

INSTRUCTION MANUAL

- Automatic Spray Guns WA-101/WA-200
- Round Pattern Automatic Spray gun WA-101R
- Low Pressure Automatic Spray Gun LPA-101 / LPA-200 High Volume Low Pressure

和文取扱は、裏面にあります

Important

This manual contains **IMPORTANT WARNINGS** and **INSTRUCTIONS**. 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 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 pain ejection and serious body injury by drawing organic solvent. Be sure to observe following Δ 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 the prevention, electricity and safety as well as your own company regulations.

Important specifications

Max. Pressure	0.68 MPa / 7.0 bar (68 PSI)
Nozzle level	WA-101 78 78(B/A) WA-101R 62 84(B/A) WA-200 81 24(B/A)
Spray condition	LPA-101 78 78(B/A) LPA-200 78 84(B/A)
Measuring point	1m backwards from gun 1.5 m height

Max. Temperature	Atmosphere	5°C ~ 40°C
	Air + Fluid	5°C ~ 43°C

Main specifications

Model	Type of fluid	Nozzle orifice ϕ (mm) (in)	Air cap air mark	Recommended condition				Air & fluid connection	Mass g (lbs)
				※1 Atomizing air cap MPa (bar) (PSI)	※2 Atomizing air cap MPa (bar) (PSI)	Fluid output ml/min	Air consumption l/min (cfm)		
WA-101-08CP	0.8 (0.031)	EXP	0.23 (2.943)	0.07 (1.0)	150	270 (9.5)	190 (7.5)	2-14 (A/F)	440 (0.97)
...10JP	1.0 (0.039)	E1		0.07 (1.0)	200	270 (9.5)	220 (8.7)		
...13ZP	1.3 (0.051)	H2		0.07 (1.0)	100	90 (3.2)	140 (5.5)	M (FLuid)	
WA-101R-05P	0.5 (0.020)	W2 (Round)		0.20 (2.9)	250	260 (9.2)	200 (8.1)	WA101R	430 (0.95)
...15ZP	1.5 (0.059)	K2		0.23 (2.943)	20	40 (1.4)	35 (1.4)	LPA101	470 (1.04)
...25JP	2.0 (0.079)	R2			500	530 (18.7)	400 (15.7)	WA200	440 (0.97)
LPA-101-10JP	1.0 (0.039)	W1		0.07 (1.0)	400	330 (11.7)	340 (13.4)	LPA200	470 (1.04)
LPA-200-12ZP	1.2 (0.047)	G2		0.23 (2.943)	500	360 (12.7)	330 (13.0)	LPA200	440 (0.97)
				0.22 (2.030)	150	430 (15.2)	200 (7.9)	LPA200	470 (1.04)

※1 Atomizing air pressure at gun inlet when piston is raised and air lines

※2 The WA-101R air cap set is the purely round spray pattern with material flow correct

※3 0.8mm (0.031) 1.0mm (0.039) nozzles are available

- How to install unions for atomizing air and operating air
- 1 Remove air nipple for atomizing and operating from gun body
 - 2 Replace air nipple for atomizing (CAP marked side) with and also replace air nipple for operating (CYL marked side) with half union for O.D 8mm air tube attached
 - 3 Be sure to connect half unions gun body tightly
- NOTE: Using air hose 12m (39.4ft) long, the inner diameter must be a minimum 8mm (0.315) so the gun can take the correct air volume to atomize at 0.7 bar (10PSI) inside air cap.

Safety precautions

WARNING

Fire and explosion

1. Spark and open flames are strictly prohibited. Paints can be highly flammable and can cause fire.
2. Never use the following HALOGENATED 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



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



3. Be sure to release air and fluid pressures before cleaning, disassembling or servicing.

1. Never point gun toward people or animal. If done, it can cause inflammation of eyes and skin or body injury.
2. Never exceed maximum operating pressure and maximum operating temperature.



4. Tip of fluid needle set has a sharp point. Do not touch the tip of needle valve at the 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 80dB(A), depending on operating conditions and painting site

Other precautions

1. 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
2. Enter working areas of other equipment (robots, reciprocators, etc.) after machines are turned off. If not, contact with them can cause injury.

How to connect

CAUTION

- Use clean air filtered through air dryer and air filter. ... If not, dirty air can cause painting failure.
- If not, remaining preventive oil can cause painting failure such as fish eyes
- Use three-way solenoid valve of more than ϕ 4 inner dia. cross-sectional area and air hose of over ϕ 6 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 to spray gun. ... If not, disconnection of hose and drop of container can cause body injury.

