Instructions

King® Spray Packages and Pumps with XL 10K Air Motor

334645K

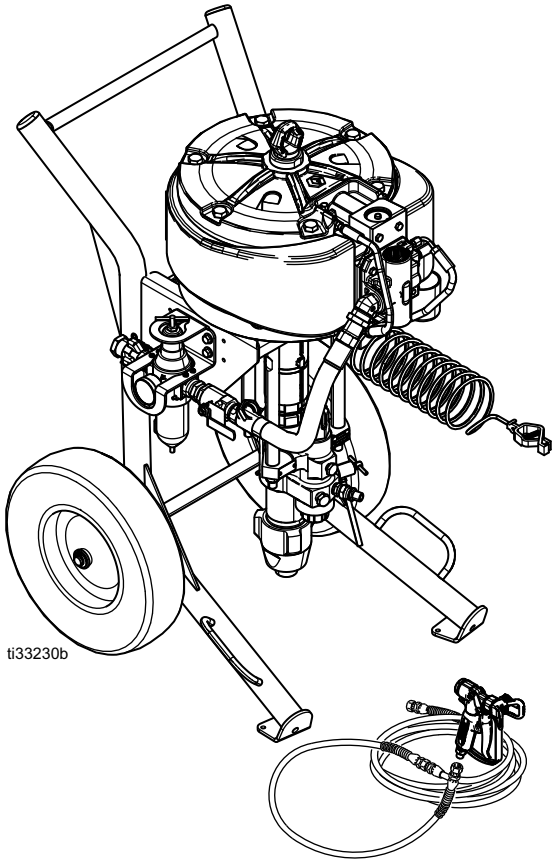
EN

High performance, high pressure spray packages for applying protective coatings.

See **Sprayer Packages**, page 6 for maximum working pressure.

Important Safety Instructions

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



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PROVEN QUALITY. LEADING TECHNOLOGY.

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Related Manuals

Find English manuals and any available translations at www.graco.com.

English Manual Number	Description
334644	Xtreme® XL Air Motor, Instructions-Parts
3A0293	Air Controls, Instruction-Parts
311825	Dura-Flo™ Lowers, Instructions-Parts
311762	Xtreme Lowers, Instructions-Parts
311164	Xtreme :Packages, Instructions-Parts
307296	Fluid Filters
3A7469	Gun, XTR™
3A2799	Gun, XFX™
313541	DataTrak™
333507	Hopper Kit

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.

⚠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 cloth (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.

⚠WARNING





SKIN INJECTION HAZRAD

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.


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 MSDS 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 applications safety regulations.

⚠WARNING

MOVING PARTS HAZARD

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

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

TOXIC FLUID OR FUMES HAZRAD

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

- Read SDSs to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

PERSONAL PROTECTIVE EQUIPMENT

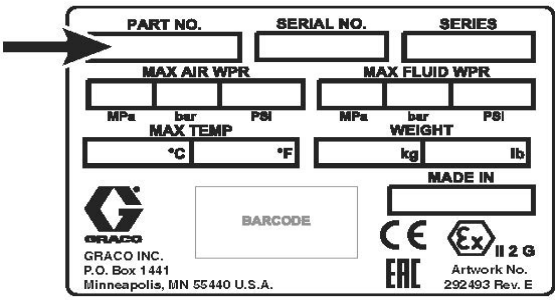
Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but not limited to:

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

Sprayer Packages

Air Motor Part Matrix

Check your sprayer or wall mount package's identification plate (ID) on the side of the shelf mounting bracket for the six digit part number of your package. Use the following matrix to define the construction of your package, based on the six digits. For example, Sprayer Part Number **K 70 F H 1** represents the King brand (**K**), pressure ratio (**70** :1), Xtreme lower with built-in filter on a heavy duty cart (**H**), and complete package (gun, hose, and pump filter included) (**1**). To order replacement parts, see **Parts**, page 23.



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Approvals:

CE Ex **II 2 G Ex h IIC 230° (T2) Gb**

K	70		F		H		1	
First Digit Sprayer	**Package Pressure**		**Lower Type**		**Fifth Digit Mounting**		**Sixth Digit Option 0-9**	
K	47	XL 10000/430cc DF	F	Std Filter	H	Heavy Duty Cart	0	Bare Package with Air Controls and Siphon Kit, No Hose and Gun
	71	XL 10000/290cc	N	Std Non-Filter			1	Std Complete Unit with Air Kit, Siphon Kit, and Hose/Gun Kit
	82	XL 10000/250cc			W	Wall Mount	2	Std Complete Unit with Air Kit, Siphon Kit, and Hose/Gun Kit, and Lubrication

Heavy Fluid Packages

Part	Description
†26C892	SPRAYER, XL10K, 71:1, 2 Gun
‡24X593	SPRAYER, XL70, HF, 70:1
‡24X594	SPRAYER, XL80, HF, 80:1

NOTE: Packages include a hopper, no fluid filter, and XHF spray gun(s) with tip.

†Packages include a 1/2 in. x 50 ft hose and 3/8 in. x 6 ft whip for each gun (two of each are included with 26C892 packages).

‡Packages include 3/4 in. outer check valve, 3/4 in. x 50 ft hose, and 1/2 in. x 25 ft whip.

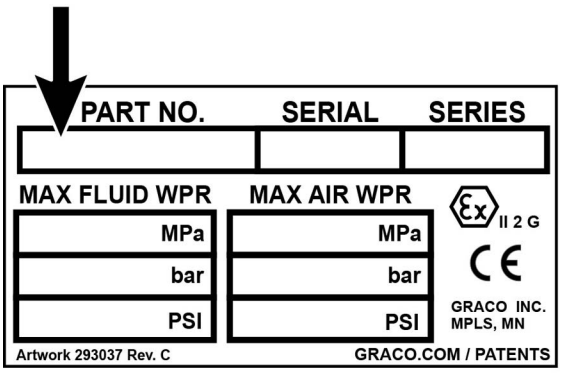
Sprayer Packages with 250 ft hose and XHF Gun

Part	Description
26C351	K71NH0 with 250 ft hose and XHF Gun

Pump Packages

Check the identification plate (ID) on your pump package (attached to the black motor shroud) for the six digit part number of your pump package. For example, Pump Part Number **P 71 H C 2** represents the pump (**P**), pressure ratio (**71 : 1)**, carbon steel construction (**C**), and built-in filter (**2**).

To order replacement parts, see To order replacement parts, see **Parts**, page 23.



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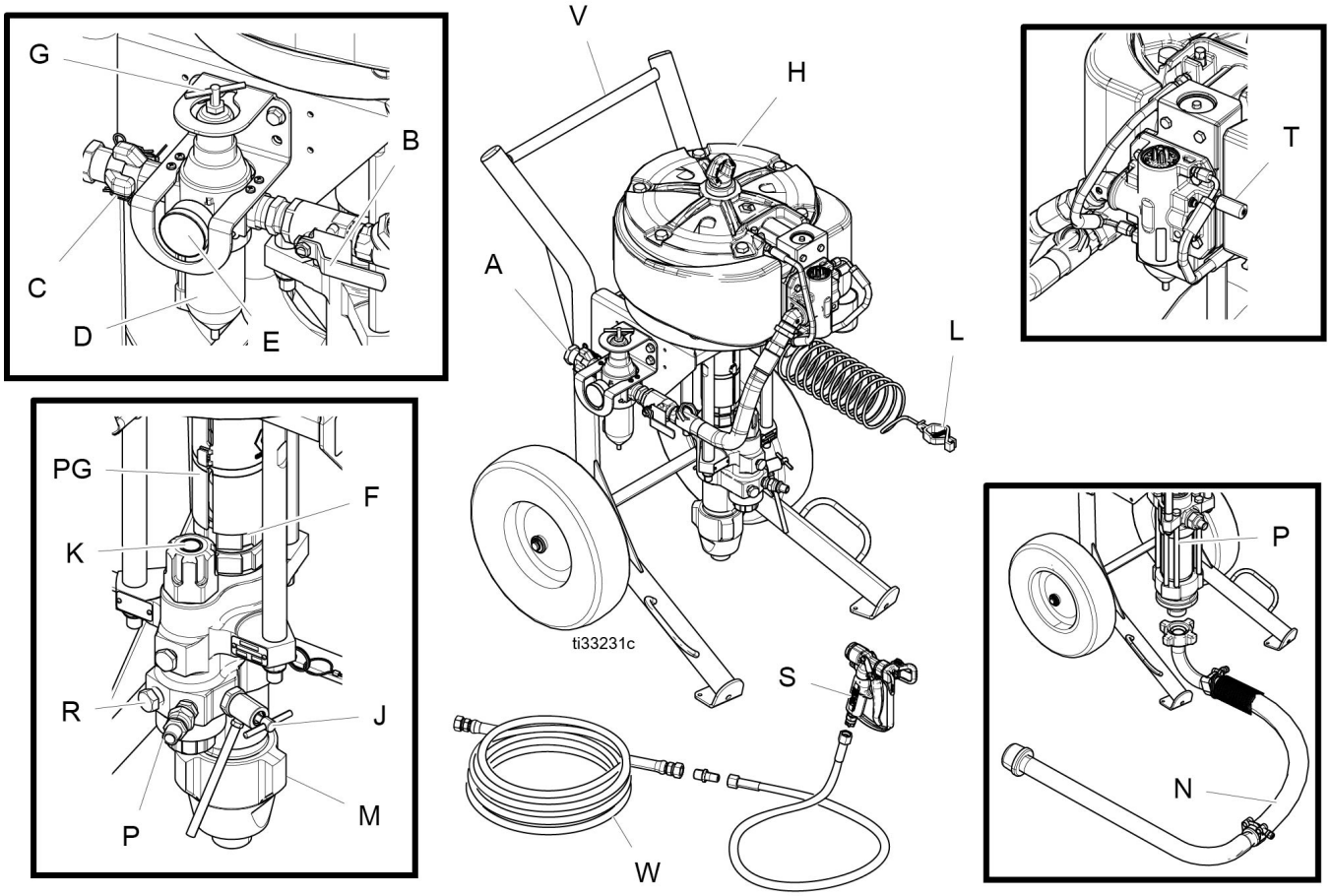
Approvals:

II 2 G Ex h IIC 230° (T2) Gb

K	71		H		C		2	
First Digit Pump	**Package Pressure**		**Motor Type**		**Lower Type**		**Filter Option**	
P	47	XL 10000/430cc DF	H	High Performance	C	Carbon Steel	1	No Filter in Lower
	71	XL 10000/290cc					2	Built-in Filter in Lower (Max Life only offered with built-in filter)
	82	XL 10000/250cc						

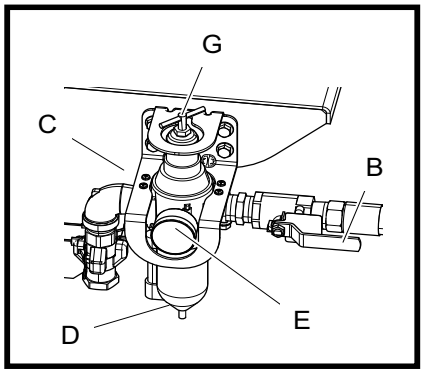
Component Identification - Cart Mount

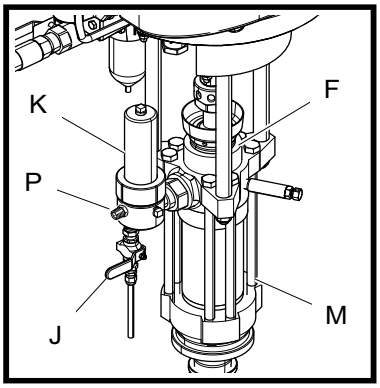


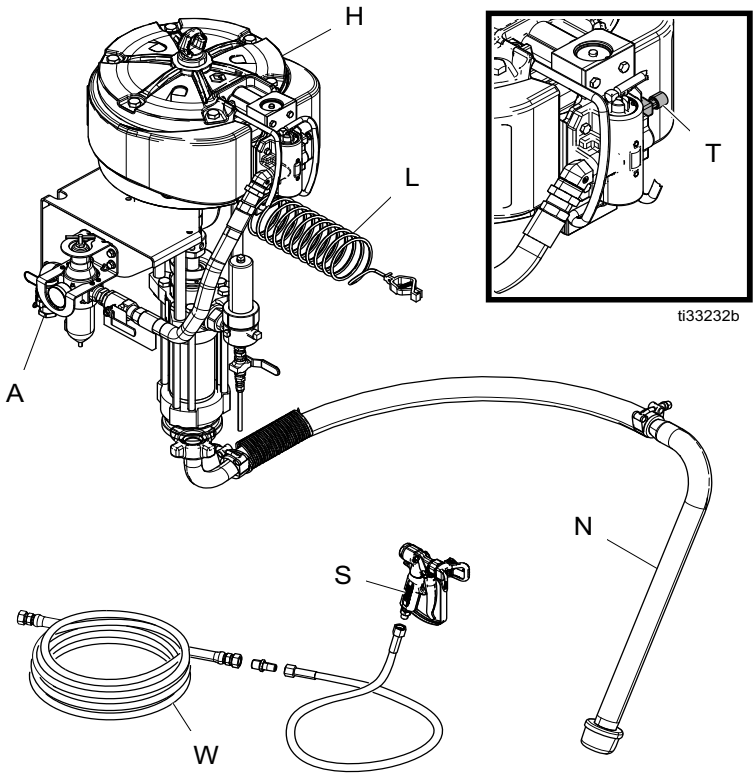
Key:

A Air Inlet, 1 in npt(f) on claw fitting
B Bleed Air Type Master Air Valve (required)
C Air Pressure Relief Valve (required)
D Air Filter (required)
E Air Pressure Gauge
F Packing Nut
G Air Regulator Adjustment (knob)
H Air Motor
J Fluid Drain/Purge Valve (required)
K Fluid Filter (if equipped)
L Grounding Wire (required)
M Pump Lower
N Suction Hose and Tube (if equipped)
P Pump Fluid Outlet
PG Pump Guard
R Optional Fluid Outlet, for second spray gun
S Spray Gun
T De-Ice Control (Air Bleed)
U Hopper (if equipped)
V Cart
W Fluid Hose

Component Identification - Wall Mount







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Key:

A Air Inlet, 1 in npt(f) on claw fitting
B Bleed Type Master Air Valve (required)
C Air Pressure Relief Valve (required)
D Air Filter/Water (required)
E Air Pressure Gauge
F Packing Nut
G Air Regulator Adjustment (knob)
H Air Motor
J Fluid Drain/Purge Valve (required)
K Fluid Filter (if equipped)
L Grounding Wire (required)
M Pump Lower
N Suction Hose and Tube
P Fluid Outlet
S Spray Gun
T De-Ice Control (Bleed Air)
W Fluid Hose

System Components

NOTE: * Required system components.

* Bleed Type Master Air Valve (B)

Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing fluid or moving parts. To help prevent injury, install a bleed-type master air valve.

- Be sure the valve is easily accessible from the pump and located downstream from the air regulator.
- Required in your system to relieve air trapped between it and the air motor when the valve is closed.

- Open the valve to supply air to the motor.

- Close the valve to shut off air to the motor, and bleed any trapped air from the motor.

* Air Pressure Relief Valve (C)

Automatically opens to relieve air pressure if supplied pressure exceeds preset limit.

* Air Filter (D)

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

Air Regulator Adjustment (G)

Adjusts air pressure to the motor and fluid outlet pressure of pump. Locate it close to the pump. Read air pressure on gauge (E).

* Fluid Drain/Purge Valve (J)

Open valve to relive pressure and when flushing or priming pump. Close valve when spraying.

De-Ice Control (T)

Turn bleed air knob (open) to reduce icing.

Grounding Instructions

Grounding Information

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

Pump: Use ground wire and clamp (supplied). Connect ground wire (L) to ground stud on the air motor. Connect ground clamp to a true earth ground.

Air and fluid hoses: Use only electrically conductive hoses with a maximum of 500 ft. (500 m) combined hose length to ensure grounding continuity. Check electrical resistance of hoses. If total resistance to ground exceeds 29 megohms, replace hose immediately.

Air compressor: Follow manufacturer's recommendations.

Spray gun / Dispense valve: Ground through connection through connection to a properly grounded fluid hose and pump.

Fluid supply container: Follow local codes and regulations.

Object being sprayed: Follow local codes and regulations. Do not use with dispense valve.

Solvent pails used when flushing: Follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

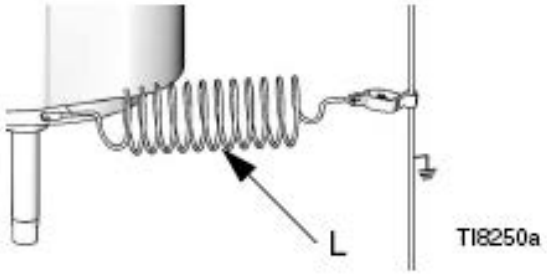
To maintain grounding continuity when flushing or relieving pressure: Hold metal part of the spray gun/dispense valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

Grounding Installation

Tools Required:

- Grounding wires and clamps for pails
- Two 5 gal. (19 liter) metal pails

1. Connect the ground wire (244524) (L) to the ground stud on the air motor.



2. Connect the other end of the ground wire to a true earth ground.
3. 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.
4. Ground all 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.

Installation

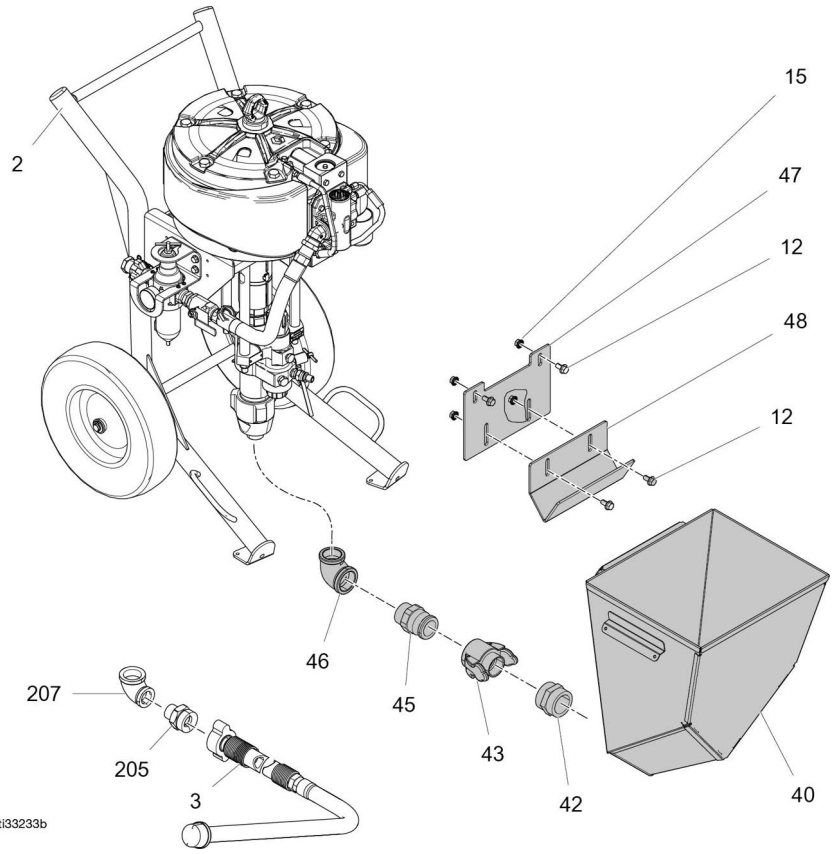
Install Wall Mount Assembly

NOTE: Before mounting any pump assembly to the wall always follow the **Pressure Relief Procedure**, page 14.

1. Ensure the wall is strong enough to support the weight of the pump assembly and accessories, fluid, hoses, and stress caused during pump operation.
2. Drill four 7/16 in. (11 mm) holes using bracket as a template. Use any of the three mounting hole groupings in the bracket. See **Dimensions**, page 36.
3. Bolt bracket securely to wall using bolts and washers designed to hold in the wall's construction.
4. Attach pump assembly to mounting bracket (60).
5. Connect air and fluid hoses. Refer to **Setup**, page 13.

Install Hopper Assembly

1. If necessary remove suction hose.
   a. Disconnect suction hose (3).
   b. Disconnect fitting (207) and quick disconnect adapter (208) from the pump.
2. Attach bracket (47) to the cart (2) with nuts (916) and screws (915).
3. Loosely attach bracket (48) to bracket (47) with nuts (15) and screws (12).
4. Install elbow (46) and fitting (45) on the pump.
5. Install fitting (42) and fitting (43) on hopper (40).
6. Connect fitting (43) to fitting (45). Adjust bracket (48) height to fit under the lip on the back of the hopper (40). Tighten nuts (15).



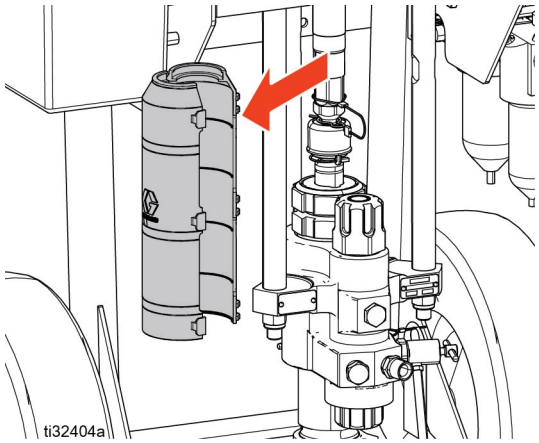
Setup

To avoid tip over, ensure cart is on a flat and level surface. Failure to do so could result in injury or equipment damage.

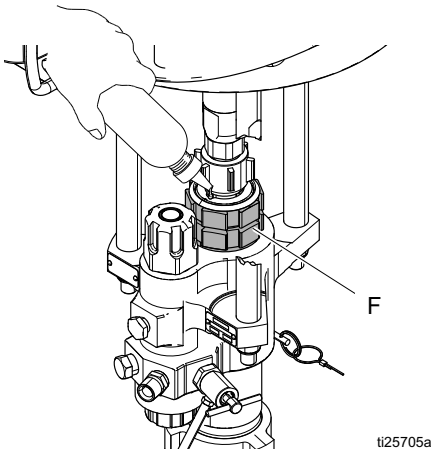
Tools Required:

- Two adjustable wrenches
- Non-sparking hammer or plastic mallet
- Torque wrench
- Flat head screwdriver

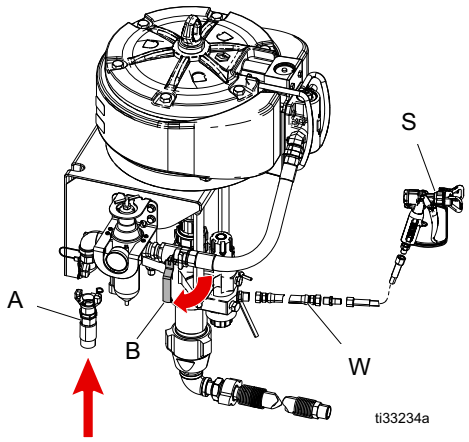
1. Grounded Sprayer. See **Grounding Instructions**, page 11.
2. Use flat head screwdriver to remove pump guard (PG).



3. Check packing nut (F). Remove packing nut cover and fill with Throat Seal Liquid (TSL). Torque to 100-110 ft-lb (135-150 N · m).



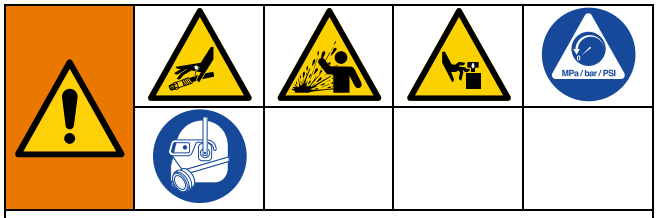
4. Reinstall the pump guard (PG).
5. Attach electrically conductive fluid hose to pump outlet and tighten.
6. Attach electrically conductive fluid hose (and air hose if using an AA gun) to gun and tighten. Check that all pressure connections are tight.
7. Close bleed type master air valve (B). Connect air supply hose to 1 in npt(f) air inlet (A).



8. Flush and prime before using. See **Flush**, page 15, and **Prime**, page 17.

Pressure Relief Procedure

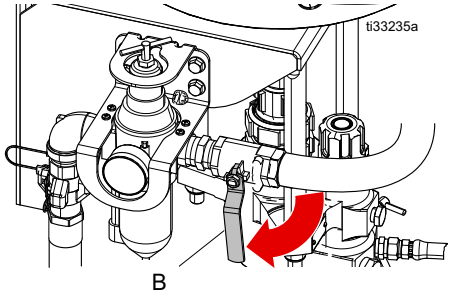
Follow the Pressure Relief Procedure whenever you see this symbol.



