



ISTRUCCIONS
MANUAL

MANUAL APPLICATOR MV SERIES

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The specifications and information contained in this manual may be modified without prior notice.

This manual is a translation of the original that was written by Focke Meler Gluing Solutions, S. A. in spanish language. If there is any discrepancy between the different versions of this manual, the original written in the spanish language shall prevail. Focke Meler Gluing Solutions, S. A. shall not be liable in any way for any damages and/or losses that may be directly or indirectly derived from discrepancies between the original version of the manual and this translation.

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1. SAFETY GUIDELINES

General

The information contained in this section applies not only to everyday machine operation, but also to any procedure carried out on it, whether for preventive maintenance or in the case of repairs and the replacement of worn out parts.

It is very important to observe the safety warnings in this manual at all times. Failure to do so may result in personal injury and/or damage to the machine or the rest of the installation.

Before beginning work on the product, read this manual carefully, and in case of any doubt, contact our Technical Service Center. We are available for any clarification that you might need.

Keep manuals in perfect condition and within reach of personnel that use the machine and perform maintenance on it.

Also provide necessary safety material: appropriate clothing, footwear, gloves and safety glasses.

In all cases, observe local regulations regarding risk prevention and safety.



Symbols

The symbols used on both the applicator and in this manual always represent the type of risk we are exposed to. Failure to abide by a warning signal may result in personal injury and/or damage to the machine or the rest of the installation.

Warning: Risk of electrical shock. Carelessness may produce injury or death.



Warning: Hot zone with high temperatures. Risk of burns. Use thermal protective equipment.



Warning: System under pressure. Risk of burns or particle projection. Use thermal protective equipment and goggles.



Warning: Important information for the correct use of the system. May include one or several of the previous hazards, and therefore must be kept in mind to avoid damage and injury.



Mechanical components



The applicator equipment installation where the applicator is placed, uses moveable parts that may cause damage or injury. Use the equipment correctly, and do not remove the safety guards while the equipment is in operation; prevent the risk of possible entrapment due to moving mechanical parts.



Do not use the product if the safety devices are not in place or appear to be inadequately installed.

The manual applicator does not presents any risks in terms of mechanical movements.

Electrical components



The MV applicator operates with a one-phase current LN ~ 230V 50Hz + PE at a certain rated power. Be sure the the applicator connector is placed correctly on the hose electrical connector.

Once the applicator is connected to the hose, it will be correctly grounded as well.

Hydraulic components



As this is a pressurized system, precautions related to this type of equipment must be observed.

Before each operation, always make sure that the adhesive circuit is completely free of pressure. There is a high risk of hot particle projection, along with the corresponding danger of burns.

Use caution with the residual pressure that may remain in the hoses when the adhesive cools. When reheated, there is a risk of hot particle projection if the outputs are left open.

Thermal components



The MV applicator operates with temperatures reaching up to 200 °C (392 °F). Although the applicator has insulated covers, must be operated using adequate protection (clothing, footwear, gloves and protective glasses) that completely cover exposed parts of the body.

In case of burns, immediately cool the affected area with clean, cold water. Seek medical attention as soon as possible from the company's medical service or the nearest hospital. Do not try to remove the adhesive material from the skin.



Noise

The noise level of the system is well below allowable levels, and therefore does not present a specific risk to be taken into consideration.

Materials

Meler applicators for adhesives are designed for use with different hot-melt adhesives. They should not be used with any other type of material, which may cause personal injury or damage to internal system components.

Always use original Meler' components and replacement parts, which guarantee the correct system operation and service.

When using adhesive, follow the corresponding guidelines found in the Technical and Safety Sheets provided by the manufacturer. Pay special attention to the advised work temperatures in order to prevent adhesive burning and degradation.

Ventilate the work area adequately in order to remove the vapors produced. Avoid the prolonged inhalation of these vapors.



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2. INTRODUCTION

Description

The Meler manual MV applicator is used to apply adhesive vertically on horizontal surfaces, for both swirl and bead applications.

The manual applicator is held by the grip and its natural position is with the nozzle pointing downwards, as shown in the image.

The substrate to apply remains motionless while the applicator moves in the various directions required for application.



Intended use

The manual MV applicator is designed for use in the following conditions:

- Applicators for melting and pumping adhesive up to a temperature of 200°C.
- Use the applicator with Meler parts or accessories.
- Install the applicator in compliance with the current safety regulations and the instructions in this manual (hydraulic connection, electrical connection, pneumatic connection).
- Do not use the applicator in explosive environments.
- Use the melters in line with the safety instructions included in this manual, as well as on the labels included on the equipment, using adequate means of protection with each operating mode.

