

NOVA MIX 2K

For 2 component applications

Certified stainless steel pump Atex Ex II 2G c IIB T6

OPERATING AND MAINTENANCE INSTRUCTION



LARIUS[®]

PAINT SPRAYING EQUIPMENT

ENGLISH



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

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.

LARIUS®

MULTICOMPONENT SYSTEM









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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.

	<p>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.</p>
	<p>It indicates an accident risk or serious damage to equipment if this warning is not followed.</p>
	<p>FIRE AND DANGER OF EXPLOSIONS Flammable fumes, such as solvent and paint fumes, may burst into flames or explode. To prevent the risks of fire or explosion:</p> <ul style="list-style-type: none"> - ONLY use this equipment in a well ventilated area. Earth all the equipment located in the work area. - Eliminate all sources of sparks, such as pilot flames, cigarettes, portable electric torches, synthetic clothing (potential static arc) etc. - Connect the equipment and all the conductive devices in the working area to ground. - Use only conductive airless hoses and connect them to ground. - Do not use trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurised aluminium equipment. Using these substances may cause a dangerous chemical reaction with the possibility of explosion. - Do not form connections or switch light switches on or off if the air contains inflammable fumes. <p>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.</p>
	<p>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.</p>
	<p>Report any risk of chemical reaction or explosion if this warning has not been given. 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. Do not spray before the guard has been placed over the nozzle and the trigger on the spray gun. Do not put your fingers in the spray gun nozzle. Once work has been completed, before carrying out any maintenance, complete the decompression procedure explained in this manual.</p>
	<p>It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.</p>
	<p>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 earthed and that it complies with safety standards. The high-pressure fluid that comes out of the gun or from possible leaks may cause injections into the body. To prevent the risks of fire or injection:</p> <ul style="list-style-type: none"> - Use the safety lock of the gun trigger when you are not spraying. - Do not place your hands or fingers on the gun nozzle. Do not attempt to stop leaks with your hands, body or anything else. - Do not aim the gun at yourself or anyone else. - Do not spray without the special nozzle protection. - Release the system pressure after spraying and before any maintenance operation. - Do not use components whose operating pressure is lower than the maximum system pressure. - Do not allow children to use the equipment. - Pay the utmost attention to possible recoil when pulling the gun trigger. <p>If the high-pressure fluid penetrates the skin, the wound may appear to be just a "simple cut", but may actually be a very serious injury. Immediately medicate the injured part.</p>
	<p>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.</p>

ATTENTION

BEFORE USING THE LARIUS MIX 2K EQUIPMENT



- The operator must possess and be familiar with the data sheets of the 2 components (A and B).



- The operator must be familiar with the characteristics of both the wash fluid to be used with the catalyser B, and the wash fluid to be used with the product A.



- The catalyser and its relative circuit must never be cleaned with incompatible liquids.

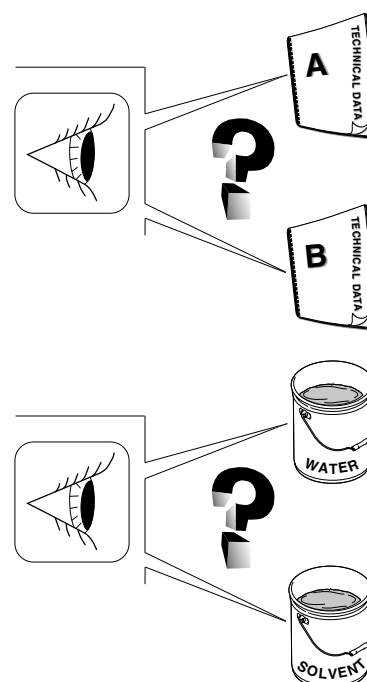
- Make sure that: if the product to be used is water-based, the relative circuit within the machine is cleaned using water. If, on the other hand, the product to be used is solvent-based, the relative circuit must be cleaned using a solvent.



LARIUS srl SHALL BEAR NO RESPONSIBILITY FOR ANY EVENTUAL DAMAGES DERIVING FROM THE USE OF WASH FLUIDS INCOMPATIBLE WITH PRODUCTS A AND/OR B.



LARIUS srl SHALL BEAR NO RESPONSIBILITY FOR ACCIDENTS OR MALFUNCTIONS DERIVING FROM LACK OF FAMILIARITY WITH THE DATA SHEETS AND THE PRODUCTS UTILISED OR RESULTING FROM THE USE OF PRODUCTS WHICH ARE NOT COMPATIBLE WITH ONE ANOTHER.



A WORKING PRINCIPLE

The **LARIUS NOVA MIX 2K** is a bi-component mixing machine. It therefore provides for the dosage, mixture and application of bi-component products.

This machine allows the user to work in high pressure with manual or automatic spray-guns.

The dosing and the mixing of the components are regulated by an electronic control system. The hydraulic unit contains two flowmeters which regulate the input of the two components into the mixing lines. It is here, thanks to a static mixer, that the mixing of the products takes place.

The machine is made up of 4 main units:

- The pump for the components unit
- The hydraulic mixing unit
- The command and control unit
- Equipment supply

ADVANTAGES OF USING THE LARIUS MIX 2K

- Increased product savings and consequent waste disposal savings.
- "Ecological" painting: performed in complete respect for the working and external environment – Quick drying (*even without a drying oven*).

- High quality finish – Less use of paint thinners during cleaning phases.
- Increased resistance with respect to mono-component paints.
- A product mixed at the moment is easier to lay.
- Low solvent consumption for high dry residue of 2-component paint.
- Easy integration in workplace.
- Alarm signals in the event of malfunction.
- Easy and quick cleaning.
- The operator manually mixes paints, catalysers, solvents.
- Paint dries rapidly, even without oven.
- Powers multiple manual-automatic guns simultaneously.
- Only authorised personnel can set machine parameters.

Fields of application: Generic metalworking, Woodworking and Furnishings, Aerospace industry, Plastics, Bicycles and motorcycles, Automobile components, Machines, Painting of furniture, Varnishing, Emulsion painting.

Treatable products:

- Low, medium and high viscosity products.
- Water- and solvent-based products.
- 2-component epoxy paints and primers.
- 2-component polyurethane paints and primers.
- 2-component high solid

B TECHNICAL DATA

Varnish compatibility	Bi-component water-soluble paints – bi-component solvent paints
Mixing ratio % in volume	Min 1:1 - Max 30:1 <i>decimals included</i>
Maximum capacity of mixed product (*)	Max 14 lt/min
Max working pressure	400 bar
Measurement precision	1%
Max intake pressure air	7 bar
Electrical power supply	230 V 50 Hz
Machine working temperature (**)	min. 5°C max. 50°C
Sound pressure level	74 dB
Weight	320 Kg
Width (A)	1000 mm
Lenght (B)	1300 mm
Height (C)	1480 mm

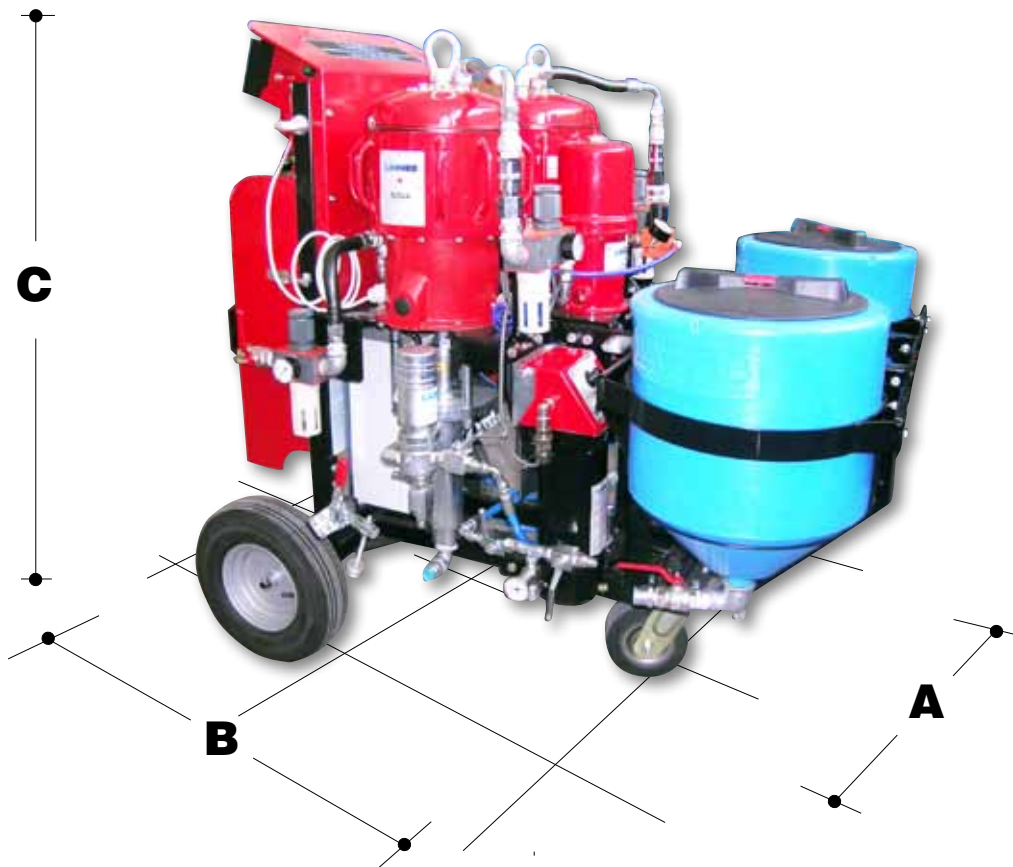
* Based on the characteristics of the paint to be used, the air-pressure supply and the mixing ratio.

