Instructions

XP™ and XP-h™ Proportioners

3A0420ZAM

EN

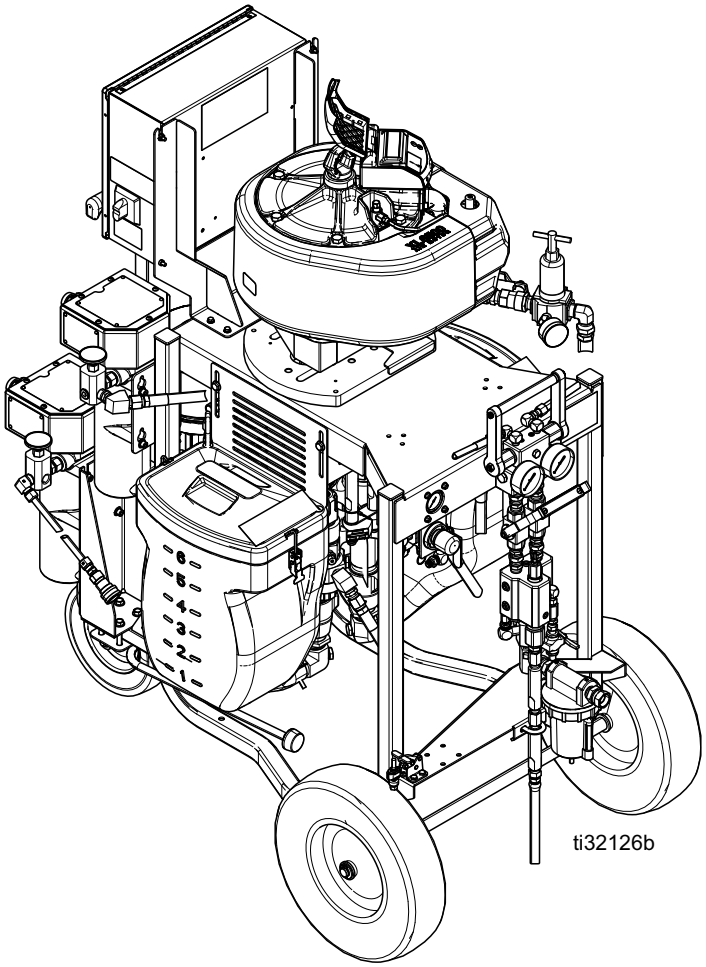
Mechanically linked fixed ratio plural-component system used for proportioning, mixing, and spraying two component coatings. For professional use only.

Not approved for use in explosive atmospheres or hazardous locations except where indicated in the Models section.

Important Safety Instructions

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

See **Models** section (starting on page 10) for model numbers, descriptions, and agency approval designations.



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Related Manuals

Manuals are available at www.graco.com.

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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.

⚠ DANGER

SEVERE ELECTRIC SHOCK HAZARD

This equipment can be powered by more than 240V. Contact with this voltage will cause death or serious injury.

- Turn off and disconnect power at main switch before disconnecting any cables and before servicing equipment.
- This equipment must be grounded. Connect only to grounded power source.
- All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking).
- Ground all equipment in the work area. See **Grounding** instructions.
- Never spray or flush solvent at high pressure.
- Keep work area free of debris, including solvent, rags and gasoline.

- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive.

- **Stop operation immediately** if static sparking occurs or you feel a shock**.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:

- Clean plastic parts only in well ventilated area.
- Do not clean with a dry cloth.
- Do not operate electrostatic guns in equipment work area.

SPECIAL CONDITIONS FOR SAFE USE

- If using the Viscon HP Heaters see manuals for special conditions for safe use.
- If using the PressureTrak, see the manual for special conditions for safe use.

⚠ WARNING

SKIN INJECTION HAZARD

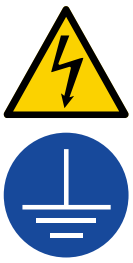
High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- 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.
- Follow the **Pressure Relief Procedure** when you stop spraying 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.

MOVING PARTS HAZARD

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

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



ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing equipment.
- Connect only to grounded power source.
- All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

⚠ WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical 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 Sheet (SDS) 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.

PERSONAL PROTECTIVE EQUIPMENT

Always wear appropriate personal protective equipment and cover all skin when spraying, servicing equipment, or when in the work area. Protective equipment helps prevent serious injury, including long-term exposure; inhalation of toxic fumes, mists or vapors; allergic reaction; burns; eye injury and hearing loss. This protective equipment includes but is not limited to:

- A properly fitting respirator, which may include a supplied-air respirator, chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority.
- Protective eyewear and hearing protection.

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled or swallowed.

- Read Safety Data Sheets (SDSs) for handling instructions and to know the specific hazards of the fluids you are using, including the effects of long-term exposure.
- When spraying, servicing equipment, or when in the work area, always keep work area well-ventilated and always wear appropriate personal protective equipment. See **Personal Protective Equipment** warnings in this manual.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

BURN HAZARD

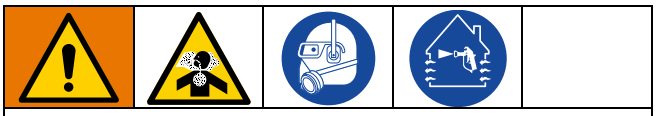
Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.

Important Isocyanate (ISO) Information

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

Isocyanate Conditions



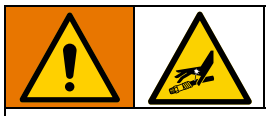
Spraying or dispensing fluids that contain isocyanates creates potentially harmful mists, vapors, and atomized particulates.

- Read and understand the fluid manufacturer's warnings and Safety Data Sheets (SDSs) to know specific hazards and precautions related to isocyanates.
- Use of isocyanates involves potentially hazardous procedures. Do not spray with this equipment unless you are trained, qualified, and have read and understood the information in this manual and in the fluid manufacturer's application instructions and SDSs.
- Use of incorrectly maintained or mis-adjusted equipment may result in improperly cured material. Equipment must be carefully maintained and adjusted according to instructions in the manual.
- To prevent inhalation of isocyanate mists, vapors, and atomized particulates, everyone in the work area must wear appropriate respiratory protection. Always wear a properly fitting respirator, which may include a supplied-air respirator. Ventilate the work area according to instructions in the fluid manufacturer's SDSs.
- Avoid all skin contact with isocyanates. Everyone in the work area must wear chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority. Follow all fluid manufacturer recommendations, including those regarding handling of contaminated clothing. After spraying, wash hands and face before eating or drinking.

Material Self-Ignition

Some materials may become self-igniting if applied too thick. Read material manufacturer's warnings and Safety Data Sheets (SDSs).

Keep Components A and B Separate



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 crystal that become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity.

NOTICE

Partially cured ISO will reduce performance and the life of all wetted parts.

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- 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.
- Use only moisture-proof hoses compatible with ISO.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Always lubricate threaded parts with an appropriate lubricant when reassembling.

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.

Overview

Usage

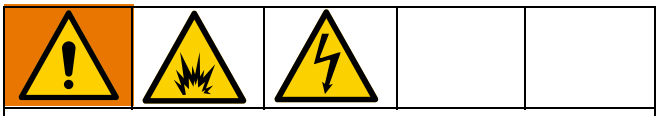
The XP and XP-h systems are mechanically linked fixed ratio systems that can mix and spray most two-component epoxy and urethane protective coatings.

XP systems include: Cart frame, XP pump assembly, XTR and 35 ft (10.7 m) of supply hose, various options are specified by the last digit (see page 12 for details).

XP-h systems include: Cart frame, XP-h pump assembly, XTR and 35 ft (10.7 m) of supply hose (see pages 13-14 for various other options). The Power Pack used to power the XP-h motor is sold separately. See your GH Power Pack manual for details.

When using quick-setting material (less than 10 minute pot life), the Remote Manifold Heater Block Kit (24Z934) is recommended for use (see page 12 for models).

The two high pressure fluid pumps are carbide or stainless steel seat severe duty positive displacement pumps that displace fluid on both strokes.



Using an XP system, or components on the system, not approved for hazardous locations or explosive atmospheres may result in a fire or explosion hazard.

The XP systems are not approved for use in hazardous locations unless the base model, all accessories, all kits, and all wiring meet local, state, and national codes.

See **Systems with Explosion-Proof Heaters** on page 25.

Over Pressure Protection

Mechanically linked pumps can create excessive fluid pressure if the full motor force is applied to only one of the fluid pumps.

- **XP Systems Only:** Maximum air pressure set point blow off valves are provided to limit maximum fluid pressure. Do not remove these valves.
- Color coded automatic over pressure relief valves are used on cart-mounted systems to dump excess fluid pressure back to the supply. Never plug these return hoses. See **Fluid Circulation Manifold with Over Pressure Relief Valves** on page 51.
- When using an XP bare pump package to build a system, use the over pressure relief valves referenced above.
- Never install individual shut off valves on the “A” and “B” lines. On cart-mounted systems, common handles link the fluid control valves.
- A rupture disc is provided on the small side fluid pump (pumps 145 cc and smaller) as a back-up to the over pressure relief valve. If the rupture disc ever opens, do not operate the machine until the over pressure valve and the rupture disc have been replaced.
- If changing pump lowers or motor on your system, use the correct over pressure relief valves from the chart on page 52.

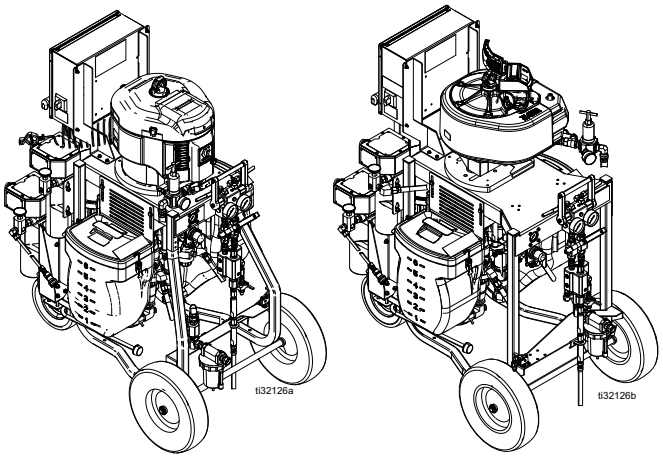
Approvals

CE	All systems CE marked except where noted.
Ex II 2 G Ex h IIA T3 Gb	All systems noted by X (in Approval column) are Ex marked.

Series Change

The XP cart sprayer was upgraded to use the XL air motor, which provides improvements over the NXT® air motor. The frame was upgraded to allow better access to the lowers.

Series A **Series C**



Benefits of the new air motor and frame include:

- Improved change over performance of air motor
- Better icing performance
- Ease of use
- Ease of service and greater access to lowers

Series	Change Description
C	Upgraded air motor with XL motor and frame change.

Models

Using an XP or XP-h system, or components on the system, not approved for hazardous locations or explosive atmospheres may result in a fire or explosion hazard.

The XP and XP-h systems are not approved for use in hazardous locations unless the base model, all accessories, all kits, and all wiring meet local, state, and national codes.

See **Systems with Explosion-Proof Heaters** on page 25.

NOTE: See special conditions for safe use in your Viscon HP Heater Manual, and PressureTrak manual.

XP Proportioning Pump Packages

Packages include motor, pump lowers, and all connection hardware.

Building systems with bare proportioning pump packages:

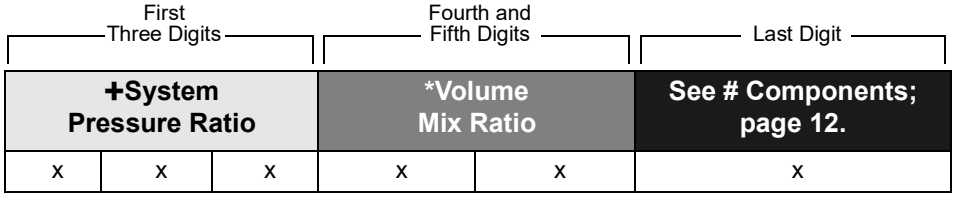
- **Over Pressure Protection** must be used, see page 9. See chart on page 52 to identify the over pressure relief valves to use with your system.
- All components must meet or exceed maximum working pressures.

NOTE: All pump packages are Ex rated except for the XP-h pump packages (284xxx):

Pump sizes are marked on the pump cylinder; sizes are nominal. See technical specifications in your Xtreme lowers manual for actual displacement.

XP Models

PART NUMBER CODE EXAMPLE:



+System Pressure Ratio (First Three Digits of Part Number)

First Three Digits	System Ratio	Maximum Fluid Working Pressure psi (MPa, bar)
571xxx **576**xxx	70 : 1	7250 (50, 500)
282xxx **575**xxx	50 : 1	5000 (34, 344)
281xxx **574**xxx	35 : 1	3500 (24.1, 241)

*Volume Mix Ratios - 35:1 (Fourth and Fifth Digits of Part Number)

Fourth and Fifth Digits	Pump Ratio (A:B)	A Side Pump	B Side Pump	Combined Fluid Output cc/cycle	Fluid Flow at 40 cpm gpm (lpm)	Over-Pressure Relief Valve	Maximum Air Working Pressure psi (MPa, bar)	Fluid to Air Pressure Ratio	Maximum Fluid Working Pressure psi (MPa, bar)
xxx**10**x	1:1	L090C0	L090C0	180	1.9 (7.2)	Purple	95 (0.65, 6.5)	37:1	3500 (24, 241)
xxx**20**x	2:1	L115C0	L058C0	173	1.8 (6.8)		85 (0.59, 5.9)	41:1	3500 (24, 241)
xxx**25**x	2.5:1	L14AC0	L058C0	202	2.1 (7.9)		100 (0.7, 7.0)	34:1	3400 (23, 234)
xxx**30**x	3:1	L14AC0	L048C0	192	2.0 (7.6)		95 (0.65, 6.5)	37:1	3500 (24, 241)
xxx**40**x	4:1	L14AC0	L036C0	180	1.9 (7.2)		90 (0.62, 6.2)	39:1	3500 (24, 241)

*Volume Mix Ratios - 50:1 (Fourth and Fifth Digits of Part Number)

Fourth and Fifth Digits	Pump Ratio (A/B)	A Side Pump	B Side Pump	Combined Fluid Output cc/cycle	Fluid Flow at 40 cpm gpm (lpm)	Over-Pressure Relief Valve	Maximum Air Working Pressure psi (MPa, bar)	Fluid to Air Pressure Ratio	Maximum Fluid Working Pressure psi (MPa, bar)
xxx**10**x	1:1	L14AC0	L14AC0	288	3.1 (11.7)	Gold	100 (0.7, 7.0)	45:1	4500 (31, 310)
xxx**15**x	1.5:1	L14AC0	L097C0	240	2.6 (9.8)		90 (0.62, 6.2)	56:1	5000 (34, 345)
xxx**20**x	2:1	L18AC0	L090C0	270	2.9 (11)		100 (0.7, 7.0)	48:1	4800 (33, 331)
xxx**25**x	2.5:1	L18AC0	L072C0	258	2.7 (10.2)		95 (0.65, 6.5)	53:1	5000 (34, 345)
xxx**30**x	3:1	L22AC0	L072C0	288	3.1 (11.7)		100 (0.7, 7.0)	45:1	4500 (31, 310)
xxx**33**x	3.3:1	L18AC0	L054C0	234	2.5 (9.5)		90 (0.62, 6.2)	56:1	5000 (34, 345)
xxx**40**x	4:1	L22AC0	L054C0	270	2.9 (11)		100 (0.7, 7.0)	48:1	4800 (33, 331)

*Volume Mix Ratios - 70:1 (Fourth and Fifth Digits of Part Number)

Fourth and Fifth Digits	Pump Ratio (A/B)	A Side Pump	B Side Pump	Combined Fluid Output cc/cycle	Fluid Flow at 40 cpm gpm (lpm)	Over-Pressure Relief Valve	Maximum Air Working Pressure psi (MPa, bar)	Fluid to Air Pressure Ratio	Maximum Fluid Working Pressure psi (MPa, bar)
xxx**10**x	1:1	L090C0	L090C0	180	1.9 (7.2)	Silver	95 (0.65, 6.5)	72:1	7250 (50, 500)
xxx**15**x	1.5:1	L085C0	L058C0	144	1.5 (5.6)		80 (0.55, 5.5)	91:1	7250 (50, 500)
xxx**20**x	2:1	L115C0	L058C0	174	1.8 (6.8)		95 (0.65, 6.5)	76:1	7250 (50, 500)
xxx**25**x	2.5:1	L14AC0	L058C0	203	2.1 (7.9)		100 (0.7, 7.0)	65:1	6500 (45, 448)
xxx**30**x	3:1	L14AC0	L048C0	193	2.0 (7.5)		100 (0.7, 7.0)	68:1	6800 (47, 469)
xxx**40**x	4:1	L14AC0	L036C0	181	1.9 (7.2)		100 (0.7, 7.0)	73:1	7250 (50, 500)

Components

	xxxxx**0**†	xxxxx**1**‡	xxxxx**2**‡	xxxxx**3**‡	xxxxx**4**‡	xxxxx**5**	xxxxx**6**‡	xxxxx**7**	xxxxx**8**	xxxxx**9**
Pump Assembly (Air Motor and Pump Lowers)	X	X	X	X	X	X	X	X	X	X
Cart		X	X	X	X	X	X	X	X	X
XTRxxx Spray Gun and 35 ft Supply Hose		X	X	X	X	X	X	X	X	X
7 Gallon Hopper			X		X	X	X	X	X	X
Solvent Pump				X	X	X	X	X	X	X
A | B Fluid Heaters				X	X	X	X	X	X	X
Hose Heater and Water Circulation Pump with Remote Mix Manifold							X	X		X
Junction Box						X		X	X	X
PressureTrak							X	X		X
System Voltage				240	240	240	240	240	480	480
Hazardous Location/Ex Rated	X	X	X	X	X		X			

† Bare pump packages ending in zero require additional components to make a complete system.
See **XP Proportioning Pump Packages** on page 10.

‡ Ex Rated.

XP Systems without Pump Lowers

Part	System	Maximum Fluid Working Pressure psi (Bar, MPa)	Includes:
281000	XP35	3500 (24, 241)	Cart, XTRxxx Spray Gun and 35 ft (10.7 m) supply Hose (not attached)
282000	XP50	5000 (34, 344)	
571000	XP70	7250 (50, 500)	
These packages without pump lowers are not operational and are not CE rated or Ex marked.			

XP50-h with Viscount II Hydraulic Motor, Series C

Models	Pump Package					Volume Mix Ratio					Specifications			Includes					Approval
	284102	284202	284252	284302	284402	1.0 : 1	2.0 : 1	2.5 : 1	3.0 : 1	4.0 : 1	Max Fluid Working Pressure psi (MPa, bar)	Maximum Hydraulic Oil Working Pressure psi (MPa, bar)	Pressure Ratio (Fluid to Air)	7 Gallon Hopper	Solvent Pump	HP Hazardous Location Heaters, 240V	XTR504 Spray Gun	35 ft. (10.7m) Fluid Hose	Ex Marked HP
284104	X					X					4700 (32.4, 324)	1800 (12.4, 124)	2.6 : 1	X			X	X	
284204		X					X				5050 (34.8, 348)	1800 (12.4, 124)	2.8 : 1	X			X	X	
284254			X					X			5000 (34.4, 344)	1650 (11.3, 113)	3.0 : 1	X			X	X	
284304				X					X		4700 (32.4, 324)	1800 (12.4, 124)	2.6 : 1	X			X	X	
284404					X					X	5000 (34.4, 344)	1800 (12.4, 124)	2.8 : 1	X			X	X	
284105	X					X					4700 (32.4, 324)	1800 (12.4, 124)	2.6 : 1	X	X	X	X	X	
284205		X					X				5050 (34.8, 348)	1800 (12.4, 124)	2.8 : 1	X	X	X	X	X	
284255			X					X			5000 (34.4, 344)	1650 (11.3, 113)	3.0 : 1	X	X	X	X	X	
284305				X					X		4700 (32.4, 324)	1800 (12.4, 124)	2.6 : 1	X	X	X	X	X	
284405					X					X	5000 (34.4, 344)	1800 (12.4, 124)	2.8 : 1	X	X	X	X	X	

NOTE: All models are at Series C.

XP70-h with Viscount II Hydraulic Motor, Series C

Models	Pump Package					Volume Mix Ratio					Specifications			Includes					Approval
	284103	284203	284253	284303	284403	1.0 : 1	2.0 : 1	2.5 : 1	3.0 : 1	4.0 : 1	Max Fluid Working Pressure psi (MPa, bar)	Maximum Hydraulic Oil Working Pressure psi (MPa, bar)	Pressure Ratio (Fluid to Air)	7 Gallon Hopper	Solvent Pump	HP Hazardous Location Heaters, 240V	XTR704 Spray Gun	35 ft. (10.7m) Fluid Hose	Ex Marked HP
284106	X					X					7100 (48.9, 489)	1700 (11.7, 117)	4.2 : 1	X			X	X	
284206		X					X				7200 (49.6, 496)	1650 (11.3, 113)	4.4 : 1	X			X	X	
284256			X					X			6800 (46.8, 468)	1800 (12.4, 124)	3.8 : 1	X			X	X	
284306				X					X		7100 (48.9, 489)	1800 (12.4, 124)	4.0 : 1	X			X	X	
284406					X					X	7150 (49.2, 492)	1700 (11.7, 117)	4.2 : 1	X			X	X	
284107	X					X					7100 (48.9, 489)	1700 (11.7, 117)	4.2 : 1	X	X	X	X	X	
284207		X					X				7200 (49.6, 496)	1650 (11.3, 113)	4.4 : 1	X	X	X	X	X	
284257			X					X			6800 (46.8, 468)	1800 (12.4, 124)	3.8 : 1	X	X	X	X	X	
284307				X					X		7100 (48.9, 489)	1800 (12.4, 124)	4.0 : 1	X	X	X	X	X	
284407					X					X	7150 (49.2, 492)	1700 (11.7, 117)	4.2 : 1	X	X	X	X	X	

NOTE: All models are at Series C.

XP Proportioning Pump Packages

Packages include motor, pump lowers, and all connection hardware.

Pump sizes are marked on the pump cylinder; sizes are nominal. See technical data in your Xtreme displacement pump manuals for actual displacement.

Building systems with bare proportioning pump packages:

- **Over Pressure Protection** must be used, see page 9. See chart on page 52 to identify the over pressure relief valves to use with your system.
- All components must meet or exceed maximum working pressures.

Type	Pump Package	A Side Pump	B Side Pump	Volume Mix Ratio	Combined Fluid Output cc/cycle	Pressure Ratio	Fluid Flow at 40 cpm gpm (lpm)	Maximum Fluid Working Pressure psi (MPa, bar)	Maximum Air/ Hydraulic Oil Working Pressure psi (MPa, bar)	Over Pressure Relief Valve To Use
XP-h with Viscount II Hydraulic Motor	284101	L22AC0	L22AC0	1.0:1	435	1.75:1	4.6 (17.4)	3150 (22, 217)	1800 (12, 124)	Purple
	284102	L14AC0	L14AC0		293	2.63:1	3.1 (11.7)	4700 (32, 324)	1800 (12, 124)	Gold
	284103	L090C0	L090C0		180	4.21:1	1.9 (7.2)	7150 (49, 493)	1700 (12, 117)	Silver
	284201	L29AC0	L14AC0	2.0:1	435	1.75:1	4.6 (17.4)	3150 (22, 217)	1800 (12, 124)	Purple
	284202	L18AC0	L090C0		274	2.81:1	2.9 (11.0)	5050 (35, 348)	1800 (12, 124)	Gold
	284203	L115C0	L058C0		170	4.39:1	1.8 (6.8)	7200 (50, 496)	1650 (11, 114)	Silver
	284251	L29AC0	L115C0	2.5:1	407	1.88:1	4.3 (16.3)	3400 (23, 234)	1800 (12, 124)	Purple
	284252	L18AC0	L072C0		255	3.02:1	2.7 (10.2)	5000 (34, 345)	1650 (11, 114)	Gold
	284253	L14AC0	L058C0		199	3.77:1	2.1 (7.9)	6800 (47, 469)	1800 (12, 124)	Silver
	284301	L29AC0	L097C0	3.0:1	388	1.97:1	4.1 (15.5)	3500 (24, 241)	1800 (12, 124)	Purple
	284302	L22AC0	L072C0		293	2.63:1	3.1 (11.7)	4700 (32, 324)	1800 (12, 124)	Gold
	284303	L14AC0	L048C0		189	3.95:1	2.0 (7.6)	7100 (49, 490)	1800 (12, 124)	Silver
	284401	L29AC0	L072C0	4.0:1	360	2.10:1	3.8 (14.4)	3800 (26, 262)	1800 (12, 124)	Purple
	284402	L22AC0	L054C0		274	2.80:1	2.9 (11.0)	5000 (34, 345)	1800 (12, 124)	Gold
	284403	L14AC0	L036C0		180	4.21:1	1.9 (7.2)	7150 (49, 493)	1700 (12, 117)	Silver

Component Identification

XP Proportioners

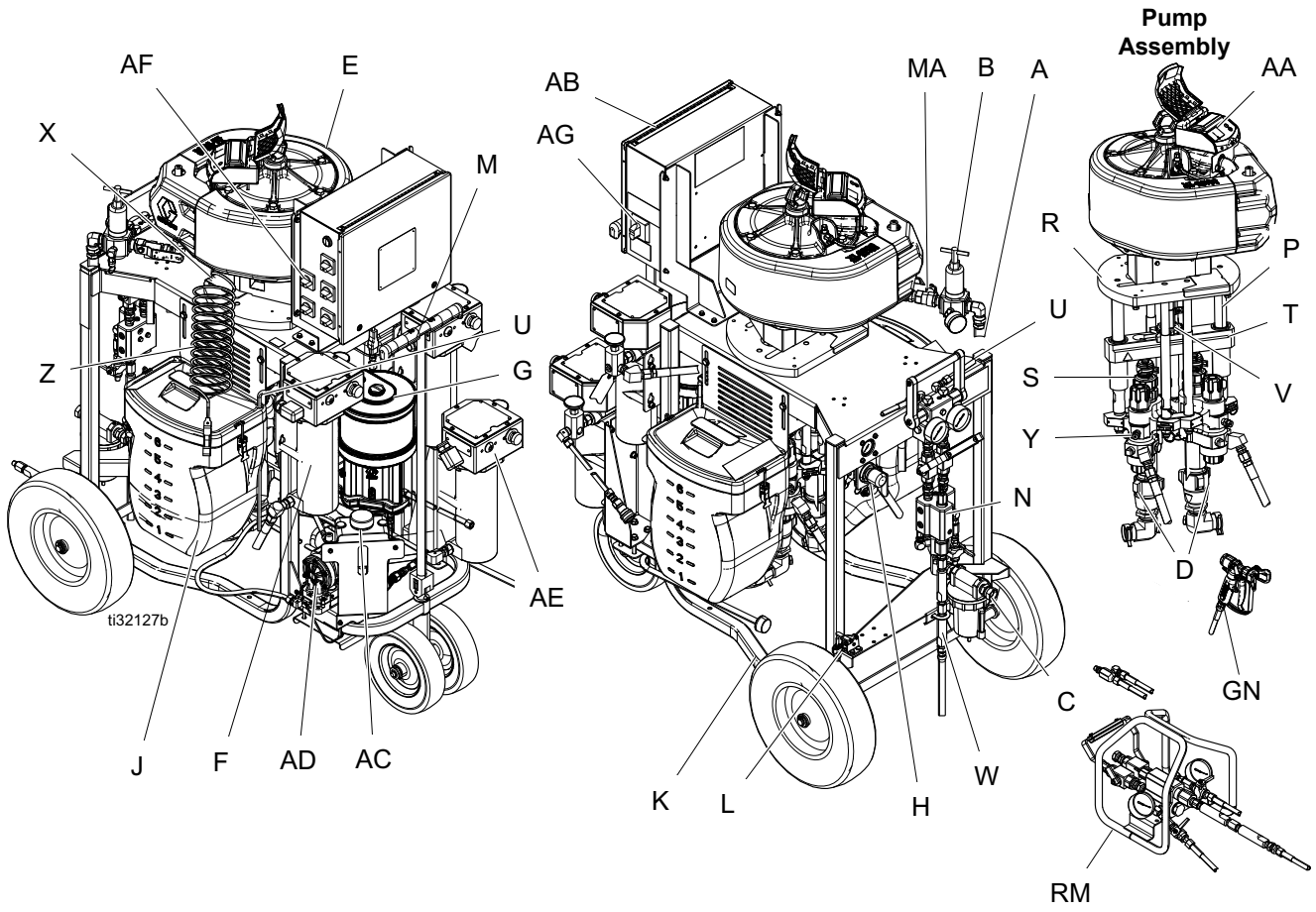


FIG. 1: XP70 Complete System (model 576107 shown)

Key:

A Air Supply Hose for Motor
B Main Air Controls; see page 18
C Air Inlet - 3/4 npsm(f)
D High Pressure Fluid Pump
E Air Motor
F Fluid Heater
G Solvent Flush Pump; see page 19
H Solvent Flush Pump Air Controls; see page 19
J 7 Gallon Hoppers
K Cart
L Brake
M Handle (lift to release)
N Fluid Control Assembly; see page 18
P Tie Rods
R Motor Adapter Plate
S Adjustable Packing Nuts with Wet Cups
T Yoke With Rod Bearings
U Recirculation Lines
V Yoke Position Nut
W Static Mixer Tubes with Replacement Plastic Elements
X Motor Position Indicator Lines; see **Motor Position** on page 25
Y Over Pressure Rupture Disc;
Z Air Motor Ground Wire
AA PressureTrak
AB Junction Box
AC Circulation Pump Reservoir
AD Circulation Pump
AE Viscon HP Hose Water Heater
AF Heater ON/OFF Switches
AG Power Disconnect Switch
MA Main Shutoff Valve
GN Gun
RM Remote Manifold

XP-h Proportioners

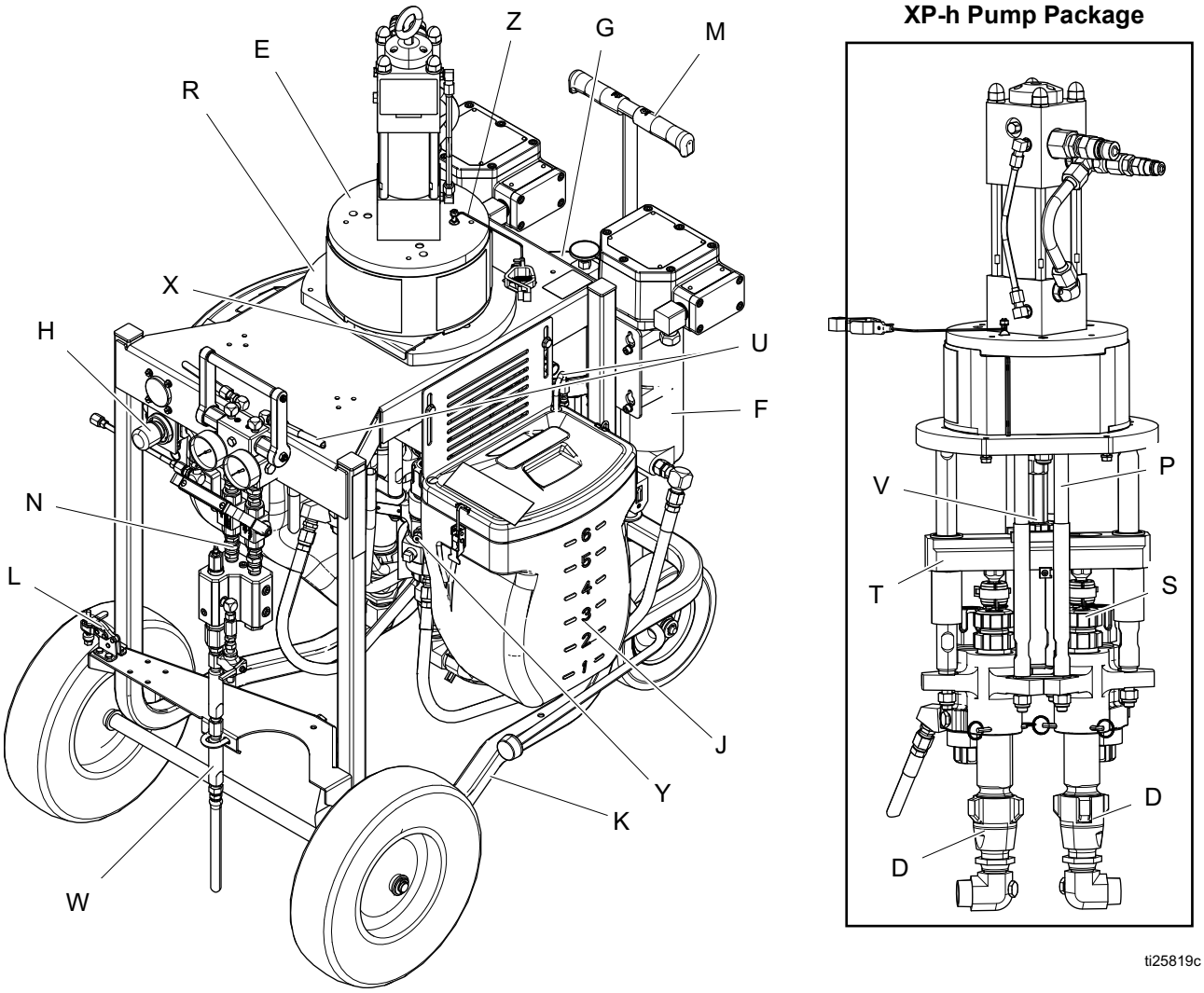


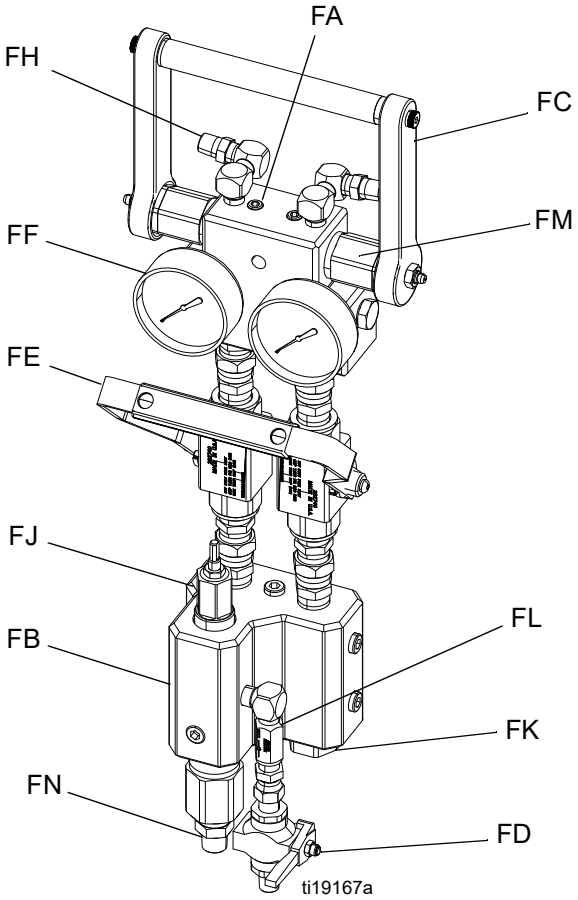
FIG. 2: XP70-h System with Optional Accessories

Key:

D High Pressure Fluid Pump
E Hydraulic Motor
F Fluid Heater (optional)
G Solvent Flush Pump (optional); see page 19
H Solvent Flush Pump Air Controls; see page 19
J 7 Gallon Hoppers (optional)
K Cart
L Brake
M Handle (lift to release)
N Fluid Control Assembly; see page 18
P Tie Rods
R Motor Adapter Plate
S Adjustable Packing Nuts with Wet Cups
T Yoke With Rod Bearings
U Recirculation Lines
V Yoke Position Nut
W Static Mixer Tubes with Replacement Plastic Elements
X Motor Position Indicator Lines; see **Motor Position** on page 25
Y Over Pressure Rupture Disc; only 38cc, 48cc, 54cc, 58cc, and 72cc pumps
Z Air Motor Ground Wire

Fluid Control Assembly

Standard Mix Manifold shown



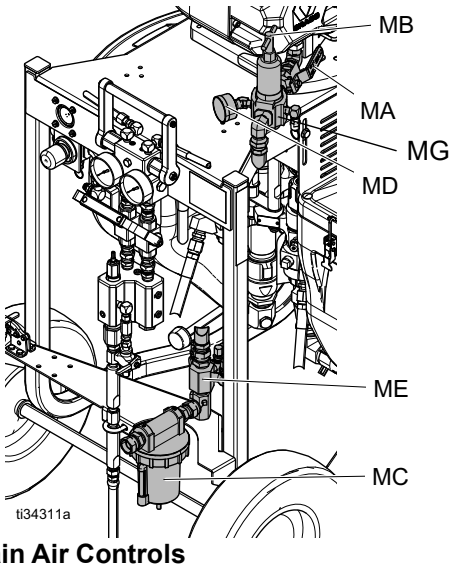
Key:

FA Fluid Manifold
FB Mix Manifold
FC Circulation Handle (shown closed)
FD Solvent Flush Valve
FE Dual Shutoff Handle (shown closed)
FF Fluid Pressure Gauges
FG Fluid Supply Inlet (Behind Fluid Manifold)
FH Fluid Circulation Fittings
FJ B Component Adjustable Fluid Restrictor; see page 36
FK A and B Mix Manifold Check Valves
FL Solvent Inlet Check Valve
FM Automatic, Spring Loaded, Color-Coded Over Pressure Relief Valves; with grease fittings; see page 52
FN A and B Combined Outlet; 3/8 npt(m)

FIG. 3: Fluid Control Assembly

Main Air Controls

For XP systems only.