Applicator identification

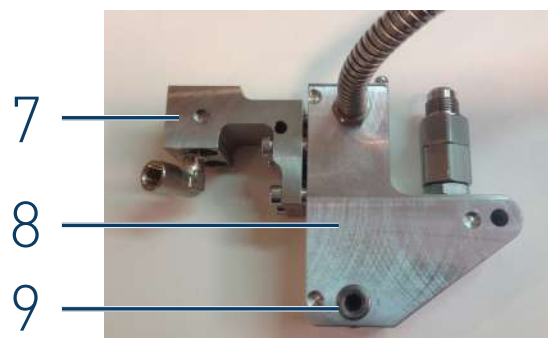
Please indicate the reference and serial number of your manual applicator when ordering spare parts or requesting support from our Service Centre.

This and other technical information can be found on the nameplate attached to the applicator.



Main components

1. Trigger (pneumatic or electric).
2. Grip.
3. Wire harness.
4. Hose-applicator connection coupling.
5. Electrical insulation casing.
6. Applicator module.
7. Distributor body (for air or cables).
8. Heated body.
9. Flow regulator (swirl version) .



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3. INSTALLATION

Warning: The manual MV applicator is installed in equipment with state-of-the-art technologies and with certain foreseeable risks. Therefore, only qualified personnel with sufficient training and experience should be allowed to use, install or repair this equipment.



Unpacking

Before installing the manual applicator, it should be removed from the packaging and inspected to detect any possible deterioration or damage. Notify your Meler Representative or the Main Office of any defect, even to the outer packaging.

Introduction

The manual MV applicator is supplied with the necessary elements for its installation and use. However, some components may have to be supplied by the user, depending on each specific installation:

- Air tube diameter 6 mm.
- Support or metal wire to keep the applicator suspended at all times.

Installation of the applicator

Hose diameter 8 mm

Before installing the MV applicator, make sure that the site intended for installation allows obstacle-free placement, connection and use of the entire system.

Take the following steps for proper installation of the applicator::

1. Use two 19 mm wrenches to tighten the female thread of the nose to the male thread of the applicator coupling.

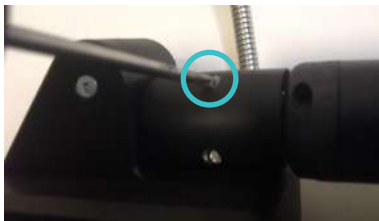


Female thread

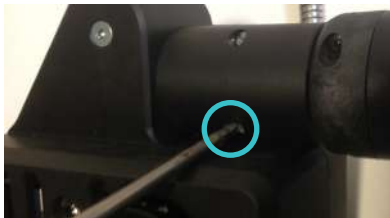
Male thread



2. Place the thermal protector for the hydraulic hose-applicator connection.



3. Use a screwdriver to loosen the two screws and separate the two parts of the protector and place it on the coupling. Finally, tighten the screws.

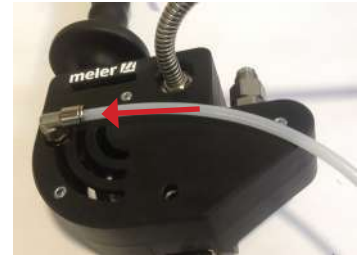


4. Connect the electrical connections of the applicator male connector to the female connector of the hose.



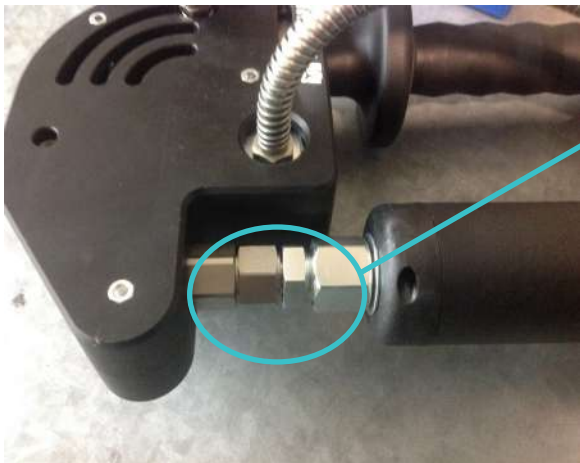
5. Place the applicator on its support. Place the metal cable in the housing above the applicator grip

- Place the pneumatic tube (external diameter 6 mm) in the pneumatic coupling (fast plug connection).



