Operation, Repair, and Parts

HVBAN®

HVBAN® EP3135 Portable Stucco Pump

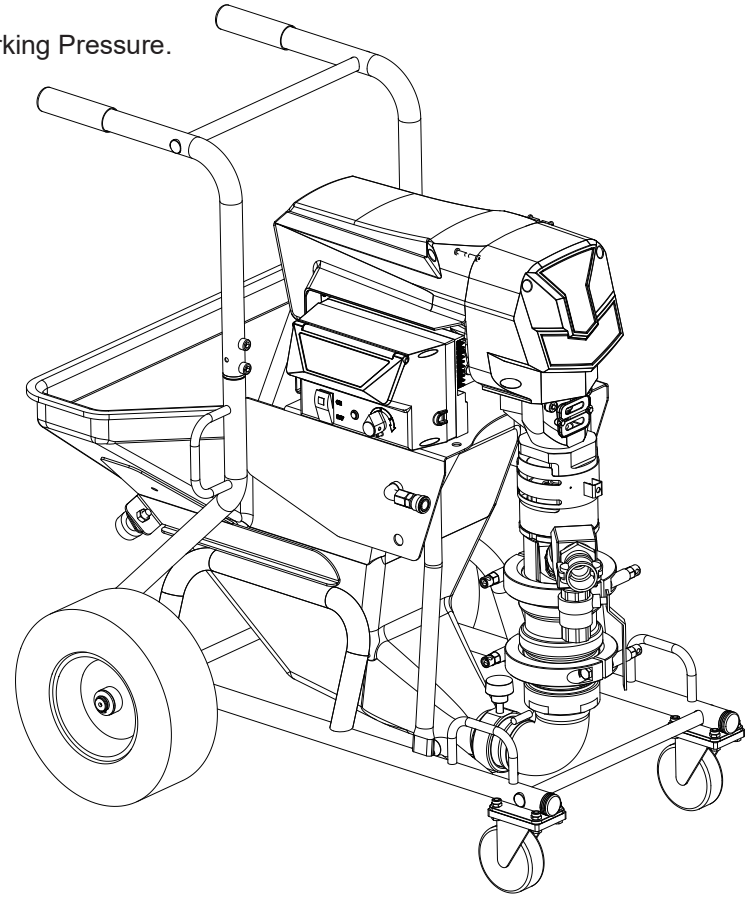
EN

Electric sprayer for water-based stucco base, finish coat materials, and Exterior Insulation and Finish Systems (EIFS). For professional use only. Not approved for use in explosive atmospheres or hazardous locations.

Important Safety Instructions

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

870 psi (6 MPa, 60 bar) Maximum Fluid Working Pressure.



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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.

⚠ WARNING




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 cord before servicing equipment.
- Connect only to grounded electrical outlets.
- Use only 3-wire extension cords.
- Ensure ground prongs are intact on power and extension cords.
- Do not expose to rain. Store indoors.






FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well-ventilated area.
- Eliminate all ignition sources, such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static 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 applicator 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.




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.



SUCTION HAZARD

Powerful suction could cause serious injury.

- Never place hands near the pump fluid inlet when pump is operating or pressurized.

⚠ 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 ratings of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturers warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Do not use chlorine bleach.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

⚠ WARNING








SKIN INJECTION HAZARD

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

- Do not point dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.



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) 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.



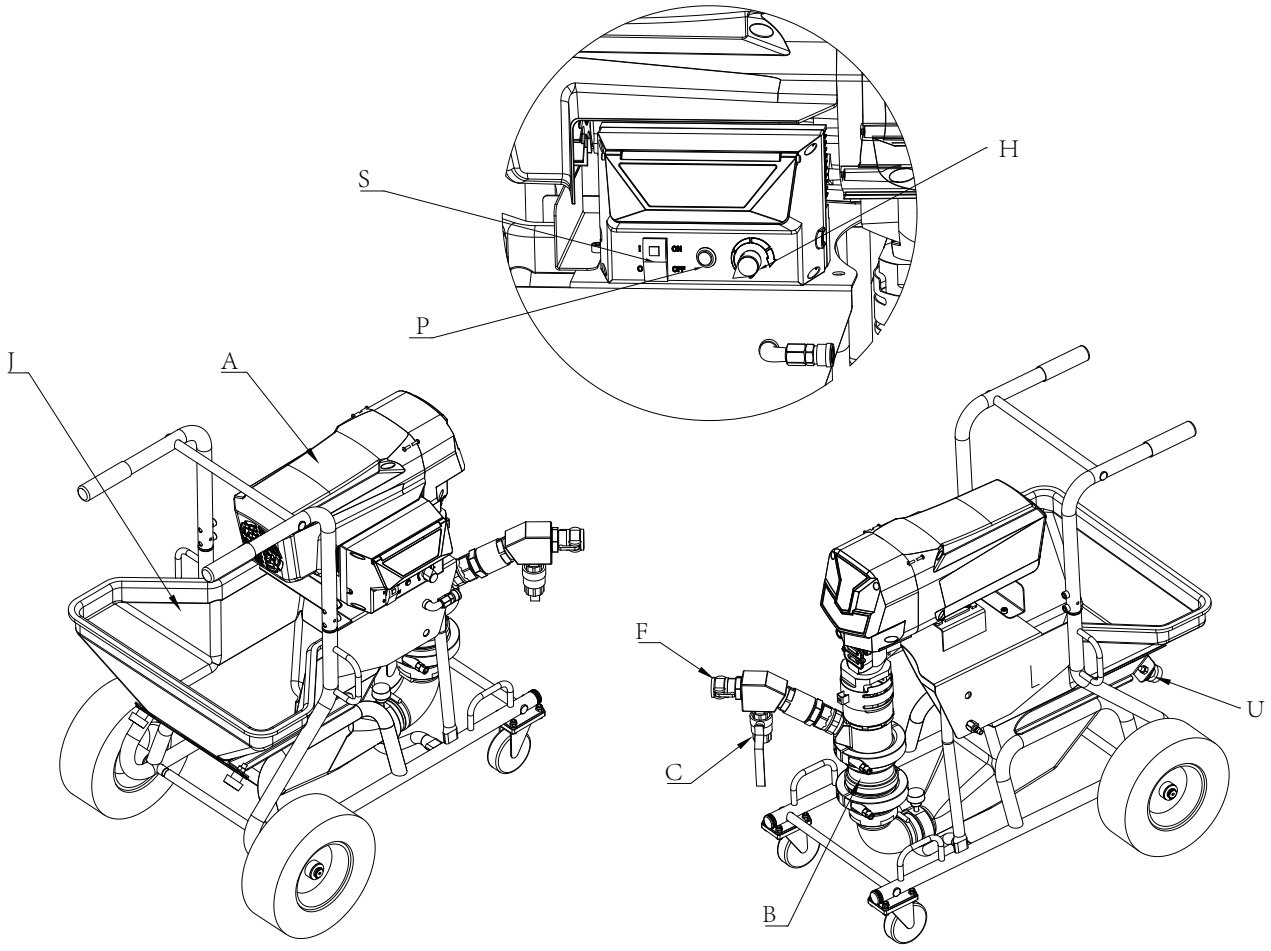
PERSONAL PROTECTIVE EQUIPMENT

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 is not limited to:

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

Component Identification

Overview



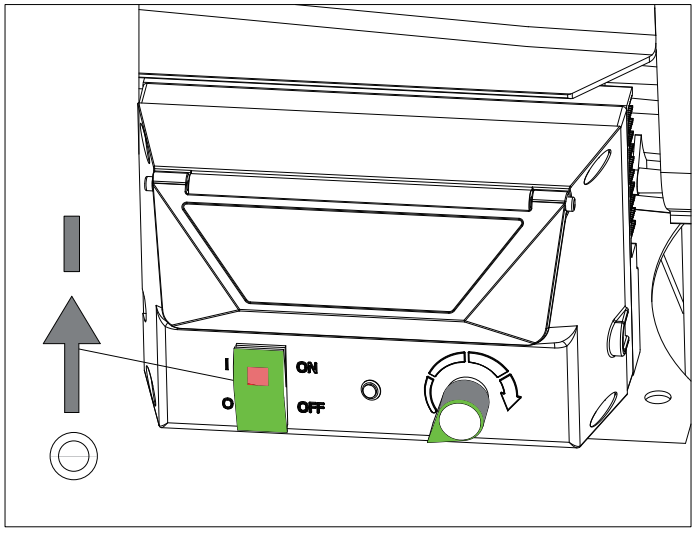
Component Identification Table

A	**Electric Motor**
B	**Pump Lower**
C	**Fluid Drain/Purge Valve**
F	**Fluid Outlet**
H	**Flow Adjustment Knob**
J	**Hopper**
P	**Flush & Work Knob**
S	**Motor Power Swith**
U	**Hopper Latch**

Component Identification

Motor Power Switch

The motor power switch(S) must be in the ON position for the sprayer to pump material.



