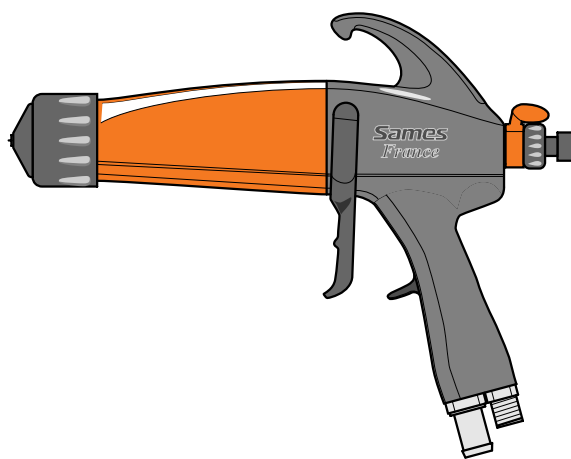




From February 1st, 2017 SAMES Technologies SAS becomes SAMES KREMLIN SAS
A partir du 1/02/17, SAMES Technologies SAS devient SAMES KREMLIN SAS

SAMES  **KREMLIN**



DES00520

User manual

**Hand gun MIV 6600
model .1/.H1/JR/JP
«US version»**

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model .1/.H1/JR/JP
«US version»

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CAUTION : This document is also related to the following user manuals:

[see RT Nr 6407](#) Puser manual for the AP 1000 resistivity meter

[see RT Nr 6210](#) user manual for the GNM 100 power supply.

1. Instructions



WARNING : We only guarantee the correct working of the equipment when supported with SAMES Technologies OEM spare parts.



SAFETY : Safety instruction: this equipment can be dangerous if not used correctly and installed according to the rules set out in this manual and according to all Standards and rules of safety applicable.

Warning notices summarising the safety rules (procedures and precautions) of this present manual, must be placed in evidence in the spray booth.

2. Regulations

The MIV 6600 gun must always be used in the conditions required by the standards and regulations in force concerning the application of paints and clear coats. See American standard NFPA33 for use in the United States.

2.1. The following points are mandatory

- To correctly connect the parts to be painted to the system's ground. The same applies to all metal parts located in the spray booth. Before applying the product on the first part of the day, check there is no current fluctuation by bringing a part, that is electrically connected to the ground, closer to the nozzle. This test has to be carried out with set-values at their maximum (voltage and power), in non-explusive atmosphere areas and with product supply off. Otherwise, contact «Sames Technologies».
- To place the power supply outside the spray booth, at least 1.5 m (5ft)from the booth's openings,
- Switch off the power supply for any maintenance operation and in particular each time the nozzle has to be cleaned with solvent or thinner, as these materials are usually very flammable,
- The operator must wear conductive shoes and work either with bare hands or with conductive gloves or gloves cut out so that direct contact is established between the handle and the hand,
- Persons working near the operator, must also wear conductive shoes,
- Spraying must only be done while on a conductive floor such as bare concrete or a metal grating (plastic floors must NOT be used).

2.2. It is recommended to :

- group the cables and hoses going to the gun to prevent them from trailing along the floor where they could get damaged,
- interlock the booth ventilation system to the working of the GNM 100, so that the GNM 100 can only be put into service when the ventilation of the booth is on.

3. Safety instructions

Nota: Safety warning label [see § 13.10 page 56](#) must be placed on booth wall.

3.1. Spraying hazards

Spraying	Bad ventilation of the booth causing an accumulation of flammable vapours of a concentration above or equal to the lower explosive limit.	Periodically check the booth ventilation to prevent the risk of fire.
	Chemical reaction between the mixture of coating materials and thinners in the containers, in the paint hose, in the booth (for example, on the dry filters or the water curtain).	This risk cannot be eliminated and the operation should prevent the risk of fire or explosion. Consult the MSDS for fluids used (see supplier of these products).
	Using coating materials or cleaning thinners whose flash point is below the ambient temperature.	This risk cannot be eliminated. The operation should prevent the risk of fire. Consult the MSDS on the materials used (see supplier of these materials).
	Bad earthing of the parts to be coated or metal objects placed in the spray area which could cause a spark sufficient to ignite the vapours in the booth. All the booth's metal parts must be grounded. Parts to be coated have to be grounded with a contact resistance not exceeding 1 MΩ.	The operation must be designed to prevent the risk of inflammation. Periodically check that the different elements of the coating booth are correctly grounded when handling these products.
Paints	Contact with coating materials and cleaning solvents on any part of human body.	This risk cannot be eliminated and it is recommended for the operator to use protection gear.
	Inhalation of the spray vapours.	This risk cannot be eliminated the operator should wear a breathing mask (active carbon cartridge) and safety glasses.
	Accidental swallowing of the materials used coming from inappropriate conditioning or contamination.	This risk cannot be eliminated and the operator must not keep food or drink in the booth.
Noise	There is noise resulting from the spraying air and the emission of the paint spray.	It is recommended that the operator uses a means of protection such as a helmet, etc.
Equipment	Unexpected spraying material or solvent emission after a stop in the supply caused, for example, by nozzle clogging.	Apply trigger stop, stop the pump and purge the circuit before dismantling the nozzle.
	Bad operation of the automatic return of the trigger or bad tightness of the paint needle resulting in material leak at nozzle.	Periodically check on the gun components.
Pinching	Of a finger between the trigger and the handle when the trigger is pulled.	Be careful when pulling and releasing the trigger.

Penetration	Connected to the presence of the high voltage electrode on the gun nozzle.	The operator must be wary of the electrode which comes out of the tip.
	Connected to the pressurised coating material in the pump and in the coating material hose.	Shut the pump's air supply and purge the hose by pressing the trigger before carrying out any repair on the coating material circuit
Spraying and compressed air	Uncontrolled fluid escape connected to the accidental pressing of the trigger (for example : dropping a gun and accidentally pulling the trigger).	Apply the trigger stop when the gun is not being used.
	Bad sealing of the paint needle or air needle.	Periodically check the tightness of the needles.
	Aging and wearing of the gun parts (for example: barrel damage, needle wear, broken seal).	Periodically check the different parts of the gun.
	Purposely or accidentally pressing the trigger as the gun is aimed at someone.	Use the stop trigger whenever the gun is not being used to spray. To prevent any SERIOUS INJURY , make sure there is nobody in front of the nozzle before starting to spray.
	Escape of compressed air. The compressed air must be turned off and purged before dismantling the quick disconnect at the gun handle.	Close the air shut-off valve and purge the gun's air circuit by pressing on the trigger before disconnecting.
Deterioration	Parts coming off because of vibrations.	Periodical check of the gun.
	Wear and tear.	Periodical check of the gun.
	Mechanical damage to the paint hose and the air hose.	Periodical check of the paint hose and the air hose.
	Chemical reactions between the different materials sprayed or among the materials and the components used in the construction of the gun (list of components materials available upon request).	Close the air shut-off valve and purge the gun's air circuit by pressing on the trigger before disconnecting.
Electrical parts	Direct contact by the operator with the bare electrical parts during maintenance of the GNM 100, if the cover is removed when voltage still on.	This risk cannot be eliminated and the operator may be burnt, if careless.
	Direct contact of the operator with the pins of the quick disconnect if the compressed air is not turned off and if the GNM 100 is still on.	This risk cannot be eliminated and the operator may be exposed to an electric shock.
Burns	Burns of the operator from the handle, the pump, the connectors of the paint hose, if a paint heater is used and if the temperature of the paint exceeds 40 °C (104 °F).	This risk cannot be eliminated and the operator may be burnt, if careless.

3.2. Emergency measures in case of fire

It is recommended to install an extinguisher filled with a substance adapted to fight hydrocarbon fires near the booth (CO2 extinguisher or carbon dioxide type).

It is also recommended to install either a retention tank for the hydrocarbon fluids, or a sand tank with A shovel.

3.3. Potential hazards

Safety device	hazards
Nozzle nut missing.	Loss of the cap and the insert due to the paint pressure. Risk of injury.
Nozzle missing.	Accidental starting of the high voltage if the air cap is missing and the trigger pressed. Risk of injury.
Insert or nozzle missing.	Formation of a high speed paint jet with risk of penetration under the skin.
Trigger stop ineffective.	Unexpected paint jet if the trigger is pulled.
Air tap holding screw missing.	Air tap ejection on the operator because of air pressure and start of the high voltage. Risk of injury.

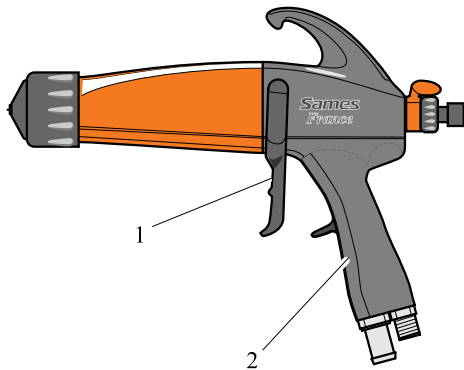
3.4. Non-exhaustive list of incorrect usages of the equipment

The operator MUST NOT:

Place the GNM 100 and air flow switch inside the paint booth.
Fix the air control switch to the GNM 100.
Place the gun near the GNM 100 when it is in operation and press the trigger.
Pull on the air hose and paint hose.
Leave the air and paint hoses trailing on the ground, where they can be damaged.
Aim the gun at a person.
Spray an unauthorised material.
The gun or hit it to the booth or parts to be sprayed. Let the gun fall down or hit it.
Use the gun without cap or injector.
Use the barrel or the cap of the gun to handle or move parts to be painted.
Leave the gun (or the GNM 100) on the floor when not used.
Leave the equipment under pressure when not used.
Pour solvents on the gun (or soak it).
Leave the equipment exposed to weather (when working outside).
Spray a thinner with high voltage on.
Use a fast connecting clamp to activate the trigger.
Circulate the coating material or the thinner in the air circuit.
Disrespect the spraying distances.
Disconnect the quick disconnect plug under the handle while the GNM 100 is on or when the air regulator is open.
Turn on GNM 100 after having disconnected and then reconnected the quick disconnect , without having blown air by pressing the trigger for a minimum of 15 seconds;
Connect the GNM 100 to the wrong voltage supply.
Leave on the floor the low voltage air hose disconnected from the gun, let the solvent penetrate into the hose, or clean the inside of this hose with solvent.

4. Description

The MIV 6600 series are air atomizing handheld sprayguns. The maximum allowed air pressure is 90 PSI (6 bar). These guns can only spray solvent based materials. They are supplied with paint from a pressure-tank or 1/1 ratio pump.



The electrostatics are generated by a GNM 100 power supply which permits the separate adjustments of the HV and the current supplied to the gun. One can also utilise the MIV 6600 guns as conventional non-E/S guns by turning off the power supply.

The MIV 6600 are outfitted with an air-flow switch, which triggers the HV as the trigger (1) is pulled, allowing the compressed air to flow through the air line, which also serves as a mechanical protection of the LV line which is routed in it from the GNM to the cascade.

The MIV 6600 are equipped with a quick disconnect located at the base of the handle (2), assuring a fast and easy removal of the air + low voltage line..

The GNM 100 power supply can also be disconnected from the air + LV + air-flow switch assembly. The HV cascade is installed in the barrel of the gun.

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4.1. Gun configuration

There are two versions of spray guns available:

- vortex or round spray.
- fan spray.

4.2. Gun selection

One selects either the caliber of the vortex injector (\varnothing 6, 8, 12 mm available) or the type of fan spray cap (one standard delivered with the gun, two others optional) in function of the spray variables:

- paint flow,
- paint viscosity,
- spray pattern size,
- part size and shape.

The resistivity of the paint must be accounted for. It is measured with the SAMES AP1000 resistivohmeter.

For the spraying of «hot» materials (resistivities $< 5 \text{ M}\Omega/\text{cm}$) one must select the .H1 version of the 6600 series, where the paint tube is isolated and extended to 16' (5.2 M).

This is also the version of choice for the spraying of lightly loaded metallic paints (paints which are not heavily loaded with metal flakes).

Other conventional materials with resistivities $> 5 \text{ M}\Omega/\text{cm}$ are sprayed with the .1 version.

The spraying of waterborne materials can only be done with the MIV 6600 W and the appropriately isolated paint supply system.

5. Technical characteristics

5.1. The MIV 6600 line

As quickly explained above, the choice of the model of gun depends on a number of criteria:

- parts sizes and shapes,
- paint resistivity,
- viscosity.

5.1.1. Fan spray (JP)

Viscosity	- Resistivity from 1 to 500 megohm.cm (1) - Paint flow 100 to 750 cc/min (2)	- Resistivity from 10 to 500 megohm.cm (1) - Paint flow 100 to 750 cc/min (2)
- from 14 to 40 seconds according to FORD 4 - from 25 to 150 centipoises	MIV 6600 .H1	MIV 6600 .1

- Paint tube length [see § 5.3 page 12](#).
- Air hose : 9 m standard, 15 & 20 m optional.

(1) Measured with the SAMES "AP 1000" resistivohmeter [see RT Nr 6407](#).

(2) The maximum paint flow depends on the paint supply system (length of paint hose), the type of nozzle, the viscosity of the paint. The ranges shown in above chart are valid for a vortex nozzle, medium viscosity and a diaphragm pump, with 9 m paint hose.

5.1.2. Vortex spray (round spray - JR)

These are commonly utilized for the spraying of tubular and round parts or objects with a lot of openings. They provide the maximum transfer efficiency with a spectacular «wrap-around» effect ([see § 9.1.2 page 16](#)).

