ANEST IWATA

INSTRUCTION MANUAL

和文取扱説明書は裏面にあります。

Compact Automatic Spray Gun
SGA-101

Important

This manual contains IMPORTANT WARNINGS and INSTRUCTIONS.
Equipment in this manual is exclusively for painting purposes.
Do not use for other purposes.
The operator shall be fully conversant with the requirements stated in this instruction manual including important warnings, cautions and operation and correct handling.
Read and understand the instruction manual, before use and retain for reference.

CE ⟨Ex⟩ II 2G X

This Anest-iwata spray gun kit complies to ATEX regulations 94/9/EC,
Protection level :
Ⅱ 2 G X, Suitable for use in Zones 1 and 2.
X marking :
Any static electricity discharge from the spray gun is to be diverted to the grounded the conductive air hose as stipulated.

Be sure to observe warnings and cautions in this instruction manual.
If not, it can cause paint ejection and serious bodily injury by drawing organic solvent.
Be sure to observe following ⚠ marked items which are especially important.

⚠ **WARNING**	Indicates a potentially hazardous situation which, if not avoided, may result in serious injury or loss of life.
⚠ **CAUTION**	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.
Important	Indicates notes which we ask you to observe. The safety precautions in this instruction manual are the minimum necessary conditions. Follow national and local regulations regarding fire prevention, electricity and safety as well as your own company regulations.

■Important specifications

Max. Pressure	0.68MPa / 6.8bar / 98 PSI
Noise level	67.4dB (A)
Spray condition	Recommended
Measuring point	1m backwards from gun, 1.6 m height
Max. Temperature	
Atmosphere	5℃～40℃
Air・Fluid	5℃～43℃

■Main specifications

Model	Type of feed	Nozzle orifice φ mm (in)	Air cap set mark	Recommended condition		Air & fluid connection	Mass g (lbs)
				※1 Atomizing air pressure MPa (bar /PSI)	Air consumption l/min (cfm)		
SGA-101	Pressure	1.0 (0.039)	W-101 E1	0.24 (2.5/ 36)	80 (2.8)	G1/4 (Air) G1/4 (Fluid)	270 (0.60)

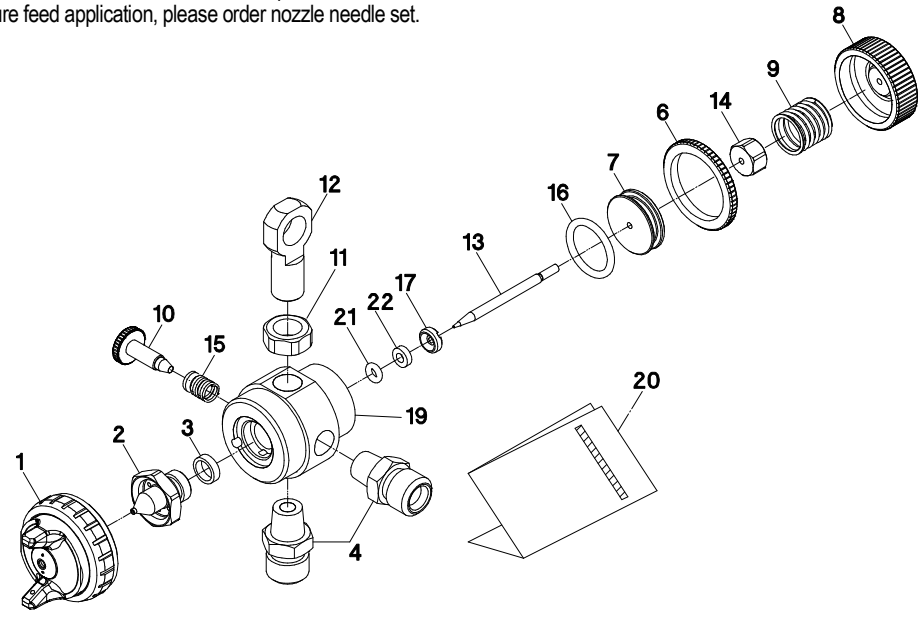
※1. Atomizing air pressure means air pressure at gun inlet when air flows.