Motor Power Switch Setting:

OFF	Power is off. The motor will not run.
ON	The motor will run continuously at a speed determined by the flow adjustment knob.

Connect Hose and Applicator:

· Before connecting hoses/applicator, inspect for damage or wear to both the hose/applicator and cam lock fittings. Fittings should be clean and free of debris, dents,cracksor nicks. The female cam lock fitting must have the gasket installed.

· Always connect hoses from largest diameter to smallest diameter.

· Use a minimum of 25 ft. of hose with a working pressure of at least 600 psi(4Mpa, 40bar).

· When fastening cam locks, make sure the pull ring stays to the outside of the cam lock arm to allow for complete and proper sealing of che cam lock. Once installed, use Velcro straps to secure cam locks in place.

Prime with Material



NOTICE

Loading material into a dry system will cause the material to stick to internal components and cure, causing damage and requiring replacement of those parts. To prevent material curing in system, never load material into a dry system.

The applicator must be removed before priming. Always push out any remaining water into a waste container before circulating material. Always circulate clean material back into the hopper for several cycles before beginning to spray.

1. Prime the system with water. See **Prime with Water**, pg. 11.
2. Mix the material. See **Mix the Material**, pg. 12.
3. Turn the flow adjustment knob (H) counterclockwise until it stops.
4. Remove the applicator.
5. Fill the clean hopper with material to be sprayed.
6. Place the hose outlet in a waste container.
7. Turn the motor power switch (S) to ON.
8. Turn the flow adjustment knob (H) clockwise slowly to increase pressure until water is purged out and a steady stream of material flows from the applicator.

NOTICE

To prevent damage to pump seals caused by cavitation, run the pump slowly until the system is primed.

9. To stop dispensing, turn adjustment knob (H) counterclockwise until it stops.
10. Install applicator.

NOTE: For EIFS finish coats, before installing the applicator, prime the larger ID hose, then install and prime the transition fitting and whip hose.

11. Recirculate several cycles of material to make sure the material is flowing properly.
12. Turn the flow adjustment knob (H) counterclockwise to stop the pump.
13. Install the air line and a tip onto the applicator¡. The system is now primed and ready to spray.

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.

Ground the sprayer by plugging it into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify the power cord provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.

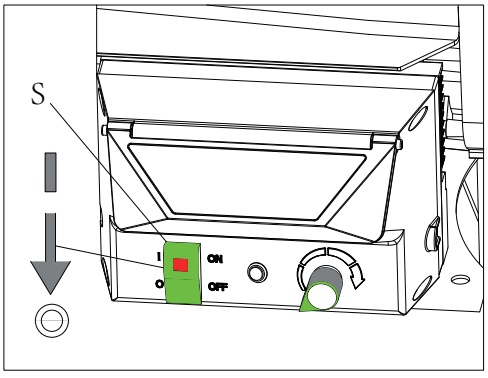
Power Requirements

Model	Required Power Source	Supplied Local Adapters
220V, 50/60Hz	One separate dedicated circuit rated at a minimum of 25A	 Euro CEE7 (Europe)

Setup

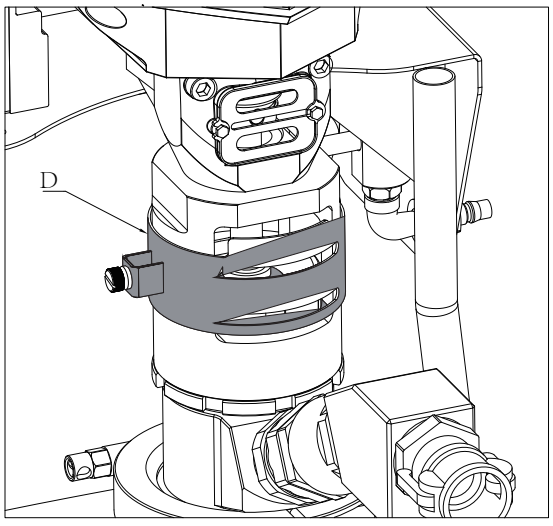
To avoid tipping over, ensure cart is on a flat and level surface. Failure to do so could result in injury or equipment damage.

1. Turn the motor power switch (S) to OFF.



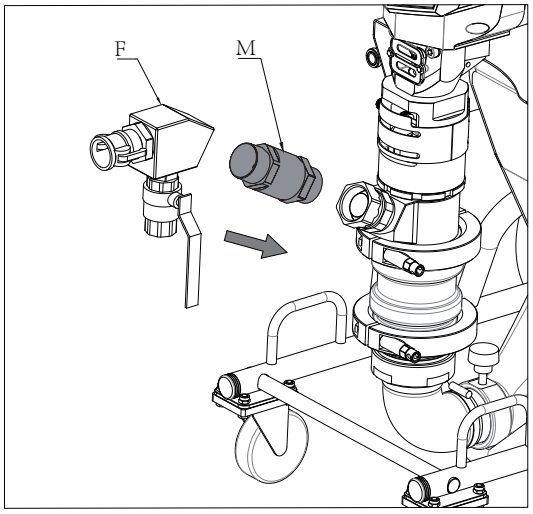
2. Ground sprayer (see **Grounding**, pg. 7). Plug the power cord into a dedicated circuit. See **Power Requirements**, pg. 7.

3. Check Throat Seal Liquid (TSL) level in packing nut (D). Fill 1/2 full with TSL.



4. Connect air supply to applicator.

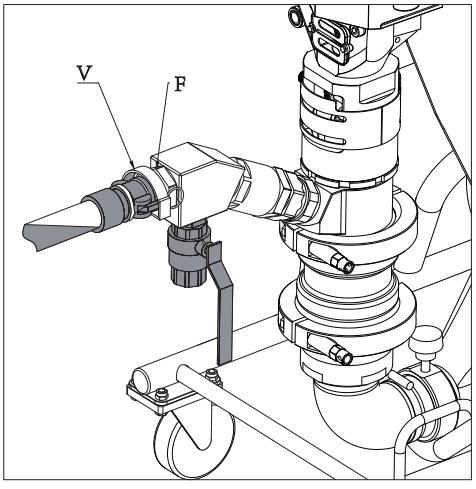
5. Attach check valve (optional). Remove fluid outlet assembly (F). Attach check valve (M) to pump fluid outlet. Attach fluid outlet assembly to check valve (M) outlet.



NOTE: If a check valve (M) is being used, it must be installed between the fluid outlet assembly (F) and the pump lower to ensure proper operation of the pressure relief valve.

NOTE: Check valve (M) is intended for use with low viscosity fluids such as water resistive barriers.

6. Attach hose to applicator fluid inlet and pump fluid outlet (F), then secure Velcro straps (V) around the cam fitting.



7. Prime the system with water before using (see **Prime with Water**, pg. 11).

Flush



NOTICE

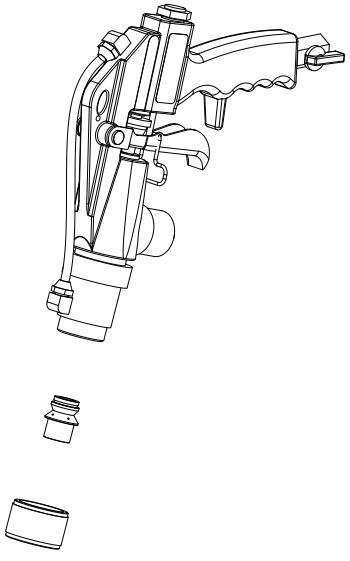
Failure to flush prior to material curing in the system will result in damage to system and may require replacement of all system parts in contact with the material.

NOTICE

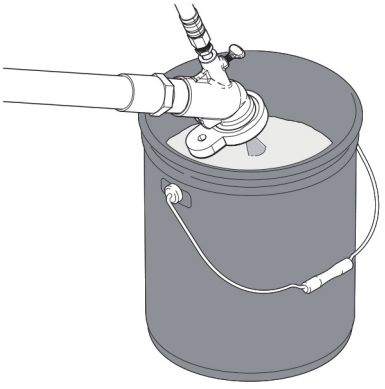
The fluid/drain purge valve must be flushed to prevent material hardening in fluid/drain purge valve. If that is not sufficient, remove, disassemble, and clean the valve then reinstall.

- Flush if the materials in the system are about to reach their cure time.
- Flush any time the flow rate starts to decrease and there are no clogs in the system, as this is a sign that the material is starting to thicken and cure.
- Always flush the system at least twice, draining all water between flushes then replacing with clean water.
- Flush using water only.

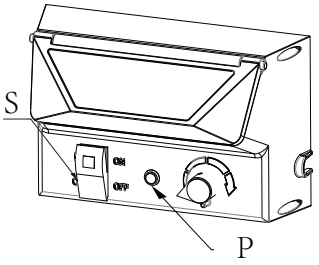
1. Perform **Pressure Relief Procedure**, pg. 15.
2. Remove applicator tip and retainer.



