

## INSTRUCTION MANUAL

### Multi-spray gun MSG-200

#### 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 II 2GX

This Anest-iwata multi-spray gun kit complies to ATEX regulations 94/9/EC, Protection level : II 2GX, Suitable for use in Zones 1 and 2. X marking : Any static electricity discharge from the multi-spray gun is to be diverted to the grounded the conductive fluid 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  $\Delta$  marked items which are especially important.

<b>WARNING</b>	Indicates a potentially hazardous situation which, if not avoided, may result in serious injury or loss of life.
<b>CAUTION</b>	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.
<b>Important</b>	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	Fluid : 9.8MPa / 98 bar / 1440 PSI Air : 0.68MPa / 6.8 bar / 98 PSI
Noise level	69 dB (A)
Spray condition	Used Nozzle tip : NT2004CMU Atomizing air pressure : 0.15MPa / 1.5bar / 21.4PSI ※ Fluid pressure : 10MPa / 100bar / 1440PSI Tested with water
Measuring point	1m backwards from gun, 1.6m height

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

※ Atomizing air pressure means air pressure at gun inlet when trigger is pulled and air flows.

### Main specifications

Model	Use	Max. operating fluid pressure MPa (bar / PSI)	Operating fluid pressure MPa (bar / PSI)	Max. atomizing air pressure MPa (bar / PSI)	Operating atomizing air pressure MPa (bar / PSI)	Filter Size (mesh)	Air & fluid connection	Mass g (lbs)
MSG-200	General	9.8 (98 / 1440)	4.9 (49 / 720)	0.68 (6.8 / 98)	0.15 (1.5 / 21.4)	#200	G 1/4	480 (1.06)

※Fluid output ; See 4 Selection of nozzle tip according to kind of paint

# 1. Safety precaution

## 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. Securely ground multi-spray gun by using air hose with built-in ground wire or fluid hose with built-in ground wire.**

Ground wire : Less than 1 MΩ. Check the earth stability periodically.  
Securely ground pump, multi-spray gun, workpiece and containers containing paint or solvent. Be sure to use fluid hose to have continuous grounding between pump and multi-spray gun. Use conductive container containing paint or solvent. Insufficient grounding will cause explosion or fire by spark of electricit.  
If not, insufficient grounding can cause fire and explosion due to static electric sparking.

**3. 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, 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)



### Improper use of equipment

**1. Never point multi-spray gun toward people or animal.**

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

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

Usage at more than max. operating pressure can cause explosion of multi-spray gun resulting in great danger.

**3. Be sure to release air pressure 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 fluid and thinner to multi-spray gun.



### 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 with 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. Wear earplugs if necessary.**

Noise level can exceed 85dB(A), depending on operating conditions and painting site.

**4. Be sure to stop pump, reduce air pressure, fluid pressure down to 0 pressure and securely apply safety lock of multi-spray gun before you fit or remove nozzle tip.**

Emission of paint or solvent during operation can cause great danger.

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

In that case, stop pump immediately and reduce paint pressure down to 0 pressure.  
High pressure paint emitted through small hole can pierce an iron plate and can cause severe injury since paint can enter human body directly through eye, mouth or skin. It is very dangerous. If you feel any abnormality or receive any injury, consult with a medical doctor immediately

**6. If operators pull the trigger many times during operation, it may cause carpal tunnel syndrome.**

Be sure to take a rest if you feel tired.

**7. If operators feel the pulsations in the coating material flow long time during operation, it may cause carpal tunnel syndrome.**

Be sure to take a rest if you feel tired. Or damping of the pulsations in the coating material flow from paint pump by, for instance, the use of damping elements on the inlet connection(s) of the equipment or the use of pulsation damping hoses supplying the equipment.



