Instructions

1:1 Ratio Fast-Ball® 100 Pumps

3A9292C

EN

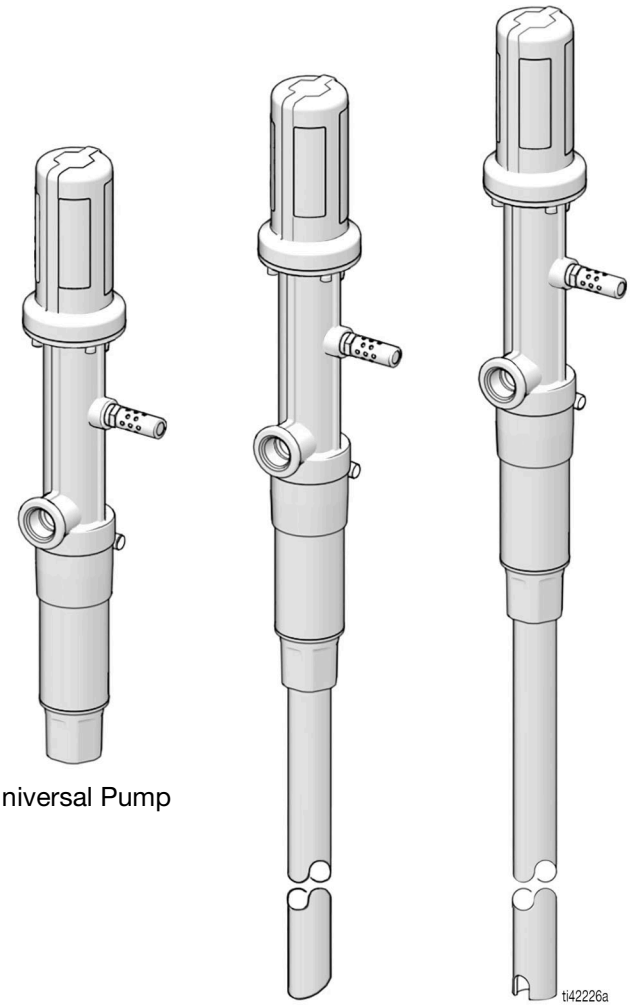
Air-operated piston transfer pump for low viscosity fluids. For professional use only.

Not approved for use in European explosive atmosphere locations.

150 psi (1.03 MPa, 10.3 bar) Maximum Air and Fluid Working Pressure

Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment. Save these instructions.



Universal Pump

Cut To Length Pump

55 Gallon Drum (200L) Length

PROVEN QUALITY. LEADING TECHNOLOGY.

Contents

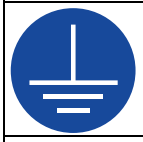
Models

Part No	Models	Description	Fluid
279035	Fastball 100	Universal Pump, Aluminium Alloy	Non-abbrasive Oils and Lubrications
279036		Cut To Length Pump, PVC Tube, Aluminium Alloy	
279037		55 Gallon (200L) Drum Length Pump, Aluminium Alloy	
2007313	Fastball 100 SST	Universal Pump, Stainless Steel	General light viscosity fluids such as diesel exhaust fluids (DEF), anti-freeze windshield washer solvent, ATF, hydraulic oil and motor oil.*
2010738		Cut To Length Pump, HDPE Tube, Stainless Steel	
2009316		55 Gallon (200L) Drum Length Pump, Stainless Steel	

* For more fluids, please check the compatibility with wetted parts listed in **Technical Specifications**, page 20. Any concerns, please contact Graco.

Safety Symbols

The following safety symbols appear throughout this manual and on warning labels. Read the table below to understand what each symbol means.

Symbol	Meaning
	Equipment Misuse Hazard
	Fire and Explosion Hazard
	Moving Parts Hazard
	Follow Pressure Relief Procedure
	Ground Equipment
	Wear Personal Protective Equipment

Safety Alert Symbol
This symbol indicates: Attention! Become Alert! Look for this symbol throughout the manual to indicate important safety messages.

Warnings

The following warnings apply throughout this manual. Read, understand, and follow the warnings before using this equipment. Failure to follow these warnings can result in serious injury.

⚠WARNING

FIRE AND EXPLOSION HAZARD

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:

- Use equipment only in well-ventilated area.
- Eliminate all ignition sources, such as cigarettes and portable electric lamps.
- Ground all equipment in the work area.
- 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.
- 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.

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 Specifications** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Specifications** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- 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.

⚠WARNING

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.
- 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. 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.

