

Viscount[®] High-Flo[®] Plus Pumps

3A6939C

EN

Hydraulic-powered pumps for low pressure, high volume circulation of finishing materials. Do not use for flushing or purging lines with caustics, acids, abrasive line strippers, and other similar fluids. For professional use only.

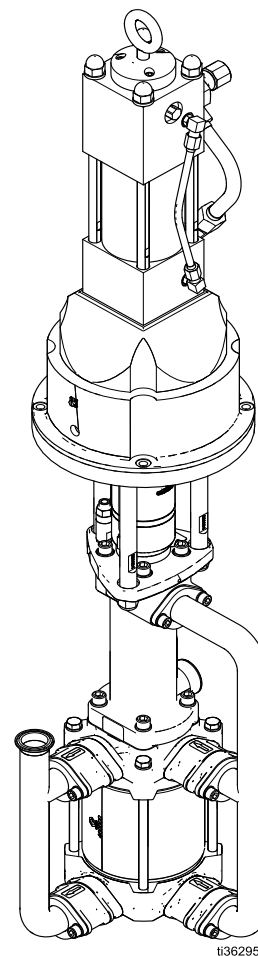


Important Safety Instructions

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

See **Models**, page 3, for model information.

See **Technical Specifications**, page 19, for maximum fluid working pressure.



t136295a



II 2 G Ex h IIB T3 Gb

Contents

Contents	2	Parts	14
Related Manuals	2	Viscount II Pump:	
Models	3	Model 25Exxx with Sealed 4-Ball Plus Lower	
Warnings	4	14	
Typical Installation	6	Dimensions	15
Installation	7	Performance Charts	17
Grounding	7	Technical Specifications	19
Mounting	7	California Proposition 65	19
Plumbing	8	Graco Standard Warranty	20
Flush Before Using Equipment	8	Graco Information	20
Accessories	8		
Operation	9		
Pressure Relief Procedure	9		
Prime the Pump	9		
Shutdown	9		
Maintenance	10		
Preventive Maintenance Schedule	10		
Troubleshooting	11		
Repair	12		
Disassembly	12		
Reassembly	12		

Related Manuals

Part No.	Description
308048	Viscount II Hydraulic Motor manual
3A5348	Repair/Parts Manual, Sealed 4-Ball Plus Lowers
311619	Pump Mounting Kits

Models

Model No.	Motor	Lower Size	Lower P/N	Lower type	Connection Fittings Style	Lower Material	Rod Coating	Cylinder Coating
25E932	Viscount II	2500cc	17Z387	Sealed	tri-clamp	SST	Ultralife™	Ultralife™
25E933	Viscount II	3000cc	17Z388	Sealed	tri-clamp	SST	Ultralife™	Ultralife™
25E934	Viscount II	4000cc	17Z389	Sealed	tri-clamp	SST	Ultralife™	Ultralife™

