

# Xtreme<sup>®</sup> Pumps

3A2851A  
EN

*Carbon Steel Pumps with Hard Chrome Rod for Sealer Applications.*

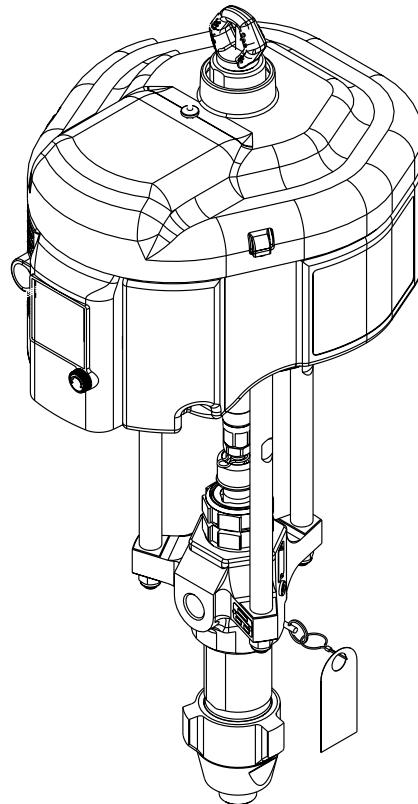
**Part No. 24N976**



**Important Safety Instructions**

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

See page 2 for model information, including maximum working pressure.



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## Related Manuals

Manuals are available at [www.graco.com](http://www.graco.com).

Manual	Description
311762	Xtreme Lower Instructions - Parts
311238	NXT <sup>®</sup> Air Motor Instructions - Parts

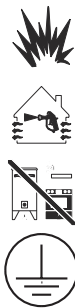

## Models

### Pump Packages





Pump Part No. and Series	Lower Part No.	Description	Air Motor Part No.	Ratio	Maximum Working Pressure MPa, bar (psi)	Maximum Air Input Pressure Pa, bar (psi)
24N976, A	24N942	Xtreme 290 (290cc), Carbon Steel; 3 UHMW and 2 Carbon-filled PTFE Packings	N65RH0	45:1	31.0, 310 (4500)	0.7, 7.0 (100)

# 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.

<h2 style="margin: 0;">WARNING</h2>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are antistatic or conductive.</li> <li>• <b>Stop operation immediately</b> if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>
	<p><b>SKIN INJECTION HAZARD</b></p> <p>High-pressure fluid from gun, 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. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not spray without tip guard and trigger guard installed.</li> <li>• Engage trigger lock when not spraying.</li> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop spraying and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses and couplings daily. Replace worn or damaged parts immediately.</li> </ul>





# WARNING

	<p><b>EQUIPMENT MISUSE HAZARD</b></p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See <b>Technical Data</b> in all equipment manuals.</li> <li>• 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 MSDS from distributor or retailer.</li> <li>• Do not leave the work area while equipment is energized or under pressure.</li> <li>• Turn off all equipment and follow the <b>Pressure Relief Procedure</b> when equipment is not in use.</li> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.</li> <li>• Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.</li> <li>• Make sure all equipment is rated and approved for the environment in which you are using it.</li> <li>• Use equipment only for its intended purpose. Call your distributor for information.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul>
	<p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> and disconnect all power sources.</li> </ul>
	<p><b>TOXIC FLUID OR FUMES HAZARD</b></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"> <li>• Read MSDSs to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> <li>• Always wear chemically impermeable gloves when spraying, dispensing, or cleaning equipment.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>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. This protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear, and hearing protection.</li> <li>• Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer</li> </ul>

# Important Isocyanate (ISO) Information

Isocyanates (ISO) are catalysts used in two component materials.

## Isocyanate Conditions

						
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Spraying or dispensing materials containing isocyanates creates potentially harmful mists, vapors, and atomized particulates.

Read material manufacturer's warnings and material MSDS to know specific hazards and precautions related to isocyanates.

Prevent inhalation of isocyanate mists, vapors, and atomized particulates by providing sufficient ventilation in the work area. If sufficient ventilation is not available, a supplied-air respirator is required for everyone in the work area.




To prevent contact with isocyanates, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons, and goggles, is also required for everyone in the work area.

## Material Self-ignition

						
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Some materials may become self-igniting if applied too thick. Read material manufacturer's warnings and material MSDS.

## Keep Components A and B Separate

						
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Cross-contamination can result in cured material in fluid lines which could cause serious injury or damage equipment. To prevent cross-contamination:

- **Never** interchange component A and component B wetted parts.
- Never use solvent on one side if it has been contaminated from the other side.

