Nanogun+ Airspray – GNM 6080

LR- HR- MR Versions

Instruction manual

DRT7105

G - 2022/11

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Sames operating manuals are written in French and translated into English, German, Spanish, Italian and Portuguese.
The French version is deemed the official text and **Sames** will not be liable for the translations into other languages.

Services

Certification and referencing

Sames is certified as a training center by the DIRRECTE of the Auvergne Rhône Alpes region under the number 84 38 06768 38.
Our company provides, throughout the year, training courses allowing you to acquire the essential know-how for the implementation and maintenance of your equipment in order to guarantee its performance in the long term.
A catalog is available on request.

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As part of a technical assistance program for our customers using **Sames** equipment, the line audits are intended to help you optimize and control your production tool.
Our network of experts is continuously trained and qualified to provide our customers with technical expertise on the liquid or powder installations in which our equipment is integrated. The global environment of the production lines is taken into account during this technical audit.
A brochure is available for download:

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Maintenance program

An annual maintenance program (including or not the consumables to be replaced during each intervention) can be considered with the partnership of **Sames**. It is associated with a preventive maintenance plan established during a first audit visit which details the control points necessary to guarantee the performance of the installed equipment.

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Hotline

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Nanogun+ Airspray - GNM 6080

1. Health and Safety Instructions

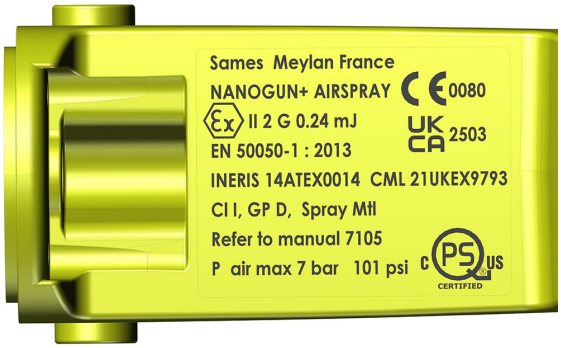
1.1. Marking

The various markings on **Nanogun+ Airspray** spray guns can be used to identify whether low pressure (LP) configuration is being used.

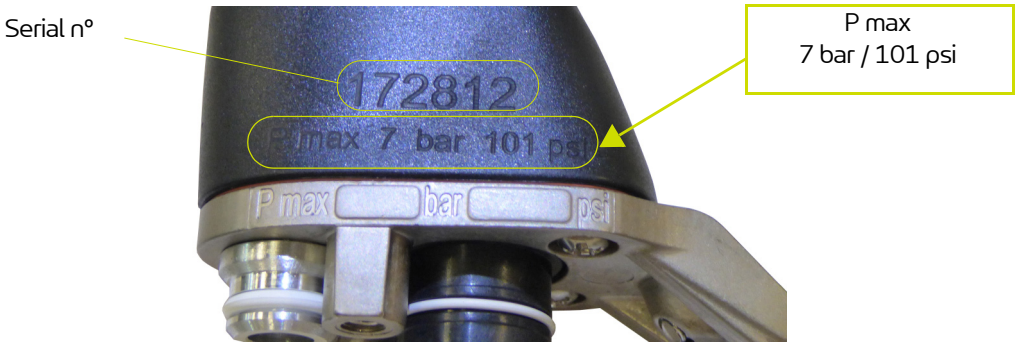
1.1.1. By the barrel

All Nanogun+ Airspray range products carry the same markings on the barrel.

The equipment is designed in accordance with ATEX Directive 2014/34/EU and SI 2016 No. 1107, is Category 2, and is intended for use in Zone 1.



1.1.2. On the lower part of the gun handle



This marking groups together all spray gun configurations operating at the same product pressure under the same number.

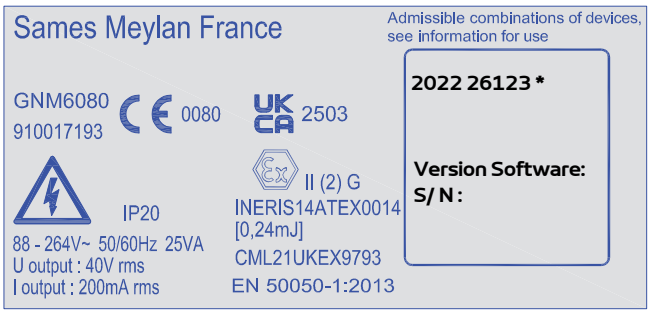
Marking no.	Product pressure	Nanogun+ Airspray models
910015741	7 bar	JR06-LR; JR06-MR;JR06-HR JR08-LR; JR08-MR; JR08-HR JR12-LR; JR12-MR; JR12-HR JP-LR; JP-MR; JP-HR

1.2. GNM 6080 control module

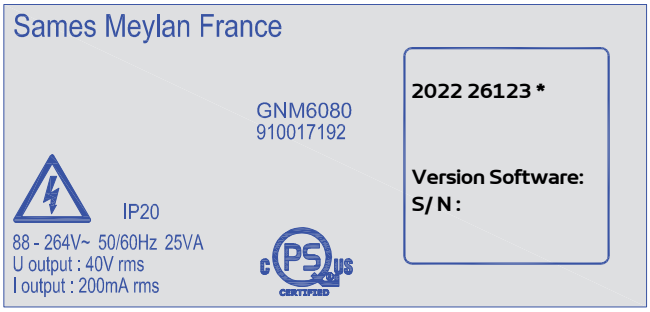
The GNM 6080 control module should not be installed in an ATEX zone (potentially explosive atmosphere). It is defined as “associated material” according to ATEX Directive 2014/34/EU and SI 2016 No. 1107.

Markings

EU / UK versions



US / C versions



Example: * 2022: Year of manufacturing
26: Week number
123: Nth control module made in the week 26.

Equipment Nanogun+ Airspray is in accordance with the functional safety standard (Standard EN13849, level SIL 1), the preservation of this level of safety imposes a periodic control of the equipment, in minima every 5 years or 15000 hours of functioning (to the first one 2 reached). This control concerns each of the electric and electronic components as well as on it or the very specific programs, you have to get in contact with your subsidiary, distributor or usual representative of Sames who will indicate you the steps to be carry out.

1.3. Precautions for use

This document contains information that all operators should be aware of and understand before using the **Nanogun+ Airspray.** This information highlights situations that could result in serious damage and indicates the precautions that should be taken to avoid them.

Before any use of the Nanogun+ Airspray spray gun, check that all operators:

- have previously been trained by the company **Sames**, or by their distributors registered by them for this purpose.
- have read and understood the user manual and all rules for installation and operation, as listed below.

It is the responsibility of the operator's workshop manager to ensure these two points and it is also his responsibility to make sure that all operators have read and understood the user manuals for any peripheral electrical equipment present in the spraying area.

1.4. Meaning of pictograms

 Warning electricity	 Warning Automatic start-up	 Warning Hot surface	 Warning Explosive material	 General warning sign
 Warning High pressure	 Warning Crushing of hands	 Warning for explosive atmospheres	 Warning Flammable material	 No access for people with active implanted cardiac devices
 Wear ear protection	 Wear a face shield	 Wear respiratory protection	 Wear safety footwear	 Wear protective clothing
 Wear head protection	 Opaque eye protection must be worn	 Wear protective gloves	 General mandatory action sign	 Connect an earth terminal to the ground
 Refer to Instruction manual				

1.5. Warnings

It is imperative that anyone wearing a pacemaker does not use the equipment and does not enter the projection area.
High voltage can cause the pacemaker to malfunction.

This equipment may be dangerous if not used, disassembled and reassembled in accordance with the rules specified in this manual and any applicable European Standard or national safety regulations.
The warning notice summarizing the safety rules (procedures and precautions) laid out in this instruction manual must be clearly displayed in the area of the spraying workstation.

The correct operation of the equipment is guaranteed only with the use of original spare parts distributed by Sames.

In order to ensure optimum assembly, spare parts should be stored at a temperature close to their operating temperature. If not, a sufficient waiting time must be observed before installation, so that all parts are assembled at the same temperature.

1.6. Regulations

The **Nanogun+ Airspray** spray gun must always be used according to the requirements stipulated in the standards and regulations in force concerning painting and clear coat methods (see Standards and Directives EN 50.053 part 1 ISO 12100, EN 1953 and 99/92/CE).
In **Canada**, the installation has to be in compliance with the code " electrical C22.1 Canadian code, part I, standard safety for electrical installations ".
In the **USA,** the installation has to be in compliance with the code " NFPA 70: National Electrical Code ".
CAUTION: Model **Nanogun+ Airspray** spray applicator is suitable for use in **CLASS I, DIVISION 1, GROUP D HAZARDOUS LOCATIONS**" when connected to model GNM 6080 power supply unit.

The Pollution Degree Rating of the **Nanogun+ Airspray** is "Pollution Degree 2" following IEC-664-1 standard .
Pollution Degree 2: Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected.

Before any use of the Nanogun+ Airspray spray gun, check that all operators:
• have previously been trained by the company or by their distributors registered by them for this purpose.
• have read and understood the user manual and all rules for installation and operation, as listed below.
It is the responsibility of the operator's workshop manager to ensure these two points and it is also his responsibility to make sure that all operators have read and understood the user manuals for any peripheral electrical equipment present in the spraying area.

1.7. Installation rules

- The manual projection electrostatic material must be used only in projection area according to the standard EN 16985 or in equivalent conditions of ventilation.
- The control module must **not be installed where there is a potential explosion risk**.
- It must be impossible to start up the control module before the spray booth air extraction system is in operation.
- Connect the control module correctly to the earth terminal of the installation to avoid electromagnetic interference. The resistance between the module's earth and the installation's earth should be as low as possible, in the order of a few ohms.
- The paint (or solvent) pump and tank must be connected to a ground terminal on the device.
- All metal parts of the apparatus (paint pumps, containers, stools, turntables, etc.) less than three metres from the spray gun must be grounded.
- The spraying area must be kept clean and clear of any unnecessary items.
- The floor on which the operator works must be dissipator (bare concrete or metal duckboard). Never use an insulating floor covering. In area potentially explosive, the assemblies of grounds have to be dissipators according to the standard EN 61340-4-1.
- Naked flames, glowing objects or a devices likely to produce sparks (other than the atomizer) must not be used inside the booth.
  The storage of inflammable products, or vessels that have contained them, close to the booth or in front of the doors is prohibited.
- Pots and tubs containing paint or solvent must always be closed after use.
- The paint supply pump used must have a maximum ratio of 1:1 and the pump air supply must be fitted with a safety valve limiting the pressure to 6.5 bar maximum.
- **In the explosive area**, it is forbidden to use any non-certified electrical or non-electrical equipment such as electronic extension leads, multiple socket adapters, switches, etc.

1.8. Operating rules

- The ventilation system must be checked on a daily basis to ensure it is working properly.
- Performance checks must be carried out on the extraction control system once a week.
- Before starting to spray, check that the nozzle/tip and air cap are fitted to the gun and that the air cap ring is fully tightened.
- All metal parts of the booth and parts to be painted must be correctly grounded. Ground resistance must be less than or equal to 1 MΩ. (measurement voltage 500 V). This resistance value must be regularly checked.
- The operator must wear dissipator shoes according Standard EN 61340-4-3 and hold the **Nanogun+ Airspray** spray gun bare-handed or with gloves that are either dissipators or specially adapted to allow direct contact between the handle and the operator's hand. Shoes intended to be worn by the operator have to be in accordance with the standard ISO 20344. The measured insulating resistance does not have to exceed 100 MΩ.
- Protective clothings intended to be worn, including gloves, have to be in accordance with the standard EN 1149-5. The measured insulating resistance does not have to exceed 100 MΩ..
- The operator must also wear ear defenders when using **Nanogun+ Airspray** spray guns (see § 1.3 page 8).
- Ensure that anyone who enters the spraying area is wearing dissipator shoes or is otherwise grounded.
- Never throw or drop deliberately the electrostatic spray gun. Dropping the gun could damage the high voltage generator. After a drop, it is advised to verify the functioning of the pistol out off zone before its re-use.
- Never point the spray gun towards a person.
- Check the spray gun at least 1 time a week.
- Never use the apparatus in the following situations:
  1. If you notice an air leak from the spray gun when the trigger is released.
  2. If the spray gun electrical connector catch is not held securely in place with two safety screws.
  3. If the spray gun barrel, handle show signs of an impact that may have deteriorated the air-tightness of internal components.
- The manual electrostatic projection equipment must be exploited only if it is in a perfect state. A damaged equipment must be immediately removed from the installation and must be repaired. The worn out components must be immediately replaced.
- Follow the precautions specified for the paints and solvents used (e.g. wear a mask etc.).

- Close and dump the air and paint supply before leaving the device shut down for an extended period.
- Check the paint hose is in good condition before starting to operate the device.
- The electropneumatic coupling, held in place by two safety screws **MUST NEVER BE DISCONNECTED IN A POTENTIALLY EXPLOSIVE ATMOSPHERE.**
- If any of the following elements are damaged, all operations with the device must be stopped: barrel, handle, electropneumatic coupling, air cap or air cap ring.

Sames would like to remind users that the instructions below MUST be strictly complied with.

It is forbidden to install the control module in a potentially explosive atmosphere.
It is forbidden to subject the paint or air hose or spray gun power cable to excessive and repeated tension strain.
It is forbidden to disconnect the electrical connector in a potentially explosive atmosphere.
It is forbidden to leave air or paint hoses trailing on the floor or in areas where they are liable to be crushed or broken by industrial vehicles.
It is forbidden to use the **Nanogun+ Airspray** to spray a liquid other than a paint or clear coat.
It is forbidden to drop the spray gun or subjecting it to impacts.
It is forbidden to leave the spray gun on the ground.
It is forbidden to use the spray gun to handle or move the parts to be painted.
It is forbidden to leave the spray gun to soak in solvent or spraying it with solvent.
It is forbidden to spray solvent before switching off the control module.

It is essential to connect the control module ground terminal to the paint apparatus ground terminal.
It is essential to tighten the two safety screws on the electrical connector.

1.9. Maintenance rules

During the 12-month warranty period, it is strictly forbidden to dismantle the Nanogun+ Airspray gun except to carry out maintenance in accordance with the maintenance instructions (see § 6 page 33).

- Service regularly and repair the electrostatic spraying equipment in accordance with the instructions in this user manual.
- Metal containers only should be used to hold cleaning liquids and they must have a reliable ground connection.
- Before any maintenance or servicing operation:
  1 Disconnect the control module from the power supply.
  2 Check that the air and paint circuits are not pressurized.
  3 Dump the paint Circuit
  4 All the energy sources must be consigned.
- Cleaning operations must be carried out either in authorised areas equipped with a mechanical ventilation system, or using cleaning liquids with a flash point at least 15 °C higher than the ambient temperature.
- Use non flammable cleaning products preferably.
- Do not reconnect the electrical power supply until the air cap and nozzle/tip have been correctly reassembled on the spray gun.
- Never soak or immerse the spray gun in solvent. If required, the spray gun may be cleaned by wiping with a cloth soaked in solvent and then immediately dried to prevent the solvent entering the spray gun.

Never spray solvent whilst the control module is live and/or the switch located on the back of the gun is in position «I».

The cut of the compressed air supply does not prohibit the release of the high voltage when the trigger is activate.

- Operators must be trained by **Sames**, or by their distributors registered by them for this purpose, to perform **Nanogun+ Airspray** spray gun maintenance operations.

It is forbidden to use oil-based solvent and products containing such solvents if aluminium or zinc are present. Users who do not follow these instructions are exposed to explosion risks.

1.9.1. Products used

Given the wide range of products used, and that fact that it is impossible to produce an inventory of these products, **Sames**, cannot be held liable for:

- incompatibility of product material used when in contact with materials listed below:
  - Stainless steel
  - Fluoroethylenepropylene (FEP)
  - Polyamide-imide (PAI)
  - Polyoxymethylene (POM)
  - Tungsten carbide and Tungsten
  - PTFE elastomer
  - Polypropylene
  - IXEF
  - Glass fibre
  - Ceramics
  - Aluminium
  - Titanium
  - PEEK
  - PEHD and PEBD
  - Chemically inert rubber
- Risks related to the use of these products for personnel and the environment include.
- Wear, incorrect adjustments or malfunction of equipment or machines, together with the non-quality of the application caused by the use of these products.

1.10. Guarantee

Under the guarantee, which applies only to the buyer, **Sames** agrees to repair operating faults resulting from a design fault, materials or manufacture, under the conditions set out below.

The guarantee claim must define, in writing, the exact nature of the fault concerned.
The **Sames** guarantee only covers equipment that has been serviced and cleaned according to standard procedures and our own instructions, that has been fitted with parts approved by **Sames** or that has not been modified by the customer.

More precisely, the guarantee does not cover damage resulting from:

- the customer's negligence or inattentiveness,
- incorrect use,
- failure to follow the procedure
- use of a control system not designed by **Sames** or a **Sames** control system modified by a third party without written permission from an authorized **Sames** technical agent,
- flooding, earthquake, fire or similar events,
- inadequately filtered paint and solvent,
- use of seals not complying with Sames recommendations,
- pollution of air circuits by fluids or substances other than air.

The **Nanogun+ Airspray** guns are covered by a one-year guarantee for use in two 8-hour shifts under normal operating conditions (5000 hours).

The guarantee does not apply to wearing parts such as nozzles, seals, etc...

The guarantee will start from the date of the first use or the provisional acceptance report.

Under no circumstances, either in the context of this guarantee or in other contexts, will Sames be held responsible for physical injury or intangible damage, damage to brand image and loss of production resulting directly from its products.

2. Description of spray gun and GNM 6080 control module

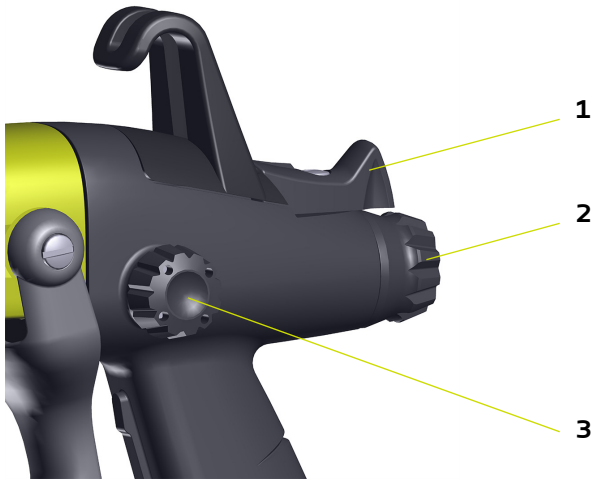
Nanogun+ Airspray spray guns are designed to spray paint or clear coat whose resistivity is greater than 0.5MΩ.cm. only.
The configurations LR can moreover spray hydrodiluable paints or clear coats when they are equipped with the suitable produced means of supply. The use of any other type of paint is excluded.

Nanogun+ Airspray spray guns are to be connected to the **GNM 6080** control module.

The models in the **Nanogun+ Airspray** range can be differentiated by their air cap, air cap ring, the base support and the paint hose.

	Characteristics
Nanogun+ Airspray JR06	Super Vortex Round Spray - Low Pressure - ∅ 6 mm
Nanogun+ Airspray JR08	Super Vortex Round Spray - Low Pressure - ∅ 8 mm
Nanogun+ Airspray JR12	Super Vortex Round Spray - Low Pressure - ∅ 12 mm
Nanogun+ Airspray JP	Flat Spray - Low Pressure

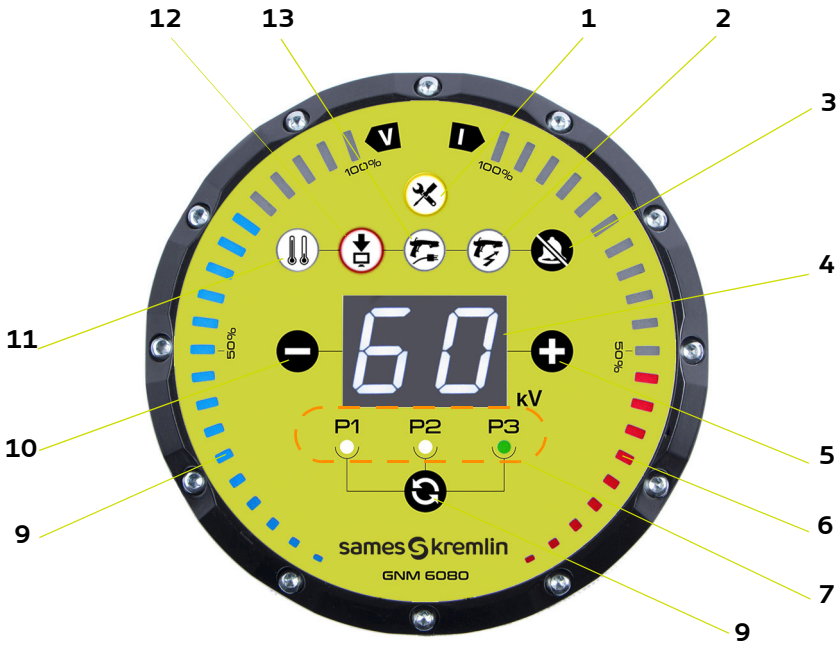
2.1. Functions available on spray gun



- The switch (**1**) allows to start or to cut the high voltage.
  When this switch is on the position " I ", an action on the trigger starts up the high voltage.
  When this switch is on the position " 0 ", an action on the trigger does not start the high voltage.
- The notched button on the back of the gun (**2**) allows to regulate the product flow.
- The side notched button (**3**) allows to regulate the dimension of the spray.

2.2. GNM 6080 Control module

The GNM 6080 control module allows the display of the parameters of use as well as their adjustments.