■Parts list

When ordering parts, specify gun's model, part name with ref. No. and marked No. of air cap set, fluid nozzle and fluid needle.
When replacing fluid nozzle or/and fluid needle for pressure feed application, please order nozzle needle set.

No.	Description	Q'ty
1	Air cap set	1
◆ 2	Fluid nozzle	1
◆ 3	Packing (1)	1
4	Joint	1
6	Nut	1
7	Piston	1
8	Fluid adj. knob	1
9	Spring	1
10	Pattern adj. knob	1
11	Hex. nut	1
12	Bolt	1
◆ 13	Fluid needle	1
14	Nut	1
15	Needle Spring	1
◆ 16	O ring	1
17	Air valve packing seat	1
◆ 21	O ring	1
◆ 22	Back ring	1
19	Gun body	1
20	Instruction manual	1

◆ **Marked parts are wearable parts.**



■Safety precautions

⚠ WARNING

Fire and explosion

1. Spark and open flames are strictly prohibited.
Paints can be highly flammable and can cause fire.
Avoid any ignition sources such as smoking, open flames, electrical goods, etc.

2. Never use the following HALGOGENATED HYDROCARBON SOLVENTS
which can cause cracks or dissolution on gun body (aluminum) by chemical reaction.
・unsuitable solvents : methyl chloride, dichloromethane, 1.2-dichloroethane,carbon tetrachloride, trichloroethylene, 1.1.1-trichloroethane
（Be sure that all fluids and solvents are compatible with gun parts.
We are ready to supply a material list used in the product）

3. Securely ground spray gun by using air hose with built-in ground wire.
Use air hose with built-in ground wire or use grounded gun stay.
Ground resistance : Less than 1MΩ Check the earth stability periodically.
If not, insufficient grounding can cause fire and explosion due to static electric sparking.

Improper use of equipment

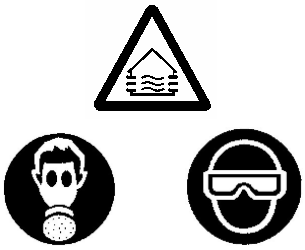
1. Never point gun toward people or animal.
If done, it can cause inflammation of eyes and skin or bodily injury.

2. Never exceed maximum operating pressure and maximum operating Temperature.

3. Be sure to release air and fluid pressures before cleaning, disassembling or servicing.
If not, remaining pressure can cause bodily injury due to improper operation or scattering cleaning liquid.
In order to release pressure, first stop supply of compressed air, fluid and thinner to automatic spray gun.
Next, supply only piston operating air and exhaust fluid by operating fluid needle, which results in automatic supply stop of all compressed air.

4. Tip of fluid needle set has a sharp point. .
Do not touch the tip of fluid needle during maintenance for the protection of the human body.

Protection of human body



1. Use in a well-ventilated site by using spray booth.
If not, poor ventilation can cause organic solvent poisoning and catch fire.

2. Always wear protective gear （safety glasses, mask, gloves）.
If not, cleaning liquid, etc., can cause inflammation of eyes and skin.
If you feel something wrong with eyes or skin, immediately see a doctor.

3. Wear earplugs if necessary.
Noise level can exceed 85dB(A), depending on operating conditions and painting site

Other precautions

1. Never alter this spray gun.
If done, it can cause insufficient performance and failure.

2. Enter working areas of other equipment (robots, reciprocators, etc.) after machines are turned off.
If not, contact with them can cause injury.

3. Never spray foods or chemicals through this gun.
If done, it can cause accident by corrosion of fluid passages or adversely affect health by mixed foreign matter.

4. If something goes wrong, immediately stop operation and find the cause. Do not use again until you have solved the problem.

■How to connect

⚠ CAUTION

-Use clean air filtered through air dryer and air filter. ・・・If not, dirty air can cause painting failure.

-If you use this gun for the first time after purchasing, clean fluid passages spraying thinner and remove rust preventive oil.
If not, remaining preventive oil can cause painting failure such as fish eyes.

-Use three-way solenoid valve of more than φ4 inner dia. cross-sectional area and air hose of over φ6 inner dia. and less than 10m length.
If not, small dia. of solenoid valve and longer air hose between three-way solenoid valve and gun can cause delay in operation.