## Moisture Sensitivity of Isocyanates

Exposure to moisture (such as humidity) will cause ISO to partially cure; forming small, hard, abrasive crystals, which become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity.

NOTICE
<p>Partially cured ISO will reduce performance and the life of all wetted parts.</p> <ul style="list-style-type: none"> <li>• Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. Never store ISO in an open container.</li> <li>• Keep the ISO pump wet cup or reservoir (if installed) filled with appropriate lubricant. The lubricant creates a barrier between the ISO and the atmosphere.</li> <li>• Use only moisture-proof hoses compatible with ISO.</li> <li>• Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.</li> <li>• Always lubricate threaded parts with an appropriate lubricant when reassembling.</li> </ul>

**NOTE:** The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

## Foam Resins with 245 fa Blowing Agents

Some foam blowing agents will froth at temperatures above 90°F (33°C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

## Changing Materials

### **NOTICE**

Changing the material types used in your equipment requires special attention to avoid equipment damage and downtime.

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- When changing between epoxies and urethanes or polyureas, disassemble and clean all fluid components and change hoses. Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side

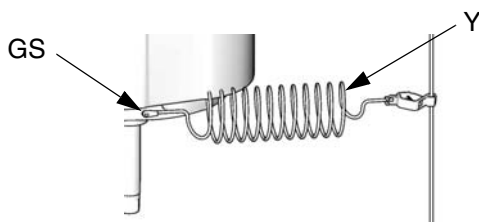
# Installation

## 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 the ground screw (GS) and lockwasher on the motor to attach a 244524 ground wire (Y). Tighten the screw securely. Connect the other end of the ground wire to a true earth ground.



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**Air and fluid hoses:** use only electrically conductive hoses.

**Air compressor:** follow manufacturer's recommendations.

**Spray gun:** ground through 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.

## 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 12.

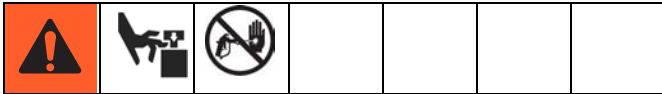
## Mounting Accessories

See **Dimensions**, page 16 and **Mounting Hole Layouts**, page 17.


## Hoses

Be sure all hoses are properly sized and pressure-rated for your system. Use only electrically conductive hoses. Fluid hoses must have spring guards on both ends. Use a whip hose (P) and a swivel (R) between the main fluid hose (N) and the gun/valve (S) to allow freer gun/valve movement.

## Air Line Accessories



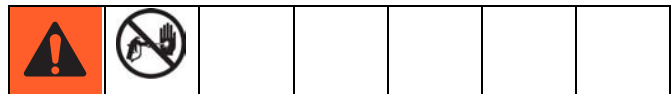
For air-powered pumps, install the following accessories in the order shown in FIG. 1, using adapters as necessary.

 Accessory Air Control Kits are available for the NXT Air Motor. The kits include a master air valve (E), air regulator (F), and filter (J). Order the kit separately. See manual 311239 for information.

- **Bleed-type master air valve (E):** required in your system to relieve air trapped between it and the air motor when the valve is closed. Be sure the valve is easily accessible from the pump and located downstream from the air regulator.
- **Pump air regulator (F):** to control pump speed and outlet pressure. Locate it close to the pump.
- **Air line filter (J):** removes harmful dirt and moisture from compressed air supply.
- **Second bleed-type air valve (K):** isolates air line accessories for servicing. Locate upstream from all other air line accessories.