### Burst of fluid hose

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

High pressure paint emitted at 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.**

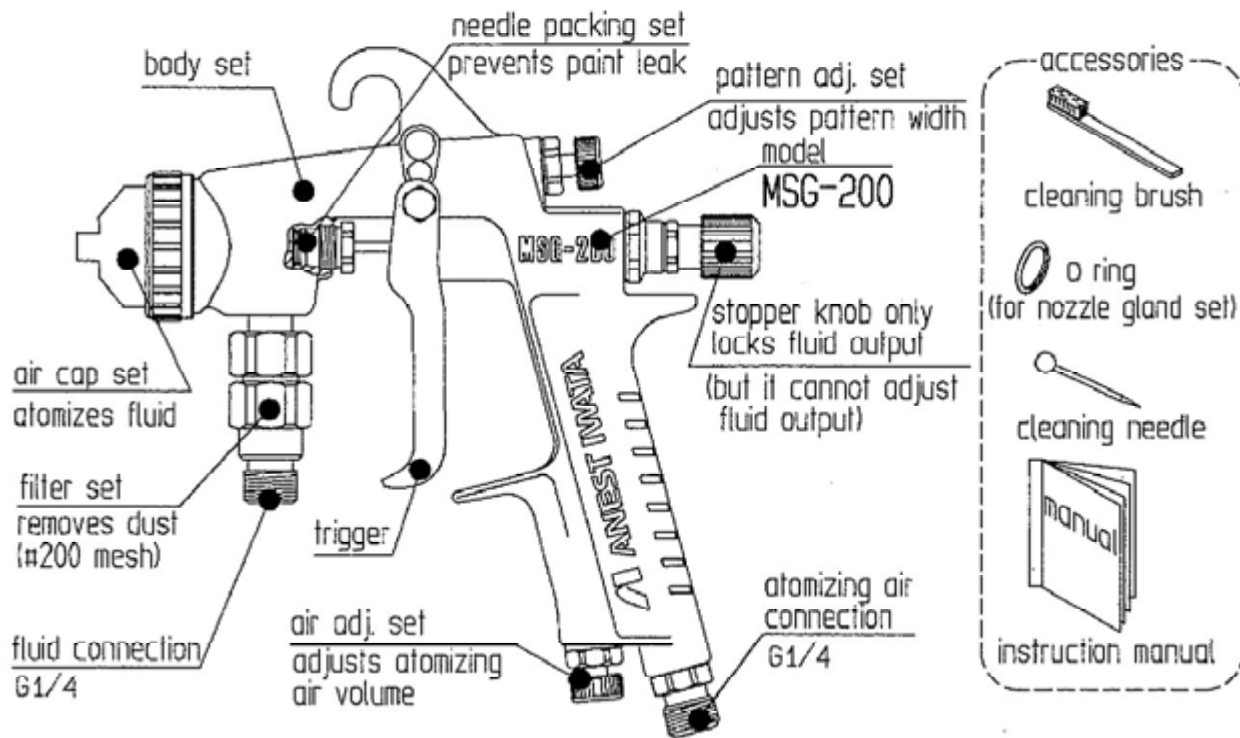
Contact the shop who sold the hose to you, or us, about permitted bend radius. Never put heavy things on it in order not to damage the hose. If done, hose can explode causing great danger.

## **⚠ WARNING**

### Other precautions

- 1. Never alter this multi-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. 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.**

## **2. Name of components and checking the product**




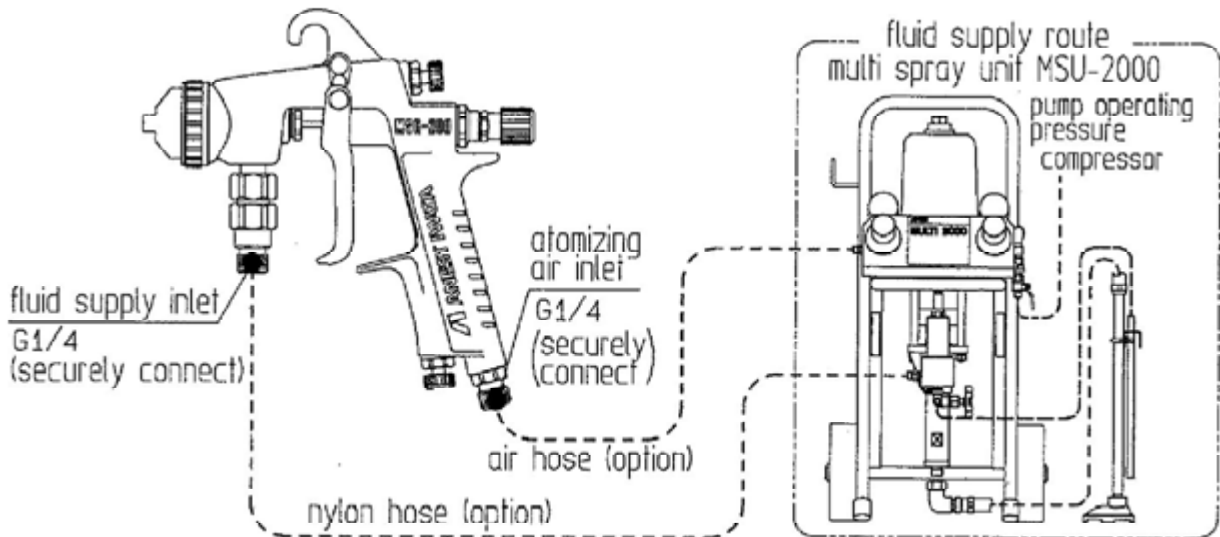
- ① Pulling trigger makes air valve in gun body set open and atomizing air emits.
- ② Pulling trigger further makes fluid valve at gun tip (between fluid needle set and nozzle gland set) open and paint emits.
- ③ Tightening stopper knob makes fluid valve unable to open and trigger is locked.