Front face of the GNM 6080 control module

1	Maintenance indicator light
2	Indicator light of high voltage fault
3	Reset of faults
4	Display of setpoint of high voltage
5	Increase of the setpoint voltage
6	Bargraph of the current consumption
7	Indicator lights of active preset memory
8	Selection of the active memory
9	Bargraph of the voltage
10	Decrease of the setpoint voltage
11	Indicator light of temperature fault
12	Indicator light of control module fault
13	Indicator light of low voltage cable

Temperature fault : The temperature fault forces the indicator lights (**11 and 12**). As soon as the temperature decrease under the minimum, the temperature indicator light (**11**) goes out and the operator can delete the fault by pressing on the button «Reset of faults» (**3**).

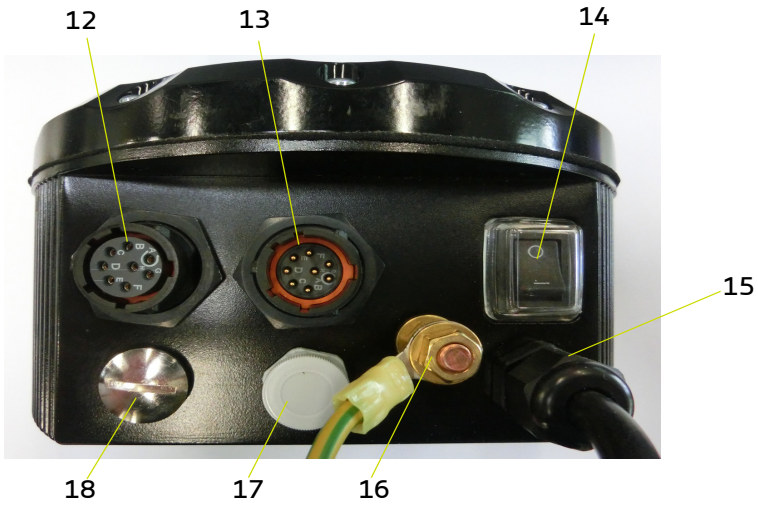
Control module fault: this fault collects all the internal faults of the control module. If this fault can not reseted, the problem requires the intervention of the repair department, contact **Sames**.

Low voltage connection fault:
• The control module does not detect or any more the presence of the gun.
Switch off the main power supply, check the connection between the control module and the gun.
• This fault may also be related to electromagnetic interference generated by other equipment in the installation.
• Check that the module is earthed and that the other equipment complies with electromagnetic compatibility rules.

Nota: One or more alarm lights come on at random and sometimes it is impossible to acknowledge them, and/or the red and blue LED strips do anything when the trigger is pulled and/or nothing happens when the trigger is pulled.
Remedies:
Turn off the GNM and turn it back on 2 or 3 seconds later, this can be repeated 2, 3 or 4 times if it doesn't work. If it still doesn't work: Check the electronic disturbance in the vicinity of the module and the ground of the building to which the module is connected.

High voltage faults: faults specific to the operation of the gun related to the high voltage:
• Start up of the control module with the engaged trigger.
• Peak of an important over-current during the high voltage.
• Bad functioning of the high voltage unit.

Maintenance indicator light: This indicator light ignites (orange) from 800000 operations of the trigger or at the 1000 hours of functioning of the gun (see § 6 page 33).
The ignition of this light indicates that the maintenance of the gun must be carried out. No specific maintenance on the GNM 6080.
If one or more lights or barographs come on at random, after switching off the power supply to the module,
it is necessary to check that the module is earthed and that other equipment complies with electromagnetic compatibility regulations.



Side face of the GNM 6080 control module

12	Plug for gun cable
13	Plug for external cabling
14	Switch ON / OFF
15	Main power supply
16	Ground connection
17	Diaphragm of pressure balancing
18	Diagnosis plug (type mini USB)

3. Technical characteristics

3.1. General spray gun characteristics

	JR06	JR08	JR12	JP
Spray type	Round Super Vortex	Round Super Vortex	Round Super Vortex	Flat spray
Air cap fitted as standard	JR06	JR08	JR12	P15
Max. paint intake pressure	7 bar	7 bar	7 bar	7 bar
Compressed-air intake pressure	6 bar ± 1 bar			
Mini/ maxi ambient temperature	0°C - 40°C			
Max. paint flow rate (paint viscosity 20s when measured with AFNOR Cup 4) in cm^3/min	650	650	750	750
Spray width, 25 cm away	19 cm	20 cm	21 cm	37 cm
Air flow rate Nm^3/h	6.6 - 16.8	7.8 - 16.8	9.4 - 22.5	10,3 - 25,2
Sound pressure (*)	93.8 dB(A)	93.8 dB(A)	93.8 dB(A)	98.6 dB(A)
Recommended paint viscosity (measured with AFNOR Cup 4)	14 to 50 s			
Dimensions	273 x 220 x 52			
Weight without hoses or cables	570 g			
Output voltage	Max. 60 kV [+0 kV; -1,5 kV] (adjustable on GNM 6080)			
Output current	80 µA max.			
Short-circuit output current	< 20 µA			
HV cascade input voltage	45 V AC max.			
HV cascade input current	300 mA max.			
Air coupling	1/4 NPS - F			
Paint fitting	1/2 JIC - M			
Paint resistivity ρ	10 MΩ.cm < ρ < 500 MΩ.cm QD Version (high resistivity) 0.5 MΩ.cm < ρ < 500 MΩ.cm LR Version (low resistivity) 2 MΩ.cm < ρ < 500 MΩ.cm LR Version (middle resistivity)			
Electrical functions available on the gun	High voltage ON / OFF switch			
Electrical / pneumatic connector	The electropneumatic coupling, held in place by two safety screws **MUST NEVER BE DISCONNECTED IN A POTENTIALLY EXPLOSIVE ATMOSPHERE**			
Altitude	2000 m maxi.			
Maximum relative humidity for temperatures up to 80% decreasing linearly to 50% relative humidity at 40°C.	Maximum 80% relative humidity, non-condensing			
Surface temperature	T6			
Index of protection	IP 20			
Transportation / Storage				
Time of storage	2 years max.			
Temperature of mini / maxi storage	-10°C + 45°C			
Humidity	95% without condensation			
Mini pressure	750 mBar			
Exposure to the UV radiations	Stored shielded from the light			
Exposure to the ionizing radiations	No admitted			
Compressed air (according to Standard NF ISO 8573-1)				
Maximum dew point at 6 bar (87 psi)	Class 4, i.e. + 3 °C (37° F)			
Maximum particle size of solid contaminants	Class 3, i.e. 5 µm			
Maximum oil concentration	Class 1, i.e. + 0.01mg/m_0^3 *			
Maximum concentration of solid contaminants	5 mg/m03 *			

(*) The weighted equivalent continuous sound pressure level is between 93.8 et 98.6dBA, depending on spray gun version.
(**) Values are given for a temperature of 20 ° C (68 °F) at 1013 mbar atmospheric pressure.

Measurement conditions:
The apparatus was operated to maximum capacity and the measurements taken in the manual paint test booth (sealed booth with glass panels) located in the **Sames** site in Meylan, France.

Measurement method:
The weighted equivalent sound pressure level (93.8 et 98.6 dBA) is an LEQ value measured during observation periods over at least 30 seconds.

3.2. GNM 6080 Characteristics

Installation category II (according to EN 61010-1).

General	
Weight	1.7 kg
Dimensions	Diameter: 168 mm
	Height: 91 mm
Operating temperature	0-40°C
GNM 6080 Input	
Voltage	88 - 264 V AC
Frequency	50 - 60 Hz
Max. current	0,25 A
Max. power	25 V.A
GNM 6080 output	
Voltage	40 V rms
Current	200 mA rms

The GNM 6080 automatically adapts to the supply voltage.

3.3. Operation

Pressing the trigger controls non-simultaneous opening of the air valve then engaging of high voltage and then the paint needle. The high voltage pilot can be disabled by using the switch on the gun.

Nanogun+ Airspray spray guns are fitted with a magnetic sensor which detects the position of the trigger. This sensor allows to supply the high-voltage as soon as the air valve of air moves back of a value between 1 and 1,8 mm:

- The button at the rear of the spray gun allows to adjust the paint flow.
  - Selector fully turned to the left: max. spray flow.
  - Selector fully turned to the right: reduced paint flow.

- The side button allows to adjust the spray.
  - Tighten screw: reduced impact.
  - Loosen screw: wide impact.

3.4. For use

Paint Recommendations
In general, all paints and clear coats used with conventional pneumatic spray guns (including slightly metallic paints) can be used in the normal way with the **Nanogun+ Airspray** spray gun.

3.4.1. Viscosity

The best results are obtained with a viscosity ranging from 25 to 30 seconds, measured with AFNOR cup 4. However, paints with a lower or higher viscosity (for example 14 to 50 seconds or more) can be sprayed.

3.4.2. Resistivity

Use a paint whose resistivity is suitable for the **Nanogun+ Airspray** spray gun model that you are using. Optimum resistivity ranges from 0.5 to 500 MΩ.cm. Low resistivity promotes a good wraparound effect, but there may be back spray onto the operator is the booth is inadequately ventilated, especially when using the round spray.
Much lower resistivity (for example 0.1 MΩ.cm) will short circuit the high voltage and therefore prevent any wraparound effect. High resistivity (e.g. 1000 MΩ.cm) will significantly reduce the wraparound effect will be greatly reduced. Paint resistivity can be easily checked using the **Sames** AP 1000 resistivohmmeter.

3.4.3. Settings of the spraying parameters

These settings are given for information and can be subject to variations in particular due to the temperature and to the ambient humidity.

Viscosity of paint 20 sec CA4 and length of paint hose 7.5 m:

Flat spray nozzle with high efficiency cap ring (P/N 900009014)	Paint flow in cc/min	130	285	525	750	900
	Paint pressure in bar	0.3	0.8	1.5	2.6	3.1
	Air compressed flow in Nm3/h	10.3	15.8	19.4	25.2	30
	Air compressed pressure in bar *	1.4	2.4	3.1	4.2	6
	Width of spray in cm**	11	24	35	37	37
	Finishing	Good	Good	Good	Good	Average
Round spray nozzle ∅: 6 mm	Paint flow in cc/min	70	200	400	650	
	Paint pressure in bar	0.4	1	2	4	
	Air compressed flow in Nm3/h	6.6	7.8	12.2	16.8	
	Air compressed pressure in bar *	1.2	1.5	2.7	4	
	Width of spray in cm**	8	8	15	19	
	Finishing	Good	Good	Good	Good	
Round spray nozzle ∅: 8 mm	Paint flow in cc/min	120	150	315	660	
	Paint pressure in bar	0,2	0,3	0,6	1,5	
	Air compressed flow in Nm3/h	6.6	7.8	11.3	16.8	
	Air compressed pressure in bar *	1	1.3	2.1	3.4	
	Width of spray in cm**	8	9	11	20	
	Finishing	Good	Good	Good	Good	
Round spray nozzle ∅: 12 mm	Paint flow in cc/min	135	150	310	660	
	Paint pressure in bar	0.2	0.3	0.6	1.5	
	Air compressed flow in Nm3/h	8.4	9.4	12.8	22.5	
	Air compressed pressure in bar *	1.2	1.5	2.2	4.3	
	Width of spray in cm**	NS***	11	13	21	
	Finishing	Good	Good	Good	Good	

- * Dynamic pressure measured in the inlet of the supply hose of compressed air when the spray gun is in use.
- ** Maximum size of the spray when the circuit of additional air is opened at most with a distance of 250 mm spraying and a electrostatic tension of 60 kV.
- *** Too low flow, coat not closed considering the time of spraying.

Viscosity of paint 50 sec CA4 and length of paint hose 7.5 m:

Flat spray nozzle with high efficiency cap ring (P/N 900009014)	Paint flow in cc/min	120	285	495	750	915
	Paint pressure in bar	0.75	1.8	3.2	5	6.5
	Air compressed flow in Nm^3/h	10,.3	15.8	19.4	25.2	30
	Air compressed pressure in bar *	1.4	2.4	3.1	4.2	5.5
	Width of spray in cm**	11	24	35	37	37
	Finishing	Good	Good	Good	Good	Average
Round spray nozzle ∅: 6 mm	Paint flow in cc/min	The use of a 6 mm injector to spray a viscous product is not advised. Only ones of the tests of spraying allow to determine the values of pressure product and compressed air to apply.				
	Paint pressure in bar					
	Air compressed flow in Nm^3/h					
	Air compressed pressure in bar *					
	Width of spray in cm**					
	Finishing					
Round spray nozzle ∅: 8 mm	Paint flow in cc/min	140	300	640		
	Paint pressure in bar	0.9	1.8	3.8		
	Air compressed flow in Nm^3/h	7.8	11.3	16.8		
	Air compressed pressure in bar *	1.3	2.1	3.4		
	Width of spray in cm**	9	11	20		
	Finishing	Good	Good	Good		
Round spray nozzle ∅: 12 mm	Paint flow in cc/min	150	290	740		
	Paint pressure in bar	0.8	1.6	3.9		
	Air compressed flow in Nm^3/h	9.4	12.8	22.5		
	Air compressed pressure in bar *	1.5	2.2	4.3		
	Width of spray in cm**	11	13	21		
	Finishing	Good	Good	Good		

- * Dynamic pressure measured in the inlet of the supply hose of compressed air when the spray gun is in use.
- ** Maximum size of the spray when the circuit of additional air is opened at most with a distance of 250 mm spraying and a electrostatic tension of 60 kV.

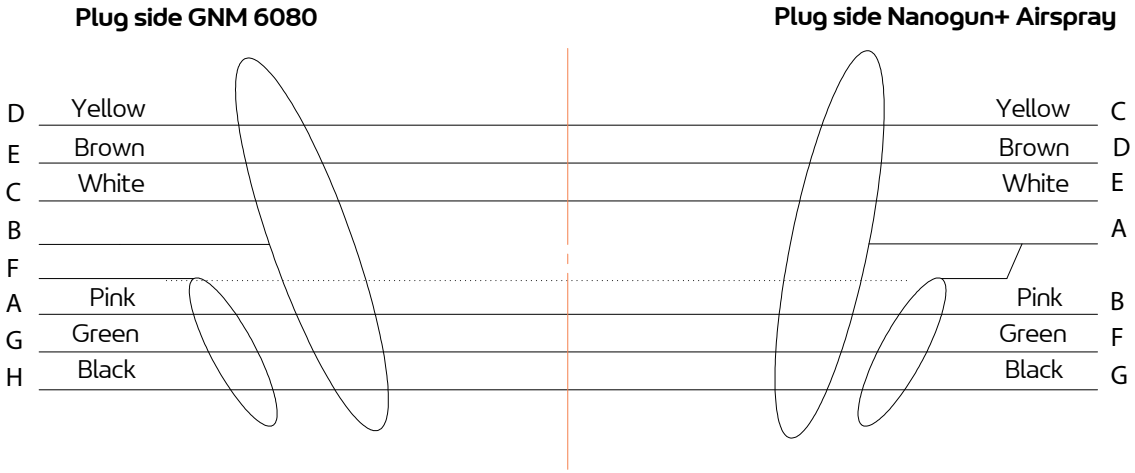
Viscosity of paint 50 sec CA4 and length of paint hose 15 m:

Flat spray nozzle with high efficiency cap ring (P/N 900009014)	Paint flow in cc/min	100	300	500	680
	Paint pressure in bar	1.2	3.2	5.4	7
	Air compressed flow in Nm^3/h	10.3	15.8	19.4	25.2
	Air compressed pressure in bar *	1.4	2.4	3.1	4.2
	Width of spray in cm**	11	24	35	37
	Finishing	Good	Good	Good	Good
Round spray nozzle Æ: 6 mm	Paint flow in cc/min	The use of a 6 mm injector to spray a viscous product is not advised. Only ones of the tests of spraying allow to determine the values of pressure product and compressed air to apply.			
	Paint pressure in bar				
	Air compressed flow in Nm^3/h				
	Air compressed pressure in bar *				
	Width of spray in cm**				
	Finishing				
Round spray nozzle Æ: 8 mm	Paint flow in cc/min	150	300	650	
	Paint pressure in bar	1.7	3.2	6.5	
	Air compressed flow in Nm^3/h	7.8	11.3	16.8	
	Air compressed pressure in bar *	1.3	2.1	3.4	
	Width of spray in cm**	9	11	20	
	Finishing	Good	Good	Good	
Round spray nozzle Æ: 12 mm	Paint flow in cc/min	150	300	650	
	Paint pressure in bar	1.5	2.9	6	
	Air compressed flow in Nm^3/h	9.4	12.8	22.5	
	Air compressed pressure in bar *	1.5	2.2	4.3	
	Width of spray in cm**	11	13	21	
	Finishing	Good	Good	Good	

- * Dynamic pressure measured in the inlet of the supply hose of compressed air when the spray gun is in use.
- ** Maximum size of the spray when the circuit of additional air is opened at most with a distance of 250 mm spraying and a electrostatic tension of 60 kV.

4. Electric diagrams

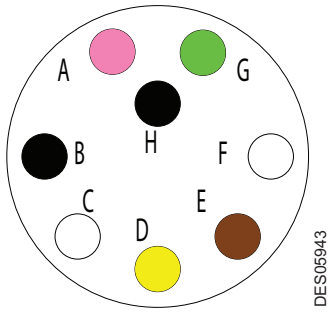
4.1. Connection cable GNM 6080 / Nanogun+ Airspray



4.2. GNM 6080 trigger cable

A	Pink	Primary transformer HVU 3
B		Shield
C	White	REED sensor (trigger)
D	Yellow	Dallas chip
E	Brown	0V commun puce / reed
F		Third shield
G	Green	Primary transformer HVU 3
H	Black	Return IHV 1

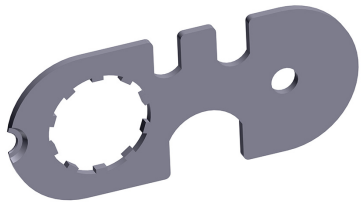
Plug side GNM 6080



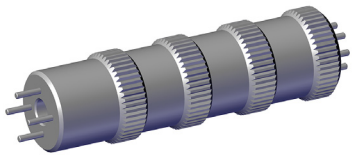
(*)
Switch "open": Nanogun+ Airspray trigger releases.
Switch " closed" : Nanogun+ Airspray trigger activated.
Characteristics of the switch: 0.5 A maxi / 24 VAC/DC maxi.

5. Start-up

5.1. Special tools



Part number	Description	Qty	Unit of sale
900010674	Multipurpose spanner	1	1



Part number	Description	Qty	Unit of sale
900010973	Disassembly/Reassembly tool for flat nozzle	1	1

Part number	Description	Qty	Unit of sale
H1GMIN017	White vaseline (100 ml)	1	1
H1GSYN037	Dielectric lubricant for high voltage cascade and needle duct (100 g)	1	1

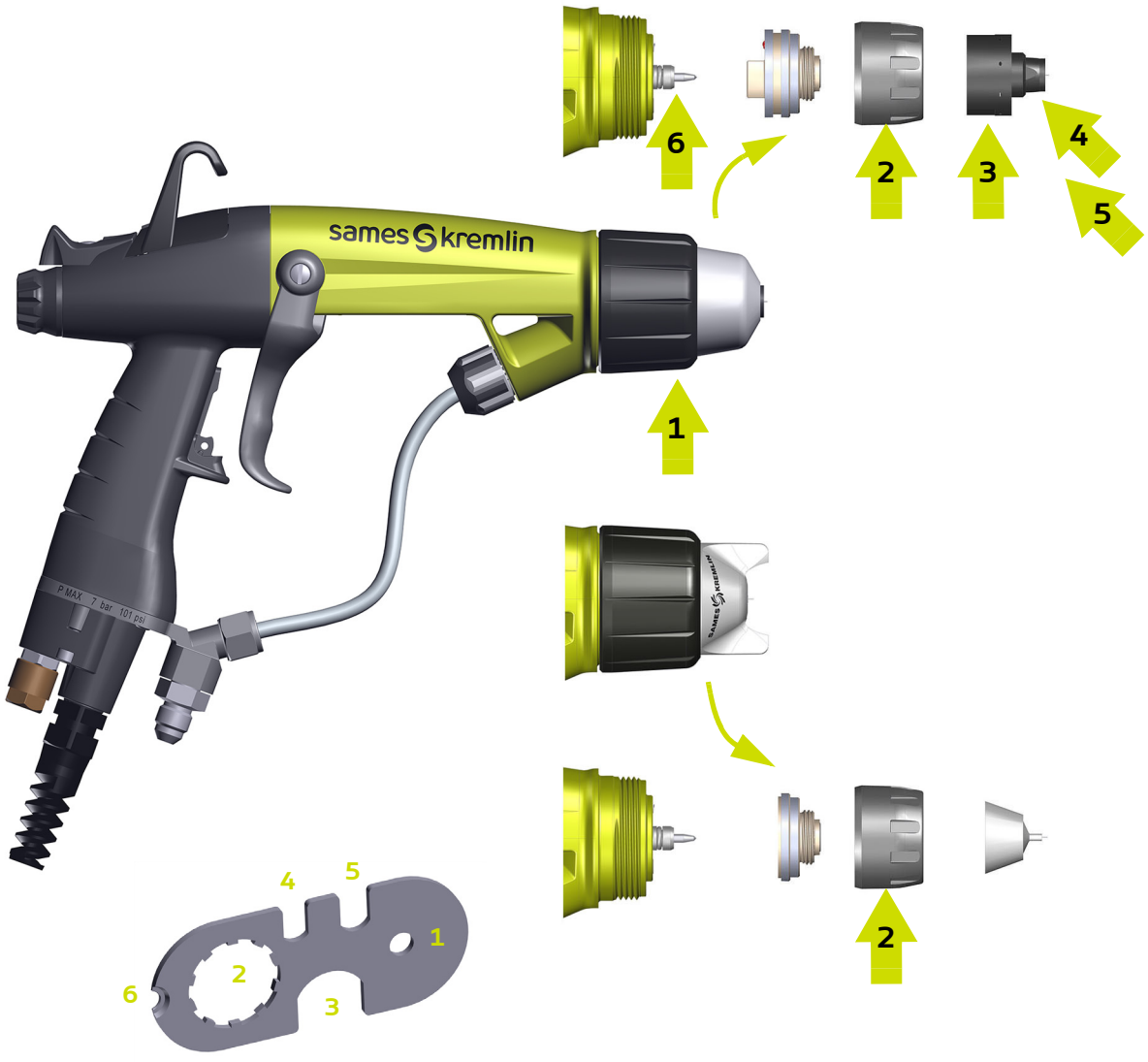
Part number	Description	Qty	Unit of sale
240000301	Seal extractor tool	1	1

Part number	Description	Qty	Unit of sale
129400923	Air cap cleaning brush	1	1

Additional tools and accessories required:
The tools listed below should be available for product installation and maintenance operations.