3. Place applicator outlet in a waste container. The waste container must be large enough to hold all dispensed material.



4. Turn motor power switch (S) ON.



Press the flush&work knob（P) .The device work mode will be switched to non-automatic mode (The device works without the air source); turn adjustment knob (H) to regulate the pressure.（Press the flush&work knob (P) again, the device work mode will be recovered.)

5. Turn adjustment knob (H) clockwise slowly to increase pressure, until a steady stream flows from gun.
6. When the material level in the hopper is within a few inches of the material inlet at the bottom:
   a. Scrape the material down the sides of the hopper.
   b. Fill the hopper with water as the material runs out and continue dispensing.
   c. Scrub the walls of the hopper with a scrub brush.

7. When water begins to exit the applicator outlet, increase the flow adjustment knob to flush heavy sediments from the system.

8. Once heavy sediment has been flushed, pump the remaining contaminated water out of the hopper.

9. Turn the motor power switch (S) OFF.

10. Remove the hopper and hopper elbow. Clean all residual material, then re-install the elbow onto the system. See **Hopper Removal**, pg. 16

11. Circulate clean water:

    a. Fill the system hopper with clean water.

    b. Turn the motor power switch (S) to ON to begin circulating water. Increase flow and pump for several cycles.

    c. While pumping, open the fluid drain/purge valve. Allow the water to flush out any material to prevent material hardening in the valve. Once the water appears clean, close the fluid drain/purge valve.

    d. Turn the motor power switch (S) to OFF.

12. Remove the applicator and clean/flush separately.

    a. Make sure all parts are free of residual material.

    b. Turn on air to make sure air lines are free of obstructions.

13. Remove the remaining material with a hose clean-out ball.

    a. Place the hose outlet back in the waste container.

    b. Remove the hose inlet from the pump outlet and place a hose clean-out ball withing the hose inlet. The ball must be wetted down before inserting.

    c. Reattach the hose to the pump outlet and turn the motor power switch (S) to ON to resume flushing the hose.

    d. The hose clean-out ball will be pushed out of the hose after several minutes. Once the ball is pushed through the hose, turn the motor power switch (S) to OFF. Repeat until all sediment is removed from the hose.

NOTICE

Material left on the throat seal can dry out and damage the seal. Always stop the pump at the bottom of the stroke to avoid damage to the throat seal.

    e. If using a 1 in. whip hose, remove the hose and transition fitting and repeat the process using the large clean-out ball on the remaining hoses. Once the ball is pushed out, pump out the remaining water in the hopper, then reattach the transition fitting and whip hose.

14. Drain remaining water from system:

    a. Place a drain pan beneath pump lower inlet connection.

    b. Detach the hopper (see **Hopper Removal**, pg. 16).

    c. Use a screwdriver to lift the pump lower inlet ball. This will drain the remaining water from the pump lower. When the pump stops draining, release the pump lower inlet ball.

    d. Disconnect the hose from the pump lower outlet.

    e. Starting at the pump, raise the hose bundle above your head and slowly move towards the applicator. As you move towards the applicator, the remaining fluid in the hose will drain from the applicator into the bucket.

    f. Reattach the hopper to the pump.

15. Dispose of all waste material in accordance with local rules and regulations.

Prime with Water



NOTICE

To prevent material curing in the system, never load material into a dry system. Loading material into a dry system will cause the material to stick to internal components and cure, causing damage and requiring replacement of those parts.

1. Fill the hopper with clean water.

NOTE: Some materials require a slicking agent to be run through the hose. Consult the material manufacturer for recommendation.

2. Turn the flow adjustment knob (H) counterclockwise until it stops.
3. Place the applicator into a waste container.
4. Turn the motor power switch (S) to ON.
5. Turn the flow adjustment knob (H) clockwise slowly to increase pressure, until water is purged out.

NOTICE

To prevent damage to pump seals caused by cavitation, run the pump slowly until the system is primed.

6. Run the clean-out ball to coat the inside of the hoses.
   a. Remove the applicator from the end of the hose.
   b. Remove the hose inlet from the pump outlet and place a hose clean-out ball within the hose inlet. The ball must be wetted down before inserting. If using a 1 in. whip hose, begin with the smallest clean-out ball.
   c. Reattach the hose to the pump outlet and turn the motor power switch (S) to ON to resume flushing the hose.
   d. The clean-out ball will be pushed out of the hose after several minutes. Once the ball is pushed through the hose, turn the motor power switch (S) to OFF.
   e. Remove the hose and transition fitting and repeat the process using the large clean-out ball on the remaining hoses. Once the ball is pushed out, pump out the remaining water in the hopper, then reattach the transition fitting and whip hose.
7. Remove the hose inlet from the pump outlet and walk the water out of the hoses.
   a. Starting at the pump, raise the hose bundle above your head and slowly move towards the applicator end. As you move towards the applicator end, the remaining water will drain from the hoses.
8. Detach the hopper from the pump (see **Hopper Removal**, pg. 16) and properly dispose of any remaining water according to local and state regulations.
9. Use a screwdriver to lift the pump lower inlet ball and drain the remaining water from the pump lower. Once the pump stops draining, release the lower inlet ball.
10. Reattach the hopper to the pump.
11. The system is ready to prime with material.

Mix the Material

Always follow the material manufacturer's instructions for the material being sprayed. Material must be thoroughly mixed to a smooth consistency before loading it in the hopper.

Managing Material After Mixing:

1. Pay close attention to the work life of the material being used.
2. Only mix the material kits as needed. Do not let mixed material sit longer than necessary.
3. Scrape material down the sides of the hopper as the hopper material level lowers. Do not let older material cure on the walls.
4. To ensure that all material in the hopper is used while fresh, occasionally wait until the hopper is almost empty before refilling.

Prime with Material



NOTICE

Loading material into a dry system will cause the material to stick to internal components and cure, causing damage and requiring replacement of those parts. To prevent material curing in the system, never load material into a dry system.

The applicator must be removed before priming. Always push out any remaining water into a waste container before circulating material. Always circulate clean material back into the spray hopper for several cycles before beginning to spray.

1. Prime the system with water. See **Prime with Water**, pg. 11.
2. Mix the material. See **Mix the Material**, pg. 12.
3. Turn the flow adjustment knob (H) counterclockwise until it stops.
4. Remove the applicator.
5. Fill the clean hopper with material to be sprayed.
6. Place the hose outlet in a waste container.
7. Turn the motor power switch (S) to ON.
8. Turn the flow adjustment knob (H) clockwise slowly to increase pressure until water is purged out and a steady stream of material flows from the applicator.

NOTICE

To prevent damage to pump seals caused by cavitation, run the pump slowly until the system is primed.

9. To stop dispensing, turn adjustment knob (H) counterclockwise until it stops.
10. Install applicator.

NOTE: For EIFS finish coats, before installing the applicator, prime the larger ID hose, then install and prime the transition fitting and whip hose.

11. Recirculate several cycles on material to make sure the material is flowing properly.
12. Turn the flow adjustment knob (H) counterclockwise to stop the pump.
13. Install the air line and a tip onto the applicator (see applicator manual). The system is now primed and read to spray.

Spray

Prevent Pack-Out

To avoid “packing out” the pump or hose:

- Use the lowest pressure and largest nozzle size that provides an acceptable spray pattern. This will also result in seals and wear parts lasting much longer.
- Do not use any more fluid hose than is necesary (minimum 25 ft.).
- Use an applicator with a rubber tip retainer that will blow off it if plugs .

Before Starting or Stopping Material Flow

Always have the atomizing air turned on at the applicator before and after spraying fluid.

Spraying

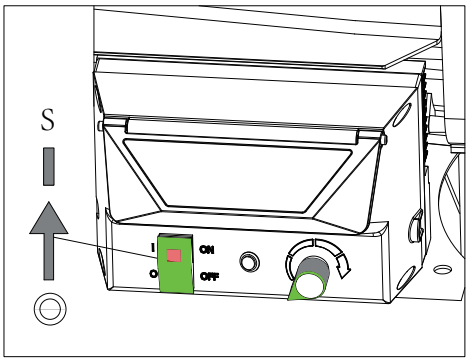


1. **Prime with Water**, pg. 11.
2. **Mix the Material**, pg. 12.
3. **Prime with Material**, pg. 12.

NOTICE

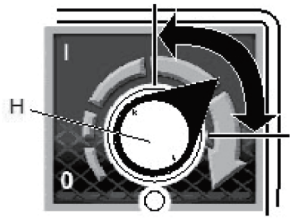
- Do not allow pump to run without material in the hopper. It can cause damage to the pump seals.
- Failure to flush prior to material curing in the system will result in damage to system and may require replacement of all system parts in contact with the material.