Hose diameter 13 mm

Repeat the same steps taken with the 8 mm hose but previously connect the corresponding hose adapter to the applicator coupling.



Applicator coupling + hose adapter with Ø13mm + hose coupling



Hose adapter with Ø13mm

Warning: When placing this adapter, the length of the coupling is longer than for the 8 mm hose; therefore, the thermal protector will not cover the entire hydraulic connection.

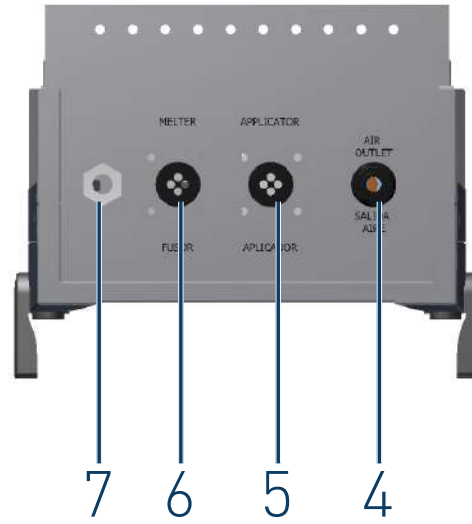
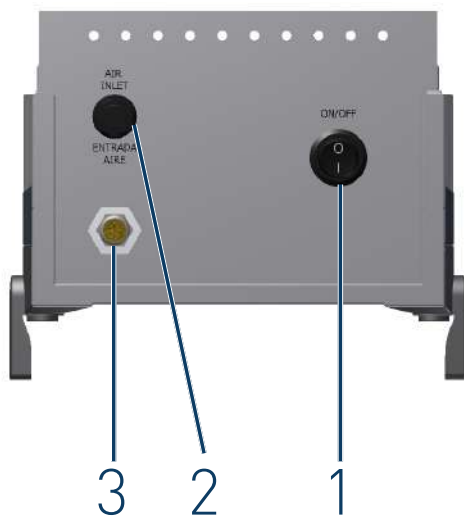


Double motor and air flow activation system

Applicators with an electric trigger may have the option of activating both the motor and air flow. This can be done by installing an auxiliary control box; the connections to both the melter and the applicator are indicated in the control box:



1. ON/OFF switch
2. Air inlet to the electrovalve.
3. Silencer.
4. Air outlet from the electrovalve.
5. Electrical connection to the applicator.
6. Electrical connection to the melter.
7. Electrical connection input.



4. USE

This section explains how to operate the manual MV applicator. Although the equipment is easy to operate, it should not be used by untrained personnel.

Warning: Improper use of the applicator may cause damage to the equipment itself or the person using it.



Starting up the applicator

To use the applicator, the corresponding melter will need to have pumping permission.

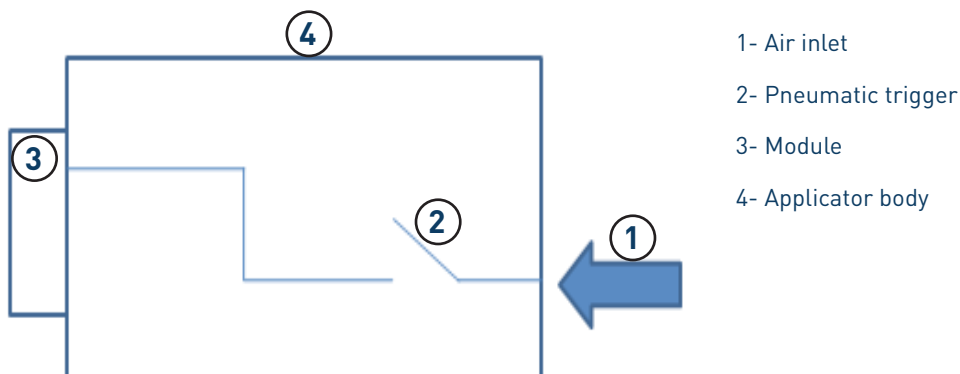
Make sure that the applicator is receiving air pressure (6 bar).

Pneumatic trigger

Press the pneumatic trigger to allow air flow and open the module on the applicator to allow the adhesive to flow out of the nozzle. To stop applying adhesive, release the trigger to cut off the air supply to the module and stop the application procedure.

