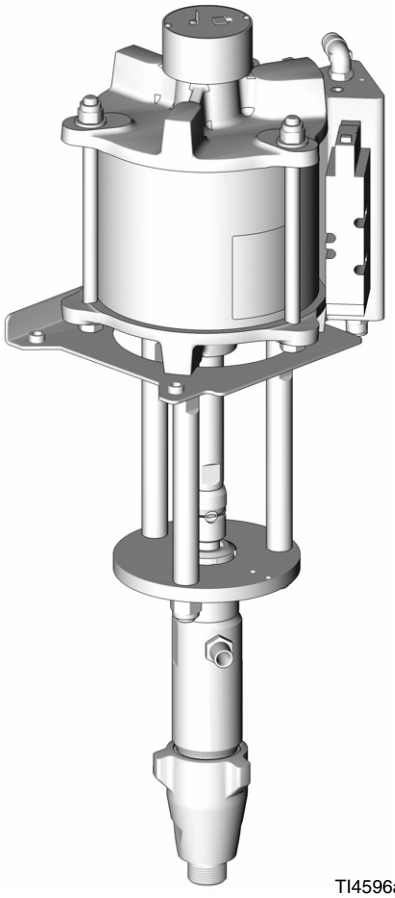
Repair - Parts

HydraMix™ Pumps

310672 rev.C

Important Safety Instructions
Read all warnings and instructions in this manual.
Save these instructions.

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



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PROVEN QUALITY. LEADING TECHNOLOGY.

Graco Inc. P.O. Box 1441 Minneapolis, MN 55440-1441

CE

Contents

Manual Conventions

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Warnings included in instructions generally have a symbol indicating the hazard. Follow the instructions and read the hazard section on warning pages 3 to 4 for additional information.

CAUTION
CAUTION indicates a potentially hazardous situation which, if not avoided, may result in property damage or destruction of equipment.

Note

A note indicates additional helpful information.

HydraMix Models

Part No.	Series	Description	Pressure Ratio	Maximum Air Input Pressure psi (MPa, bar)	Maximum Working Pressure psi (MPa, bar)
248572	A	HydraMix 500 cst Pump	24:1	100 (0.7, 7.0)	2400 (16, 166)
248573	A	HydraMix 500 sst Pump	24:1	100 (0.7, 7.0)	2400 (16, 166)
248574	A	HydraMix 600 cst Pump	34:1	100 (0.7, 7.0)	3400 (23, 234)
248575	A	HydraMix 600 sst Pump	34:1	100 (0.7, 7.0)	3400 (23, 234)
248576	A	HydraMix 700 cst Pump	47:1	100 (0.7, 7.0)	4700 (32, 324)
248577	A	HydraMix 700 sst Pump	47:1	100 (0.7, 7.0)	4700 (32, 324)
273011	A	HydraMix 700 TUFF cst Pump	47:1	100 (0.7, 7.0)	4700 (32, 324)

Warnings

The following general warnings are related to the safe setup, use, grounding, maintenance, and repair of this equipment. More specific warnings are included in the text where applicable.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. 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 arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- Ground equipment and conductive objects in work area. See **Setup** instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a fire extinguisher in the work area.

SKIN INJECTION HAZARD

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. **Get immediate surgical treatment.**

- Do not point gun at anyone or at any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.

MOVING PARTS HAZARD

Moving parts can pinch 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** in this manual. Disconnect power or air supply.

⚠ WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- 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.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not alter or modify equipment.
- For professional use only.
- Use equipment only for its intended purpose. Call your Graco distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or overbend hoses or use hoses to pull equipment.
- Comply with all applicable safety regulations.

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 MSDS's 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.

PERSONAL PROTECTIVE EQUIPMENT

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, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:

- Protective eyewear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

Setup

Grounding

WARNING


Your system must be grounded. Read warnings, page 3.

Pump: connect ground wire and clamp to a true earth ground.

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.

Accessories

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

Air Line

- **Bleed-type master air valve (D):** required in your system to relieve air trapped between it and the air motor when the valve is closed.

WARNING


Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts.

  Be sure the valve is easily accessible from the pump and located downstream from the air regulator.

- **Pump air regulator (E):** to control pump speed and outlet pressure. Locate it close to the pump.
- **Air line filter (C):** removes harmful dirt and moisture from compressed air supply.

Fluid Line

- **Fluid drain valve (G):** required in your system, to relieve fluid pressure in the hose and gun.

WARNING

Read warnings, page 3.

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 7.