4. Turn on atomizing air and adjust the air needle valve on the applicator.
5. Turn the motor power switch (S) to ON.

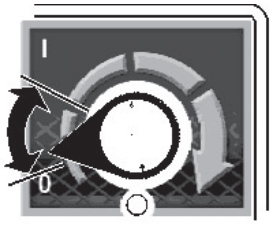


6. Turn flow adjustment knob (H) until desired flow is reached. Turn clockwise to increase flow, counterclockwise to decrease flow.

Typical knob range for stucco:



Typical knob range for EIFS base and finish coats:

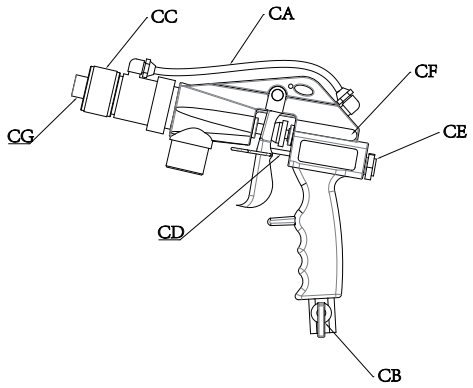


7. If the system is approaching its cure time or the system will be idle for enough time for material to begin curing in the system, flush the system, see **Flush**, pg. 9.

NOTICE

Failure to flush prior to material beginning to cure in the system will result in damage to system and may require replacement of all parts in contact with the material.

Spray Adjustments



Key:	
CA	Air Assist Air Line
CB	Air Assist Shutoff Ball Valve
CC	Rubber Tip Retainer
CD	Air Needle (adjustable position)
CE	Air Needle Retaining Screw
CF	Fluid Hosing
CG	Tip (Nozzle)

General Adjustments

The spray pattern can be adjusted by changing:

- Tip (CG) size
- Fluid and/or air flow
- Air Needle (CD) position

The standard applicator adjustment is to adjust the air needle (CD) slightly behind the fluid tip. Fully open the air ball valve (CB) for the minimum air flow necessary for a good pattern. **NOTE:** Installing the needled (CD) too far forward can reduce the orifice size, stopping material flow.

Air bleeds from the applicator nozzle whenever the applicator air ball valve (CB) is open. Close the valve to stop the air if desired. Otherwise, the air valve can stay open during priming.

Adjusting the spray pattern requires testing to balance the fluid flow and the air to the applicator, and requires the correct tip size.

Spraying Techniques



1. Test the spray pattern on cardboard. Hold the applicator 18 - 30 in. (45 - 76 cm) away from the surface. Use this spraying distance for most applications.
2. Adjust fluid flow until material flow is adequate.
3. Adjust the applicator air ball valve (CB) to achieve a uniform round spray pattern.
4. Consider the size of aggregate in the material and the coarseness of the spray pattern. Larger nozzles allow heavier patterns.
5. Overlap each stroke 50%. A circular overlapping pattern may give the best results.

When spraying small confined areas use the air ball valve (CB) and air needle (CD) to make fine adjustments without adjusting the pump.

Material Flow Adjustment

For a lighter spray pattern, adjust the air needle (CD) closer to the fluid nozzle and/or reduce the fluid flow. For a heavier spray pattern, adjust the air needle (CD) father back from the fluid tip and/or increase the fluid flow.

NOTE: Withdrawing the needled (CD) too far can force air pressure back into the fluid hose, which can slow material flow.

Air Flow Valve Adjustment

To decrease air flow, turn the air ball valve (CB) clockwise. To increase air flow, turn the air ball valve (CB) counterclockwise.

Check the material ad thing it as needed to maintain the proper consistency. The material may thicken as it sits and could slow down application or affect the spray pattern.

Flush and dry the applicator thoroughly at the end of each use. Blow air through the needle after the applicator is clean to ensure that no material is blocking air flow.

Installing Nozzle Retaining Cap

1. Place the nozzle retaining cap (CC) over the top lip of the applicator housing.
2. Turn the rubber retainer back and forth to make sure it is fully seated.
3. Turn the rubber retainer back and forth to be sure it is fully seated.

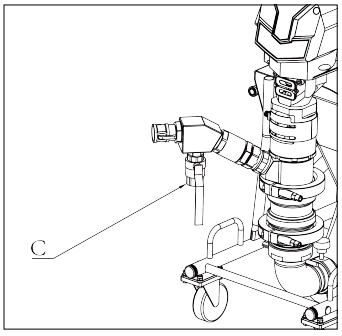
NOTE: The rubber gasket in the cam and groove inlet fitting and the rubber nozzle retainer should be hand-cleaned and dried after each use.

Fluid Drain/Purge Valve



To avoid injury from splashing fluid, never open a cam-lock hose or applicator fitting while there is pressure in the fluid line. See **Pressure Relief Procedure**, pg. 15.

Open the drain/purge valve (C) to relieve pressure if pump or hose pack-out occurs, or to relieve pressure inside the hose. Close valve when spraying.



NOTICE

To prevent material hardening in fluid drain/purge valve, flush the valve after every time it is used. See **Flush**, pg. 9.

Pressure Relief Procedure



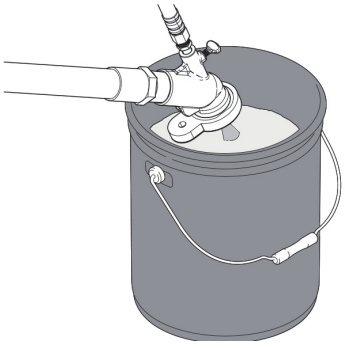
Follow the Pressure Relief Procedure whenever you see this symbol



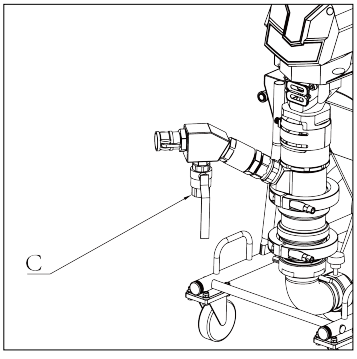
This equipment stays pressurized until pressure is manual relieved. To help prevent serious injury from pressurized fluid, such as splashing fluid, and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

To avoid injury from splashing fluid, never open a cam-lock hose or applicator fitting while there is pressure in the fluid line.

1. Turn the flow adjustment knob (H) counterclockwise until it stops.
2. Turn the motor power switch (S) OFF.
3. Remove the applicator tip and the tip retainer.
4. Hold the applicator firmly against a waste container.



5. Place a waste container beneath the fluid drain/purge valve (C). Slowly open the fluid drain/purge valve (C) at the pump outlet.



6. If you suspect there is a clog which will not allow pressure to be fully relieved, flush the line through the fluid drain/purge valve (C) using a 3/8 polyurethane tube and water hose.
7. Flush the fluid drain/purge valve (C). See **Flush**, pg. 9. Close the fluid drain/purge valve (C).

NOTICE

To prevent material hardening in fluid drain/purge valve, flush the valve after every time it is used. See **Flush**, pg. 9.

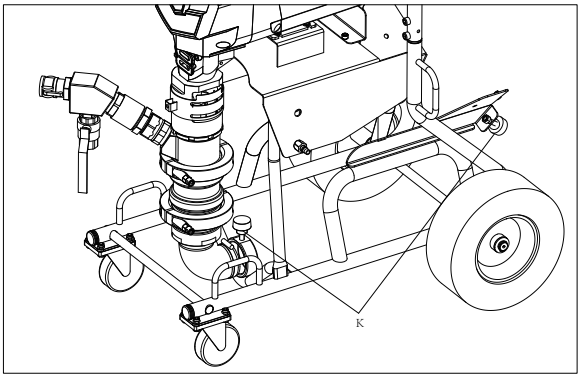
Hopper Removal



To help prevent injury from suction, never place hands near the pump fluid inlet when pump is operating or when hopper is removed.

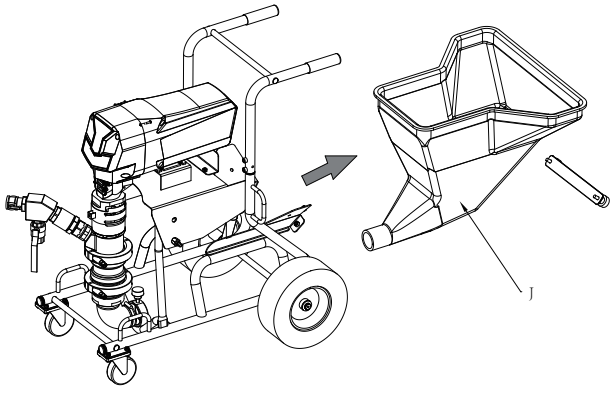
The hopper assembly allows easy detachment of the hopper from the pump. To remove the hopper from the pump, perform the following steps:

1. Relive pressure, see **Pressure Relief Procedure**, pg. 15.
2. Unplug the power cord.
3. Rotate knob (K) counterclockwise to loosen the clamp between the hopper elbow and the lower.



NOTE: If needed, push down on the hopper elbow to completely disengage from the pump lower.

