

Accessories operation

Electric Airless Spraying Machine

revised edition C

Portable airless spray application for architectural coatings and coatings. For professional use only. Not approved for use in explosive environments or hazardous (classified) areas.

400,500,595,695,795,895,988 Type:

For maximum operating pressure of 3260 psi (225bar,

22.5 MPa), see page 4 for additional model information.



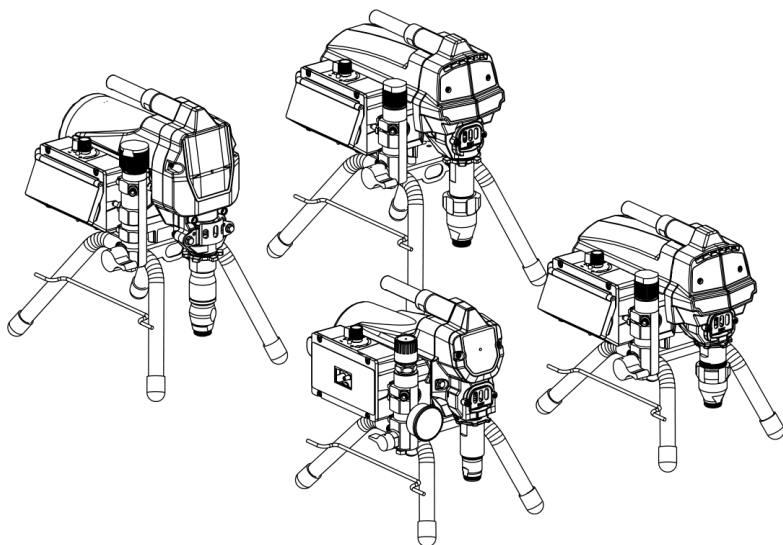
Important Security Notes

Before using this device, read all warnings and instructions in this manual and related manuals. Familiarize yourself with the device and use it correctly. Keep these instructions properly.



Important Medical Information

Please read the medical alert card provided with the spray gun carefully. It contains information on injection injury treatment and can serve as a reference for doctors. Please carry this card with you when operating the device.



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Model

model

Sche- matism		
Model	400,500,595,695 ,795,895,988	Trolley 595,695, 795,895,988

Security Symbol

The following safety symbols appear on this manual and warning labels. Read the table below to understand the meaning of each symbol.

Sign	Meaning
	Risk of electric shock
	Twisting hazard
	Danger of misuse of equipment
	Fire and explosion hazards
	Dangerous moving parts
	Skin spray hazard
	Skin spray hazard
	Spraying hazard
	Risk of fluid and smoke poisoning

Sign	Meaning
	Do not bring your hands or any other body parts near the fluid outlet.
	Do not place your hand in front of the nozzle
	Never use your hands, body, gloves, or scraps of cloth to stop a leak.
	Clear fire sources
	Follow the pressure relief procedure
	Grounding apparatus
	Read the manual
	Ventilation work area
	Wear personal protective equipment



Safety warning symbol

This symbol means: Attention! Be alert! This symbol is used throughout the manual to indicate important safety information.

General Warning

General Warning

The following warnings apply to this manual. Read, understand, and follow the warnings before using this device. Failure to comply may result in serious injury.



Warning



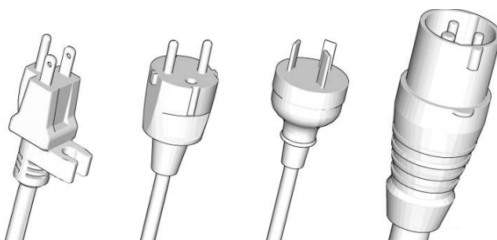
Landing

This product must be properly grounded. In the event of a short circuit, grounding provides a discharge path for the current, thereby reducing the risk of electric shock.

The product comes with a grounding wire and a corresponding grounding plug. The plug must be inserted into a power socket that is properly installed and grounded in accordance with local regulations.

- Improper installation of grounding plug may lead to electric shock.
- This product is designed for circuits with nominal voltages of 110 V, 120 V, or 230 V. Its grounding plug is similar to the one shown in the figure below.

120V US 230V 230 volts Australia New Zealand 110V UK



- This product can only be connected to a power socket with the same plug design.
- Do not adjust the provided plug. If it does not match the socket, a qualified electrician should reinstall the appropriate socket.
- This product cannot use the 3-2 conversion adapter.
- When wires or plugs need repair or replacement, do not connect the grounding wire to any power terminal.
- The outer insulation layer of the wire is green (with or without yellow stripes) and is the grounding wire.
- If you cannot fully understand the grounding instructions or are unsure whether the product is properly grounded, consult a certified electrician or maintenance technician.

Extend the wire:

- Only a 3-core extension cord may be used, with one end fitted with a grounding plug and the other end fitted with a grounding socket that accepts the plug of this product.
- Ensure your extension cord is undamaged.
- If an extended wire is required, use a wire with a minimum size of 12 AWG (2.5mm²) to carry the output current of this product. A wire with a smaller cross-section may cause voltage drop and power loss, leading to overheating.

Warning



Fire and explosion hazards

Flammable fumes in the workspace (e.g., solvent and paint fumes) may ignite or cause explosions. To prevent fires and explosions:



- Do not spray flammable or combustible materials near open flames or ignition sources (e.g. cigarettes, motors, and electrical equipment).
- Static electricity may be generated when coatings or solvents flow over equipment surfaces. In environments with coating or solvent fumes, static electricity could potentially cause fires or explosions. All components of the spray system—including pump bodies, hose assemblies, spray guns, and objects within or around the spray area—must be properly grounded to prevent static discharge and sparks. The hose must be a high-voltage airless coating sprayer hose with conductive or grounded properties from this brand.
- Ensure all containers and collection systems are grounded to prevent electrostatic discharge. Do not use material bucket liners unless they are anti-static or conductive.
- Connect to the ground socket and use a grounded extension cord. Do not use a "3 to 2" adapter.
- Do not use coatings or solvents containing halogenated hydrocarbons.
- Do not spray flammable or combustible fluid in the enclosed area.
- Keep the spray area well ventilated. Keep the whole area well ventilated.
- Spray operation may generate electric sparks. Keep the pump unit at least 20 feet (6.1 meters) away from the spray area in a well-ventilated area during spraying, rinsing, cleaning, or maintenance. Do not spray the pump assembly.
- Do not smoke in the spray area, or spray in the presence of sparks or flames.
- Do not operate electrical switches, engines, or other spark-producing devices in the spray area.
- Do not plug or unplug power cords or switch lights when flammable smoke is present.
- If you see a spark or feel an electric shock, stop the operation immediately. Do not use the equipment until the fault is identified and corrected.
- Keep the area clean and do not place paint or solvent containers, debris, or other flammable materials.
- Understand the composition of the paint and solvent being applied. Read all the safety data sheets (MSDS) and container labels that are included with the paint and solvent.
- Fire extinguishers should always be available in the work area.



Risk of electric shock

The equipment must be grounded. Improper grounding, setting or use of the system may cause electric shock.



- Before repairing the device, turn off the power and unplug the power cord.
- Only connect to a grounded power outlet.
- Only 3-core extension cords can be used.
- Ensure the grounding pins on the power supply and extension cord are intact.
- Keep the device indoors to avoid rain.

• The damaged power cord can only be replaced by an authorized repair center.

General Warning

Warning



Skin spray hazard

High-pressure spraying can inject toxic substances into the body, causing severe physical harm. If injected into the skin, seek immediate medical attention. Treat.



- Do not spray the gun at any person or animal.



- Keep your hands and other parts of your body away from the spray. For example, do not try to stop the leak with any part of your body.



- Always use nozzle guards. Do not spray without nozzle guards.



- The use of a nozzle is recommended.



- Handle nozzle cleaning and replacement with care. If the nozzle becomes clogged during spraying, follow the pressure release procedure on page 15 to turn off the machine and release pressure before removing the nozzle for cleaning.

- The device maintains pressure after power is turned off. Do not leave the device powered or pressurized when unattended. Before unattended or unused periods, or before maintenance, cleaning, or component removal, perform the pressure relief procedure (page 15).

- Check for damage to hoses and parts. Replace all damaged hoses or parts.

- The system can generate a working pressure of 3260 psi (225 bar, 22.5 MPa). Therefore, spare parts or accessories rated at a minimum of 3260 psi (225 bar, 22.5 MPa) are required.

- When not spraying, make sure the trigger lock is engaged and working properly.

- Before operating the equipment, ensure all connections are secure and safe.

- Learn how to shut down quickly and release pressure. Be fully familiar with the controller.



Danger of misuse of equipment

The misuse of the device can result in serious injury or death.

- Always wear the appropriate gloves, goggles and respirator or mask when spraying.

- Do not operate or spray near children. Keep children away from the sprayer.

- Do not lean your body too far forward or stand on unstable supports. Make sure you have a firm footing and keep your balance.

- Stay alert and focused on what you are doing.

- Do not operate this equipment when fatigued, under the influence of drugs or alcohol.

- Do not twist or over-bend the hose.

- Do not use the hose in an environment exceeding the pressure or temperature specified by this brand.

- Do not use the hose to pull or lift the equipment.

- Do not use a hose shorter than 25 feet (7.6m) for spraying.

- Do not modify or adapt the device. Such actions may invalidate the mechanism certification and pose safety risks.

- Ensure all devices are rated and meet your environment requirements.



High-pressure aluminum parts pose a danger.

Using incompatible fluids in pressure equipment can cause severe chemical reactions and equipment rupture. Failure to follow this warning may result in death, serious injury, or property damage.

- 1,1,1-trichloroethane, dichloromethane, other halogenated hydrocarbon solvents or liquids containing these solvents should not be used.

- Do not use chlorine bleach.

- Many other fluids may contain chemicals that react with aluminum. Contact your material supplier for chemical compatibility information.

Warning



Dangerous moving parts

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



- Stay away from moving parts.
- Do not operate the device when the cover is removed or the outer cover is opened.
- The device can be powered on without warning. Before inspecting, moving, or maintaining the device, follow the pressure relief steps in this manual and disconnect all power connections.



Hazard of toxic liquid or smoke

Inhaling toxic smoke, ingesting toxic fluids or having them splash into the eyes or skin can result in serious injury or death.

- Read the Safety Data Sheet (SDS) to understand the specific hazards of the fluid in use.
- Hazardous liquids must be stored in specified containers and disposed of in accordance with applicable regulations.



Personal protective equipment

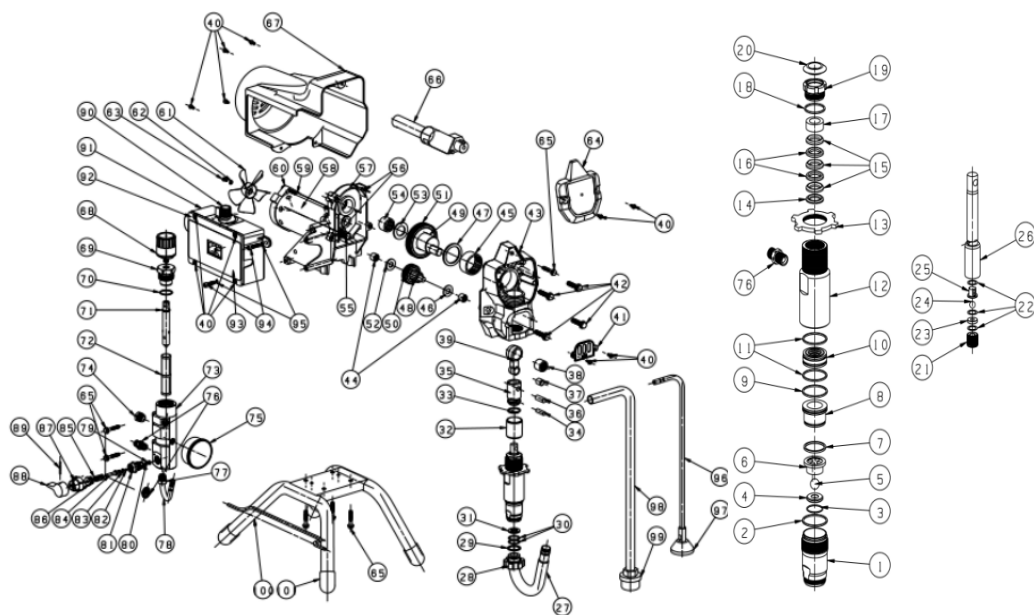
Wear appropriate protective equipment in the work area to avoid serious injuries, including eye damage, hearing loss, inhalation of toxic fumes, and burns.

