ASAHI SUNAC

Operation and Maintenance Manual

Air Wrap Airless Electrostatic Spray Gun

APEG100
APEG100M

Ec'Coater™ エコーター

This manual contains important information on warnings and cautions. Read the manual thoroughly before starting to operate the equipment, and follow the instructions.
Always keep the manual handy until such time as the equipment is no longer being used.
If your manual is lost or worn badly, do not hesitate to contact our agency which is closest to you, or the Asahi Sunac Corporation, directly, and ask us to send you a new one.

17th Edition: June 25, 2025

Introduction

Thank you for purchasing our product Air Wrap Airless Electrostatic Spray Gun
< APEG100/100M >.

Please be sure to read this operation manual carefully before using this product so that you can always use it under the optimum conditions.
In particular, please fully understand the items in the specifications and use them according to the correct usage.

This product is used in combination with an electrostatic controller (BPS130A).
Be sure to read the operation manual of the electrostatic controller carefully.

If you have any questions, please contact us by clearly stating the "product number" and "serial number" and contacting us on the back cover.

Please keep this operation manual in a safe place where you can easily refer to it.

Contents

17th Edition: June 25, 2025

1 For safe and correct use

Please understand the contents of this instruction manual and be sure to follow the handling method. If you use it without following this instruction manual, **you may injure your body or damage your equipment and fire.**

The following safety precautions should be considered as minimum basic safety measures when using our products.

●Precautions are displayed in the following two stages.

⚠ **WARNING**	Hazards that can result in death or serious injury.
⚠ **CAUTION**	Danger that may result in minor or moderate injury or physical damage only.

●Other important points are indicated as follows:

NOTE	Observations to ensure the equipment's performance and functions are fully operational.

In addition, please observe all national and local laws and regulations related to fire, electricity, and safety, as well as the rules and regulations of your own company or business division.

≪Range of use suitable for the product≫

This product is a manual spray gun designed to be installed in the coating booth equipped with an exhaust system and used for painting with air wrap electrostatic atomization paint.

If you use the product under conditions other than the above, it will be used improperly. Also, please be careful as it may cause an accident.

《Warning and precautions for safe use》

⚠ WARNING

Fire and explosion

Preventing fire and explosion in coating shop

- **Do not use halogenated hydrocarbon solvents.**
  The aluminum alloy contained in this product's components may undergo a chemical reaction and explode.

- **Do not use this product outside its specifications.**
  Using it out of specification range may result in a fire hazard.

- **Provide adequate ventilation with ventilation equipment.**
  Volatilized organic solvents and other substances may remain and ignite, creating a risk of fire.

- **Clean the coating room and exhaust system (ducts and fans) regularly.**
  If the accumulated powder simply peels off, a spark may occur, which could cause a dust explosion.
  In the unlikely event of a fire, paint residue etc. will make it easier for the fire to spread and result in greater damage.

Prevent fire and electric shock caused by faulty earthing

- **All conductive objects in the coating booth (paint containers, peripheral equipment, etc.) must be grounded with an earth wire.**
  In an atmosphere ionized by high voltage, poorly grounded conductors can become charged, creating a risk of fire or electric shock due to spark discharge.
  The earth should be **Class D grounding or higher** (ground resistance 100 Ω or less).

- **Always keep the workpiece earthed.**
  Risk of fire or electric shock due to spark discharge from charged workpieces.

- **Paint hose must be grounded with an earth wire.**
  Static electricity can cause spark discharge, which can result in fire or electric shock.
  When paint flows through the injector and paint hose, static electricity is generated and becomes charged.

- **The paint container must be grounded with an earth wire (excluding the insulated stand specifications).**
  The paint path can cause the paint container to become charged, a risk of fire or electric shock.

- **The electrostatic controller must be grounded with an earth wire.**
  Static electricity can cause spark discharge, which can result in fire or electric shock.
  The machine is also grounded via the electrostatic controller, so be sure to connect the earth wire with screws or other fasteners to prevent it from coming loose.

《Warning and precautions for safe use》

⚠ WARNING

Fire and explosion

Prevent fire and electric shock caused by faulty earthing

- **Be sure to periodically remove any paint that has stuck to the hanger.**
  If paint adheres to the contact part between the hanger and the object, there is a risk of fire or electric shock due to poor earthing.
  The ground resistance value should be 1kΩ or less for metal (1MΩ or less for resin) (measurement voltage should be 500V or more).

- **Do not place any items in the coating booth that are not necessary for coating.**
  Static electricity can cause spark discharge, which can result in fire or electric shock.

- **Paint operator must take precautions to prevent static electricity.**
  Static electricity builds up on the human body, causing sparks to discharge, which may result in fire or electric shock.

Prevent fires caused by ignition of paints and solvents

- **When nozzle cleaning, turn off the power to the electrostatic controller.**
  If high voltage is applied during nozzle cleaning, there is a risk of fire.

- **Do not bring any spark-producing devices, matches, lighters, etc.**
  Risk of explosion or fire due to ignition of flammable materials.

Equipment misuse

Preventing accidents caused by poor maintenance

- **Any abnormal noise, vibration or high voltage leakage, immediately stop operation.**
  Product damage may result in a fire hazard.

- **Do not operate if any parts are damaged or missing.**
  Product damage may result in a fire hazard.

《Warning and precautions for safe use》

⚠ WARNING

Human protection

Protection from high voltage

- **Please wear anti-static shoes.**
  Static electricity builds up on the human body, causing sparks to discharge which may result in fire or electric shock.

- **Do not touch anything other than the gun grip while high voltage is applied.**
  Touch with high voltage parts may result in electric shock.

- **The coating work floor must have an anti-static construction with a leakage resistance of 1 MΩ or less.**
  There is a risk of electric shock to the operator.
  The scope of the antistatic structure is the entire work floor in a closed paint room.
  In an open paint booth, it is the area surrounded by 1.5m on either side of the booth opening and 2.5m in front of it.
  To maintain the antistatic effect, clean the work floor when it becomes dirty.

- **Do not use this product if you have a pacemaker.**
  The high voltage of this product may cause pacemakers to malfunction or stop functioning.

Protection from solvents, air and paint pressure

- **Do not spray paint towards person**
  Harmful substances may cause serious injury, including inflammation and poisoning.
  Pressurized paint can cause personal injury.

- **Wear protective glasses, a protective mask, and protective gloves[*1] when handling paint.**
  Harmful substances may cause serious injury, such as inflammation or poisoning.
  Carefully read the safety data sheet (SDS[*2]) of the paint you are using and take appropriate exposure prevention and protective measures.
  *1 When using protective gloves for skin absorption protection or to prevent dirt, it is necessary to prevent static electricity from building up on the human body. Be sure to ground it properly. (Recommended protective gloves are those specified in JIS T8118, or earth bands, etc.)
  *2 SDS：Safety Data Sheet

- **Clean the coating room and exhaust device (ducts and fans) regularly.**
  If the exhaust device does not function properly, harmful substances may cause serious injury, including inflammation and poisoning.

《Warning and precautions for safe use》

⚠ WARNING

Human protection

Protection from high pressure paint

- **Always use below maximum paint pressure.**
  The equipment may explode and cause injury to person from debris and pressurized paint.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **Do not use damaged hoses.**
  The hose may burst and cause injury to person from debris and pressurized paint.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **Do not touch the discharge part when the paint is high pressure.**
  Pressurized paint can cause personal injury.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **Always relieve paint and air pressure before cleaning, disassembly or maintenance work.**
  Do not remove or disassemble the nozzle or hose without relieving the pressure.
  Pressurized paint, cleaning fluids and air can cause personal injury.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **After application, make sure the paint is not pressurized.**
  Pressurized paint can cause personal injury.
  Harmful substances can cause serious injury, including inflammation and poisoning.

<Pressure Relief Procedure>

Follow this procedure to relieve pressure when inspecting, removing nozzle, cleaning, replacing and when stopping spraying.

① Close the paint valve for gun.
② Shut off the compressor air (stop the air supply to the pump and gun).
※Turn off the power when using an electric pump.
③ Slowly open the drain valve of the pump (to reduce paint pressure in the passage).
④ Release the trigger lock and slowly pull the trigger (check for a decrease in paint pressure).
⑤ Make sure the paint pressure has dropped sufficiently and then engage the trigger lock.

(If the pressure relief procedure does not completely relieve the pressure)

- Wrap the retaining nut or hose terminal connector in a rag etc. and carefully and slowly drain out the paint inside.

《Warning and precautions for safe use》

⚠ WARNING

- **Do not use this product outside its specifications.**
  Using it out of specification range may result damage to the product.

- **Do not immerse the coating machine, connection/extension cable or hoses in cleaning solvent.**
  Electrostatic sprayer are electrical machines, immersing them in cleaning solvents may cause break down.

- **Connection/extension cable and hose should be hung from the ceiling or side walls and not dragged across the floor.**
  It may cause damage such as scratches.
  When using conductive paint, be sure to suspend the paint hose from an insulating material such as a rubber tube.

- **When cleaning the nozzle, never use a metal brush, use a bamboo brush or similar.**
  It may damage the nozzle and result in poor coating.
  The nozzle is an important part of the sprayer.
  If you use a metal brush to damage the nozzle, it will become difficult to maintain uniform spray conditions.

- **Always keep a distance of at least 150mm between the tip of the nozzle and the work piece.**
  The potential at the tip of the nozzle will decrease, causing poor coating results.

- **Check frequently for paint leaks, air leaks, and loose screw.**

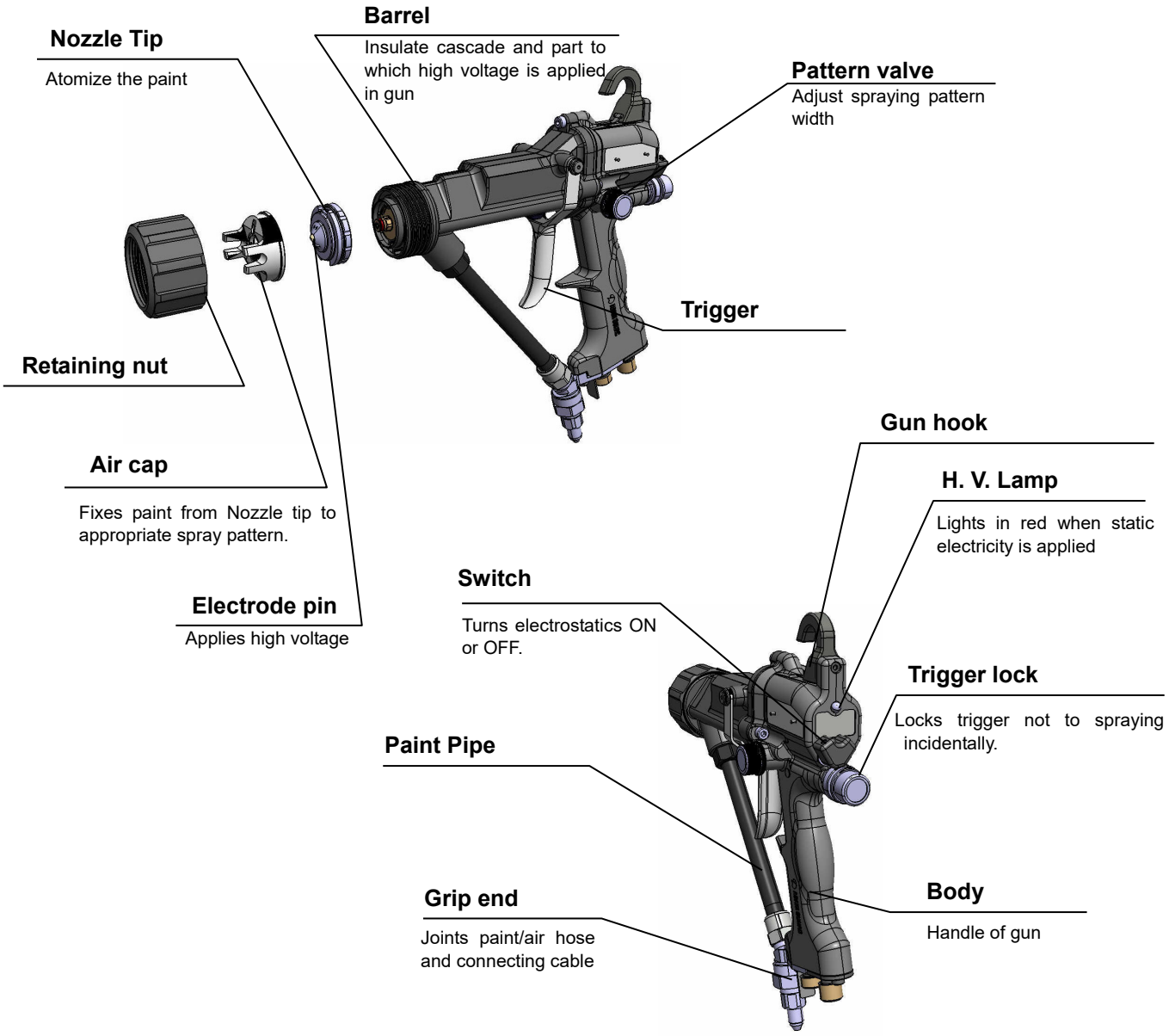
- **Do not touch the electrode pins of the spray gun carelessly.**
  The electrode pin may pierce the body and cause injury.
  Be careful when handling the electrode pin as they are easily pierced.

●**A fire extinguisher should always be kept near the work area.**
In case of a fire, make sure to have equipment that has been regularly inspected installed at all times.