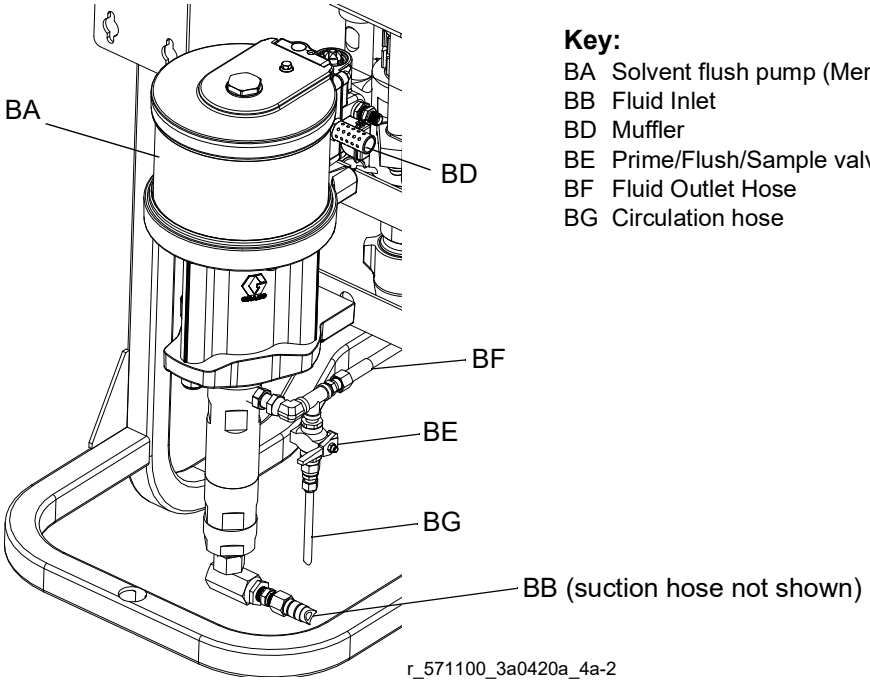
Key:

MA Main Motor Shutoff Valve (Relieving)
MB Main Motor Air Pressure Regulator
MC Air Filter with Auto Drain
MD Main Motor Air Pressure Gauge
ME Filtered Air Distribution Manifold
MG Air Pressure Relief Valve

FIG. 4: Main Air Controls

45:1 Solvent Flush Pump Kit 262393 (optional)

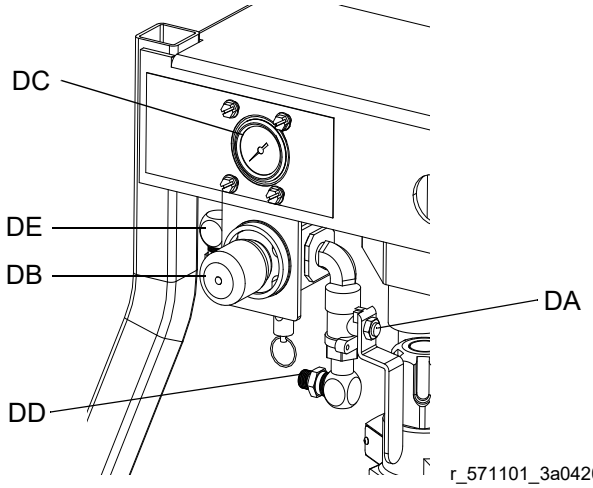
Pump



Key:
BA Solvent flush pump (Merkur Pump)
BB Fluid Inlet
BD Muffler
BE Prime/Flush/Sample valve
BF Fluid Outlet Hose
BG Circulation hose

FIG. 5: Solvent Flush Pump Kit Pump

Air Controls



Key:
DA Solvent Pump Air Shutoff Valve (Relieving)
DB Solvent Pump Air Pressure Regulator
DC Solvent Pump Air Pressure Gauge
DD Air Outlet
DE Air Inlet

FIG. 6: Solvent Flush Pump Kit Air Controls

System Components

* Indicates a customer-supplied component required to add to Bare Pump Packages (part numbers ending in zero “0”) to make a complete system.

*Bleed Type Motor Air Valve (MA)

Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts. Use the Bleed Type Master Air Valve to relieve trapped air.

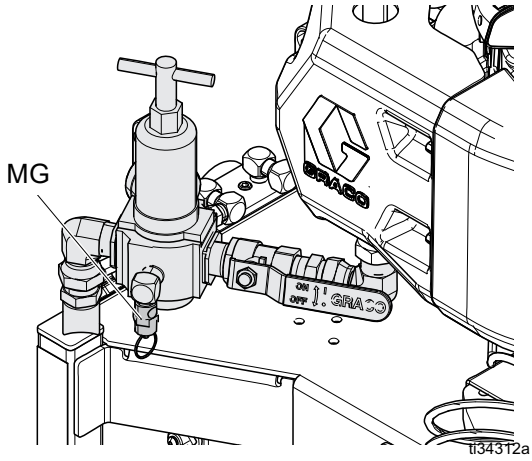
Be sure the valve is easily accessible from the pump and located downstream from the air regulator (MB).

The two steps below are required in your system to relieve air trapped between the air motor when the valve is closed:

1. Open the valve to supply air to the motor.
2. Close the valve to shut off air to the motor, and bleed any trapped air from the motor.

*Air Pressure Relief Valve (MG)

Automatically opens to relieve air pressure if supplied pressure exceeds preset limit. Use the correct air pressure relief valve for the system ratio:



See **Models** (page 10) for Maximum Regulated Air Pressure to ensure proper air pressure relief valve installed.

XP35		XP50		XP70	
Ratio	Valve	Ratio	Valve	Ratio	Valve
1:1	114055	1:1	113498	1:1	114055
2:1	16M190	1.5:1	103347	1.5:1	116643
2.5:1	113498	2:1	113498	2:1	114055
3:1	114055	2.5:1	114055	2.5:1	113498
4:1	103347	3:1	113498	3:1	113498
		3.3:1	103347	4:1	113498
		4:1	113498		

*Air Filter (MC)

Removes harmful dirt from compressed air supply. A minimum 40 micron filter is used.

*Air Regulator (MB)

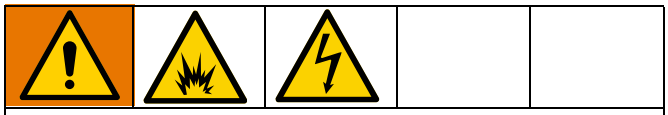
Adjusts air pressure to the motor and fluid outlet pressure of pump. Locate the air regulator close to the pump. Read air pressure on the gauge.

Fluid Line Components

- ***Fluid Manifold (FA):** Controls circulation and pump priming.
- ***Mix Manifold (FB):** Combines A and B fluid into one fluid line.
- ***Circulation Handle (FC):** Directs fluid flow for circulation or mixing. Move to open position to relieve fluid pressure, prime pumps, and circulate material in hoppers. Move to closed position to spray mixed material.
- ***Dual Shutoff Handle (FE):** Controls A and B fluid flow for mixing and dispensing. Close before flushing.
- ***Solvent Flush Valve (FD):** Controls solvent flow to the mix manifold, hose, and spray gun.
- ***Static mixer/gun hose kit:** Thoroughly mixes the two fluids and delivers the mixed fluid to the spray gun. Includes static mixer and hoses to the spray gun.
- **Fluid Heaters (F):** Heats the resin and hardener before mixing. Improves the chemical reaction and lowers viscosity to improve the spray pattern.
- **Solvent Flush Pump (ZD):** Flushes the mix manifold. Includes a solvent pump, mounting hardware, and solvent supply hose.

Setup

Location



Using an XP system, or components on the system, not approved for hazardous locations or explosive atmospheres may result in a fire or explosion hazard.

The XP systems are not approved for use in hazardous locations unless the base model, all accessories, all kits, and all wiring meet local, state, and national codes.

See **Systems with Explosion-Proof Heaters** on page 25.

1. Locate the proportioner on a level surface.
2. Position the proportioner for convenient operator access and maintenance, proper routing of air and fluid lines, and easy connection of components and accessories.
3. For permanent mounting, remove wheels and mount the frame to the floor. See **Dimensions**, page 85.
4. Make sure cart brake (L) is in the locked position.

Initial System Setup

1. Check the shipment for accuracy. Ensure you have received everything you ordered. See **Component Identification**, page 16.
2. Check for loose fittings and fasteners.
3. If any accessories are added, refer to **Related Manuals**, page 3.
4. Install desiccant kits if using polyurethane isocyanates in hoppers. See your desiccant kits manual for instructions.
5. Install circulation and return tube kits if you are feeding material from drums or remote hoppers. See your circulation and return tube kits manual if you are feeding urethane material.
6. Connect the feed pumps, fluid strainers, and air hoses as necessary. For systems without hoppers, see your feed pump and agitator kits manual.
7. Connect the fluid hose assembly, including the static mixers, whip hose and gun. See **Connect Static Mixers, Gun, and Hoses**, page 27.
8. Connect the battery in the PressureTrak module. See your XP Pressure Monitor manual.
9. **XP Units:** Connect the air supply hose. See **Connect Air Supply**, page 27.

   XP-h Units: Connect the hydraulic lines. See your GH power pack manual for instructions.

   Flush test oil from system as needed. See **Pressure Relief Procedure**, page 30. See **Empty and Flush Entire System (new system or end of job)**, page 39.

Flush Before Using Equipment

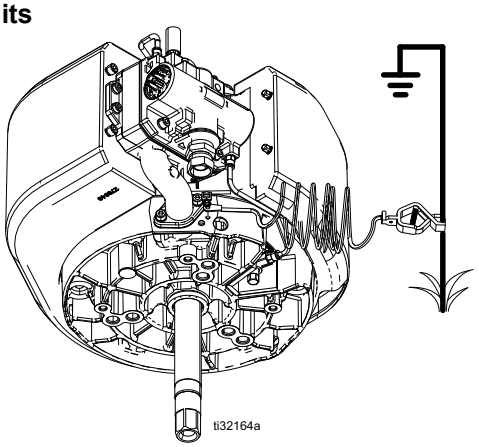
The bare pump package was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Empty and Flush Entire System (new system or end of job)**, page 39.

Grounding

The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.

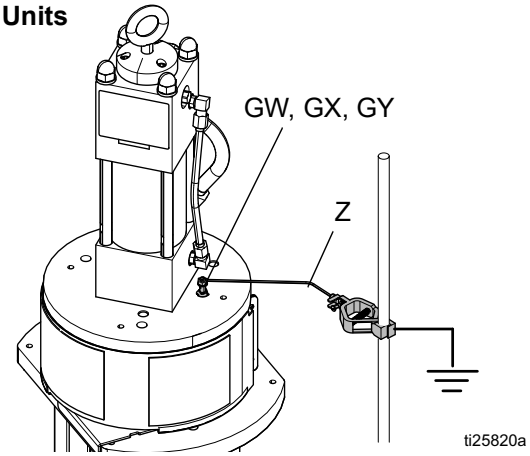
Pump: Use the ground wire and clamp (supplied).

XP Units



Connect ground clamp to a true earth ground.

XP-h Units

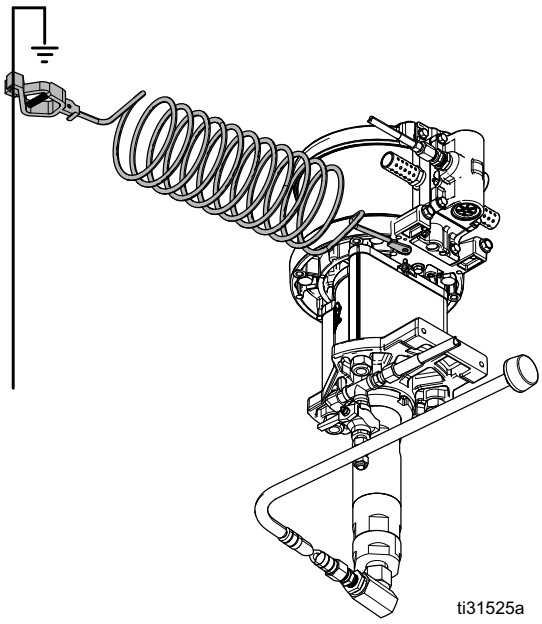


Loosen grounding lug locknut (GW) and washer (GX). Insert ground wire end (Z) into lug (GY) slot and tighten locknut securely. Connect ground clamp to a true earth ground.

Object being sprayed: Ground the object being sprayed, fluid supply container, and all other equipment in the work area. Follow your local code. Use only electrically conductive air and fluid hoses.

Solvent pails: Use only metal pails, which are conductive, placed on a grounded surface. Do not place pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

Solvent Pump: use ground wire and clamp (supplied with solvent pump).



Air and fluid hoses: use only static dissipation type hoses with a maximum of 300 ft (91 m) combined hose length to ensure grounding continuity. Check electrical resistance of hoses regularly. If total resistance to ground exceeds 29 megohms, replace hose immediately.

Air compressor: follow manufacturer's recommendations.

Spray gun: ground through connection to a properly grounded fluid hose and pump.

System: connect the supply ground wire in the electrical compartment as shown in **Connect Power** on page 24.

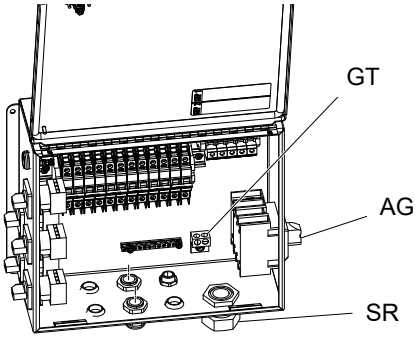
Connect Power

All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

NOTE: Systems with a junction box have heaters pre-wired. Systems without a junction box need to power heaters individually (refer to your Viscon HP heater manual). If applicable, see **Systems with Explosion-Proof Heaters** on page 25.

1. Turn the main power disconnect switch (AG) OFF.
2. Open the electrical enclosure door.
3. Route the power cord through the strain relief into the electrical enclosure.
4. Connect the ground wire to ground terminal (GT).
5. Connect the power cord as shown (see FIG. 7). Gently pull on all connections to verify that they are properly secured.
6. Tighten strain relief (SR).
7. Install the supplied terminal jumpers in the positions shown in the image below for the power source used.

NOTE: Terminal jumpers are located inside the electrical enclosure door.



8. Verify that all items are connected properly as shown below, then close the electrical enclosure door.

NOTE: See the Junction Box XP Installation and Parts manual for detailed instructions.

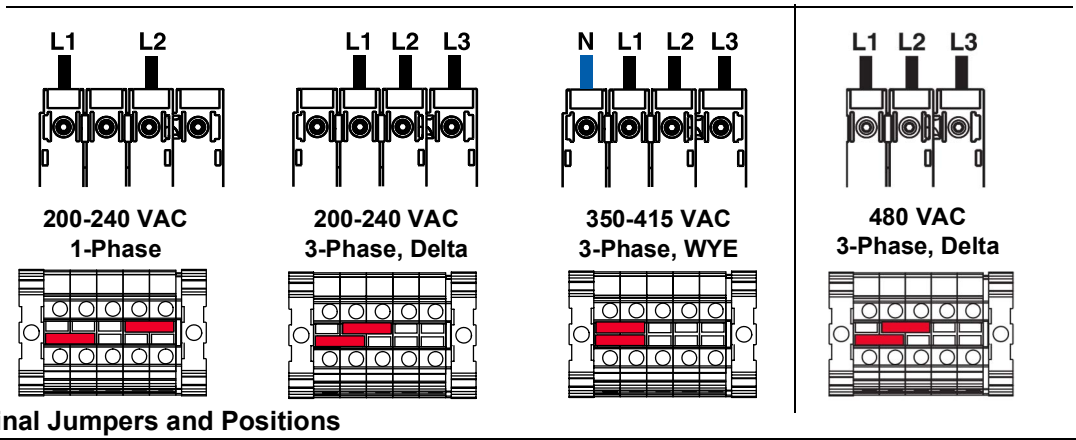


FIG. 7: Terminal Jumpers and Positions

Power Requirements				
XP Configuration	**For use with 240 V Heaters and/or Junction Box 273096**			**For use with 480V Heaters and Junction Box 273101**
	200-240 VAC 1-Phase	**200-240 VAC 3-Phase, Delta**	**350-415 VAC 3 Phase◆, WYE**	**480 VAC 3 Phase, Delta**
	Maximum Amperage			
A & B Heaters	34	30	18	15
A & B Heaters and Heated Hose	51	45	34	22

◆ **NOTE:** 350-415 VAC are not designed to operate from 480 VAC power source.

Systems with Explosion-Proof Heaters

(Hazardous location systems only)

Improperly installed or connected equipment will create a hazardous condition and cause fire, explosion, or electric shock. Follow local regulations.

If your system is rated for hazardous locations, and you have explosion-proof heaters, you must have a qualified electrician connect the heater wiring. Make sure the wiring and installation comply with local electrical codes for hazardous locations.

When explosion-proof heaters are used, ensure the wiring, wiring connections, switches, and electrical distribution panel all meet flame-proof (explosion-proof) requirements.

Refer to the Viscon HP heater manual for electrical connection instructions and guidelines in hazardous locations.

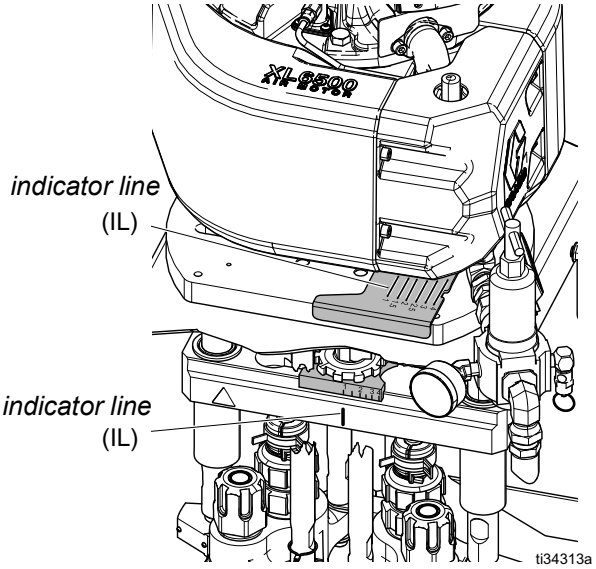
Motor Position

The motor position must be set for the volume mix ratio of the system.

NOTE: Changing the motor position does not change the mix ratio.

Check Motor Position

1. Verify that the correct pumps are mounted for your mix ratio by volume. See **Volume Mix Ratio** charts on pages 11-12.



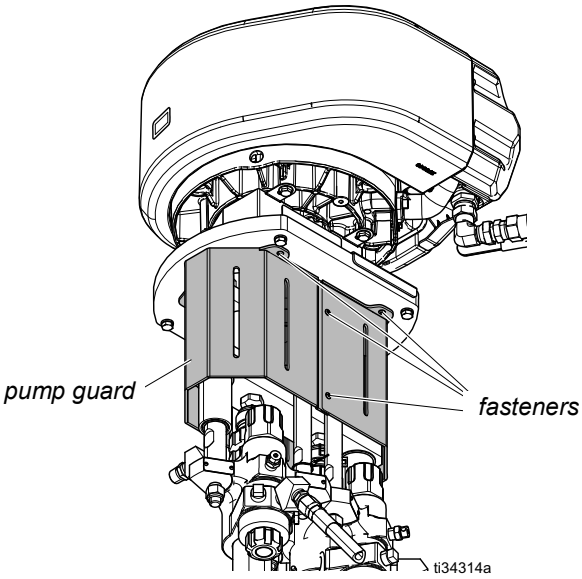
Air Motor shown

2. Verify that the motor position is adjusted correctly for that mix ratio (refer to the image above). If not, follow the **Change Motor Position** procedure on page 26.

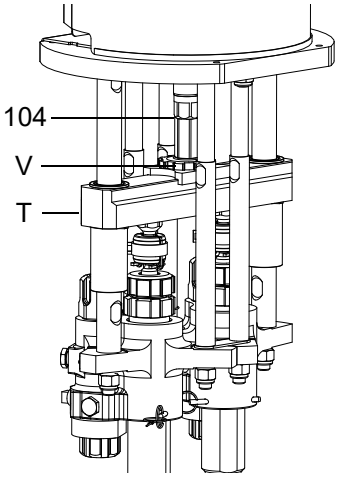
Change Motor Position

There are specific motor positions for each mix ratio setting. To adjust the position of the air motor:

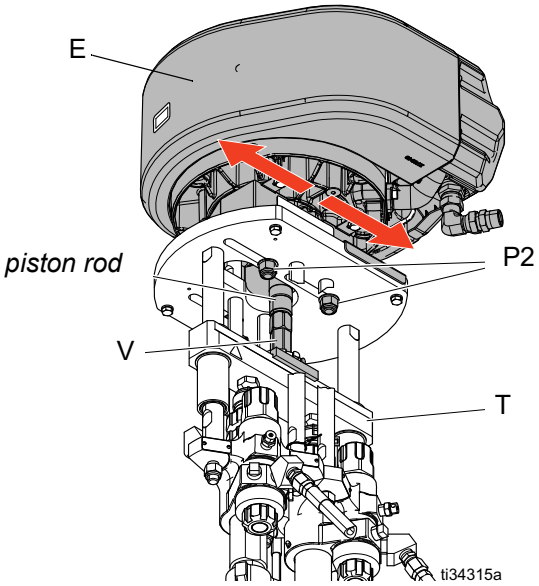
1. Perform **Check Motor Position** procedure. If position is incorrect, continue to next step.
2. Loosen the eight fasteners and remove the two pump guards.



3. Place wrench on adapter rod (104) then use supplied tool to loosen the serrated yoke nut (V) above the yoke (T).



4. Loosen the three nuts (P2) below the motor tie rods.



5. Grab the piston rod and slide the position of the motor (E) until the indicator lines are aligned with your ratio.

NOTICE

Do not hit tie rods (P) with a steel hammer. Damage to the air motor base may result.

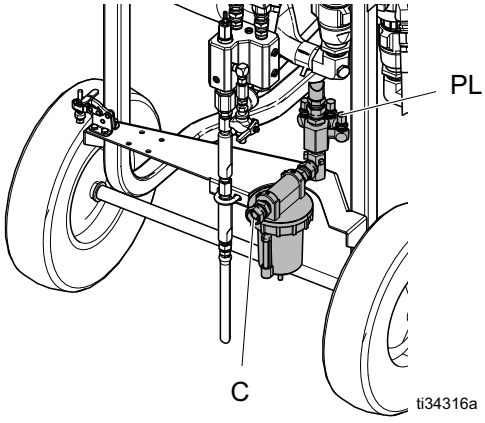
6. Tighten the three nuts (P2) and yoke nut (V).
7. Use supplied tool to tighten the yoke nut, then install the pump guards.

Connect Air Supply

For XP systems only.

1. Connect the air supply hose to the 3/4 npt(f) air filter inlet (C).

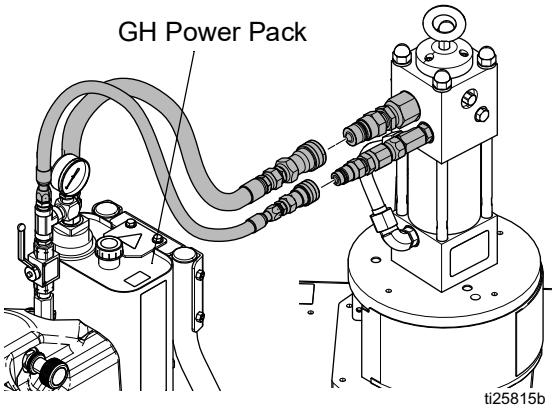
   Use a 3/4 in. (19.1 mm) ID minimum air hose. Air consumption is 75 cfm per gallon per minute spraying. Do not use cam-lock type quick disconnects.



2. Remove plugs (PL) as necessary for solvent pump and feed supply pump air hoses. See pump manuals for setup instructions.

Connect Hydraulic Supply/Return Lines

For XP-h systems only.



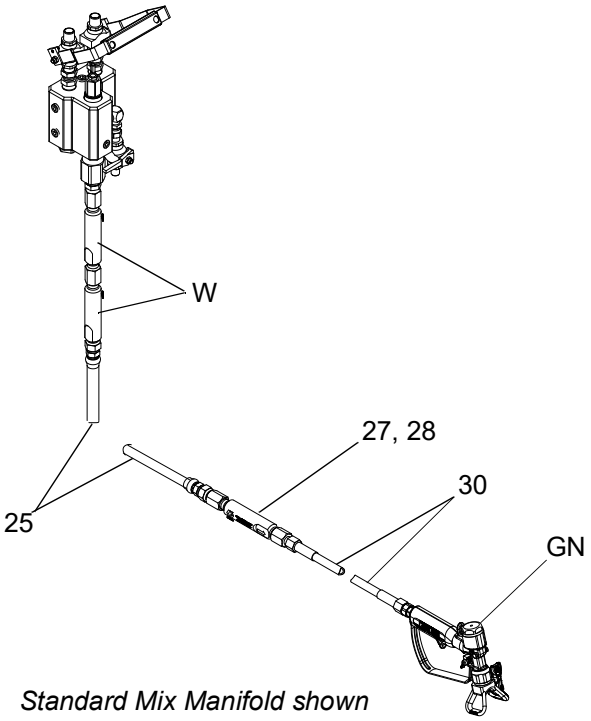
Refer to your GH Power Pack instruction and parts manual for more information on the GH Power Pack.

Connect Static Mixers, Gun, and Hoses

NOTICE

To prevent creating a flare on the mixer tube, do not use a union swivel end on the mix tube inlet.

1. Connect the outlet of the two primary static mixer tubes with mixer elements (W) to the fluid mix hose (25), cleanup mixer (27, 28), whip hose (30), and spray gun (GN).
2. Add mixed material hose as necessary between the mix hose (25) and cleanup mixer (27, 28).



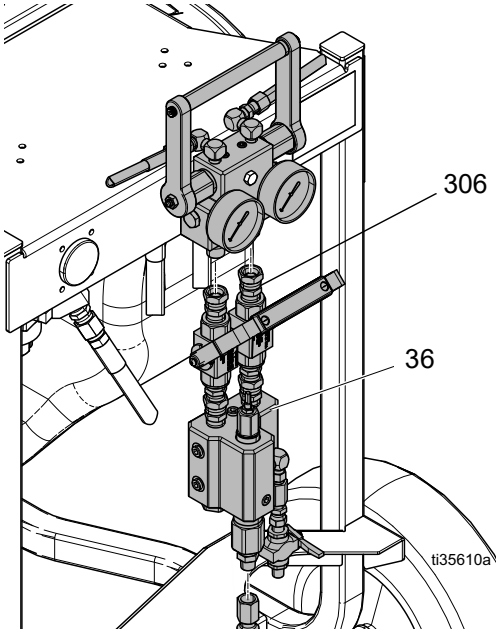
Standard Mix Manifold shown

Connect Jacketed Heated Hose (Remote Mix Manifold Only)

NOTE: For all steps below refer to the illustration on the next page.

Refer to your mix manifold manual for details when the mix manifold (36) is remotely mounted.

1. Loosen the fittings (306) to remove the mix manifold assembly (36). Install couplers (supplied with heated hose) on fittings of circulation manifold (35).



2. Connect “A” and “B” material hoses to the fluid circulation manifold (35) using necessary adapter fittings (supplied with heated hose).

3. Connect the female quick-disconnect “Y” fitting assembly (107) to the blue tubing quick-disconnect from below the overflow bottles.

4. Connect the male quick-disconnect “Y” fitting assembly (108) to the red tubing quick-disconnect from the heater outlet.

5. Connect the glycol circulation tubing to the “Y” fitting assemblies. Connect to the “Y” fitting assembly.

NOTE: The tubes and fittings are color coded. Make sure all colors match when connecting the fittings.

6. Connect the mix manifold (36) to the remote manifold carriage (109) and two screws (609).

7. Connect the “A” and “B” hoses to the mix manifold (35) using necessary adapter fittings (supplied with heated hose).

8. Connect the extension glycol tubing from the hose bundle to the heater block (HB). Cut the tubing squarely behind only one of the u-fittings. Connect the two union fittings (610) to the hose tubing (one red, one blue). Cut the red tubing (611) piece and blue tubing (612) piece to length to fit between the hose bundle and heater block, then tighten the fittings.

9. Fill the circulation pump reservoir (306) with heating fluid (50/50 mix of water/ethylene glycol). Each 50 ft heated hose section holds approximately 1.25 gallons (4.7 liters) of fluid.

Connecting Additional Hose Lengths

NOTE: For all steps below refer to the illustration on the next page.

Up to six 50 ft (15.2 m) sections of heated hose can be attached for a maximum total length of 300 ft (91.4 m).

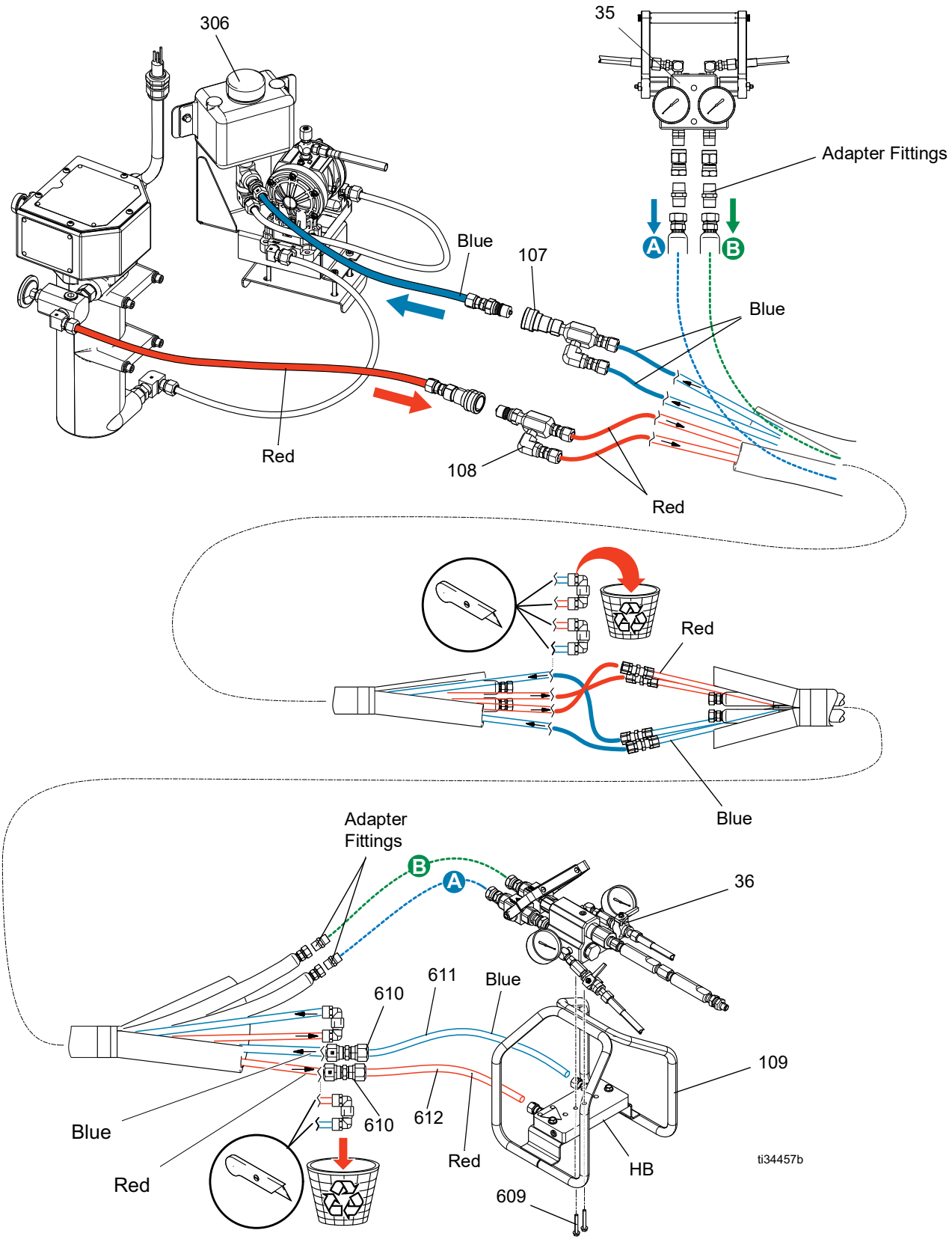
1. Connect “A” and “B” material hoses using necessary adapter fittings (supplied with heated hoses).
2. Remove the elbow fittings at the end of the heated hose assembly.
3. Connect the next length of hose, using union fittings supplied with the hose.

