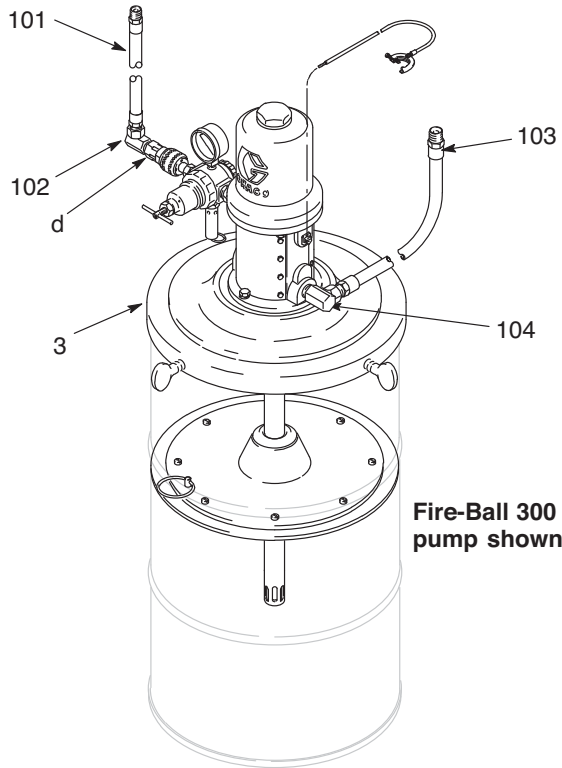


FIG. 3

For pumps using Hose Kit 222072

1. Install the 3/8" swivel adapter (102) in the pump air inlet or air regulator line coupler (d) (whichever is applicable). Connect the 3/8" ID air hose (101) to the swivel. Connect the air hose to the air accessories.
2. Connect the 1/4" swivel adapter (104) to the pump fluid outlet. Connect the 1/4" ID fluid hose (103) to the swivel. Connect a suitable dispensing valve or extra hose to the 6-ft hose.

For pumps using Hose Kit 222076

1. Install the 1/2" swivel adapter (102) in the pump air inlet or air regulator line coupler (d) (whichever is applicable). Connect the 1/2" ID air hose (101) to the swivel. Connect the air hose to the air accessories.
2. Connect the 3/8" swivel adapter (104) to the pump fluid outlet. Connect the 3/8" ID fluid hose (103) to the swivel. Connect a suitable dispensing valve or extra hose to the 6-ft hose.

Air Line and Accessories

NOTE: Install the air line accessories in the order shown in the Typical Installation on page 6.

NOTICE

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.

- 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.
- Install an air line lubricator (F) for automatic air motor lubrication.
- Install the air regulator (C) to control pump speed and pressure.
- 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.

Grounding

Proper grounding is an essential part of maintaining a safe system. Read and follow the instruction in Grounding, page 5.

CE Identification Label (CE Marked Models Only)

To comply with CE directives, the CE identification label must be affixed to the pump near the pump identification label. Follow the installation instructions included with the Kit. Use a permanent marker to record the installation date in the space provided on the label.



Part No.	Installation Date
241034, 241035, 241036, 241037	
Max Air WPR	Max Fluid WPR
0.7 MPa, 7 bar, 100 PSI	35 MPa, 350 bar, 5000 PSI
 Graco Inc. P.O. Box 1441 Mpls, MN 55440	 PN: 194132 rev. A

FIG. 4

Typical Installation for Mobile Mountings

NOTE: See page 6 for the stationary installation. See description of air accessories on page 6.

