

MANUAL MULTI SPRAY GUN MSG 2000



GB 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.

IMPORTANT

This Multi spray 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 Europe disclaims all responsibility for any accident or damage caused by failure to observe the operational and safety procedures contained in this manual. In the interest of user friendliness, this manual contains information in a brief and concise format. For any additional information you may require regarding Multi spray 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).

MAIN SPECIFICATIONS

1. CONNECTION LOADS

Permissible maximum air pressure 8 bar (113,81 psi).	Permissible max. material pressure 250 bar
Recommended working pressure 1,5-3 bar (21,34-42,68 psi).	Weight = 620 g
Permissible maximum material temperature by operating without gloves = 40°	
Permissible maximum material temperature by operating with gloves = 60°	

2. FURTHER TECHNICAL DATA

A) NOISE FORMATION BY AND AIR PRESSURE OF :

(with fluid, air control valve on max):

ROUND JET:

1,5 bar (21,34 psi) = 74 dBa

2,0 bar (28,45 psi) = 76 dBa

3,0 bar (42,68 psi) = 77 dBa

FLAT JET:

1,5 bar (21,34 psi) = 73 dBa

2,0 bar (28,45 psi) = 74 dBa

3,0 bar (42,68 psi) = 80 dBa

Measuring point 600 mm behind the spray gun (typical position of the user)

Used measuring apparatus: Sound level gauge FS 145 A

B) VOLUME STREAM IN CASE OF NORMAL USE NOZZLE DIAMETER 0,23 mm

- air pressure 2 bar (28,45 psi)

- material pressure 100 bar (1450 psi)

- viscosity 45 sec in 4 mm DIN-cup

material flowrate approximately 0,26 l/min.

C) AIR COMSUMPTION OF THE SPRAY GUN (0,23 MM NOZZLE DIAMETER, AIR CONTROL VALVE ON MAX):

ROUND JET:

1,5 bar (21,34 psi) = 5,2 m³/h - 87 l/min

2,0 bar (28,45 psi) = 6,7 m³/h - 76 l/min

3,0 bar (42,68 psi) = 9,5 m³/h - 158 l/min

FLAT JET:

1,5 bar (21,68 psi) = 3,0 m³/h - 50 l/min

2,0 bar (28,45 psi) = 4,2 m³/h - 70 l/min

3,0 bar (42,68 psi) = 6,1 m³/h - 102 l/min

The data can be reduced by approximately 80% by using the total air flow regulation to 20% of the above.



ANEST IWATA Europe S.r.l.
 46, Corso Vigevano
 10155 Torino - Italy
 Tel. ++39 011 24 80 868
 Fax ++39 011 85 19 44
 www.anest-iwataeu.com
 e-mail: info@anest-iwataeu.com

**COMPANY
 WITH QUALITY SYSTEM
 CERTIFIED BY DNV
 ISO 9002**

SAFETY WARNINGS

HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY

FOR PROFESSIONAL USE ONLY OBSERVE ALL WARNINGS.



HIGH PRESSURE HAZARD



The gun spray very high fluid pressure (250 bar). Spray from the gun or leaks (especially leaks or ruptured hose) can inject fluid through your skin and into your body and cause extremely serious bodily injury, including the need for medical treatment.

1. Never put human body in front of the gun during operation. Be sure to attach safety guard during operation.
2. Never stop leaks with hand or a part of human body.
3. Release all pressure before cleaning or removing nozzle tip or servicing any system equipment. Always follow the PRESSURE RELIEF PROCEDURE.

PRESSURE RELIEF PROCEDURE.

1. Stop air supply to the pump and to the gun.
2. Rotate handle set of the air regulator to counterclockwise till the pressure becomes zero.
3. Disengage the gun safety lock. Hold a metal part of the gun firmly to the side of a grounded metal pail and trigger the gun at pressure as low as possible to release pressure.
4. Engage the gun safety lock.
5. Open the drain valve. Leave the valve open until you are ready to spray again.
6. If you suspect that the nozzle tip or hose is clogged, or that the pressure has not been fully relieved after following the steps above, loosen very slowly the tip holder or hose end connection to relieve pressure gradually; then loosen completely and clean the tip or hose.