4. Lift up on the handle and pull the hopper (J) away from the sprayer.



NOTE: If the hopper elbow needs to be thoroughly cleaned, rotate knob (K) to loosen the clamp between the elbow and the hopper. Remove and clean the elbow.

NOTE: To re-install the hopper, follow the steps above in reverse order.

Shutdown



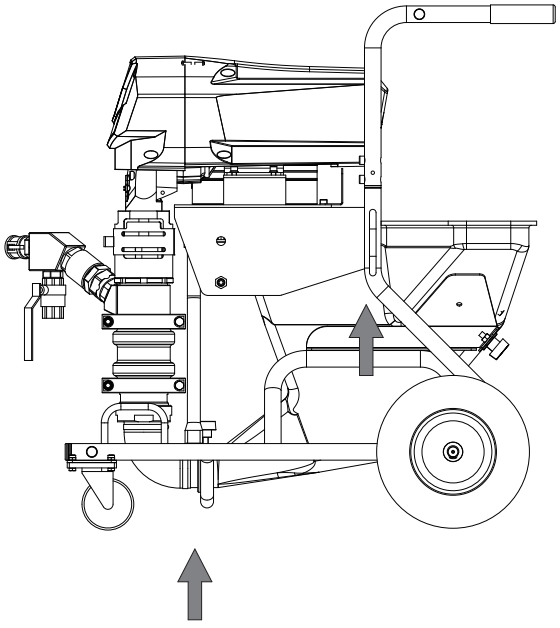
NOTICE

To prevent rust, never leave water or water-based fluid in pump overnight.

To shutdown, flush the system, see **Flush**, pg. 14.

Lifting Instructions

When lifting the unit, only lift at the points indicated by the arrows below.



Maintenance

Daily Maintenance



1. Flush the system, see **Flush**, pg. 9.
2. Clean hopper with a scrub pad. It is recommended that you clean the outside of the sprayer using a cloth and water.
3. Check hoses, tubes, and couplings for wear or damage. Tighten all fluid connections before each use.
4. Check and replace cam-lock gaskets as needed.

Preventative Maintenance

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: Check hose for wear and damage, and leaks.

DAILY: Check fluid drain/purge valve for proper operation.

DAILY: Check level of Throat Seal Liquid (TSL) in displacement pump packing nut/wet cup. Fill nut 1/2 full with TSL. Maintain TSL level to help prevent material buildup on piston rod and premature wear of packings and pump corrosion.

DAIY: Check the cam-lock connections for damage (dings, nicks, cracks).

DAILY: Check the cam-lock gasket for damage.

DAILY (or when changing material): Break down the pump lower and thoroughly clean and inspect check balls.

WEEKLY: Grease swivel fittings on the applicator.

WEEKLY (or when changing material): Break down the pump lower and thoroughly clean and inspect all wear components including check balls, piston, o-rings and seats.

Corrosion Protection

NOTICE

To prevent rust, never leave water or water-based fluid in pump overnight.

NOTICE

Material left on the throat seal can dry out and damage the seal. Always stop the pump at the bottom of the stroke to avoid damage to the throat seal.

Always flush the pump before the fluid dries on the displacement rod.

Water Exposure

NOTICE

Exposing the motor and/or control to water can cause damage and possible motor failure. Do not store the pump outside. Do not spray water direction into the motor fan.

Troubleshooting



1. Follow **Pressure Relief Procedure**, pg. 15.
2. Check all possible problems, causes, and solutions listed below before disassembling pump.

For troubleshooting and repair questions, please contract your distributor.

Mechanical/Fluid Flow

Problem	Cause	Solution
Displacement pump operates, but output is low on upstroke	Piston ball check not sealing properly	Service the piston ball check.
	Piston worn or damaged	Replace the piston.
Displacement pump operates, but output is low on down stroke and/or on both strokes	Piston packings worn or damaged	Replace piston.
	Outlet check valve not seating properly	Clean the check valve.
	Intake valve ball check not seating properly.	Service the intake valve ball check.
	Rubber elbow air leak	Tighten clamps on the rubber elbow.
	Fluid hose on the applicator is obstructed	Clean the fluid hose on the applicator.
Material leaks and runs over the side of the wet cup	Loose wet cup	Tighten the wet cup enough to stop leakage.
	Throat seal worn or damaged	Replace the throat seal.
Fluid delivery is low	Applicator tip/gun is dirty or clogged	Clean or replace tip/gun.
	Clamps on hopper elbow are loose	Tighten clamps on the hopper elbow.
	Large pressure drop in fluid hose	Reduce length or increase diameter.
Electric motor does not operate	Power switch is not ON	Turn the power switch ON.
	Tripped circuit breaker	Check circuit breaker at power source. Reset motor switch.
Sprayer does not operate	Fluid hose or applicator obstructed	Clean the hose or application.
	Dried fluid on displacement rod or inlet ball	Clean rod. Always stop pump at bottom of stroke; keep wet cup filled with TSL. Be sure the inlet ball moves freely.
Erratic accelerated speed	Material supply exhausted, clogged suction	Refill the hopper and the prime pump.
	Open or worn piston ball	Clear piston valve; service the piston ball check.
	Open or worn intake valve	Clear or service intake valve.
Cycles or fails to hold pressure at stall	Worn check balls, seats, or piston packing	Service the pump lower.
Poor finish or irregular spray pattern	Inadequate atomizing air pressure	Adjust air needle valve on applicator
	Dirty, worn, or damaged spray applicator	Service spray applicator .
Motor powered by nothing comes out of hose	Pump is packed out with dry or cured material	Disassemble and clean the pump.
	Hose is packed out with dry or cured material	Try to flush the hose using water hose and/or polyurethane tube.

Problem	Cause	Solution
Material is too thick to push through the hose without packing out	Hose is too restrictive	Thin and mix material thoroughly to a lower viscosity.
		Use a pump system priming fluid (slime). Wet out the system.
		Use a larger diameter hose.
		Thoroughly mix in a pump-aid or performance admixture to the material.

Electrical

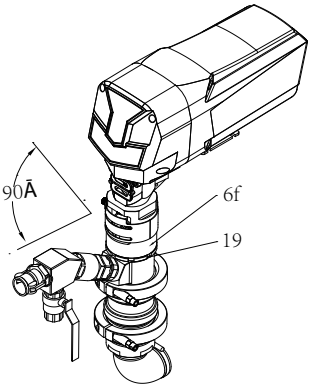
DISPLAYLED	SPRAYER OPERATION	INDICATES	WHAT TO DO
No Display	Sprayer stops. Power is not applied. Sprayer must be pressurized.	Loss of power.	Check power source and ON/OFF switch. Relieve pressure before repair or disassembley.
E=03	Power is applied. But sprayer does not strat or stops and LED continues to blink five times repeatedly.	Control board is faulty or motor is faulty.	Replace control board or motor.
E=07	Sprayer stops. Power is applied.	Pressure is too high when cleaning or did not pressure relief.	Turn on the prime valve. Check for leaks or clogged, pump inlet, Repeat startup procedure.
E=08	Sprayer stops. Power is applied.	Line voltage is too low.	Check the voltage there is whether problem.
E=09	Sprayer stops. Power is applied.	No-load Protection feature is activated.	Check for empty paint condition. Add paint and restrat sprayer.
E=11	Sprayer stops. Power is applied.	Line voltage is too high.	Check the voltage there is whether problem.

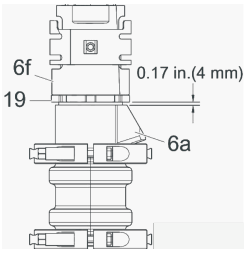
Repair



Perform the procedure below to replace the entire pump lower with a new or different pump lower.

1. Perform the **Pressure Relief Procedure**, pg. 15.
2. Disconnect the hopper, material hose, and power.
3. Remove outlet fittings (OF) from the pump lower (6a) outlet.
4. Lift retaining spring (6m) and remove pin (6K).
5. Loosen jam nut (19) and unthread the pump lower (6a).
6. Disconnect the piston extension rod (6b) by removing clip (6e) and disassembling the coupler cover (6d) and assembly coupling (6c). The pump lower (6a) should now be separated from all other parts. Replace the pump lower and reinstall on the unit. If pump components need replacing, see **Replace Pump Components**, pg. 21.