- 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.

### 3. Painting job

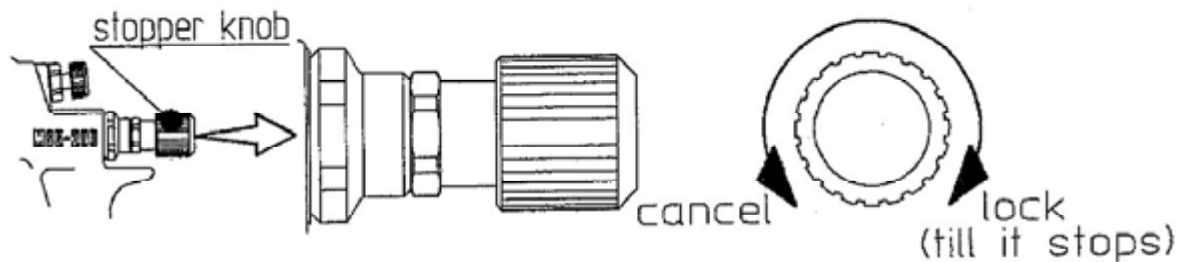
#### 3-1 Connect fluid hose and clean inside of gun.

 <b>WARNING</b>	<p>Securely connect fluid hose. When paint leaks, never try to stop it by hand / In that case, stop pump immediately and reduce paint pressure down to 0 pressure.</p> <p>Be sure to use fluid hose with built-in ground wire in order to connect ground.</p>
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 <b>CAUTION</b>	<p>Before using a new multi-spray gun, clean inside of the new multi-spray gun. If not, rust preventive inside multi-spray gun can cause painting failure.</p>
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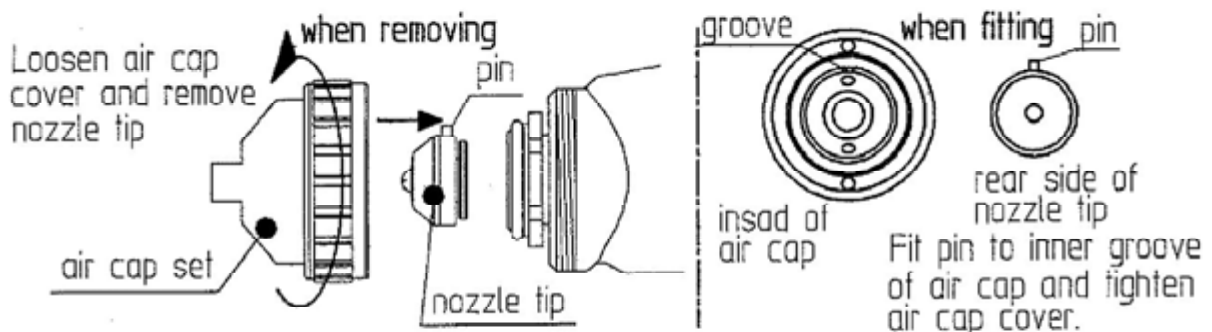
#### 3-2 How to apply safety lock (stopper knob).



#### 3-3 Fitting or removing nozzle tip (each tip is optional except attached NT-2004CMU).

※ Refer to 4 on page 13 and prepare nozzle tip separately.