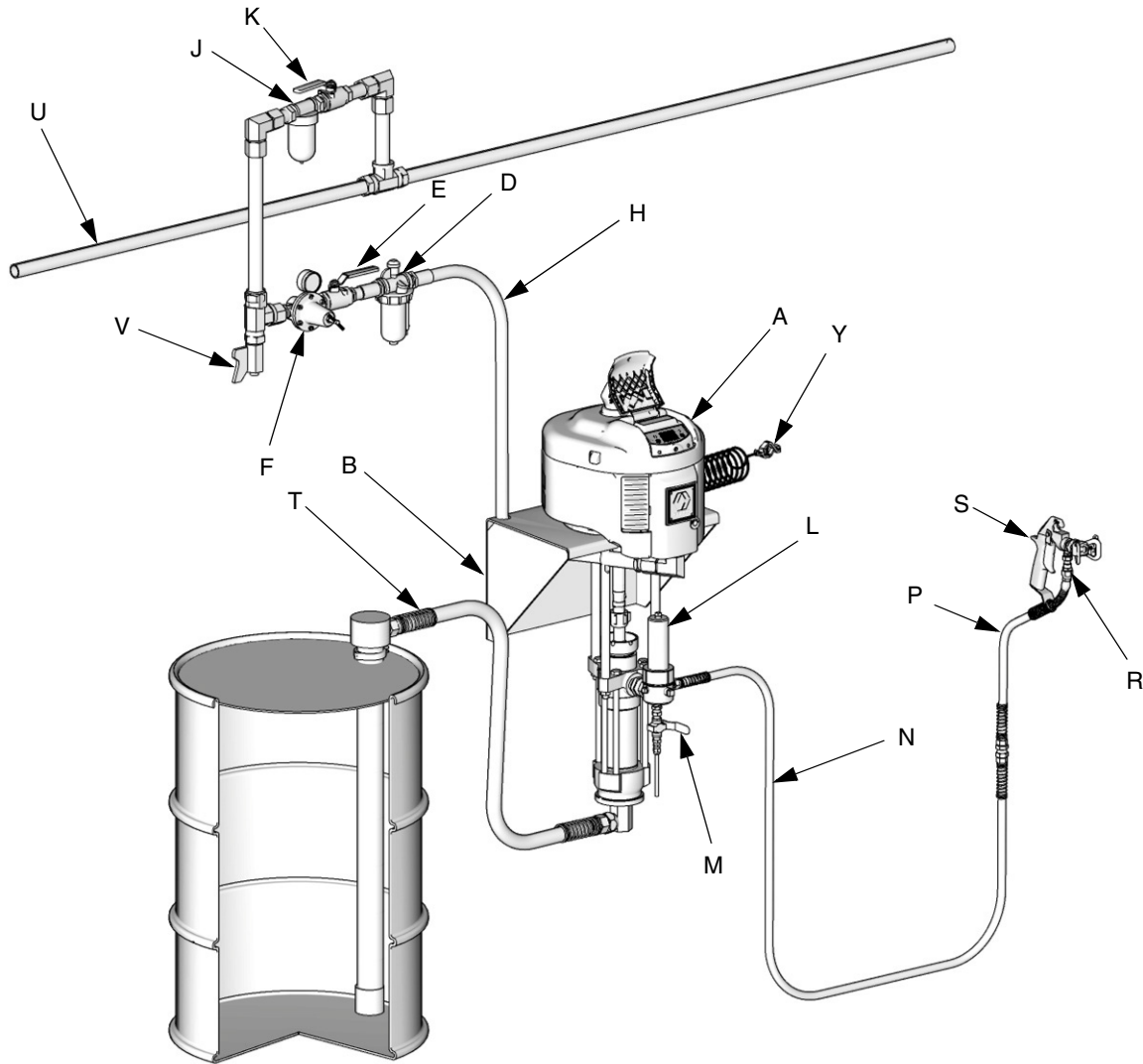
## Fluid Line Accessories

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



- **Fluid drain valve (M):** required in your system, to relieve fluid pressure in the hose and gun.
- **Fluid filter (L):** with a 60 mesh (250 micron) stainless steel element to filter particles from the fluid as it leaves the pump.
- **Gun or valve (S):** to dispense fluid.
- **Fluid line swivel (R):** for easier gun movement.
- **Suction kit (T):** enables the pump to draw fluid from a container.





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**FIG. 1: Typical Installation, Air-Powered Pumps**

**Key:**

- |   |   |
|---|---|
| A Pump                                    | N Electrically Conductive Fluid Supply Hose                             |
| B Wall Bracket                            | P Fluid Whip Hose   |
| D Air Line Lubricator                     | R Gun Swivel  |
| E Bleed-type Master Air Valve (required)  | S Airless Spray Gun   |
| F Pump Air Regulator                      | T Fluid Suction Kit   |
| H Electrically Conductive Air Supply Hose | U Main Air Supply Line  |
| J Air Line Filter                         | V Air Line Drain Valve  |
| K Air Shutoff Valve                       | Y Pump Ground Wire (required, see page 7 for installation instructions) |
| L Fluid Filter                            |   |
| M Fluid Drain Valve (required)            |   |

# 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.

1. Engage the trigger lock.
2. Close the bleed-type master air valve to shutoff the pump.
3. Disengage the trigger lock.
4. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.
5. Engage the trigger lock.
6. Open all fluid drain valves in the system, having a waste container ready to catch drainage. Leave drain valve(s) open until you are ready to spray again.
7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, **VERY SLOWLY** loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

## Trigger Lock

Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if dropped or bumped.