Job1 Fit the gun to fitting stay, aim at spraying direction and fix it.

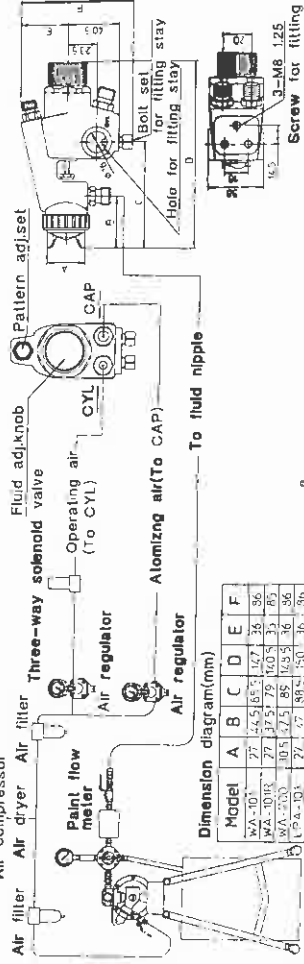
Job2 Connect atomizing air hose to atomizing air cap (Cap marked side)

Job3 Connect fluid hose to fluid inlet side

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]

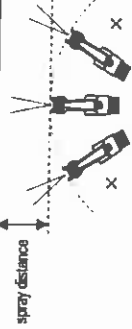


Dimension diagram (mm)

Model	A	B	C	D	E	F
WA-101	27	42.5	65	127	36	86
WA-101R	27	37.5	75	103	31	85
WA-200	30.5	47.5	85	142.5	41	96
LPA-101	27	47	89.5	150	36	90

How to operate

- Adjust operating air pressure from 3 to 4 bar (43 to 57 PSI).
NOTE: Valve opening valve should be minimum $\phi 4\text{mm}$ ($\phi 0.157\text{ in}$) and also operating air hose length should be within 10m (32.80) with the inner diameter more than $\phi 8\text{mm}$ ($\phi 0.295\text{ in}$) to avoid delayed operation and any kind of failure with the pattern ad. set fully opened, adjust it normally 3 to 4 bar (43 to 57 PSI) with WA-101 / WA-101R / WA-200. And adjust actuating air pressure 2.7 bar (39 PSI) with LPA-101 and 2.0 bar (28 PSI) with LPA-200 H.V.L.P. gun. In this way the H.V.L.P. gun will operate within 0.7 bar (10 PSI) inside air cap.
- Recommended paint viscosity differs according to paint property and painting conditions 15 to 23 sec/Ford cup #4, is recommended.



◆ Manual parts are wearable parts

No	Description	Qty		
		WA-101	WA-200	LPA-101 / 200
1	Air cap set	1	1	1
1R	Air cap set (Round)	1	1	1
2	Fluid nozzle-fluid needle set	1	1	1
3	Body set	1	1	1
3-1	Air nipple	1	1	1
3-2	Fluid nipple	1	1	1
4	Air set, valve set	1	1	1
4R	Plug screw	1	1	1
5	Air valve seat	1	1	1
5-1	O ring	1	1	1
5-2	Pinion	1	1	1
5-3	Pinion packing	1	1	1
6	Pinion	1	1	1
7	Needle spring	1	1	1
8	Pinion Spring	1	1	1
8	Fluid set, set	1	1	1
9-1	Stop ring	1	1	1
9-2	Ball	1	1	1
9-3	Fluid set spring	1	1	1
10	Ball set	2	2	2
11	Fluid needle packing set	1	1	1
12	Cover	1	1	1
13	Brush	1	1	1
14	Instruction manual	1	1	1
15	Ball union for $\phi 8$	1	1	1
16	Ball union for $\phi 8$	1	1	1

Maintenance and inspection

WARNING

- First release air and pressure fully according to item No. 4 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

