

CH 200

Powder coating system

OPERATING INSTRUCTIONS



This manual is to be considered as an English language translation of the original manual in Italian. The manufacturer shall bear no responsibility for any damages or inconveniences that may arise due to the incorrect translation of the instructions contained within the original manual in Italian.

Due to a constant product improvement programme, the factory reserves the right to modify technical details mentioned in this manual without prior notice.



CH 200

Powder coating system

INTRODUCTION	p.1	SPARE PARTS	
WARNINGS	p.2	L TROLLEY FRAME AND TANK REF.5580.....	p.24
A PRINCIPLE OF OPERATION	p.3	M ELECTROPNEUMATIC GENERATOR	p.26
B TECHNICAL DATA	p.4	N CH 200 MANUAL GUN REF.9700.....	p.28
C DESCRIPTION OF THE EQUIPMENT	p.5	O SPARE PARTS FOR AUTOMATIC GUN	
D TRANSPORT AND UNPACKING	p.6	CH 200 REF.9705.....	p.30
E SAFETY REGULATIONS.....	p.6	P SPARE PARTS FOR AUTOMATIC AND MANUAL	
Electrical safety regulations	p.7	TRIBO SPRAY GUN	p.32
Precautions during work.....	p.7	Q CONE JET NOZZLE SPRAY GUN FOR CH 200	p.34
CONDITIONS OF GUARANTEE	p.6	R SPARE PARTS FOR CONE JET NOZZLE WITH	
F CORRECT USE OF THE SYSTEM.....	p.8	EXTENSION FOR CH 200.....	p.35
G INCORRECT USE OF THE SYSTEM.....	p.9	S FAN NOZZLE SPARE PARTS FOR CH 200	p.36
H CONTROL PANEL.....	p.9	T HIGH PERFORMANCE NOZZLE SPARE PARTS	
Operating controls.....	p.9	FOR CH 200	p.37
Current output adjustment μ a	p.11	U MULTI-DIFFUSION NOZZLE SPARE PARTS	
Connections	p.11	FOR CH 200	p.38
Operation.....	p.13	V POWDER DELIVERY PUMP SPARE PARTS	
Use with CH spray gun (corona effect)	p.13	REF.5505	p.39
Use with electric spraying gun	p.15	Z ACCESSORIES	p.40
L CYCLICAL ROUTINE MAINTENANCE	p.16		
K COLOR CHANGE.....	p.18		
PROBLEMS AND SOLUTIONS	p.19		

**WE ADVISE THE USE OF THIS EQUIPMENT ONLY BY PROFESSIONAL OPERATORS.
ONLY USE THIS MACHINE FOR USAGE SPECIFICALLY MENTIONED IN THIS MANUAL.**

Thank you for choosing a **LARIUS S.R.L.** product.
As well as the product purchased, you will receive a range of support services
enabling you to achieve the results desired, quickly and professionally.



WARNINGS

The table below provides the meaning of the symbols used in this manual in relation to using, earthing, operating, maintaining, and repairing of this equipment.

	<ul style="list-style-type: none"> • Read this operator's manual carefully before using the equipment. • An improper use of this machine can cause injuries to people or things. • Do not use this machine when under the influence of drugs or alcohol. • Do not modify the equipment under any circumstances. • Use products and solvents that are compatible with the various parts of the equipment, and read the manufacturer's warnings carefully. • See the Technical Details for the equipment given in the Manual. • Check the equipment for worn parts once a day. If any worn parts are found, replace them using ONLY original spare parts. • Keep children and animals away from work area. • Comply with all safety standards.
	<ul style="list-style-type: none"> • It indicates an accident risk or serious damage to equipment if this warning is not followed.
	<p>FIRE AND EXPLOSION HAZARD</p> <ul style="list-style-type: none"> • Solvent and paint fumes in work area can ignite or explode. • To help prevent fire and explosion: <ul style="list-style-type: none"> - Use equipment ONLY in well ventilated area. - Eliminate all ignition sources, such as pilot lights, cigarettes and plastic drop cloths (potential static arc). - Ground equipment and conductive objects. - Use only grounded hoses. - Do not use trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminium equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage. - Do not form connections or switch light switches on or off if the air contains inflammable fumes. • If electrical shocks or discharges are encountered the operation being carried out using the equipment must be stopped immediately. • Keep a fire extinguisher at hand in the immediate vicinity of the work area.
	<ul style="list-style-type: none"> • It indicates wound and finger squashing risk due to movable parts in the equipment. • Tenersi lontano dalle parti in movimento. • Do not use the equipment without the proper protection. • Before any inspection or maintenance of the equipment, carry out the decompression procedure explained in this manual, and prevent any risk of the equipment starting unexpectedly.
	<ul style="list-style-type: none"> • Report any risk of chemical reaction or explosion if this warning has not been given. • (IF PROVIDED) There is a risk of injury or serious lesion related to contact with the jet from the spray gun. If this should occur, IMMEDIATELY contact a doctor, indicating the type of product injected. • (IF PROVIDED) Do not spray before the guard has been placed over the nozzle and the trigger on the spray gun. • (IF PROVIDED) Do not put your fingers in the spray gun nozzle. • Once work has been completed, before carrying out any maintenance, complete the decompression procedure.
	<ul style="list-style-type: none"> • It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.
	<ul style="list-style-type: none"> • Mark any clamps attached to earth cables. • Use ONLY 3-wire extension cords and grounded electrical outlets. • Before starting work make sure that the electrical system is grounded and that it complies with safety standards. • High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. • To help prevent injection, always: <ul style="list-style-type: none"> - (IF PROVIDED) Engage trigger lock when not spraying. - (IF PROVIDED) Do not put your hand over the spray tip. Do not stop or deflect leaks with your hand, body or other. - (IF PROVIDED) Do not point gun at anyone or at any part of the body. - (IF PROVIDED) Never spray without tip guard. - Do pressure relief if you stop spraying or being servicing sprayer and before any maintenance operations. - Do not use components rated less than sprayer Maximum Working Pressure. - Never allow children to use this unit - (IF PROVIDED) Brace yourself; gun may recoil when triggered.
	<p>If high pressure fluid pierces your skin, the injury might look like "just a cut", but it is a serious wound! Get immediate medical attention.</p>
	<ul style="list-style-type: none"> • It is obligatory to wear suitable clothing as gloves, goggles and face shield. • Wear clothing that complies with the safety standards in force in the country in which the equipment is used. • Do not wear bracelets, earrings, rings, chains, or anything else that may hinder the operator's work. • Do not wear clothing with wide sleeves, scarves, ties, or any other piece of clothing that could get tangled up in moving parts of the equipment during the work, inspection, or maintenance cycles.



A PRINCIPLE OF OPERATION

This type of machine constitutes a complete and independent unit for the application of powder coatings.

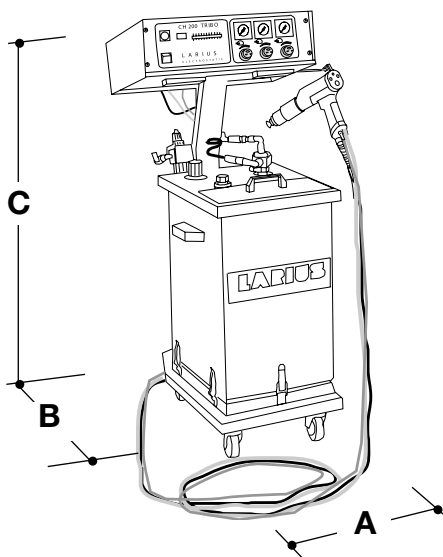
LARIUS has created this CH 200 unit which allows the use of corona effectspray guns (the powder is charged by electrodes), and triboelectric spray guns (the charge occurs via friction).

Therefore the same machine can be used as an electrostatic generator for CH 200 series spray guns, or as a control unit

for the electrostatic charge for LARIUS TRIBO manual and automatic spray guns.

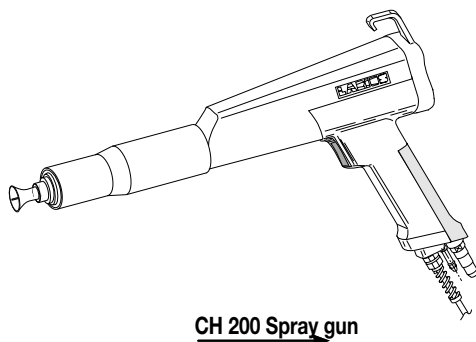
The conversion from one system to the other occurs via the simple touch of a switch.

B TECHNICAL DATA



	CH 200
SUPPLY VOLTAGE	120-220 V a.c.
INSTALLED POWER	50 Hz
FREQUENCY	210 bar
POWDER FLOW	3-20 Kg/h
WEIGHT	44 Kg
LENGTH	(A) 450 mm
WIDTH	(B) 690 mm
HEIGHT	(C) 1100 mm

	CH 200 SPRAY GUN	SPRAY GUN
SUPPLY VOLTAGE	approx. 12 V	-
OUTPUT VOLTAGE	0-120 KV c.c.	-
NOMINAL CURRENT	0-190 µA	-
POLARITY	Negative	Positive
WEIGHT	690 g	590 g
LENGTH	360 mm	450 mm





C DESCRIPTION OF THE MACHINE



Pos.	Description
1	RACK electrostatic generator which encloses all the power and control circuits, both electrical and pneumatic, as well as the safety systems, and digital display of operating voltage and current.
2	Removable and interchangeable powder container for using different colour powders (max. recommended capacity 25 kg).
3	Support trolley with rotating wheels.
4	Powder supply tube.
5	Power supply cable for manual spray gun.

Pos.	Description
6	CH 200 powder spray gun, composed of completely removable parts. The material used is composed of highly dielectric resins for total safety during operation. The multiplier and every internal part of the spray gun can be inspected and replaced in case of maintenance or failures. (Ability to use triboelectric spray guns CH100 - TRIBO).



D TRANSPORT AND UNPACKING

- Carefully observe the position of the packaging indicated on the outside by writing or symbols.
- Before installing the machine, prepare an area that is suitable in size, has the correct lighting, and a clean and smooth floor.

	<p>All operations of unloading and handling of the machine are the responsibility of the user, who must be very careful to avoid causing damage or injury to persons or the machine.</p> <p>Only specialised and qualified personnel (<i>forklift drivers, crane operators, etc.</i>) and suitable lifting equipment with a capacity that can support the weight of the packaging and that complies with safety regulations should be employed for unloading operations.</p> <p>Personnel must be equipped with the necessary personal protection equipment.</p>
--	--

- The manufacturer declines all responsibility regarding the unloading and transport of the machine in the workplace.
- Upon receipt of the machine, verify the packaging is intact. Remove the machine from its packaging and check that it has not been damaged during transport. If damaged components are noted, contact **LARIUS** and the shipping agent in a timely manner. Any damage noted must be communicated within a maximum of 8 days from receipt of the system. The communication must be made via registered mail with return receipt, addressed to **LARIUS** and the shipping agent.

	<p>The disposal of packaging materials, which is the responsibility of the user, must be carried out in compliance with laws in force in the country where the machine is used.</p> <p>However, it is good practice to recycle the packaging materials as much as possible in an environmentally-friendly way.</p>
--	--

E SAFETY REGULATIONS

- THE EMPLOYER MUST EDUCATE PERSONNEL ABOUT THE RISKS OF INJURIES, OPERATOR SAFETY DEVICES AND THE GENERAL ACCIDENT PREVENTION RULES ESTABLISHED BY INTERNATIONAL DIRECTIVES AND LEGISLATION IN THE COUNTRY WHERE THE MACHINE IS INSTALLED IN ADDITION TO REGULATIONS CONCERNING ENVIRONMENTAL POLLUTION.

- PERSONNEL MUST CAREFULLY OBSERVE ACCIDENT PREVENTION REGULATIONS OF THE COUNTRY WHERE THE MACHINE IS INSTALLED AS WELL AS REGULATIONS CONCERNING ENVIRONMENTAL POLLUTION.

	<p>Carefully read the following instructions in their entirety before using the machine. Keep these instructions in a safe place.</p>
 	<p>The non-authorized tampering with or replacement of one or more parts that make up the machine, the use of accessories, tools and consumable materials that are different from those recommended by the manufacturer may cause accidents and relieves the manufacturer from all civil and penal liabilities.</p>

- KEEP THE WORK AREA IN ORDER. DISORDER IN THE WORKPLACE CAUSES DANGER AND ACCIDENTS.
- ALWAYS KEEP YOUR BALANCE, AVOIDING UNSAFE POSITIONS.
- BEFORE USE THOROUGHLY CHECK THAT THERE ARE NO DAMAGED PARTS AND THAT THE MACHINE IS ABLE TO PROPERLY CARRY OUT ITS FUNCTION.
- ALWAYS OBSERVE SAFETY INSTRUCTIONS AND REGULATIONS IN FORCE.
- DO NOT ALLOW PERSONS NOT INVOLVED IN THE OPERATION OF THE MACHINE TO ACCESS THE WORK AREA.
- NEVER EXCEED THE MAXIMUM OPERATING PRESSURES INDICATED.
- NEVER POINT THE SPRAY GUN TOWARDS YOURSELF OR OTHERS. DIRECT CONTACT WITH THE JET MAY CAUSE SERIOUS INJURY. IN CASE INJURIES ARE CAUSED BY THE SPRAY GUN JET IMMEDIATELY SEEK MEDICAL ATTENTION, SPECIFYING THE TYPE OF PRODUCT ABSORBED BY THE SKIN. NEVER UNDERESTIMATE AN INJURY CAUSED BY FLUID INJECTION.
- ALWAYS DISCONNECT THE POWER SUPPLY AND DISCHARGE THE PRESSURE IN THE CIRCUIT BEFORE PERFORMING ANY TYPE OF INSPECTION OR REPLACEMENT OF COMPONENTS OF THE MACHINE.
- NEVER MODIFY ANY COMPONENT OF THE MACHINE. REGULARLY INSPECT THE COMPONENTS OF THE MACHINE. REPLACE DAMAGED OR WORN PARTS.



- TIGHTEN AND CHECK ALL THE CONNECTION FITTINGS BETWEEN THE PUMP, THE FLEXIBLE TUBE AND THE SPRAY GUN BEFORE USING THIS MACHINE.
- ALWAYS USE THE FLEXIBLE TUBE PROVIDED IN THE STANDARD WORK KIT. THE USE OF ACCESSORIES OR EQUIPMENT DIFFERENT THAN THOSE RECOMMENDED IN THIS MANUAL MAY CAUSE INJURY.
- THE FLUID CONTAINED IN THE FLEXIBLE TUBE MAY BE VERY DANGEROUS. HANDLE THE FLEXIBLE TUBE WITH CARE. DO NOT PULL THE FLEXIBLE TUBE TO MOVE THE MACHINE. NEVER USED A DAMAGED OR REPAIRED FLEXIBLE TUBE.