## Startup

1. Connect the suction kit (T) to the pump's fluid inlet, and place the tube into the fluid supply.
2. Close the air regulator (F) then open the pump's bleed-type master air valve (E) to prepare the pump's power source.
3. Hold a metal part of the gun (S) firmly to the side of a grounded metal pail and hold the trigger open.
4. Slowly open the air regulator until the pump starts.
5. Cycle the pump slowly until all air is pushed out and the pump and hoses are fully primed. Release the gun trigger and lock the trigger safety latch. The pump should stall against pressure when the trigger is released.
6. With the pump and lines primed, and with adequate air pressure and volume supplied, the pump will start and stop as the gun is opened and closed. In a circulating system, the pump will speed up or slow down on demand, until the air supply is shut off.
7. Always use the lowest air pressure necessary to get the desired results. Higher pressures cause premature tip/nozzle and pump wear. Use the air regulator (F) to control the pump speed and fluid pressure.
8. 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.

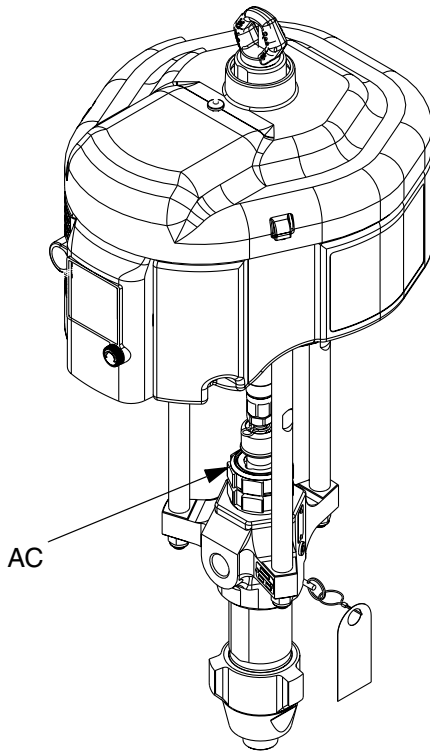


If your pump accelerates quickly, or is running too fast, stop it immediately and check the fluid supply. If the supply container is empty and air has been pumped into the lines, refill the container and prime the pump and the lines with fluid, or flush and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system.

## Shutdown



Relieve the pressure, page 10. Stop the pump at the bottom of its stroke to prevent fluid from drying on the exposed displacement rod and damaging the throat packings.



**FIG. 2. Bleeder Valve and Wet-Cup**

# 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.


## Wet-Cups

See FIG. 2. Check the packing nut (AC) daily. Keep the wet-cup filled with Graco Throat Seal Liquid (TSL™) or compatible solvent.

Adjust the packing nut weekly so it is just snug; do not overtighten. Torque to 20-30 ft-lb (34-41 N•m).

## 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.

1. Follow **Pressure Relief Procedure**, page 10.
2. Remove spray tip and soak in solvent.
3. Place siphon tube in grounded metal pail containing cleaning fluid.
4. Set pump to lowest possible fluid pressure, and start pump.
5. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun until clean solvent dispenses.
6. Remove gun from hose. See gun manual to further clean gun.
7. Follow **Pressure Relief Procedure**, page 10, and remove fluid filter and soak in solvent. Replace filter cap.

## Corrosion Protection

Always flush the pump before the fluid dries on the displacement rod. Never leave water or water-based fluid in the pump overnight. First, flush with water or a compatible solvent, then with mineral spirits solvent (also called white spirit). Relieve the pressure, but leave the mineral spirits solvent (also called white spirit) in the pump to protect the parts from corrosion.