Warnings

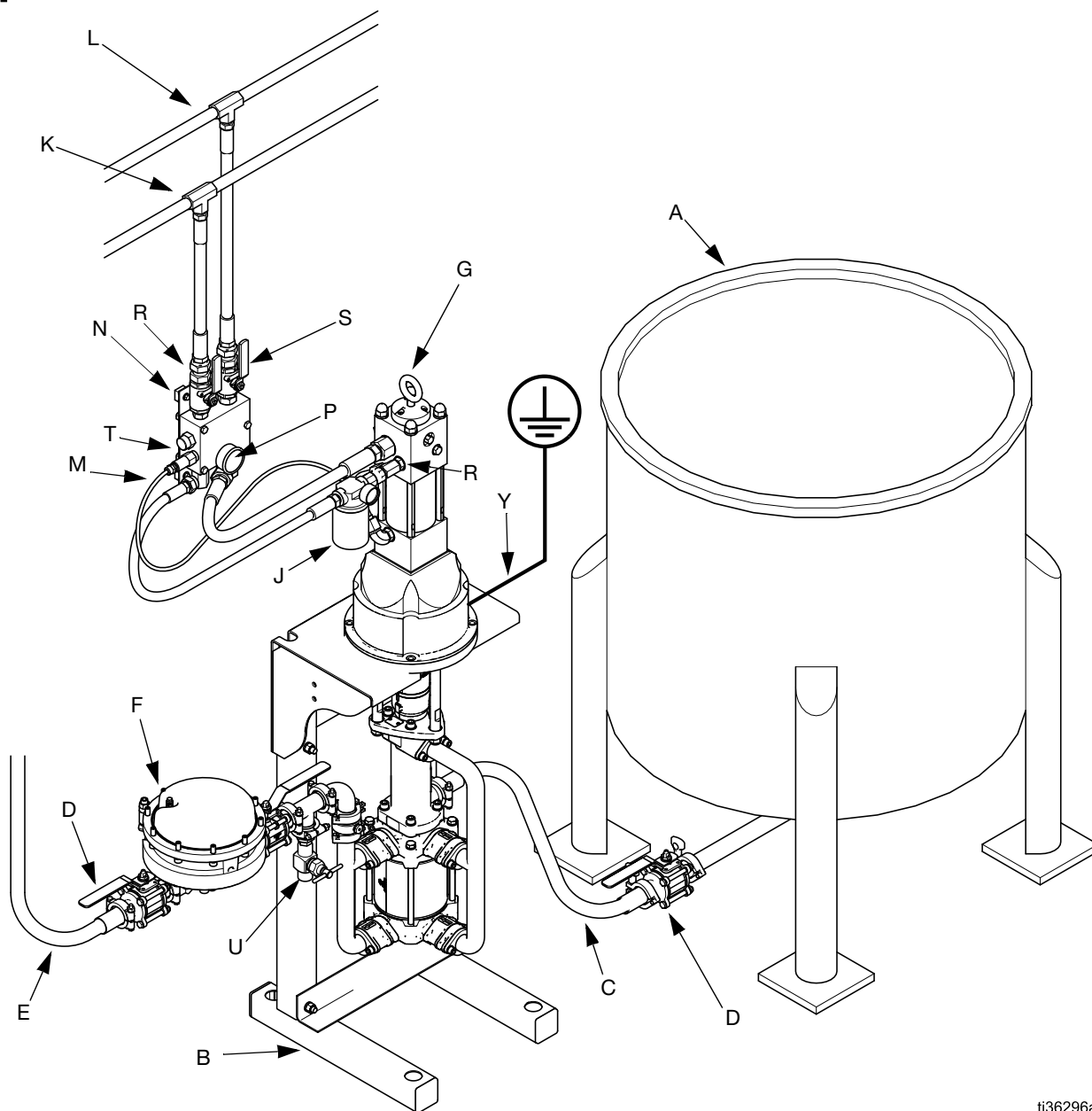
The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer 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	
	FIRE AND EXPLOSION HAZARD Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion: • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking). • Ground all equipment in the work area. See Grounding instructions. • Never spray or flush solvent at high pressure. • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive. • 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.
	PRESSURIZED EQUIPMENT HAZARD Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury. • Follow the Pressure Relief Procedure when you stop spraying/dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, 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 Safety Data Sheet (SDS) 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.
 	MOVING PARTS HAZARD Moving parts can pinch, cut or amputate fingers and other body parts. • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.
	TOXIC FLUID OR FUMES HAZARD Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed. • Read Safety Data Sheet (SDS) 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.
	BURN HAZARD Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns: • Do not touch hot fluid or equipment.
	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



ti36296a

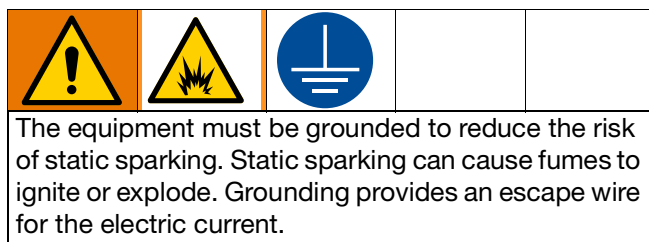
FIG. 1 Typical Installation

Key:

- | | | | |
|---|---|---|--|
| A | Mix Tank | M | Drain Line |
| B | Pump Stand | N | Pressure Reducing Valve |
| C | Fluid Supply Line; 1-1/2 in. (38 mm) minimum diameter | P | Hydraulic Supply Line Pressure Gauge |
| D | Fluid Shutoff Valve | R | Return Line Shutoff Valve |
| E | Fluid Line; 1 in. (25 mm) minimum diameter | S | Supply Line Shutoff Valve |
| F | Surge Tank | T | Flow Control Valve |
| G | Pump | U | Fluid Drain Valve |
| J | 10 Micron Return Filter | Y | Pump Ground Wire (required, see page 7 for installation) |
| K | Hydraulic Return Line | | |
| L | Hydraulic Supply Line | | |

Installation

Grounding



Pump: use a ground wire and clamp (not included). See FIG. 2 Loosen the locknut (W) of the grounding lug (Z). Insert one end of the wire (Y) in the ground lug and tighten the locknut securely. Connect the ground clamp to a true earth ground. Order Part No. 237569, Ground Wire and Clamp.