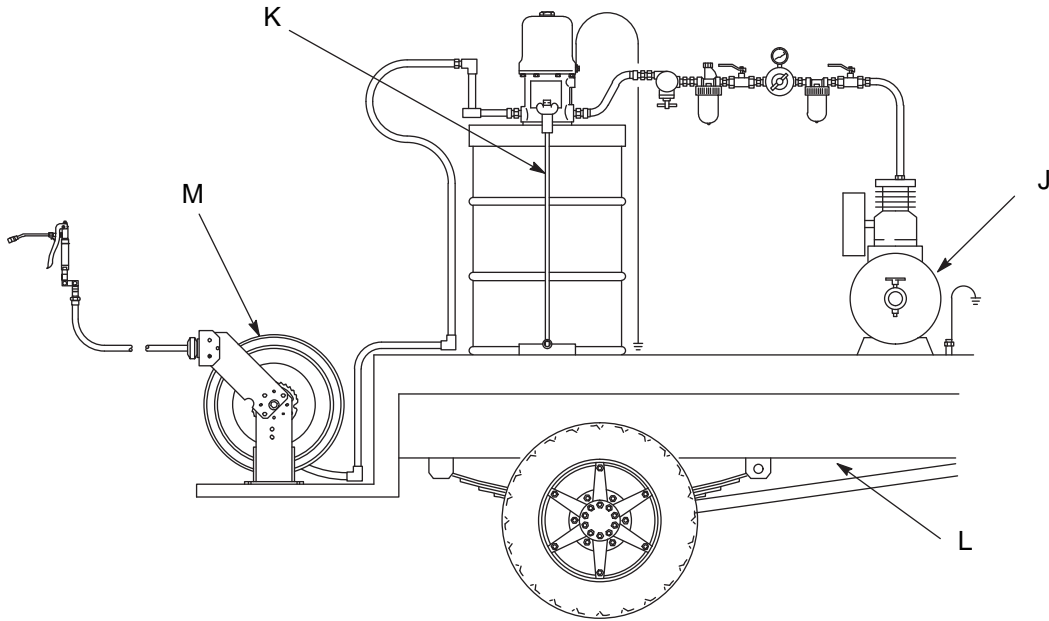


FIG. 5

- J Compressor
- K Hold-Down Rods
- L Truck Bed
- M Hose Reel

Drum with Hold-Down Kit (see FIG. 6)

Models 222071, 222075, 222085, 223107, 243817, 243818, 241037, 241042, 241036, 241041

Mobile Mounting Layout

Plan the layout for easy operator access to the pump air controls, sufficient room to change drums, and a secure platform.

1. Place the drum in the desired location.
2. Place the hold-down lugs (R) or drum locators (S) around the drum base and bolt directly to the truck bed or mounting platform.
3. Remove the cover hold down brackets (P) and wing nuts (N) from the hold down rods (K).

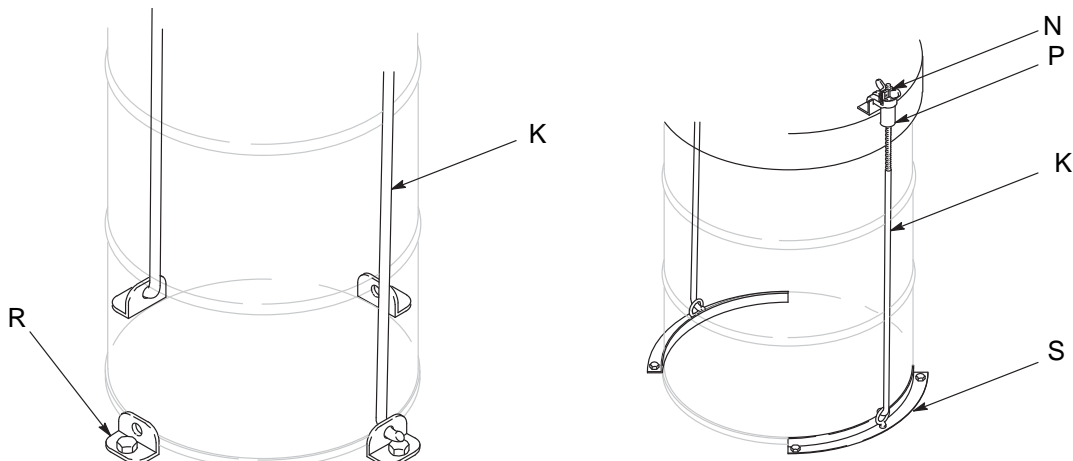





FIG. 6

Operation

Pressure Relief Procedure

						
<p>Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts.</p>						



1. Close the pump air regulator.
2. Hold a metal part of the dispense valve firmly to a grounded metal waste container and trigger to relieve fluid pressure.

Start-up

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 the 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 process 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 closed.