 	<p>If the product flows at high speed through the flexible tube static electricity may be created, manifested with small shocks and sparks. The machine should be electrically grounded. The pump is grounded by the grounding wire of the power cable. The spray gun is grounded via a high pressure flexible tube. All the conductive objects that are near the work area must be grounded.</p>
----------	---

- ABSOLUTELY AVOID SPRAYING FLAMMABLE PRODUCTS OR SOLVENTS IN CLOSED ENVIRONMENTS.
- ABSOLUTELY AVOID USING THE MACHINE IN ENVIRONMENTS SATURATED WITH POTENTIALLY EXPLOSIVE GASES

 	<p>Always verify the compatibility of the product with the materials that make up the system (<i>pump, spray gun, flexible tube and accessories</i>) with which it may come into contact. Do not use paints or solvents that contain halogenated hydrocarbons (<i>such as methylene chloride</i>). Products in contact with aluminium parts of the machine may cause dangerous chemical reactions with risk of explosion.</p>
----------	---

 	<p>IF THE PRODUCT TO BE USED IS TOXIC, AVOID INHALATION AND ONLY HANDLE USING PROTECTIVE GLOVES, PROTECTIVE GOOGLES AND APPROPRIATE MASKS.</p>
----------	--

	<p>USE APPROPRIATE HEARING PROTECTION EQUIPMENT IF WORKING IN THE IMMEDIATE VICINITY OF THE MACHINE.</p>
--	--

Electrical safety regulations

- Ensure the switch is in the "OFF" position before inserting the power cable plug into the electrical outlet.
- Do not transport the machine if it is connected to the power supply network.
- Disconnect the plug from the outlet if the machine is not in use and before performing all maintenance or accessory replacement operations.
- Do not drag the machine or disconnect the plug by pulling on the power cable.
- Keep the cable away from heat, mineral oils and sharp edges.
- If the machine is used outdoors, use a suitable extension cord, that is intended and marked for outdoor use.

	<p>Never tamper with the calibration values of the instruments.</p>
--	---

- To prevent injuries, repairs of electrical parts must only be carried out by qualified personnel.

PRECAUTIONS DURING WORK

- Do not smoke, do not cause open flames.
- Only the spray guns and the vehicles required for transporting the powders must be in the booths: all other the electrical devices must be outside the booth.
- Ensure that suction capacity in the spray booth is sufficient and that the powder does not accumulate in any part of the booth.
- Verify that the frames and all the electrical devices are properly grounded.
- Ensure the operator is correctly "grounded". Do not use insulated gloves and plastic shoes. Antistatic shoes are recommended.
- Do not enter the spray booth when the machine is operating. Before entering, ensure the locking system of the entire system is working properly.
- Facial masks and protective suits are recommended, when you need to work in environments filled with powder.
- Keep the area surrounding the booth clean, for at least 5 metres.
- Keep the lighting lamps clean. Wash hands and face before eating or drinking.

HEALTH AND SAFETY

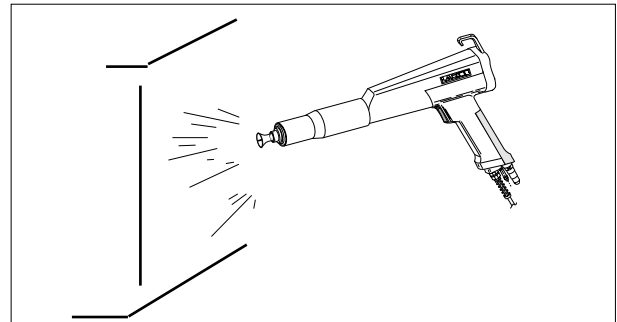
The powders:

- Can cause irritation to the eyes, hands and respiratory system, after prolonged direct contact.
- Are toxic if inhaled.
- Are not flammable, but they can cause combustion if their concentration in the air exceeds the allowable limit.
- Can form a conductor wire, that can be switched on by "open flames", heat or by electrical sparks.



	<p>Powder leakage: clean with suction tube. Do not sweep.</p>
	<p>Fire: insulate electrical appliances and use foam.</p>
	<p>Contact with eyes: wash with running water and appropriate medicines.</p>
	<p>Inhalation: go outdoors. Put on clean clothes. In case of respiratory difficulty, seek immediate medical attention.</p>
	<p>Ingestion: provide immediate medical care.</p>

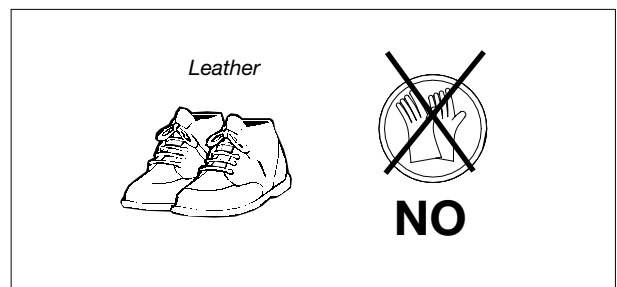
- Distance between the electrode and the piece being processed.
The safety device of the LARIUS CH 200 electrostatic system, when below 20mm, causes a reduction in charging voltage that is so strong that the particles of sprayed powder are no longer charged. Therefore it would be wrong to get too close to narrow points in order to obtain better penetration.



CONDITIONS OF GUARANTEE

	<p>The conditions of guarantee do not apply in the following situations:</p>
	<ul style="list-style-type: none"> - improper washing and cleaning of components causing malfunction, wear or damage to the equipment or any of its parts; - improper use of the equipment; - use that does not conform with applicable national legislation; - incorrect or faulty installation; - modifications, interventions and maintenance that have not been authorised by the manufacturer; - use of non-original spare parts or parts that do not correspond to the specific model; - total or partial non-compliance with the instructions provided.

- The operator must wear conductive shoes (leather), no gloves, as the operator's ground connection is established through the metal plate on the handle of the spray gun.



F CORRECT USE OF THE SYSTEM

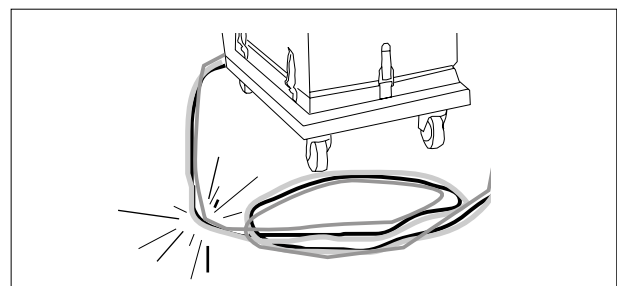
The machine described in this manual constitutes a complete and autonomous unit for the application of powder coatings.

Correct use of the machine allows for the full exploitation of the performance that is able to provide in conditions of complete operator safety.

To achieve this, carefully observe the instructions provided below:

- Grounding of all mechanical parts, including the frame of the machine and, of course, the piece being processed.

- The powder tube must not be twisted or bent in any way.





Follow the instructions included in the use and maintenance manual.

- Verify the integrity of the components and parts of the machine.
- Observe the instructions and warnings provided on the machine, the safety warning labels on the machine must always be perfectly legible.
- Check the state of preservation (*cleaning*) and maintenance of the machine and its main components.
- Check the correct operation of the pneumatic system and the condition of the pipes and fittings.
- For all operations, always wear suitable clothing, in compliance with workplace safety regulations.
- Report any operating malfunctions (*faulty operation, suspected breakage, incorrect movements and noise that exceeds normal limits*) to the department manager and switch off the machine.
- Observe the maintenance schedule and record, after each check, any observations concerning the maintenance operation performed.
- The powder must be stored in a cool and dry place, in sealed containers that are subject to frequent stock turnover.
- The surfaces of the piece to be treated must be free of any contaminating agents and correctly pretreated.
- The compressed air must not contain water or oil.
- The piece to be treated must be correctly secured and properly grounded.
- The frames must provide good grounding for the piece.
- The temperature of the furnace must be correct in order to polymerise perfectly.
- The powder feeders, the spray booth, and the recovery system must be free of all contaminating agents and free of any powder that is different than that chosen for use.
- Pre-treatment and firing checks must be carried out periodically during processing.
- All the recycled powder must be sieved and mixed with new powder observing the recommended proportions.
- Do not use silicones or paints near the machine.

G INCORRECT USE OF THE SYSTEM

The company LARIUS considers "incorrect use" of the machine to be any use that is not described in the previous paragraph and:

- Do not point the spray gun jet at people.
- Use of improper or inadequate energy sources.
If modifications must be made to the machine, you must contact **LARIUS** in order to obtain the most up-to-date technology.

- Use of the machine by personnel who is not adequately trained.
- Failure to comply with routine maintenance requirements or maintenance operations performed improperly.
- Use of non-original or unsuitable spare parts.
- Modification or cancellation of safety device settings and/or tampering with the various equipment.
- Perform inspection, maintenance or repair operations without having switched off the machine.
- Make temporary repairs or carry out recovery interventions that do not comply with the instructions.



The company LARIUS is not responsible for mechanical damage to persons caused by incorrect uses as described above.

In the event the customer must use the machine with materials different than those cited in the sales contract or modify the operating parameters, the customer must contact LARIUS for new operating parameters and technologies.

It is recommended that the operator in charge of the machine's operation and the person responsible for its maintenance, keep the safety and control areas and the access area to the parts of the hoist, free of all obstacles and equipment.

H CONTROL PANEL

The operation, adjustment, and stoppage of the system, as well as the instructions concerning correct operation, are managed by the control panel positioned above.

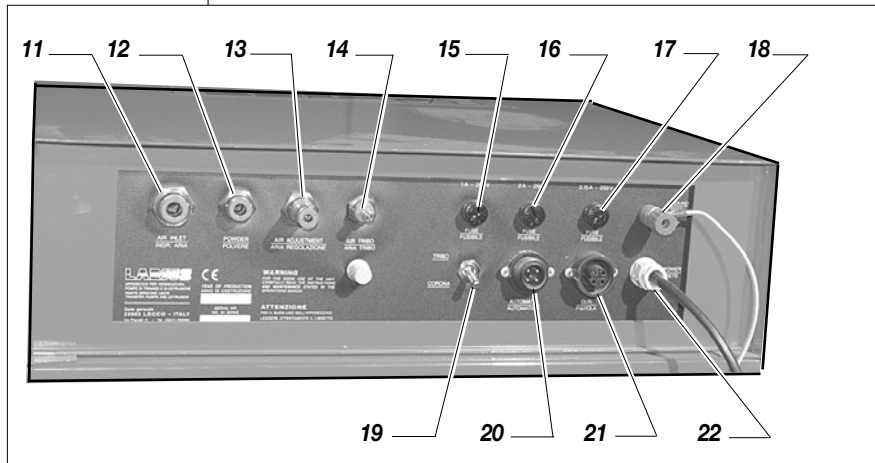
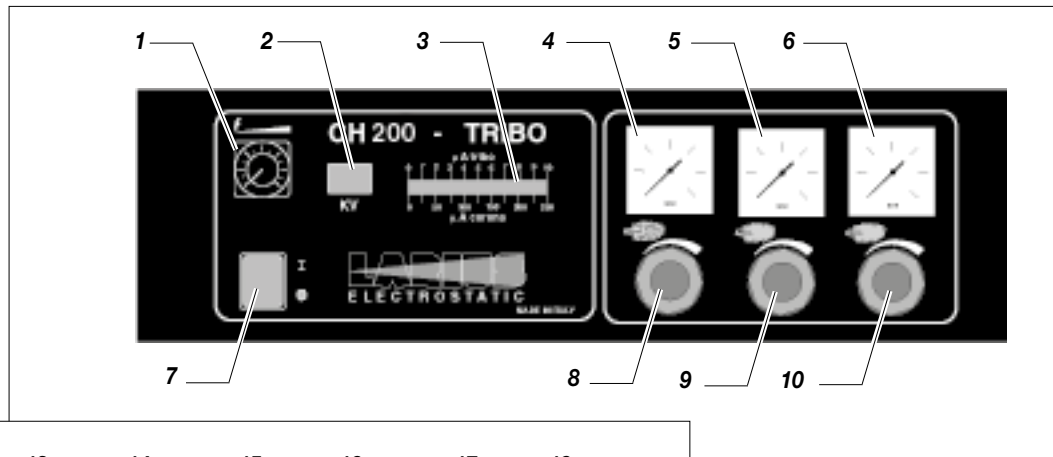


Install a disconnecting switch with fuses upstream of the main switch, in order to completely isolate the machine from the power supply network.

OPERATING CONTROLS

Buttons - Switches - Indicator lights - Potentiometers

The operating controls are located on the control panel and are used directly by the operator during operation and to carry out every maintenance or testing operation.



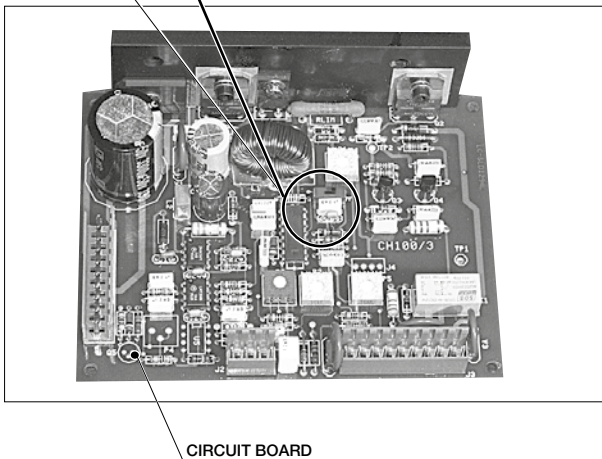
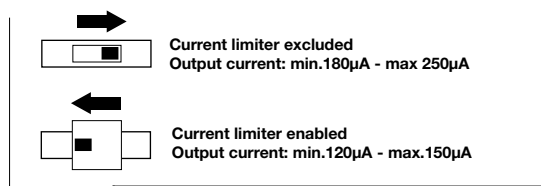
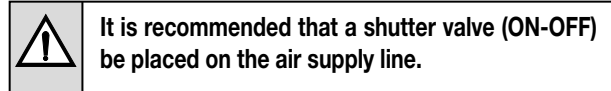
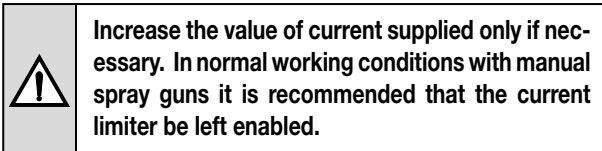
Pos.	Description
1	Kv adjusting potentiometer
2	Kv Digital indicator
3	Led indicator μA
4	Pressure gauge for reading powder delivery air pressure
5	Pressure gauge for press. additional air reading
6	Pressure gauge for reading "tribo air" pressure and additional air pressure for cleaning CH 200
7	Main switch
8	Knob for adjusting powder delivery air pressure
9	Additional air pressure adjustment knob (to evenly distribute the jet of powder)
10	Knob for adjusting the "tribo air" (increases the electric effect) pressure and additional air for cleaning the CH200 diffuser and rheophore

Pos.	Description
11	Air inlet tube fixing attachment
12	Powder delivery air tube fixing connection
13	Fixing connection for additional air tube
14	Fixing connection for "tribo air" tube and additional air tube for cleaning CH200
15	Main fuse (1A)
16	Solenoid fuse (2A)
17	Main PCB fuse (3.15 A)
18	Grounding cable fixing coupling
19	Selector for corona or electric painting
20	Outlet for automatic spray gun control cable
21	Outlet for spray gun supply cable
22	Power cable



CURRENT OUTPUT ADJUSTMENT μ A

The electronic processing board located inside the generator is supplied complete with a current limiter device that allows, if necessary, increasing the current without modifying the set voltage.



- Connect the machine to the compressed air supply using a suitable type tube (H2), it must have a internal diameter that is not less than 8 mm and must be able to withstand a maximum pressure of 10 bar.
The tube must be connected to the (H3) filter.

The humidity of the air must be less than 1 gr. of water p.p.m. The quantity of air required depends on the operating pressure (200-600 L/min.).

The compressor that supplies the air must be grounded separately with its own grounding cable.