- Protective eyewear and hearing protection devices.
- Respirators, protective clothing and gloves recommended by fluid and solvent manufacturers.

Component Recognition

Component Recognition

Model 400、500



101	Bracket Foot Cover	4
100	Bracket	1
99	Suction filter screen	1
98	L-type suction pipe	1
97	Reflux pipe connector	1
96	L-shaped Reflux Pipe	1
95	M6 Spring washer	2
94	Mounting Screws for Circuit Aluminum Enclosure	2
93	Display screen sticker	1
92	Upper cover	1
91	Circuit board aluminum case	1
90	Knob accessory	1
89	Elastic cylindrical pin	1
88	Regulating valve	1
87	Regulating valve seat	1
86	Reflux valve nut	1
85	Reflux valve spring	1
84	Reflux valve core	1
PC NO	PART NAME	QTY

83	Sealing ring for the spool of the reflux	1
82	Reflux valve core ball	1
81	Type Reflux valve housing	1
80	Reflux valve seat	1
79	Plastic gasket for the reflux valve	1
78	Reflux pipe elbow	1
77	Return pipe elbow nut	1
76	Discharge port connector	3
75	Filter pressure gauge	1
74	Filter plug	1
73	Filter	1
72	Filter screen	1
71	Filter element	1
70	Filter gasket	1
69	Filter nut	1
68	Pressure control knob	1
67	Duck housing	1
66	Handle grip	1
65	M6*1.0*35	7
64	Front cover shell	1
63	Motor fan fixing screw	1
PC NO	PART NAME	QTY

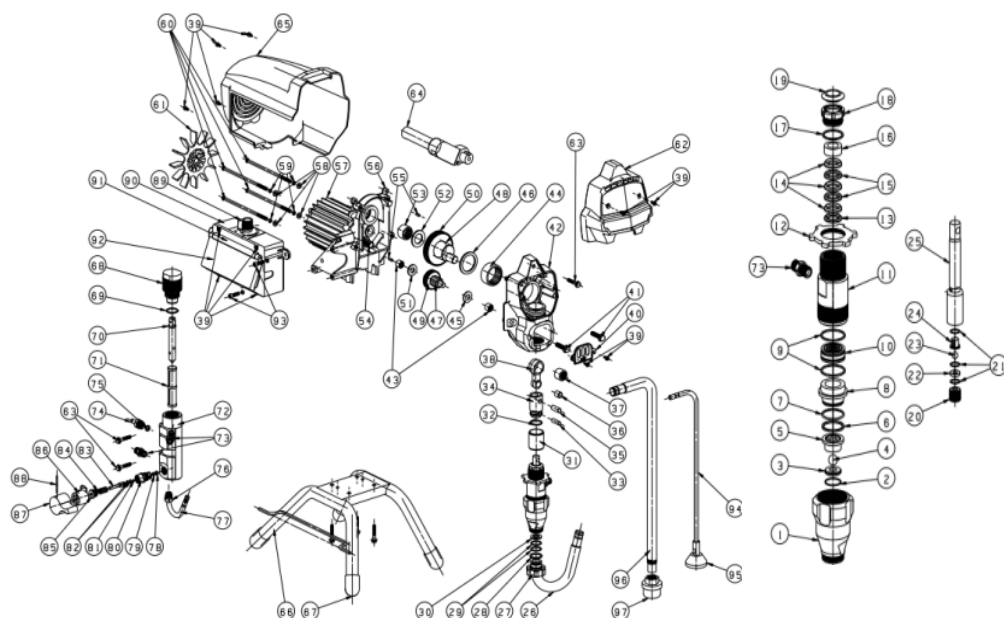
62	Motor shaft gasket	1
61	Motor fan	1
60	Motor flange nut	2
59	Motor extended screw	2
58	Motor	1
57	Motor cover	1
56	Gearbox pin	2
55	Motor shaft	1
54	BHA14122 Bearing	1
53	Eccentric shaft small gasket	1
52	Pinion shaft thick gasket	1
51	Bull gear	1
50	Small gear	1
49	Eccentric shaft	1
48	Small gear shaft	1
47	Eccentric shaft gasket	1
46	Pinion shaft thin gasket	1
45	SCE2414 Bearing	1
44	SE78 Bearing	2
43	Front fascia	1
42	MBK1.25 Length 35	4
PC NO	PART NAME	QTY

41	Fuel filler baffle	1
40	M4X0.7 Length 10	12
39	Connecting rod upper section	1
38	BHA11122 Bearing	1
37	Oil-free bearing sleeve	1
36	Connecting rod pin	1
35	Connecting rod lower section	1
34	Plunger lever pin	1
33	Connecting rod spring	1
32	Copper sleeve	1
31	Suction pipe inner gasket	1
30	Suction pipe seal ring	2
29	Suction pipe gasket	1
28	Suction pipe nut	1
27	Bent suction pipe	1
26	Plunger rod	1
25	Upper ball valve cover	1
24	7.938 tungsten carbide ball	1
23	Upper ball valve seat	1
22	Plunger rod copper washer	3
PC NO	PART NAME	QTY

21	Plunger rod screw	1
20	Pump housing dust	1
19	Securing nut	1
18	Securing nut gasket	1
17	Seal upper gasket	1
16	Upper cowhide seal	2
15	Upper V-type seal ring	3
14	Seal lower gasket	1
13	Lock nut	1
12	Cylinder liner	1
11	Lower sealing ring	2
10	Lower sealing gasket	1
9	Bushing big gasket	1
8	Bushing	1
7	Lower ball valve cover upper gasket	1
6	Lower ball valve cover	1
5	Lower ball valve tungsten carbide ball	1
4	Lower ball valve seat	1
3	Lower ball valve seat gasket	1
2	Lower ball valve cylinder sleeve gasket	1
1	Lower ball valve cylinder sleeve	1
PC NO	PART NAME	QTY

Component Recognition

Model 595、695、795、895



97	Suction filter screen	1
96	L-type suction pipe	1
95	Reflux pipe connector	1
94	L-shaped Reflux Pipe	1
93	Mounting Screws for Circuit Aluminum Enclosure	2
92	Transparent cover	1
91	Upper cover	1
90	Circuit board aluminum case	1
89	Knob accessory	1
88	Elastic cylindrical pin	1
87	Regulating valve handle	1
86	Regulating valve seat	1
85	Reflux valve nut	1
84	Reflux valve spring	1
83	Reflux valve core	1
PC NO	PART NAME	QTY

82	Sealing ring for the spool of the reflux	2
81	Reflux valve core ball	1
80	Type Reflux valve housing	1
79	Reflux valve seat	1
78	Plastic gasket for the reflux valve	1
77	Reflux pipe elbow	1
76	Elbow nut for the return pipe	1
75	Filter gasket	1
74	Filter sensor nut	1
73	Discharge port connector	3
72	Filter	1
71	Filter screen	1
70	Filter element	1
69	Filter gasket	1
68	Filter nut	1
67	Bracket Foot Cover	4
66	Bracket	1
65	Dack housing	1
64	Handle grip	1
63	M6*1.0*35	8
PC NO	PART NAME	QTY

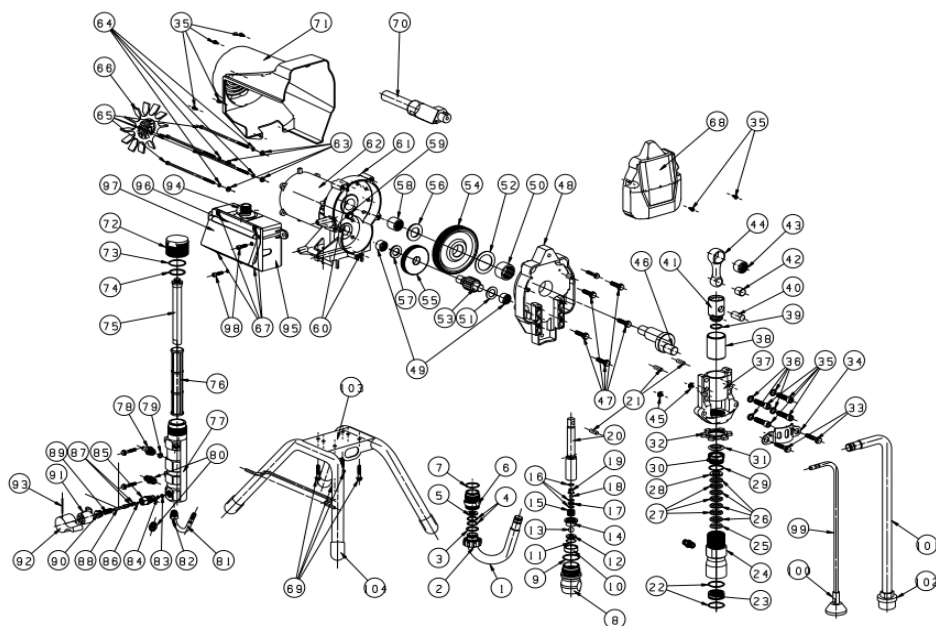
62	Front cover shell	1
61	Motor fan	1
60	Motor extended screw	4
59	M6 spring washer	6
58	Motor extended screw gasket	4
57	Motor	1
56	Motor cover	1
55	Gearbox pin	2
54	Motor shaft	1
53	BHA1412Z Bearing	1
52	Eccentric shaft small gasket	1
51	Pinion shaft thick gasket	1
50	Bull gear	1
49	Small gear	1
48	Eccentric shaft	1
47	Small gear shaft	1
46	Eccentric shaft gasket	1
45	Pinion shaft thin gasket	1
44	SCE2414 Bearing	1
43	SCE78 Bearing	2
42	Front fascia	1
PC NO	PART NAME	QTY

41	MBX1.25 Length 35	4
40	Fuel filter baffle	1
39	M4X0.7 Length 10	12
38	Connecting rod upper section	1
37	BHA1112Z Bearing	1
36	Oil-free bearing sleeve	1
35	Connecting rod pin	1
34	Connecting rod lower section	1
33	Plunger lever pin	1
32	Connecting rod spring	1
31	Copper sleeve	1
30	Suction pipe inner gasket	1
29	Suction pipe seal ring	2
28	Suction pipe gasket	1
27	Suction pipe nut	1
26	Bent suction pipe	1
25	Plunger rod	1
24	Upper ball valve ball cover	1
23	7.938tungsten carbide ball	1
22	Upper ball valve seat	1
PC NO	PART NAME	QTY

21	Plunger rod copper washer	3
20	Plunger rod screw	1
19	Pump housing dust cap	1
18	Securing nut	1
17	Securing nut gasket	1
16	Seal upper gasket	1
15	Upper cowhide seal ring	2
14	Upper V-type seal ring	3
13	Seal lower gasket	1
12	Lock nut	1
11	Cylinder liner	1
10	Lower sealing gasket	1
9	Lower seal ring	2
8	Bushing	1
7	Bushing gasket	1
6	Lower ball valve cover upper gasket	1
5	Lower ball valve cover	1
4	Lower ball valve tungsten carbide ball	1
3	Lower ball valve seat	1
2	Lower ball valve seal gasket	1
1	Lower ball valve cylinder sleeve	1
PC NO	PART NAME	QTY