5.2. MIV 6600 series, general characteristics

Characteristic	Value
Length	12 "
Weight (without hoses)	625 g
High voltage	0 to 60 kV
Current	0 to 60 microamp
GNM curve	rectangular
Compressed air	90 PSI (6 bar)
Paint pressure (max. operating)	90 PSI (6 bar)
Air connection	quick disconnect
Paint connection	3/8" NPS, female

5.3. Characteristics of Paint Hoses

- Version .1 : 30' (9 m, Std), 50' (15 m) or 75' (20 m, on request),
- Version .H1: 30' (9 m, Std), 46' (14 m) or 75' (20 m, on request),

For version .H1 only, this length is in two sections, and includes a 5-m insulated plastic hose at the atomizer end. The insulated plastic hose is protected by a special elastomer hose, which provides a ground for the metallic union situated 16' (5 m) below the handle.

The elastomer paint hose withstands attack from both conductive (polar) and non-conductive (non-polar) diluents as well as materials containing such diluents.

The length of the rubber (elastomer) extension of the paint hose is:

- Version .1 : 30' (9 m, Std), 50' (15 m) or 75' (20 m, on request),
- Version .H1: 14' (4 m, Std), 30' (9 m) or 50' (15 m, on request),

6. Operation

All the guns are outfitted with a valve which permits quick adjustment of the pattern size and simultaneously adapts the paint flow to it.

It is controlled by the lever on the back of the gun. When all the way to the right, the flow is restricted and the pattern is very narrow, the stream of paint is fast.

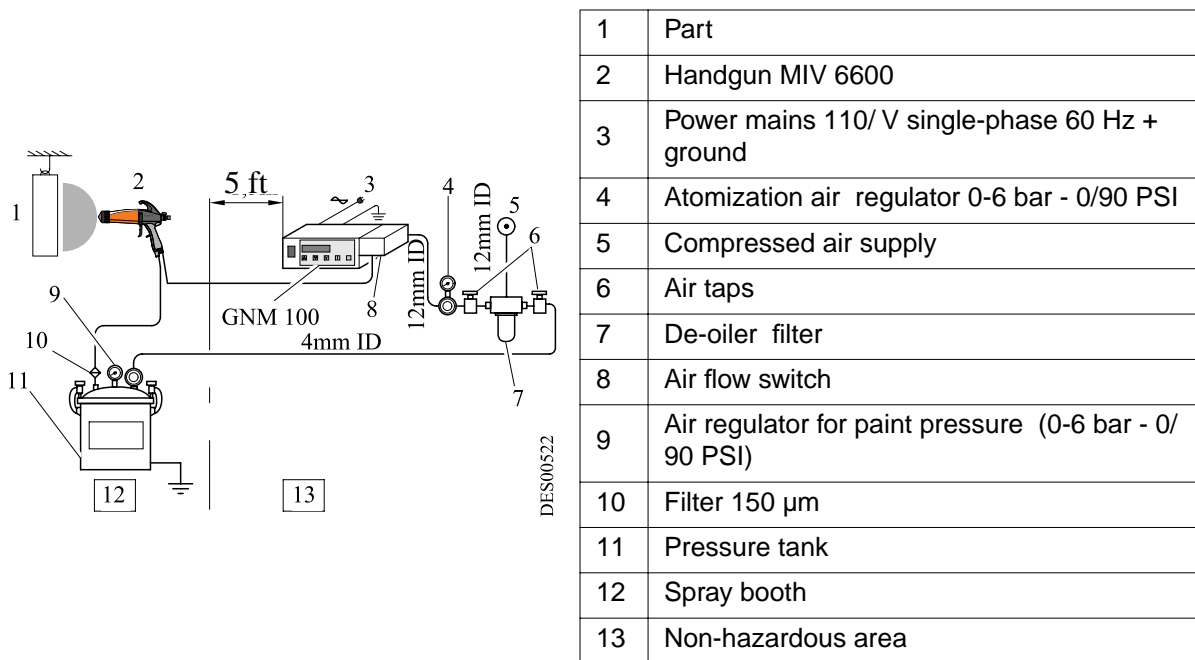
When all the way to the left, the flow is not restricted, the pattern is at its widest, the stream of paint is slow, soft and the wrap is maximum.

7. Installation



WARNING : The power supply GNM 100 which carries the air-flow switch must be installed outside of the booth, at least 5 FT from the nearest opening. It may at will be mounted on the bracket provided, on a table, against a wall, or on Sames cart RFV 476.

7.1. Installation with pressurized tank

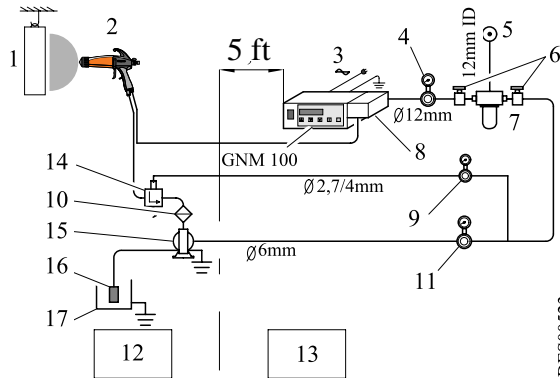


Nota : It is always better to outfit the paint pressure tank with a pneumatic stirrer and to mount a filter (150 µm) on the paint outlet.



WARNING : To avoid build up electric charges, the paint tank and its filter (if metallic) must be connected to ground.

7.2. Installation with a diaphragm pump



1	Part
2	Handgun MIV 6600
3	Power mains 110 V single-phase 60 Hz + ground
4	Atomization air regulator (0-6 bar - 0/90 PSI)
5	Compressed air supply
6	Air taps
7	De-oiler filter
8	Air flow switch
9	Air regulator for paint pressure (0-6 bar - 0/90 PSI)
10	Air supply regulator to the pump (0-6 bar - 0/90 PSI)
12	Spray booth
13	Non-hazardous area
14	Paint flow regulator
15	Diaphragm pump
16	Suction device
17	Paint pail

Nota : It is always better to outfit the paint pressure tank with a pneumatic stirrer and to mount a filter (150 µm) on the paint outlet.



WARNING : To avoid build up electric charges, the paint tank and its filter (if metallic) must be connected to ground.

7.3. Air flow switch connection

It is attached to the gun's air line and must be fastened to the GNM 100 and its plug mounted on the GNM socket. The air inlet is a 3/8" BSP thread.

Type.1

- Connect union (item 79') located on the hose (item 78') with the union (item 70') located on the gun handle.
- Tighten enough the union in order to ensure a good tightness.

Type.H1

- Connect union (item 79') located on the hose (item 78') with the union (item E) located on the gun handle.
- Tighten enough the union in order to ensure a good tightness.

All types

- Taking care to align correctly the alignment notches, tighten the air union of the air flow switch ([see § 13.9 page 55](#)) on the air union located under the handle.
- Tighten enough the union in order to ensure a good tightness.

8. Generalities on the paints

As a matter of fact quasi all paints usually sprayed with a standard pneumatic handgun are sprayed by the MIV 6600 series.

However they will only handle lightly loaded metallics in their H.1 configuration. Heavy metallics (for instance silver metallics) or paints including large metal flakes, can only be sprayed with a coil-mounted handgun and adapted power supply (SAMES MRV 760.MI + GNM 1060A).

8.1. Viscosity

For best results, the paint must be measured between 25 to 30 s - FORD 4 (80 to 100 centipoises). The MIV 6600 series do spray paints which measure as little as 14 s and as much as 40 s - FORD 4 (25 to 150 centipoises).

8.2. Resistivity

As a rule of thumb the style of gun and the resistivity of the paint must be matched ([see § 5.1 page 11](#)). The 6600 series can spray paints between 5 to 100 M Ω /cm measured with SAMES AP 1000 resistivohmeter. "Hot" materials (readings on the AP 1000 red range) will give excellent transfer efficiency but also a lot of backspray on the operator, particularly with vortex nozzles..

Too "hot" materials will short circuit the high voltage to ground, resulting in fault display on the power supply, and no electrostatics at the gun. On the contrary, too high resistivities (readings on the AP 1000 blue range) will acquire very little electrostatic charge, and generally atomize poorly. Consult with your paint supplier to bring the resistivity down. For more details, on the utilization of the SAMES AP 1000 resistivohmeter [see RT Nr 6407](#).

8.3. Flash point



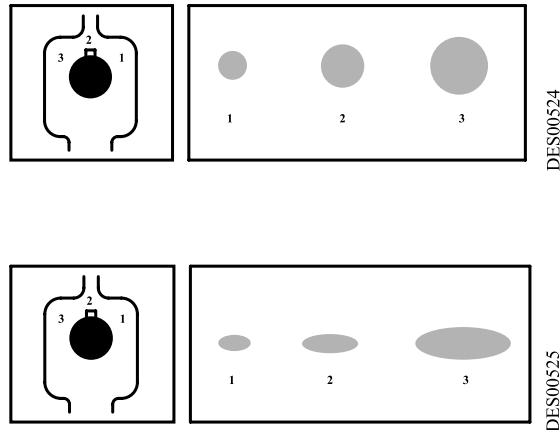
SAFETY : Safety rules impose the utilisation of paints with a flash point as high as possible, preferably > ambient temperature.

9. Utilisation

9.1. Utilisation of the 6600 series

9.1.1. Operation

With both fan and vortex versions, the operator can adjust easily the size of the spray pattern, from a bigger size pattern for surfaces coating to a narrow pattern for cavities/recesses coverage, by turning the lever at the back of the gun from right to left and back, with any intermediate position (see sketches below) according to his needs. As he does so, the volume of paint sprayed is automatically adjusted to the size of the pattern.



9.1.2. Vortex aircaps and injectors

A cal. 8 nozzle comes standard with the vortex gun. This provides 650 cc/mn maximum. For the spraying of parts of middle size, with optimum transfer efficiency and good finish.

Ideal for outdoors furniture, camping gear, bicycles, metallic furniture, etc. Nozzle cal. 6 (optional) is best suited for small parts or parts with a lot of empty spaces like shelves, grids, etc. This provides 400 cc/mn maximum. All 3 cal. nozzles provide superior transfer efficiency and good finish.

For larger surfaces we recommend the use of the cal. 12 nozzle (optional). This provides 750 cc/mn maximum ([see § 13.5 page 51](#)).

9.1.3. Fan spray caps and injectors

Standard nozzle and aircap come with the gun [see § 13.5 page 51](#). This provides 750 cc/mn maximum. Fan sprays are utilised for the fast application on large surfaces, with a reduced transfer efficiency, but a high quality finish, [see § 13.5 page 51](#) for flow/pressure combinations.

One can go from fan to vortex or vortex to fan by changing the nozzle, aircap, and air distributor.

9.1.4. Paint flow adjustment

The flow is mostly adjusted from the paint tank or the pump. A finer adjustment is obtained by turning the needle adjustment knob on the rear of the gun. Typical pressures to the paint tank go from 15 to 40 PSI for vortex spray and 45 to 60 PSI for fan spray with a 30' long standard paint line.

To adjust the needle length:

- turn lever at rear all the way to the right,
- screw clockwise the needle adjustment knob until paint no longer flows when pressing the trigger,
- turn the knob anticlockwise approximately 1/2 turn to 3/4 turn.

The needle is set to its minimum opening.

Nota: Never remove the air distributor + needle assembly with fluids in the paint line.

Place the lever in the desired position for the paint job at hand, set the paint pressure on the tank accordingly. The paint flow will increase or decrease at the gun according to the position of the lever.

9.1.5. Atomization air adjustment

Granted that the paint sprayed is suitable (resistivity between 5 and 100 MΩ/cm, viscosity about 25 s - FORD 4 (80 centipoises), the atomization air should be set as follows to achieve a good finish :

9.1.5.1. Vortex spray

	Injector caliber	6			8			12		
Paint	Flow (cm ³ /min.)	70	200	400	150	300	650	150	300	750
Atomization air pressure	Flow (Nm ³ /h) (1)	6.7	8.4	15.5	7.5	11.7	17	9	13	23
	Pressure (bar) (2)	1.3	1.7	4	1.3	2.3	3.7	1.4	2.3	4.5
	Pattern size (3)	32	33	28	38	36	34	43	42	38

9.1.5.2. Standard fan spray

Paint	Flow (cm³/min.)	100	300	500	750
Atomization air pressure	Flow (Nm ³ /h) (1)	12.3	14	18.5	25
	Pressure (bar) (2)	1.3	1.5	2.3	3.4
	Pattern size (3)	18	34	44	45

(1) Air flow in normal cubic meters per hour, ie at normal atmospheric pressure, as provided by the compresseur: 1 Nm³/h = 0,621 SCFM.

Paint	Flow (cm³/min.)	100	250	500	750 (4)
Atomization air pressure	Flow (Nm ³ /h) (1)	18	19.3	24.8	37.5 (4)
	Pressure (bar) (2)	2.3	2.6	3.9	5.5 (4)
	Pattern size (3)	45	54	63	66 (4)

(2) Pressure taken at the inlet of the standard 30' air hose. Add 22 PSI (1.5 bar) for a 45' hose, and 35 PSI (2.5 bar) for a 65' (20 m) hose. Do not exceed a 90 PSI (6 bar) maximum operating pressure. These pressures are dynamic pressures.

(3) Maximum average pattern size (lever to the left) for a 10 inch target distance and 60 KV at the power supply.

