Instructions - Parts List



2" BUNG MOUNT, 200 LITER (55 GALLON) DRUM SIZE

10:1 Ratio President® Pump

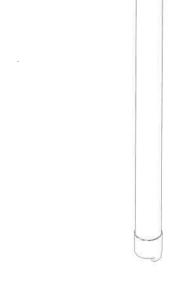
308738C

Part No. 239326, Series A

62 bar (6.2 MPa, 900 psi) Maximum Fluid Working Pressure 6.2 bar (0.62 MPa, 90 psi) Maximum Air Input Pressure



Read warnings and instructions.Refer to page 2 for the Table of Contents.



PROVEN QUALITY. LEADING TECHNOLOGY.





A WARNING



INJECTION HAZARD

Spray from the gun/valve, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.



- Fluid injected into the skin might look like just a cut, but it is a serious injury. Get immediate medical attention.
- Do not point the gun/valve at anyone or at any part of the body.
- Do not put your hand or fingers over the spray tip/nozzle.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not "blow back" fluid; this is not an air spray system.
- Always have the tip guard and the trigger guard on the gun when spraying.
- Check the gun diffuser operation weekly. Refer to the gun manual.
- Be sure the gun/valve trigger safety operates before spraying/dispensing.
- Lock the gun/valve trigger safety when you stop spraying/dispensing.
- Follow the Pressure Relief Procedure on page 8 whenever you: are instructed to relieve pressure; stop spraying/dispensing; clean, check, or service the equipment; and install or clean the spray tip/nozzle.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately.
 Permanently coupled hoses cannot be repaired; replace the entire hose.
- Use only Graco approved hoses. Do not remove any spring guard that is used to help protect the hose from rupture caused by kinks or bends near the couplings.



MOVING PARTS HAZARD

Moving parts, such as the air motor piston, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before servicing the equipment, follow the Pressure Relief Procedure on page 8 to prevent the
 equipment from starting unexpectedly.

Installation

NOTES:

- Reference numbers and letters in parentheses in the text refer to the callouts in the figures and drawings.
- Always use Genuine Graco Parts and Accessories, available from your Graco distributor. If you supply your own accessories, be sure they are adequately sized and pressure-rated to meet the system's requirements.
- 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.

Prepare the Operator

All persons who operate the equipment must be trained in the safe, efficient operation of all system components as well as the proper handling of all fluids. All operators must thoroughly read all instruction manuals, tags, and labels before operating the equipment.

Prepare the Site

Ensure that you have an adequate compressed air supply. Refer to the performance chart on page 15 to find the air consumption of your pump.

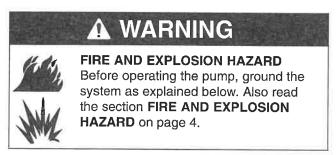
Keep the site clear of any obstacles or debris that could interfere with the operator's movement.

Have a grounded, metal pail available for use when flushing the system.

Mounting the Pump

Screw the bung adapter (B) tightly into the drum bung hole and tighten the thumbscrew to hold the pump about 13 mm (0.5 in.) off the bottom of the drum. Loosen the drum vent plug to prevent forming a vacuum. The pump dimensions are shown on page 13.

Grounding



Pump: Use a ground wire and clamp. See Fig.1. Loosen the grounding lug locknut (W) and washer (X). Insert one end of a 12 ga (1.5 mm²) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. Connect the other end of the wire to a true earth ground. For a ground wire and clamp, order Part No. 237569.

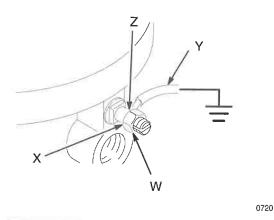


Fig. 1

- Air and fluid hoses: Use only electrically conductive hoses with 150 m (500 ft) maximum combined hose length to ensure grounding continuity.
- Air compressor: Follow manufacturer's recommendations.
- Spray gun or dispensing valve: Connect to a properly grounded fluid hose and pump.
- Object being sprayed: Follow your local code.
- Fluid supply container: Follow your local code.
- Solvent pails used when flushing: Follow your local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts the grounding continuity.
- To maintain proper grounding continuity when flushing or relieving pressure, always hold the metal part of the spray gun/dispense valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

Installation

System Accessories

A WARNING

A bleed-type master air valve (D) and a fluid drain valve (L) are required in your system. These accessories help reduce the risk of serious injury including fluid injection, splashing in the eyes or on the skin, and injury from moving parts if you are adjusting or repairing the pump.

The bleed-type master air valve relieves air trapped between this valve and the pump after the air is shut off. Trapped air can cause the pump to cycle unexpectedly. Locate the valve close to the pump. Order Part No. 113333.

The fluid drain valve assists in relieving fluid pressure in the displacement pump, hose, and gun. Triggering the gun to relieve pressure may not be sufficient. Order one of the following:

Part No.	Description
238635	1/4 npt (mbe), carbon steel
210657	1/4 npt (mbe), carbon steel
210658	3/8 npt (mbe), carbon steel
210659	1/4 npt x 3/8 npt (mbe), carbon steel
239018	1/4 npt (mbe), stainless steel
235992	1/4 npt x 3/8 npt (mbe), stainless steel

Air and Fluid Hoses

Be sure all air and fluid hoses are properly sized and pressure-rated for your system. Use only electrically conductive air and fluid hoses. Use a 13 mm (1/2 in.) I.D. (minimum) air hose (H) to supply air to the pump.

Fluid hoses must have spring guards on both ends. Connect a fluid hose (M) to the pump's 3/4 npt(f) fluid outlet. Use of a short whip hose between the main fluid hose and the gun allows freer gun movement.

Air Line Accessories

Install the following accessories in the order shown in Fig. 2, using adapters as necessary:

Air line lubricator (C)

Provides automatic air motor lubrication.

Bleed-type master air valve (D)

Required in your system to relieve air trapped between it and the air motor when the valve is closed (see the **WARNING** at left). Be sure the bleed valve is easily accessible from the pump, and is located **downstream** from the air regulator (E).

Air regulator (E)

Controls pump speed and outlet pressure by adjusting the air pressure to the pump. Locate the regulator close to the pump, but **upstream** from the bleed-type master air valve (D).

Pump runaway valve (K)

Senses if the pump is running too fast and shuts off the air supply to the motor. A pump which runs too fast can be seriously damaged.

Air line filter (F)

Install an air line filter (F) and a moisture trap and drain valve (J) to help remove moisture and contaminants from the compressed air supply.

Second bleed-type air valve (G)

Isolates the air line accessories for servicing. Locate upstream from all other air line accessories.

Fluid Line Accessories

Install the following accessories in the positions shown in Fig. 2, using adapters as necessary:

Fluid drain valve (L)

Required in your system to relieve fluid pressure in the hose and gun (see the **WARNING** at left). Install the drain valve so that it points down and the handle points up when it is opened.