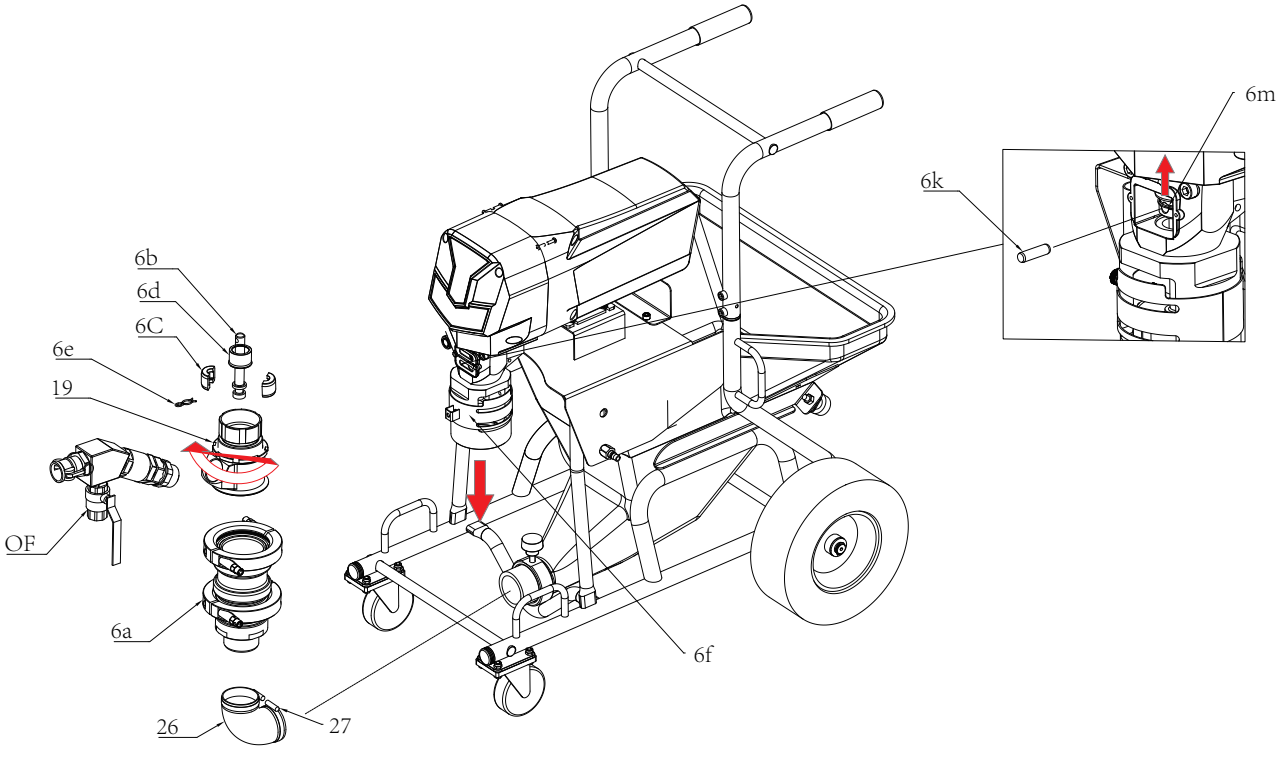




NOTE: When reinstalling the pump lower, the jam nut (19) should be threaded on the pump lower until it bottoms out. The pump lower should be threaded completely into the motor adapter (6f) and backed off to the correct orientation position shown above. Once in position, unthread the pump two additional turns and secure the jam nut.

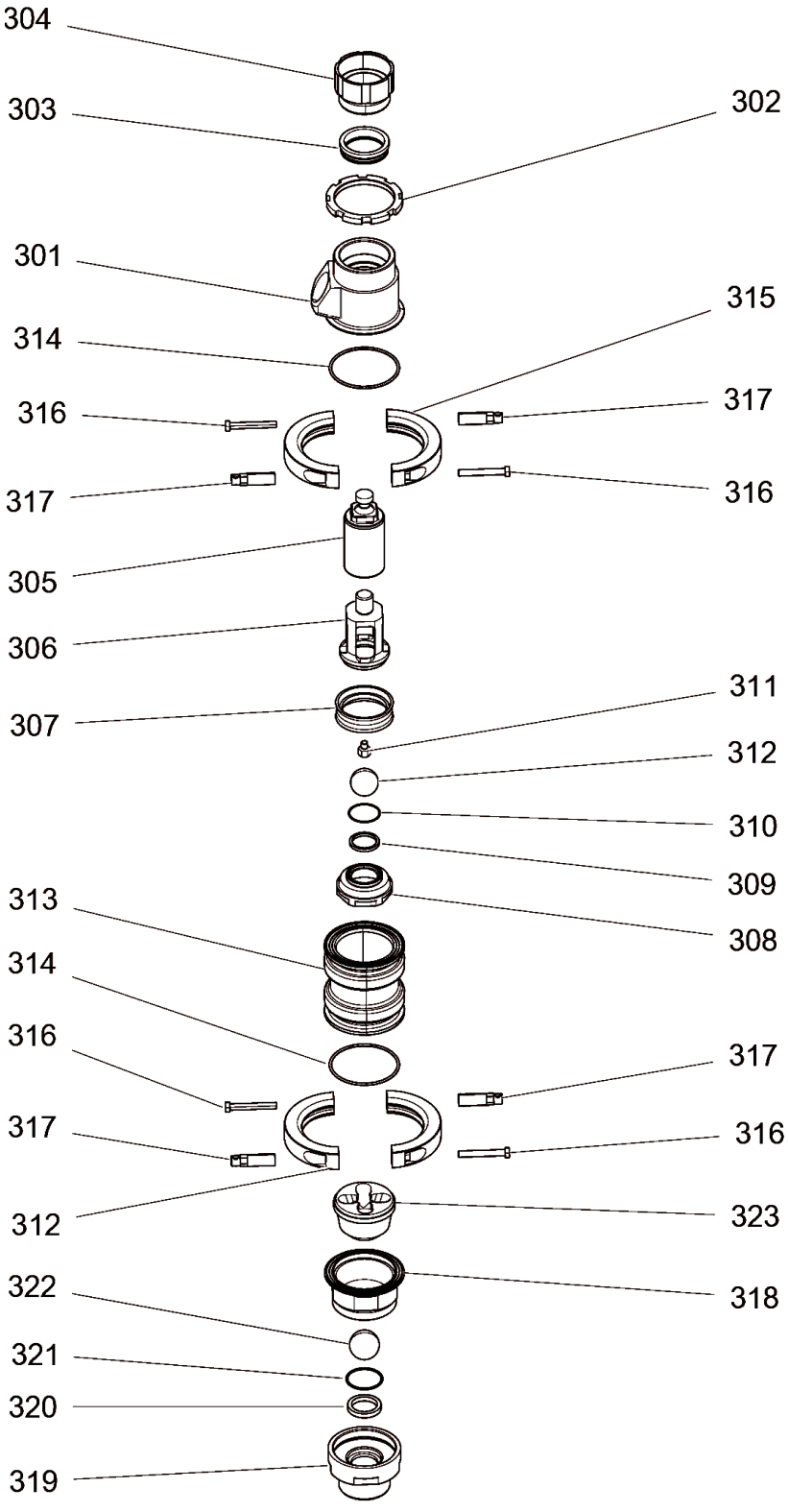
NOTICE

Failure to assemble the pump lower to the correct depth and orientation can cause damage to the pump. To avoid damage to the pump, follow the **NOTE** above.



Replace Pump Components

Remove the pump lower before replacing any pump components. For a list of available pump lower kits, see the list on the following page.