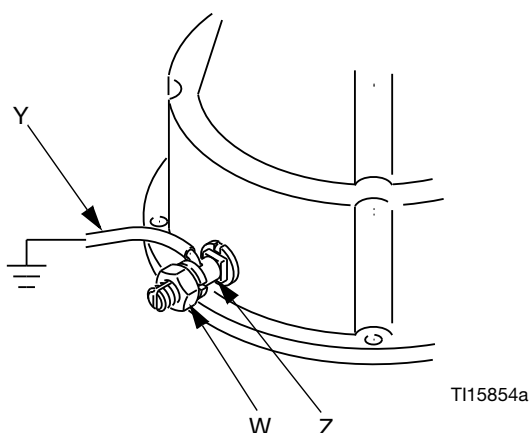


FIG. 2 Ground Wire

Fluid Hoses: use only electrically conductive hoses with a maximum of 500 ft. (150 m) combined hose length to ensure grounding continuity. Check the electrical resistance of hoses. If total resistance to ground exceeds 25 megohms, replace hose immediately.

Hydraulic power supply: follow manufacturer's recommendations.

Surge tank: use a ground wire and clamp.

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

Fluid supply container: follow local code.

Object being sprayed: follow local code.

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

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

Mounting

The pump can be mounted using one of the following options:

- Stand mount: Kit 253692
- Wall mount: Kit 255143
- Floor mount:
 - Kit 19Y313—Complete kit
 - Kit 19Y286—Plate for mounting to an existing floor mount

Pump Mounting Kits manual 311619 describes the mount parts and how to install each.

Plumbing

NOTICE

To prevent a bellows failure:

- Do not exceed fluid inlet pressure of 15 psi (0.1 MPa, 1.0 bar)
- Do not use a ball check pump on the inlet side of this pump
- Do not use a suction tube with a check valve on the inlet side of this pump.

Install a fluid shutoff valve (D) between the mix tank (A) and the pump.

When using a stainless steel pump, use stainless steel plumbing to maintain a corrosion-resistant system.

Flush Before Using Equipment

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Flushing the Fluid Supply Lines**, page 10.

Accessories

Install the following accessories in the configuration shown in **Typical Installation**, FIG. 1, using adapters as necessary.

Hydraulic Power Supply

NOTICE

The hydraulic power supply must be kept clean at all times to avoid damage to the motor and hydraulic power supply. To help keep the power supply clean:

- Blow out hydraulic lines with air and flush thoroughly before connection to the motor.
- Plug hydraulic inlets, outlets, and line ends when disconnecting them for any reason.

Be sure the power supply can provide sufficient power to the motor. Be sure the power supply is equipped with a suction filter to the hydraulic pump.

Hydraulic Supply Line

- Use a minimum 7/8 in. (22 mm) ID supply line (L). The motor has a 1 in. (25.4 mm) npt(f) hydraulic oil supply fitting.
- **Supply line shutoff valve (S):** isolates the motor when servicing the system.
- **Hydraulic fluid pressure gauge (P):** monitors the hydraulic oil pressure to the motor to avoid over-pressurizing the motor or lower.
- **Pressure- and temperature-compensated flow control valve (T):** prevents the motor from running too fast, which can damage it. **Pressure reducing valve (N), which has a drain line (M) running to the hydraulic return line (K):** controls the hydraulic pressure to the motor.

Hydraulic Return Line

- Use a minimum 1/2 in. (13 mm) ID return line (K). The motor has a 3/4 in. (19 mm) npt (f) hydraulic oil return fitting.
- **Return line shutoff valve (R):** isolates the motor when servicing the system.

NOTICE

To avoid damage to the pump, never use the return line shutoff valve to control the hydraulic flow. Do not install any flow control devices on the hydraulic return line.

- **Return fluid filter (J):** removes residue from the hydraulic fluid to help keep the system running smoothly (10 micron size).

Fluid Line

For typical installation, see FIG. 1.

- **Fluid filter:** with a 60 mesh (250 micron) stainless steel element to filter particles from the fluid as it leaves the pump.
- **Fluid drain valve (U):** required in your system, to relieve fluid pressure in the hose and gun.
- **Fluid shutoff valve (D):** shuts off fluid flow.

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

1. Shut off the hydraulic supply line shutoff valve (S) first, then the return line shutoff valve (R).
2. Open the dispensing valve, if used.
3. Open all fluid drain valves (U) in the system, having a waste container ready to catch drainage. Leave drain valve(s) open until you are ready to pump again.

NOTICE

When shutting down the hydraulic system, always shut off the hydraulic supply line shutoff valve (S) first, and then the return line shutoff valve (R) to prevent over pressurizing the motor or its seals. When starting the hydraulic system, open the return line shutoff valve first.

Prime the Pump

NOTICE

Do not allow the pump to run quickly for a long period of time as this may damage the packings.

NOTE: Sealed 4-ball lowers with bellows do not require Throat Seal Liquid (TSL).

1. Close the flow control valve (T) by turning knob counterclockwise, reducing pressure to zero. Close the supply line shutoff valve (S) and the return line shutoff valve (R). Also verify that all drain valves (U) are closed.
2. Check that all fittings throughout system are tightened securely.
3. Start the hydraulic power supply.
4. Open the return line shutoff valve (R), then the supply line shutoff valve (S). Slowly turn the flow control valve (T) clockwise, increasing pressure until pump starts.
5. Cycle pump slowly until all air is pushed out and pump and hoses are fully primed.
6. Close the fluid shutoff valve (D) downstream of the pump. The pump should stall against pressure.