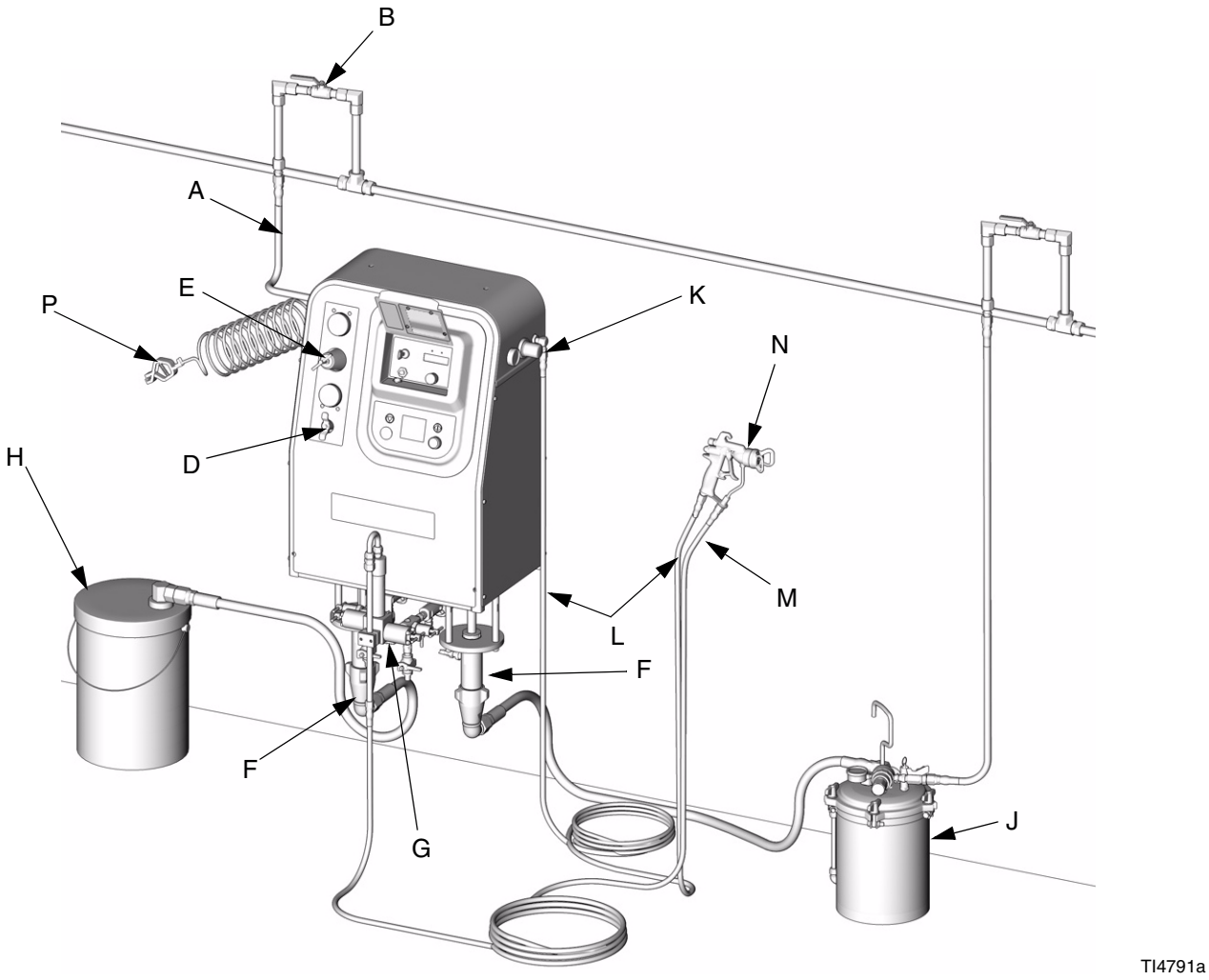


FIG. 1: Typical Installation, shown in a wall mounted, air-assisted proportioning system

Key:

A Main Air Supply Line
B Air Shutoff Valve
C Pump Air Filter (inside cabinet)
D Bleed-type Master Air Valve (required)
E Pump Air Regulator
F HydraMix Pumps
G Fluid Mix Manifold
H Component A Fluid Supply
J Component B Fluid Supply
K Gun Air Pressure Regulator
L Gun Air Supply Line
M Gun Fluid Supply Line
N Air-Assisted Spray Gun
P Ground Wire

Operation

Pressure Relief Procedure

WARNING

Follow **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, servicing, or transporting equipment. Read warnings, page 3. Also follow the **Pressure Relief Procedure** in your separate system manual.

1. Engage trigger lock.
2. Close the bleed-type master air valve.
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.

Flushing

WARNING


Read warnings, page 3. Follow **Grounding** instructions, page 5.

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 pumped and the equipment wetted parts.

1. Follow **Pressure Relief Procedure**, page 7.
2. Remove spray tip from the gun.
3. Change the fluid source to solvent.
4. Set the pump to the lowest possible fluid pressure, and start the pump.
5. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun until clean solvent flows from the gun.
6. Follow **Pressure Relief Procedure**, page 7.

Priming

Do not install the gun spray tip yet. Use the lowest possible pressure while priming, to avoid splashing.

1. Connect fluid supply hose to pump fluid inlet.
2. Set pump air regulator to 0.
3. Start the pump, and set it to the lowest possible fluid pressure.
4. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun until fluid flows smoothly from the gun.
5. Follow **Pressure Relief Procedure**, page 7.

Shutdown

Follow this procedure before prolonged shutdown or servicing equipment.

1. Follow **Pressure Relief Procedure**, page 7. Engage trigger lock, set air regulator to 0, and close main air shutoff valve. Remove spray tip.
2. Follow **Flushing**, page 7.
3. Follow **Pressure Relief Procedure**, page 7. Engage trigger lock.
4. *Before prolonged shutdown:* cap fluid outlets to keep solvent in the lines. Fill pump wet cup with throat seal liquid (TSL).

Maintenance

Air Filters

Check weekly. Drain and clean as necessary.

Preventive Maintenance Schedule

Establish a preventive maintenance schedule, based on the pump's repair history.

Wet Cup

Check wet-cup daily. Keep filled with Graco Throat Seal Liquid (TSL), Part No. 206995, to prevent material from hardening on displacement rod.

Storage

Before storing the pump, always flush it, page 7. Relieve the pressure, page 7.

Troubleshooting

WARNING



Read warnings, page 3-4.