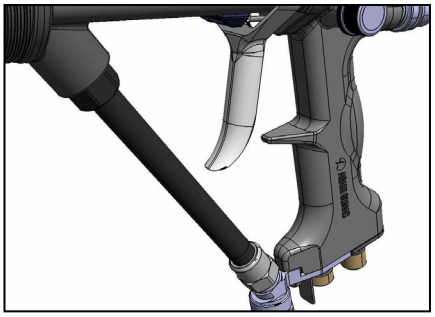
●**When disposing of this product, please dispose of it in accordance with the laws of your country.**

2 Outline of Equipment

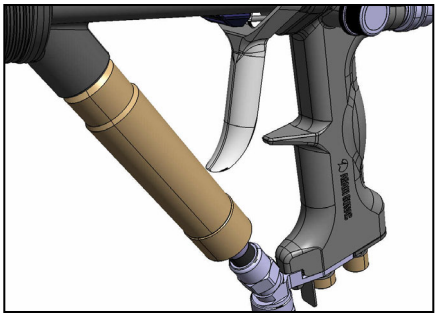
2.1 Names and Roles of Parts



2.1.2 Pipe Specifications and Usage

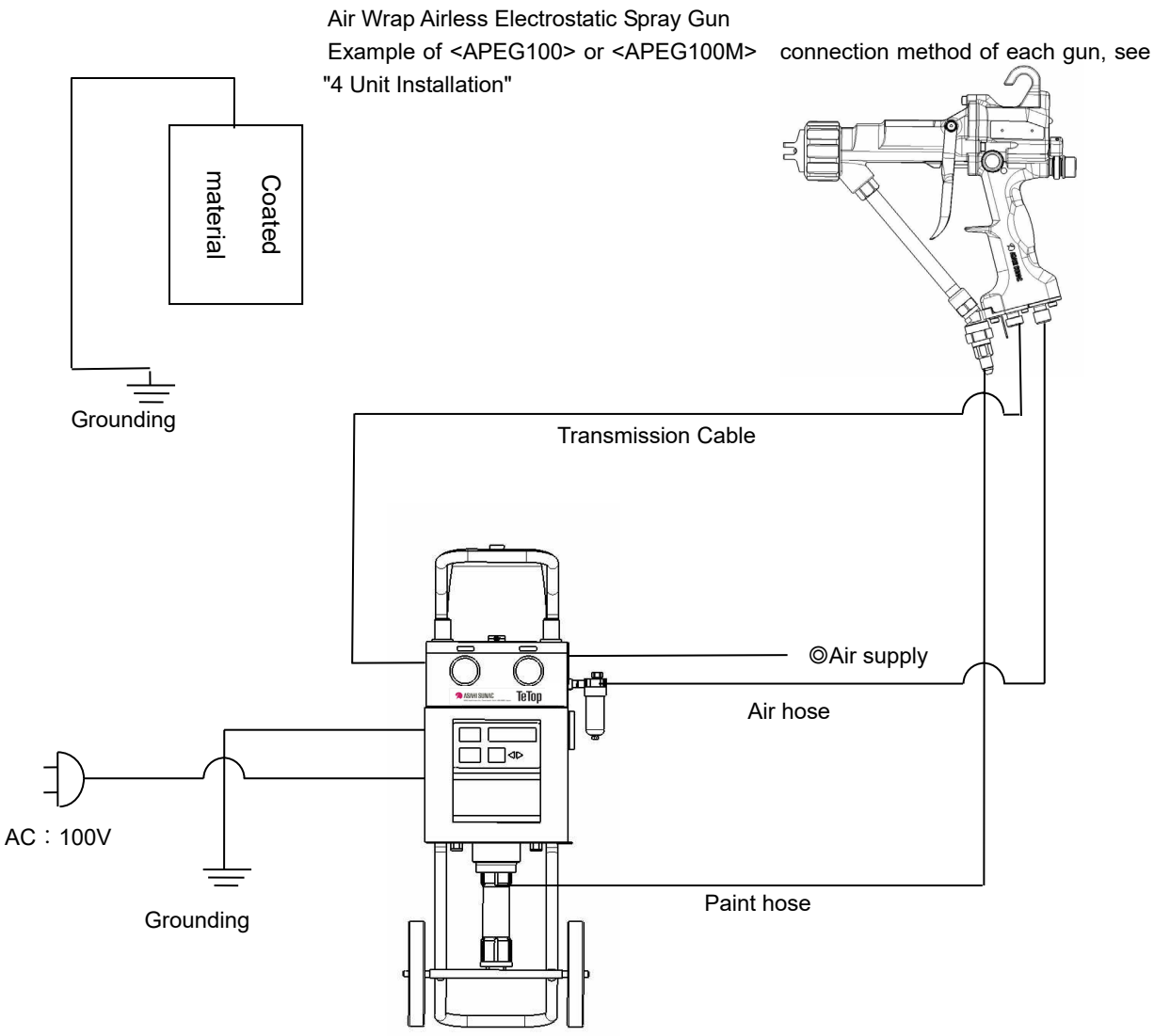


APEG100
Straight Pipe
For solid/clear paint



APEG100M
Special pipe
For metallic paint

2.2 Example of Structure of Coating Machine Installation



TeTop Electrostatic Pump Unit
＜Electrostatic controller BPS130 on SP1628EW＞

NOTE

No paint hose and connection cable are attached to APEG100 / APEG100M.

⚠ CAUTION

Install electrostatic controller BPS130A outside of the coating booth and at a place at least 1.5m away from the booth opening or entrance.

2.3 Related Accessory Equipment

●The related accessory equipment and maintenance tools are necessary for the operation of this product.

Select appropriate equipment from the following according to its usage/conditions and arrange it separately.

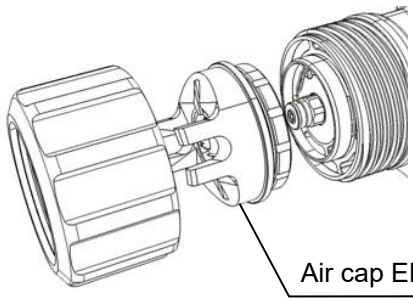
●As for arrangement of the products and parts of the related accessory equipment, check their part No. and quantity with their equipment manuals separately.

2.3.1 Air Cap (Model: EN Series) (separately offered)

●A part attached to the tip of the APEG100/100M having a function of atomizing and creating pattern by force of air and pressure of paint.

●Select an air cap from the separate manual according to its usage.

Air cap EN series image

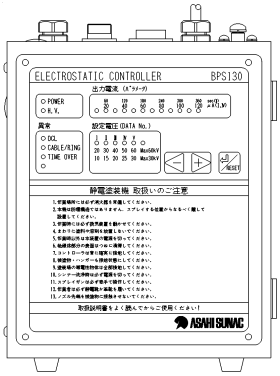


Air cap EN series (separately offered)

2.3.2 Electrostatic Controller (BPS130A series) (separately offered)

●Equipment which controls high voltage application of the cascade contained in the coating machine. Also it detects abnormality and performs output in current monitoring when used.

BPS130A outline view



※Please refer to the Maintenance Manual of BPS130A for detailed use.

2.3.3 Transmission Cable (separately offered)

●By combining and connecting a "connecting cable" and "extension cable" between the coating machine and electrostatic controller, it can be used up to 30 m.

⚠ CAUTION

The maximum voltage may drop if extend cable to 30m or more. The maximum length is 50m. May not apply the voltage when the length is more than 60m.

Connecting cable part No. list

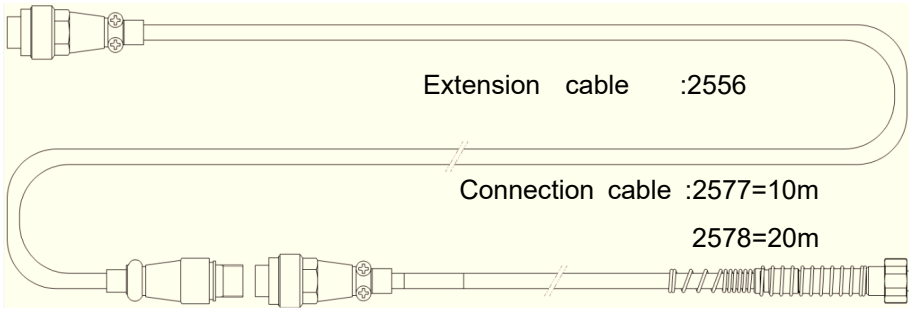
No.	Part name	Part No.	Specifications
1	Connecting cable	2577	10m
2		2578	20m

Extension cable part No. list

No.	Part name	Part No.	Specifications
1	Extension cable	2556	10m

Transmission cable connection diagram

Electrostatic controller side



Electrostatic gun side

2.3.4 Air Hose (Model: AH22 Series) (separately offered)

●To supply air required for atomization of paint and pattern creation to the coating machine, connect it between the air regulator of the electrostatic controller and coating machine.

● A grounding wire is contained; therefore, the ground of the coating machine can also be secured through the air path and safety is improved.

Air hose part No. list

No.	Model	Part name	Part No.	Specifications
1	AH22-10	Air hose	3403-2	10m,φ10-6,PF1/4
2	AH22-20		3403-3	20m,φ10-6,PF1/4
3	AH32-10		3439	10m,for high volume air,φ12-8.5,PF1/4
4	AH32-20		3439-1	20m, for high volume air,,φ12-8.5,PF1/4

2.3.5 Paint hose (separately offered)

●A paint hose for sending high pressure paint from the pump to the APEG100/APEG100M.
Use nylon hose (gun side) and stainless steel soft hose (pump side) in combination.

Paint hose part No. list

No.	Model	Part name	Part No.	Specifications
1	Nylon hose	NH03050	515-1050	5m(for gun side),φ3.4,PF1/8
2	Stainless steel soft hose	NSR06050	53C-1050	5m(for pomp side),φ6,PF1/4
3	Stainless steel soft hose	NSR06100	53C-1100	10m(for pomp side) ,φ6,PF1/4
4	Stainless steel soft hose	NSR06200	53C-1200	20m(for pomp side) ,φ6,PF1/4
5	Intermediate nipple		3202-232	1F-2FF,NH03,NSR06 for joint hoses

In case the high pressure drop with using high viscosity etc., change hose joint of gun to 1742-006(separately offered) and connect NSR06 hose to gun directly.

2.3.6 Maintenance Tool Set (separately offered)

●Preventive maintenance of parts and repair/part replacement due to failures can be done by replacing the targeted part assembly, but this is a maintenance tool set consisting of dedicated tools for more detailed part replacement and maintenance of the cascade assembly etc. and control tools for strict torque control.

⚠ CAUTION

If you are interested in detailed maintenance, we will provide a maintenance course. Only the person who have attended the maintenance course specified by Asahi Sunac can do maintenance.
For information on the maintenance course, please contact our person in charge.

Maintenance tool set

No.	Part name	Part No.	Specifications
1	Maintenance tool set	35F3	

3 Specifications

●Air Wrap Airless Electrostatic Spray Gun

Model		APEG100	APEG100M
Maximum voltage to be charged		DC-60kV	
Shorting current		80μA	
Fluid pressure	Normal	2～16MPa	2～8MPa
	Max.	21MPa	10MPa
Wrap air pressure	Normal	0.2～0.5MPa	
	Max.	0.6MPa	
Air consumption		Max.350L／min（ANR）	
Outside dimensions		L218×W52×H240（mm）	
Weight		645g	685ｇ
Connecting cable length		10m * By combining it and an extension cable, it can be used up to 30 m.	
Supply air conditions		Solid particle size: 0.1μm or below Dew point under pressure: 10 °C Dew point under atmospheric pressure: −17°C Residual amount of oil: 0.01 mg/m^3	

NOTES

For details on the paint pressure-feed unit and paint regulator, see the instruction manuals.

Standard air wrap pump unit	Mixing ratio	Maximum air pressure (MPa)
SP1628EW（only for APEG100）	1:30	0.6
SP1636M-EW（only for APEG100M）	1:20	↑

If you use our products except the air wrap pump unit, air pressure value should be less than maximum air pressure in the table not to the paint pressure-feed pressure is over 21Mpa.

Pump model	Pressure ratio	Maximum air pressure (MPa)	
		APEG100	APEG100M
SP1021	1:23	0.6	0.43
SP1636/1854/2578	1:20	↑	0.50
SP1628/1844	1:30	↑	Inapplicable
SP2554	1:45	0.47	Inapplicable

4 Unit Installation

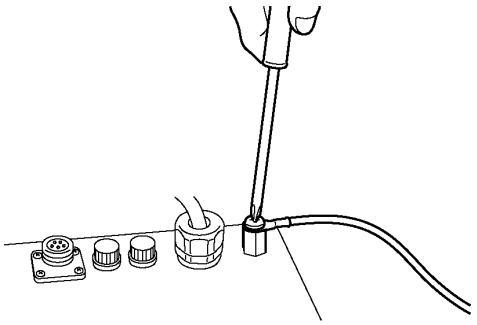
Make preparations in accordance with the following procedures when starting to use the unit.

4.1 Connection of Grounding Wire

Be sure to connect it to the controller. For this operation, a Phillips screwdriver is required.

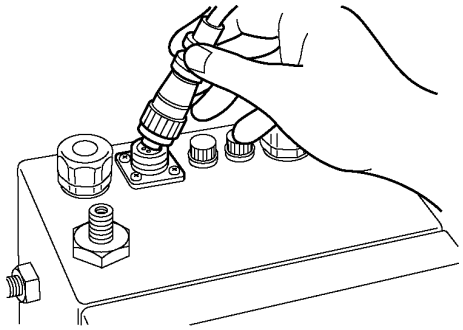
⚠ COUTION

The diameter of the grounding wire of the electrostatic controller should be 3.5mm2 or more and it should be laid at a place where type A grounding (grounding resistance:10 Ω or less) has been done.

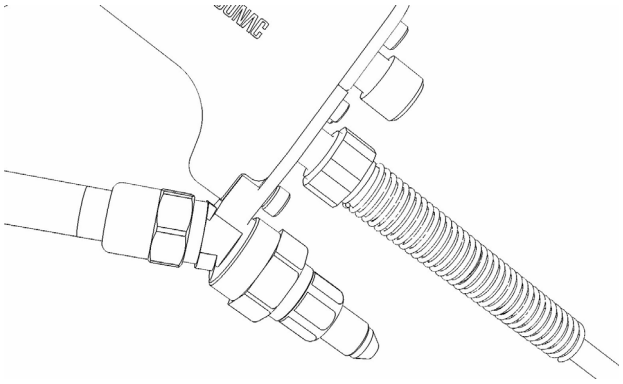


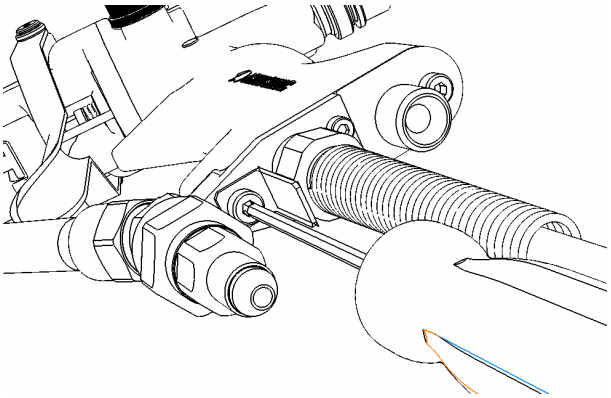
4.2 Connecting Cable

Wipe the metal connector at the end of the connecting cable attached to the coating machine with a clean cloth, securely tighten it to the output terminal “OUTPUT” of the electrostatic controller.