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 gun trigger lock.

2. Close the bleed-type master air valve (B).



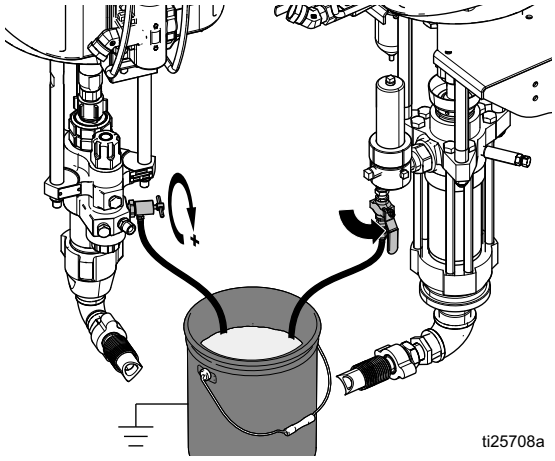
3. Disengage gun trigger lock.

NOTE: If using an AA Gun, turn gun air regulator counter-clockwise to relieve pressure.

4. Hold gun firmly against a grounded metal pail. Trigger the gun until pressure is relieved.

5. Engage the trigger lock.

6. Drain fluid. To drain fluid, slowly open all fluid drain valves, including drain/purge valve (J), in system into a waste pail. If there is a return tube, open return line ball valve. Close valve after fluid is drained.



Left: Xtreme Lower	Right: Dura-Flo Lower

7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved:

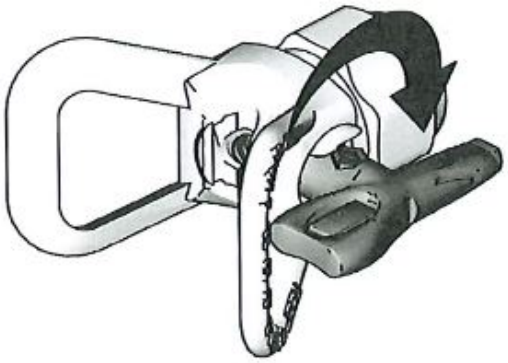
   a. VERY SLOWLY loosen the tip guard retaining nut or the hose end coupling to relieve pressure gradually.

   b. Loosen the nut or the coupling completely.

   c. Clear the obstruction in the hose or tip.

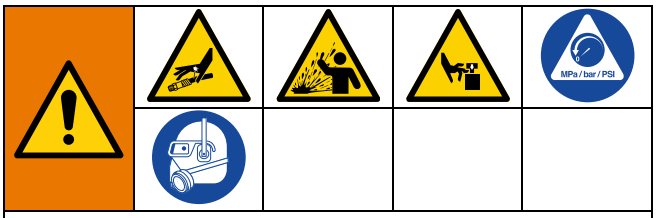
Clear Tip Clog

1. Follow the **Pressure Relief Procedure**, page 14.



2. Rotate tip 180° so the arrow on the tip cylinder faces backward.
3. Disengage the trigger lock.
4. Trigger the gun into a pail or onto the ground to remove the clog.
5. Engage the trigger lock, then rotate the tip 180° back to the spray position.
6. If the tip is still clogged, shut off the sprayer and disconnect the power source.
7. Follow the **Pressure Relief Procedure**, page 14.
8. Remove and clean the spray tip.

Flush



To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at lower possible pressure.

Flush the pump:

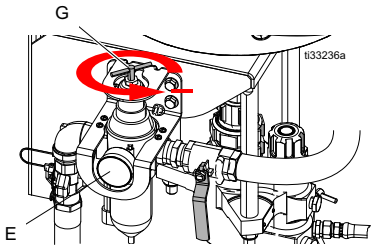
- Before first use
- When changing colors or fluids
- Before repairing equipment
- Before fluid dries or settles out in a dormant pump (check the pot life of catalyized fluids)
- At end of the day
- Before storing pump

Flush at the lowest pressure possible. Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency.

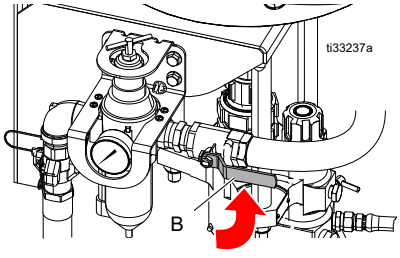
1. Follow **Pressure Relief Procedure**, page 14.
2. Remove tip and tip guard from gun.
3. If desired, remove fluid filter. Reinstall filter cap after removing fluid filter.
4. Place suction tube in a compatible solvent.

NOTE: Do not stretch hose tight. Let the hose hang to assist fluid flow into the pump.

5. Turn regulator adjustment knob (G) counterclockwise until it stops, and gauge (E) reads zero.

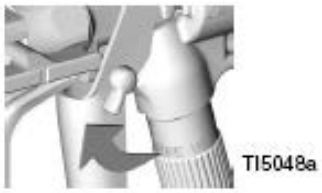


6. Open bleed type master valve (B).



7. Flush hose and gun:

   a. Disengage gun trigger lock. Hold the gun against a grounded metal pail.



   b. Trigger gun, slowly open regulator adjustment knob (G) until pump beings to cycle and a steady stream comes from gun. Trigger gun for 10-15 seconds.

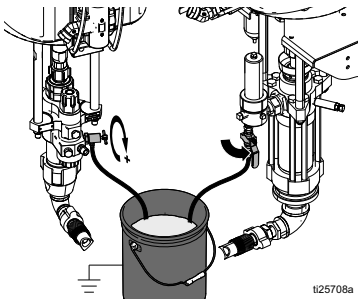
NOTE: If using an AA gun, increase air pressure by turning gun regulator clockwise.

   c. After solvent is running clean, turn the regulator adjustment knob (G) counter clockwise until it stops and the gauge reads zero. The pump will stop. Once the material stops flowing, release the trigger and engage the trigger lock. Stop the pump with the rod buried in the pump.

   d. Close the bleed type master air valve.

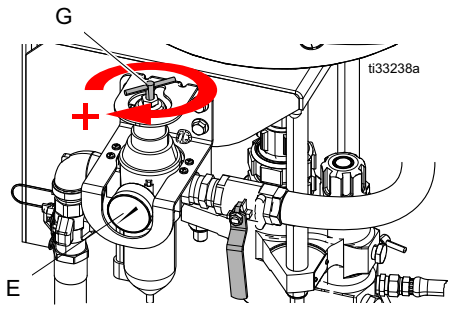
8. If flushing through drain/purge valve:

   a. Place drain tube in a grounded waste pail. Open drain/purge valve (J) slightly by rotating counterclockwise.

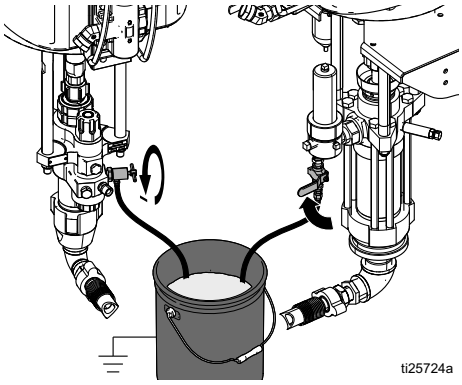


Left: Xtreme Lower	Right: Dura-Flo Lower

   b. Start the pump by rotating the air regulator adjustment knob (G) clockwise until pump begins to move.



   c. When clean solvent flows from drain tube close drain/purge valve (J) by rotating clockwise. Pumps will stall.



Left: Xtreme Lower	Right: Dura-Flo Lower

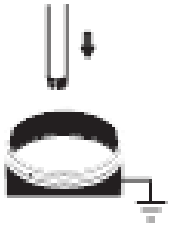
   d. Stop the pump with the rid buried in the pump.

   e. Follow **Pressure Relief Procedure**, page 14. Leave solvent in and store sprayer.

9. Remove fluid filter and soak in solvent. Replace filter cap.

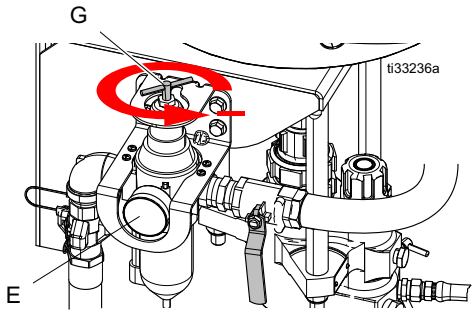
Prime

1. Follow **Pressure Relief Procedure**, page 14.
2. Lock gun trigger. Remove tip and tip guard from gun.
3. Place suction tube in material that will be sprayed.

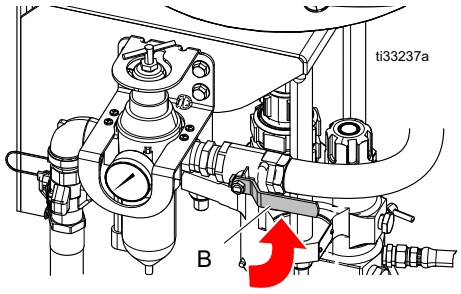


NOTE: Do not stretch hose tight let it hang at assist fluid flow into the pump.

4. Turn regulator adjustment knob (G) counterclockwise until it stops, and gauge (E) reads zero.



5. Open bleed type master valve (B).



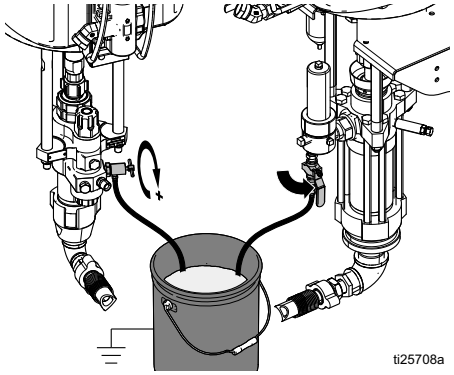
6. Prime through drain valve if necessary.

NOTE: Usually 1K high viscosity materials.

NOTICE

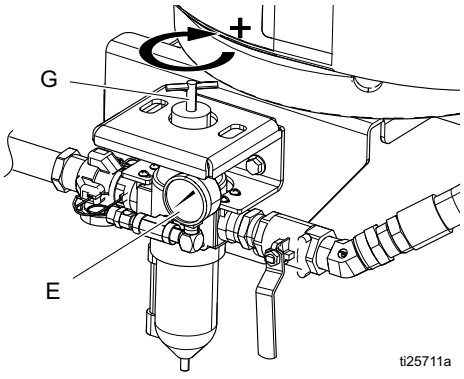
Do not prime pump through drain/purge valve using two component materials. Mixed two-component materials will harden in valve and result in clogging.

a. Place drain tube in a grounded waste pail. Open drain/purge valve (J) slightly by rotating counterclockwise.



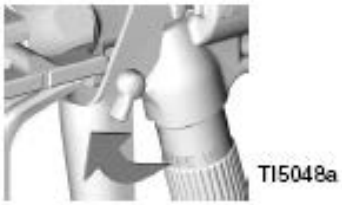
Left: Xtreme Lower	Right: Dura-Flo Lower

b. Start the pump by rotating the air regulator adjustment knob (G) clockwise until pump begins to move.



7. Prime hose and gun:

   a. Disengage gun trigger lock. Hold the gun against a grounded metal pail.



   b. Trigger gun, slowly open regulator adjustment knob (G) until pump begins to cycle and a steady stream comes from gun. Trigger gun for 10-15 seconds.

NOTE: If using an AA gun, increase air pressure by turning gun regulator clockwise.

   c. Engage trigger lock.

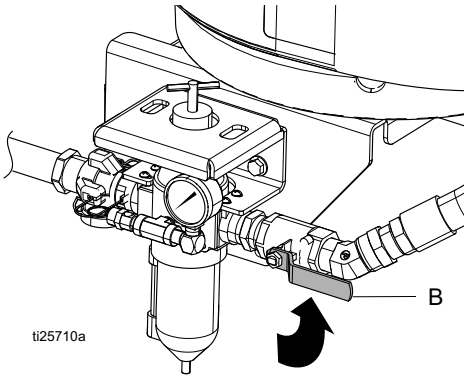
8. The equipment is now ready to spray; go to **Spray**, page 19.