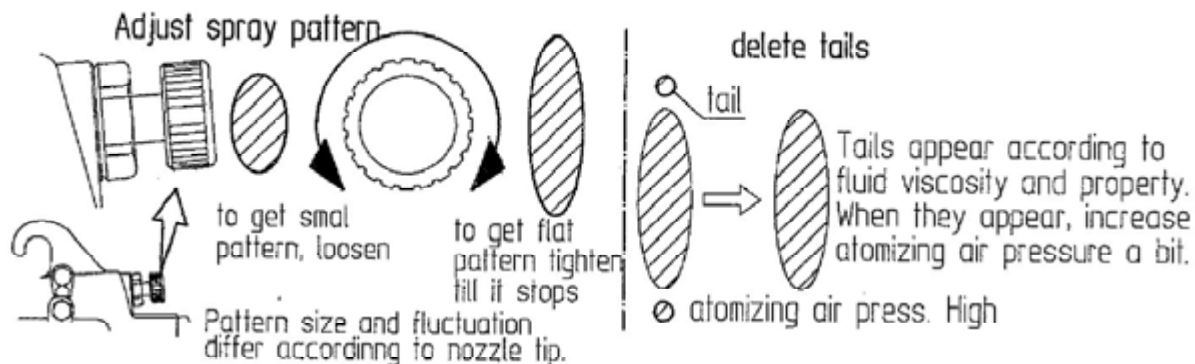
 <b>WARNING</b>	<p>Be sure to stop pump, reduce fluid pressure down to 0 pressure and securely apply safety lock of gun before you fit or remove nozzle tip.</p>
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### 3-4 Painting job

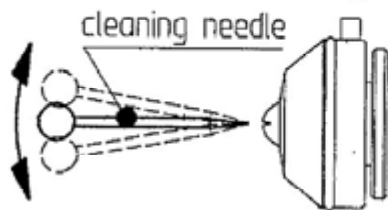
<b>⚠ WARNING</b>	During painting, be sure to wear protective cover such as glasses, mask or gloves to avoid serious injury caused by paint or solvent which might enter your eyes or you might inhale.
<b>HINT!</b>	<ul style="list-style-type: none"> <li>•As fluid pressure and air pressure increase, paint mist becomes finer and finishing becomes better. But on the other hand, high pressure can be dangerous, precipitate corrosion of equipment and nozzle tip, increase spray mist and decrease transfer efficiency. Adjust pressure to the lowest level possible (fluid pressure 4.9MPa, atomizing air pressure 0.15MPa) as long as the finish is satisfactory.</li> <li>•Adjust spray distance to nearest level possible as long as the finish is satisfactory in order to reduce spray mist and increase transfer efficiency.</li> </ul>

### 3-5 Adjust spray pattern and delete tails

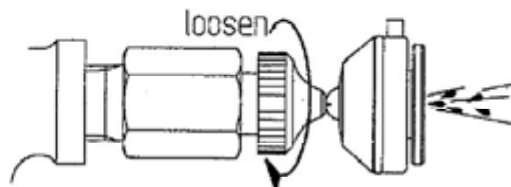


### 3-6 Solve clogging of nozzle tip

When using attached cleaning needle.



When blowing with air by air nozzle of multi spray unit after removing nozzle tip from air cap set.



### 3-7 Cleaning and maintenance

Fully clean after job is finished in order to get longer lifetime and good performance at next job.

<b>⚠ WARNING</b>	During painting, be sure to wear protective cover 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 pressure before disassembling multi-spray gun.
<b>⚠ CAUTION</b>	Never use commercial or other parts instead of ANEST IWATA original spare parts.

Process	Where to clean	How to clean	Remarks
1	nozzle tip	Remove from gun and clean it.	refer to 3-3
2	fluid passage of gun body	Clean fluid passage with cleaning liquid which is compatible with paint being used.	
3	filter set	① Remove filter joint[20-3]. ② Remove filter set[20-2] and clean it.	refer to 7.7

## 4. Selection of nozzle tip according to kind of paint

<b>HINT!</b>	<p>&lt;Numbering system&gt;</p> <p style="margin-left: 40px;">NT-<u>20</u> <u>04</u></p>
	<p>Use nozzle tip with large figures of last 2 digits when you spray paints of high viscosity or easily clogged.</p>

※ Refer to the below chart and select proper nozzle tip.