Attach the cable to the gun by securely tightening it with a hex. 17 mm spanner. After attaching it, prevent loosening with a stopper. If the attachment position cannot be adjusted, do not tighten it forcibly. Loosen the nut and attach it so that the stopper surface will stick to the hex. flat part.





⚠ CAUTION

Damage of the unit may occur.

Do not tighten the connecting cable too tightly. Be sure to prevent loosening with a stopper.

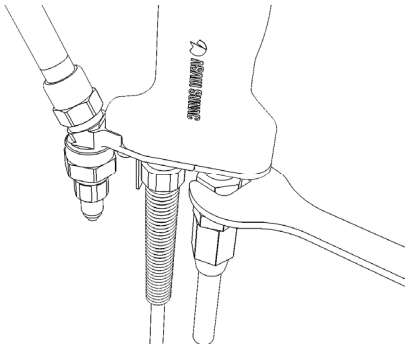
⚠ CAUTION

Disconnection of a cable may occur.

When bundling the connecting cable, air hose and paint hose with tape and the like, loosen them slightly so that pull force will not be applied to the cable. If you use it with the cable pulled, it may lead to disconnection. For details, see "4.5 Binding of Connecting Cable and Precautions for Use".

4.3 Connection of Air Hose

Connect the end connector of the black air hose to the nipple at the lower end of the gun grip (next to connecting cable). Then connect the other end connector to "AIR OUT" of the electrostatic controller and tighten it. (Screw port diameter: PF1/4) A 17 mm spanner is required for this operation.



⚠ CAUTION

Damage of the unit may occur.

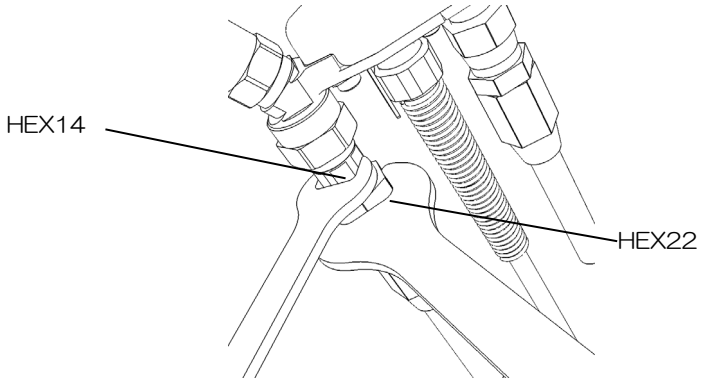
When tightening an air hose or paint hose to the gun, be sure to use two spanners and do not apply excessive force to the gun. Also remove and attach it so that the spanner will not touch the cable connector.

NOTE

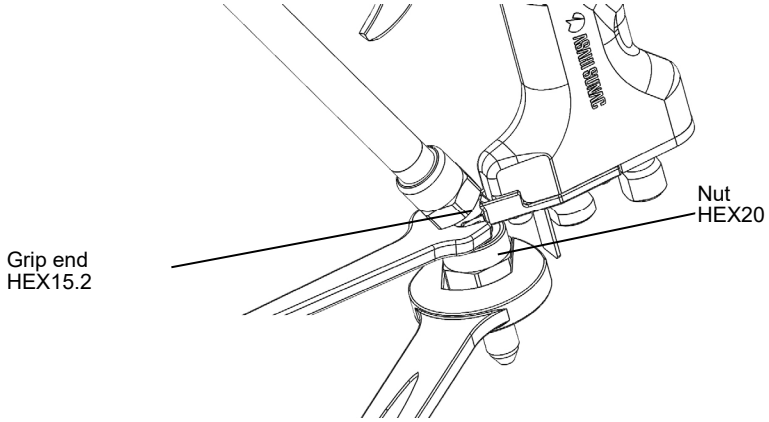
If the length of the air hose is 10 m or more, by using a 3/8" air hose, atomization of paint will be improved. If a joint bush (3204-027) is attached, it will be a screw port diameter of PF3/8.

4.4 Connection of Paint Hose

Connect the end connector of the paint hose to the lower end of the gun grip (in front of connecting cable) and attach the other end paint hose connector to the paint pressure-feed unit (Connect ϕ3-5m long and ϕ6-5m long hoses using an intermediate joint into a 10m long hose.).



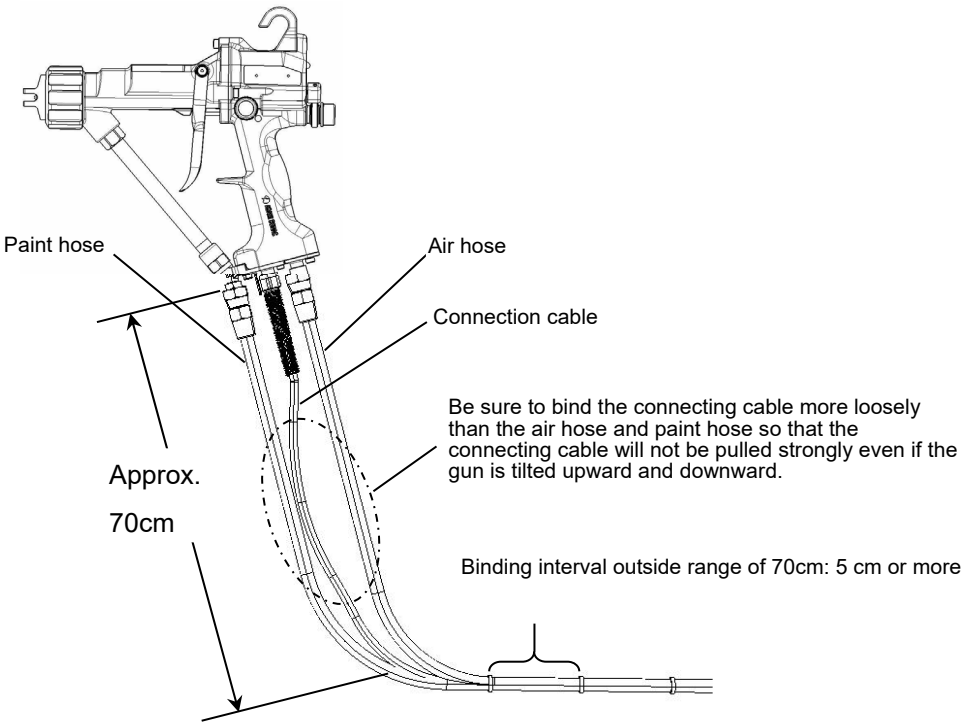
When paint hose is retighten, hook tools (wrench) to width across flat. Please be carried out with care prevent from scratch the griped surface. Retighten the griped and the nut after retighten paint hose.



4.5 Binding of Connecting Cable and Precautions for Use

⚠ CAUTION

1. To prevent reduction in strength and service life of the connecting cable, be sure to observe the following for binding of connecting cable of the electrostatic gun.
   (1) Do not bind connecting cable within a range of approximately 70 cm from the electrostatic gun handle.
   (2) Bind the connecting cable while securing allowance of the connecting cable for the air hose and paint hose so that the connecting cable will not be strongly bent or pulled when aiming the electrostatic gun upward, downward, left and right.
   (3) Loosely bind the cable outside a range of 70 cm from the electrostatic gun handle at intervals of 5 cm with resin binding bands (insulok) and plastic tape not by tightening it too tightly. In particular, do not wind plastic tape and wide spiral tubes seamlessly. The wound part will be a rod-like shape and its both ends will be broken, which leads to disconnection or damage of the connecting cable and hose.

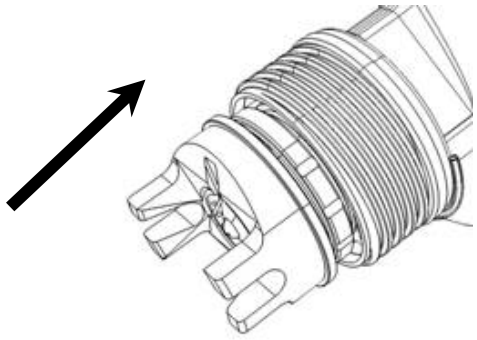


2. Operate the electrostatic gun and bind the connecting cable so that the connecting cable, air hose and paint hose will not be forcibly bent or strongly pulled during painting. Strength may be lowered and disconnection may occur.
3. Be careful not to step on the connecting cable. In particular, if you step on it on metal floor grates, it may be disconnected.
4. Do not wind plastic tape only on the connecting cable (especially vicinity of electrostatic gun connector) seamlessly for reinforcement and prevention of contamination. Strength may be lowered and disconnection may occur.
5. Do not immerse the connecting cable in the solvent or paint for a long time. If it is immersed for a long time, its strength and service life will be reduced significantly.
6. After cleaning the connecting cable, be sure to wipe off the solvent attached to the surface or blow it with air.
7. Do not use metal binding bands. Static electricity accumulates and you may get a shock.

4.6 Installation of Air Cap set

(1) Fix the air cap set to the nozzle by hand.

Tilt the gun tip downward so that thinner or solvent will not enter the gun.

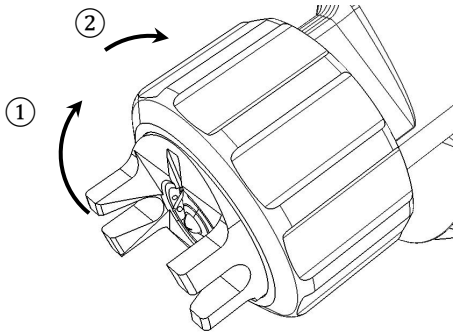


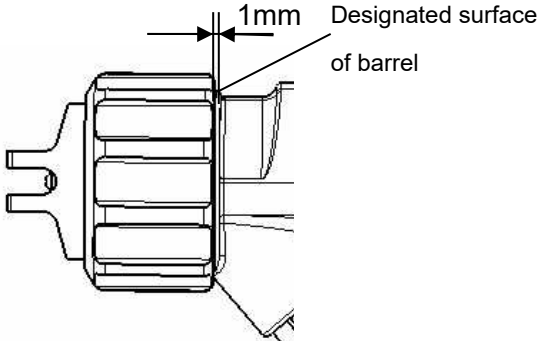
(2) Attach the retaining nut assembly to the outside of the air cap set.

①Tighten the retaining nut assembly tightly, and then adjust the angle direction of the air cap to the direction of pattern creation.

②Tighten the retaining nut assembly more strongly until the air cap set is fixed.

③Keep distance between the designated surface of barrel and end of retaining nut is around 1mm for standard of tightening.





⚠ CAUTION

<u>Personal injury or damage of the charging pin may occur.</u>
When attaching the air cap to the gun, do not touch the charging pin.

⚠ CAUTION

<u>Damage of the unit may occur.</u>
Since this is a resin product, the nozzle attachment joint inside diameter screw may be damaged if tightened too tightly. Remove and attach it with sufficient care.

⚠ CAUTION

Check the packing condition on the mating face of the nozzle tip and the O-ring of seat assembly. If the packing and O-ring are missing or damaged, the pressurized paint intrudes into the air circuit, possibly resulting in poor coating or disorder.

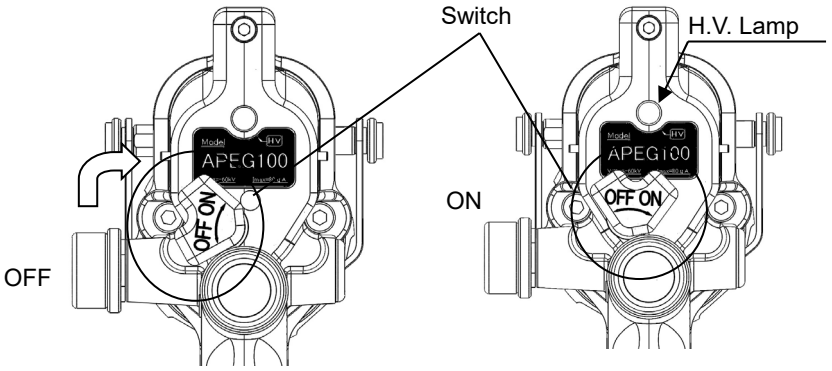
5 Check before coating operation

Before a coating operation, check the coating machine in accordance with the following procedure.

5.1 Operation Check at High Voltage

(1)Turn on the power switch of the electrostatic controller. When keep off the switch on the gun.

(2)Turn right to switch on the gun.



(3)Pull the trigger of the gun.

High Voltage on and the H.V. green lamp of the controller turns on when pulled trigger comes to range that paint fed. Also H.V. red lamp of back side of gun. High voltage is applied to tip of gun when the H.V. red lamp.

⚠ WARNING

Personal injury or accidents may occur due to electric shock.
Do not touch the air cap, nozzle and electrode pin when high voltage is applied.

⚠ CAUTION

When an inspection is completed, turn off the power switch of the electrostatic controller.

5.2 Mixing of Paint

Since this unit can obtain an electrostatic effect with almost all synthetic resin paints except some paints, it is not necessary to mix paints specially. However, it is possible to obtain a higher electrostatic effect by adjusting the electric resistance of solvent etc. depending on the case. In the case of paints whose electric resistance is extremely low or high, a high electrostatic effect is not expected. Check the resistance with a paint resistance meter. In most cases, it is possible to obtain a good effect by adjusting paint resistance to approximately 15-70 MΩcm. In the case of resistance lower than 15 MΩcm, even though the electrostatic effect is good, if the ventilation of the booth is not appropriate, paint may splash back at the gun and operator.

NOTE

If paint is sprayed on the front surface and a coating film is formed on the back surface with a steel pipe of 20-30 mm in diameter grounded, it is judged that the electrostatic effect is good.

⚠ CAUTION

In the case of conductive paint whose electric resistance is extremely low such as metallic paint and water paint, an electrostatic effect is hardly expected unless the paint feeder using the insulated table is used. Also in the case of such paint, when high voltage is applied, the high-voltage breaking circuit of the electrostatic controller and alarm buzzer are activated and the high voltage is shut off. The alarm buzzer is reset by turning off the power switch of the electrostatic controller.

⚠ CAUTION

Use paint and solvent whose flash point is higher than the room temperature by 5°C or more and be sure to activate the ventilation system.

NOTE

If you have any doubt about compatibility of the gun, system and paint, please consult us.

