

Viscount[®] 4-Ball Pumps

3A0537N

EN

Hydraulic-powered pumps for low pressure, high volume circulation of finishing materials.

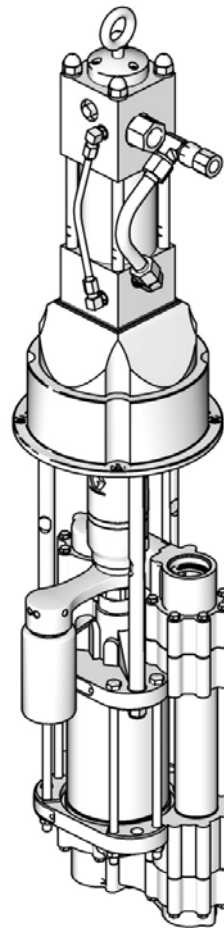
Do not use for flushing or purging lines with caustics, acids, abrasive line strippers, and other similar fluids. For professional use only.



Important Safety Instructions

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

See page 3 for model information, including maximum working pressure and approvals.



T115609a

**Viscount II
Pump with
4000cc 4-Ball
Lower**

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Related Manuals

Part No.	Description
308048	Viscount II Hydraulic Motor manual
3A0540	4-Ball Lower manual (3000cc and 4000cc)









Models

Pumps with 3000cc or 4000cc 4-Ball Lowers

Model No.	Series	Maximum Pump Working Pressure psi (MPa, bar)	Lower Size	Motor	Connection Style	Material	Rod Material	Cylinder Material
24E337	A	400 (2.8, 28.0)	3000cc	Viscount II	npt	cst	Chromex	Chrome
24E338	A	400 (2.8, 28.0)	3000cc	Viscount II	npt	sst	Chromex	Chrome
24E339	A	400 (2.8, 28.0)	3000cc	Viscount II	npt	sst	Ultralife	Ultralife
24E340	A	300 (2.1, 21.0)	4000cc	Viscount II	npt	cst	Chromex	Chrome
24E341	A	300 (2.1, 21.0)	4000cc	Viscount II	npt	sst	Chromex	Chrome
24E342	A	300 (2.1, 21.0)	4000cc	Viscount II	npt	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, 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.

 <h1 style="margin: 0;">WARNING</h1>	
   	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in the work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in a well-ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep the 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. • Ground all equipment in the work area. See Grounding instructions. • Use only grounded hoses. • Hold the gun firmly to the side of a grounded pail when triggering into a pail. • If there is static sparking or you feel a shock, stop operation immediately. Do not use the equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area. <p>Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Clean plastic parts only in a well-ventilated area. • Do not clean with a dry cloth. • Do not operate electrostatic guns in the equipment work area.
	<p>PRESSURIZED EQUIPMENT HAZARD</p> <p>Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> • Follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.
 	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read the 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.



WARNING

	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.
 	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • 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 a Safety Data Sheet (SDS) from your distributor or retailer. • Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
 	<p>MOVING PARTS HAZARD</p> <p>Moving parts can pinch, cut, or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • 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.

Installation

Grounding



The equipment must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.

Pump: use a ground wire and clamp. See FIG. 1. 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.

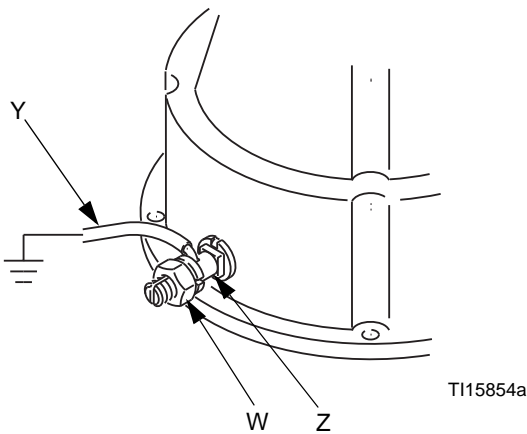


FIG. 1 Ground Wire

Air and 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 nonconductive 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 firmly to the side of a grounded metal pail, then trigger the gun.

Stand Mount

Mount the pump in the accessory pump stand (B). Use Part No. 218742 Stand for 3000 and 4000cc Pumps (see FIG. 2, page 9).

See **Mounting Stand Hole Layout** on page 18. Secure the stand to the floor with M19 (5/8 in.) bolts which engage at least 152 mm (6 in.) into the concrete floor to prevent the pump from tipping.

Wall Mount

1. Ensure the wall is strong enough to support the weight of the pump assembly and accessories, fluid, hoses, and stress caused during pump operation.
2. Ensure that the mounting location has sufficient clearance for easy operator access.
3. Position the wall bracket at a convenient height, ensuring that there is sufficient clearance for the fluid suction line and for servicing the lower.
4. Drill four 7/16 in. (11 mm) holes using the bracket as a template. Use any of the three mounting hole groupings in the bracket. See **255143 Wall Mount Bracket**, page 19.
5. Bolt the bracket securely to the wall using bolts and washers designed to hold in the wall's construction.
6. Attach the pump assembly to the mounting bracket.
7. Connect air and fluid hoses.

Plumbing

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**, page 11.

Accessories

Install the following accessories in the order shown in FIG. 2, 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.

