

75:1 Fire-Ball® 425 Pumps

308777L
EN

For pumping non-corrosive and non-abrasive greases and lubricants only. For professional use only.

Model No. 239729, Series B

120 lb (55 kg) drum length

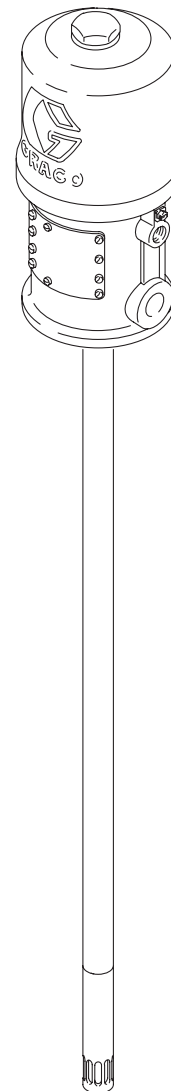
Model No. 239730, Series B

400 lb (180 kg) drum length

Model No. 239731, Series B

stubby length

*100 psi (0.7 MPa, 7 bar) Maximum Air Input Pressure
7500 psi (51.7 MPa, 517 bar) Maximum Working Pressure*



Important Safety Instructions

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






This pump is designed to be used only in pumping non-corrosive and non-abrasive oils and lubricants. Any other use of the pump can cause unsafe operating conditions and component rupture, which can result in fluid injection, other serious injury, or fire or explosion.

Contents

- Warnings** **3**
- Installation** **5**
 - Mounting the Pump 5
 - Grounding 5
 - Typical Installation 5
- Operation** **7**
 - Pressure Relief Procedure 7
 - Startup and Adjustment 7
- Maintenance** **8**
- Repair** **9**
 - Displacement Pump Repair 9
 - Air Motor and Throat Service 10
 - Throat Packing Service 12
- Parts** **13**
- Technical Data** **15**
- Mounting Hole Layout** **17**
- Graco Standard Warranty** **18**

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.

 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. • Stop operation immediately if static sparking occurs or you feel a shock. 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. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- 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.



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.
- Always wear chemically impermeable gloves when spraying, dispensing, or cleaning equipment.



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.



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

Mounting the Pump

- Selection a convenient location for the equipment to ensure easy operator access to the pump air controls, sufficient room to change supply containers, and a secure mounting platform.
- If you are mounting the pump directly on the supply tank, position the pump so its intake valve is no more than 1 inch (25 mm) from the bottom of the container. Mount the pump to the cover or other suitable mounting device.

<p>Mount the pump securely so that it cannot move around during operation. Failure to do so could result in personal injury or equipment damage.</p>						

Grounding

<p>The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.</p>						

Be sure to ground all of this equipment:

Pump: Use a ground wire and clamp as shown in FIG. 1. Remove the ground screw (Z) and insert through the eye of the ring terminal at end of ground wire (Y). Fasten the screw back onto the pump and tighten securely. Connect the other end of the wire to a true earth ground. To order a ground wire and clamp, order Part No. 222011.

Air and fluid hoses: Use only electrically conductive hoses.

Air compressor: Follow manufacturer’s recommendations.

Dispensing valve: Ground through connection to a properly grounded fluid hose and pump.

Object being dispensed to: Follow your local code.

Solvent pails used when flushing: Follow your local code. use only metal pails, which are conductive, placed on a ground surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.

To maintain ground continuity when flushing or relieving pressure: Hold a metal part of the dispensing valve firmly to the side of a grounded *metal* pail, then trigger the gun.

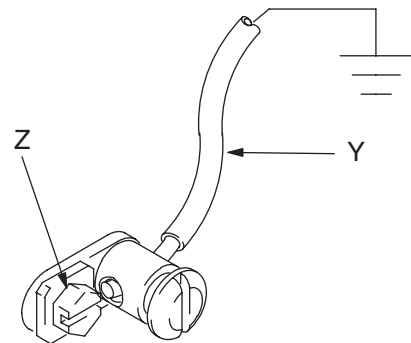


FIG. 1

Typical Installation


Mount the pump to suit the type of installation planned. Very heavy lubricants may require an inductor plate. See Dimensions and Mounting Hole Layout on page 17.

Install the air line accessories in the approximate order shown in FIG. 2. Install a bleed-type master air valve (B) within easy reach of the pump, upstream from the air regulator (E). Install an air filter (C) to remove harmful dirt and moisture from your compressed air supply. For automatic air motor lubrication, install an air line oiler (D) close to the pump air inlet. Install and air regulator (E) to control the pump speed.

The installation shown in FIG. 2 is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to suit your particular needs.

If you supply your own accessories, be sure they are adequately sized and pressure-rated to meet the system requirements.

Be sure the air hose is properly sized to deliver an adequate supply of air to the motor. See Technical Data on page 15.

						
<p>A bleed-type master air valve (B) is required to shut off and relieve air pressure that may be trapped in the air motor. Trapped air could cause the pump to cycle unexpectedly and cause serious bodily injury, including amputation.</p>						

Connect a ground dispensing hose (F) to the 3/8 npt(f) pump outlet. Install an appropriate fun or dispensing valve (G) to the hose.

Ground the pump as explained in Grounding on page 5.