NOTE: The tubes are color coded. Make sure all colors match when connecting the fittings.

NOTICE

To prevent cross-contamination, ensure you connect the “A” side fluid hose to the “A” side fluid hose on the additional heated hose.

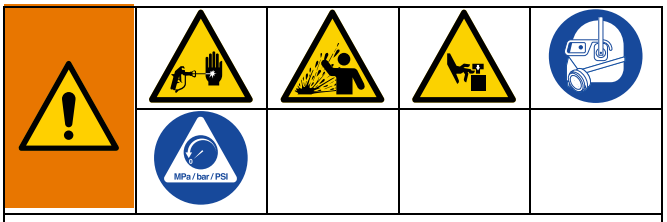
Connecting Hoses



Operation

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

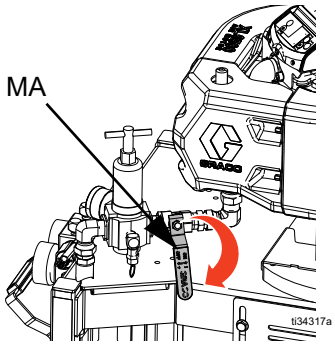


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Engage the gun trigger lock.

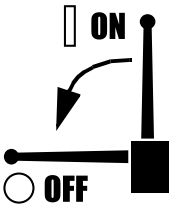
TI1949a

2. **XP Systems:**
   Close the main air shutoff valve (MA).



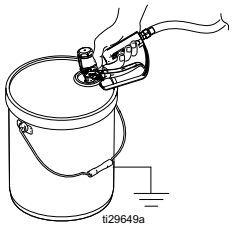
ti34317a

XP-h Systems:
Set pump valve off.



ti7108a

3. Shut off heaters, if used.
4. Shut off feed pumps, if used.
5. Remove the spray tip.
6. Disengage the trigger lock.
7. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.



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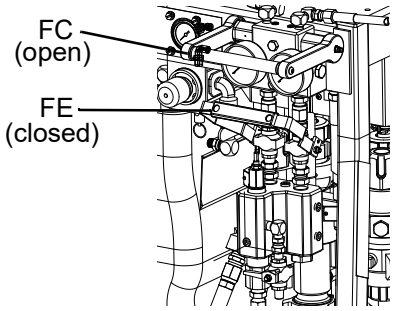
8. Engage the gun trigger lock.
9. Close the dual shutoff handle (FE) and open the circulation handle (FC) to relieve A and B fluid pressure.

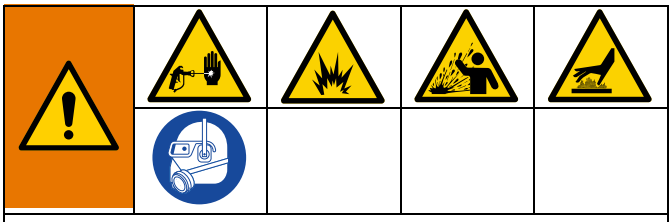


r_571101_3A0420A_9a-2

10. Always flush the mix hose after relieving A and B fluid pressure through the mix manifold. Follow **Flush Mixed Material**, page 37 when you stop spraying or dispensing; and before cleaning, checking, servicing, or transporting equipment.
11. 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.
12. If static mixer, whip hose, and gun cannot be flushed because of mixed and cured material, very slowly loosen static mixer tube from mix manifold outlet to relieve pressure gradually, then loosen completely. Replace or clean clogged components.

Prime Empty System

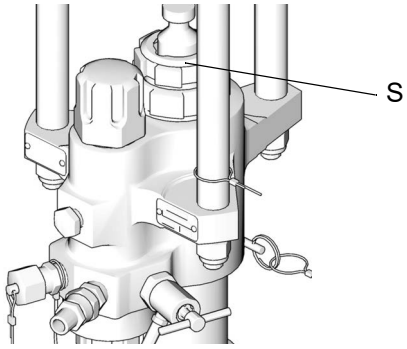
Prime A and B Fluids



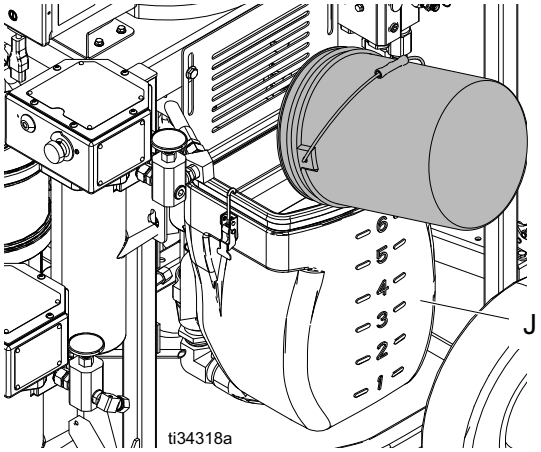
To help prevent injury, wear gloves when using solvents and/or if the fluid temperature exceeds 110 °F (48 °C). To avoid splashing, use the lowest pressure possible to prime.

The equipment is tested with light weight oil at the factory. If necessary, flush out the oil with a compatible solvent before spraying. See **Empty and Flush Entire System (new system or end of job)**, page 39.

1. Before starting, check packing nut (S). Fill with Throat Seal Liquid (TSL). Torque to 25-30 ft-lb (34-41 N•m).

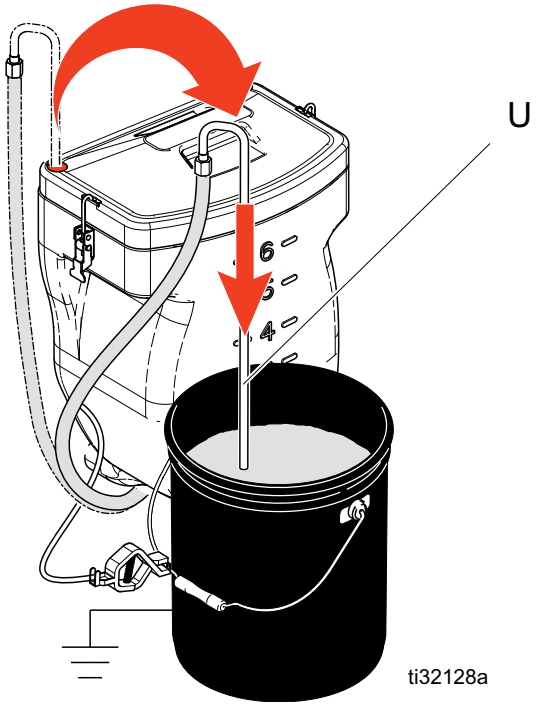


2. Prepare the materials prior to adding to the hoppers (J). Ensure that the resin materials are thoroughly mixed, homogeneous, and pour-able prior to adding to the hopper. Stir the hardeners back into suspension prior to adding material to hopper.

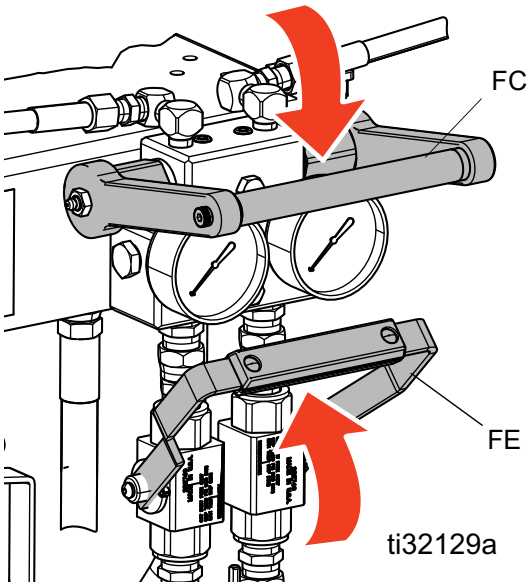


3. Fill the A and B hoppers with proper materials. Fill the A side (blue) with major volume of material; fill the B side (green) with minor volume of material (unless 1:1 mix ratio).

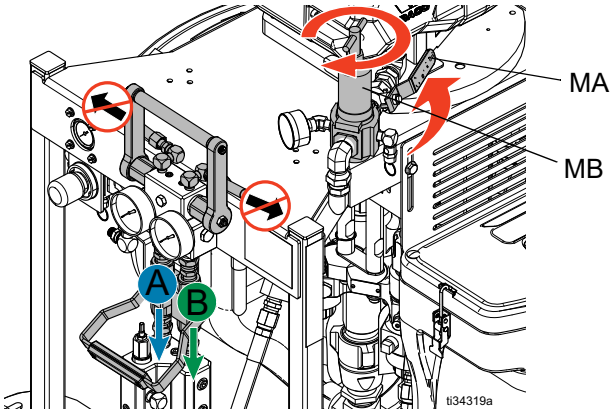
4. Move the recirculation lines (U) to empty containers.



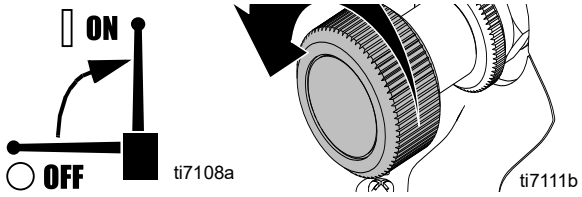
5. Close the dual shutoff handle (FE) and open the circulation handle (FC).



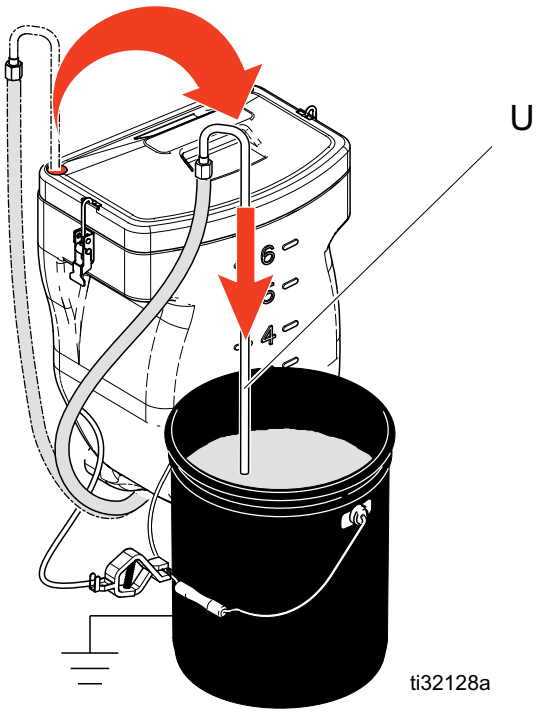
6. **XP Systems only:** Open the main air shutoff valve (MA). Then slowly increase the air regulator pressure (MB).



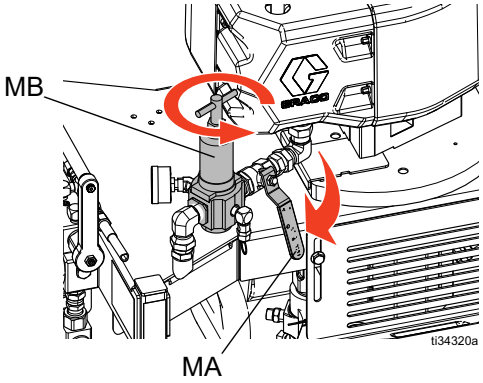
XP-h Systems only: Set pump valve on. Then turn down the pressure control knob.



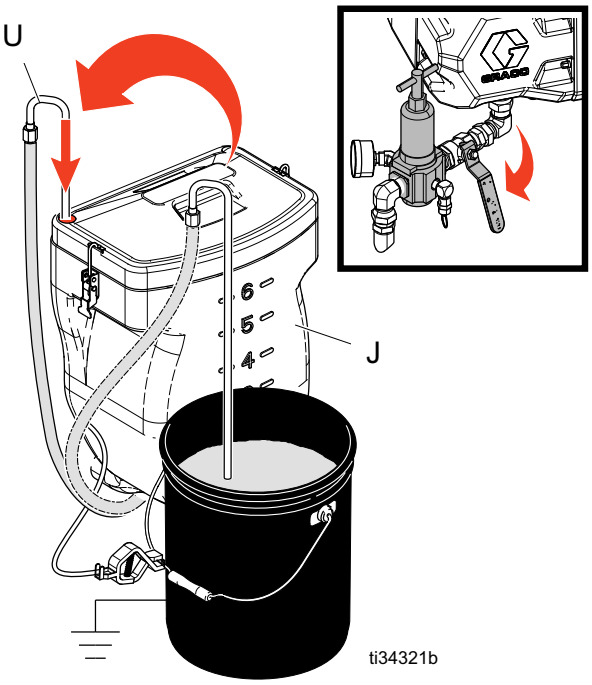
7. Dispense fluid into the containers until clean fluid comes out of the A and B recirculation lines.



8. Decrease the air regulator pressure (MB). Close the main air shutoff valve (MA).



9. Move the recirculation lines (U) back to the correct hopper (J).

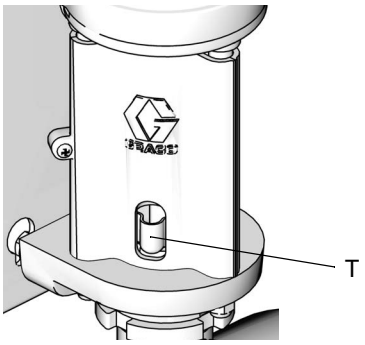


10. If using heaters, heat fluid throughout system before spraying. See **Recirculate Prior to Spraying or Re-Prime After a Pump Runs Dry**, page 34.

Prime Solvent Flush Pump

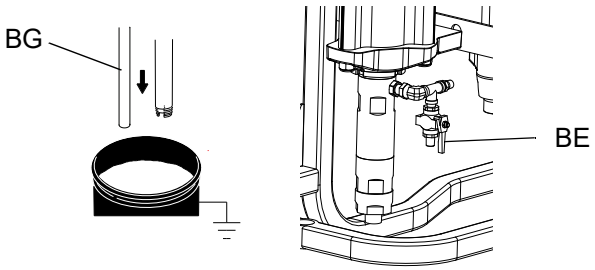
Follow instructions if the solvent flush pump is used.

1. Before starting, fill the wet cup (T) 1/3 full with Graco throat Seal Liquid (TSL) or compatible solvent.



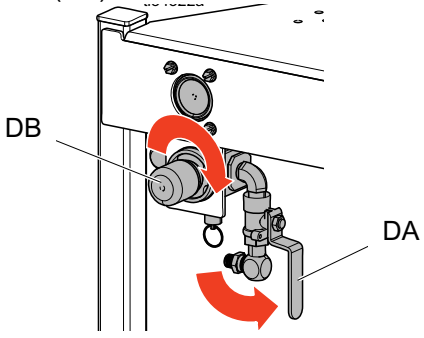
2. Connect a ground wire (not included) to a metal pail of solvent.

3. Place the siphon tube and the solvent circulation hose (BG) in the pail of solvent.

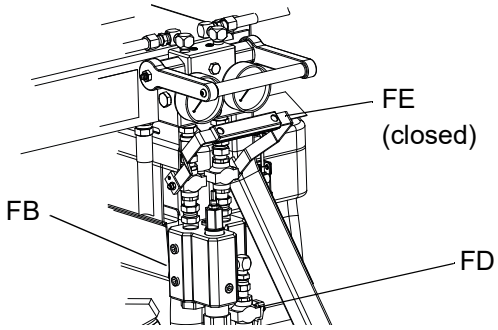


4. Open the solvent prime valve (BE) on the solvent pump (BA) outlet.

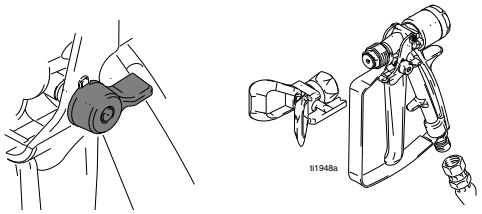
5. Open the solvent pump air valve (DA). Slowly turn the solvent pump air regulator (DB) clockwise to prime the solvent pump and route solvent back to the pail. Close the solvent pump fluid valve (BE) and air valve (DA).



6. Open the solvent flush valve (FD) on the mix manifold.



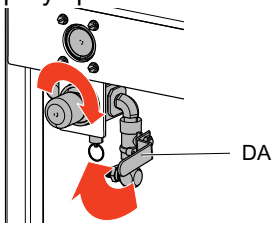
7. Ensure the trigger lock is engaged. Remove the spray tip.



8. Disengage the trigger lock and trigger the gun into a grounded metal pail while holding against a pail. Use a pail lid with a hole to dispense through. Seal around the hole and gun with a rag to prevent splash back. Be careful to keep fingers away from the front of the gun.

9. Open the solvent pump air valve (DA). Slowly turn the solvent pump air regulator (DB) clockwise to prime the solvent pump and push air out of the mix hose and gun. Trigger the gun until all air is purged.

10. Close the solvent pump air valve (DA) and trigger the gun to relieve pressure. Engage the trigger lock. Replace the spray tip.



11. Close the solvent flush valve (AD).

NOTE: Solvent pump air and pressure may be left on while spraying.

NOTICE
To prevent material from curing inside the system, never spray mixed material without the solvent pump and solvent hose primed with solvent.

Recirculate Prior to Spraying or Re-Prime After a Pump Runs Dry

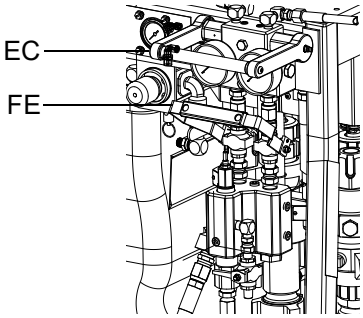
NOTE: Agitate, recirculate, and heat the material only as necessary to avoid mixing air into the fluid.

Use the recirculation mode when heating the material is required. Note the temperature at the top of the heater (outgoing or back to the hopper). When the thermometer reaches operating temperature, the material is ready to spray.

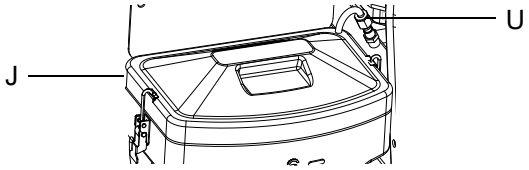
If using a system that does not require heat, recirculation is still required prior to spraying. Recirculation ensures that any settled fillers are mixed in, the pump lines are fully primed, and the pump check valves are operating smoothly.

Recirculation also allows you to re-prime one side that has run dry.

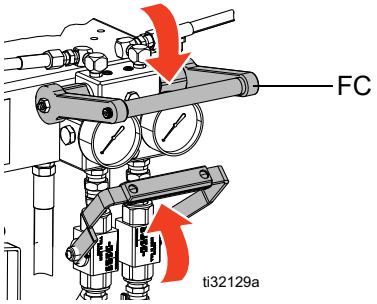
1. Follow **Prime Empty System**, page 31.
2. Close the dual shutoff handle (FE).



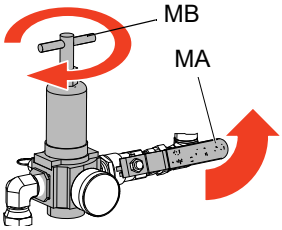
3. Ensure the recirculation hoses (U) are in the correct hoppers (J).



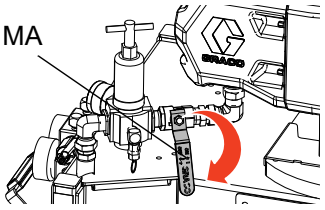
4. Open the circulation valve handle (FC).



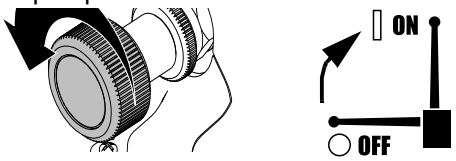
5. **For XP Systems**:
   a. Turn down air pressure regulator (MB) and then open the main air shutoff valve (MA). Use the air pressure regulator to slowly increase air pressure to pumps until they start running slowly.



   b. Run the pumps for a few minutes or until the material has reached the desired temperature. See **Heat Fluid**, page 34.
   c. Close the motor air shutoff valve (MA).



6. ***For XP-h Systems***:
   a. Turn down the pressure control knob and set the pump valve on.



   b. Slowly increase the pressure until the pumps start running slowly.
   c. Run the pumps for a few minutes or until the material has reached the desired temperature. See **Heat Fluid**, page 34.
   d. Set the pump valve off.

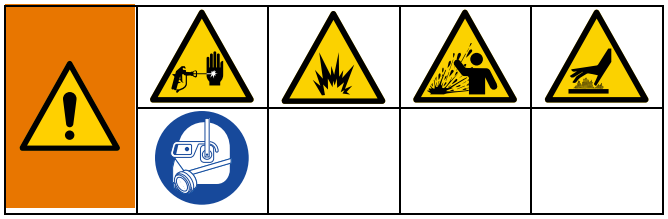
Heat Fluid

To heat fluid evenly throughout the system:

1. Circulate the fluid at approximately 1/2 gpm (10-20 cycles/min.) to raise the temperature of the hoppers to 80-90 °F (27-32 °C).
2. Decrease the circulation rate to approximately 0.25 gpm (5 cycles/min.) to increase the heater outlet temperature to match the spray temperature.

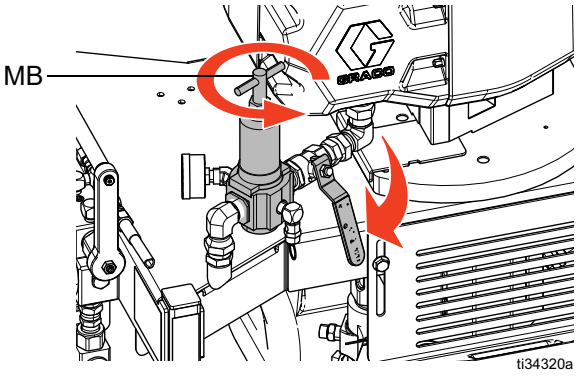
NOTE: Circulating the fluid too quickly without decreasing the circulation rate will increase only the hopper temperature. Similarly, circulating fluid too slowly will increase only the heater outlet temperature.

Spray

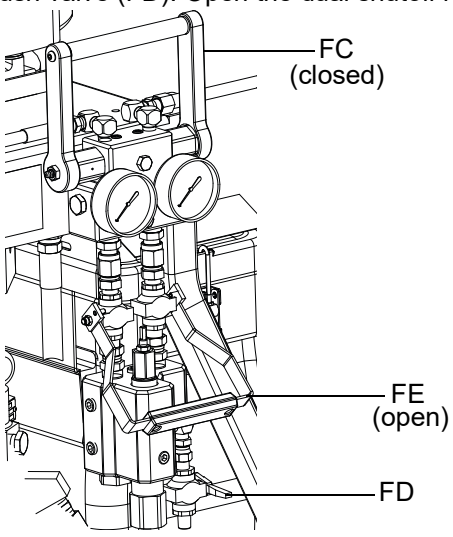


NOTE: After the first day of spraying, re-tighten all hose connection fittings and tighten the throat packing nuts on both pumps.

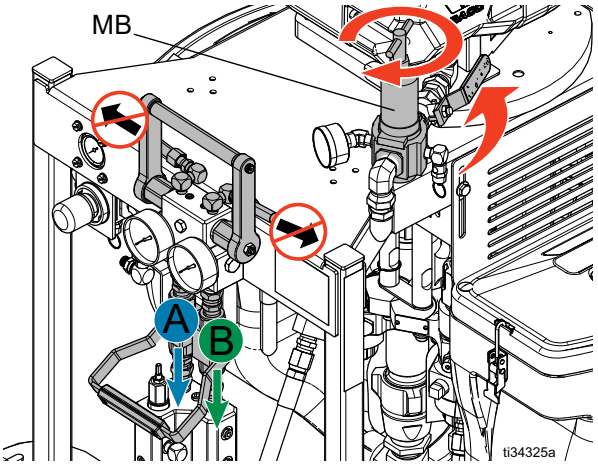
1. If heaters are used, turn them on. To adjust the heater temperature, refer to the Viscon HP manual for instructions, and the **Heat Fluid** section, page 34. Circulate as necessary.
2. Close the motor air pressure regulator (MB) and decrease to zero.



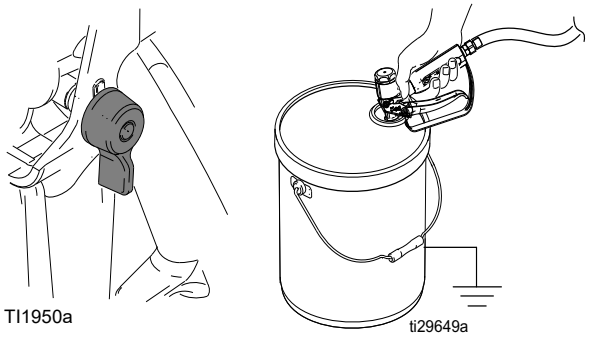
3. Close the circulation handle (FC) and the solvent flush valve (FD). Open the dual shutoff handle (FE).



4. Adjust the main air regulator (MB) to 30 psi (0.21 MPa, 2.1 bar) minimum.

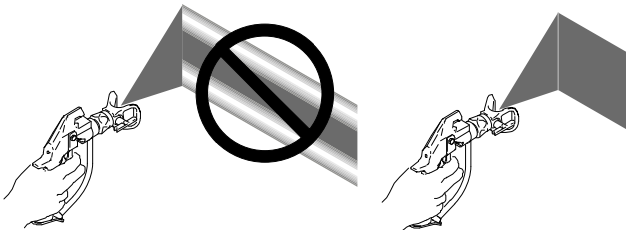


5. Engage the trigger lock and the remove tip. Disengage the trigger lock and trigger the gun while holding against a grounded metal pail. Use a metal pail lid with a hole to dispense through to avoid splashing. Dispense out of the mix hose until a well mixed coating flows from the gun.



6. Engage the trigger lock. Install the tip on the gun.
7. Adjust the main pump air regulator (MB) to the necessary spraying pressure and apply a coating to a test panel.

NOTE: Run **System Verification** tests everyday (see page 43).



NOTE: Excess pressure increases overspray and pump wear.

8. Check and record gauge readings frequently during operation. A change in gauge readings indicates a change in system performance.

NOTE:

- A pressure drop occurs during pump stroke changeover. It should be quick and synchronous.
- Flush the mix manifold as necessary during the day's operation.

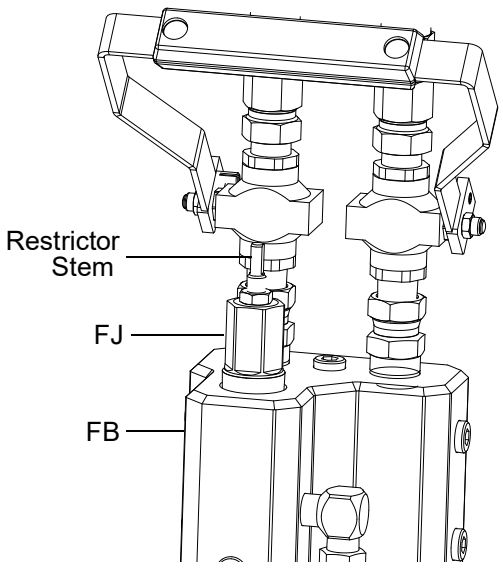
9. Follow **Flush Mixed Material**, page 37 when you are finished spraying or before potlife expires.

NOTE: Mixed material potlife or working time decreases with increased temperature. Pot life in the hose is much shorter than the dry time of the coating.

B Component Adjustable Fluid Restrictor

The B side restrictor (FJ) reduces momentary "lead/lag" ratio imbalance of the A and B flow into the static mixer tubes when the gun opens. The error is caused by differences in viscosity, volume, and hose expansion.

The restrictor is used primarily when the mix manifold is positioned remotely from the machine with a short mix hose to the spray gun. It can also be used in the ratio check procedure.



If the mix manifold (FB) is mounted on the machine, you do not need to adjust the restrictor. Leave the restrictor stem open two turns minimum from fully closed.

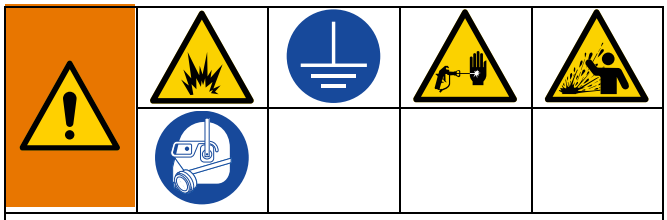
To Adjust the Restrictor:

Adjust the restrictor stem clockwise while spraying until you see a slight rise in the B side pressure gauge. The point where the pressure starts to rise is a good adjustment setting.

Unless you are dispensing directly out of the mix manifold and mixer, this is an approximate adjustment.

See your mix manifold manual for more information.

Flush Mixed Material



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

- Flush equipment only in a well-ventilated area
- Ensure main power is off and heater is cool before flushing
- Do not turn on heater until fluid lines are clear of solvent

Flush the mix manifold when any of the following situations occur.

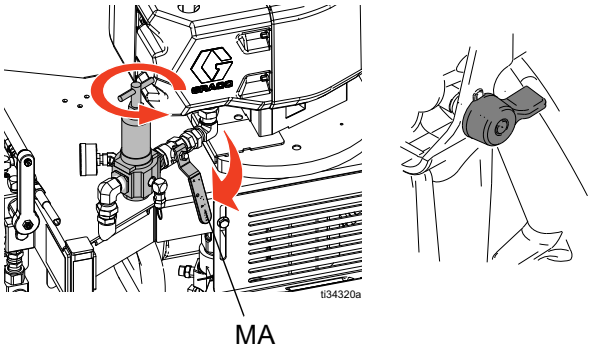
- breaks in spraying
- overnight shutdown
- mixed material in system approaching end of potlife

Flush Mix Manifold, Hose, and Spray Gun

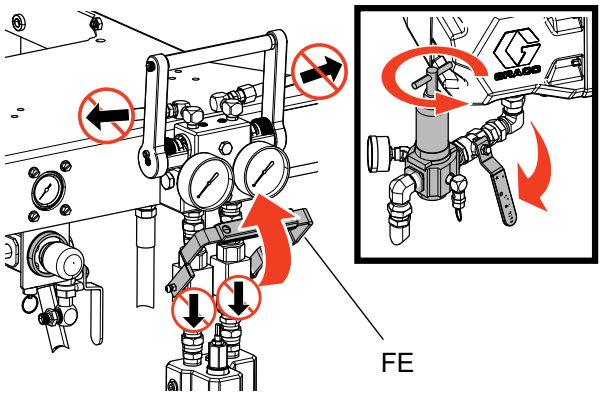
If your system doesn't include a solvent flush pump, follow **Empty and Flush Entire System**, page 39.

1. Turn off heaters. Allow heater and heated hoses to cool.
2. Follow the **Pressure Relief Procedure** on page 30.
3. Close the motor air shutoff valve (MA) to turn off the pump air motor and reduce air pressure. Engage

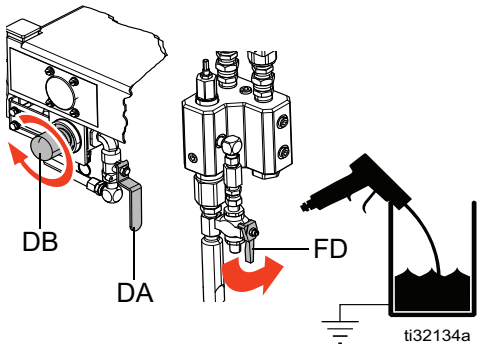
trigger lock. Remove the spray tip and soak in solvent.



4. Lift to close the dual shutoff handle (FE).

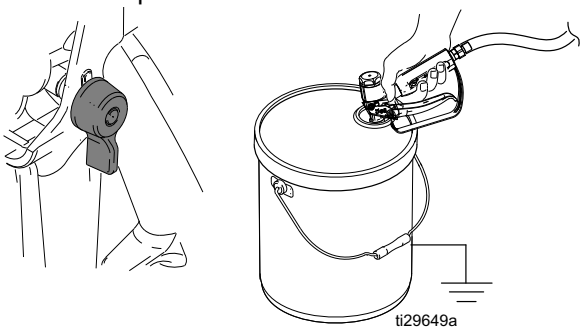


5. Open the solvent pump air valve (DA). Slowly turn the solvent pump air regulator (DB) clockwise to increase air pressure.

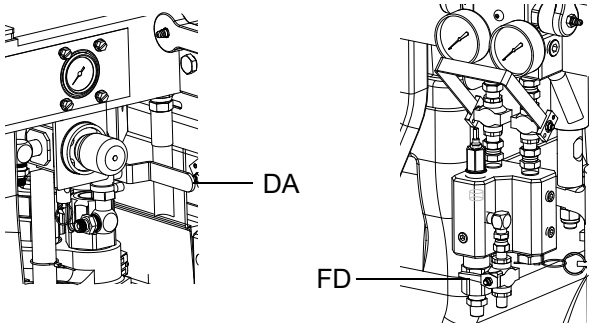


6. Open the solvent flush valve (FD)

7. Disengage the trigger lock, hold the gun against a grounded metal pail, and trigger the gun into the pail. Use a pail lid with a hole to dispense through. Seal around the hole and gun with a rag to prevent splash back. Be careful to keep fingers away from the front of the gun. Continue flushing until clean solvent dispenses.

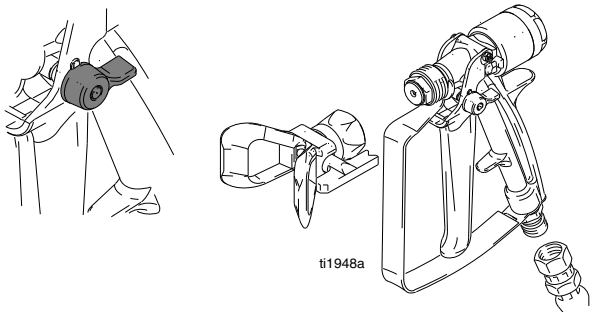


8. Close the solvent pump air valve (DA). Trigger the gun to relieve pressure. Close the solvent flush valve (FD) after relieving the pressure.