** Temperatures refer to the machine, check the data sheets of the products as well.

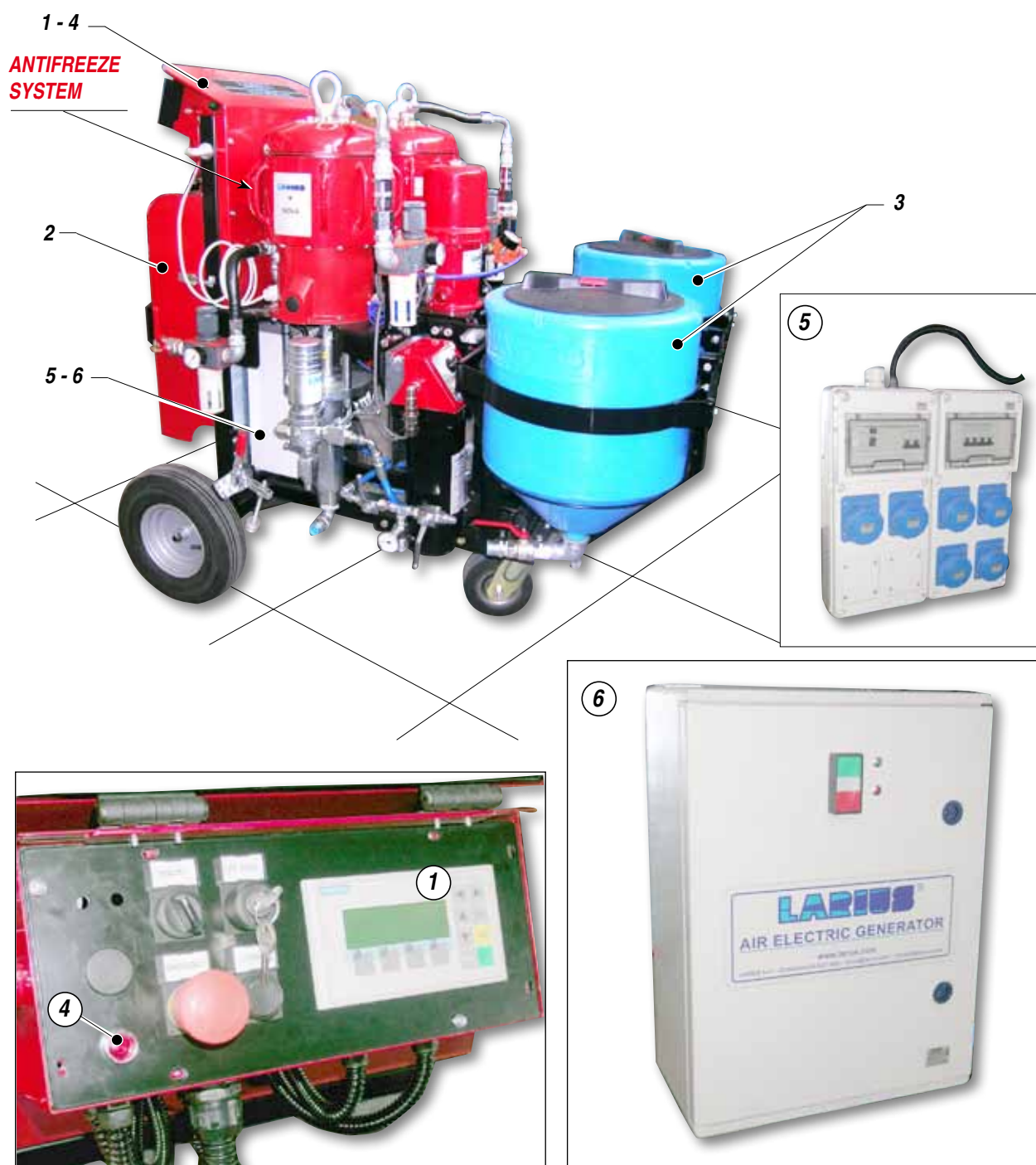
- Pot-Life time alarm.
- Measuring and electronic control of flow and consumption.
- Electronic control of dosage (the control system is not in contact with the product).
- Material in contact with the fluid in stainless steel or winc-coated blows.
- Trolley to facilitate movement.
- 50-litre gravity tank, equipped with an anti-splash cover. made

from non-stick materials ensuring quick and easy cleaning after use.

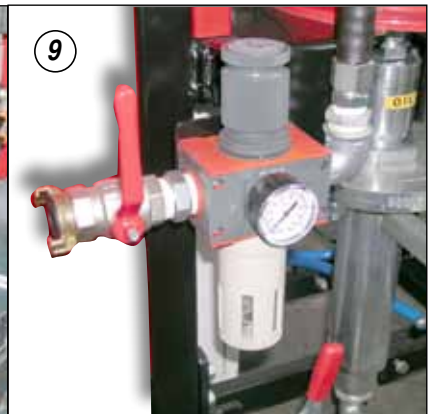
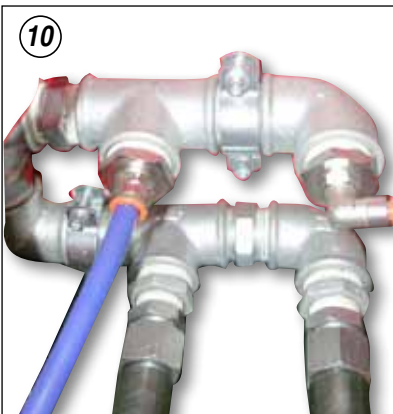
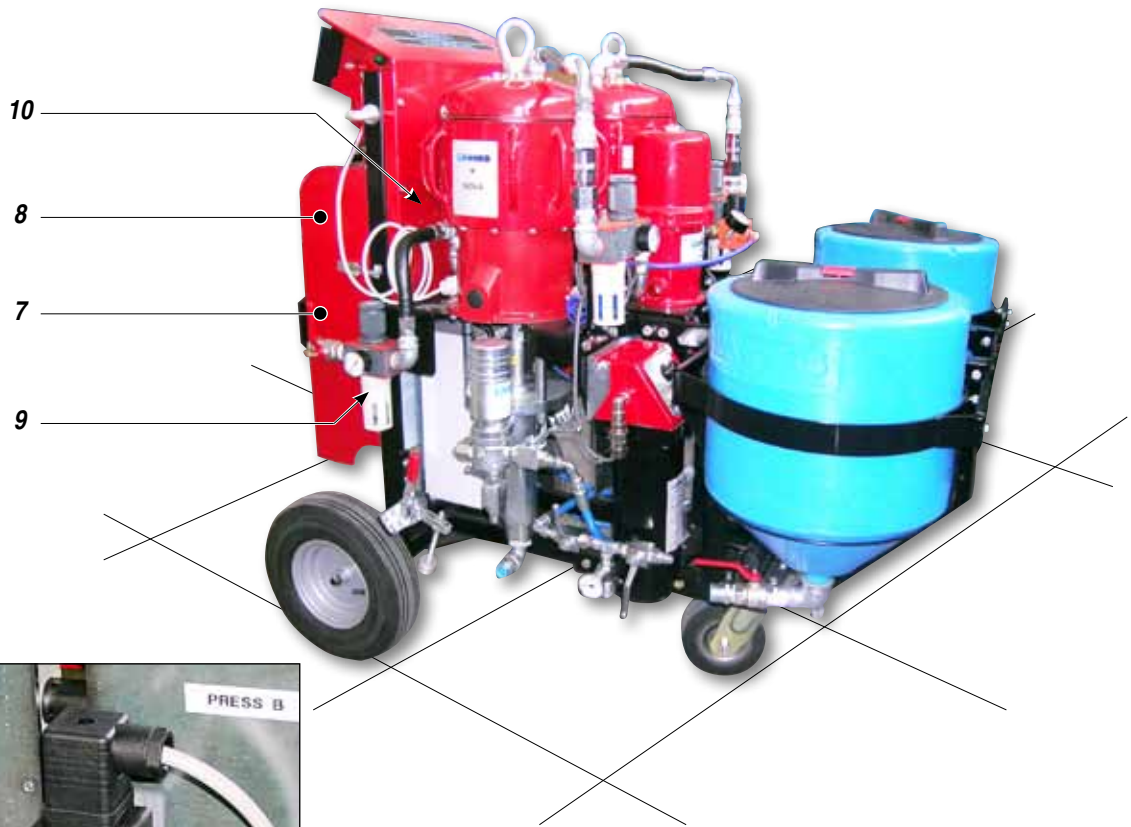
- **Air Electric Generator** allows operation with only the pneumatic feed. Equipped with a battery buffer, the turbine works for 1/5 of the total operation time.
- Larius heater up to 90°: increases the fluidity of the paint without the use of solvents, increase the thickness of the protective film and improves the finishing.