Typical Installation

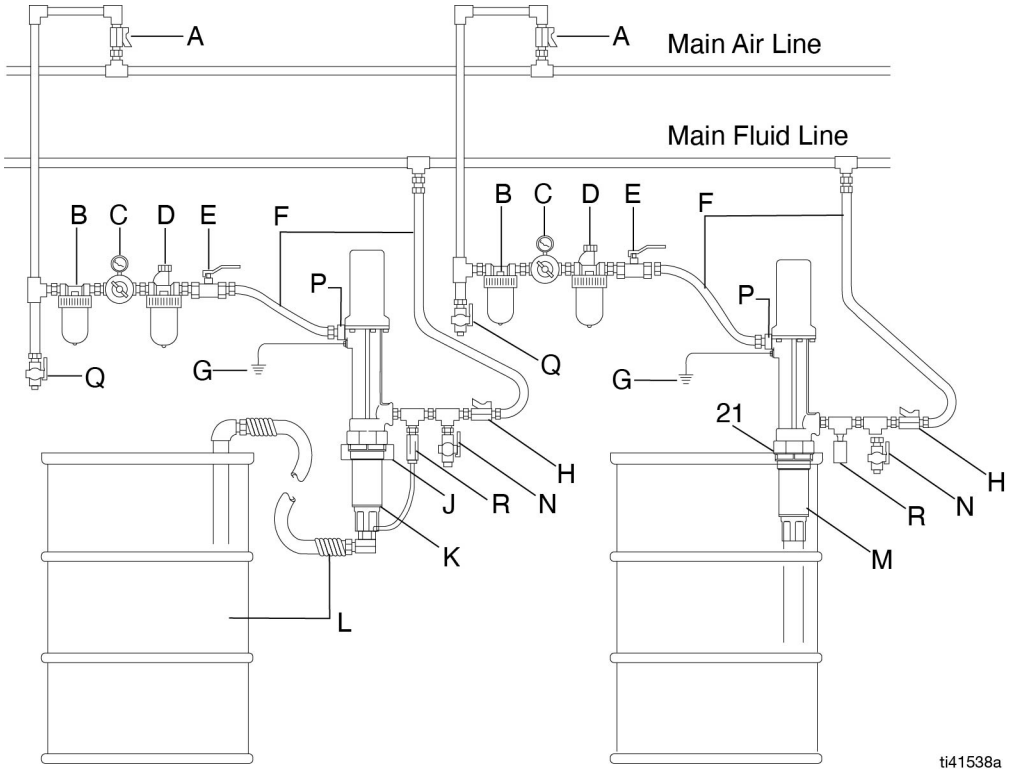


FIG. 1: Typical Installation

Key:

A Air shutoff valve
B Air filter
C Air regulator and gauge
D Air motor lubricator
E Bleed-type master air valve (Required. Graco part No. 110223)
F Air and fluid hose kits (Part No. 222118 or 222119)
G Ground wire (Required. Graco part No. 222011)
H Fluid shutoff valve
J Wall bracket
K Universal pump (Model 279035, 2007313)
L Suction kit (Part No 24F935 or 24H666, for model 279035)
M Drum pump (Models 279036, 279037, 2009316, 2010738)
N Fluid drain valve (Required. Graco part No. 210658 is available for models 279035, 279036, and 279037)
P Air inlet
Q Ball valve (releases collected moisture)
R Thermal relief kit (Required for permanent installations. Graco part No. 237601 is available for models 279035, 279036, and 279037)

Installation

Grounding

The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

Pump:

Refer to FIG. 2 for the following instructions.

1. Remove the ground screw (Z) located on the side of the pump.
2. Insert the ground screw (Z) through the eye of the ring terminal at the end of the ground wire (Y).
3. Fasten the ground screw (Z) back onto the pump and tighten securely.
4. Connect the other end of the ground wire (Y) 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.

Fluid supply container: follow local codes and regulations.

Object being dispensed to: follow local codes and regulations.

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

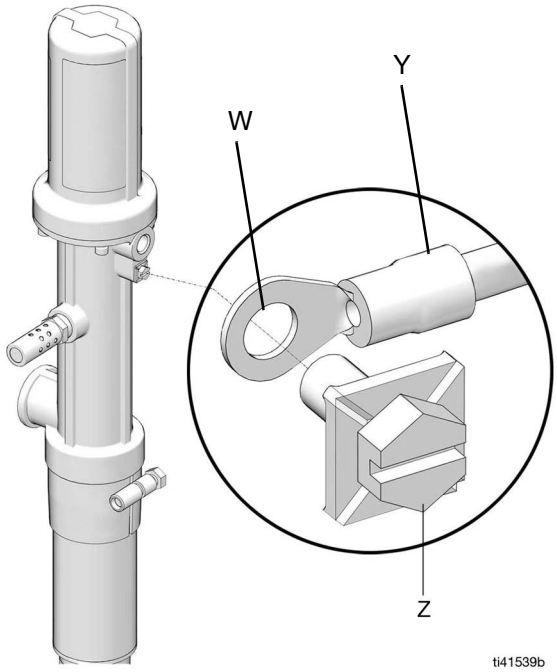


FIG. 2

System Accessories

Install the following accessories in the order shown in FIG. 1, page 7, using adapters as necessary.

Required Accessories

Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing fluids or moving parts. To prevent injury, install a bleed-type master air valve.

- **Bleed-type master air valve (E) (required):** required to relieve air trapped between it and the air motor after the air supply is shut off. Trapped air can cause the air motor to cycle unexpectedly, causing serious injury if adjusting or repairing the pump. As an alternative, use a quick-disconnect couple fitting. Install near the pump air inlet within easy reach from the pump.
- **Fluid drain valve (N) (required):** assists in relieving fluid pressure in the displacement pump, hoses, and dispensing valve. Triggering of the valve to relieve pressure may not be sufficient.
- **Grounding wire (G) (required):** reduces the risk of static sparking.

- **Air and Fluid Hose Kits (F):** an 18 in. kit for wall mounted model 279035 and a 6 ft kit for drum mounted model 279036 and 279037 are available. Use a minimum 1/4 in. ID air supply hose between the pump air inlet and the air accessories. To order a kit with a 1.4 in. air hose, a 1.4 in. swivel elbow, a 3/4 in. fluid hose, and a 3/4 in. swivel elbow, order one of the following kits:

  Kit 222118 (model 279035): 18 in. (0.4 m) hose kit for wall mounted pump

  Kit 222119 (models 279036 and 279037): 6 ft (1.8 m) hose kit for drum mounted pump

- **Wall Bracket (J):** used for mounting the universal pump. The wall bracket is sized to fit any Graco pump designed to use a 2 in. bung adapter (Part No. 203987).

- **Runaway Valve (not shown):** installation of a pump runaway valve turns off the air to the pump when the pump accelerates beyond the pre-adjusted setting. A pump in a runaway condition can be seriously damaged.

NOTICE

Do not 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.