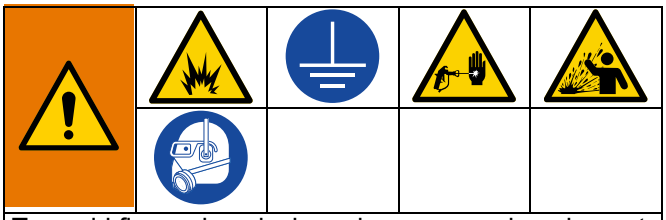


9. Follow **Pressure Relief Procedure**, page 30.

10. Engage the trigger lock. Disassemble and clean the spray tip with solvent by hand. Reinstall on the gun.



Empty and Flush Entire System (new system or end of job)



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

- Flush equipment only in a well-ventilated area
- Ensure main power is off and heater is cool before flushing
- Do not turn on heater until fluid lines are clear of solvent

NOTE:

- If the system includes heaters and heated hose, turn them off and allow to cool before flushing. Do not turn on the heaters until the fluid lines are clear of solvent.
- Cover fluid containers and use the lowest possible pressure when flushing to avoid splashing.
- Before color change or shutdown for storage, circulate the solvent at a higher flow rate and for a longer time. Change the solvent when it gets dirty.
- To only flush the fluid manifold, see **Flush Mix Manifold, Hose, and Spray Gun**, page 37.
- If the machine is inoperable, use drain plugs on the pump inlet fittings.

Guidelines

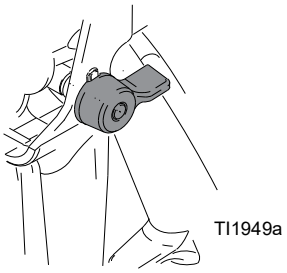
Flush new systems if the coating materials will be contaminated by mineral oil.

Flushing will help prevent materials from settling or gelling in the pumps, lines, and valves. Flush the system when any of the following situations occur.

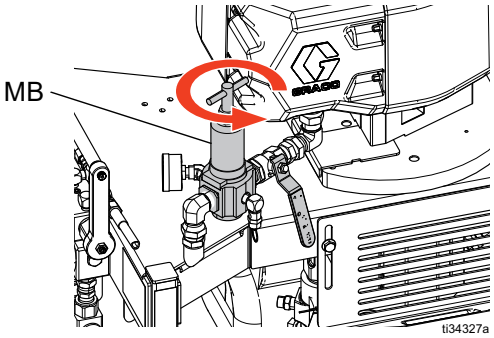
- Anytime the system will not be used for more than one week (depending on materials used)
- If the materials used have fillers that will settle
- If using materials that are moisture sensitive
- Before servicing
- If the machine is going into storage, replace the flush solvent with light oil. Never leave the equipment empty of any fluid.

Empty System Procedure

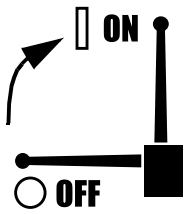
1. Follow **Prime Empty System**, page 31 and **Flush Mix Manifold, Hose, and Spray Gun**, page 37, as required.
2. Engage the trigger lock.



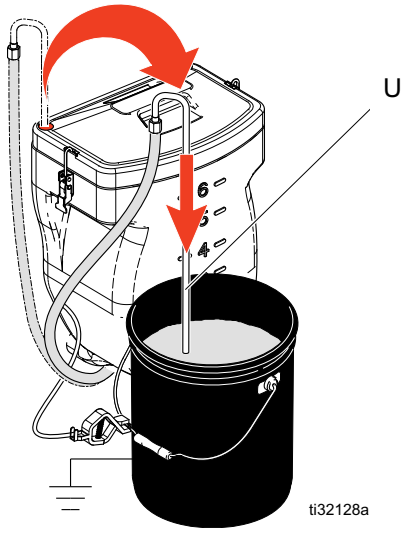
3. **XP Systems:** Turn the main pump air regulator (MB) fully counter-clockwise to shut off.



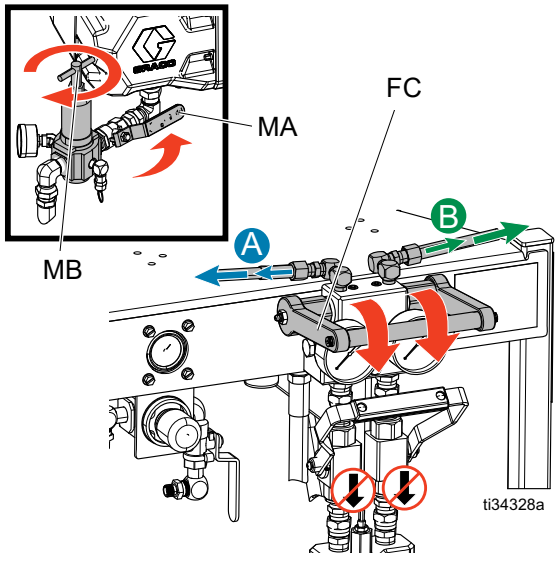
XP-h Systems: Set pump valve on.



4. Move recirculation lines (U) to separate fluid containers to pump remaining fluid out of the system.



5. Lower to open the circulation handle (FC) and increase the motor air pressure regulator (MB) pressure to 20 psi (138 kPa, 1.38 bar).



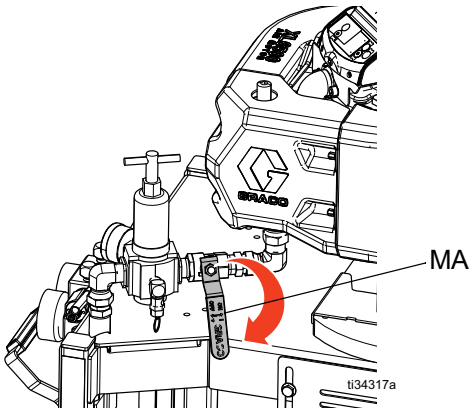
6. Open the motor air shutoff valve (MA).

NOTE: If the system does not start with static pressure, increase the air pressure by 5 psi (35 kPa, 0.35 bar) increments. To avoid splashing, do not exceed 35 psi (241 kPa, 2.4 bar).

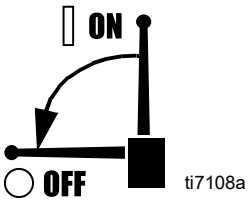
7. Run the pumps until the A and B hoppers (J) are empty. Salvage the material in separate, clean containers.

Flush System Procedure

1. **For XP Systems:** Close the main air shutoff valve (MA).



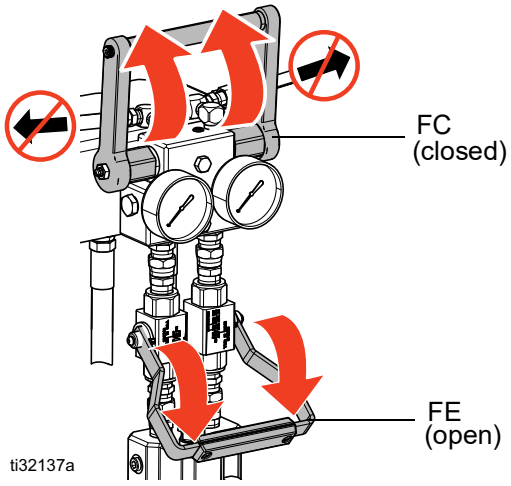
For XP-h Systems: Set pump valve to off.



2. Wipe the hoppers (J) clean, then add solvent to each. Move the circulation lines (U) to waste containers and push out the dirty fluids.

3. Move the recirculation lines (U) back to the hoppers. Continue recirculating until the system is thoroughly flushed.

4. Lift to close the circulation handle (FC) and lower to open the dual shutoff handle (FE).

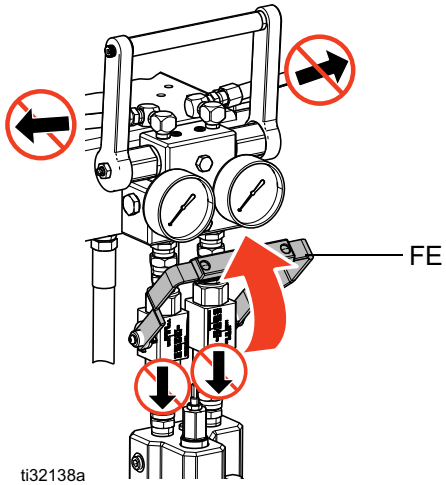


5. Open the motor air shutoff valve. Increase the air regulator pressure to 20 psi (1.9 bar).

6. Increase the motor air pressure regulator to dispense fresh solvent from the hoppers through the mix manifold valves and out the gun.

7. Turn off the air motor.

8. Lift to close the dual shutoff handle (FE).



9. Remove pump fluid filters, if installed, and soak in solvent. Clean and replace the filter cap. Always replace the filter o-rings. See your Xtreme pump manual.

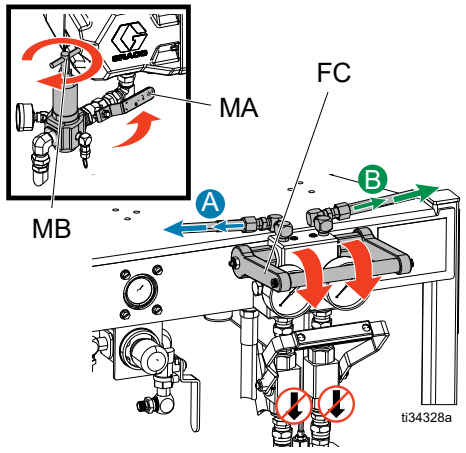
10. Fill the A and B pump packing nuts with TSL. Also, always leave some type of fluid, such as solvent or oil, in the system to prevent scale build up. This build up can flake off later. Do not use water.

NOTE:

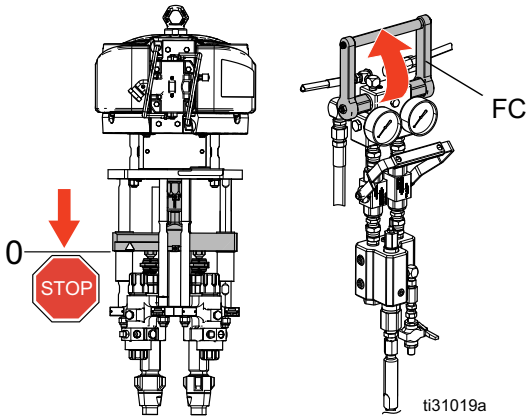
- If machine is set up with a remote mix manifold, the A and B hose can be disconnected from the mix manifold, and secured back to each hopper for circulation of flush solvent.
- Change the flush solvent at least once until it circulates clean.
- Always keep the A side and B side flush solvent containers separate to avoid cross-contamination.

Park

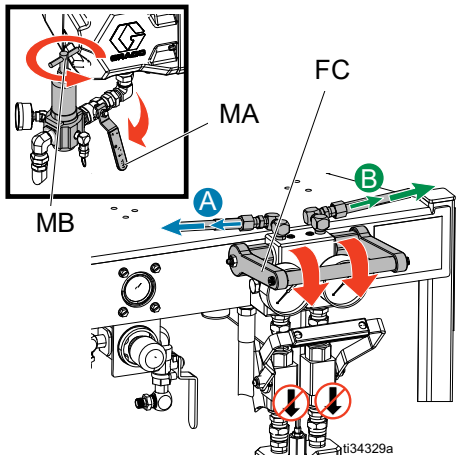
1. Lower to open the circulation handle (FC) and adjust the air regulator (MB) so that the pump runs slowly.



2. Lift to close the circulation handle (FC) when the pump is at the bottom of the stroke.



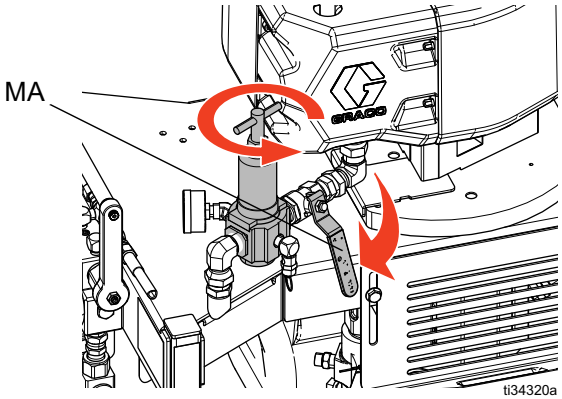
3. Close the motor air valve (MA) and turn the air regulator (MB) counterclockwise. Lower to open the circulation handle (FC).



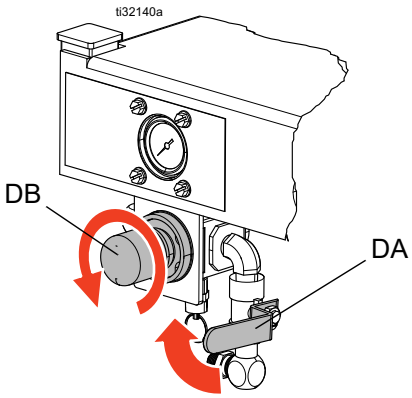
Shutdown

1. Flush mix manifold, hoses, and gun. Follow **Flush Mix Manifold, Hose, and Spray Gun**, page 37.

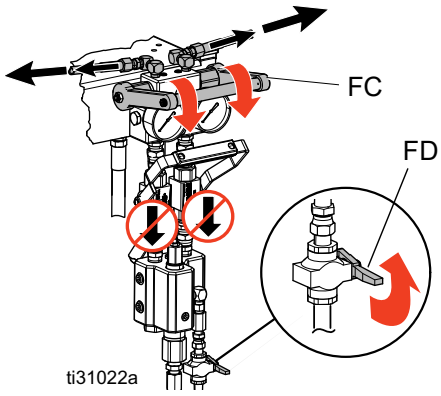
2. Make sure the main air shutoff valve (MA) is closed.



3. Make sure the solvent air valve (DA) is closed and the solvent air regulator (DB) is turned fully counterclockwise.



4. Close solvent flush valve (FD) and lower re-circulation handle (FC).



System Verification

Graco recommends running the following tests daily.

Check for Normal Operation

Every time you start spraying:

- Watch the fluid pressure gauges (FF). A pressure drop occurs during pump stroke changeover. It should be quick and synchronous.
- Stop the pumps on the upstroke. Check that both gauges hold pressure for at least 20 seconds. See **Pump Troubleshooting** on page 47.

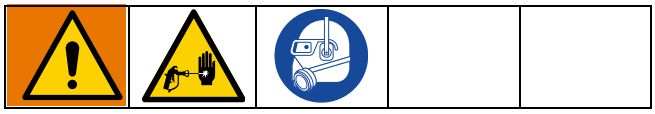
If one gauge drops, the others will rise.

- Stop the pumps on the down-stroke. Check that all gauges hold pressure.
- If using feed pumps, check that both feed pumps run during the proportioner upstroke.

Mix and Integration Tests

Use the following tests to check for proper mix and integration.

Butterfly Test



At low pressure, and with the spray tip reversed, dispense a 1/2 in. (12.7 mm) bead of material onto foil until multiple changeovers of each pump have occurred. Fold the sheet of foil over the fluid then peel it back and look for unmixed material (appears marble-like), or color changes.

Curing Test

Spray a single continuous pattern on foil at typical pressure setting, flow rate, and tip size until multiple changeovers of each pump have occurred. Trigger and de-trigger at typical intervals for the application. Do not overlap or cross over your spray pattern.

Check curing at various time intervals, listed on the material data sheet. For example, check for dry to touch by running your finger along the test pattern’s entire length at the time listed on the data sheet.

Spots that take longer to cure indicate insufficient pump loading, leakage, or lead/lag errors at a remote mix manifold.

Appearance Test

Spray material onto foil. Look for variations in color, gloss, or texture that may indicate improperly catalyzed material.

Monitor Fluid Supply

NOTE: To prevent pumping air into the system, which causes incorrect proportioning, never allow the feed pump or solvent pump containers to run dry.

An empty pump will quickly accelerate to a high speed, and may damage itself and the other displacement pump because it causes a pressure rise in the other pump. If a supply container runs dry, stop the pump immediately, refill the container, and prime the system. Be sure to eliminate all air from the system.

Check Pot Life

Check the fluid manufacturer's instructions for fluid pot life at your fluid temperature. Flush mixed fluid out of the mix manifold, hose, and gun before pot life time expires, or before a rise in viscosity affects the spray pattern.

Ratio Check

Check the ratio at the mix manifold after any changes to the proportioning system. Use Ratio Check Kit 24F375 to check the ratio at the mix manifold. See your ratio check kit manual for instructions and parts.

To prevent an inaccurate ratio check when feed pumps are used in your system, the feed pressure cannot be more than a maximum of 25% of the proportioner outlet pressure. High feed pressure can float the proportioner pump check balls, resulting in an inaccurate ratio check. There must be back pressure on both sides of the mix manifold when checking the ratio.

Maintenance

Hose Electrical Resistance

Check electrical resistance of hoses regularly. If total resistance to ground exceeds 29 megohms, replace hose immediately.

Filters

Once a week check, clean, and replace (if needed) the following filters.

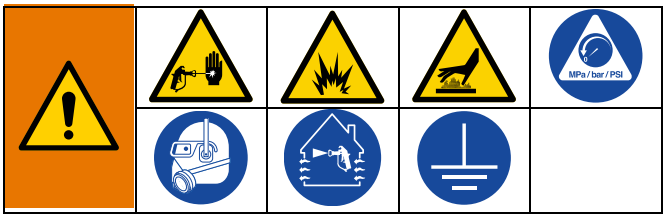
- Both pump filters; see your lower manual for instructions.
- Spray gun handle filter; see your spray gun manual.

Seals

Once a week, check and tighten throat seals on both pumps. See table for torque specifications. Be sure to follow **Pressure Relief Procedure**, page 30., prior to tightening seals. There must be zero pressure on the pumps when adjusting.

Pump Size	Torque Specification
All	25-30 ft-lb (34-41 N•m)

Cleaning Procedure



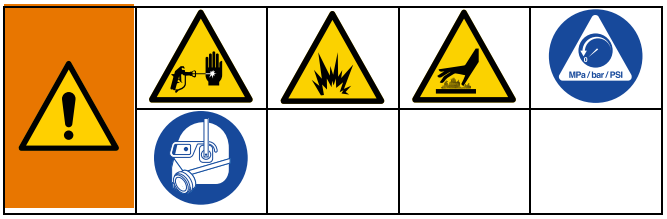
1. Ensure all equipment is grounded. See **Grounding**, page 23.
2. Ensure the area where the system will be cleaned is well ventilated and remove all ignition sources.
3. Turn off all heaters and allow equipment to cool.
4. Flush mixed material. See **Flush Mixed Material**, page 37.
5. Follow the **Pressure Relief Procedure**, page 30.
6. Perform **Park** and **Shutdown** procedures, page 42. Turn off all power.
7. Clean the external surfaces only using a rag soaked in solvent that is compatible with the spray material and surfaces being cleaned.
8. Allow enough time for the solvent to dry before using the system.

Change the Mix Ratio

In order to change the mix ratio, one or both high pressure displacement pumps need to be replaced, the air motor needs to be re-positioned, and the over pressure relief valves may need to be changed.

1. Check the **Parts Varying by Pump Package** table on page 81 for the correct pump sizes.
2. Remove and replace pump. See **Remove Displacement Pump** page 48.
3. Adjust the position of the air motor. See **Motor Position** page 25.
4. **If changing from one type of XP system to another (for example - changing from XP50 to XP70 or from XP70 to XP50):** Remove the existing over pressure relief valves (302) and install the correct valves for the new system type. See **Replace Over Pressure Relief Valves** on page 51.
5. Change the air pressure relief valve (CG) as required, depending on the ratio.

Troubleshooting



NOTE: Always follow **Pressure Relief Procedure**, page 30, before servicing the system.

✕ *Fluid ratio will be wrong.*

◆ *Purge all air from system before proportioning fluids.*

Problem	Cause	Solution
System stops or will not start.	Air pressure or volume too low.	Increase the air volume; check air compressor.
	Closed or restricted air line or air valve.	Open or clean the air line or air valve.
	Fluid valves closed.	Open the fluid valves.
	Clogged fluid hose.	Replace the fluid hose.
	Air motor worn or damaged.	Repair the air motor; see your air motor manual.
	Displacement pump stuck.	Repair the displacement pump; see your Xtreme lowers manual.
System speeds up or runs erratically.	Fluid containers are empty.◆	Check the fluid containers often; keep filled.
	Air in fluid lines.◆	Purge the fluid lines; check connections.
	Displacement pump parts worn or damaged.	Repair the displacement pump; see your Xtreme lowers manual.
Pump operates, but resin output pressure drops on upstroke.✕	Dirty, worn, or damaged resin pump piston valve or piston packings.	Clean and repair the pump piston valve and piston packings; see your Xtreme lowers manual.
Pump operates, but resin output pressure drops on down-stroke.	Dirty, worn, or damaged resin pump intake valve.	Clean and repair the resin pump intake valve; see your Xtreme lowers manual.
Pump operates, but resin output pressure drops on both strokes.✕	Hardener output restriction.	Clean and unplug the hardener side. Open manifold restrictor.
	Fluid supply low.◆	Refill or change the fluid container.
Pump operates, but hardener output pressure drops on upstroke.✕	Dirty, worn, or damaged hardener pump piston valve or piston packings.	Clean and repair the pump piston valve or piston packings; see your Xtreme lowers manual.
Pump operates, but hardener output pressure drops on down-stroke.✕	Dirty, worn, or damaged hardener pump intake valve.	Clean and repair the hardener pump intake valve; see your Xtreme lowers manual.
Pump operates, but hardener output pressure drops on both strokes.	Resin output restriction.	Clean and unplug the resin side.
	Fluid supply low.◆	Refill or change the fluid container.

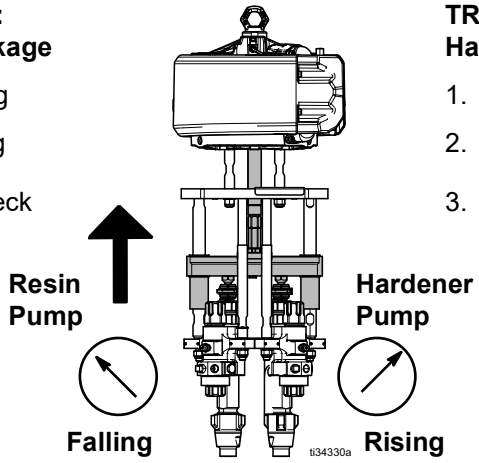
Problem	Cause	Solution
Fluid leak in packing nut.	Loose packing nut or worn throat packings.	Tighten the packing nut and replace the throat packings; see your Xtreme lowers manual.
Fluid leak under packing nut	Packing cartridge o-ring.	Replace the cartridge o-ring; see your Xtreme lowers manual.
Relief valve (FM) leaks back to supply, opens too soon, or will not close.	Relief valve is dirty or damaged.	Replace the over pressure relief valve (302)
No pressure on hardener side; fluid leaking from hardener pump outlet rupture disc fitting.	Overpressure rupture disk blown.	Determine the cause of over-pressurization and correct. Replace the rupture disk assembly 258962 (see page 81) and the over-pressure relief valve (302).
Pressure and flow surges on upstroke.	Feed pressure too high. Every 1 psi of feed pressure adds 2 psi during upstroke.	Reduce the feed pressure. See **Technical Specifications**, page 91.
Fluid outlet pressure gauges split only at the top changeover (if one gauge drops the other will rise).	Not fully loading one side on upstroke.	Increase the feed pressure on the side that dropped. Increase the feed hose size. Clean the inlet strainer or hopper screen.
	Air mixed in fluid from excessive agitation or circulation.	Flush and add new fluid.

Pump Troubleshooting

This chart uses proportioning fluid gauges to determine pump malfunctions. Observe the gauge readings during the stroke direction indicated by the bold arrow, and immediately after closing the gun or mix manifold. Refer to other manuals to troubleshoot individual components.

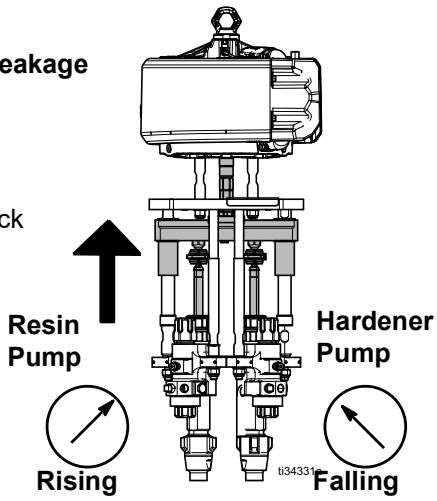
TROUBLE AREA:
Resin Pump Leakage

1. Throat packing
2. Piston packing
3. Piston ball check



TROUBLE AREA:
Hardener Pump Leakage

1. Throat packing
2. Piston packing
3. Piston ball check



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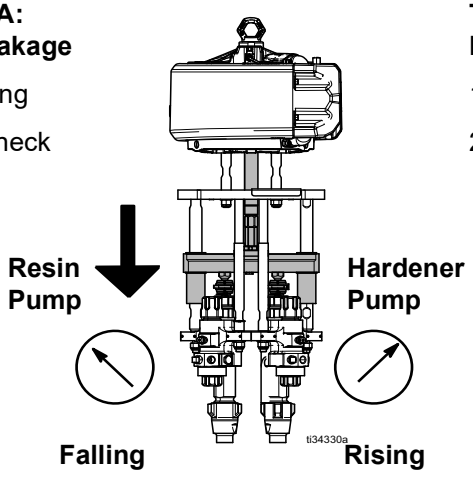
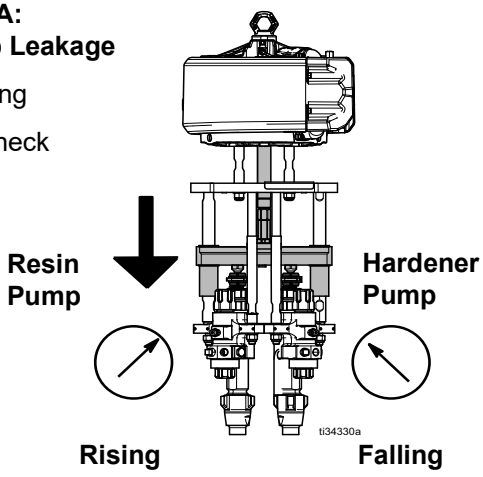
TROUBLE AREA:
Resin Pump Leakage

1. Throat packing
2. Intake ball check



TROUBLE AREA:
Hardener Pump Leakage

1. Throat packing
2. Intake ball check



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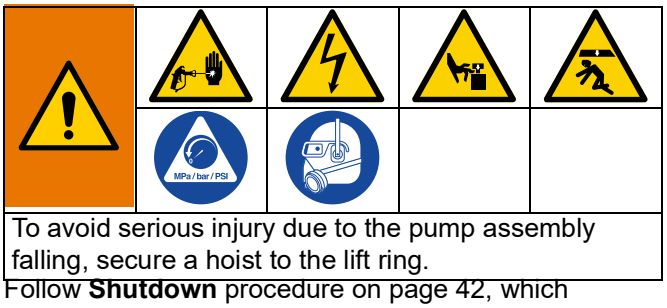
Repair



To avoid serious injury due to the pump assembly falling, secure a hoist to the lift ring.

Follow **Shutdown** procedure on page 42, which includes flushing, if service time may exceed pot life time, before servicing fluid components, and before transporting system to a service area.

Pump Assembly

The displacement pumps and air motor may be removed and serviced separately or the entire pump and motor assembly can be removed with a hoist.

Remove Pump Assembly

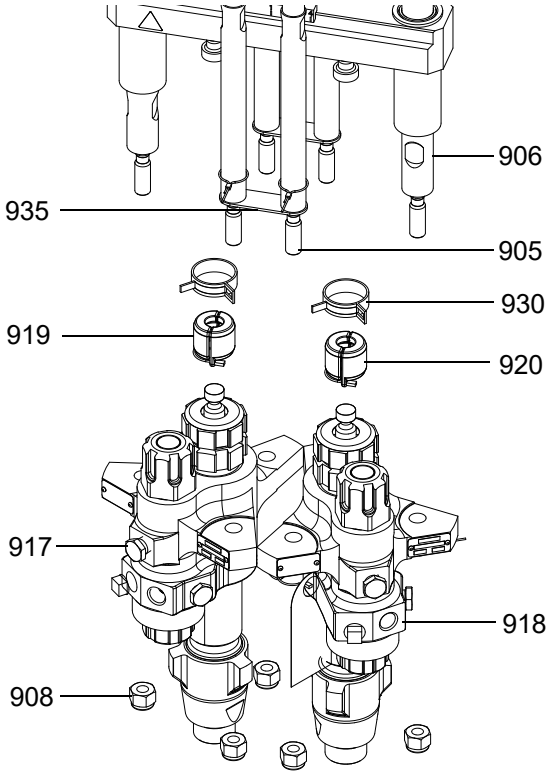
1. Stop the pumps near the bottom of their stroke. Follow **Park** and **Shutdown** procedures, page 42.
2. Follow **Pressure Relief Procedure**, page 30.
3. Disconnect all hoses from the pump assembly.
4. If hoppers are installed, disconnect the hopper from the pump inlet. See **Hoppers**, page 53.

NOTE: The hopper and hopper bracket do not need to be removed from the cart.

5. If feed pumps are installed, close the inlet ball valve. Remove inlet union (61).
6. Remove screws (6) and washers (5) under the tie plate (901).
7. Use hoist to remove the pump assembly by the lift ring and carefully lift out of cart (1).

Remove Displacement Pump

1. Stop the pumps near the bottom of their stroke. Follow **Park** and **Shutdown** procedures, page 42.
2. Follow **Pressure Relief Procedure**, page 30.
3. If hoppers are installed, remove the hopper and hopper bracket from the cart. See **Hoppers**, page 53.
4. If feed pumps are installed, close the inlet ball valve. Remove inlet union (61).
5. Remove the spring clamp (930) and coupling (919, 920).



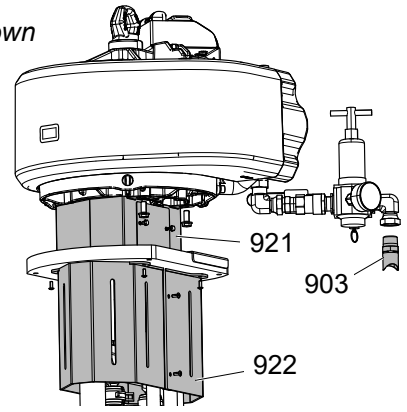
6. Use a wrench to hold the tie rod (905, 906) flats to keep the rods from turning. Unscrew the nuts (908) from the tie rods and carefully remove the displacement pump (917 or 918) and lower straps (935).
7. Refer to your Xtreme pump manual to service or repair the displacement pump.
8. Follow the steps in reverse order to reinstall the displacement pump.
9. Torque nuts (908) to 50-60 ft-lb (68-81 N•m).

NOTE: The hopper and hopper bracket do not need to be removed from the cart.

Remove Motor

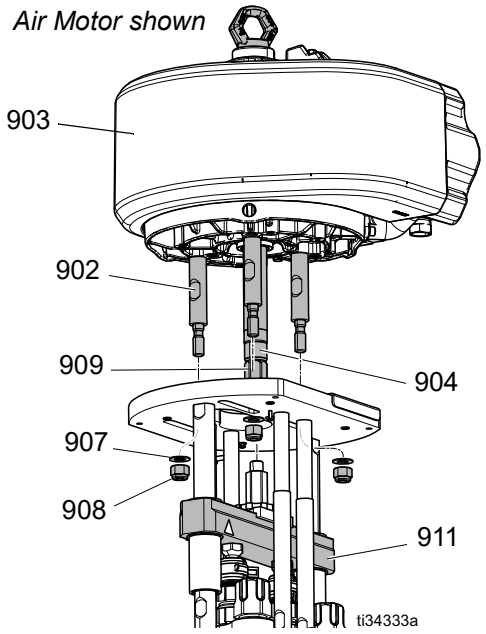
1. Stop the pumps near the bottom of their stroke. Follow **Park** and **Shutdown** procedures, page 42.
2. Follow **Pressure Relief Procedure**, page 30.
3. Disconnect the air line from the air motor (903).
4. Remove the air motor rod cover (921) and pump guards (922).

Air Motor shown



5. Use a wrench to hold the tie rod (902) flats to keep the rods from turning. Unscrew the nuts (908) and washers (907) from the tie rods.

Air Motor shown



6. Place a wrench on adapter rod (904). Use tool (69) to loosen the serrated yoke nut (909) that holds the air motor (903) above the yoke (911).
7. Face the front of the machine and slide the air motor (903) to the opening in the yoke (911).
8. Use a hoist to remove the air motor by the lift ring.
9. Refer to the air motor manual to service or repair the air motor.
10. Follow the steps in reverse order to reinstall the air motor.
11. Position air motor for correct mix ratio. See **Motor Position** on page 25 for instructions. Torque nuts (908) to 50-60 ft-lb (68-81 N•m).

Air Controls

Follow the **Park** procedure on page 42 before performing any repair or replacement.

For XP systems only. See FIG. 8 on page 50.

Replace Air Control Assembly

1. Close the main air shutoff valve (MA) on the air supply line and on the air supply system. Depressurize the air line using the pressure relief valve (MG).
2. Disconnect the air motor air lines and system air line.
3. Remove the nut (8) and washer (5). Remove the bottom air control manifold assembly from the cart.
4. Loosen the upper air control assembly from the air motor.
5. Follow the steps in reverse order to reinstall the new air control assembly.

Replace Air Filter Element

1. Close the main air shutoff valve on the air supply line and on the system. Depressurize the air line.
2. Unscrew the serrated ring on filter bowl (210).
3. Remove and replace the filter element (210a). See **Air Controls, 26C417** on page 69.

Replace System Air Regulator

1. Close the main air shutoff valve on the air supply line and on the system.
2. Disconnect air motor air lines and system air line.
3. Remove the regulator assembly (201) and replace with new regulator. See **Air Controls, 26C417** on page 69.
4. Follow the steps in reverse order to reassemble.