6 Coating preparation

Before a coating operation, make preparations for coating in accordance with the following procedure.

⚠ CAUTION

Check that the power switch of the electrostatic controller is turned off.

6.1 Put paint in the paint feeder.

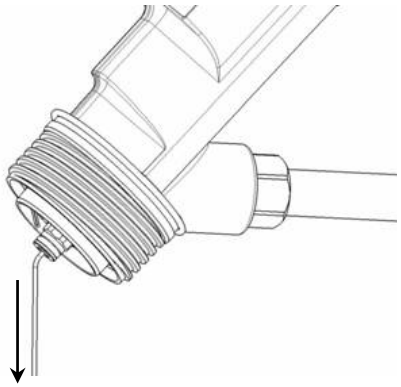
When this coating machine is used, the general standard viscosity is approximately 9-30 sec/FC#4, but it is not necessarily limited depending on various conditions such as the type of paint and solvent, shape of the product to be coated and thickness of the coating film. Also it is recommended that before putting in paint, the paint resistance be measured.

(2) Operate the paint feeder to feed the paint to the gun.

Operate the pump at a low pressure (approximately 2-3 MPa) with the air regulator for the pump and suck the paint.

(3) Discharge paint through the gun tip.

Check that the power switch on the controller has been set to off. First, spray a small amount of paint into an empty can or the like with no nozzle mounted on the gun and the gun trigger unlocked. Thus the foreign matter and air from the paint circuit are discharged.



(4) Check the coating machine and hose joints for paint leakage. Set the operating pressure to operating pressure.

⚠ WARNING

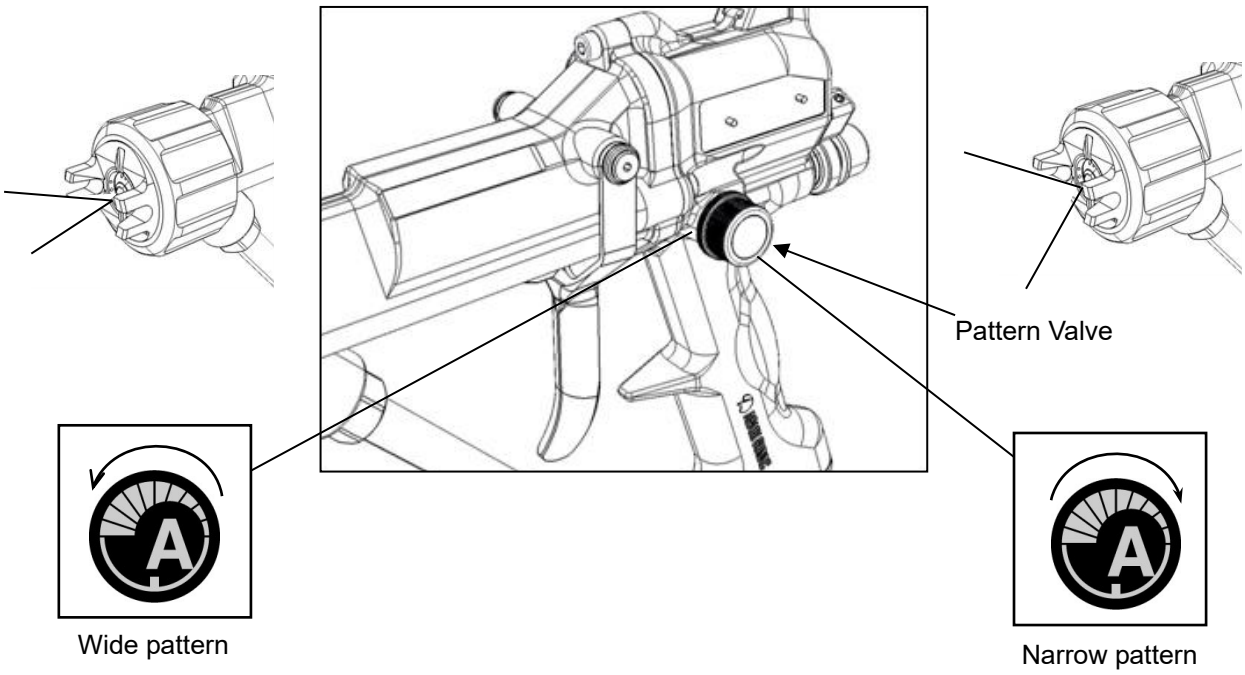
The maximum operating paint pressure for this gun is APEG100:21MPa、APEG100M:10MPa. Never use it with a paint pressure exceeding 21MPa. Doing so may damage the gun or lead to injury or other accidents from the ejected paint

(5) Lock the trigger again and install the air wrap airless electrostatic spray nozzle.

⚠ WARNING

<u>There is a possibility of injury.</u>
When spraying is not performed, always raise the slider at the trigger to lock the trigger.

(6) Set the wrap air pressure regulator to between 0.1MPa and 0.5MPa.
Air comes out of the nozzle as the gun is triggered. In order to adjust the spray pattern, rotate the air flow control knob counterclockwise to increase the air flow and decrease the spray pattern width or rotate it fully clockwise to decrease the air flow to zero and increase the spray pattern width. Note that the spray pattern width cannot be varied enough at a higher paint pressure.



Wide pattern

Narrow pattern

⚠ WARNING

Discharges from the air wrap airless electrostatic spray gun may cause electric shock or fire. In steps 3 to 9, always hold the gun grip with the one hand and operate the machine with the other hand.

7 Coating

⚠ CAUTION

Before performing a coating operation, check that the grounding resistance of the product to be coated is within the range of the following values.

●If product to be coated is metal: 1 kΩ or less

●If product to be coated is resin: 1 MΩ or less

7.1 Start of Coating Work

(1) Turn on the power switch of the electrostatic controller.

⚠ CAUTION

Before turning on the power switch of the electrostatic controller, check the grounded condition of the grounding wire connected to the controller and product to be coated.

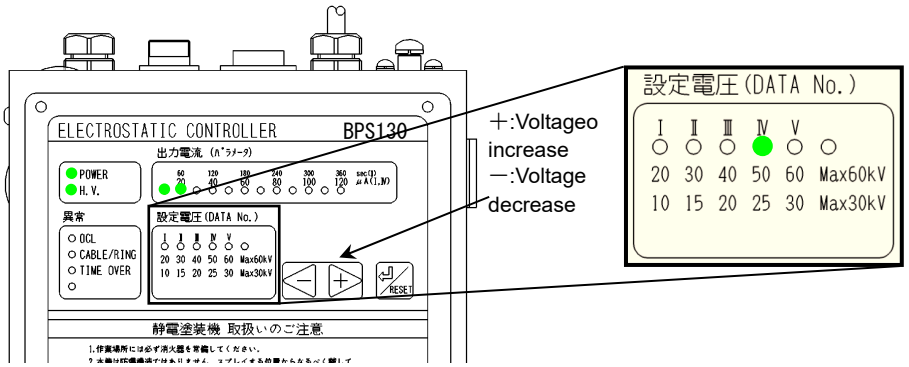
(2)High voltage is applied to tip of gun when turn on the switch of the gun then pull trigger and H.V. red lamp turns on.

Pull the trigger of the gun to start coating work.

Adjust the voltage of the electrostatic controller according to the condition of the product to be coated.

When it is adjusted as shown in the following figure for the maximum set voltage of the equipment used, the voltage indicated at the lower part of the level lit is the set voltage.

* Following figure: When APEG100 / APEG100M is used Set voltage = −50 kV



⚠ WARNING

<u>Sparks may be generated, possibly resulting in fire.</u>

Do not allow the electrode pin of the gun tip to contact a product to be coated. If the electrode pin approaches the grounded object, the electric potential of the pin will be controlled to be lowered automatically. However, if the approach speed is fast, sparks may be generated.

8 Maintenance and inspection

Keep the gun, paint hose and connecting cable clean so that there will be no contamination such as paint. Also always be careful so that they will not be damaged due to mechanical shocks.

8.1 Measures After Operation is Completed

When suspending or finishing the coating operation, use the following procedure.

⚠ WARNING

When the operator suspend or finish coating operation, be sure to release paint pressure. If paint pressure hasn't been released, it may cause unexpected accidents and machine failure.

8.1.1 In Case Where Operation is Resumed Within 24 Hours

(1) Turn off the power switch of the electrostatic controller.

While holding the grip of the gun, turn off the power switch of the controller with the other hand.

⚠ WARNING

<u>Sparks may be generated, possibly resulting in fire.</u>
Never leave the gun on a workbench or the ground with the power switch of the electrostatic controller turned on.

⚠ CAUTION

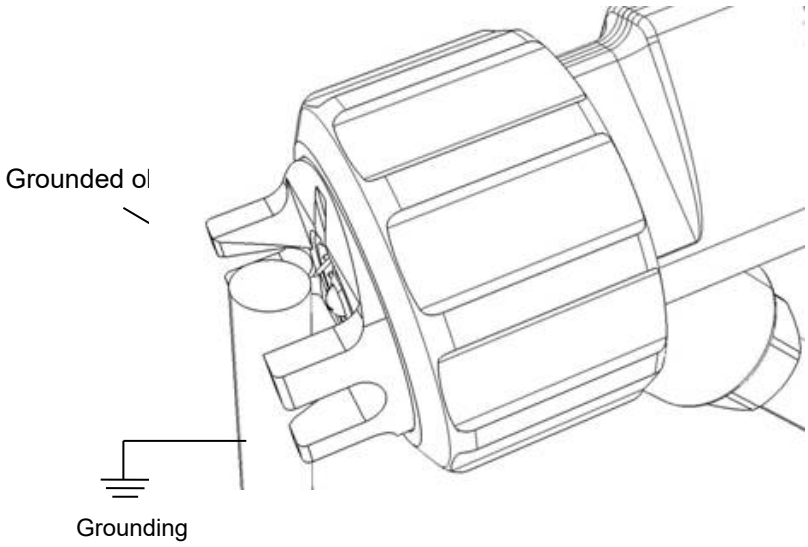
When the electric resistance of the paint is low (2 MΩcm or less), high voltage is charged to the paint pump. Never touch the pump when high voltage is applied. Turn off the power switch of the electrostatic controller and ground it with a grounding bar before touching it or supplying paint.

(2) Adjust the pressure of air supplied to the gun to 0 MPa.

(3) Adjust the drive air pressure of the paint pressure-feed unit to 0 MPa.

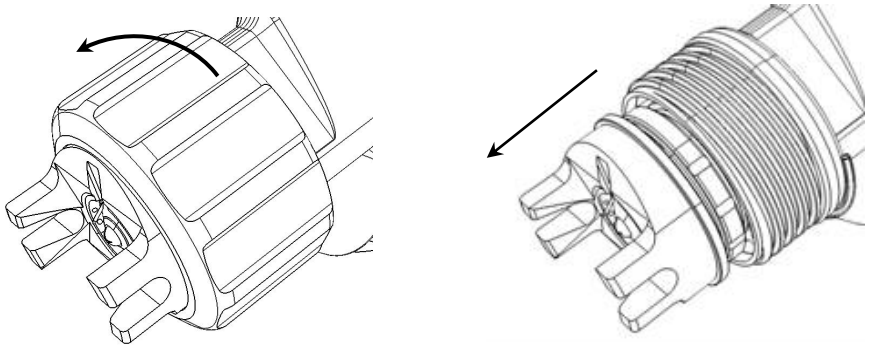
(4) Discharge paint through the gun tip to release the residual pressure.

(5) With the trigger opened to remove the residual charge, gently ground the electrode pin at the nozzle tip.



(6) Remove the retaining nut by turning to the left and air cap too.

When removing the air cap, tilt the gun tip downward so that thinner or solvent will not enter the gun.



⚠ CAUTION

When removing the air cap, be careful not to drop it.
If dropped, it may be damaged.

⚠ WARNING

Personal injury or accidents may occur.
When removing the air cap, do not touch the electrode pin.

⚠ CAUTION

Damage of the retaining nut, nozzle and unit may occur.
When removing the retaining nut, be sure to turn it by hand.
If you use a tool, damage may occur.

(7) Wipe off dirt such as paint mist attached to the gun and air cap with a cloth impregnated with cleaning solvent. For cleaning of nozzle tip, clean around seat part carefully in a brush or a cloth impregnated with cleaning solvent.

⚠ CAUTION

When cleaning the gun and air cap, do not use a hard brush such as a metal brush. Their surfaces may be damaged and their performance may be impaired.

⚠ CAUTION

When a coating operation is not performed, close the paint adjuster of the gun to prevent paint from being discharged due to a careless operation.

(8) Decrease the wrap air pressure, pull the trigger to get wrap air and push solvent out which got into the air path out.

(9) Stop the wrap air pressure to 0MPa, set the trigger rock.

⚠ CAUTION

After cleaning or an operation, do not allow the gun, power cable, hose, etc. to be immersed in solvent. Electric and electronic circuits are contained in the gun and a structure is employed where solvent does not enter when a normal usage method is used. However, if they are immersed in solvent for a long time, their durability will be decreased, which may cause failures.

⚠ CAUTION

When using chemically hardened paint such as two-component paint or paint that settles easily, clean it based on "8.1.2 In Case Where Operation is Not Performed for 24 Hours or More" each time an operation has been completed.

8.1.2 In Case Where Operation is Not Performed for 24 Hours or More

(1) Turn off the power switch of the electrostatic controller.

(2) Adjust the pressure of air supplied to the gun to 0 MPa.

(3) Extract the suction pipe of the paint pump from the paint container.

(4) Drive the paint pump at a low pressure (approximately 0.1 MPa) and discharge the paint in the pump from the return side to the paint container.

(5) Discharge the paint remaining in the hose and gun through the gun tip by pulling the trigger of the gun. Disassemble the nozzle after lower paint pressure 0MPa.

(6) Suck the cleaning solvent through the suction pipe, discharge it from the return side to the cleaning wastewater container and repeat the cleaning until the inside of the pump is cleaned.

(7) Discharge the solvent through the gun tip to clean the hose and inside of the gun. Then drain solvent while pull and open the trigger over ten time. Wash the stuck paint on the needle.

(8) Stop the pump and pull the trigger of the gun to release the residual pressure through the gun tip.

(9) Wipe off dirt such as paint mist attached to the gun and air cap with a cloth impregnated with cleaning solvent. For cleaning nozzle, clean with the cloth or the brush which soaked with solvent.

(10) Lower the wrap air pressure, pull the trigger, jet only wrap air and push solvent which got into the air path out.