NOTE: In a circulation system, the pump operates continuously until the power supply is shut off. In a direct-supply system, the pump starts when the dispense valve is opened, and stops when the dispense valve is closed.

Shutdown

Follow the **Pressure Relief Procedure**, page 9.

Maintenance

Preventive Maintenance Schedule

The operating conditions of your particular system determine how often maintenance is required. Establish a preventive maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your system.

Your schedule should include the maintenance activities described in the following sections.

Flushing the Fluid Supply Lines



To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at the lowest possible pressure.

- Flush before changing colors, before fluid can dry in the equipment, at the end of the day, before storing, and before repairing equipment.
- Flush at the lowest pressure possible. Check connectors for leaks and tighten as necessary.
- Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.

Checking the Mix Tank Volume

NOTICE

Don't let the mix tank run dry. When the tank is empty, the pump demands more power as it tries to suck in some fluid. This causes the pump to run too fast, which can seriously damage the pump.

Checking the Hydraulic Power Supply

Carefully follow the hydraulic power supply manufacturer's recommendations on reservoir and filter cleaning, and periodic changes of hydraulic fluid.

Performing a Stall Test

Perform a stall test periodically to ensure the piston seal is in good working condition and to prevent system pressurization:

Close the fluid shutoff valve (D) closest to the pump on the down stroke and be sure that the pump stalls. Open the fluid shutoff valve to restart the pump. Close the fluid shutoff valve (D) closest to the pump on the upstroke and be sure that the pump stalls.

NOTICE

Do not allow the pump to run quickly for a long period of time as this may damage the seals.

Stop the pump on the down stroke, before the air motor changes over.

Troubleshooting



Follow the **Pressure Relief Procedure**, page 9, before checking or servicing pump.

Problem	Cause	Solution
Pump output low on both strokes.	Restricted hydraulic supply lines.	Clear any obstructions; be sure all shutoff valves are open; increase pressure, but do not exceed maximum working pressure.
	Exhausted fluid supply.	Refill and re-prime pump.
	Clogged fluid outlet line, valves, etc.	Clear.
	Worn piston packing.	Replace. See lower manual.
Pump output low on only one stroke.	Held open or worn ball check valves.	Check and repair.
	Worn piston packings.	Replace. See lower manual.
No output.	Improperly installed ball check valves.	Check and repair.
Pump operates erratically.	Exhausted fluid supply.	Refill and re-prime pump.
	Held open or worn ball check valves.	Check and repair.
	Worn piston packing.	Replace. See lower manual.
	Excessive hydraulic fluid supply pressure to motor.	See motor manual.
Pump will not operate.	Restricted hydraulic supply lines.	Clear any obstructions; be sure all shut off valves are open; increase pressure, but do not exceed maximum working pressure.
	Exhausted fluid supply.	Refill and re-prime pump.
	Clogged fluid outlet line, valves, etc.	Clear.
	Damaged hydraulic motor.	See the motor manual.
	Fluid dried on piston rod.	Disassemble and clean pump. See lower manual. In future, stop pump at bottom of stroke.

Repair

Disassembly



This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from splashing fluid and moving parts, follow the **Pressure Relief Procedure** before servicing the equipment.

1. Relieve the pressure. Follow the **Pressure Relief Procedure**, page 9.
2. Disconnect the hoses from the lower and plug the ends to prevent fluid contamination.
3. Remove the 2-piece shield (9) by inserting a screwdriver straight into the slot, and using it as a lever to release the tab. Repeat for all tabs. **Do not** use the screwdriver to pry the shields apart. See Fig. 3.

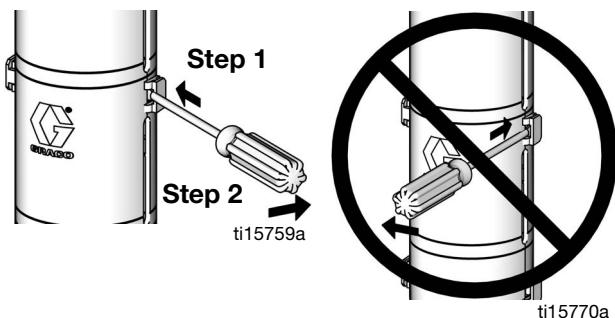


FIG. 3. Shield Disassembly

4. Remove the hose clamp holding the drain bottle to the tie rod (3). Loosen the coupling nut (5) and remove the collars (6). Remove the coupling nut from the piston rod (3). Unscrew the lock nuts (4) from the tie rods (3). Separate the motor (1) and lower (2). See **Parts**, page 14.