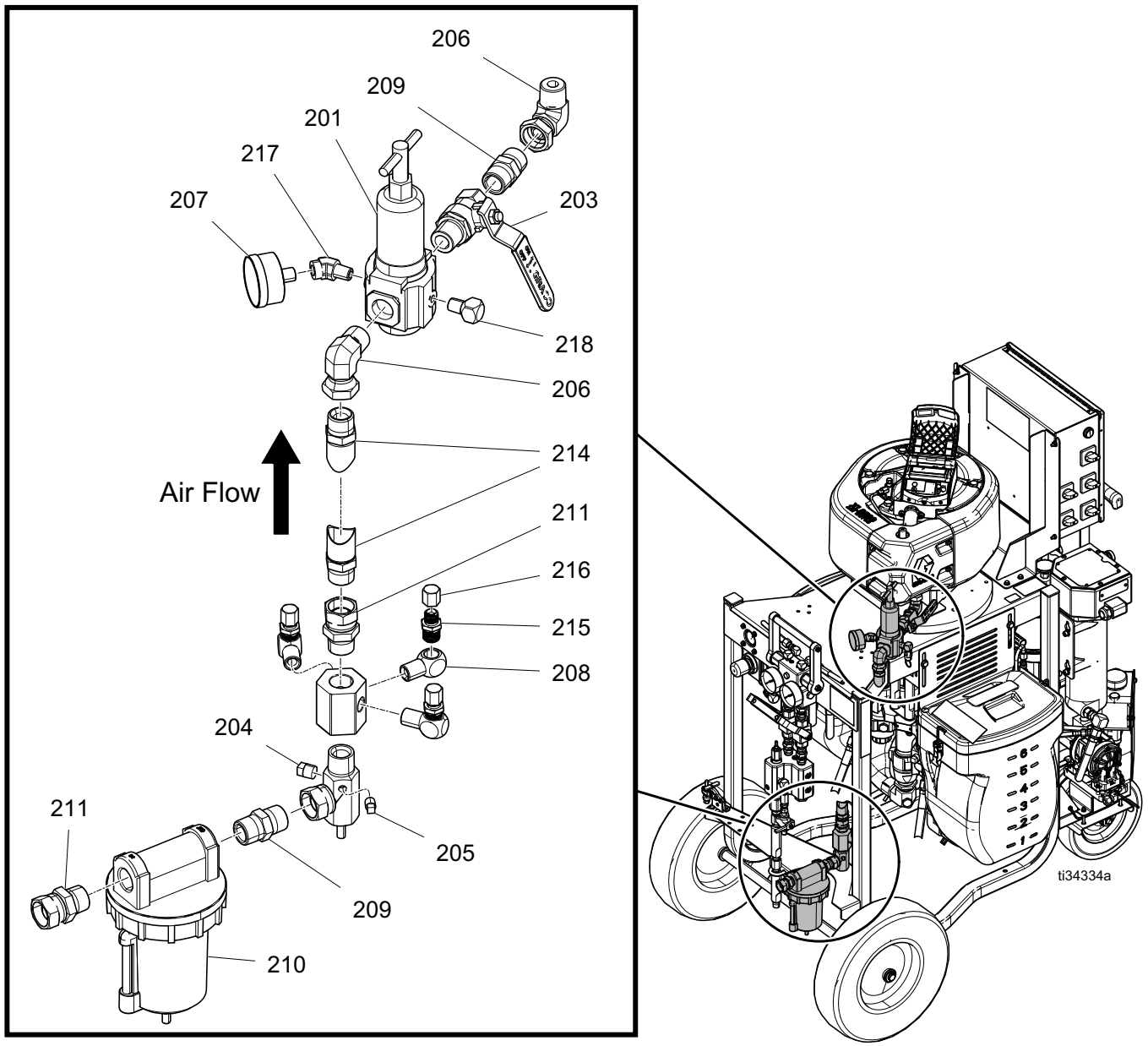
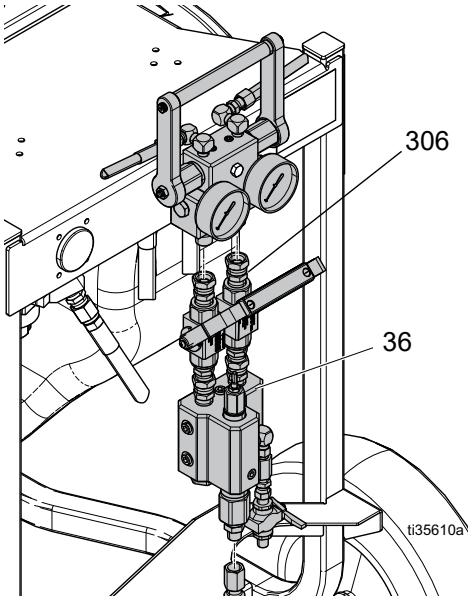


FIG. 8: Air Control Assembly 26C417

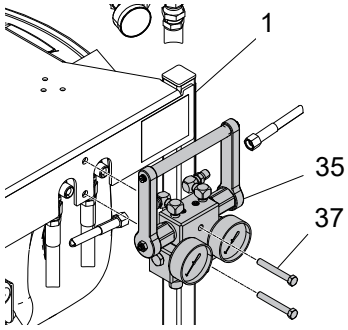
Mix Manifold Assembly

1. Follow the **Park** procedure and **Shutdown** procedure on page 42.
2. Follow **Pressure Relief Procedure**, page 30.
3. Disconnect the fluid hose (25) and the flush hose from the mix manifold (36).
4. Loosen the union fittings (306) that connect to the mix manifold adapter fittings.
5. Remove the mix manifold assembly (36).
6. See your mix manifold manual for service and repair instructions.



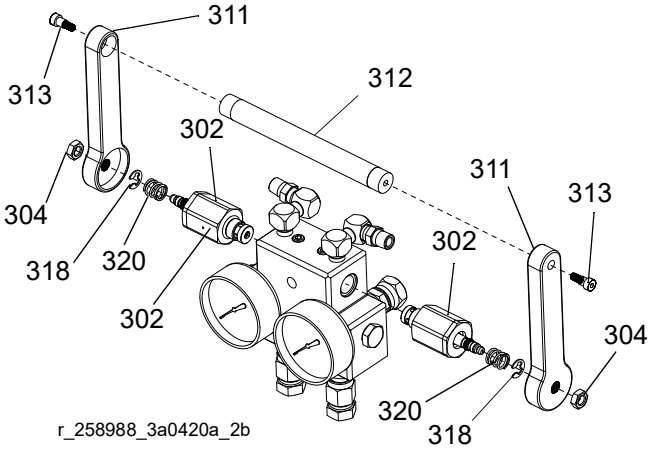
Fluid Circulation Manifold with Over Pressure Relief Valves

1. Follow the **Park** procedure and **Shutdown** procedure on page 42.
2. Follow **Pressure Relief Procedure**, page 30.
3. Disconnect all fluid hoses from the fluid circulation manifold (35).
4. Remove the mix manifold if it is assembled to the fluid circulation manifold. See **Mix Manifold Assembly** (page 51) for instructions.
5. Loosen the two screws (37) that secure the manifold (35) to the cart (1).
6. Remove the two screws (37) and fluid circulation manifold (35) from the cart (1).



Replace Over Pressure Relief Valves

1. Follow the **Park** procedure and **Shutdown** procedure on page 42.
2. Follow **Pressure Relief Procedure**, page 30.
3. Ensure handle (312) is in the down position. Remove the screws (313), jam nut (304), handles (311), handle rod (312), clips (318), and springs (320).



4. Unscrew both over pressure relief valves (302) from the manifold.

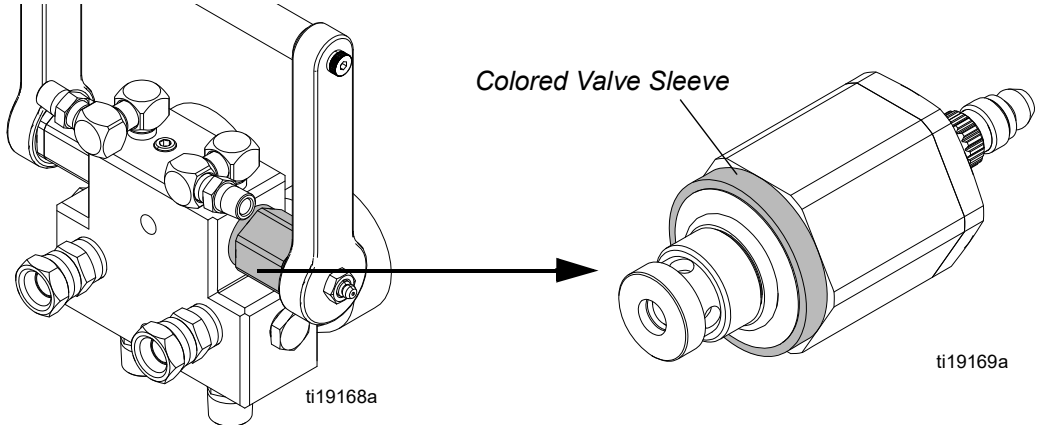
NOTE: The correct over pressure relief valve must be used on all systems. Choose the correct color coded valve from the chart on page 52.

5. Apply blue threadlock to new over pressure relief valves (302) and install in the manifold. Torque to 28-32 ft-lb (38-43 N•m).
6. Place a spring (320) over each valve stem. Place a clip (318) in each valve stem groove to retain the springs.
7. Slide handle (311) onto valve stem and rotate approximately 90° until you feel it fully lock against the seat valve. Repeat for opposite side.
8. Remove handle then place handle (311) on valve stem (302) at the vertical, or near vertical, position.
9. Apply blue threadlock on the nut (304) threads and tighten the handle against the spring (320) and clip (318). Torque to 70-80 in-lb (7.9-9 N•m).
10. Place the rod (312) and the second handle (311) on second valve stem aligned with the opposite handle.
11. Repeat step 9.
12. Install two screws (313) in handles (311).
13. Check operation of the handle and valves.
14. Operate the handle in and out of the spray and circulate positions.
15. Check for clearance with fittings.

NOTE:

- Both valves should settle firmly into the spray position inward against the seats in the valve.
- Both valve stems should rotate out to their most extended positions when the handle is pulled down to the circulate position.

Fluid Circulation Manifold Replacement Guide

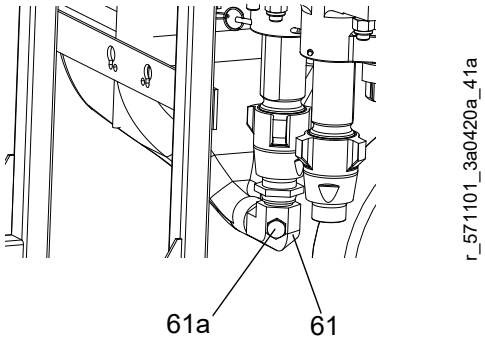


Circulation Manifold (35) Part Number	Relief Valve (302) Part Number	Valve Sleeve Color	Target Opening Pressure psi (MPa, bar)	Use with:
262784	262808	Purple	5300 (37, 365)	All XP35 models, XP-h models 284101, 284251, 284201, 284301, 284401
262783	262809	Gold	7100 (49, 490)	All XP50 models, XP-h models 284102, 284202, 284252, 284302, 284402
262806	262520	Silver	9250 (64, 638)	All XP70 models, XP-h models 284103, 284203, 284253, 284303, 284403

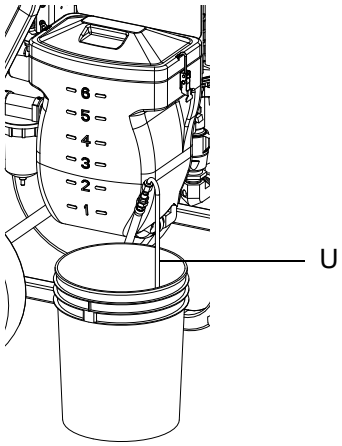
NOTE: Original XP70 valves did not include a silver valve sleeve. When replacing these original valves, replace with the current valves that have the silver valve sleeve.

Hoppers

1. If material is in the hopper, pump out the remaining material.
2. If the pump has failed:
   a. Place a waste container beneath the plug on fitting (61a). Remove the plug.
   b. Drain all material from hopper into the waste container.
   c. Install plug after material is no longer draining from fitting (61).



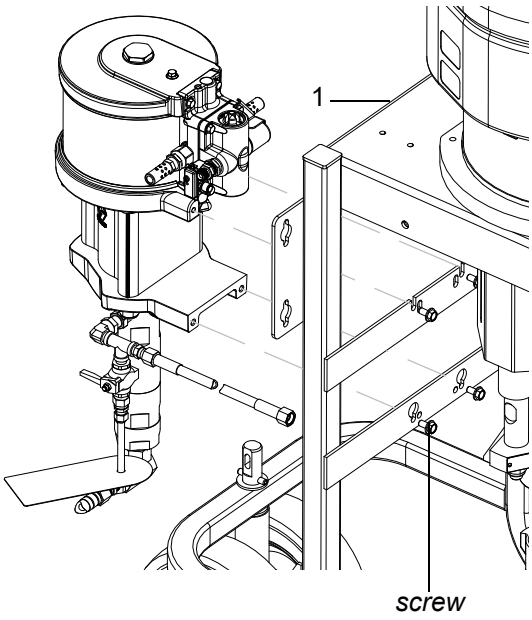
3. Follow **Pressure Relief Procedure**, page 30.
4. Loosen fitting (61) and disconnect hopper from pump.
5. Remove the recirculation line from the hopper and place in a waste container.



6. Lift the hopper off of the mounting bracket.
7. Repeat for second hopper.

Solvent Pump

1. Follow **Pressure Relief Procedure**, page 30.
2. Disconnect the fluid line and air lines from the solvent pump.
3. Loosen the four screws that attach the solvent pump to the cart (1). Lift and pull pump from the slots.



4. Refer to your Merkur pump assembly manual to service or repair the solvent pump.
5. Follow the steps in reverse order to reinstall the solvent pump.

Fluid Heaters

All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

NOTE: Systems with a junction box have heaters pre-wired. See **Connect Power** on page 24 to run the power cord to the junction box.

NOTE: Systems without a junction box need to power heaters individually, refer to your Viscon HP heater manual.

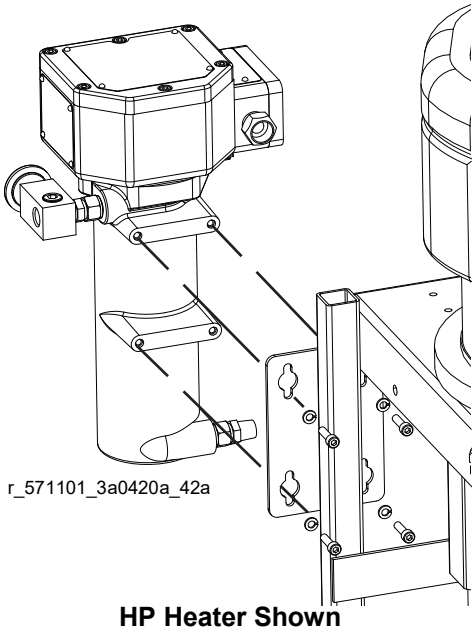
Wiring for heaters is not provided, other than with complete systems. See the Viscon HP manual for wiring, repair, and parts information.

Service and Repair

1. Follow **Pressure Relief Procedure**, page 30.
2. Disconnect the fluid lines and electrical wiring from the fluid heater. Refer to your junction box manual and heater manual.
3. Refer to the Viscon HP heater manual to service or repair. Refer to the heater adapter kit manual for installation instructions.
4. Reconnect the fluid lines and electrical wiring.

Replace

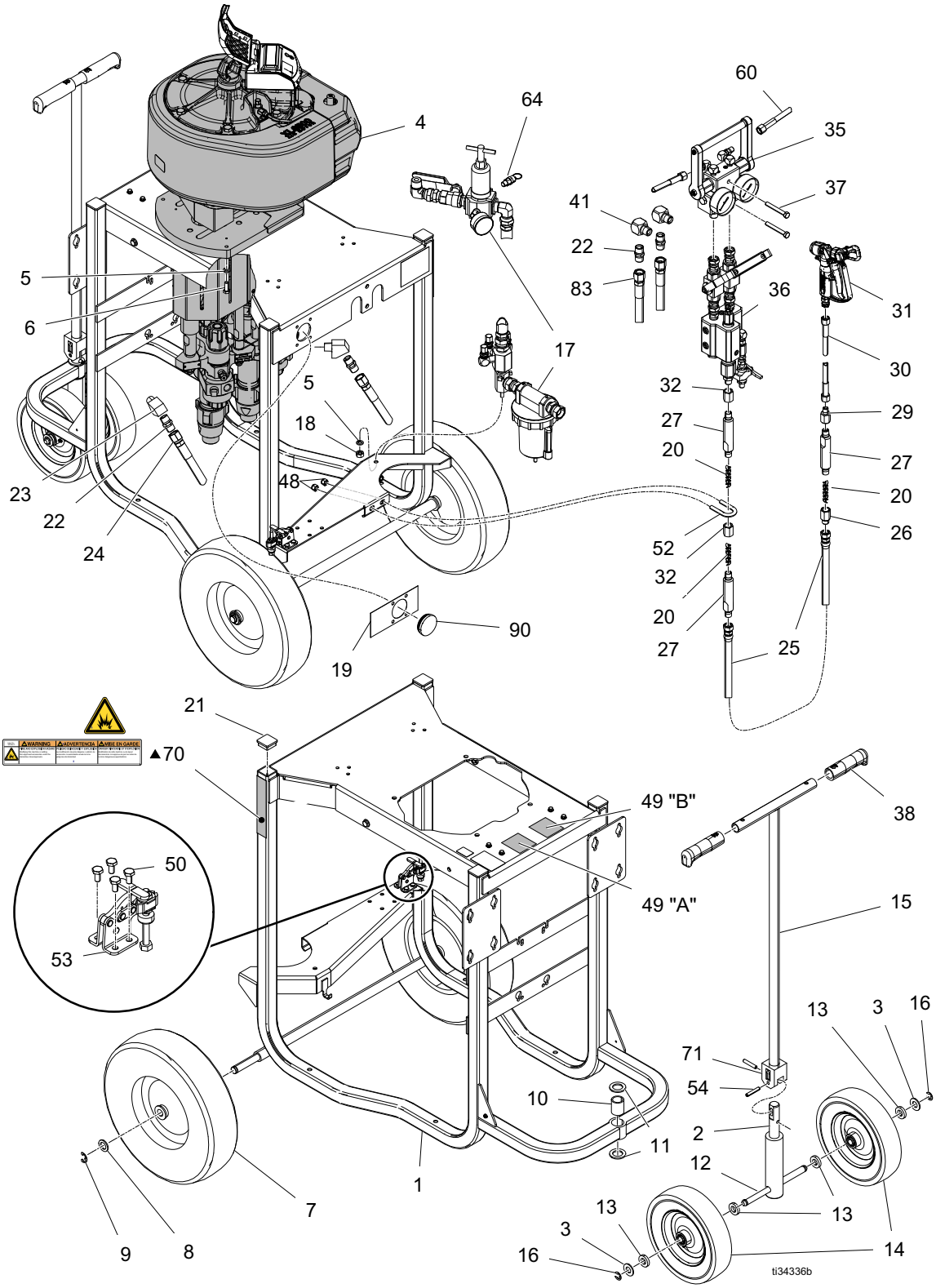
1. Follow steps 1 and 2 in the **Fluid Heaters Service and Repair** section.
2. Loosen the four mounting screws, lock washers, and plain washers on back of the heater. Slide the heater up and remove from the cart.
3. Replace the heater. Follow the steps in reverse order to install a new heater.



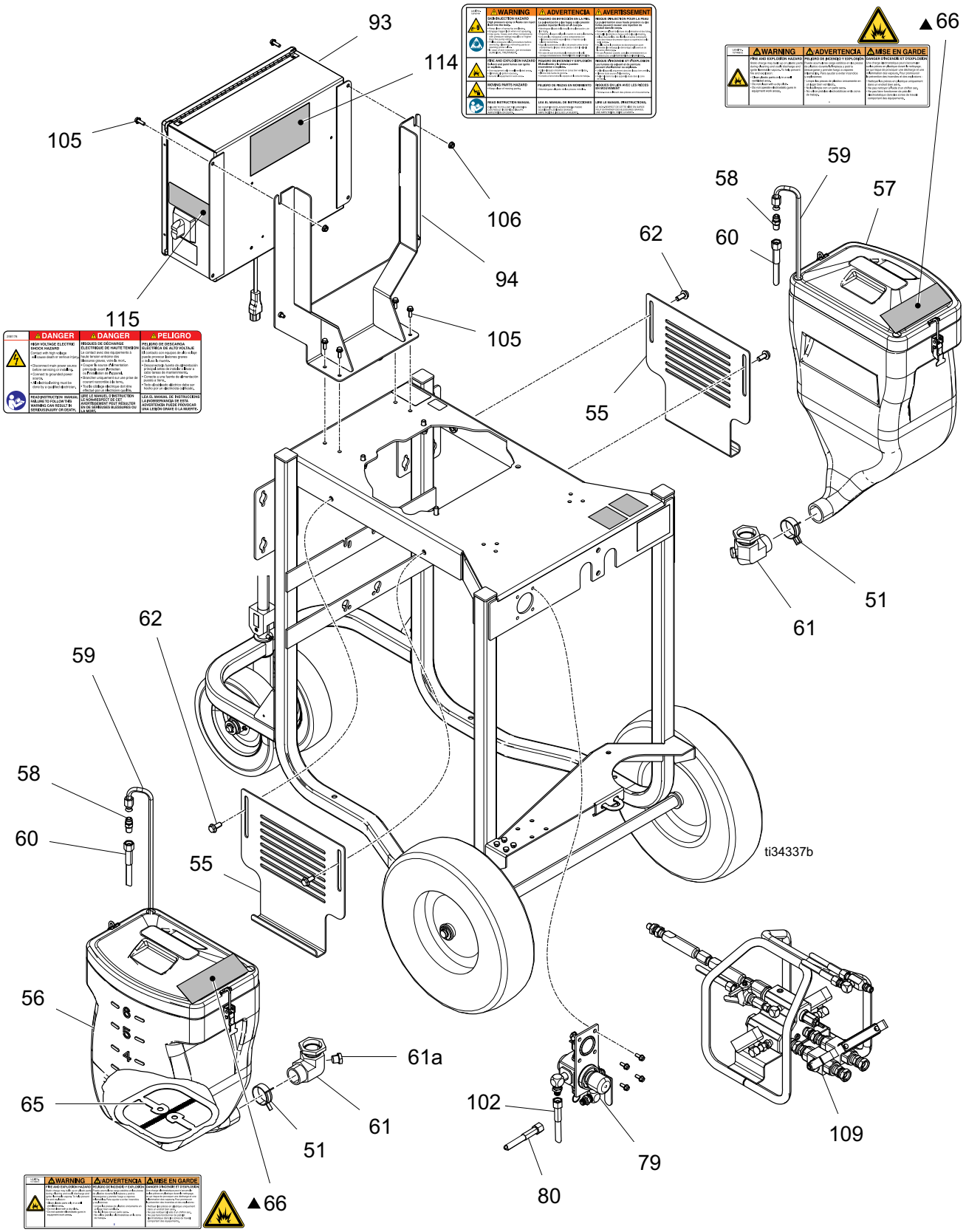
HP Heater Shown

Parts

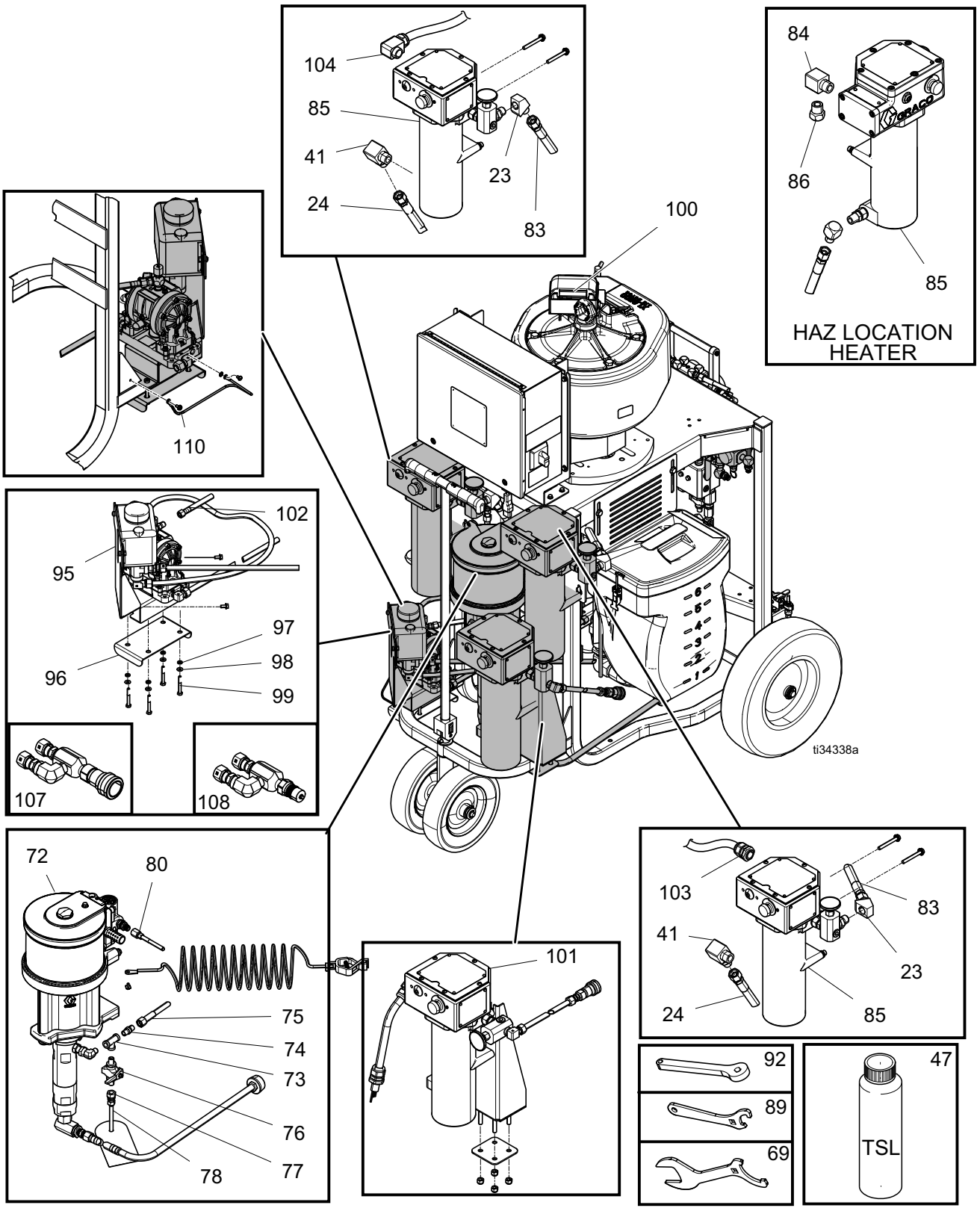
System Common Parts



Parts Varying by Model



Parts Varying by Model (continued)



XP35 Systems

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
1	26C338	CART, XP	1	1	1	1	1	1	1	1	1
2	262476	HUB, axle	1	1	1	1	1	1	1	1	1
3	118841	Washer, flat, 5/8	2	2	2	2	2	2	2	2	2
4	- - - - -	PUMP assembly	see pg 78, for detail								
5	100133	WASHER, lock, 3/8	5	5	5	5	5	5	5	5	5
6	100101	SCREW, 3/8-16 x 1 in.	4	4	4	4	4	4	4	4	4
7	113362	WHEEL, semi-pneumatic	2	2	2	2	2	2	2	2	2
8	154628	WASHER	2	2	2	2	2	2	2	2	2
9	113436	RING, retaining	2	2	2	2	2	2	2	2	2
10	124410	BEARING, sleeve	1	1	1	1	1	1	1	1	1
11	124664	WASHER, 1 in.	2	2	2	2	2	2	2	2	2
12	262477	AXLE	1	1	1	1	1	1	1	1	1
13	191824	WASHER, spacer	4	4	4	4	4	4	4	4	4
14	113807	WHEEL, flat free	2	2	2	2	2	2	2	2	2
15	258982	HANDLE, cart	1	1	1	1	1	1	1	1	1
16	101242	RING, retaining	2	2	2	2	2	2	2	2	2
17	26C417	MODULE, air controls (see page 69 for details)	1	1	1	1	1	1	1	1	1
18	100131	Nut, hex, 3/8-16	1	1	1	1	1	1	1	1	1
19	25E211	LABEL, XP operation	1	1	1	1	1	1	1	1	1
20	248927	KIT, mixer element (25 pack)	3	3	3	3	3	3	3	3	3
21	111218	CAP, tube, square	4	4	4	4	4	4	4	4	4
22	158491	FITTING, nipple	4	4	6	6	6	6	6	6	6
23	15M987	FITTING, elbow, 60	2	2	4	4	4	4	4	4	4
24	H75003	HOSE, 7250 psi	2	2	2	2	2	2	2	2	2
25	H43825	HOSE, 4500 psi, 1/4 in. x 25 ft	1	1	1	1	1	1	1	1	1
26	15B729	COUPLING	1	1	1	1	1	1	1	1	1
27	262478	HOUSING, mixer	3	3	3	3	3	3	3	3	3
29	150287	COUPLING, pipe, 1/4 X 3/8	1	1	1	1	1	1	1	1	1
30	H42510	HOSE, 4500 psi, 1/4 in. x 10 ft	1	1	1	1	1	1	1	1	1
31	XTR502	GUN, XTR5	1	1	1	1	1	1	1	1	1
32	162024	COUPLING	2	2	2	2	2	2	2	2	2
35	262784	MANIFOLD, recirc, XP35	1	1	1	1	1	1	1	1	1
36	262807	MIX MANIFOLD (see page 70 for details)	1	1	1	1	1	1	1	1	1
37	106212	SCREW, manifold mounting	2	2	2	2	2	2	2	2	2
38	116139	GRIP, handle	2	2	2	2	2	2	2	2	2
41	158683	FITTING	2	2	4	4	4	4	4	4	4
47	206995	FLUID,TSL, 1 quart	1	1	1	1	1	1	1	1	1
48	101566	NUT, lock	2	2	2	2	2	2	2	2	2
49	15U654	LABEL, identification, A/B	1	1	1	1	1	1	1	1	1
50	555357	SCREW, 1/4-20 x 0.5 in.	4	4	4	4	4	4	4	4	4

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
51	124450	CLAMP, spring		2		2	2	2	2	2	2
52	124293	BOLT, u-bolt	1	1	1	1	1	1	1	1	1
53	124259	BRAKE, plunger clamp	1	1	1	1	1	1	1	1	1
54	124291	PIN, spring	2	2	2	2	2	2	2	2	2
55	24E872	BRACKET, hopper		2		2	2	2	2	2	2
56	262479	HOPPER, blue		1		1	1	1	1	1	1
57	262480	HOPPER, green		1		1	1	1	1	1	1
58	116704	ADAPTER, fitting		2		2	2	2	2	2	2
59	15V421	TUBE, recirculation		2		2	2	2	2	2	2
60	H52506	HOSE, circulation, 6 ft		2		2	2	2	2	2	2
	H52510	HOSE, circulation, 10 ft	2		2						
61	16D376	FITTING, intake, with plug		2		2	2	2	2	2	2
61a	198292	Plug, 3/8 in.		2		2	2	2	2	2	2
62	111192	SCREW, serrated flange head, 3/8-16		4		4	4	4	4	4	4
64	- - - - -	VALVE, safety	See page 81, for detail								
65	262482	STRAINER, hopper, 7 gallon		2		2	2	2	2	2	2
66▲	15T468	LABEL, warning		2		2	2	2	2	2	2
67	16E336	GUIDE, quick start (not shown)	1	1	1	1	1	1	1	1	1
68	114958	STRAP, tie (not shown)	10	10	10	10	10	10	10	10	10
69	16F615	TOOL, wrench, Xtreme	1	1	1	1	1	1	1	1	1
70▲	16F359	Label, warning	1	1	1	1	1	1	1	1	1
71	16F536	LABEL, arrow	1	1	1	1	1	1	1	1	1
72	262392	PUMP, solvent (see pg 74 for details)			1	1	1	1	1	1	1
73	104984	FITTING, tee, 1/4 in. npt			1	1	1	1	1	1	1
74	156971	FITTING, nipple, 1/4 in. npt			1	1	1	1	1	1	1
75	H42506	HOSE, 4500 psi, 6 ft			1	1	1	1	1	1	1
76	214037	VALVE, ball, 1/4 in.			1	1	1	1	1	1	1
77	205447	COUPLING, hose			1	1	1	1	1	1	1
78	061132	HOSE, primer			1	1	1	1	1	1	1
79	24F126	MODULE, air controls			1	1	1	1	1	1	1
80	16F537	HOSE, air line, 6 ft (1.8 m)			1	1	1	1	1	1	1
83	H75005	HOSE (heater to manifold)			2	2	2	2	2	2	2
84	166590	FITTING, elbow			2	2		2			
85	245863	HEATER, 240V, hazardous locations			2	2		2			
	245869	HEATER, fluid, 240V, nonhazardous locations					2		2		
	245870	HEATER, fluid, 480V, nonhazardous locations								2	2
86	185065	ADAPTER, cable			2	2		2			
89	16G819	TOOL, wrench, Xtreme	1	1	1	1	1	1	1	1	1
90	16J688	PLUG, hole	1	1							
92	126786	TOOL, restrictor	1	1	1	1	1	1	1	1	1
93	273096	KIT, junction box, 240 V, nonhazardous					1		1		
	273101	KIT, junction box, 480 V, nonhazardous								1	1
94	17P846	BRACKET, junction box					1		1	1	1

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
95	273093	PUMP, heated-hose, circ.						1	1		1
96	17P092	PLATE, pump mount						1	1		1
97	110755	WASHER, flat, 1/4 in.						6	6		6
98	100016	WASHER, lock, 1/4 in.						6	6		6
99	104429	SCREW, 1/4-20 x 2.25 in.						6	6		6
100	26C426	MONITOR, PressureTrak (see pg 77 for details)						1	1		1
101	273094	HEATER, hose, 240V, hazardous locations						1			
	273095	HEATER, hose, 240V, nonhazardous locations							1		
	273102	HEATER, hose,480V, nonhazardous locations									1
102	248208	HOSE, air line 4 ft (1.2 m)			1	1	1	2	2	1	2
103	17N598	HARNESS, A Heater					1		1	1	1
104	17N599	HARNESS, B Heater					1		1	1	1
105	113796	SCREW, flanged hd					8		8	8	8
106	115942	NUT, flanged hd					2		2	2	2
107	17P594	FITTING, house coupler					1		1	1	1
108	17S051	FITTING, house nipple					1		1	1	1
109	24Z934	HEATER BLOCK, remote manifold						1	1		1
110	113974	SCREW, thd forming, 10-24						1	1		1
114▲	15F674	LABEL, warning					1		1	1	1
115▲	25E178	LABEL, warning					1		1	1	1