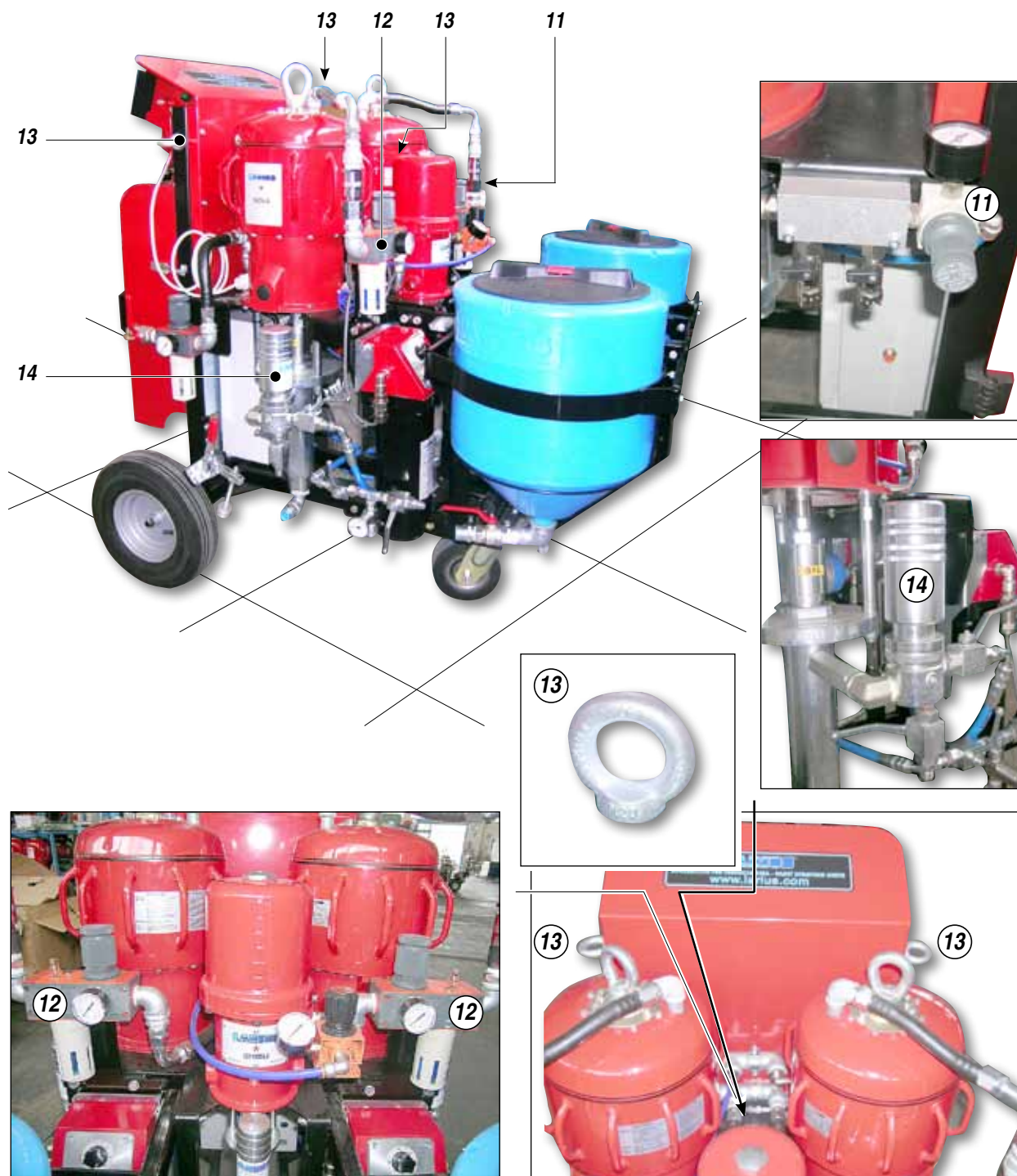
C DESCRIPTION OF THE EQUIPMENT



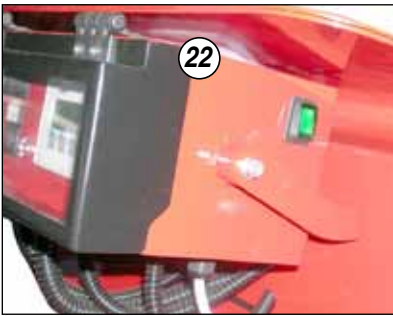
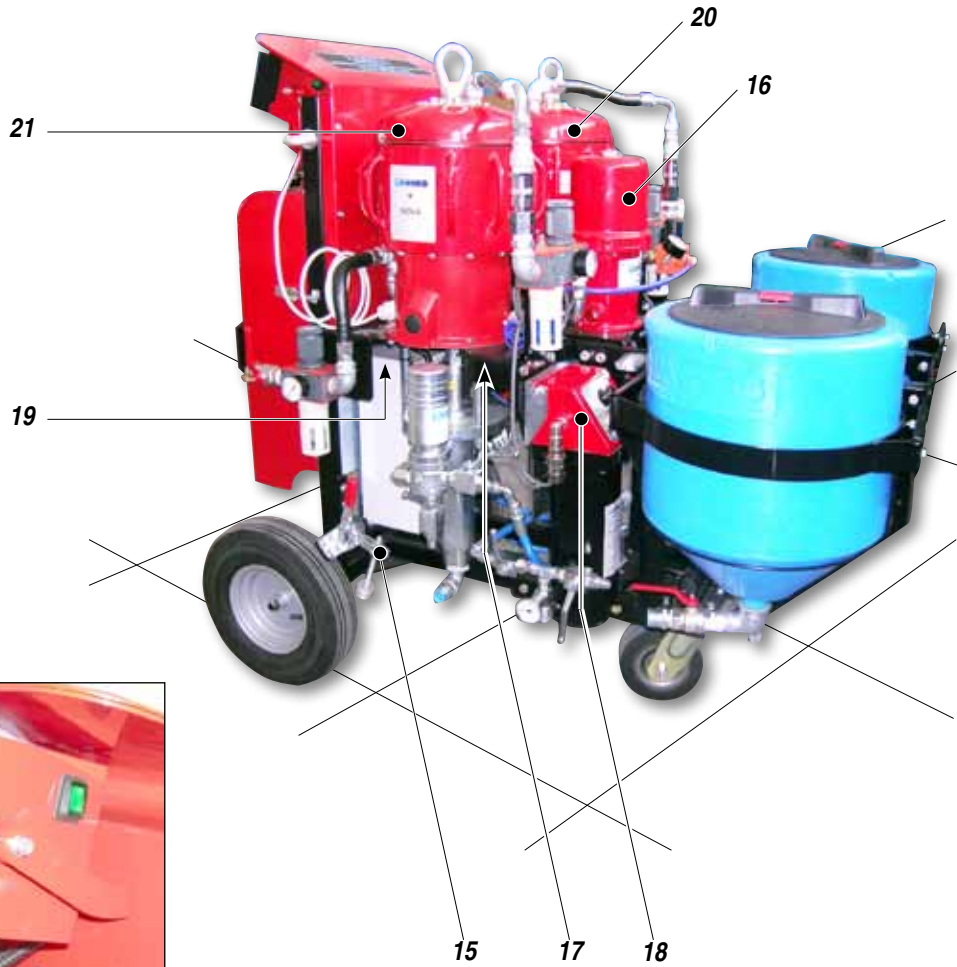
POS.	DESCRIPTION
1	Electronic panel
2	Electro-pneumatic unit
3	A-B components tanks
4	Visual alarm device located on the control panel
5	Power supply panel, electric/pneumatic version
6	Electric generator for pneumatic only version



POS.	DESCRIPTION
7	Mixing head
8	Pressure digital viewer
9	Air filter/regulator
10	Air distribution collectors




POS.	DESCRIPTION
11	Auxiliary air distribution group
12	Air regulators for pump supply
13	Eye bolts for lifting - Note: (Do not use the eye bolts of the pumps to lift the machine)
14	Product filter



POS.	DESCRIPTION
15	Wheel brake
16	Washing pump
17	Air accumulation lung for electro-pneumatic group
18	Component heater A-B
19	Encoder for dosage of components A-B
20	Component pump A
21	Component pump B
22	Comand box

D TRANSPORT AND UNPACKING

- The packed parts should be handled as indicated in the symbols and markings on the outside of the packing.

	<p>Before lifting the machine, check the position of the handle (D1). If necessary, remove the handle or secure it to the structure of the machine (D2)</p>
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LIFTING POINTS

There are no precise lifting points for lifting the machine in its entirety.

In order to determine the most appropriate lifting points, refer to the geometric characteristics of the machine itself.



Make sure that the pull position of the synthetic fibre belt does not interfere with any of the machine's fragile elements which could be damaged from the tension produced during lifting.



All of the operations described in this paragraph must be performed by qualified technicians who have been trained for the task required.
Before lifting and moving the machine, make sure that the equipment being utilised is of an adequate size to bear the weight of the machine and its components.

Do not stand beneath or near the machine while it is being lifted.



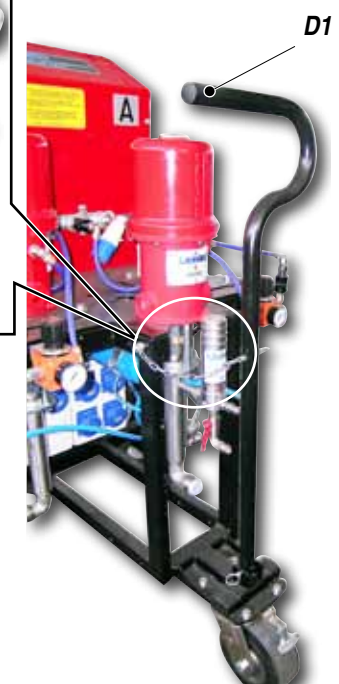
Lift the machine slowly and check that it is properly balanced with respect to its centre of gravity.

While being moved, the machine should only be lifted to the minimum necessary height.

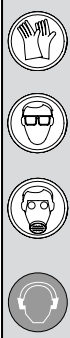
- Before installing the equipment, ensure that the area to be used is large enough for such purposes, is properly lit and has a clean, smooth floor surface.



D2




D1



The user is responsible for the operations of unloading and handling and should use the maximum care so as not to damage the individual parts or injure anyone.
To perform the unloading operation, use only qualified and trained personnel (*truck and crane operators, etc.*) and also suitable hoisting equipment for the weight of the installation or its parts. Follow carefully all the safety rules.
The personnel must be equipped with the necessary safety clothing.


- The manufacturer will not be responsible for the unloading operations and transport to the workplace of the machine.
- Check the packing is undamaged on receipt of the equipment. Unpack the machine and verify if there has been any damage due to transportation. In case of damage, call immediately **LARIUS** and the Shipping Agent. All the notices about possible damage or anomalies must arrive timely within 8 days at least from the date of receipt of the plant through Registered Letter to the Shipping Agent and to **LARIUS**.




The disposal of packaging materials is a customer's competence and must be performed in accordance with the regulations in force in the country where the plant is installed and used. It is nevertheless sound practice to recycle packaging materials in an environment-friendly manner as much as possible.

E SAFETY RULES


- THE EMPLOYER SHALL TRAIN ITS EMPLOYEES ABOUT ALL THOSE RISKS STEMMING FROM ACCIDENTS, ABOUT THE USE OF SAFETY DEVICES FOR THEIR OWN SAFETY AND ABOUT THE GENERAL RULES FOR ACCIDENT PREVENTION IN COMPLIANCE WITH INTERNATIONAL REGULATIONS AND WITH THE LAWS OF THE COUNTRY WHERE THE PLANT IS USED.
- THE BEHAVIOUR OF THE EMPLOYEES SHALL STRICTLY COMPLY WITH THE ACCIDENT PREVENTION AND ALSO ENVIRONMENTAL REGULATIONS IN FORCE IN THE COUNTRY WHERE THE PLANT IS INSTALLED AND USED.



Read carefully and entirely the following instructions before using the product. Please save these instructions in a safe place.




The unauthorised tampering/replacement of one or more parts composing the machine, the use of accessories, tools, expendable materials other than those recommended by the manufacturer can be a danger of accident.




The manufacturer will be relieved from tort and criminal liability.


- KEEP YOUR WORK PLACE CLEAN AND TIDY. DISORDER WHERE YOU ARE WORKING CREATES A POTENTIAL RISK OF ACCIDENTS.
- ALWAYS KEEP PROPER BALANCE AVOIDING UNUSUAL STANCE.
- BEFORE USING THE TOOL, ENSURE THERE ARE NOT DAMAGED PARTS AND THE MACHINE CAN WORK PROPERLY.
- ALWAYS FOLLOW THE INSTRUCTIONS ABOUT SAFETY AND THE REGULATIONS IN FORCE.
- KEEP THOSE WHO ARE NOT RESPONSIBLE FOR THE EQUIPMENT OUT OF THE WORK AREA..
- **NEVER** EXCEED THE MAXIMUM WORKING PRESSURE INDICATED.
- **NEVER** POINT THE SPRAY GUN AT YOURSELVES OR AT OTHER PEOPLE. THE CONTACT WITH THE CASTING CAN CAUSE SERIOUS INJURIES.
- IN CASE OF INJURIES CAUSED BY THE GUN CASTING, SEEK IMMEDIATE MEDICAL ADVICE SPECIFYING THE TYPE OF THE PRODUCT INJECTED. **NEVER** UNDERVALUE A WOUND CAUSED BY THE INJECTION OF A FLUID.
- ALWAYS DISCONNECT THE SUPPLY AND RELEASE THE PRESSURE IN THE CIRCUIT BEFORE PERFORMING ANY CHECK OR PART REPLACEMENT OF THE EQUIPMENT.
- NEVER MODIFY ANY PART IN THE EQUIPMENT. CHECK REGULARLY THE COMPONENTS OF THE SYSTEM. REPLACE THE PARTS DAMAGED OR WORN.
- TIGHTEN AND CHECK ALL THE FITTINGS FOR CONNECTION BETWEEN PUMP, FLEXIBLE HOSE AND SPRAY GUN BEFORE USING THE EQUIPMENT.
- ALWAYS USE THE FLEXIBLE HOSE SUPPLIED WITH STANDARD KIT. THE USE OF ANY ACCESSORIES OR TOOLING OTHER THAN THOSE RECOMMENDED IN THIS MANUAL, MAY CAUSE DAMAGE OR INJURE THE OPERATOR.
- THE FLUID CONTAINED IN THE FLEXIBLE HOSE CAN BE VERY DANGEROUS. HANDLE THE FLEXIBLE HOSE CAREFULLY. DO NOT PULL THE FLEXIBLE HOSE TO MOVE THE EQUIPMENT. NEVER USE A DAMAGED OR A REPAIRED FLEXIBLE HOSE.