Operation

WARNING

COMPONENT RUPTURE HAZARD

To reduce the risk of overpressurizing your system, which could cause component rupture and serious injury, eed the specified maximum air input to the pump (see Technical Data on

never exceed the specified maximum air input pressure to the pump (see **Technical Data** on page 14).

- Control the pump speed and fluid pressure with the air regulator (E). Always use the lowest air pressure necessary to get the desired results. Higher pressure causes premature spray tip/nozzle and pump wear.
- 10. With the pump and lines primed, and with adequate air pressure and volume supplied, the pump starts and stops as the gun/valve is opened and closed. In a circulating system, the pump runs continuously and speeds up or slows down as supply increases or decreases until the air supply is shut off.

A CAUTION

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

Shutdown and Care of the Pump

A WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

For overnight shutdown, relieve the pressure, and always stop the pump at the bottom of the stroke to prevent the fluid from drying on the exposed displacement rod and damaging the throat packings.

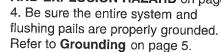
Always flush the pump before the fluid dries on the displacement rod. See **Flushing the Pump**.

Flushing the Pump

▲ WARNING



FIRE AND EXPLOSION HAZARD Before flushing, read the section FIRE AND EXPLOSION HAZARD on page



Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency. Always flush the pump before fluid dries on the displacement rod.

A CAUTION

Never leave water or water-base fluid in the pump overnight. If you are pumping water-base fluid, flush with water first, then with a rust inhibitor such as mineral spirits. Relieve the pressure, but leave the rust inhibitor in the pump to protect the parts from corrosion.

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

- 1. Relieve the pressure.
- 2. Remove the spray tip/nozzle from the gun/valve.
- 3. Hold a metal part of the gun/valve firmly to the side of a grounded *metal* pail.
- 4. Start the pump. Always use the lowest possible fluid pressure when flushing.
- Trigger the gun/valve.
- Flush the system until clear solvent flows from the gun/valve.
- 7. Relieve the pressure.

Disconnecting the Displacement Pump

A WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

- 1. Flush the pump if possible. Stop the pump at the bottom of its stroke. Relieve the pressure.
- 2. Disconnect the air and fluid hoses. Unscrew the bung adapter (4) from the bung hole in the drum cover and pull the pump out of the drum. Note the relative position of the fluid outlet (N) to the air inlet (P). See Fig. 3.
- Unscrew the tie rod locknuts (7) from the tie rods (6). Remove the cotter pin (8). Carefully pull the displacement pump (2) off the air motor (1). Unscrew the displacement rod (R) from the air motor (1). Inspect the o-ring (9).
- 4. Refer to manual 307044 for displacement pump service. To service the air motor, refer to manual 306982.

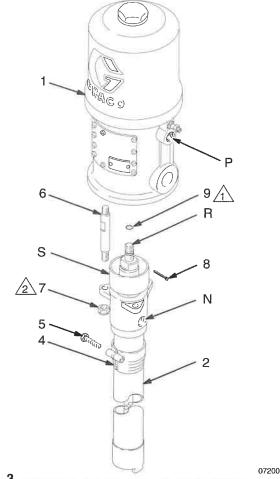
Reconnecting the Displacement Pump

- 1. Lubricate the o-ring (9) and check that it is in place on the displacement rod (R).
- Orient the fluid outlet (N) to the air inlet (P) as noted in step 2 under **Disconnecting the Displacement Pump**. Position the displacement pump (2) on the tie rods (6). See Fig. 3.
- Screw the displacement rod (R) into the shaft of the air motor (1) until the pin holes are aligned. Install the cotter pin (8). Screw the locknuts (7) onto the tie rods (6) loosely.
- Mount the pump and reconnect all hoses.
 Reconnect the ground wire if it was disconnected
 during repair. Tighten the packing nut (S). Fill the
 wet-cup with Graco Throat Seal Liquid or
 compatible solvent.
- 5. Tighten the tie rod locknuts (7) evenly, and torque to 27 to 41 N•m (20 to 30 ft-lb). Start the pump and run it at about 2.8 bar (0.28 MPa, 40 psi) air pressure, to check that it is operating properly.

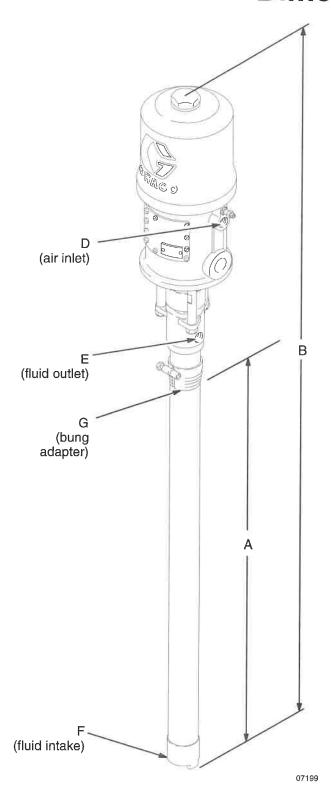
1

Lubricate.

Torque to 27 to 41 N•m (20 to 30 ft-lb).



Dimensions



Dimension	Measurement
A	883 mm (34.75 in.)
В	1454 mm (57.25 in.)
D	1/2 npt(f)
E	3/4 npt(f)
F	3/4 npt(f)
G	2 in. npt

Technical Data

Performance Chart

KEY:

Fluid Outlet Pressure – Black Curves Air Consumption – Gray Curves

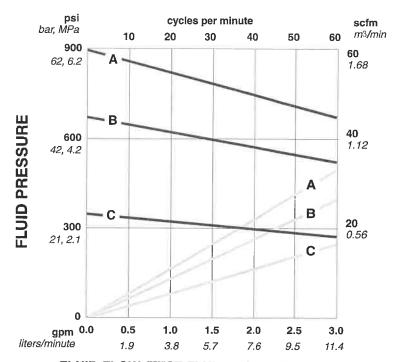
A 6.2 bar (0.62 MPa, 90 psi) Air Pressure B 4.9 bar (0.49 MPa, 70 psi) Air Pressure C 2.8 bar (0.28 MPa, 40 psi) Air Pressure

To find fluid outlet pressure (bar/MPa/psi) at a specific fluid flow (lpm/gpm) and operating air pressure (bar/MPa/psi):

- 1. Locate desired flow along bottom of chart.
- Follow vertical line up to intersection with selected fluid outlet pressure curve (black).
 Follow left to scale to read fluid outlet pressure.

To find pump air consumption (m³/min or scfm) at a specific fluid flow (lpm/gpm) and air pressure (bar/MPa/psi):

- 1. Locate desired flow along bottom of chart.
- Read vertical line up to intersection with selected air consumption curve (gray). Follow right to scale to read air consumption.