Spray

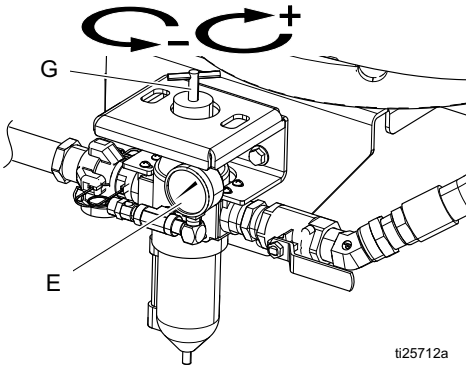
NOTICE

Do not allow pump to run dry. It will quickly accelerate to a high speed causing damage.

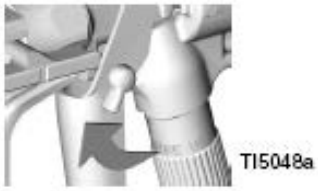
1. Prime. See **Prime**, page 17.
2. Follow **Pressure Relief Procedure**, page 14.
3. Install tip and tip guard on gun.
4. Open bleed type master air valve (B).



5. Turn regulator adjustment knob (G) until gauge (E) reads desired pressure. Turn clockwise to increase pressure, counterclockwise to decrease pressure.



6. Disengage gun trigger lock.



7. Spray a test pattern. Read fluid manufacturer's recommendations. Adjust pressure as necessary. If using AA gun, increase gun air pressure while testing spray pattern.

8. Flush when done spraying. See **Flush**, page 15.
9. Follow **Pressure Relief Procedure**, page 14.

Shutdown

NOTICE

Never leave water or water-base fluid in pump over night. If you are pumping water-base fluid, flush with water first, then with a rust inhibitor, such as mineral spirits. Relieve pressure, but leave rust inhibitor in pump to protect parts from corrosion.

Follow **Pressure Relief Procedure**, page 14.

Always flush the pump before the fluid dries on the displacement pump rod. See **Flush**, page 15.

Maintenance

Preventive Maintenance Schedule

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

Daily Maintenance

NOTE: For over night shutdown, stop pump at bottom of its stroke to prevent fluid from drying on exposed displacement rod and damaging throat packings. Follow **Pressure Relief Procedure**, page 14.

1. Flush. See **Flush**, page 15.
2. Relieve pressure. See **Pressure Relief Procedure**, page 14.
3. Check packing nut (F). Adjust packings and replace TSL as necessary. Torque to 25-30 ft-lb (34-41 N · m).
4. Drain water from air filter.
5. Clean suction tube using a compatible solvent. It is recommended that you clean the outside of the sprayer using a cloth and compatible solvent.
6. Check hoses, tubes, and couplings.Tighten all fluid connections before each use.
7. Clean fluid line filter.

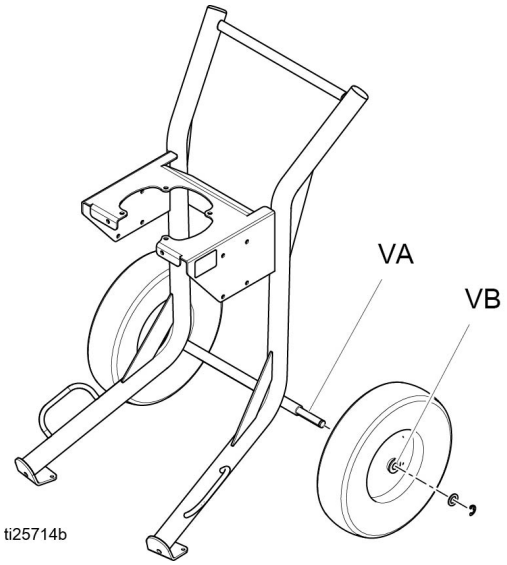
Corrosion Protection

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

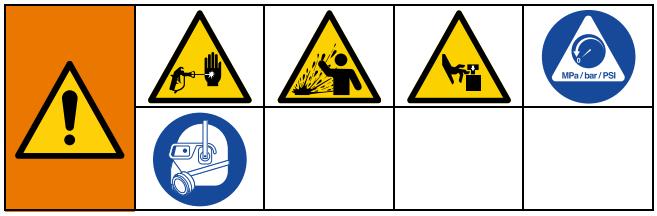
Cart Maintenance

Periodically lubricate the axle between points VA and VB with lightweight oil.

Keep the cart clean by wiping up spills daily, using a compatible solvent.



Troubleshooting



1. Follow **Pressure Relief Procedure**, page 14.
2. Check all possible causes and problems before disassembling pump.
3. See air motor manual for air motor specific troubleshooting.

* To determine if fluid hose or gun is obstructed, follow **Pressure Relief Procedure**, page 14. Disconnect fluid hose and place a container at pump fluid outlet to catch any fluid. Turn on air pump just enough to start pump. If pump starts, the obstruction is in fluid hose or gun.

Problem	Cause	Solution
Does not operate.	Valve is closed or clogged.	Check air line; increase air supply. Check that valves are open.
	Fluid hose or gun obstructed.	Clean hose or gun.*
	Dried fluid on displacement rod.	Clean rod, always stop pump at bottom of stroke; keep wet-cup filled with compatible solvent.
	Air motor parts dirty, worn, or damaged.	Clean or repair air motor. See motor manual.
Output low on both strokes.	Air line restricted or air supply inadequate. Valves closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose/gun obstructed; hose ID too small.	Clear hose or gun*; use hose with larger ID.
	Air motor icing.	Open De-Ice control.
Output low on down stroke.	Open or worn intake valve.	Clear or service intake valve.
	High viscosity fluid.	Adjust intake spacers.
Output low on upstroke.	Open or worm piston valve or packings.	Clear piston valve; replace packings.
Erratic accelerated speed.	Fluid supply exhausted, clogged suction.	Refill supply and prime pump. Clean suction tube.
	High viscosity fluid.	Reduce viscosity; adjust intake spacers.
	Open or worn piston valve or packings.	Clear piston valve; replace packings.
	Open or worn intake valve.	Clear or service intake valve.
Runs sluggishly.	Possible icing.	Stop pump. Open De-Ice control.
Cycles or fails to hold pressure at stall.	Worn check valves or seals.	Service lower. See **Remove Lower**, page 22, and Xtreme Lowers manual (311762).
Air bubbles in fluid.	Loose suction line.	Tighten. Use compatible liquid thread sealant or PTFE tape on connections.
Poor finish or irregular spray pattern.	Incorrect fluid pressure at gun.	See gun manual; read fluid manufacturer's recommendations.
	Fluid is too thin or too thick.	Adjust fluid viscosity; read fluid manufacturer's recommendations.

Remove Lower

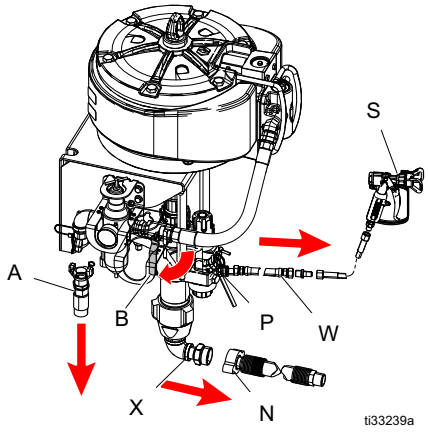
Required Tools

- Set of adjustable wrenches
- Torque wrench
- Rubber mallet
- Thread lubricant
- Anti-seize lubricant 222955
- Loctite® 2760™ or equivalent

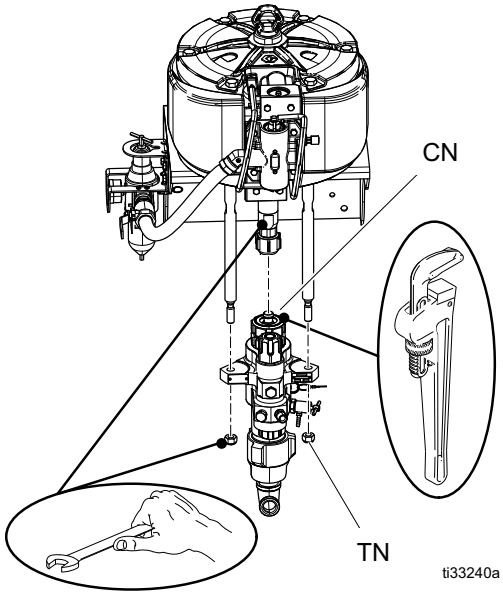
Disconnect and Reconnect Lower

1. Flush the pumps; see **Flush**, page 15. Stop pump at bottom of its stroke. Follow **Pressure Relief Procedure**, page 14.
2. Disconnect air hose.
3. Disconnect fluid hose (W). Hold fluid outlet fitting (P) with a wrench to keep it from loosening while you disconnect suction hose (N).

NOTE: Note the relative position of the lower's fluid outlet (P) to inlet (X) of motor for easier reassembly alignment. If motor does not require service, leave it attached to its mounting.



4. Use a flathead screwdriver to remove pump guard (PG).
5. Hold the flats of the air motor piston rod with a wrench. Use another wrench to loosen the coupling nut (CN).



6. Remove the tie rod nut (TN).
7. Remove lower. Refer to the Lower manual to service lower. To service motor, refer to separate motor manual.
8. Reconnect lower by following disconnect steps in reverse order.

NOTE: Torque coupler nut to 230-250 ft-lb (312-340 N · m). Apply anaerobic pipe sealant.

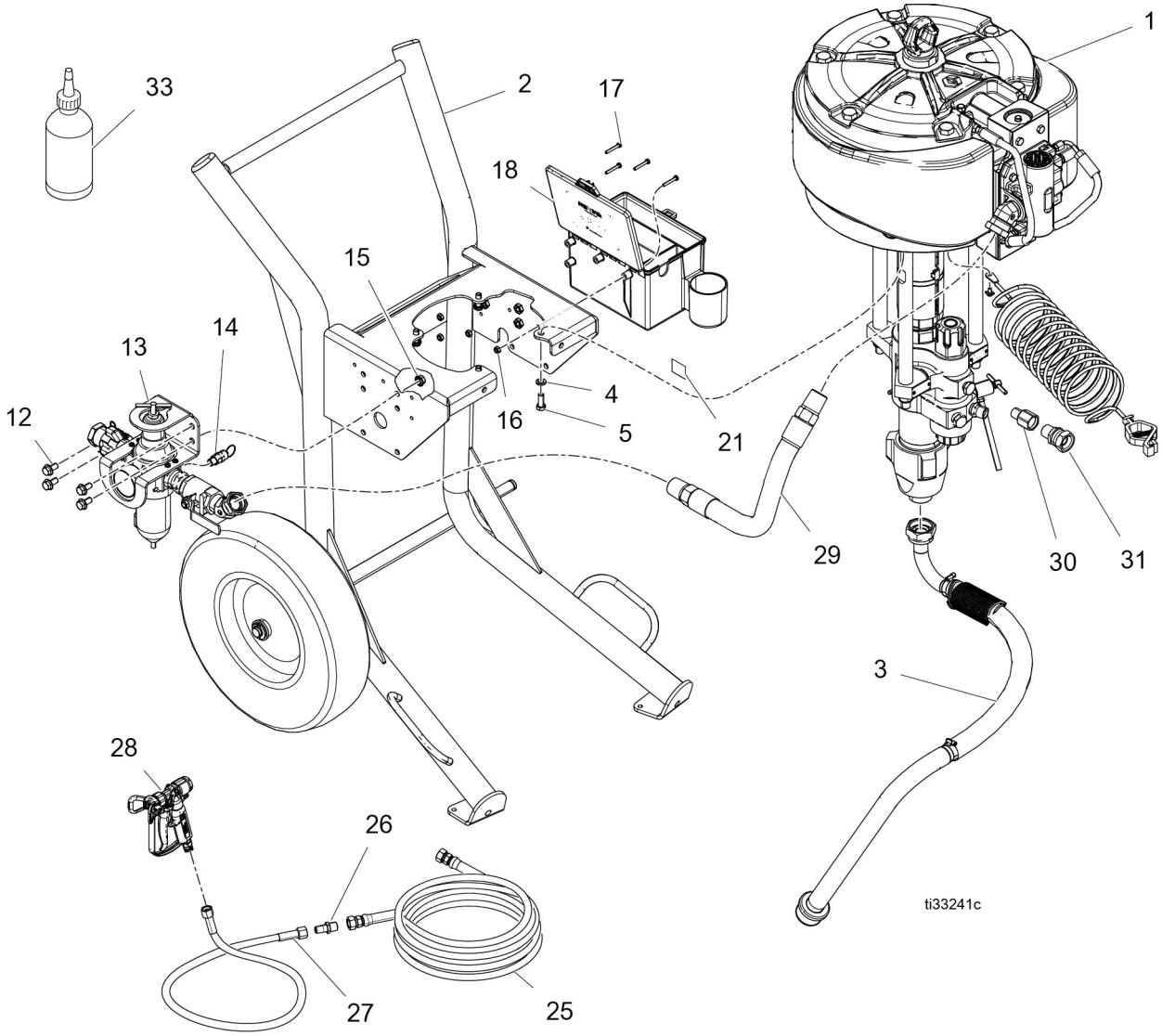
Parts

Airless King Sprayer Packages

The following table lists the major components and part numbers for each airless sprayer package.