- Connect the compressed air supply tube (H4) \varnothing 10 mm to the rear of the rack's control panel.
- Connect the powder supply tube (H6) and the additional air tube (H7) to the powder supply pump and to the generator (H5).
- Connect the generator to the spray booth using a grounding cable (H8) and clamp (H9).
- Connect the vent tube (H10) to the tank cover and the spray booth (or to a container).

Electrostatic spray gun

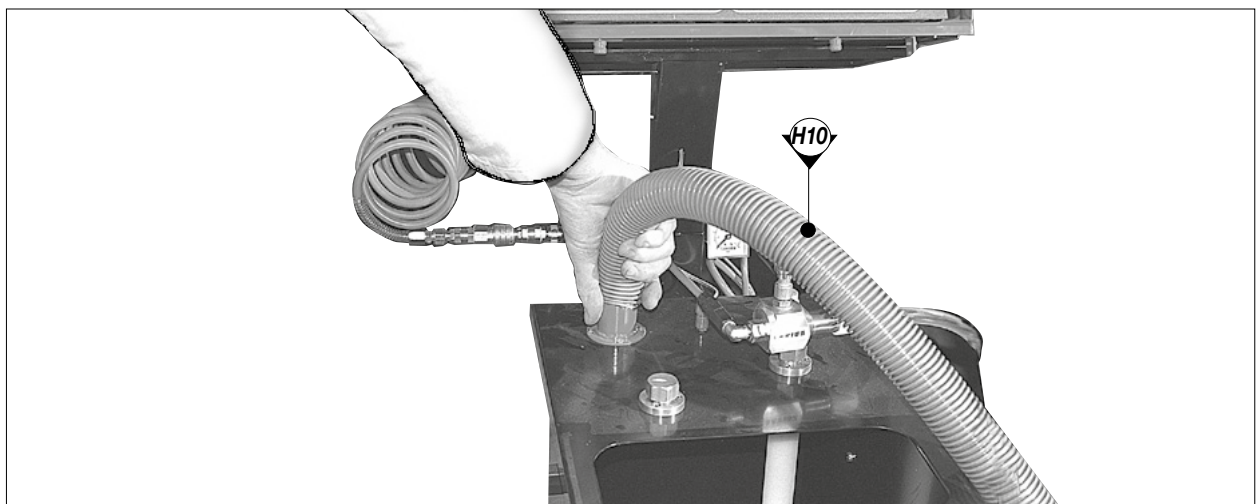
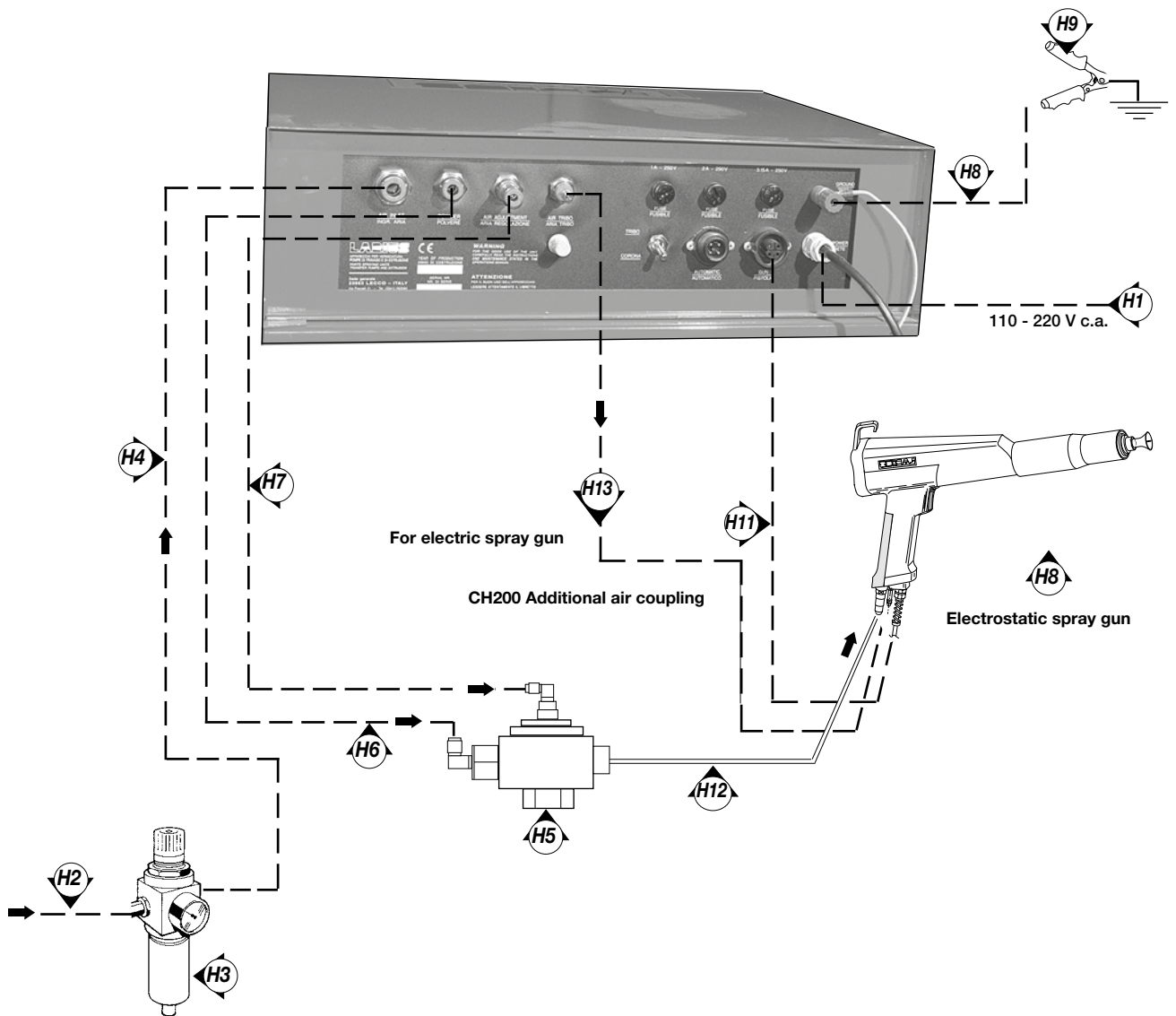
- Connect the power supply cable (H11) to the spray gun and the generator.
- Connect the powder passage tube (H12) to the spray gun and the powder delivery pump.
- Connect the additional air passage tube (H13) for cleaning the diffuser and rheophore to the spray gun and the generator.

Electric spray gun

- If spray guns are used which employ the electric paint system, remove the air outlet cap and connect the tube (H13) to the spray gun.

CONNECTIONS

- Make sure the system is equipped with a grounding connection
- Ensure that the mains voltage corresponds to that indicated on the machine's nameplate.
- Make sure the switch is in the "0" position.
- Connect the machine to the mains using the dedicated cable (H1).





OPERATION

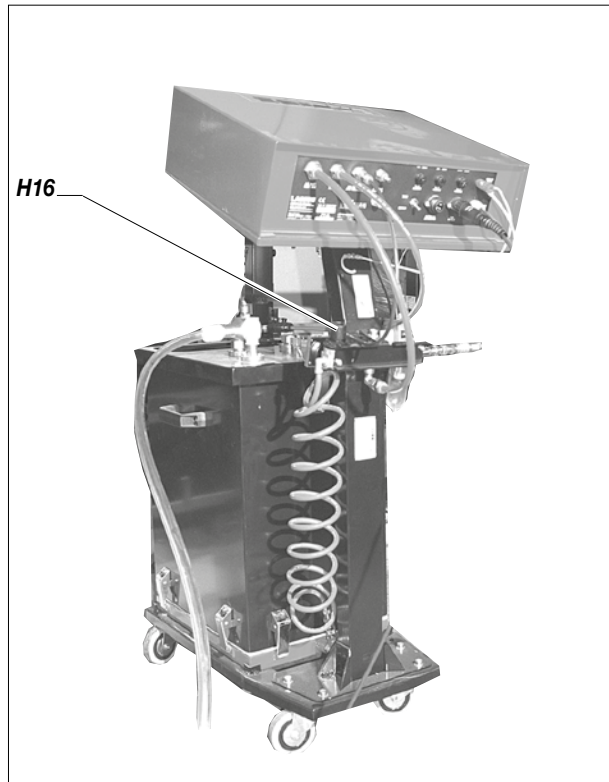
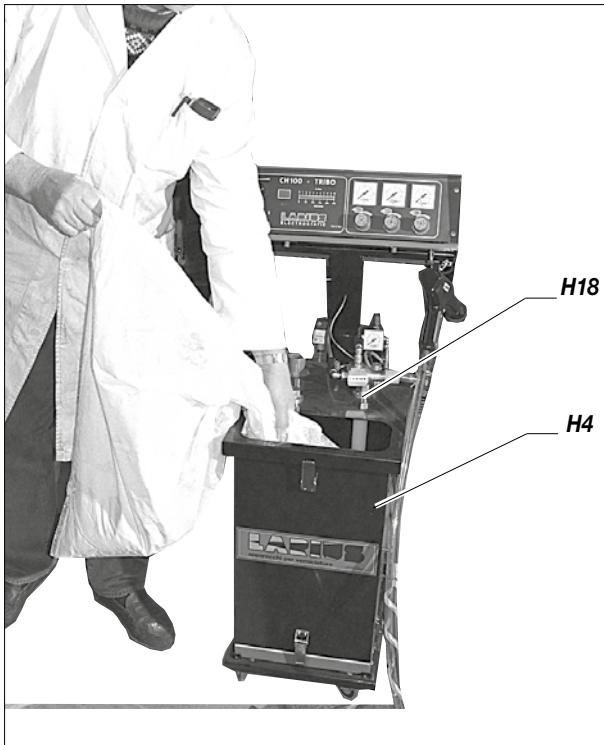
After having carried out all the electrical and pneumatic connections as described in the previous chapter, proceed as follows:

- Remove the top cover and fill the container (H14) with powder (maximum 25 kg).



Only introduce the powder through the dedicated opening as shown in the figure and do not remove the main top cover.

- Open the air supply to the machine.
- Press the main switch (H15) of the control panel to power the generator.



USE WITH CH 200 SPRAY GUN (corona effect)

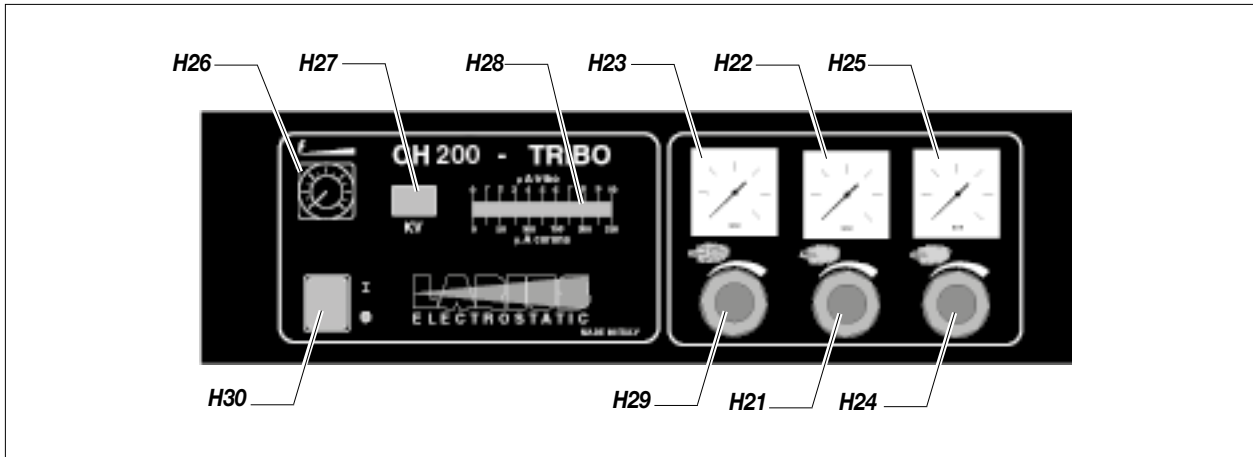


To use with the CH 200 spray gun (corona effect), make sure the selector (H17) is in the "CORONA" position.



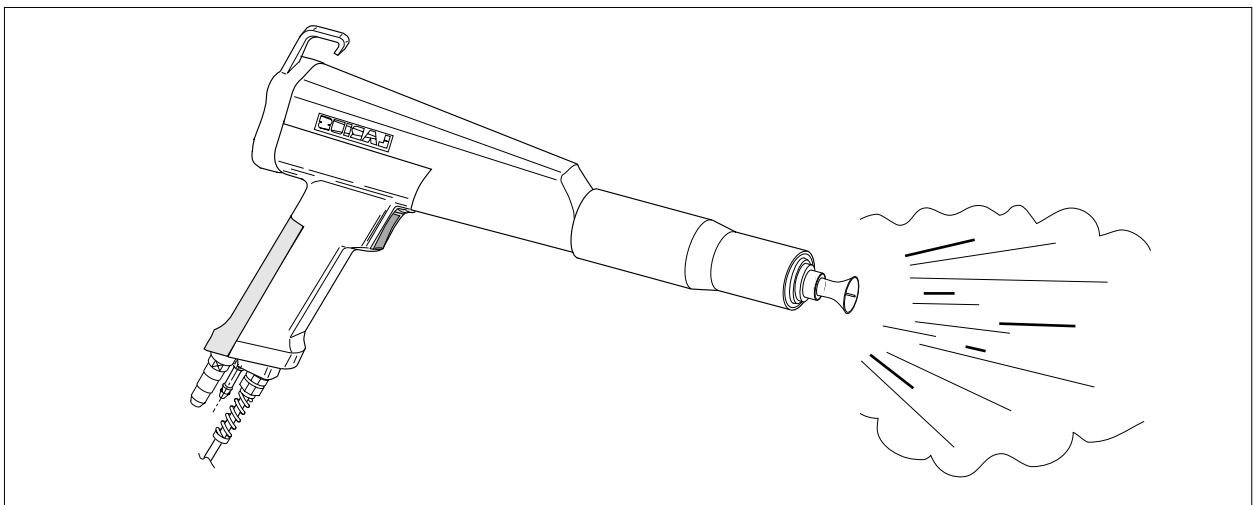
H17

- Adjust the air pressure of the fluid bed inside the tank using the knob (H16). The fluid bed keeps the powder in the tank moving, promoting suction; a maximum setting between 0.5 and 1 bar is recommended.
- Point the spray gun inside the spray booth and hold down the trigger to adjust the powder delivery setting.
- Adjust the air pressure delivered to the powder supply pump (H18), using the regulator (H19) and reading the value expressed in bar on the pressure gauge H20 (max recommended values 3-4 bar).



- Adjust the powder diffusion range of the spray gun using the knob (H21) and reading the value expressed in bar on the pressure gauge (H22), (recommended values 0.5-2 bar); however, this value must always be less than the supply air pressure (pressure gauge H23); once adjustment is complete, release the spray gun trigger.
- Adjust the flow of the additional air that controls the cleaning of the diffuser and charging rheophore. Using the knob (H24) and checking the pressure gauge (H25) set the outlet air pressure to the recommended values between 0.5-1 bar. Depending on the amount of powder delivered, ensure the cleaning cone cleans the powder residue from the affected areas.
- Using the potentiometer (H26) select the desired voltage value (0 -100 kv) read the set value on the digital display (H27).
- Point the spray gun at the object to be painted (recommended distance 15-20 cm) and press the trigger, which will start to deliver powder, as well as high voltage; the value of current, expressed in microamperes (max 250 μ A) can be read on the lit indicator (H3).