FLUID FLOW (TEST FLUID: NO. 10 WEIGHT OIL)



EU-DECLARATION OF CONFORMITY

EU-CONFORMITEITSVERKLARING, DÉCLARATION UE DE CONFORMITÉ, EU-KONFORMITÄTSERKLÄRUNG DICHIARAZIONE DI CONFORMITÀ UE, EU-OVERENSSTEMMELSESERKLÆRING, ΔΉΛΩΣΗ ΣΥΜΜΌΡΦΩΣΗΣ ΕΕ, DECLARAÇÃO UE DE CONFORMIDADE, DECLARACIÓN UE DE CONFORMIDAD, EU-VAATIMUSTENMUKAISUUSVAKUUTUS, EU-FÓRSÄKRAN OM ÖVERENSSTÄMMELSE, EU PROHLÁŠENÍ O SHODE, ELI VASTAVUSDEKLARATSIOON, EU-MEGFELELÖSÉGI NYILATKOZAT, ES ATBILSTÍBÁS DEKLARĀCIJA, ES ATITIKTIES DEKLARACIJA DEKLARACIJA ZGODNOŚCI UE, DIKJARAZZJONI TA' KONFORMITÀ TAL-UE, EU IZJAVA O SUKLADNOSTI, EÚ VYHLÁSENIE O ZHODE, EC ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ, DECLARAȚIA UE DE CONFORMITATE

Model

Modèle, Modell, Modello, Movτέλο, Modelo, Malli, Mudel, Modells, Mudell, Mogen, Samhail Severe-Duty UHMWPE / PTFE Packed Stainless Steel Pumps & 10:1 President Pump & 5:1 Ratio Monark Pump

Part

224348, 224350, 239326, 218956

Bestelnr., Type, Teil, Codice, Del, Μέρος, Peça, Referencia, Osa, Součást, Részegység, Daļa, Dalis, Część, Taqsima, Časť, Част, Páirt, Parte

Complies With The EC Directives:

Voldoet aan de EG-richtlijnen, Conforme aux directives CE, Entspricht den EG-Richtlinien, Conforme alle direttive CE, Overholder EF-direktiverne, Σύμφωνα με τις Οδηγίες της ΕΚ, Επ conformidade com as Directivas CE, Cumple las directivas de la CE, Täyttää EY-direktivien vaatimukset, Uppfyller EG-direktiven, Shoda se směrnicemi ES, Vastab EÜ direktiividele, Klelégíti az EK irányelvek követelményeit, Atbilst EK direktīvām, Attinka šías ES direktyvas, Zgodność z Dyrektywami UE, Konformi mad-Direttivi tal-KE, V skladu z direktīvami ES, Je v súlade so smernicami ES, Съвместимост с Директиви на EO, Tá ag teacht le Treoracha an CE, Respectă directivele CE

1.) 2006/42/EC Machinery Directive

2.) 2014/34/EU Atex Directive (Ex II 1/2 G c T2)

Standards Used:

Gebruikte maatstaven, Normes respectées , Verwendete Normen, Norme applicate, Anvendte standarder , Πρότυπα που χρησιμοποιήθηκαν, Normas utilizadas, Normas aplicadas, Sovellettavat standardit, Tillämpade standarder, Použité normy, Rakendatud standardid, Alkalmazott szabványok, Izmantotie standardi, Taikyti standardai, Użyte normy, Standards Użati, Uporabljeni standardi, Použité normy, Използвани стандарти, Caighdeáin arna n-úsáid , Standarde utilizate

ISO 12100

EN 13463-5 (2011)

EN1127-1

EN 13463-1 (2009)

Notified Body for Directive

Aangemelde instantie voor richtiijn , Organisme notifié pour la directive , Benannte Stelle für diese Richtlinie, Ente certificatore della direttiva, Bemyndiget organ for direktiv , Διακοινωμένο όργανο Οδηγίας, Organismo notificado relativamente à directiva, Organismo notificado de la directiva, Direktiivin mukaisesti ilmoitettu tarkastuslaitos, Anmālt organ för direktivet, Úředně oznámený orgán pro směrnici, Teavitatud asutus (direktiivi järgi), Az irányelvvel kapcsolatban értesített testület, Pilnvarotā lestāde saskaņā ar direktīvu, Apie direktyvą Informuota institucija, Ciało powiadomione dla Dyrektywy, Korp avžat bid-Direttiva, Priglašeni organ za direktīvo, Notifikovaný orgán pre smernicu, Нотифициран орган за Директива, Comhlacht ar tugadh fógra dó , Organism notificat în conformitate cu directiva

2)	Intertek Testing & Certification Ltd. 0359	Intertek House, Cleeve Road Leatherhead, Surrey, KT22 7SB, UK	ITS03ATEX11228

Approved By:

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> Hans van Cranenbroek Operations Director - EMEA

13 MAY 2016

Manufactured By: GRACO INC. 88 - 11th Avenue N.E. Minneapolis, MN 55413 Authorized Representative: GRACO BVBA Slakweidestraat 31 3630 Maasmechelen

BELGIUM

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Instructions-Parts List



Divorced Design, 55 Gallon Drum Size, 2" npt Bung Mounting

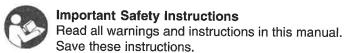
5:1 Ratio Monark Pump

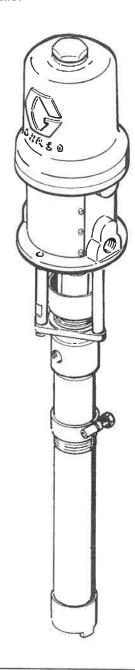
307044R

For transfer and supply of solventborne and waterborne finishing materials.

900 psi (6.2 MPa, 62 bar) Maximum Fluid Working Pressure 180 psi (1.2 MPa, 12 bar) Maximum Air Input Pressure

Part No. 218956, Series D With PTFE Packings







WARNING



SKIN INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.



- Fluid injected into the skin might look like just a cut, but it is a serious injury. Get immediate surgical treatment.
- Do not point the gun at anyone or at any part of the body.
- Do not put your hand or fingers over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not "blow back" fluid; this is not an air spray system.
- Always have the tip guard and the trigger guard on the gun when spraying.
- Check the gun diffuser operation weekly. Refer to the gun manual.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 8 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately.
 Permanently coupled hoses cannot be repaired; replace the entire hose.
- Use only Graco approved hoses. Do not remove any spring guard that is used to help protect the hose from rupture caused by kinks or bends near the couplings.



MOVING PARTS HAZARD

Moving parts, such as the air motor piston, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before servicing the equipment, follow the Pressure Relief Procedure on page 8 to prevent the
 equipment from starting unexpectedly.

Installation

Grounding

To reduce the risk of static sparking, ground the pump, object being sprayed, and all other spray/dispensing equipment used or located in the spray/dispensing area. Check you local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this spray/dispensing equipment:

- Pump: loosen the grounding lug locknut (W) and washer (X). Insert one end of a 12 ga. (1.5 mm²) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. See Fig. 1. Connect the other end of the wire to a true earth ground.
- Air hoses: use only electrically conductive air hoses.
- 3. Fluid hoses: use only electrically conductive fluid hoses.
- 4. Air compressor: follow manufacturer's recommendations.
- Spray gun/dispensing valve: grounding is obtained through connection to a properly grounded fluid hose and pump.