(11) To finish, lower the wrap air pressure to 0MPa,set the trigger rock.

(12) With the trigger of the gun pulled, remove seat ASSY with accessory tool. And clean seat and head.

It is recommended to allow the cleaning fluid to remain in the passage after cleaning to prevent fixation of paint remaining in the paint passage.

⚠ CAUTION

Damage of the seat ASSY and head may occur.

Be sure to remove the seat ASSY with the trigger of the gun pulled. The seat surfaces of the seat ASSY and head will be damaged and failures of the seat may occur.

⚠ CAUTION

Damage of the sea ASSY may occur.

When removing the seat ASSY, be sure to use the attached dedicated tool.

Be careful not to drop it.

(13) Immerse the nozzle in cleaning solvent and blow off the dirt with compressed air.

⚠ CAUTION

When cleaning the nozzle, do not poke at it with metal such as wire.
Also do not use a metallic brush and the like. Its performance may be impaired due to enlargement of hole diameter and scratches.

⚠ CAUTION

Only after 10 seconds have passed since the power switch of the electrostatic controller is turned off, clean the gun. Ninety percent or more of fire accidents due to the electrostatic coating machine have occurred when the nozzle etc. is cleaned. When cleaning the nozzle etc., be sure to turn "OFF" the power switch. Keep a fire extinguisher at your hand in case of fire accidents.

⚠ CAUTION

If a problem occurs during an operation, immediately turn "OFF" the power switch of the electrostatic controller and lower the pressure of the air and paint supplied to the gun to 0 MPa.

⚠ CAUTION

Always hang the gun on the gun hanger fixed to a wall.

⚠ CAUTION

Be careful so that shocks such as falling will not be applied. Plenty of resins are used for APEG100 and APEG100M for weight saving. They are designed taking into account strength but may be damaged due to shocks.

(14) As for disposal of cleaning wastewater, recover and recycle it using a solvent recovery system or dispose of it through a contracted industrial waste processor in accordance with the laws.

8.2 Periodic Inspection

In order to fully exercise the performance of this equipment, perform periodical inspection according to the following table. The inspection timings are only shown as a guide and may vary depending on the conditions of use.

⚠ WARNING

<u>Personal injury or accidents may occur due to an unexpected operation of the coating machine.</u>
When conducting a periodic inspection, turn off the power of the electrostatic controller and release the pressure of the air and paint.

Item	Measure	Period
Check external appearance of the gun body	If there is paint dirt, saturate a soft cloth or brush with cleaning solvent and wipe it off.	1 day
	If there is damage, replace with a new one.	
Check for air cap paint dirt	If there is paint dirt, saturate a soft cloth or brush with cleaning solvent and wipe it off.	
Check for clogging of air spray hole of air cap	After immersing in cleaning solvent, remove by blowing air.	
	If cannot be removed, replace with a new one.	
Check for scratches and dents around paint outlet of seat ASSY	If there are scratches or dents, replace with a new one.	
Check for clogging of paint spray hole of seat ASSY	After immersing in cleaning solvent, remove by nozzle pick.	
	If cannot be removed, replace with a new one.	
Check paint seat of seat ASSY	Inject cleaning solvent to clean the paint path and seat ASSY of the gun.	
	If the problem is not solved, replace the seat ASSY or head with a new one.	
Check charge pin	If the distance from the paint spray hole of the nozzle is less than 3.5 mm, replace with a new one.	
Check connecting cable	If there is damage, replace with a new one.	
Check air leakage from trigger	If there is air leakage, replace the air seat.	1 month
Check paint dirt in paint tube	If there is paint dirt, inject cleaning solvent to clean it.	
	If adhered paint cannot be removed, replace with a new one.	
Check paint valve	If the discharge rate cannot be adjusted, replace with a new one.	
Check pattern air valve	If the spray pattern cannot be adjusted, replace with a new one.	
Check switch ASSY	If the power cannot be on, replace with a new one.	

⚠ CAUTION

When using the gun cover, replace it before it gets dirty. In particular in the case of conductive paint such as metallic paint and water paint, high voltage is likely to leak through the paint attached to the gun cover and an overcurrent fault or electric shock to the operator may occur. In such a case, stop using the gun cover.

⚠ CAUTION

Do not disassemble the gun unnecessarily except for the case of a failure.
To secure electric insulation of the gun and the sealing function, disassemble it only when the parts are replaced due to a failure.

⚠ CAUTION

The upper rear part of the gun may be warmed due to the heat of the high-voltage generator, but this is not a problem.

⚠ CAUTION

When using a container for cleaning, be sure to ground a conductive container.

⚠ WARNING

There is a possibility of injury, electric shock or fire.

Before cleaning, be sure to check that the power switch on the controller has been turned off for 10 seconds or longer. Then, reduce the pressure according to the pressure releasing procedure (on page 3).

⚠ CAUTION

Never immerse the air wrap airless electrostatic spray gun in paint thinner. Doing so will significantly reduce the service life of the gun.

8.3 Consumables

Prepare spare parts according to the conditions of use, referring to the rank classification in the following.

Rand classification	Part name	Part No.	Component assembly	Publishing Page
A	Head	1735-009	Core unit	43
	Seat ASSY	1740	Core unit	43
	Gun filter	1404	Grip end A	44
B	Paint pipe ASSY	1733	APEG100	41
	Metallic pipe ASSY	1734	APEG100M	42
	Packing ASSY	373-0012	Core unit	43
	Packing retainer ASSY	1739	Core unit	43
	O ring	130-9005	Each pipe ASSY Seat ASSY	46
	U seal	373-0008	Core unit	43
	U seal	373-0009	Core unit	43
C	Gun hook	12A1-002	APEG100・M	41・42
	Pattern valve	14C9	APEG100・M	41・42
	Trigger lock ASSY	1732	APEG100・M	41・42
	Stopper	14C3-003	Grip end ASSY	44
	Air valve ASSY	1735-007	Core unit	43
	Needle ASSY	1735-008	Core unit	43
D	Packing	14F9-003	Core unit	43
	O ring	130-6007	Pattern valve	45
	O ring	101-6005	Grip end ASSY	44
	O ring	130-6010	Trigger lock ASSY	45
	O ring	130-6030	Grip end ASSY	44
	O ring	130-7010	Cascade ASSY	45

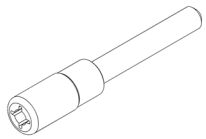
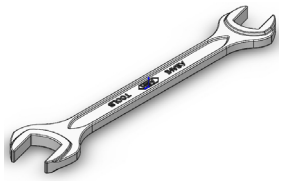
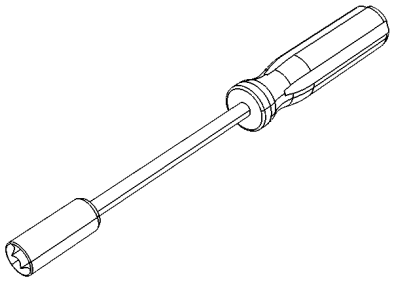
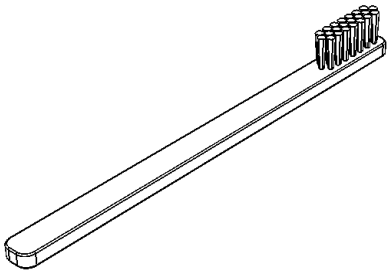
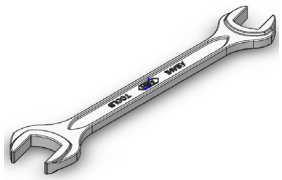
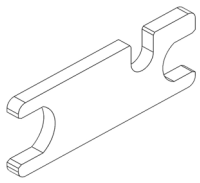
Rank A：Daily consumables

Rank B：Medium-term consumables

Rank C：Parts which may be damaged/lost when used

Rank D：Parts required to be replaced when disassembled

Accessory tool

Head tool Part No.：35F2-001	Double ended spanner Part No.：335-1113	Box spanner Part No.：332-0080
		
Bamboo brush Part No.：337-0006	Double ended spanner Part No.：335-1921	Flat spanner Part No.：35F3-008
		

9 Paint problems and solutions

Depending on the situation of a paint problem, several problematic phenomena and causes may occur at the same time.

Problematic phenomenon	Cause	Countermeasure
1. Atomization of spraying is bad	(1) Wrap air pressure is too low	(1) Set wrap air pressure to rather high
	(2) Viscosity is too high	(2) Decrease paint viscosity
	(3)Paint pressure is too low	(3) Raise paint pressure
	(4) Nozzle tip pin is bent	(4) Replace paint nozzle assembly
	(5) Solvent is inappropriate	(5) Please consult us or paint manufacturer
2. Much paint bounce back	(1) Spraying distance is too long	(1) Spraying distance should be within 200-300 Mm
	(2) Paint or Wrap air pressure is too high	(2) Adjust paint or wrap air pressure to rather low
	(3) Paint resistance is too low	(3) Adjust paint resistance to 15-70 MΩ-cm.
	(4) Grounding of product to be coated is inappropriate	(4) Ground perfectly
	(5) Exhaust velocity is too slow	(5) Set exhaust velocity to rather fast
3.Coating efficiency is low	(1) Grounding of product to be coated is poor	(1) Clean paint attached to hanger and ground perfectly
	(2) Paint or wrap air pressure is too high	(2) Adjust paint or wrap air pressure to appropriate pressure
	(3) Spraying distance is too long	(3) Spraying distance should be within 150-200 mm.
	(4) Applied voltage is low	(4) Increase output with output voltage adjustment switch of electrostatic controller
	(5) Booth supply and exhaust rate is too high	(5) Adjust booth supply and exhaust rate to rather low
	(6) Electric resistance of paint is too high	(6) Adjust resistance to 15-70 MΩ-cm
4. Paint is attached to nozzle, which causes roughening, or string like particles are created on product to be coated	(1) Evaporation rate of solvent is too high	(1) Replace with solvent whose evaporation rate is low or adjust with additives
	(2) Viscosity of paint is high	(2) Decrease viscosity of paint
5. Particles are created on coated surface	(1) Atomization of spraying is bad	(1) See Section 1 in this chapter "Atomization of spraying is bad"
	(2) There is plenty of dirt in coating booth and dirt is attached to coated surface	(2) Install dust-proof filter on suction part of coating booth to remove dirt on coated surface
	(3) Atomizing air is dirty	(3) Clean or replace filter at air passage
	(4) Pigment dispersion of paint is bad	(4) Review solvent or filter paint well
6. Orange peel (dapple,pockmark) is created	(1) Temperature is high in coating booth or evaporation rate of solvent is high	(1) Adjust temperature or replace with solvent whose evaporation rate is low
	(2) Temperature of product to be coated is too high	(2) To lower temperature of product to be coated, adjust drying furnace
	(3) Supply and exhaust rate is too high	(3) Adjust to 0.5-1.0 m/sec on product surface to be coated
7. Cissing occurs	(1) Cleaning of product to be coated is insufficient	(1) Clean or defat sufficiently
	(2) Atomizing air is dirty	(2) Clean or replace filter at air passage
	(3) Exhaust of baking furnace is inappropriate	(3) Exhaust air sufficiently

Problematic phenomenon	Cause	Countermeasure
8. Paint trickles down on coated surface	(1) Coating film is too thick	(1) Decrease paint discharge rate or increase operation speed of hand gun
	(2) Viscosity of paint is too low	(2) Increase paint viscosity
	(3) Evaporation rate of solvent is low	(3) Replace with solvent whose evaporation rate is high
9. Coating film is translucent	(1) Paint discharge rate is low	(1) Adjust paint discharge rate and consider operation speed of hand gun and recoating
	(2) Viscosity of paint is too low	(2) Increase viscosity
10. Pin holes (small holes) are created	(1) Wrap air is dirty	(1) Clean or replace filter at air passage
	(2) Evaporation rate of solvent is too high	(2) Replace with solvent whose evaporation rate is low
	(3) Temperature of product to be coated is high	(3) Lower temperature
	(4) Drying of undercoating is insufficient	(4) Dry sufficiently
	(5) Setting time is short	(5) Take sufficient setting time
11. Whitening occurs	(1) Temperature and humidity are high inside/outside coating booth	(1) Replace with solvent whose evaporation rate is low Or check air conditioner
	(2) Selection of solvent is inappropriate	(2) Please consult us or paint/solvent manufacturer
12. Foaming occurs	(1) Wrap air is dirty	(1) Clean or replace filter at air passage
	(2) Drying after wet rubbing is insufficient	(2) Dry sufficiently
	(3) Coating film is too thick	(3) Set paint discharge rate to rather low
	(4) Evaporation rate of solvent is too high	(4) Adjust temperature to appropriate value
	(5) Temperature of baking furnace is too high	(5) Adjust temperature to appropriate value
13. Pattern shape is not good	(1) Paint and dirt are attached to atomizing air and paint spray hole of nozzle tip	(1) Clean well with thinner and bamboo brush and filter paint
	(2) Viscosity of paint is high	(2) Decrease viscosity
	(3) Top of nozzle tip is worn.	(3) Replace
	(4) Pattern adjustment is bad	(4) Adjust with pattern adjustment knob
	(5) Air Cap is reshaped or stuffed	(5) Clean or replace
14. Spray pattern width does not adjust much	(1) Pressure-feed pressure of paint is too high	(1) Decrease pressure-feed pressure
	(2) Wrap air is low and doesn't open the pattern valve	(2) Increase air pressure and open the pattern valve.

10 Troubleshooting

More than one phenomenon or cause may occur at the same time, depending on the situation.