	<p>Protect the spray gun from all violent mechanical action. Repeated impacts and shocks of considerable intensity, while not altering the outer integrity of the spray gun, may cause internal damage and cause the spray gun to become unusable.</p>
--	---

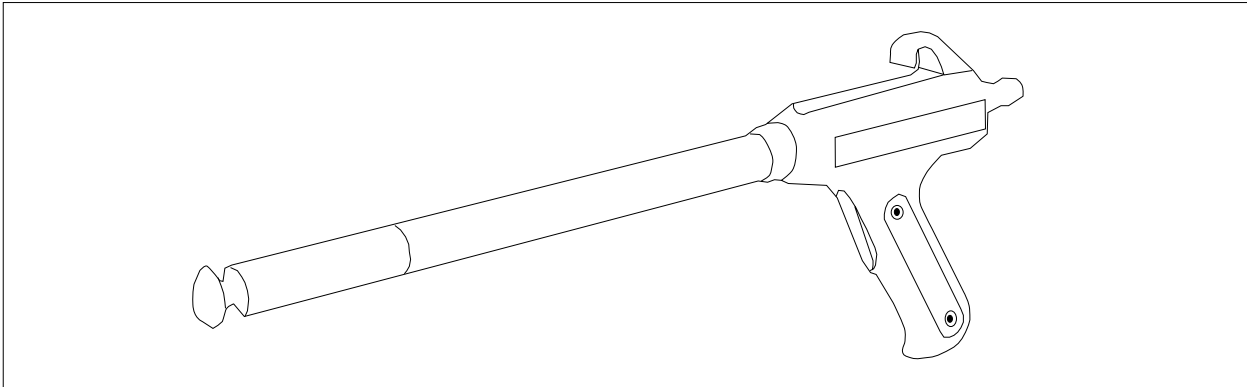




USE WITH ELECTRIC SPRAY GUN



To use with the electric spray gun, make sure the selector (H21) is in the "TRIBO" position.



- Point the spray gun at the object to be painted (recommended distance 15-20 cm) and press the trigger, which will start to deliver powder, as well as high voltage; the value of current, expressed in microamperes (max 250 μ A) can be read on the lit indicator (H28).
- Adjust the air pressure to the powder supply pump (H29), by turning the regulator (H30) and reading the value expressed in bar displayed on the pressure gauge (H23) (recommended max values 3-4 bar).
- Adjust the powder diffusion range of the spray gun using the knob (H29) and reading the value expressed in bar on the pressure gauge (H22), (recommended values 0.5-2 bar); however, this value must always be less than the supply air pressure (pressure gauge H23).
- Adjust the "tribo air" pressure using the knob (H24) and reading the pressure value set on the pressure gauge (H25).

If the pressure is increased, the triboelectric effect is also increased.

The electrostatic charge value can be read on the luminous indicator (H28) located on the generator.

At this point, release the spray gun trigger.

Point the spray gun at the object to be painted (recommended distance 10-20 cm) and press the spray gun trigger, which will start to deliver powder.

The value of the current expressed in μ A (max 10 μ A) can be read on the luminous indicator (H28).



Protect the spray gun from all violent mechanical action. Repeated impacts and shocks of considerable intensity, while not altering the outer integrity of the spray gun, may cause internal damage and cause the spray gun to become unusable.



I CYCLICAL ROUTINE MAINTENANCE

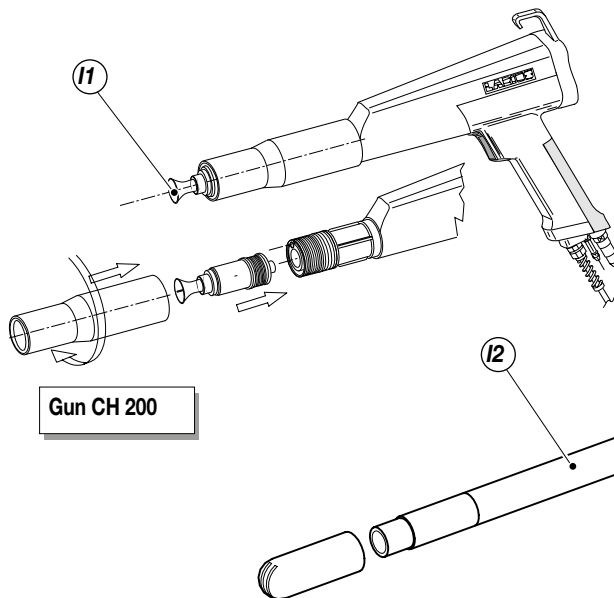


Before performing any maintenance or cleaning operation disconnect the electric and pneumatic power supply.

EVERY 8 HOURS AND/OR AT EVERY COLOUR CHANGE

Cleaning the CH200 spray gun

- Disconnect the powder supply tube and remove the nozzle (11) of the spray gun.
- Clean the inner part of the spray gun and nozzle with a jet of compressed air. If necessary, use the brush supplied to clean the spray gun.

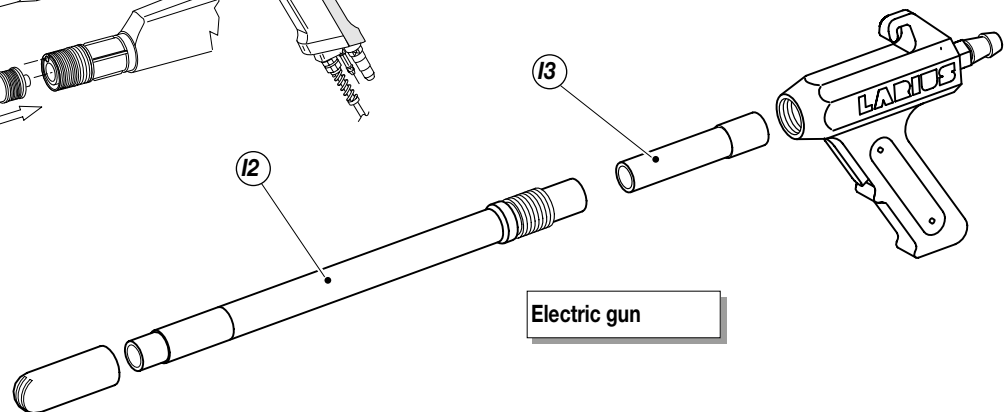


Gun CH 200

Cleaning the electric spray gun

- Remove the powder supply tube and the nozzle. Clean the inside of the spray gun and nozzle with a jet of compressed air.
- If removing the electric spray gun is necessary

Using your hands, unscrew the charge tube (12) from the spray gun body. Using your hands, slip off the diffuser (13). Remove the nozzle.

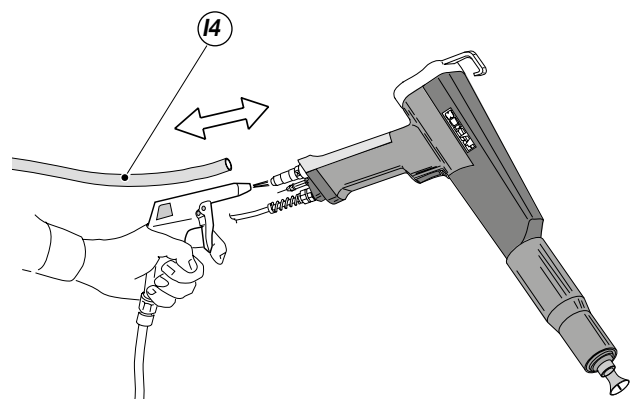


Electric gun

EVERY 40 - 80 HOURS AND/OR AT EVERY COLOUR CHANGE

Cleaning the powder supply tube

- Disconnect the powder supply tube (14) from the tank and spray gun and blow in compressed air to remove any remaining powder residue. Ensure the powder passage tube is not cracked, bent or damaged in any way.



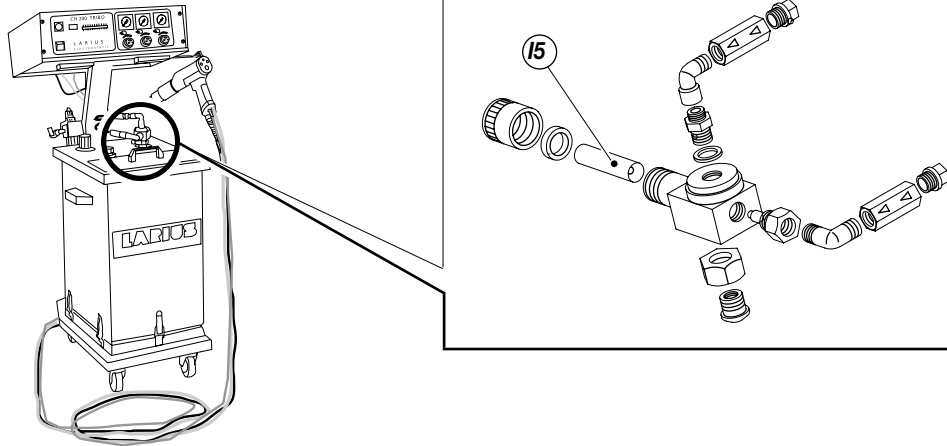


EVERY 40 - 80 HOURS

Check venturi diffuser

- Check the wear of the powder delivery pump's Venturi diffuser (15).
A new diffuser hole is 4.8mm; with wear the hole's diameter

increases, decreasing the Venturi effect and, when the hole reaches 8 mm, the diffuser must be replaced.
For highly abrasive materials use tungsten carbide diffusers.



EVERY 40 - 80 HOURS

Cleaning the pressure reducer filter

To ensure proper machine operation, follow these rules:

- Ensure proper operation of the pressure reducer filter. Ensure there is no condensation build-up inside the cup. If necessary, periodically discharge the condensation by unscrewing the bleed screw (16) under the filter cup; the pressure inside the cup will cause the expulsion of the condensation.
- Periodically clean the filter cartridge in order to prevent system performance losses. Wash the cup with water and dry with a jet of compressed air.

Before removing the cup close the compressed air supply.

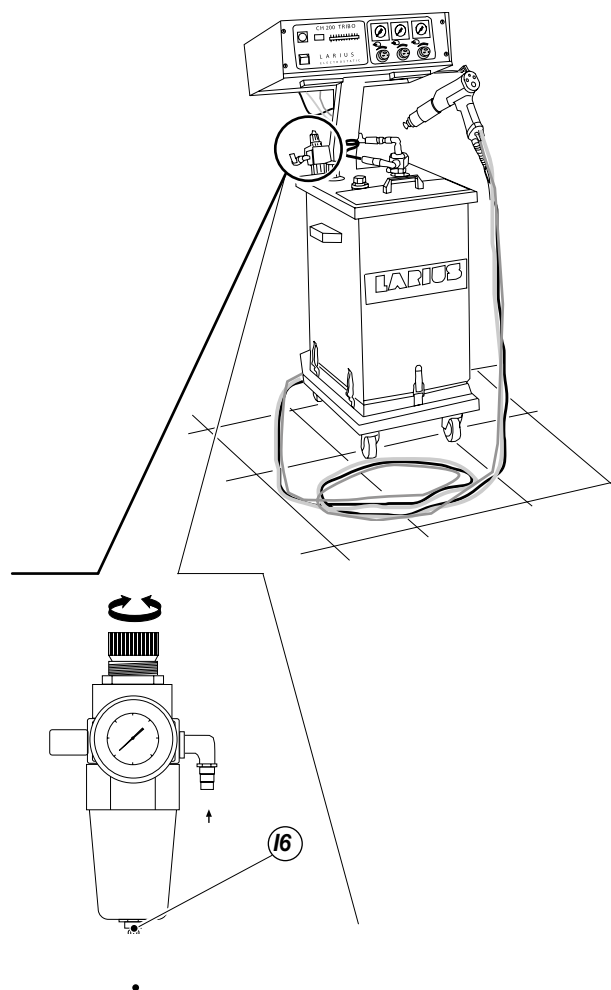
Adjusting the pressure

Adjust the pressure by turning the knob located on the upper part of the reducer.

To increase it turn clockwise (+).

To decrease it turn counter clockwise (-).

Do not power the pneumatic system with compressed air that is excessively dirty or that contains aggressive liquids.





J COLOUR CHANGING

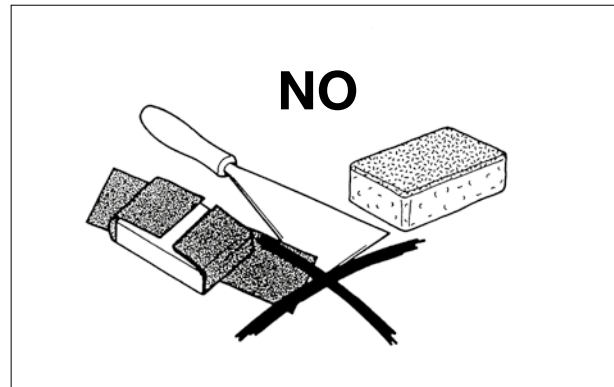
The design of the CH 200 unit allows rapid colour changing using two different tanks.

To perform this operation proceed as follows:

- Disconnect the main electric and pneumatic supply which powers the machine.
- Unhook the rear tube of the tank which powers the fluid bed.
- Unhook the two quick coupling springs on the upper cover of the tank you have finished using.
- Lift up the cover, remove the old tank and replace it with a new, clean one.



Do not use abrasive materials or corrosive liquids to clean the tank.



The new tank must be empty and must be filled through the top door only when the main cover is perfectly closed and latched.



- Attach the two cover closing springs and attach the fluid bed air supply tube.
- Load the new colour powder for use into the tank using the top door.
- While the CH 200 unit can be used again, the tank previously replaced must be cleaned in preparation for a new colour change.