Sprayer Package	Reference Number and Description		
	301 Pump	302 Lower	303 Motor
K47FH0	P47HC1	24W644	24X856
K47FH1	P47HC1	24W644	24X856
K47FH2	P47HC1	24W644	24X856
K47FW0	P47HC1	24W644	24X856
K47FW1	P47HC1	24W644	24X856
K71FH0	P71HC2	L29HC2	24X856
K71FH1	P71HC2	L29HC2	24X856
K71FH2	P71HC2	L29HC2	24X856
K71FW0	P71HC2	L29HC2	24X856
K71FW1	P71HC2	L29HC2	24X856
K71NH0	P71HC1	L29HC1	24X856
K71NH1	P71HC1	L29HC1	24X856
K71NH2	P71HC1	L29HC1	24X856
K82FH0	P82HC2	L25HC2	24X856
K82FH1	P82HC2	L25HC2	24X856
K82FH2	P82HC2	L25HC2	24X856
K82FW0	P82HC2	L25HC2	24X856
K82FW1	P82HC2	L25HC2	24X856
K82NH0	P82HC1	L25HC1	24X856
K82NH1	P82HC1	L25HC1	24X856
K82NH2	P82HC1	L25HC1	24X856

King Sprayer with Xtreme Lower Cart Packages



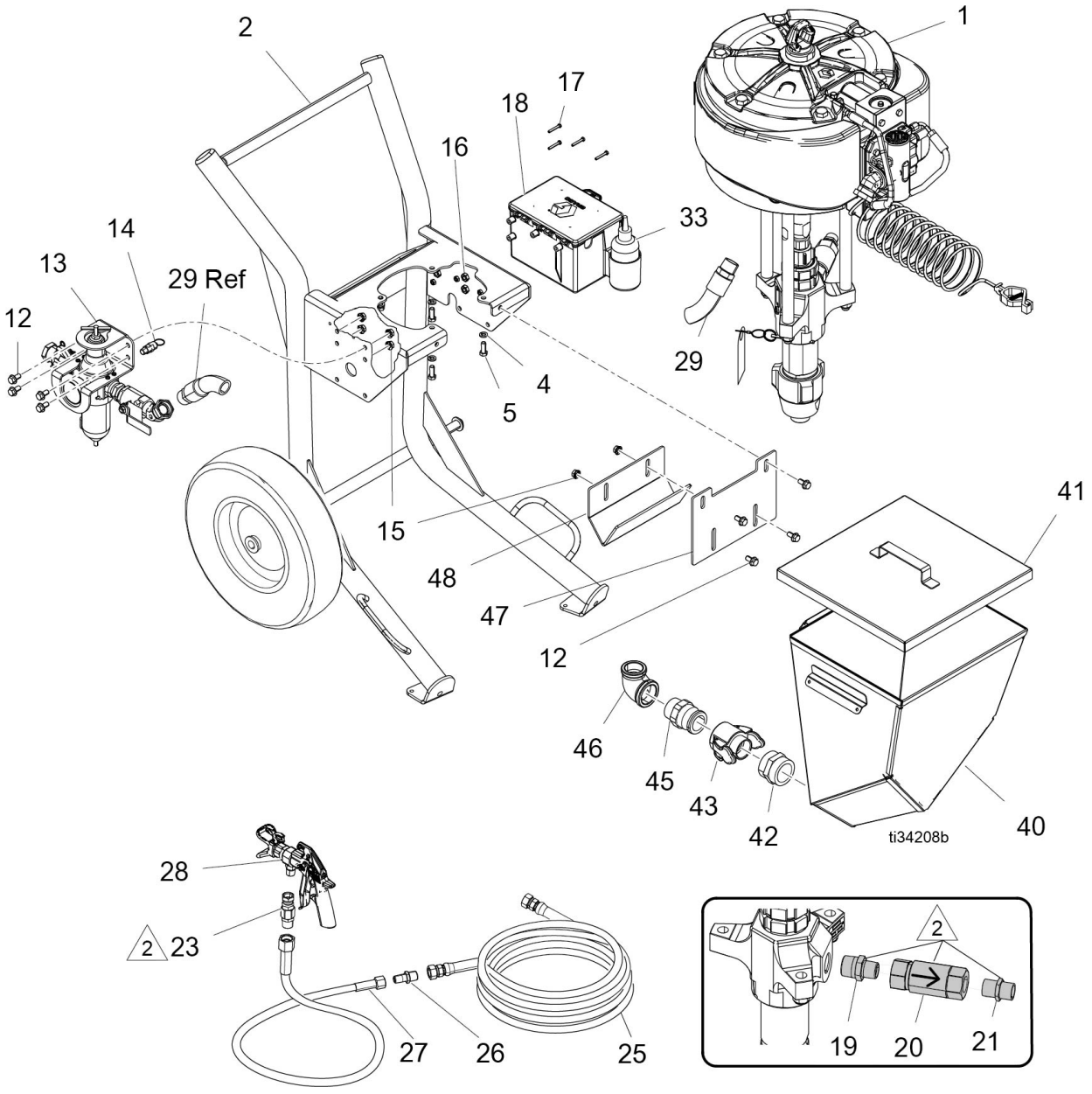
Xtreme Lower Cart Packages

Ref.	Part	Description	Qty.					
			K71NH0	K71NH0	K71NH2	K71FH0	K71FH1	K71FH2
1	- - - -	See **Pump Package Parts**, page 34.	1	1	1	1	1	1
2	17X355	See **Cart Parts**, page 35.	1	1	1	1	1	1
3	25D515	HOSE, siphon	1	1	1	1	1	1
4	100133	WASHER, lock, 3/8	4	4	4	4	4	4
5	100101	SCREW, 3/8-16., 1 in.	4	4	4	4	4	4
12	112395	SCREW, cap, flange head	4	4	4	4	4	4
13	17U994	AIR CONTROLS, standard	1	1		1	1	
	25D532	AIR CONTROLS, with lubricator			1			1
14	113498	RELIEF VALVE	1	1	1	1	1	1
	16M190	RELIEF VALVE						
15	112958	NUT, hex, flanged	4	4	4	4	4	4
16	114231	NUT, lock, hex	4	4	4	4	4	4
17	115248	SCREW, cap, hex, head	4	4	4	4	4	4
18	25D498	TOOL BOX, black	4	4	4	4	4	4
25	H73850	HOSE		1	1		1	1
26	104856	FITTING, nipple		1	1		1	1
27	H57206	HOSE		1	1		1	1
28	XTR724	FITTING, nipple		1	1		1	1
29	278770	HOSE, supply, air	1	1	1	1	1	1
30	16T315	FITTING, nipple	1	1	1			
31	162505	FITTING, swivel	1	1	1	1	1	1
33	206994	FLUID, TSL, 1 qt	1	1	1	1	1	1
34	17V369	KIT, tool (not shown)	1			1		
35	17V370	KIT, tool (not shown)		1	1		1	1
36	17V371	KIT, tool (not shown)				1	1	1
37	202659	LUBE (not shown)			1			1

Xtreme Lower Cart Packages (continued)

Ref.	Part	Description	Qty.					
			K82NH0	K82NH1	K82NH2	K82FH0	K82FH1	K82FH2
1	- - - -	See **Pump Package Parts**, page 34.	1	1	1	1	1	1
2	17X355	See **Cart Parts**, page 35.	1	1	1	1	1	1
3	25D515	HOSE, siphon	1	1	1	1	1	1
4	100133	WASHER, lock, 3/8	4	4	4	4	4	4
5	100101	SCREW, 3/8-16., 1 in.	4	4	4	4	4	4
12	112395	SCREW, cap, flange head	4	4	4	4	4	4
13	17U994	AIR CONTROLS, standard	1	1		1	1	
	25D532	AIR CONTROLS, with lubricator			1			1
14	113498	RELIEF VALVE						
	16M190	RELIEF VALVE	1	1	1	1	1	1
15	112958	NUT, hex, flanged	4	4	4	4	4	4
16	114231	NUT, lock, hex	4	4	4	4	4	4
17	115248	SCREW, cap, hex, head	4	4	4	4	4	4
18	25D498	TOOL BOX, black	4	4	4	4	4	4
25	H73850	HOSE		1	1		1	1
26	104856	FITTING, nipple		1	1		1	1
27	H57206	HOSE		1	1		1	1
28	XTR724	FITTING, nipple		1	1		1	1
29	278770	HOSE, supply, air	1	1	1	1		1
30	16T315	FITTING, nipple	1	1	1			
31	162505	FITTING, swivel	1	1	1	1	1	1
33	206994	FLUID, TSL, 1 qt	1	1	1	1	1	1
34	17V369	KIT, tool (not shown)	1			1		
35	17V370	KIT, tool (not shown)		1	1		1	1
36	17V371	KIT, tool (not shown)				1	1	1
37	202659	LUBE (not shown)			1			1

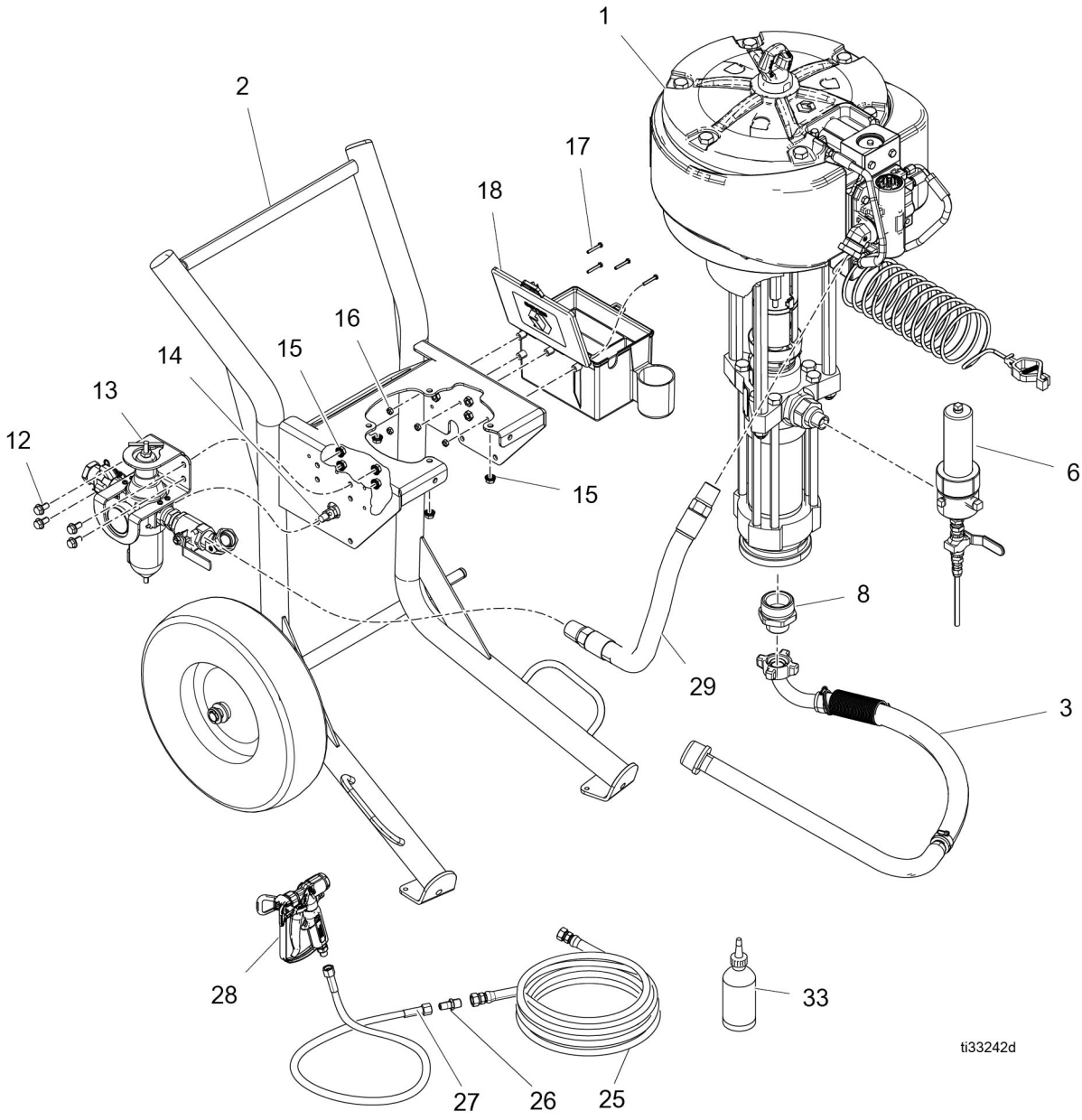
Heavy Fluids Packages - 24X593 and 24X594



