

FG-6 - FG-61 - FG-62

FLOW GUN



Before use, adjustment or maintenance, it is important to read this instruction manual very carefully. This manual must be stored in a safe place for any future reference that may be necessary.

This **ANEST IWATA** flow guns kit complies to ATEX regulations 94/9/EC.

Protection level: II 2 G X Suitable for using Zones 1 and 2.

X marking: Any static electricity discharge from the flow gun is to be diverted to the ground via the conductive air hose as stipulated.



IMPORTANT

This flow gun should be operated only by an adequately trained operator, for safe use and maintenance of the equipment. Any misuse or handling other than those indicated in this Instruction Manual is not covered by guarantee. ANEST IWATA disclaims all responsibility for any accident or damage caused by failure to observe the operational and safety procedures in this manual. In the interest of user friendliness, this manual contains information in a brief and concise form.

For any additional information you may require regarding flow gun operations, or if any missing parts or any damage during transportation is found, please contact your nearest ANEST IWATA Company (see last cover page).

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:	250 bar (3600 PSI)	Max. Temperature:	
		Atmosphere	5 ~ 40 °C
		Air and fluid	5 ~ 43 °C

TECHNICAL SPECIFICATIONS

Model	Max. Operating pressure bar (PSI)	Use	Size of Nozzle Orifice	Shape of fluid needle tip	Fluid Hose connection	Mass g (lbs)
FG-6	250 (3600)	Sealants & Adhesives (High Viscosity)	Ø 3.0	Tapered seat	NPS 3/8"	440 (0.97)
FG-61					G 1/4"	
FG-62					G 3/8"	

Manufactured by:

ANEST IWATA Corporation 3176,Shinyoshida-cho, Kohoku-ku, Yokohama, 223-8501 Japan

SAFETY WARNINGS



FIRE OR EXPLOSION HAZARD

1. Sparks and open flames are strictly prohibited.

Fluids (sealants, adhesives, etc.) can be highly flammable and can cause fire. Avoid any ignition sources such as smoking, open flames, electrical goods, etc.

2. Be sure to stop pump, reduce fluid pressure down to 0 bar, before fit or remove nozzle tip.

Emission of fluids (sealants, adhesives, etc.) or solvent during operation can cause great danger.

3. Securely ground flow gun by using fluid hose with built-in ground wire.

Ground wire : Less than 1MΩ. Check the earth stability periodically.

Securely ground pump, flow gun, workpiece and containers containing paint. Be sure to use fluid hose with built-in ground wire to have continuous grounding between pump and flow gun. Use conductive container containing paint (sealants, adhesives, etc.). Insufficient grounding can cause fire and explosion due to static electric sparking.

4. Never use the following HALGOGENATED HYDROCARBON SOLVENTS

which can cause cracks or dissolution on gun body (aluminium) by chemical reaction.

<unsuitable solvents>: methyl chloride, dichloromethane, 1,2-dichloroethane, carbon tetrachloride, trichloroethylene, 1,1,1-trichloroethane.

(Be sure that all fluids are compatible with gun parts. We can supply a list of materials used to manufacture the product).



IMPROPER USE OF EQUIPMENT

1. Never point flow gun towards people or animals.

Never pull trigger of gun when human body or finger come near tip of nozzle. If done, it can cause inflammation of eyes and skin or bodily injury. If you feel any abnormality during operation, consult a medical doctor immediately.

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

Use at more than max. operating pressure can cause explosion of flow gun resulting in great danger.

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, stop supply of air and fluid pressure to flow gun.

4. Never use corrosive liquid (less than PH6 or more than PH8).



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. If you feel any abnormality during operation, consult a medical doctor immediately.

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. Never try to stop leaks by hand, when paint leaks.

In case of leaks, stop pump immediately and reduce fluid pressure down to 0 bar.

High fluid pressure emitted through small hole can pierce an iron plate and can cause severe injury since fluid can enter human body directly through eye, mouth or skin. It is very dangerous. If you feel any abnormality or receive any injury, consult a medical doctor immediately

4. If operators pull the trigger many times during operation, it may cause carpal tunnel syndrome. Rest if you feel any discomfort in your hand.

5. High stress caused from the pulsations of flow gun during painting operation for long time, may cause carpal tunnel syndrome.

In the case of discomfort for your hand stop painting operation for a short break. It is recommendable to damp the pulsations emitted from pump, by using damping components placed on the inlet connection(s) of the equipment or through the use of antipulsation hose.