1. Blow out hydraulic lines with air and flush thoroughly before connection to the motor.
2. 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

- For Viscount I Plus motors, the hydraulic inlet on the motor is 3/4 in., 37° flare. Use a minimum 1/2 in. (13 mm) ID hydraulic supply line (L).
- For Viscount II motors, use a minimum 13 mm (1/2 in.) ID supply line (L). The motor has a 3/4 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 return line (K):** controls the hydraulic pressure to the motor.

Hydraulic Return Line

- For Viscount I Plus motors, the hydraulic outlet on the motor is 7/8 in., 37° flare. Use a minimum 5/8 in. (16 mm) ID hydraulic return line (K).

- For Viscount II motors, use a minimum 22 mm (7/8 in.) ID return line (K). The motor has a 1 in. npt(f) hydraulic oil return fitting.
- **Return line shutoff valve (R):** isolates the motor when servicing the system.

NOTICE

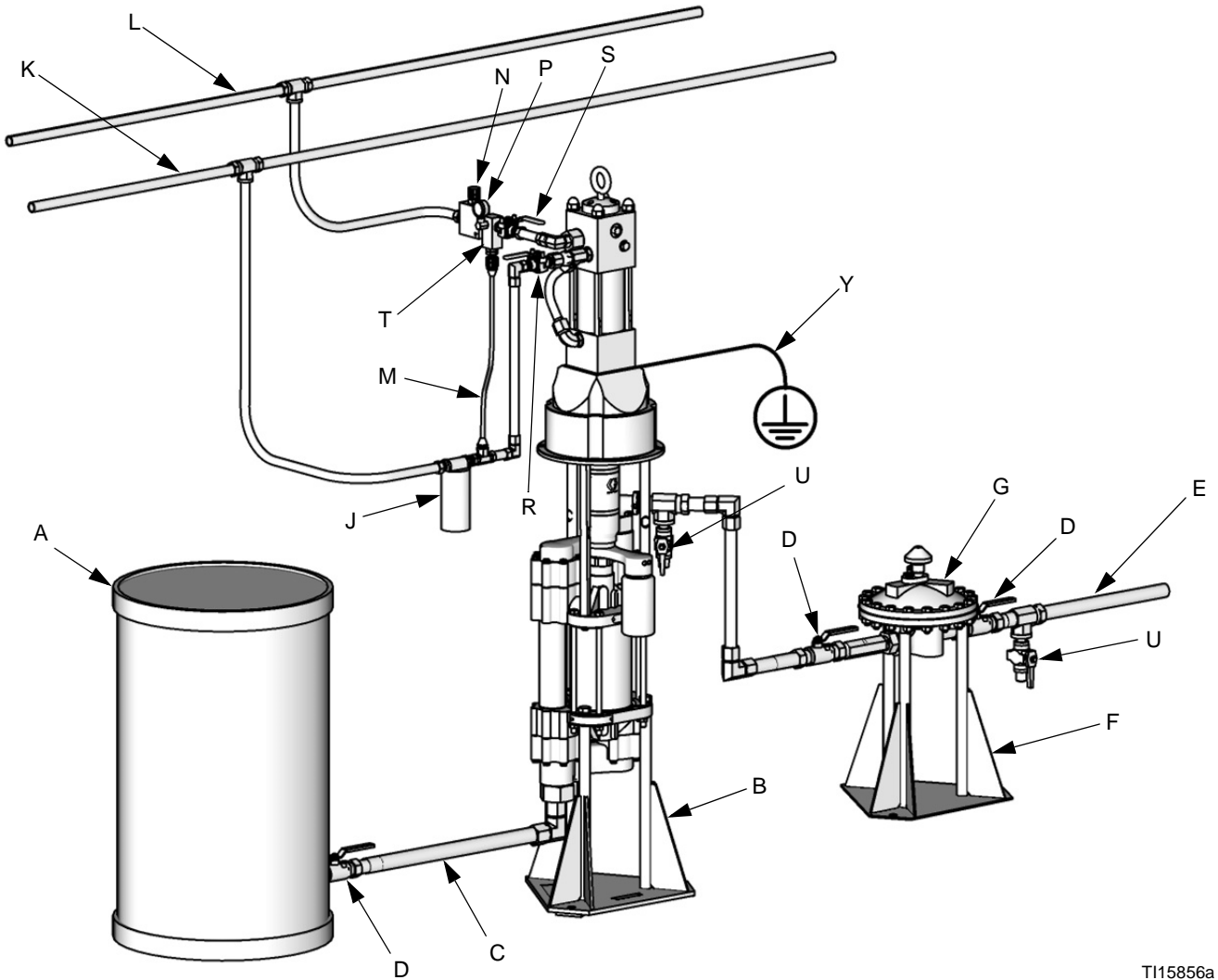
To avoid damage to the pump, never use the return line shutoff valve to control the hydraulic flow. Do not install any flow control devices on the hydraulic return line.

- **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. 2 on page 9.

- **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.