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

						
<p>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.</p> <p>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:</p> <p>50:(1) ratio x 100 psi air = 5000 psi fluid output</p> <p>50:(1) ratio x 0.7 MPa air = 35 MPa fluid output</p> <p>50:(1) ratio x 7 bar air = 350 bar fluid output</p> <p>Limit the air to the pump so that no air line or fluid line component or accessory is over-pressurized.</p>						

NOTICE
<p>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, 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.</p>

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.

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

Parts

50:1 Fire-Ball 300, 120-lb Drum

Model 225014, Includes items 1 to 4

Model 241034, Includes items 1 to 5

Ref. No.	Part No.	Description	Qty.
1	239887	PUMP, 50:1 Ratio Fire-Ball 300; see 308883 for parts	1
2	222072	HOSE AND FITTING KIT; see parts on page	1
3	204574	COVER; See 306345 for parts, model 241034	1
	24R350	COVER; See 306345 for parts, model 225014	1
4	220654	FOLLOW PLATE; see 306345 for parts, model 241034	1
	24F902	FOLLOW PLATE; see 306345 for parts, model 225014	1
5	241072	KIT, CE label, installation (not shown) (see page 14)	1

50:1 Fire-Ball 425, 120-lb Drum

Model 223108, Includes items 1 to 4

Model 241039, Includes items 1 to 5

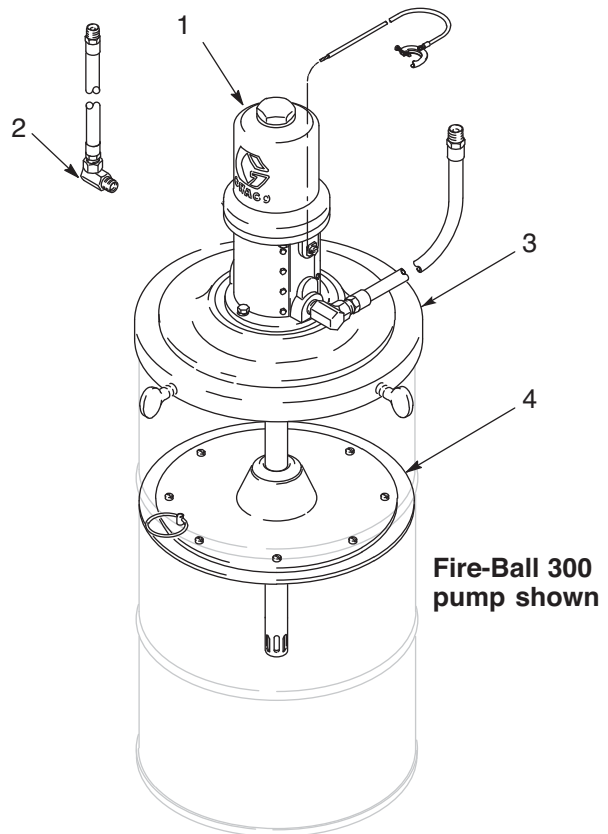
Ref. No.	Part No.	Description	Qty.
1	205394	PUMP, 50:1 Ratio Fire-Ball 425; see 306674 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	204574	COVER; See 306345 for parts	1
4	223344	FOLLOW PLATE; see 306345 for parts	1
5	241073	KIT, CE label, installation (not shown) (see page 14)	1

75:1 Fire-Ball 425, 120-lb Drum

Model 244635, Includes items 1 to 4

Model 24M271, Includes items 1 to 5

Ref. No.	Part No.	Description	Qty.
1	239729	PUMP, 75:1 Ratio Fire-Ball 425; see 308777 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	204574	COVER; See 306345 for parts	1
4	223344	FOLLOW PLATE; see 306345 for parts	1
5	24M270	KIT, CE label, installation (not shown) (see page 14)	1