- 6. Fluid supply container: according to your local code.
- Object being sprayed: according to your local code.
- All solvent pails used when flushing, according to your local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts the grounding continuity.
- To maintain grounding continuity when flushing or relieving pressure, always hold a metal part of the gun/valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

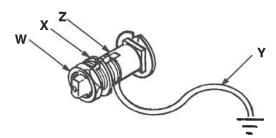


Fig. 1

Installation

NOTE: Reference numbers and letters in parentheses in the text refer to the callouts in the figures and parts drawing.

The Typical Installation shown on page 6 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.

System Accessories

See the Typical Installation on page 6.

A WARNING

Two accessories are required in your system: a bleed-type master air valve (A) and a fluid drain valve (B). These accessories help reduce the risk of serious injury including fluid injection, splashing in the eyes or on the skin, and injury from moving parts if you are adjusting or repairing the pump.

The bleed-type master air valve relieves air trapped between this valve and the pump after the air regulator is shut off. Trapped air can cause the pump to cycle unexpectedly. Locate the valve close to the pump.

The fluid drain valve assists in relieving fluid pressure in the displacement pump, hose, and gun. Triggering the gun to relieve pressure may not be sufficient.

Mounting Accessories

Mount the pump to suit the type of installation planned. The pump dimensions and mounting hole layout are shown on page 18.

The bung adapter has 2" npt threads. Install the pump in the drum cover until it is 1/2" (13 mm) from the bottom of the drum, then tighten the bung adapter.

Air and Fluid Hoses

Be sure all air and fluid hoses are properly sized and pressure-rated for your system. Use only electrically conductive air and fluid hoses. Fluid hoses must have spring guards on both ends.

Connect an electrically conductive fluid hose (H) to the pump's 3/4 npt(f) fluid outlet.

Connect an electrically conductive 3/8 in. ID (minimum) air hose (G) to the pump's 3/8 npt(f) air inlet.

Air Line

Install the following accessories in the order shown in the Typical Installation, using adapters as necessary:

- A pump runaway valve (J) senses when the pump is running too fast and automatically shuts off the air to the motor. A pump which runs too fast can be seriously damaged. Install closest to the pump air inlet.
- An air line lubricator (C) provides automatic air motor lubrication.
- A bleed-type master air valve (A) is required in your system to relieve air trapped between it and the motor when the valve is closed (see the WARN-ING at left). Be sure the bleed valve is easily accessible from the pump, and is located downstream from the air regulator.
- An air regulator (D) controls pump speed and outlet pressure by adjusting the air pressure to the pump. Locate the regulator close to the pump, but upstream from the bleed-type master air valve.
- An air line filter (E) removes dirt and moisture from the compressed air supply.
- A second bleed-type air valve (F) isolates the air line accessories for servicing. Locate upstream from all other air line accessories.

Fluid Line

A fluid drain valve (B) is required in your system
to relieve fluid pressure in the hose and gun (see
the WARNING at left). Install the drain valve pointing down, but so the handle points up when
opened.

Operation

Flush the Pump Before Using

The pump is tested in lightweight oil, which is left in to protect the pump parts. To prevent contamination of fluid, flush the pump with a compatible solvent before using it.

Fill the wet-cup 1/2 full with Graco Throat Seal Liquid (TSL) or a compatible solvent. Keep the cup half-filled at all times to help prevent the fluid you are pumping from drying on the exposed displacement rod and damaging the throat packings.

Starting and Adjusting the Pump

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

- See the Typical Installation on page 6. Be sure the air regulator (D) and bleed-type master air valve (A) are closed. Do not install the spray tip yet!
- Hold a metal part of the spray gun/dispensing valve firmly to the side of a grounded metal pail and hold the trigger open. Then open the pump's bleed-type master air valve (A). Now slowly open the air regulator (D) until the pump starts, about 40 psi (280 kPa, 2.8 bar).
- Cycle the pump slowly until all air is pushed out and the pump and hoses are fully primed. Release the gun/valve trigger and lock the trigger safety. The pump should stall against pressure when the trigger is released.

- 4. Relieve the pressure.
- 5. With the pump and lines primed, and with adequate air pressure and volume supplied, the pump will start and stop as the gun/valve is opened and closed. In a circulating system, the pump will run continuously and will speed up or slow down as the system demands until the air supply is shut off. Always use the lowest air pressure necessary to get the desired results. Higher pressures waste fluid and cause premature wear of the pump packings and spray tip/nozzle.

WARNING

Never exceed the *Maximum Working Pressure* of the lowest rated component in the system, to reduce the risk of component rupture which can cause serious injury, including fluid injection or splashing in the eyes or on the skin.

6. 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. A pump runaway valve (J), which shuts off the air supply to the pump if the pump accelerates beyond the pre-set speed is available. 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, refill the container and prime the pump and the lines with fluid, or flush and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system.

Troubleshooting

A WARNING

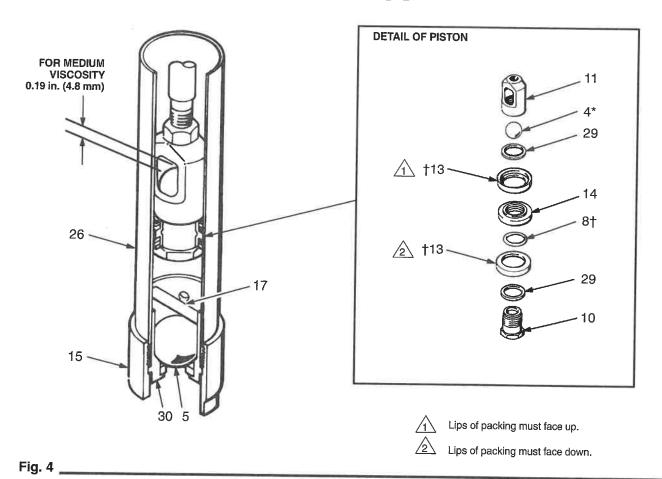
To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

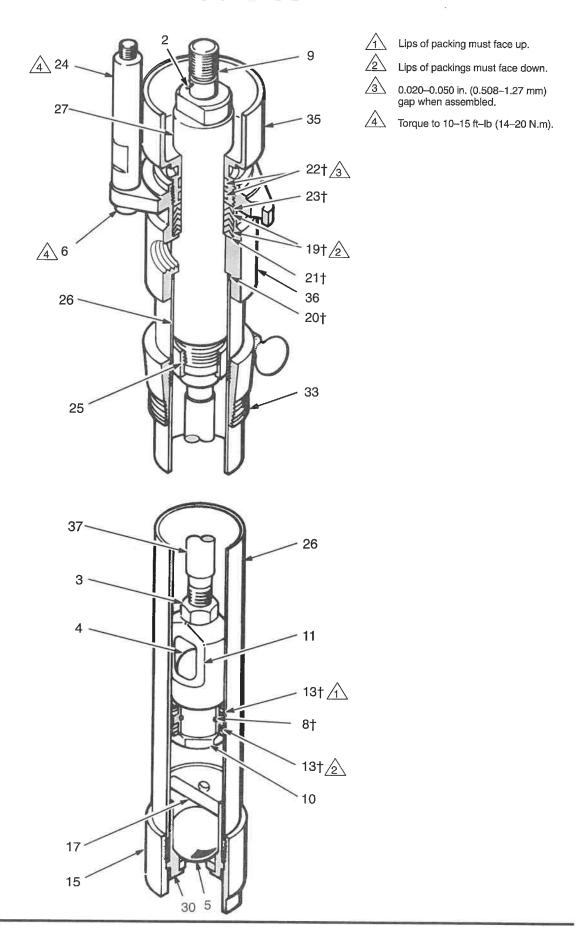
Before servicing this equipment always make sure to relieve the pressure.