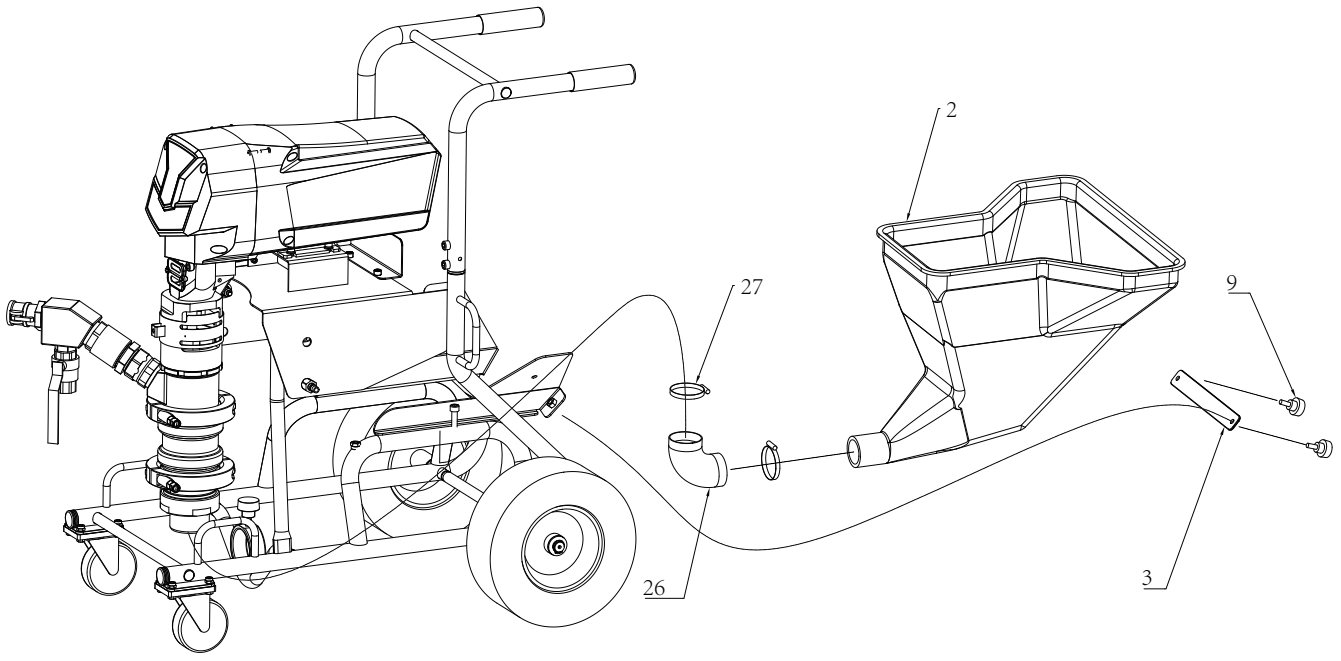


Pump Components Parts List

REF.	DESCRIPTION	QTY.
301	HOUSING, outlet	1
302	NUT, jam , black	1
303	KIT, bearing ,seal throat	1
304	NUT, packing	1
305	ROD, short, displacement	1
306	GUIDE, ball ,piston	1
307	PACKING , o-ring	1
308	VALVE, piston	1
309	SEAT, carbide, valve, piston	1
310	PACKING, o-ring	1
311	STOP, ball , piston	1
312	BALL, neoprence	1
313	CYLINDER, short	1
314	PACKING, o-ring	2
315	CLAMP	2
316	SCREW, cap	4
317	NUT, extension	4
318	HOUSING, inlet, ball guide	1
319	HOUSING, inlet	1
320	SEA, carbide, valve ,inlet	1
321	O-RING	1
322	BALL	1
323	GUIDE, ball, inlet	1

Parts

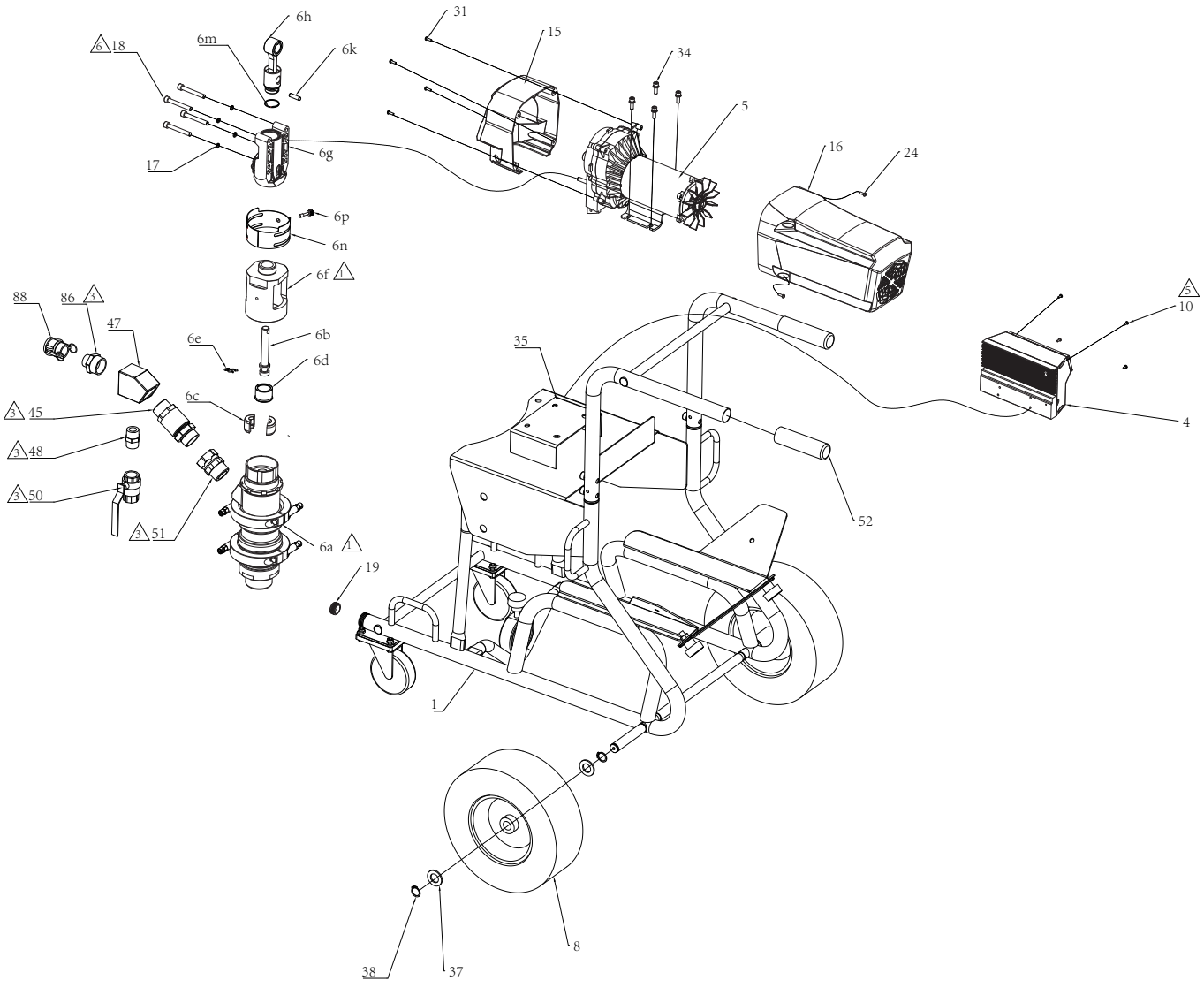
EP3135 Systems



Ref.	Description	Qty.
2	HOPPER, with cover	1
3	BRACKET, painted, hopper	1
26	BOOT, elbow, rubber	1
27	CLAMP, hose, t-belt	2

Parts

EP3135 Systems (continued)

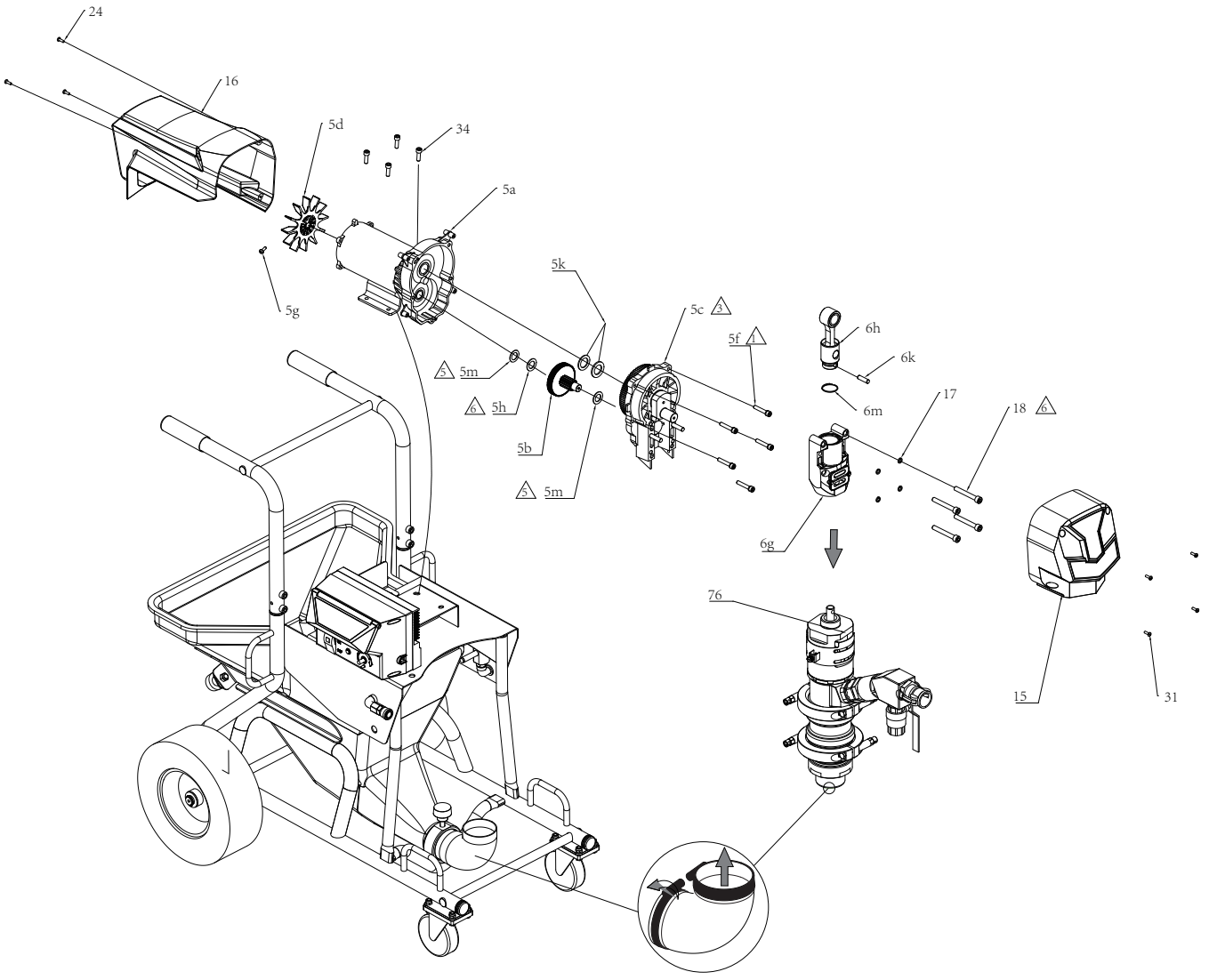


EP3135 Systems Parts List (continued)