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

XP50 Systems

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
1	26C338	CART, XP	1	1	1	1	1	1	1	1	1
2	262476	HUB, axle	1	1	1	1	1	1	1	1	1
3	118841	Washer, flat, 5/8	2	2	2	2	2	2	2	2	2
4	---	PUMP assembly	See page 78, for detail								
5	100133	Washer, lock, 3/8 in.	5	5	5	5	5	5	5	5	5
6	100101	SCREW, 3/8-16 x 1in.	4	4	4	4	4	4	4	4	4
7	113362	WHEEL, semi-pneumatic	2	2	2	2	2	2	2	2	2
8	154628	WASHER	2	2	2	2	2	2	2	2	2
9	113436	RING, retaining	2	2	2	2	2	2	2	2	2
10	124410	BEARING, sleeve	1	1	1	1	1	1	1	1	1
11	124664	WASHER, 1 in.	2	2	2	2	2	2	2	2	2
12	262477	AXLE	1	1	1	1	1	1	1	1	1
13	191824	WASHER, spacer	4	4	4	4	4	4	4	4	4
14	113807	WHEEL, flat free	2	2	2	2	2	2	2	2	2
15	258982	HANDLE, cart	1	1	1	1	1	1	1	1	1
16	101242	RING, retaining	2	2	2	2	2	2	2	2	2
17	26C417	MODULE, air controls (see page 69 for details)	1	1	1	1	1	1	1	1	1
18	100131	Nut, hex, 3/8-16	1	1	1	1	1	1	1	1	1
19	25E211	LABEL, XP operation	1	1	1	1	1	1	1	1	1
20	248927	KIT, mixer element (25 pack)	3	3	3	3	3	3	3	3	3
21	111218	CAP, tube, square	4	4	4	4	4	4	4	4	4
22	158491	FITTING, nipple	4	4	6	6	6	6	6	6	6
23	15M987	FITTING, elbow, 60	2	2	4	4	4	4	4	4	4
24	H75003	HOSE, 7250 psi	2	2	2	2	2	2	2	2	2
25	H53825	HOSE,5000 psi, 3/8 in. x 25 ft	1	1	1	1	1	1	1	1	1
26	15B729	COUPLING	1	1	1	1	1	1	1	1	1
27	262478	HOUSING, mixer	3	3	3	3	3	3	3	3	3
29	150287	COUPLING, pipe, 1/4 X 3/8	1	1	1	1	1	1	1	1	1
30	H52510	HOSE, 5000 psi, 1/4 in. x 10 ft	1	1	1	1	1	1	1	1	1
31	XTR502	GUN, XTR5	1	1	1	1	1	1	1	1	1
32	162024	COUPLING	2	2	2	2	2	2	2	2	2
35	262783	MANIFOLD, recirculation, XP50 (see page 70 for details)	1	1	1	1	1	1	1	1	1
36	262807	MIX MANIFOLD (see page 70 for details)	1	1	1	1	1	1	1	1	1
37	106212	SCREW, manifold mounting	2	2	2	2	2	2	2	2	2
38	116139	GRIP, handle	2	2	2	2	2	2	2	2	2
41	158683	FITTING	2	2	4	4	4	4	4	4	4
47	206995	FLUID,TSL, 1 quart	1	1	1	1	1	1	1	1	1
48	101566	NUT, lock	2	2	2	2	2	2	2	2	2
49	15U654	LABEL, identification, A/B	1	1	1	1	1	1	1	1	1
50	555357	SCREW, 1/4-20 x 0.5 in.	4	4	4	4	4	4	4	4	4
51	124450	CLAMP, spring		2		2	2	2	2	2	2

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
52	124293	BOLT, u-bolt	1	1	1	1	1	1	1	1	1
53	124259	BRAKE, plunger clamp	1	1	1	1	1	1	1	1	1
54	124291	PIN, spring	2	2	2	2	2	2	2	2	2
55	24E872	BRACKET, hopper		2		2	2	2	2	2	2
56	262479	HOPPER, blue		1		1	1	1	1	1	1
57	262480	HOPPER, green		1		1	1	1	1	1	1
58	116704	ADAPTER, fitting		2		2	2	2	2	2	2
59	15V421	TUBE, recirculation		2		2	2	2	2	2	2
60	H52506	HOSE, circulation, 6 ft		2		2	2	2	2	2	2
	H52510	HOSE, circulation, 10 ft	2		2						
61	16D376	FITTING, intake, with plug		2		2	2	2	2	2	2
61a	198292	Plug, 3/8 in.		-		-	-	-	-	-	-
62	111192	SCREW, serrated flange head, 3/8-16		4		4	4	4	4	4	4
64	- - - - -	VALVE, safety	See page 81, for detail								
65	262482	STRAINER, hopper, 7 gallon		2		2	2	2	2	2	2
66▲	15T468	LABEL, warning		2		2	2	2	2	2	2
67	16E336	GUIDE, quick start (not shown)	1	1	1	1	1	1	1	1	1
68	114958	STRAP, tie (not shown)	10	10	10	10	10	10	10	10	10
69	16F615	TOOL, wrench, Xtreme	1	1	1	1	1	1	1	1	1
70▲	16F359	Label, warning	1	1	1	1	1	1	1	1	1
71	16F536	LABEL, arrow	1	1	1	1	1	1	1	1	1
72	262392	PUMP, solvent (see pg 74 for details)			1	1	1	1	1	1	1
73	104984	FITTING, tee, 1/4 in. npt			1	1	1	1	1	1	1
74	156971	FITTING, nipple, 1/4 in. npt			1	1	1	1	1	1	1
75	H42506	HOSE, 4500 psi, 6 ft			1	1	1	1	1	1	1
76	214037	VALVE, ball, 1/4 in.			1	1	1	1	1	1	1
77	205447	COUPLING, hose			1	1	1	1	1	1	1
78	061132	HOSE, primer			1	1	1	1	1	1	1
79	24F126	MODULE, air controls			1	1	1	1	1	1	1
80	16F537	HOSE, air line 6 ft (1.8 m)			1	1	1	1	1	1	1
83	H75005	HOSE (heater to manifold)			2	2	2	2	2	2	2
84	166590	FITTING, elbow			2	2		2			
85	245863	HEATER, 240V, hazardous locations			2	2		2			
	245869	HEATER, fluid, 240V, nonhazardous locations					2		2		
	245870	HEATER, fluid, 480V, nonhazardous locations								2	2
86	185065	ADAPTER, cable			2	2		2			
89	16G819	TOOL, wrench, Xtreme	1	1	1	1	1	1	1	1	1
90	16J688	PLUG, hole	1	1							
92	126786	TOOL, restrictor	1	1	1	1	1	1	1	1	1
93	273096	KIT, junction box, 240 V, nonhazardous					1		1		
	273101	KIT, junction box, 480 V, nonhazardous								1	1
94	17P846	BRACKET, junction box					1		1	1	1
95	273093	PUMP, heated-hose, circ.						1	1		1

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
96	17P092	PLATE, pump mount						1	1		1
97	110755	WASHER, flat, 1/4 in.						6	6		6
98	100016	WASHER, lock, 1/4 in.						6	6		6
99	104429	SCREW, 1/4-20 x 2.25 in.						6	6		6
100	26C427	MONITOR, PressureTrak (see pg 77 for details)						1	1		1
101	273094	HEATER, hose, 240V, hazardous locations						1			
	273095	HEATER, hose, 240V, nonhazardous locations							1		
	273102	HEATER, hose, 480V, nonhazardous locations									1
102	248208	HOSE, air line, 4 ft (1.2 m)			1	1	1	2	2	1	2
103	17N598	HARNESS, A Heater					1		1	1	1
104	17N599	HARNESS, B Heater					1		1	1	1
105	113796	SCREW, flanged hd					8		8	8	8
106	115942	NUT, flanged hd					2		2	2	2
107	17P594	FITTING, house coupler					1		1	1	1
108	17S051	FITTING, house nipple					1		1	1	1
109	24Z934	HEATER BLOCK, remote manifold						1	1		1
110	113974	SCREW, thd forming, 10-24						1	1		1
114▲	15F674	LABEL, warning					1		1	1	1
115▲	25E178	LABEL, warning					1		1	1	1

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

XP70 Systems

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
1	26C338	CART, XP	1	1	1	1	1	1	1	1	1
2	262476	HUB, axle	1	1	1	1	1	1	1	1	1
3	118841	Washer, flat, 5/8	2	2	2	2	2	2	2	2	2
4	- - - - -	PUMP assembly	See page 78 for details								
5	100133	Washer, lock,3/8	5	5	5	5	5	5	5	5	5
6	100101	SCREW, 3/8-16 x 1.0 in.	4	4	4	4	4	4	4	4	4
7	113362	WHEEL, semi-pneumatic	2	2	2	2	2	2	2	2	2
8	154628	WASHER	2	2	2	2	2	2	2	2	2
9	113436	RING, retaining	2	2	2	2	2	2	2	2	2
10	124410	BEARING, sleeve	1	1	1	1	1	1	1	1	1
11	124664	WASHER, 1.0 in.	2	2	2	2	2	2	2	2	2
12	262477	AXLE	1	1	1	1	1	1	1	1	1
13	191824	WASHER, spacer	4	4	4	4	4	4	4	4	4
14	113807	WHEEL, flat free	2	2	2	2	2	2	2	2	2
15	258982	HANDLE, cart	1	1	1	1	1	1	1	1	1
16	101242	RING, retaining	2	2	2	2	2	2	2	2	2
17	26C417	MODULE, air controls (see page 49 for details)	1	1	1	1	1	1	1	1	1
18	100131	Nut, hex, 3/8-16	1	1	1	1	1	1	1	1	1
19	25E211	LABEL, XP operation	1	1	1	1	1	1	1	1	1
20	248927	KIT, mixer element (25 pack)	3	3	3	3	3	3	3	3	3
21	111218	CAP, tube, square	4	4	4	4	4	4	4	4	4
22	158491	FITTING, nipple	4	4	6	6	6	6	6	6	6
23	15M987	FITTING, elbow, 60	2	2	4	4	4	4	4	4	4
24	H75003	HOSE, 7250 psi	2	2	2	2	2	2	2	2	2
25	H73825	HOSE,7250 psi, 3/8 in. x 10 ft	1	1	1	1	1	1	1	1	1
26	15B729	COUPLING	1	1	1	1	1	1	1	1	1
27	262478	HOUSING, mixer	3	3	3	3	3	3	3	3	3
29	150287	COUPLING, pipe, 1/4 X 3/8	1	1	1	1	1	1	1	1	1
30	H72510	HOSE, 7250 psi, 1/4 in. x 10 ft	1	1	1	1	1	1	1	1	1
31	XTR702	GUN, XTR 7	1	1	1	1	1	1	1	1	1
32	162024	COUPLING,	2	2	2	2	2	2	2	2	2
35	262806	MANIFOLD, recirc, XP70 (see pg 70 for details)	1	1	1	1	1	1	1	1	1
36	262807	MIX MANIFOLD	1	1	1	1	1	1	1	1	1
37	106212	SCREW, manifold mounting	2	2	2	2	2	2	2	2	2
38	116139	GRIP, handle	2	2	2	2	2	2	2	2	2
41	158683	FITTING	2	2	4	4	4	4	4	4	4
47	206995	FLUID, TSL, 1 quart	1	1	1	1	1	1	1	1	1
48	101566	NUT, lock	2	2	2	2	2	2	2	2	2
49	15U654	LABEL, identification, A/B	1	1	1	1	1	1	1	1	1
50	555357	SCREW, 1/4-20 x 0.5 in.	4	4	4	4	4	4	4	4	4
51	124450	CLAMP, spring		2		2	2	2	2	2	2

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
52	124293	BOLT, u-bolt	1	1	1	1	1	1	1	1	1
53	124259	BRAKE, plunger clamp	1	1	1	1	1	1	1	1	1
54	124291	PIN, spring	2	2	2	2	2	2	2	2	2
55	24E872	BRACKET, hopper		2		2	2	2	2	2	2
56	262479	HOPPER, blue		1		1	1	1	1	1	1
57	262480	HOPPER, green		1		1	1	1	1	1	1
58	116704	ADAPTER, fitting		2		2	2	2	2	2	2
59	15V421	TUBE, recirculation		2		2	2	2	2	2	2
60	H52506	HOSE, circulation, 6 ft		2		2	2	2	2	2	2
	H52510	HOSE, circulation, 10 ft	2		2						
61	16D376	FITTING, intake, with plug		2		2	2	2	2	2	2
61a	198292	PLUG, 3/8 in.		-		-	-	-	-	-	-
62	111192	SCREW, serrated, flange head, 3/8-16		4		4	4	4	4	4	4
64	- - - - -	VALVE, safety	See page 81 for details								
65	262482	STRAINER, hopper, 7 gallon		2		2	2	2	2	2	2
66▲	15T468	LABEL, warning		2		2	2	2	2	2	2
67	16E336	GUIDE, quick start (not shown)	1	1	1	1	1	1	1	1	1
68	114958	STRAP, tie (not shown)	10	10	10	10	10	10	10	10	10
69	16F615	TOOL, wrench, Xtreme	1	1	1	1	1	1	1	1	1
70▲	16F359	LABEL, warning	1	1	1	1	1	1	1	1	1
71	16F536	LABEL, arrow	1	1	1	1	1	1	1	1	1
72	262392	PUMP, solvent (see pg 74 for details)			1	1	1	1	1	1	1
73	104984	FITTING, tee, 1/4 in. npt			1	1	1	1	1	1	1
74	156971	FITTING, nipple, 1/4 in. npt			1	1	1	1	1	1	1
75	H42506	HOSE, 4500 psi, 6 ft			1	1	1	1	1	1	1
76	214037	VALVE, ball, 1/4 in.			1	1	1	1	1	1	1
77	205447	COUPLING, hose			1	1	1	1	1	1	1
78	061132	HOSE, primer			1	1	1	1	1	1	1
79	24F126	MODULE, air controls			1	1	1	1	1	1	1
80	16F537	HOSE, air line, 6 ft (1.8 m)			1	1	1	1	1	1	1
83	H75005	HOSE (heater to manifold)			2	2	2	2	2	2	2
84	166590	FITTING, elbow			2	2		2		2	2
85	245863	HEATER, 240V, hazardous locations			2	2		2			
	245869	HEATER, fluid, 240V, nonhazardous locations					2		2		
	245870	HEATER, fluid, 480V, nonhazardous locations								2	2
86	185065	ADAPTER, cable			2	2		2			
89	16G819	TOOL, wrench, Xtreme	1	1	1	1	1	1	1	1	1
90	16J688	PLUG, hole	1	1							
92	126786	TOOL, restrictor	1	1	1	1	1	1	1	1	1
93	273096	KIT, junction box, 240 V					1		1		
	273101	KIT, junction box, 480 V								1	1
94	17P846	BRACKET, junction box					1		1	1	1
95	273093	PUMP, heated-hose, circ.						1	1		1

Ref.	Part	Description	Quantity								
			xxxxx1	xxxxx2	xxxxx3	xxxxx4	xxxxx5	xxxxx6	xxxxx7	xxxxx8	xxxxx9
96	17P092	PLATE, pump mount						1	1		1
97	110755	WASHER, flat, 1/4 in.						6	6		6
98	100016	WASHER, lock, 1/4 in.						6	6		6
99	104429	SCREW, 1/4-20 x 2.25 in.						6	6		6
100	26C427	MONITOR, PressureTrak (see pg 77)						1	1		1
101	273094	HEATER, hose, 240V, hazardous locations						1			
	273095	HEATER, hose, 240V, nonhazardous locations							1		
	273102	HEATER, hose,480V, nonhazardous locations									1
102	248208	HOSE, air line, 4 ft (1.2 m)			1	1	1	2	2	1	2
103	17N598	HARNESS, A Heater					1		1	1	1
104	17N599	HARNESS, B Heater					1		1	1	1
105	113796	SCREW, flanged hd					8		8	8	8
106	115942	NUT, flanged hd					2		2	2	2
107	17P594	FITTING, house coupler					1		1	1	1
108	17S051	FITTING, house nipple					1		1	1	1
109	24Z934	HEATER BLOCK, remote manifold						1	1		1
110	113974	SCREW, thd forming, 10-24						1	1		1
114▲	15F674	LABEL, warning					1		1	1	1
115▲	25E178	LABEL, warning					1		1	1	1

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

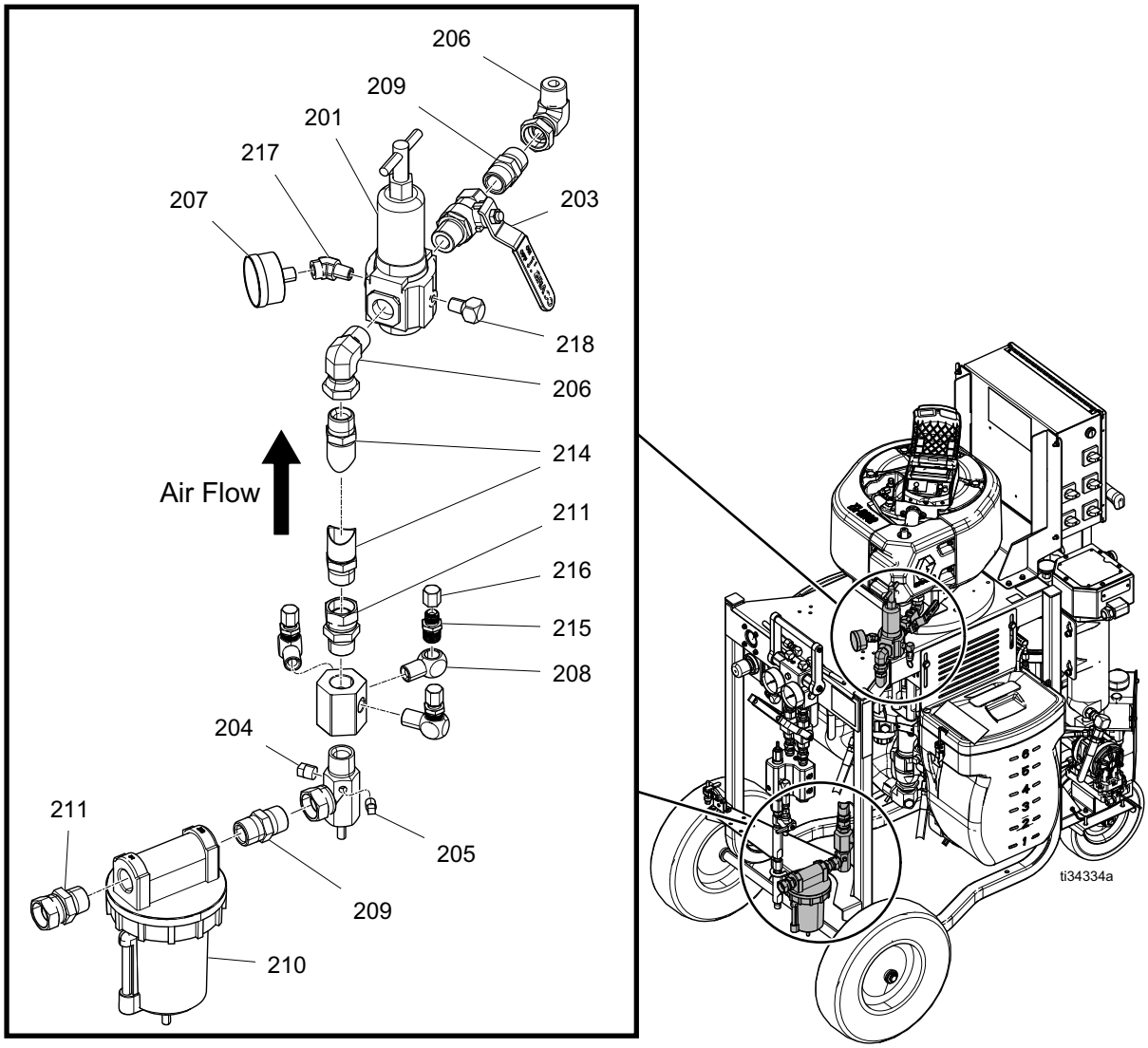
XP-h Systems

Ref.	Part	Description	Quantity			
			XP50-h		XP70-h	
			284xx4	284xx5	284xx6	284xx7
1	26C338	CART, XP	1	1	1	1
2	262476	HUB, axle	1	1	1	1
3	118841	WASHER, flat, 5/8	2	2	2	2
4	- - - - -	PUMP	See page 81			
5	100133	WASHER, lock, 3/8	4	4	4	4
6	100101	SCREW, 3/8-16 x 1.0 in.	4	4	4	4
7	113362	WHEEL, semi-pneumatic	2	2	2	2
8	154628	WASHER	2	2	2	2
9	113436	RING, retaining	2	2	2	2
10	124410	BEARING, sleeve	1	1	1	1
11	124664	WASHER, 1.0 in.	2	2	2	2
12	15A913	AXLE	1	1	1	1
13	191824	WASHER, spacer	4	4	4	4
14	113807	WHEEL, flat free	2	2	2	2
15	258982	HANDLE, cart	1	1	1	1
16	101242	RING, retaining	2	2	2	2
19	25E211	LABEL, XP, operation	1	1	1	1
20	248927	KIT, mixer element (25 pack)	3	3	3	3
21	111218	CAP, tube, square	4	4	4	4
22	158491	FITTING, nipple	4	6	4	6
23	15M987	FITTING, elbow, 60	2	4	2	4
24	H75003	HOSE, 7250 psi	2	2	2	2
25	H53825	HOSE, 5000 psi, 3/8 in. x 25 ft	1	1		
	H73825	HOSE, 7250 psi, 3/8 in. x 25 ft			1	1
26	15B729	COUPLING	1	1	1	1
27	262478	HOUSING, mixer	3	3	3	3
29	150287	COUPLING, pipe, 1/4 x 3/8	1	1	1	1
30	H52510	HOSE, 5000 psi, 1/4 in. x 10 ft	1	1		
	H72510	HOSE, 7250 psi, 1/4 in. x 10 ft			1	1
31	XTR504	GUN, XTR5	1	1		
	XTR704	GUN, XTR7			1	1
32	162024	COUPLING,	2	2	2	2
35	262783	MANIFOLD, recirc, XP50 (see page 70 for details)	1	1		
	262806	MANIFOLD, recirc, XP70 (see page 70 for details)			1	1
36	262807	MIX MANIFOLD	1	1	1	1
37	106212	SCREW, manifold mounting	2	2	2	2
38	116139	GRIP, handle	2	2	2	2
41	158683	FITTING	2	4	2	4
47	206995	FLUID, TSL, 1 quart	1	1	1	1

Ref.	Part	Description	Quantity			
			XP50-h		XP70-h	
			284xx4	284xx5	284xx6	284xx7
48	101566	NUT, lock	2	2	2	2
49	15U654	LABEL, identification, A/B	1	1	1	1
50	555357	SCREW, 1/4-20 x 0.5 in.	4	4	4	4
51	124450	CLAMP, spring	2		2	
52	124293	BOLT, u-bolt	1	1	1	1
53	124259	BRAKE, plunger clamp	1	1	1	1
54	124291	PIN, spring	2	2	2	2
55	24E872	BRACKET, hopper	2		2	
56	262479	HOPPER, blue	1		1	
57	262480	HOPPER, green	1		1	
58	116704	ADAPTER, fitting	2		2	
59	15V421	TUBE, recirculation	2		2	
60	H52506	HOSE, circulation, 6 ft	2		2	
	H52510	HOSE, circulation, 10 ft		2		2
61	16D376	FITTING, intake, with plug	2		2	
62	111192	SCREW, serrated flange head, 3/8-16	4		4	
65	262482	STRAINER, hopper, 7 gallon	2		2	
66▲	15T468	LABEL, warning	2		2	
67	16E336	GUIDE, quick start	1	1	1	1
68	114958	STRAP, tie	10	10	10	10
69	16F615	TOOL, wrench, Xtreme	1	1	1	1
70▲	16F359	LABEL, warning	1	1	1	1
71	16F536	LABEL, arrow	1	1	1	1
72	262392	PUMP, solvent (see pg 74 for details)		1		1
73	104984	FITTING, tee, 1/4 in. npt		1		1
74	156971	FITTING, nipple, 1/4 in. npt		1		1
75	H42506	HOSE, 4500 psi, 1/4 in. x 6 ft		1		1
76	214037	VALVE, ball, 1/4 in.		1		1
77	205447	COUPLING, hose		1		1
78	061132	HOSE, primer		1		1
79	24F126	MODULE, air controls		1		1
80	16F537	HOSE, air line, 6 ft		1		1
83	H75005	HOSE (heater to manifold)		2		2
84	166590	FITTING, elbow		2		2
85	245863	HEATER, 240V, hazardous locations		2		2
89	16G819	TOOL, wrench, Xtreme	1	1	1	1
90	16J688	PLUG, hole	1		1	
92	126786	TOOL, restrictor	1	1	1	1

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

Air Controls, 26C417

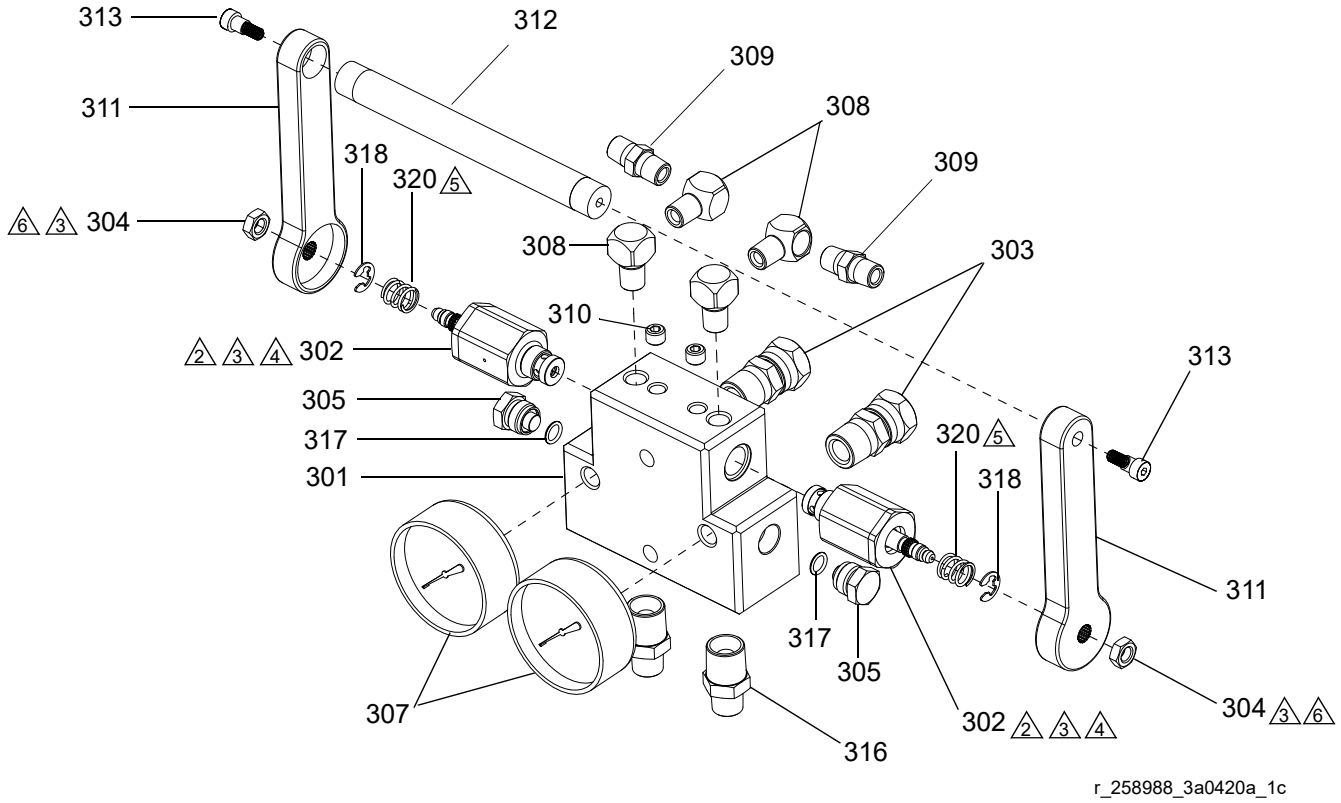


Ref.	Part	Description	Qty.
201	16F014	REGULATOR, air, T-handle	1
202	207675	MANIFOLD, air	1
203	113218	VALVE, ball	1
204	100509	PLUG; 1/4 npt	1
205	100403	PLUG; 1/8 npt	1
206	160327	FITTING, union, 90°; 3/4 male x female	2
207	101689	GAUGE, pressure, air	1
208	155699	FITTING, elbow, street; 3/8 npt	3
209	119992	FITTING, pipe, nipple, 3/4 x 3/4 npt	2
210	117628	FITLTER, air, auto drain; 3/4 npt	1
210a	106204	ELEMENT, filter; 3/4 npt (not shown)	1
211	157785	FITTING, union; 3/4 male x female	2

Ref.	Part	Description	Qty.
213	15E145	MANIFOLD, air distribution	1
214	16E004	HOSE, coupled, air; 26 in. (660 mm)	1
215	157350	NIPPLE; 3/8 x 1/4 npt	3
216	115781	CAP PLUG; 1/4 npt	3
217	119789	FITTING, elbow, street, 45 deg	1
218	100840	FITTING, elbow, street	1

Fluid Circulation Manifold with Over Pressure Relief Valve

Assembly 262784 (XP35); 262783 (XP50); 262806 (XP70)



1. Apply anaerobic pipe sealant to all non-swiveling pipe threads.

2 Torque to 28-32 ft-lb (38-43 N•m).

3 Apply blue anaerobic adhesive to threads.

4 Further tighten either valve (302) as required to line up handle straight across.

5 Apply grease to spring ends.

6 Torque to 70-90 in-lb (7.9-9 N•m).

Ref	Part	Description	Qty
301	16D693	BLOCK, manifold, recirculation	1
302†	262520	VALVE, over pressure relief, silver, XP70	2
◆	262809	VALVE, over pressure relief, gold, XP50	2
★	262808	VALVE, over pressure relief, purple, XP35	2
303	156684	UNION; 1/2 in. male x female	2
304	112309	NUT, hex, jam	2
305	198241	PLUG, port, pressure; 11/16-24	2
307†◆	114434	GAUGE, pressure, fluid, sst; 10k psi	2
★	113654	GAUGE, pressure, fluid, sst; 5k psi	2
308	100840	FITTING, elbow, street; 1/4 npt	4
309	156971	FITTING, nipple; 1/4 npt x npsm	2
310	557349	PLUG, dry seal 1/8 npt	2
311	16E334	HANDLE, manifold	2
312	16E332	ROD, connecting, handle	1
313	124859	SCREW, button head	2

Ref	Part	Description	Qty
316	156684	FITTING, nipple, 1/2 npt x 1/2 npt	2
317	121399	O-RING, solvent resistant	2
318	124676	RING, snap, external	2
320	150829	SPRING, compression	2
351✕	159239	FITTING, nipple, pipe, reducing	2
352✕	156173	UNION, swivel	2

✕ *Not shown. Shipped loose.*

★ *For XP35 systems only.*

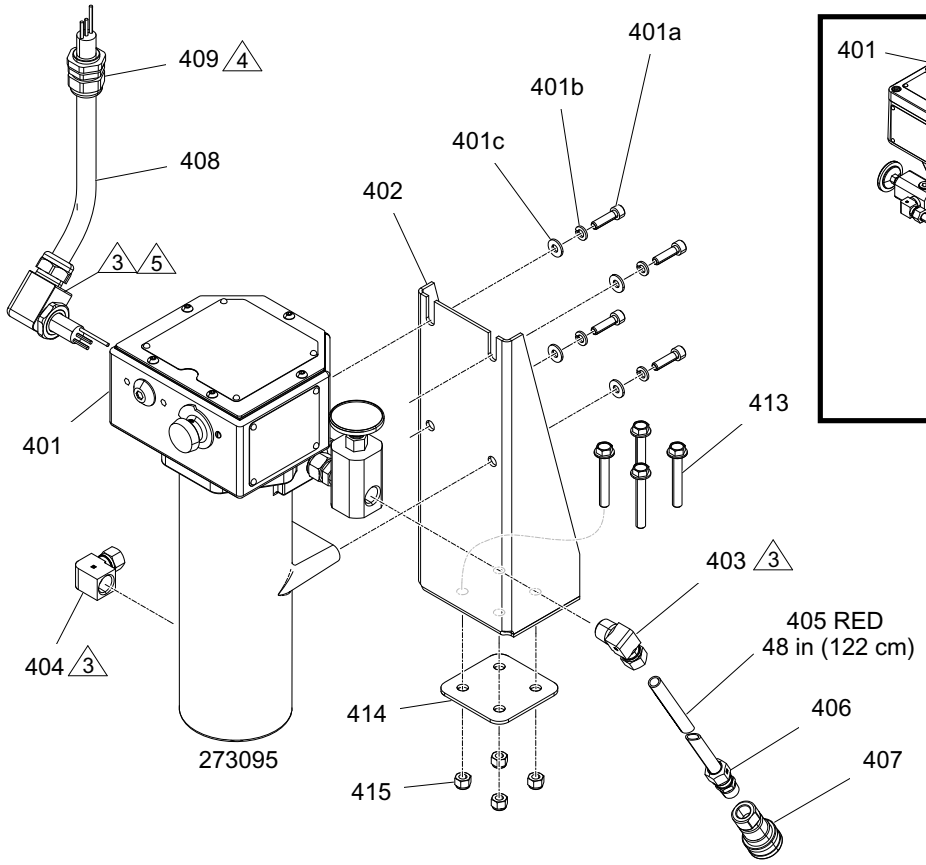
◆ *For XP50 systems only.*

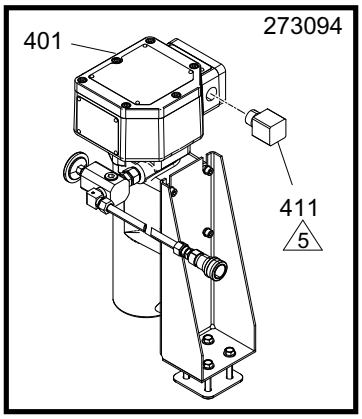
† *For XP70 systems only.*

NOTE: Loose fittings are supplied with replacement manifold to also fit Series A (XP70) Proportioners with 3/8 in. mix manifold ball valves.