4. SPRAY GUN SAFETY DEVICES

Be sure all gun are operating properly before each use. Do not remove any safety device.

1. SAFETY LOCK

When stopping spraying, even for a moment, always set the gun safety lock in the closed position, making the gun inoperative.

5. When the nozzle tip is clogged during spraying, engage the gun safety devices IMMEDIATELY. ALWAYS follow the PRESSURE RELIEF PROCEDURE. NEVER wipe off build up around the nozzle tip until pressure is completely relieved and the gun safety devices are engaged.

6. NEVER use non-genuine, modified, worn or damaged parts.

ALWAYS use a hose exclusive for Multi spray.

NEVER use worn, damaged and modified hose.

7. MEDICAL ALERT

If any fluid appears to penetrate your skin, get emergency medical care IMMEDIATELY. Do not treat as simple cut. Explain the doctor about what fluid injected and get the surgical treatment.



FIRE OR EXPLOSION HAZARD

Spray painting, flushing or cleaning equipment not adequately grounded, with flammable liquids in confined and not well ventilated areas can produce sparks by electricity resulting in fire or explosion.



1. Static electricity is created by the flow of fluid through the pump and hose.
2. Sparks can ignite fumes, fluid dust particles and other flammable substances whenever spray is conducted indoor or outdoor.
3. Be sure to ground pumps, fluid hoses spray guns, pails, objects being sprayed and operators. Proper hose grounding continuity is essential to maintaining a grounded spray system.
4. If you experience any sparking during operation, stop spraying IMMEDIATELY. Do not use the system again until the problem has been identified and correct.
5. To maintain grounding continuity when flushing or releasing pressure, always hold the metal part of the gun firmly to the side of the metal pail.
6. Use in well-ventilated areas using spray booth.
7. Avoid all ignition sources such as smoking, heaters, electrical hazards, open flames, etc.
8. Do not leave any unnecessary empty solvent pail, contaminated cloth, etc. in the painting job areas.



MISUSE HAZARD



Any misuse of the spray equipment or accessories, such as overpressuring, modifying parts, or using non-genuine parts, can cause them to rupture and result in fluid injection, contacting with eyes or on the skin, or other serious injury or fire, explosion or property damage.

1. NEVER point gun in the direction of human body or animal.
2. NEVER exceed the maximum safe working pressure of the equipment.
3. NEVER use non-genuine, modified, worn or damaged parts. ALWAYS use fluid hoses with grounding wires.
4. If material or solvent should make contact with your eyes or skin, flush with clean water immediately. If any material appears to penetrate your skin, get emergency medical care immediately.
5. Material and solvent compatibility.
Do not use trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluid containing such solvents in the equipment, which contains aluminum and/or zinc parts. Such use can result in a serious chemical reaction, with the possibility of explosion which can cause death or serious bodily injury.
Be sure that all fluids and solvents used are chemically compatible with aluminum and zinc parts.
6. Be sure that the equipment is put on flat areas to avoid turnover.
7. Do not pull on hoses to move the equipment to avoid turnover.



MATERIAL AND SOLVENT HAZARD



1. Always read carefully the material and solvent manufacturer's literature and follow all recommendation. Toxic vapours by applying certain materials create organic solvent intoxication. Use in well-ventilated areas.
2. Always wear protective eyewear, gloves, respirators, etc.

HOW TO INSTALL

1. **AIR CONNECTION:**
Swivel air connection (45), connection thread G 1/4". Air supplying for air atomization as well as control of the fan pattern.
2. **PAINT CONNECTION:**
(Pay attention -high pressure! Consider safety regulation.) Swivel paint connection (20), connection thread G1/4".
Only use permissible high-pressure hose. Take care of the right position of the ball-cone seal.
3. **OPERATION OF THE HIGH PRESSURE GUN:**
 - A) Release the safety lever (24) by a 90° c.c.w. rotation. (The spray gun is unsecured)
 - B) Operate trigger (13) up to the first pressure point. (pre air.)
 - C) Fully operate trigger (13) . High pressure paint flow starts.
 - D) After finishing spraying operations, necessarily secure spray gun again by rotating the safety lever (24) by a 90° c.w. rotation.