- **Suction Kit (L):** enables the pump to draw fluid from a container. Use with the wall-mounted universal pump. It includes a drum tube and hose. Order:
  Kit 24F935 (only applies to model 279035)- includes 34.8 in. (0.88 m) drum tube and 78.7 in. (2.0 m) hose
  Kit 24H666 (only applies to model 279035)- includes 42.1 in. (1.07 m) drum tube and 78.7 in. (2.0 m) hose

- **Air Motor Lubricator (D):** provides automatic air motor lubrication. A 300 psi (2.1 MPa, 21 bar) 1/4 npt(f) air motor lubricator is available (Part No. 110148).

- **Air Regulator and Gauge (C):** used to control air pressure and pump speed. A 0-200 psi (0-1.4 MPa, 0-14 bar) regulated pressure range 300 psi (2.1 MPa, 21 bar) maximum, 1/4 npt(f) air regulator and gauge are available (Part No.110147).

- **Air Filter (B):** removes harmful dirt and moisture from the compressed air supply. A 300 psi (2.1 MPa, 21 bar), 1/4 npt(f) 20 micron air filter is available (Part No. 110146).

- **Air and Fluid Shut Off Valves (A and H):** installation of air shut off valve (A) and fluid shut off valve (H) isolates the pump while being serviced, see FIG. 1, page 7.

- **Quick Disconnect Coupler and Nipple (not shown):** used to quickly disconnect the air supply. Attach coupler (Part No. 208536) to the pump air inlet hose and install the nipple (Part No. 139970) to the pump air inlet (p).

Additionally, for permanent installations, a thermal relief kit is required.

- **Thermal relief kit (R):** assists in relieving pressure in the pump, hose, and dispensing valve due to heat expansion (Part No. 237601 only applies to models 279035, 279036, 279037).

Other Accessories

- **Extension tubes:** pump models 279036, 279037, 2010738 and 2009316 have extension tubes. An extension tube (50, 51) can be added to the universal pump (279035 and 2007313) to use in submerged applications.

  Install extension tube: apply PTFE tape to the female threads at the top of the tube, then thread the tube into the intake housing of the universal pump.

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 splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.

1. Close the pump air regulator (C) and the bleed-type master air valve (E) (required in the system).
2. Hold a metal part of the dispensing valve firmly to a grounded metal container and trigger the dispense valve to relieve pressure.
3. Open the drain valve (N).

Flush the Pump Before Using

The pump was tested in lightweight oil, which was left in to protect pump parts. To prevent contamination of the fluid you are pumping, flush the pump with a compatible solvent before using it. To flush the pump, connect a shot hose to the pump outlet, insert the pump intake into a pail of compatible solvent, direct the hose into a pail, and start the pump as explained at right. Cycle the pump slowly for at least 5 minutes, then stop and disconnect the air hose. Remove the retainer (26) and push up on the ball (25) of the intake valve (27) to drain the lower part of the pump. Turn the pump over to drain the upper part of the pump. Also follow the process when changing the transfer fluid.

Start the Pump

To determine the fluid output pressure using the air regulator reading, the output fluid pressure equals the air pressure shown on the regulator gauge.

Regulate air to the pump so that no air line or fluid line component or accessory is over pressurized,

1. Turn the air regulator (C) to the minimum setting.
2. Direct the outlet hose into a waste container.
3. Open the bleed-type master air valve (E).
4. Slowly adjust the air regulator (C) until the pump is running smoothly and all air has been pumped out of the pump and hoses. If the pump contains solvent, be sure to pump it all into the waste container.
5. Use the air regulator (C) to control the pump speed and cycle rate. Always use the lowest pressure needed to obtain the desired results. This results in optimum system efficiency and reduces pump wear.

NOTICE

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**:** The pump only takes a few strokes to prime. However, in a large system, it may take several minutes to completely prime the fluid lines.

NOTE: Use a low-level cutoff valve at the pump intake to prevent air from being sucked into the pump and fluid lines if the supply container runs dry. A 1-1/2 npt(f) thread connection low level cutoff is available (Part No. 203688).

Recycling and Disposal

End of Product Life

At the end of the product's useful life, dismantle and recycle it in a responsible manner.

- Perform the **Pressure Relief Procedure**, page 10.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.
- Deliver remaining product to a recycling facility.

Troubleshooting

Follow **Pressure Relief Procedure**, page 10, before checking or repairing the system.

NOTE: Check all possible problems and causes before disassembling pump.

Problem	Cause	Solution
Pump does not run	There is no fluid demand	In a closed end system, the pump runs only when there is a demand for fluid.
	Air supply is insufficient	Check the air supply. Increase the air pressure or volume.
	Fluid outlet line or intake valve is clogged	Check and clear any obstacles.
	Air motor parts are worn or damaged	Check the piston o-rings (3b, 3c) and the exhaust plate (3a) for swelling, replace parts as needed. See **Repair**, staring on page 13.
		Check the piston assembly (3) to make sure the screws are properly torqued to 10 to 14 in-lb (1.3 to 1.6 N•m), and that the assembly is hand-tightened on the piston shaft (6).
		Check the springs (2,5) for wear or damage, replace as needed.
Pump speeds up or runs erratically	Material viscosity is too high	Reduce viscosity. Reduce pump speed when running viscous materials.
	Pump throat packings, piston or piston packings, or intake valve is worn	Check parts and repair as needed. See **Repair**, starting on page 13.
Pump slows down or runs erratically	The air motor is icing	Turn off pump and allow to warm up. Run the pump at a lower air pressure.
Pump runs, but output is low on the up or on the down stroke.	The pump piston or the intake valve is worn	Check parts and repair as needed. See **Repair**, starting on page 13.
Pump runs, but output is low on both strokes	Insufficient air supply	Check the air supply and increase air pressure or volume.
	Fluid outlet line, intake valve, or dispense valve is clogged	Check parts and repair as needed.