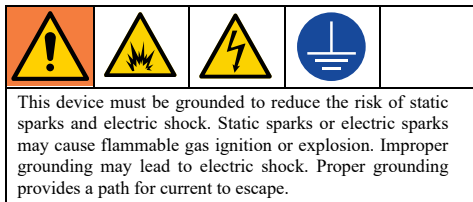
Component Recognition

Model 988



104	Bracket Foot Cover	4	88	Reflux valve core	1	66	Motor fan	1	44	Connecting rod upper section	1	22	Lower sealing ring	2
103	Bracket	1	87	Sealing ring for the spool of the reflux	2	65	Motor extended screw	4	43	SCH1412 Bearing	1	21	Plunger lever pin	3
102	Suction filter screen	1	86	Reflux valve core ball	1	64	M6 spring washer	6	42	Oil-free bearing sleeve	1	20	Plunger rod	1
101	L-type suction pipe	1	85	Type Reflux valve housing	1	63	Motor extended screw gasket	4	41	Connecting rod lower section	1	19	Upper ball valve ball cover	1
100	Reflux pipe connector	1	84	Reflux valve seat	1	62	Motor	11	40	Connecting rod pin	1	18	12.7 tungsten carbide ball	1
99	L-shaped Reflux Pipe	1	83	Plastic gasket for the reflux valve	1	61	Motor cover	2	39	Connecting rod spring	1	17	Upper ball valve seat	1
98	Mounting Screws for Circuit Aluminum Enclosure	2	82	Return pipe elbow nut	1	60	Gearbox pin	1	38	Copper sleeve	1	16	Plunger rod copper washer	3
97	Transparent cover	1	81	Reflux pipe elbow	1	59	Motor shaft	1	37	Pump seat	1	15	Plunger rod screw	1
96	Upper cover	1	80	Discharge port connector	3	58	SCH1416 Bearing	1	36	M10 spring washer	4	14	Lower ball valve cover	1
95	Circuit board aluminum case	1	79	Filter gasket	1	57	Eccentric shaft small gasket	1	35	M10*40	4	13	12.7 tungsten carbide ball	1
94	Knob accessory	1	78	Filter sensor nut	1	56	Pinion shaft thick gasket	1	34	Fuel filler baffle	1	12	Lower ball valve seat	1
93	Elastic cylindrical pin	1	77	Filter	1	55	Small gear	1	33	MB*1.25*45	2	11	Lower ball valve seal gasket	1
92	Regulating valve	1	76	Filter screen	1	54	Bull gear	1	32	Lock nut	1	10	Bushing	1
91	Regulating valve seat	1	75	Filter element	1	53	Small gear shaft	1	31	Pump housing dust cap	1	9	Sealing ring for the upper section of the lower cylinder liner	1
90	Reflux valve nut	1	74	Filter gasket	1	52	Eccentric shaft gasket	1	30	Securing nut	1	8	Upper section of lower cylinder liner	1
89	Reflux valve spring	1	73	Filter O-ring	1	51	Pinion shaft thin gasket	1	29	Securing nut gasket	1	7	Sealing ring for the lower section of the lower cylinder liner	1
PC NO	PART NAME	QTY	72	Filter nut	1	50	SCE2016 Bearing	1	28	Upper metal gasket for sealing ring 1	1	6	Lower section of the lower cylinder liner	1
			71	Dack housing	1	49	SCE1210 Bearing	2	27	Upper cowhide seal ring	3	5	Suction pipe inner gasket	1
			70	Handle grip	1	48	Front fascia	1	26	Upper V-type seal ring	4	4	Suction pipe seal ring	2
			69	MSX1.0*35	7	47	MBX1.25 Length 35	5	25	Upper metal gasket for sealing ring 2	1	3	Suction pipe gasket	1
			68	Front cover shell	1	46	Eccentric shaft	1	24	Cylinder liner	1	2	Suction pipe nut	1

Landing



The power supply line of the spraying machine is equipped with a grounding wire and a corresponding grounding plug.

The plug must be inserted into a power socket that is properly installed and grounded according to local regulations and requirements.

Do not modify the provided plug. If it cannot be inserted into the power socket, have a qualified electrician install the correct power socket.

Extended Wire

Use an extension cord with an intact ground terminal. If you need to use an extension cord, use a 3-core cord with a minimum size of 12AWG (2.5 mm²).

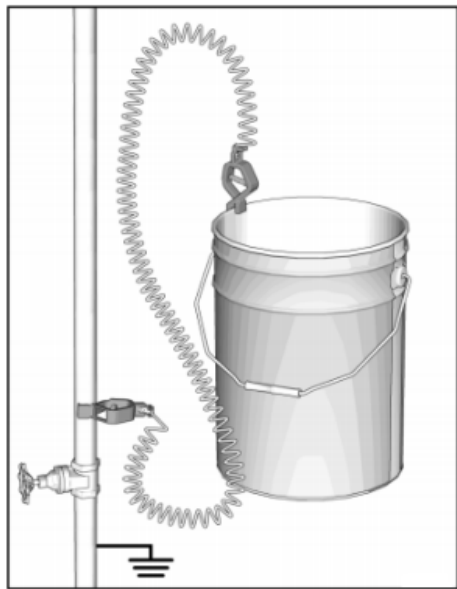
Note: Smaller or longer extension cords may reduce the performance of the spray gun.

charging basket

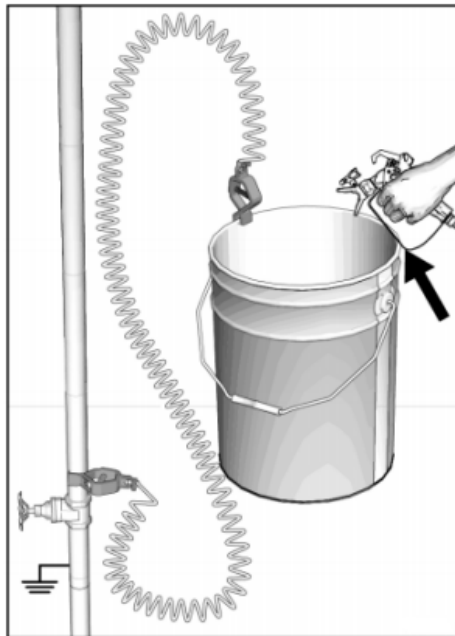
Solvents and oily fluids: Please follow local regulations. Use only conductive metal drums and place them on grounded surfaces such as concrete. Do not place drums on non-conductive surfaces (e.g., paper or cardboard), as this may disrupt grounding continuity.



Always ground the metal bucket:connect the ground wire to the bucket.clamp one end to the bucket,and clamp the other end to the actual ground surface(such as a metal water pipe).



To ensure continuous grounding during flushing or pressure relief:Secure the metal part of the spray gun to one side of the grounding metal bucket,and then start the spray gun.

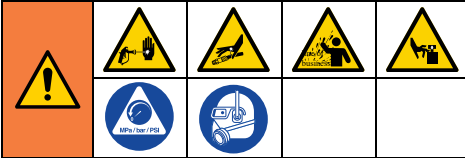


Pressure Relief Step

Pressure Relief Step

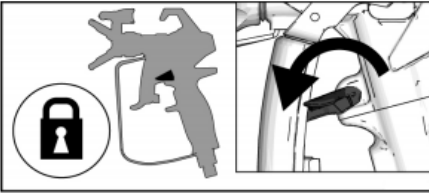


When you see this symbol, perform the pressure relief step.

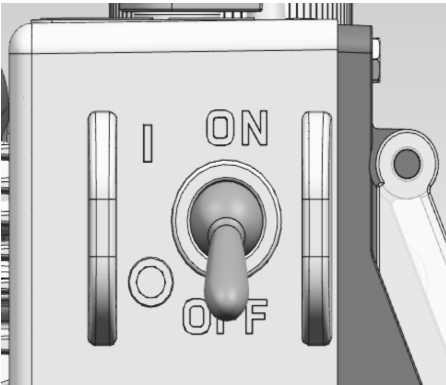


This device remains pressurized until manually released. To prevent serious injuries from pressurized liquids, such as skin contact, liquid splashes, and component movement, follow these depressurization steps before stopping the sprayer, cleaning or inspecting the sprayer, or performing equipment maintenance.

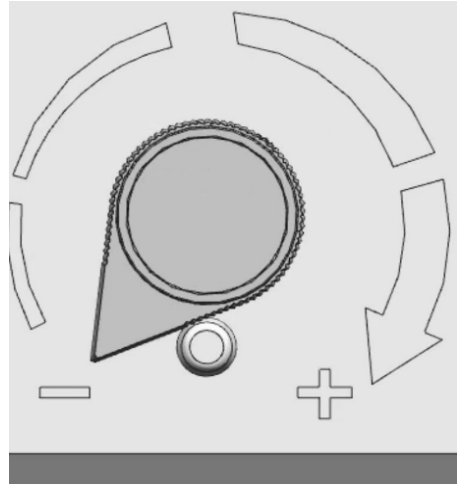
1. Close the trigger lock.



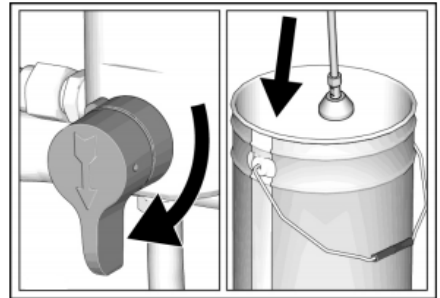
2. Switch the "On/Off" switch to the off position.
Wait 60 seconds for the power to dissipate.



3. Set the pressure control to the lowest setting.

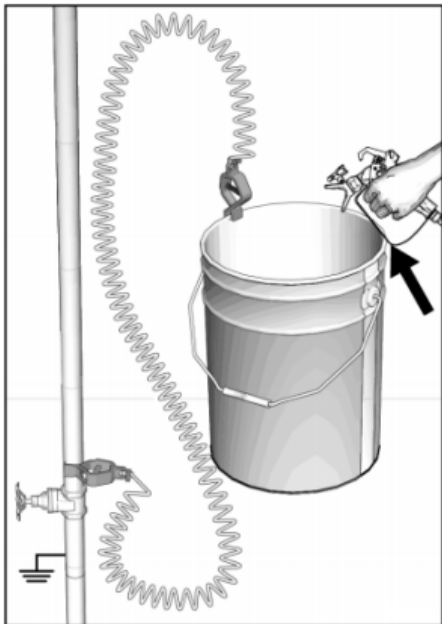


4. Place the discharge pipe into the bucket. Rotate the filler valve downward to the filler position. Keep the filler valve in the downward (filler) position until the spray is ready.



Pressure Relief Step

5. Press the metal part of the spray gun against the grounded metal bucket. Release the trigger lock and pull the trigger to release the pressure.

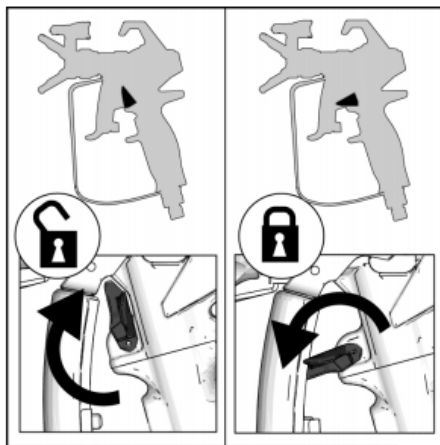


6. Lock the trigger.
7. If the nozzle or hose is suspected to be clogged or not fully depressurized, then:
 - a. Use a wrench to slowly loosen the fixing nut of the nozzle cover or the connector at the end of the hose, and gradually release the pressure.
 - b. Use a wrench to fully loosen the nut or joint.
 - c. Remove the clog from the hose or nozzle.