Problem	Cause	Solution
Pumps do not run.	Air pressure to pump too low	Increase pressure to 50 psi (0.35 MPa, 3.5 bar).
	Air pilot lines are obstructed	Check pilot lines for kinks or pinches.
	Solenoid valve stuck.	Actuate solenoid manually, if it does not operate, replace solenoid. Page 15.
	Dispense valve not opening.	Service or replace valve(s). See system manual.
	Paint cured in pump/valves.	Repair displacement pump. See 310662.
	Pump packings swollen.	Use different flushing solvent.
Pump test volume is not correct.	Air pressure to pump too low	Increase pressure to 50 psi (0.35 MPa, 3.5 bar).
	Sensor not functioning properly.	Check position of sensor. Check board calibration and recalibrate if necessary. See system manual. Replace sensor. Page 16.
	Pump cavitating excessively.	Check for air in lines caused by loose fitting or use of agitator. Material too viscous. Use heater.
Paint does not cure consistently.	Pump not operating correctly.	Observe whether pump is loading and checking correctly, if not, clean and repair displacement pump. See 310662.
Pump runs erratically.	Air filter clogged.	Clean. Replace element.
	Air supply hoses undersized.	Replace hoses with appropriate size.
	Air compressor undersized.	Use larger air compressor.
	Rod moves up when not dispensing; worn piston valve or packings.	Repair displacement pump. See 310662
	Rod moves down when not dispensing; worn intake valve.	Repair displacement pump. See 310662
Pump leaking.	Worn packings.	Replace packings. See 310662.
Flow rate too low.	Inadequate air supply.	Use larger CFM compressor.
	Air pressure to pumps too low.	Increase pressure.
	Fluid filter plugged.	Clean filter.
	Spray tip too small.	Relieve pressure. Install larger tip. Follow gun manual instructions.
	Fluid hose partially plugged or too restrictive.	Inspect for cured material. Clean or replace, or use larger hose

Repair

Follow **Shutdown** procedure, page 8, if service time may exceed pot life time, before servicing fluid components, and before transporting equipment to a service area.

Repair Kits are available for your pump. The kits must be ordered separately. Parts included in the kits are marked with an asterisk, for example (103*). See page 19.

WARNING



Read warnings, page 3.

Pump and Motor

Disassembly

WARNING



Read warnings, page 3.

1. Flush pump, page 7.
2. Follow **Pressure Relief Procedure**, page 7.
3. Remove the pump from the system as explained in the system manual.
4. Push retaining spring (154) up. Push pin (155) out. See FIG. 2.
5. Mark the orientation of the pump's fluid outlet (G) on the bracket (152), for later reference.
6. Loosen star-shaped locknut (158) by hitting firmly with a non-sparking hammer and punch, and screw locknut all the way down onto displacement pump (159). Unscrew pump from adapter plate (156). See manual 310662 to repair displacement pump.
7. Remove nuts (157) and slide adapter plate (156) off tie rods (160). Remove tie rods, screws (153), and bracket (152) from air motor (100). To repair air motor, see page 13.

Reassembly

1. Install tie rods (160) in air motor (100), see FIG. 2. Torque to 30-35 ft-lb (41-47 N•m).
2. Align large notch (N) in bracket with air manifold (127). Attach with screws (153).
3. Slide adapter plate (156) onto tie rods (160) and secure with nuts (157). Torque to 50-60 ft-lb (68-81 N•m).
4. Ensure star-shaped locknut (158) is screwed on pump with flat side up. Screw pump into adapter plate (156) until pin hole aligns with hole in connecting rod (118). Push pin (155) in. Pull retaining spring (154) down. See FIG. 2.
5. Turn pump in/out of adapter plate (156) until top of pump's outer cylinder is flush with top of plate. Then adjust pump in either direction to align pump fluid outlet (G) as desired (see step 5 on page 11). Screw star-shaped locknut (158) up against adapter plate (156). Tighten by hitting firmly with a non-sparking hammer and punch.
6. Reconnect fluid inlet and outlet lines to displacement pump (159). Return pump to service.

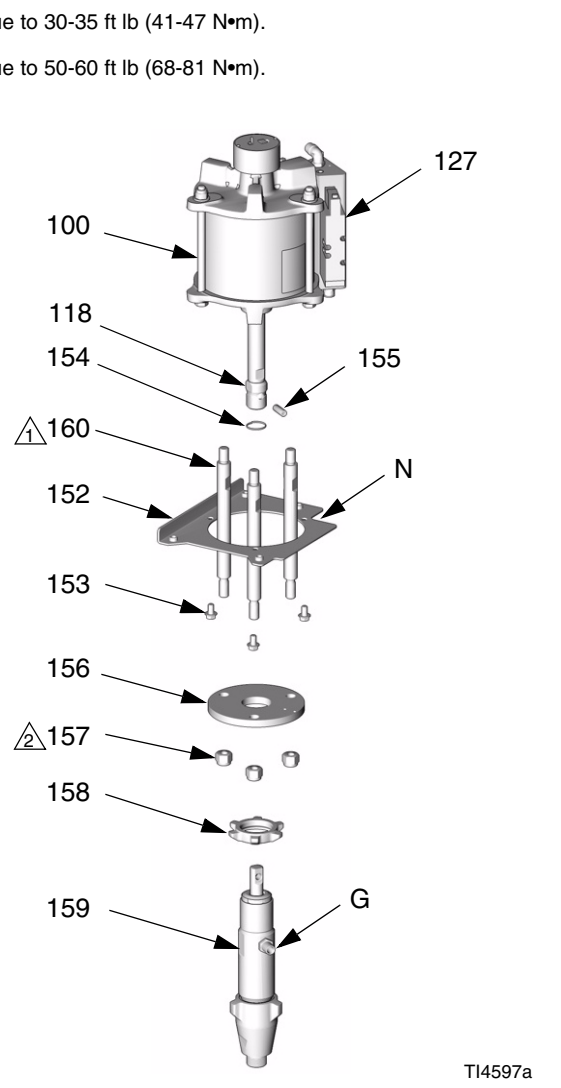


FIG. 2. Pump and Motor

Air Motor

Disassembly

1. Follow **Pressure Relief Procedure**, page 7.
2. Remove the pump from the system. Disconnect air motor, page 11.
3. Clamp bottom cylinder cap (116) in a vise, taking care not to damage piston rod (114).