-Firmly fix hose or container to spray gun.・・・If not, disconnection of hose and drop of container can cause bodily injury**.**

Job1. Fit the gun to a stand or fitting stay, aim at spraying direction and secure it firmly with fixing bolts

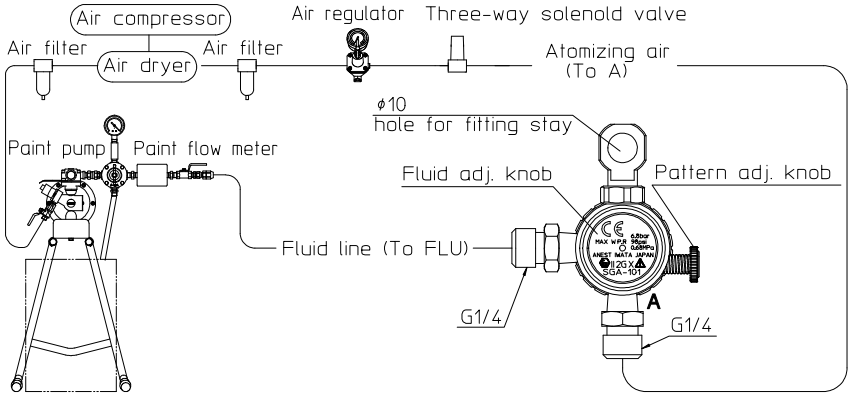
Job2. Connect atomizing air hose to atomizing air nipple (A marked side) tightly.

Job3. Connect a fluid hose to fluid nipple tightly.

Job4. Supply thinner to automatic gun. Spray and clean fluid passage with thinner.

Job5. Supply paint to automatic gun and test spray and adjust air volume, fluid output and pattern width as necessary.

[Connecting example of air hose and fluid hose]



■How to operate

Suggested air pressure is 2.5 to 3.5bar (36 to 50 PSI).

Recommended paint viscosity differs according to paint property and painting conditions. 15 to 23 sec. / Ford cup#4 is recommendable.

Keep fluid output as small as possible to the extent that the job will not be hindered. It will lead to better finishing with fine atomization.

The gun should be held so that it is perpendicular to the surface of the work piece at all times. Then, the gun should move in a straight and horizontal line. Arcing the gun causes uneven painting.

Set the spray distance from the gun to the work piece as near as possible within the range of 150-200 mm (5.9-7.9 in).

Important	In case of the SGA-101 gun, both the atomizing and piston operating air are supplied to the gun by one air hose. An improper setting of the air pressure will malfunction the piston operation. Valve orifice inside three-way solenoid valve should be minimum φ4mm (0.157 in) and also operating air hose length should be within 10m (32.8ft) with the inner diameter more than φ6mm (0.236 in) to avoid delayed operation and any kind of failure.

■Maintenance and inspection

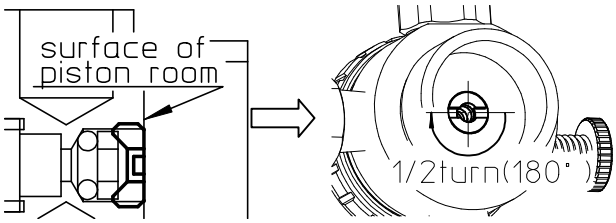
⚠ WARNING

-First release air and pressure fully according to item No. 3 of "Improper use of equipment" of WARNING on page 2.
-Tip of fluid needle set has a sharp point. Do not touch the tip of needle valve at the maintenance for protection of the human body.
-Be careful not to damage the tip of fluid nozzle or must not put your hand on it.
-Only an experienced person who is fully conversant with the equipment can do maintenance and inspection.

⚠ CAUTION

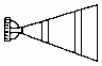
-Never use commercial or other parts instead of ANEST IWATA original spare parts.
-Never immerse the whole gun into liquid such as thinner.
-Never soak air cap set in solvent for extended period even if cleaning. It may cause defective pattern.
-Never damage holes of air cap a fluid nozzle and fluid needle.