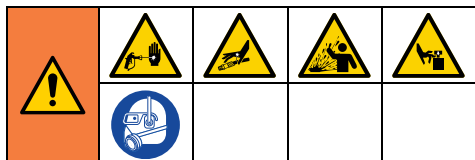
trigger lock

To prevent personal injury when the spray gun is not in use, always lock the trigger lock if the equipment is shut down or unattended.				

Always lock the trigger when stopping the spray gun to prevent accidental activation from accidental drops, collisions, or finger contact.

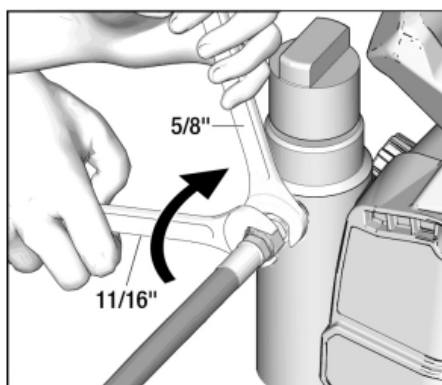


Set Up

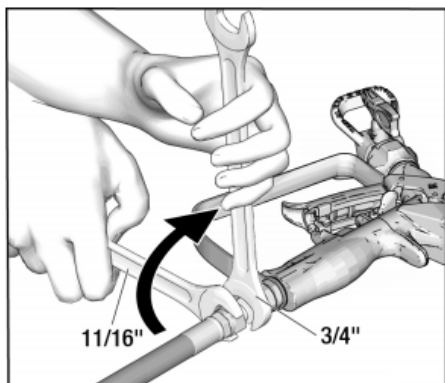


When setting up a new spray painting machine or after prolonged storage, perform the setup procedure. During the initial setup, remove the shipping plug from the fluid outlet.

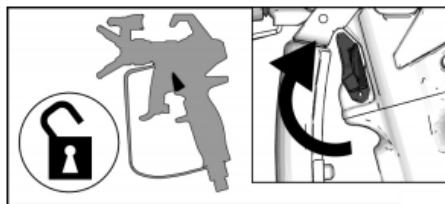
1. Connect the brand's airless hose to the fluid outlet. Secure it with two wrenches.



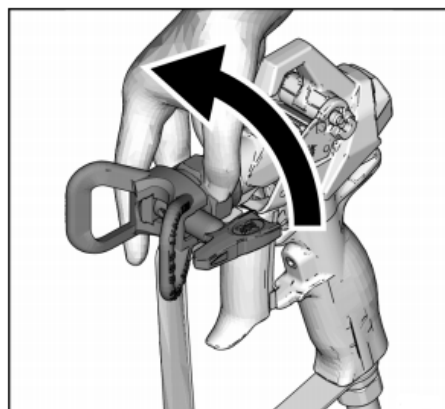
2. Connect the other end of the hose to the spray gun.



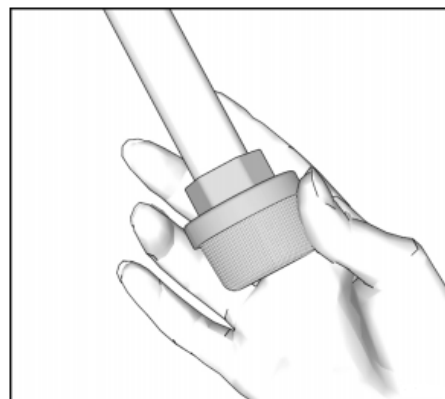
3. Use two wrenches to tighten and fix.
4. Close the trigger lock.



5. Remove the nozzle cover.

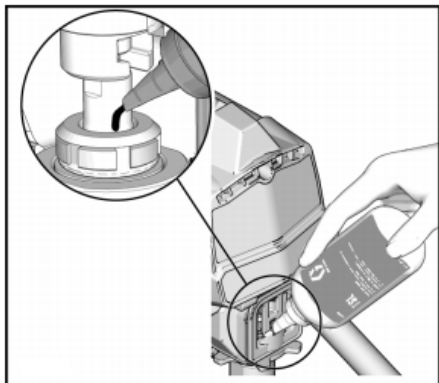


6. After long-term storage, check the inlet filter for any blockages or debris.

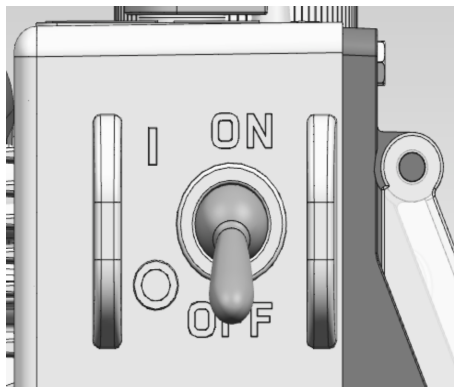


Set Up

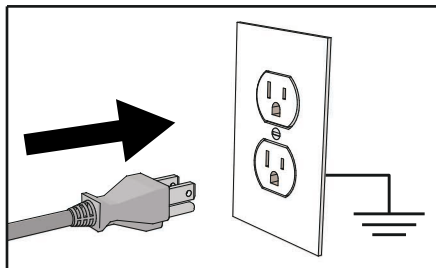
7. The laryngeal tube seal is filled with sealant (lubricating oil) to prevent premature wear of the seal. This should be done daily or with each spray.
 - a. Place the mouth of the lubricating oil bottle on the top middle opening of the front guard plate of the sprayer.
 - b. Squeeze the bottle to spray sufficient lubricating oil filling the gap between the pump rod and the sealing nut.



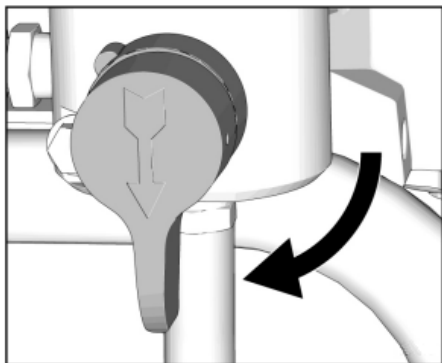
8. Ensure the on/off switch is off and the pressure control is set to the lowest level.



9. Insert the power cord plug into the properly grounded power socket.

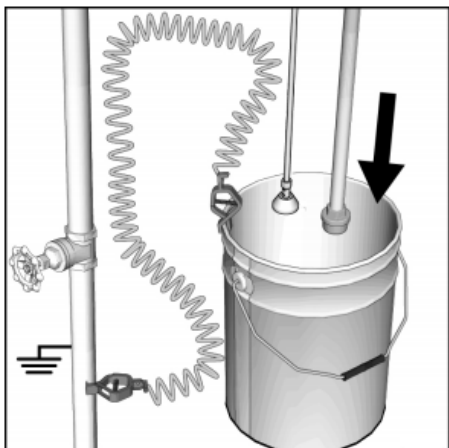


10. Turn the packing valve down to the packing position.

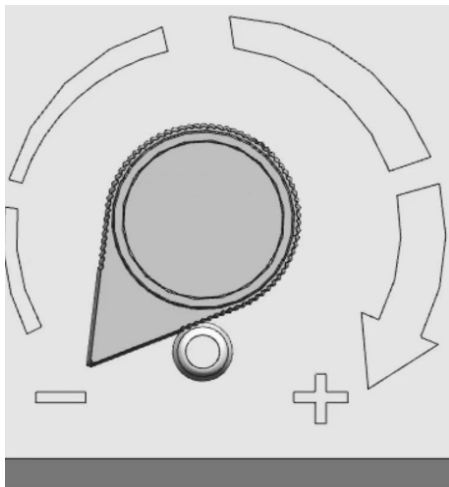


11. Place the suction and discharge tubes into the grounded metal bucket containing partial rinse solution.
See Grounding, Section 12page.

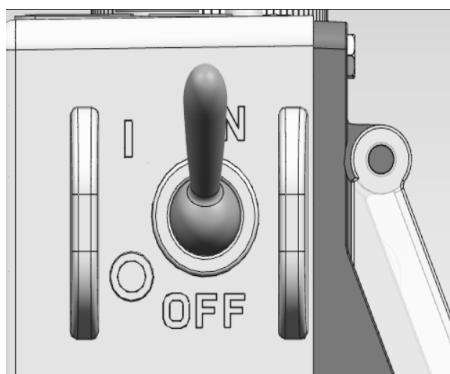
Note: Check if the rinse solution is compatible with the spray paint. A compatible rinse solution may be required for a second rinse. Use water for latex paint or oil-based paint.



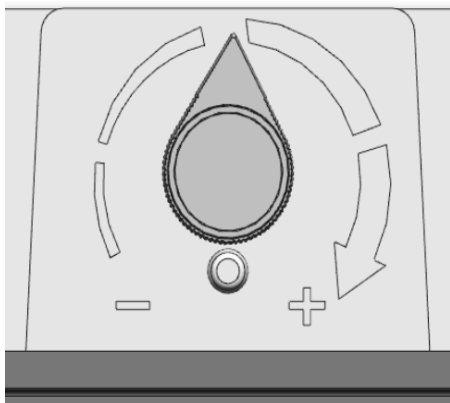
12. Set the pressure control to the lowest.



13. Set the on/off switch to the on position.

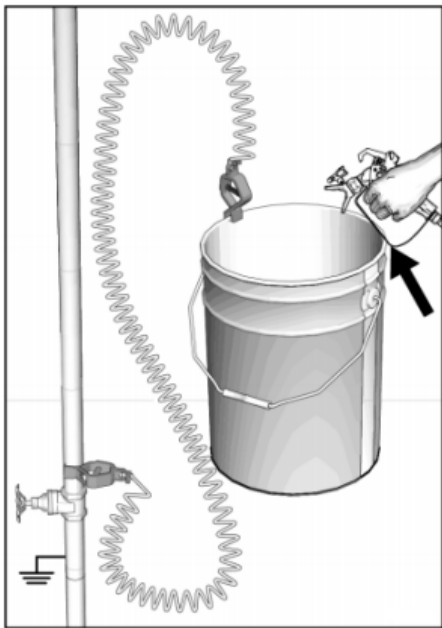


14. Increase the pressure by half a turn to start the motor.
Let the fluid flush the packing hose for one minute.

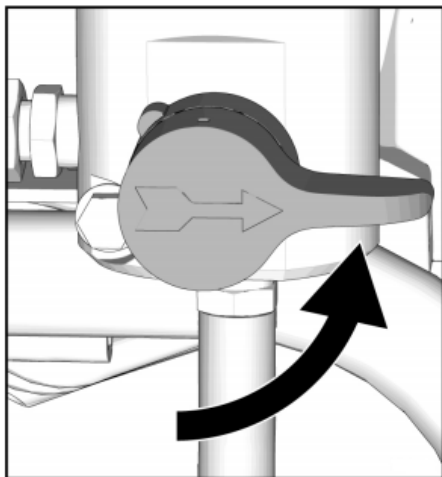


Set Up

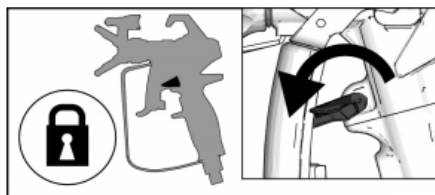
15. Press the metal part of the spray gun firmly against the grounded metal bucket. Release the trigger lock and pull the trigger.



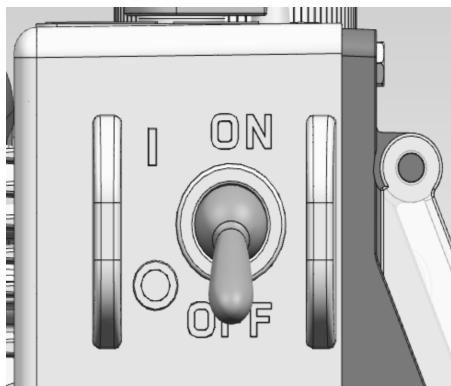
16. While holding the spray gun trigger, rotate the filler valve horizontally to the spray position. Rinse thoroughly.