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FIG. 2. Typical Installation for 3000 and 4000cc Pumps (Viscount II Motor Shown)

Key:

- | | | | |
|---|---|---|---|
| A | Mix Tank | M | Drain Line |
| B | 218742 Pump Stand | N | Pressure Reducing Valve |
| C | Fluid Supply Line; 1-1/2 in. (38 mm) minimum diameter | P | Hydraulic 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 Stand | T | Flow Control Valve |
| G | Surge Tank | U | Fluid Drain Valve (required) |
| J | 10 Micron Return Filter | Y | Ground Wire (required; see page 6 for installation) |
| K | Hydraulic Return Line | | |
| L | Hydraulic Supply Line | | |

Operation

Pressure Relief Procedure



1. Shut off the hydraulic supply line valve (S) first, then the return line 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 overpressurizing the motor or its seals. When starting the hydraulic system, open the return line shutoff valve first.

Prime the Pump

1. Fill the TSL reservoir to the Maximum fill line with Throat Seal Liquid (TSL). See FIG. 3 on page 12.

NOTE: During operation the TSL level in the reservoir will fluctuate slightly at pump changeover.

2. 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.
3. Check that all fittings throughout system are tightened securely.
4. Start the hydraulic power supply.
5. 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.
6. Cycle pump slowly until all air is pushed out and pump and hoses are fully primed.

7. Verify that pump actuations are priming the pump wet-cup. If not, confirm that the TSL pump piston is being depressed at bottom changeover, and that reservoir check valves are not stuck closed.
8. 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.

Stop the Pump at the Bottom of Its Stroke



Relieve the pressure when you stop the pump for any reason. Stop the pump on the downstroke, before the motor changes over.

NOTICE

Failure to stop the pump at the bottom of its stroke allows fluid to dry on the piston rod, which can damage the throat packings and the TSL pump piston seal when the pump is restarted.

Shutdown



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

Always flush the pump before the fluid dries on the displacement rod. See **Flushing** on page 11.

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 maintenance schedule should include the following:

Flushing

- 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.

Mix Tank Volume

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.

Hydraulic Power Supply Check

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

Stall Test

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

Close the fluid shutoff valve (D) closest to the pump on the downstroke 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 packings.

Stop the pump on the downstroke, before the air motor changes over.

NOTICE

Failure to stop the pump at the bottom of its stroke allows fluid to dry on the piston rod, which can damage the throat packings and the TSL pump piston seal when the pump is restarted.

Changing the TSL

Check the condition of the TSL and the level in the reservoir every week, minimum. TSL should be changed at least every month.

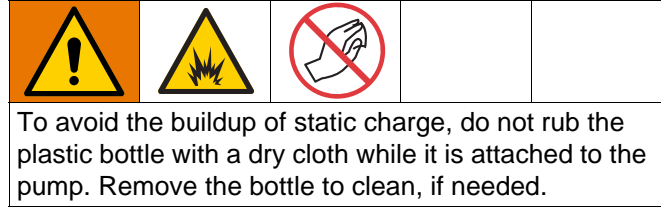
Part No. 206995 Throat Seal Liquid (TSL) carries residue from the pump rod into the reservoir. Discoloration of the TSL fluid is to be expected during normal operation. After some time the TSL will thicken and darken, and must be replaced. Thick, dirty TSL will not pump through the lines and will harden in the pump wet-cup.

How long TSL lasts depends on which chemicals are used, how much is used, what pressure, and condition of the pump seal and rod.

A drop in the level of TSL in the reservoir indicates that the throat packings are starting to wear. Add TSL to the reservoir and keep the level above the Minimum fill line. Monitor the usage and condition of the TSL. If pumped material bypasses the throat packings and enters the TSL reservoir, replace the packings.

To change the TSL:

1. Shut off the pump.



2. Remove and empty the reservoir bottle. Clean any residue.
3. Clean screen (Z) of inlet check valve (VI). If check valves are not sealing and dirty TSL is getting into the wet-cup, replace the check valves (VI, VO). See FIG. 3.
4. Fill the reservoir to the Maximum fill line with Throat Seal Liquid (TSL).
5. Run pump. Each time pump rod reaches bottom of stroke, check that some TSL is pumped from reservoir through wet-cup and back to reservoir.