(4) At 750 cc paint flow one is closer to conventional pneumatic spraying.

Nota : The values indicated in above charts are indicative of ideal spraying conditions. When spraying viscous paints or to achieve a mirror finish, the atomization air pressures must be increased accordingly, lessening transfer efficiency and “wrap”.

SAMES supplies on request test aircaps and gauges to precisely measure the pressures at the aircap.

Nota : one cannot spray usefully with fan air pressures < 3 PSI (0.2 bar) at the fan aircap.

10. Cleaning

As with any spraygun, the MIV 6600 must be cleaned up immediately as operations stop.



WARNING : Absolutely no dunking of the gun in solvent,

Routinely, these are the steps to follow :

- turn off the GNM 100 power supply,
- do not use chlorinated solvents,
- use “dry” solvents of high resistivity,
- shut off the atomizing air,
- flush the paint line with solvent,
- remove and clean the aircap nut, the aircap and the nozzle,
- clean the outside of the gun with a rag wet with solvent (NOT SOAKED) .
- it is best to air blow the gun dry, prior to reinstalling the nozzle and air cap.

Never remove the air distributor and needle assembly with fluids remaining in the paint line.



WARNING : Always aim the gun to the ground during cleaning operations, to avoid solvent to run into the barrel.



WARNING : After each cycle of cleaning, dry with compressed air the conducts and the paint hose to eliminate any trace from solvent.



WARNING : For any operation of assembly or cleaning, ensure that the special screws ([see § 11.6.2 page 25](#) item 45) location are clean.

11. Maintenance



SAFETY : Any and all maintenance operations are carried out only after having gone through these steps :

- Turn off the GNM 100 power supply (better still, pull the plug from the mains socket),
- Flush the paint line with solvent [see § 10 page 19](#),
- Turn off the atomization air and release pressures by pressing the trigger,
- Turn off the fluid supply.

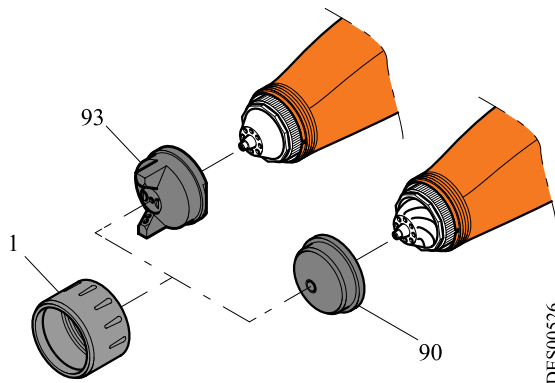
To work on the paint line, it must be flushed with solvent and then emptied and air dried.

Nota : all MIV 6600 are outfitted with a quick disconnect on the air + LV hose for easy disconnection. However, in certain cases it may be more practical to disconnect this line from the GNM 100 power supply [see RT Nr 6210](#).

11.1. Aircaps

11.1.1. Removal

- Unscrew the aircap nut (1).
- Remove the aircap (90), (93) or (93').



1	Aircap nut
90	Aircap cal. 6
	Aircap cal. 8
93	Aircap cal. 12
	Standard fan cap

11.1.2. Reassembly



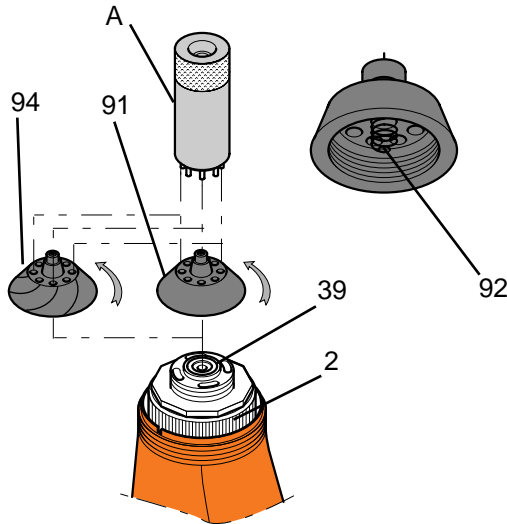
WARNING : Air caps (round spray, fan spray) are of the parts of first urgency whose frequency of replacement under the normal conditions of use is three to six months.

- After clean up of nozzle and cap, place cap on nozzle
- Tighten the aircap by hand.

11.2. Nozzles

11.2.1. Removal

- Remove aircap [see § 11.1 page 20](#).
- Place nozzle removal tool (A) on the nozzle (91) [see § 13.10 page 56](#).
- Turn anticlockwise to remove nozzle (91).
- Do not loose the electrode spring (92) or o-ring (39) [see § 11.3 page 22](#) or [see § 11.6 page 24](#) .



2	Nozzle nut
39	O-ring
91	Standard fan nozzle
	Fan nozzle, high finish
92	Electrode spring
94	Vortex nozzle cal. 6
	Vortex nozzle cal. 8
	Vortex nozzle cal. 12

DES00527

11.2.2. Reassembly



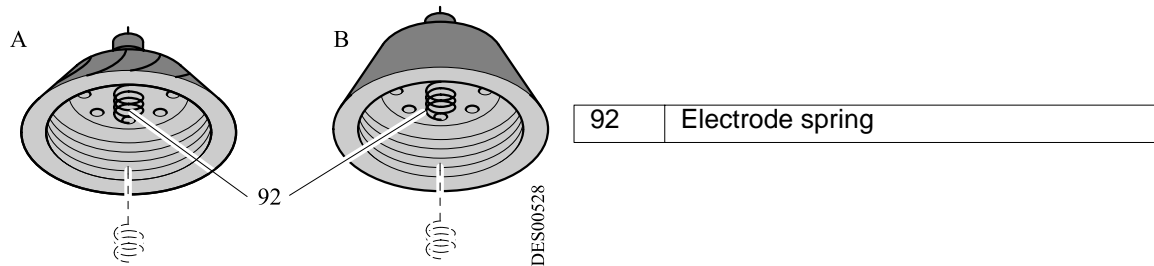
WARNING : Nozzles (round spray, fan spray) are of the parts of first urgency whose frequency of replacement under the normal conditions of use is three to six months.

- Check the o-ring (39), replace it as needed [see § 11.6 page 24](#).
- Check the electrode spring (92), replace as needed [see § 13.5 page 51](#)
- Screw in the nozzle by hand.
- Tighten with tool A (approximately 1/4 to 1/2 turn) [see § 13.10 page 56](#).

11.3. Electrode spring

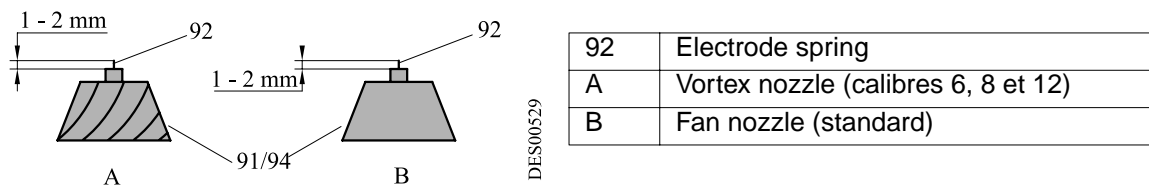
11.3.1. Removal

- Remove the aircap [see § 11.1 page 20](#).
- Remove the nozzle [see § 11.2 page 21](#).
- Pull the spring out.



11.3.2. Reassembly

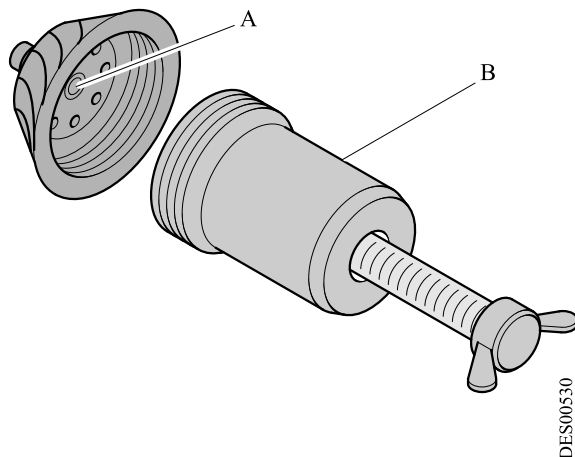
- After clean up, re-insert the spring into the nozzle.
- Install the nozzle on its holder ([see § 11.1 page 20](#)).
- It may sometimes be necessary to clip off the end of the electrode which must not exceed 1/10 of an inch (2 mm maximum).
- Reassemble the aircap .



11.4. Vortex diffuser

11.4.1. Removal

- Remove the aircap
([see § 11.1 page 20](#)).
- Remove the vortex nozzle ([see § 11.2 page 21](#)).
- Remove the electrode spring
[see § 11.3 page 22](#).
- Screw the nozzle on tool B, the butterfly stem removed [see § 13.10 page 56](#).
- Screw the butterfly stem all the way until diffuser pops out
- Clean nozzle and diffuser.



A	Diffuser
B	Tool (B) (see § 13.10 page 56)

11.4.2. Reassembly

- Place the diffuser in diffuser placing tool C, face first (see tools list [see § 13.10 page 56](#)). The barbs must be visible [see § 13.10 page 56](#).
- Place tool C in the nozzle front face. Tap gently the tool and nozzle on a hard surface. Remove tool from nozzle. The assembly is correct when :
 - the face of the diffuser is flush with the nozzle,
 - the diffuser is correctly centered.
- Place electrode spring in diffuser ([see § 11.3 page 22](#)).

11.5. Fan spray tip

In this version, the tip is integral with the nozzle body. In the «high finish» version, the tip is removable using tool (B) [see § 13.10 page 56](#).

The tip must come out of the nozzle by 0.4 to 0.8 mm maximum.

11.6. Nozzle holder

11.6.1. Removal

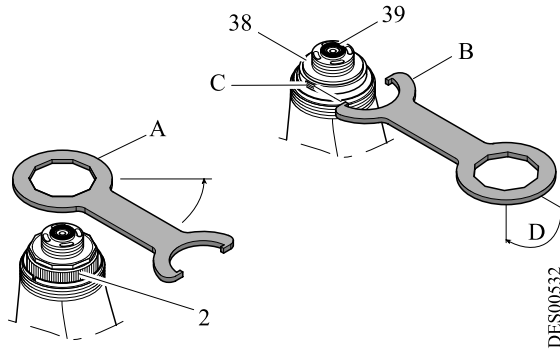
- Remove aircap (see § 11.1 page 20).

Nota : it is not mandatory to remove the nozzle from its holder to remove the holder itself.

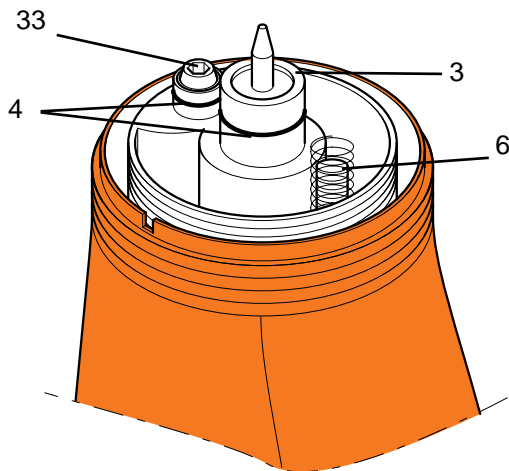
- Loosen the holder nut with the wrench B, and remove it.
- The nozzle holder (38) is encased in the front of the barrel. Use the prongs of the wrench (D) as a lever to pull it out.



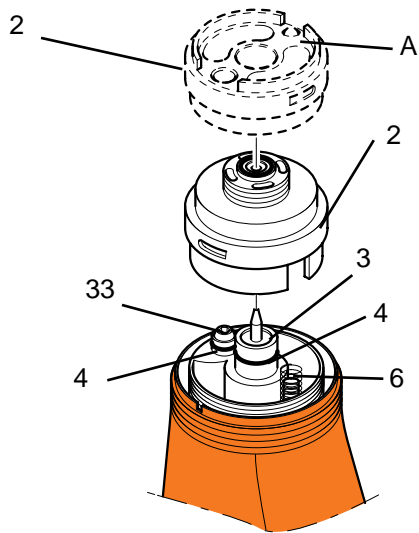
WARNING : Never tighten or loosen the holder nut with the prongs of the wrench.



2	Nut of nozzle holder
38	Nozzle holder
39	O-ring - FEP



- Check on the o-ring (39) on the holder and replace as needed.
- The packing (3) made of white material must stay in place in the barrel when the nozzle holder is removed. If it should come out with the holder, it must be pulled out, checked upon for potential damage and replaced if needed. [see § 13.10 page 56](#). It must be put back and glued in place [see § 11.8 page 28](#).
- Check on the o-ring (4) of the packing and replace as needed.
- Clean the front end of the gun, aiming it to the ground, in order to avoid solvent entering the barrel. Blow dry prior to reassembling.



A	HV contact
2	Nozzle holder
3	Packing
4	O-ring - solvent resistant
6	Spring
33	Paint connection

DES00534

11.6.2. Reassembly



WARNING : Nozzle support is of the parts of first urgency whose frequency of replacement under the normal conditions of use is 1 year.