17. Release the trigger of the spray gun and lock it.



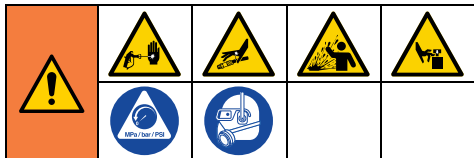
18. Switch the on/off switch to off.



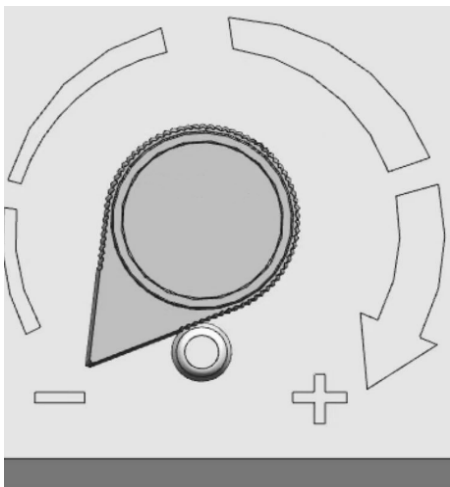
19. If the initial rinse solution is incompatible with the coating to be sprayed, a second rinse is required. Repeat steps 11-18.

20. The spraying machine can now start spraying.

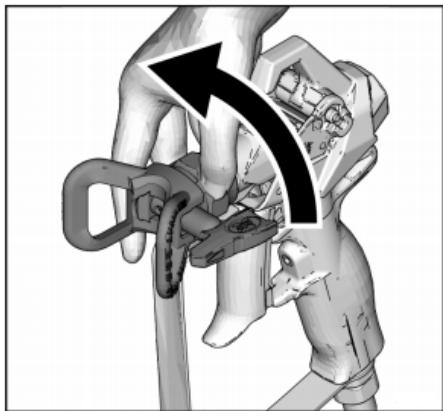
Firing



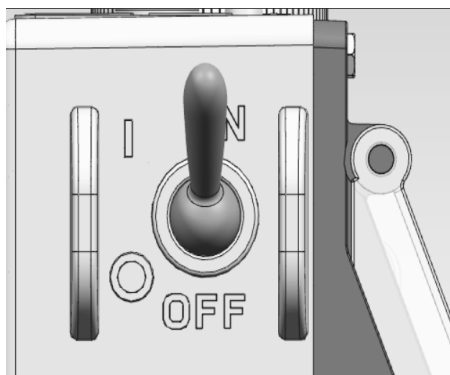
1. Perform the pressure relief step, page 14.
2. Set the pressure control to the lowest.



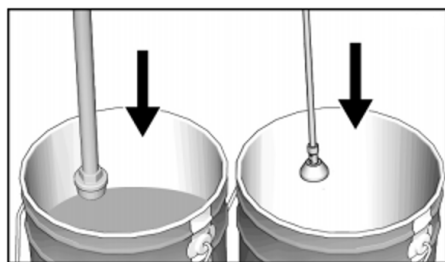
3. Remove the nozzle cover.



4. Set the on/off switch to the on position.

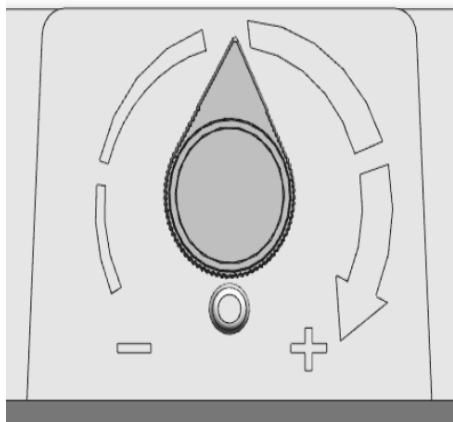


5. The suction pipe is put into the paint bucket and the discharge pipe is put into the waste liquid bucket.

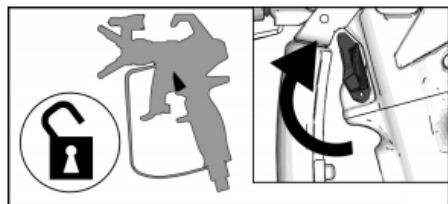


Firing

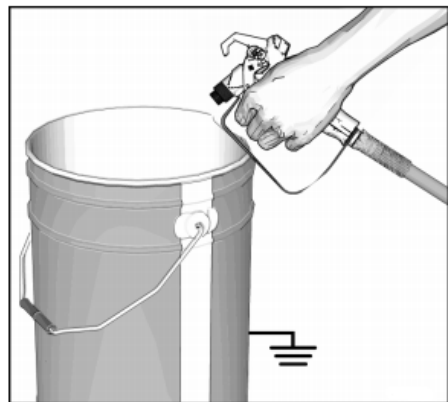
6. Increase the pressure by half a turn to start the motor. Let the paint circulate through the sprayer until it flows out of the discharge pipe.



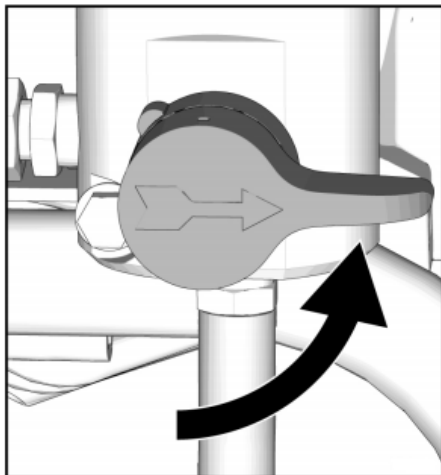
7. Release the trigger lock.



8. Hold the spray gun against the grounded metal waste liquid bucket.

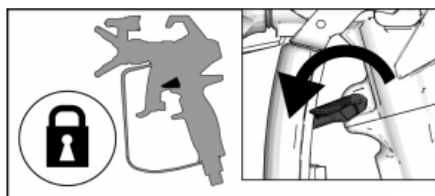


9. Hold the spray gun trigger and rotate the filler valve horizontally to the spray position. Wait at least one minute or until the paint appears.
- 10 Keep the trigger of the spray gun in the pulled state for one second.



10. Release the trigger of the spray gun and lock it.

High-pressure spraying can inject toxic substances into the body, causing serious physical harm. Do not use your hands or a cloth to stop the leaking material flow.				



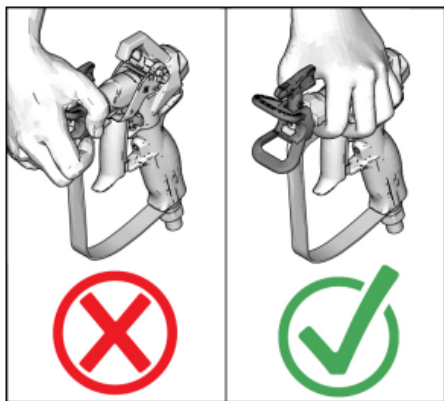
11. Check for leaks in the air hose and hose connections. If a leak is detected, follow the pressure relief procedure, step 14. Perform the operation on page 21, then tighten all pipe fittings and repeat the startup steps. If there is no leakage, continue with the operation on page 22.

Operate

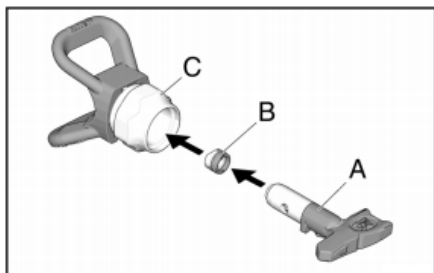
Nozzle Installation



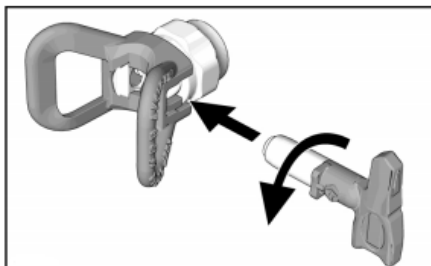
To avoid serious injury from spraying on the skin, do not place your hands in front of the nozzle when installing or removing the nozzle and nozzle guard.



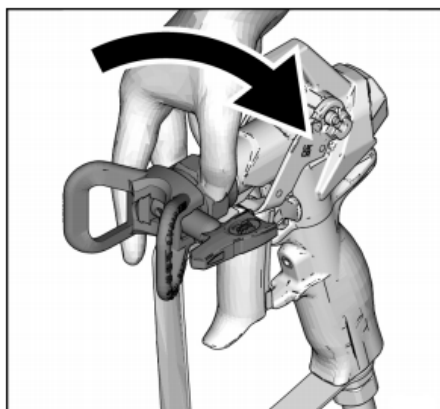
1. Perform the pressure relief step, page 14.
2. Insert the valve seat (B) and nozzle seat into the nozzle guard (C) using the nozzle (A).



3. Insert the nozzle.



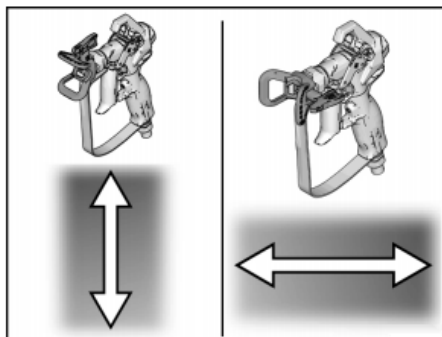
4. Rotate the component onto the spray gun. Tighten.



Operate

Adjust the Spray Direction

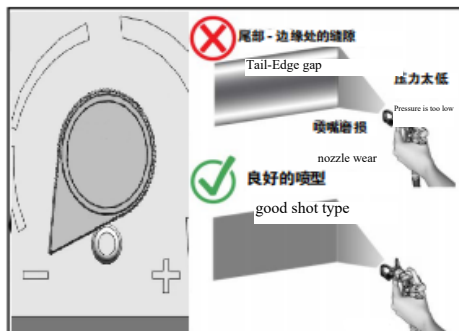
1. Pressure relief. Follow the pressure relief steps on page 15.
2. Close the trigger lock.
3. Loosen the fixing nut of the cover.
4. Align the shield horizontally for a horizontal spray pattern, or align it vertically for a vertical spray pattern.



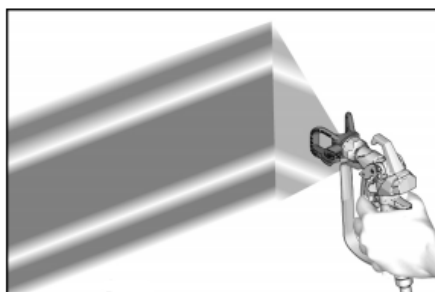
5. After adjusting to the desired setting, tighten the cover's fixing nut.

Flame Plating

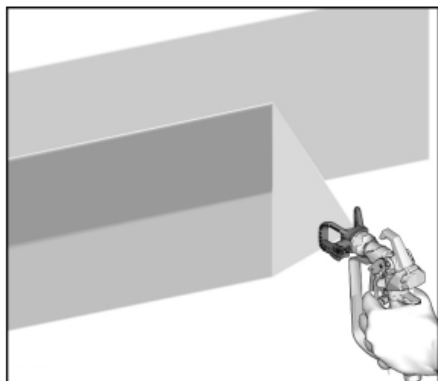
The pressure of spraying can be reduced when using low pressure reversible nozzle. The excessive spraying can be reduced and the nozzle wear can be reduced by spraying under lower pressure.