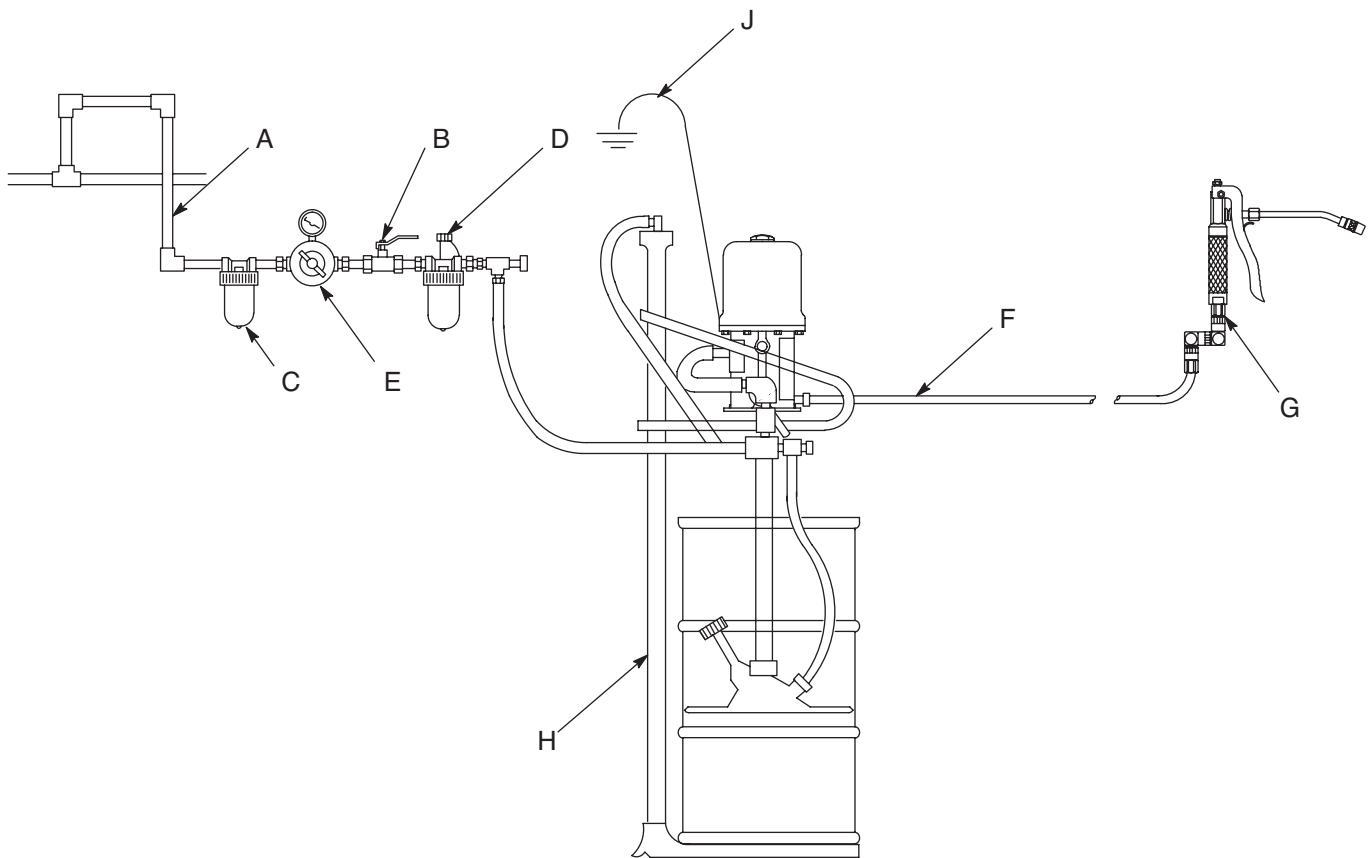


FIG. 2: Typical Installation

Key:

- A Grounded air line
- B Bleed-type master air valve
- C Air filter
- D Air line oiler
- E Air regulator
- F Grounded dispensing hose
- G Dispensing Valve
- H Elevator assembly with inductors
- J Ground wire

Operation

Pressure Relief Procedure



Follow the Pressure Relief Procedure whenever you see this symbol.



This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Close the air regulators.
2. Close the supply pump's bleed-type master air valve (required in this system).
3. Open the dispensing valve until pressure is fully relieved.

If you suspect that the dispensing valve, extensions, or grease fitting coupler is clogged, or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen the coupler or hose end coupling and relieve pressure gradually, then loosen completely and clear the clog.

Startup and Adjustment

Open the bleed-type master air valve. Open the dispensing valve and slowly open the air regulator until the pump is running smoothly. After all the air is purged, close the dispensing valve. The pump starts and stops as the valve is opened and closed.

NOTICE

Never allow the pump to run dry of fluid being pumped. A dry pump quickly accelerates to a high speed and may damage 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 the pump and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system.

Use the air regulator (E) to control the pump speed and fluid pressure. See FIG. 2. Always use the lowest pressure necessary to obtain the desired results.

When done using the pump for the day, always follow the Pressure Relief Procedure at left.

Maintenance

The accessory air line oiler (D) provides automatic air motor lubrication. For daily manual lubrication, disconnect the air hose, place about 15 drops of light machine oil in the air inlet, reconnect the hose, and turn on the air supply to blow oil into the motor.

Troubleshooting



Before servicing this equipment always make sure to relieve the pressure, see Pressure Relieve Procedure, page 7.

NOTE: Check all possible problems and solutions before disassembling the pump.