- Place the nozzle holder (2) in the barrel. Its HV contact must align and press against the contact spring of the barrel (6).
- Push gently the nozzle holder in its cavity. Special care must be paid not to damage the 2 o-rings (4) of the packing (33) of the paint connection. Applying vaseline to the cavities of the holder helps with the reassembly.
- Tighten moderately the nozzle holder nut with the wrench (D) ([see § 13.10 page 56](#)).
- Check for proper sealing by running some solvent at 90 PSI (6 bar) in the paint line. No solvent must seep from the holder nut.

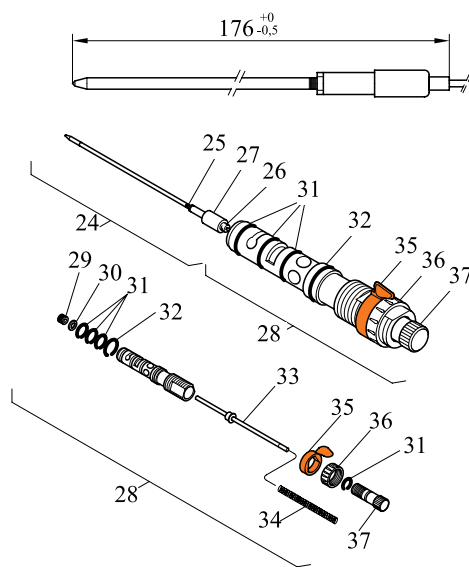
11.7. Needle assembly

It is made of three parts :

- The air distributor (28):
 - There is one for fan spray versions
 - There is one for vortex spray versions

The air distributor is controlled with the lever (35) at the rear of the gun.

- The delaybox (27), common to all guns.
When pressing the trigger, it allows first for the air to flow, then the paint. When releasing the trigger, it first stops the paint, then the air.
The delay box is fastened to the air distributor and blocked in place with a cotter pin (26)
- The needle (24), common to all guns. It is screwed into the delay box and locked in place with a counternut (25).



DES00536

24	Needle + nut
25	Nut H M 3 nylon
26	Cotter pin
27	Delay box
28	Vortex distributor assembly
	Fan distributor assembly
29	Packing nut
30	Packing
31	Small ring
32	Large ring
33	Air needle
34	Spring
35	Lever
36	Nut
37	Control knob

11.7.1. Dismantling

- Loosen the nut (36), do not remove.
- Pull lever (35) to nut (36). Use lever to unscrew the air distributor/needle assembly.
- Pull the whole assembly out, in the axis of the gun. Pay particular attention not to damage or break the needle by not applying an axial force at time of pulling the assembly from the gun.

11.7.2. Maintenance

- A very light air leak at the back of the gun is tolerable. If the air leak should be important, one or several of the air distributor's nylon rings are damaged. It is recommended to change all four rings at one time.
- If paint leaks at the nozzle, trigger released:
 - check needle length to be between 175,5 and 176 mm,
 - check needle head for damage or wear, replace as needed,
 - check the seat of the needle located in the nozzle holder: it may either be blocked (by dried paint instance) or damaged. If damaged, replace with a new nozzle holder.

Nota: Even a small scratch on either seat or needle will result in a paint leak.

11.7.3. Reassembly



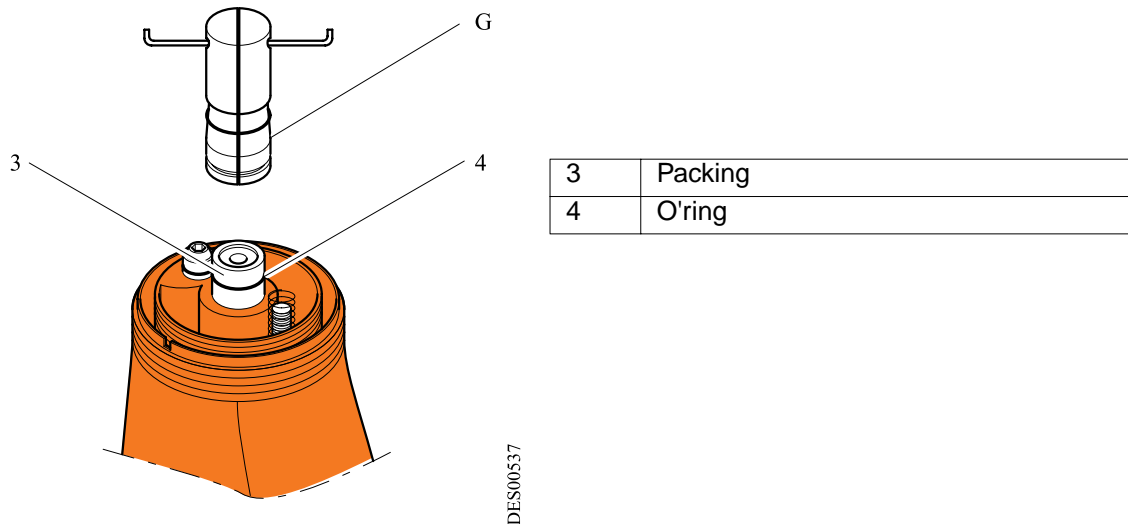
WARNING : Needle is of the parts of first urgency whose frequency of replacement under the normal conditions of use is 1 year.

- Put a light coat of vaseline H1GMIN017 over the whole length of the needle, the delaybox and the air distributor.
- Make sure the ends of the nylon rings are in contact.
- Push the needle/distributor assembly into the barrel.
- Screw in the assembly, using the lever (35) all the way to the stop. Turn the lever back approximately 1/2 to 3/4 turn. Tighten nut (36).
- Adjust flow with control knob (37) ([see § 9.1.4 page 17](#)).

11.8. Packing assembly

11.8.1. Removal

- Remove aircap, nozzle holder, needle/distributor assembly [see § 11.1 page 20](#), [see § 11.7 page 26](#) and [see § 11.7 page 26](#)).
- Place tool (G) ([see § 13.10 page 56](#)) over packing (3). The packing's o-ring must be captured by the tool.
- Pull the tool in the axis of the barrel.



11.8.2. Reassembly

- Clean up glue residues from the packing holder, aiming the gun at the ground to avoid solvent penetrating the barrel. Blow dry with air.
- Put glue (DP 460 LOCTITE) on the bottom inner surface of the packing holder, up to the lower shoulder and a very light coat on the outside lower surface of the packing itself.
- Place the packing in the holder. Its o-ring (4) must be visible.
- Remove carefully any excess glue after the placing of the packing.
- Let the glue dry overnight (at least eight hours).



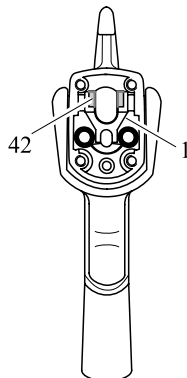
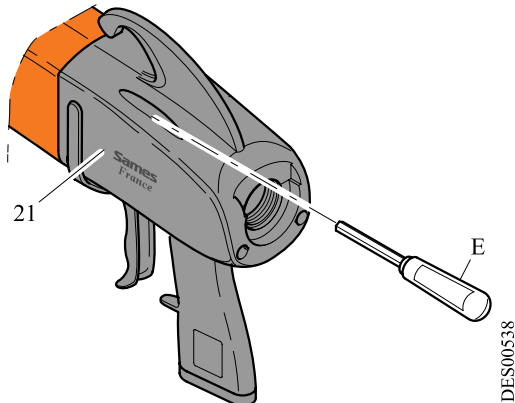
CAUTION : The gluing of the packing must be done with utmost care.

- Place back the needle assembly, the nozzle holder and run a quick seal check with solvent ([see § 11.7 page 26](#) [see § 11.7 page 26](#) et [see § 11.1 page 20](#)).
- Press the trigger several times to check that the needle moves freely

11.9. Breaking the gun open

11.9.1. Dismantling

- Remove aircap, nozzle holder and needle/distributor assembly ([see § 11.1 page 20](#), [see § 11.6 page 24](#) and [see § 11.7 page 26](#)).
- Remove the screws (45) caps and the screws (allen tool (E) or allen key 3mm flats) ([see § 13.10 page 56](#)). Do not lose the washers and the seals.
- These washers ensure a calibrated air leak from the pressurized handle of the gun. If not in place there may exist a pressure over load in the barrel/handle assembly, resulting in a potential crack or burst of the handle.
- Separate the barrel (21) from the handle (just crack them open): the small LV wires to the cascade are still attaching the barrel to the handle.
- Check the sealing o-ring (9) and replace as needed, after cleaning and drying its housing groove.



- Check the trigger actuator and its cover (42). They must be in pristine state (no paint or cracks). Replace the one or the other as needed.

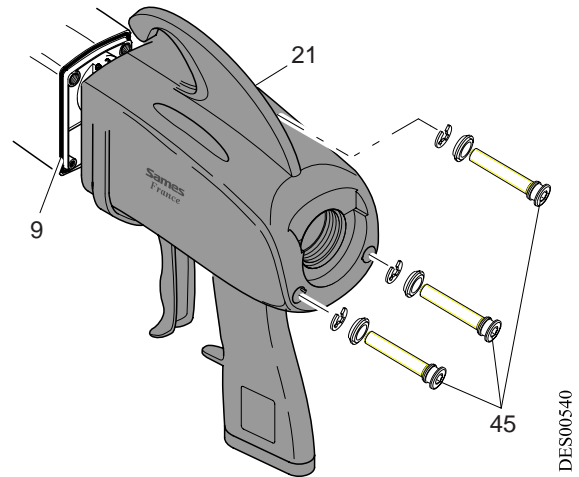


WARNING : This inspection must be carried out with care.

- Replace the cover (42) proceed as follows :
 - With a small screwdriver, release one side of the cover. The cover is somewhat flexible and pulls out towards the front.
 - Remove completely, clean and dry it or replace as needed.
 - Put back in place, respecting its positioning, as the cover is not symmetrical. It eventually clips in place by deforming it.
 - Press the trigger several times to check that the cover stays well in place.

11.9.2. Reassembly

9	O-ring - viton
21	Handle
45	Screw & o-ring and washer



- Check that o-ring (9) is in its groove.
- Place barrel and handle together (21).
- Place the screws (45) with its washer and its seal. The tightening of the four screws must be «in cross» and moderate.



WARNING : For any operation of assembly or cleaning, ensure that the special screws (item 45) location are clean.

- Check the gun is properly sealed and ready for pressurisation (apply 90 PSI - 6 bar of compressed air). If air should leak excessively from the two long screws, please check the following seals ([see § 13.1 page 46](#)) :
 - packing (30),
 - seals (31) et (32),
 - o-ring (18),
 - o-rings (17) and (20),
 - o-ring (4),
 - washer (7).



SAFETY : This inspection is essential for the operator's safety.

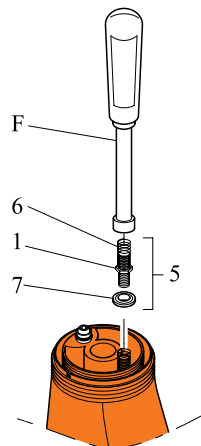
- When all checks fine, reinstall the needle, nozzle and aircap [see § 11.6 page 24](#), [see § 11.7 page 26](#), [see § 11.1 page 20](#).

11.10. High voltage cascade

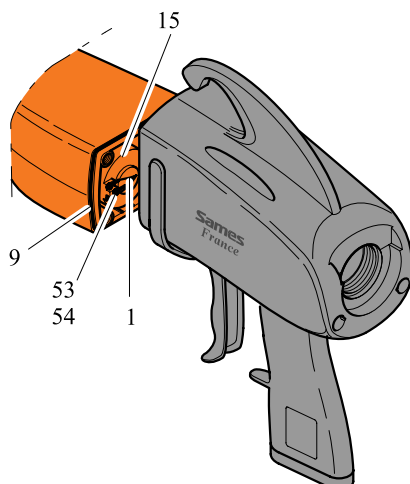
THIS OPERATION TO BE CARRIED OUT ONLY BY TRAINED PERSONNELS.

11.10.1. Dismantling

- Proceed per instructions.
- Remove the HV contact (5) with tool (F) . Save carefully the washer (7) [see § 13.10 page 56](#).
- Turn the barrel 1/4 turn to access the LV wires to the cascade (15).



DES00542



DES00541

5	HV contact
6	Spring
7	Washer, sealing
9	O-ring - viton
15	HV cascade
53	Screw C M 2 x 4 - Zinc plated
54	Toothed washer AZ2 - Zinc plated

- Remove the three screws (53) and three washers from the three wires ([see § 11.6.2 page 25](#)).
- Push the cascade out of the barrel with a small soft rod (wood or plastic), through the HV contact opening.



WARNING : The HV cascade is made of molded araldite, which is somewhat brittle and may break or crack if dropped on the ground.

- Check the cascade visually. It must be absolutely clean. If there should be traces of paint or solvent, one must imperatively locate and correct the source of the leak into the barrel prior to reassembling.
- Clean the cascade with a rag wetted with a dry solvent (aromatic, aliphatic). Do not use alcohol, polyalcohol or ketones, which would react chemically with the araldite material and damage the cascade.



WARNING : Do not soak the cascade in solvent.

- Blow dry immediately after cleaning.
- Inspect the cascade visually. There must be no cracks or black pinhole marks or blemishes coming from etching.