Check all possible problems and solutions before disassembling the pump.

Problem	Cause	Solution	
Pump fails to operate	Restricted line or inadequate air supply	Clear line; increase air supply.	
	Insufficient air pressure; closed or clogged air valves, etc.	Open air valve, clean if necessary.	
	Exhausted fluid supply	Refill; purge all air from the pump and fluid lines.	
	Damaged air motor	Service air motor. See manual 307043.	
Pump operates, but output low on both strokes	Restricted line or inadequate air supply	Clear line; increase air supply.	
	Insufficient air pressure; closed or clogged air valves, etc.	Open air valve, clean if necessary.	
	Exhausted fluid supply	Refill; purge all air from pump and fluid lines.	
	Clogged fluid line, valves, gun, etc.	Clear.*	
	Fluid check valves need adjustment	Adjust. See page 10.	
	Loose packing nut or worn throat packings	Tighten packing nut. Replace throat packings.	
	Damaged cylinder o-rings	Clear; service.	
Pump operates, but output low on	Held open or worn intake valve	Clear; service.	
down stroke	Damaged cylinder o-rings	Replace.	
Pump operates, but output low on up stroke	Held open or worn fluid piston valve or packings	Clear; service.	
Erratic or accelerated operation	Exhausted fluid supply	Refill; purge all air from pump and fluid lines.	
	Fluid check valves need adjustment	Adjust. See page 10.	
	Held open or worn intake valve	Clear; service.	
	Held open or worn fluid piston valve or packings	Clear; service.	

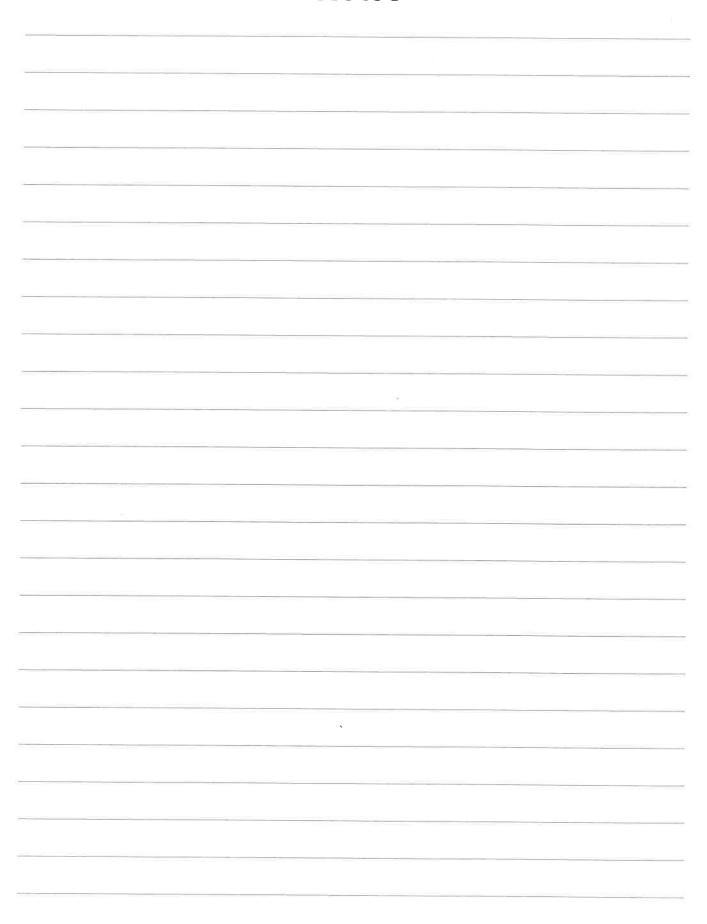
^{*} To determine if the fluid hose or gun is obstructed, first **relieve the pressure**. Disconnect the fluid hose and place a container at the pump fluid outlet to catch any fluid. Turn on the air just enough to start the pump (about 20–40 psi [140–280 kPa, 1.4–2.8 bar]). If the pump starts when the air is turned on, the obstruction is in the fluid hose or gun.





	Model 218956, Series D Includes items 1–37							Part No.	Description	Qty.
Ref No.	Part No.	Description	Qty.	20† 21† 22†	164782 164837 165287	O-RING, PTFE GLAND, male BEARING, PTFE	1 1 2			
1	220465 Series D	DISPLACEMENT PUMP Includes items 3–5, 8, 10–23, 25–30, and 35–37		23† 24 25	165288 24B189 166033	GLAND, female KIT, tie rod NUT, swivel	1 3 1			
2*	100103	PIN, cotter; 0.12" (3.2 mm) dia.; 1/5" (38 mm) long	1	26 27	24C504 24C496	CYLINDER, stainless steel ROD, displacement	1			
3 4* 5*	100111 100279 101178	NUT, jam; 0.5–20 BALL, steel; 0.88" (22.4 mm) dia.	1	29 30* 33	171594 204762 222308	WASHER, backup SEAT, intake valve ADAPTER, bung; with screw	2 1			
6 8†	101176 101566 164623	BALL, steel; 1.25" (31.8 mm) dia NUT, lock; 0.19 thd O-RING, PTFE	3	34	205997	AIR MOTOR; See manual 307043 for parts	1			
9* 10	156082 156989	O-RING, nitrile rubber SEAT, piston	1	35 36 37	208312 192188 208314	NUT, packing HOUSING, outlet; 3/4 npt(f) ROD, piston	1			
11 13† 14 15 17	157184 162871 158857 159839 160726	HOUSING, piston PACKING, cup; PTFE SPACER, packing HOUSING, intake valve PIN, stop	1 2 1 1	* Rec		ool box spare parts. Keep these par	ts on			
19†	162866	V-PACKING; PTFE	4	† Incli	uded in Repa	nir Kit 208520.				

Notes



Instructions-Parts List



President[®] Air Motors

306982ZAB

EN

For use with Graco fluid handling pumps.

See your pump instruction manual for Maximum Working Pressure.