CAUTION
When removing the sensor (101), lift it straight up out of the cylinder. Be careful not to bend the shaft.

4. Remove sensor (101), see page 16.
5. Remove air manifold (127), see page 15.
6. Using two wrenches, remove nuts (105) and washers (125) from bolts (119).
7. With twisting, rocking motion, pull off top cylinder cap (106) and cylinder (108). Gently use a rubber hammer if necessary to loosen these parts. Do not pry them off with a screwdriver or similar tool.
8. Remove o-rings (107) from both cylinder caps (106, 116). Remove piston o-ring (113).
9. To access piston rod seal (115):
   a. Remove retaining spring (154, see FIG. 2) from connecting rod (118). Place connecting rod in vise. Attempt to remove nut (111); nut will come loose or rod (114) will unscrew from connecting rod (118). Remove rod (114) from bottom cap (116).
   b. Remove seal (115) from bottom cap (116), using a wood or plastic pick. If bottom cap bearing is excessively worn, replace bottom cap (116).
10. Inspect piston rod (114) and inner surface of cylinder (108) for wear, scratches, or other damage. Replace as necessary.

If piston (112) is still attached to rod (114) and either part needs replacement, place flats of rod in vise and unscrew nut (111). Disassemble piston.

Reassembly

1. Install rod seal (115*) in bottom cylinder cap (116) with its lips facing up toward the cylinder. Lubricate piston rod (114) and bearing (inside the bottom cap) with oil (not grease). Insert rod through bottom cap, making sure it doesn't catch the lips of seal (115).
2. Apply Loctite to connecting rod (118) threads, then screw connecting rod into bottom of piston rod (114).
3. If piston was removed, place connecting rod (118) in a vise so piston rod (114) faces up. Apply Loctite to piston rod (114) threads, reassemble piston assembly (126, 112, 126), and torque nut (111) to 120 ft-lb (162 N•m).
4. Install piston o-ring (113*) and cylinder cap o-rings (107*). Liberally apply grease to o-rings and ends and inner surface of cylinder (108).
5. Press the piston o-ring (113) into its groove so the excess portion protrudes toward you. Tip the cylinder (108) toward you and pass it over the piston so the far side holds the o-ring in place and the near side allows it to protrude. Rotate the cylinder to a vertical position with a rocking motion, seating the o-ring in its groove.

If the o-ring is properly seated, the cylinder will move up and down.

6. Press the cylinder (108) securely over the o-ring (107) of the bottom cap (116). Press the top cap (106) onto the cylinder, twisting so it aligns with the bottom cap.
7. Install bolts (119), washers (125), and nuts (105) fingertight, just until all clearance is removed.

8. Install air manifold (127), see page 15. Reorient cylinder caps (106, 116) as necessary to ensure that screws (129) do not bind and draw manifold fully against cylinder (108). Then loosen screws (129) about 1/8 turn, to allow cylinder caps to draw together in step 9.

9. Using two wrenches, torque each bolt/nut (119, 105) in rotation, incrementally to 10, 20, 35, then 50 ft-lb (14, 27, 47, 67 N•m).

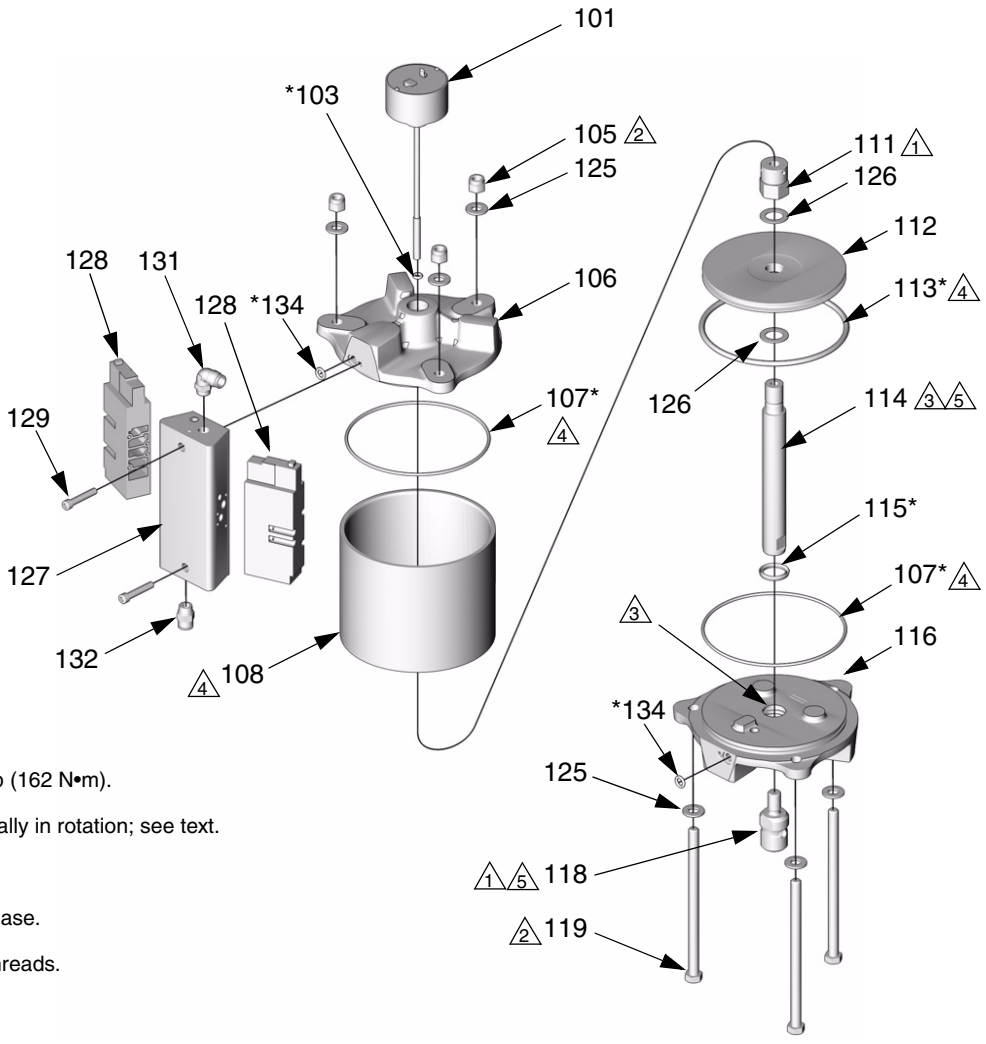
This tightening procedure must be followed exactly, to prevent cylinder misalignment, excessive wear, and reduced performance.