REMARK

In order to avoid paint dropping after the material application, please let pre-air open for 1-2 second afterwards.

4. **JET REGULATION:**
 - 1.4.1 **Atomization**
The air atomization is regulated by the flat jet regulation (9).

Clockwise rotation	-little air	-little atomization
Counter clockwise rotation	-much air	-high atomization
 - 1.4.2 **Flat jet regulation**
The flat jet fan pattern is adjusted by the jet regulation (10).

Clockwise rotation	-little air	-little adjustment
		-to round jet
Counter clockwise rotation	-much air	-high adjustment
		-to round jet

5. **TRIGGER-PRESSURE ADAPTION ACCORDING TO THE MATERIAL PRESSURE**
The force of the spring is adjustable for material pressures between 80-250 bar (1138-3625 psi).
250 bar (3625 psi) = completely tighten screw (44).
80 bar (1138 psi) = unscrew screw (44) to tappet.
For pressures in between choose a correspondingly intermediate adjustment of the screw (44).

6. **FLAT JET DIRECTION ADJUSTMENT**
 - A) Put pump pressure at 0.
 - B) Secure spray gun by a 90° clockwise rotation of the safety lever.
 - C) Release gland nut (1) by hand.
 - D) Swivel head (2) to required position.
 - E) Relock gland nut (1) tightly by hand.

7. **FILTER CHOICE**
The mesh size of the filter must be smaller than the nozzle size.

8. **ADJUSTING OF PRE-AIR:**
 - A) Unscrew part (43) Remove the needle.
 - B) Release part (37) with the screw wrench SW 7, hold up at the end of the needle.
 - C) Adjust needle. - More pre-air - screw out needle (32) about one revolution .
- Less pre-air - screw in needle (32) about one revolution.
 - D) Fixate needle , by tightening part (37).

MAINTENANCE

1. **CLEANING:**

After use the spray gun has to be cleaned. Scavange the gun with the feeding pump and the relevant thinner for the paint in question till clear cleaner leaves the gun.

In any case it must be avoided to put the gun into a solvent bath.

2. **CLEANING OF THE NOZZLE:**

- A) Put pump pressure at 0.
- B) Secure spray gun by a 90°clockwise rotation of the safety lever.
- C) Remove the gland nut (1) by hand.
- D) Take off head (2) and blow it through from the front side.
- E) Insert head (2) and adjust it.
- F) Tighten gland nut again rightly.

3. **CLEANING OF THE FILTER**

We recommend to clean the filter (according to the used paint) from time to time in order to avoid that the paint residues get hard and render a dismantling impossible.

- A) Put pump into a pressureless condition.
- B) Dismantle paint hose (18) from the bented upper paint hose. Make sure to support the upper part of the paint hose by clamping it with an additional screw wrench.
- C) Unscrew the filter downwards out of the paint hose.
- D) Clean the filter with a brush (no wire brush).
- E) Mounting vice versa, please the thoroughly and take care of the right position of the sealing (17) in the upper part of the paint hose.

4. **LUBRIFICATION:**

O-ring, needle guide and needle seal as well as lever bearing are to be lubricated daily by silicone free oil or thin grease.

REPLACEMENT OF PART

In any case detach the gun from the pump.

1. **PAINT NEEDLE :**

- A) Unscrew part (43).
- B) Take out needle at its end backwards.
- C) Insert new needle.

2. **NEEDLE SEAL:**

- A) Dismantle needle according to 3.1.
- B) Dismantle lever (13), by loosening lever screw (11) removing of lever axle (12).
- C) Screw out packing gland (36).
- D) Press out sealing kit backwards. When mounting it again, take care of the right position of the sealing lip.