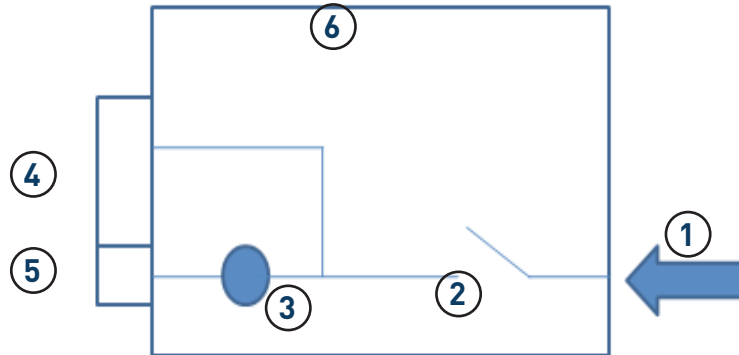


Pneumatic diagram (bead version):



Pneumatic diagram (swirl version):

- 1- Air inlet
- 2- Pneumatic trigger
- 3- Mechanical choke
- 4- Module
- 5- Swirl mini-module
- 6- Applicator body



Electric trigger

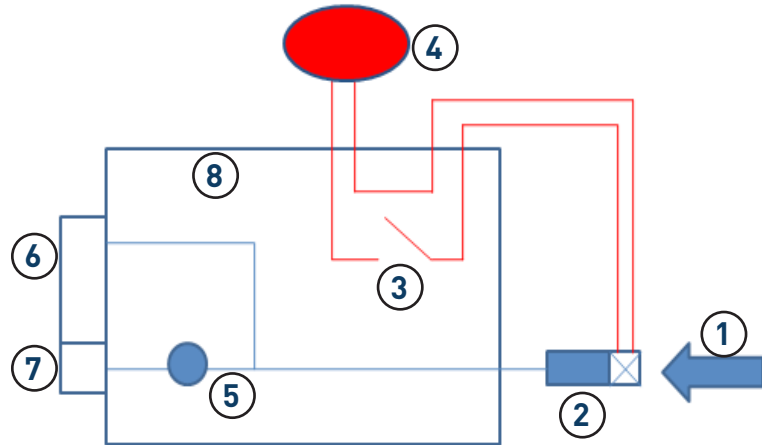
The following processes take place when the electric trigger is pressed:

- A voltage signal is sent to the electrovalve to allow air supply to the module and start the application procedure.
- The motor (gear type melter in automatic mode) activation contact closes so the melter pump operates only when the trigger is pressed.



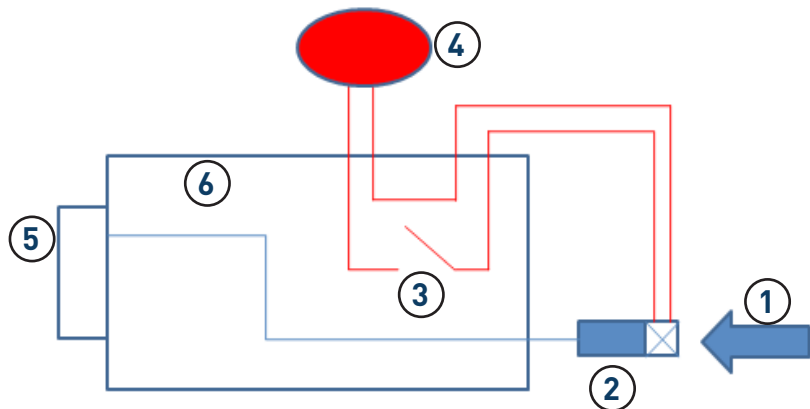
Electric and pneumatic diagrams (swirl version):

- 1- Air inlet
- 2- Electrovalve
- 3- Electric trigger
- 4- Electrical power supply
- 5- Mechanical choke
- 6- Module
- 7- Swirl mini-module
- 8- Applicator body



Electric and pneumatic diagrams (bead version):

- 1- Air inlet
- 2- Electrovalve
- 3- Electric trigger
- 4- Electrical power supply
- 5- Module
- 6- Applicator body



Application adjustments

Adjusting the flow of adhesive

The flow of adhesive needed for application is not adjusted from the MV applicator, but from the melter unit of the corresponding installation.

If the Meler melter is supplied with a piston pump, the flow is adjusted by the pressure regulator on the equipment.

