

Stainless Steel Pump Lower

3A6845A

EN

For use with EcoQuip 2™ vapor abrasive blast equipment. Only use with water or water with additives to inhibit corrosion or mold. For professional use only.

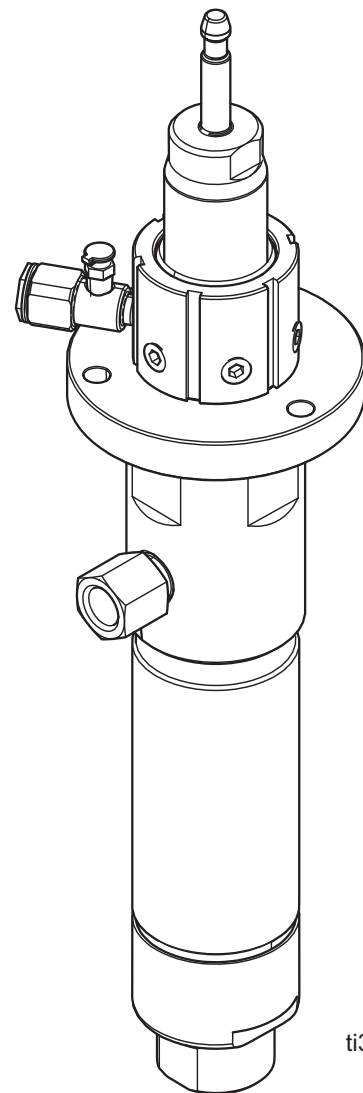
Model 24V671

1100 psi (7.5 MPa, 75 bar) Maximum Fluid Working Pressure



Important Safety Instructions

Read all warnings and instructions in this manual and in your EcoQuip 2 system manual before using the equipment. Save all instructions.



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Related Manuals

Manual in English	Description
333397	Stainless Steel 3:1 Pump
3A6844	Stainless Steel 10:1 Pump
3A6825	EcoQuip 2™ Dual Line Abrasive Blast System

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.

 <h1 style="margin: 0;">WARNING</h1>	
 	<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 Safety Data Sheets (SDSs) from distributor or retailer. • Do not leave the work area while equipment is energized or under pressure. • Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer’s replacement parts only. • Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards. • Make sure all equipment is rated and approved for the environment in which you are using it. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
    	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Engage trigger lock when not dispensing. • Do not point dispensing device at anyone or at any part of the body. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.



WARNING



MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.



PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Component Identification

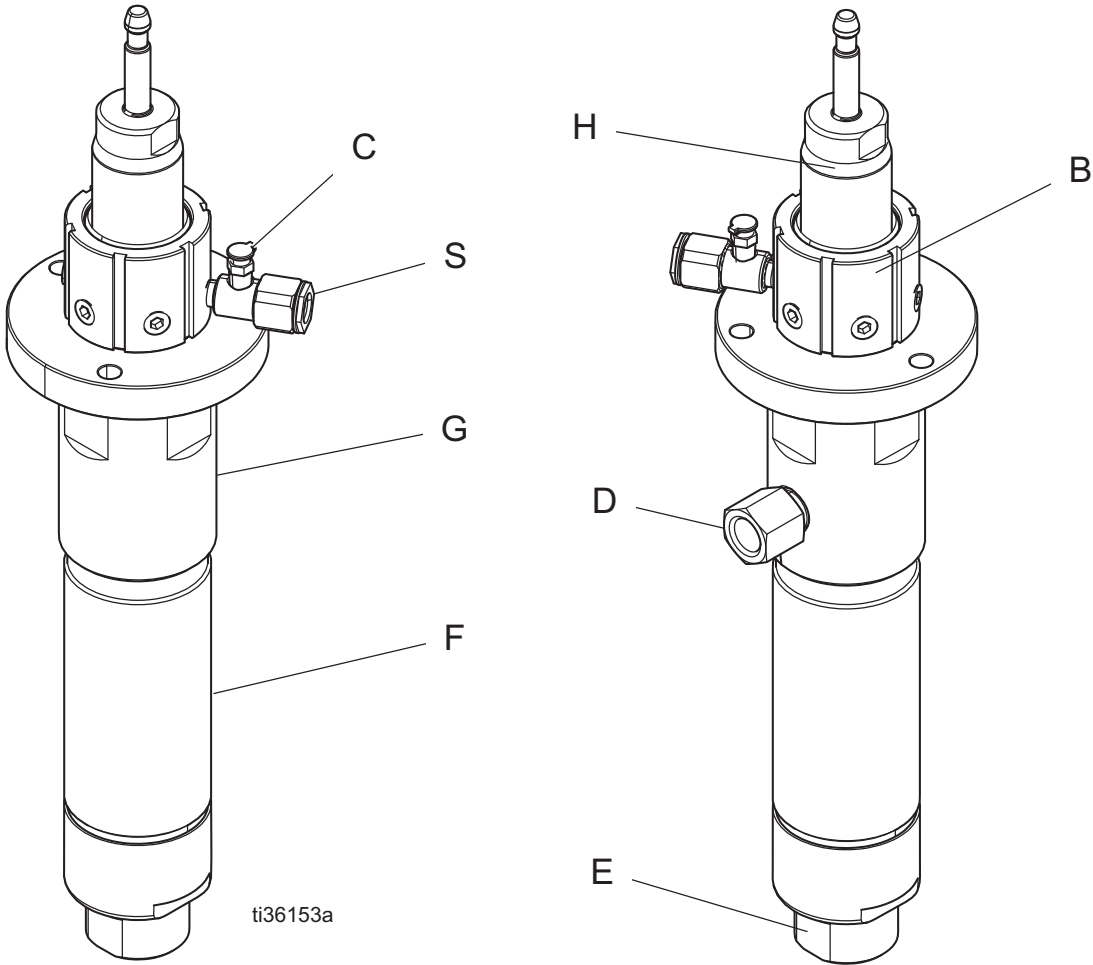


FIG. 1: Component Identification

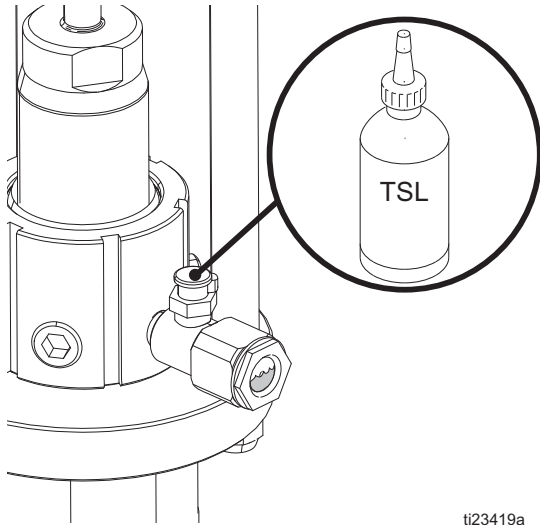
Key:

- B Enclosed Wet Cup
- C Wet Cup Fill Port
- D Fluid Outlet
- E Fluid Inlet
- F Lower Cylinder
- G Outlet Housing
- H Displacement Rod
- S Sight Glass

Setup

Fill the Wet Cup

Before operating the pump, fill the wet cup port (C) half full with Graco Throat Seal Liquid (TSL) or a compatible water-based lubricant. Refer to **Technical Specifications**, page 13, for wetted components.






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Fig. 2: Fill Wet Cup

Operation

Pressure Relief Procedure

 Follow the Pressure Relief Procedure whenever you see this symbol.

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

Always de-pressurize the system before starting any repair procedures. Follow the **Pressure Relief Procedure** in your system manual.

Maintenance

Preventive Maintenance Schedule

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

Tighten Threaded Connections

Before each use, check all hoses for wear or damage. Replace as necessary. Check that all threaded connections are tight and leak-free.

Wet Cup

Fill the wet cup half-full of Graco TSL. Verify the level of TSL daily.