Phenomenon of failure	Cause	Countermeasure
1. Discharge of paint is unstable, which causes shortness of breath during coating	(1) Tightening of seat ASSY is insufficient	(1) Sufficiently tighten seat ASSY
	(2) O ring of seat ASSY is damaged	(2) Replace O ring
	(3) Air is mixed in paint	(3) Check paint supply system
2. Paint discharge rate is low	(1) Abnormality of paint pressure-supply system	(1) Check paint supply system such as paint pump and paint regulator
	(2) Paint seat parts is clogged with lump of paint and dirt	(2) Clean paint seat part
	(3) Paint and dirt are attached to paint nozzle	(3) Remove and clean paint nozzle
3. Paint leaks from seat ASSY	(1) Paint seat part is clogged with lump of paint and dirt	(1) Clean paint seat part
	(2) Wear and chipping of paint seat part	(2) Replace seat ASSY or head
	(3) Deterioration of paint shaft spring	(3) Replace spring
	(4) Paint supply pressure is too high	(4) Decrease paint pressure
4. Paint leaks from U seal part	(1) Wear of packing ASSY	(1) Replace packing ASSY
	(2) Tightening of packing retainer is insufficient	(2) Attach packing ASSY properly
	(3) O ring of packing ASSY is damaged	(3) Replace O ring of packing ASSY
5. Even if trigger is returned, air leaks from nozzle part	(1) Seat part of air valve ASSY is clogged with dirt	(1) Clean or replace air valve ASSY
	(2) Wear of air valve ASSY	(2) Replace air valve ASSY
	(3) Deterioration of spring	(3) Replace spring
6. Air leaks from pattern valve	(1) Wear O ring and damaged	(1) Replace O ring
7. Nozzle is heavily clogged	(1) Mesh size of gun filter or material filter is too large	(1) Select a filter mesh suitable for the nozzle to be used
	(2) Poorly cleaned gun	(2) Especially when using two-component paint, thoroughly clean with exclusive paint thinner
8. Sparks come out of nozzle	(1) Damaged cascade	(1) Replace cascade with a new one
Phenomenon of failure	Cause	Countermeasure
9. Warning buzzer on the control unit sounds	(1) Paint contaminants on barrel	(1) Clean barrel
	(2) Paint contaminants on paint hose	(2) Clean paint hose

	(3) the air pathway of the Barrel have water.	(3) Purge drain water from air path enough. Turn off power of the controller, pull trigger and exhaust air and water.
	(4) Use low electric resistance of paint or metallic paint.	(4) Use APEG100M.
	(5) Leak paint by damage or wear of Pacing ASSY.	(5) Reprice Packing ASSY or O-ring with a new one.
10. Red lamp on controller lights but electrostatic spray effect is not sufficient.	(1) Electric resistance of paint is not appropriate.	(1) Adjust the electric resistance of paint to between 10 and 100MΩ-cm at AC500V.
	(2) Gun tip is contaminated and high-voltage current is leaked, resulting in a gun tip voltage drop.	(2) Wipe off paint with a cloth soaked with paint thinner.
11. Paint is not sprayed.	(1) Nozzle tip is clogged.	(1) Remove nozzle, immerse it in a solvent for a while and blow air from the opposite side.
	(2) Paint is not supplied under pressure.	(2) Check paint feed pump.
12. Red lamp does not light when gun is triggered.	Operating wire within connecting cable has been cut.	Replace connecting cable with a new one.
	Hand switch button is out of position.	Set the hand switch button in right position.
	Broken magnet sensor	※ Replace magnet sensor with a new one.
13. Red lamp lights when gun is not triggered.	(1) Broken magnet sensor	※ Replace magnet sensor with a new one.
	(2) Bent trigger.	Replace trigger with a new one.
13. Electric shock is felt at the moment gun grip is held.	(1) Controller is not completely grounded.	(1) Check the grounding.
	(2) Operator is not holding the gun with bare hand.	(2) Take off gloves or cut off a portion of palm of each glove so that your bare hand is kept in contact with gun.
	(3) Grounding (soft copper) wire in connecting cable has been cut.	(3) Replace connecting cable with a new one.
	(4) Gun grip is contaminated with paint.	(4) Do not immerse gun into solvent but wipe out whole gun with soft brush or cloth soaked with a small amount of solvent.

Phenomenon of failure	Cause	Countermeasure
15. Electric shock is felt when holding the product to be coated.	(1) The product being coated is poorly grounded.	(1) Remove deposited paint from conveyor hooks and hangers to maintain the complete grounding.
16. Electric shock is felt when holding paint hose connected to gun.	(1) Pump is not completely grounded.	(1) Ground completely the pump.
17. Electric shock is felt when touching an article in workshop.	(1) Static electricity is accumulated in the operator's body due to the paint collected on a poorly grounded floor or wearing of rubber or synthetic resin shoes.	(1) Remove the paint on floor, completely ground the floor and sometimes touch a grounded object to discharge accumulated static electricity. Wear conductive shoes.

⚠ CAUTION

Do not perform repair other than the method indicated in this Operation and Maintenance Manual

11 Parts replacement and adjustment

Follow the procedures below when replacing or repairing parts.

⚠ WARNING

Personal injury or accidents may occur due to an unexpected operation of the coating machine.

Before replacement and repair of parts, be sure to turn off the compressed air supplied to the gun, turn off the power of the electrostatic controller, discharge the paint in the paint passage and clean it.

11.1 Replacement of Air Cap Set

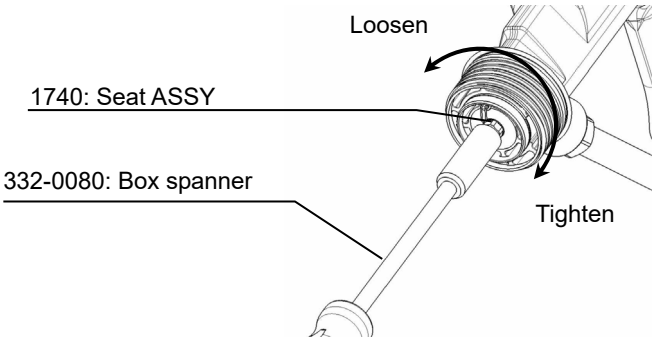
(1) In accordance with "4.6 Installation of Air Cap" in Chapter 4 "Unit Installation", remove and replace it.

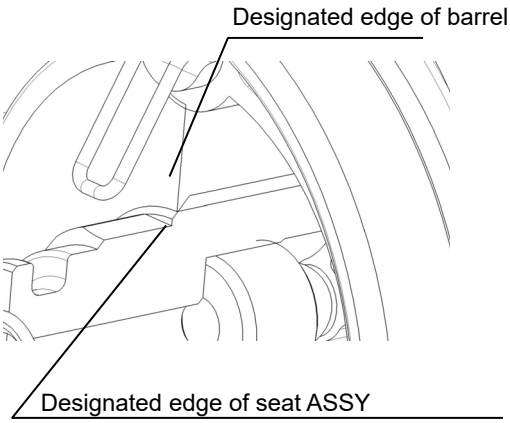
11.2 Replacement of Seat ASSY

(1) Replace it by stopping the paint pump, using a box spanner (accessory tool) while pulling the trigger with the residual pressure released and removing the seat ASSY.

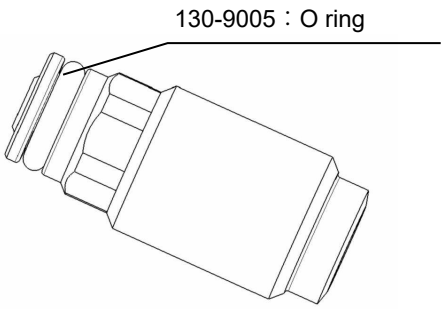
The position in which about 1mm projected from barrel edge regular position of seat ASSY must tighten there for a regular position when install the seat

Possibility of cannot the pattern adjustment and the paint backflow when it is not a regular position.





(2) If the 130-9005: O ring or seat ASSY is damaged, replace it.

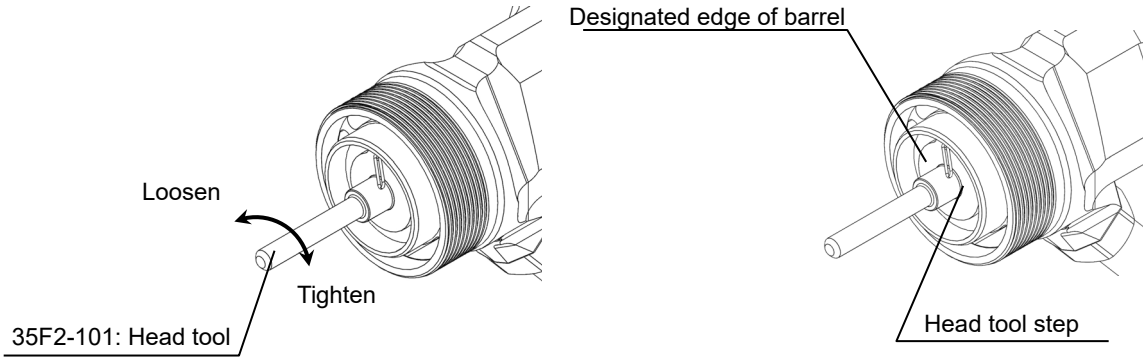


11.3 Replacement of Head

Please use head tool of accessory tool, remove and replace.

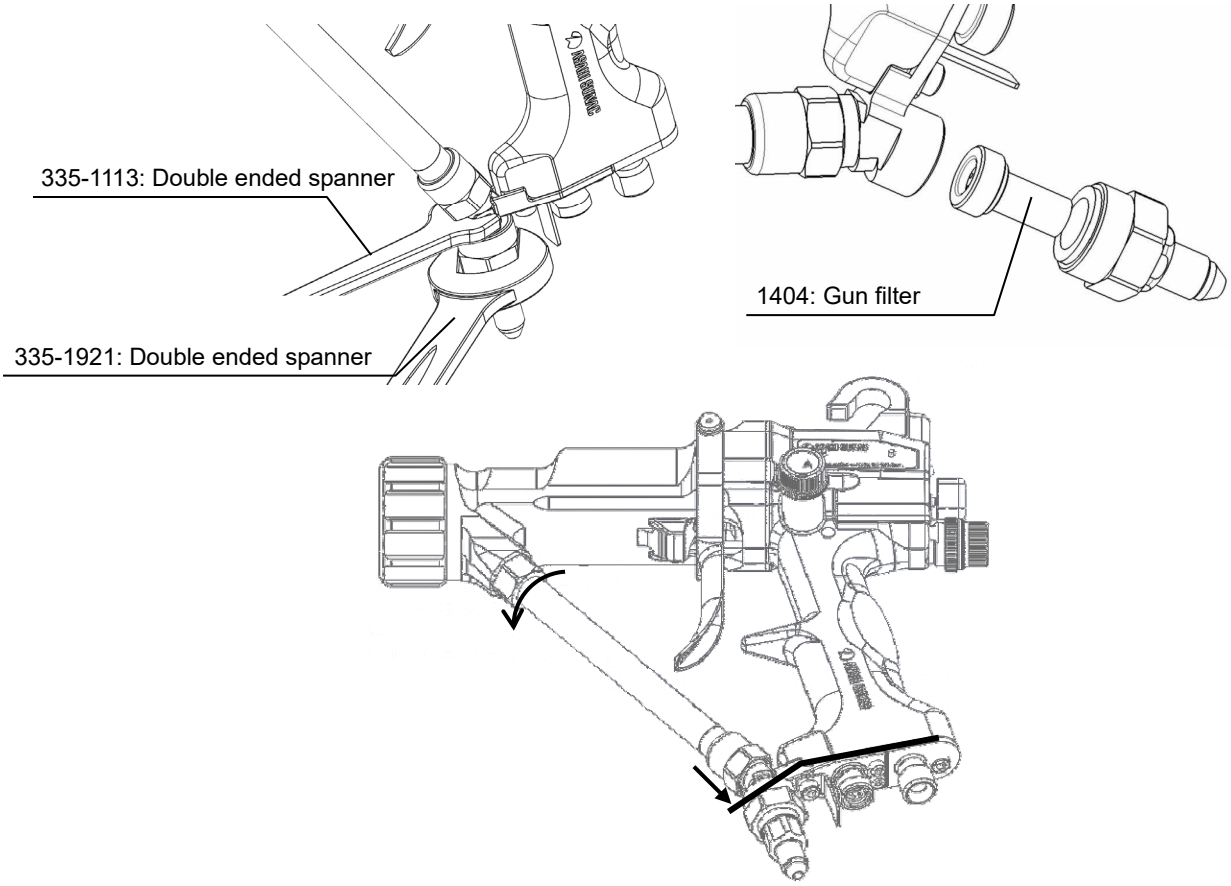
When installing, make sure the spring parts is washed. And tighten up to regular position that the following head tool step to the same position as designated edge of barrel.

When tightening up, please make sure that the trigger is installed.



11.4 Replacement of Paint Filter

Remove the paint hose with the Double ended spanner (Hex.11) and Double ended spanner (Hex.21), remove nut from grip end. Then replace paint filter.

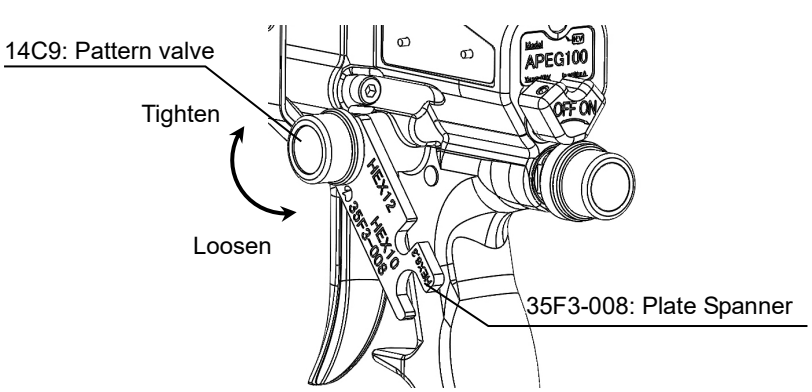


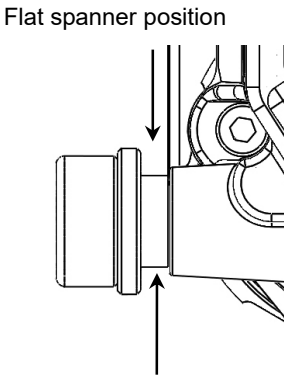
⚠ CAUTION

Attach and detach paint pipe after removing grip end A.
(For details, refer to separated maintenance manual.)
The grip end A can be bent with incorrect way.
And attaching paint pipe with the bent grip end A may cause breakage.

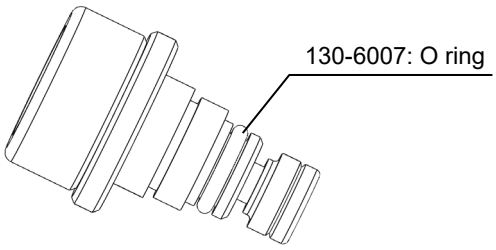
11.5 Replacement of pattern valve

(1) Remove and replace the pattern valve using a plate spanner (Hex.12) (accessory tool) with the pattern valve fully opened.