# Troubleshooting



1. Follow **Pressure Relief Procedure**, page 10.
2. Check all possible causes and problems before disassembling pump.

Problem	Cause	Solution
Does not operate.	Valve closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose or gun obstructed.	Clean hose or gun.*
	Dried fluid on displacement rod.	Clean rod; always stop pump at bottom of stroke; keep wet-cup filled with compatible solvent.
	Air motor parts dirty, worn, or damaged.	Clean or repair air motor. See motor manual.
	Runaway error on DataTrak tripped.	See <b>DataTrak Operation</b> in Air Motor manual.
Output low on both strokes.	Air line restricted or air supply inadequate. Valves closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose/gun obstructed; hose ID too small.	Clear hose or gun*; use hose with larger ID.
	Air motor icing.	Open De-Ice control; see Air Motor manual.
Output low on down stroke.	Open or worn intake valve.	Clear or service intake valve.
	High viscosity fluid.	Adjust intake spacers.
Output low on upstroke.	Open or worn piston valve or packings.	Clear piston valve; replace packings.
Erratic accelerated speed.	Fluid supply exhausted, clogged suction.	Refill supply and prime pump. Clean suction tube.
	High viscosity fluid.	Reduce viscosity; adjust intake spacers.
	Open or worn piston valve or packings.	Clear piston valve; replace packings.
	Open or worn intake valve.	Clear or service intake valve.
Runs sluggishly.	Possible icing.	Stop pump. Open De-Ice control; see Air Motor manual.
Cycles or fails to hold pressure at stall.	Worn check valves or seals.	Service lower. See <b>Replace the Lower</b> , page 14, and Xtreme Lowers manual (311762).
Air bubbles in fluid.	Loose suction line.	Tighten. Use compatible liquid thread sealant or PTFE tape on connections.
Poor finish or irregular spray pattern.	Incorrect fluid pressure at gun.	See gun manual; read fluid manufacturer's recommendations.
	Fluid is too thin or too thick.	Adjust fluid viscosity; read fluid manufacturer's recommendations.
	Dirty, worn, or damaged spray gun.	Service spray gun. See spray gun manual.

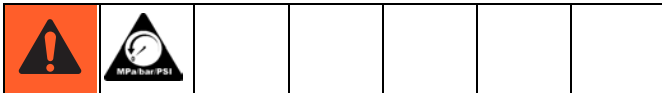
\* To determine if fluid hose or gun is obstructed, follow **Pressure Relief Procedure**, page 10. Disconnect fluid hose and place a container at pump fluid outlet to catch any fluid. Turn on air power just enough to start pump. If pump starts, the obstruction is in fluid hose or gun.

# Repair

## Required Tools

- Rubber mallet
- Set of adjustable wrenches
- Torque wrench
- Thread lubricant
- Anti-seize lubricant
- Loctite® 2760™ or equivalent


## Replace the Lower



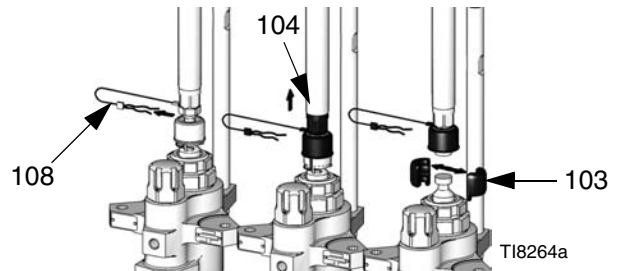
1. Flush the pump, if possible. Stop the pump at the bottom of its stroke. Relieve the pressure, page 10.
2. Disconnect the air hose.
3. Hold the fluid outlet fitting (AD) with a wrench to keep it from loosening while you disconnect the fluid hose. See FIG. 3.
4. Disconnect suction hose.

### NOTICE

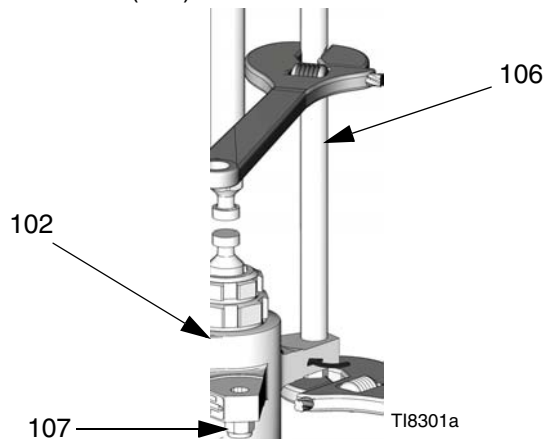
Use at least two people when lifting, moving, or disconnecting the pump. If disconnecting the lower, be sure to securely brace the pump, or have two people hold it while another disconnects it.

 Before disconnecting the lower (102) from the motor (101), be sure to note the relative position of the pump's fluid outlet to the air inlet of the motor. If the motor does not require servicing, leave it attached to its mounting.

5. Remove clip (108), and slide coupling cover (104) up to remove coupling (103).



6. Hold the tie rod flats with a wrench to keep the rods (106) from turning. Unscrew the nuts (107). Remove the lower (102).