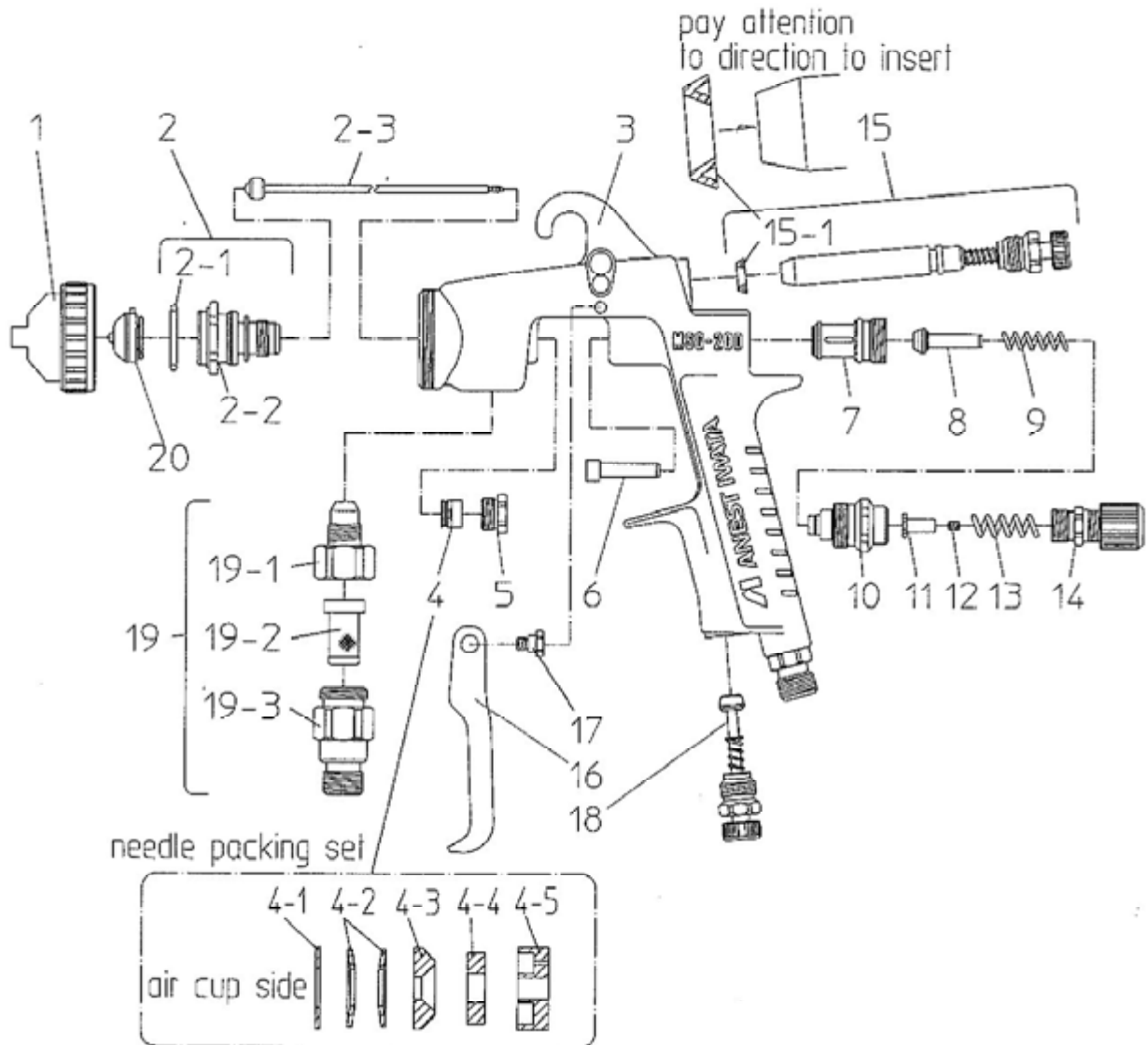
model	fluid output l/min	pattern width cm
NT-1502CMU	0.18	13 ~ 18
NT-1503CMU	0.27	13 ~ 18
NT-2002CMU	0.24	18 ~ 23
NT-2003CMU	0.36	18 ~ 23
NT-2004CMU	0.48	18 ~ 23
NT-2005CMU	0.60	18 ~ 23
NT-2503CMU	0.45	23 ~ 28
NT-2505CMU	0.75	23 ~ 28
NT-3003CMU	0.54	28 ~ 33
NT-3004CMU	0.72	28 ~ 33
NT-3005CMU	0.90	28 ~ 33
NT-3006CMU	1.08	28 ~ 33
NT-3503CMU	0.63	33 ~ 38
NT-3504CMU	0.84	33 ~ 38
NT-3505CMU	1.05	33 ~ 38