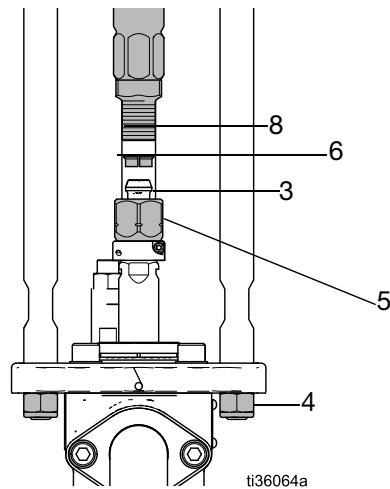
NOTE: To repair the air motor or lower, see the separate manuals listed under **Related Manuals** on page 2.

Reassembly

1. If the coupling adapter (8) and tie rods (3) have not been disassembled from the motor (1), skip to step 2.

If the coupling adapter (8) and tie rods (3) have been disassembled from the motor (1), follow these steps:

- a. Loosen, but do not remove, the screws (13) holding the mounting plate (12) to the motor (1).
 - b. Screw the tie rods (3) into the mounting plate (12) and torque to 50-55 ft-lb (68-75 N•m).
 - c. Fill the cavity in the bottom of the motor shaft with grease (Lubriplate® 930-AA).
 - d. Lubricate the threads of the coupling adapter (8).
 - e. Slide the adapter nut (7) onto the coupling adapter (8). Screw the adapter nut (7) onto the motor shaft (S) and torque to 90-100 ft-lb (122-136 N•m).
 - f. Continue to step 2.
2. Assemble the coupling nut (5) over the piston rod (3).
 3. Orient the lower (2) to the motor (1). Position the lower on the tie rods (3).
 4. If you are reusing lock nuts (4) and the nylon of the lock nut is worn or cut, add blue thread locker to the tie rod threads.
 5. Screw the lock nuts (4) onto the tie rods. Leave the lock nuts (4) loose enough to allow the lower to move so that it can be aligned correctly.



6. Tighten the mounting plate screws. Torque the screws (13) to 50-55 ft-lb (68-75 N•m).
7. Insert the collars (6) into the coupling nut (5). Tighten the coupling nut onto the coupling adapter (8). Torque to 90-100 ft-lb (122-135 N•m) to allow the pump rod to align the lower on the tie rods. Do not rotate the adapter (8) when torquing the coupling nut (5).
8. Tighten the lock nuts and torque to 50-60 ft-lb (68-81 N•m).
9. Install the shields (9) by engaging the bottom lips with the groove in the top plate. Snap the two shields together. The top of the shield may be slightly offset if contacting the motor drain fitting.

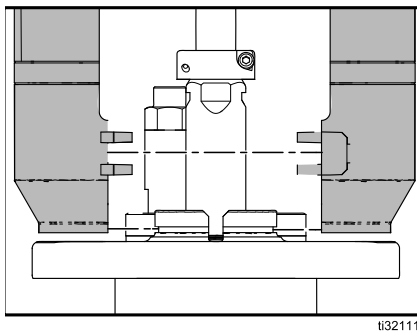
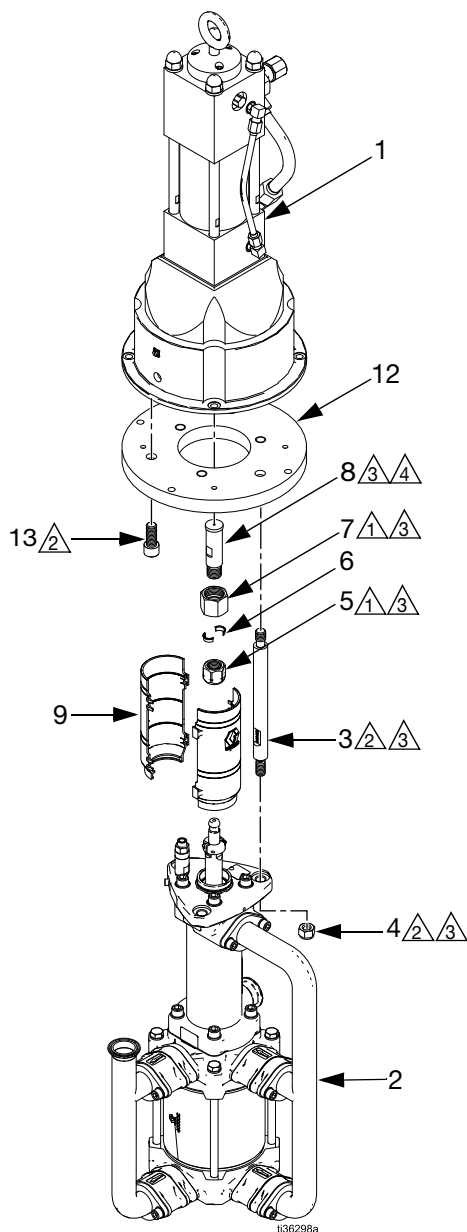


FIG. 4. Shield Reassembly

10. Flush and test the pump before reinstalling it in the system. Connect hoses and flush the pump. While it is pressurized, check for smooth operation and leaks. Adjust or repair as necessary before reinstalling in the system.
11. Reconnect the pump ground wire before operating.