7. To service the lower, refer to manual 311762, supplied. To service the air motor, refer to the separate motor manual, supplied.
8. Follow the steps in this procedure in reverse order to reconnect the lower.

**NOTE:** Torque nuts (107) to 50-60 ft-lb (68-81 N•m).

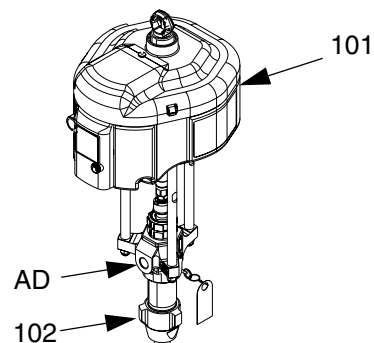
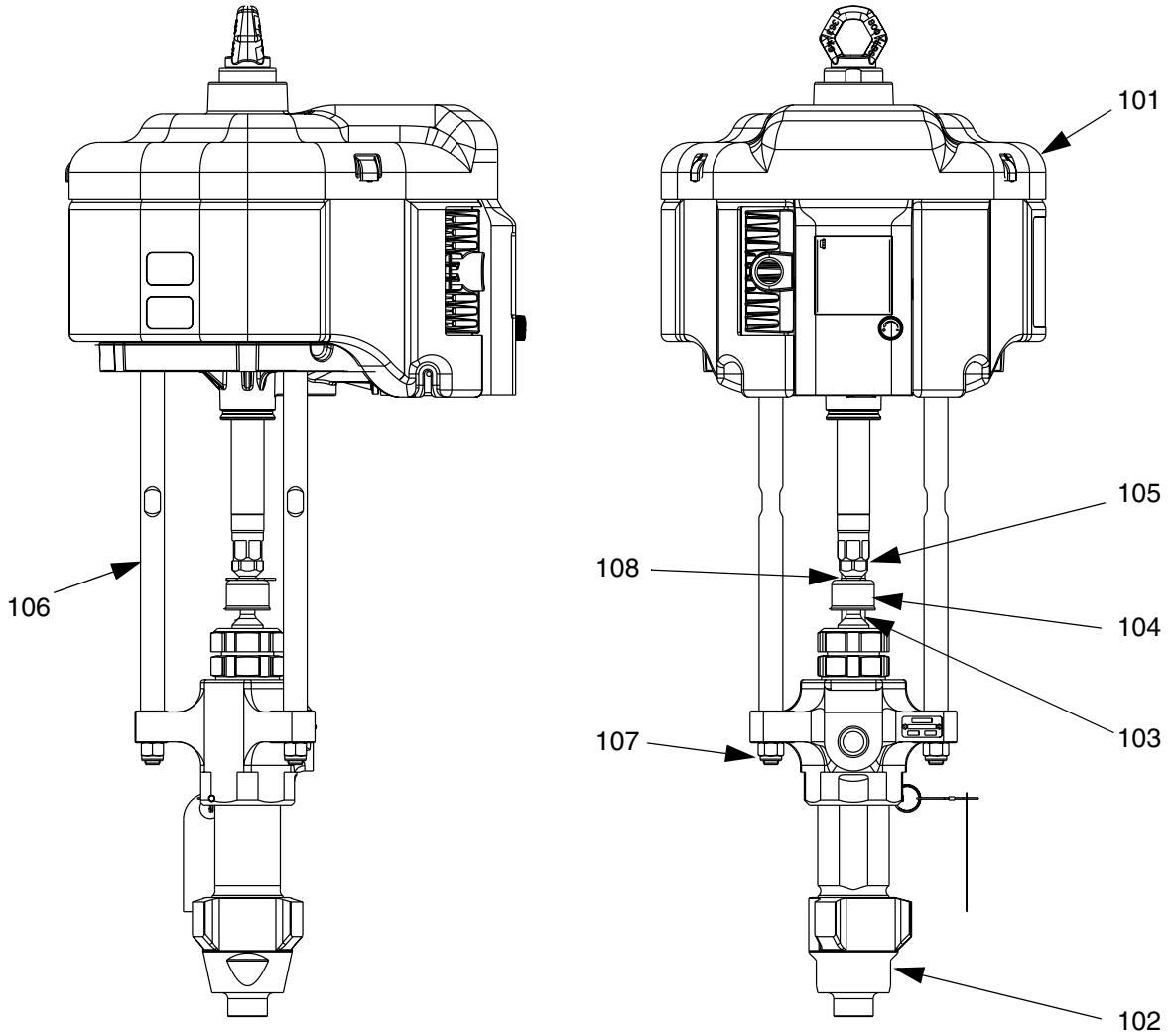