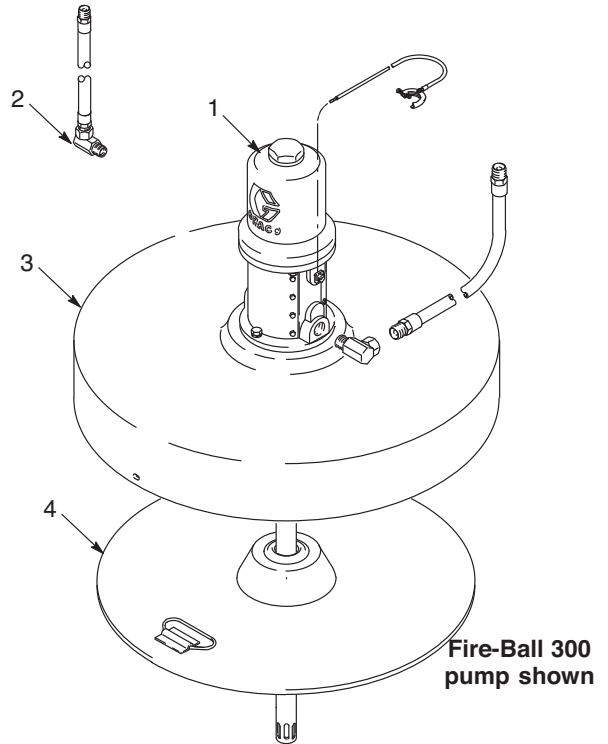


50:1 Fire-Ball 300, 400-lb Drum

Model 225016

Model 241035

Ref. No.	Part No.	Description	Qty.
1	239888	PUMP, 50:1 Ratio Fire-Ball 300; see 308883 for parts	1
2	222072	HOSE AND FITTING KIT; see parts on page	1
3	200326	COVER; See 306345 for parts	1
4	223845	FOLLOW PLATE; see 306345 for parts, model 241035	1
	24F903	FOLLOW PLATE; see 306345 for parts, model 225016	1
5	241072	KIT, CE label, installation (not shown)(see page 14), model 225016	1



50:1 Fire-Ball 425, 400-lb Drum

Model 225781, Includes items 1 to 4

Model 241040, Includes items 1 to 5

Ref. No.	Part No.	Description	Qty.
1	205395	PUMP, 50:1 Ratio Fire-Ball 425; see 306674 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	200326	COVER; See 306345 for parts	1
4	223846	FOLLOW PLATE; see 306345 for parts	1
5	241073	KIT, CE label, installation (not shown)(see page 14)	1

75:1 Fire-Ball 425, 400-lb Drum

Model 244636, Includes items 1 to 4

Model 24M272, Includes items 1 to 5

Ref. No.	Part No.	Description	Qty.
1	239730	PUMP, 75:1 Ratio Fire-Ball 425; see 308777 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	200326	COVER; See 306345 for parts	1
4	223846	FOLLOW PLATE; see 306345 for parts	1
5	24M270	KIT, CE label, installation (not shown)(see page 14)	1