1. Test the atomization effect.
Increase pressure to remove thick edges.



- If the thick edge cannot be eliminated by adjusting the pressure, a smaller nozzle can be used.
- Hold the spray gun perpendicular to the surface to be sprayed and at a distance of 10-12 inches (25-30 cm). Spray back and forth; ensure the overlap area reaches 50%.

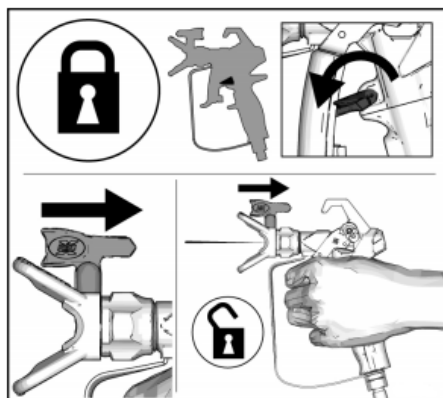


- Press the spray gun trigger after starting movement. Release the trigger before stopping spraying. For more information about spraying, refer to the separate spray gun manual.

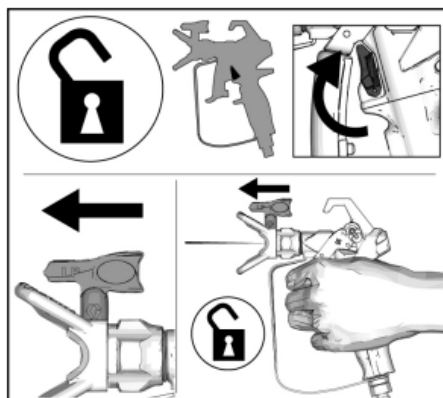
Clear the Nozzle Blockage.



- Release the trigger. Lock the trigger. Rotate the nozzle to the 'clear' position. Release the trigger lock. Fire the spray gun at the waste liquid storage area to clear the blockage.



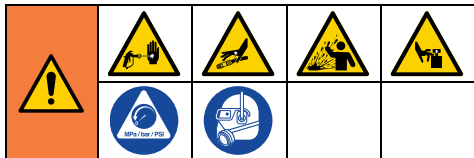
- Close the trigger lock. Rotate the nozzle back to the "spray" position. Release the trigger lock and continue spraying.



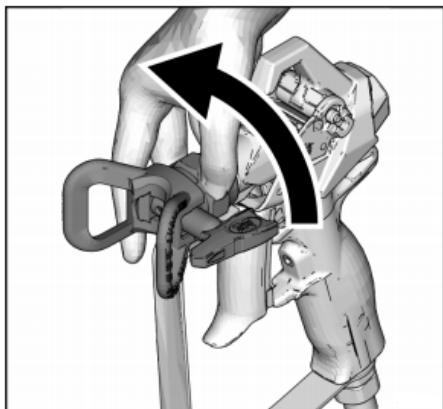
Note: If the nozzle remains clogged, repeat steps 1 and 2. If it is still clogged, replace the nozzle.

Operate

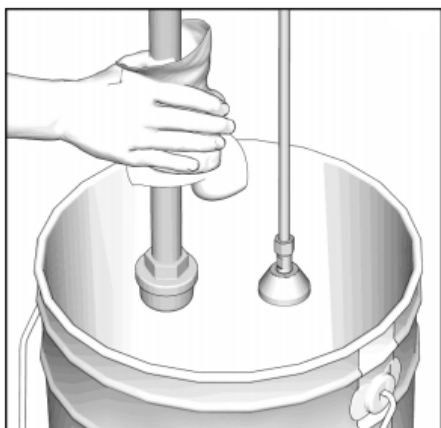
Wash



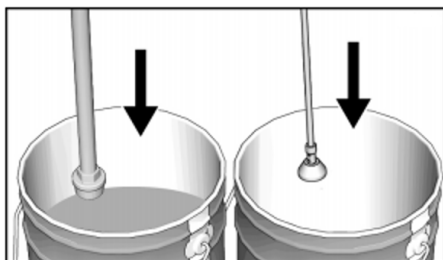
1. Perform the pressure relief step on page 15.
2. Remove the nozzle guard and nozzle. For more information, see the separate spray gun manual.



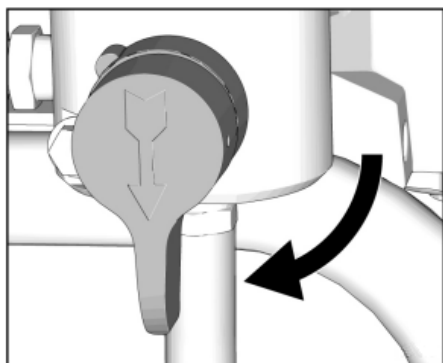
3. Remove the suction tube and reflux tube from the coating, and wipe off the excess coating on the outside.



4. Place the suction tube into the rinse solution. Clean water-based coatings with water and oil-based coatings with liquid. Place the discharge tube into the waste liquid bucket.

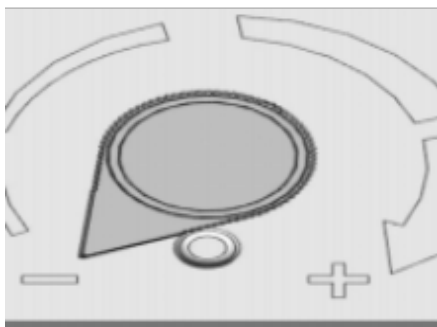


5. Turn the packing valve down to the packing position.

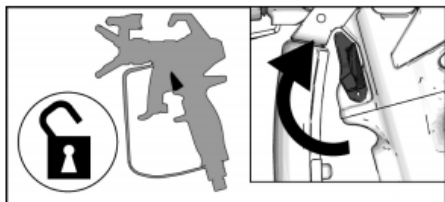


6. Set the pressure control knob to FastFlush.

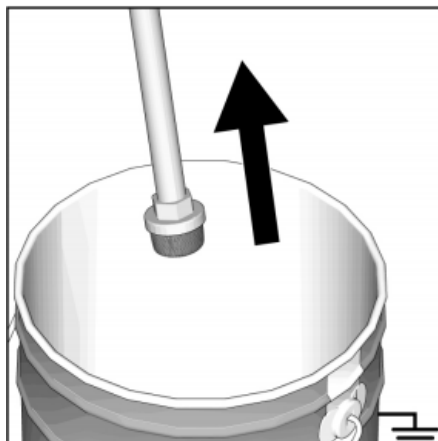
Note: You will feel a distinct stop on the knob. When FastFlush is closed, "FLUSH" will flash on the display. For more information, see **FastFlush**, page 32.



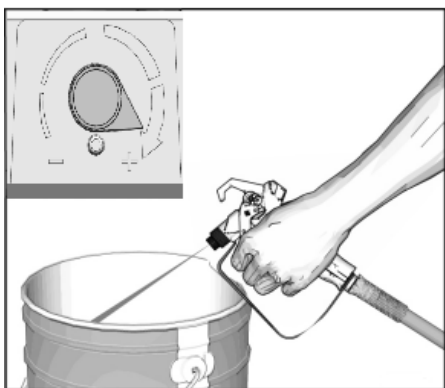
7. Release the trigger lock. Hold the spray gun and lean it against the grounded metal barrel. Press the trigger continuously.



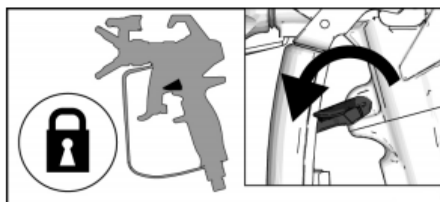
9. When pulling the trigger of the spray gun, lift the suction tube above the rinse solution to clear the liquid in the hose. Keep pressing the trigger until the liquid stops flowing.



8. Press and hold the spray gun trigger to position the filler valve. Hold the trigger for one minute or until the rinse solution gradually clears in the waste liquid bucket.

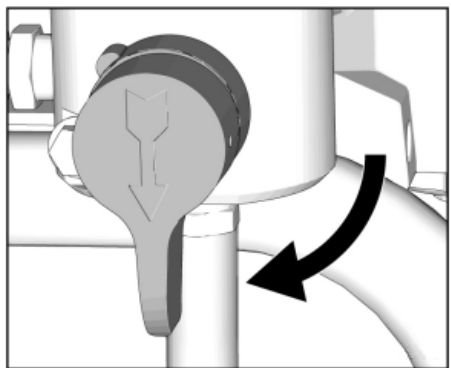
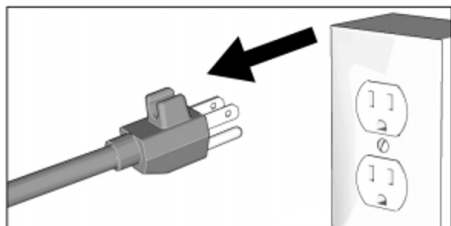
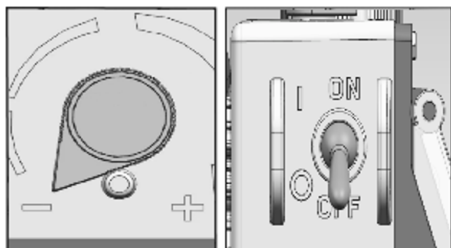


10. Close the trigger lock.

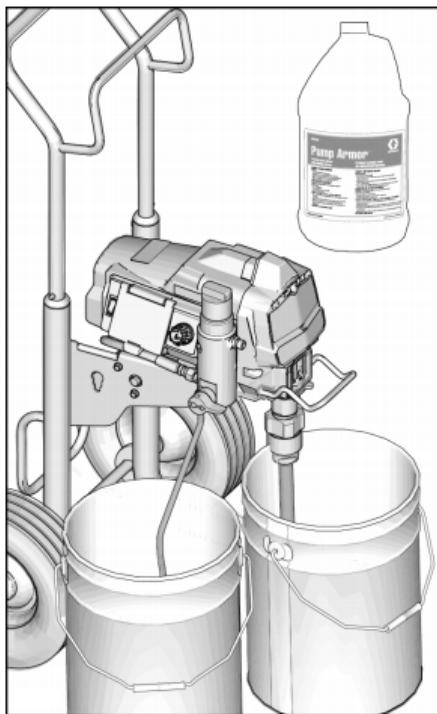


Operate

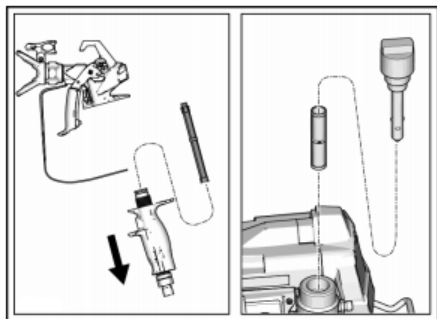
11. Set the pressure control knob to the lowest pressure setting, then switch the "on/off" switch to the off position. Turn off the power supply of the spray machine. Rotate the filler valve downward to the filling position.



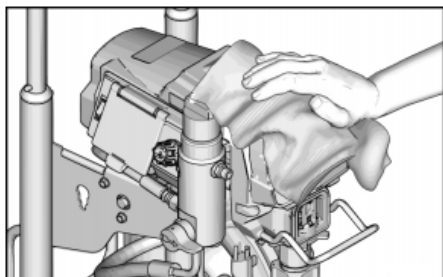
12. If rinsing with water, use a compatible cleaning solution or a spray machine-specific antifreeze to rinse once, leaving a protective coating to prevent icing and corrosion.



13. Perform the pressure relief step on page 14.
14. Remove filters from spray guns and spray machines if installed. Clean and inspect. Replace with new filters if damaged. Refer to the spray gun manual.