Problem	Cause	Solution
Pump fails to operate	Inadequate air supply pressure or restricted air lines	Increase air supply; clear
	Closed or clogged valves	Open; clear
	Clogged fluid lines, hoses, valves, etc.	Clear*
	Damaged air motor	Service air motor
	Exhausted fluid supply	Refill and reprime, or flush
Continuous air exhaust	Worn or damaged air motor gasket, packing, seal, etc.	Service air motor
Erratic pump operation	Exhausted fluid supply	Refill and reprime, or flush
	Held open or worn intake valve or piston packings	Clear; service
Pump operates, but output low on upstroke	Held open or worn piston or packings	Clear; service
Pump operates, but output low on downstroke	Held open or worn intake valve	Clear; service
Pump operates, but output low on both strokes	Inadequate air supply or restricted air line	Increase air supply; clear
	Closed or clogged valves	Open; clean
	Exhausted fluid supply	Refill and reprime or flush
	Clogged fluid lines, hoses, valves, etc.	Clear*
	Packing nut too tight	Loosen
	Loose packing nut or worn packings	Tighten; replace

* Follow the Pressure Relief Procedure (page 7) and disconnect the fluid line. If the pump starts when the air is turned back on, the fluid line, hose, valve, etc., was clogged.

Repair

Refer to FIG. 3 for the following instructions.

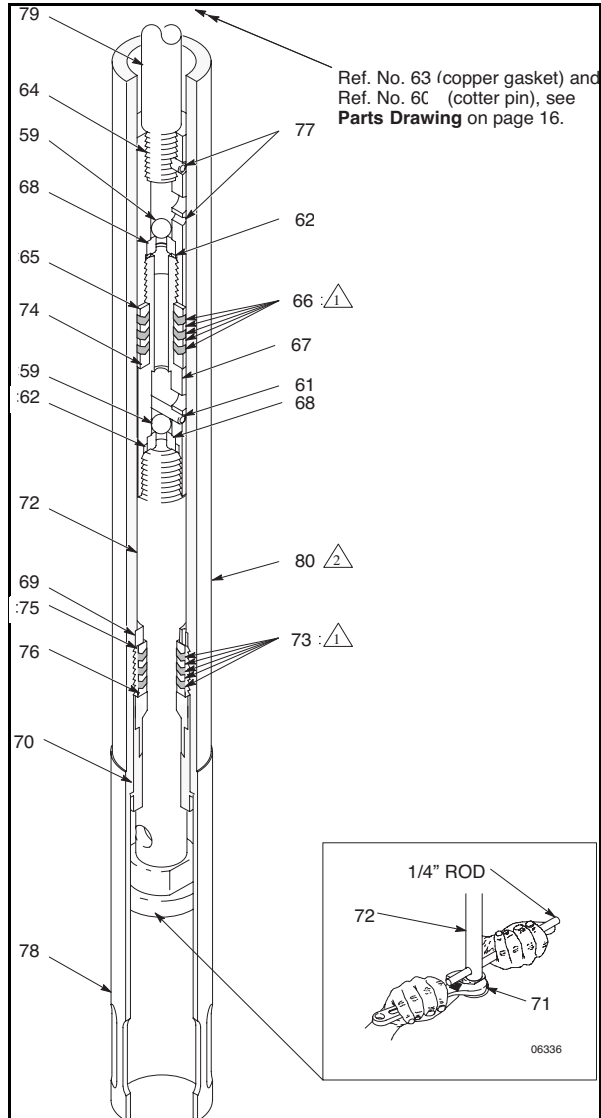


FIG. 3

Displacement Pump Repair

Before you start:

- To reduce downtime, be sure to have all necessary repair parts available. Recommended spare parts are listed in the parts list.
- Repair kit 239734 is available. Use all new parts for best results.
- The balls (59) in the intake and piston valves cannot be re-seated on the hardened seats (68).

- Whenever replacing the packings, also replace the glands and bearings.
- When cleaning parts, use a compatible solvent. Inspect parts for wear or damage and replace as necessary. Scoring or irregular surfaces on the priming tube (72) or polished inner wall of the riser tube (80) causes premature packing wear and leaking. Check these parts by holding the parts up to the light at a slight angle.

Disassembly

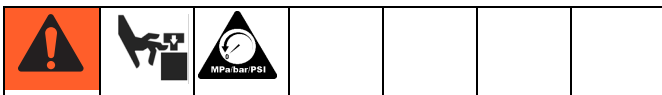


1. Flush the pump if possible.
2. Relieve the pressure, see page 7.
3. Disconnect all air and fluid hoses.
4. Clamp the motor base in a vise. Unscrew the priming cylinder (78).
5. Hold the priming tube (72) with a 1/4 inch (6 mm) diameter rod through the holes in the tube. Grip the flats of the priming piston (71) with a wrench, and unscrew the piston.
6. Loosen the packing housing (70). Unscrew the riser tube (80) from the air motor. Pull the riser tube and connecting rod down to gain access to the cotter pin (60). Remove the cotter pin, and un-thread the connecting rod (79) from the motor displacement rod.
7. Place the riser tube (80) in a vise, and remove the piston assembly. Remove the packing housing (70) from the riser tube, and remove the packings from the housing.
8. Hold the intake valve housing (67) in a vise, and unscrew the priming tube (72) by inserting a 1/4 inch (6 mm) diameter rod through the holes in the tube. Handle the tube carefully to avoid marring the surface. Remove the ball, seat, and gasket.
9. Unscrew the piston valve housing (64) from the intake valve housing (67). Remove the ball and packings.
10. Clean all parts thoroughly. Grease all parts, except threads when reassembling.