Repair



Disassemble the Pump Lower

1. Follow the **Pressure Relief Procedure**, page 6.
2. Remove the displacement pump from the air motor. Refer to your pump manual.
3. Unscrew the locking ring (117) from the cylinder (111).
4. Remove the intake seat (113) housing.
5. Remove the o-ring (112), ball stop pin (105), ball guide (122), and ball (102) from the intake seat (113) housing.
6. Loosen the enclosed wet cup (115) to reduce friction between the displacement rod (107) and the seals.
7. Push the displacement rod (107) as far down as possible, then pull the rod out from the bottom of the cylinder (111).
8. Secure the flats of the displacement rod (107) in a vise.
9. Use a wrench to hold the flats of the piston (128) and piston seat (114). Unscrew the piston seat (114) from the rod (107).
10. Remove the ball (102), piston packings (125), glands (124, 127), shims (129), and washer (123) from piston seat (114).
11. Remove the enclosed wet cup (115), throat packings (109, 119), and glands (106, 108) from the outlet housing.
12. Inspect all parts for damage. Replace any worn or damaged parts.
13. Inspect the polished surfaces of the displacement rod (107) and cylinder (111). Look for scratches, scoring, or other damage, which may cause premature packing wear and leaks.

14. Verify that the insides of the piston seat (114) and intake seat (113) are not chipped or nicked.
15. Clean all parts and threads with a compatible solvent.

Reassemble the Pump Lower

1. Lubricate the throat packings (109, 119).
2. Install the throat packings into the outlet housing (116), with the lips of the v-packings facing toward the piston.
 - a. Install the spring (133).
 - b. Install the male gland (106).
 - c. Install the two nitrile v-packings (109).
 - d. Install one UHMWPE v-packing (119).
 - e. Install the female gland (108).
3. Apply thread lubricant to the threads of the enclosed wet-cup (115).
4. Install the enclosed wet-cup (115) loosely.
5. If you removed the cylinder (111) from the outlet housing (116):
 - a. Lubricate the o-ring (104).
 - b. Apply thread lubricant to the threads of the cylinder (111).
 - c. Reinstall the cylinder (111) in the outlet housing (116).
6. Lubricate the piston packings (125).
7. Install the piston packings (125) onto the piston seat (114) with the lips of the v-packings facing towards the throat packings.
 - a. Install two lower shims (129).
 - b. Install the female gland (127).
 - c. Install three UHMWPE v-packings (125).
 - d. Install the male gland (124).
8. Install the upper shim (123) onto the piston (128).

- If the piston ball stop pin (110) was removed, slide the piston ball stop pin (110) into the shorter set of holes (L) in the piston (128).

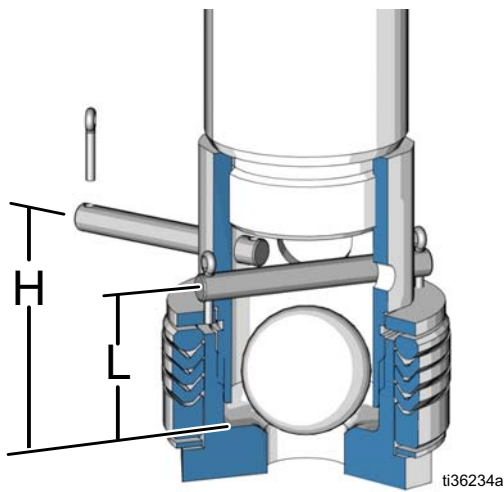


FIG. 3

- Secure the ball stop pin (110) with the cotter pins (101).
- Install the piston ball (102) into the piston (128).
- Screw the piston seat (114) onto the piston (128). Torque the piston seat to 50-70 ft-lb (68-95 N•m).

- If the piston (128) was removed from the displacement rod (107), reassemble them back together. Hold the flats of the displacement rod (107) in a vise. Screw the piston assembly onto the displacement rod. Torque the piston assembly to 50-70 ft-lb (68-95 N•m).
- Insert the displacement rod (107) into the bottom of the cylinder (111).

NOTICE

Do not scratch the rod or the inside of the cylinder. Scratches on the rod or the inside of the cylinder will damage seals and require frequent seal replacement.

- Push the displacement rod (107) straight up until it protrudes from the enclosed wet cup (115).
- Install the ball (102), guide (122), o-ring (112), and ball stop pin (105) into the intake seat (113).
- Place the intake seat assembly in the locking ring (117).
- Apply thread lubricant to the locking ring (117) and cylinder (111) threads.
- Screw the locking ring (117) onto the cylinder (111).
- Reconnect the displacement pump to the air motor. Refer to your pump manual.