Repair

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

Refer to **Parts**, page 15, for the numbers provided in these instructions.

Clean and inspect all parts for wear or damage during disassembly. Replace parts as needed. Fast-Ball 100 Repair Kit (Part No.279038 for model 279035,279036 and 279; Part No.2011398 for model 2007313, 2010738 and 2009316.) contains replacement parts. For best results, use all of the parts in the kit. Add moderate grease to the sealing parts during reassembly. For models 2007313, 2010738 and 2009316, apply anti-seize assembly lubricant on female thread of fluid cylinder(23) and intake valve housing (27).

NOTE: All of the parts included in the Repair Kit are marked in **Parts**, starting on page 15.

Air Valve

Repair Kit 273359 (includes 3), see **Parts**, starting on page 15.

Repair Kit 279038 (includes all sealing parts of models 279035, 279036 and 279037) and Repair kit 2011396 (includes all sealing parts of model 2007313, 2010738 and 2009316), see **Parts**, starting on page 15.

1. Follow the **Pressure Relief Procedure**, page 10.
2. Disconnect the air hose and fluid hose.
3. Loosen and remove the cylinder screws (28).
4. Remove the air cylinder (1) from the pump base (16).
5. Inspect the spring (2) and replace, as needed.
6. Use pliers on the air exhaust plate (3a) and a wrench on the piston shaft (6), press down on the washer (4) to compress the spring (5) and create space for the wrench (FIG. 3).
7. Loosen the air valve (3) and remove it from the shaft (6) (FIG. 3).

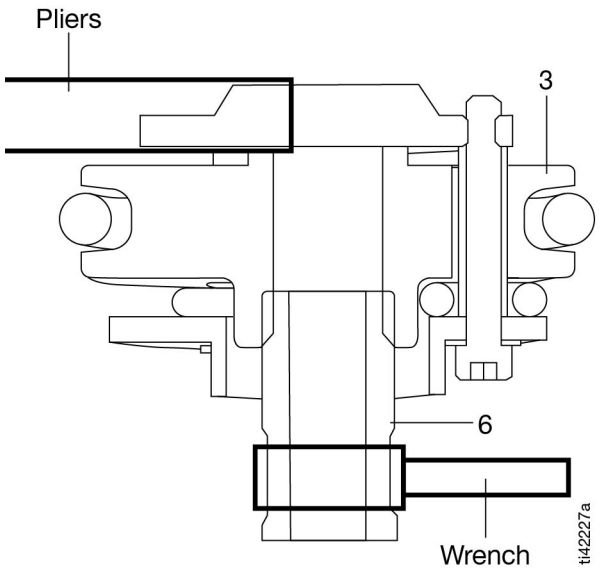


FIG. 3

8. Disassemble the piston.
9. Clean all parts by washing in compatible solvent, then blow dry the parts.
10. Inspect for any wear or damage. For parts not included in Repair Kit 279038 or 2011396, replace the air valve using Repair Kit 273359.
11. Remove the spring (5) and inspect, replace as needed.
12. Reinstall the spring (5).
13. Reassemble the air valve (3), using new parts as needed. Apply thread sealant to the threads of the screws (3e), and torque evenly to 10 to 14 in-lb (1.13 to 1.58 N•m).
14. Position the washer (4) and the spring (5) into place.

15. Apply thread sealant to the threads of the piston (3d) and place the air valve (3) onto the shaft (6).

16. Use a strap wrench on the piston (3d) and a wrench on the shaft (6) then screw the air valve onto the shaft and torque to 75 to 100 in-lb (8.47 to 11.30 N•m) (FIG. 4).

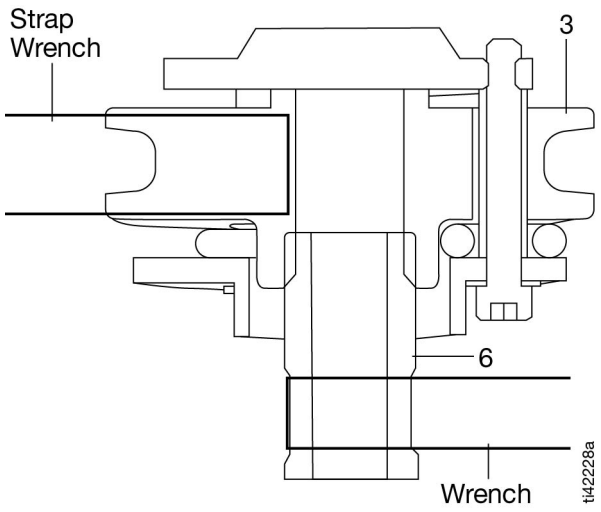


FIG. 4

17. Place the air piston o-rings (3b).

18. Reattach air cylinder (1) and tighten cylinder screw (28).

Pump Piston

Repair kit 279039 (includes 19 and 20) for models 279035, 2079036 and 279037 and Repair kit 2011397 (includes 19 and 20)for models 2007313, 2010738 and 2009316.

1. Follow the **Pressure Relief Procedure**, page 10.

2. Use a strap wrench on the fluid cylinder (23) to loosen from the pump base (16).

3. Pull down on the piston rod (15) until the fluid piston assembly (20, 19, and 22) can be accessed.

4. Hold the piston rod (15) stationary and unscrew the pump piston valve (22).

NOTE: Be careful not to damage the surface of the piston rod (15).

5. Remove and inspect fluid piston (19) and o-ring (20) for any wear or damage, and replace as needed.

6. Put the fluid piston (19) and o-ring (20) back into position.

7. Apply thread sealant to the theed of the fluid piston valve (22).

8. Use a wrench to hold the piston rod (15) stationary and reattach the fluid piston valve and torque to 75 to 100 in-lb (8.47 to 11.30 N•m).