Reassembly

1. Hold the intake housing (67) upright in a vise. One at a time, place the female gland (74), four leather v-packings (66) with the lips of the packings facing up, and the male gland (65) on the intake housing. Place the gasket (62), seat (68), and ball (59) on the housing (67).
2. If the pins (77) were removed from the piston valve housing (64), replace them. Screw the piston valve onto the intake valve housing.
3. Place a gasket (62), seat (68), and ball (59) on the priming tube (72). Holding the piston valve housing (67) with a wrench, screw the priming tube into it, using a 1/4" diameter rod through the tube for leverage.
4. One at a time, place the female gland (76), four leather v-packings (73) with lips of packings facing up, a male gland (75), and a bearing (69) in the packing housing (70). Screw the housing firmly into the riser tube (80).
5. Guide the piston assembly into the riser tube (80). Screw the riser tube into the motor base, making sure the gasket (63) is in place. Install the cotter pin (60).
6. Torque the riser tube to 50 to 70 ft-lbs (68 to 95 N.m).
7. Screw the priming piston (71) onto the priming tube (72). Screw the intake cylinder (78) firmly onto the riser tube.
8. Reconnect the ground wire if it was disconnected during repair.

Air Motor and Throat Service



Before You Start

Before starting, be sure to have all necessary parts on hand. Air Motor Repair Kit 207385 includes repair parts for the motor. Pump Repair Kit 239734 includes repair parts for the pump and the air motor throat area. Use all parts in the kits for best results.

Two accessory tools should be used: Padded Pliers, 207579, used to grip the trip rod without damaging its surface; Gauge, 171818, is used to ensure the proper clearance between the poppets and seat of the transfer valve.

Disassembly

1. Flush the pump.
2. Relieve the pressure, see page 7.
3. Disconnect the air hose from the motor. If necessary, disconnect the motor from the pump. Clamp the air motor base in a vise.
4. Manually push up on the piston rod to move the piston assembly to the top of its stroke. Unscrew the cylinder cap nut (31) from the cylinder (32). Pull up on the cap nut. Grip the trip rod (1) with padded pliers, 207579, and screw the cap nut off the trip rod. (FIG. 4)
5. Remove the eight screws (7) holding the cylinder (32) to the base (56). Carefully pull the cylinder *straight up* off the piston. (FIG. 4)

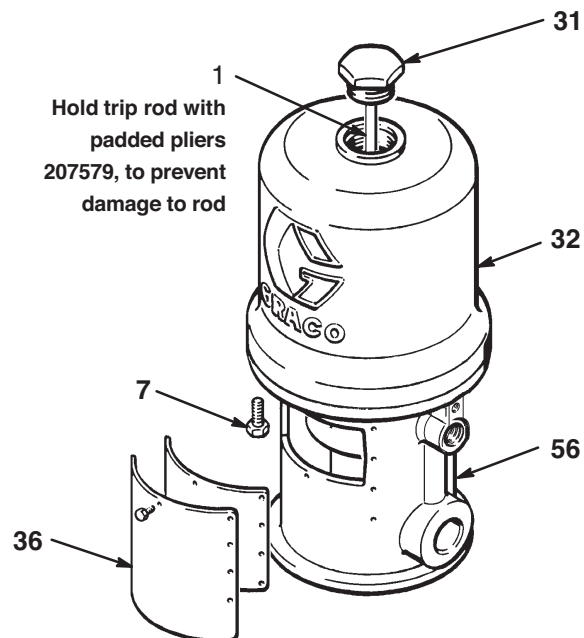


FIG. 4

NOTICE

To avoid damaging the cylinder wall. **Always** lift the cylinder **straight up** off the piston. **Never** tilt the cylinder as it is being removed.

6. Use a screw driver to push down on the trip rod yoke (14) and snap the toggle assemblies (K) down. See FIG. 5. Remove the lock wires (28) from the adjusting nuts (27) of the transfer valves (M). Screw the top adjusting nuts (27) off. Screw the valve stems (30) out of the grommets (18) and lower adjusting nuts (27). Take the valve poppets (37) off the stems and squeeze them firmly to check for cracks.
 7. Grip the toggle rockers (16) with a pliers. Compress the springs (17) and swing the toggle assembly (K) up and away from the piston lugs (L), and remove the parts. Check that the valve actuator (13) is supported by the spring clips (4), but slides easily into them. (FIG. 5)
 8. Remove the trip rod yoke (14), valve actuator (13) and trip rod (1). Check the exhaust valve poppets (38) for cracks.
- NOTE:** To remove the exhaust valve poppets (38), stretch them out and cut with a sharp knife.
9. Pull the piston (5) up out of the base (56) and inspect the piston o-ring (20) and the o-ring in the base casting.