Hose Heater (bracket mounted)

273102 (Non-Hazardous, 480V)
273095 (Non-Hazardous Locations, 240V)
273094 (Hazardous Locations, 240V)

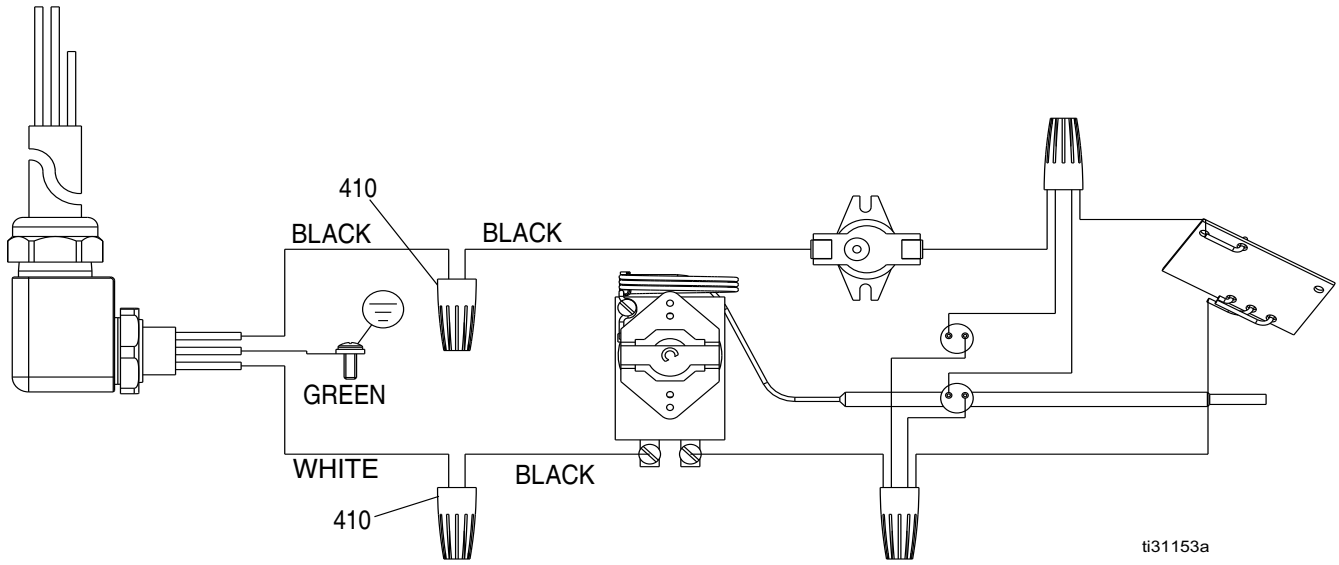




3 Orient fittings as shown.

4 Tighten cord grip 0.75 in. back from cord cover end.

5 Orient the port facing down.



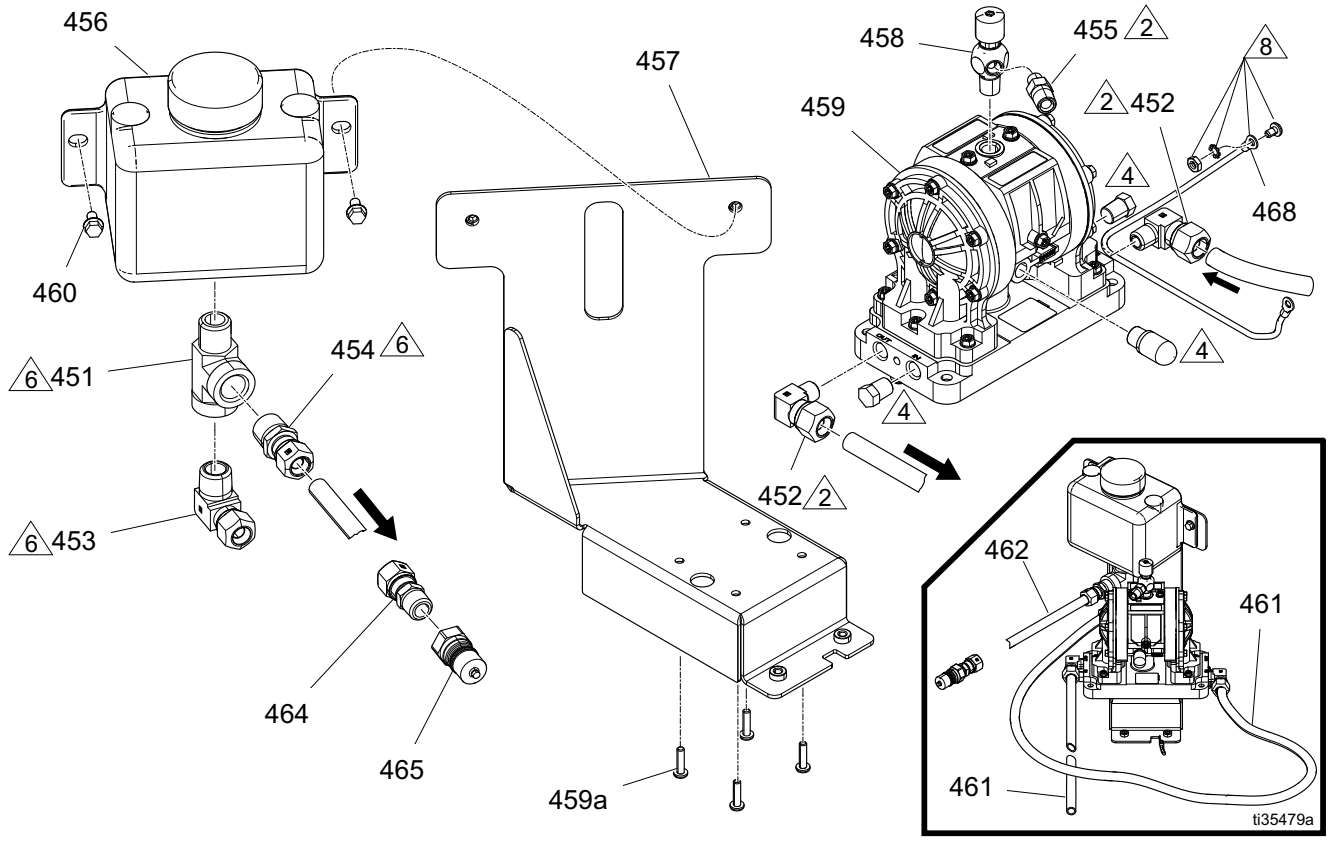
Mounted Heated Hose Parts List

Ref.	Part	Description	Qty. (273095)	Qty. (273094)	Qty. (273102)
401	245869	HEATER, paint, non-hazardous locations	1		
	245863	HEATER, paint, hazardous locations		1	
	245870	HEATER, paint, non-hazardous locations			1
402	24N445	BRACKET, heater, heated hose, paint	1	1	1
403	126898	FITTING, elbow, 1/2 tube x 1/2 NPTM	1	1	1
404	126896	FITTING, elbow, 1/2 tube x 1/2 NPTF	1	1	1
405	17P759	TUBE, 48 in. x 0.5 OD, nylon	1	1	1
406	126900	FITTING, 1/2 tube x 3/8 NPTM	1	1	1
407	17D306	FITTING, coupler, quick coupling	1	1	1
408	17N600	HARNESS, sw5 to hose heat	1		1
409	116171	BUSHING, strain relief	1		1
410	122032	NUT, wire	2		2
411	166590	FITTING, elbow, street		1	
413	123443	SCREW, cap, flng hd	4	4	4
414	24N447	BRACKET, base, heated hose, painted	1	1	1
415	113981	NUT, lock, high tensile	4	4	4
416	185065	ADAPTER, cable		1	

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

Heated Hose Recirculation Pump

273093



1 Apply thread sealant to all non-swiveling pipe threads.

2 Orient fittings as shown.

4 Install two loose plugs and muffler provided with pump in the ports indicated.

6 Orient fittings approximately 15 degrees away from pump.

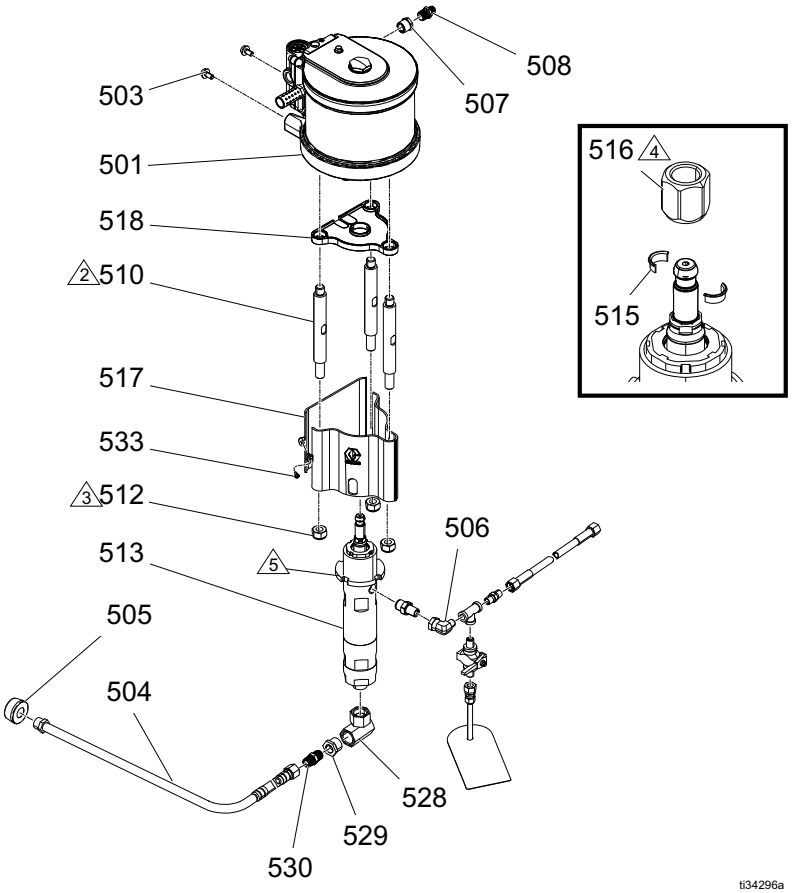
8 Install ground wire between screw and washer. The nut is held in the slot of the pump.

Mounted Heated Hose Parts List

Ref.	Part	Description	Qty.
451	108126	FITTING, tee, street	1
452	126897	FITTING, elbow, 1/2 tube x 1/4 NPTM	2
453	126898	FITTING, elbow, 1/2 tube x 1/2 NPTM	1
454	126899	FITTING, 1/2 tube x 1/2 NPTM	1
455	16D939	FITTING, nipple, reducing	1
456	16R871	BOTTLE, overflow, 1/2 NPT	1
457	17P088	BRACKET, XP-hf, re-circ, painted	1
458	206264	VALVE, needle	1
459	24P835	PUMP, acetal, w/pvdf check, Husky	1
460	113161	SCREW, flange, hex hd	2
461	17N910	TUBE, 35 in. x 0.5 OD, nylon	2
462	17N911	TUBE, blue, 0.5 OD, nylon (48 in. long)	1
464	126900	FITTING, 1/2 tube x 3/8 NPTM	1
465	17D307	FITTING, nipple, quick coupling	1
468	17N795	WIRE, ground	1

Solvent Pump Parts

262392



2 Torque to 50-55 ft-lb (68-75 N•m).

3 Torque to 50-60 ft-lb (68-81 N•m).

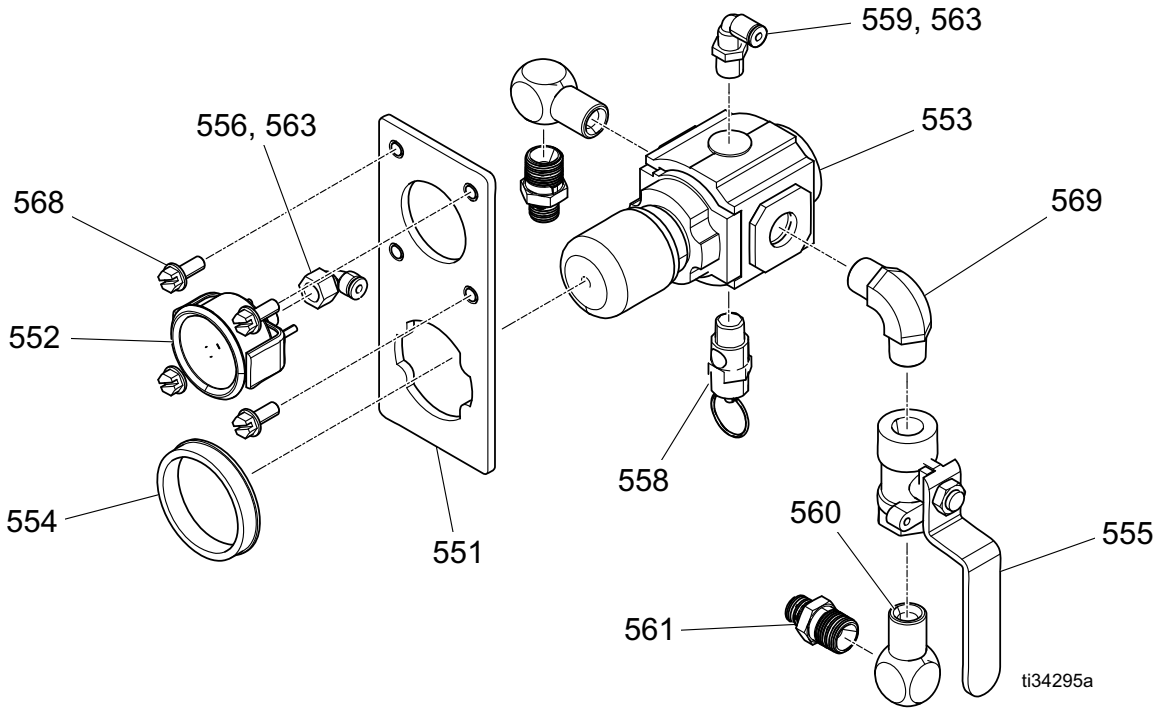
4 Torque to 75-80 ft-lb (102-108 N•m).

Parts List

Ref.	Part	Description	Qty.
501	24F079	MOTOR, air, 6 in., std, slvt only	1
503	111799	SCREW, cap, hex hd	4
504	244675	HOSE, coupled, suction	1
505	108143	STRAINER	1
506	116395	FITTING, swivel, elbow	1
507	100081	BUSHING, pipe	1
508	157350	ADAPTER	1
510	15M662	ROD, tie	3
511	16U431	ADAPTER, 50cc, pump lower (not shown)	1
512	15U606	NUT, lock, m16 x 2	3
513	LW050A	LOWER, assy, 50 cc	1
514	15T337	RESERVOIR, tsl, 50cc lwr 7 1/2 motor (not shown)	2
515	184128	COLLAR, coupling	1
516	15T311	NUT, coupler	1
517	277743	SHIELD, 6.0/7.5 in.	1
518	15V028	SHIELD, drip	1
528	156589	FITTING, union, adapter, 90 deg	1
529	100505	BUSHING, pipe	1
530	156849	PIPE, nipple	1
533	105335	SCREW, mach, pnh	1

Solvent Air Control Parts

24F126

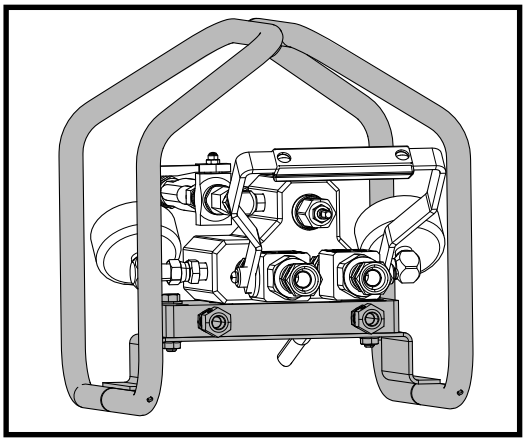


Parts List

Ref.	Part	Description	Qty.
551	- - - - -	PANEL, air controls, slvt, painted	1
552	15T500	GAUGE, pressure, air, pl mnt, 1/8	1
553	15T536	REGULATOR, air, 3/8 npt	1
554	16F810	NUT, regulator, steel	1
555	114362	VALVE, ball, air	1
556	15T498	FITTING, 90 , swvl, 5/32 t x 1/8 fnpt	1
558	113498	VALVE, safety, 110 psi	1
559	15T937	FITTING, elbow, swivel 1/4 npt x 5/32 t	1
560	155699	FITTING, elbow, street	2
561	164672	ADAPTER	2
563	054753	TUBE, nylon, rd, black	0.75
568	108296	SCREW, mach, hex wash hd	4
569	109544	FITTING, elbow, pipe, male	1

Heater Block Remote Manifold Kit

Kit 24Z934



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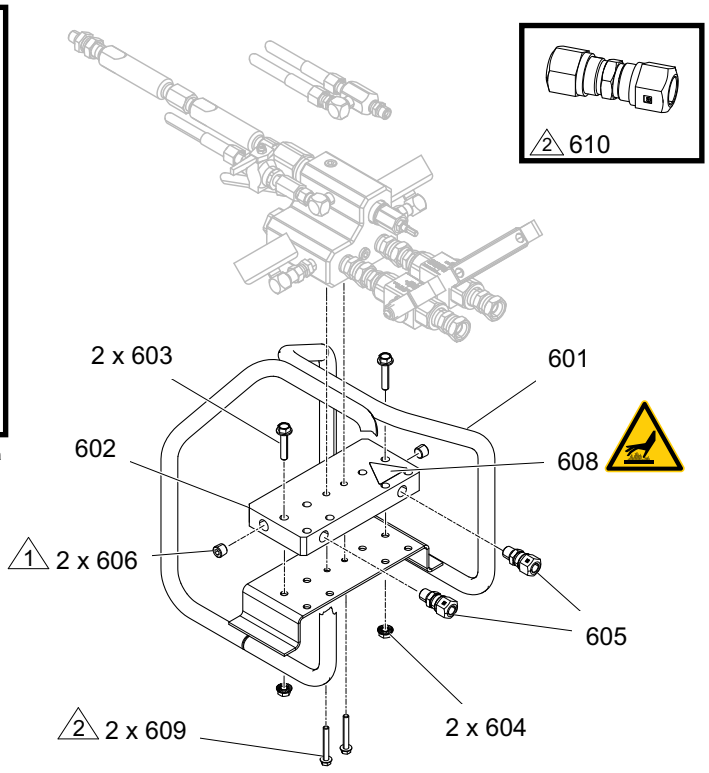


1 Apply thread sealant to all non-swiveling pipe threads.

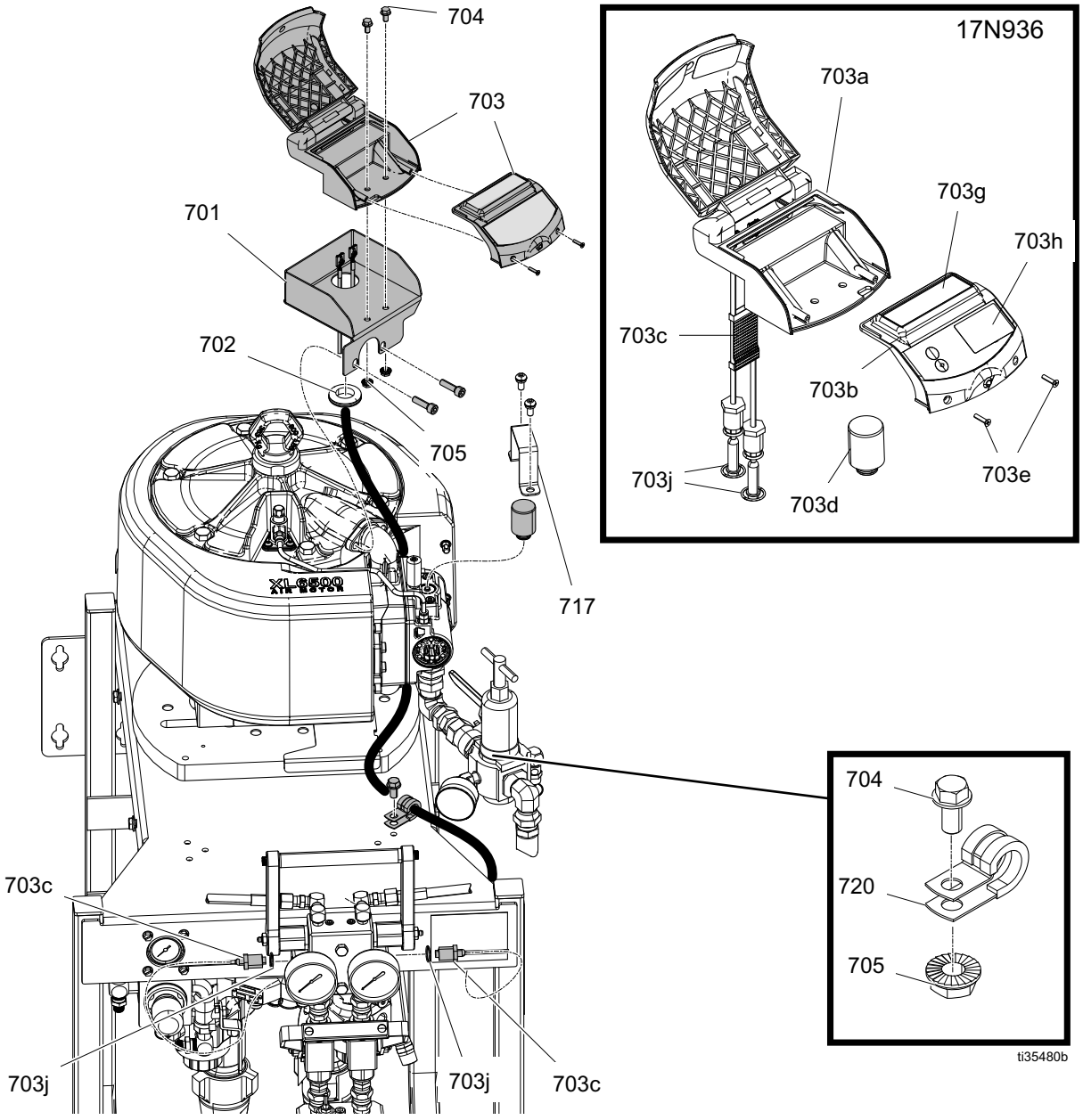
2 Supplied loose, not installed.

Ref.	Part	Description	Qty.
601	24F834	CARRIAGE, weldment, remote manifold	1
602	16T294	PLATE, heater transfer, PFP 2k	1
603	110837	SCREW, flange, hex	2
604	110996	NUT, hex, flange head	2
605	126692	FITTING, tube, NPT x tube	2
606	100721	PLUG, pipe	2
608▲	189285	LABEL, safety, burn	1
609	120736	SCREW, hex flange HD	2
610	126894	FITTING, union, 1/2 tube x 1/2 tube	2
611*	054960	TUBE, red, nylon, 0.375 (9.5 mm) ID (1.5 ft)	1
612*	054961	TUBE, blue, nylon, 0.375 (9.5 mm) ID (1.5 ft)	1

** Supplied loose, not installed.*

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

PressureTrak Kit (26C426 - XP35, 26C427 - XP50/XP70)

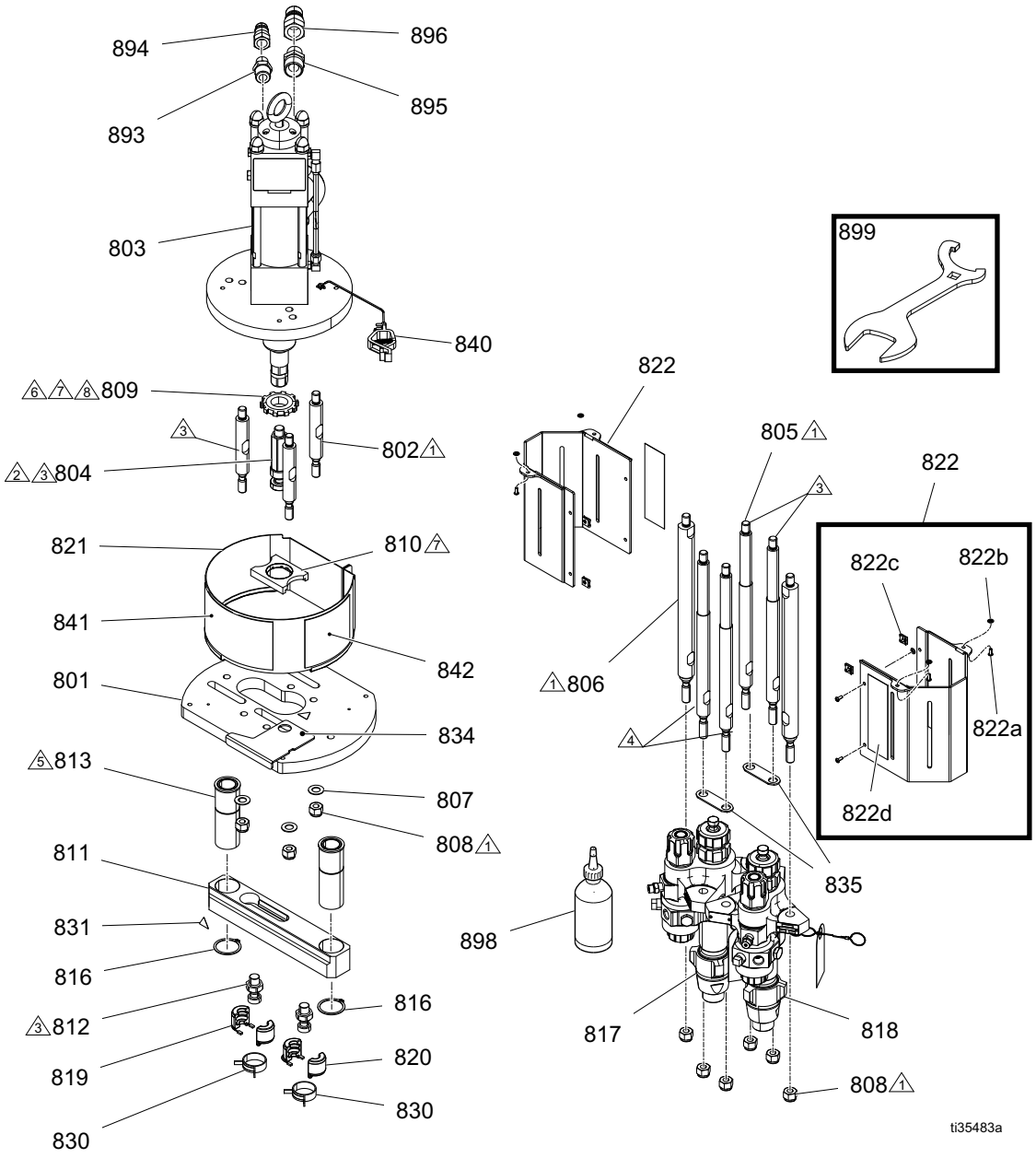


Ref.	Part	Description	Qty.
701	17P845	BRACKET, XP-hf	1
	26C418	BRACKET, XP50/XP70	1
	26C424	BRACKET, XP35	1
702	16C251	GROMMET	1
703	17N936	MONITOR, PressureTrak (includes 3a-3j)	1
703a	24Y932	HOUSING	1
703b	24Z940	MODULE	1
703c	17R447	SENSOR, PressureTrak, assembly	2
703d	15F477	SOLENOID, locking, DC	1
703e	- - - - -	SCREW, high-low, flat head #6 x 0.625	2
703f	24V216	KIT, repair, fuse assembly (not shown)	1

Ref.	Part	Description	Qty.
703g▲	15F716	LABEL, warning	1
703h	NXT405	KIT, membrane shield (pack of 20)	1
703j	- - - - -	PACKING, o-ring	2
704	- - - - -	SCREW	2
705	- - - - -	NUT, hex, flange head	2
717	17R738	BRACKET, XL motor, solenoid	1
720	- - - - -	CLAMP, cable	1

▲ *Replacement Danger and Warning labels are available at no cost.*

XPh Proportioning Pump Package



1 Torque together to 50-60 ft-lb (68-81 N•m).

2 Torque to 145-155 ft-lb (196-210 N•m).

3 Apply blue thread sealant.

4 Insert lanyard from locking pin onto pumps (17, 18) as shown.

5 Do not apply lubricant.

6 Torque to 70-80 ft-lb (95-108 N•m).

7 Apply lithium grease to mating tapered surfaces.

8 Nuts with nylon patch - add anti-seize lubricant.
Nuts without nylon patch - add blue thread sealant.

XPh Pump Package

Ref.	Part	Description	Qty.
801	262465	PLATE, motor	1
802	16M882	ROD, tie, 5.0 in. long	3
803	262818	MOTOR, hydraulic	1
804	16M654	ROD, adapter	1
805	262468	ROD, tie, 14.25 in. long w/ shoulder	4
806	262469	ROD, tie, 14.25 in. long, 1.25 in. dia.	2
807	154636	WASHER, flat	3
808	101712	NUT, lock, 5/8 - 11	9
809	16D451	NUT, yoke	1
810	262470	BRACKET, ratio indicator	1
811	262471	YOKE, pump assembly	1
812	15H392	ROD, adapter, Xtreme	2
813	262472	SLEEVE, with bearing	2
816	123976	RING, snap, external	2
821	262814	KIT, cover, air motor	1
822	262474	KIT, cover, pump	2
822a	121803	SCREW, button head, #10-32 x 0.5 in.	4
822b	124172	WASHER, nylon, #10-32	4
822c	124665	NUT, captive, #10-32	2
822d▲	15T468	LABEL, warning	1
830	124078	CLAMP, spring	2
831▲	15H108	LABEL, safety warning	2
834	262475	PLATE, ratio indicator	1
835	16E882	STRAP, lowers	2
840	244524	WIRE, ground	1
841	16N396	LABEL, XPh	1
842▲	16N375	LABEL, warning	1
893	196142	FITTING, adapter	1
894	17E119	COUPLER, hydraulic	1
895	158555	FITTING, nipple, adapter	1
896	17E121	COUPLER, hydraulic	1
898	206995	FLUID, TSL	1
899	16F615	TOOL, wrench, Xtreme	1

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

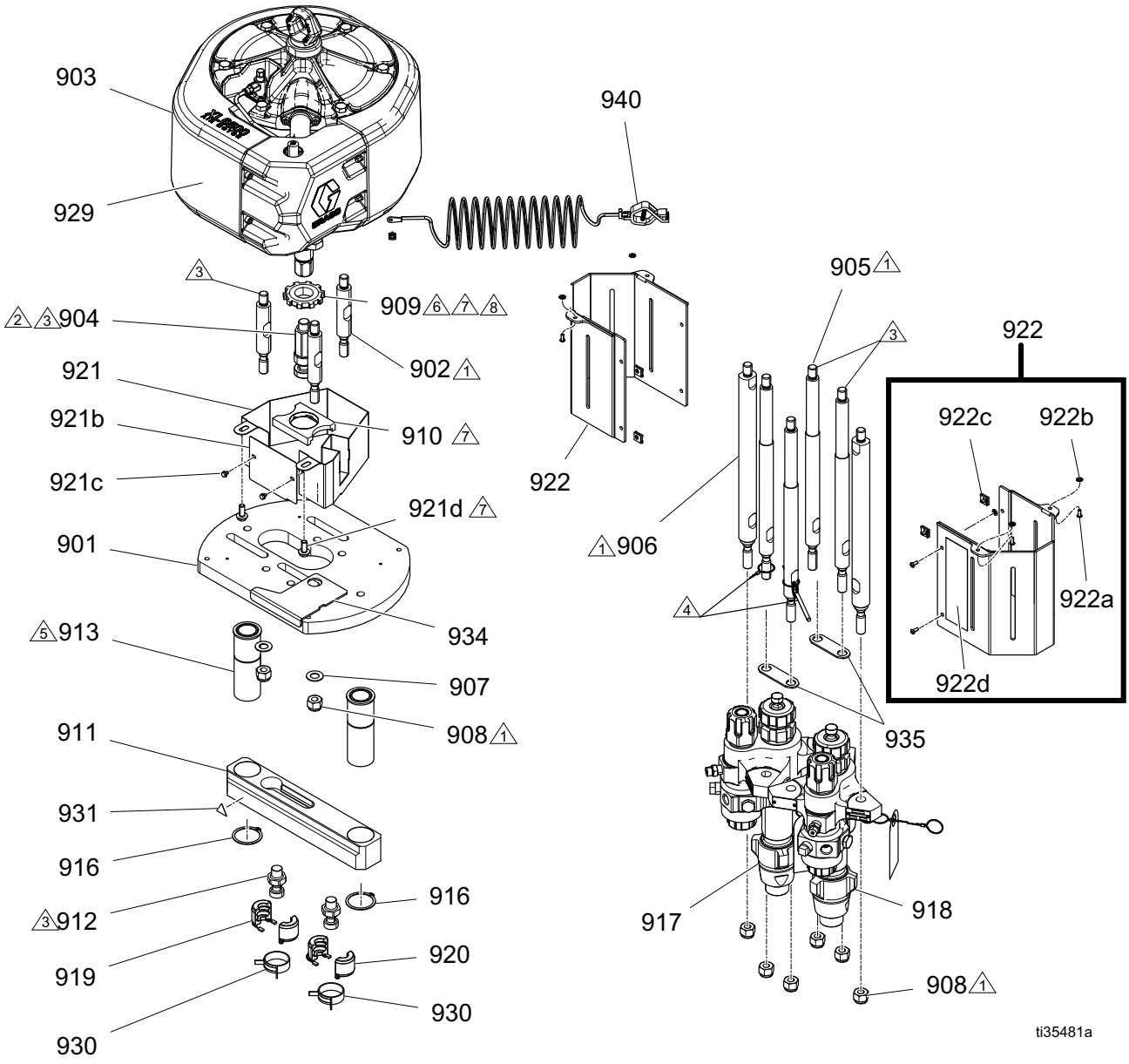
Ref.	Description	Part					Qty.
4	PUMP Assembly	284101	284201	284251	284301	284401	1
817	PUMP, lower, A	L22AC0	L29AC0	L29AC0	L29AC0	L29AC0	1
818	PUMP, lower, B	L22AC0	L14AC0	L115C0	L097C0	L054C0	1
819	COUPLING, A	244819	244819	244819	244819	244819	1
820	COUPLING, B	244819	244819	244819*	247167	247167	1

Ref.	Description	Part					Qty.
-	XP50-h Sprayer	284104 284105	284204 284205	284254 284255	284304 284305	284404 284405	-
4	PUMP Assembly	284102	284202	284252	284302	284402	1
817	PUMP, lower, A	L14AC0	L18AC0	L180C0	L22AC0	L22AC0	1
818	PUMP, lower, B	L14AC0	L090C0	L058C0	L097C0	L054C0	1
819	COUPLING, A	244819	244819	244819	244819	244819	1
820	COUPLING, B	244819	247167	247167	247167	247167	1

Ref.	Description	Part					Qty.
-	XP70-h Sprayer	284106 284107	284206 284207	284256 284257	284306 284307	284406 284407	-
4	PUMP Assembly	284103	284203	284253	284303	284403	1
817	PUMP, lower, A	L090C0	L115C0	L14AC0	L14AC0	L14AC0	1
818	PUMP, lower, B	L090C0	L058C0	L058C0	L048C0	L036C0	1
819	COUPLING, A	247167	244819*	244819	244819	244819	1
820	COUPLING, B	247167	247167	247167	247167	247167	1

* Series G (and older) L115C0 pump lowers use 247167.