## 5. Problems and remedies

**Important** As for ☆ marked items, ask our distributor to remedy it for you.  
Incorrect remedy cannot achieve satisfactory performance.

problem	where it happened	where to check	part no.	cause, check, confirm	tighten	adjust	clean	replace
air leaks	each joint connection	each joint, connection	3, 16, 11, 19	weak tightening damage on seat dust on seat	<input type="radio"/>			<input type="radio"/>
	air cap set	air valve seat, air valve	8,9	damage on seat dust on seat damage, wear			<input type="radio"/>	<input type="radio"/>
		air valve spring	10	weak spring				<input type="radio"/>
fluid leaks	each joint connection	each joint connection	20-1, 20-2, 20-3	weak tightening damage on seat dust on seat	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
	tip of nozzle tip, air cap set holes,	nozzle gland set ~ body set ~ fluid needle set	2,3	weak tightening	<input type="radio"/>			<input type="radio"/>
			2,4	damage on seat damage on seat			<input type="radio"/>	<input type="radio"/>
		fluid needle spring nozzle tip~nozzle gland set	14, 21, 2	weak spring damage on seat dust on seat			<input type="radio"/>	<input type="radio"/>
	air cap set		1	weak tightening	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
fluid needle packing set	needle packing set ~ needle set ~ needle packing seat	5,4, 6	wear weak tightening	<input type="radio"/>			<input type="radio"/>	
small or no fluid output	fluid supply route	fluid pressure, filter set, fluid hose	20-2	low setting pressure clogged		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	tip of gun	nozzle tip	21	clogged			<input type="radio"/>	<input type="radio"/>
	safety lock	knob	15	unlock		<input type="radio"/>		
	paint	fluid viscosity		high viscosity		<input type="radio"/>		
large buildup on air cap set	air cap set	air cap holes	1	clogged, deformed or damaged paint buildup			<input type="radio"/>	<input type="radio"/>
		air cap set ~ nozzle tip	1, 21	deformed or damaged passage			<input type="radio"/>	<input type="radio"/>
	nozzle tip	21	clogged wear, damage			<input type="radio"/>	<input type="radio"/>	
incomplete pattern	same as above							
	Atomizing air route	atomizing air pressure		too low (tails arise) too high (heavy on both ends of spray pattern)		<input type="radio"/>		

## 6. Part list



○ marked parts are consumable parts.

No.	Part name	Q'ty	Remarks
1	air cap set	1	
○ 2	nozzle-needle set	1	
○ 2-1	o ring	1	
○ 2-2	nozzle gland set	1	
○ 2-3	fluid needle set	1	
○ 3	body set	1	
○ 4	needle packing set	1	
4-1	washer	1	
4-2	spring washer	2	
4-3	packing holder	1	
4-4	sub packing	1	
4-5	fluid needle packing	1	
○ 5	fluid packing seat	1	
○ 6	air valve bar	1	
○ 7	air valve seat set	1	
○ 8	air valve	1	
○ 9	air valve spring	1	
○ 10	fluid adj. guide set	1	
○ 11	needle spring holder	1	
○ 12	screw	1	

No.	Part name	Q'ty	Remarks
○ 13	fluid needle spring	1	
○ 14	stopper set	1	
○ 15	pattern adj.set	1	
○ 15-1	Y packing	1	direction
○ 16	trigger	1	
○ 17	trigger screw	2	
○ 18	air adj.set	1	
○ 19	filter set	1	
○ 19-1	filter case	1	
○ 19-2	filter set	1	#200 mesh
○ 19-3	filter joint	1	
○ 20	nozzle tip	1	





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