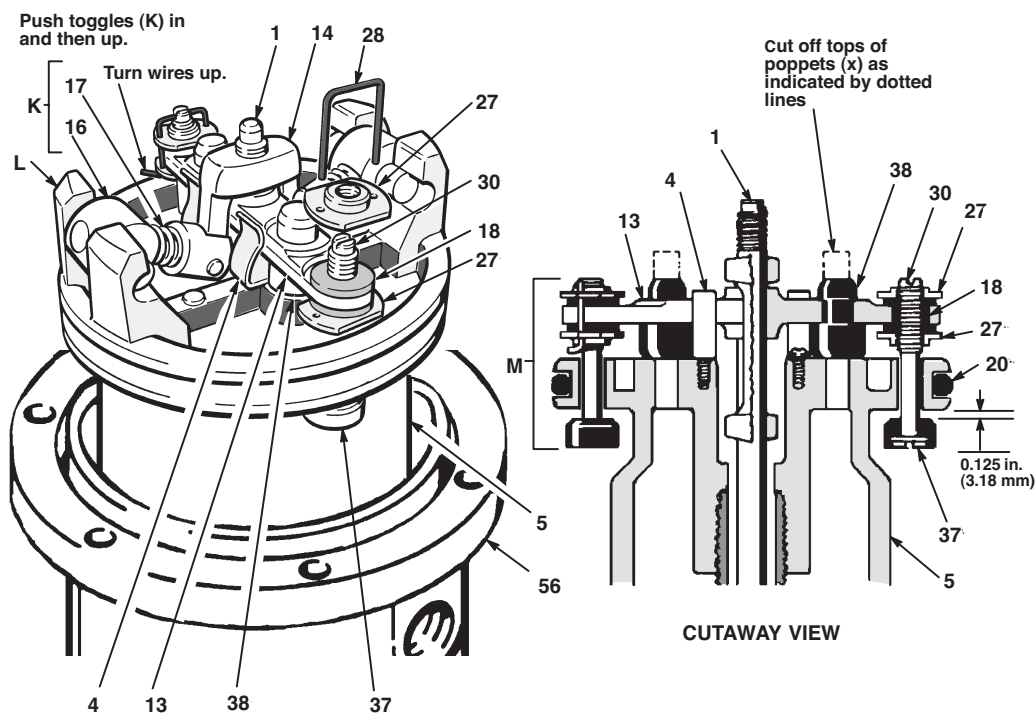


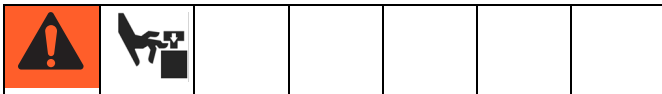
FIG. 5

Reassembly

1. Clean all the parts carefully in a compatible solvent and inspect for wear or damage. Use all the repair kit parts during reassembly and replace other parts as necessary.
2. Check the polished surfaces of the piston, piston rod and cylinder wall for scratches or wear. A scored rod will cause premature packing wear and leaking.
3. Lubricate all parts with a light, water-resistant grease.
4. Be sure the o-rings re in place. Slide the piston rod down through the throat bearing and lower the piston (5) into the air motor base (56).
5. Pull the exhaust valve poppets (38) into the valve actuators (13) and clip off the top part shown with dotted lines. (FIG. 5)
6. Install the transfer valve poppets (37) onto the valve stems (30), bottom adjusting nuts (27), grommets (18), and top adjusting nuts (27) on the piston (5). Assemble the trip rod (1), valve actuator (13), trip rod yoke (14), and toggle assemblies (K) on the piston. (FIG. 5)

- Before installing the lock wires (28) in the adjusting nuts (27), use the special gauge, 171818, to adjust the transfer valve (M) so there is 0.125 inches (3.68 mm) clearance between the poppets (37) and the piston (5) when the toggle assemblies are in the *down* position.
- Snap the toggle assemblies (K) to the *up* position. Reinstall the cylinder (32) and cap nut (31). Reassemble the air motor to the displacement pump.
- Before remounting the pump, connect an air hose and run the pump slowly, at about 40 psi (0.28 MPa, 2.8 bar) to ensure that it operates smoothly.
- Reconnect the ground wire before regular operation of the pump.

Throat Packing Service



The piston in the air motor, located behind the air motor plates, moved when air is supplied to the motor. Moving parts can pinch or amputate your fingers or other body parts. Therefore, **never** operate the pump with the air motor plates removed.

See FIG. 6 on page 12 and the Parts drawing and list (page 13 and 14) for further information.

- Clamp the pump in a vise and unscrew the riser tube (80) from the air motor base (56). Pull the riser tube away from the air motor until the cotter pin (60) which secures the displacement pump connecting rod to the air motor piston rod (52) is visible. (FIG. 6)
- Remove the cotter pin (60) and unscrew the pump connecting rod (79) from the air motor piston rod (52). Remove the cylinder (32) from the air motor base (56) as described in the Disassembly section on page 10).
- Remove the louvered air exhaust plate (36) and unscrew the throat packing nut (45), using a spanner wrench or a 0.22 inch (5.6 mm) diameter rod. (FIG. 6)
- Remove the packing nut (45), male and female glands (47 and 48), v-packings (49), washer (44), bearing (46), retainer (24), wiper (22), o-ring (23), u-cup (25), and washer (26) from the base.

- Clean the throat packing area in the base and the packing nut. Clean and inspect all parts, and replace as necessary.
- Lubricate the packings, piston rod, and piston flange with a light, water-resistant grease.
- Install the washer (26) into the base. Assemble the packing (25) and the wiper (22) into the retainer (24). Install the o-ring (23) onto the retainer, and insert the retainer assembly into the base.

NOTE: Make sure the packing (25) lips face down, and make sure the wiper (22) lips face up.

- Insert the bearing (46) and the washer (44) into the base. Assemble the female gland (48), v-packings (49), and the male gland (47) into the packing nut (45).
- Reinstall the spacer and packing in the base and packing nut (45). Screw the packing nut into the base, and tighten it securely. Carefully slide the piston rod (52) down through the throat packing, and lower the piston into the base. Reinstall the plate (36) and cylinder (32). Reassemble the air motor to the displacement pump.
- Torque the outlet adapter (42) to 45 to 55 ft-lbs (61 to 75 N.m).