FIG. 3

# Parts

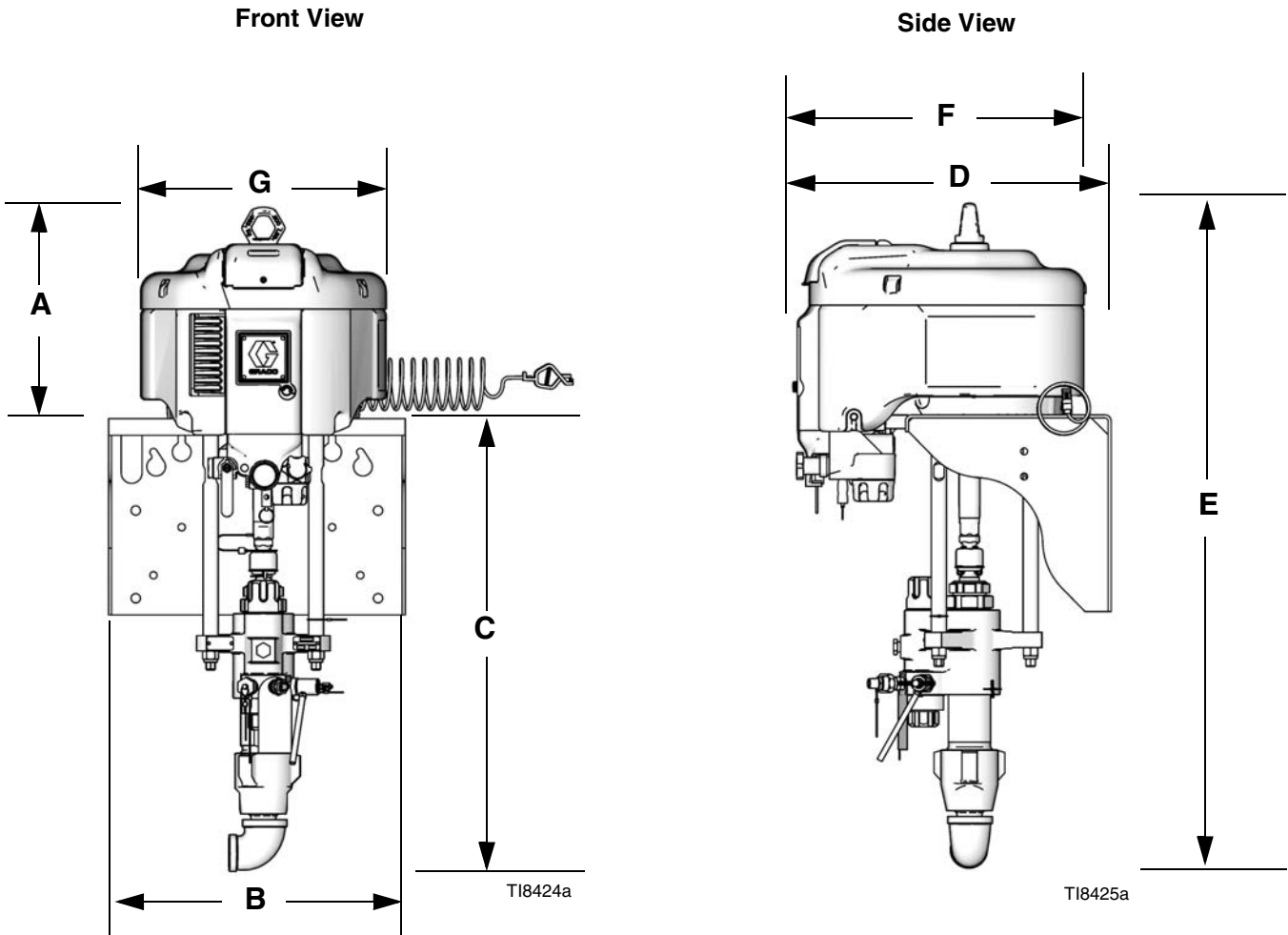
## Xtreme Pumps with NXT Air Motors




Ref	Part	Description	Qty.
101	N65RH0	MOTOR, see 311238	1
102	24N942	LOWER	1
103	244819	COUPLING ASSY	1
104	197340	COVER, coupling	2
105	15H392	ADAPTER	1
106	257150	ROD, tie	3
107	101712	NUT	3
108	244820	CLIP, hairpin; with lanyard	1