10. Verify that piston moves freely in cylinder, then retighten air manifold screws (129).

11. Install sensor (101), see page 16.

12. Install retaining spring (154) on connecting rod (118).

13. Reconnect air motor, page 12. Reinstall pump in the system.



△1 Torque to 120 ft-lb (162 N•m).

△2 Torque incrementally in rotation; see text.

△3 Lubricate with oil.

△4 Lubricate with grease.

△5 Apply Loctite to threads.

FIG. 3. Air Motor

Solenoid Replacement

Depending on which solenoid is being replaced, it may be possible to make repairs without removing the air manifold (127) from the pump, or the pump from the system.

1. Follow **Pressure Relief Procedure**, page 7.
2. Note location of solenoid wire harnesses. Press tab on connectors and remove wire harnesses. FIG. 4.
3. If necessary, remove the pump from the system.
4. Mark which air line connects to top of manifold (127), which to bottom. Press on collars of tube connectors (131, 132) and pull on tubing to release air lines.
5. Remove screws (129) and pull manifold (127) away from air motor (100). Remove o-rings (134) from the manifold or the cylinder caps (106, 116).
6. Loosen four screws holding solenoid (128) to manifold (127). Ensure that solenoid's gasket does not adhere to manifold.
7. Apply grease to counterbores in top and bottom cylinder caps, then install o-rings (134*).
8. Install new solenoid (128). Ensure solenoid gasket is in grooves; use grease as necessary to hold in place.
9. Reinstall in reverse order. Ensure that air tubes and wire harnesses are connected to the proper solenoids.

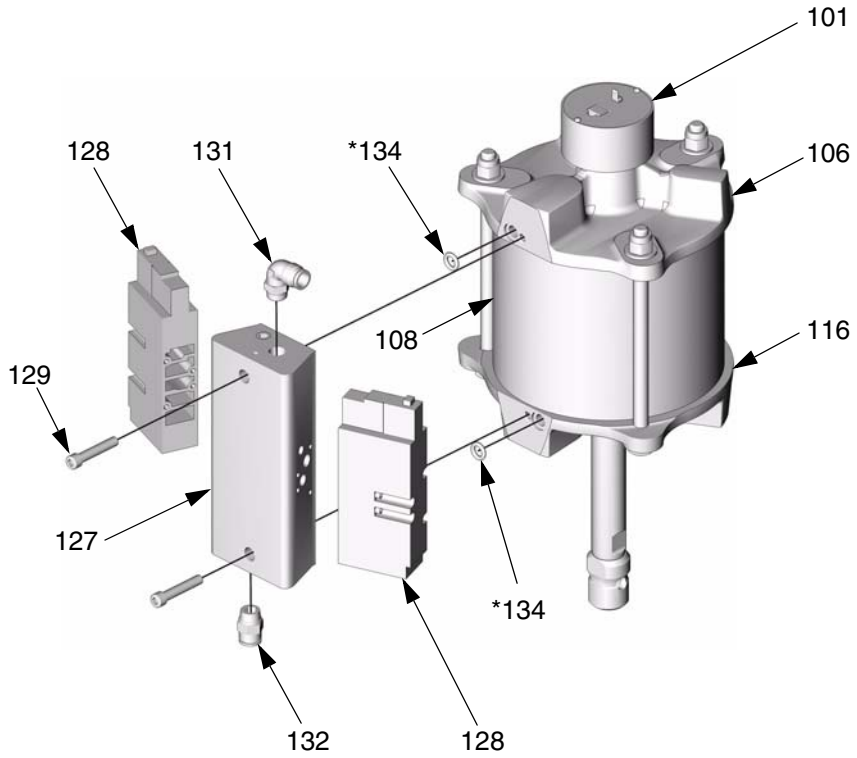


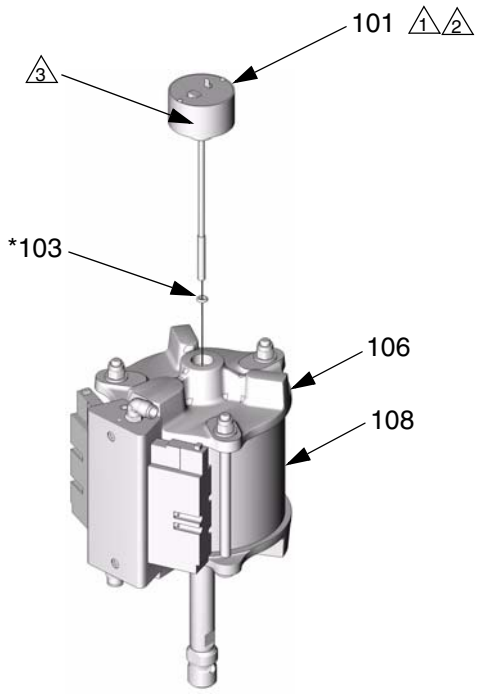
FIG. 4. Air Cylinder and Solenoids

Sensor Replacement

1. Follow **Pressure Relief Procedure**, page 7.
2. Remove the pump from the system.
3. Unscrew sensor (101) from air motor (100). If pliers or wrench is required, apply near bottom of sensor to avoid damaging housing. FIG. 5.