REF.	DESCRIPTION	QTY.
4	MODULE	1
5	MOTOR	1
6a	PUMP, lower	1
6b	ROD, extension, piston	1
6c	COUPLING, assembly	1
6d	COVER, coupler	1
6e	CLIP, hairpin	1
6f	ADAPTER,pump to motor	1
6g	HOUSING, bearing	1
6h	ROD, connecting	1
6k	PIN, str	1
6m	SPRING, retaining	1
6n	GUARD, finger, weldment	1
6p	BOLT, special	1
8	WHEEL, semi pneumatic, offset	2
10	SCREW, match	4
15	COVER, front, plastic, painted	1
16	SHIELD, motor, painted	1
17	WASHER, lock	4
19	PLUG, tube	2
24	SCREW, shoulder	2
31	SCREW	4
34	SCREW, cap	6
37	WASHER, plain	2
38	RING, retaining	2
45	FITTING	1
48	FITTING, hose	1
50	VALVE, ball	1
51	FITTING	2
52	GRIP, vinyl	2
86	ADAPTER	1
88	COUPLING ,motar ,female	1

Parts

Drived and Motor

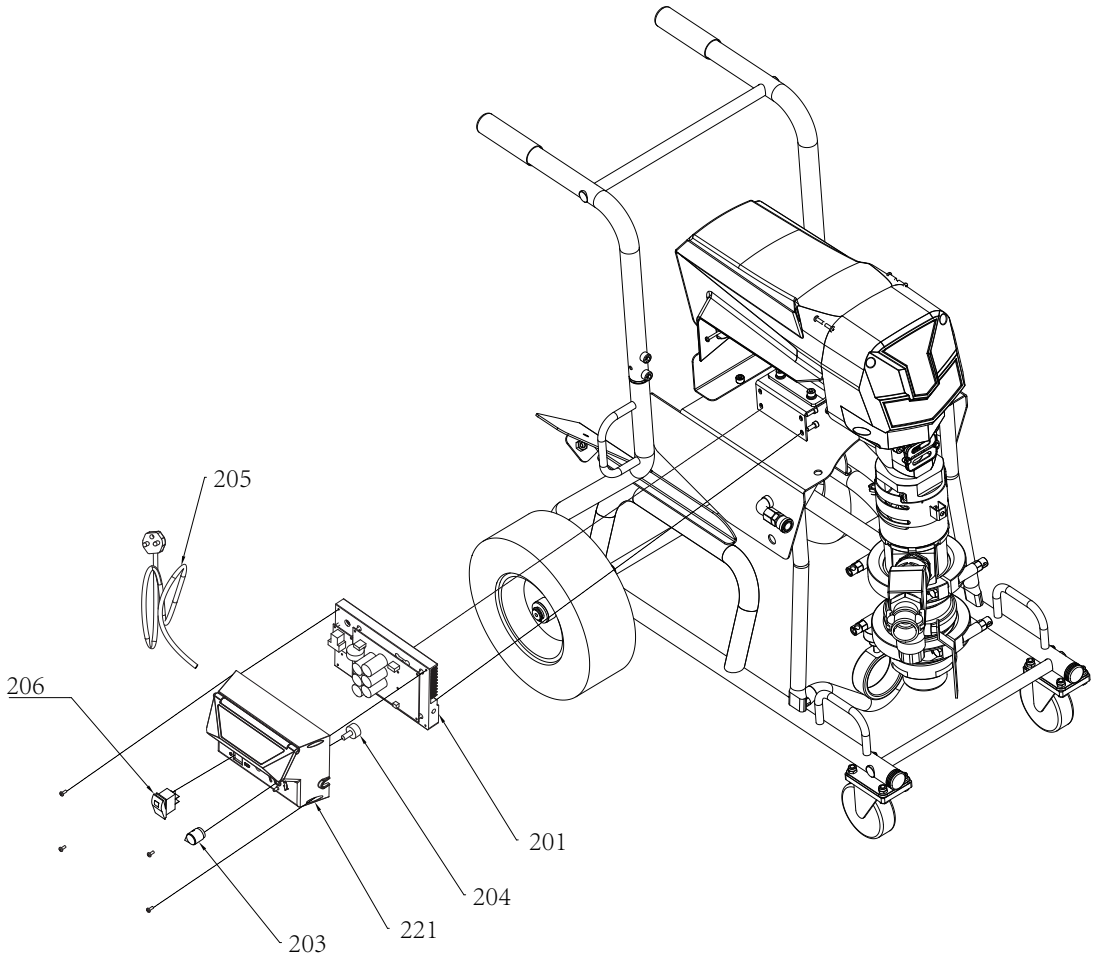


Drived and Motor Parts List

REF.	DESCRIPTION	QTY.
5a	MOTOR, electric	1
5b	GEAR, combination	1
5c	HOUSING, drive	1
5d	FAN, motor	1
5e	BRACKET, wire	1
5f	SCREW, mach	5
5g	SCREW, mach	1
5h	WASHER, thrust	1
5k	WASHER, thrust	1
5m	WASHER, thrust	2
6g	HOUSING, bearing	1
6h	ROD, connecting	1
6k	PIN, str	1
6m	SPRING, retaining	1
15	COVER, front, plastic, painted	1
16	SHIELD, motor, painted	1
17	WASHER, lock	4
18	SCREW, cap, socket head	4
24	SCREW, shoulder	2
31	SCREW, mach	1
32	GROMMET, cover	4
34	SCREW, cap	6
76	LABEL, warning	1

Parts

Control Box



NO	PART	QTY
201	CONTROL, board	1
202	COVER, control	1
203	KNOB, potentiometer	1
204	POTENTIOMETER	1
205	CORD, power	1
206	SWITCH, rocker	1

Technical Specification

HVBAN EP3135 Sprayer	
Maximum fluid working pressure	6 Mpa (60 bar, 870psi)
Maximum Delivery	25 L/min
Flow Control	Adjustable
Stroke length	58.5 mm
Maximum pump speed (Do not exceed maximum recommended speed of fluid pump to pervent premature pump wear)	150 cycles pre minute
Weight(dry)	95 kg
Wetted Parts	Stainless steel, plated steel, carbide, urethane, PTFE, UHMWPE, LLDPE, aluminum, neoprene
Fluid inlet size	7.6 cm
Fluid outlet size	1 in
Maximum viscosity	10000 cps
Environment temperature range	4-49°
Minimum fluid temperature	4°
Power Requirements	
Motor size	5.3HP
220V models	220V, three-phase, 50/60HZ
Hose Requirements	
Minimum pressure	4Mpa, 40bar
Minimum hose diameter	2.5 cm
Minimun hose length	7.6 m
Hopper Requirements	
Hopper Capacity	51 L

Warranty and Limitations

Warranty General

All HVBAN products have a one year guarantee from the invoice date, unless otherwise stated in writing. The warranty covers all manufacturing faults and material defects. Any spare part replacement or repair operations are covered only if they are carried out by our authorized distributors. This warranty covers when the equipment is installed, operated and maintained in accordance with HVBAN's written recommendations. HVBAN shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of Non-HVBAN component parts. This warranty is conditioned upon the CARRIAGE PAID return of the equipment claimed to be defecive to an authorized HVBAN distrbutors for verification of the claim. If the claimed defect is verified, HVBAN will repair or replace free of charge any defective parts. This components will be returned to the original purchase CARRIAGE PAID 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.

The Warranty does not cover

- Damage or breakdown caused by improper use or assembly.
- Damage or breakdown caused by the use of spare parts that are diferent from the original or recommended ones.
- Damage or breakdown caused by bad preservation.
- **Components subject to wear(described in parts list)**

Warranty Forfeiture:

- In case of delayed payment or other contractual defaults.
- Whenever changes or repairs are carried out on our equipment without prior authorization.
- When the serial number is damaged or removed.
- When the damage is caused by improper use or functioning, or if the equipment talls, is bumped or by other causes not due to the normal working conditions.
- Whenever the unit disassembled, tampered with or repaired without the authorization of HVBAN.

HVBAN®

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