If the Meler melter is supplied with a gear pump, the flow can be adjusted two ways; either by adjusting the motor revolutions (preferably) or by adjusting the pressure using the bypass valve.

Adjusting the air flow (applicator for swirling)

The air flow is adjusted from the applicator itself. Make sure that the applicator is receiving a pressure of 6 bar.

The applicator is equipped with a mechanical air choke on the applicator body. None of the side plates have to be removed to handle the air cut-off; all that is needed is a 4 mm Allen wrench to rotate the choke mechanism.



Turn the screw to the left to increase air flow and to the right to reduce it.



5. TECHNICAL FEATURES

Models

	Bead application				Swirl application			
Weight	1.5kg				1.8kg			
Heating power	175 W				260 W			
Maximum operating temperature	200°C							
Maximum hydraulic pressure	80 bar							
Maximum air pressure	6 bar							
Trigger type	Electric		Pneumatic		Electric		Pneumatic	
Sensor and connector type	Pt -100	Ni-120	Pt -100	Ni-120	Pt -100	Ni-120	Pt -100	Ni-120
Applicator reference	107100130	107100140	107100090	107100100	107200130	107200140	107200100	107200110



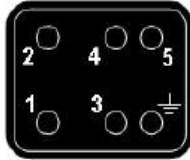
Electrical connections

**PT-100 Version
with electric trigger**



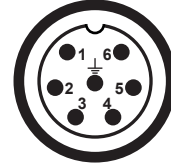
- 1 - Applicator heating resistance
- 2 - Applicator heating resistance
- 3 - Applicator temperature sensor
- 4 - Applicator temperature sensor
- 5 - Electric trigger
- 6 - Electric trigger
- 8 - Earth

Ni-120 Version



- 1 - Applicator heating resistance
- 2 - Applicator heating resistance
- 3 - Applicator temperature sensor
- 4 - Applicator temperature sensor
- 5 - Electric trigger
- ⏏ - Earth

**Ni-120 Version
with electric trigger**



- 1 - Applicator heating resistance
- 2 - Applicator heating resistance
- 3 - Applicator temperature sensor
- 4 - Electric trigger
- 5 - Applicator temperature sensor
- 6 - Electric trigger
- ⏏ - Earth

Maximum dimensions (swirl model)



6. MAINTENANCE

Warning: Manual MV applicators are equipped with the latest technologies with certain foreseeable risks. Therefore, only qualified personnel with sufficient training and experience should be allowed to use, install or repair these applicators.

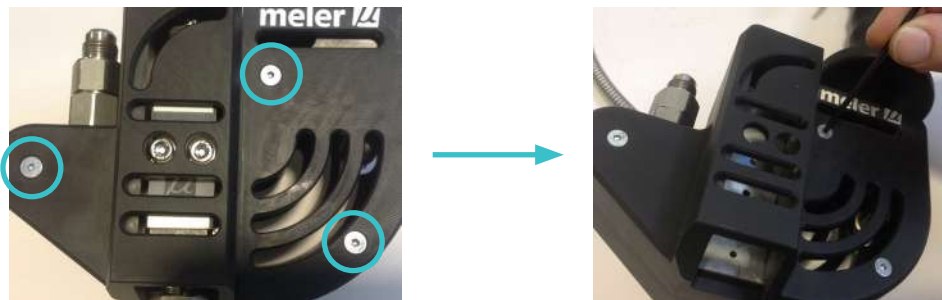


The following section describes how to perform the various tasks on the applicator, as required for proper maintenance.

Access to the interior of the applicator

MV applicators include three side plates to protect the user from possible burns.

To remove the side plates, use an Allen wrench to remove the 3 screws that hold them together.



The side plates are easy to remove once the 3 screws have been loosened.

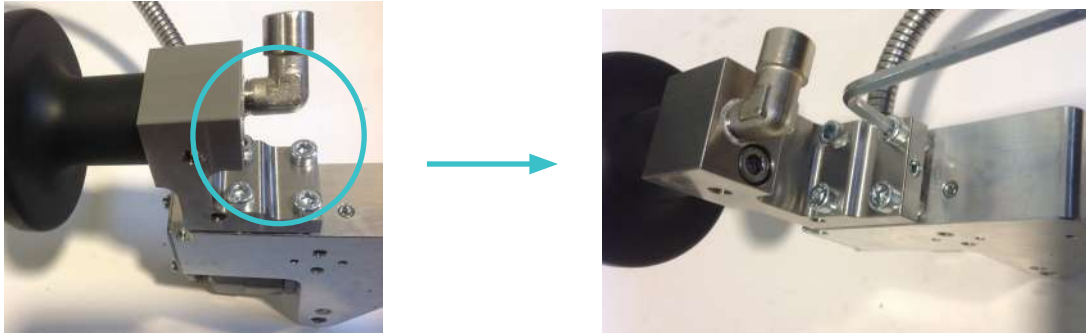
If the MV applicator has a 90° pneumatic intake, this will have to be removed to release the rear side plate of the applicator body. The intake can be removed easily with a wrench.