Model 205647, Series M

For in-line mounting, medium-pressure oil pump

Model 206078, Series M

For in-line mounting, high-pressure grease pump

Model 205038, Series N

For stanchion tube mounting

Model 207352, Series G

For divorced mounting

Model 222772, Series G

For divorced mounting

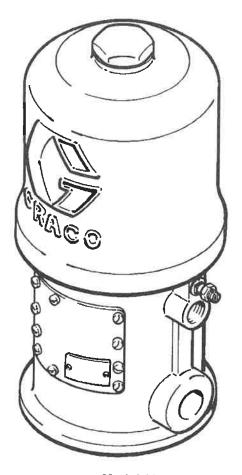


Important Safety Instructions

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

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Model 207352 Shown

A WARNING



SKIN INJECTION HAZARD

Spray from the gun, leaks or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin is a serious injury. The injury may look like just a cut, but it is a serious injury. **Get immediate surgical treatment**.
- Do not point the dispensing valve at anyone or any part of the body.
- Do not put your hand or fingers over the end of the dispensing valve.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Use only extensions and no-drip tips that are designed for use with your dispensing valve.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.



MOVING PARTS HAZARD

Moving parts can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before checking or servicing the equipment, follow the Pressure Relief Procedure on page 6 to prevent the equipment from starting unexpectedly.

Installation

General Information

NOTE: Reference numbers and letters in parentheses in the text refer to the callouts in the figures and the parts drawing.

NOTE: Always use Genuine Graco Parts and Accessories, available from your Graco distributor.

Grounding

A WARNING

ARD on page 4.



FIRE AND EXPLOSION HAZARD
Before operating the pump, ground the system as explained below. Also read the section FIRE OR EXPLOSION HAZ-

 Pump: Use a ground wire and clamp as shown in Fig. 1. Loosen the grounding lug locknut (A) and washer (B). Insert one end of a 12 ga (1.5 mm²) minimum ground wire (C) into the slot in lug (D) and tighten the locknut securely. Connect the other end of the wire to a true earth ground.

Model No. 206078: Remove the ground screw (Z) and insert through the eye of the ring terminal at end of ground wire (Y). Fasten the ground screw back onto the pump and tighten securely. Connect the other end of the ground wire to a true earth ground. See Fig. 2. 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.

- Spray gun and dispensing valve: Ground through connection to a properly grounded fluid hose and pump.
- Object being sprayed: Follow your local code.
- Solvent pails used when flushing: Follow your local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts the grounding continuity.
- To maintain grounding continuity when flushing or relieving pressure, hold a metal part of the spray gun firmly to the side of a grounded metal pail, then trigger the gun.

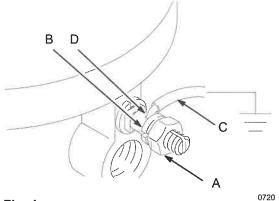


Fig. 1

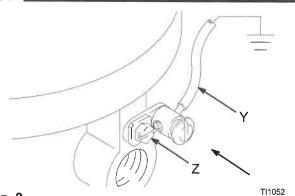


Fig. 2 -

Operation

NOTE: See your separate pump manual for detailed operation instructions.

Restarting a Stalled Air Motor

CAUTION

Never exceed 180 psi (1.2 MPa, 12 bar) air supply pressure to the air motor. Exceeding this pressure may cause the air motor to stall with the air transfer valves stuck at mid position, making the air motor inoperative.

To reseat the air transfer valves and restart a stalled air motor, relieve the air supply pressure to the motor by closing the bleed-type master air valve. If the air transfer valves fail to reseat, screw the cap nut (F) out of the cylinder (G), pull up on the trip rod (H) and screw the cap nut back into the cylinder. See Fig. 2. Be sure the air supply pressure is less than 180 psi (1.2 MPa, 12 bar) before opening the bleed-type master air valve.

- 6. Grip the toggle rockers (S) with a pliers. Compress the springs (T) and swing the toggle assembly (E) up and away from the piston lugs (U), and remove the parts. Check that the valve actuator (V) is supported by the spring clips (W), but slides easily into them. See Fig. 3.
- 7. Remove the trip rod yoke (K), valve actuator (V) and trip rod (H). Check the exhaust valve poppets (X) for cracks.
- **NOTE:** To remove the exhaust valve poppets (X), stretch them out and cut with a sharp knife.
- 8. Pull the piston (Y) up out of the base (J) and inspect the piston o-ring (AA) and the o-ring in the base casting.

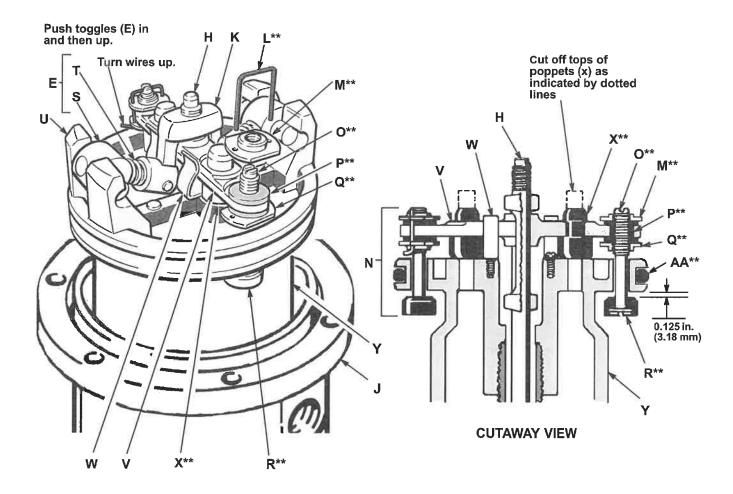


Fig. 3_

Throat Packing Service for In-Line Pump Model 205647

WARNING

The piston in the air motor, located behind the air motor plates, moves 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.

NOTE: See Fig. 4 on page 12 and the **Parts Drawing** on page 14.

- Clamp the pump in a vise and unscrew the displacement cylinder (CC) from the air motor base (J). Pull the displacement cylinder away from the air motor until the cotter pin (DD) which secures the displacement pump connecting rod to the air motor piston rod (FF) is visible. See Fig. 4.
- Remove the cotter pin (DD) and unscrew the pump connecting rod (EE) from the air motor piston rod (FF). See Fig. 4. Remove the cylinder (G) from the air motor base (J) as described under Disassembly on page 8.

- 3. Remove one louvered air exhaust plate (BB) and unscrew the throat packing nut (HH), using a spanner wrench or a 0.22 in. (5.6 mm) diameter rod. See Fig. 4. Remove the spacer and packing from the base and packing nut. Clean the throat packing area in the base and the packing nut. Clean and inspect all parts and replace as necessary.
- 4. Lubricate the packings, piston rod and piston flange with a light waterproof grease. Reinstall the spacer and packing in the base and packing nut. Be sure the lips of the v-packings face down. See Detail B. Screw the packing nut loosely into the base. Carefully slide the piston rod down through the throat packing and lower the piston into the base. Tighten the packing nut securely. Reinstall the plate (BB) and cylinder (G). Reassemble the air motor to the displacement pump.

A CAUTION

When reinstalling cotter pin (DD), **always** spread and flatten the pin (both the head and prongs) around the rod to within a 1 in. (25 mm) total diameter. See Detail A of Fig. 4.