K PROBLEMS AND SOLUTIONS

Problem	Cause	Solution
<ul style="list-style-type: none"> Electrical charges between the spray gun nozzle and the object to be painted 	<ul style="list-style-type: none"> Excessive voltage; For CH 200 spray gun: excessive electric current; For CH 200 spray gun: nozzle damaged; The object to be painted is not properly electrically grounded; For CH 200 spray gun the voltage multiplier is defective; 	<ul style="list-style-type: none"> For CH 200 spray gun: decrease the voltage using the rack's potentiometer; For spray gun: decrease the air pressure; Reset the current limiter switch located on the processing board ; Replace the nozzle; With a tester or similar instrument check the electrical grounding of the piece holder hooks. If necessary, clean the piece holder hooks; Replace the voltage multiplier;
<ul style="list-style-type: none"> The machine does not start up after the ON-OFF switch has been pressed 	<ul style="list-style-type: none"> No mains voltage; Fuse 1A is defective; 	<ul style="list-style-type: none"> Check the electric supply line; Replace the 1A fuse;
<ul style="list-style-type: none"> The rack switches on but the Kv display is not working 	<ul style="list-style-type: none"> Fuse 3.15A is defective; Processing board defective; 	<ul style="list-style-type: none"> Replace the 3.15A fuse; Replace the processing board;
<ul style="list-style-type: none"> The kv display lights up but the kv scale does not increase when the potentiometer is turned 	<ul style="list-style-type: none"> KV control potentiometer defective, processing board defective or display board defective 	<ul style="list-style-type: none"> Proceed as follows: <ul style="list-style-type: none"> Disconnect the power supply Remove the four fixing screws and slip the rack off the CH 200 machine's protective cover. Remove the connector marked j3 from the processing board. Using a tester (or similar instrument capable of measuring electrical resistance) check the integrity of the potentiometer: connect a tip of the tester to the central terminal of the potentiometer and the other tip to one of the two side terminals. Turning the potentiometer knob, the resistance value read on the tester varies from 0 to 1 KΩ, approximately. If a negative result is obtained, replace the potentiometer.
<ul style="list-style-type: none"> The machine is working but the powder does not come out of the spray gun when the trigger is pressed. 	<ul style="list-style-type: none"> No powder; Powder delivery pump clogged; The air pressure is not sufficient to adjust powder delivery; Fuse 2 A is defective; Spray gun-generator cable incorrectly connected or damaged; 	<ul style="list-style-type: none"> Add powder; Remove the powder delivery pump and clean the passages; Increase the air pressure to adjust powder delivery; Replace the 2 A fuse; Check the connections; verify the continuity of the cable connections using a tester and, if necessary, replace it;



Problem	Cause	Solution
<ul style="list-style-type: none"> Rapid wear of Venturi diffuser 	<ul style="list-style-type: none"> No mains voltage; 	<ul style="list-style-type: none"> Use a hard metal Venturi diffuser (code 5296/A);
<ul style="list-style-type: none"> The powder puffs out of the spray gun 	<ul style="list-style-type: none"> Worn or partially clogged Venturi; The additional air pressure is excessive (rack central regulator) or the ratio between this and the powder delivery air pressure is incorrect (left rack regulator); The tank's fluid bed air pressure is excessive or insufficient; The unidirectional valves of the powder pump are partially clogged; Powder passage tube too short or with excessive inner diameter; 	<ul style="list-style-type: none"> Clean and/or replace the Venturi; Decrease the additional air pressure and/or increase the powder delivery air pressure. Important: The additional air pressure must always be lower than the powder delivery air pressure; Adjust the fluid bed air pressure (recommended pressure value: 0.5-1bar); Clean and/or replace the unidirectional valves; Use the powder passage tube supplied or a tube with an inner diameter that is no greater than 12mm and with a length no less than 5 metres;
<ul style="list-style-type: none"> Insufficient powder flow 	<ul style="list-style-type: none"> The air pressure for adjusting the powder delivery is insufficient; The powder is too wet and is sucked up by the powder pump with difficulty; Worn or partially clogged Venturi; 	<ul style="list-style-type: none"> Increase the air pressure to adjust powder delivery; Check the compressed air supply line. Install an air dryer if necessary; Clean and/or replace the Venturi;
<ul style="list-style-type: none"> The powder is not sufficiently electrostatically charged and/or does not "cover" 	<ul style="list-style-type: none"> The additional air pressure (central regulator rack) is excessive; The additional nozzle cleaning air pressure is excessive; The piece to be painted is not properly electrically grounded; The powder is not suited for use with a corona and/or triboelectric system; Only for triboelectric spray gun: The "tribo" air pressure (central regulator rack) is excessive; For CH 200 spray gun: nozzle damaged and/or dirty; 	<ul style="list-style-type: none"> Decrease the additional air pressure; Decrease the additional air pressure; With a tester or similar instrument check the electrical grounding of the piece holder hooks. If necessary, clean the piece holder hooks; Consult the powder supplier; Increase the "tribo" air pressure to increase the triboelectric effect; Clean and/or replace the nozzle;
<ul style="list-style-type: none"> The powder "cover" but the μA scale does not increase 	<ul style="list-style-type: none"> For triboelectric spray gun: charge tube dirty and/or damaged; Display board not working; For triboelectric spray gun: tribo-corona switch set to "corona"; 	<ul style="list-style-type: none"> Clean and/or replace the charge tube; Replace the display board; Move the switch to "tribo";



Problem	Cause	Solution
	<ul style="list-style-type: none"> For triboelectric spray gun: spray gun-generator cable not connected properly or damaged; For triboelectric spray gun: processing board damaged. 	<ul style="list-style-type: none"> Check the connections; verify the continuity of the cable connections using a tester and, if necessary, replace it; Replace the processing board;
<ul style="list-style-type: none"> The powder does not charge and does not "cover" 	<ul style="list-style-type: none"> The powder is not suited for use with a corona and/or triboelectric system; For CH 200 spray gun: processing board damaged ; For CH 200 spray gun: tribo-corona switch on "tribo"; For CH 200 spray gun: nozzle electrodes are broken or nozzle is not secured correctly to the spray gun; For CH 200 spray gun: the voltage multiplier is defective; 	<ul style="list-style-type: none"> Consult the powder supplier; Replace the processing board; Move the switch to "corona"; Correctly secure the nozzle and/or replace the nozzle; Replace the voltage multiplier;
<ul style="list-style-type: none"> The machine is working but the powder does not come out of the spray gun when the trigger is pressed. 	<ul style="list-style-type: none"> Spray gun button defective 	<ul style="list-style-type: none"> Replace the solenoid and/or processing board; For triboelectric spray gun: <ul style="list-style-type: none"> Disconnect the spray gun-generator connecting cable from the generator; With a tester (or similar instrument capable of measuring electrical resistance) verify the electrical continuity between the terminals marked with a <u>1</u> and the connector when the spray gun trigger is pressed; If the result of the test is negative, proceed with replacing, in order, the trigger lever, then the trigger body, and lastly both parts; For CH 200 spray gun: <ul style="list-style-type: none"> Disconnect the spray gun-generator connecting cable from the generator; With a tester (or similar instrument capable of measuring electrical resistance) verify the electrical continuity between the terminals marked with a <u>1</u> and the connector when the spray gun trigger is pressed; If the result of the test is negative, proceed with replacing, in order, the trigger, then the reed block, and lastly both parts;



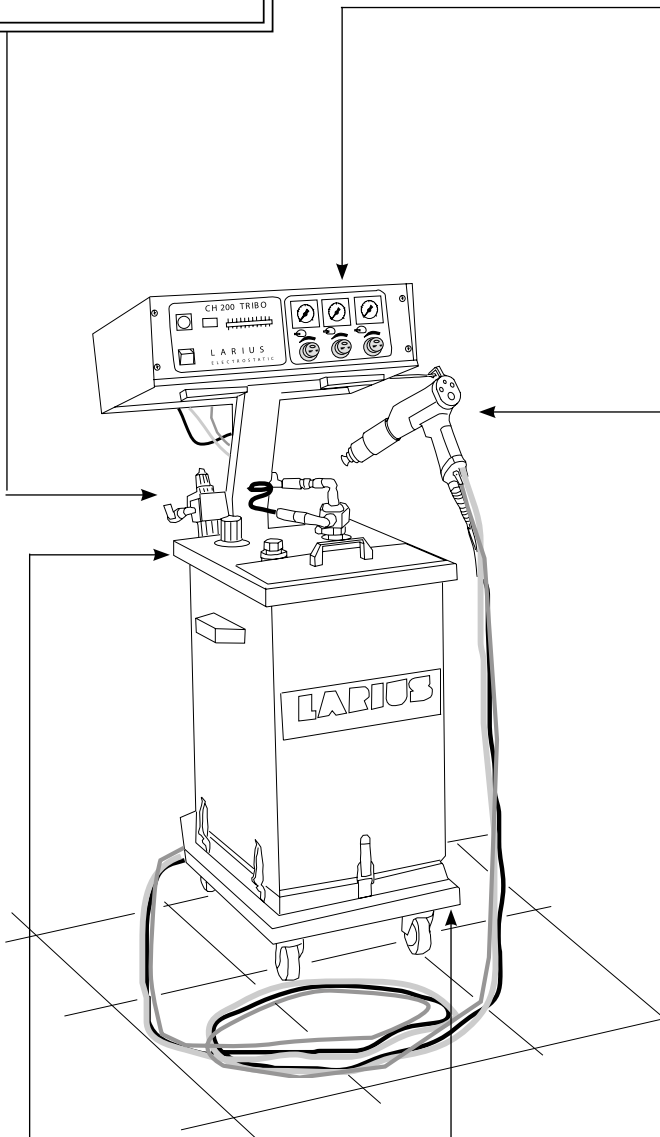
Problem	Cause	Solution
<ul style="list-style-type: none"> The machine is working and the powder comes out of the spray without the trigger. 	<ul style="list-style-type: none"> Solenoid valve or processing board not working; Spray gun button defective 	<ul style="list-style-type: none"> Replace the solenoid and/or processing board; For triboelectric spray gun: <ul style="list-style-type: none"> - Disconnect the spray gun-generator connecting cable from the generator; - With a tester (or similar instrument capable of measuring electrical resistance) verify the electrical continuity between the terminals marked with a 1 and the connector when the spray gun trigger is pressed; - If the result of the test is negative, proceed with replacing, in order, the trigger lever, then the trigger body, and lastly both parts; For CH 200 spray gun: <ul style="list-style-type: none"> - Disconnect the spray gun-generator connecting cable from the generator; - With a tester (or similar instrument capable of measuring electrical resistance) verify the electrical continuity between the terminals marked with a 1 and the connector when the spray gun trigger is pressed; - If the result of the test is negative, proceed with replacing, in order, the trigger, then the reed block, and lastly both parts;

	<p>Always disconnect the power supply and discharge the pressure before performing any checks or replacing parts of the pump (follow the "correct pressure relief procedure").</p>
--	--



SPARE PARTS

Z ACCESSORIES
page 39



M ELECTRO-PNEUMATIC GENERATOR
page 25

N CH 200 MANUAL SPRAY GUN REF.9700
page 25

O SPARE PARTS FOR AUTOMATIC GUN
CH 200 REF. 9705
page 29

P SPARE PARTS FOR AUTOM. AND MANUAL
TRIBO SPRAY GUN
page 31

Q CONE JET NOZZLE SPARE PARTS FOR
CH 200
page 33

R SPARE PARTS FOR CONE JET NOZZLE
WITH EXTENSION FOR CH 200
page 34

S FAN NOZZLE SPARE PARTS FOR
CH 200
page 35

T HIGH PERFORMANCE NOZZLE SPARE
PARTS FOR CH 200
page 36

U MULTI-DIFFUSION NOZZLE SPARE PARTS
FOR CH 200
page 37

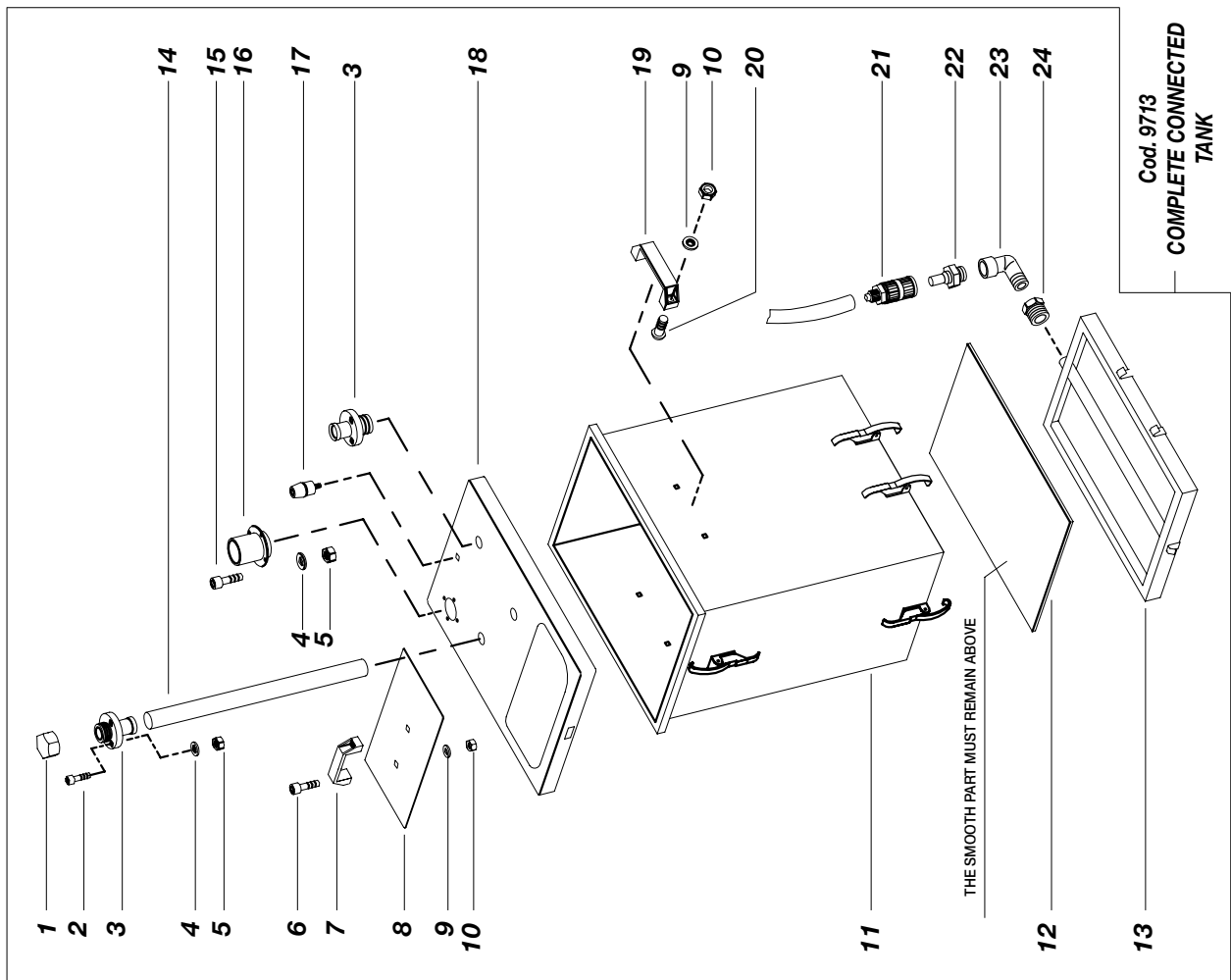
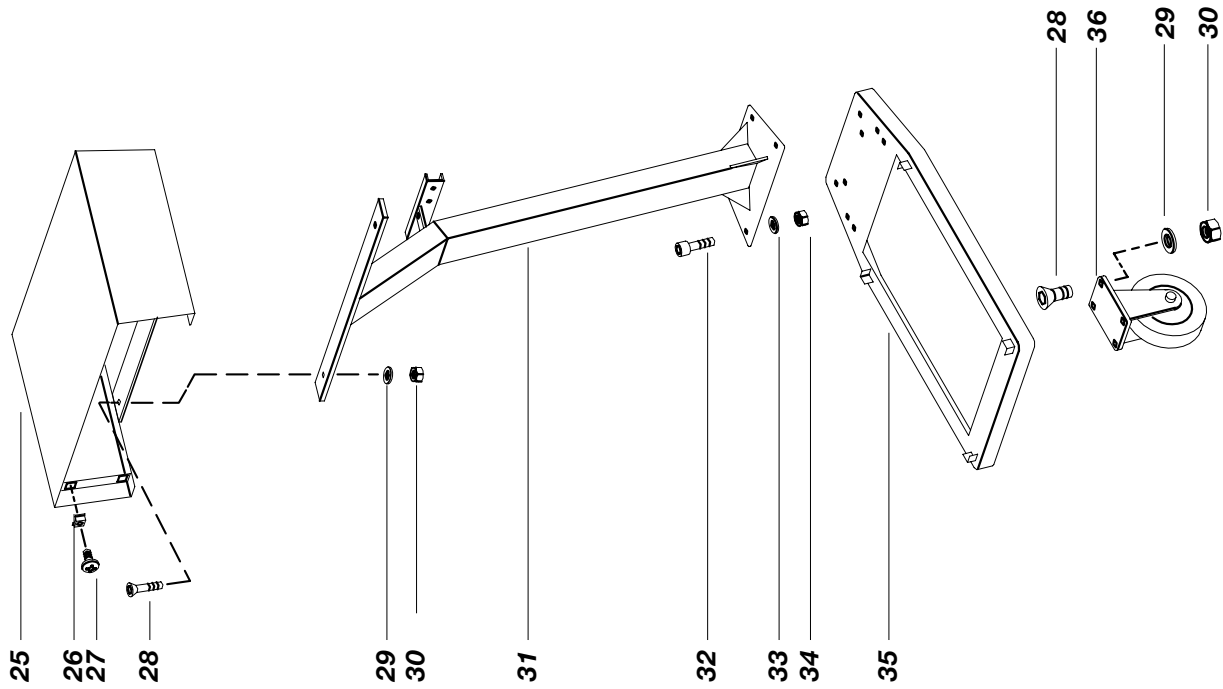
V POWDER DELIVERY PUMP SPARE PARTS
REF.5505
page 38