- Flathead screwdriver (2.5x75; 4x100, 5.5x100)
- Phillip's screwdriver (0x75; 2x125)
- Allen keys (3 - 6 mm)
- Torque wrench 1 to 5 Nm (R.304DA Facom) (Sames P/N: 240000095)
- Open-ended spanners (5 - 5.5 - 15 - 17 - 18 - 21 - 24 - 27 mm)
- Socket wrench (socket diameters 4)
- Flat nose pliers
- Cutting pliers

5.2. Using the multipurpose spanner



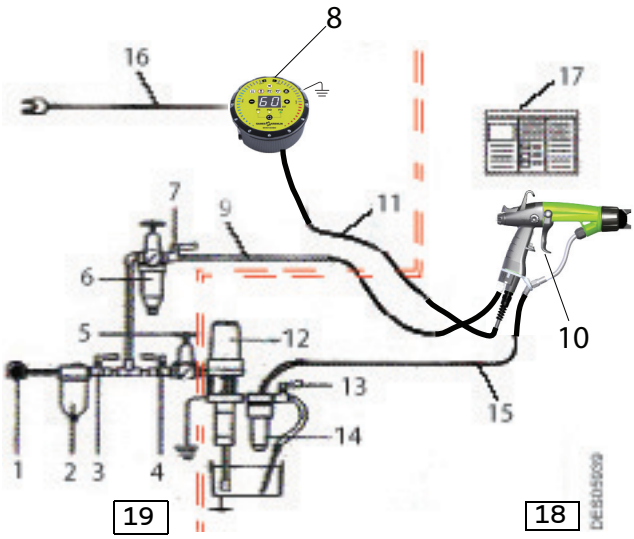
1 : Tighten the air cap ring.
2 : Tighten the ring of the nozzle support.
3 : Tighten the fitted low pressure nozzle assembly (round spray).
4 : Tighten the injector (Dia.: 6 and 8 mm) onto the air cap (round spray).
5 : Tighten the injector (Dia 12 mm) onto the air cap (round spray).
6 : Remove the seal cartridge from the barrel.

5.3. Installation

5.3.1. With piston pump for all versions

Before any work, please refer to the installation rules (see § 1.7 page 11).

1	General air supply
2	Air filter
3	Main air valve
4	Pump air shut-off valve
5	Air pressure regulator
6	Spraying air filter/regulator
7	Spraying air valve
8	GNM 6080 control module
9	Spray gun air supply hose
10	Nanogun+ Airspray Spray Gun
11	Low voltage power supply cable
12	Pump (complies with ATEX Directive)
13	Dump valve
14	Product filter
15	Product supply hose
16	Mains power cable (220V + ground) or (115V + ground)
17	Warning sign
18	Potentially explosive atmosphere
19	Area with no risk of explosion



The paint supply must be installed in a well-ventilated area.

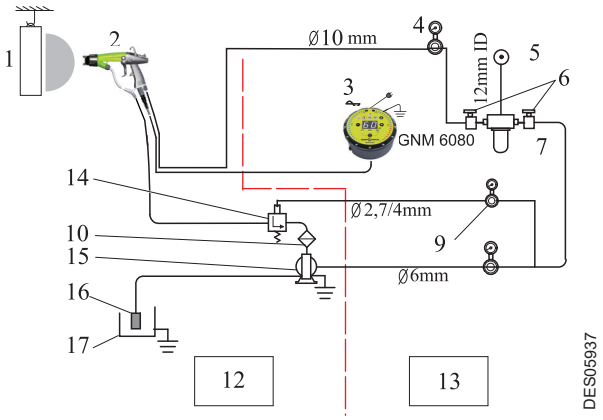
The paint container and pump must always be electrically grounded.

The dump hose must be submerged in the paint.

The paint supply pump:
- must have a maximum ratio of 1:1.
- and the pump air supply must be fitted with a safety valve limiting pressure to 6.5 bar max.

5.3.2. With diaphragm pump for all versions

1	Part to be painted
2	Nanogun+ Airspray Spray Gun
3	Single-phase mains, 220 V, 50 Hz + ground or 115 V+ ground
4	Air pressure regulator 0-6 bar - 50 m_0^3/h (for adjusting the spraying air)
5	Compressed air network
6	Stop cocks
7	Oil-removing filter
9	Air pressure regulator 0-6 bar - 5 m_0^3/h For adjusting the regulator control pressure (paint flow rate setting)
10	Air pressure regulator 0-6 bar - 20 m_0^3/h (for adjusting the pump air supply)
12	Potentially explosive atmosphere
13	Area with no risk of explosion
14	Paint flow rate regulator
15	Diaphragm pump (complies with ATEX Directive)
16	Strainer
17	Paint container

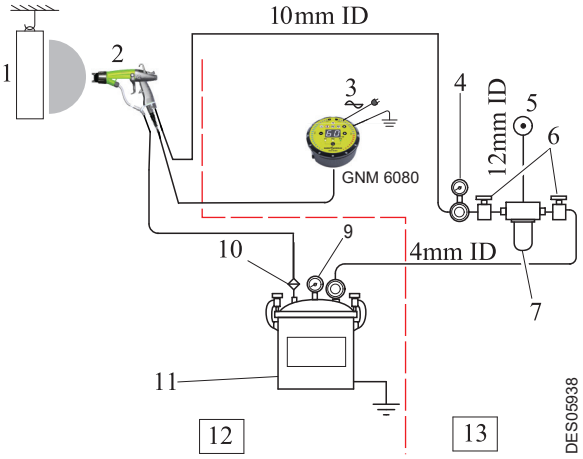


Note: m_0^3/h volume at 1013 mbar atmospheric pressure and a temperature of 20°C (68°F).
It is recommended to fit the diaphragm pump with a valve on the return line to the paint container to prime the pump and stir the paint.

For the safety of the painter, the paint container, the diaphragm pump, and the paint filter, if it is metal, must be electrically grounded.

5.3.3. With a pressure tank for all versions

1	Part to be painted
2	Nanogun+ Airspray Spray Gun
3	Single-phase mains, 220 V, 50 Hz + ground or 115 V + ground
4	Air pressure regulator 0-6 bar - 50 m_0^3/h (for adjusting the spraying air)
5	Compressed air network
6	Stop cocks
7	Oil-removing filter
9	Air pressure regulator 0-6 bar - 5 m_0^3/h For adjusting the regulator control pressure (paint flow rate setting)
10	Filter
11	Pressure tank (complies with ATEX Directive)
12	Potentially explosive atmosphere
13	Area with no risk of explosion



Note: m03/h volume at 1013 mbar atmospheric pressure and a temperature of 20°C (68°F).
You are advised to fit a pneumatic stirrer on the pressure tank to stir the paint.
A filter with a screen should be fitted at the spray gun paint hose inlet.

For the safety of the painter, the pressure tank and the paint filter, if it is metal, must always be electrically grounded.

6. Maintenance

Preventive maintenance is an essential part of production and ensures the reliability of the installation. As a reminder, the performance of equipment can only be guaranteed if a minimum of control and cleaning operations are performed on this equipment.

Soiling and wear of the Nanogun+ Airspray gun depend on the operating and application conditions and the production rates.

6.1. Summary table of maintenance operations

The maintenance intervals indicated in the procedures below are only indicative. The user will have to create his own maintenance schedule as he use Sames equipment.

Carry out when the maintenance indicator light of the GNM 6080 is ON.

Procedure		Detail	Duration	Frequency
Cleaning				
A	**A1**	Cleaning the product circuit	10 min	Once a day
	A2	Cleaning the spray gun	10 min	Once a day
	A3	Waste disposal	5 min	Once a day
	A4	Demolition and Recycling	5 min	Once a day
Replacement				
B		**Paint circuit**		
	B1	Replacement of the paint hoses	10 min	2000 hours
	B2	Replacement of the spray head assembly	5 min	1000 hours
	B3	Replacement of the paint needle	5 min	2000 hours
C		**Barrel**		
	C1	Replacement of O-rings and seals	10 min	2000 hours
	C2	Replacement of the air valve	5 min	2000 hours
	C3	Replacement of the high voltage cascade	20 min	-
D		**Handle**		
	D1	Replacement of the handle	20 min	2000 hours
	D2	Replacement of the electropneumatic coupling	5 min	4000 hours
	D3	Replacement of the switch	20 min	4000 hours
	D4	Replacement of the trigger	5 min	1000 hours
	D5	Replacement of the fixing hook	5 min	4000 hours

6.2. Preventive maintenance plan – PMP 7105

see § 11.1 page 77

The objective of the proposed preventive maintenance plan is to define in an exhaustive way, the verification, replacement and cleaning actions of the installed Sames equipment.

In order to anticipate breakdowns and malfunctions that may be due to technical deviations of the installation, the preventive maintenance plan attached to the user manual lists the routine maintenance operations necessary for better comfort in the use of the production tool.

Depending on the skills, area of responsibility and accreditation of each person involved, the preventive maintenance plan can be divided into two distinct levels: level 1 and level 2:

- **Level 1**: first level maintenance is essentially composed of visual control and cleaning operations of some elements of the equipment. To limit this level, only the specific tools supplied with the equipment will be used. This first level of maintenance is generally taken care of by paint operators or installation managers.

- **Level 2**: second level maintenance completes the first level by more complex dismantling operations requiring electrical engineering tools.
  This second level is generally handled by the factory maintenance department.

6.3. Cleaning

Always refer to the health and safety instructions before carrying out any work on the spray gun (see § 1 page 6).

Always wear safety glasses.
When handling solvents, wear gloves of a suitable resistant material.
Work in a well ventilated area when using solvents.

Before any maintenance work on the spray gun, always refer to the health and safety instructions (see § 1 page 6):
- Disconnect the control module from the power supply.
- Check that the air and paint circuits are not pressurised.
- Dump the paint circuit.

6.3.1. Procedure A1 : Cleaning the product circuit

- Disconnect the GNM 6080 control module.
- Install a bucket of solvent in place of the paint container.
- Open the recirculation valve to clean the pump.
- Close the recirculation valve and hold down the trigger until clean solvent comes out of the spray gun nozzle/tip.

6.3.2. Procedure A2 : Cleaning the spray gun

The spray gun must be cleaned immediately after use and at the end of the day, as with all paint guns.
The cleaning procedure described below should be followed carefully:

It is formally forbidden to plunge the **Nanogun+ Airspray** into solvent.

Use a suitable solvent: non-greasy, high resistivity, non-chlorinated solvent.
•**Step 1**: Disconnect the GNM 6080 control module.
•**Step 2**: Depressurise the spray gun air circuit.
•**Step 3**: Dump the spray gun paint circuit and rinse with an appropriate solvent (see § 1.9 page 14).
•**Step 4**: Depressurise the spray gun paint circuit.
•**Step 5**: Dry the spray gun air cap with a soft, dry, lint-free cloth.
•**Step 6**: Unscrew the spray gun air cap ring and remove the air cap (see § 8.7 page 65).
•**Step 7**:Clean the air cap with a solvent-dampened brush and then wipe dry.
•**Step 8**: Reassemble the air cap and ring.
•**Step 9**: Dry the compressed air spray gun (facing downwards) before restarting the GNM 6080 control module.

Never disassemble the needle assembly when the paint hose contains paint or solvent.

When cleaning the nozzle/tip, always point the spray nozzle/tip towards the ground to prevent solvent or paint from flowing into the barrel ducts.

After cleaning, the ducts and supply hose must be dried with compressed air to remove all traces of solvent.

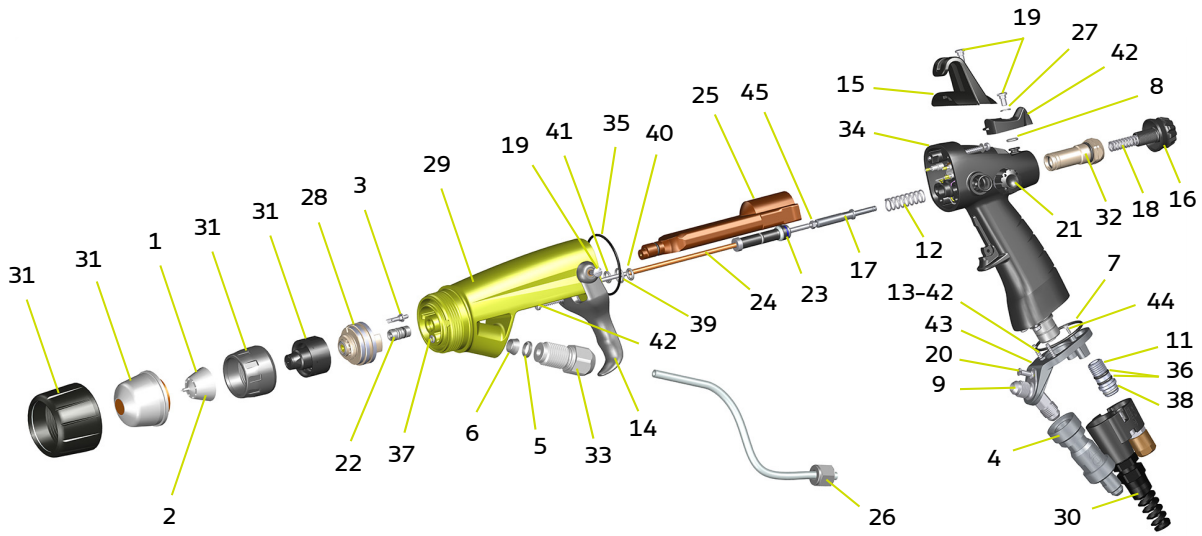
6.3.3. Procedure A3: Waste disposal

Waste generated by use of the apparatus (spent solvent, unused paint, residue, dirty cloths, paint booth slurry, water-wash spray booth run-off, used dry filters, ventilation air etc.) must be removed, transported and disposed of in strict compliance with the applicable local regulations.

6.3.4. Procedure A4: Demolition and Recycling

6.3.4.1. Nanogun+ Airspray

All the parts can be contaminated by paint residues and/or of solvent.
Before proceeding to the demolition of the equipment, clean the spray gun and more particularly the inside of paint hoses with an appropriate cleaning product and air-drying them with compressed air.

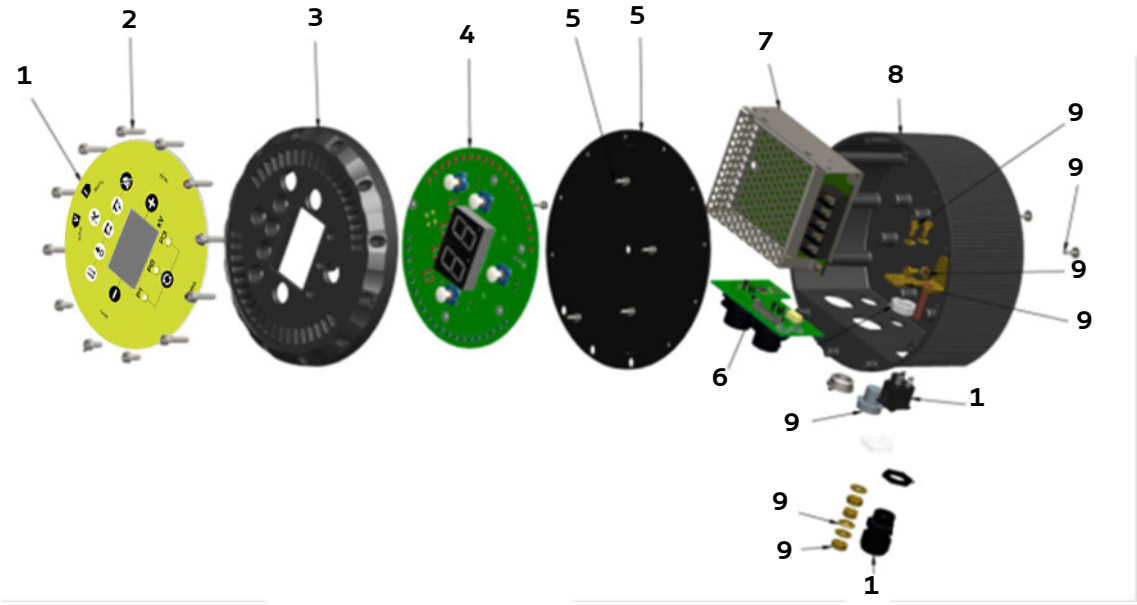


Item	Material
Spraying area	
1,6, 22,28,33,37	Plastics charged glass fiber or kevlar
31	Plastic charged PTFE or chemically inert rubber
28	Plastics charged with fibers, titanium
2	Plastics and stainless steel
5, 22	Chemically inert rubber
3*	Brass
26	Polyethylene and stainless steel
Barrel area	
14, 29*	Plastic charged glass fiber
8, 19	Stainless steel
35, 39,40, 41, 42	Chemically inert rubber or fiber O-rings
25	Plastic, copper, steel, ceramic, electronic and electric components ROHs
Air and product valve area	
23, 24*	Tungsten, PEEK, stainless steel, chemically inert rubber, PTFE, magnet (iron), aluminium
12*, 18*, 45*	Stainless steel
16*, 17*, 21	Aluminium
32	Plastics, chemically inert rubber
Handle area	
15, 34	Plastics charged glass fiber, stainless steel, brass, copper
Not shown	Sensor position trigger: electric components ROHs, plastic, copper
	connector at the bottom of the handle: ROHs electronic components, plastic, copper

19	Stainless steel
27	Plastic charged glass fiber, magnet (iron)
Area base plate of handle connection towards the control module	
13	Aluminium
11, 20, 42, 43, 44	Stainless steel
7, 36	Rubber
30	Plastics charged glass fiber, stainless steel, copper
Product /air hose area	
Not shown	Air hose: PU
Not shown	Product hose: polyethylene or elastomerized polyethylene Connections: zinc coated steel and stainless steel Sheath: polyamide Stuffing box: plastic charged Fitting: zinc coated steel and stainless steel

*** These components (3, 12, 16, 17, 18, 24, 29, 45) can be soiled with dielectric grease.**

6.3.4.2. GNM 6080



Item	Description	Material
1	Keyboard / front face*	Plastic
2	Fastening screw of front face	Stainless steel
3	Support of main board and front face	Aluminium
4	Main board	Electric and electronic components, printed circuit ROHs
5	Rear metal sheet and fastening screw	Steel
6	Connector board	Electric and electronic components, printed circuit ROHs
7	Electric power	Electric and electronic components, printed circuit ROHs
8	Box	Aluminium
9	Fixation accessories	Steel and brass
10	Electric switch	Electric component ROHs
11	Stuffing box	Plastic
Not shown		
12	Power cable	Plastic and copper

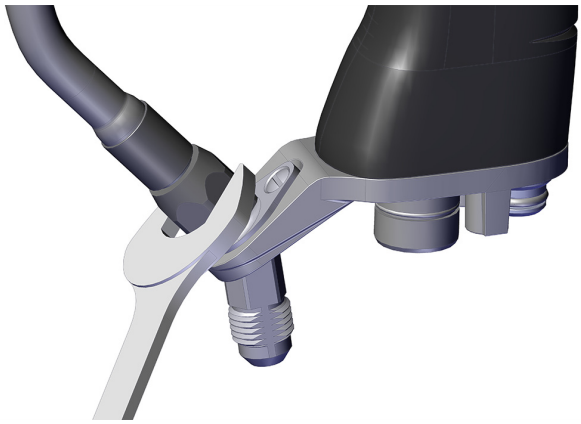
*** Attention, this component can be soiled with dielectric grease.**

6.4. Replacement

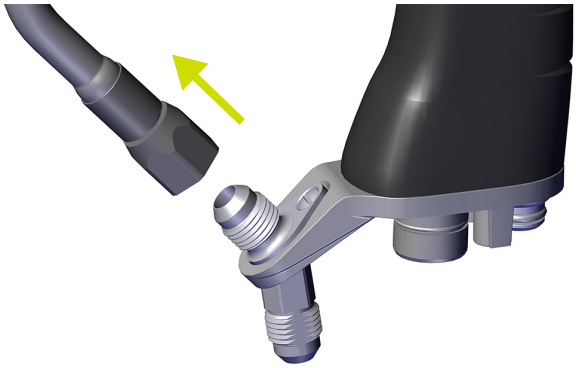
6.4.1. Procedure B1: Replacement of the paint hoses

6.4.1.1. Paint hose - QD version (HR)

- **Step 1**: Side handle, unscrew the fitting using a 15mm open-ended spanner.



- **Step 2**: Release the paint hose from base.