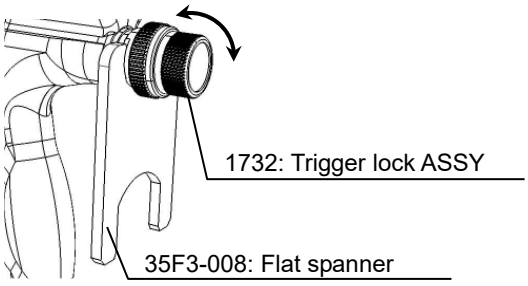


(2) When removing the pattern valve, be sure to replace 130-6007: O ring.
It is recommended to apply white petrolatum to the screw part and O ring part when attaching it.

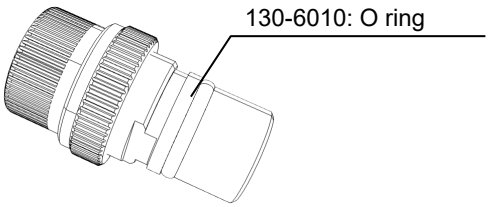


11.6 Replacement of Trigger Lock ASSY

(1) Remove and replace the trigger lock ASSY using a plate spanner (Hex.12) (accessory tool)

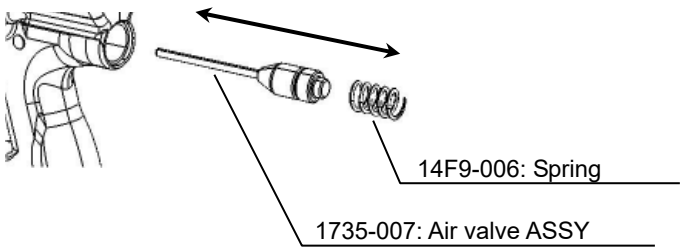


(2) When removing the trigger lock ASSY, be sure to replace 130-6010: O ring.
It is recommended to apply white petrolatum to the screw part and O ring part when attaching it.



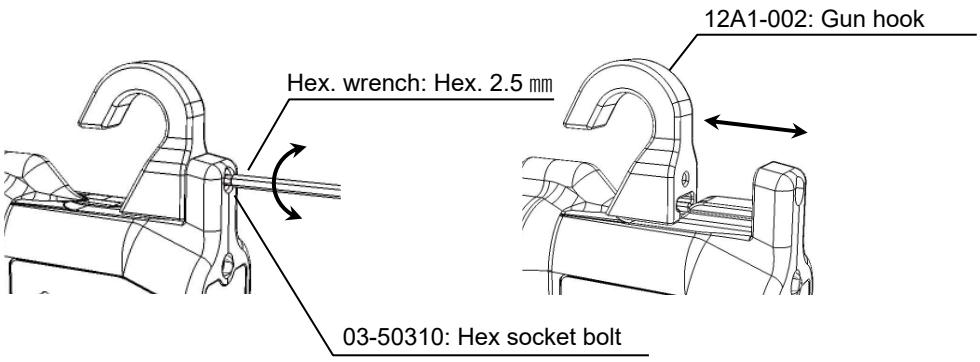
11.7　Replacement of Air Valve ASSY

(1) Extract and replace the air valve ASSY using longnose pliers by extracting the spring with the trigger lock ASSY.



11.8　Replacement of Gun Hook

(1) Remove the 03-50310: hex. socket bolt fixing the gun hook using a hex. wrench of hex. 2.5mm and extract the gun hook slide-fixed to the body ASSY in the direction of the arrow to remove and replace it.



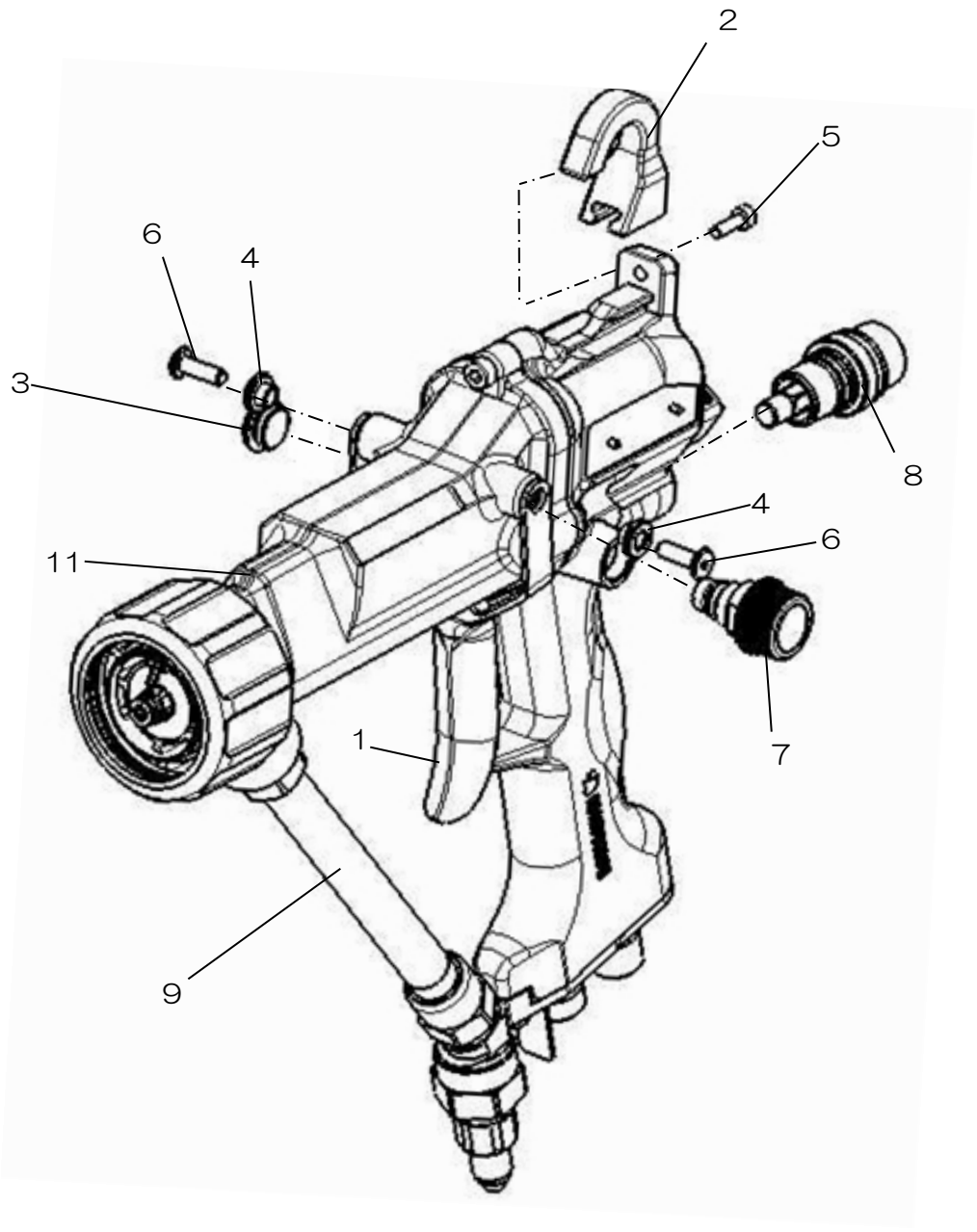
Only the person who has attended the maintenance course specified by us, can conduct maintenance of packing ASSY and paint pipe by using maintenance tool set: 35F3 (sold separately).

12 Component

12.1 APEG100

APEG100

12C5



No.	Part No.	Part name	Quantity	Remarks
1	12A1-001	Trigger	1	
2	12A1-002	Gun hook	1	
3	12C5-003	Plug	1	
4	12A1-004	Collar	2	
5	03-50310	Hex. socket bolt	1	
6	360-0108	Hex. socket low head bolt	2	

No.	Part No.	Part name	Quantity	Remarks
7	14C9	Pattern valve	1	
8	1732	Trigger lock ASSY	1	
9	1733	Paint pipe ASSY	1	※1
10	Nil			
11	—	Core unit	1	※2
12	35F2	Accessory tool	1	

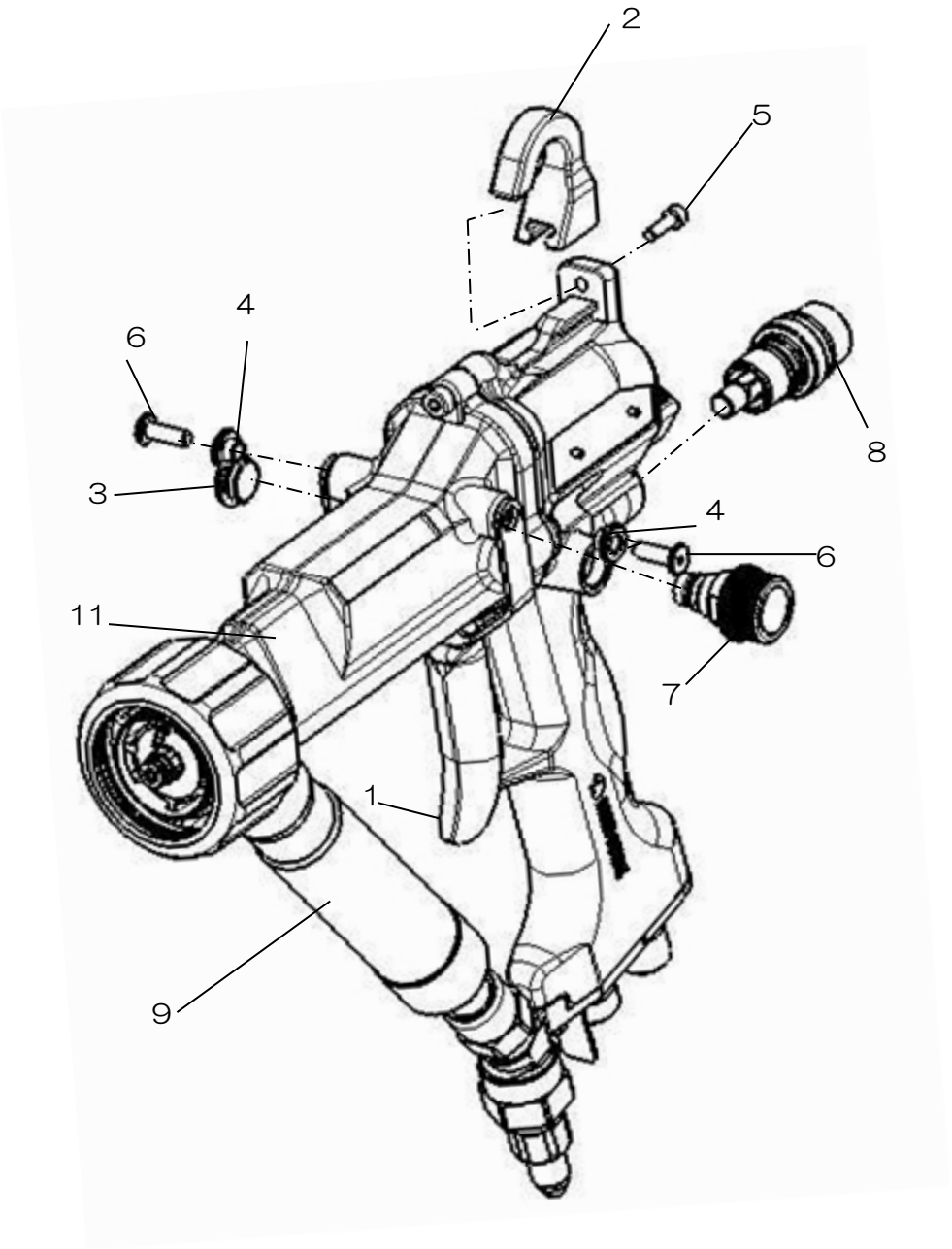
※1 Please remove by maintenance tool set: 35F3(sold separately)

※2 Can not order with core unit only.

12.2 APEG100M

APEG100M

12C6



No.	Part No.	Part name	Quantity	Remarks
1	12A1-001	Trigger	1	
2	12A1-002	Gun hook	1	
3	12C5-003	Plug	1	
4	12A1-004	Collar	2	
5	03-50310	Hex. socket bolt	1	
6	360-0108	Hex. socket low head bolt	2	

No.	Part No.	Part name	Quantity	Remarks
7	14C9	Pattern valve	1	
8	1732	Trigger lock ASSY	1	
9	1734	Metallic pipe ASSY	1	※1
10	Nil			
11	—	Core unit	1	※2
12	35F2	Accessory tool	1	

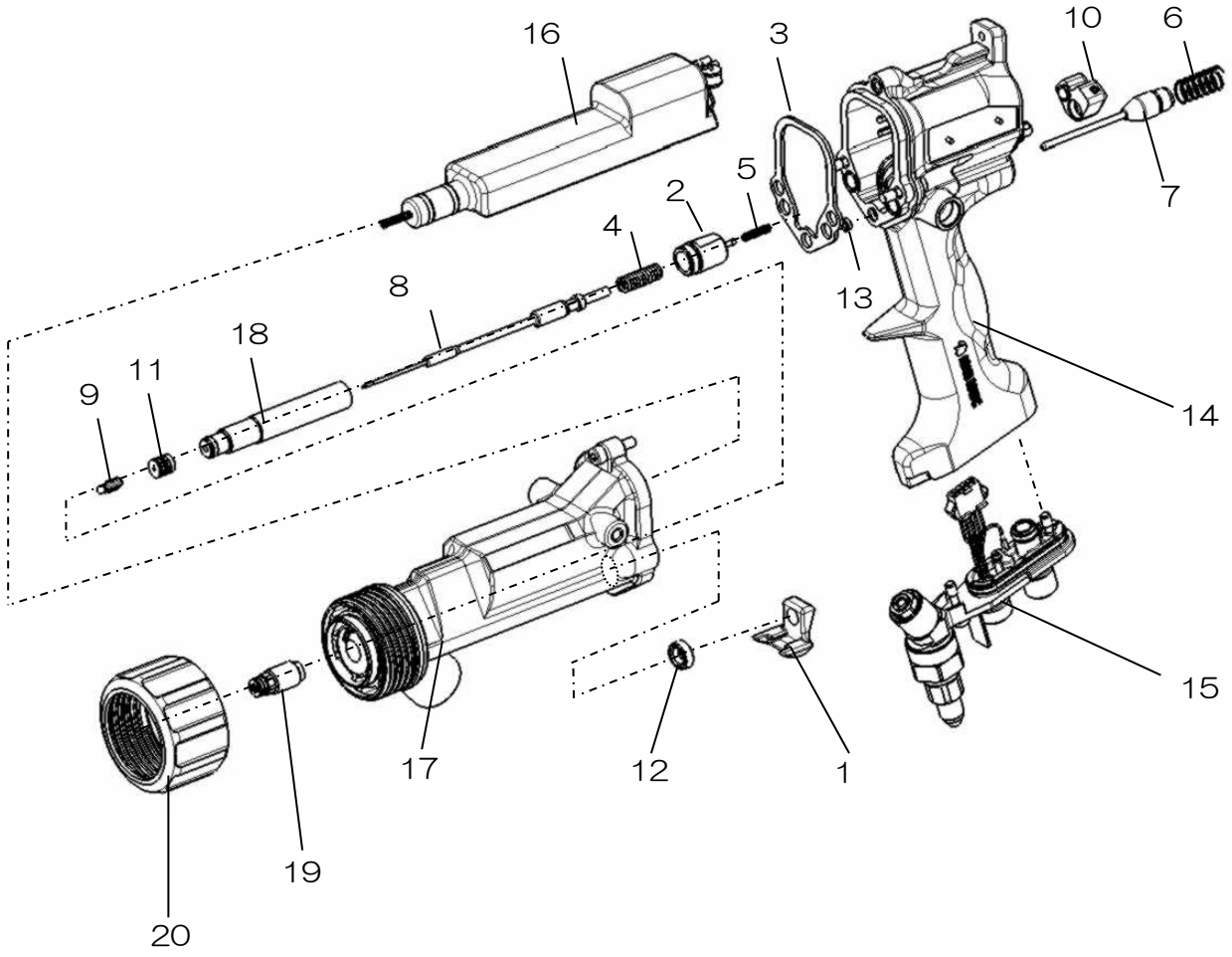
※1 Please remove by maintenance tool set: 35F3(sold separately)

※2 Can not order with core unit only.