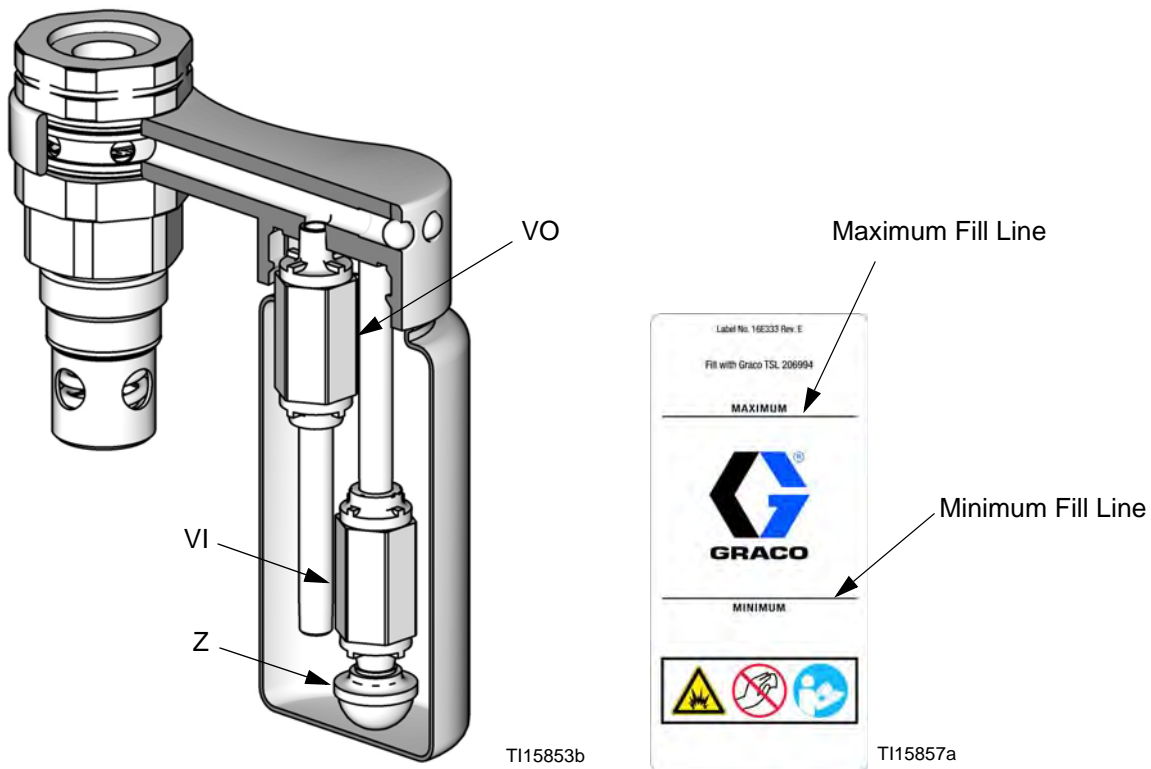


FIG. 3. Cutaway of TSL Reservoir, and Fill Lines

Troubleshooting

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 reprime 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 reprime 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 reprime pump.
	Clogged fluid outlet line, valves, etc.	Clear.
	Damaged hydraulic motor.	See motor manual.
	Fluid dried on piston rod.	Disassemble and clean pump. See lower manual. In future, stop pump at bottom of stroke.

Repair

Disassembly

NOTE: The 3000 and 4000cc pumps are easiest to repair when left in the Part No. 218742 accessory pump stand and disassembled as instructed in the lower manual. For repair at a remote location, have another pump stand available.



1. Relieve the pressure, see **Pressure Relief Procedure** page 10.
2. Disconnect the hoses from the lower and plug the ends to prevent fluid contamination.
3. See FIG. 4. Remove the 2-piece shield (122) 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.
4. Loosen the coupling nut (105) and remove the collars (106). Remove the coupling nut from the piston rod (R). Unscrew the locknuts (104) from the tie rods (103). Separate the motor (101) and lower (102). See FIG. 4.

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

Reassembly

NOTE: If the coupling adapter (108) and tie rods (103) have been disassembled from the motor, see on page 15.

1. See FIG. 4. Assemble the coupling nut (105) to the piston rod (R).
2. Orient the lower (102) to the motor (101). Position the lower on the tie rods (103). Lubricate the threads of the tie rods. Screw the tie rod locknuts (104) onto the tie rods. Torque the tie rod locknuts to 50-55 ft-lb (68-75 N•m).
3. Insert the collars (106) into the coupling nut (105).
4. Tighten the coupling nut onto the motor shaft (S) and torque to 150 ft-lb (203 N•m).
5. See FIG. 4. Install the shields (122) by engaging the bottom lips with the groove in the wet-cup cap (C). Snap the two shields together.
6. Flush and test the pump before reinstalling it in the system. Connect hoses and flush the pump. While it

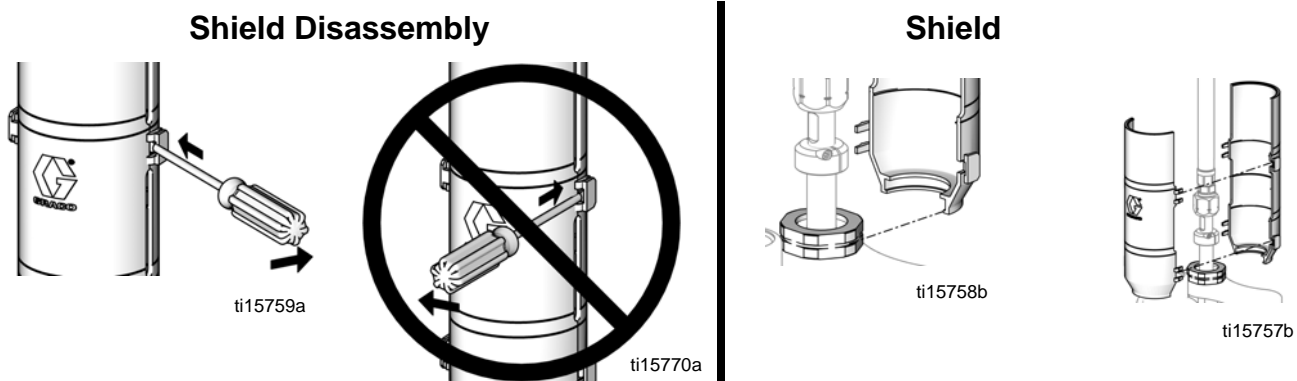
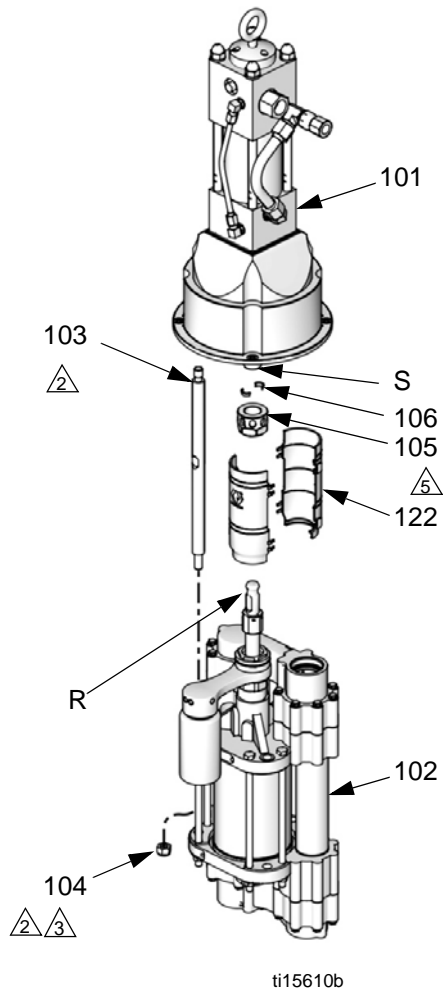