The high speed of travel of the product in the hose can create static electricity through discharges and sparks. The pump is earthed through the earth with sliding chain.


- NEVER SPRAY OVER FLAMMABLE PRODUCTS OR SOLVENTS IN CLOSED PLACES.
- NEVER USE THE TOOLING IN PRESENCE OF POTENTIALLY EXPLOSIVE GAS.


 Always check the product is compatible with the materials composing the equipment (*pump, spray gun, flexible hose and accessories*) with which it can come into contact. Never use paints or solvents containing halogen hydrocarbons (as *the methylene chloride*).

 If these products come into contact with aluminium parts can provoke dangerous chemical reactions with risk of corrosion and explosion.


 IF THE PRODUCT TO BE USED IS TOXIC, AVOID INHALATION AND CONTACT BY USING PROTECTION GLOVES, GOGGLES AND PROPER FACE SHIELDS.




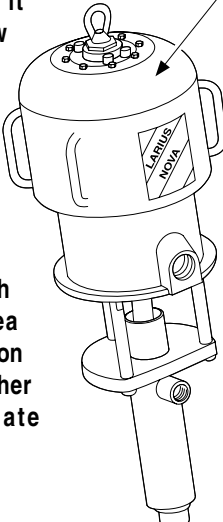


 TAKE PROPER SAFETY MEASURES FOR THE PROTECTION OF HEARING IN CASE OF WORK NEAR THE PLANT.


- MAKE SURE YOU KNOW HOW TO SHUT OFF THE EQUIPMENT IF NECESSARY. INEXPERIENCED USERS SHOULD BE TRAINED TO SAFELY AND PROPERLY USE THE MACHINE BEFORE OPERATING IT.
- KEEP UNAUTHORISED PERSONNEL AWAY FROM THE MACHINE, ABOVE ALL IF A TOXIC PRODUCT IS BEING UTILISED.
- IF NECESSARY, USE WARNING SIGNS TO KEEP ANYONE PRESENT AT A SAFE DISTANCE.
- MAKE SURE THAT THERE IS ALWAYS SOMEONE WITHIN SHOUTING DISTANCE IN CASE AN ACCIDENT SHOULD OCCUR.

 The machine is equipped with an anti-freeze system that allows it to work even at very low temperatures. However, after a few minutes of operation, the upper metal outer surface cools dramatically. Avoid touching the area indicated.

 Contact of the skin with the low-temperature area may cause frostbite. Common working clothes and leather gloves provide adequate protection.



CONDITIONS OF GUARANTEE

 The conditions of guarantee do not apply in the following situations:

- 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.

F SETTING-UP

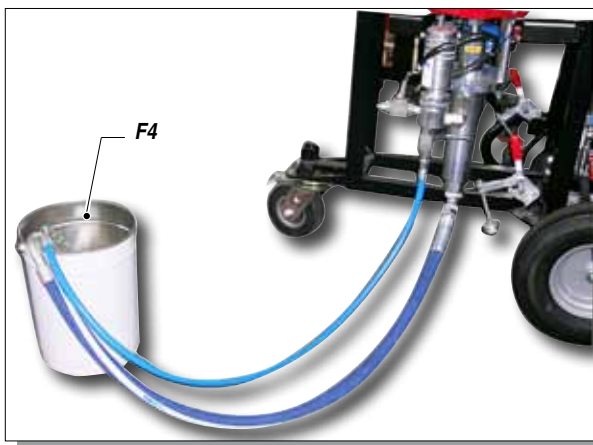
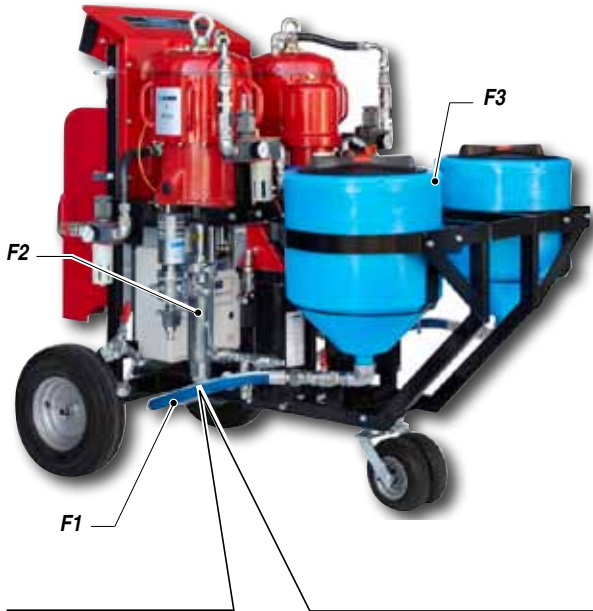
Stop the machine as shown in the picture below.



PRODUCT PIPING CONNECTION

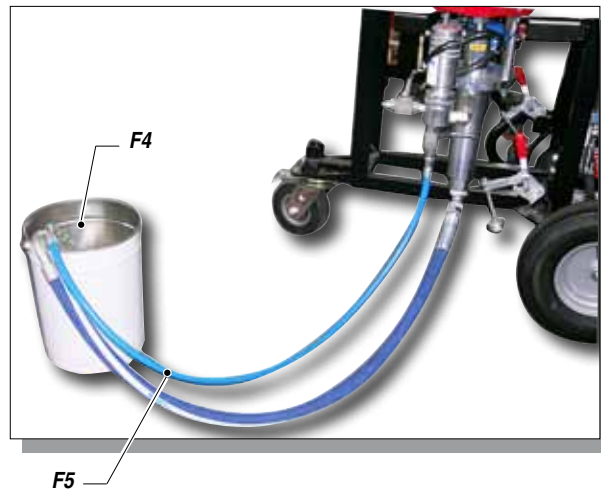
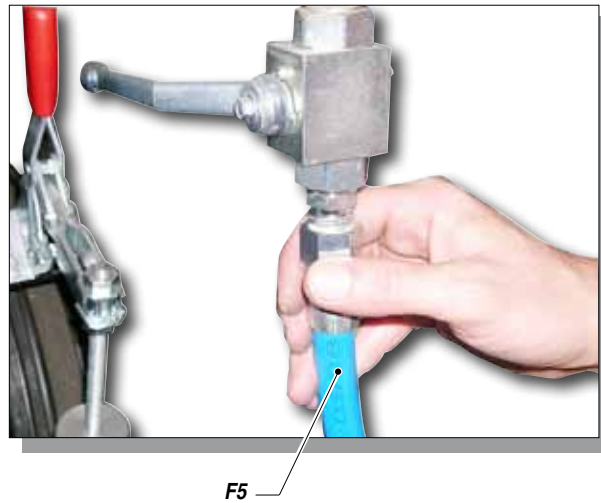
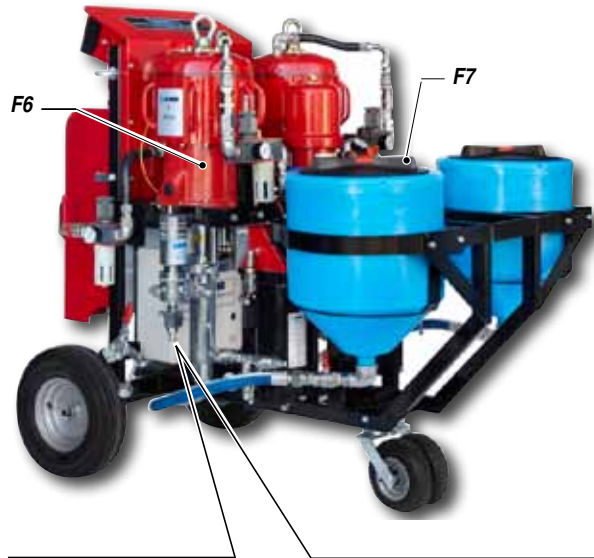
• A Product suction

Connect the flexible product suction tube (F1) to the pump (F2) and the tank (F3), or to your product container (F4).



• B Recirculation

Connect the flexible recirculation tube (F5) between the pump (F6) and the upper part of the tank (F7), or to your product container (F4).



NOTE

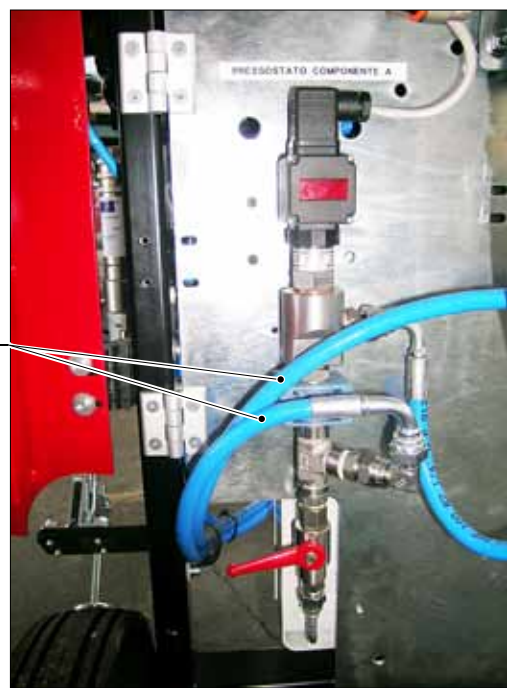
The procedures A and B must be carried out on both the pumps and tanks.