Replacing the body union fitting (pneumatic trigger)

The side plates have to be removed before replacing any sensors or heating resistances.

1- Use an Allen wrench to remove the 4 screws that connect the two body parts.

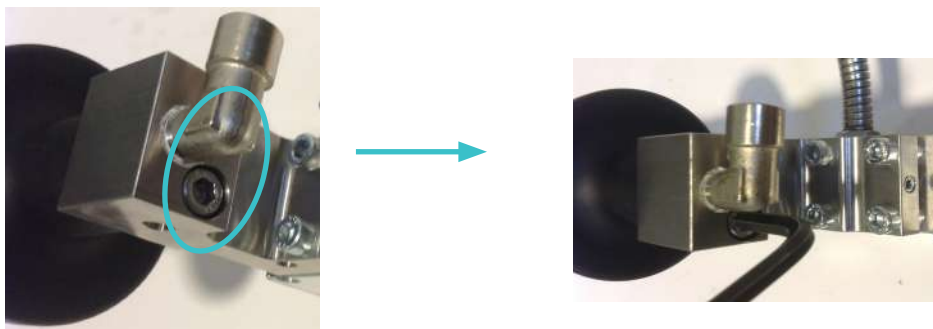


2- Remove the housing gasket in the pneumatic distributor body and assemble all the parts again.



Replacing the pneumatic trigger of the applicator

1- Remove the 2 screws that join the grip to the applicator body.



2- Push the grip to separate it from the body. This step should be performed carefully so the pneumatic tube gaskets are not lost during extraction.



Pneumatic tube gaskets

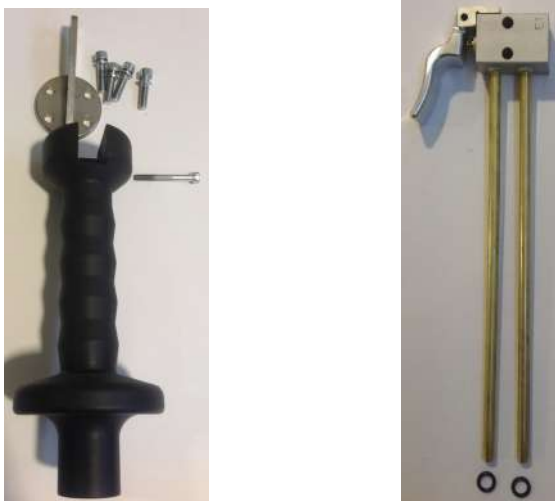
3- Remove the 4 screws on the cover and the screw that keeps the trigger connected to the grip. All these steps can be performed using an Allen wrench.



4- Pull the trigger up gently so that none of the pneumatic tube gaskets are lost.



5- Replace the trigger and perform the steps in reverse order to assemble the applicator.

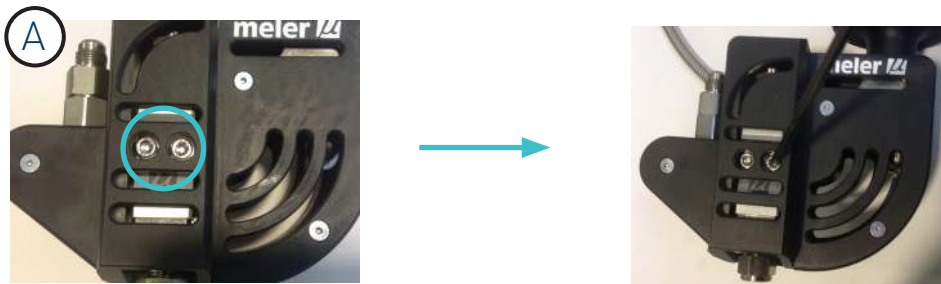


Replacing the module



Warning: Make sure that the applicator is hot before starting to extract the module. In addition, bleed the pressure from the system and purge it to remove any residual pressure that may remain inside the applicator. Likewise, cut off the air supply to the applicator.