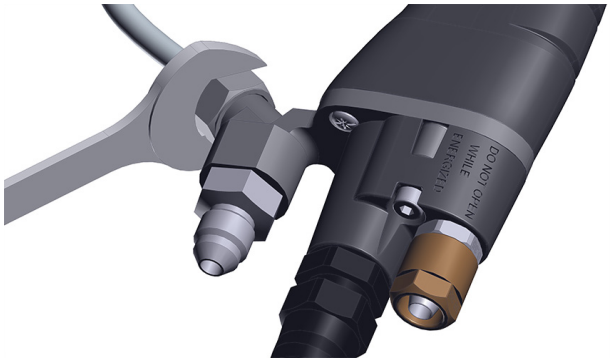
- **Step 3**: Using a 21 mm open-ended spanner, unscrew the upper nut of the paint hose, then stop loosening manually by maintaining the nut of bottom.

- **Step 4**: Check that the seal of the paint nut is in place. Check that the two olives (P/N 910018200) are installed on the paint hose (they can be lost in the event of leakage caused by inadequate tightening). In case olives must be removed, replace them necessarily by news.

To reassemble, follow the steps in reverse order. Tighten manually the upper paint hose nut until it levels the reinforcement of the barrel.

6.4.1.2. Paint hose LR-MR

- **Step 1**: Side handle, unscrew the paint hose nut with a 15 mm open-ended spanner.

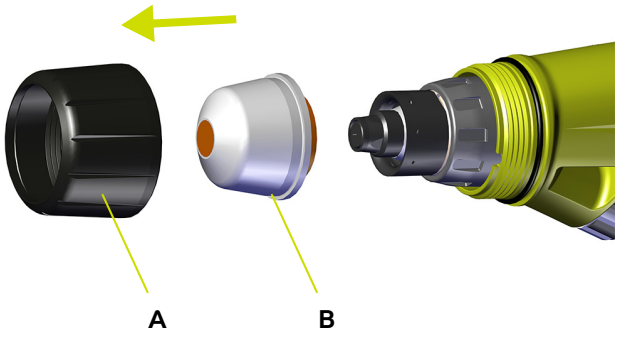


- **Step 2**: Using a 21mm open-ended spanner, loosen the upper paint hose nut. Unscrew the nut, whilst rotating the hose.

To reassemble, follow the steps in reverse order.

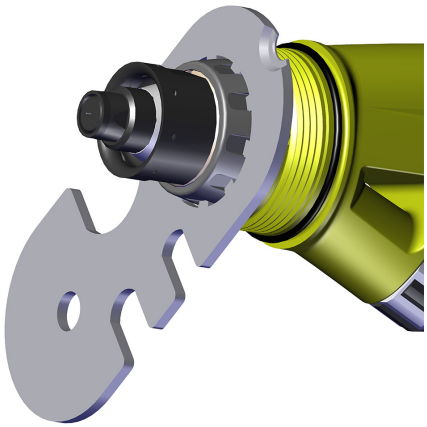
6.4.2. Procedure B2: Replacement of the spray head assembly
Round Spray and Flat spray nozzles

- **Step 1**: Unscrew the air cap ring (A) by hand, then remove the air cap (B).



- **Step 2**: Unscrew the nozzle assembly and the nozzle support nut using the multipurpose spanner.

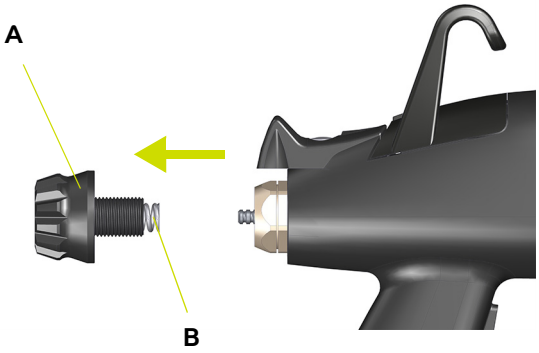
- **Step 3**: Remove the nozzle support, pulling it in a direction parallel to the barrel axis. Replace the seal every three months (see § 8.8 page 65).



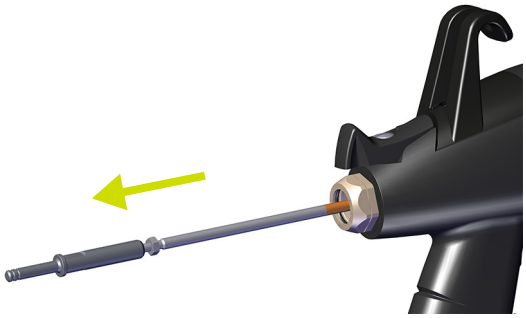
To reassemble, follow the steps in reverse order.

6.4.3. Procedure B3: Replacement of the paint needle

- **Step 1**: Unscrew the notched button (A) at the rear of the spray gun, retrieve the spring (B).



- **Step 2**: Press the trigger and pull manually the paint needle towards the back.

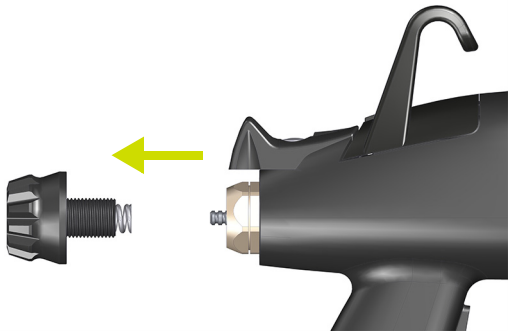


To reassemble, follow the steps in reverse order.

Every 4 or 5 reassemblies, add some dielectric grease (P/N# H1GSYN037) in the passage channel in the barrel.

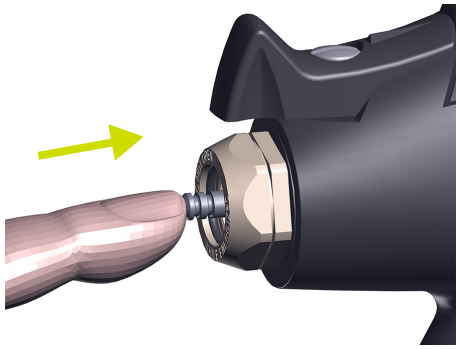
6.4.3.1. Setting the paint needle

- **Step 1**: Remove electro-pneumatic coupling and product hose to the gun base.



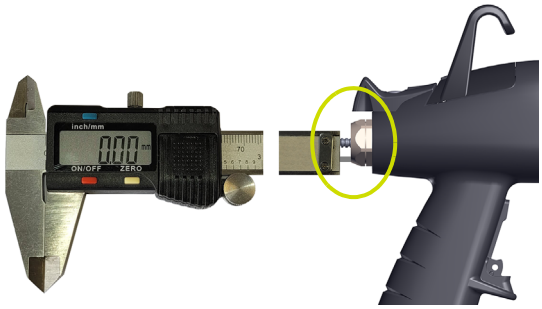
- **Step 2**: Remove rear nut with paint spring

- **Step 3**: To ensure the needle is in contact with the seat nozzle (rest position), push it with your finger.

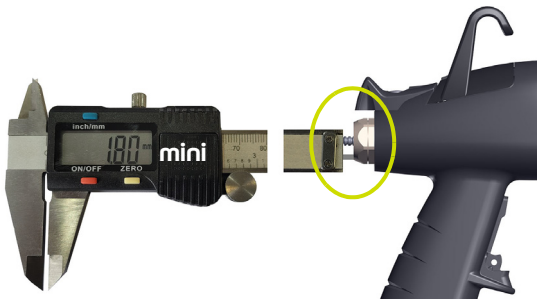


- **Step 4**: Considering that the needle is in contact with the seat nozzle, the length which is sticking out the rear nut should be used as initial position with a caliper (set at "000").

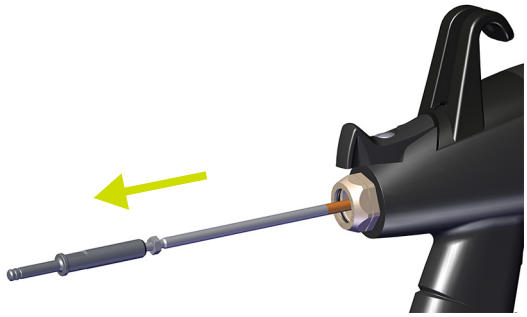
- **Step 5**: Press the trigger to extreme position in order to push back the needle to max rear position.
  Keep this position to measure needle's stroke.



- **Step 6**: The value must be between 1.8 mm and 2.2 mm.
  If the value is not between the acceptable range, go to step 7.
  If the value is between the acceptable range, go directly to step 8.



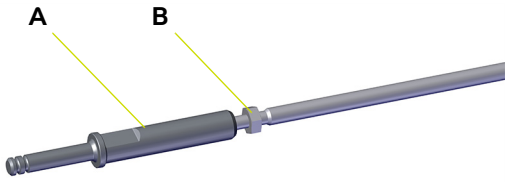
- **Step 7**: Pull the needle out of the gun to adjust its length.



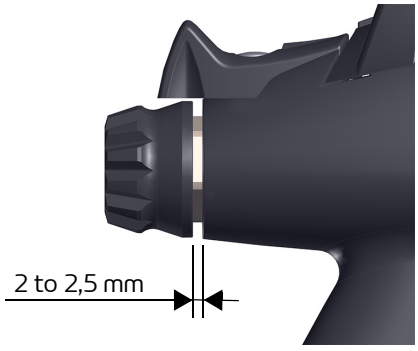
Untighten the nut «B» to allow the adjustment procedure.

- If the value on step 6 is under 1.8 mm, untighten the needle rear stop (A) to increase the needle length.
  For information: One turn = 0.5 mm.
  Tighten again the nut (B) to lock the needle length and check again the value according to step 6.

- If the value on step 6 is over 2.2 mm, tighten the needle rear stop (A) to reduce the needle length.
  For information: One turn = 0.5 mm.
  Tighten again the nut (B) to lock the needle length and check again the value according to step 6.



- **Step 8**: Re-install the rear nut living 2 mm to 2.5 mm gap.



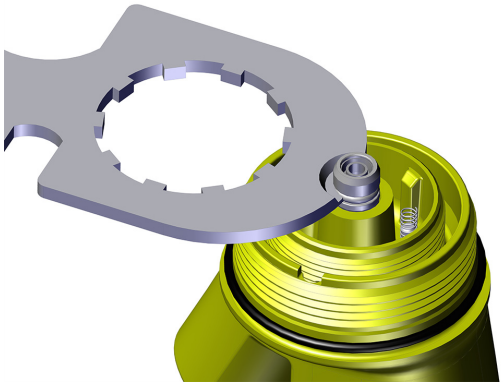
6.4.4. Procedure C1: Replacement of O-rings and seals

Replacing the seals on the spray head side

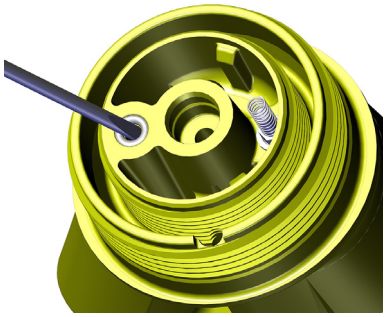
- **Step 1**: Seal cartridge: Extract the cartridge from the barrel using the multipurpose spanner. The cartridge should be replaced every time it is disassembled.

  If the o-ring at the front of the cartridge is to be replaced, removed it with a screwdriver, insert the new o-ring, ensuring it is positioned correctly.

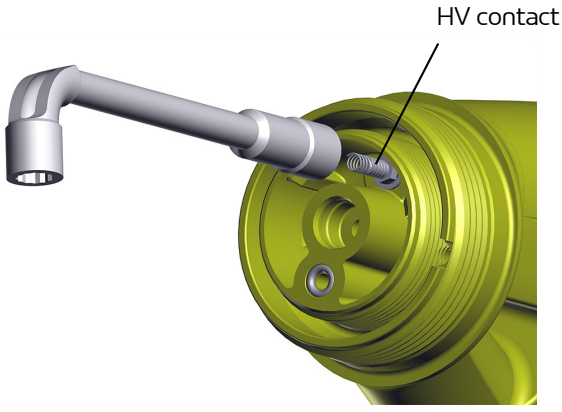
  When reassembling, ensure the cartridge is inserted in the correct orientation (white seal facing outwards). Push the cartridge until it clips into the barrel. Coat the white seal and the anti-extrusion ring with a fine layer of vaseline.



- **Step 2**: Seal: Replace the seal every three months. Remove the seal using a 2.5mm screwdriver, taking care to avoid damaging the barrel.

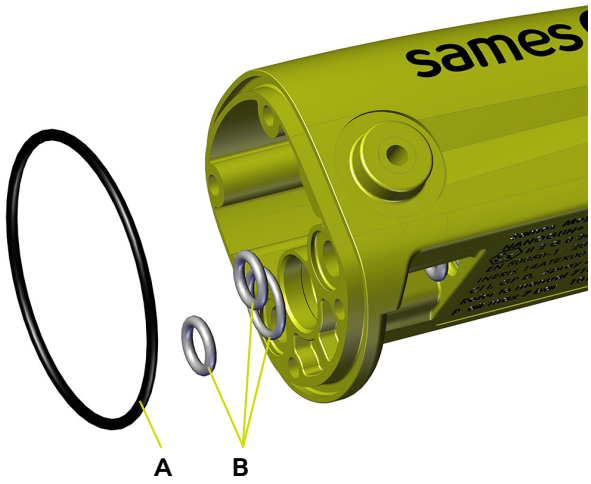


- **Step 3**: HV contact: Unscrew the HV contact using a 4mm socket wrench. The fibre washer should always be replaced whenever the device is disassembled. Replace the HV contact if necessary, then screw back into the barrel.

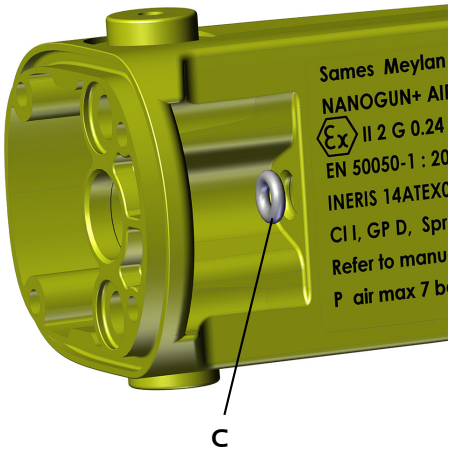


Replacement of the seals on the handle side

- **Step 1**: Remove the trigger see § 6.4.10 page 52, and the paint needle.
- **Step 2**: Unscrew the four screws fastening the barrel on the handle.
- **Step 3**: Unscrew manually or with a small flat pliers the three connection wires of the high voltage unit, pull carefully the contacts towards the back.
- **Step 4**: Replace the o-rings (B) of the air ducts and the air valve (Step 3: not obligatory): Remove and replace the three o-rings.
- **Step 5**: Replace the o-ring barrel/handle (A) (Step 3: obligatory):
  Remove and replace the o-ring.
  Replace this o-ring every year.



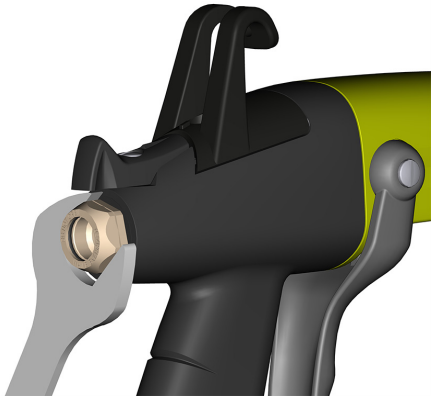
- **Step 6**: Replace the o-ring back of paint needle (C).
  Remove and replace the o-ring.



To reassemble, follow the steps in reverse order.

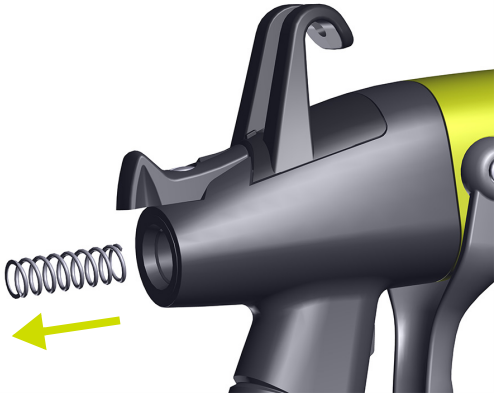
6.4.5. Procedure C2: Replacement of the air valve

- **Step 1**: Remove the paint needle (see § 6.4.3 page 42).



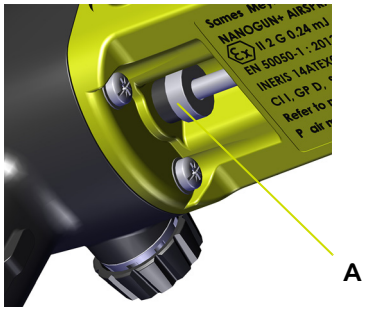
- **Step 2**: Unscrew the air valve stop nut using a 18 mm open-ended spanner.

Position the gun barrel to the top and recover the spring and the air valve. If the parts do not fall, tap in the palm of the hand.



or use the paint needle to extract the air valve.

WARNING : It is important to retrieve the shoulder washer (A) when removing the paint pin so that it does not get lost.
When reassembling, it is imperative to observe the mounting direction of the shoulder washer (A) as shown in the illustration.

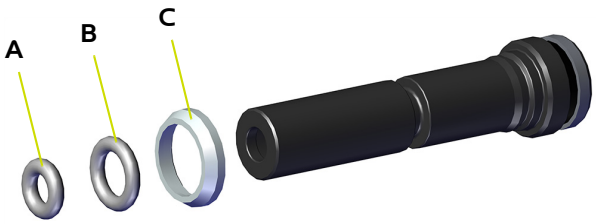


6.4.5.1. Repairing the air valve
Three levels of maintenance are possible:

- **Level 1**: Standard level of maintenance because the body of the air valve does not undergo any friction nor wear.
- **Level 2**: Corrective maintenance, carry out if the valve body is damaged.
- **Level 3**: Exceptional maintenance, carry out if the magnet is lost or broken.

Level 1: Replacement of the three o-rings (P/N J3STKL032 inner ring, J3STKL005 outer ring and 900010256 conical seal.

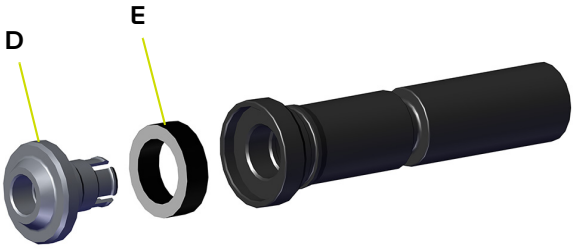
- For three seals, extract the old by taking care of not damaging the body of the air valve (but they can be destroyed).
- The conical seal must be pushed up to its click-and-ratchet work on the body of the air valve by taking care not to damage its conical reach.



Level 2: If the valve body is damaged.

- Extract manually the aluminium ring or put a M4 screw in the ring, pull out in the axle of the part, and remove the magnet by taking care to locate its direction (silver face on the ring side).

- Put in place the magnet in the right direction and retain the ring in the body of the air valve by pushing firmly with the finger.



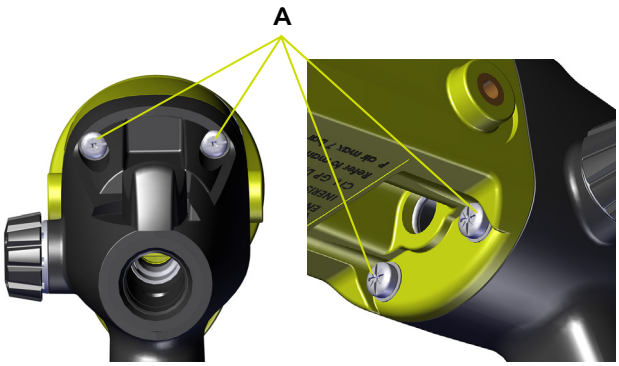
After complete reassembly of the spray gun, check the activation and the stop of the high voltage. If the high voltage is permanently engaged or does not cut itself: check the direction of the magnet.

Level 3: If the magnet is broken or lost.

For this maintenance operation, it is recommended to contact Sames.

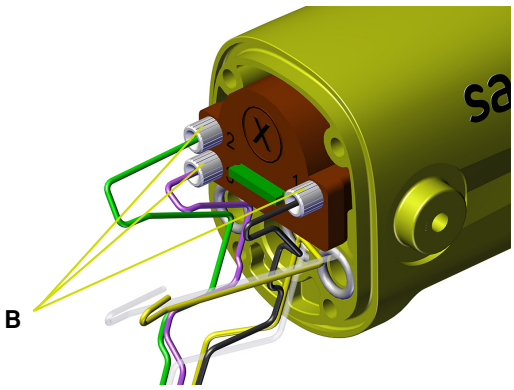
6.4.6. Procedure C3: Replacement of the high voltage cascade

- **Step 1**: First, remove the trigger (see § 6.4.10 page 52), remove the paint needle (see § 6.4.3 page 42) and the fixing hook (see § 6.4.11 page 53).

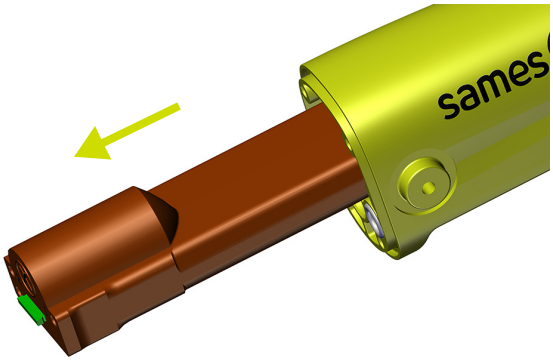


- **Step 2**: Loosen the 4 screws (A) fastening the barrel on the handle with a 2mm Phillips screwdriver.