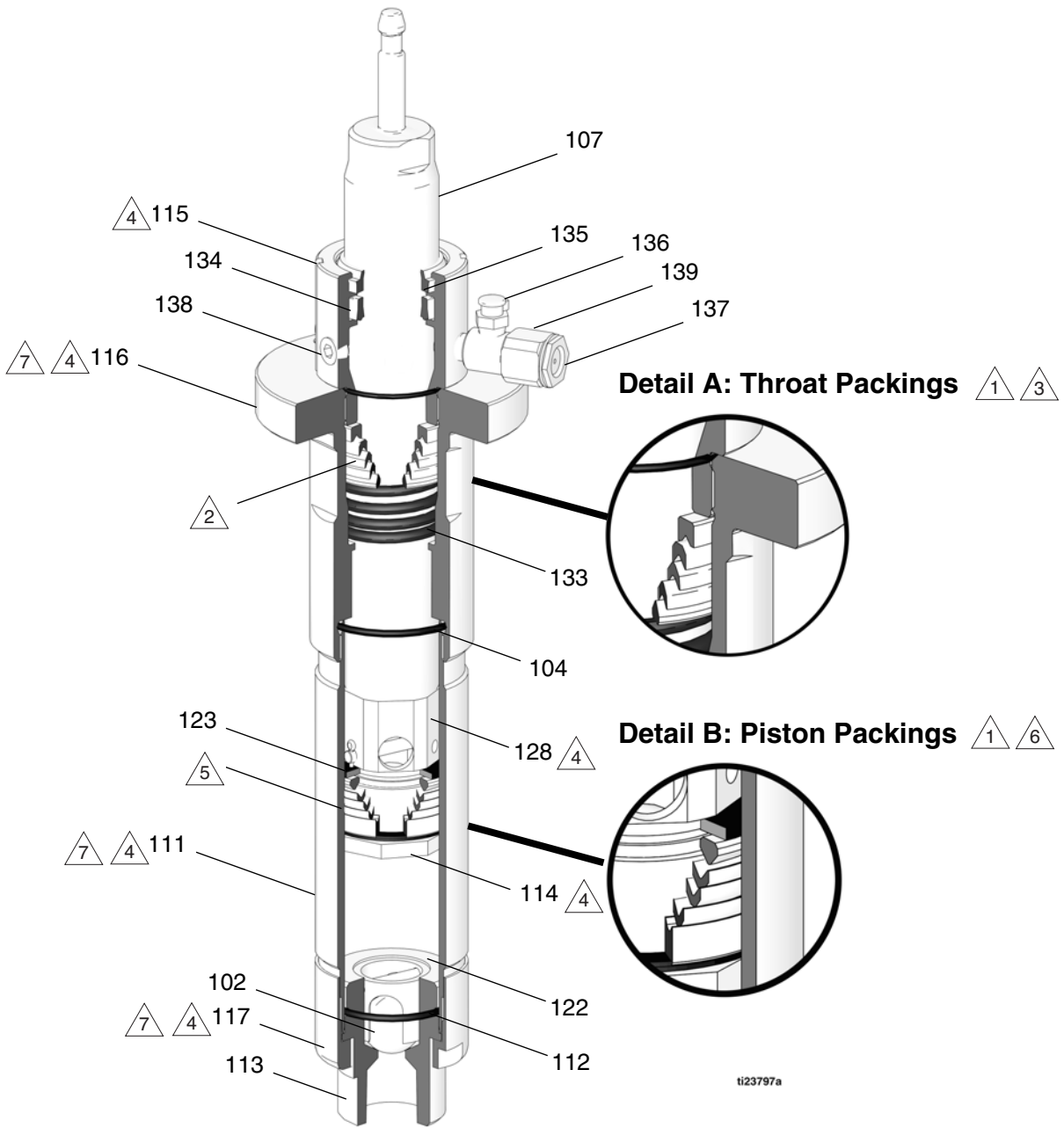