9. Use a wrench on intake valve (27) to screw the fluid cylinder (23) to pump base (16) and tighten. For models 2007313, 2010738 and 2009316, apply anti-seize assembly lubricant on male thread of fluid cylinder (23) before reassembly.

NOTE: Place the fluid piston (19) flat surface to the flat surface of the fluid piston valve (22). Make sure to not reverse the direction of the fluid piston (19).

Intake Valve

Repair Kit 279040 (includes 10, 24 to 27), see **Parts**, starting on page 15.

1. Follow the **Pressure Relief Procedure**, page 10.

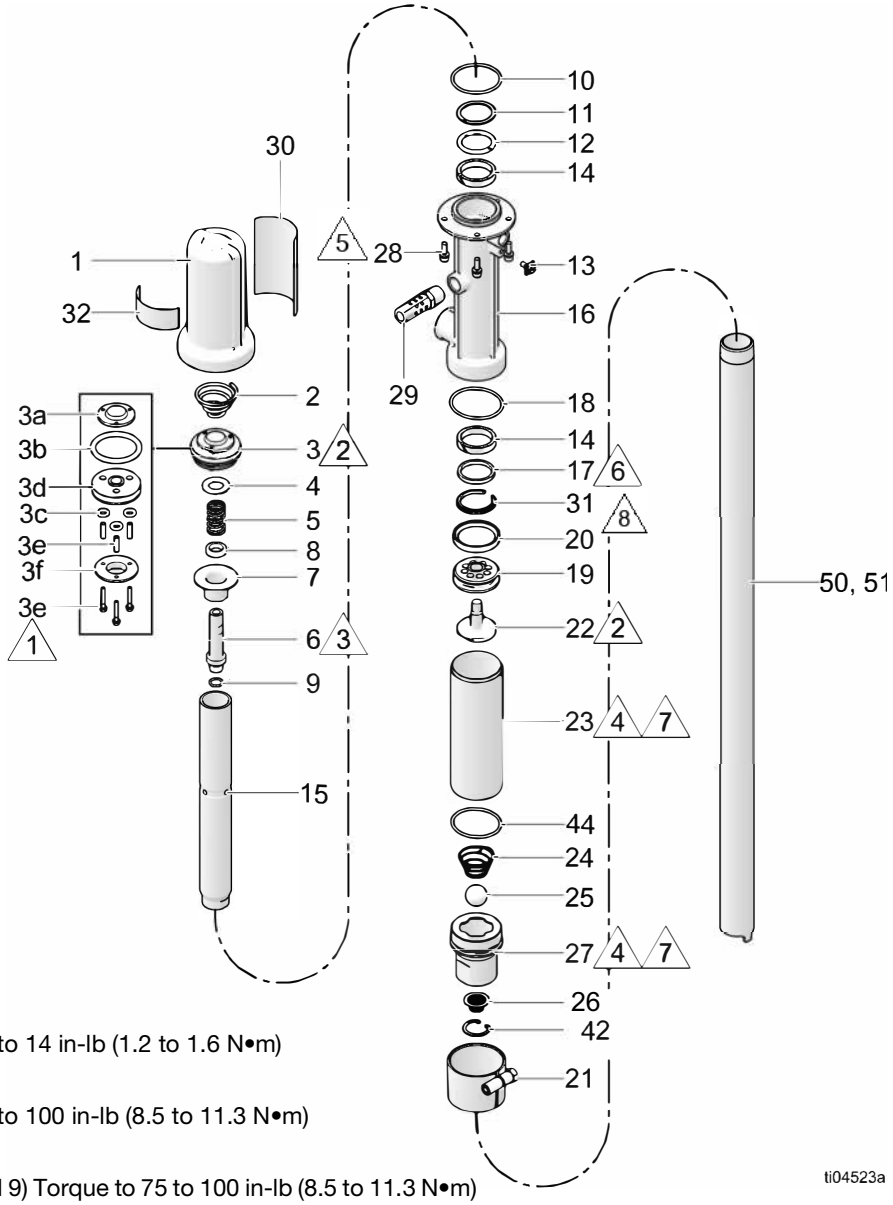
2. Remove the valve housing (27).

3. Remove the o-ring (10), ball (25), spring (24), and retainer (26). Inspect for any wear or damage, replace as needed.

4. The o-ring (10), ball (25), and spring (24) into position.

5. Reassemble the valve housing (27) and tighten. For models 2007313, 2010738 and 2009316, apply anti-seize assembly lubricant on male thread of intake valve housing (27) before reassembly.

Parts



1 Torque to 10 to 14 in-lb (1.2 to 1.6 N•m)

2 Torque to 75 to 100 in-lb (8.5 to 11.3 N•m)

3 (Screw to Rod 9) Torque to 75 to 100 in-lb (8.5 to 11.3 N•m)