Heavy Fluids Packages

Ref.	Part	Description	Sprayer Description and Quantity with Hose and Gun Hopper	
			24X593	24X594
1	- - - -	PUMP, see **Pump Packages**, page 7.	1	1
2	17X355	CART, heavy duty, see **Cart Parts**, page 35.	1	1
4	100133	WASHER, lock, 3/8 in.	1	1
5	100101	SCREW, 3/8-16, 1 in.	1	1
12	112395	SCREW, cap, flange head	8	8
13	17U994	AIR CONTROLS, standard	1	1
14	113498	VALVE, safety, 110 pi	1	
	120306	VALVE, safety, 85 psi		1
15	112958	NUT, hex, flanged	8	8
16	114231	NUT, lock, hex	4	4
17	115248	SCREW, cap, hex head	4	4
18	25D498	TOOL BOX, black	1	1
19	171439	NIPPLE, pipe, reducing	1	1
20	16T480	VALVE, check	1	1
21	160023	FITTING, nipple, 3/4 in. npt	1	1
23	17G980	SWIVEL, straight, PTEE	1	1
24	158491	FITTING, nipple 1/2 in. npt	1	1
25	H77550	HOSE, coupled, 7250 psi, 3/4 in. 50 ft	1	1
26	16R883	FITTING, nipple	1	1
27	H75025	HOSE, coupled, 7250 psi, 1/2 in. 25 ft	1	1
28	262854	GUN, spray, XTR	1	1
29	278770	HOSE	1	1
33	206994	FLUID, TSL, 1 qt	1	1
40	17E114	HOPPER	1	1
41	16U537	HOPPER, lid	1	1
42	128094	FITTING, bushing, 1-1/2	1	1
43	17C692	FITTING, cam/groove	1	1
44	120781	GASKET, 2 in. (not shown)	1	1
45	128095	FITTING, cam and groove	1	1
46	126939	FITTING, elbow, 90	1	1
47	17D554	BRACKET, hopper	1	1
48	17C474	BRACKET, hopper, upper	1	1

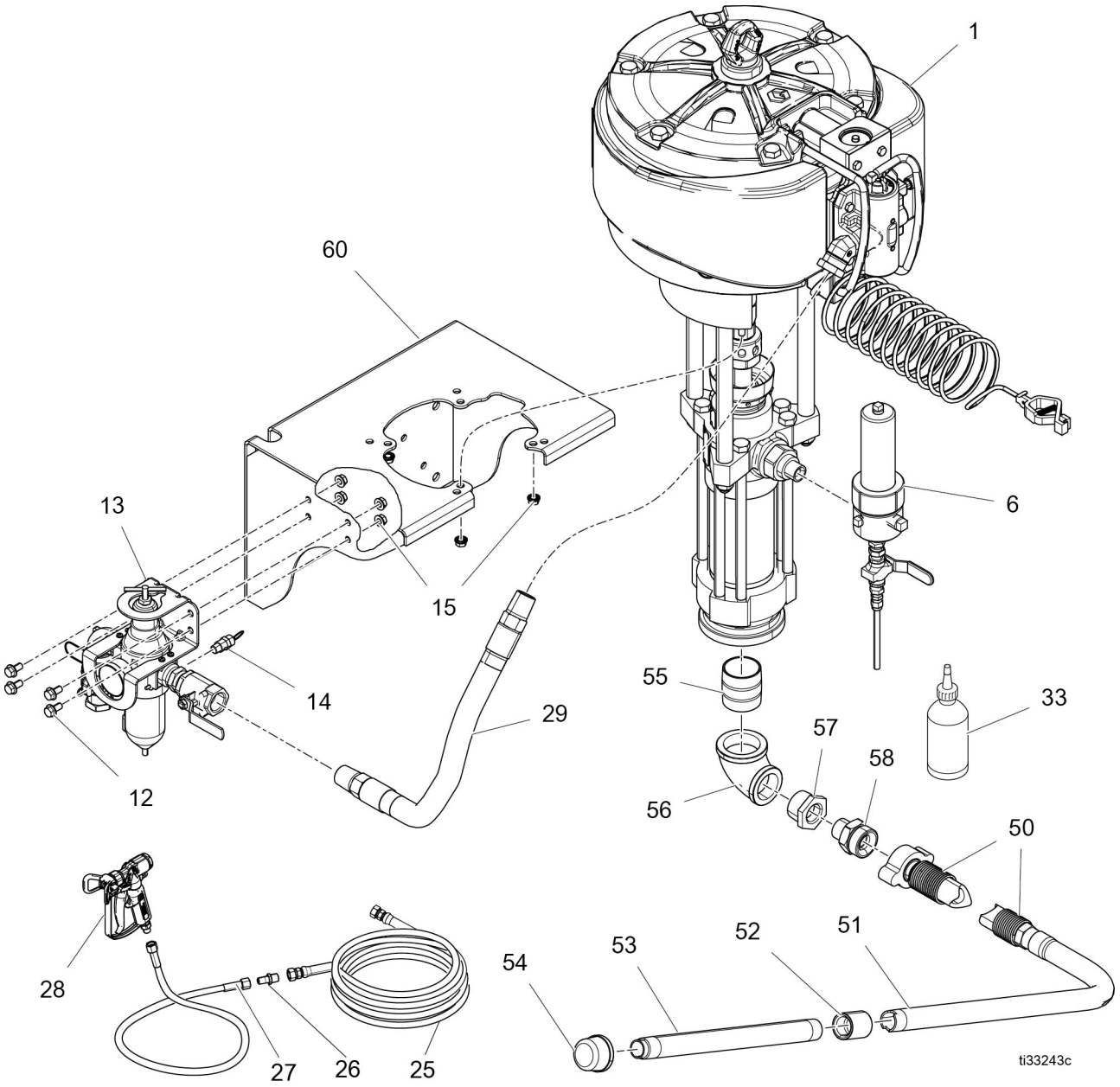
Dura-Flo Cart Packages



Dura-Flo Cart Package Parts

Ref.	Part	Description	Qty.		
			K47FH0	K47FH1	K47FH2
1	- - -	PUMP, See **Pump Packages**, page 7.	1	1	1
2	24Z852	CART, heavy duty, See **Cart Parts**, page 35.	1	1	1
3	25D515	HOSE, siphon	1	1	1
6	238620	FILTER	1	1	1
8	18D003	ADAPTER, suction tube	1	1	1
12	112395	SCREW, cap, flange head	4	4	4
13	17U994	AIR CONTROLS, standard	1	1	
	25D532	AIR CONTROLS, with lubricator			1
14	113498	RELIEF VALVE	1	1	1
15	112958	NUT, hex, flanged	8	8	8
16	114231	NUT, lock, hex	4	4	4
17	115248	SCREW, cap, hex head	4	4	4
18	25D498	TOOL BOX, black	1	1	1
25	H53850	HOSE		1	1
26	164856	FITTING, nipple		1	1
27	H52506	HOSE		1	1
28	XTR524	GUN, spray, XTR		1	1
29	278770	HOSE, supply, air	1	1	1
33	206994	FLUID, TSL, 1 qt	1	1	1
37	202659	LUBE			1

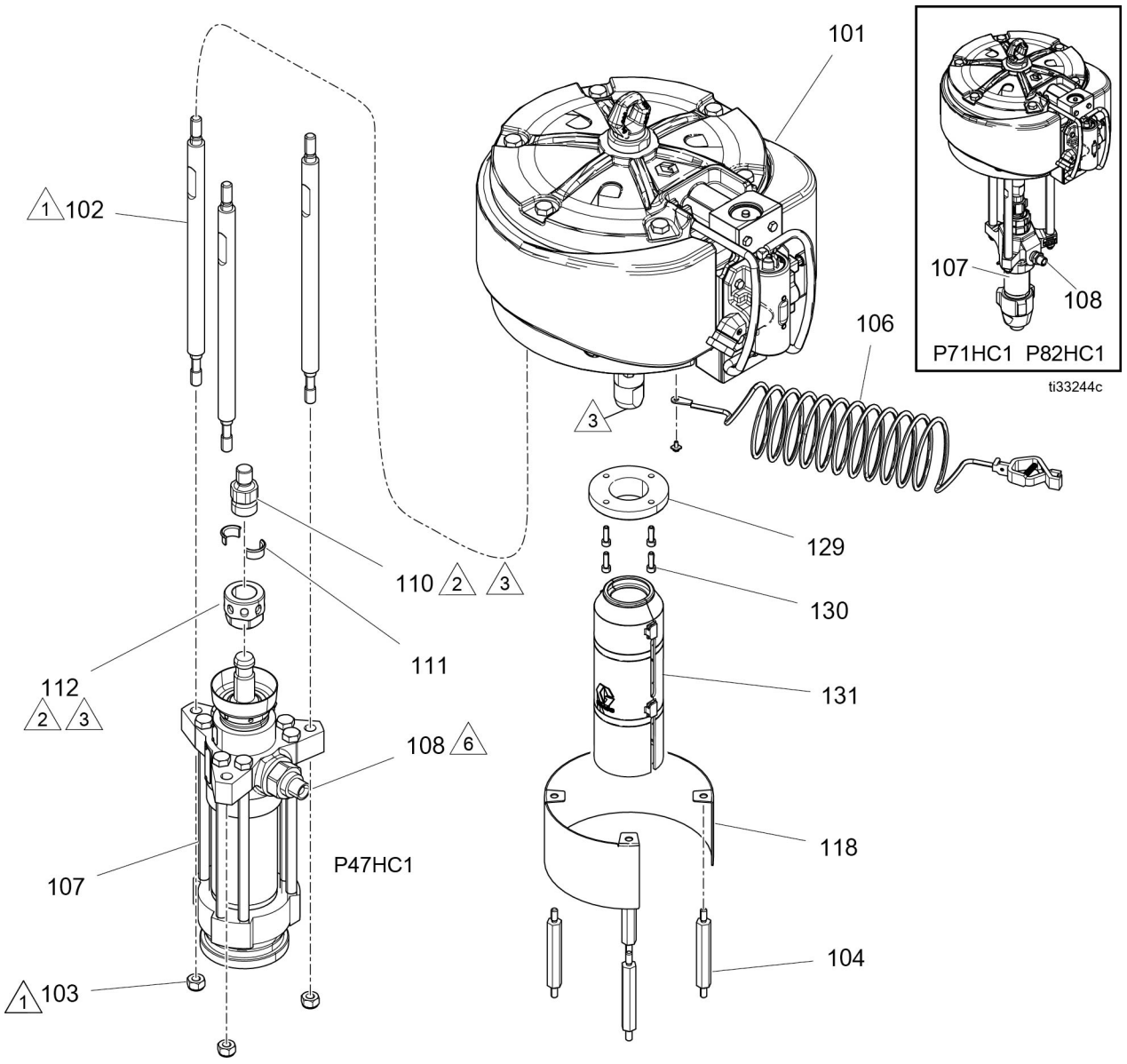
Wall Mount Packages



Wall Mount Package Parts

Ref.	Part	Description	Qty.					
			K47FW0	K47FW1	K71FW0	K71FW1	K82FW0	K82FW1
1	- - - -	PUMP, See **Pump Packages**, page 7.	1	1	1	1	1	1
4	100133	WASHER, lock, 3/4 in.	4	4	4	4	4	4
6	238620	FILTER	1	1	1	1	1	1
12	112395	SCREW, cap, flange head	4	4	4	4	4	4
13	25D650	AIR CONTROLS, standard	1	1	1	1	1	1
14	113498	VALVE, safety, 115 psi			1	1		
	16M190	VALVE, safety, 95 psi	1	1			1	1
15	112958	NUT, hex, flanged	8	8	8	8	8	8
25	H53850	HOSE, 5600 psi, 3/8 in. 50 ft		1				
	H73850	HOSE, 7250 psi, 3/8 in. 50 ft				1		1
26	164856	FITTING, nipple	1	1	1	1	1	1
27	H52506	HOSE, 5600 psi, 1/4 in. 6 ft		1				
	H72506	HOSE 7250 psi, 1/4 in. 6 ft				1		1
28	XTR524	GUN, spray, XTR		1				
	XTR724	GUN, spray, XTR				1		1
29	128093	HOSE, supply, air	1	1				
	278770	HOSE, supply, air			1	1	1	1
33	206994	FLUID, TSL, 1qt	1	1	1	1	1	1
50	247302	HOSE, suction, 1 in.	1	1	1	1	1	1
51	197682	TUBE, suction	1	1	1	1	1	1
52	114967	COUPLING, pipe, 1 in.	1	1	1	1	1	1
53	195151	TUBE, intake	1	1	1	1	1	1
54	187147	STRAINER, inlet	1	1	1	1	1	1
55	124945	FITTING, nipple, 2 in.	1	1	1	1	1	1
56	120291	PIPE, elbow, female	1	1				
	116401	PIPE, elbow, female			1	1	1	1
57	121239	BRUSHING, reducer	1	1	1	1	1	1
58	116402	ADAPTER, quick connect	1	1	1	1	1	1
60	24X180	BRACKET, wall, XL	1	1	1	1	1	1