1- Remove the 2 screws with an Allen wrench (A). The side plates do not have to be removed since these have holes prepared for the insertion of the Allen wrench.



2- Slide the module downwards to remove it from the applicator (B), insert the new module and place the 2 screws.



Warning: When removing the module, make sure that the seating gaskets also come out and are not left inside.

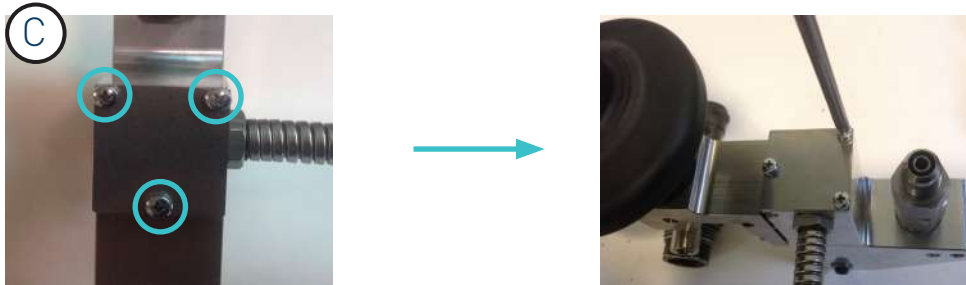
Replacing the sensor and heating resistance



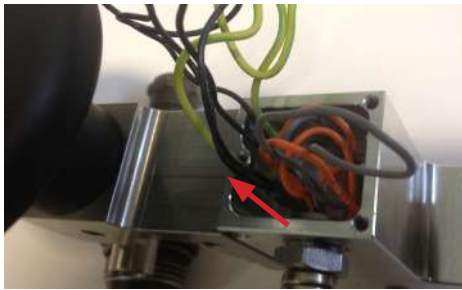
Warning: Before replacing the sensor or the heating resistance, disconnect the electrical connections from the hose's applicator.

The side plates have to be removed before replacing any sensors or heating resistances.

1- Remove the 3 screws fastening the electrical connections cover with a Philips screwdriver (C) to remove the cover.



2- Slide the sensor or heating resistance gently outwards to remove it from its housing.



Removing the sensor



Removing the heating resistance

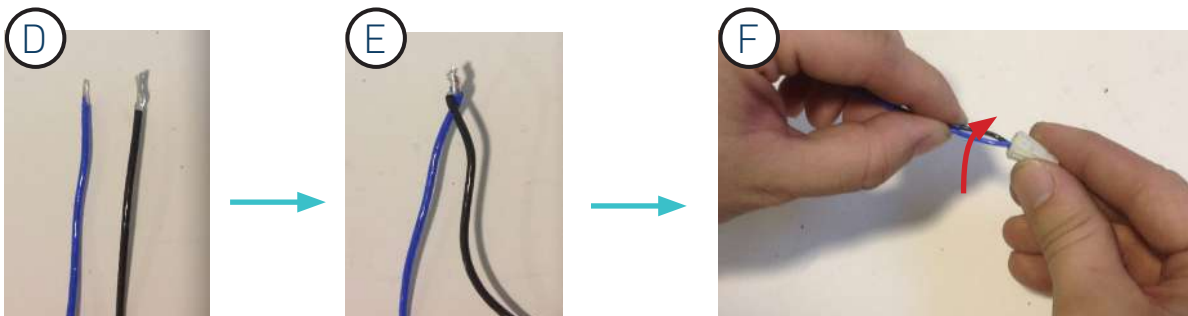
3- Cut the sensor or heating resistance wires at approximately 30 mm from the end.

Warning: If any difficulties arise when removing the sensor or heating resistance, heat the applicator a little to facilitate their extraction.



4- Splice the wires of the new sensor or heating resistance with the wires from the applicator (D). To do this, peel the ends of the wires, twist them together and insert them in the ceramic cone (E). Once inserted, rotate the cone clockwise until the wires are firmly in place in the cone (F).

Note: 2 cones will be necessary to replace a sensor or heating resistance (one for each wire).



5- Insert the sensor or heating resistance in its housing and place the electrical connections cover.