Throat Packing Service for In-Line Pump Model 206078

WARNING

The piston in the air motor, located behind the air motor plates, moves 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. 4 on page 12 and the **Parts Drawing** on page 16.

- Clamp the pump in a vise and unscrew the displacement cylinder (CC) from the air motor base (J). Pull the displacement cylinder away from the air motor until the cotter pin (DD) which secures the displacement pump connecting rod to the air motor piston rod (FF) is visible. See Fig. 4.
- Remove the cotter pin (DD) and unscrew the pump connecting rod (EE) from the air motor piston rod (FF). See Fig. 4. Remove the cylinder (G) from the air motor base (J) as described under Disassembly on page 8.
- 3. Remove one louvered air exhaust plate (BB) and unscrew the throat packing nut (HH), using a spanner wrench or a 0.22 in. (5.6 mm) diameter rod. See Fig. 4.
- 4. Remove the packing nut (45†), male and female glands (47†, 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.
- 6. Lubricate the packings, piston rod and piston flange with a light waterproof 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.

- 8. 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†).
- 9. 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 (FF) down through the throat packing, and lower the piston into the base. Reinstall the plate (BB) and cylinder (G). Reassemble the air motor to the displacement pump.
- 10. Torque the outlet adapter (42) to 45 to 55 ft-lb (61 to 75 N-m).

A CAUTION

When reinstalling cotter pin (DD), **always** spread and flatten the pin (both the head and prongs) around the rod to within a 1 in. (25 mm) total diameter. See Detail A of Fig. 4.

Model 205647, Series M

for in-line mounting, medium-pressure oil pump

Ref No.	Part No.	Description	Qty	Ref No.
1	207150	TRIP ROD	1	30
2	207391	PISTON		31
		includes items 3 to 5 (also includes		32
		207385 repair kit when ordered		33
		as a replacement part)	1	34
3	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.		35
4	158361*	.CLIP, spring	2	36
5		.BARE PISTON (not sold separately)	1	37
6	17M262	SCREW, hex head; 8-32 x 3/8 in.	20	38
7	101578	SCREW, hex head Nylock;		53
		8–32 x 3/8 in.	8	54
8	150647	GASKET; copper	1	57
9	156698*	O-RING; Buna-N	1	58▲
10	112843*	PACKING, block, V	1	* 🗅
13	158359	ACTUATOR, valve	1	* F
14	158360	YOKE, rod, trip	1	** lr
15	158362	PIN, toggle	2	
16	158364	ROCKER, toggle	2	р
17	167585	SPRING, helical compression	2	A .
18	158367**	GROMMET; rubber	2	n
19	158377	SEAL, flat ring; nitrile rubber	1	у
20	158378**	SEAL, o-ring; nitrile rubber	1	la Ia
21	158379**	SEAL, o-ring; nitrile rubber	1	
24	190495	SPACER, throat	1	n
25	190249	NUT, packing	1	fr
27	160261**	NUT, adjusting	4	d
28	160618**	LOCKWIRE, transfer valve	2	F
29	160623	ARM, toggle	2	S

No.	Part No.	Description	Qty
30	160896**	STEM, valve	2
31	161435	NUT, cylinder cap	1
32	162629	CYLINDER, motor, air	1
33	178270	PLATE, muffler	2
34	164924	BASE, motor, air	1
35	164925	ROD, piston	1
36	177844	PLATE, identification	1
37	170708**	POPPET, valve; urethane	2
38	170709**	POPPET, valve; urethane	2
53	104029	LUG, grounding	1
54	104582	WASHER, tab	1
57	180233	LABEL, warning	2
58▲	177843	PLATE, warning	1

- Recommended spare parts to keep on hand.
- ** Included in Repair Kit 207385. Must be purchased separately.
- ▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.

 French 290466

French 290466 Spanish 290468

Model 206078, Series L

for in-line mounting, high-pressure grease pump

Ref			
No.	Part No.	Description	Qty
1	207150	TRIP ROD	1
2	207391	PISTON	
		includes items 3 to 5 (also includes	
		207385 repair kit when ordered	
	400075	as a replacement part)	1
3	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.	
4* 5	158361	.CLIP, spring	2
6	17M262	BARE PISTON (not sold separately)	
7	101578	SCREW, hex head; 8–32 x 3/8 in. SCREW, hex head Nylock;	20
′	101570	8–32 x 3/8 in.	8
8	150647	GASKET; copper	1
9*	156698	O-RING; Buna–N	i
13	158359	ACTUATOR, valve	1
14	158360	YOKE, rod, trip	1
15	158362	PIN, toggle	
16	158364	ROCKER, toggle	2 2 2 2
17	167585	SPRING, helical compression	2
18**	158367	GROMMET; rubber	
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† 24†	113944 192172	PACKING, o-ring	1
24 I 25†	113936	RETAINER, packing PACKING, u-cup	1 1
26†	192173	WASHER, packing	1
27**	160261	NUT, adjusting	4
28**	160618	LOCKWIRE, transfer valve	
29	160623	ARM, toggle	2 2
30**	160896	STEM, valve	2
31	161435	NUT, cylinder cap	1
32	162629	CYLINDER, motor, air	1
33	178270	PLATE, muffler	2
36	177844	PLATE, identification	1
	15E555	for FireBall® 425 models: 205394, 205395,239729, 239730 and 239731	
37**	170708	POPPET, valve; urethane	2
38**	170709	POPPET, valve; urethane	2 2

Ref No.	Part No.	Description	Qty
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
49†	159308	V-PACKING; nitrile rubber	4
52	162553	ROD, piston	1
53	116343	SCREW, grounding	1
56	15F570	BASE, motor, air	1
57	180233	LABEL, warning	2
58▲	177843	PLATE, warning	1

- Recommended spare parts to keep on hand.
- ** Included in Repair Kit 207385. Must be purchased separately.
- † Service parts for air motor throat packing area. Must be purchased separately.
- ▲ If users of this equipment do not read English, you may order one of the following labels to apply to your air motor. Apply the label over the matching label on the air motor plate for good visibility. Do not cover the air exhaust holes. Order the labels free of charge directly from Graco. Contact your distributor to order.