1. Pour remaining paint to another container. Clean fluid passages and air cap set. Spray small amount of thinner to clean fluid passages.
2. Clean each section with brush soaked with thinner and wipe out with waste cloth.
3. Before disassembly, fully clean fluid passages.
 - (1) Use trap spanner, two wrench or optional exclusive spanner (code No.035368000) in disassembling fluid nozzle.
 - (2) Disassemble fluid needle set.
 - (3) Remove fluid set and put out fluid needle set from gun body. Pay attention so that spring does not suddenly fly out since fluid set set is strongly pushed by fluid needle spring and piston spring.
 - (4) Screw rear section of fluid needle set into piston and put out piston set.
 - (5) When you want to adjust fluid needle packing set, first tighten it by hand while fluid needle set remains inside. Then tighten it further about 1/6 turn (90-degree) by spanner.
 - (6) When you remove needle packing set, do not leave plastic piece of needle packing set in the gun body.
 - (7) Turn pattern ad. knob counterclockwise to fully open. And then tighten pattern ad. guide into gun body.
 - (8) Apply vaseline or oil to thread section of fluid ad. set and insert into gun body set while resping it fully opened.

When to inspect

1. Each hole passage of air cap and fluid nozzle
2. Packing and O ring
3. Leakage from seal section between fluid nozzle and fluid needle set

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 set. When replacing fluid nozzle and fluid needle set for pressure bed application, please order fluid nozzle-needle set.

Fluid nozzle-fluid needle set combination

Model	Fluid Nozzle Office ϕ mm (in)	Mark	Fluid Nozzle Office ϕ mm (in)	Mark	Fluid needle set mark
WA-101R	$\phi 0.50$ (0.020)	WA1D105	$\phi 1.0$ (0.039)	W20010	
101	$\phi 0.6$ (0.031)	W10106	$\phi 1.7$ (0.067)	W20012	WA12
LPA-101	$\phi 1.0$ (0.039)	W10110	$\phi 1.3$ (0.051)	W10113	WA15
200	$\phi 1.5$ (0.059)	L20012	$\phi 1.5$ (0.059)	W20008	WA20
WA-200	$\phi 0.8$ (0.031)	W20008	$\phi 2.0$ (0.079)	W20020	WA25
			$\phi 2.5$ (0.098)	W20025	

Troubleshooting

Spray Pattern	Problems	Remedies
	1. Air enters between fluid needle and tapered seat of gun body. 2. Air is drawn from fluid needle packing set. 3. Air enters at fluid container fitting out or fluid hose joint.	1. Remove fluid nozzle to clean seat. If it is damaged, replace nozzle. 2. Tighten fluid needle packing. 3. Fully tighten joint section.
	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. 2. Remove fluid nozzle and clean seat section.
	1. Paint buildup or damage on fluid nozzle circumference and air cap center. 2. Fluid nozzle is not properly fixed.	1. Remove obstructions. Replace if damaged. 2. Remove fluid nozzle and clean seat section.
	1. Paint viscosity too low. 2. Fluid output too high.	1. Add paint to increase viscosity. 2. Tighten fluid set knob to reduce fluid output. Or turn pattern ad. valve set clockwise.
	1. Fluid viscosity is too high. 2. Fluid output is too low.	1. Add thinner to reduce viscosity. 2. Turn fluid set valve knob counter clockwise to increase fluid output.
	1. Fluid nozzle and fluid needle set are not sealed properly. 2. The first-stage travel of trigger (when only air discharges) decreases. 3. Paint buildup inside air cap set.	1. Clean or replace fluid nozzle and fluid needle set. 2. Replace fluid nozzle and fluid needle set. 3. Clean air cap set.

Problem	When it occurred	Parts to be checked	Causes	R1: tighten	R2: adjust	R3: clean	R4: replace parts	
Air leaks (from tip of air cap)	Pinion	Air valve seal set	* Dirt or damage, wear on seal surface				R4	
			* Wear on needle spring					O
			* Wear on air valve spring					O
Paint leaks	Fluid nozzle	Fluid nozzle - fluid needle set	* Damage or deterioration				O	
			* Dirt or damage, wear on seal surface				O	
			* Loose fluid needle set knob				O	
			* Wear on needle spring				O	
			* Insufficient tightening				O	
Fluid needle	Needle packing set - needle set	Packing seal knob	* Dirt or damage, wear on seal surface				O	
			* Needle does not return due to packing set too tight				O	
			* Needle does not return due to paint set too tight				O	
			* Wear				O	
Tip of gun	Paint filter	Tip hole of nozzle	* Insufficient tightening				O	
			* Insufficient tightening				O	
			* Changed				O	
			* Clogged				O	

ANEST IWATA CORPORATION

Code No. 03504627

3176, Shinyoshida-cho, Kohoku-ku, Yokohama, 223-8501, Japan