4 Torque to 140 to 160 in-lb (15.8 to 18 N•m)

5 Torque to 50 to 60 in-lb (5.5 to 6.8 N•m)

6 Lip Face Down

7 Apply Anti-seize Assembly Lubrication on Thread for Models 2007313, 2010738, and 2009316

8 Smaller Outer Ring Face Up

Ref.	Part	Description	Qty.
1		CYLINDER, AIR	1
2	157630	SPRING, COMPRESSION	1
3✿		AIR VALVE, INCLUDED IN KITS 24J679	1
3a❖✖		PLATE, AIR EXHAUST VALVE	1
3b❖✖		O-RING	1
3c❖✖		O-RING	3
3d		AIR PISTON	1
3e		SCREW AND SPACER	1
3f		PLATE, VALVE	1
4		WASHER	1
5		SPRING, COMPRESSION	1
6		SHAFT	1
7		HOLDER, SPRING	1
8		BUSHING	1
9❖✖		O-RING	1
10❖✖	124691	O-RING	1
11❖✖		RING, BACK UP	1
12❖✖		O-RING	1
13	116343	SCREW, GROUND	1
14		BEARING	2
15		ROD	1
16		BASE, PUMP	1
17❖		SEAL, U-CUP (MODELS 279035,279036 AND 279037)	1
17✖		SEAL,UHMWPE(MODELS 2007313,2010738 AND 2009316)	1
18❖		O-RING,NBR (MODELS 279035,279036 AND 279037)	1
18✖		O-RING,FKM (MODELS 2007313,2010738 AND 2009316)	1
19✓		PISTON,NYLON (MODELS 279035, 279036 AND 279037)	1
19⁜		PISTON,UHMWPE (MODELS 2007313, 2010738 AND 2009316)	1
20❖✓		SEALS, NBR (MODELS 279035,279036 AND 279037)	1
20⁜✖		SEALS,PTFE(MODELS 2007313,2010738 AND 2009316)	1
21		BUNG ADAPTER	1
22		VALVE, PISTON	1
23		CYLINDER, PUMP	1
24†		SPRING,CS (MODELS 279035,279036 AND 279037)	1
24★		SPRING, SST(MODELS 2007313,2010738 AND 2009316)	1
25†		BALL,STEEL(MODELS 279035,279036 AND 279037)	1
25★		BALL,SST(MODELS 2007313,2010738 AND 2009316)	1
26†		STRAINER(MODELS 279035,279036 AND 279037)	1
26★		STRAINER SST (MODELS 2007313,2010738 AND 2009316)	
27†		HOUSING,INTAKE VALVE(MODELS 279035,279036 AND 279037)	1
27★		HOUSING, INTAKE VALVE (MODELS 2007313,2010738 AND 2009316)	1
28		SCREW, COMBINATION	5
29	2005357	MUFFLER, 3/8	1
30		LABEL, BRAND	1
31		RING, UHMWPE (MODELS 2007313,2010738 AND 2009316)	1
32	15A611	LABEL, IDENTIFICATION	1
42		C-CLIP,SST(MODELS 2007313,2010738 AND 2009316)	1
44❖	124691	O-RING (MODELS 279035,279036 AND 279037)	1
44✖	2007317	O-RING,FKM (MODELS 2007313,2010738 AND 2009316)	1
50	16F878	TUBE,PVC(MODEL 279036)	1
50◆	2011451	TUBE,HDPE (MODEL 2010738)	1
51	16F886	TUBE,METAL(MODEL 279037)	1
51◆	2011452	TUBE,SST(MODEL 2009316)	1

❖ *Parts included in Repair Kit 279038 (purchase separately).*

✓ *Parts included in Repair Kit 279039 (purchase separately).*

◆*Packaged separately with universal pump.*

† *Parts included in Kit 279040 (purchase separately).*

✿ *Parts included in Kit 273359 (purchase separately).*

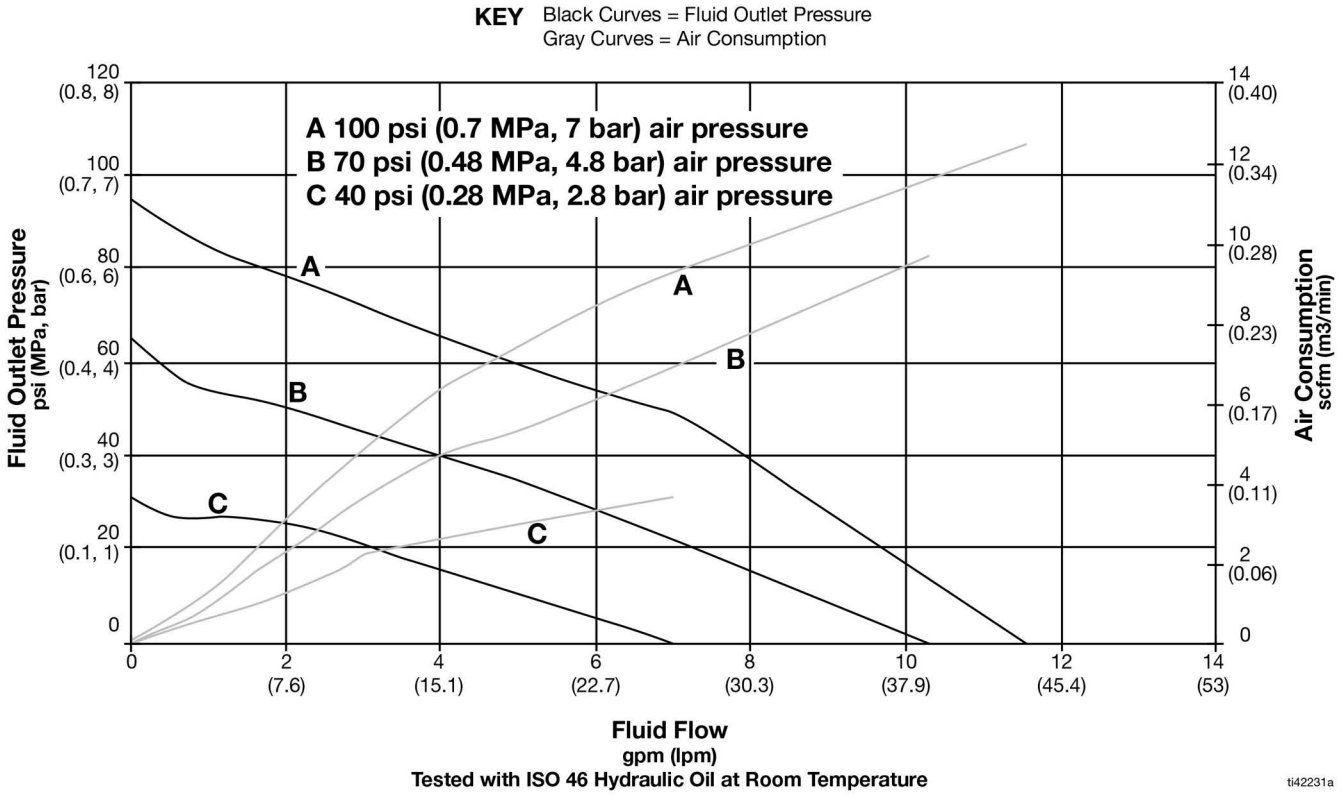
✖ *Parts included in Repair Kit 2011396 (purchase separately).*