3. **AIR SEAL:**

- A) Dismantling of lever according to 2 (B).
- B) Unscrew valve packing gland (26) to the front.
- C) Pull out valve packing gland seal (27) to the front.
- D) Insert three new, well oiled valve packing gland seals.
- E) Mounting vice versa.

4. **NOZZLE CARRIER:**

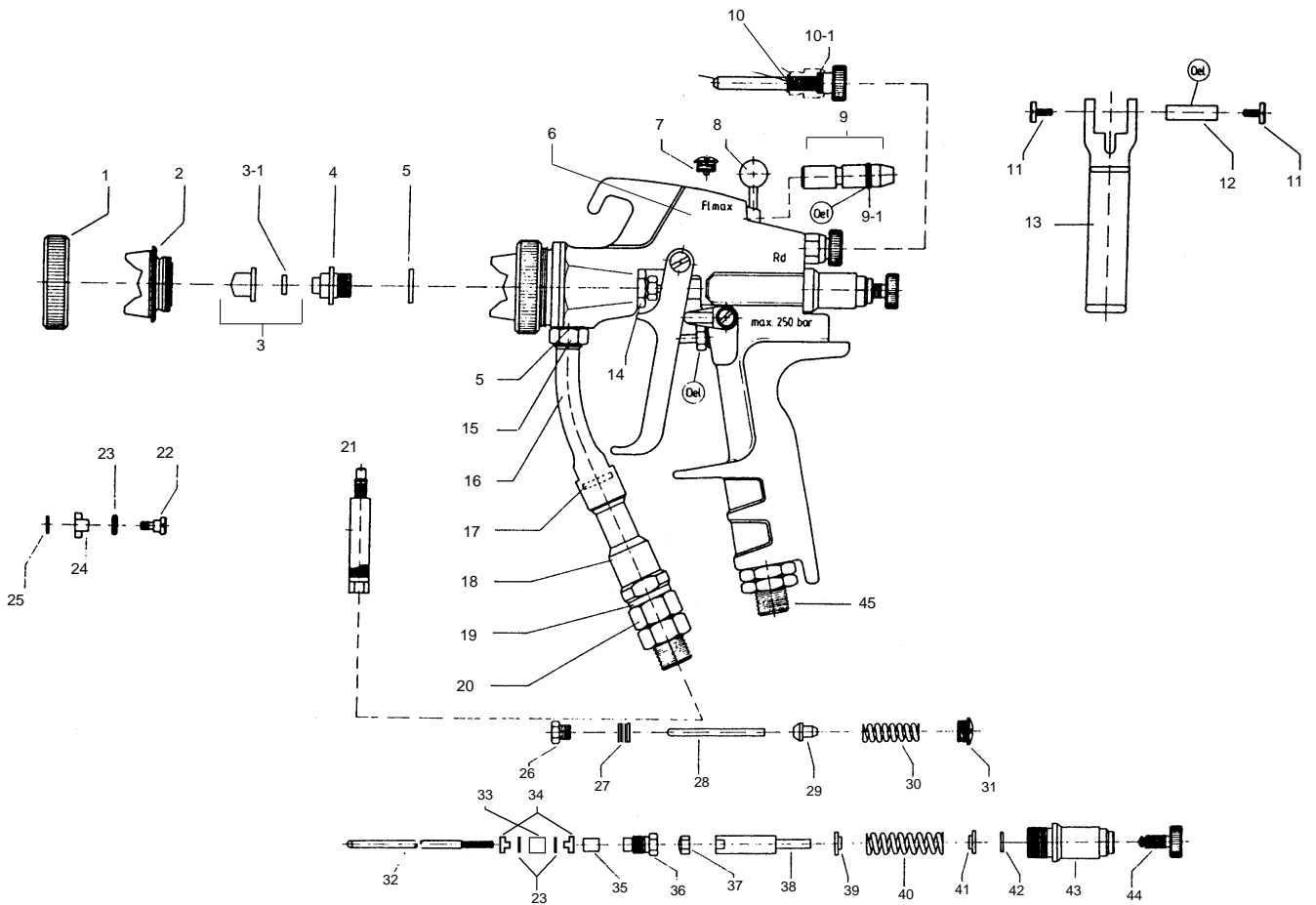
- A) Screw out gland nut (1) by hand.
- B) Take-off head part (2).
- C) Press out nozzle carrier (3) backwards.
- D) Press in new nozzle carrier, take care of the position of the catering pin (auxiliary tool).
- E) Mounting vice versa.