NOTICE

When reinstalling cotter pin (60), **always** spread and flatten the pin (both the head and prongs) around the rod to within 1 inch (25 mm) total diameter. See Detail A of FIG. 6.

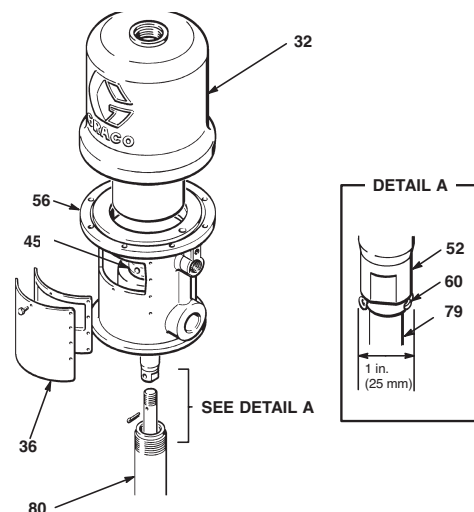
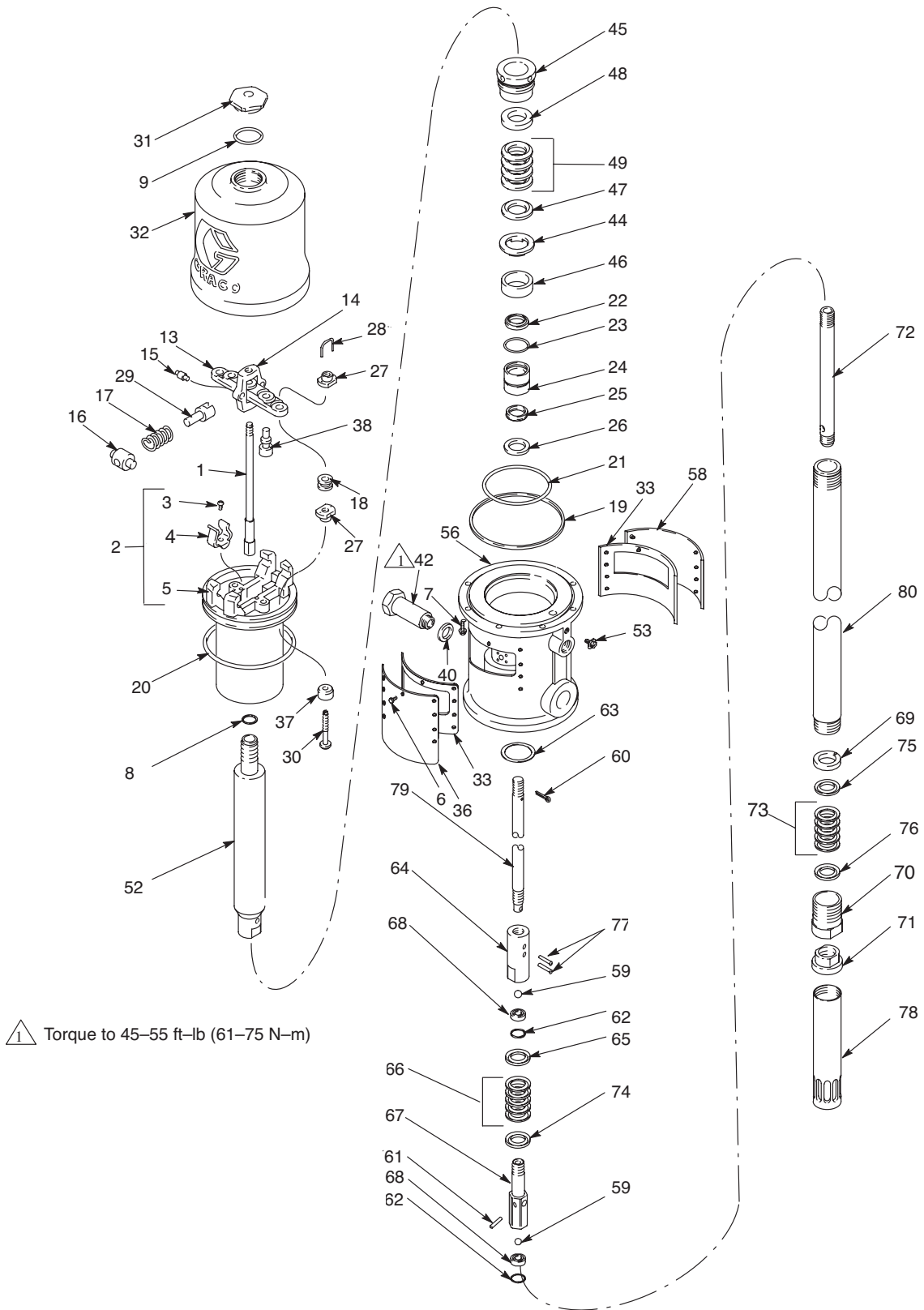