BURST FLUID HOSE

1. Never use cracked, damaged, bent or crushed fluid hose.

High fluid pressure emitted from small hole can pierce an iron plate and cause great danger.

2. Never bend fluid hose with a radius of less than permitted bend radius.

Contact the shop who sold the hose to you, or us, about permitted bend radius. Never put heavy things on it in order not to damage the hose. If done, hose can explode causing great danger.



OTHER PRECAUTIONS

1. **Never alter this flow gun.**
If done, it can cause insufficient performance and failure.
2. **Enter working areas of other equipment (robots, reciprocators, etc.) after machines have been turned off.**
If not, contact with them may cause injury.
3. **Never flow 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. **Securely connect fluid hose.**
If hose is disconnected during operation, hazardous hose movement and paint ejection will cause severe bodily injury.
5. **If something goes wrong, immediately stop operation and find the cause. Do not use again until you have solved the problem.**

CHECKING THE PRODUCT

- When you open the package, be sure to check that all goods are included and are in good condition.
- If there is any damage or missing components, do not use the product to avoid danger and immediately contact the distributor who sold it to you.
- Always keep caution plates (warning display) clean and in good condition.
If they are damaged or missing, replace with new ones.

HOW TO CONNECT

CONNECT HIGH PRESSURE HOSE

WARNING



Always firmly connect fluid hose.

If hose is disconnected during operation, hazardous hose movement and fluid ejection will cause severe bodily injury.

If fluid leaks from hose, never try to stop it by hand. Stop pump immediately and reduce fluid pressure down to 0 Bar.

Fluids or solvent can enter in human body directly through eye, mouth or skin. It is very dangerous.

If you feel any abnormality or receive any injury, consult a medical doctor immediately.



CAUTION

Before using a new flow gun for the first time, clean fluid passages inside it. If not, rust preventive oil inside flow gun can cause failure.

FIT OR REMOVE NOZZLE

WARNING



Be sure to stop pump, reduce fluid pressure down to 0 Bar, and securely apply safety lock of flow gun before to fit or remove nozzle tip.

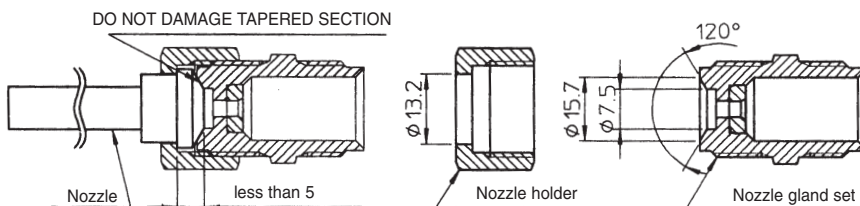
Fluids or solvent can enter human body directly through eye, mouth or skin. It is very dangerous. If you feel any abnormality or receive any injury, consult a medical doctor immediately.



IMPORTANT

We are not responsible for any death, injury, failure or damage caused by nozzle.

FOLLOW THE SCHEME BELOW FOR CORRECT PLACEMENT OF NOZZLE



PAINTING



WARNING

During painting, be sure to wear protective cover such as glasses, mask or gloves to avoid serious injury caused by fluids or solvent which might enter your eyes or you might inhale.

CAUTION

Before you use new flow gun for the first time, clean fluid passages inside it. If not done, rust preventive oil inside gun can cause sealing failure.



ATTENTION

As fluid pressure increases, fluid output increases with increasing wear on parts. For longer life span of flow gun, adjust fluid pressure as low as you can, maintaining satisfactory fluid output.

CLEANING AND MAINTENANCE

Fully clean after each use with compatible cleaning liquid, to ensure longer lifetime of the spray gun and good performance in the next job.



WARNING

During use, be sure to wear protective gear such as glasses, mask or gloves to avoid serious injury caused by paint or solvent which might enter your eyes or you might inhale.

Be sure to stop pump and reduce fluid pressure down to 0 Bar before disassembling flow gun.

Only an experienced person who is fully conversant with the equipment can do maintenance and inspection.