- **Step 3**: Unscrew, manually or with a small flat pliers, the three connection (B) wires of the high voltage unit, pull carefully the contacts towards the back.

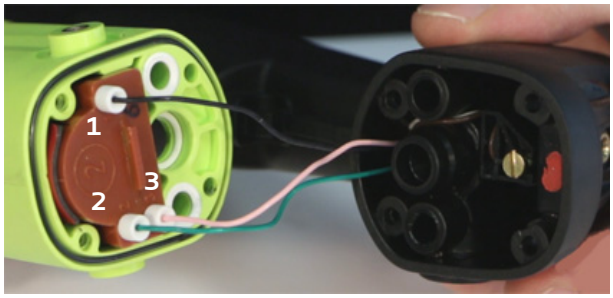


- **Step 4**: Remove the high voltage contact in front of the barrel (see § 6.4.4 page 45). Withdraw the high voltage unit.



WARNING : Attention with the colors (terminal 1: black, terminal 2: green, terminal 3: pink).

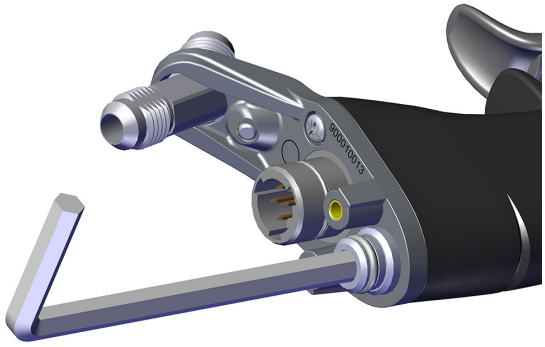
To reassemble, follow the steps in reverse order.
Replace the high-voltage cascade. Coat the cascade with dielectric grease (P/N # H1GSYN037) then insert it into its housing.
Push the cascade fully into the barrel.
Connect the three wires and tighten the screws.
Check the wear of the o-rings, replace if necessary.



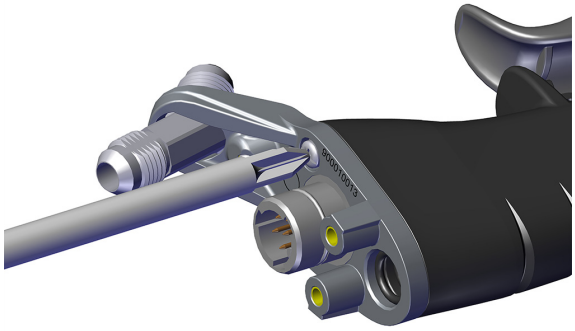
6.4.7. Procedure D1: Replacement of the electropneumatic coupling

- **Step 1**: Separate the barrel from the handle.

- **Step 2**: Handle base
  Unscrew the air nipple using a 6mm allen key.
  Replace the seals every 12 months.

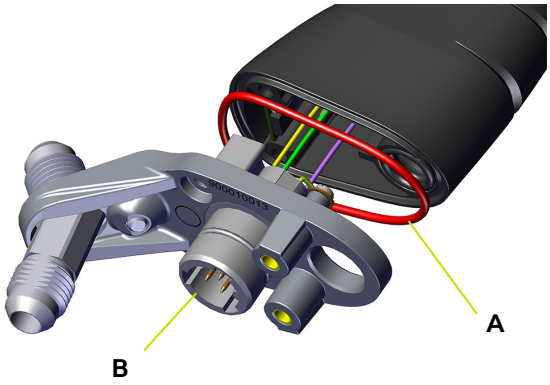


- **Step 3**: Undo both K35 x 14 screws with a 2mm Phillip's screwdriver. Change the fibre washers each time the screws are removed.



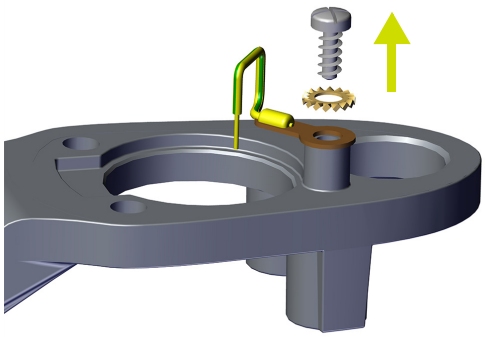
- **Step 4**: Lift the base to access the handle base seal. This seal should be replaced every 12 months.

- **Step 5**: Push the electrical connector to release it and remove from the base.
  Replace the seal of the connector every 12 months.



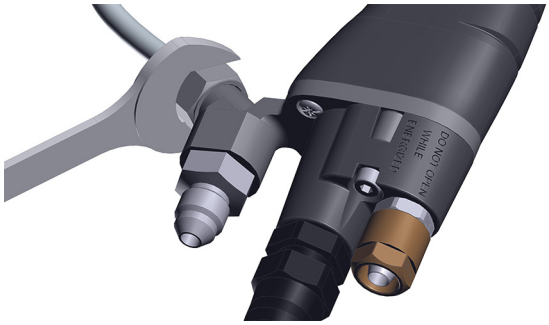
- **Step 6**: Replacement of the base: unscrew the screw of the ground wire using a 0 Phillip's screwdriver, withdraw it and replace it.

To reassemble, follow the steps in reverse order.
Insert the connector pin back into the base foolproofing slot.
Coat the air nipple seals with dielectric lubricant.
Tighten the air nipple to 1.5 N.m torque.
Tighten the two K35 x 14 screws to 1.3 N.m torque.

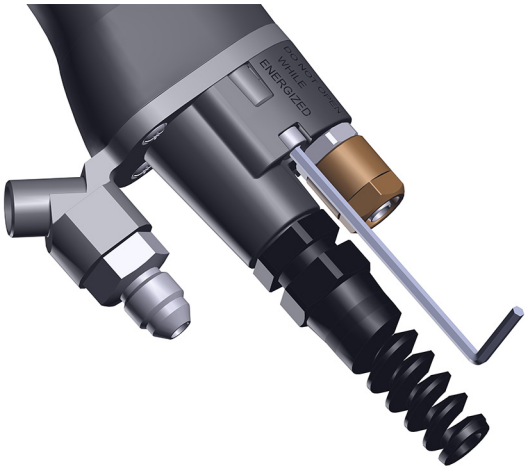


6.4.8. Procedure D2: Remove paint hose. Loosen the paint hose nut with a 15mm open-ended spanner.

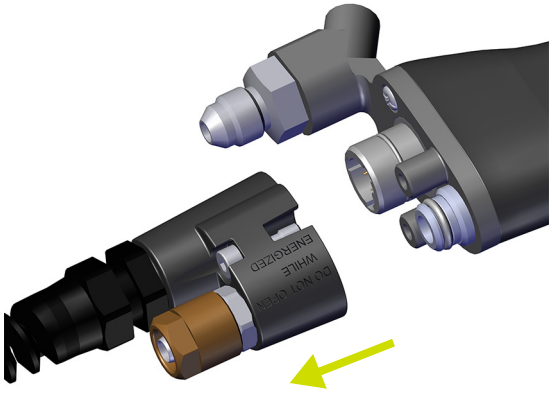
- **Step 1**: Remove paint hose. Loosen the paint hose nut with a 15mm open-ended spanner.



- **Step 2**: Unscrew the two captive screws from the electropneumatic coupling with a 3mm allen key.



- **Step 3**: Pull the electropneumatic coupling apart to disconnect.



Do not remove the cable gland from the electrical cable.

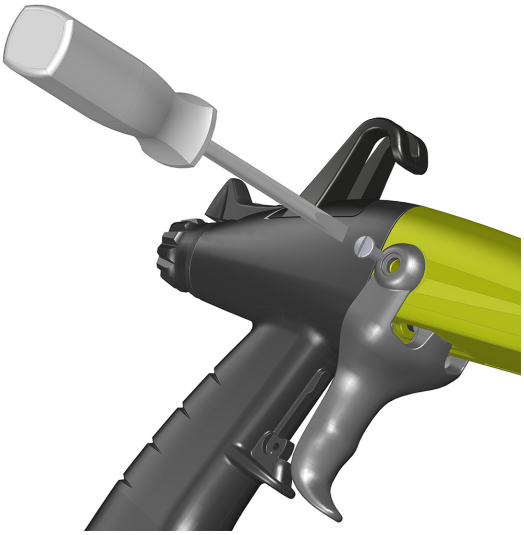
6.4.9. Procedure D3: Replacement of the switch

- **Step 1**: With a 5,5 mm screwdriver, unscrew the shouldered screw. Pull upwards the lever of the switch.

- **Step 2**: Replace the o-ring (see § 8.4 page 61) Insert the new switch into its housing. Coat with low threadlocker the fastening screw and tighten the screw so that the switch is slightly resistant.

6.4.10. Procedure D4: Replacement of the trigger

- Using a screwdriver, unscrew both shouldered screws and release both sides of the trigger.

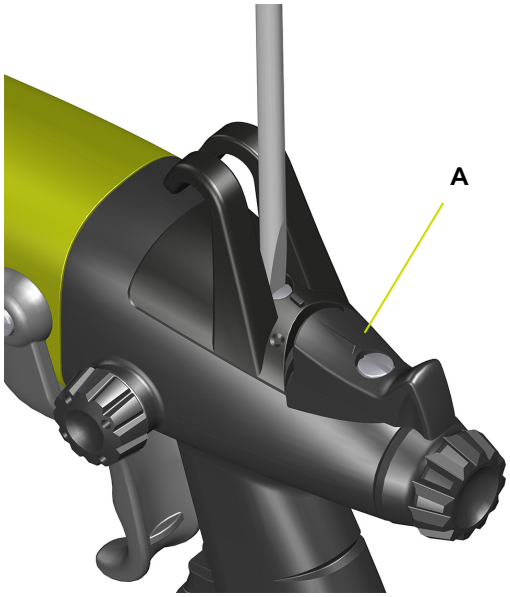


Reassembling the trigger:

- Put in place one on the sides of the trigger on its shoulder then slide the other side into its housing.

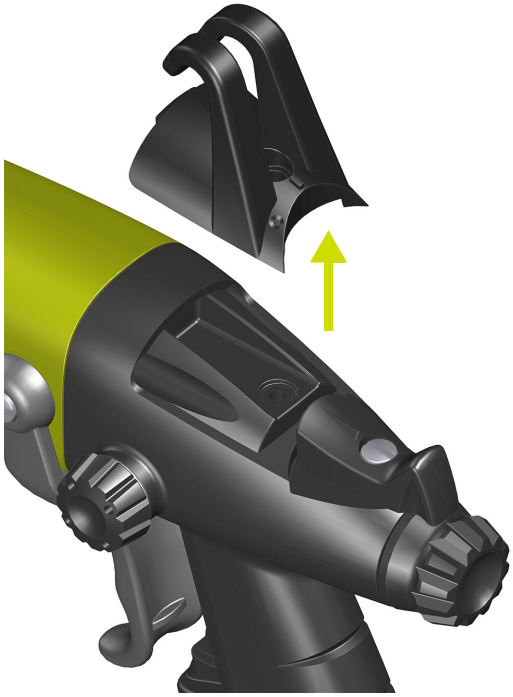
6.4.11. Procedure D5: Replacement of the fixing hook

- **Step 1**: Put the switch (A) in position «I».



- **Step 2**: With a 5.5mm screwdriver, unscrew the shouldered screw

- **Step 3**: Remove the hook by pulling upwards.



7. Troubleshooting Guide

Faults	Possible causes	Remedies
Irregular paint spray	Air in paint circuit	Dump the paint circuit
	Paint flow too low	Increase pressure in pump or pressure tank
	Impurities in circuit	Check filter, then drain circuit
	Paint tank empty (or nearly)	Refill paint tank
	Paint viscosity too high	Check paint viscosity
Paint not fluid enough when leaving spray gun	Blocked nozzle/tip	Clean nozzle/tip
	Needle does not retract	Check needle assembly
	Clogged filter	Clean filter
	Insufficient pump pressure	Check pump
	Paint viscosity too high	Check paint viscosity
	∅ 6..35 mm paint hose clogged	Unblock or replace paint hose
Paint flows out continuously	Needle is obstructed and cannot close	Remove nozzle/tip holder and clean holder and seat. Clean needle tip
	Worn needle	Replace needle and, if necessary, the nozzle/tip holder
	Nozzle/tip holder damaged	Replace nozzle/tip holder
Paint comes out of air cap air holes	Nozzle/tip insufficiently tightened against seat	Tighten nozzle/tip
	Damaged cartridge	Replace cartridge
	Damaged paint seal	Replace seal
Poor spraying quality	Nozzle/tip partially blocked	Clean nozzle/tip
	Paint flow too weak	Increase paint flow
	Viscosity too high	Dilute paint
	Insufficient air for spraying	Increase air pressure
	Paint flow too high	Reduce paint flow
	Paint injector damaged	Replace the injector
Orange peel effect	Solvents evaporating too quickly	Use heavier solvents
	Paint droplets too large	Increase spraying distance
		Dilute paint
		Increase spraying air pressure
		Decrease nozzle/tip size
		Increase the electrostatic effect

Faults	Possible causes	Remedies
Paint running	Solvents evaporating too slowly	Use lighter solvents
	Spraying applied too slowly	Reduce paint flow
		Increase spraying air pressure
		Reduce the electrostatic effect
Paint spray overloaded in middle	Paint flow too high	Reduce paint flow
		Increase air pressure
	Nozzle/tip too large	Use a smaller nozzle/tip
	Paint viscosity too great	Dilute paint
	Air holes partially blocked	Clean spray head
Insufficient electrostatic effect	High voltage power not on	See display on control module
	High voltage power insufficient	Increase high voltage power
	Distance between spray head and part too great	Check **Nanogun+ Airspray** output voltage
		Spray from between 200 and 300 mm away
	Part not grounded	Clean hooks. Check grounding connection of parts conveyor
	Excessive ventilation	Reduce paint booth air extraction rate, ensuring the applicable regulations are still complied with
	Spraying air pressure too high	Reduce spraying air pressure
	Paint flow too high	Reduce paint flow
	Product resistivity too high	Reduce product resistivity to obtain ρ < 500MΩ.cm
	Control module short circuit: - external	Clean outside of the spray gun with a non-conductive solvent (ρ > 15 MΩ.cm)
		Use a new, clean and dry case
	Control module short circuit: - via needle assembly	Replace seal cartridge and needle
	Control module short circuit: - via air channels	Clean the air channels of the barrel
	Control module short circuit: - via product hose	Increase the resistivity of paint so that ρ > 5 MΩ.cm
Operator gets electric shocks when touching the part	Part not grounded or poorly grounded	

8. Spare Parts

The spare parts are classified in 2 different types:

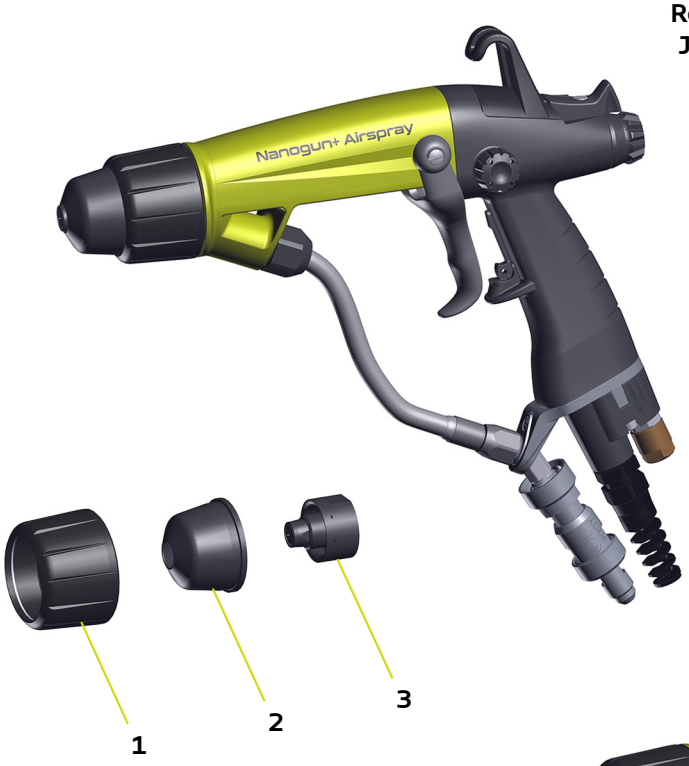
- **1st emergency parts**:
  The 1st emergency parts are strategic components which are not necessarily consumables but which in case of failure prohibit the operation of the equipment.
  Depending on the production line's commitment and the production rates imposed, the first emergency parts are not necessarily kept available in the customer's stock.
  Indeed, if an interruption of the production flow is possible, storage is not necessary.
  On the other hand, if the stop is not possible, the 1st emergency parts will be kept in stock.

- **Wearing parts**:
  Wearing parts are consumable components such as O-rings that undergo regular degradation over time during normal operation of the installation. It is therefore advisable to replace them according to a defined frequency and adapted to the operating time of the installation.
  The wearing parts must therefore be kept in the customer's stock.

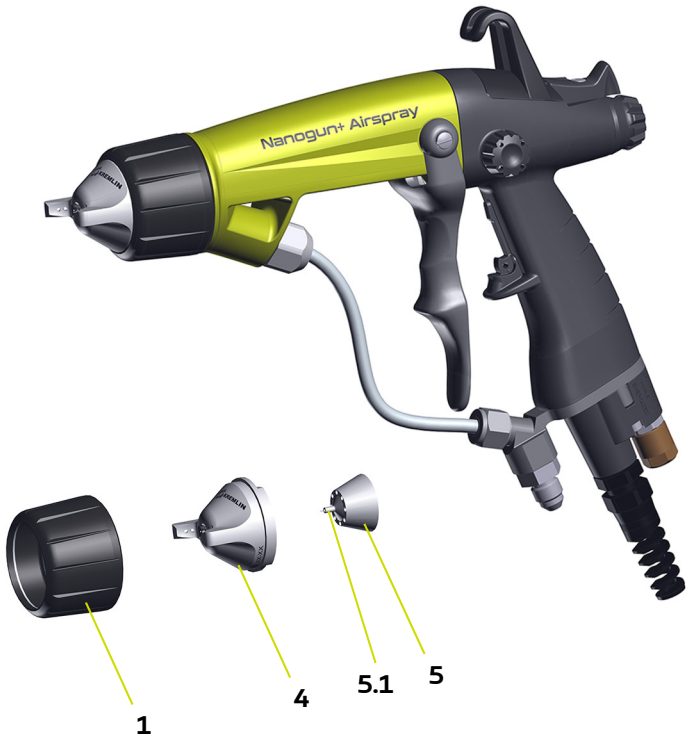
To guarantee an optimal assembly, spare parts must be stored in a temperature close to their temperature of use. Should the opposite occur, a sufficient waiting time must be observed before the installation, so that all the elements are assembled in the same temperature.

8.1. Nanogun+ Airspray spray guns low pressure for high resistivity (HR) solvent paint ρ > 10MΩ.cm

Round spray versions
JR 06 / JR 08 / JR 12



Flat spray version



For the various options: see § 8.15 page 71.

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910018773	**Nanogun+ Airspray JR 06 LP HR round spray**	**1**	**1**	**-**
	-	**Nanogun+ Airspray spray gun** (see § 8.4 page 61)	**-**	**-**	**-**
1	**910015921**	**Air cap ring** (see § 8.7 page 65)	**1**	**1**	**1**
2	900011365	Super vortex cap	1	1	1-2
3	**910018322**	**JR06 Round spray nozzle** (see § 8.9 page 66)	**1**	**1**	**2**
Not shown					
	050123306	M1/2 JIC adapter - F3/8NPS paint hose	1	1	-

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910016712	**Nanogun+ Airspray JR 08 LP HR round spray**	**1**	**1**	**-**
	-	Nanogun+ Airspray spray gun (see § 8.4 page 61)	**-**	**-**	**-**
1	910015921	**Air cap ring** (see § 8.7 page 65)	**1**	**1**	**1**
2	900010503	Super vortex cap	1	1	1-2
3	**910003847**	**JR08 Round spray nozzle** (see § 8.9 page 66)	**1**	**1**	**1-2**
Not shown					
	050123306	M1/2 JIC adapter - F3/8NPS paint hose	1	1	-

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910016711	**Nanogun+ Airspray JR 12 LP HR round spray**	**1**	**1**	**-**
	-	Nanogun+ Airspray spray gun (see § 8.4 page 61)	**-**	**-**	**-**
1	**910015921**	**Air cap ring** (see § 8.7 page 65)	**1**	**1**	**1**
2	900010504	Super vortex cap	1	1	1-2
3	**910003920**	**JR12 Round spray nozzle** (see § 8.9 page 66)	**1**	**1**	**1-2**
Not shown					
	050123306	M1/2 JIC adapter - F3/8NPS paint hose	1	1	-

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910016710	**Nanogun+ Airspray JP LP HR Flat spray**	**1**	**1**	**-**
	-	Nanogun+ Airspray spray gun (see § 8.4 page 61)	**-**	**-**	**-**
1	**910015921**	**Air cap ring** (see § 8.7 page 65)	**1**	**1**	**1**
4	900009014	High efficiency air cap	1	1	1-2
5	1406402	SP nozzle assembly	1	1	1-2
5.1	446028	Electrode (included in item 5)	1	5	1
Not shown					
	050123306	M1/2 JIC adapter - F3/8NPS paint hose	1	1	-

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.2. Nanogun+ Airspray, low Pressure spray guns for solvent paint 0.5 MΩ.cm < ρ < 500 MΩ.cm

Nanogun+ Airspray Low Pressure low resistivity spray guns include the same components, except the product hoses.