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7. SPARE PARTS LIST

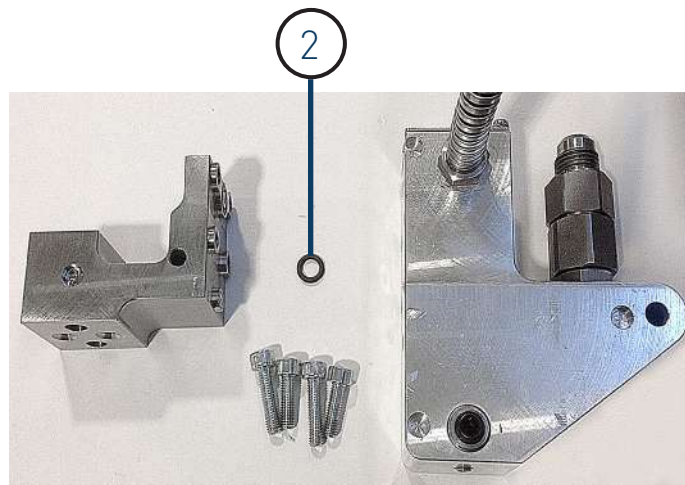
The list of the most common spare parts for manual MV applicators appears in this section, providing a quick and reliable guide to choosing them.

Generic images of the spare parts are included as a visual aid and numbered to facilitate their identification in the list of spare part references and names.



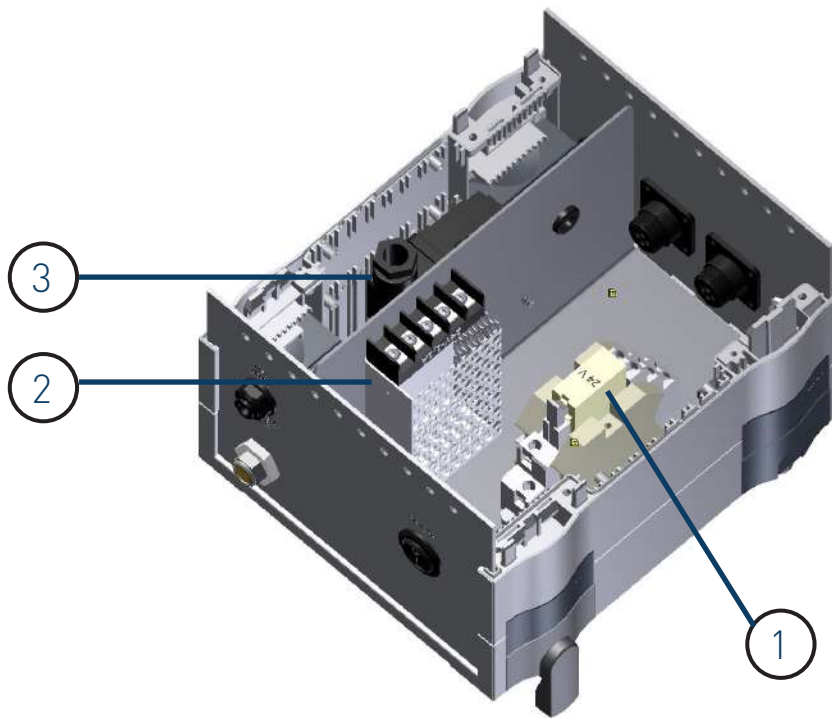
A. MANUAL APPLICATOR ASSEMBLY

No.	Ref.	Name
1	10110064	90° pneumatic coupling with conical washer
1	10110050	Straight pneumatic coupling
2	R0000096	O-ring Ø5 x 1.5mm
3	150041760	Kit with 2 gaskets Ø6.07 x 1.78mm (pneumatic trigger)
4	150046230	Pt 100 sensor
4	150090300	Ni 120 sensor
5	07000007	JIC adapter coupling 9/16" to 3/4"
6	106600040	NDS E Module
6	106200240	NDS Module
7	150049510	Heating cartridge 175W/230V (bead)
7	150094710	Heating cartridge 260W/230V (swirl)



B. DOUBLE MOTOR AND AIR FLOW ACTIVATION SYSTEM

No.	Ref.	Name
1	150090430	24DC Relay
2	150115310	24V 1.1A Power supply
3	21110000	Complete electrovalve 3/2 5.4W 24 VDC
	115001180	Double motor and air flow activation system



C. HOSE SUPPORT (OPTIONAL)

No.	Ref.	Name
1	150100250	Hose support Ø8mm
2	150100260	Hose support Ø13mm



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