L TROLLY FRAME AND TANK CH200-AD
page 23



L TROLLEY FRAME AND TANK REF.5580

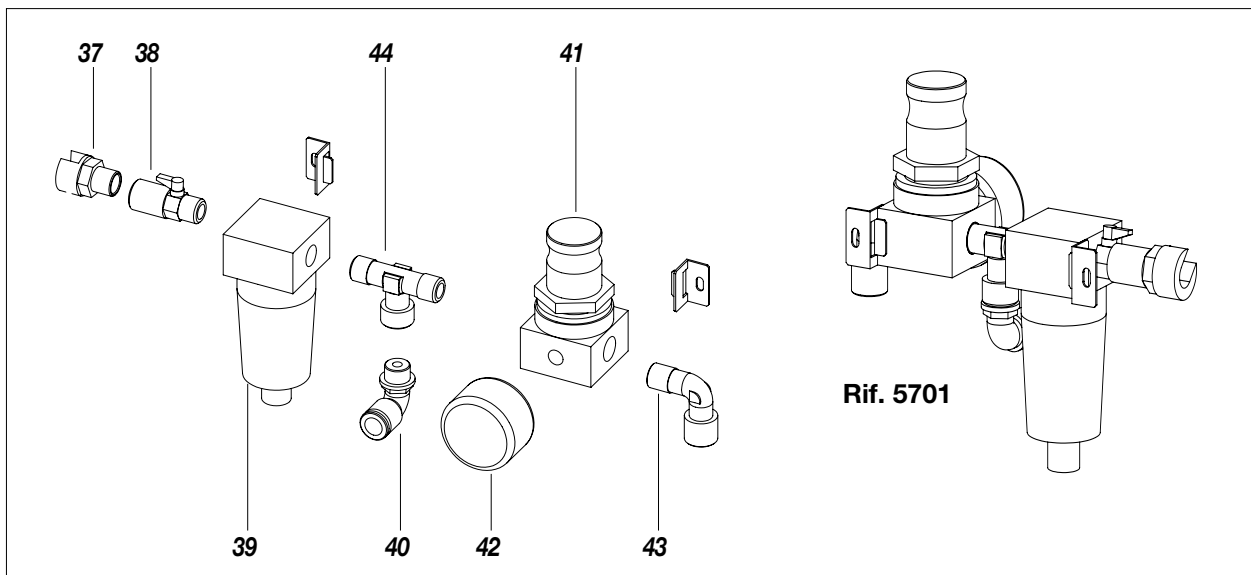
WARNING: Always indicate code and quantity for each part required.





Pos.	Code	Description	Q. ty
	9713	Complete connected tank	
	5580	Trolley frame and tank	
1	5572	Cap	1
2	5379	Screw	2
3	5337	Pump coupling flange	3
4	5339	Washer	13
5	5114	Nut	13
6	54004	Screw	2
7	5570	Handle	1
8	5874	Door	1
9	32005	Washer	6
10	91026	Nut	6
11	5872	Tank	1
12	5563	Porous septum	1
13	5873	Tank base	1
14	5568	Powder passage tube	1
15	5378	Screw	10
16	5567	Powder recovery sleeve	1
17	5566	Grounding terminal	1

Pos.	Code	Description	Q. ty
18	5871	Tank cover	1
19	32003	Handle	2
20	5571	Screw	4
21	5254	Female quick coupling	1
22	5256	Male quick coupling	1
23	5255	Elbow fitting	1
24	5258	M-F Reducer	1
25	5875	Generator cover	1
26	5778	Nut	1
27	5594	Screw	4
28	5583	Screw	10
29	95063	Washer	10
30	91026	Nut	1
31	5876	Generator support	1
32	32004	Screw	4
33	32024	Washer	4
34	52017	Nut	4
35	5870	Trolley base	1
36	5582	Wheel	4

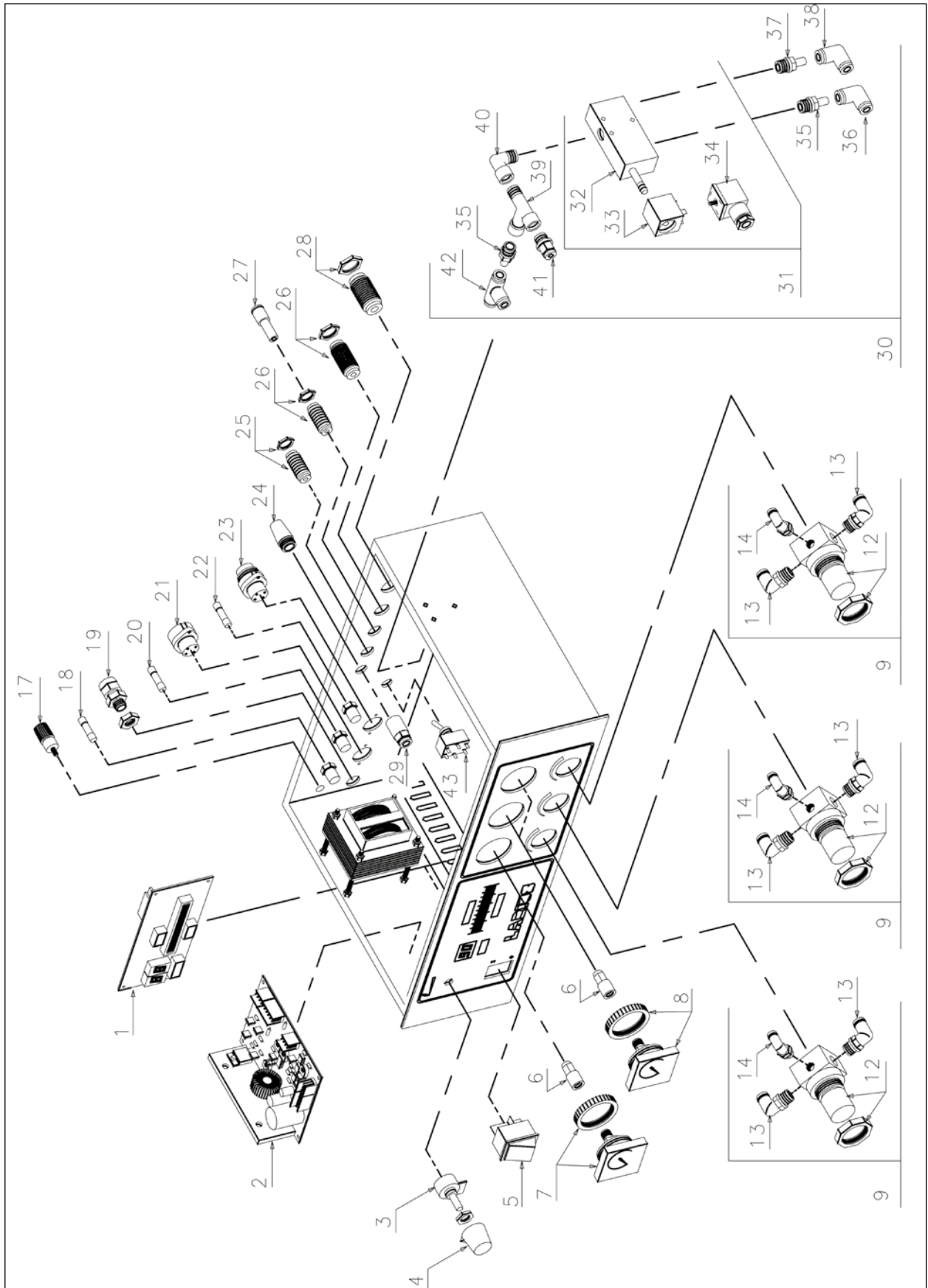


Pos.	Code	Description	Q. ty
	5701	Complete air filter-regulator unit	
37	3338	Fitting with 1/4 bayonet connection	1
38	4004	Ball valve 1/4	1
39	5271	Air filter	1
40	5549	Elbow fitting with quick coupling	1

Pos.	Code	Description	Q. ty
41	3344	Air regulator	1
42	8167	Pressure gauge	1
43	5314	Elbow fitting for tube d.8	1
44	3358	1/4" "T" fitting	1

M ELECTRO-PNEUMATIC GENERATOR

WARNING: Always indicate code and quantity for each part required.





Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
-	5920	Electro-pneumatic generator preset for CH 200 spray gun and Larius Tribo	-	22	9149	Fuse 1A	1
				23	5937	Connector for fixing automatic control cable	1
-	5101	Electro-pneumatic generator preset for CH 200 spray gun	-	24	4018	Silencer	1
				25	5349	Fitting for tube ø 6	
-	5922	Electro-pneumatic generator preset for Larius Tribo spray gun	-	26	5348	Fitting for tube ø 8	1
				27	5676	Fitting for tube ø 6	1
1	9151	Display board	1	28	5347	Fitting for tube ø 10	1
2	5603	Data processing board for CH 200	1	29	22016	1/4" Fitting for tube ø 8	1
	5925	Data processing board for CH 1200 and Tribo	1	30	5609	Solenoid valve complete with coil, connector, fittings	1
	5927	Data processing board for tribo-electric	1	31	5649	Solenoid valve complete with coil and connector	1
3	5931	Potentiometer	1	32	5353	Solenoid valve	1
4	5932	Potentiometer knob	1	33	5627	Solenoid coil	1
5	5933	ON-OFF switch	1	34	5628	Solenoid coil connector	2
6	5346	1/8" Fitting for tube ø 4	3	35	510019	1/4" Fitting ø 8	1
7	5341	Pressure gauge 0-6 bar	3	36	4039	Elbow for tube ø 8	1
9	5787	Regulator complete with fittings	3	37	5597	1/4" Fitting ø 10	1
				38	5359	Elbow for tube ø 10	3
				39	8032	1/4" fitting	1
12	5789	Air regulator 0-4 bar	3	40	5255	1/4 Elbow fitting	2
13	22015	1/4" Revolving elbow fitting tube ø 8	6	41	4006	1/4" Fitting for tube ø 8	1
				42	510020	"T" Fitting for tube ø 8	1
14	22014	1/8" Revolving elbow fitting tube ø 4	3	43	5935	Tribo-corona switch	
17	5566	Grounding terminal	1				
18	5158	Fuse 3.15 A	1				
19	5934	Power supply cable gland clamp	1				
20	9148	Fuse 2 A	1				
21	5936	Spray gun cable fixing connector	1				
			1				



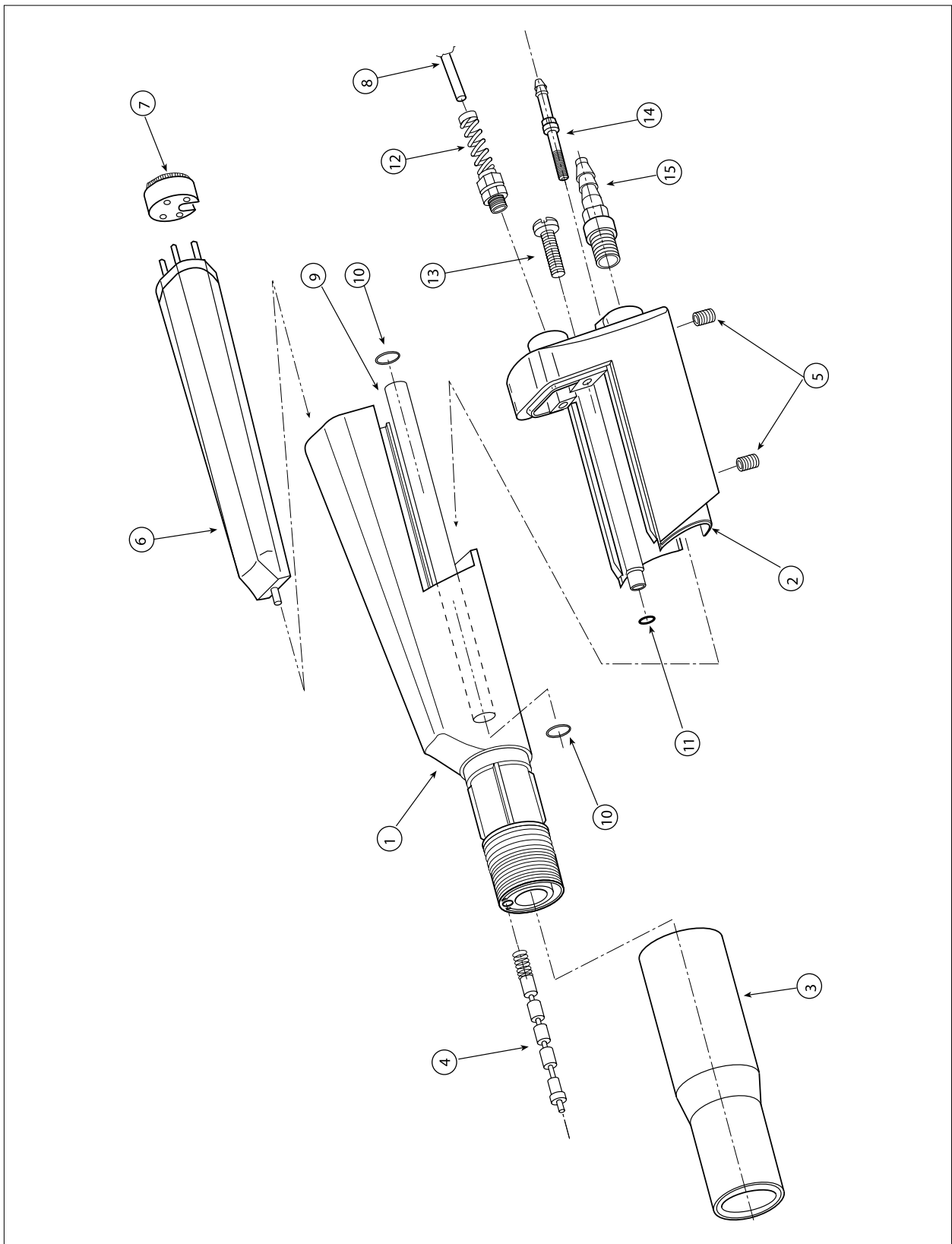
Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
	9700	CH 200 manual Spray Gun	1	14	9803	Screw	1
1*	9752	Handgrip	1	15	9770	Electric resistance assembly	1
2*	9756	Grounding cover	1	16	9779	Ring nut	1
3*	9755	Terminal block	1	17	95326	O-ring	1
4*	9849	cable gland	1	18	9772	Powder passage tube	1
5	9762	Air passage tube fixing connection	1	19*	9761	Air tube	1
				20	4077	O-ring	1
6	9760	Powder passage tube fixing connection	1	21*	9763	Complete trigger	1
				22	9765	Trigger	1
7*	9819	Screw	1	23	5055	Magnet	1
8	9820	Multiplier	1	24	9792	Spring	1
9	9832	Connector	1	25	9764	Trigger support	1
10	9754	Check glass	1	26	9766	Trigger pin	1
11	9753	Rear cap	1	27	9769	Reed sensor	1
12	9703	Complete rear cap	1	28*	9900	Cable	1
13	9751	Complete front body	2				

* Complete handgrip code 9945



0 SPARE PARTS FOR AUTOMATIC GUN CH 200 REF. 9705

ATTENTION: for each part required always indicate the code and quantity.