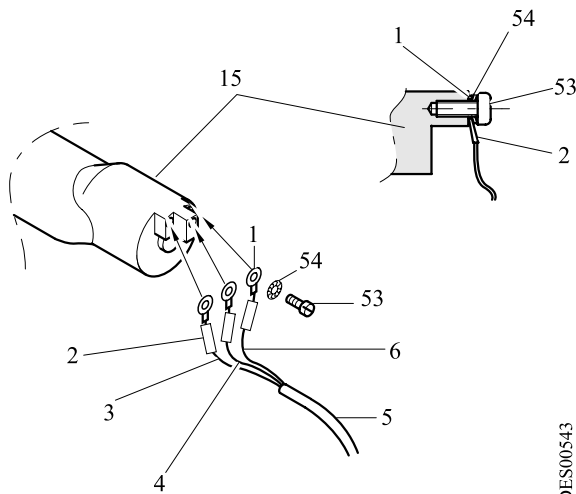
11.10.2. Reassembly

- Coat the whole cascade (15) with vaseline H1GMIN017.
- Place the cascade into the barrel.
- Install the HV contact assembly at the front of the barrel.



WARNING : it is always better to mount a brand new seal washer (7) after the dismantling of the HV contact assembly. Check that the spring (6) is not bent or broken. Replace as needed.

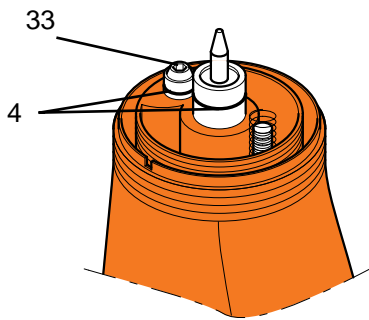
- Connect the three wires to the cascade with their toothed washers installed under the screw heads. From left to right: white, blue, red.
- Do not forget the toothed washers (54),
- Utilise strictly and only OEM assembled wires with terminals, black sheath and correct size screws (53),
- Orient the terminals heads down without bending or kinking them.
- Prior to final reassembling, check for the two o-rings (17) on the air passages of the air distributor (16) [see § 11.9 page 29](#) and o-ring (9) on the barrel.
- Reassemble barrel to handle



DES00543

1	Lug
2	Black sheath, 10 mm long
3	White wire
4	Blue wire
5	LV cable
6	Red wire
15	HV cascade
42	Screw C M 2 x 4 - Zinc plated
53	Toothed washer AZ2 - Zinc plated
54	Lug

11.11. Paint fitting o-ring



DES00545

Nota : It is not necessary to remove the union (11) in order to replace the o-ring (4).

11.11.1. Removal

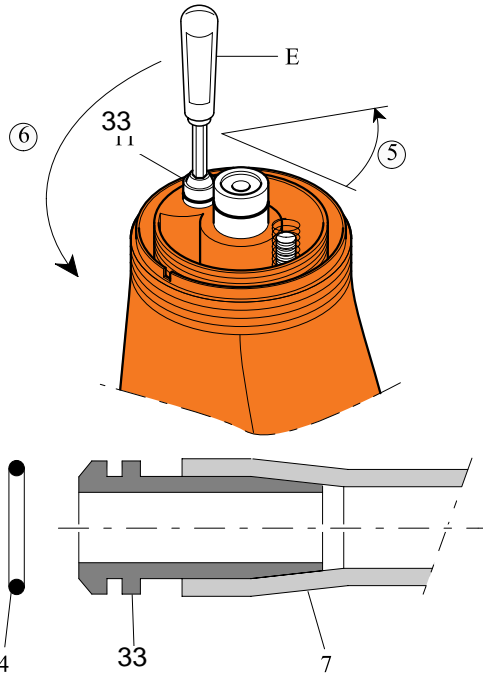
- Remove the spray cap and the nozzle holder ([see § 11.1 page 20](#) and [see § 11.6 page 24](#)).
- With the help of a screw driver, remove the o-ring (4). During this operation, be careful not to damage the end piece of the paint union.

11.11.2. Reassembly

- Put a new o-ring (4) on the union (33), then screw manually the nozzle holder with its nut. ([see § 11.6.2 page 25](#)).
- Screw the nut of the nozzle holder with the help of tool (D) . [see § 13.10 page 56](#) moderately. If needed, reassemble the nozzle. Do not assemble the spray cap.
- Check o-ring for proper sealing : power supply GNM 100 being switch off, supply the gun with solvent under 6 bar pressure. As the trigger is released no solvent leak should appear from the front of the barrel, around about the nozzle nut.
- Reassemble the spray cap [see § 11.1 page 20](#).

**11.12. Paint fitting
(only by trained personnel)**

11.12.1. Removal



DES00546

DES00773

- Remove the o-ring (4) ([see § 11.11 page 33](#)).
- Unscrew the paint fitting with tool E, after cleaning it. Pull to remove from the barrel.

4	O-ring - solvent resistant
7	Teflon paint tube
33	Paint fitting

11.12.2. Reassembly

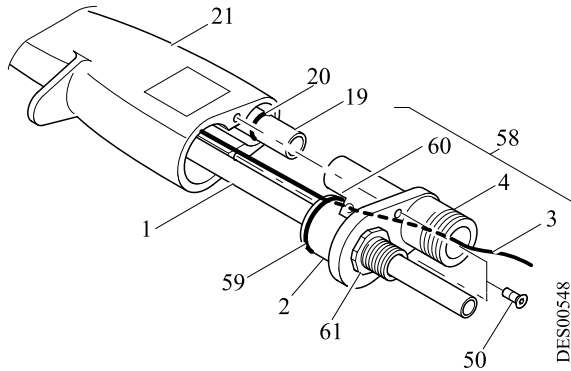
- Proceed in the reverse order. Tighten the fitting to a stop plus 1/4 turn. Carry out a seal check ([see § 13.10 page 56](#)).

11.13. Air/LV divider

(THIS OPERATION TO BE CARRIED OUT ONLY BY TRAINED PERSONNELS)

11.13.1. Dismantling

- Disconnect the air/LV hose from the quick disconnect under the handle (all versions).
- For 6600.1, disconnect the paint hose.
- For 6600.H1, remove the paint fitting [see § 11.12 page 34](#).
- With an allen key 2 mm flats remove the two screws (50) fastening the divider (58) to the handle (21).



19	Air tube
20	O-ring - viton
50	Screw F/90 Hc M 3 x 10 - SS 18-10
58	Air/LV divider (including items 50, 59, 60, 61 and air and paint connectors)
59	O-ring - viton
60	O-ring - viton
61	Nut paint connector

- Pull gently the divider out of the handle until the LV cable is stretch out. At that time the air tube (19) will be disconnected from the divider ([see § 13.1 page 46](#)).
- Inspect the o-ring (59) for damage. Replace it as needed ([see § 11.14 page 36](#)).
- There is an o-ring (20) on the air tube, which at this step of the dismantling, is hidden inside the handle ([see § 13.1 page 46](#)).

11.13.2. Reassembly

- Check that o-ring (20) is in place ([see § 13.1 page 46](#)).
- Fit the divider on the air tube (19).
- Install the assembly in the handle.
- Place and tighten the two screws (50).
- Install the paint fitting in the barrel. Run a seal check [see § 11.12 page 34](#).

11.14. Replacement of the teflon paint tube



CAUTION : See safety instructions [see § 1 page 6](#).

11.14.1. MIV 6600.1

In this version the paint is grounded at the base of the handle by fitting (70).

11.14.1.1. Dismantling

- Remove the paint extension (78)
- Remove fitting (70):
- Remove the paint connection at the barrel ([see § 11.12 page 34](#)).
- Pull the teflon tube out of the gun.
- Clean up the gun as needed ([see § 11.10 page 31](#)).

11.14.1.2. Reassembly

Always put a new teflon tube (82).

- Warm it up (with an air dryer) and bend it to give it approximately its shape once in the gun.
- Run the tube through the divider, into the barrel
- Reinstall the paint fitting (11) at the barrel end ([see § 11.12 page 34](#)).
- Connect the cascade wires ([see § 11.10 page 31](#)).
- Assemble the barrel to the handle ([see § 11.9 page 29](#)).
- Wiggle the paint teflon tube to make sure it is taking its place in the gun.
- If needed cut the teflon tube cleanly, out of the divider. It must not come out more than 1/2 inch (12 mm maximum).
- Place a new compression ring (72) (always a new one; do not reuse the ones that were installed) on the teflon tube.
- Place the o-ring (87) on the sleeve (86) and push them into the teflon tube.
- Mount fitting (70) on the divider. Tighten with a wrench.
- Run a seal test .

11.14.2. MIV 6600.H1

This version the paint is grounded at the end of the 15' isolated paint hose, by fitting (D). The grounding is carried out by two wires integrally embedded in the paint hose and its extension to the paint supply.

11.14.2.1. Dismantling

- Remove the paint fitting (11) from the barrel.
- Remove the paint extension from the paint hose (78).
- Remove collar (73).
- Remove fitting (D) from the teflon tube (77) in which it is screwed.
- Hold the teflon tube with some sanding paper to avoid it to turn on itself with the fitting.
- Unscrew fitting (85) at the handle base. Loosen the paint hose to access the teflon tube.
- Pull the teflon tube (83) out of the gun.

To avoid changing the teflon tube/hose assembly if it should be pinholed or damaged between the nozzle and where it exits the handle, one may cut it shorter, and reinstall it in the gun. However, in order to keep its isolating performances without affecting them significantly, do not cut more than 4 maximum

11.14.2.2. Reassembly

- Place a new compression ring (72) on the teflon tube (83).
- Warm up tube (with an hair dryer) and bend it to give it approximately the shape it will have in the gun.
- Run the tube through the divider (A) and push it all the way to the end of the barrel, very firmly, and maintain it there.
- Install the pain fitting (11) making sure it catches the teflon tube. Use sand paper to keep your grip

on the teflon tube.

- Tighten the fitting (11) with the tool (E). To make sure not to overtighten the paint fitting, it is best to slide a piece of 4x6 nylon tube 80 mm long over the tool (E). This will serve to engage only the adequate length of tool for a proper tightening of the fitting and can be considered as a mechanical stopper.
- Put a new compression ring (72) on the metallic end piece of divider (A). Slide the conductive rubber hose (77) around the teflon tube (83).
- Tighten the fitting (85) over the compression ring, to the metallic end of the divider. Do not forget nut (75).
- The rubber hose must be one inch shorter than the teflon tube. When rebuilding the gun, after shortening the paint hose assembly, it helps pushing the teflon tube into the barrel.
- To install the fitting (D), the filter and the nipple (E), push back the rubber hose, grasp the teflon tube with sand paper (for a good grip).
- Screw fitting (D) into the teflon tube.



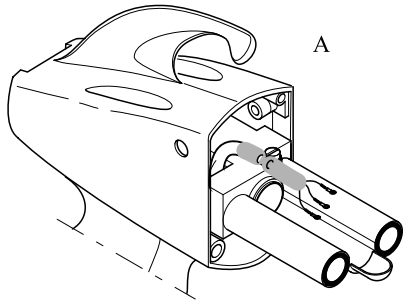
WARNING : The threaded piece of fitting (D) is conical, for a good sealing. Do not overtighten the fitting into the teflon tube or it will split it open.

- Bring the elastomer hose over fitting (D). One of the two metal braids must be pushed inside the hose, contacting with the fitting.
- The other braid is pulled over and outside the hose, and will be tightened in place with the collar (73).

**11.15. Distributor support
(TO BE CARRIED OUT ONLY BY TRAINED PERSONNEL)**

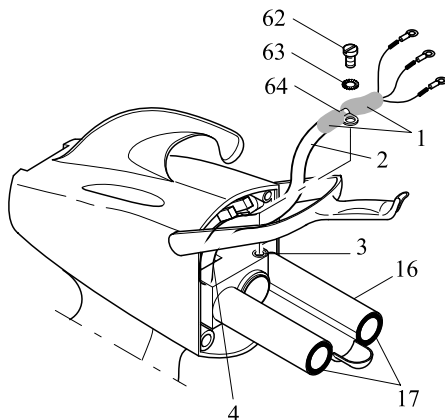
11.15.1. Dismantling

- Remove the air divider (see § 11.13 page 35).
- Remove the air tube (19) with a pair of pliers.
- Check o-ring (20) on that tube. Replace as needed.
- Move the trigger upwards.
- Reroute the paint tube under the trigger fork.
- Pull the distributor support out gently, in order to access the LV cable grip (64) and its fixation screw (62). Remove screw (62), washer (63) and cable grip (64).
- Remove the distributor support (16) from the body.
- Inspect o-ring (18) and replace as needed (see drawing hereafter).



DES00550

A	Distributor support before dismantling
16	Distributor support with o-rings (17) and (18)
17	O-ring - PC851
62	Distributor support before dismantling
63	Distributor support with o-rings (17) and (18)
64	O-ring - PC851



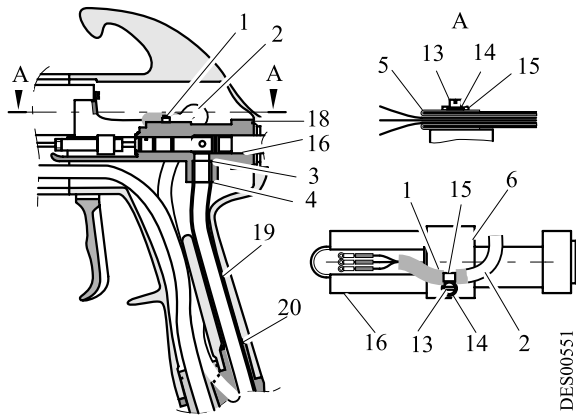
DES00549

11.15.2. Reassembly

- Slide the support (16) along the two grooves in the body.
- Place the two o-rings (17) on the air passages
- Fix the LV cable back on the support. It is always best to put a brand new toothed washer (63) to make sure the screw (62) will not loosen up (see § 13.1 page 46).
- The cable must be reinstalled parallel to the axis of the barrel.
- Make sure the cable grip (64) is tightened over the shield of the cable (see pictures).