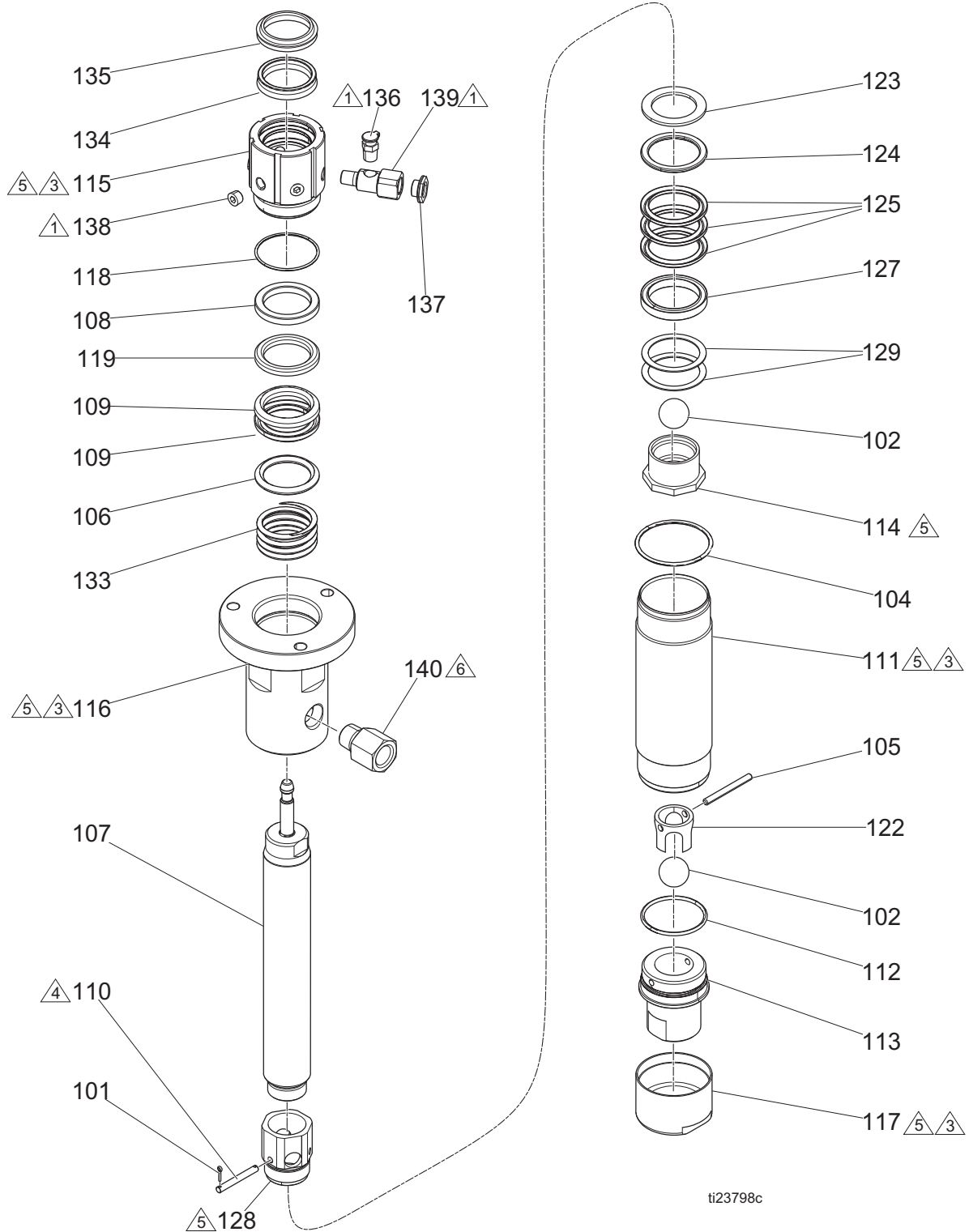