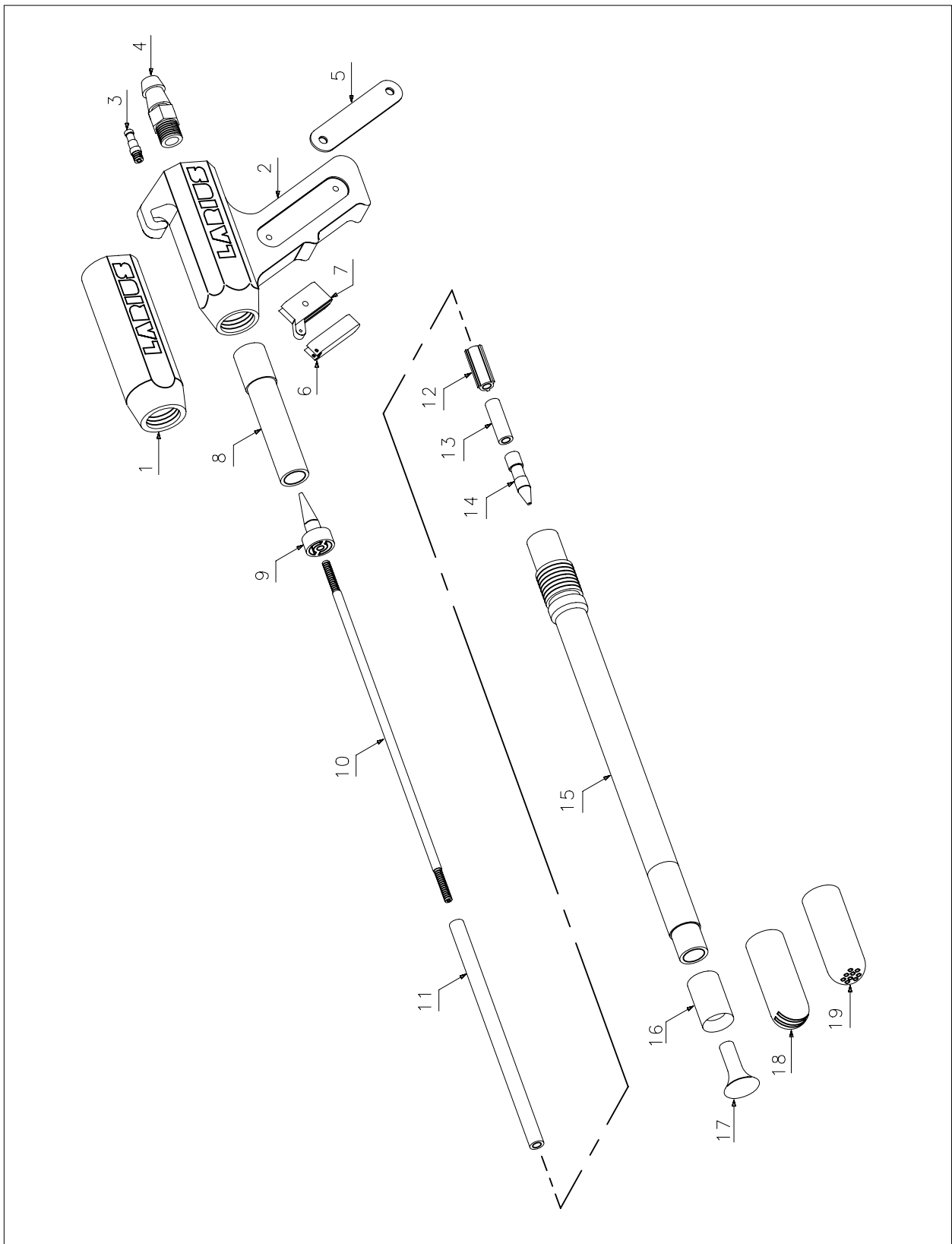
Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
	9705	Automatic spray gun	-	8	9900	Cable	1
1*	9751	Complete front body	1	9	9802	Powder passage tube	2
2*	9801	Rear cap	1	10	95326	O-ring	1
3*	9779	Ring	1	11	4077	O-ring	1
4*	9770	Electric resistance assembly	4	12	9849	Cable gland	2
5	5546	Threaded inserts	1	13	9803	Screw	1
6	9820	Multiplier	1	14	9804	Air fitting	1
7*	9832	Connector	1	15	5529	Powder inlet fitting	1

* Complete rear cap code 9950



P SPARE PARTS FOR AUTOM. AND MANUAL TRIBO SPRAY GUN

ATTENTION: for each part required always indicate the code and quantity.





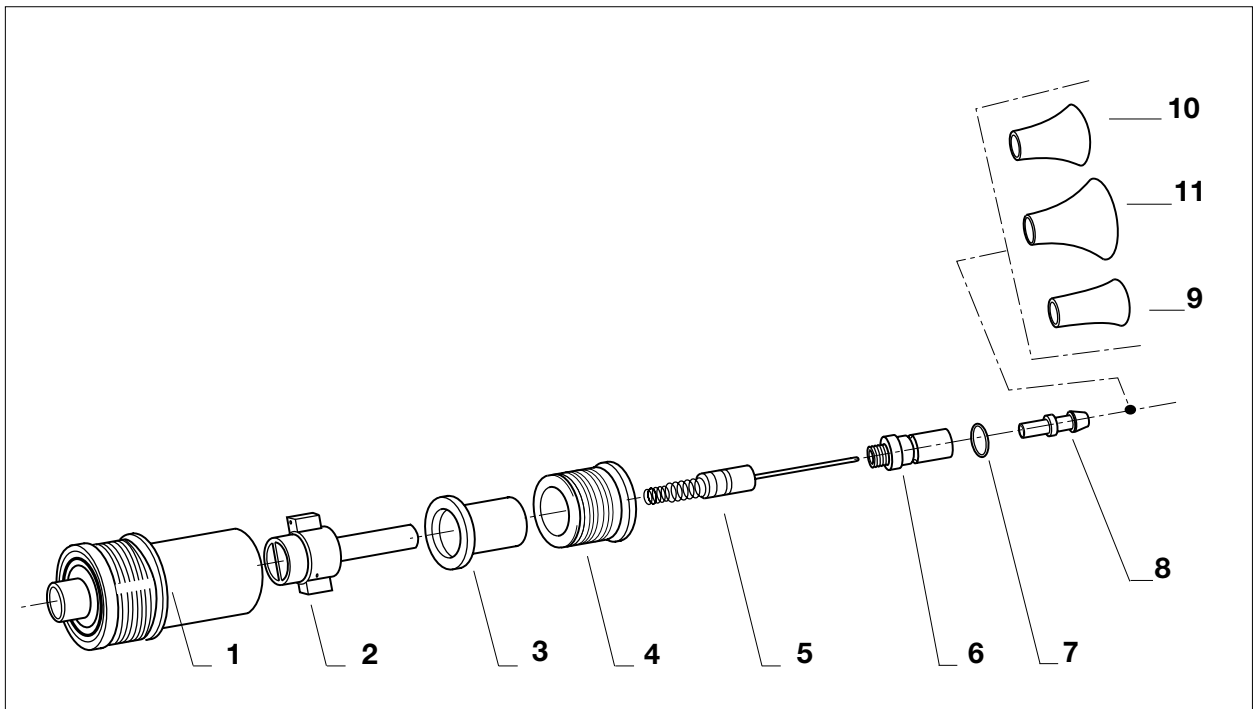
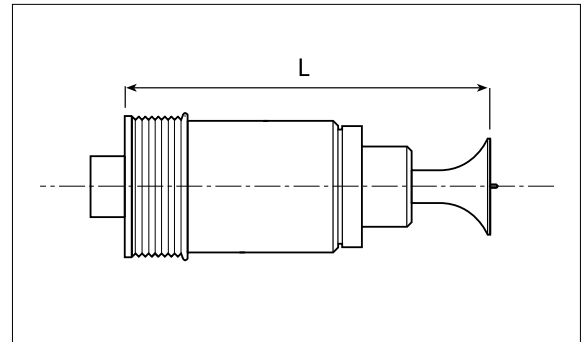
Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
-	15200	Manual triboelectric spray gun	-	10	15262	Central rod length 400 mm	1
-	15203	Automatic triboelectric spray gun	-	11	15237	Tube	1
1	15211	Automatic spray gun body	1	12	15223	Spacer	1
2	15260	Manual spray gun body	1	13	15224	Tube	1
3	15226	Air passage tube fixing connection	1	14	15216	Diffuser holder fitting	1
4	15225	Powder passage tube fixing connection	1	15	15280	Complete charging tube	1
5	15268	Grounding plate	2	16	15298	Bush for cone jet nozzle	1
6	15264	Trigger lever	1	17	15297	Diffuser diameter 22mm	1
7	15265	Trigger body	1	17	15296	Diffuser diameter 26 mm	1
8	15220	Diffuser	1	18	15290	Flat jet nozzle	1
9	15217	Spacer cone	1	18	15293	30° flat jet nozzle	*
				19	15295	Nozzle with holes for round jet	*
					15221	Nozzle with 1 flat notch	*

* Upon request



Q CONE JET NOZZLE SPARE PARTS FOR CH 200

L (mm)	Code	Description
90	9715	Standard nozzle

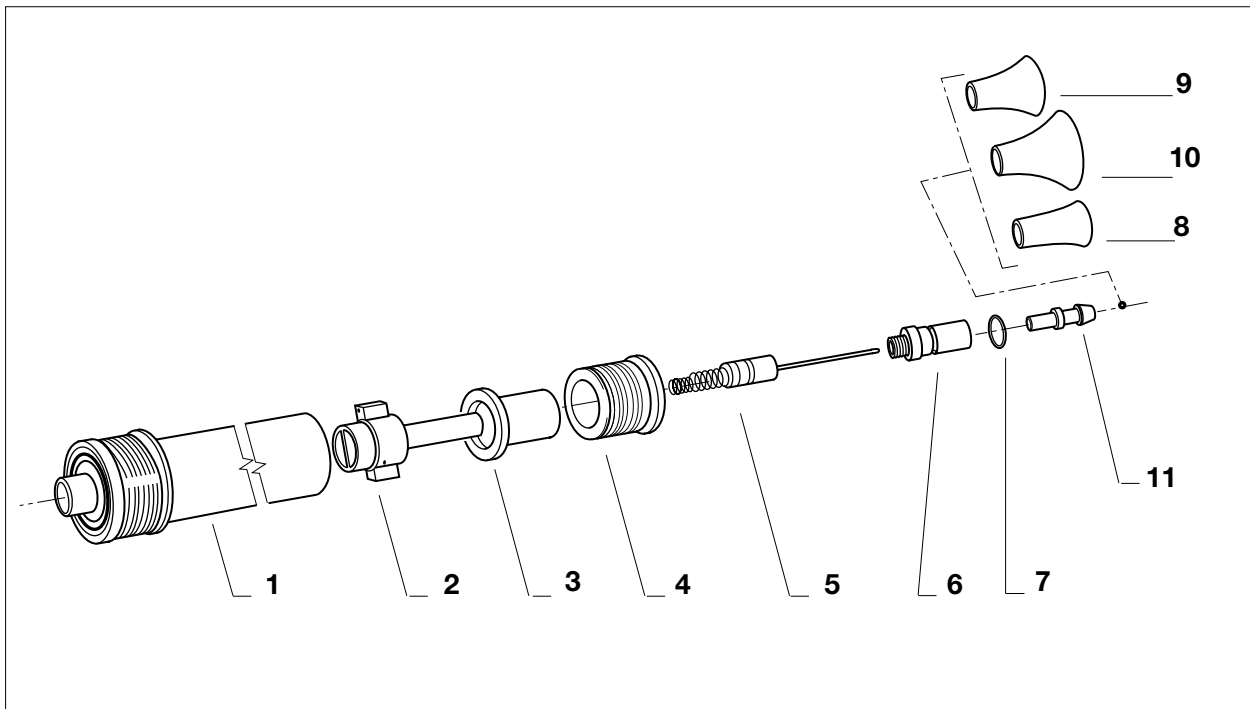
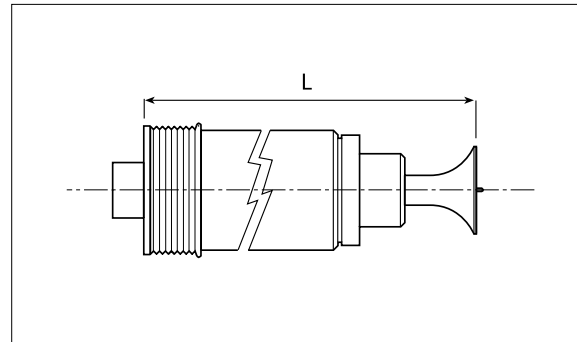


Pos.	Code	Description	Pos.	Code	Description
1	9865	Complete nozzle body (standard)	7	9895	O-ring
2	9866	Complete electrode holder	8	9857	Air diffuser
3	9861	Bushing	9	9858	Diffuser \varnothing 16
4	9862	Ring	10	9859	Diffuser \varnothing 24
5	9855	Complete electrode	11	9860	Diffuser \varnothing 32
6	9856	Diffuser holder tip			



R SPARE PARTS FOR CONE JET NOZZLE WITH EXTENSION FOR CH 200

L (mm)	Code	Description
160	9720	Medium nozzle
310	9725	Long nozzle
570	9730	Extra-long nozzle

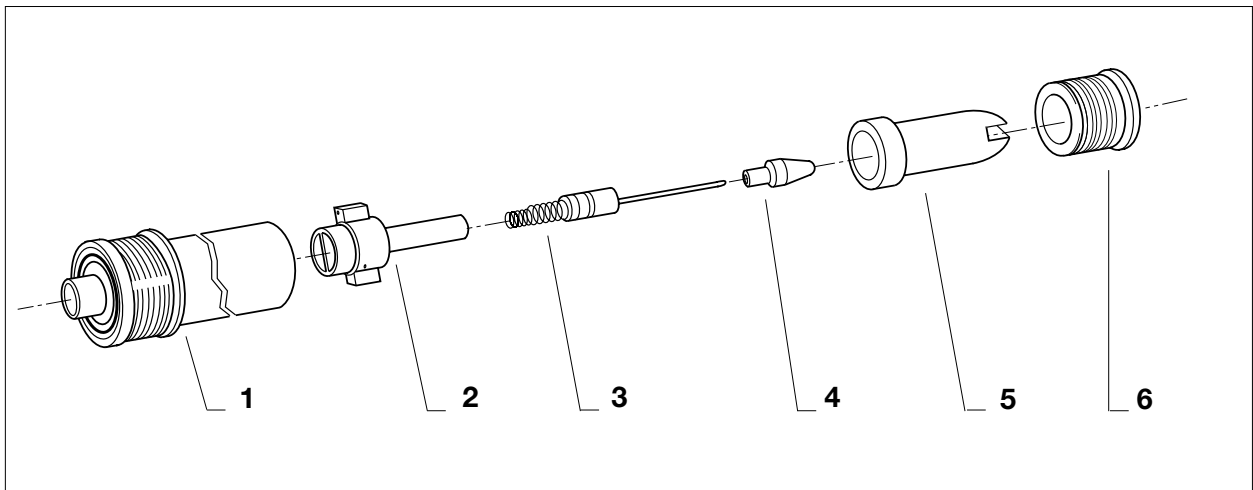
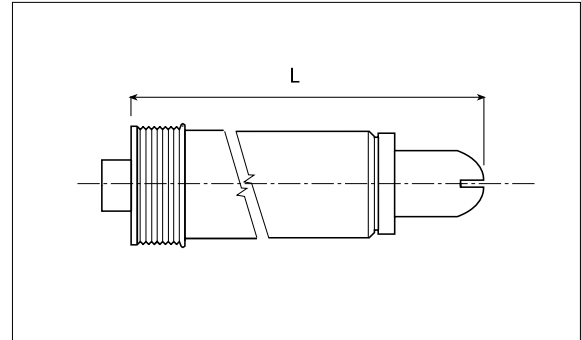