FIG. 4. Disassembly and Reassembly of the Shields

**Viscount II Pump
with 4000cc 4-Ball
Lower**



② Torque to 50-55 ft-lb (68-75 N•m).

③ Lubricate threads.

⑤ Torque to 150 ft-lb (203 N•m)..

FIG. 5 Reassembly

Reassemble the Coupling Adapter and Tie Rods to the Motor

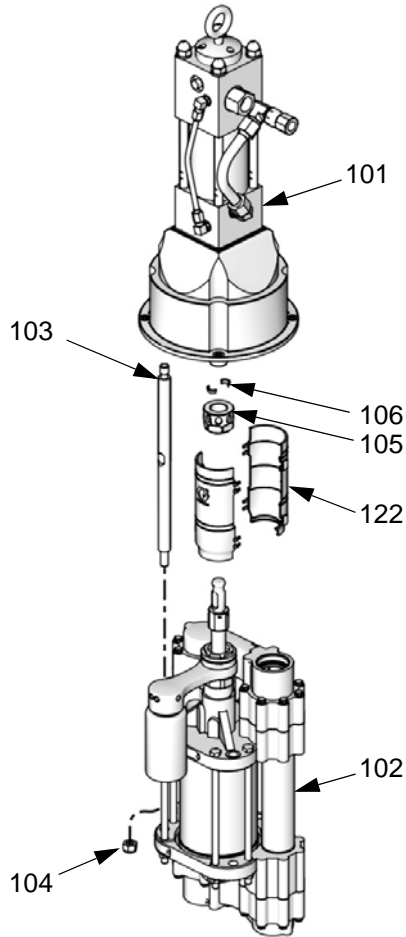
NOTE: Use this procedure only if the coupling adapter (108) and tie rods (103) have been disassembled from the motor, to ensure proper alignment of the motor shaft to the piston rod.

NOTE: 3000 and 4000cc Pumps do not have a coupling adapter (108) or a mounting plate (111).

1. Install the tie rods (103). Screw the tie rods (103) into the base of the motor and torque to 50-55 ft-lb (68-75 N•m).
2. Fill the cavity in the bottom of the motor shaft with grease.
3. Orient the lower (102) to the motor (101). Position the lower on the tie rods (103). Lubricate the threads of the tie rods. Loosely screw the tie rod locknuts (104) onto the tie rods.
4. Torque the tie rod locknuts (104) to 50-55 ft-lb (68-75 N•m).
5. Insert the collars (106) into the coupling nut (105). Tighten the coupling nut onto the motor shaft (S) and torque to 150 ft-lb (203 N•m).
6. 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. Reconnect the pump ground wire before operating.

Parts

Viscount II Pumps with 3000cc or 4000 cc 4-Ball Lower



Common Parts

Ref. No.	Description	Part No.	Qty.
101	MOTOR, Viscount II, see manual 308048	223646	1
102	LOWER, 4-Ball, see manual 3A0540	see table	1
103	TIE ROD, 12.72 in. (323 mm) between shoulders	180487	3
104	NUT, lock, hex; 9/16-12 unc	102216	3
105	NUT, coupling	186925	1
106	COLLAR, coupling	184129	2
122	SHIELD KIT; includes 2 shields	24F255	1