FIG. 6

Parts



Model 239729, Series B,
120 lb (55 kg) drum length

Model 239730, Series B,
400 lb (180 kg) drum length

Model 239731, Series B,
Stubby length

Air Motor

Ref.	Part	Description	Qty.
1	207150	TRIP ROD	1
2	207391	PISTON, includes items 3 to 5 (also includes 207385 repair kit when ordered as a replacement part)	1
3	102975	SCREW, rd hd mach, 6-32 x 1/4 in.	2
4❖	158361	CLIP, spring	2
5		BARE PISTON	1
6	100078	SCREW, hex hd, 8-32 x 3/8 in.	20
7	101578	SCREW, hex head Nylock, 8-32 x 3/8 in.	8
8	150647	GASKET, copper	1
9❖	156698	O-RING, buna-N	1
13	158359	ACUTATOR, valve	1
14	158360	YOKE, rod, trip	1
15	158362	PIN, toggle	2
16	158364	ROCKER, toggle	2
17	167585	SPRING, helical compression	2
18*	158367	GROMMET, rubber	2
19	158377	SEAL, flat ring, nitrile rubber	1
20*	158378	SEAL, o-ring, nitrile rubber	1
21*	158379	SEAL, o-ring, nitrile rubber	1
22‡	113935	WIPER, rod	1
23‡	113944	PACKING, o-ring	1
24‡	192172	RETAINER, packing	1
25‡	113936	PACKING, u-cup	1
26‡	192173	WASHER, packing	1
27*	160261	NUT, adjusting	4
28*	160618	LOCKWIRE, transfer valve	2
29	160623	ARM, toggle	2
30*	160896	STEM, valve	2
31	161435	NUT, cylinder cap	1
32	15E954	CYLINDER, motor, air	1
33	178270	PLATE, muffler	2
36	15E555	PLATE, identification	1
37*	170708	POPPET, valve, urethane	2
38*	170709	POPPET, valve, urethane	2
40	150461	GASKET, copper	1
42	158409	ADAPTER, outlet	1
44‡	158697	WASHER, thrust	1
45‡	159047	NUT, packing	1
46‡	159048	BEARING, brass	1
47‡	159306	GLAND, male	1
48‡	159307	GLAND, female	1

Ref.	Part	Description	Qty.
49‡	159308	V-PACKING, nitrile rubber	4
52	162553	ROD, piston	1
53	116343	SCREW, grounding	1
56	165362	BASE, motor, air	1
58	177843	PLATE, warning	1

Pump

Ref.	Part	Description	Qty.
59❖	100170	BALL, steel, 3/8" dia	2
60❖	100579	PIN, cotter, 7/64" dia, 1" long	1
61❖	108513	PIN, roll, 0.135" dia, 7/8" long	1
62❖	150451	GASKET, copper	2
63	158314	GASKET, copper	1
64	162555	HOUSING, piston valve	1
65❖	192423	GLAND, male	1
66❖	114115	V-PACKING, leather	5
67	162558	HOUSING, intake	1
68	162559	SEAT, valve	2
69❖	192421	BEARING, brass	1
70	192410	HOUSING, packing	1
71	162562	PISTON, priming	1
72	192424	TUBE, priming	1
73❖	114116	V-PACKING, leather	5
74❖	192425	GLAND, female	1
75❖	192426	GLAND, male	1
76❖	192427	GLAND, female	1
77❖	102180	PIN, roll, 0.135 in dia, 1 in long	2
78	164233	CYLINDER, intake primer	1
79	164234	ROD, connecting, 12.47" (317 mm) long, model 239729	1
	164231	ROD, connecting, 19-13/32" (439 mm) long, model 239730	1
	192422	ROD, connecting, 3-9/32" (83 mm) long, model 239731	1
80	192428	TUBE, riser, 21.31" (541 mm) long, model 239729	1
	192429	TUBE, riser, 28.25" (718 mm) long, model 239730	1
	192430	TUBE, riser, 12.13" (308 mm) long, model 239731	1

* Parts included in Kit 207385 (purchase separately).

Repair Kit 239734, which may be purchased separately, includes part to service the air motor throat area and the pump lower.

‡ Parts for the air motor throat area.

❖ Parts for the pump lowers.

❖ Recommended "tool box" spare parts. Keep on hand to reduce down time.

Technical Data

75:1 Fire-Ball® 425 Pumps		
	US	Metric
Fluid pressure ratio	75:1	
Air pressure operating range	40 to 100 psi	0.3 to 0.7 MPa, 3 to 7 bar
Maximum working pressure	7500 psi	51.7 MPa, 517 bar
Maximum delivery	0.33 gpm	1.3 lpm
Cycles per gallon (liter)	165	42
Maximum recommended pump speed	60 cycles/minute	
Air motor effective diameter	4.25 inches	108 mm
Stroke	4 inches	102 mm
Air consumption	approximately 26 cfm at 1 gpm, at 70 psi	approximately 0.72 m ³ /min at 1 gpm, at 0.5 MPa, 5 bar
Wetted Parts	steel, brass, aluminum, leather	
Weight		
Model 239729	34 lb	15 kg
Model 239730	37 lb	17 kg
Model 239731	30 lb	14 kg

Sound Pressure Level

(measured at 1 meter from unit)