TROUBLESHOOTING

POSSIBLE FUNCTIONAL DISTURBANCE	POSSIBLE CAUSE	REPAIR
Decrease in paint flow when spraying:	<ol style="list-style-type: none"> 1. Filter of gun clogged . 2. Viscosity too high. 3. Nozzle too wide or worn out. 4. Too low material pressure. 	<ol style="list-style-type: none"> 1. Clean the filter. 2. Reduce the paint . 3. Insert a new nozzle carrier. 4. Increase air inlet pressure of the pump
Irregular jet:	<ol style="list-style-type: none"> 1. Airless nozzle clogged. 2. Filter of gun clogged. 3. Nozzle too wide or worn out. 4. Viscosity too high. 5. No or not enough atomizer air. 6. Air slits dirty. 7. Atomizer air pressure too high or too low. 	<ol style="list-style-type: none"> 1. Take a new nozzle. 2. Clean it. 3. Take a new nozzle. 4. Reduce the paint. 5. Open regulation. 6. Clean with a brush (not a wire brush). 7. Adjust pressure regulation valve acc. to spray pattern.
Airless-nozzle currently clogged:	<ol style="list-style-type: none"> 1. Material too coarsely pigmented 2. Meshes of filter too wide 	<ol style="list-style-type: none"> 1. Use airless quality. 2. Use finer filter
After closing gun is still spraying:	<ol style="list-style-type: none"> 1. Seal washer(33) or needle ball worn out. 2. Needle spring has lost stress. 3. Needle seal too strong. thus needle can not be moved through the spring. 	<ol style="list-style-type: none"> 1. Replace these parts. 2. Replace it. 3. Replace sealing kit.
Gun leaks on needle seal:	<ol style="list-style-type: none"> 1. Needle seal worn. 	<ol style="list-style-type: none"> 1. Replace sealing kit.
Gun is blowing:	<ol style="list-style-type: none"> 1. Valve spring fatigue. 2. Valve sealing worn. 	<ol style="list-style-type: none"> 1. Replace spring. 2. Replace it.
Gun has no or too much air:	<ol style="list-style-type: none"> 1. Pre-air stroke screw not properly adjusted. 	<ol style="list-style-type: none"> 1. Adjust pre-air acc. to page 4 point 8.

SPARE PARTS LIST

DESCRIPTION	REF.PART	DESCRIPTION	REF.PART
LOCK NUT	1	FILTER 180 mesh	21
AIR CAP	2	SCREW	22
MULTI SPRAY NOZZLE	3	O-RING 4 x 1,2	23
NOZZLE SEALING	3-1	SAFETY LEVER	24
SEALING RETAINING SCREW CPL	4	WASHER	25
SEALING RING.ALUMINIUM	5	VALVE PACKING GLAND	26
SPRAY GUN BODY PRE-ASSEMBL.	6	VALVE PACKING GLAND SEAL	27
LOCKING SCREW	7	PIN	28
FEELER COMPLETE	8	VALVE	29
AIR REGULATION COMPLETE	9	COMPRESSION SPRING	30
O-RING 7x1	9-1	LOCKING SCREW	31
SET SCREW COMPLETE	10	NEEDLE COMPLETE	32
O-RING 6x1,5	10-1	SEAL WASHER	33
FLAT HEAD SCREW 2 pcs.	11	INVERTED CAP SEAL	34
LEVER AXLE	12	DISTANCE GLAND	35
TRIGGER COMPLETE	13	PACKING GLAND	36
TIGHTENING NUT	14	NEEDLE CARRIER	37
JAM NUT	15	NEEDLE END	38
UPPER PAINT HOSE PART	16	COMPRESSION WASHER LARGE	39
SEALING	17	COMPRESSION SPRING	40
LOWER PAINT HOSE PART	18	COMPRESSION WASHER SMALL	41
SEALING RING	19	PRONG RING	42
SWIVEL MATERIAL CONNECTION	20	BREECH RING CAP	43
FILTER 50 mesh	21	SET SCREW	44
FILTER 100 mesh	21	SWIVEL AIR CONNECTION	45