SAFETY : LV cable connection must be done with the greatest care, as the safety of the operator and of the equipment rely on it.



1	Cable grip on shield
2	LV cable
3	O'ring (captive)
4	Air tube housing
5	Shield
6	Distributor support shoulder
13	Screw
14	Washer
15	Cable grip
18	O-ring - viton
19	Air tube
20	O-ring - viton

- Push the distributor support into the handle, although not completely as you must make sure of the free routing of the LV cable.
- Once the cable passes freely, push the distributor support in place, until you feel a resistance. Pull it back 1/2 inch.
- Place the air tube (19) on the support, from the bottom of the handle. Push it until you feel it is stopped. The sealing is carried out by an o-ring, captive in the support. The air tube is correctly installed when it is flush with the bottom of the handle. **If it extends out, start installation again from step one.**



CAUTION : The next operation requires the greatest care.

- Push completely the distributor support into the handle.
- Bring the trigger down. Reroute the paint tube through the fork of the trigger actuator.
- Reinstall the air/LV divider ([see § 11.13 page 35](#)). Do not forget o-ring (20).
- Check that the two o-rings (17) are in place.
- To check air sealing inside the gun after reassembling the gun :
 - loosen by two turns, one of the screws (45, [see § 11.6.2 page 25](#)) attaching the barrel to the body,
 - apply 60 PSI (4 bar) air pressure (the power supply must be off),
 - put a few drops of soapy water over the loosened screw,
 - there must be no visible bubbles. Retighten the screw (44). If there are bubbles, check all following seals:
 - both ends of the air tube (19), o-rings (20), (17), (18),
 - nylon rings on the air distributors (31) and (32),
 - proper tightening of packing (29),

11.16. Elastomer paint hoses

11.16.1. MIV 6600.1

The paint extension (78) is mounted with a swivel fitting at each end. It is available in 30' (9 m)- standard, 45' (15 m) and 65' (20 m)-optional, which are the most common lengths utilized with the .1 versions.

11.16.2. MIV 6600.H1

All .H1 versions paint lines are made of:

- 15' (5 m) of isolated paint hose, in which the teflon tube runs front the paint fitting (11) at the barrel, uninterrupted all the way to the paint fitting (D) at the other end.
- extensions available are 13' long (4 m)- standard, and 30' (9 m) and 45' (15 m)- optional.

The isolating elastomer hose (77) can be replaced if damaged without having to dismantle the gun itself.

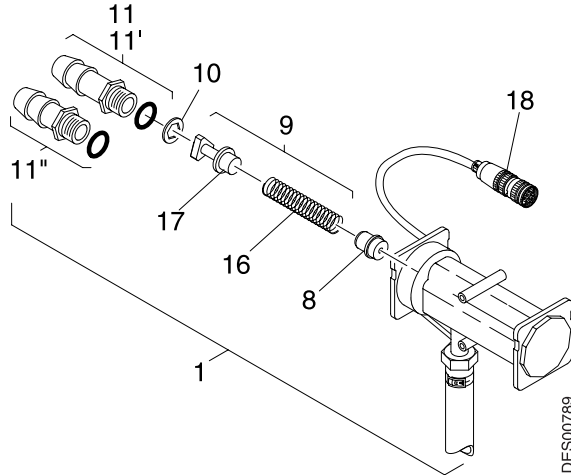
Always start dismantling from the end of the hose.

- Remove collar (73).
- Pull the hose away from fitting (D).
- Remove fitting (D).
- Then remove collar (73) under the handle.
- Pull hose away from fitting (85), remove smaller collar (76) from the fitting, and discard it.
- Pull the rubber hose away.
- Cut one inch off the end of the teflon tube. Do not reinstall fitting (D) in its former threads, or paint will leak.
- Make sure the teflon tube is at least one inch shorter than the rubber hose.
- Make sure at least 1/2 inch of braids are made available at both ends of the rubber hose.
- One braid must be turned inwards to contact with the fitting, the other one turned outwards to contact with the collar.
- Place a brand new smaller collar (76) on fitting (85).
- Slide the new rubber hose over the teflon tube.
- Make sure one braid is turned inside the rubber hose to make contact with the fitting (85),
- Place collar (73) under the handle, catching the outer braid.
- Reinstall fitting (D).
- Prior to mounting the collar at the end of the hose, run a seal test with solvent at 90 PSI (6 bar).
- Place collar (catching the outer braid), at the end of the rubber hose, the inner braid must make contact with the fitting (D).

11.17. Air flow switch

- Remove barbed fitting (11) (21 mm wrench).
- Remove stopper (10), with a 8 mm hex wrench.
- Remove piston (17), spring (16) and damper (8).
- Inspect visually. If the spring is rusted, change it.

Nota : it is not necessary to put vaseline on the piston.



1	Air flow switch assembly
8	Damper
9	Piston + spring
10	Stopper
11	Barbed fitting 3/8" BSP and o-ring for 12 mm ID hose
11'	Barbed fitting 3/8" BSP and o-ring for 8 mm ID hose
11''	Barbed fitting 3/8" BSP and o-ring

11.17.1. Disassembly

- Disconnect plug (18) from the GNM 100 power supply ([see RT Nr 6210](#)).
- Disconnect the air hose ([see § 11.16 page 40](#))

11.17.2. Reassembly

- Reconnect plug (18) to GNM 100 power supply.
- Shut off the paint from the tank.
- Supply 30 to 35 PSI (2 bar minimum) air pressure.
- Turn on the power supply, and set it at 0 kV [see RT Nr 6210](#)
- Press the trigger of the gun. The HV indicator must come on with a slight delay.
- Release the trigger. The HV indicator must come off with a slight delay.
- There must be no air leaks from the air-flow switch.

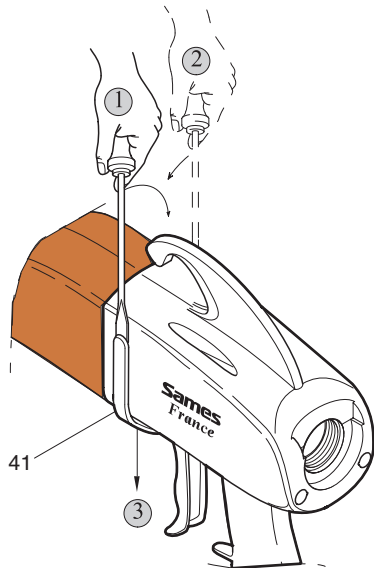
11.18. Trigger

11.18.1. Removal

- Use a large blade screwdriver as a lever and try one of the two sides off the body, per sketch below (step 1 or 2).
- Once loose, the trigger can be removed from the bottom of the gun (step 3).

11.18.2. Reassembly

- Insert one hex side of the trigger on the hex axis of the body.
- Use the screwdriver to help if needed, snap the other side on.



41	2-finger trigger
41'	4-finger trigger (upon request only)

DES00556

**11.19. Handle assembly
(TO BE CARRIED OUT ONLY BY TRAINED PERSONNELS)**

11.19.1. Disassembly

- Remove the trigger [see § 11.18 page 42](#).
- Remove the paint fitting (11) at the barrel.
- Remove the distributor holder [see § 11.15 page 38](#)).
- Pull out the air/LV separator.
- Pull out the paint tube if needed.

11.19.2. Reassembly

- Proceed in reverse order.



CAUTION : if the paint teflon tube has been removed, leaks will occur if this tube is back in place. It's absolutely mandatory to put a new paint tube in.

**11.20. Barrel
(TO BE CARRIED OUT ONLY BY TRAINED PERSONNELS)**

11.20.1. Dismantling

- Remove the paint fitting (11) at barrel ([see § 11.12 page 34](#)).
- Remove the HV cascade (11-11 p 24) ([see § 11.10 page 31](#)).

11.20.2. Reassembly

- Proceed in reverse order.

12. Troubleshooting guide

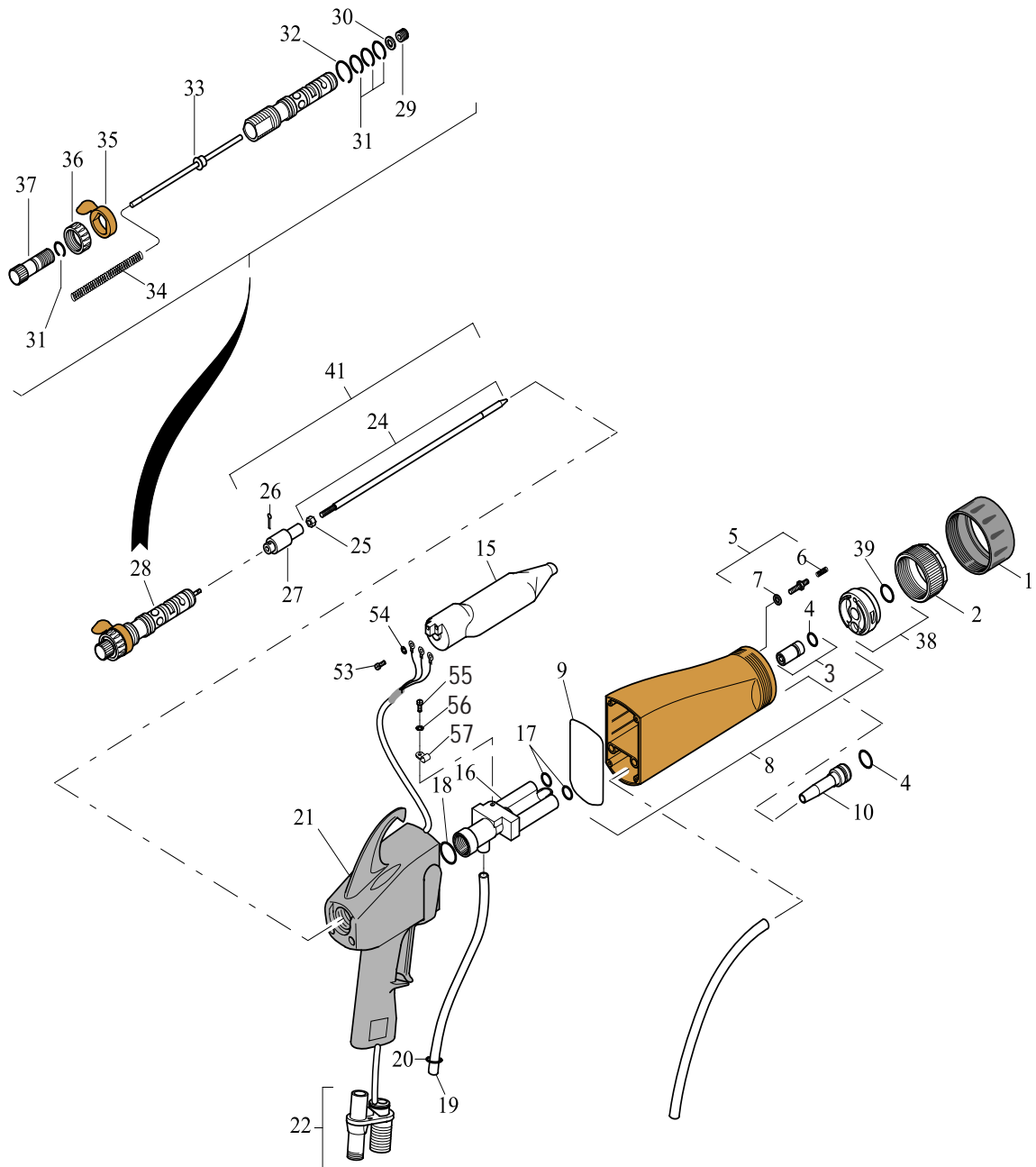
Symptoms	Possible causes	Corrective action
Paint won't flow, or only trickle out of the nozzle.	Too low pressure at the paint pot or pump.	Increase pressure.
	Air leak at pot lid.	Tighten lid, change seal if needed.
	Paint too thick.	Add solvent.
	Injector tip blocked.	Shut off paint supply. Remove nozzle and clean it. If needed remove diffuser (vortex) and clean it.
	Pump stopped.	Purge air line to pump and start again.
	Paint filter blocked (. H1 version).	Clean it with thinner.
	Needle too long.	Readjust lengths see § 9.1.4 page 17 and see § 11.7 page 26 .
	Paint tube kinked or blocked.	Check it : clean or replace.
Paint comes out spurting.	Low paint flow.	Increase flow from paint pot or pump.
	Air in paint tube.	Press the trigger to purge the tube.
	Not enough paint in the pot or pail.	Fill up.
Paint keeps flowing.	Dirt blocks the needle open.	Remove nozzle holder and needle and clean them. see § 11.6 page 24
	Needle damaged.	Change it.
	Seat in nozzle holder damaged.	Change it.
	Wrong needle length.	Readjust (see § 9.1.4 page 17 and see § 11.7 page 26).
Aircap gets dirty very quickly.	Paint not suitable.	Check viscosity and resistivity (see § 5 page 11).
	Poor air/paint setting.	Readjust (see § 9.1.5 page 17).
	Paint blocked aircap holes.	Clean aircap.
	With Vortex nozzles: diffuser is worn out, damaged or improperly seated.	Remove and clean. Reinstall properly or change diffuser
Air leaks from rear of the gun.	Internal air leak.	see § 11.6.2 page 25
Poor pattern and atomization.	Air leaks between atomization air and fan air (or vortex air).	Clean aircap, nozzle, tighten aircap nut.
No HV at tip (1) though power supply is fine.	GNM 100 power supply is not set up correctly.	See settings in GNM 100 power supply manual see RT Nr 6210
	Check air flow switch.	see § 11.17 page 41 .
	Paint too "hot".	Check the paint resistivity (see § 5.1 page 11 and see § 8.2 page 15).
	Air is too damp.	Purge and dry air line from compressor
No wrap around.	Atomization air pressure is too high.	Reduce it.
	Paint resistivity is too high.	Check the paint resistivity (see § 5.1 page 11 and see § 8.2 page 15).