Part number	Description	Qty	Unit of sale
910018774-075	Nanogun+ Airspray JR 06 LP LR, hose length: 7.5 m	1	1
910018774-150	Nanogun+ Airspray JR 06 LP LR, hose length: 15 m	1	1
910017190-075	Nanogun+ Airspray JR 08 LP LR, hose length: 7,5 m	1	1
910017190-150	Nanogun+ Airspray JR 08 LP LR, hose length: 15 m	1	1
910017189-075	Nanogun+ Airspray JR 12 LP LR, hose length: 7,5 m	1	1
910017189-150	Nanogun+ Airspray JR 12 LP LR, hose length: 15 m	1	1
910017188-075	Nanogun+ Airspray JP LP LR, hose length: 7,5 m	1	1
910017188-150	Nanogun+ Airspray JP LP LR, hose length: 15 m	1	1

8.3. Nanogun+ Airspray, low Pressure spray guns for solvent paint 2 MΩ.cm < ρ < 500 MΩ.cm

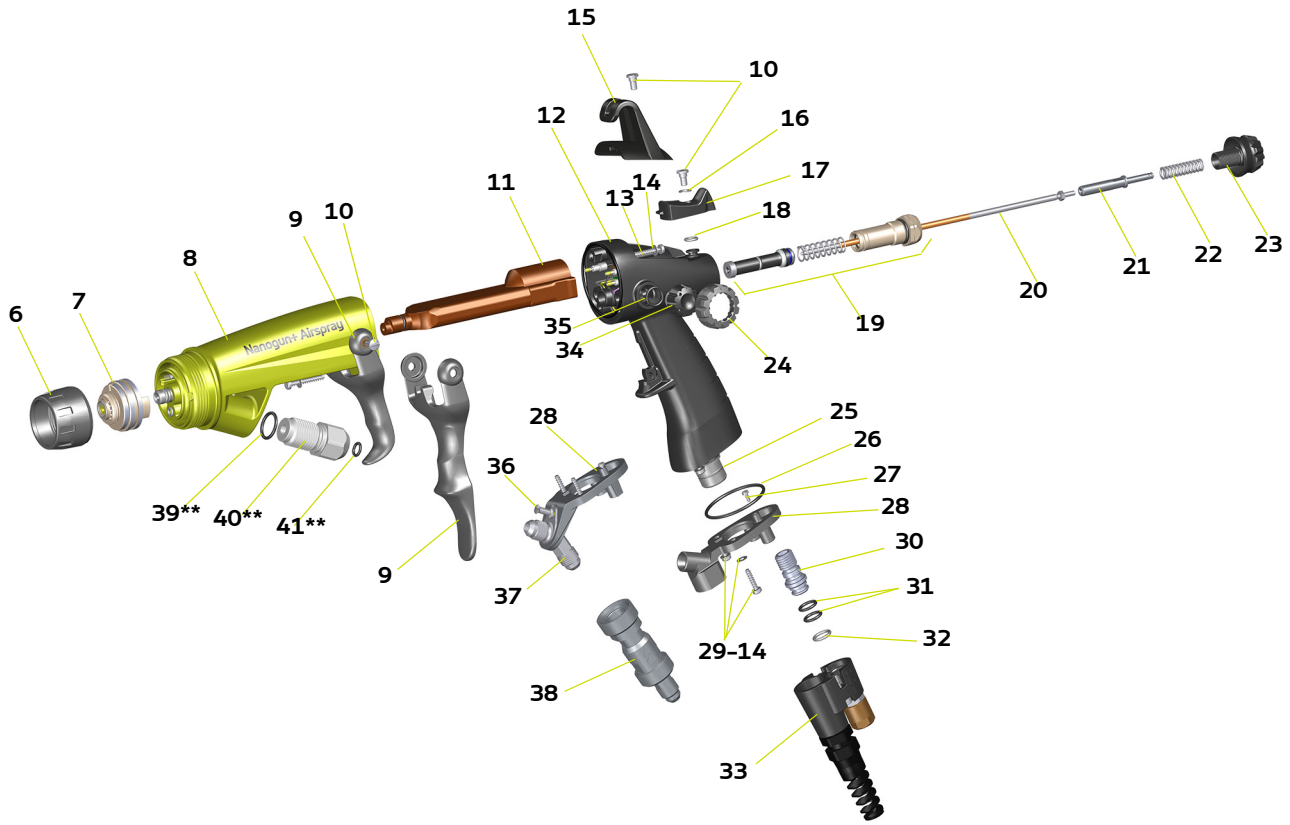
Nanogun+ Airspray Low Pressure middle resistivity spray guns include the same components, except the product hoses.

Part number	Description	Qty	Unit of sale
910025604-075	Nanogun+ Airspray JR 08 LP MR, hose length: 7.5 m	1	1
910025604-150	Nanogun+ Airspray JR 08 LP MR, hose length: 15 m	1	1
910025605-075	Nanogun+ Airspray JR 12 LP MR, hose length: 7.5 m	1	1
910025605-150	Nanogun+ Airspray JR 12 LP MR, hose length: 15 m	1	1
910025606-075	Nanogun+ Airspray JP LP MR, hose length: 7.5 m	1	1
910025606-150	Nanogun+ Airspray JP LP MR, hose length: 15 m	1	1

Flow limitation:
The use of a whip limits the maximum flow very little once the extension hose has an inside diameter of 9.5 mm (3/8) as recommended.
The use of an extension of 6.3 mm inside diameter (1/4) is not recommended because it divides the maximum possible flow rate by 2 for low viscosities (20s) and by 3 for higher viscosities (50s).

Resistivity limitation:
Using a whip limits the low resistivity value to 2 MΩ.cm (0.5 for the standard version). However if the application requires an electrostatic voltage lower or equal to 45kV, the minimum resistivity of the product can be 1MΩ.cm.

8.4. Nanogun+ Airspray spray guns, all versions

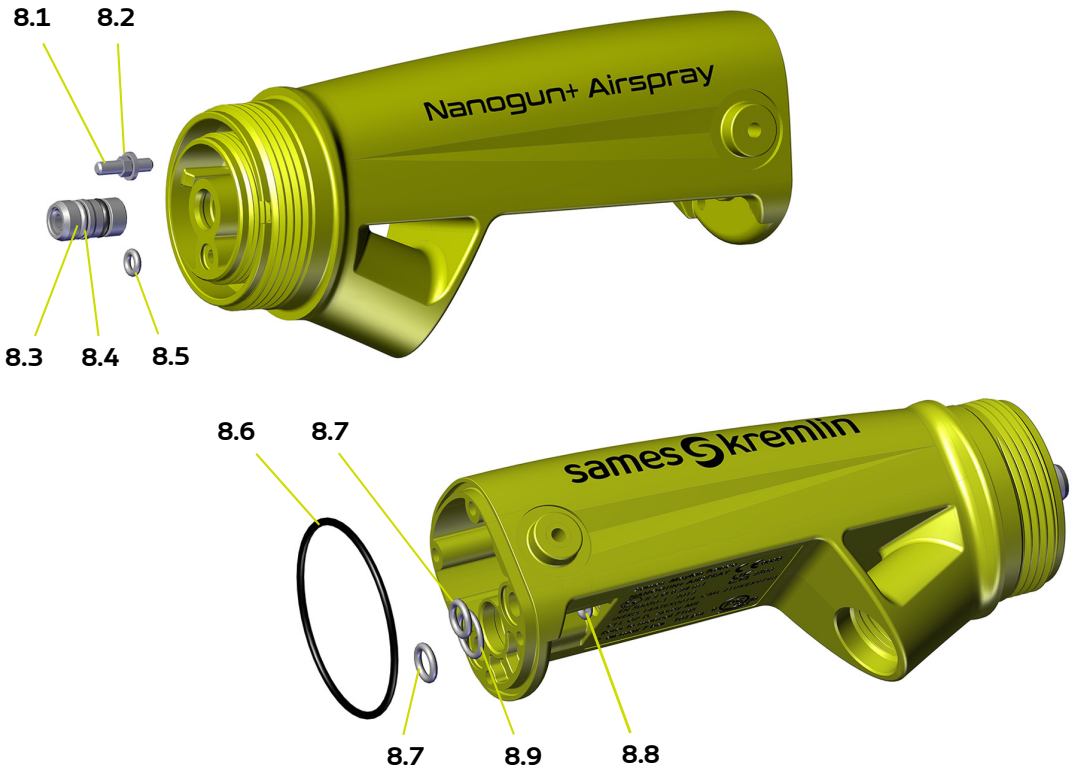


Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	-	**Nanogun+ Airspray spray gun**	**-**	**-**	**-**
6	900000320	Nozzle nut	1	1	1
7	**910015721**	**Nozzle support** (see § 8.8 page 65)	**1**	**1**	**1-2**
8	**910018202**	**Equipped barrel** (see § 8.5 page 63)	1	1	-
9	900010237	Trigger	1	1	-
	910030837	**4-finger trigger kit**	**option**	**1**	**-**
10	900010385	Shouldered C M4 screw	4	1	-
11	**910015508**	**High voltage unit**	**1**	**1**	**1**
	J2FTDF082	O-ring	1	1	-
12	**910015944**	**Nanogun+ Airspray equipped handle**	**1**	**1**	**-**
13	250000036	Screw securing handle/barrel	4	1	-
14	J4BRND039	Fibre seal for securing screw	6	1	-
15	900010239	Fixing hook	1	1	-
16	900013808	PTFE flat washer (included in item12)	1	1	-
17	**910018204**	**ON/OFF button with magnet and o-ring** (included in item 12)	**1**	**1**	**-**
18	J3STKL005	Chemically inert o-ring (included in item 17)	1	1	-
19	**-**	**Air valve and air valve nut** (see § 8.6 page 64)	**1**	**-**	**-**
20	**910018219**	**Needle** (see § 8.10 page 67)	**1**	**1**	**1-2**
21	900010253	Needle rear stop	1	1	-
22	900010265	8 bar paint spring	1	1	-
23	900010240	Paint flow button	1	1	-
24	900020056	Lateral tape adapter	option	1	-
25	160000041	O-ring chemically inert (included in item 7)	1	1	2
26	160000067	O-ring FKM red (included in item 7)	1	1	2
27	X3GJCP004	Zinc coated PT K25x6 screw	1	1	-
28	900010013	HR spray gun base	1	1	-
	900010009	LR - MR spray gun base	1	1	-
29	250000037	Securing screw of handle base	2	1	-
30	**910006118**	**Air nipple**	**1**	**1**	**-**
31	J2FTCF018	O-ring FKM black (included in item30)	2	1	2
32	J3STKL018	O-ring chemically inert white (included in item30)	1	1	2
33	**910015869**	**Electropneumatic coupling sets** (see § 8.11 page 67)	**1**	**1**	**-**
34	**910014166**	**Lateral tape equipped** (included in item 12)	**1**	**1**	**-**
35	J2FTDF121	O-ring FKM black (included in item 34)	1	1	2
36	250000214	Elbow securing screw	1	1	-
37	900010605	55° elbow	1	1	-
38	129670405	Rotating air coupling	option	1	2
39**	J2FTDF121	O-ring FKM black (included in item 40)	1	1	2
40**	**910015931**	**Paint nut equipped**	**1**	**1**	**-**
41**	J2FTCF178	O-ring FKM black (included in item 40)	1	1	2
42	-	Paint hose (see § 8.12 page 68)	**1**	**-**	**-**

(*) Level 1: 1st emergency parts
Level 2: Wearing parts

**** Except MR version see § 8.12.3 page 69**

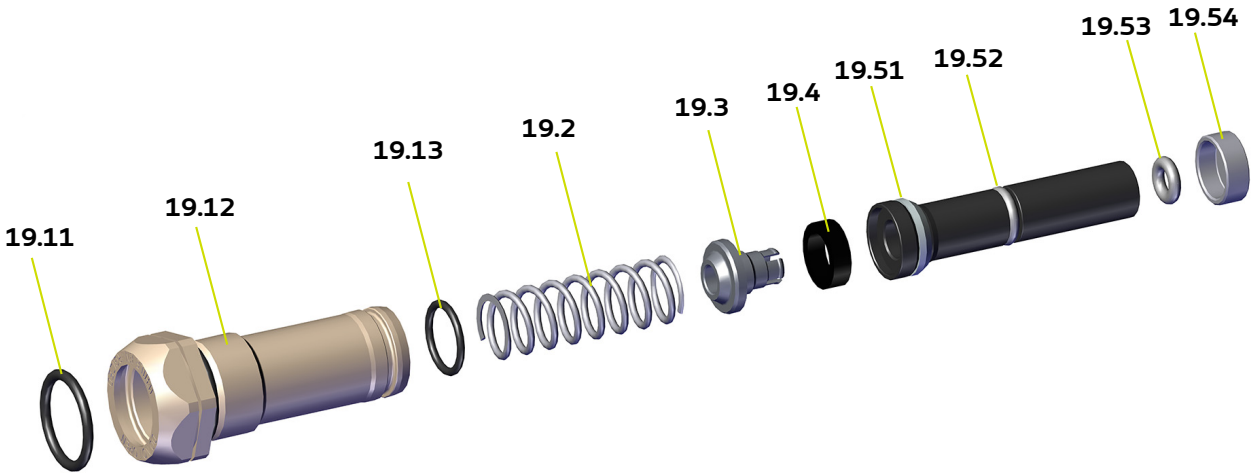
8.5. Barrel assembly



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
8	**910018202**	**Barrel assembly**	**1**	**1**	**-**
8.1	1407354	HV contact	1	1	1
8.2	J2CRAN031	Sealing ring of contact	1	1	-
8.3	**910014338**	**Seal cartridge**	**1**	**1**	**1-2**
8.4	J3STKL005	O-ring, chemically inert (included in item 8.3)	1	1	2
8.5	J3STKL002	O-ring, chemically inert	1	1	2
8.6	J2FENV435	O-ring FEP viton	1	1	2
8.7	J3STKL078	O-ring, chemically inert	2	1	2
8.8	J3STKL032	O-ring, chemically inert	1	1	2
8.9	J3STKL019	O-ring, chemically inert	1	1	2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.6. Air valve and air valve nut



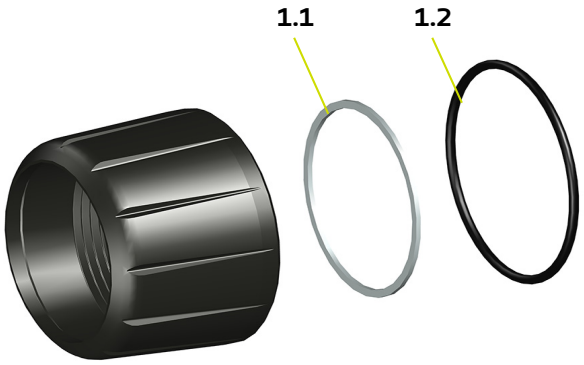
Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
19	**-**	**Air valve and air valve nut assembly**	**1**	**-**	**-**
19.1	**910015922**	**Air valve nut assembly**	**1**	**1**	**-**
19.11	J2FTDF155	O-ring, FKM black	1	1	1
19.12	J2FTDF160	O-ring, FKM black	1	1	1-2
19.13	J2FTDF999	O-ring, FKM black	1	1	1-2
19.3	-	Magnet stop	1	-	-
19.4	-	Magnet	1	-	-
19.2	900009024	Air spring	1	1	-
19.5	**910018203**	**Air valve**	**1**	**1**	**1**
19.51	900010256	Sealing ring	1	1	2
19.52	J3STKL005	O-ring, chemically inert (outer of valve)	1	1	2
19.53	J3STKL032	O-ring, chemically inert (inner of valve)	1	1	2
19.54	900020022	Valve support washer	1	1	2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

Recover the magnet(Item 19.4) by memorising the mounting direction on the old air valve to keep the same values of triggering.

If the magnet is lost, contact Sames (see § 6.4.5.1 page 48).

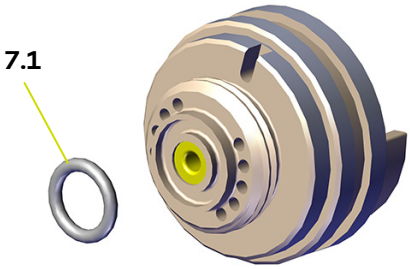
8.7. Air cap ring



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
1	**910015921**	**Air cap ring**	**1**	**1**	**1**
1.1	900010497	Slide ring	1	1	1-2
1.2	J2FENV445	O-ring FEP/FKM	1	1	1-2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

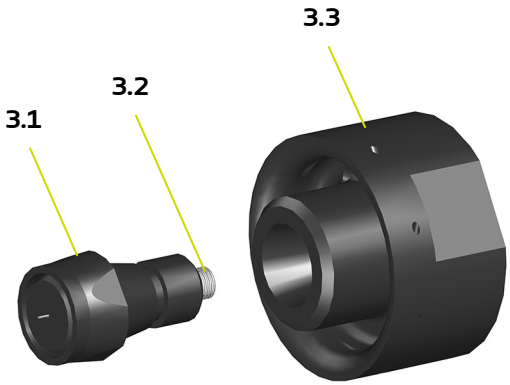
8.8. Nozzle support



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
7	**910015721**	**Nozzle support - LP Models**	**1**	**1**	**1-2**
7.1	J3STKL094	O-ring - chemically inert	1	1	2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.9. Round Nozzle assemblies – LP Models



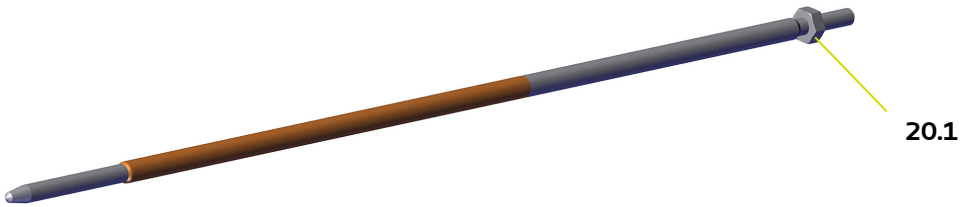
Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
3	**910018322**	**JR06 Nozzle assembly**	**1**	**1**	**2**
3.1	455234	Injector - Calibre 6	1	5	2
3.2	448110	Electrode (included in item3.1)	1	10	1-2
3.3	1305211	Vortex Nozzle	1	1	1-2

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
3	**910003847**	**JR08 Nozzle assembly**	**1**	**1**	**2**
3.1	455235	Injector - Calibre 8	1	5	2
3.2	448110	Electrode (included in item3.1)	1	10	1-2
3.3	1305211	Vortex Nozzle	1	1	1-2

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
3	**910003920**	**JR12 Nozzle assembly**	**1**	**1**	**2**
3.1	455236	Injector - Calibre 12	1	5	2
3.2	448110	Electrode (included in item3.1)	1	10	1-2
3.3	1305211	Vortex Nozzle	1	1	1-2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

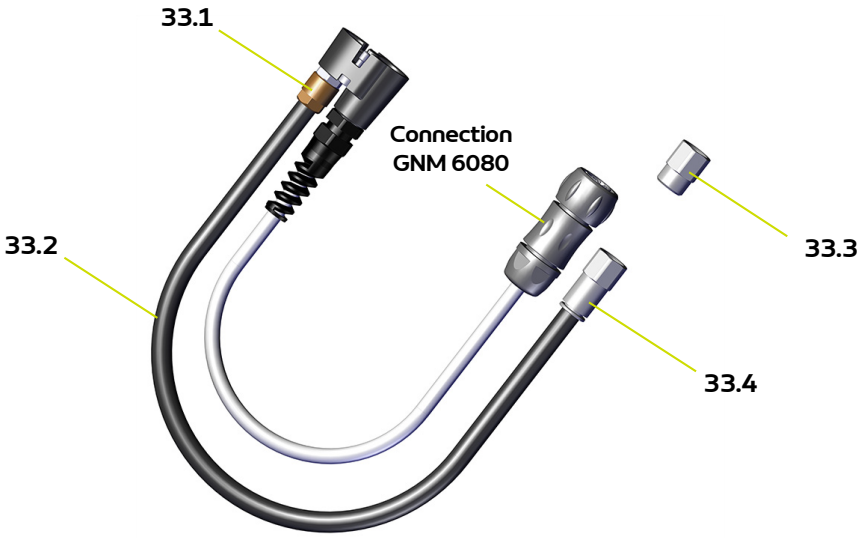
8.10. Needle assembly



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
20	**910018219**	**Needle assembly**	**1**	**1**	**1-2**
20.1	X7CEHU003	Brass H M3 U nut	1	1	-

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

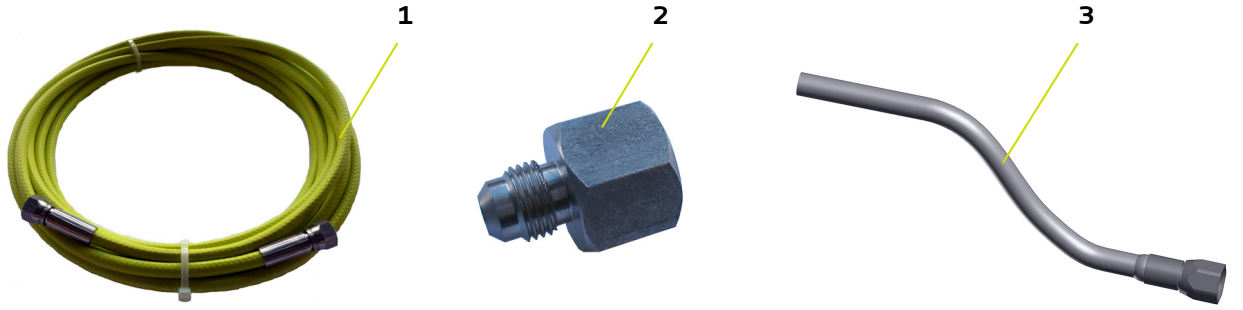
8.11. Electropneumatic coupling sets



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
33	**910015869-100**	**HR-LR 10m Electropneumatic coupling**	**1**	**1**	**-**
	910015869-200	**HR-LR 20m Electropneumatic coupling**	1	1	-
33.1	900015289	Straight union - male	1	1	-
33.2	**910021087-100**	**Polyurethane air hose - Ext. D: 10**	**10 m**	**m**	**2**
	910021087-200		**20 m**		
33.3	F6RLHG362	Female NPT / Male BSP adapter	option	1	-
33.4	130000527	Quick coupling	1	1	-