Step-by-step procedure	**Important**
1. Pour remaining paint to another container. Clean fluid passages and air cap set.. Spray a small amount of thinner to clean fluid passages.	1. Incomplete cleaning can fail pattern shape and uniform particles. Especially clean fully and promptly two-component paint after use.
2.Clean each section with brush soaked with thinner and wipe out with waste cloth.	2. Soaking whole spray gun in solvent may cause spray gun malfunction. Also soaking air cap set itself for extended period. When cleaning, never scratch each hole of air cap set and fluid nozzle, and fluid needle set.
3. Before disassembly, fully clean fluid passages.	3. During disassembly, do not scratch seat section.
(1)Disassemble fluid nozzle. Use ring spanner, box wrench or optional exclusive spanner (code No.03538600) to disassemble fluid nozzle.	(1)Remove fluid nozzle after removing fluid needle set or while keeping fluid needle pulled, in order to protect seat section.
(2)Disassemble fluid needle set. Remove fluid adj. knob and pull out fluid needle set from gun body. Pay attention so that spring does not suddenly fly out since fluid adj. knob is strongly pushed by fluid needle spring and piston spring.	(2) Pull fluid needle set after loosening fluid needle packing set to protect fluid needle packing set. Be careful when handing tip of fluid needle set since it is sharp.

Step-by-step procedure	Important
4. When adjusting fluid needle packing, first tighten air valve packing seat until the seat reaches surface of piston room of gun body. Then tighten further the seat by one half turn. 	4. If you tighten fluid needle packing too much, fluid needle set will not move smoothly, resulting in paint leakage from tip of fluid nozzle. Try to adjust it carefully while pulling piston and confirming movement of fluid needle set. When you tighten it too much, first fully loosen it and then tighten it again carefully.

Where to inspect	Parts replacement standard
1. Each hole passage of air cap and fluid nozzle	Replace if it is crushed or deformed.
2. Packing and O ring	Replace if it is deformed or worn out.
3.Leakage from seat section between fluid nozzle and fluid needle set	Replace them if leakage does not stop after fully cleaning fluid nozzle and fluid needle set. If you replace fluid nozzle or fluid needle set only, fully match them and confirm that there is no leakage.

■Troubleshooting

Spray Pattern	Problems	Remedies
 Fluttering	1. Air enters between fluid nozzle and packing(1). 2. Air is drawn from fluid needle packing set. 3.Air enters at fluid hose joint.	1. Remove fluid nozzle and packing(1) to clean seat. If it is damaged, replace nozzle and packing(1). 2. Tighten fluid needle packing. 3. Fully tighten joint section.
 Crescent	1. Paint buildup on air cap partially clogs horn holes. Air pressure from both horns differs.	1. Remove obstructions from horn holes with attached brush. But do not use metal objects to clean horn holes.
 Inclined	1. Paint buildup or damage on fluid nozzle circumference and air cap center. 2. Fluid nozzle is not properly fitted.	1. Remove obstructions. Replace if damaged. 2. Remove fluid nozzle and clean seat section.
 Split	1. Paint viscosity too low. 2. Fluid output too high.	1. Add paint to increase viscosity. 2. Tighten fluid adj. knob to reduce fluid output. Or turn pattern adj. valve set clockwise.
 Heavy Center	1. Paint viscosity is too high. 2. Fluid output is too low.	1. Add thinner to reduce viscosity. 2.Turn fluid adj.valve knob counter-clockwise to increase fluid output.

R1 : retighten R2 : adjust R3 : clean R4 : replace parts

Problem	Where it occurred	Parts to be checked	Cause	Remedy			
				R1	R2	R3	R4
Paint leaks	Fluid nozzle	Fluid nozzle～fluid needle set	* Dirt, damage, wear on seat			O	O
			* Loose fluid needle adj. knob		O		
			* Wear on needle spring				O
		Fluid nozzle～Packing(1)	* Insufficient tightening	O			
			* Dirt or damage on seat			O	O
			* Wear on packing(1)				O
		Fluid needle～packing set	* Needle does not return due to packing set too tight		O		O
			* Needle does not return due to paint buildup on fluid needle		O	O	
	Fluid needle	Needle packing set～needle set	* Wear	O			O
		Packing seat	* Insufficient tightening	O			
Paint does not flow	Tip of gun	Fluid adj. knob	* Insufficient opening		O		
		Tip hole of nozzle	* Clogged			O	
		Paint filter	* Clogged			O	O

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