15. Wipe the spray machine, hose and spray gun with a cloth soaked in water or compatibility liquid.



Operate

Digital Display

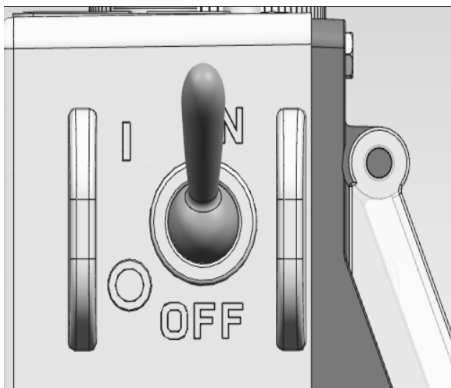
The 595-988 model features a digital display. This section explains how to use this feature.



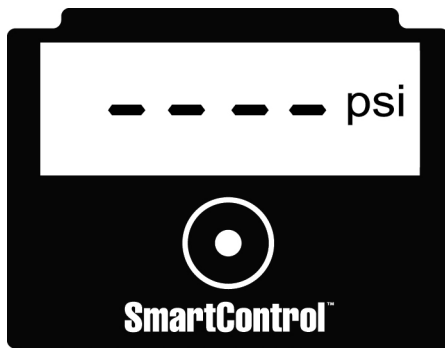
Operation Main Menu

Hold the display button briefly to move to the next display. Hold the display button for ten seconds to change the unit, or hold it for twenty seconds to reset the data.

1. Perform the pressure relief step on page 15.
2. Insert the spray gun plug into the grounding socket. Switch the "On/Off" switch to the "On" position.

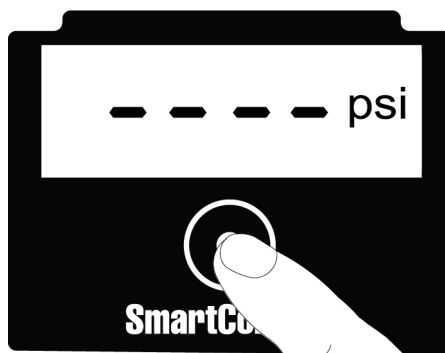


3. Pressure display. A dash appears when the pressure is below 200 psi (14 bar, 1.4 MPa).



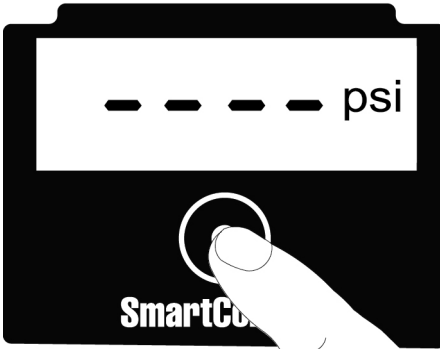
4. Press and hold to display the Job Gallons (or 10x liters) button.

Note: After the word "JOB" (Job) briefly appears, the number of gallons sprayed outside FastFlush will be displayed.



- Press and hold to reset to zero, or briefly press the button to move to the Lifetime Gallons (or 10x liters) period.

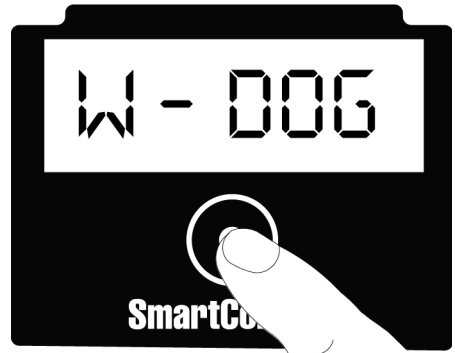
Note: After the "LIFE" message briefly appears, the gallon count for the FastFlush exterior spray will be displayed.



- Before changing the pressure unit (psi, bar, or MPa), hold the display button for ten seconds until the desired unit appears. After selecting bar or MPa, the gallon will switch to display as liters x 10.

Note: This only applies when pressure is displayed. The pressure unit appears on the right side of the screen.

- Short press the button to switch to Watchdog. Hold the display button to enable Watchdog.



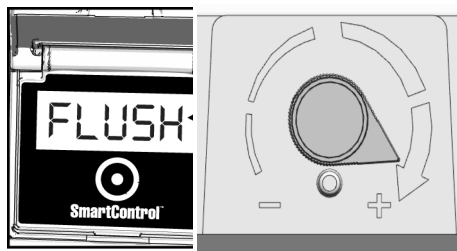
Note: If Watchdog is enabled, the "W" will appear on the pressure screen.



Operate

FastFlush

The 450/470 model features FastFlush, a high-flow cleaning system that doubles the cleaning speed of the sprayer while using only half the cleaning solution. To activate FastFlush, turn the pressure control knob to the FastFlush setting. You'll feel a distinct stop on the knob, and when FastFlush engages, the "FLUSH" indicator will flash on the display.



Note: FastFlush is designed for cleaning internal components of spray painting machines and can only be used with a cleaning solution (e.g., water or mineral oil). In FastFlush mode, the machine cannot spray paint or other materials.

WatchDog

The 595,695,895,988 model features a Watchdog pump protection system that automatically shuts down the pump when the paint or feed material runs out.

If the paint level in the barrel drops below the straw, the sprayer will fail to draw material, and the spray gun will not stop when released. The Watchdog system detects this condition and halts the sprayer's operation to prevent unnecessary wear on the pump. When the Watchdog system stops the sprayer, the display will show "EMPTY".

To restart the sprayer, press the display button to draw in the material and resume spraying.

Note: The working pressure of the Watchdog must not be less than 1,000 psi (69 bar, 6.9 MPa).

Note: Disable Watchdog when cleaning the spray machine.

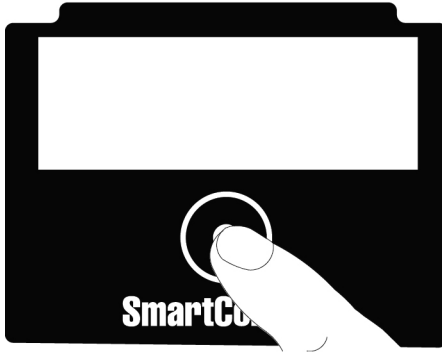
Watchdog has three sensitivity levels, which can be set in "Saved Data Display"; see page 32 for details.

Low: The lowest sensitivity level, requiring the most spray to activate Watchdog.

Medium: A moderate sensitivity level between high and low. High: The highest sensitivity level. It can quickly activate the Watchdog system. False triggers may occur in this mode. If this happens, select a lower sensitivity level.

Saved data

1. Perform the pressure relief step on page 15.
2. Press and hold the display button, then switch the "On/Off" switch to the on position.

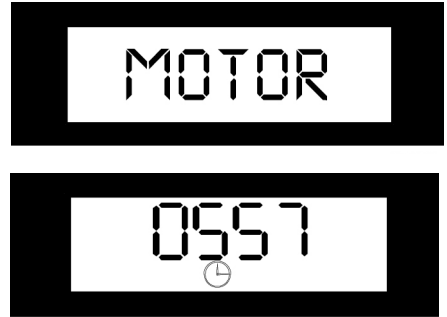


Note: The "SERIAL CODE" appears briefly, followed by the serial number.



3. Press the display button to view motor data.

Note: The system briefly displays "MOTOR" before showing the total running time of the motor.

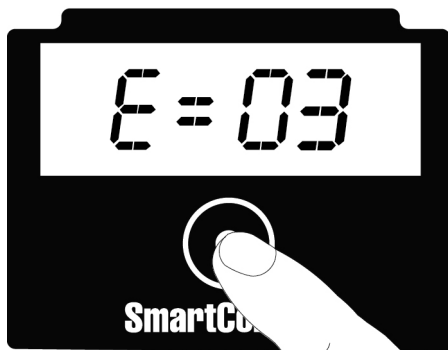


4. Press and hold the display button to show the most recent error code: for example, E=03. For troubleshooting information, see Electrical, page 41.

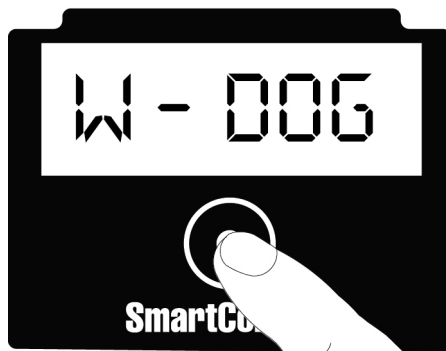


Operate

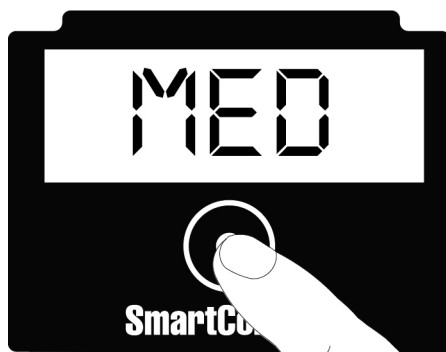
5. Press and hold the display button to clear the fault code to "NONE".



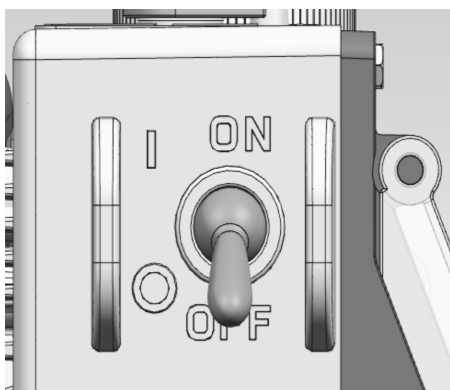
6. Press and hold the display button to go to Watchdog settings.



7. Press and hold the menu button to change the Watchdog sensitivity setting (High, Medium, or Low). The default setting is Low.



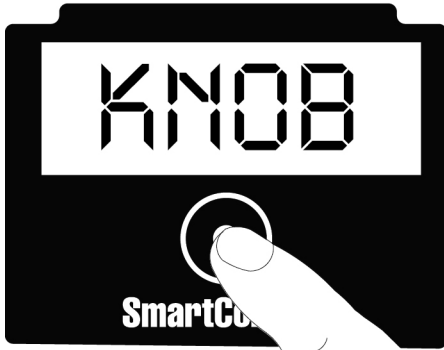
8. Press and hold the display button to switch to the software version.
9. Press and hold the display button to switch to know calibration (Page 34) and sensor calibration (Page 35).
10. Turn the switch to off to exit stored data.



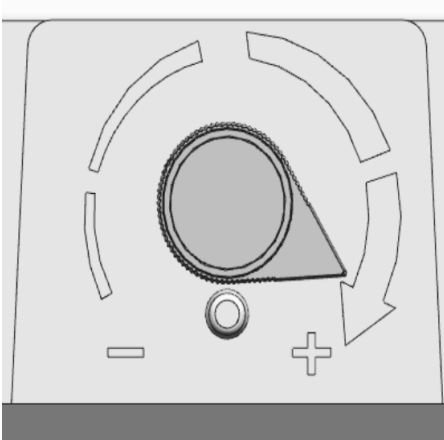
knob calibration

Note: The knob must be calibrated each time a new pressure control (potentiometer) is installed or the control board is replaced.

1. To perform knob calibration, press and hold the menu button while powering on the sprayer to access the secondary menu.
2. Use the display button to navigate to the knob calibration screen.



3. Before entering FastFlush, set the potentiometer to the maximum spray position.



4. Hold the display button until 'PASS' appears on the screen.



5. Before restarting and reusing the spray gun, turn the potentiometer knob back to the off position.

Operate

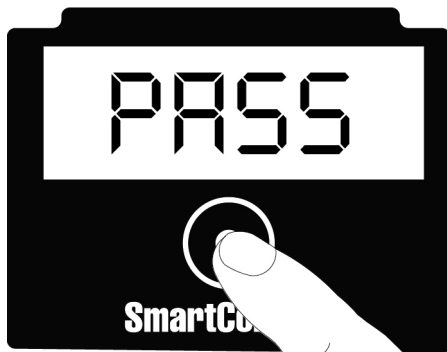
pick-up calibration

Note: Perform sensor calibration each time a new sensor is installed or the control board is replaced.