8.12. Paint hoses

8.12.1. For Nanogun+ Airspray Low Pressure and High Resistivity spray guns



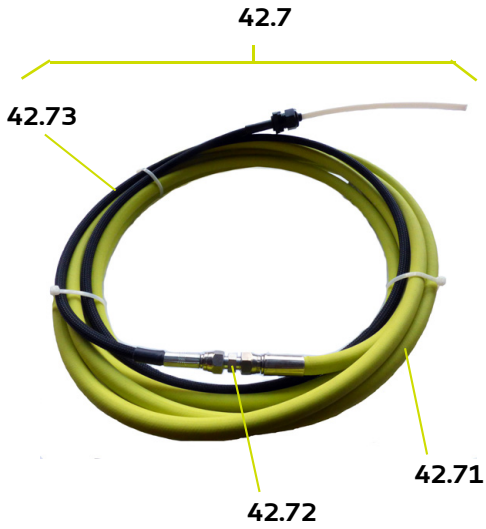
Item	Part number	Description	Qty	Unit of sale	Spare Part Level
42	**For Nanogun+ Airspray JR/JP spray guns**				
42.1	**910017065-075**	**HR/LP product hose - 7.5m Dia 6**	**1**	**1**	**1-2**
	910017065-150	**HR/LP product hose - 15m Dia 6**	**1**	**1**	**1-2**
42.2	050123306	M1/2" JIC adapter - F3/8NPS	1	1	-
42.3	910018201	Paint hose equipped Dia:4 mm	1	1	1-2
	910018200	**Set of olives for outer 10 hoses** (included in item 42.3)	**1**	**1**	**-**

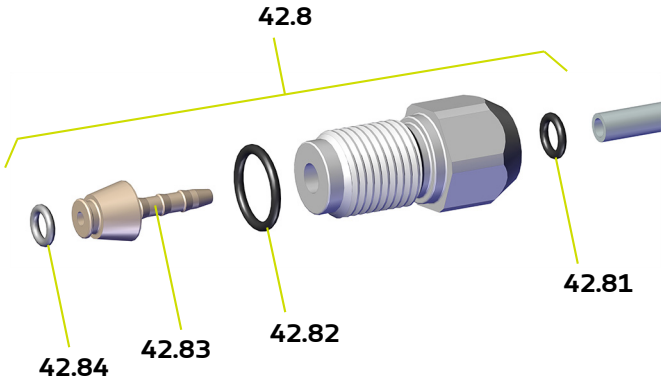
8.12.2. For Nanogun+ Airspray Low Pressure and Low Resistivity spray guns

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
42	**For Nanogun+ Airspray JR/JP spray guns**				
42.4	**910020516-075**	**LR /LP product hose - 7.5m PTFE Dia 6**	**1**	**1**	**1-2**
	910020516-150	**LR /LP product hose - 15m PTFE Dia 6**	**1**	**1**	**1-2**
42.5	**910018200**	**Set of olives for outer 10 hoses**	**1**	**1**	**-**
42.6	**910018292**	**Stuffing box and nut**	**1**	**1**	**-**

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.12.3. For Nanogun+ Airspray Low Pressure and middle Resistivity spray guns





Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
42		**For Nanogun+ Airspray JR/JP spray guns**			
42.7	**910025601-075**	**MR/LP PTFE product hose- 7,5m ∅ 4x8**	**1**	**1**	**1-2**
	910025601-150	**MR/LP PTFE product hose 15m ∅ 4x8**	**1**	**1**	**1-2**
42.71	**910026304-075**	**Hose extension, length: 7,5 m (included in Item 42.7)**	**1**	**1**	**2**
	910026304-150	**Hose extension, length: 15 m (included in Item 42.7)**	**1**	**1**	**2**
42.72	050102301	Steel coupling MM 1/2" JIC (included in item 42.7)	1	1	-
42.73	**910026302**	**Whip for Nanogun+ Airspray LP MR (included in Item 42.7)**	**1**	**1**	**2**
42.8	**910020041**	**Hose paint nut with o-rings**	**1**	**1**	**-**
42.81	J2FTDF106	O-ring viton (included in Item 42.8)	1	1	2
42.82	J2FTCF178	O-ring viton (inclus dans Rep.42.8)	1	1	2
42.83	900010707	Paint male connector	1	1	-
42.84	J3STKL005	O-ring chemically inert	1	1	2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.13. Nanogun+ Airspray seal set

Part number	Description	Location	Quantity
910021244	**Nanogun+ Airspray seal set**		**1**
J3STKL005	Chemically inert O-ring	Air valve, on/off button seal cartridge	3
J2FENV435	FEP/FKM O-ring	Barrel	1
J3STKL078	Chemically inert O-ring	Barrel	2
J3STKL019	Chemically inert O-ring	Barrel	1
J3STKL002	Chemically inert O-ring	Barrel	1
910014338	Seal cartridge	Barrel	1
J3STKL032	Chemically inert O-ring	Barrel, air valve	2
160000041	Chemically inert O-ring	Handle	1
160000067	Red FKM O-ring	Handle	1
J2FTCF018	Black FKM O-ring	Air nipple	2
J3STKL018	Chemically inert O-ring	Air nipple	1
J4BRND039	Fiber seal	Handle-barrel fastening, base-handle fastening	6
900010256	Sealing ring	Air valve	1
J3STKL094	Chemically inert O-ring	Nozzle support	1

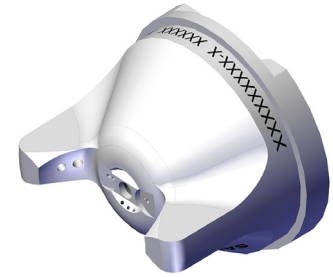
8.14. GNM 6080 Control module

Part number	Description	Qty	Unit of sale	Spare Part Level
910017193	**EU/UK GNM 6080 control module**	**1**	**1**	**-**
910017192	**GNM 6080 control module (USA-CANADA only)**	**1**	**1**	**-**
910005759	**GNM 6080 attachment kit**	**1**	**1**	**-**
842635	5-m ground cable, lug dia.: 6	1	1	-

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.15. Options for Nanogun+ Airspray Low Pressure spray guns

8.15.1. Flat Spray Air Caps



Part number	Description	Qty	Unit of sale	Spare Part Level (*)
737549	Air Cap (flat spray)	Option	1	1-2
737550	SPE Air Cap (narrow flat spray)	Option	1	1-2
737552	SPL Air Cap (broad flat spray)	Option	1	1-2

(*)
Level 1: 1st emergency parts
Level 2: Wearing parts

8.15.2. In-line product filters

These small filters are fitted in the spray gun handle (with HR models).

Description	Part number	Versions
Filter (Male-Female 1/2 JIC)	155010100	LP HR
Screen nr 12	129609909	

The filter is delivered with a 6mm screen as standard. Before installation of low pressure models, you are advised to replace the screen nr 6 from the initial design with a screen nr 12.

With LR models, it is necessary to remove the fitting F 3/8 NPT- M1/2 JIC located at the pump outlet and to replace it by the filter.

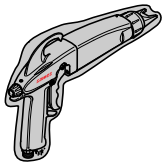
8.16. Various

8.16.1. Protective hose covering

This covering can be used to protect hoses and cables to ensure long life and flexibility.

Description	Part number	Unit of sale
 Rilsan Protective hose covering with 30 collars	910021086	50 m roll

8.16.2. Protective case for spray gun

Description	Part number	Unit of sale
 DES01269 Protective case	900011711	10

8.16.3. Warning notice

Description	Part number	Unit of sale
 DES00790 Warning notice	1407684	1

8.16.4. Safety valve

Description	Part number	Unit of sale
 Safety valve 6.5 bar 1/4 G	903080401	1

9. The different versions

9.1. Equipments

Titre	**Pistolet Nanogun Airspray "Basse pression" LP**		
Title	*Nanogun Airspray Gun type "low pressure"LP*		
	Pistolet Nanogun Airspray CE+UK+C/US		
	PISTOLET "Basse pression" LP / "Haute résistivité " HR		
N° GUN	*Low Pressure/High Resitivity GUN*		
	CE+UK+C/US		
910016710	**HAUTE RESISTIVITE JET PLAT**		
910018773	**HAUTE RESISTIVITE JET ROND Ø6**		
910016712	**HAUTE RESISTIVITE JET ROND Ø8**		
910016711	**HAUTE RESISTIVITE JET ROND Ø12**		
910017188-075	**BASSE RESISTIVITE JET PLAT LG 7,5M**		
910017188-150	**BASSE RESISTIVITE JET PLAT LG 15M**		
910018774-075	**BASSE RESISTIVITE JET ROND Ø6 LG7,5M**		
910018774-150	**BASSE RESISTIVITE JET ROND Ø6 LG15M**		
910017190-075	**BASSE RESISTIVITE JET ROND Ø8 LG7,5M**		
910017190-150	**BASSE RESISTIVITE JET ROND Ø8 LG15M**		
910017189-075	**BASSE RESISTIVITE JET ROND Ø12 LG7,5M**		
910017189-150	**BASSE RESISTIVITE JET ROND Ø12 LG15M**		

	EQUIPEMENT Nanogun Airspray CE+UK		**EQUIPEMENT Nanogun Airspray C/US**
N° GUN	*SET Nanogun Airspray CE+UK*	N° GUN	*SET Nanogun Airspray C/US*
910017223-07	**E.NANOGUN LP/HR JP LG7,5 EU**	**910017223-072**	**E.NANOGUN LP/HR JP LG7,5 US**
910017223-15	**E.NANOGUN LP/HR JP LG15 EU**	**910017223-152**	**E.NANOGUN LP/HR JP LG15 US**
910017224-07	**E.NANOGUN LP/HR JRØ8 LG7,5 EU**	**910017224-072**	**E.NANOGUN LP/HR JRØ8 LG7,5 US**
910017224-15	**E.NANOGUN LP/HR JRØ8 LG15 EU**	**910017224-152**	**E.NANOGUN LP/HR JRØ8 LG15 US**
910017741-07	**E.NANOGUN LP/HR JRØ12 LG7.5**	**910017741-072**	**E.NANOGUN LP/HR JRØ12 LG7.5US**
910017741-15	**E.NANOGUN LP/ HR JRØ12 LG15 EU**	**910017741-152**	**E.NANOGUN LP/ HR JRØ12 LG15 US**
910017221-07	**E.NANOGUN LP/LR JP LG7,5 EU**	**910017221-072**	**E.NANOGUN LP/LR JP LG7,5 US**
910017221-15	**E.NANOGUN LP/LR JP LG15 EU**	**910017221-152**	**E.NANOGUN LP/LR JP LG15 US**
910017222-07	**E.NANOGUN LP/LR JRØ8 LG7,5 EU**	**910017222-072**	**E.NANOGUN LP/LR JRØ8 LG7,5 US**
910017222-15	**E.NANOGUN LP/LR JRØ8 LG15 EU**	**910017222-152**	**E.NANOGUN LP/LR JRØ8 LG15 US**
910017742-07	**E.NANOGUN LP/LR JRØ12 LG7,5 EU**	**910017742-072**	**E.NANOGUN LP/LR JRØ12 LG7,5 US**
910017742-15	E.NANOGUN LP/LR JRØ12 LG15 EU	**910017742-152**	**E.NANOGUN LP/LR JRØ12 LG15 US**

	Module GNM 6080 CE+UK		**Module GNM 6080 C/US**
N°	*Control module GNM 6080 CE+UK*	N°	*Control module GNM 6080 C/US*
910017193	MODULE DE COMMANDE GNM 6080 VERSION EUROPE	**910017192**	MODULE DE COMMANDE GNM 6080 VERSION US

	CABLE Nanogun Airspray CE+UK+C/US
N°	*Cable Nanogun Airspray CE+UK+C/US*
910015869-100	**CABLE ELECTRO 10 Mètres**
910015869-200	**CABLE ELECTRO 20 Mètres**

	TUYAU PRODUIT Nanogun Airspray CE+UK+C/US
N°	*Hose Nanogun Airspray CE+UK+C/US*
910017065-075	**Tuyau produit HR-7,5M**
910017065-150	**Tuyau produit HR-15M**
910020516-075	**Tuyau produit LR-7,5M**
910020516-150	**Tuyau produit LR-15M**

DES05994

Titre	Pistolet Nanogun Airspray "Basse pression" LP
Title	*Nanogun Airspray Gun type "low pressure"LP*
	Pistolet Nanogun Airspray CE+UK+C/US
	PISTOLET "Basse pression" LP / Moyenne résistivité " MR
N° GUN	*Low Pressure/Middle Resistivity GUN*
	CE +UK+C/US
910025604-075	**MOYENNE RESISTIVITE JET ROND Ø8**
910025604-150	**MOYENNE RESISTIVITE JET ROND Ø8**
910025605-075	**MOYENNE RESISTIVITE JET ROND Ø12**
910025605-150	**MOYENNE RESISTIVITE JET ROND Ø12**
910025606-075	**MOYENNE RESISTIVITE JET PLAT**
910025606-150	**MOYENNE RESISTIVITE JET PLAT**

	EQUIPEMENT Nanogun Airspray CE+UK		**EQUIPEMENT Nanogun Airspray C/US**
N° GUN	*SET Nanogun Airspray CE+UK*	N° GUN	*SET Nanogun Airspray C/US*
910025622-07	**E.NANOGUN LP/MR JP LG7,5 EU**	**910025622-072**	**E.NANOGUN LP/MR JP LG7,5 US**
910025622-15	**E.NANOGUN LP/MR JP LG15 EU**	**910025622-152**	**E.NANOGUN LP/MR JP LG15 US**
910025620-07	**E.NANOGUN LP/MR JRØ8 LG7,5 EU**	**910025620-072**	**E.NANOGUN LP/MR JRØ8 LG7,5 US**
910025620-15	**E.NANOGUN LP/MR JRØ8 LG15 EU**	**910025620-152**	**E.NANOGUN LP/MR JRØ8 LG15 US**
910025621-07	**E.NANOGUN LP/MR JRØ12 LG7,5 EU**	**910025621-072**	**E.NANOGUN LP/MR JRØ12 LG7,5 US**
910025621-15	E.NANOGUN LP/MR JRØ12 LG15 EU	**910025621-152**	**E.NANOGUN LP/MR JRØ12 LG15 US**

	Module GNM 6080 CE+UK		**Module GNM 6080 C/US**
N°	*Control module GNM 6080 CE+UK*	N°	*Control module GNM 6080 C/US*
910017193	MODULE DE COMMANDE GNM 6080 VERSION EUROPE	**910017192**	MODULE DE COMMANDE GNM 6080 VERSION US

	CABLE Nanogun Airspray CE +UK+C/US
N°	*Cable Nanogun Airspray CE+UK+C/US*
910015869-100	**CABLE ELECTRO 10 Mètres**
910015869-200	**CABLE ELECTRO 20 Mètres**

	TUYAU PRODUIT Nanogun Airspray CE +UK+C/US
N°	*Hose Nanogun Airspray CE+UK+C/US*
910025601-075	**Tuyau produit MR-7,5M**
910025601-150	**Tuyau produit MR-15M**

DIS06947

9.2. Configuration

Configuration	Code article	GNM 6080 CE	GNM 6080 US / CSA	Liaison électropneumatique 10m	Liaison électropneumatique 20m	Tuyau produit HR 7,5m	Tuyau produit HR 15m	Tuyau produit LR 7,5m	Tuyau produit LR 15m	Tuyau produit MR 7,5m	Tuyau produit MR 15m	Injecteur / Chapeau 6 mm	Injecteur / Chapeau 8 mm	Injecteur / Chapeau 12 mm	Injecteur / Chapeau jet plat
		9100017193	9100017192	9100015869-100	9100015869-200	9100017065-075	9100017065-150	9100205l6-075	9100205l6-150	9100256l1-075	9100256l1-150	455234 9000113l5	455235 9000105l3	455236 9000105l4	1406402 9000090l4
Pistolets															X
Pistolet LP HR jet plat	9100l6710											X			
Pistolet LP HR jet rond JR 06	9100l8773												X		
Pistolet LP HR jet rond JR 08	9100l6712													X	
Pistolet LR jet rond JR 12	9100l6711														
Pistolet LP LR jet plat	9100l7188-075							X							X
Pistolet LP LR jet plat	9100l7188-150								X						X
Pistolet LP LR jet rond JR 06	9100l8774-075							X			X				
Pistolet LP LR jet rond JR 06	9100l8774-150								X		X				
Pistolet LP LR jet rond JR 08	9100l7190-075							X					X		
Pistolet LP LR jet rond JR 08	9100l7190-150								X				X		
Pistolet LP LR jet rond JR 12	9100l7189-075							X						X	
Pistolet LP LR jet rond JR 12	9100l7189-150								X					X	
Equipements															
Equip. Nanogun Airspray LP/HR JP LG 7,5 EU	9100l7223-07	X		X		X									X
Equip. Nanogun Airspray LP/HR JP LG 15 EU	9100l7223-15	X			X		X								X
Equip. Nanogun Airspray LP/HR JR8 LG 7,5 EU	9100l7224-07	X		X		X							X		
Equip. Nanogun Airspray LP/HR JR 8 LG 15 EU	9100l7224-15	X			X		X						X		
Equip. Nanogun Airspray LP/HR JR12 LG 7,5 EU	9100l7741-07	X		X		X								X	
Equip. Nanogun Airspray LP/HR JR12 LG 15 EU	9100l7741-15	X			X		X							X	
Equip. Nanogun Airspray LP/LR JP LG 7,5 EU	9100l7221-07	X		X				X							X
Equip. Nanogun Airspray LP/LR JP LG 15 EU	9100l7221-15	X			X				X						X
Equip. Nanogun Airspray LP/LR JR8 LG 7,5 EU	9100l7222-07	X		X				X					X		
Equip. Nanogun Airspray LP/LR JR8 LG 15 EU	9100l7222-15	X			X				X				X		
Equip. Nanogun Airspray LP/LR JR12 LG 7,5 EU	9100l7742-07	X		X				X						X	
Equip. Nanogun Airspray LP/LR JR12 LG 15 EU	9100l7742-15	X			X				X					X	
Equip. Nanogun Airspray LP/HR JP LG 7,5 US/CSA	9100l7223-072		X	X		X									X
Equip. Nanogun Airspray LP/HR JP LG 15 US/CSA	9100l7223-152		X		X		X								X
Equip. Nanogun Airspray LP/HR JR8 LG 7,5 US/CSA	9100l7224-072		X	X		X							X		
Equip. Nanogun Airspray LP/HR JR 8 LG 15 US/CSA	9100l7224-152		X		X		X						X		
Equip. Nanogun Airspray LP/HR JR12 LG 7,5 US/CSA	9100l7741-072		X	X		X								X	
Equip. Nanogun Airspray LP/HR JR12 LG 15 US/CSA	9100l7741-152		X		X		X							X	
Equip. Nanogun Airspray LP/LR JP LG 7,5 US/CSA	9100l7221-072		X	X				X							X
Equip. Nanogun Airspray LP/LR JP LG 15 US/CSA	9100l7221-152		X		X				X						X
Equip. Nanogun Airspray LP/LR JR8 LG 7,5 US/CSA	9100l7222-072		X	X				X					X		
Equip. Nanogun Airspray LP/LR JR8 LG 15 US/CSA	9100l7222-152		X		X				X				X		
Equip. Nanogun Airspray LP/LR JR12 LG 7,5 US/CSA	9100l7742-072		X	X				X						X	
Equip. Nanogun Airspray LP/LR JR12 LG 15 US/CSA	9100l7742-152		X		X				X					X	
Equip. Nanogun Airspray LP/MR JP LG 7,5 EU	9100256221-07	X		X						X					X
Equip. Nanogun Airspray LP/MR JP LG 15 EU	9100256221-15	X			X					X					X
Equip. Nanogun Airspray LP/MR JR8 LG 7,5 EU	9100256201-07	X		X						X			X		
Equip. Nanogun Airspray LP/MR JR 8 LG 15 EU	9100256201-15	X			X					X			X		
Equip. Nanogun Airspray LP/MR JR12 LG 7,5 EU	9100256211-07	X		X						X				X	
Equip. Nanogun Airspray LP/MR JR12 LG 15 EU	9100256211-15	X			X					X				X	
Equip. Nanogun Airspray LP/MR JP LG 7,5 US/CSA	9100256221-072		X	X						X					X
Equip. Nanogun Airspray LP/MR JP LG 15 US/CSA	9100256221-152		X		X					X					X
Equip. Nanogun Airspray LP/MR JR8 LG 7,5 US/CSA	9100256201-072		X	X						X			X		
Equip. Nanogun Airspray LP/MR JR 8 LG 15 US/CSA	9100256201-152		X		X					X			X		
Equip. Nanogun Airspray LP/MR JR12 LG 7,5 US/CSA	9100256211-072		X	X						X				X	
Equip. Nanogun Airspray LP/MR JR12 LG 15 US/CSA	9100256211-152		X		X					X				X	

10. Revision index History

Created by		Checked by: G Fournel	Approuved by S. Court	
Date	**By:**	**Index**	**Purpose of the modification and location**	
2014	S. Court	A	First Issue	
2022/11	S. Court	G	Adding UKCA marking Transfer of CSA certification to QPS Change of identity and logo Update of the graphic charter Adding the 4-finger trigger New HR and LR bases Adding shoulderd washer on air valve Adding of needle adjustment procedure	 § 8.4 § 8.4 § 8.4, 8.6 and § 6.4.6 §6.4.4.1