Pos.	Code	Description	Pos.	Code	Description
1	9885	Complete nozzle body (medium)	6	9856	Diffuser holder tip
1	9886	Complete nozzle body (long)	7	9895	O-ring
1	9887	Complete nozzle body (extra long)	8	9858	Diffuser \varnothing 16
2	9866	Complete electrode holder	9	9859	Diffuser \varnothing 24
3	9861	Bushing	10	9860	Diffuser \varnothing 32
4	9862	Ring nut	11	9857	Air diffuser
5	9855	Complete electrode			



S FAN NOZZLE SPARE PARTS FOR CH 200

L (mm)	Code	Description
90	9735	Standard nozzle
160	9740	Medium nozzle
310	9745	Long nozzle
570	9750	Extra-long nozzle

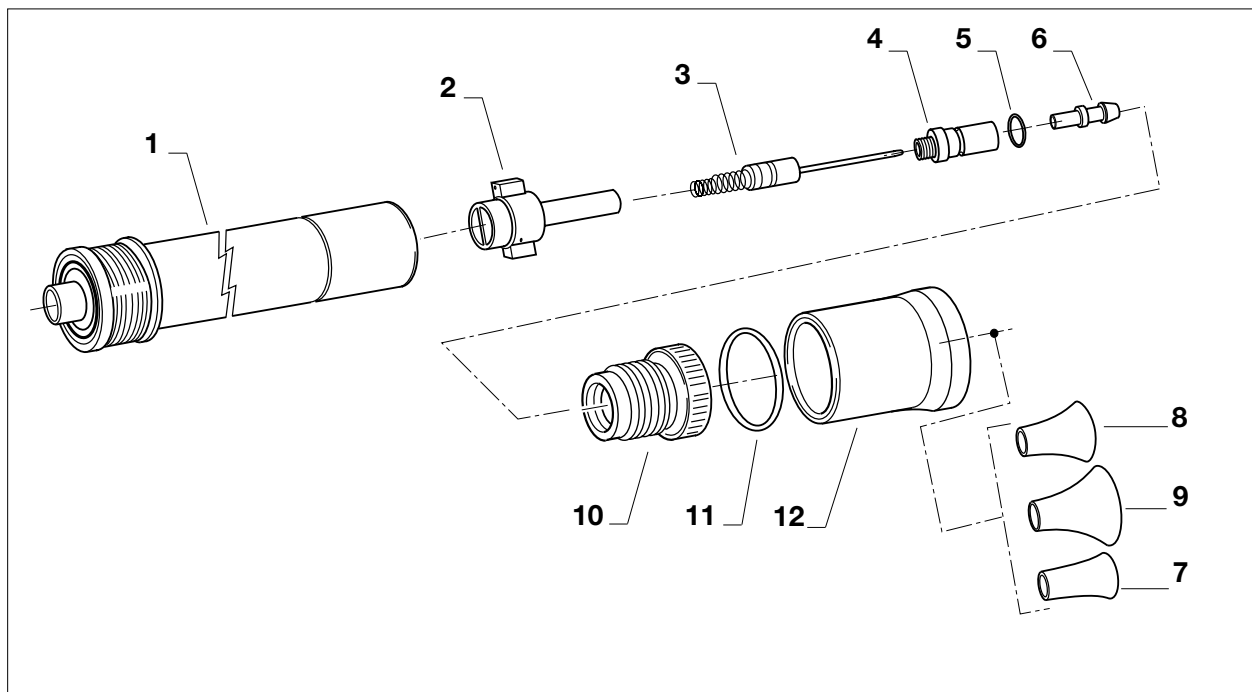
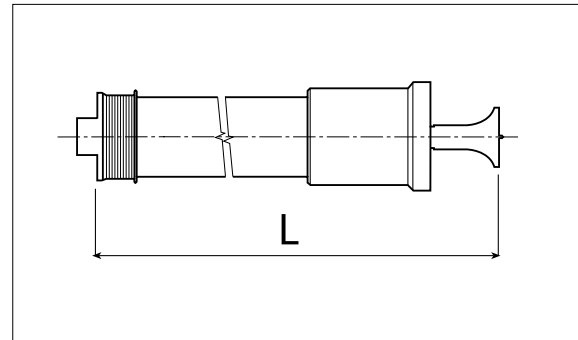


Pos.	Code	Description	Pos.	Code	Description
1	9855	Standard nozzle body	3	9890	Complete electrode
1	9885	Complete nozzle body (medium)	4	9891	Tip
1	9886	Complete nozzle body (long)	5	9892	Fan nozzle
1	9887	Complete nozzle body (extra long)	6	9862	Ring
2	9866	Complete electrode holder			



T HIGH PERFORMANCE NOZZLE SPARE PARTS FOR CH 200

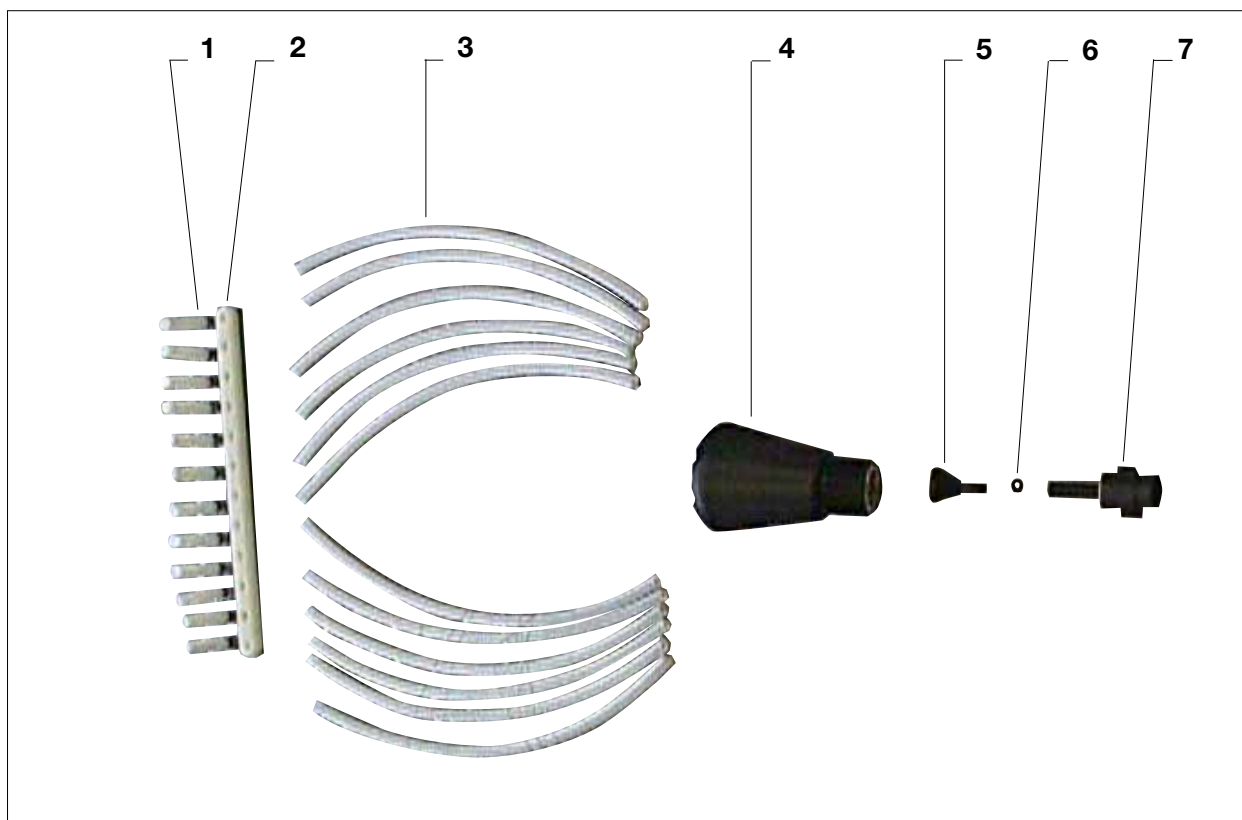
L (mm)	Code	Description
150	9815	Medium nozzle
300	9816	Long nozzle
560	9817	Extra-long nozzle



Pos.	Code	Description	Pos.	Code	Description
1	9920	Complete nozzle body (medium)	6	9857	Air diffuser
1	9921	Complete nozzle body (long)	7	9858	Diffuser \varnothing 16
1	9922	Complete nozzle body (extra long)	8	9859	Diffuser \varnothing 24
2	9923	Complete electrode holder	9	9860	Diffuser \varnothing 32
3	9855	Complete central electrode	10	9925	Rheophore support
4	9856	diffuser support	11	11105	O-ring
5	9895	O-ring	12	5832	Jet adjustment bush



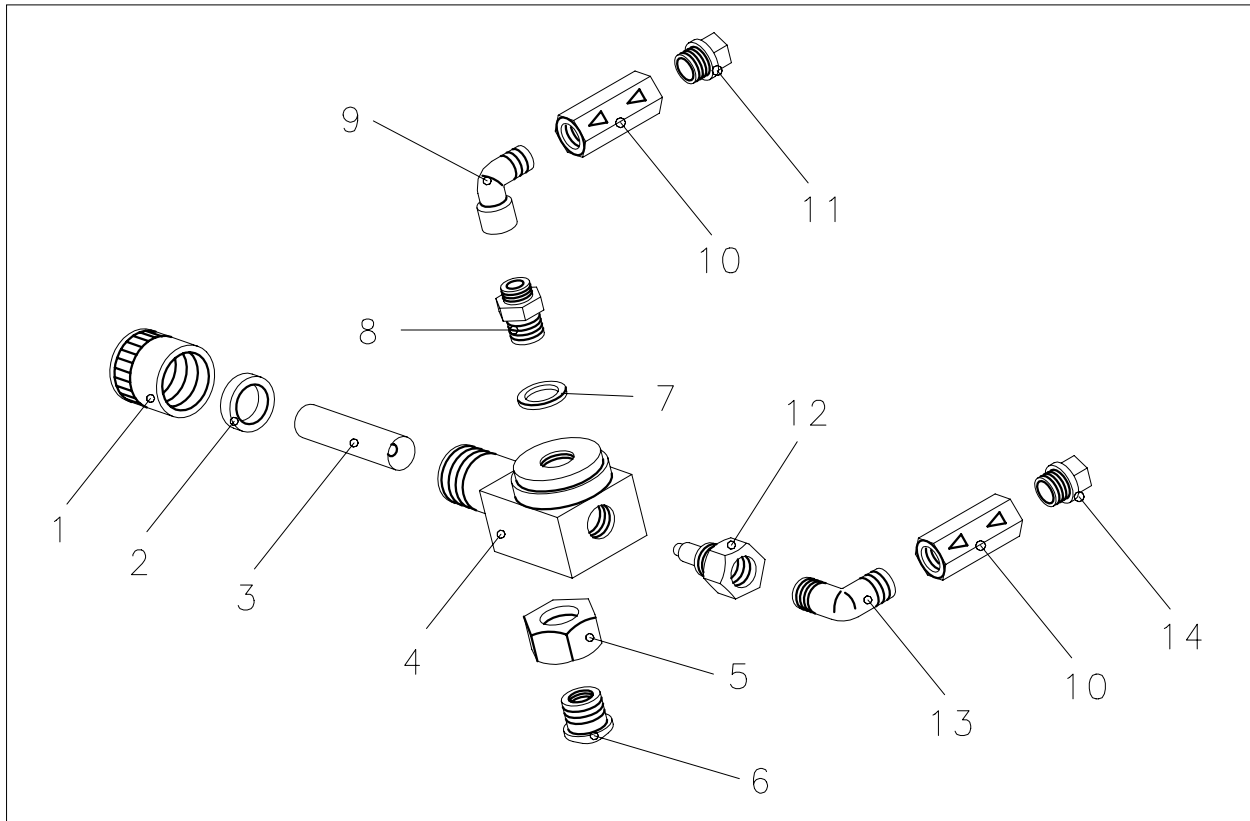
U MULTI-DIFFUSION NOZZLE SPARE PARTS FOR CH 200



Pos.	Code	Description	Pos.	Code	Description
	9930	Complete multi-diffusion nozzle	2	9934	Tube supports
1	9936	Standard diffuser body 12 pcs.	3	9935	Series of tubes (specify number of pcs. required)
1	9937	Diffuser body with a central notch (upon request)	4	9955	Complete nozzle body
1	9938	Diffuser body with two 30° inclined notches (upon request)	5	9933	Conical diffuser
1	9939	Diffuser body with two 60° inclined notches (upon request)	6	9940	O-ring
			7	9956	Complete nozzle contact



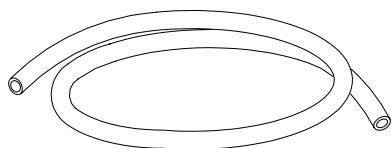
V POWDER DELIVERY PUMP SPARE PARTS REF. 9975



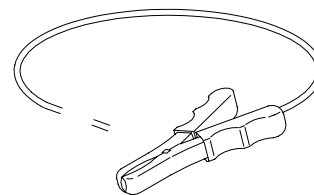
Pos.	Code	Description	Pos.	Code	Description
1	5297	Ring nut	8	5294	Fitting
2	5298	Ring	9	5255	1/4" Elbow M-F
3	9977	Venturi tube (Delrin)	10	9902	Unidirectional valve
	9977	Venturi tube (hard metal)	11	5313	Fitting for tube ø6
4	9976	Body	12	5288	Fitting
5	5291	Ring nut	13	3365	1/4" Elbow M-M
6	5290	Ogive	14	5312	Fitting for tube ø 8
7	32010	Washer			



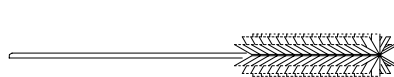
Z ACCESSORIES



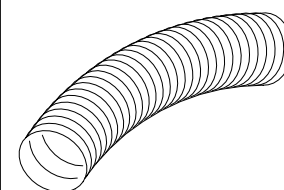
Code 5243:
POWDER PASSAGE TUBE (PER METRE)



Code 5010:
GROUNDING CABLE



Code 5518:
BRUSH FOR CLEANING CH 200 SPRAY
GUN



Code 5573:
VENT TUBE (PER METRE)



LARIUS srl

Via Antonio Stoppani 21 - 23801 Calolziocorte (LC) ITALY
TEL. +39 0341 621152 - Fax +39 0341 621243 - larius@larius.com

www.larius.com