1. Perform the pressure relief step on page 15.
2. To calibrate the sensor, press and hold the display button while powering on the sprayer to access the secondary menu.
3. Use the display button to navigate to the 0 (zero) calibration screen.



4. Ensure the packing valve stays fully closed at the packing position and that the spray machine is pressure-free.
5. Hold the display button until the screen shows "PASS".



Maintenance

Routine maintenance is essential to ensure the proper operation of the spray machine. It involves performing routine operations to maintain the machine's functionality and prevent future malfunctions.



Activity	margin
Check and clean the spray machine filters, fluid inlet filters, and spray gun filters.	Every day or every time you spray
Check whether the motor end cover vent is blocked.	Every day or every time you spray
Fill TSL with TSL fill points.	Apply once daily or per application
Check whether the spraying machine is stall. When the spray gun is not activated, the motor should stop until the trigger is pulled again. If the spray gun starts again without pulling the trigger, check for internal/external leaks in the pump body and inspect the packing valve for leaks.	Every 1000 gallons (3785 liters)
Adjust the seal of the throat. If the pump seal starts leaking after prolonged use, tighten the sealing nut downward until the leak stops or decreases. This action allows for an additional 100 gallons of operation before resealing. The sealing nut can be tightened without removing the O-ring.	Based on usage requirements

Recycling and Disposal

Recycling and Disposal

End of Product Life

At the end of the product's life, disassemble and recycle it responsibly.

- Perform the pressure relief step, page 14.
- Discharge and dispose of liquid in accordance with applicable regulations. Refer to the material manufacturer's safety data sheet.

- Remove the motor, battery, circuit board, LCD (liquid crystal display), and other electronic components. Recycle them in accordance with applicable regulations.
- Do not dispose of electronic components as household or commercial waste. 
- The remaining products are handed over to the recycling station.

debugging

Mechanical Fluid Flow

To prevent serious injuries from pressurized fluids (e. g. spray on skin, fluid splashes and moving parts), follow depressurization steps before stopping spraying and before cleaning, inspecting or repairing equipment.

Keep away from moving parts during troubleshooting.

1. Before Inspection or Repair Follow the Pressure Relief Steps. Proceed to page 14.
2. Before disassembly, all possible problems and causes of failure should be checked.

Question	Scope of examination If no issues are found, proceed to the next item	Rx If you find any issues, refer to the instructions in this column
The pump output is low or the spray type is not good.	The nozzle is worn out.	Replace the nozzle. Refer to the separate spray gun or nozzle manual.
	The nozzle is clogged.	Pressure relief. Check and clean the nozzle. See Remove Nozzle Blockage, page 24.
	The filter is clogged.	Remove and clean, then reinstall.
	The ball of suction valve and the ball of piston are not in the right position.	Remove the suction valve and clean it. Inspect all check balls and their sockets for scratches. Replace them if necessary. Refer to the pump manual. Before use, filter the coating to remove particles that may clog the pump.
	The fluid filter or nozzle filter is clogged or dirty.	Clean the filter.
	The packing valve leaks.	Repair the packing valve.
	Check if the pump stops running after the spray gun trigger is released. (The packing valve is leak-proof.)	Repair the pump. See the pump manual.
	The leakage around the sealing nut of the throat may indicate the wear or damage of the sealing gasket.	Replace the packing. Refer to the pump manual. Inspect the piston valve seat for hardened coatings or scratches, and replace if necessary. Tighten the sealing nut/wet cup.

Debugging

Question	Scope of examination If no issues are found, proceed to the next item	Rx If you find any issues, refer to the instructions in this column
The output of the pump is low.	The material in the hose is too viscous, and the pressure drop is large.	Reduce the total length of the hose.
	The pump rod is dam-aged.	Repair the pump. Refer to the pump manu-al.
	The shutdown pressure is low.	Rotate the pressure control knob clockwise to the end. Ensure the knob is installed correctly to allow full clockwise rotation. Perform knob calibration (page 35). If the issue persists, replace the potentiometer.
	The piston seal ring is worn or damaged.	Replace the packing. Refer to the pump manual.
	Ensure the extension cord is the correct size.	See Extended Wire, page 14.
Too much coating leaked into the laryngeal sealing nut.	The sealing nut of the throat is loose.	Remove the gasket of the throat seal nut. Tighten the throat seal nut to stop the leakage.
	Laryngeal packing worn or damaged.	Replace the packing. Refer to the pump manual.
	The piston column is worn or damaged.	Replace the piston column. Refer to the pump manual.
The fluid was ejected from the nozzle.	There is air in the pump or hose.	Check and tighten all fluid connections. When filling the pump with packing, ensure it runs as slowly as possible.
	The nozzle is partially clogged.	Clean the nozzle. See Clearing Nozzle Blockage on page 24.
	Fluid supply is too low or not available.	Replenish the fluid. Add fluid to the pump. Refer to the pump manual. Regularly check the fluid supply to prevent the pump from running unloaded.
Pump packing is difficult.	There is air in the pump or hose.	Check and tighten all fluid connections. When filling the pump with packing, ensure it runs as slowly as possible.
	The suction valve lea-ks.	Clean the suction valve. Ensure the valve ball seat is free of scratches or wear and properly sealed. Reinstall the valve.
	The pump seal ring is worn.	Replace the pump seal. Refer to the pump manual.
	The coating is too thick.	Dilute the paint according to the supplier's recommendation.

Electrical

The fault phenomenon is that the spray painting machine cannot run, stop running or cannot stop.

To prevent serious injuries from pressurized fluids (e.g. spray on skin, fluid splashes and moving parts), follow the pressure relief steps when stopping spraying and before cleaning, inspecting or repairing equipment.

Keep away from moving parts during troubleshooting.

1. Perform the pressure relief step, page 14.
2. The spraying machine is inserted into the power socket with proper voltage and grounded.
3. Set the on/off switch to off, wait 30 seconds, then switch the power back to on (this ensures the sprayer operates normally).
4. Turn the pressure control knob clockwise by half a turn

				
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To avoid the risk of electric shock, if you need to remove the lid to troubleshoot, disconnect the power cord and wait for 1 minute to allow the stored charge to dissipate.

Question	Items to check	Check method
The spraying machine is completely inoperable.	Check the power supply.	Ensure AC voltage is used. AC 110-120 V models require a 100-130 V power supply, and AC 230 V models require a 210-255 V power supply.
	Check the joints of the pressure control device.	Check if the connector is clean and securely connected.
	Check the potentiometer.	Connect a potentiometer in good condition. Replace the potentiometer if the motor is running.
	Check the motor lead.	Check if the terminal is clean and securely connected.
The printer has an error.	Check the error code message on page 41.	See error code message, page 41.
Pressure readings are unstable.	Sensor connection.	The sensor connector may be damp. Unplug and dry it.

Debugging

The fault phenomenon is that the spray painting machine cannot run, stop running or cannot stop.

1. Perform the pressure relief step, page 14.
2. Unplug the spray machine and switch the power switch to off.
3. Wait 1 minute. Remove the rear cover and check the LED status indicator. Insert the power cord plug into the properly grounded power socket. Switch the "On/Off" switch back to the on position (this ensures the sprayer is in normal operating mode).

4. The LED status indicator flashes with error codes.

				
To avoid electric shock and serious injury caused by moving parts, do not touch the motor or electrical components.				

Error code message

Code	message	Action
02	Code 02-High voltage detected	Pressure relief. Check the filter and hose for blockage. Use a Graco hose of at least 50 feet (15 meters). Check the sensor status.
03	Code 03-Pressure sensor not detected	Shut down the sprayer and unplug the connector. Remove the cover. Check the sensor and its connection to the control board. Check the sensor status.
04	Code 04-Multiple input voltage surges detected	Shut down the spraying machine and unplug it. Find a better power supply to avoid damaging the electronic components.
05	Code 05-The motor cannot rotate due to excessive mechanical load	Shut down the sprayer and unplug it. Try rotating the motor. The motor should rotate freely. If the motor does not rotate freely, remove the pump and rotate the motor again to check. If the motor rotates freely, check the control board.
06	Code 06-Enable motor overheat protection	Keep the sprayer plugged in and let it cool. This may take about an hour. Check the ventilation vents at the top and bottom of the sprayer for blockage. Unplug the sprayer and check to ensure the motor rotates freely.
08	Code 08-The input voltage is too low. The sprayer cannot operate.	Shut down the sprayer and unplug it. Find a better power supply to prevent damage to electronic components.
09	Code 09-Failed to connect to the Hall board	Shut down the sprayer and unplug it. Wait for five minutes. Remove the protective cover. Check the wiring and connections. Inspect the motor.
10	Code 10-Enable control board overheat protection	Keep the sprayer plugged in and let it cool. This may take about an hour. Check the ventilation vents at the top and bottom of the sprayer for blockage. Unplug the sprayer and check to ensure the motor rotates freely.
12	Code 12-Overcurrent protection setting	Alternately turn the main power on and off. If the issue persists, check the motor.
15	Code 15-The motor does not rotate and no motor current is detected	Shut down the sprayer and unplug it. Wait for five minutes. Remove the cover. Check the wiring and connections. Check the control panel. Check the motor.
18	Code 18-Communication with the extension/display board failed	Turn off the sprayer and unplug it. Wait for five minutes. Remove the cover. Check the wiring and connections.

Standard Warranty

Standard Warranty

The Company warrants that all equipment manufactured by and bearing its name, as specified herein, shall be free from material or process defects upon delivery to the original purchaser. In addition to any special, extended, or limited warranties expressly provided by the brand, the Company shall provide a twelve-month warranty from the date of sale.

Repair or replace any equipment parts identified by our company as defective. This warranty applies only when the equipment is installed, operated, and maintained in accordance with our company's written instructions.

The warranty does not cover any general wear, damage, or malfunction caused by improper installation, misuse, abrasion, corrosion, inadequate maintenance, negligence, accidents, vandalism, or the use of non-company parts. The company shall not be liable for such damages.

The Company shall not be liable for any faults, damages, or wear and tear resulting from incompatibility between the Company's equipment and third-party structures, accessories, equipment, or materials, or from improper design, manufacturing, installation, operation, or maintenance of such third-party components. The warranty is valid only if the defective equipment is returned to the Company's authorized dealer with prepaid shipping costs to verify the claimed defects. If defects are confirmed, the Company will provide free repair or replacement of all defective parts. The equipment will be returned to the original purchaser with prepaid shipping costs. If no material or manufacturing defects are found during inspection and the equipment requires repair, the repair costs (including parts, labor, and transportation) will be charged.

The warranty is irrevocable and irreplaceable by any other express or implied warranties, including but not limited to warranties of merchantability or fitness for a particular purpose. The Company's sole liability and the Buyer's sole indemnity shall be limited to the violations specified herein. The Buyer expressly waives all other claims, including but not limited to consequential damages for lost profits, reduced sales, personal or property injuries, or any other incidental or consequential losses. Any action against this warranty must be filed within two (2) years after the equipment's sale.

For accessories, equipment, materials or components sold by the Company but not manufactured by the Company, the Company makes no warranty as to their suitability for sale orNo implied warranties of suitability for specific purposes are provided. Non-company-manufactured accessories (e.g., electric motors, switches, hoses, etc.) sold are subject to the manufacturer's warranty terms (if applicable). The Company will provide reasonable assistance to purchasers in claiming compensation for warranty violations. Under no circumstances shall the Company be liable for indirect, incidental, special, or consequential damages arising from the installation, performance, or use of equipment provided by the Company or products sold, whether due to contract breaches, warranty violations, the Company's negligence, or other causes.