• C Pump/Pressure switch control

Check the two flexible product delivery hoses (F8) between the pump of component (A) and the pump of component (B) and the related mixing group (A) and (B)



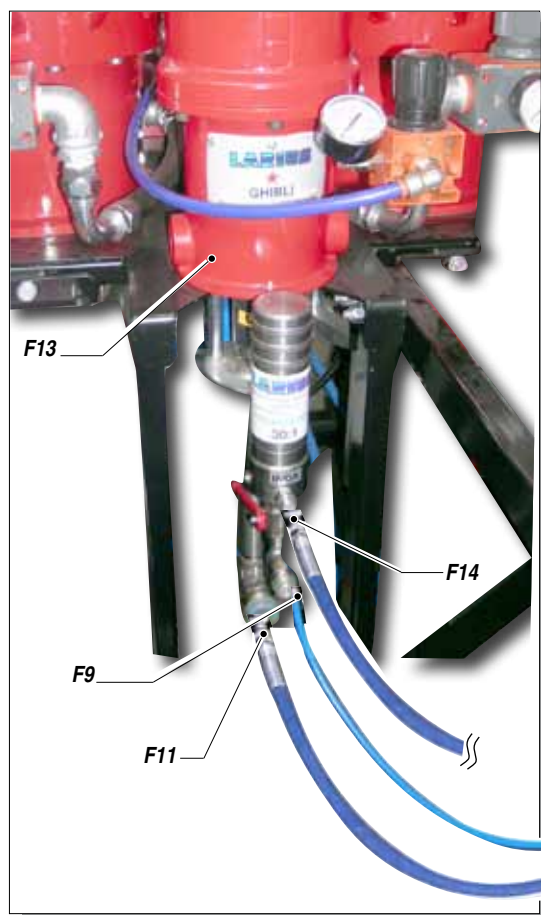
F8



F8

• D Washing connection

Connect the suction tube (F11) to the pump (F13).
 Connect the recirculation tube (F9) to the pump (F13).
 Immerse the two tubes (F11) (F9) into the container (F12) of washing liquid.
 Connect the delivery hose (F14) to the mixing group (F10) for washing.



F13

F14

F9

F11

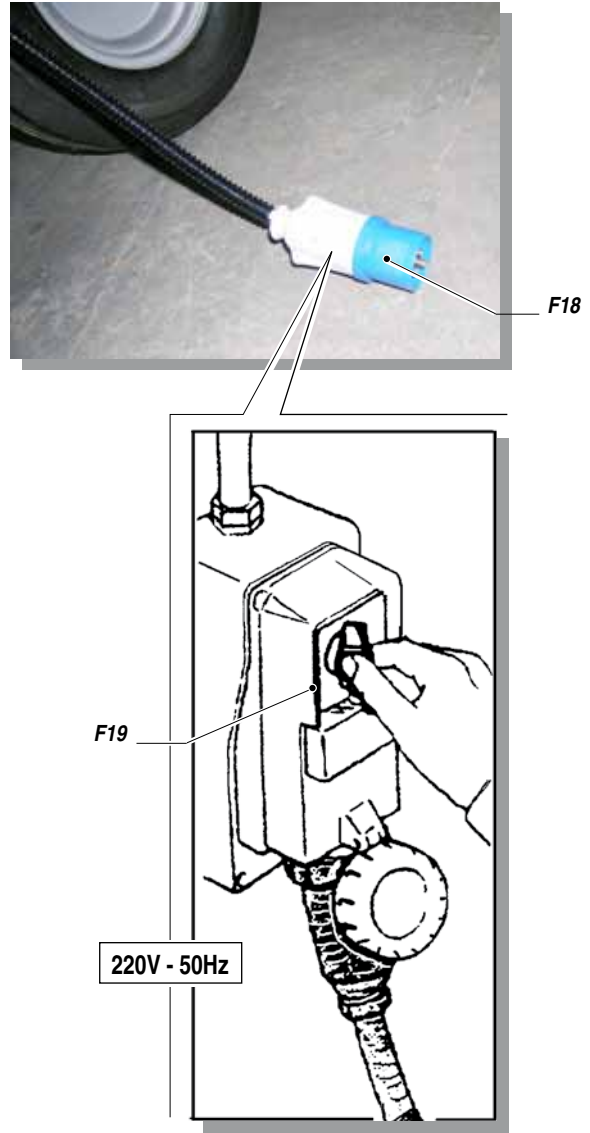
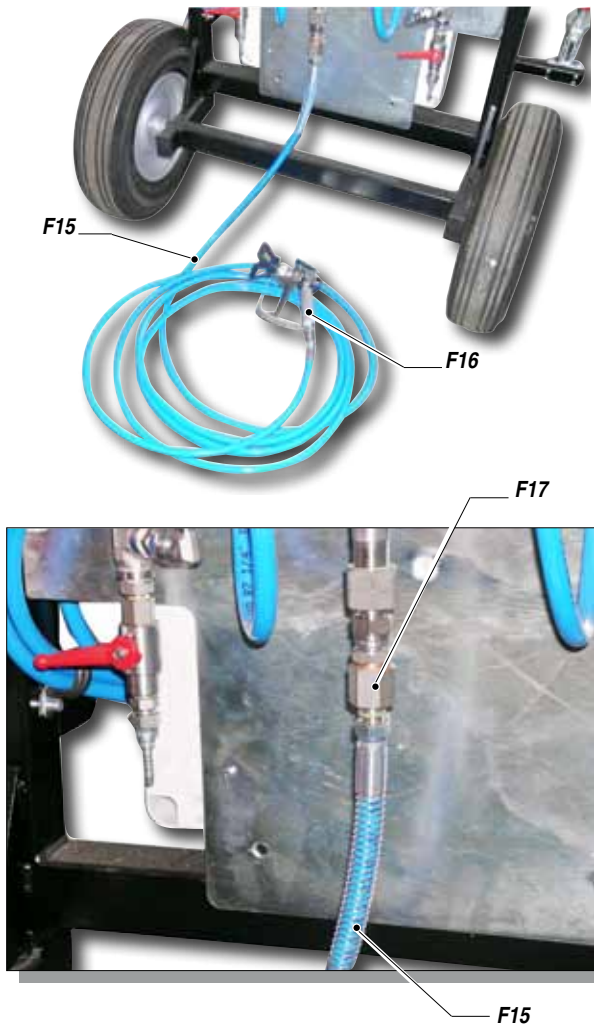
F12

F10



• E Gun piping connection

Connect the tube (F15) of the gun (F16) to the connector of the mixing group (F17).



Make sure that the connections are tightly sealed. It is recommended to use two wrenches to tighten them.

	<p>DO NOT use thread pastes upon the connections. It is recommended to use the tubes which have been supplied along with the machine. NEVER use a damaged or repaired flexible tube.</p>
--	---

CHECK ON POWER SUPPLY

	<p>Make sure that the system is properly grounded. Use an electrical plug which guarantees the proper grounding of the system.</p>
--	---

The machine is equipped with a connection plug (F18) that is to be connected to the main switch (F19).

	<p>The machine requires a 220V alternating current power supply.</p>
--	---

	<p>Should anyone use an extension cable between the tooling and the socket, it must have the same characteristics as the cable supplied (<i>minimum diameter of the wire 4 mm²</i>) with a maximum length of 50 mt. Higher lengths and lower diameters can provoke excessive voltage falls and also an anomalous working of the equipment.</p>
--	--

LARIUS NOVA MIX 2K equipment is fitted with an additional external earth cable that is connected to the stem on the pump unit by means of a specific clamp (F20), in order to protect the operator against any risk of static or electric shock.



To avoid electric shock when disassembling or checking the electronic equipment, wait 5 minutes after having disconnected the power supply cable, so that the electricity stored in the condensers while working can be dissipated.

Also check the condition of the earth cable to avoid any risk of shock.



Before carrying out any checks on the machine (maintenance, cleaning, or replacing parts) switch off the machine and wait until it has stopped altogether.



While checking stay away from electrical or moving parts to avoid any risk of shock or crushing of hands.



WARNING :



- DO NOT modify the plug for the earth socket in any way.



- ONLY use electrical connections that are earthed.



- Make sure that any earth extension cords are in good condition.

- ONLY use three-core extension cables.

- Avoid direct contact with the rain. Keep the equipment in a dry place.

CONNECTING THE EQUIPMENT TO THE PNEUMATIC LINE

The machine must be connected to the compressed air feeding system, which is necessary for the pneumatic interlocking. The connection must be carried out in the following way:

- Connect the air feeding pipe (F21) to the joint (F22).

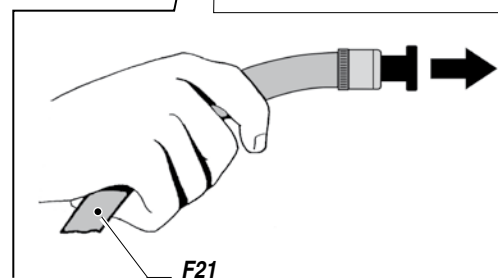
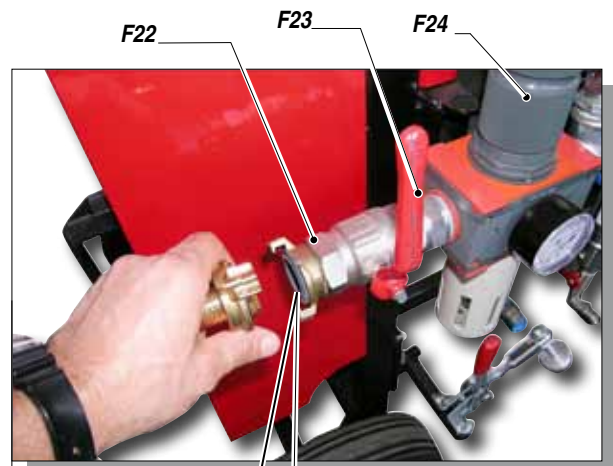


It is advisable to install an on-off valve on the frontal part of the machine

Make sure that the air line to be connected to the machine is capable of constantly providing pressure at 7 bar.

Before opening the air line, turn the ball valve (F23) on the general regulator (F24) to its closed position.

After having opened the machine's air supply, open the ball valve completely (F23) and set the regulator to maximum (F24).



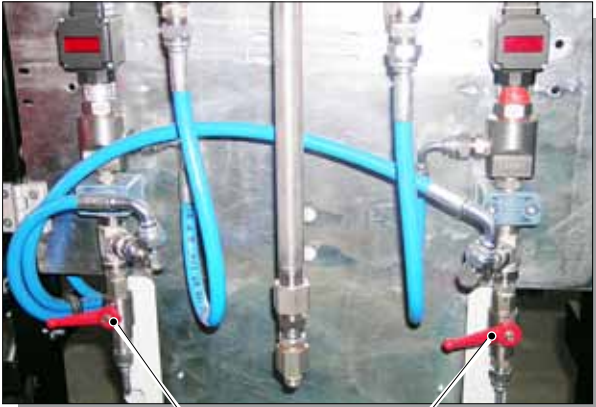
NOTE

Adjust all regulators to the working pressure (F25).