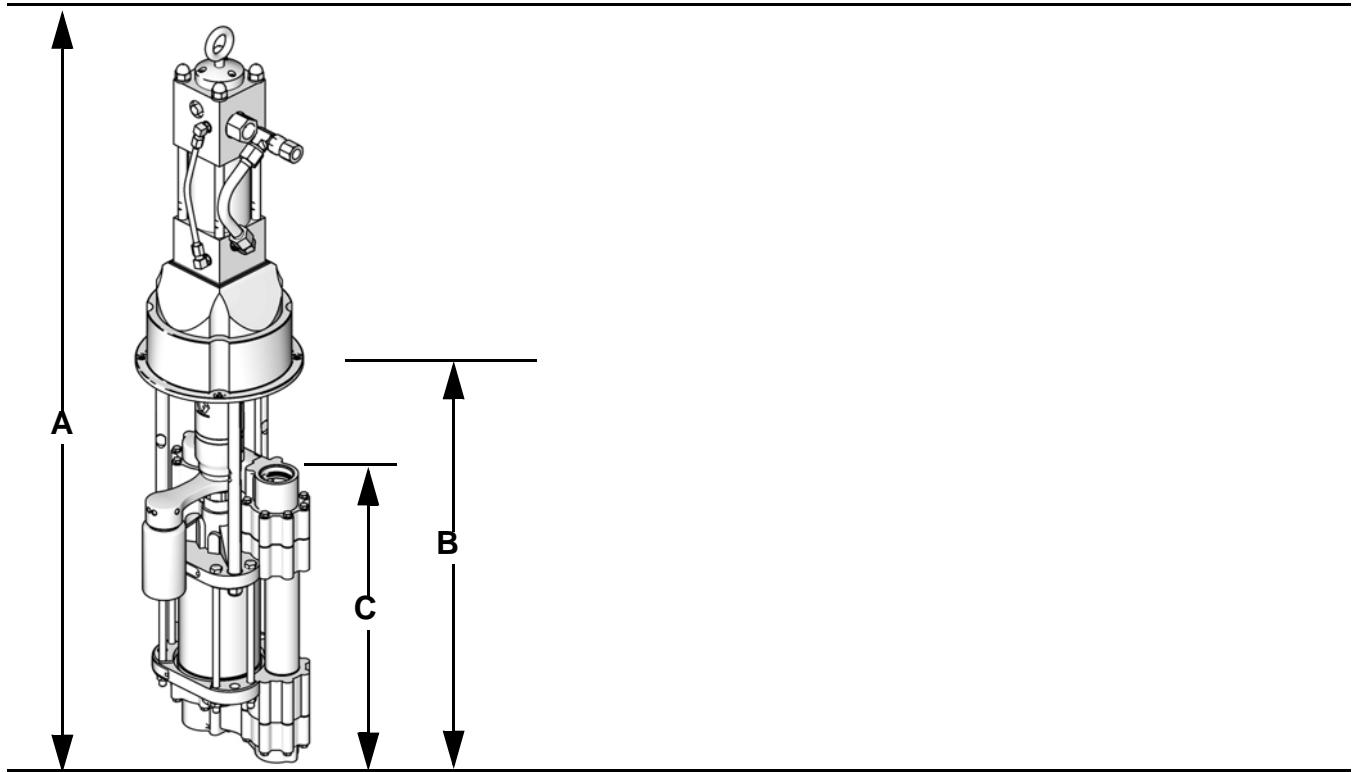
Parts that Vary by Model

Pump (see page 3)	Lower Size	102
		4-Ball Lower (see manual 3A0540)
24E337	3000cc	24F450
24E338		24F448
24E339		24F449
24E340	4000cc	24F453
24E341		24F451
24E342		24F452

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Dimensions

**Viscount II Pump with
4000cc 4-Ball Lower**

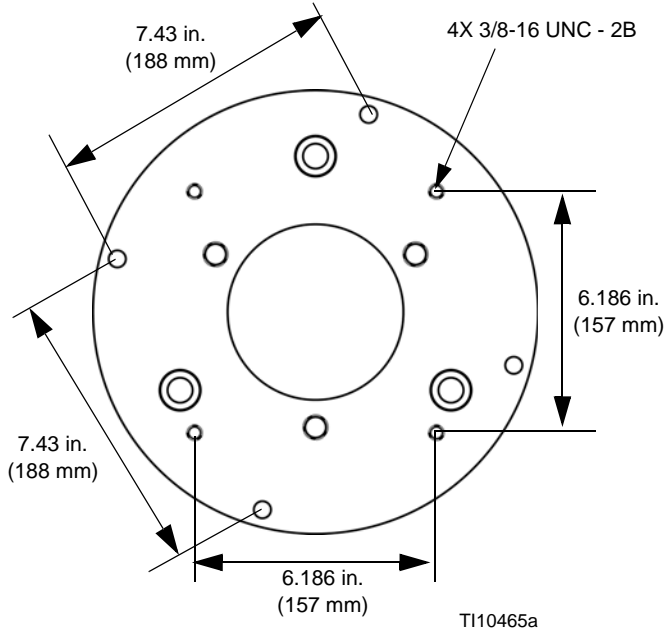


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Motor	Lower Size	A in. (mm)	B in. (mm)	C in. (mm)	Approx. Weight lb (kg)
Viscount II	3000cc	54.75 (1391)	29.0 (737)	23.0 (584)	215 (97.5)
	4000cc				217 (98.4)