CAUTION

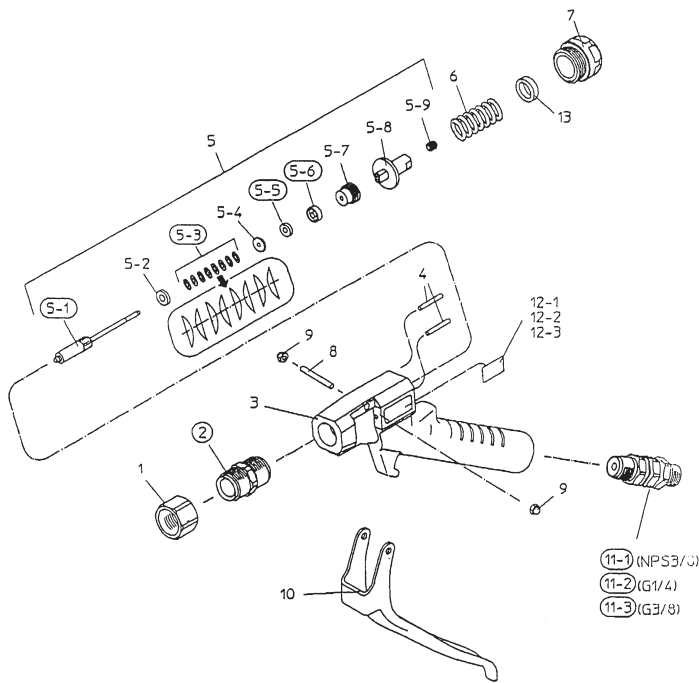
Never use commercial or other parts instead of ANEST IWATA original spare parts.

PROBLEMS AND REMEDIES

IMPORTANT: Never use commercial or other parts instead of ANEST IWATA original spare parts.

Problems	Cause	Remedies
Paint does not come out.	Nozzle tip is clogged.	Inspect, clean or replace.
	Paint is not fed.	Inspect pump.
Paint leaks or comes out weakly.	Paint leaks from nozzle	Reduce pump pressure down 150 bar.
	Flow resistance in pump is too high.	
	• Paint viscosity is high.	Reduce viscosity of paint.
	• Nozzle orifice is small.	Use collar [13] (optional) or nozzle with larger orifice.
	Paint or dust sticks to needle packing (5-6).	Inspect, clean or replace.
	Paint or dust sticks to needle seat.	Inspect, clean or replace.
	Seat between needle bar set (5-1) and nozzle gland set (2) is worn.	Replace worn part.
Paint leaks from nozzle gland set (2).	The adjustment of needle bar set (5-1) is over-tightened.	Adjust by needle spring holder (5-8).
	Nozzle gland set (2) is loose.	Tighten.
Paint leaks from needle spring seat (7) and needle seat.	Needle packing seat is loose.	Adjust by needle spring holder (5-8).
	Needle packing (5-6) is worn, damaged or stuck with paint or dust.	Inspect, clean or replace.
	Needle set (5-1) is worn, damaged or stuck with paint or dust.	Inspect, clean or replace.
Paint leaks from nozzle holder (1).	Nozzle gland set (2) and taper section of nozzle are damaged or stuck with paint or dust.	Inspect, clean or replace.
	Nozzle holder (1) is loose.	Tighten.
Paint leaks from universal joint (11)	Wear of packing in universal joint	Replace.

SPARE PARTS LIST



DESCRIPTION	REF.PART
NOZZLE HOLDER	1
NOZZLE GLAND SET	● 2
GUN BODY	3
NEEDLE SEAT	4
FLUID NEEDLE SET	5
NEEDLE BAR SET	● 5-1
SPRING HOLDER	5-2
SPRING WASHER	● 5-3
PACKING HOLDER	5-4
SUB PACKING	● 5-5
NEEDLE PACKING	● 5-6
NEEDLE PACKING SEAT	5-7
NEEDLE SPRING HOLDER	5-8
SCREW	5-9
NEEDLE SPRING	6
NEEDLE SPRING SEAT	7
TRIGGER STUD	8
HEX. CAP NUT	9
TRIGGER SET	10
UNIVERSAL JOINT (NPS 3/8")	● 11-1
UNIVERSAL JOINT (G 1/4")	● 11-2
UNIVERSAL JOINT (G 3/8")	● 11-3
NAME PLATE	12
COLLAR	13

● **Marked parts are wearable parts.**

- Use optional collar [13] when you use very high viscosity paint, or a nozzle with higher size orifice when you use paint that are easily clogged.
- As nozzle is not included, refer to Operating procedure on page 3 and prepare it separately on your side.



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