CAUTION : HV only comes on when the trigger is depressed. Atomization air must come out of the aircap to start the power supply.

13. Spare parts

13.1. MIV 6600 guns



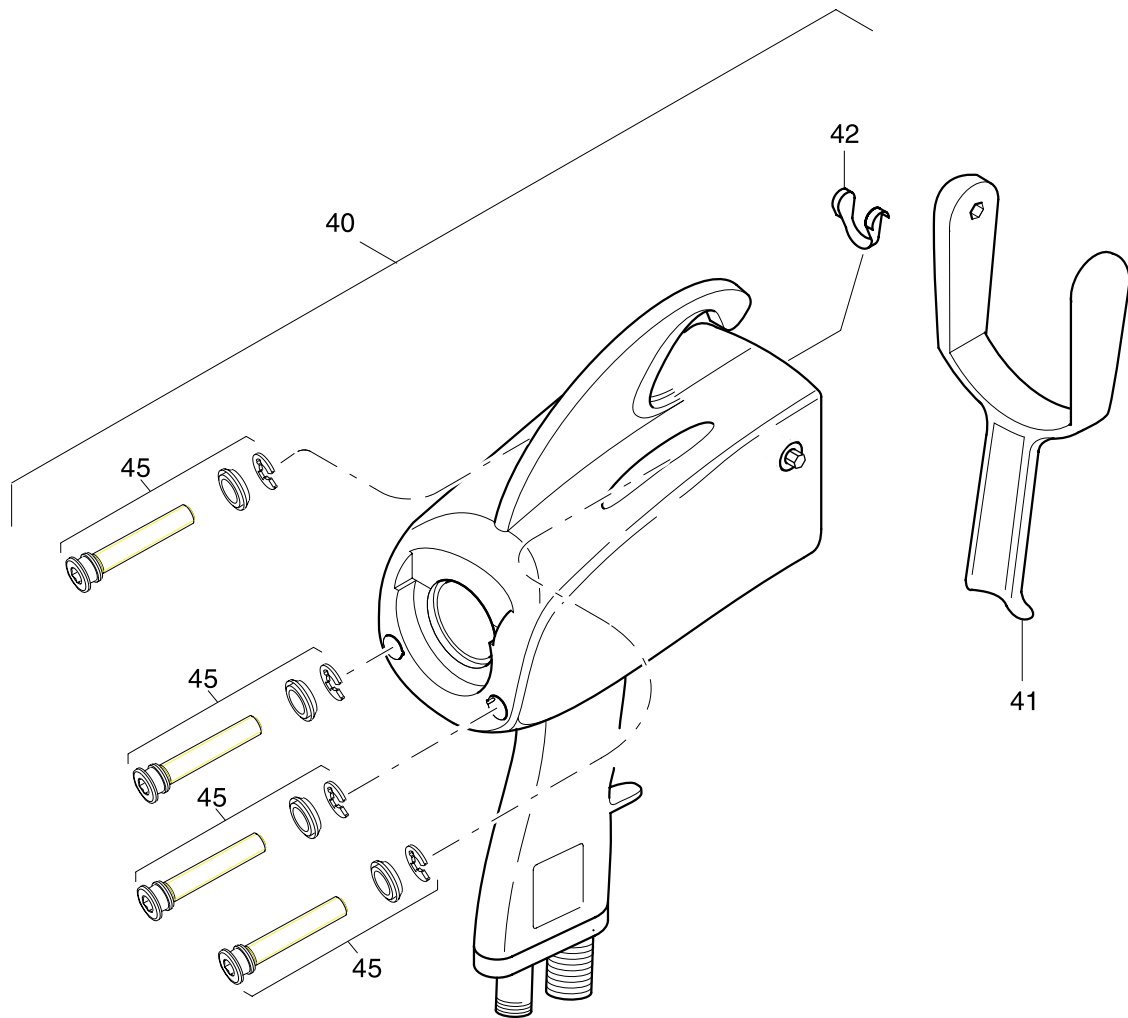
DES00564

Item	Part number	Description	Qty	Sales unit
1	548007	Fan spray Aircap nut	1	1
	1404770	Super Vortex round spray Aircap nut	1	1
2	739302	Nozzle nut	1	1
3	745529	Packing assembly	1	1
4	J3STKL005	O-ring - solvent resistant	2	1
5	1407354	HV contact assembly	1	1
6	640113	Spring	1	10
7	J2CRAN031	Sealing washer	1	1
8	1515290	Barrel assembly (fan and vortex)	1	1
9	J2FTDF472	O-ring - viton	1	1
10	1402720	Paint connection (at barrel)	1	1
15	1508783	HV cascade	1	1
16	737619	Distributor holder assembly	1	1
17	J2CTCN436	O-ring - EPDM	1	10
18	J2FTDF248	O-ring - viton	2	1
19	1407356	Air tube	1	1
20	J2FTDF121	O-ring - viton	1	1
21	see § 13.2 page 48	Handle assembly	1	1
22	1302958	Air/LV divider	1	1
24	1515326	Needle	1	1
25	X9NEHU003	Nut nylon H M 3	1	1
26	X4CGFN001	Cotter pin	1	1
27	744642	Delay box	1	1
28	1308863	Air distributor assembly (vortex)	1	1
	1308862	Air distributor assembly (fan)	1	1
29	313881	Packing nut	1	5
30	313882	Packing	1	5
31	313886	Small ring, nylon	4	6
32	313887	Large ring, nylon	1	2
33	744237	Air needle	1	1
34	744000	Spring	1	2
35	1407184	Lever	1	1
36	548024	Air distributor Nut	1	1
37	549983	Knurled knob	1	1
38	1406307**	Nozzle holder (with o-ring item 39)	1	1
39	J2FENV094	Viton encapsulated o-ring	1	1
41	1407355**	Needle assembly	1	1
53	X2BVCB022	Screw C M 4 x 2 - Zinc plated	4	1
54	X2BDVX002	Washer AZ 2 - Zinc plated	4	1
-	-	Air and paint hoses (see § 13.6 page 52)	-	-
55	X7CVCB065	Split screw CM 3 x 5 brass	1	1
56	X3DDSP026	Elastic washer Ø 3 zinc plated	1	1
57	641554	Cable grip	1	1



WARNING : ** Nozzle holder and air needle are of the parts of first urgency whose frequency of replacement under the normal conditions of use is 1 year.

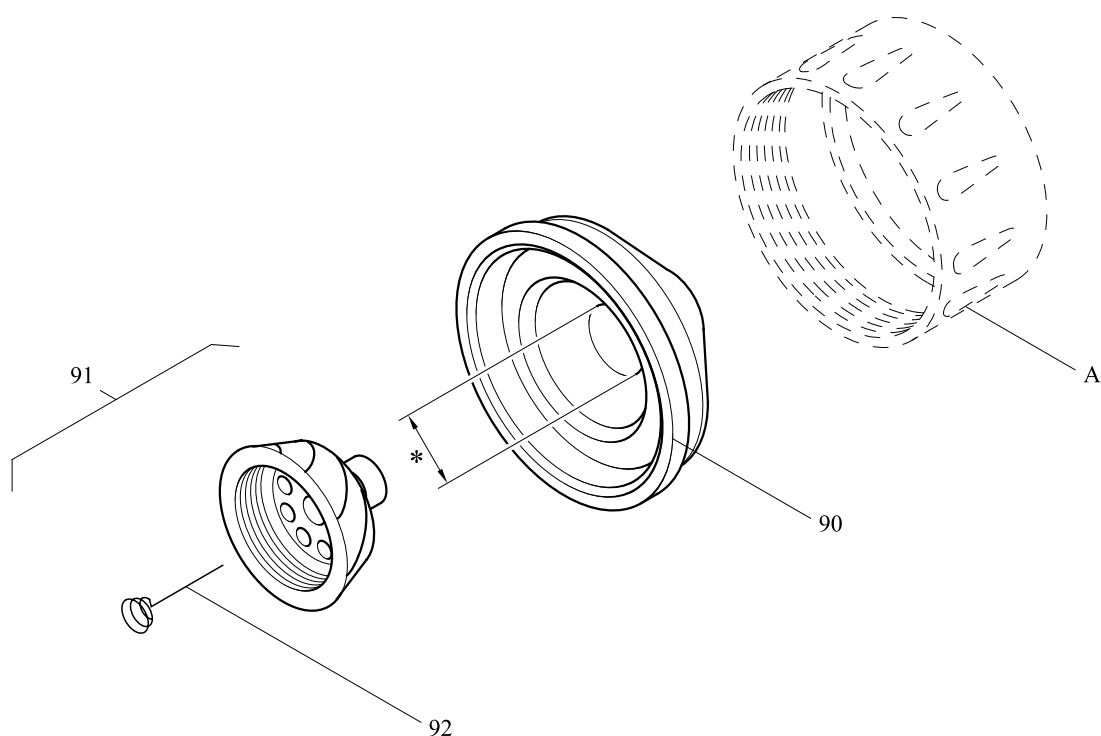
13.2. Handle



DES00565

Item	Part number	Description	Qty	Sales unit
40	1515098	Handle assembly with trigger (two fingers)	1	1
41	737257	Two-finger trigger	1	1
42	643252	Cover	1	1
45	1411142	Screw equipped with o-ring and washer (Set of 4)	4	1

13.3. Vortex nozzles and aircaps (Optional)



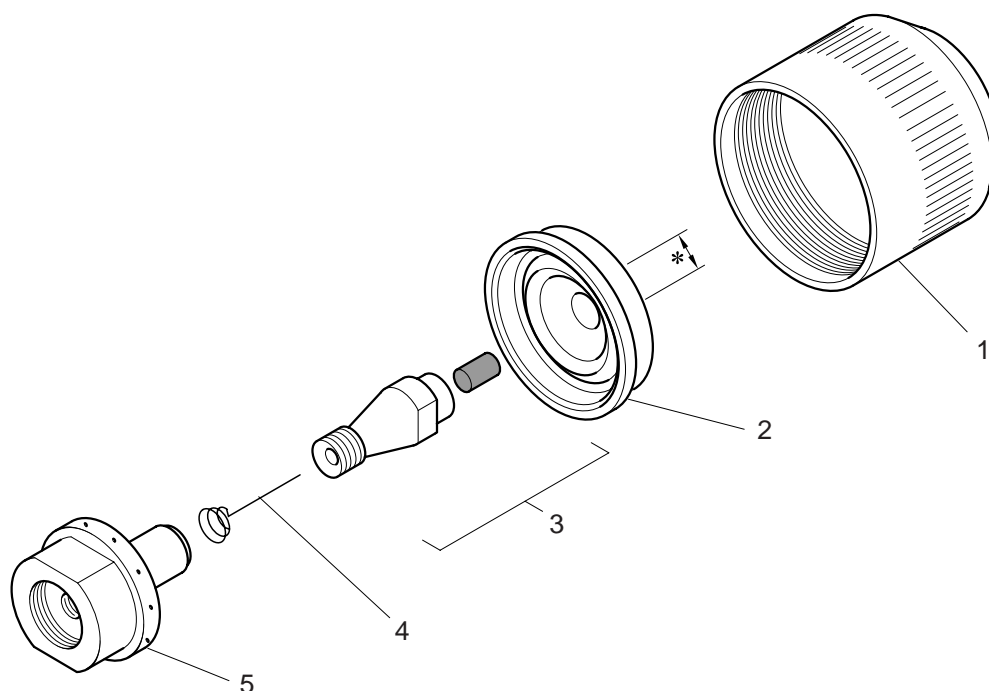
Item	Part number	Description	Qty	Sales unit
A	548007	Nut, aircap	1	1
90	1407431	Aircap caliber 6	1	1
	1406310	Aircap caliber 8	1	1
	1406507	Aircap caliber 12	1	1
91	1407430	Nozzle caliber 6 (with diffuser)	1	4
	1406309	Nozzle caliber 8 (with diffuser)	1	4
	1406506	Nozzle caliber 12 (with diffuser)	1	4
92	446028	HV spring electrode	1	5

* Caliber is the approximate diameter in mm of the top part of nozzle or the central hole of air cap.



WARNING : Nozzles and Air caps (round spray, fan spray) are of the parts of first urgency whose frequency of replacement under the normal conditions of use is three to six months.