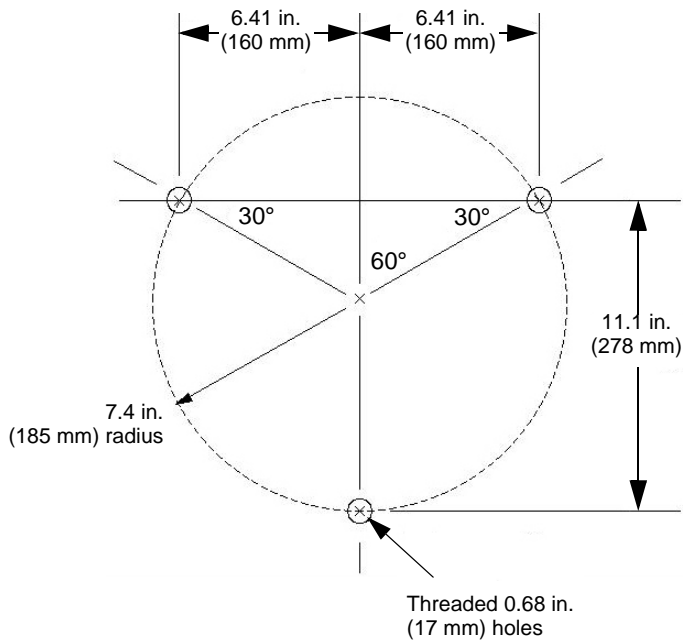
Motor Mounting Hole Diagram

Viscount II Motor Mounting Hole Layout

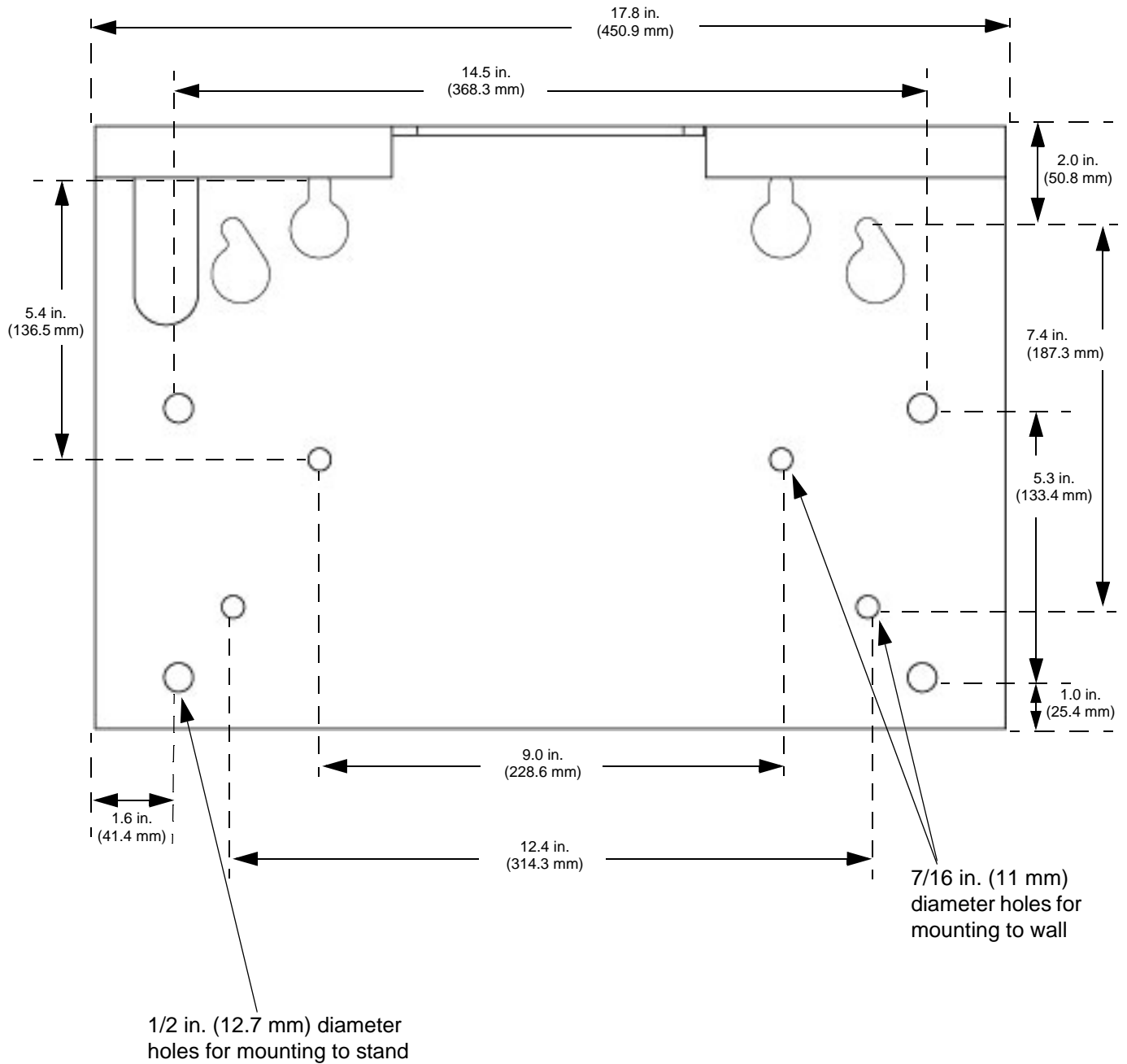


Mounting Stand Hole Layout

218742 Floor Stand (for 3000 and 4000cc Pumps)



255143 Wall Mount Bracket



TI8614B

Technical Data

3000 and 4000cc Pumps with Viscount II Motor

Model	Lower Size	Maximum Working Pressure psi (MPa, bar)	Maximum Hydraulic Working Pressure psi (MPa, bar)	Hydraulic Oil Consumption	Maximum Hydraulic Motor Fluid Temperature	Fluid Flow at 60 cycles per minute gpm (lpm)	Output per Cycle (cc)	Maximum Fluid Temperature Rating
24E337	3000cc	400 (2.8, 28.0)	1200 (8.3, 83.0)	See Performance Chart	134°F (54°C)	47.3 (179)	3000	150°F (66°C)
24E338	3000cc	400 (2.8, 28.0)				47.3 (179)	3000	
24E339	3000cc	400 (2.8, 28.0)				47.3 (179)	3000	
24E340	4000cc	300 (2.1, 21.0)				63 (238.6)	4000	
24E341	4000cc	300 (2.1, 21.0)				63 (238.6)	4000	
24E342	4000cc	300 (2.1, 21.0)				63 (238.6)	4000	