NOTE

Close the discharge valves (F26).



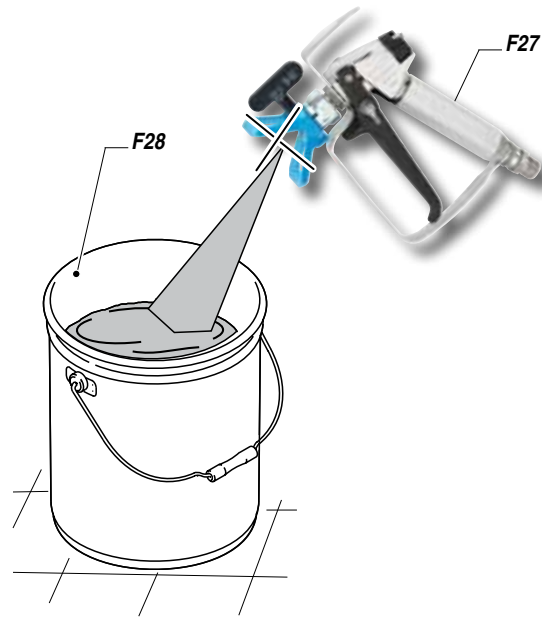
F26

WASHING OF THE NEW EQUIPMENT

- The machine has been tested at the manufacturer's facilities. Perform a wash cycle with the paint thinner before suctioning any product.
- Place the suction tubes in the solvent containers or else pour solvent into the gravity tanks.
- Open only the recirculation valves.
- Circulate the solvent within the output pumps.
- Close recirculation valve.
- Open the delivery valves, leaving the related discharges closed.
- start an automatic working cycle and to circulate the solvent until it emerges clean machine.
- Stop the automatic work cycle and activate a wash cycle.



- During the wash cycle, hold the spray-gun (F27) over a container (F28) and keep the trigger pulled.



Absolutely avoid to spray solvents indoors.



For disposing of the washing liquid, see the requirements laid down in the Standards in force in the country in which the equipment is used and act accordingly.

The Client is solely responsible for any irregular action taken before, during, or after disposing of washing liquid, or in interpreting and applying the current Standards in this regard.

- Now the machine is ready.
When water-based paint has been used, in addition to washing using the cleaning liquid, we recommend washing with soapy water and then clean water.

PREPARING THE PRODUCT

In order to prepare the products (i.e. for dilution), refer to the supplier's data sheets.



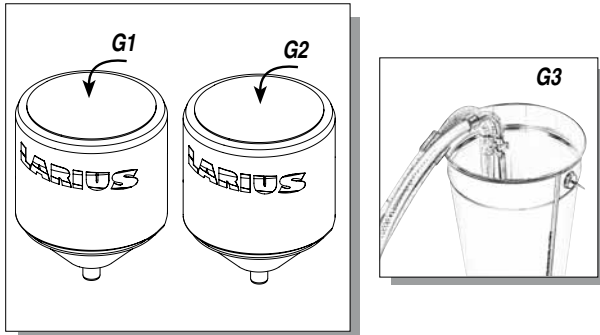
Make sure the product to be used is compatible with the materials employed for manufacturing the equipment (stainless steel and aluminium). Because of that, please contact the supplier of the product.

Never use products containing halogen hydrocarbons (as *methylene chloride*). If these products come into contact with aluminium parts of the equipment, can provoke dangerous chemical reactions with risk of explosion.

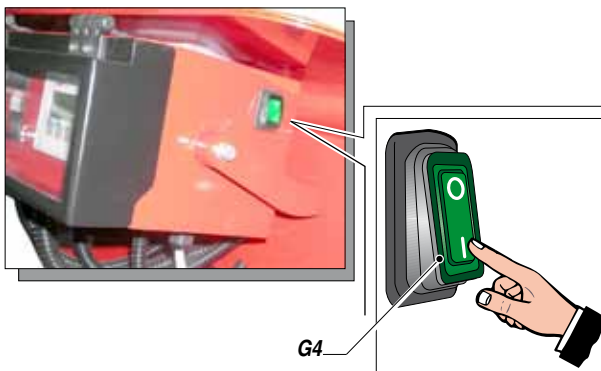
G WORKING

STARTING UP AND CHARGING THE MACHINE

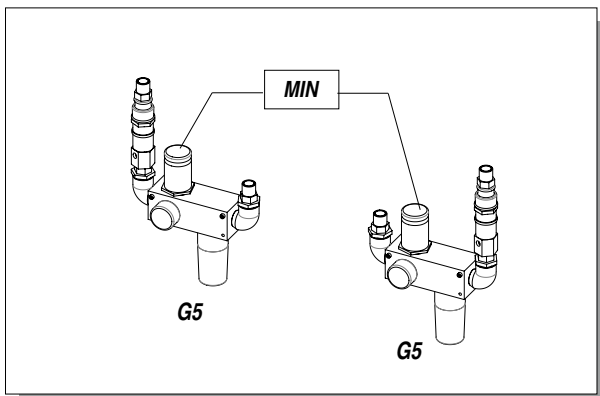
1. Fill the tanks (G1) and (G2) with the materials necessary for processing. For versions without tanks, directly introduce floaters into the containers (G3).



2. After connecting the machine to the power, press the side switch (G4) located on the control panel in position "I".



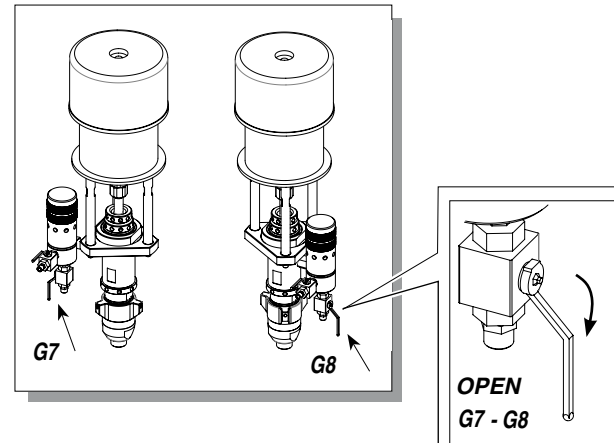
3. Power the pumps with compressed air and set the two regulators to minimum (G5) and (G6).



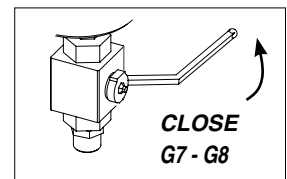
4. Open the recirculation valves (G7) and (G8) allowing the product to begin recirculation.

NOTE

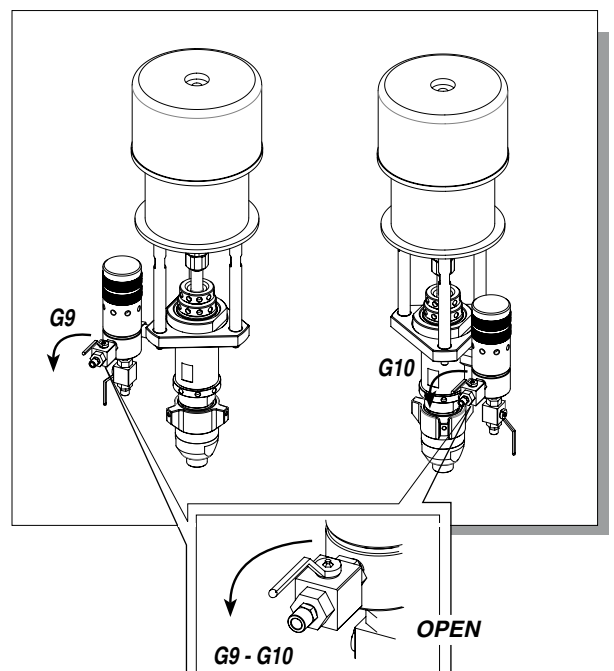
If you are not sure that the first part of the product is properly cleaned, discharge the first part, which starts to recirculate outside the tanks, to avoid contaminating the clean product.



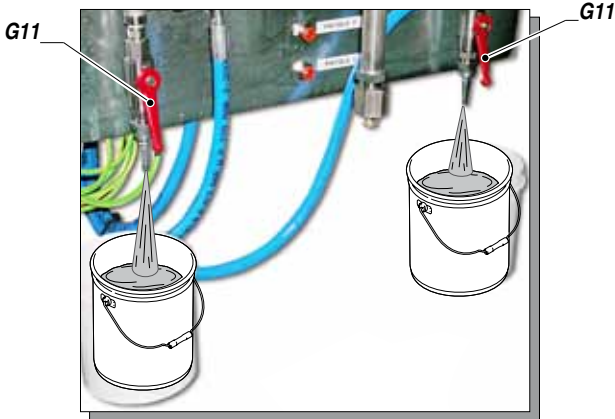
5. Close the recirculation valves (G7) and (G8).



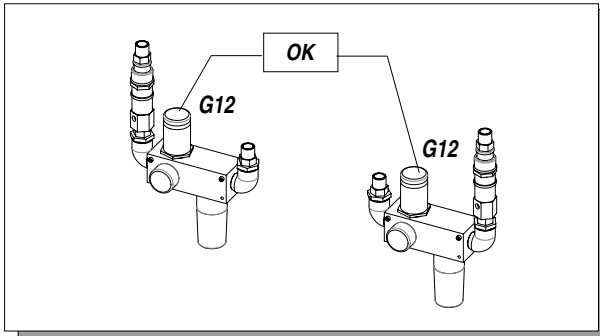
6. Open the delivery valves (G9) and (G10).



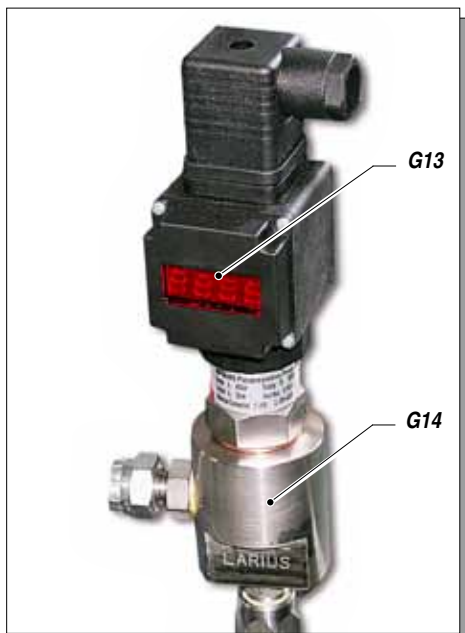
- Open the manual discharge valves (G11) and wait for the clean product to come out. This operation allows for the elimination of any eventual air bubbles within the circuit.



- Close the manual discharge valves (G11).
- Bring the pumps to the desired pressure and begin working (G12).