CAUTION
When removing the sensor (101), lift it straight up out of the cylinder. Do not bend the shaft.

4. Lift sensor (101) straight out of cylinder (108). Ensure that o-ring (103) is on the sensor shaft and did not fall off.
5. Liberally grease the new sensor's threads and the tubing at the end of its shaft. Ensure that the o-ring (103*) is in place on the shaft. Carefully insert the sensor into the cylinder, then screw into the top cylinder cap handtight. Do not overtighten.
6. Record the new sensor's calibration value. Install the pump in the system.
7. Recalibrate sensor. See system manual.



1 Lift sensor (101) straight up. Do not bend shaft.

2 Screw sensor into cylinder handtight. Do not overtighten.

3 Calibration value location.

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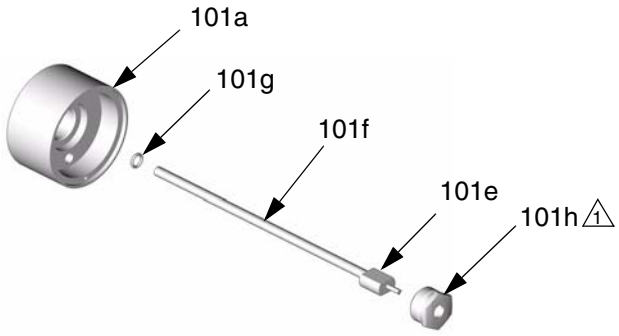
FIG. 5. Sensor Replacement

Sensor Repair

CAUTION
To avoid damaging board, wear a grounding strap.

1. Follow **Pressure Relief Procedure**, page 7.
2. Remove sensor, page 16.
3. Unscrew sensor cap (101a) from nut (101h). FIG. 6.
4. Disconnect cable.
5. Remove screws (101k) and cover (101b).
6. Disconnect sensor cable from board (101c).
7. Remove and replace parts as needed.
8. Install sensor, page 16.
9. Recalibrate sensor. See system manual.



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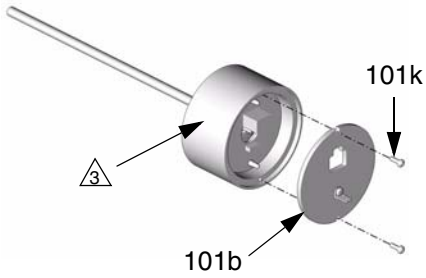

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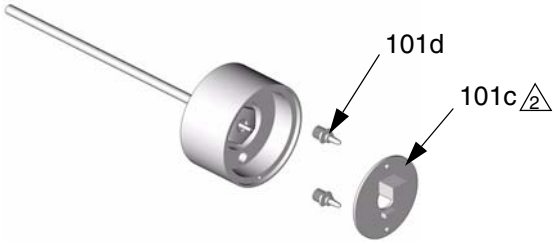

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1 Torque to 60 in-lb (7 N•m).

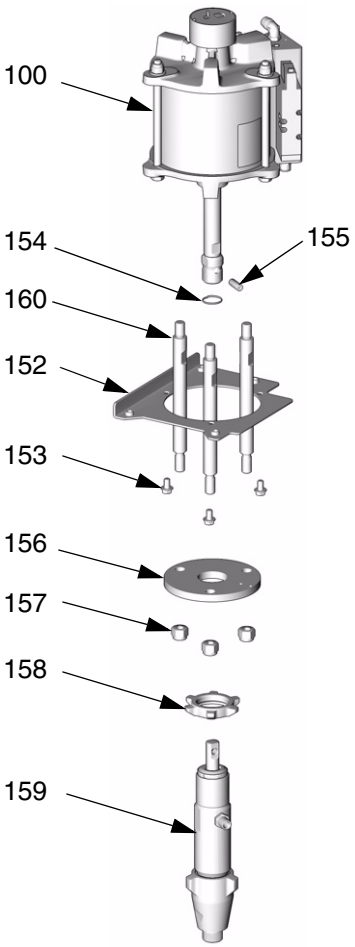
2 Plug sensor cable into connector on board (101c).

3 Calibration value location.

FIG. 6. Sensor Repair

Parts

Complete Pump



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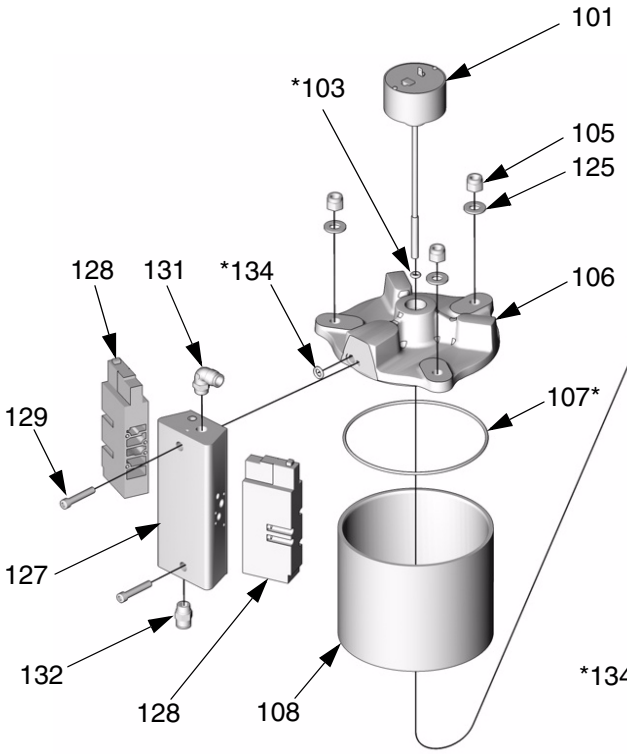
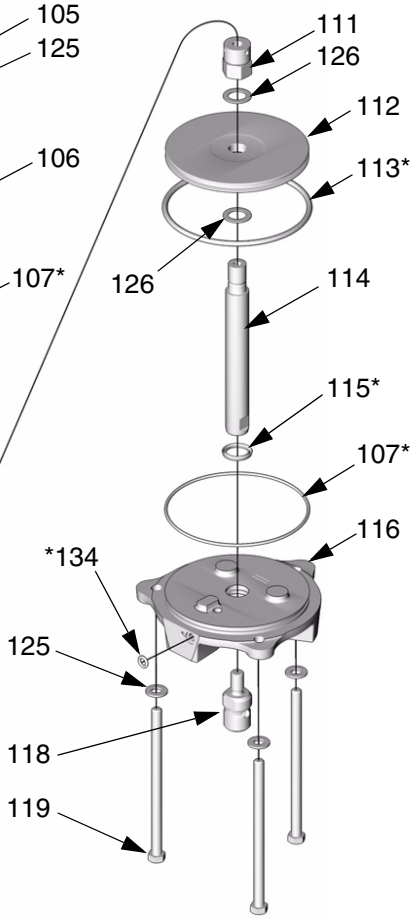
Air Motor (100) Detail