13.4. Option : Super vortex nozzles and aircaps



DES00920

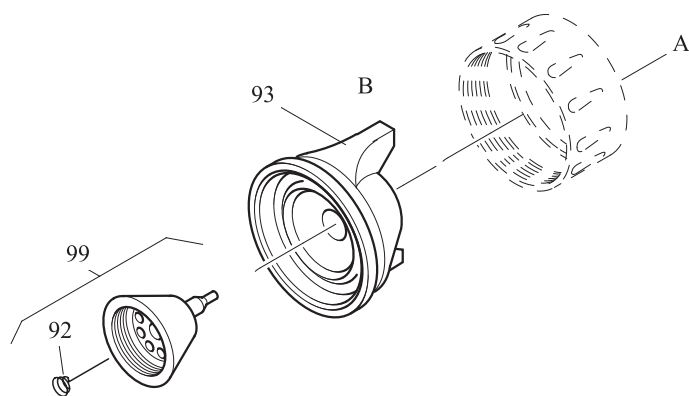
Item	Part number	Description	Qty	Sales unit
1	1404770	Nut, aircap	1	1
2	430804	Super vortex cap cal. 6	Option	1
	430540	Super vortex cap cal. 8	1	1
	430179	Super vortex cap cal. 12	Option	1
	430719	Super vortex cap cal. 20	Option	1
3	455234	Injector cal. 6	Option	5
	455235	Injector cal. 8	1	5
	455236	Injector cal. 12	Option	5
	455237	Injector cal. 20	Option	5
4	448110	Electrode	1	10
5	1305211	Nozzle, super vortex	1	1

* Caliber is the approximate diameter in mm of the top part of nozzle or the central hole of air cap.



WARNING : Nozzles and Air caps (round spray, fan spray) are of the parts of first urgency whose frequency of replacement under the normal conditions of use is three to six months.

13.5. Fan nozzles and aircaps



DES00569

Parts common to all models

Item	Part number	Description	Qty	Sales unit
A	548007	Nut, aircap	1	1
92	446028	Spring electrode	1	5

Specific parts

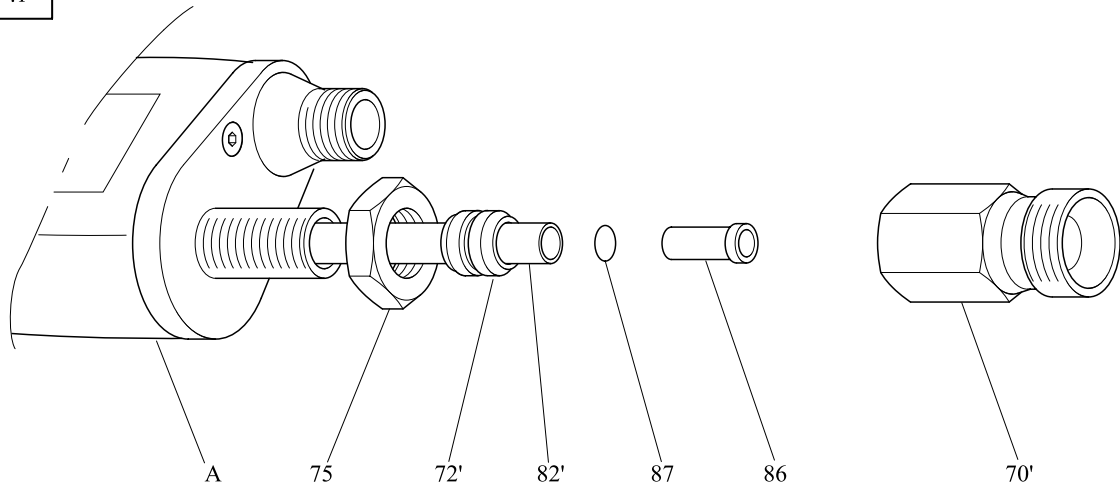
Item	Part number	Description	Qty	Sales unit
93	737549	Aircap, standard fan	1	1
	1313814	Aircap white, optional fan	1	1
	1313813	Aircap orange, optional fan	1	1
	737550	Aircap, optional fan	1	1
	1314353	Aircap white, optional fan	1	1
	1314354	Aircap orange, optional fan	1	1
	737552	Aircap, optional fan	1	1
	1314355	Aircap white, optional fan	1	1
	1314356	Aircap orange, optional fan	1	1
99	1406402	Nozzle assembly, high finish	1	1



WARNING : Nozzles and Air caps (round spray, fan spray) are of the parts of first urgency whose frequency of replacement under the normal conditions of use is three to six months.

13.6. MIV 6600.1 paint hoses

.1

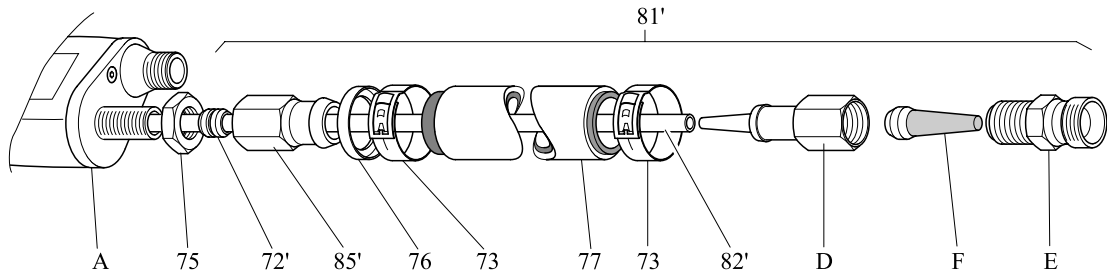


DES00567

Item	Part number	Description	Qty	Sales unit
75	549411	Nut	1	1
72'	1402402	Compression ring	1	1
82'	U1GCBR084	Teflon tube Diam 5/9 mm	0.5 m	m
87	J2FTCF008	O-ring - viton	1	2
86	1403257	Sleeve	1	1
70'	1403260	Paint connector M 14 x 150 - 3/8" NPSM	1	1

13.7. MIV 6600.H1 paint hose

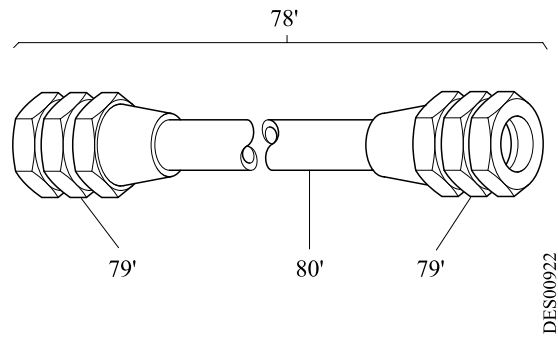
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DES00919

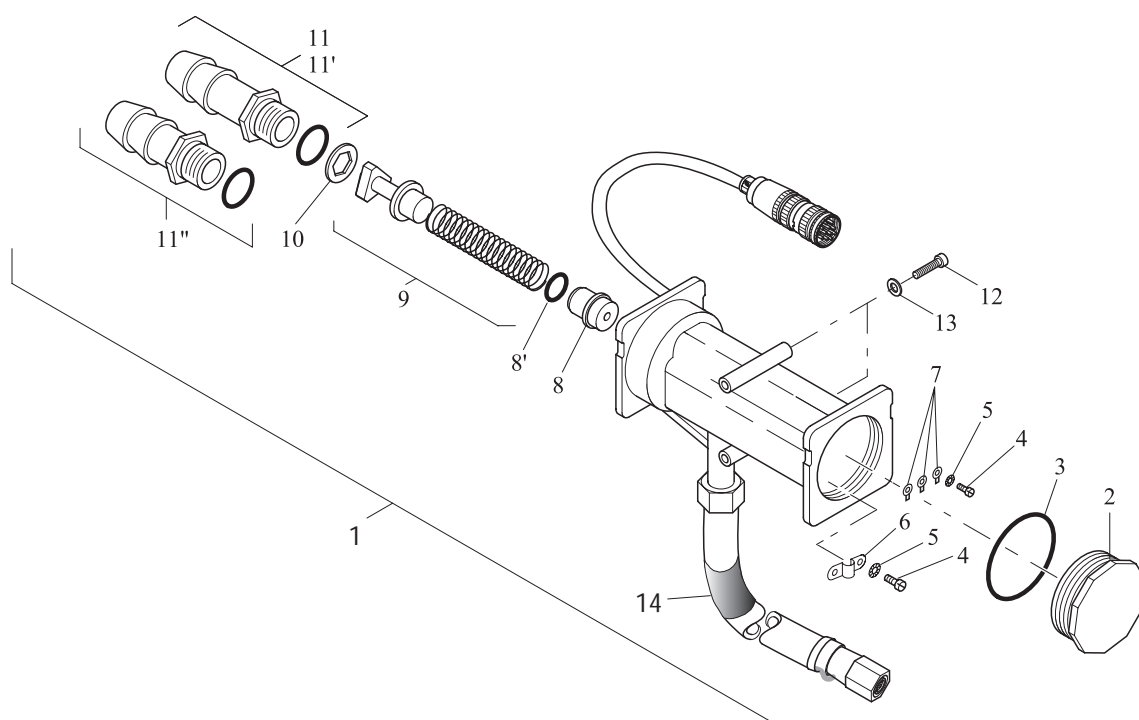
Item	Part number	Description	Qty	Sales unit
81'	1506767	Isolated paint hose assembly, 15' (5 m)	1	1
75	549411	Nut	1	1
72'	1402402	Compression ring	2	1
85'	1403255	M 14 paint connector	1	1
76	1400034	Small collar	1	1
73	X4ECCV120	Collar	2	1
77	J2CTTL162	Conductive rubber hose	5.2 m	m
82'	U1GCBR084	Teflon paint tube Diam 5/9 mm	5,5 m	m
D	1303490	Paint fitting	1	1
F	126770	Paint filter	1	5
E	744247	Nipple 3/8" NPSM	1	1

13.8. Paint extensions



Item	Part number	Description	Qty	Sales unit
78	1506732	13' (4 m) extension, standard (.H1 version)	1	1
	1506733	30' (9 m) extension, standard (.1 version)	1	1
	1506734	45' (15 m) extension	Option	1
	1506736	65' (20 m) extensionl	Option	1
79	F6RLKS284	Swivel fitting 3/8" NPS	2	1
80	J2CTTL198	Rubber hose	-	m

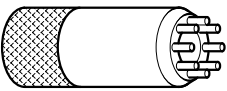
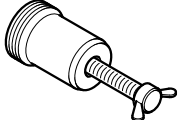
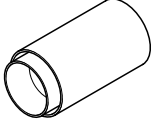
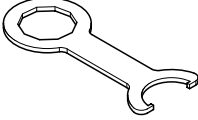
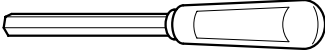
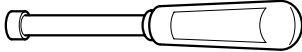
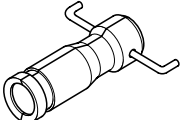
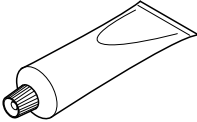
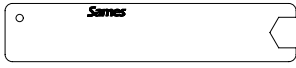

13.9. Air flow switch


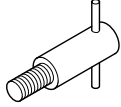
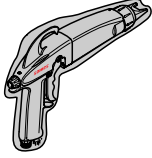
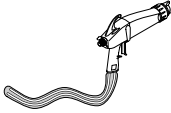
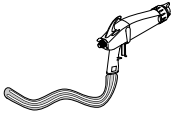


DES00465

Item	Part number	Description	Qty	Sales unit
1	1308416	Air flow switch assembly on standard 30' (9 m) hose	1	1
1'	1308417	Air flow switch assembly 45' (15 m) hose	Option	1
1"	1308418	Air flow switch assembly 65' (20 m) hose	Option	1
2	1402842	Nut	1	1
3	J2CTPB305	O-ring - EPDM	1	1
4	X2BVCB023	Screw C M 2 x 5 - Zinc plated	5	1
5	X2BDVX002	Toothed washer AZ 2 - Zinc plated	5	1
6	641093	Cable grip	1	1
7	E4CSSP096	Lug	3	10
8	742723	Damper	1	1
8'	J2CNRD129	Washer - HP 60	1	1
9	446698	Mobile assembly	1	1
10	742456	Stopper	1	1
11	F6RLQP292	Barbed fitting 3/8" BSP + O-ring for air hose, int. Ø 12 mm	1	1
11'	F6RLQP294	Barbed fitting 3/8" BSP +O-ring for air hose, int. Ø 8 mm	1	1
11"	1505717	Barbed fitting 1/4" NPS with o-ring	1	1
12	X3AVSY128	Screw CHc M 4 x 45	1	1
13	X2BDMU004	Washer M 4	1	1
14	1406952	Fitting for hose	1	1

13.10. Tools and accessories

Item in manual	Part number		Use
A	643156	 DES00557	Nozzle tool
B	1402015	 DES00558	Diffuser/injector tip tool.
C	444239 003008 003009 003010	 DES00559	Diffuser tool.
D	739837	 DES00560	Nozzle holder tool.
E	W6CVTC052	 DES00563	Paint fitting tool.
F	W6CVTB058	 DES00561	HV contact tool
G	745560	 DES00562	Packing tool. Option
H	H1GMIN017	 DES00685	Vaseline.
I	1306985	 DES00791	Air/LV tool
J	1407684		Safety rules panel.

Item in manual	Part number		Use
K	744055	 <small>DES01262</small>	Assembly/Removal tool for super Vortex nozzle Option
L	1405914	 <small>DES00592</small>	Cutting toll for plastic hoses Option
M	1202466	 <small>DES01269</small>	Gun cover Option
N	B5SHPL052	 <small>DES03781</small>	Protective sheath for air and paint hoses (on request), length: 8m
O	100000041	 <small>DES03781</small>	Protective sheath for air and paint hoses (on request), length: 10m