Sound data: See Viscount II manual 308048.

Wetted parts: See 4-Ball Lower manual 3A0540.

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

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

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

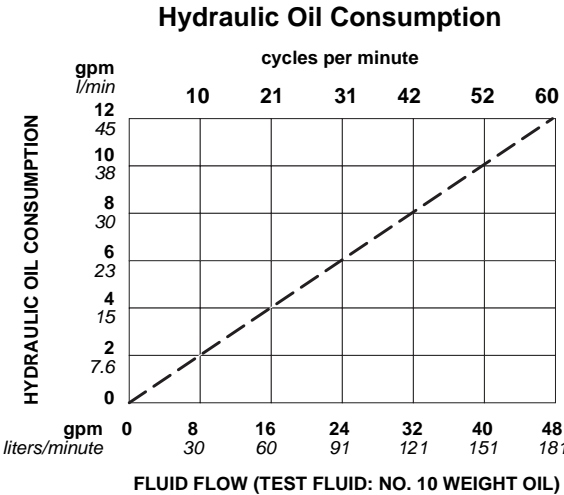
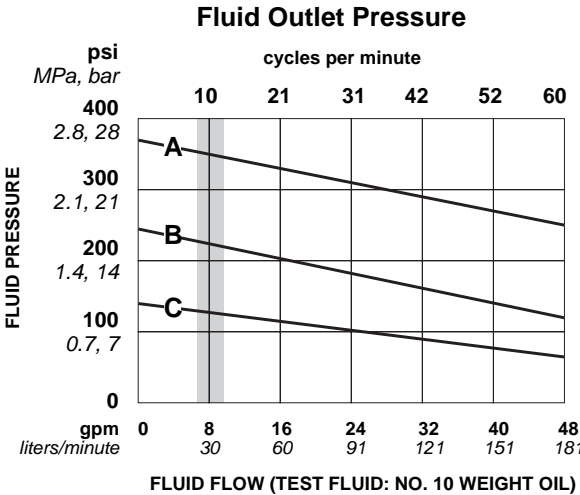
See **Models** on page 3 for your pump part number.

Key:

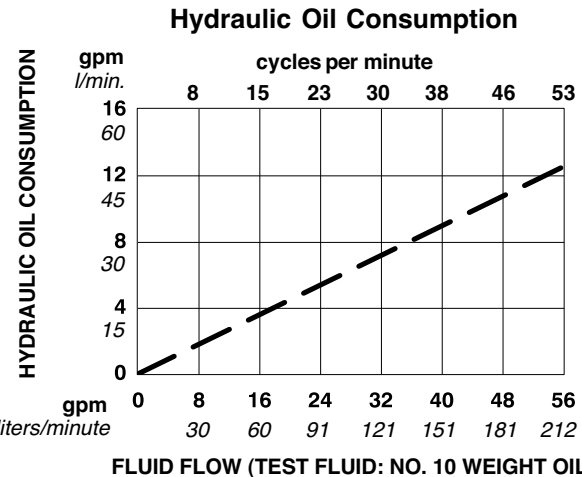
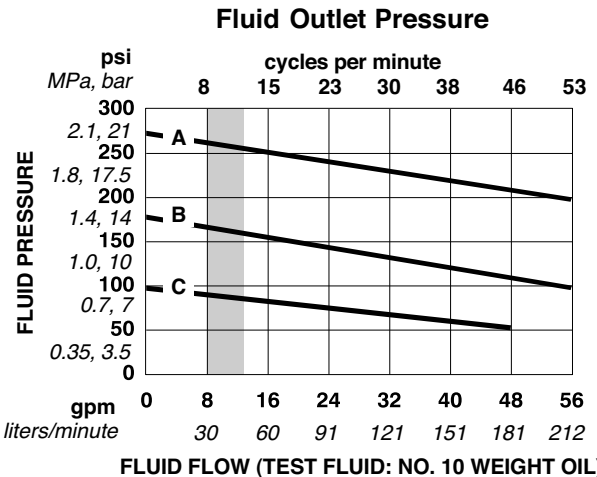
- A 10.3 MPa, 103 bar (1500 psi) hydraulic pressure
- B 7.2 MPa, 72.4 bar (1050 psi) hydraulic pressure
- C 4.1 MPa, 41 bar (600 psi) hydraulic pressure

The shaded area within the table shows the recommended range for continuous duty circulation applications.

Viscount II Motor, 3000cc Lower



Viscount II Motor, 4000cc Lower



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Original instructions. This manual contains English. MM 3A0537

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

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

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