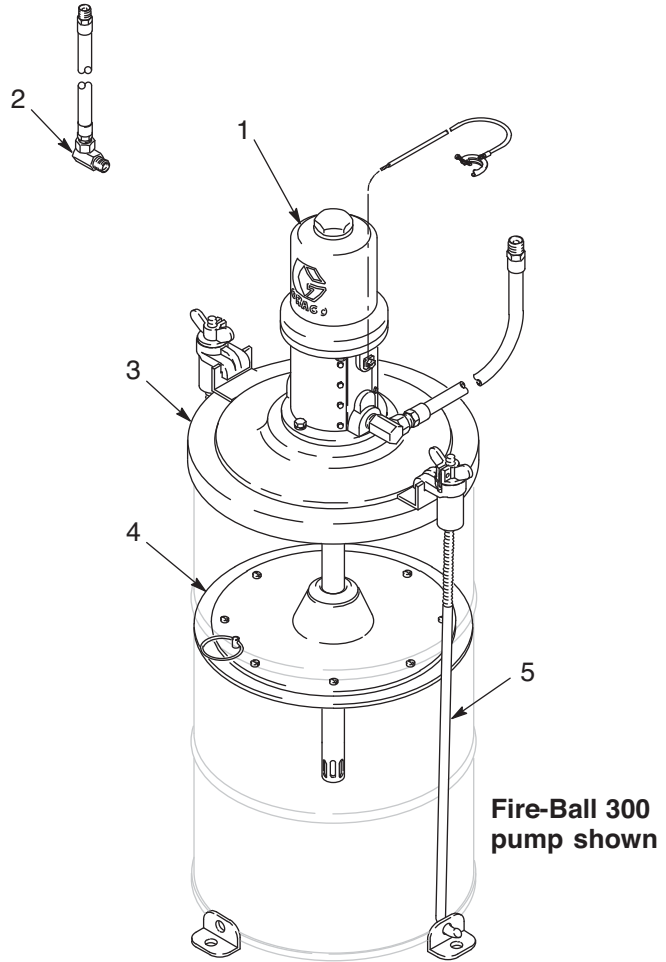
50:1 Fire-Ball 300, 120-lb Drum

Model 222085, Includes items 1 to 5

Model 241036, Includes items 1 to 6

Ref.

No.	Part No.	Description	Qty.
1	239887	PUMP, 50:1 Ratio Fire-Ball 300; see 308883 for parts	1
2	222072	HOSE AND FITTING KIT; see parts on page	1
3	222060	COVER	1
4	220654	FOLLOW PLATE; see 306345 for parts	1
5	222061	HOLD-DOWN KIT; see 306345 for parts	1
6	241072	KIT, CE label, installation (not shown) (see page 14)	1



50:1 Fire-Ball 425, 120-lb Drum

Model 223107, Includes items 1 to 5

Model 241041, Includes items 1 to 6

Ref.

No.	Part No.	Description	Qty.
1	205394	PUMP, 50:1 Ratio Fire-Ball 425; see 306674 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	222060	COVER	1
4	223344	FOLLOW PLATE; see 306345 for parts	1
5	222061	HOLD-DOWN KIT; see 306345 for parts	1
6	241073	KIT, CE label, installation (not shown) (see page 14)	1

75:1 Fire-Ball 425, 120-lb Drum

Model 243817, Includes items 1 to 5

Model 24M273, Includes items 1 to 6

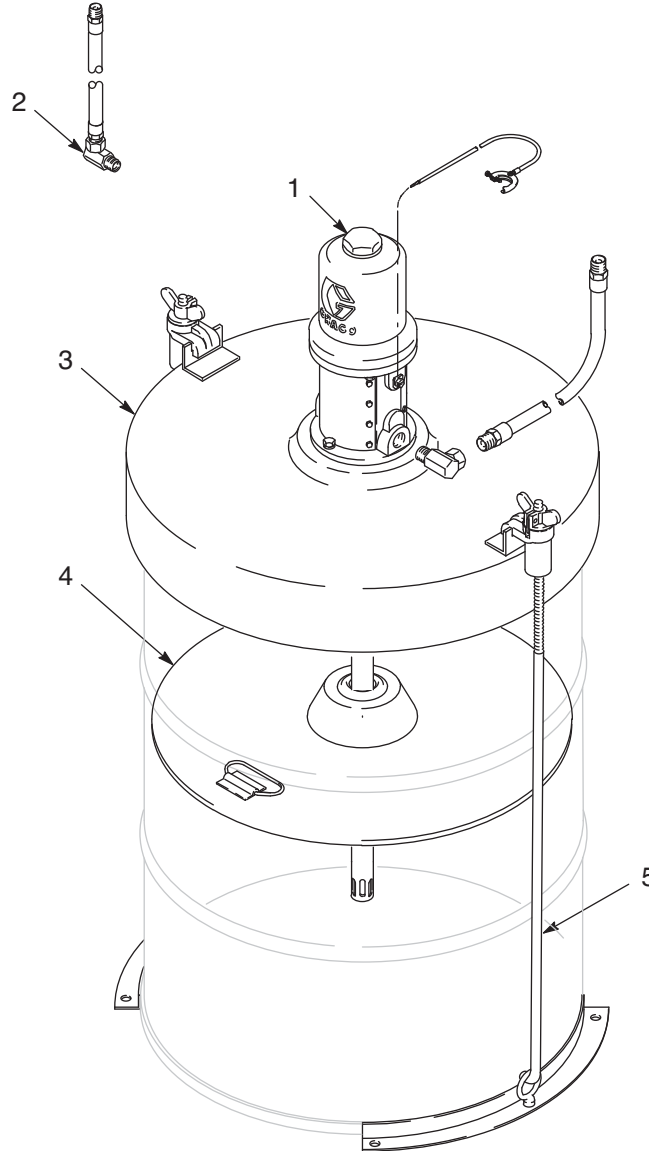
Ref.