11. Appendices

11.1. Preventive maintenance plan

PLAN DE MAINTENANCE PREVENTIVE / *PREVENTIVE MAINTENANCE PLAN*

Numéro d'ordre *Serial*	**Ensemble** - *Assembly*	**Sous ensemble** *Sub assembly*	**Désignation de l'élément** *Designation of the assembly*	**Pour 1 ensemble** - *For 1 assembly*										**Manuel d'utilisation** *Instruction manual*	**Outil** *Tool*	**Commentaires** Notes
				Action à effectuer *Action to carry out*	**Temps prévu** *Estimated Time* **(1)**		**Périodicité** *Periodicity* (H / *hour*) **(2)**	**Acteurs Métiers** *Operators - skill* **(3)**				**Niveau** *Level* **(4)**				
					100eme H	*mn*		*M*	*F*	*E*	*A*	*1*	*2*			

(1) Temps moyen d'intervention à titre indicatif, et à ajuster par les équipes d'intervention du site */ This average intervention time is given for information and should be adjusted by the operating teams on site.*
(2) Les périodicités mentionnées sont des moyennes basées sur l'expérience de **Sames**. A charge des utilisateurs de les adapter aux conditions de leur installation notamment en fonction de la nature des produits utilisés, des vitesses de travail, etc. **Sames** se réserve le droit de modifier les informations mentionnées dans ce document, sans préavis */ The given periodicities are averages based on* **Sames** *experience. It is the responsibility of the operators to adapt them to the conditions of their installation, in particular with respect to the nature of the products being used, the work speeds, etc. Sames reserves the right to change the information in this document without notice.*
(3) M : Mécanicien - F : Spécialiste fluide - E : Electricien - A : Automaticien */ M : Mechanic - F : Fluid specialist - E : Electrician - A : Automation specialist*
(4) 1 = Niveau de Base, 2 = Niveau Avancé */ 1 = Basic level, 2 = Advanced level*

Avant toute intervention, se référer au chapitre sécurité du manuel de l'équipement / *Before any intervention, see chapter safety equipment manual*

1		**Mettre HORS SERVICE le module GNM 6080 avant de procéder au nettoyage du pulvérisateur** ***Always disconnect the GNM 6080 module before cleaning the atomizer***														
2		Corps pulvérisateur *Atomizer body*	Pulvérisateur *Atomizer*	Contrôle fuite *Leakage control*	3,33	2	8	_	1	_	_					A chaque arrêt de production *Every break time*
3		Corps pulvérisateur *Atomizer body*	Corps pulvérisateur *Atomizer body*	Nettoyage extérieur *Cleaning exterior*	8,33	5	8	1	_	_	_					A chaque arrêt de production *Every break time*
4		Corps pulvérisateur *Atomizer body*	Pulvérisateur *Atomizer*	Nettoyage *Cleaning*	8,33	5	8	1	_	_	_					A chaque arrêt de production *Every break time*
5		**Utiliser des récipients métalliques de capacité inférieure à 20 litres pour contenir les liquides nécessaires aux opérations de nettoyage** ***Use metal containers with a capacity below 20 liters to contain liquids required for cleaning operations*** **Les récipients métalliques doivent impérativement être relié à la terre pour évacuer les charges électrostatiques** ***Metal containers must be grounded to discharge electrostatic charges***														
6		Équipement *Equipment*	Pistolet *Gun*	Rinçage sans la buse jusqu'à sortie solvant propre *Rinsing without nozzle output to the clean solvent*	3,33	2	8	_	1	_	_					A chaque fin de production *At each end of production*
7		Canon *Barrel*	Contact haute tension *High voltage contact*	Propreté et état contact haute tension *Cleanliness and state high voltage contact*	3,33	2	40	_	1	_	_					A chaque fin de production *At each end of production*
7		Pistolet *Gun*	Corps pistolet *Gun body*	Nettoyage extérieur *Cleaning exterior*	8,33	5	8	1	_	_	_					En prévention, enduire le corps de vaseline ou mettre une housse *Prevention, coat the body with Vaseline or put a cover* A chaque fin de production *At each end of production*
8		Équipement *Equipment*	Câblage *Wiring*	Vérification hygiène connectique *Checking wiring*	1,66	1	8	_	_	1	_					A chaque fin de production *At each end of production*

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Numéro d'ordre *Serial*	**Ensemble** - *Assembly*	**Sous ensemble** *Sub assembly*	**Désignation de l'élément** *Designation of the assembly*	**Pour 1 ensemble** - *For 1 assembly*										**Manuel d'utilisation** *Instruction manual*	**Outil** *Tool*	**Commentaires** Notes
				Action à effectuer *Action to carry out*	**Temps prévu** *Estimated Time* **(1)**		**Périodicité** *Periodicity (H / hour)* **(2)**	**Acteurs Métiers** *Operators - skill* **(3)**				**Niveau** *Level* **(4)**				
					100eme H	*mn*		*M*	*F*	*E*	*A*	*1*	*2*			
9		Équipement *Equipment*	Tuyau peinture *Paint hose*	Vérification hygiène tuyau peinture *Checking paint hose*	1,66	1	8	_	_	1	_					A chaque fin de production *At each end of production*
10		Équipement *Equipment*	Tuyau pneumatique *Pneumatic hose*	Vérification hygiène tuyau air *Checking air hose*	1,66	1	8	_	_	1	_					A chaque fin de production *At each end of production*
11		Equipement *Equipment*	Outillage spécifique *Specific tool*	Contrôle visuel *Visual control*	3,33	2	40	1	_	_	_					
12		Pulvérisateur *Atomizer*	Buse *Nozzle*	Nettoyage des orifices de sorties *Cleaning of the openings of exits*	8,33	5	40	1	_	_	_					
13		Canon *Barrel*	Contact haute tension *High voltage contact*	Complément graisse diélectrique *Dielectric grease supplement*	3,33	2	40	_	1	_	_					A chaque fin de production *At each end of production* Graisse diélectrique/*Dielectric grease* : H1GSYN037
13	**Pistolet NANOGUN+ Airspray Versions LR- HR- MR** *Nanogun+ Airspray gun LR- HR- MR version*	Équipement *Equipment*	Support de buse *Nozzle support*	Nettoyage des orifices de sorties *Cleaning of the openings of exits*	8,33	5	40	1	_	_	_				900010674	
14		Équipement *Equipment*	Bague de tête Ring of head	Complément vaseline *Vaseline supplement*	3,33	2	40	1	_	_	_				900010674	
15		Buse *Nozzle*	Buse jet plat *Fan spray*	Film gras *A greasy film*	3,33	2	40	1	_	_	_					
16		Canon *Barrel*	Joint cartouche porte joints O ring *seal cartridge*	Remplacement *Replacement*	3,33	2	500	1	_	_	_				240000301	
17		Équipement *Equipment*	Joint support de buse O ring *nozzle support*	Remplacement *Replacement*	3,33	2	500	1	_	_	_				240000301	
18		Canon *Barrel*	Contact haute tension *High voltage contact*	Contrôle visuel *Visual control*	3,33	2	500	1	_	_	_				900010674	
19		Canon *Barrel*	Contact haute tension *High voltage contact*	Complément graisse diélectrique *Dielectic grease supplement*	3,33	2	500	1	_	_	_					Graisse diélectrique/*Dielectric grease* : H1GSYN037
20		Canon *Barrel*	Joint canon sortie produit *O ring output paint*	Remplacement *Replacement*	3,33	2	1000	1	_	_	_				240000301	

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Numéro d'ordre *Serial*	**Ensemble** - *Assembly*	**Sous ensemble** *Sub assembly*	**Désignation de l'élément** *Designation of the assembly*	**Pour 1 ensemble** - *For 1 assembly*										**Manuel d'utilisation** *Instruction manual*	**Outil** *Tool*	**Commentaires** Notes
				Action à effectuer *Action to carry out*	**Temps prévu** *Estimated Time* **(1)**		**Périodicité** *Periodicity* (H / *hour*) **(2)**	**Acteurs Métiers** *Operators - skill* **(3)**				**Niveau** *Level* **(4)**				
					100eme H	*mn*		*M*	*F*	*E*	*A*	*1*	*2*			
21		Canon *Barrel*	Cartouche porte joints *Seal cartridge*	Remplacement *Replacement*	3,33	2	1000 ou 500 000 manœuvres *	1	–	–	–				900010674	(*) à l'échéance de l'un des 2 termes *at maturity of one of 2 terms*
22		Équipement *Equipment*	Câblage *Wiring*	Vérification hygiène connectique *Checking wiring*	1,66	1	1000 (2 fois/an)	–	–	1	–					
23		Équipement *Equipment*	Tuyaux et raccords produit *Hoses and unions product*	Contrôle usure / fuite *Wear / Leakage check*	3,33	2	1000 (2 fois/an)	1	–	–	–					
24		Paramètre process *Process parameter*	Unité haute tension *High voltage unit*	Essais Haute tension *High voltage test*	3,33	2	1000 (2 fois/an)	–	–	1	–					
25		Pulvérisateur *Atomizer*	Fixations *Fixations*	Vérification fixation appareil *Checking fixing projector*	3,33	2	1000 (2 fois/an)	1	–	–	–					
26		Canon *Barrel*	Joint canon/crosse *O ring barrel/grip*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				240000301	
27		Canon *Barrel*	Joints air canon/crosse *Air O ring barrel/grip*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				240000301	
28		Canon *Barrel*	Joint pointeau canon *O ring needle barrel*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				240000301	
29		Canon *Barrel*	Joint vanne d'air canon *O ring air valve barrel*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				240000301	
30		Buse *Nozzle*	Support de buse *Nozzle support*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				900010674	
31		Crosse *Handle*	Joint connecteur électrique crosse *O ring electric connexion handle*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				240000301	
32		Crosse *Handle*	Joint embase crosse *O ring handle base handle*	Remplacement *Replacement*	3,33	2	2000	1	_	_	_				240000301	
33		Crosse *Handle*	Joints mamelon d'air crosse *O ring air nipple handle*	Remplacement *Replacement*	8,33	5	2000	1	_	_	_				240000301	

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Numéro d'ordre *Serial*	**Ensemble** - *Assembly*	**Sous ensemble** *Sub assembly*	**Désignation de l'élément** *Designation of the assembly*	**Pour 1 ensemble** - *For 1 assembly*			**Acteurs Métiers** *Operators - skill* **(3)**				**Niveau** *Level* **(4)**		**Manuel d'utilisation** *Instruction manual*	**Outil** *Tool*	**Commentaires** Notes
				Action à effectuer *Action to carry out*	**Temps prévu** *Estimated Time* **(1)**		**Périodicité** *Periodicity* (H / *hour*) **(2)**								
					100eme H	*mn*		*M*	*F*	*E*	*A*	*1*	*2*		
34		Équipement *Equipment*	Canon/crosse *Barrel/grip*	Remplacement rondelle fibre assemblage crosse et canon *Replacement fiber washer assembly handle and barrel*	3,33	2	2000	1	_	_	_				Tournevis cruciforme N°2 *Phillips screwdriver No2*	Ou à chaque démontage *Or at each dismantling*
35		Vanne d'air *Air valve*	Joints extérieur vanne *O ring external valve*	Remplacement *Replacement*	8,33	5	2000	1	_	_	_				240000301	
36		Vanne d'air *Air valve*	Joints intérieur vanne *O ring internal valve*	Remplacement *Replacement*	8,33	5	2000	1	_	_	_				240000301	
37		Vanne d'air *Air valve*	Bague d'étanchéité *Sealing ring*	Remplacement *Replacement*	8,33	5	2000	1	_	_	_					
38	(DRT7105)	Pulvérisateur *Atomizer*	Buse *Nozzle*	Vérification pulvérisation peinture *Checking paint spraying*	1,66	1		1	_	_	_					Durant la production During production
39	**Pièces de rechange** *Spare parts*	Stock *Stock*	Pièces *Spare parts*	Vérification disponibilité des pièces de première urgence *Checking availability of spare parts*	8,33	5	2 fois/an	X	X			1	2			

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11.2. EU and UK declarations of conformity

UE DECLARATION OF CONFORMITY

(1) **The manufacturer herewith declares that the equipment is in conformity with the relevant Union harmonization legislation.**

<table>
<tr><td rowspan="2">(2)Equipment type</td><td colspan="4">PULVERISATEUR ELECTROSTATIQUE DE PEINTURE / ELECTROSTATIC PAINT SPRAY SYSTEM</td></tr>
<tr><td colspan="4">Nanogun+ Airspray / GNM 6080</td></tr>
<tr><td rowspan="8">(3) Applicable Directives</td><td rowspan="5">2014/34/UE
ATEX Directive</td><td rowspan="2">(4) Marking</td><td colspan="2">Sprayer Nanogun+ Airspray
Ex II 2 G 0.24 mJ</td></tr>
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<tr><td>(5) Harmonised standards</td><td colspan="2">EN 50050-1 : 2013</td></tr>
<tr><td rowspan="2">(6) Conformity assessment procedures</td><td>UE type examination certificate :
INERIS 14ATEX0014</td><td rowspan="2">Notified Body :
INERIS 0080
60550 Verneuil-en-Halatte
France</td></tr>
<tr><td>Production Quality Assurance Notification :
INERIS 07ATEXQ401</td></tr>
<tr><td>2014/30/UE
Electromagnetic Compatibility Directive</td><td>(5) Harmonised standards</td><td colspan="2">EN 61000-6-4 : 2007 /A1 : 2011
EN 61000-6-2 : 2005</td></tr>
<tr><td>2014/35/UE
Low Voltage Directive</td><td>(5) Harmonised standards</td><td colspan="2">EN 61010-1 : 2011</td></tr>
<tr><td colspan="4">(7) This declaration of conformity is issued under the sole responsibility of the manufacturer.</td></tr>
</table>

Director of the MEYLAN site - Executive Management (EM)

Richard WLODARCZYK DocuSigned by: Richard Wlodarczyk 9900D9C0034B4A2...

Established in Meylan, on 03-nov.-22 | 09:24 CET

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UE DECLARATION OF CONFORMITY

(1)	Le Fabricant déclare que le matériel désigné ci-après est conforme à la législation d'harmonisation de l'Union applicable suivante/ Der Hersteller erklärt, dass das nachfolgend bezeichnete Material den folgenden anwendbaren Harmonisierungsrechtsvorschriften der Union entspricht / El fabricante declara que el equipo designado a continuación es conforme con la siguiente legislación de armonización de la UE aplicable / Il fabbricante dichiara che l'attrezzatura designata di seguito è conforme alla seguente legislazione di armonizzazione UE applicabile / O Fabricante declara que o equipamento designado abaixo está em conformidade com a seguinte legislação de harmonização aplicável da UE / Producent deklaruje, że urządzenie wskazane poniżej jest zgodne z następującymi obowiązującymi przepisami harmonizacyjnymi UE/ De fabrikant verklaart dat de hieronder beschreven apparatuur in overeenstemming is met de volgende toepasselijke EU-harmonisatiewetgeving/ Výrobce prohlašuje, že níže uvedené zařízení je ve shodě s těmito platnými harmonizačními právními předpisy EU/ Výrobce prohlašuje, že níže uvedené zařízení je ve shodě s těmito platnými harmonizačními právními předpisy EU/ Producenten erklærer, at det nedenfor angivne udstyr er i overensstemmelse med følgende gældende EU-harmoniseringslovgivning/ Valmistaja vakuuttaa, että jäljempänä mainitut laitteet ovat seuraavien sovellettavien EU:n yhdenmukaistamislainsäädäntöjen mukaisia./ Tootja kinnitab, et allpool nimetatud seadmed vastavad järgmistele kohaldatavatele ELi ühtlustamise õigusaktidele./ Ražotājs apliecina, ka turpmāk norādītās iekārtas atbilst šādiem piemērojamiem ES saskaņošanas tiesību aktiem./ Gamintojas pareiškia, kad toliau nurodyta įranga atitinka šiuos taikytinus ES derinamuosius teisės aktus/ Производителят декларира, че посоченото по-долу оборудване е в съответствие със следното приложимо законодателство на ЕС за хармонизация/ A gyártó kijelenti, hogy az alább megjelölt berendezés megfelel a következő alkalmazandó uniós harmonizációs jogszabályoknak / Producătorul declară că echipamentul desemnat mai jos este în conformitate cu următoarea legislație de armonizare a UE aplicabilă/ Ο κατασκευαστής δηλώνει ότι ο εξοπλισμός που αναφέρεται κατωτέρω συμμορφώνεται με την ακόλουθη ισχύουσα νομοθεσία εναρμόνισης της ΕΕ/ Proizvođač ovime izjavljuje da je oprema u skladu sa zakonskim zahtjevima Uje dinjene Kraljevine./ Výrobca vyhlasuje, že nižšie uvedené zariadenie je v súlade s týmito platnými harmonizačnými právnymi predpismi EÚ/ Proizvajalec izjavlja, da je spodaj navedena oprema skladna z naslednjo veljavno usklajevalno zakonodajo EU/ Производитель заявляет, что указанное ниже оборудование соответствует следующим применимым законодательным актам ЕС по гармонизации/ 製造者は、以下に指定された装置が、適用される以下のEU調和法に適合していることを宣言する。/ **制造商声明，下面指定的设备符合以下适用的欧盟协调立法。**
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(3)	Directives applicables/Anwendbare Richtlinien/Directivas aplicables/Direttive applicabili/Directivas aplicáveis/Obowiązujące dyrektywy/Toepasselijke richtlijnen/Platné směrnice/Tillämpliga direktiv/Gældende direktiver/Sovellettavat direktiivit/Kohaldatavad direktiivid/Piemērojamās direktīvas/Taikomos direktyvos/Приложими директиви/Alkalmazandó irányelvek/Directive aplicabile/Ισχύουσες οδηγίες/Primjenjive smjernice/Uplatniteľné smernice/Veljavne direktive/Применимые директивы/**適用される指令/适用的指令**
(4)	Marquage/Markierung/Marcado/Marcatura/Marcação/Znakowanie/Markering/Označení/Märkning/Mærkning/Merkintä/Märgistus/Marķējums/Ženklinimas/Маркировка/Jelölés/Marcare/Σήμανση/Obilježava/Označovanie /Označevanje/Маркировка/**マーキング** / 标识
(5)	Normes harmonisées/Harmonisierte Normen / Normas armonizadas/ Norme armonizzate/Normas harmonizadas /Normy zharmonizowane /Geharmoniseerde normen /Harmonizované normy /Harmoniserade standarder /Harmoniserede standarder /Yhdenmukaistetut standardit /Harmoneeritud standardid /Saskaņotie standarti /Suderinti standartai /Хармонизирани стандарти /Harmonizált szabványok / Standarde armonizate/ Εναρμονισμένα πρότυπα /Harmonizirani standardi /Harmonizované normy /Usklajeni standardi /Гармонизированные стандарты /**整合規格** /协调标准
(6)	Procédure d'évaluation de la conformité/Verfahren der Konformitätsbewertung/Procedimiento de evaluación de la conformidad/Procedura di valutazione della conformità/Procedimento de avaliação da conformidade/Procedura oceny zgodności/Conformiteitsbeoordelingsprocedure/Postup posuzování shody / Förfarande för bedömning av överensstämmelse/Procedure for overensstemmelsesvurdering /Vaatimustenmukaisuuden arviointimenettely / Vastavushindamismenetlus/Atbilstības novērtēšanas procedūra /Atitikties vertinimo procedūra /Процедура за оценка на съответствието /Megfelelőségértékelési eljárás / Procedura de evaluare a conformității/Διαδικασία αξιολόγησης της συμμόρφωσης /Postupak ocjene usklađenosti /Postup posudzovania zhody /Postopek ugotavljanja skladnosti /Процедура оценки соответствия / **適合性評価手順/ 符合性评估程序**
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UK DECLARATION OF CONFORMITY

(1) **The manufacturer herewith declares that the equipment is in conformity with the relevant Union harmonization legislation.**

<table>
<tr><td>(2)Equipment type</td><td colspan="4">PULVERISATEUR ELECTROSTATIQUE DE PEINTURE / ELECTROSTATIC PAINT SPRAY SYSTEM
Nanogun+ Airspray / GNM 6080</td></tr>
<tr><td rowspan="7">(3) Applicable Directives</td><td rowspan="5">2016 No. 1107</td><td rowspan="2">(4)Marking</td><td colspan="2">Sprayer Nanogun+ Airspray
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<tr><td>(5)Designated standards</td><td colspan="2">EN 50050-1 : 2013</td></tr>
<tr><td>(6)Conformity assessment procedures</td><td>UK type examination certificate :
CML 21UKEX9793

Production Quality Assurance Notification :
CML 21UKQAN14372</td><td>Approved Body 2503 :
Eurofins E&E CML Limited
Newport Business Park, New Port Road
Ellesmere Port CH65 4LZ UK</td></tr>
<tr><td>2016 No. 1091</td><td>(5) Designated standards</td><td colspan="2">EN 61000-6-4 : 2007 /A1 : 2011
EN 61000-6-2 : 2005</td></tr>
<tr><td>2016 No. 1101</td><td>(5) Designated standards</td><td colspan="2">EN 61010-1 : 2011</td></tr>
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Director of the MEYLAN site - Executive Management (EM)

Richard WLODARCZYK

DocuSigned by:
Richard Wlodarczyk
9900D9C0034B4A2...

Established in Meylan, on 27-mars-23 | 18:26 CEST

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Siège Social / Headquarter: 13, chemin de Malacher - CS70086 - 38243 Meylan Cedex - France - Tél / Phone: +33 (0)4 76 41 60 60
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