Pump Package Parts



1 Torque to 95-105 ft-lb (129-142 N · m).

2 Torque to 230-250 ft-lb (312-340 N · m).

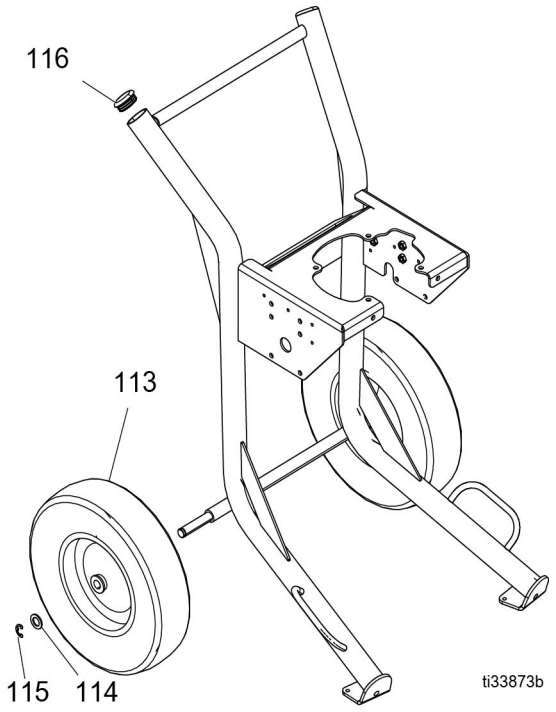
3 Apply anaerobic pipe sealant.

Pump Package Parts

Ref.	Part	Description	Qty.				
			P47HC1	P71HC1	P71HC2	P82HC1	P82HC2
101	24X856	MOTOR, air, 13 in. (see your motor manual)	1	1	1	1	1
102	184382	ROD, tie	3				
	17A048	ROD, tie		3	3	3	3
103	15U606	NUT, lock, M16	3	3	3	3	3
104	120465	SPACER, mounting, threaded	4				
106	244524	WIRE, ground with clamp	1	1	1	1	1
107	24W644	DuraFlo (See your DuraFlo manual)	1				
	L25HC1	XTREME, 250 HP, no filter				1	
	L25HC2	XTREME, 250 HP, with filter					1
	L29HC1	XTREME, 290 HP, no filter		1			
	L29HC2	XTREME, 290 HP, with filter			1		
108	184470	FITTING, outlet	1				
	171439	FITTING, outlet		1		1	
	158491	FITTING, outlet			1		1
110	184130	ADAPTER, rod	1				
	184583	ADAPTER, rod		1	1	1	1
111	184130	COLLAR, coupling	2				
	184129	COLLAR, coupling		2	2	2	2
112	184096	NUT, coupling	1				
	184098	NUT, coupling		1	1	1	1
118	15K296	SPACER, painted	1				
121	112887	WRENCH, (not shown, order separately)	1				
	15T258	WRENCH, (not shown, order separately)		1	1	1	1
129	17W470	ADAPTER, cover	1				
	17W471	ADAPTER, cover		1	1	1	1
130	513035	SCREW, cap, M6 X 20mm	4	4	4	4	4
131	17W472	GUARD, pump	2	2	2	2	2

Cart Parts

17X355 - Heavy Duty Cart



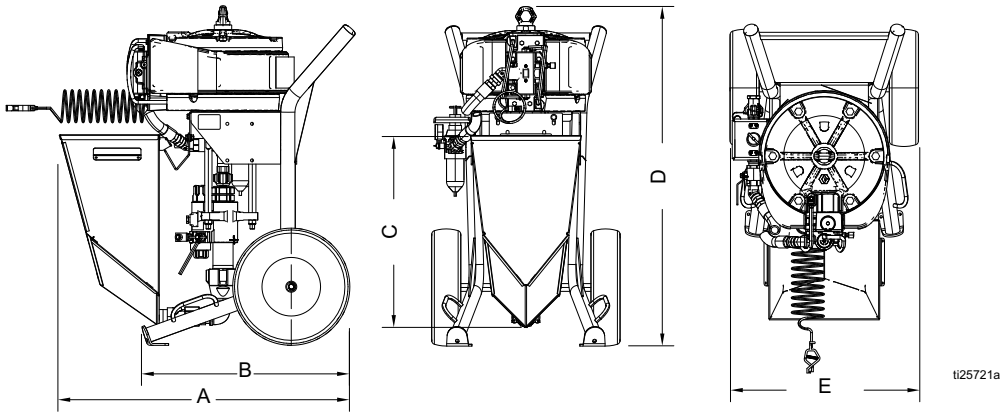
Ref.	Part	Description	Qty.
113	113362	WHEEL, semi-pneumatic	2
114	154628	WASHER	2
115	113436	RING, retaining	2
116	113361	CAP, tube, round	2

Accessories

Part	Description
17V369	Air Filter Element
24X550	DataTrak Kit
24X552	DataTrak Kit with Solenoid
24X570	Hopper Kit
17V371	Kit, Pump Filter (60 mesh)
224458	Kit, 30 mesh Strainer, 2-pack
224459	Kit, 60 mesh Strainer, 2-pack
202659	Lube, Air Motor
206994	TSL, Fluid

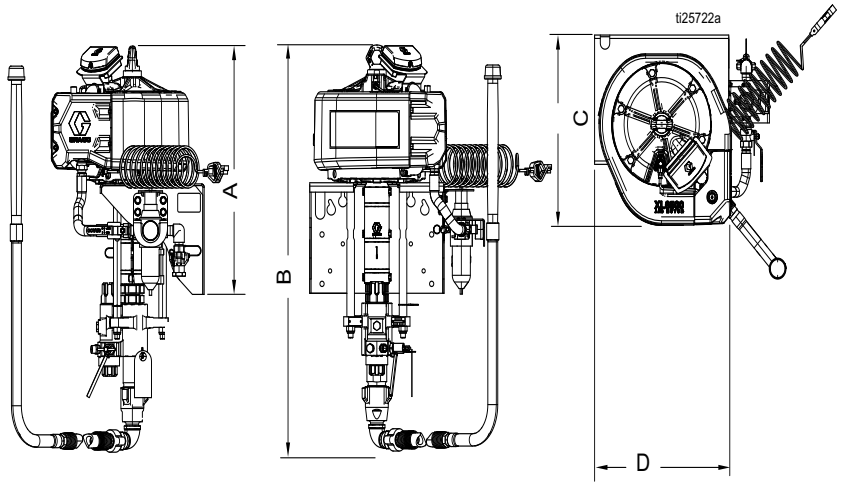
Dimensions

Sprayer Cart Packages



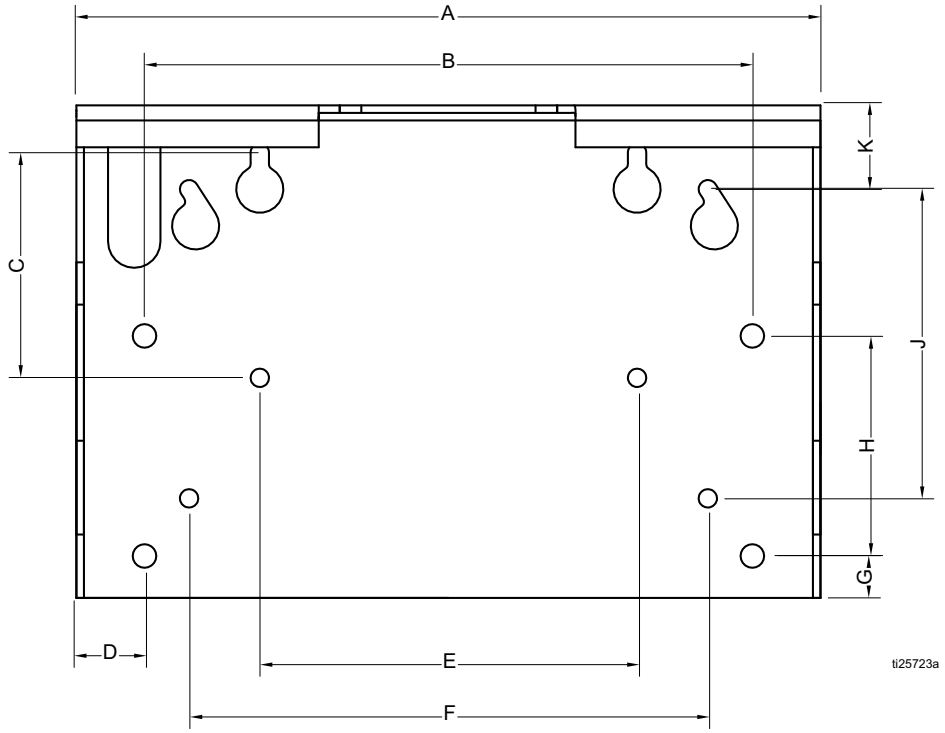
Mount	A	B	C	D	E
Dura-Flo Lower Pumps	40.75 in (103.5 cm)	28.5 in (72.4 cm)	26.25 in (66.7 cm)	46.25 in (117.5 cm)	25.75 in (65.4 cm)
Xtreme Lower Pumps	40.75 in (103.5 cm)	28.5 in (72.4 cm)	26.25 in (66.7 cm)	51 in (129.5 cm)	25.75 in (65.4 cm)

Wall Mount and Pump Packages



Mount	A	B	C	D
Dura-Flo Lower Pumps	30.75 in (78.1 cm)	49.25 in (125.1 cm)	22 in (55.9 cm)	23 in (58.4 cm)
Xtreme Lower Pumps	26.25 in (66.7 cm)	43.5 in (110.5 cm)	22 in (55.9 cm)	23 in (58.4 cm)

Wall Mount Bracket Mounting Hole Diagram



1	1/2 in (12.7 mm) diameter holes for mounting to stand
2	7/16 in (11 mm) diameter holes for mounting to wall
A	17.8 in (450.9 mm)
B	14.5 in (368.3 mm)
C	5.4 in (136.5 mm)
D	1.6 in (41.4 mm)
E	9 in (228.6 mm)
F	12.4 in (314.3 mm)
G	1 in (25.4 mm)
H	5.3 in (133.4 mm)
J	7.4 in (187.3 mm)
K	2 in (50.8 mm)

Performance Charts

Calculate Fluid Outlet Pressure

To calculate fluid outlet pressure (psi/MPa/bar) at a specific fluid flow (gpm/lpm) and operating air pressure (psi/MPa/bar), use the following instructions and pump data charts.