No.	Part No.	Description	Qty.
1	239729	PUMP, 75:1 Ratio Fire-Ball 425; see 308777 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	222060	COVER	1
4	223344	FOLLOW PLATE; see 306345 for parts	1
5	222061	HOLD-DOWN KIT; see 306345 for parts	1
6	24M270	KIT, CE label, installation (not shown) (see page 14)	1

50:1 Fire-Ball 300, 400-lb Drum

Model 222071, Includes items 1 to 5
Model 241034, Includes items 1 to 6

Ref. No.	Part No.	Description	Qty.
1	239888	PUMP, 50:1 Ratio Fire-Ball 300; see 308883 for parts	1
2	222072	HOSE AND FITTING KIT; see parts on page	1
3	207366	COVER; See 306345 for parts	1
4	223845	FOLLOW PLATE; see 306345 for parts	1
5	207361	HOLD-DOWN KIT; see 306345 for parts	1
6	241072	KIT, CE label, installation (not shown) (see page 14)	1



Fire-Ball 300 pump shown

50:1 Fire-Ball 425, 400-lb Drum

Model 222075, Includes items 1 to 5
Model 241042, Includes items 1 to 6

Ref. No.	Part No.	Description	Qty.
1	205395	PUMP, 50:1 Ratio Fire-Ball 425; see 306674 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	207366	COVER; See 306345 for parts	1
4	223846	FOLLOW PLATE; see 306345 for parts	1
5	207361	HOLD-DOWN KIT; see 306345 for parts	1
6	241073	KIT, CE label, installation (not shown) (see page 14)	1

75:1 Fire-Ball 425, 400-lb Drum

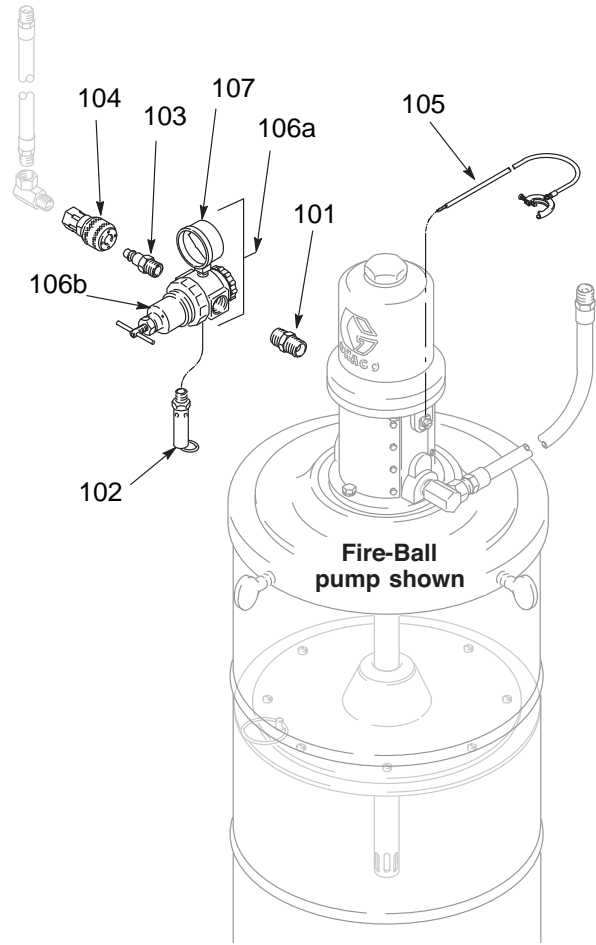
Model 243818, Includes items 1 to 5
Model 24M274, Includes items 1 to 6

Ref. No.	Part No.	Description	Qty.
1	239730	PUMP, 75:1 Ratio Fire-Ball 425; see 308777 for parts	1
2	222076	HOSE AND FITTING KIT; see parts on page	1
3	207366	COVER; See 306345 for parts	1
4	223846	FOLLOW PLATE; see 306345 for parts	1
5	207361	HOLD-DOWN KIT; see 306345 for parts	1
6	24M270	KIT, CE label, installation (not shown)(see page 14)	1

CE Installation Kits

See CE Label Installation instructions, page 7.