Parts

Viscount II Pump: Model 25Exxx with Sealed 4-Ball Plus Lower



① Torque to 90-100 ft-lb (122-135 N•m).

② Torque to 50-55 ft-lb (68-75 N•m).

③ Apply lubricant (Lubriplate® 930-AA).

④ Do not rotate while torquing the coupling nut (5).

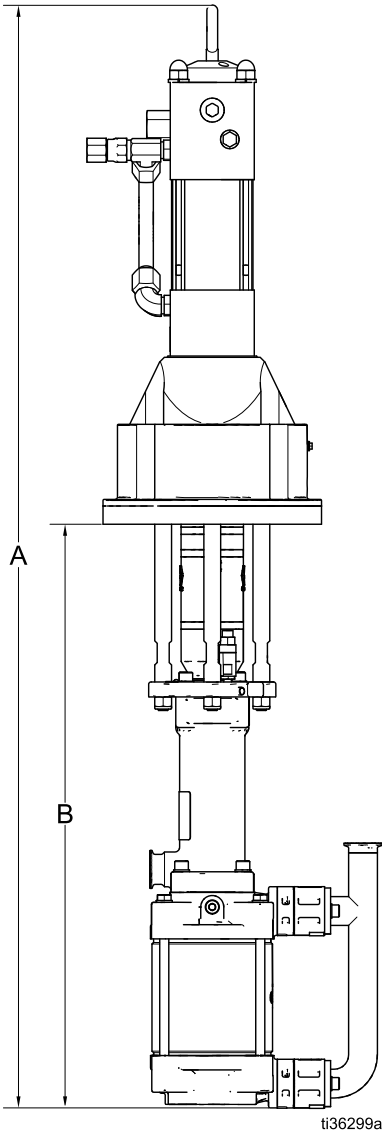
Parts List

Ref. No.	Part No.	Description	Qty.
1	223646	MOTOR, Viscount II, see detailed parts list in manual 308048	1
2	See page 2	LOWER, Sealed 4-Ball Plus, see detailed parts list in manual 3A5348	1
3	16H434	TIE ROD, 10.80 in. (274.3 mm); 8.37 in. (212.6 mm) between shoulders	3
4	108683	NUT, lock, hex; 9/16-12 unc	3
5	17F000	NUT, coupling, M22 x 1.5	1
6	184128	COLLAR, coupling	2
7	183079	NUT, adapter	1
8	17E257	ADAPTER, coupling, M22 x 1.5	1
9	25F251	SHIELD, kit; includes 2 shields	1
12	120558	PLATE, mounting	1
13	C19789	SCREW, cap, hex head	1
▲	290331	LABEL, warning (not shown)	1
▲	15E564	LABEL, warning (not shown)	1
▲	172975	LABEL, warning (not shown)	1

▲ Replacement Safety labels, tags, and cards are available at no cost.

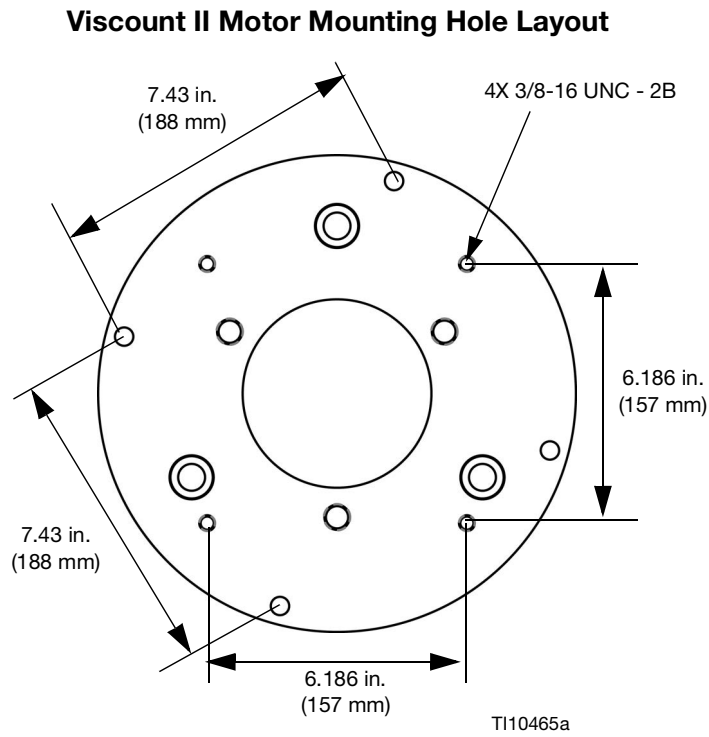
Dimensions

Viscount II Pump with Sealed 4-Ball Lower



Model	Motor	Lower Size	Lower Type	A		B		Approx. Weight	
				in.	mm	in.	mm	lb.	kg.
25E932	VISCOUNT II	2500cc	Sealed	57.2	1452	30.2	767	205	93
25E933	VISCOUNT II	3000cc	Sealed					203	92
25E934	VISCOUNT II	4000cc	Sealed					202	92