Check the circuit's internal pressure by checking the values indicated on the two displays (G13) located above the flowmeters (G14).



Make sure that the values are equal, within a certain tolerance (the tolerance may vary in relation to the working pressure with which the machine will normally be used).

Check for any machine alarms (visible on page F4). If present, consult the "alarms" page where the various modes of resolving alarm states are listed.

If the machine does not have any alarms active, proceed with the setting of the machine's parameters (see the relative chapter). Turn the selector (G15) to the AUTOMATIC position.



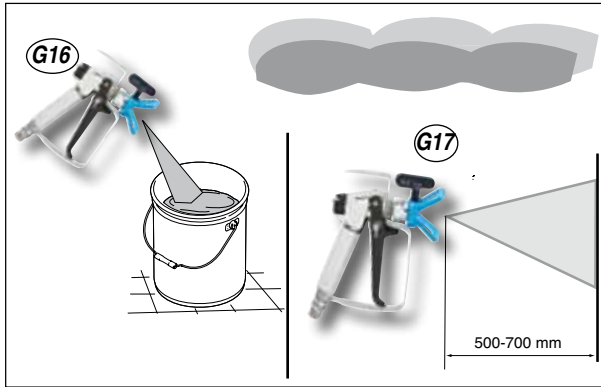
Wait for the flexible spray-gun tube to load (wait for the valves (G11) to shut off automatically).



G11 G11

Before painting, spray the product into a container (G16) or into a part of the cab (G17) dedicated to purging, while keeping the spray-gun at a constant distance from the surface (500-700mm). Use this same distance for all other applications.

This procedure will allow the user to perform any necessary adjustments, such as: widening the spray, atomising-air adjustment, adjustment of the various working pressures, etc.



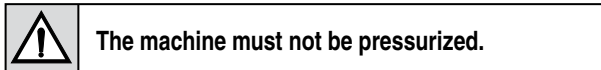
Once this purging phase has been completed, the operator can proceed with normal working operations.

PROCEDURE FOR CHECKING COMPONENT DOSAGE

These mixing blocks have been designed to allow the operator using the **LARIUS NOVA MIX 2K** to check that the mixing ratio of the two components is correct.

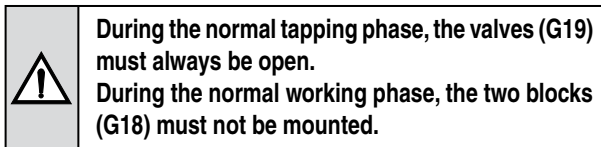
The operator must perform the following procedure in order to check the quantities of the two components just before they are mixed:

- Mount the component tapping blocks (G18).



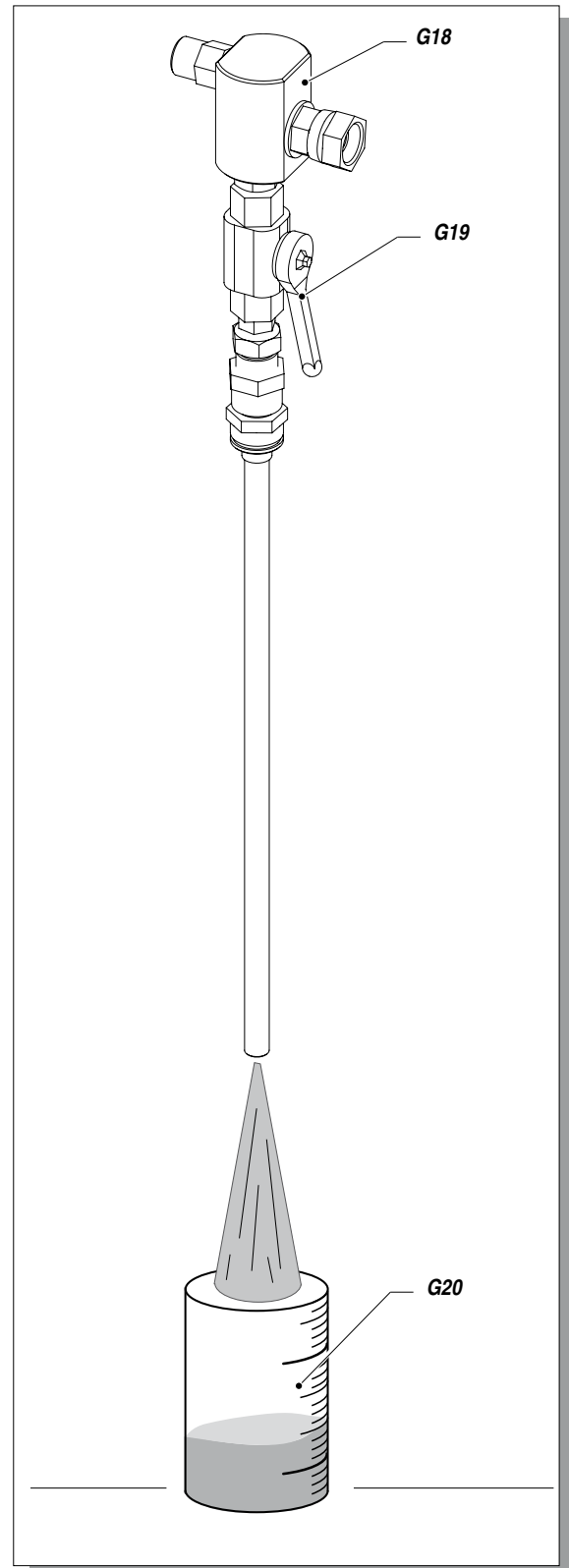
The machine must not be pressurized.

- Open the valves (G19) and set the tapping cycle in order to check the dosage of the components.



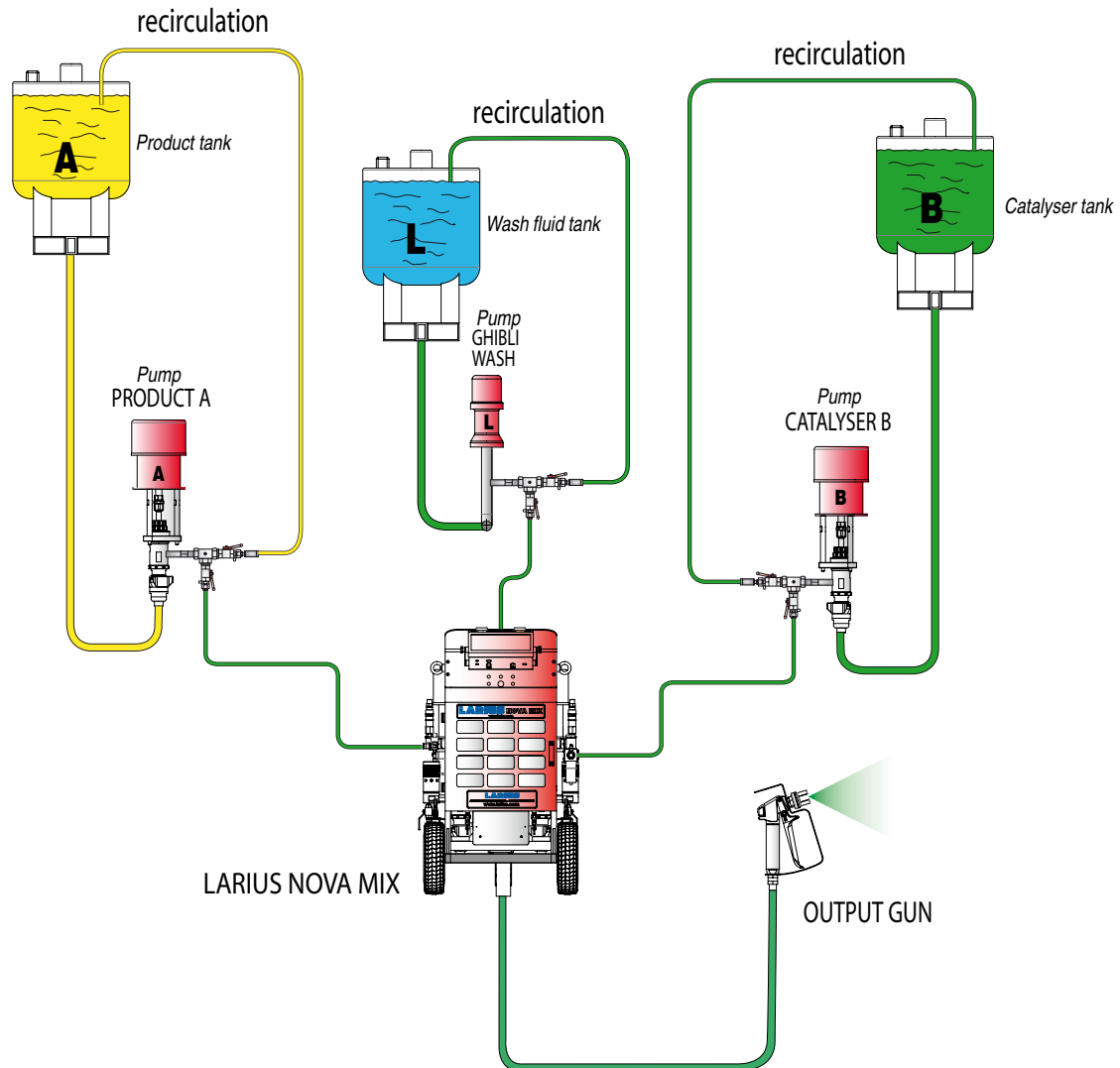
**During the normal tapping phase, the valves (G19) must always be open.
During the normal working phase, the two blocks (G18) must not be mounted.**

- By positioning the 2 containers (G20) in correspondence to the 2 outlets, the operator can check the actual amounts dispensed by the machine.



FLOW

Flow diagram for the 2 components




Flow diagram for the 2 components

- The components are drawn from either external tanks or from gravity tanks.
- The 2 pumps (NOVA) send the components to the NOVA MIX 2K machine.
- In the NOVA MIX, the components flow through the pressure gauge and the mixing group.
- The components then enter their respective nozzles located on the mixing block. Based on the settings provided by the machine, these regulate the passage of the materials in order to obtain a proper mixture.
- Along the length of the block and of the mixing tube, the 2 components are mixed together until they arrive perfectly mixed at the spray-gun's outlet.

Flow diagram for the wash fluid

- The fluid is drawn into the system by the wash pump.
- This pump (GHIBLI) filters the wash fluid before sending it into the machine.
- The wash fluid through the nozzle located on the mixing block. From there, they proceed to clean out the mixing line as well as the tube containing the mixture of the 2 components.