XP Proportioning Pump Package



1 Torque together to 50-60 ft-lb (68-81 N•m).

2 Torque to 145-155 ft-lb (196-210 N•m).

3 Apply blue thread sealant.

4 Insert lanyard from locking pin onto pumps (17, 18) as shown.

5 Do not apply lubricant.

6 Torque to 70-80 ft-lb (95-108 N•m).

7 Apply lithium grease to mating tapered surfaces.

8 Nuts with nylon patch - add anti-seize lubricant.
Nuts without nylon patch - add blue thread sealant.

XP Pump Package

Ref.	Part	Description	Qty.
901	262465	PLATE, motor	1
902	262466	ROD, tie, 4.0 in. long	3
904	262467	ROD, adapter	1
905	262468	ROD, tie, 14.25 in. long w/ shoulder	4
906	262469	ROD, tie, 14.25 in. long, 1.25 in. dia.	2
907	154636	WASHER, flat	3
908	101712	NUT, lock, 5/8 - 11	9
909	16D451	NUT, yoke	1
910	262470	BRACKET, ratio indicator	1
911	262471	YOKE, pump assembly	1
912	15H392	ROD, adapter, Xtreme	2
913	262472	SLEEVE, with bearing	2
916	123976	RING, snap, external	2

Ref.	Part	Description	Qty.
921	26C436	KIT, cover, air motor	1
921b	17X148	PLATE, finger guard	2
921c	16P338	SCREW, hex head, #10-32 x 0.25 in.	2
921d	111192	SCREW, cap	2
922	262474	KIT, cover, pump	2
922a	121803	SCREW, button head, #10-32 x .5 in.	3
922b	124172	WASHER, nylon, #10-32	9
922c	124665	NUT, captive, #10-32	1
922d▲	15T468	LABEL, warning	1
930	124078	CLAMP, spring	1
931▲	15H108	LABEL, safety warning	2
934	262475	PLATE, ratio indicator	2
935	16E882	STRAP, lowers	2
940	244524	WIRE, ground	

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

Ref.	Description	Part					Qty.
-	**XP35 Sprayer**	28110X 57410X	28120X 57420X	28125X 57425X 262804	28130X 57430X	28140X 57440X	-
4	PUMP Assembly	281100	281200	262803	281300	281400	1
903	MOTOR, air	XL34D0	XL34D0	XL34D0	XL34D0	XL34D0	1
917	PUMP, lower, A	L090C0	L115C0	L14AC0	L14AC0	L14AC0	1
918	PUMP, lower, B	L090C1	L058C0	L058C0	L048C0	L036C0	1
919	COUPLING, A	244819	244819*	244819	244819	244819	1
920	COUPLING, B	244819	247167	247167	247167	247167	1
929	LABEL, XP--	17X377	17X377	17X377	17X377	17X377	1
64	VALVE, safety	114055	16M190	113498	114055	103347	1

Ref.	Description	Part							Qty.
-	**XP50 Sprayer**	28210X 57510X	28215X 57515X	28220X 57520X	28225X 57525X	28230X 57530X	28233X	28240X 57540X	-
4	PUMP Assembly	282100	282150	282200	282250	282300	282330	282400	1
903	MOTOR, air	XL65D0	XL65D0	XL65D0	XL65D0	XL65D0	XL65D0	XL65D0	1
917	PUMP, lower, A	L14AC0	L14AC0	L18AC0	L18AC0	L22AC0	L18AC0	L22AC0	1
918	PUMP, lower, B	L14AC0	L097C0	L090C0	L072C0	L072C0	L054C0	L054C0	1
919	COUPLING, A	244819	244819	244819	244819	244819	244819	244819	1
920	COUPLING, B	244819	247167	247167	247167	247167	247167	247167	1
929	LABEL, XP--	17X376	17X376	17X376	17X376	17X376	17X376	17X376	1
64	VALVE, safety	113498	103347	113498	114055	113498	103347	113498	1

Ref.	Description	Part						Qty.
-	**XP70 Sprayer**	57110X 57610X	57115X 57615X	57120X 57620X	57125X 57625X	57130X 57630X	57140X 57640X	-
4	PUMP Assembly	571100	571150	571200	571250	571300	571400	1
903	MOTOR, air	XL65D0	XL65D0	XL65D0	XL65D0	XL65D0	XL65D0	1
917	PUMP, lower, A	L090C0	L085C0	L115C0	L14AC0	L14AC0	L14AC0	1
918	PUMP, lower, B	L090C0	L058C0	L058C0	L058C0	L048C0	L036C0	1
919	COUPLING, A	247167	247167	244819*	244819	244819	244819	1
920	COUPLING, B	247167	247167	247167	247167	247167	247167	1
929	LABEL, XP--	17X375	17X375	17X375	17X375	17X375	17X375	1
64	VALVE, safety	113498	116643	113498	113498	113498	113498	1

* Series G (and older) L115C0 pump lowers use 247167.

Recommended Spare Parts

Keep these spare parts on hand to reduce downtime.

Pump Repair Kits

See **Models** (page 10) to see what pumps are used on your system. See lower manual for repair kits.

Pump Filter O-rings (packs of 10)

262483, Top o-ring
244895, Middle o-ring
262484, Bottom o-ring

Recirculation/Overpressure valve (see page 51)

XP35: 262808, purple
(also for use with XP-h 284x01 assemblies)

XP50: 262809, gold
(also for use with XP-h 284x02 assemblies)

XP70: 262520, silver
(also for use with XP-h 284x03 assemblies)

See spray gun manual for tips.

15K692, Seal Mix Manifold Check Valve Cartridge

NOTE: 15K692 must be replaced when cleaning the check valves.

1/2 in. Mix Manifold Inlet Ball Valves

24M601, Ball valve repair kit
262740, Spare valve (no handle)
262739, Spare valve (single handle)

248927, Spare Mix Elements (pack of 25)

1/2 in. OD x 12 element, acetal plastic

248837, XTR Spray Gun Repair Kit

XHD010, Seat/Seal Kit for XHD™ RAC® Tips (5 pack)

XHDxxx, spray tips

Accessories and Kits

Acceptable For Use in Explosive Atmospheres/Hazardous Locations

XL3400 PressureTrak Kit 26C426 (for XP35)
XL6500 PressureTrak Kit 26C427 (for XP50, XP70)

Monitors pressures to provide ratio assurance on XP plural component sprayers in hazardous and non-hazardous locations.

Blue 7 Gallon (26.4 liter) Hopper Kit, 24F376
Green 7 Gallon (26.4 liter) Hopper Kit, 24F377
SST 10 Gallon (37.8 liter) Hopper Kit, 24Y389

Mount to the sides of the XP system. See your hopper installation kit manual for more information.

Solvent Pump Kit, 262393

For supplying solvent to the mix manifold. See your solvent flush kit manual for more information.

Desiccant Dryer Kit, 262454

For use with polyurethane isocyanates in 7 gallon hoppers. See your desiccant kits manual for more information.

Desiccant Dryer Filter 2 Pack, 24K984

Heater Adapter Kit, 262450

Hose and fittings for connecting Viscon HP heaters to XP system. See your heater adapter kit manual for parts. Purchase heaters separately, see heater manual for part numbers.

Xtreme- Duty™ Agitator Kit, 25A598

For mixing viscous materials held within a 55 gallon drum. See your feed pump and agitator kits manual for more information.

5:1 Feed Pump Kit, 256276

For supplying viscous materials from a drum to XP system. See your feed pump and agitator kits manual for more information.

10:1 Drum Feed Kit, 256433

For supplying highly viscous material from a 55 gallon drum to XP system. See your feed pump and agitator kits manual for more information.

20 Gallon Hopper Kit, 255963

Floor Stand for 20 Gal. Hopper, 262824

Gravity Feed Kit, 262820

XP Wall Mount Bracket, 262812

Works with air or hydraulic XP systems.

Leg Stand, 24M281

Includes wall bracket 262812.

1/2 in. Ball Valve Upgrade Kit for Mix Manifold, 24M593

Quickset Mix Manifold, 24M398

Mix manifold with independent A and B flushing for use with quick hardening materials. See your mix manifold manual for more information.

Remote Mix Manifold with Heater Block, 24Z934

A mounting carriage with a heater block to circulate water-jacketed hose heat to maintain heat on the mix manifold.

Remote Mix Manifold Carriage, 262522

A protective guard to mount mix manifold remote. See your mix manifold manual for more information.

Mix Manifold Restrictor Wrench, 126786

Gun Splitter with Carriage, 262826

One splitter valve to use one, two, or three spray guns with the system. Provides independent flush for two guns. Optional 3rd gun port does not have independent flush. See your gun splitter valve manual for more information.

Not Approved For Explosive Atmospheres

These kits do not carry the EX mark.

2:1 Feed Pump Kit, 256275

For supplying viscous materials from a drum to XP system. See your feed pump and agitator kits manual for more information.

2:1 Drum Feed Kit, 256232

One T2 pump feed kit and one Twistork agitator kit for mixing and supplying viscous materials from a 55 gallon drum to XP system. See your feed pump and agitator kits manual for more information.

Wall Powered Pressure Monitor Kit, 262940
Air Powered Pressure Monitor Kit, 262942

Automatically monitors difference between A and B pressures when at spray pressure and shuts down the system if there is a problem.

GH™ Power Pack, 24X011

Hydraulic power supply for XP-h systems. See your GH power pack manual for more information.

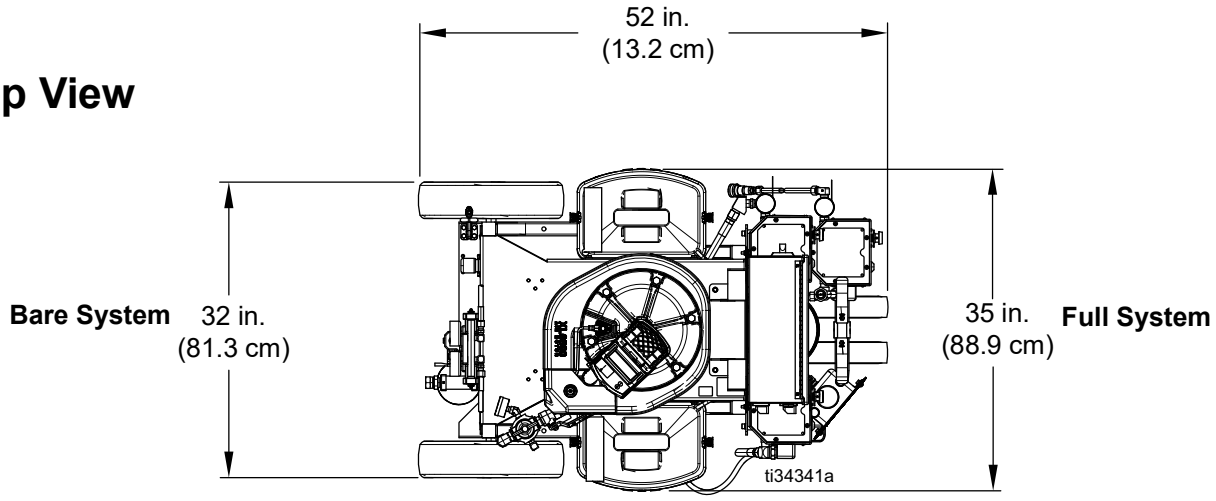
25 Gallon Heated Hopper, 26C482

Hopper Stand/Caster Kit, 26C549

Double walled steel hopper with immersion heater. See your heated hopper manual for more information.

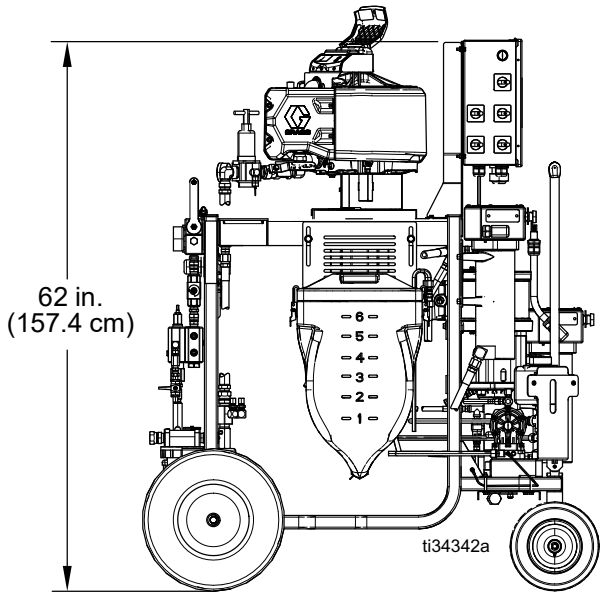
Dimensions

Top View

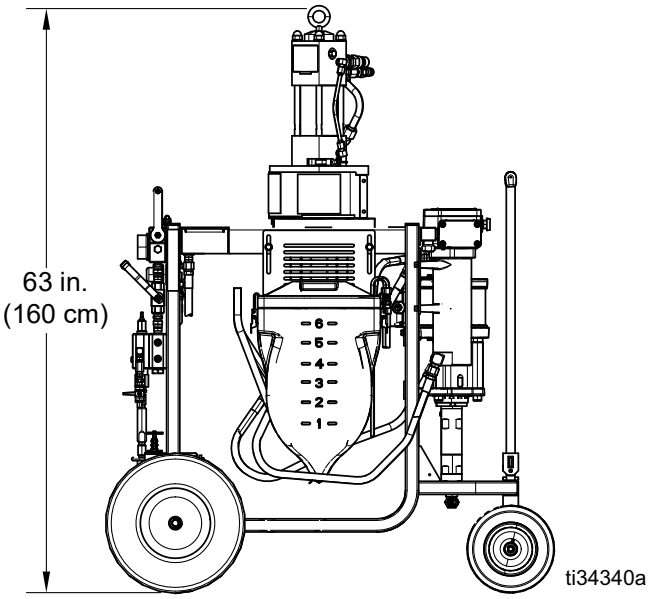


Side View

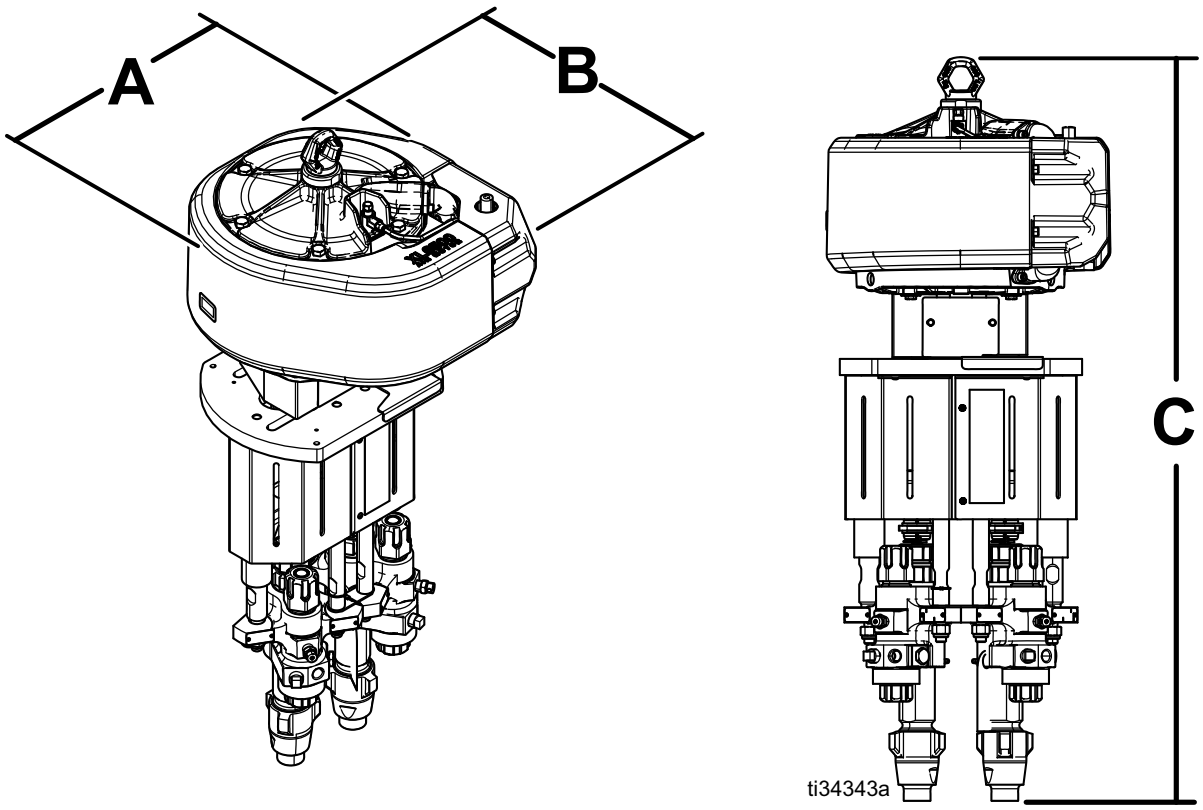
XP System



XP-h System

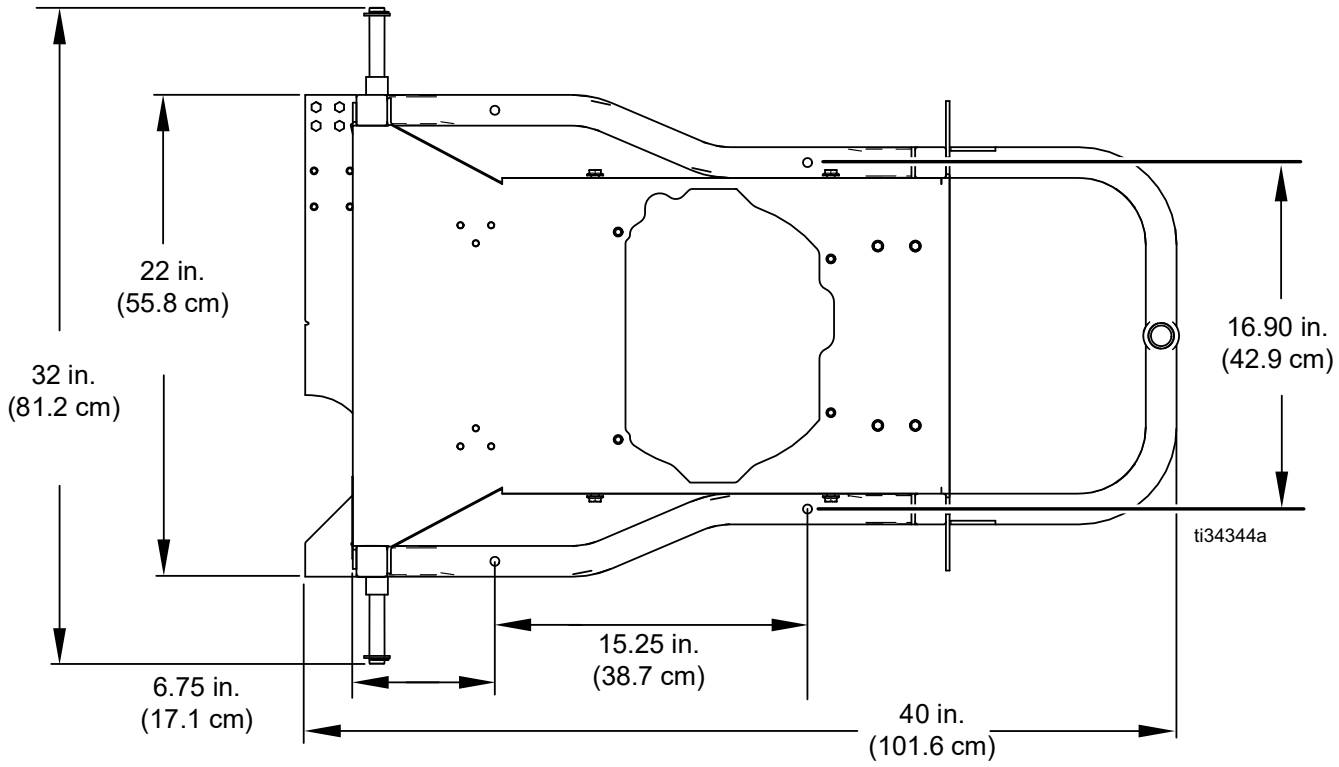


Pump Dimensions



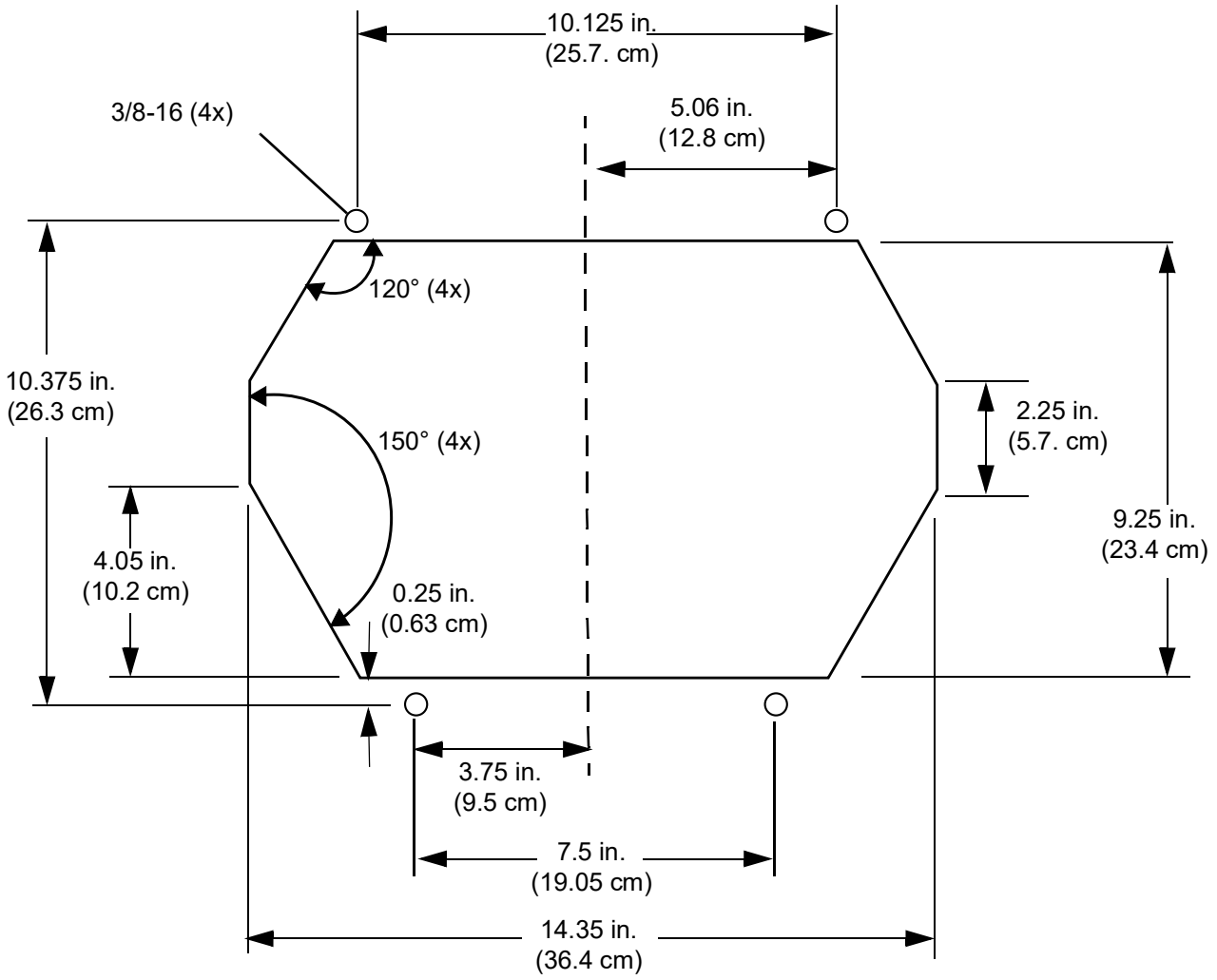
Pump Package	Part	Maximum Width (A)	Maximum Depth (B)	Maximum Height (C)
XP35	281100, 281200, 262803, 281300, 281400	15 in. (38 cm)	16 in. (40 cm)	46 in. (117 cm)
XP50	282100, 282150, 282200, 282250, 282300, 282330, 282400	18 in. (46 cm)	19 in. (48 cm)	47 in. (119 cm)
XP70	571100, 571150, 571200, 571250, 571300, 571400	18 in. (46 cm)	19 in. (48 cm)	46 in. (117 cm)

Floor Mounting Dimensions, Top View

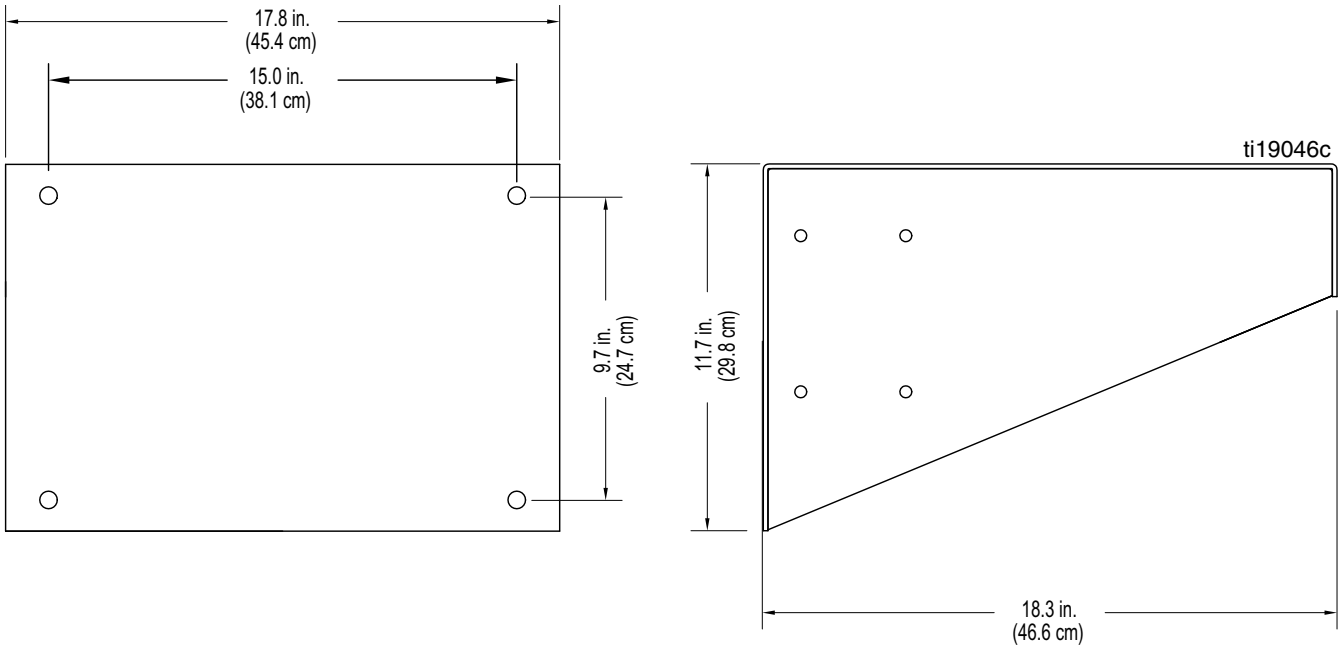


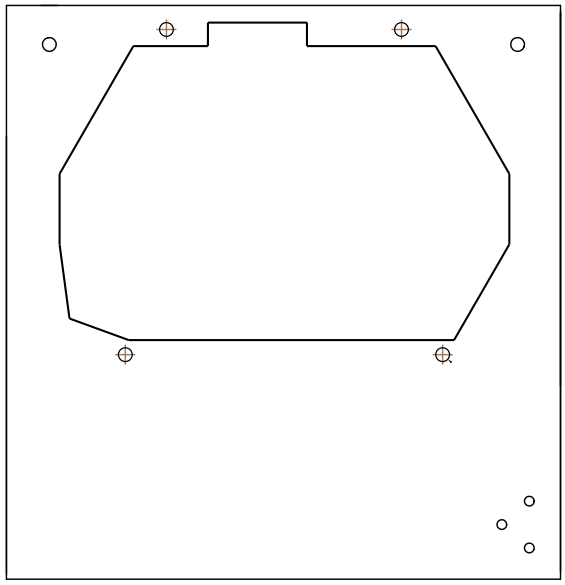
Bare Proportioner Mounting Hole Dimensions

The dimensions below is the minimum opening size for mounting a bare proportioner.

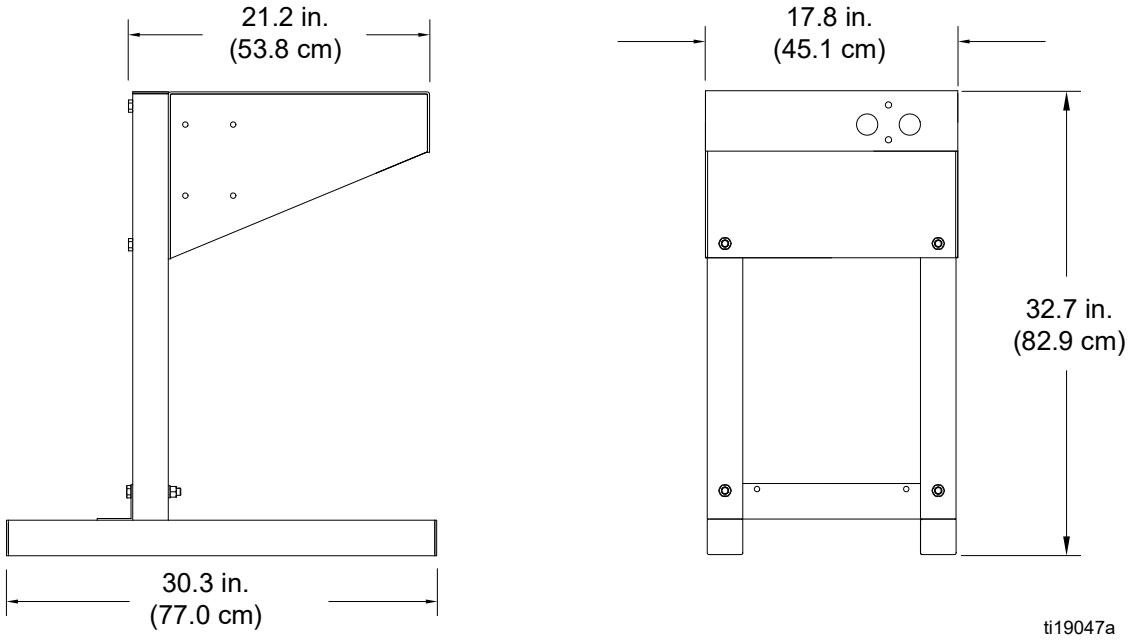


Wall Mount Bracket 262812 Dimensions



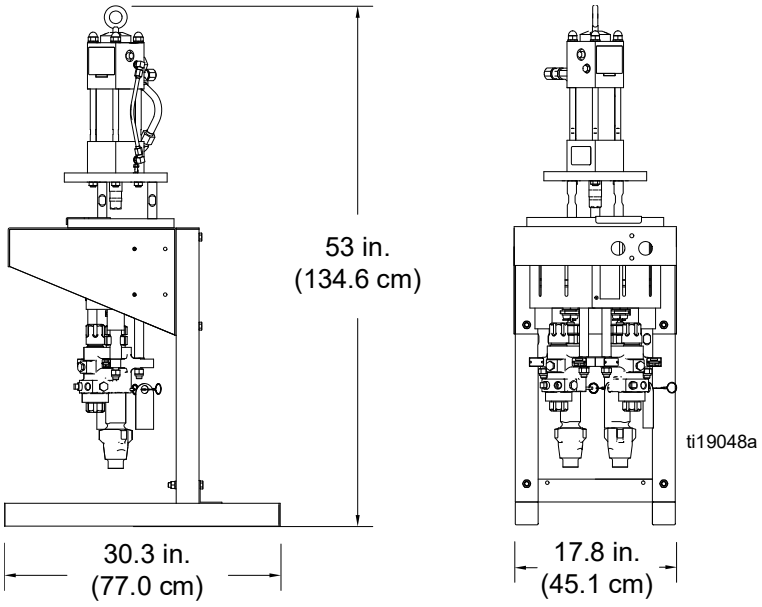


Floor Stand 24M281 Dimensions



Hydraulic Unit Dimensions

Shown installed on floor stand



Technical Specifications

XP Proportioners		
	U.S.	**Metric**
Maximum Fluid Working Pressure	See **Models** section beginning on page 10.	
Maximum Air/Hydraulic Oil Working Pressure		
Combined Fluid Output (cc/cycle)		
Pressure Ratio		
Fluid Flow at 40 cpm		
Hydraulic Fluid Consumption (XP-h models only)	0.2 gallons per cycle	0.76 liters per cycle
Maximum Pump Cycle Rate	40 cycles/min	
Air inlet size	3/4 npsm(f)	
Maximum air pressure supply to the system	175 psi	12 bar, 1 MPa
Fluid pump inlets without hoppers	1-1/4 in. npsm(m)	
Fluid gauge manifold outlets	1/2 in. npt(f)	
Fluid mix manifold inlets	1/2 in. npt(f) ball valves	
Mix manifold material outlet	1/2 in. npt(f)	
Maximum feed pressure from remote source	250 psi	17 bar, 1.7 MPa
Sound pressure	86 dBA at 100 psi (7 bar, 0.7 MPa)	
Sound power	98 dBA at 100 psi (7 bar, 0.7 MPa)	
Maximum Storage Time	5 years (To maintain original performance, replace soft seals after 5 years of inactivity.)	
Power Efficiency Factor (XP70)	75 cu. ft compressed air/1 gallon sprayed material at 100 psi	2.12 cubic meters compressed air/1 liter sprayed material at 7 bar (0.7 MPa)
Air consumption per 1 gallon (3.78 l) of flow		
XP70	75 scfm at 100 psi/gpm	2.12 m^3/min at 7 bar, 0.7 MPa
XP50	60 scfm at 100 psi/gpm	1/min at 7 bar, 0.7 MPa
XP35	50 scfm at 100 psi/gpm	1.42 cubic meters/min at 7 bar, 0.7 MPa
Electrical Specifications:		
Configurable Voltage / Phase / Hz	See **Models** on page 10. And **Connect Power** on page 24.	
Full Load Amps	See **Models** on page 10. And **Connect Power** on page 24.	
Filtration:		
Air inlet filtration	40-micron filter/separator included	
XP pump outlets	30 mesh	
XTR Spray Gun	60 mesh	
Fluid Viscosity Range:		
Gravity feed with 7 gallon (26 liter) hoppers	200 to 20,000 cps (pourable)	
Pressure feed	Any viscosity that will not require feed pressure more than 15% of outlet pressure	
Ambient Temperature Range:		
CE (North America0 Operating	40° - 130° F (41° - 1-4° F)	4° - 54° C (5° - 40° C)
Storage	30° - 160° F	-1° - 71° C
Maximum Fluid Temperature	160° F	71° C
Wetted materials:		
Housings and manifolds	Carbon steel with electroless nickel plating	
Miscellaneous parts	Plated carbon steel, stainless steels, carbide, acetal, UHMWPE, nylon, PTFE solvent resistant plastics	
Pump packings	Carbon filled PTFE, proprietary UHMWPE	
Flush pump suction tube	Aluminum	
Hoses	Nylon core	

Weight:		
XP35, XP50, or XP70 Pump only	286 lb	130 kg
XP-h Pump only	290 lb	132 kg
XP35, XP50, or XP70 Cart system with no heaters, solvent flush pump, or hoppers	425 lb	193 kg
XP-h Cart system with no heaters, solvent flush pump, or hoppers	450 lb	204 kg
Full XP35, XP50, or XP70 System with heaters, solvent flush pump, and hoppers	575 lb	261 kg
Full XP-h System with heaters, solvent flush pump, and hoppers	600 lb	273 kg
Complete unit with hoppers, solvent pump, A/B non-hazardous location HP heaters, junction box (57xxx5 and 57xxx8)	665 lb	302 kg
Complete unit with A/B/hose hazardous location HP heaters, hose circulation pump, PressureTrak (57xxx6 and 57xxx9)	685 lb	311 kg
Complete unit with A/B/hose non-hazardous location HP heaters, junction box, hose circulation pump, Pressure-Trak (57xxx7)	725 lb	329 kg

California Proposition 65

CALIFORNIA RESIDENTS

⚠ **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

Graco Standard Warranty

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

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

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

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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.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

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For patent information, see 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

Original instructions. This manual contains English. MM 3A0420
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