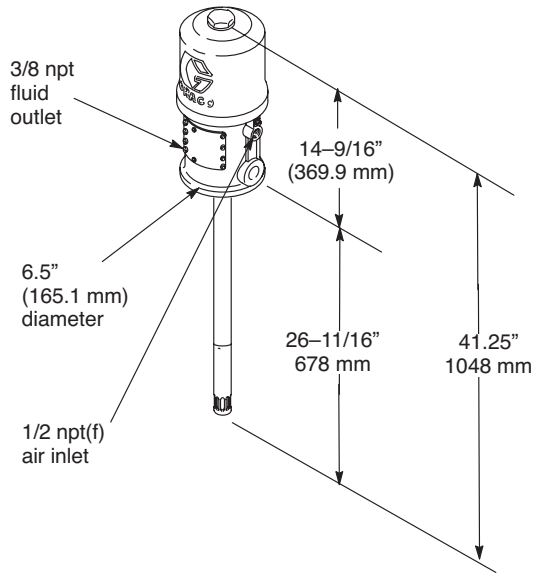
Input Air Pressures at 15 cycles per minute		
40 psi (0.28 MPa, 2.8 bar)	70 psi (0.48 MPa, 4.8 bar)	100 psi (0.7 MPa, 7 bar)
73.6 dB(A)	78.34 dB(A)	80.85 dB(A)

Sound Power Level

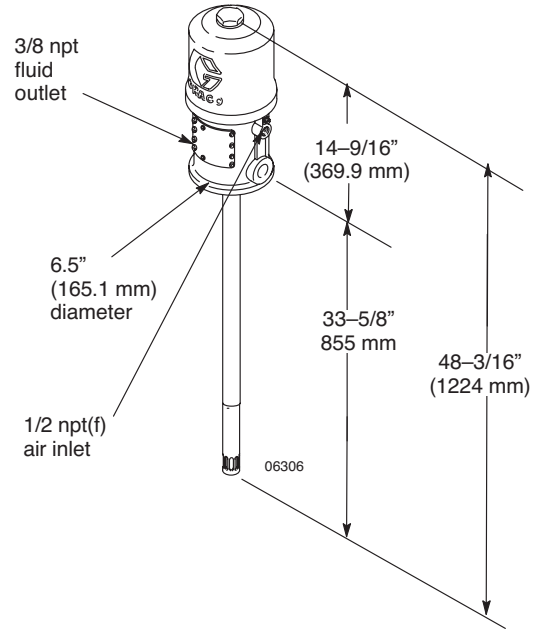
(tested in accordance with ISO 9614-2)

Input Air Pressures at 15 cycles per minute		
40 psi (0.28 MPa, 2.8 bar)	70 psi (0.48 MPa, 4.8 bar)	100 psi (0.7 MPa, 7 bar)
87.4 dB(A)	92.09 dB(A)	94.62 dB(A)

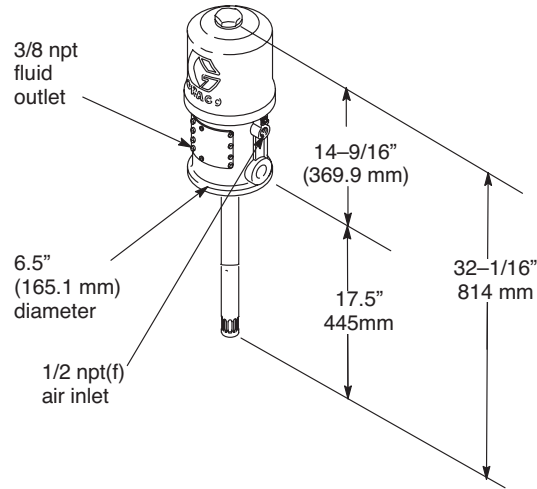
Dimensions



Model 239729, Series B

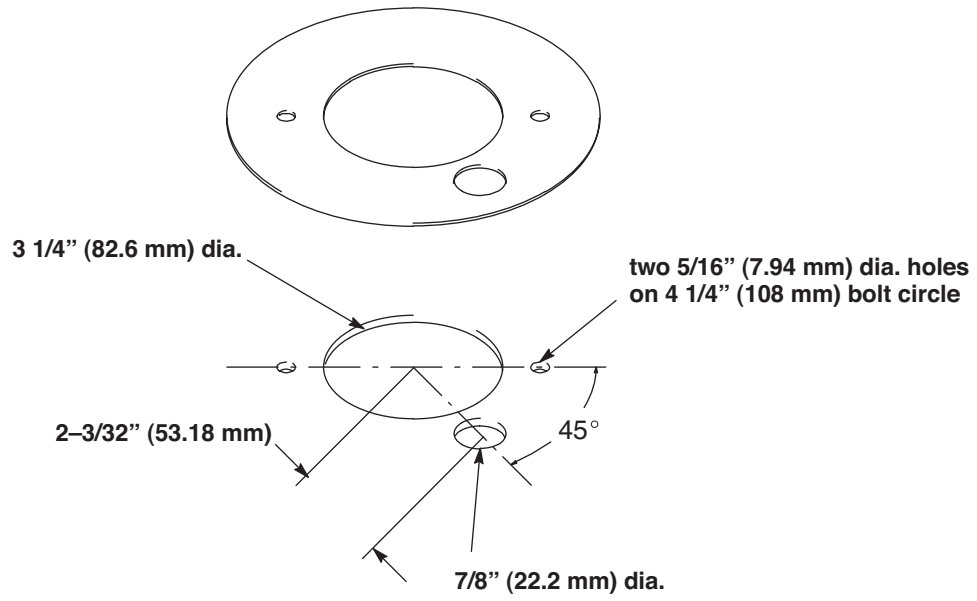


Model 239730, Series B



Model 239731, Series B

Mounting Hole Layout



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

*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.*

For patent information, see www.graco.com/patents.

Original instructions. This manual contains English. MM 308777

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

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

Copyright 1997, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.

www.graco.com

Revised December 2012