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

Calculate Pump Air Flow/Consumption

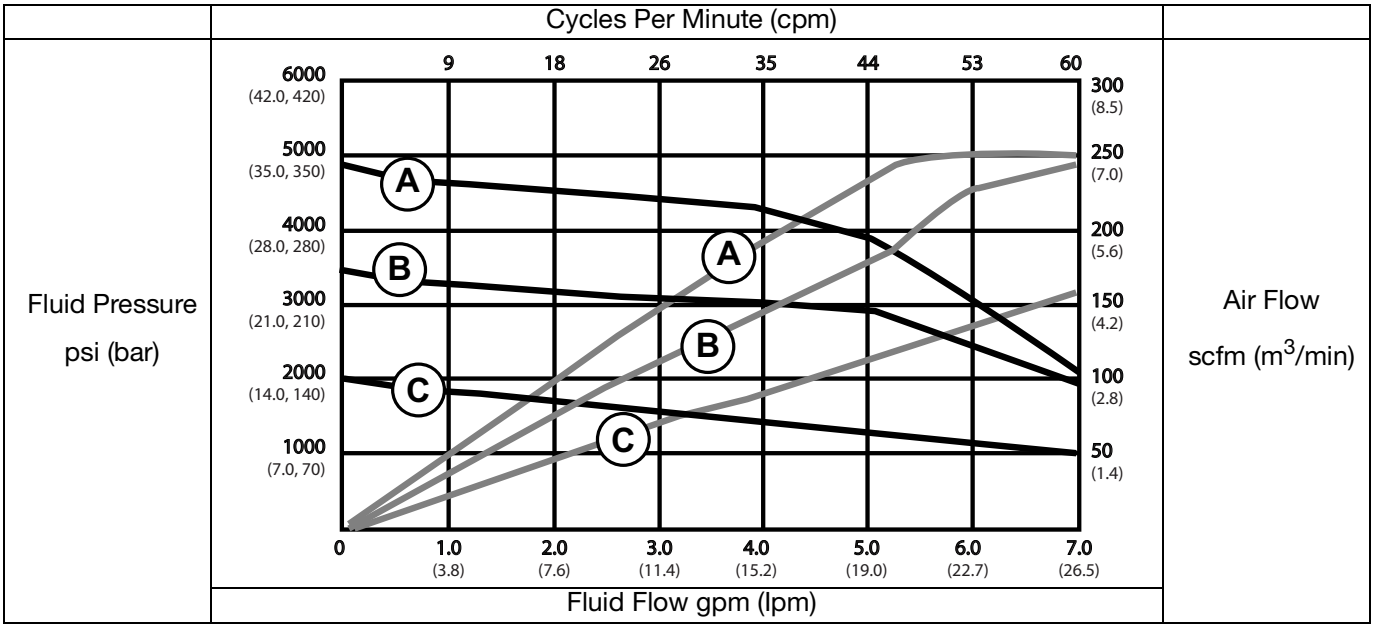
To calculate pump air flow/consumption (scfm or m^3/min) at a specific fluid flow (gpm/lpm) and air pressure (psi/MPa/bar), use the following instructions and pump data charts.

1. Locate desired flow along bottom of chart.
2. Follow vertical line up to intersection with selected fluid outlet pressure curve. Follow right to scale to read air flow consumption.

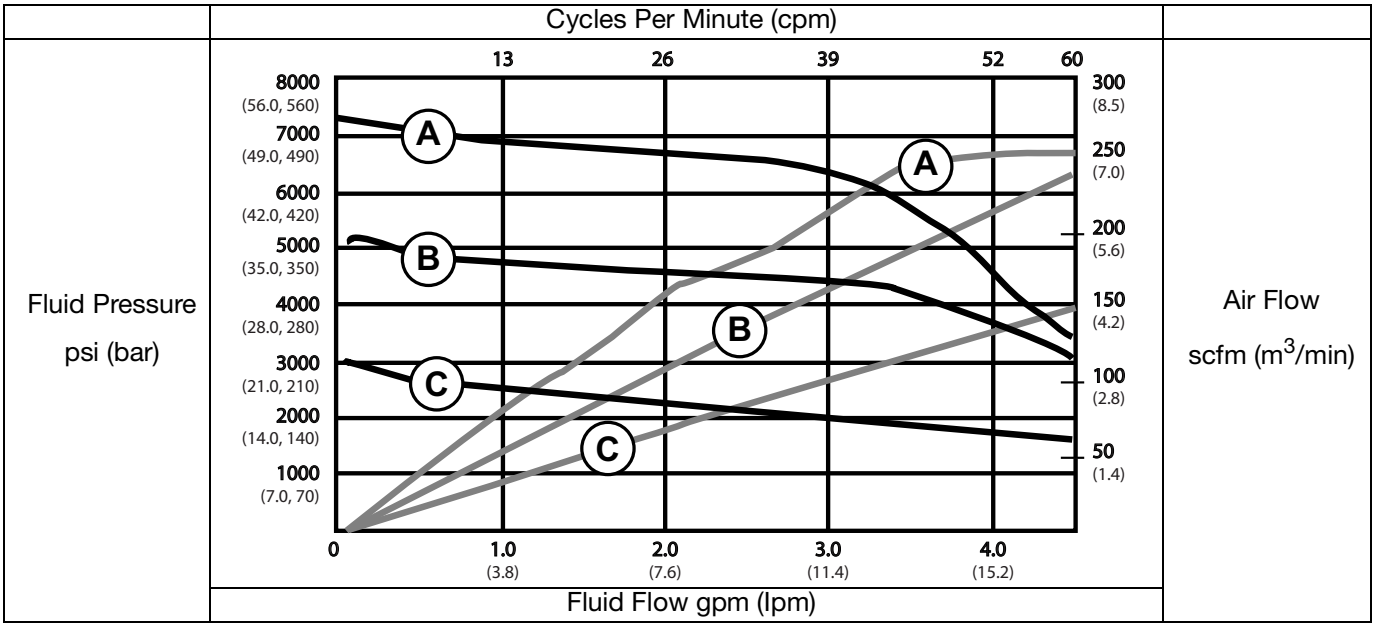
Key: Air Pressure

A	100 psi (0.7 MPa, 7 bar)
B	70 psi (480 kPa, 4.8 bar)
C	40 psi (280 kPa, 2.8 bar)

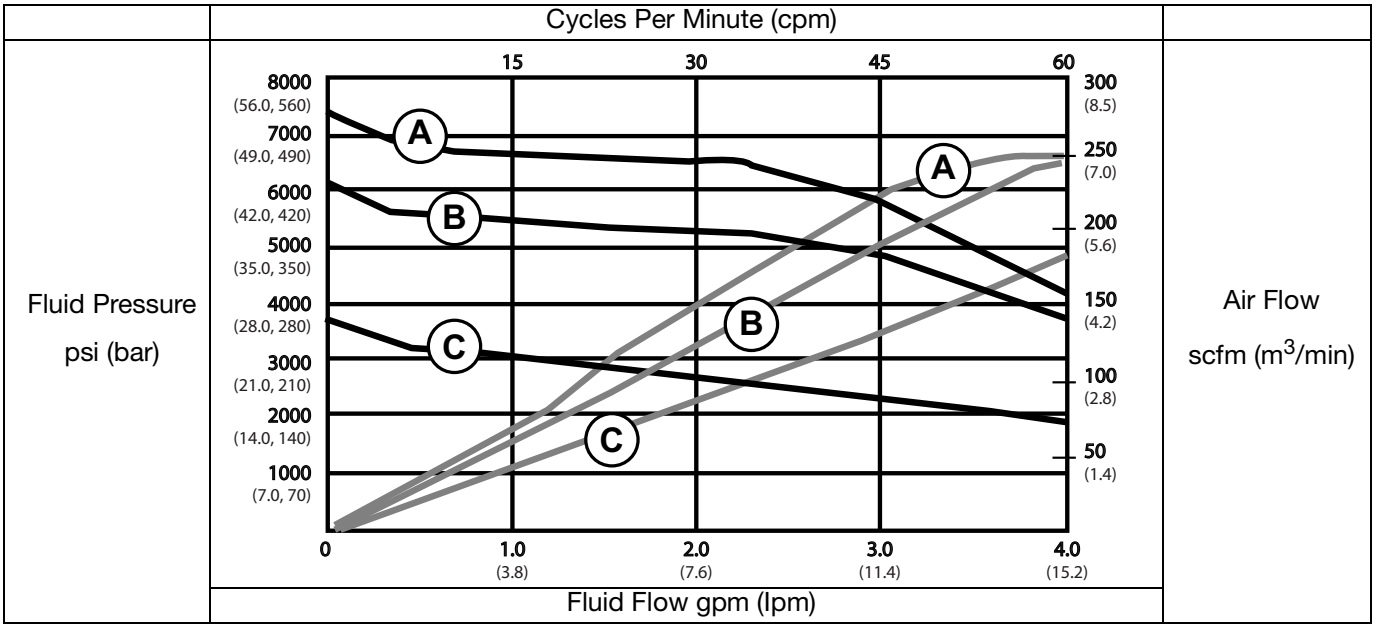
47:1



71:1


Cycles Per Minute (cpm)
13
26
39
52
60
8000
(56.0, 560)
7000
(49.0, 490)
6000
(42.0, 420)
5000
(35.0, 350)
4000
(28.0, 280)
3000
(21.0, 210)
2000
(14.0, 140)
1000
(7.0, 70)
300
(8.5)
250
(7.0)
200
(5.6)
150
(4.2)
100
(2.8)
50
(1.4)
A
B
C
0
1.0
(3.8)
2.0
(7.6)
3.0
(11.4)
4.0
(15.2)
Fluid Pressure
psi (bar)
Air Flow
scfm (m3/min)
Fluid Flow gpm (lpm)

82:1


Cycles Per Minute (cpm)
15
30
45
60
8000
(56.0, 560)
7000
(49.0, 490)
6000
(42.0, 420)
5000
(35.0, 350)
4000
(28.0, 280)
3000
(21.0, 210)
2000
(14.0, 140)
1000
(7.0, 70)
300
(8.5)
250
(7.0)
200
(5.6)
150
(4.2)
100
(2.8)
50
(1.4)
A
B
C
0
1.0
(3.8)
2.0
(7.6)
3.0
(11.4)
4.0
(15.2)
Fluid Pressure
psi (bar)
Air Flow
scfm (m3/min)
Fluid Flow gpm (lpm)

Technical Specifications

Xtreme XL Spray Packages		
	U.S.	**Metric**
Maximum air inlet pressure to sprayer	150 psi	1 MPa, 10.3 bar
Stroke length (nominal)	4.75 in.	12.0 cm
Maximum pump speed (Do not exceed maximum recommended speed of fluid pump, to prevent premature pump wear)	60 cycles per minute	
Sound Data	See XL Motor manual for sound data.	
Air inlet Size	1 in. npt(f)	
Fluid Inlet Size		
All Xtreme Lower Pumps	1 1/4 npt(m)	
Dura-Flo Lower Pumps	2 in. npt(f)	
Fluid Outlet Size (Number of Outlets)		
Xtreme Lower Pumps With Built-In Filters (2)	1/2 in. npt(f)	
Xtreme Lower Pumps Without Filters (1)	1 in. npt(f)	
Dura-Flo Lower Pumps (1)	3/4 npt(m)	
Maximum Air Operating Pressure		
K47	100 psi	0.7 MPa. 7 bar
K71	100 psi	0.7 MPa. 7 bar
K82	88 psi	0.6 MPa, 500 bar
Maximum Fluid Working Pressure		
K47	4500 psi	31 MPa, 310 bar
K71	7100 psi	48.9 MPa, 489 bar
K82	7250 psi	50 MPa, 500 bar
Weight		
K71, K82	340 lbs.	154.2 kg
K47	341 lbs.	154.7 kg
Storage		
Maximum Storage Time	5 years	
Storage Maintenance	To maintain original performance, replace soft seals after 5 years of inactivity.	
Ambient Storage Temperatures Range	30 - 160 °F	1 - 71 °C
End of Life Disposal	If the sprayer is in a condition that it can no longer operate, the sprayer should be taken out of service and dismantled. Individual parts should be sorted by material and disposed of properly. Electronic components are RoHS compliant and should be disposed of properly.	
Graco Four-Character Date Code		

Xtreme XL Spray Packages		
	U.S.	**Metric**
Example: A18B	Month (first character) A= January, Year (second and third characters) 18 = 2-018, Series (fourth character) B = serial control number	
Materials of Construction		
Wetted Materials	Plated carbon steel, stainless steels, carbide, ductile iron, PTFE, leather	

Graco Standard Warranty

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

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

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

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Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

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Revision K, October 2024