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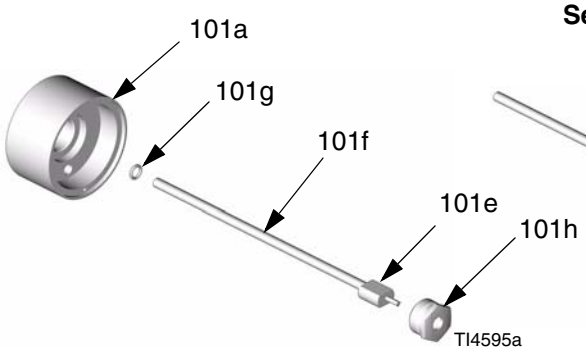
Sensor (101) Detail



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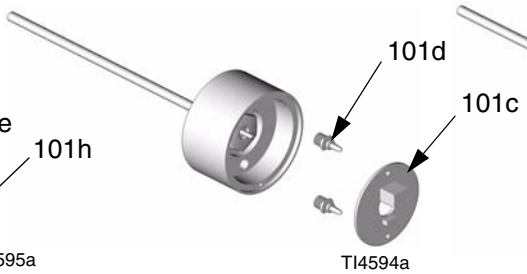

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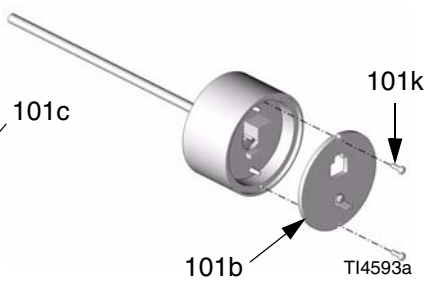

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HydraMix Pumps

248572 Carbon Steel HydraMix 500 Pump

248573 Stainless Steel HydraMix 500 Pump

248574 Carbon Steel HydraMix 600 Pump

248575 Stainless Steel HydraMix 600 Pump

248576 Carbon Steel HydraMix 700 Pump

248577 Stainless Steel HydraMix 700 Pump

273011 Carbon Steel HydraMix 700 Pump TUFF

Ref. No.	Part No.	Description	Qty.
100	287236	MOTOR, air, HydraMix 500; 248572 and 248573 only; includes items 101-134	1
	287274	MOTOR, air, HydraMix 600; 248574 and 248575 only; includes items 101-134	1
	287211	MOTOR, air, HydraMix 700; 248577 and 248576 only; includes items 101-134	1
101	248553	. SENSOR, displacement; includes items 101a-101k	1
101a	196280	. . CAP	1
101b	196282	. . COVER	1
101c	243500	. . BOARD	1
101d	115925	. . SPACER	2
101e	196279	. . TUBE	1
101f	115917	. . SENSOR	1
101g	110004	. . O-RING; PTFE	1
101h	196289	. . NUT	1
101j	116024	. . TAB TERMINAL	1
101k	112546	. . SCREW; 4-40 taptite	2
103*	118605	. O-RING; nitrile	1
105	801020	. NUT, lock, w/nylon insert; 1/2-13	3
106	15D330	. CAP, cylinder, top; 287236 only	1
	15D828	. CAP, cylinder, top; 287274 only	1
	15D144	. CAP, cylinder, top; 287211 only	1
107*	118765	. O-RING; nitrile; 287236 only	2
	119243	. O-RING; nitrile; 287274 only	2
	118606	. O-RING; nitrile; 287211 only	2
108	248548	. CYLINDER; 287236 only	1
	248549	. CYLINDER; 287274 only	1
	248550	. CYLINDER; 287211 only	1
111	248646	. NUT, piston; with magnets	1
112	15D334	. PISTON; 287236 only	1
	15D831	. PISTON; 287274 only	1
	15D141	. PISTON; 287211 only	1
113*	118766	. O-RING; nitrile; 287236 only	1
	119244	. O-RING; nitrile; 287274 only	1
	119258	. O-RING; nitrile; 287211 only	1
114	248547	. ROD, piston	1
115*	118599	. PACKING, v-block; nitrile	1
116	248578	. CAP, cylinder, bottom; 287236 only; includes item 115	1
	248579	. CAP, cylinder, bottom; 287274 only; includes item 115	1
	248580	. CAP, cylinder, bottom; 287211 only; includes item 115	1
118	15D174	. ROD, connecting	1
119	119050	. BOLT, cap, hex hd; 1/2-13 x 8 in. (203 mm)	3
125	113962	. WASHER; 1/2	6
126	119241	. SHIM	2
127	15D762	. MANIFOLD, air	1
128	248552	. VALVE, solenoid, 93A	2
129	116138	. SCREW, cap, socket hd; 5/16-18; 1-3/4 in. (44 mm)	2
131	114114	. ELBOW, tube; 3/8 npt(m) x 1/2 in. (13 mm) OD tube	1
132	114129	. FITTING, tube; 3/8 npt(m) x 1/2 in. (13 mm) OD tube	1
133	100721	. PLUG	2
134*	514315	. O-RING; fluoroelastomer	2
152	15D882	BRACKET	1
153	113802	SCREW, hex hd, flanged; 3/8-16 x 5/8 in. (16 mm)	3
154	183169	SPRING, retaining	1
155	197443	PIN, pump	1
156	15D188	PLATE, adapter	1
157	101712	NUT, lock; 5/8-11	3
158	193394	NUT, retaining	1
159	248542	PUMP, displacement; carbon steel; 248572, 248574, and 248576 only; see manual 310662	1
	248543	PUMP, displacement; stainless steel; 248573, 248575, and 248577 only; see manual 310662	1
	249360	PUMP, TUFF displacement; carbon steel; 273011 only; see manual 310662	1
160	15D186	ROD, tie	3