NOZZLE TABLE MULTI SPRAY ANEST IWATA EUROPE

CODE	ANGLE	DIAM. in mm	DIAM. in "	PATTERN 300 mm
218	20°	0,18 mm	0,007"	100-125 mm
318	30°	0,18 mm	0,007"	150-175 mm
418	40°	0,18 mm	0,007"	250-300 mm
518	50°	0,18 mm	0,007"	250-300 mm
618	60°	0,18 mm	0,007"	300-350 mm
223	20°	0,23 mm	0,009"	100-125 mm
323	30°	0,23 mm	0,009"	150-175 mm
423	40°	0,23 mm	0,009"	200-250 mm
523	50°	0,23 mm	0,009"	250-300 mm
623	60°	0,23 mm	0,009"	300-350 mm
228	20°	0,28 mm	0,011"	100-125 mm
328	30°	0,28 mm	0,011"	150-175 mm
428	40°	0,28 mm	0,011"	200-250 mm
528	50°	0,28 mm	0,011"	250-300 mm
628	60°	0,28 mm	0,011"	300-350 mm
233	20°	0,33 mm	0,013"	100-125 mm
333	30°	0,33 mm	0,013"	150-175 mm
433	40°	0,33 mm	0,013"	200-250 mm
533	50°	0,33 mm	0,013"	250-300 mm
633	60°	0,33 mm	0,013"	300-350 mm
238	20°	0,38 mm	0,015"	100-125 mm
338	30°	0,38 mm	0,015"	150-175 mm
438	40°	0,38 mm	0,015"	200-250 mm
538	50°	0,38 mm	0,015"	250-300 mm
638	60°	0,38 mm	0,015"	300-350 mm
243	20°	0,43 mm	0,017"	100-125 mm
343	30°	0,43 mm	0,017"	150-175 mm
443	40°	0,43 mm	0,017"	200-250 mm
543	50°	0,43 mm	0,017"	250-300 mm
643	60°	0,43 mm	0,017"	300-350 mm



*European
Sales
Branches:*

ANEST IWATA Europe S.r.l.

46, Corso Vigevano
10155 Torino - Italy
Tel. +39 011-24 80 868
Fax +39 011-85 19 44
www.anest-iwataeu.com
e-mail: info@anest-iwataeu.com

VERKAUFS- UND SERVICE NIEDERLASSUNG Deutschland

Trollingerweg 14
D-74360 Ilsfeld-Auenstein
Telefon-Fax: 070 62/6 22 90
Handy: 0172 62 74542
f.e.anest-iwata@t-online.de

ANEST IWATA Scandinavia A.B.

Ögärdesvägen 6C
433 30 Partille
Tel. +4631 340 28 60
Fax +4631 340 28 69
amvab@swipnet.se

ANEST IWATA France S.A.

38074 Saint Quentin Fallavier
Cedex Centre Evolic 7405
Tél. 04 74 94 59 69
Fax 04 74 94 34 39
anest.iwata@wanadoo.fr

ANEST IWATA (U.K.) LTD

Unit 2, Cedar Trade Park,
Ferndown Industrial Estate,
Wimborne, Dorset - BH21 7SB U.K.
Tel. 01202 - 895999
Fax: 01202 - 895666
enquiries@anest-iwata.co.uk