Motor Mounting Hole Diagram



Performance Charts

To find Fluid Outlet Pressure (psi/MPa/bar) at a specific fluid flow (lpm/gpm) and operating hydraulic pressure (psi/MPa/bar):

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

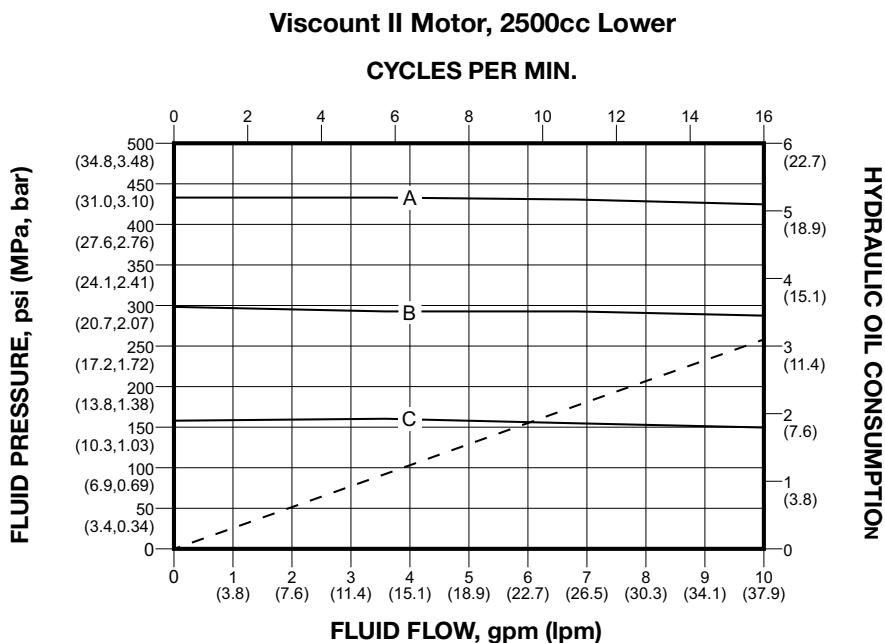
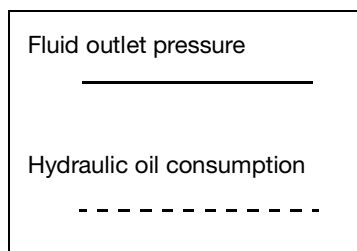
To find Motor Hydraulic Oil Consumption (l/min. or gpm) at a specific fluid flow (l/min. or gpm):

1. Locate desired flow along bottom of chart.
2. Read vertical line up to intersection with hydraulic oil consumption curve (dashes). Follow right to scale to read hydraulic oil consumption.

See **Models** on page 3 for your pump part number.

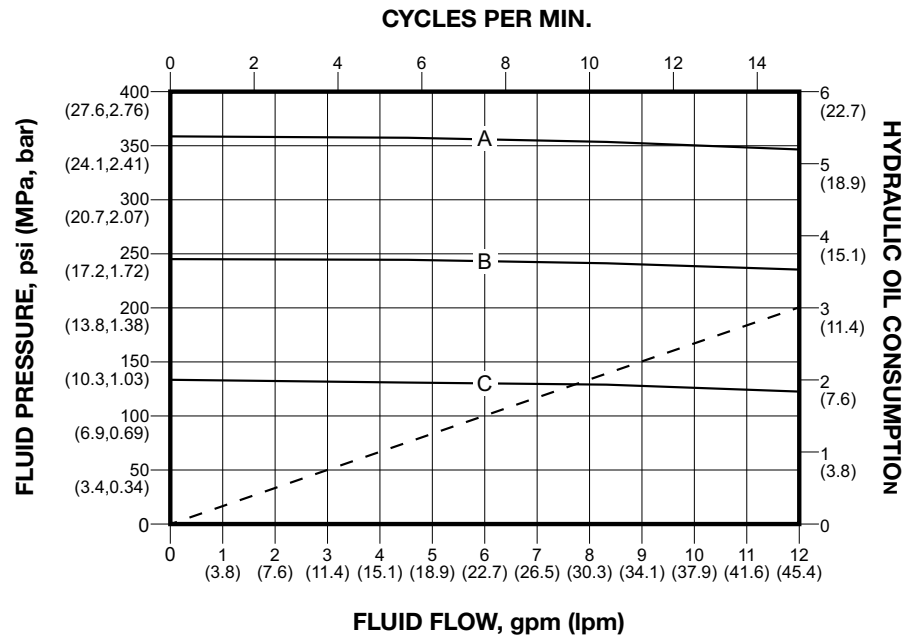
Key:

- A 10.3 MPa, 103 bar (1500 psi)
hydraulic pressure
- B 7.2 MPa, 72.4 bar (1050 psi)
hydraulic pressure
- C 4.1 MPa, 41 bar (600 psi)
hydraulic pressure



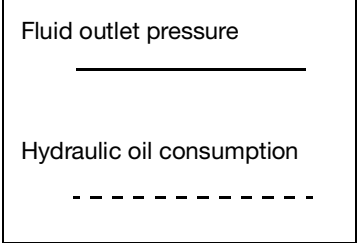
See **Models** on page 3 for your pump part number.

Viscount II Motor, 3000cc Lower

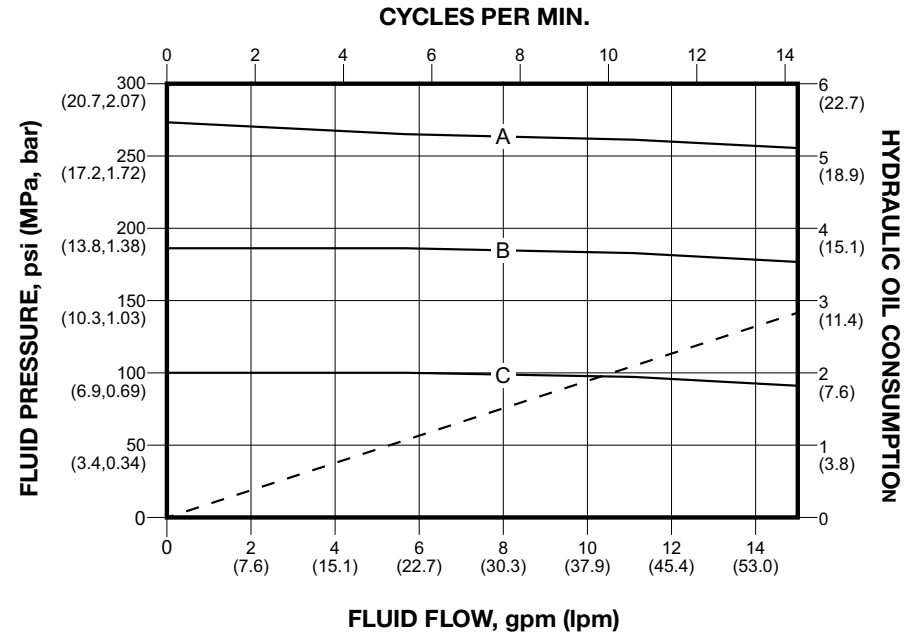


Key:

- A 10.3 MPa, 103 bar (1500 psi) hydraulic pressure
- B 7.2 MPa, 72.4 bar (1050 psi) hydraulic pressure
- C 4.1 MPa, 41 bar (600 psi) hydraulic pressure



Viscount II Motor, 4000cc Lower



Technical Specifications

Viscount II Motor with 2500, 3000, and 4000cc Pumps		
	U.S.	Metric
Lower size		
25E932	2500cc	
25E933	3000cc	
25E934	4000cc	
Maximum fluid working pressure		
25E932	430 psi	3.0 MPa, 29.6 bar
25E933	360 psi	2.5 MPa, 24.8 bar
25E934	270 psi	1.9 MPa, 18.6 bar
Maximum fluid inlet pressure	15 psi	0.1 MPa, 1.0 bar
Maximum hydraulic working pressure	1500 psi	10.3 MPa, 103 bar
Maximum recommended cycle rate for continuous duty	12 cycles per minute	
Hydraulic oil consumption	See Performance Charts , page 17.	
Dimensions	See Dimensions , page 15.	
Weight	See Dimensions , page 15.	
Maximum hydraulic motor fluid temperature	130°F	54°C
Output per cycle gallon (cc)		
25E932	2500 cc per cycle	
25E933	3000 cc per cycle	
25E934	4000 cc per cycle	
Maximum fluid temperature rating	150°F	66°C
Notes		
Sound data: See Viscount II motor manual 308048.		
Wetted parts: See Sealed 4-Ball Lower manual 3A5348.		

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.

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.

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

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

Toll Free Phone Number: 1-800-328-0211

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

Original instructions. This manual contains English. MM 3A6939

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

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

Copyright 2019, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.

www.graco.com

Revision C, September 2025