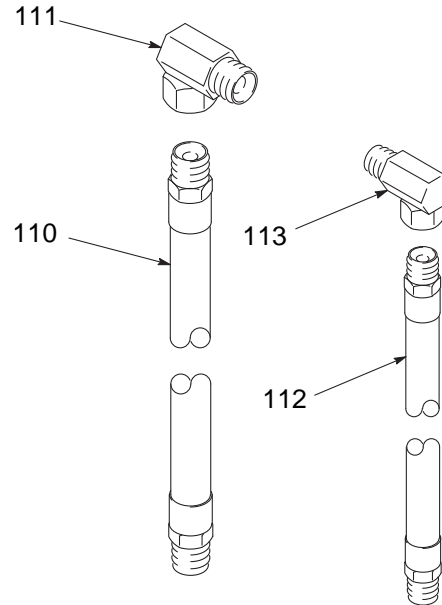
Ref. No.	Part No.	Description	Qty.
101	156849	NIPPLE, pipe • Kit 241072	1
	158491	• Kits 241073, 24M270	1
102	103347	VALVE, safety, 100 psi (0.7 MPa, 7 bar) (All kits)	1
103	169971	FITTING, line • Kit 241072	1
	110196	• Kits 241073, 24M270	1
104	101198	COUPLER, line • Kit 241072	1
	101199	• Kits 241073, 24M270	1
105	222011	CLAMP, grounding (All kits)	1
106a	109075	REGULATOR, air with gauge (Kit 241072)	1
106b	104266	REGULATOR, air (Kits 241073, 24M270)	1
107	100960	GAUGE, air pressure (Kits 241073, 24M270)	1
108	†	CE Label, (not shown) (All kits) (see page 7)	1



Hose and Fitting Kits

Model 222076

Ref. No.	Part No.	Description	Qty.
110	205418	HOSE, air, 1/2" ID cpld 1/2 npt (mbe); 72" long	1
111	155470	ADAPTER, 90°; 1/2 npt (m) x 1/2 npsm (f) swivel	1
112	109163	HOSE, fluid, 3/8" ID; 3/8 npt (mbe); 72" long	1
113	155494	ADAPTER, 90°; 3/8 npt (m) x 3/8 npsm (f) swivel	1



Model 222072

Ref. No.	Part No.	Description	Qty.
110	203320	HOSE, air, 3/8" ID cpld 3/8 npt (mbe); 72" long	1
111	155494	ADAPTER, 90°; 3/8 npt (m) x 3/8 npsm (f) swivel	1
112	109150	HOSE, fluid, 1/4" ID; 1/4 npt (mbe); 72" long	1
113	155541	ADAPTER, 90°; 1/4 npt (m) x 1/4 npsm (f) swivel	1

Technical Data

See the pump instruction manual for technical data including wetted parts, port sizes, maximum air consumption, maximum delivery, and so on. Sound data for the pumps on these units are as follows:

50:1 Fire-Ball 300 Pumps: Tested at 100 psi (0.7 MPa, 7 bar) at 40 cycles per minute

Sound Pressure Level, measured at 1 meter from unit	77.8 dB(A)
Sound Power Level, tested in accordance with ISO 9614-2	85.6 dB(A)

50:1 and 75:1 Fire-Ball 425 Pumps: Tested at 100 psi (0.7 MPa, 7 bar) at 15 cycles per minute

Sound Pressure Level, measured at 1 meter from unit	80.9 dB(A)
Sound Power Level, tested in accordance with ISO 9614-2	94.6 dB(A)

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.

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

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

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés, à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Information

For the latest information about Graco products, visit www.graco.com.

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

Phone: 612-623-6921 **or Toll Free:** 1-800-328-0211 **Fax:** 612-378-3505

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.*

Original instructions. This manual contains English. MM 307880
For Patents see: www.graco.com/patents

Graco Headquarters: Minneapolis
International Offices: Belgium, China, Japan, Korea

GRACO INC. AND SUBSIDIARIES • P.O. BOX 1441 • MINNEAPOLIS MN 55440-1441 • USA

Copyright 1998, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.

www.graco.com
Revised March 2016