German	290467
French	290466
Spanish	290468

Model 205038, Series N

for stanchion tube mountings

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1 2 3 4 5	207150 207391 102975 158361*	TRIP ROD PISTON includes items 3 to 5 (also includes 207385 repair kit when ordered as a replacement part) .SCREW, rd hd mach; 6–32 x 1/4 in .CLIP, spring .BARE PISTON (not sold separately)	2	26 27 28 29 30 31 32 33	162628 162629 178270 162663 164704 177844 170708**	ROD, piston CYLINDER, motor, air PLATE, muffler BASE, motor, air NUT, cylinder cap PLATE, identification POPPET, valve; urethane POPPET, valve; urethane	1 1 1 1 1 2
6 7 8 9 10	17M262 16H224* 101525 101526 101578	SCREW, hex head; 8–32 x 3/8 in. SEAL, wiper; polyurethane RING, retainer BEARING; bronze SCREW, hex head Nylock;	20 1 1 1	34 35 36 37▲ 38	104029 104582 180233 177841 178269	LUG, grounding WASHER, tab LABEL, warning PLATE, warning PLATE, muffler	2 1 1 2 1 1
11 12 13 14	150647 156698* 158359 158360	8–32 x 3/8 in. GASKET; copper O-RING; Buna–N ACTUATOR, valve YOKE, rod, trip	8 1 1 1	** In		d spare parts to keep on hand. epair Kit 207385. Must be parately.	
15 16 17 18 19 20 21 22 23	158362 158364 167585 158367** 158377 158378** 160261** 160618**	PIN, toggle ROCKER, toggle SPRING, helical compression GROMMET; rubber SEAL, flat ring; nitrile rubber SEAL, o-ring; nitrile rubber SEAL, o-ring; nitrile rubber NUT, adjusting LOCKWIRE, transfer valve	2 2 2 1 1 1	ma yo lal no fre	ay order one our air motor oel on the ai ot cover the	s equipment do not read English, e of the following labels to apply to . Apply the label over the matching report plate for good visibility. Earlie exhaust holes. Order the label directly from Graco. Contact you order.	o ng Do els
24 25	160623 160896**	ARM, toggle STEM, valve	2 2 2	Fr	erman ench oanish	290464 290463 290465	

Qty

1 1

Model 207352, Series G for divorced mountings

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	205529	PACKING NUT		26	161435	NUT, cylinder cap	1
_		includes items 2 to 4	1	27	162629	CYLINDER, motor, air	1
2	16H224*	.SEAL, wiper; polyurethane	1	28	178270	PLATE, muffler	2
3	101526	.BEARING; bronze	1	29	166235	ROD, piston	1
4	164701	.NUT, packing	1	30	167585	SPRING, helical compression	2
5	207150	TRIP ROD	1	31	177844	PLATE, identification	1
6	207391	PISTON		32	168656	BASE, motor, air	1
		includes items 7 to 9 (also includes		33	170708**	POPPET, valve; urethane	2
		207385 repair kit when ordered		34	170709**	POPPET, valve; urethane	2
		as a replacement part)	1	35	104029	LUG, grounding	1
7	102975	.SCREW, rd hd mach; 6-32 x 1/4 in		36	104582	WASHER, tab	1
8	158361*	.CLIP, spring	2	37	180233	LABEL, warning	2
9		.BARE PISTON (not sold separately,) 1	38▲	177843	PLATE, warning	1
10	17M262	SCREW, hex head; 8-32 x 3/8 in.	20				
11	101578	SCREW, hex head Nylock;		* Re	ecommende	d spare parts to keep on hand.	
		8–32 x 3/8 in.	8	** In/	alunda al las Da	main Kit 007005 Must be	
12	150647	GASKET; copper	1	1111		epair Kit 207385. Must be	
13	156698*	O-RING; Buna-N	1	pu	rchased se	parately.	
14	158359	ACTUATOR, valve	1	. A If	seare of this	oguinment de net reed English	
15	158360	YOKE, rod, trip	1			equipment do not read English,	
16	158362	PIN, toggle	2			of the following labels to apply t	
17	158364	ROCKER, toggle	2			 Apply the label over the matchi 	
18	158367**	GROMMET; rubber	2			r motor plate for good visibility. [
19	158377	SEAL, flat ring; nitrile rubber	1	no	t cover the	air exhaust holes. Order the labe	els
20	158378**	SEAL, o-ring; nitrile rubber	1	fre	e of charge	directly from Graco. Contact you	ır
21	158379**	SEAL, o-ring; nitrile rubber	1		stributor to c	-	
22	160261**	NUT, adjusting	4				
23	160618**	LOCKWIRE, transfer valve	2		erman	290467	
24	160623	ARM, toggle	2	Fre	ench	290466	
25	160896**	STEM, valve	2	Sp	anish	290468	

Model 222772, Series G for divorced mountings

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	205529	PACKING NUT		26	164704	NUT, cylinder cap	1
	40110044	includes items 2 to 4	1	27	162629	CYLINDER, motor, air	1
2	16H224*	.SEAL, wiper; polyurethane	1	28	178270	PLATE, muffler	2
3	101526	.BEARING; bronze	1	29	166235	ROD, piston	1
4	164701	.NUT, packing	1	30	167585	SPRING, helical compression	2
5	207150	TRIP ROD	1	31	177844	PLATE, identification	1
6	207391	PISTON		32	184120	BASE, motor, air	1
		includes items 7 to 9 (also includes		33	170708**	POPPET, valve; urethane	2
		207385 repair kit when ordered		34	170709**	POPPET, valve; urethane	2
		as a replacement part)	1	35	104029	LUG, grounding	1
7	102975	.SCREW, rd hd mach; 6-32 x 1/4 in.		36	104582	WASHER, tab	1
8	158361*	.CLIP, spring	2	37	180233	LABEL, warning	2
9		.BARE PISTON (not sold separately)	1	38	177843	PLATE, warning	1
10	17M262	SCREW, hex head; 8-32 x 3/8 in.	20	* 0.			
11	101578	SCREW, hex head Nylock;		* Re	ecommende	d spare parts to keep on hand.	
		8–32 x 3/8 in.	8	** In	cluded in De	pair Kit 207385. Must be	
12	150647	GASKET; copper	1	17.1			
13	156698*	O-RING; Buna–N	1	ρι	ırchased sep	parately.	
14	158359	ACTUATOR, valve	1	.A. If	users of this	equipment do not read English, y	(OLI
15	158360	YOKE, rod, trip	1				
16	158362	PIN, toggle	2			of the following labels to apply to	
17	158364	ROCKER, toggle	2			Apply the label over the matchin	
18	158367**	GROMMET; rubber	2			r motor plate for good visibility. De	
19	158377	SEAL, flat ring; nitrile rubber	1	nc	ot cover the a	air exhaust holes. Order the label	S
20	158378**	SEAL, o-ring; nitrile rubber	1	fre	e of charge	directly from Graco. Contact your	
21	158379**	SEAL, o-ring; nitrile rubber	1	dis	stributor to o	rder.	
22	160261**	NUT, adjusting	4	0	0 11110 0 10	200467	
23	160618**	LOCKWIRE, transfer valve	2		erman	290467	
24	160623	ARM, toggle	2		ench	290466	
25	160896**	STEM, valve	2	Sp	oanish	290468	

Technical Data

Maximum inbound air pressure) psi (1.2 MPa, 12 bar)
Effective piston area	14 sq. in. (90 cm ²)
Effective piston diameter	4.25 in. (108 mm)
Stroke	4 in. (102 mm)
Air valves	Transfer: nitrile rubber
	Exhaust: urethane
Valve mechanism	balanced, detented
Seal	Nitrile rubber
Weight	
* Sound level at 180 psi (1.2 MPa, 12 bar), 25 cycles per minute	98 dBa
* Sound power level at 180 psi (1.2 MPa, 12 bar), 25 cycles per minute	113 dBa

^{*} Tested in accordance with ISO 3744.