⁜ *Parts included in Repair Kit 2011397 (purchase separately).*

★ *Parts included in Repair Kit 2011398 (purchase separately).*

Performance Chart

Models 279035, 279036, and 279037



To find the fluid outlet pressure at a specific flow and operating air pressure:

1. Locate the desired flow along the bottom of the chart.
2. Follow the vertical line up to the intersection with selected fluid outlet pressure curve.
3. Follow left to the scale and read fluid outlet pressure.

To find pump air consumption at a specific fluid flow and air pressure:

1. Locate the desired fluid flow along the bottom of the chart.
2. Follow the vertical line up to the intersection with selected air consumption curve.
3. Follow right to the scale and read air consumption.

Performance Curve

Models 2007313, 2010738, and 2009316

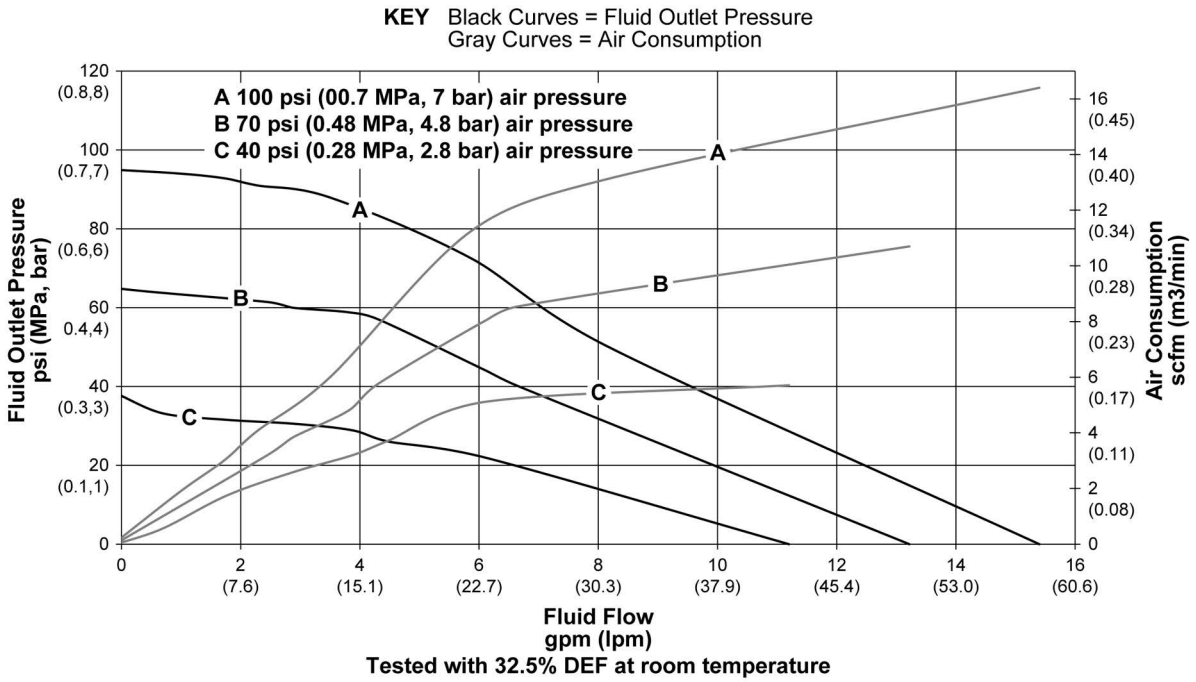


FIG. 5

To find the fluid outlet pressure at a specific flow and operating air pressure:

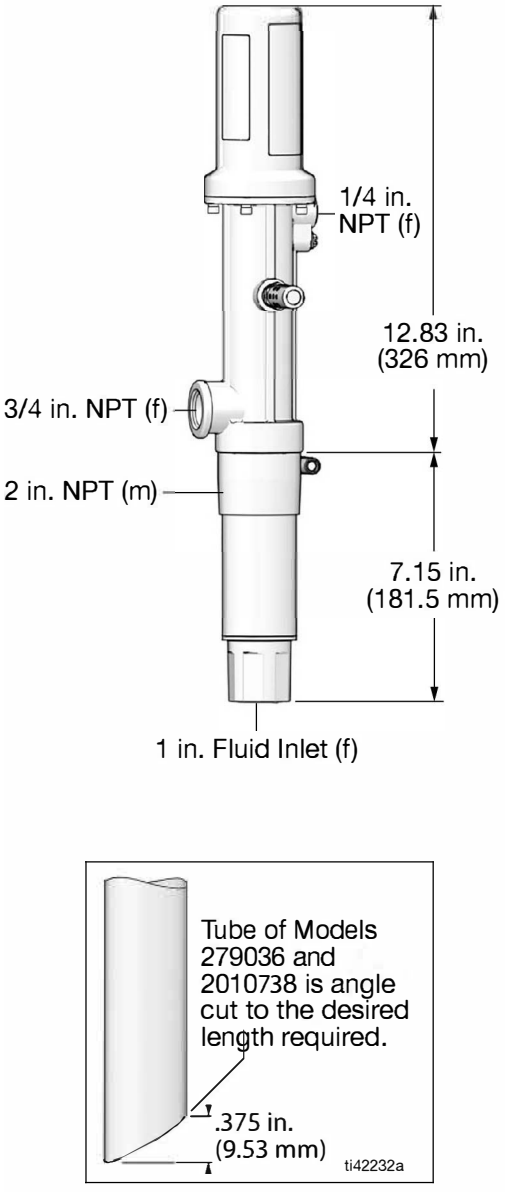
1. Locate the desired flow along the bottom of the chart.
2. Follow the vertical line up to the Intersection with selected fluid outlet pressure curve.
3. Follow left to the scale and read fluid outlet pressure.