FIG. 4: Pump Assembly

- | | |
|--------------------------------------------------|-------------------------------------------------|
| △1 Lubricate. | △5 See Detail B. |
| △2 See Detail A. | △6 Position the lips of the v-packings face-up. |
| △3 Position the lips of the v-packings facedown. | △7 Apply lubricant. |
| △4 Torque to 60 ft-lb (81 N•m). | |

Parts

Pump Lower

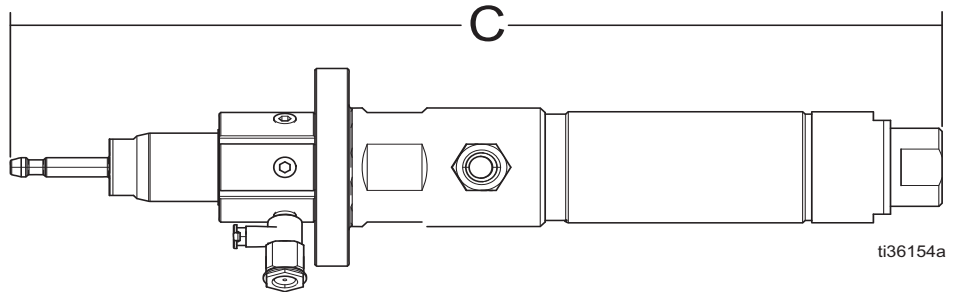
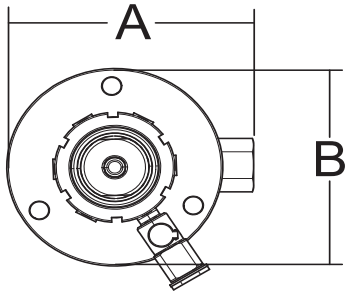


Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
101†	100063	PIN, cotter	2	136✘	102228	COVER, oil hole	1
102†	101917	BALL, bearing, 0.875 dia. 304 ss	2	137✘	---	SIGHTGLASS, plastic	1
104†	164782	PACKING, o-ring, 2 1/16 x 2 1/4	1	138✘	---	PLUG, pipe, sst, 1/8 npt	5
105†	162947	PIN, str hdls	1	139✘	---	FITTING, adapter, fill port	1
106†	186987	GLAND, packing, 316 sst	1	140	114499	FITTING, adapter	1
107	17B183	ROD, displacement	1	† <i>Parts included in Lower Repair Kit 17B186 (purchase separately).</i>			
108†	186988	GLAND, packing, 304 sst	1	◆ <i>Parts included in Sealed Wet Cup Kit 17B181 (purchase separately).</i>			
109†	166133	PACKING, vee	2	✘ <i>Parts included in Fill Port Repair Kit 17B182 (purchase separately).</i>			
110†	176637	PIN, stop, ball	1	△ ₁ Apply pipe sealant to threads.			
111	186994	CYLINDER, pump	1	2. Apply grease to all o-rings, packings, and seals.			
112†	164846	PACKING, o-ring, 1.75 id x 1.93 od	1	△ ₃ Apply grease to threads.			
113	186992	HOUSING, valve, intake	1	△ ₄ Position the pin in the lowest hole in piston (128).			
114	186993	SEAT, piston, 10:1 pr & 5:1 mo	1	△ ₅ Torque to 60 ft-lb (81 N•m).			
115◆	---	NUT, packing, sealed	1	△ ₆ Torque adapter fitting (140) to 35-40 ft-lb (48-55 N•m).			
116	17B184	HOUSING, outlet	1				
117	164630	RING, locking	1				
118◆	111178	PACKING, o-ring	1				
119†	170625	PACKING, vee	1				
122	164679	GUIDE, ball	1				
123†	176634	WASHER, stud, piston	1				
124†	186990	GLAND, packing, 316 sst	1				
125†	176638	PACKING, vee	3				
127†	186989	GLAND, packing, 316 sst	1				
128	176644	STUD, mtg, piston	1				
129†	111790	SHIM	2				
133†	---	SPRING	1				
134◆	---	SEAL, u-cup	1				
135◆	117739	WIPER, rod	1				

NOTICE

Do not overtighten adapter fitting (140). If the adapter fitting is overtightened, it can cause damage to the displacement rod (107).

Dimensions



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Ref.	Dimensions
A	4.75 in. (120 mm)
B	3.95 in. (100 mm)
C	16.0 in. (405 mm)

Technical Specifications

Stainless Steel Pump Lower (24V671)		
	US	Metric
Maximum fluid working pressure	1100 psi	7.5 MPa, 75 bar
Maximum ambient temperature	110°F	43°C
Minimum fluid temperature	110°F	43°C
Lower size	120 cc	
Stroke length	2.5 in.	64 mm
Fluid inlet	3/4 npt (female)	
Fluid outlet	1/2 npt (female)	
Materials of Construction		
Wetted parts	Stainless steel, carbide, UHMWPE, nitrile, viton, nylon, polyurethane, PTFE	
Weight		
All models	14 lb.	6.4 kg
Notes		
All trademarks or registered trademarks are the property of their respective owners.		

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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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.

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

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Phone: 612-623-6921 **or Toll Free:** 1-800-328-0211, **Fax:** 612-378-3505

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Original instructions. This manual contains English. MM

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