12.3 APEG100/APEG100M Core unit

Core unit

—



No.	Part No.	Part name	Quantity	Remarks
1	14F9-001	Cover	1	
2	14F9-002	Contact	1	
3	14F9-003	Packing	1	
4	1735-104	Spring	1	
5	14F9-005	Spring	1	
6	14F9-006	Spring	1	
7	1735-007	Air valve ASSY	1	
8	1735-008	Needle ASSY	1	
9	1735-009	Head	1	
10	1735-010	Switch ASSY	1	

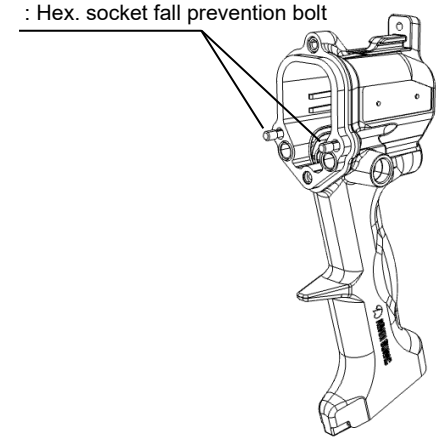
No.	Part No.	Part name	Quantity	Remarks
11	373-0012	Packing ASSY	1	※
12	373-0008	U seal	1	※
13	373-0009	U seal	1	
14	1736	Body ASSY	1	
15	1737	Grip end ASSY	1	※
16	14C4	Cascade ASSY	1	
17	1738	Barrel ASSY	1	
18	1739	Packing retainer ASSY	1	※
19	1740	Seat ASSY	1	
20	1750-016	Retaining nut	1	

※ Please remove by maintenance tool set: 35F3(sold separately)

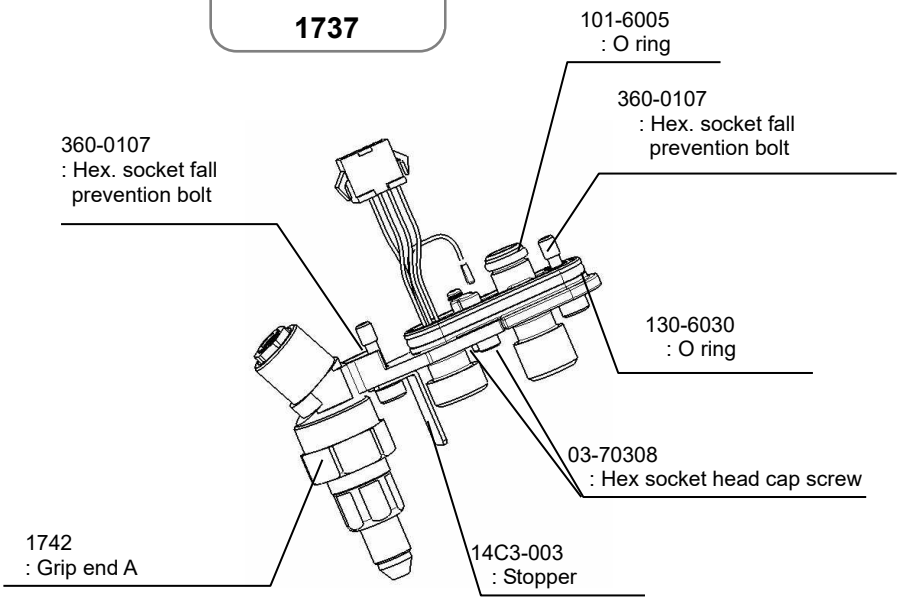
12.4 Replacement parts

The following are the replaceable parts in the parts assembly.
Parts not indicated should be replaced in assembly units.

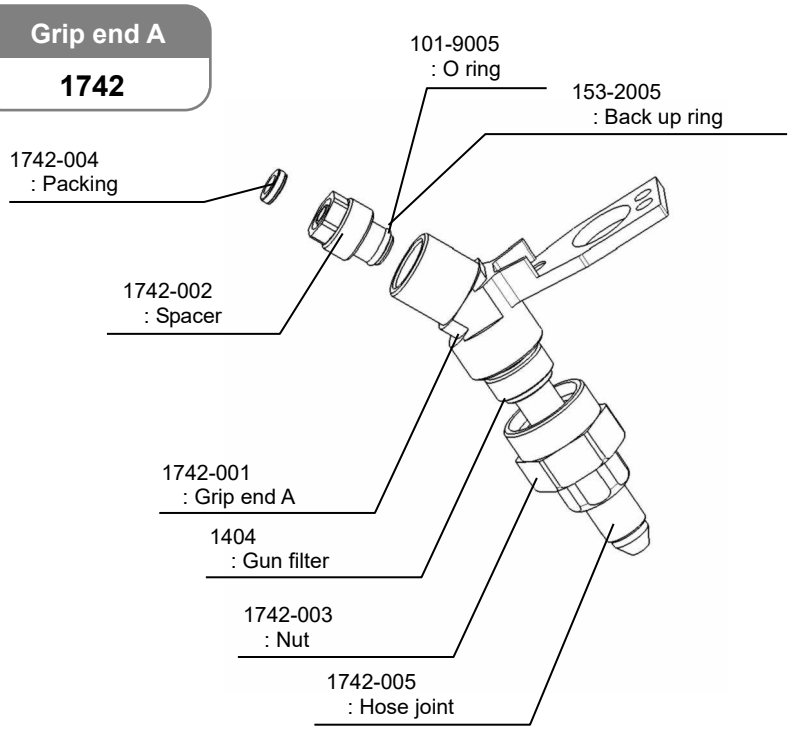
Body ASSY
1736



Grip end ASSY
1737

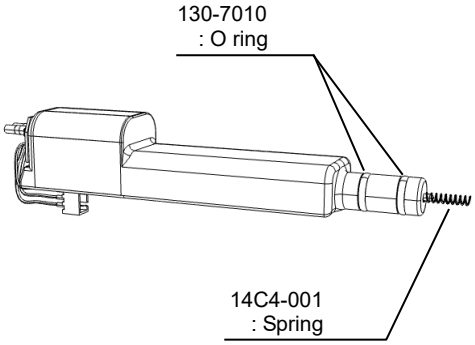


Grip end A
1742



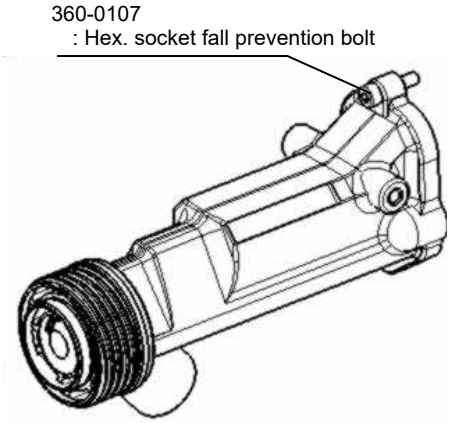
Cascade ASSY

14C4



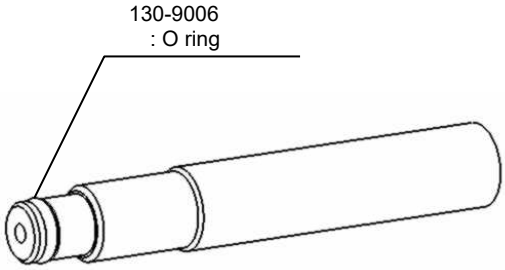
Barrel ASSY

1738



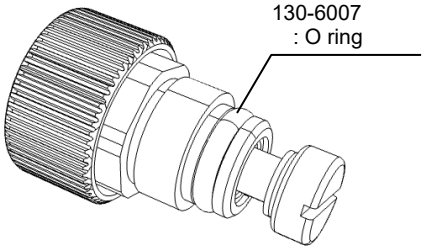
Packing retainer ASSY

1739



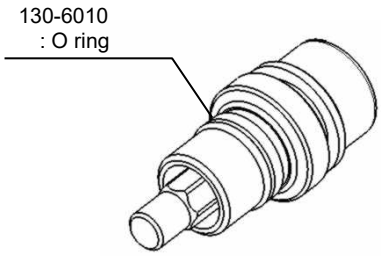
Pattern valve

14C9



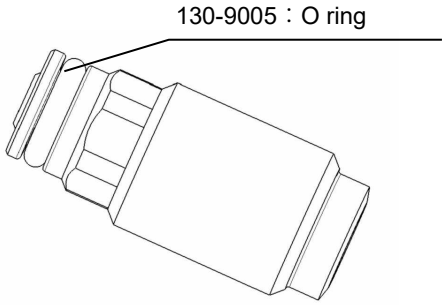
Trigger lock ASSY

1732



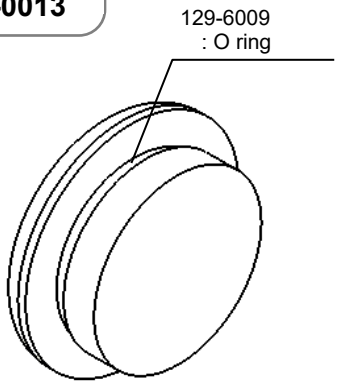
Seat ASSY

1740



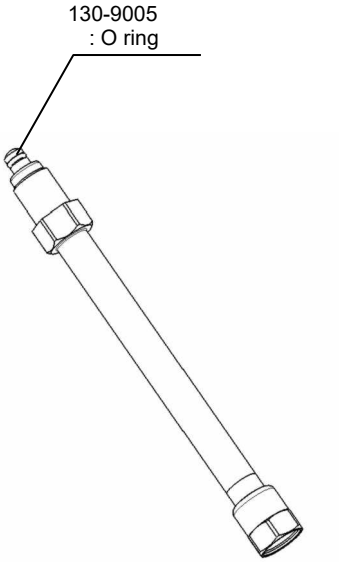
Plug

12C5-0013



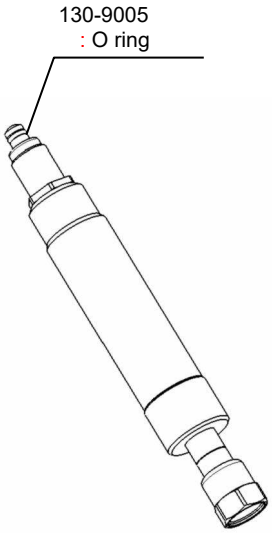
Paint pipe ASSY

1733



Metallic pipe ASSY

1734



13 Maintenance Log

Please use record the details that you conduct a maintenance service, such as replacement of a part, tear-down cleaning, post-failure repair, etc.

Equipment name			Air wrap airless electrostatic spray gun 〈APEG100/APEG100M〉		Purchase date:	
Date of service			Portion worked on	Description	Result	Who serviced
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
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						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac

Note: Due to continuous improvements and modifications, the configurations specified herein are subject to change without prior notice.

14 Warranty

ASAHI SUNAC CORPORATION (the “Company”) shall provide the original purchaser (the “Purchaser”) with warranty service for a period of one (1) year from the date of purchase of the product, as follows:

- Should you find defects in design or workmanship with regard to parts, ship them back to the Company, with freight prepaid. The Company shall repair or replace the parts free of charge and reimburse the freight charges, provided that, as a result of an inspection and investigation of the parts conducted by the Company, the defects are deemed to be to attributable to the factors within the Company’s responsibility.

- In the following cases, free after-sales service is not provided.

  1. Failure resulting from an inappropriate method of installing this equipment.
  2. Failure resulting from a use method not conforming to this instruction manual or mishandling.
  3. Failure resulting from insufficient maintenance management of this equipment and incorrect handling such as non-conformance to the procedures specified in this instruction manual.
  4. Failure resulting from unauthorized alteration or structure change of this equipment without the Company’s consent.
  5. Failure due to force majeure such as earthquake, disaster, flood disaster or lightening.
  6. Warranty for consumables worn or deteriorated even in the case where this equipment is used correctly.
  7. Repair after the machine has been used outside Japan, and shipping cost.
  8. In addition to the above, failure due to circumstances beyond our control.

- As for items such as parts purchased by the Company from another manufacturer, the warranty of that manufacturer shall apply.

- As for any parts deemed to be defective, the Company shall not be held liable for any expenses beyond the provision of repair or replacement parts free of charge.

- The Company shall not be held liable for any damage to the Purchaser caused by factors not attributable to the Company, such as misuse of product, etc.

【MEMO】

●When a transfer of title of this equipment takes place, please see to it that this Operation and Maintenance Manual is handed over to the new owner.

●This equipment is manufactured in compliance with the Laws and Regulations of Japan.
In the rare eventuality of this equipment being used outside Japan, compliance with the safety standards of the relevant countries is of course mandatory.

17th Edition: June 25, 2025

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17th Edition: June 25, 2025