To find pump air consumption at a specific fluid now and air pressure:

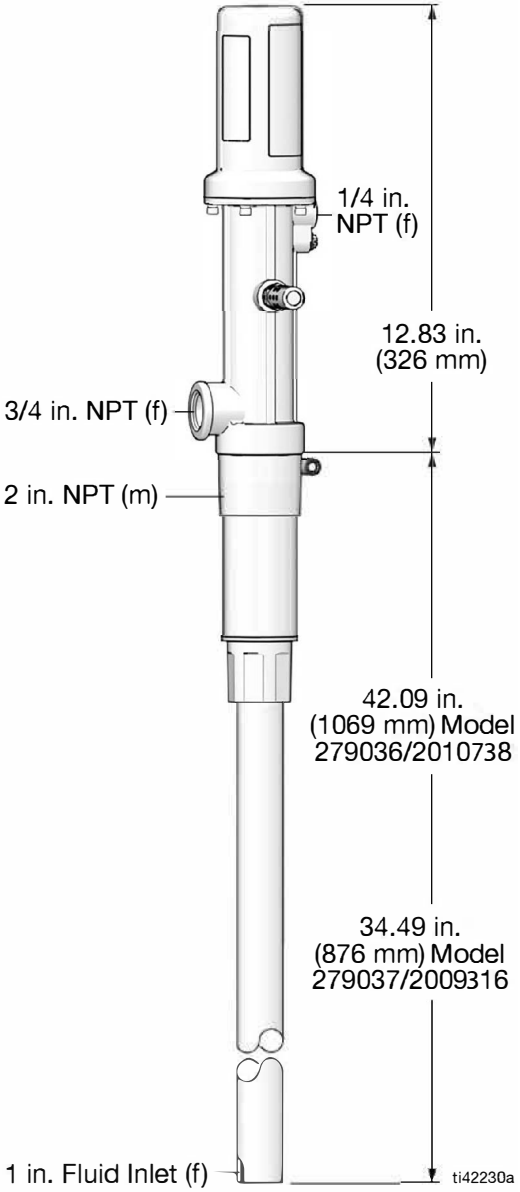
1. Locate the desired fluid flow along the bottom of the chart.
2. Follow the vertical line up to the Intersection with selected air consumption curve.
3. Follow right to the scale and read air consumption.

Dimensions

Model 279035/2007313



Models 279036/279037/2010738/2009316



Technical Specifications

1:1 Ratio Fast-Ball 100 Pump			
		US	**Metric**
Maximum fluid working pressure		150 psi	1.0 MPa, 10.3 bar
Fluid pressure ratio		1:1	
Air pressure operating range	Models 279035, 279036, and 279037	40-150 psi	0.28-1.0 MPa, 2.8-10.3 bar
	Models 2007313, 2010738, and 2009316	20-150 psi	0.14-1.0 MPa, 1.4-10.3 bar
Air consumption at 1 gpm (3.8 lpm) at 100 psi (0.7 MPa, 7 bar) air pressure	Models 279035, 279036, and 279037	1.3 scfm	0.036 m^3/min
	Models 2007313, 2010738, and 2009316	1.9 scfm	0.054 m^3/min
Cycles per gal. (liter) at 100 psi and 80 cycles per min		31 cycles per gal.	8 cycles per liter
Maximum recommended pump speed		170 cycles per minute	
Recommended air pressure for optimum pump life		<125 psi	< 8.6 bar, 0.86 MPa
Recommended speed for optimum pump life		90 cycles per min. and lower 3 gallons per min.	11.4 liters per min.
Approximate weight		279035—6.3 lbs 279036—7.6 lbs 279037—9.8 lbs 2007313—9.5 lbs 2010738—11 lbs 2009316—13 lbs	279035—2.9 kg 279036—3.5 Kg 279037—4.5 Kg 2007313—4.3 Kg 2010738—5.0 Kg 2009316—5.9 Kg
Wetted parts	Models 279035, 279036, and 279037	Zinc plated carbon steel, aluminum alloy, Buna-N rubber, nylon, polyurethane, polyvinyl chloride (only for model 279036)	
	Models 2007313, 2010738, and 2009316	Stainless steel 304, Stainless steel CF-16Fa, UHMWPE, PTFE, viton, HDPE (only for model 2010738)	
Performance Chart		see **Performance Chart**, page 17.	
Dimensions		see **Dimensions**, page 19.	
Noise (dBa)			
Measurement taken at 100 psi (0.69 MPa, 6.89 bar) air inlet pressure at 40 cycles per minute, *Sound power measured per ISO-3744.*		Sound pressure level: 73 dB(A) Sound power level: 78 dB(A)	

California Proposition 65

CALIFORNIA RESIDENTS

⚠ **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

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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