# Dimensions

## Wall Mount Packages and Pump Packages



### Wall Mount Dimensions

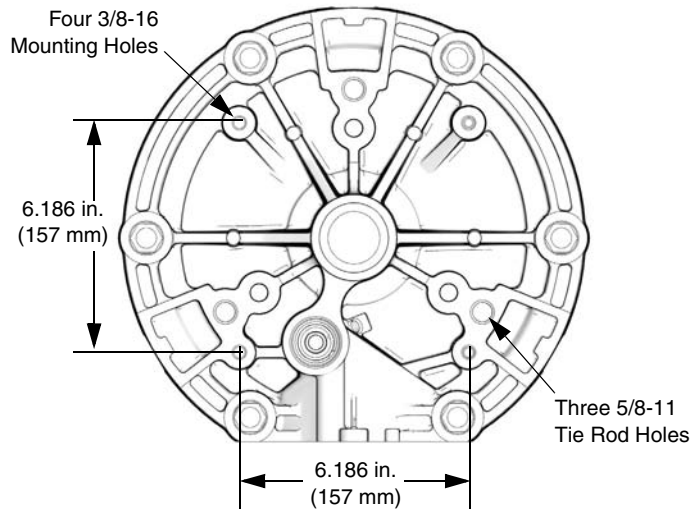
 **NOTE:** Dimensions based on largest air motor and lower combination.

A	B	C	D	E	F	G
14.0 in. (355.6 mm)	17.75 in. (450.6 mm)	29.0 in. (736.6 mm)	19.25 in. (489 mm)	43.0 in. (1092.2 mm)	18.9 in. (480 mm)	16.2 in. (410 mm)



# Mounting Hole Layouts

NXT Model 6500



T18069A

## Technical Data

Ratio . . . . .	See <b>Models</b> , page 2.
Maximum fluid working pressure . . . . .	See <b>Models</b> , page 2.
Maximum air working pressure . . . . .	See <b>Models</b> , page 2.
Pump cycles per 3.8 liters (1 gal.) . . . . .	See lower manual, supplied.
Fluid flow at 60 cpm . . . . .	See lower manual, supplied.
Motor piston effective area . . . . .	See motor manual, supplied.
Stroke length . . . . .	See motor manual, supplied.
Lower effective area . . . . .	See lower manual, supplied.
Maximum pump operating temperature . . . . .	See lower manual, supplied.
Motor fitting sizes . . . . .	See motor manual, supplied.
Fluid inlet size . . . . .	1-1/4 in. npt(f)
Fluid outlet size . . . . .	1 in. npt(m)
Sound pressure . . . . .	NXT air motors: See manual 311238, supplied.
Sound power . . . . .	NXT air motors: See manual 311238, supplied.
Wetted parts . . . . .	See manual 311762.

### Pump Performance Charts

#### Fluid Outlet Pressure

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

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

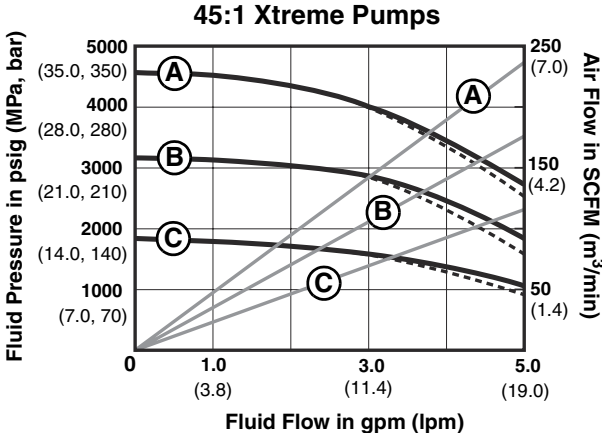
#### Pump Air Consumption

To find air consumption at a specific flow (lpm/gpm) and operating pressure (A/B/C):

1. Locate desired flow at bottom of chart.
2. Follow vertical line up to intersection with selected operating pressure curve (dashed line). Follow left to scale to read air consumption.

#### Key

- A 0.7 MPa, 7 bar (100 psi) air pressure
  - B 0.5 MPa, 7.8 bar (70 psi) air pressure
  - C 0.3 MPa, 2.8 bar (40 psi) air pressure
- Test Fluid: No. 10 Weight Oil



# 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.

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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.

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For the latest information about Graco products, visit [www.graco.com](http://www.graco.com).

For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

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

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

*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.*

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