* *Included in repair kits 248434 (HydraMix 500), 248435 (HydraMix 600), and 248436 (HydraMix 700).*

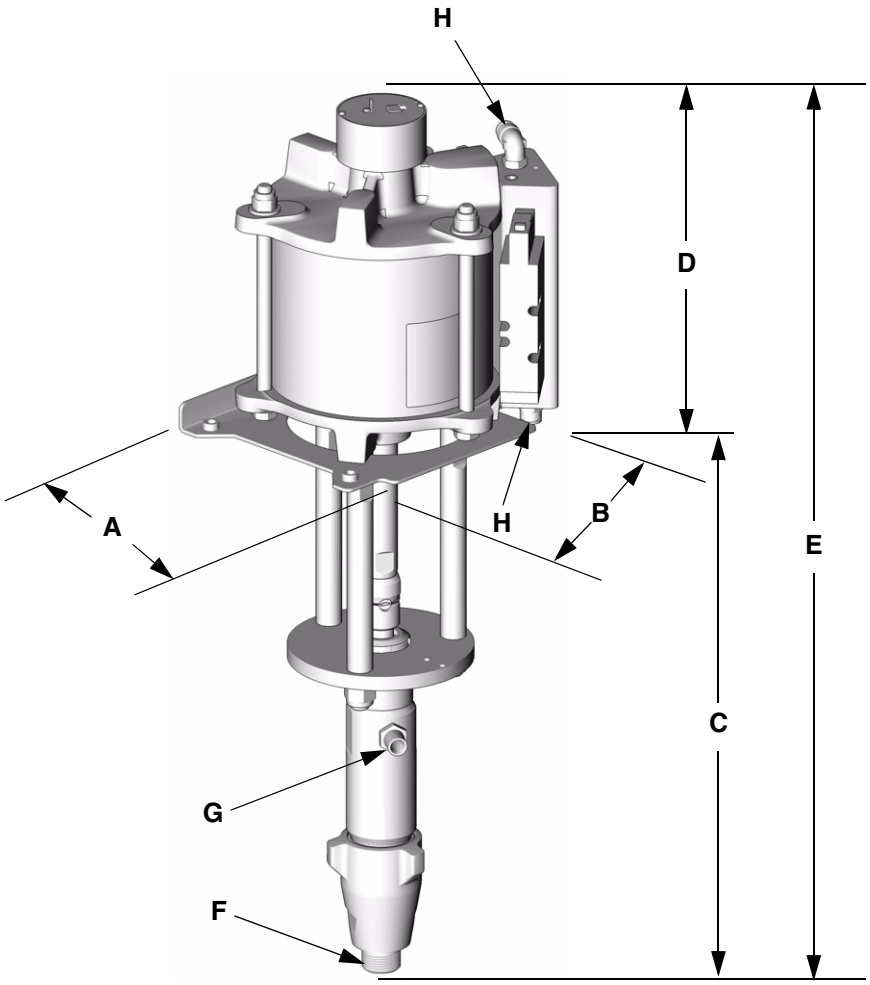
Technical Data

Flow rates	
Minimum	0.02 qt/min (0.02 lpm)*
Maximum	3/4 gpm (2.8 lpm)
Maximum fluid working pressure	
24:1	2400 psi (16 MPa, 166 bar)
34:1	3400 psi (23 MPa, 234 bar)
47:1	4700 psi (32 MPa, 324 bar)
Air supply pressure range	50-100 psi (345-700 kPa, 3.5-7.0 bar)
Maximum air consumption at 100 psi (0.7 MPa, 7 bar)	
24:1	40.5 scfm at 1 gpm (1.13 m^3/min at 3.8 lpm)
34:1	54.7 scfm at 1 gpm (1.53 m^3/min at 3.8 lpm)
47:1	63.0 scfm at 1 gpm (1.76 m^3/min at 3.8 lpm)
cc/cycle	92 cc/cycle
Pump cycle length (one cycle = one upstroke and one downstroke)	7.6 in. (193 mm)/cycle
Wetted parts	See manual 310662.

* *Minimum flow rate is dependent on the material being sprayed and mixing capability. Test your material for specific flow rate.*

Dimensions

A 10.5 in. (267 mm)
B 8.5 in. (216 mm)
C 19.5 in. (495 mm)
D 11.3 in. (287 mm)
E 30.8 in. (782 mm)
F 1 in. npsm(m)
G 3/8 npt(f)
H 1/2 in. (13 mm) OD air tube fittings



TI4596a

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

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