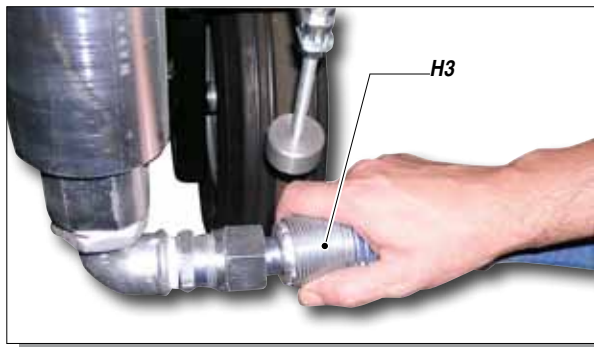
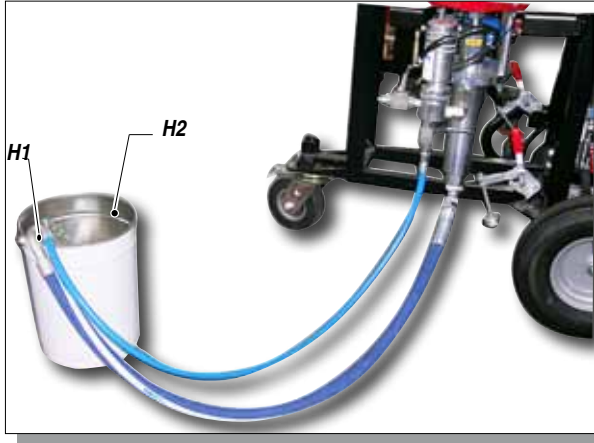
- It is recommended to **ALWAYS** keep the catalyser in part B of the circuit, both in the machine as well as in the flow pump, and to use part A exclusively for the product.
- Make sure that the wash fluid, whether water or solvent based, is compatible with the two components being utilized.
- If one or both of the components is changed, perform a "complete" washing cycle in the NOVA MIX 2K system.

H MAINTENANCE

WASHING

Empty any product present inside the machine.
For example, after complete washing (the machine has sucked up solvent).

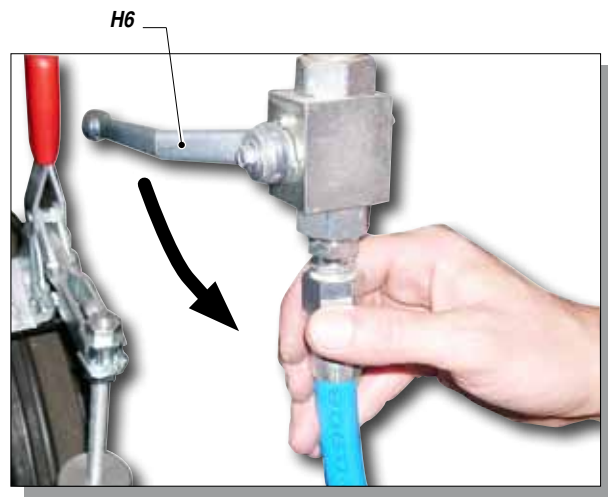
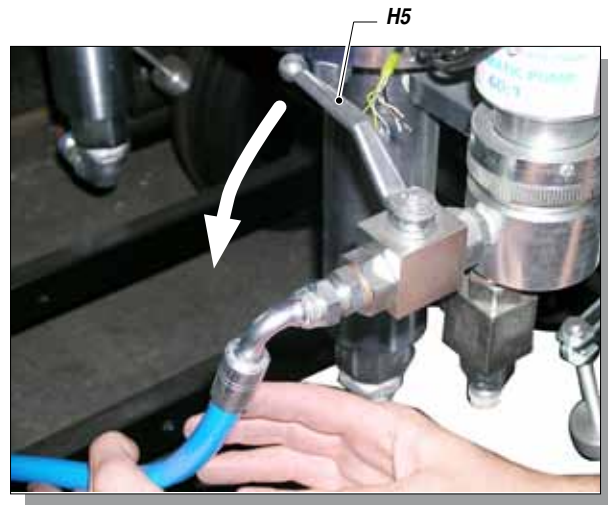
- Remove the floaters (H1) from the drums (H2) or unscrew and detach the supply tube (H3) from the pumps, to be sure that the pumps can no longer suck up the products.



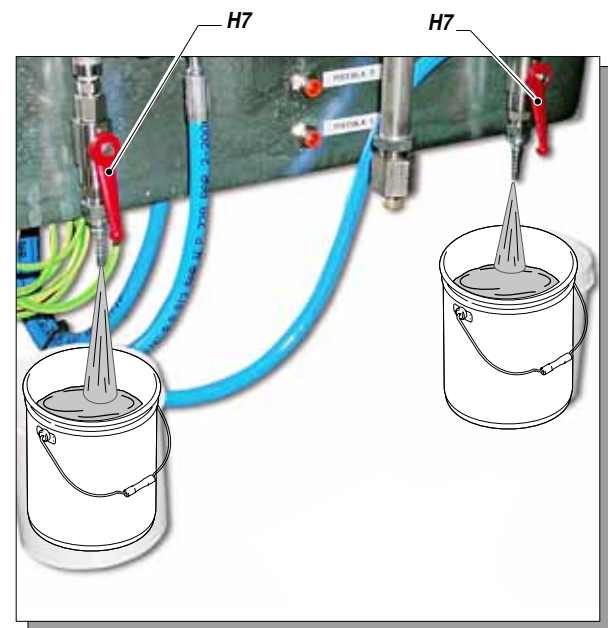
- Set the pressure of the pumps (H4) to the minimum for them to work, using the regulators on the pumps themselves.



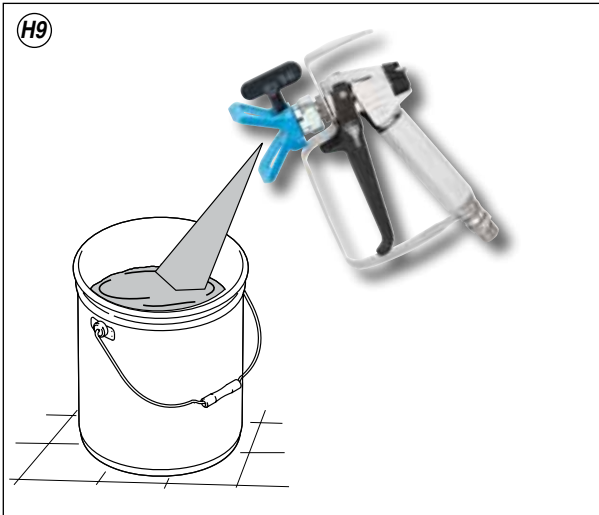
- Leave the delivery valves open (H5) and open the recirculation valves as well (H6).



- Open the two relief valves located under the digital pressure gauges (H7).



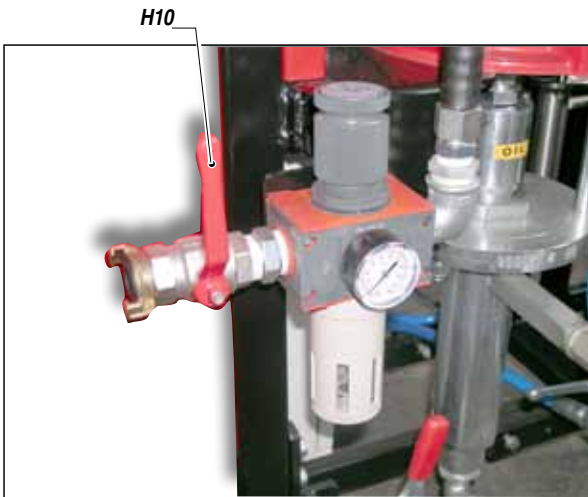
- In "manual" mode (H8) open the 3 solenoid valves and "spray" with the gun to release the entire product inside (H9).



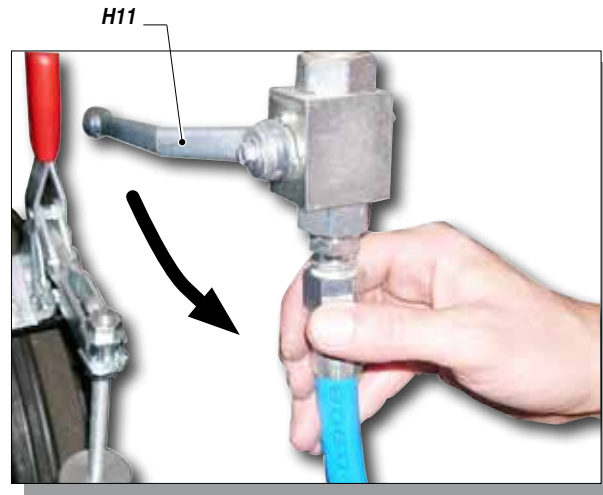
DECOMPRESSION

Discharge all pressure before servicing the machine as indicated:

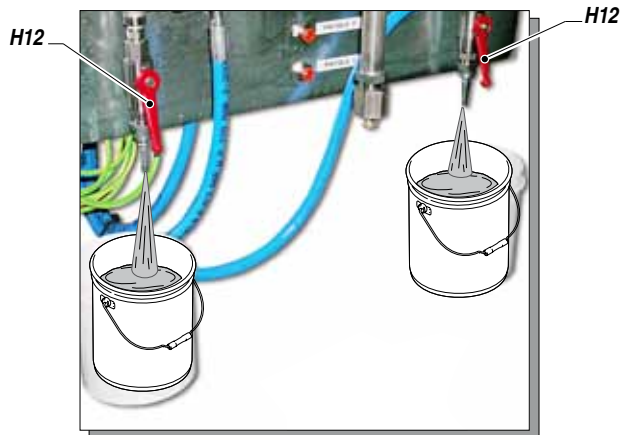
- close the ball valve (H10) located at the machine inlet



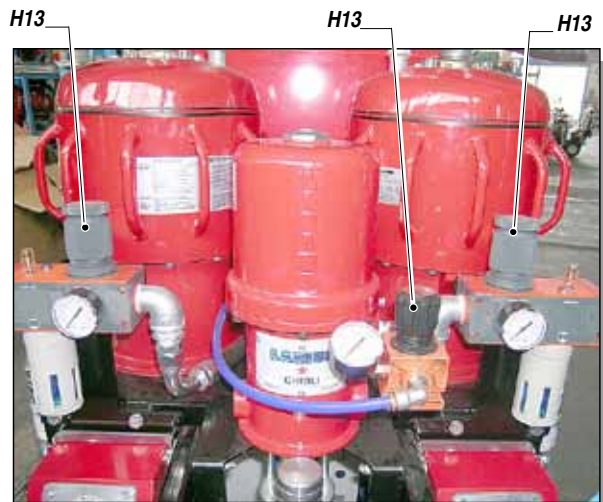
- open the 3 recirculation valves (H11) (Pump A and B, washing)



- Open the two relief valves located under the 2 digital pressure gauges (H12)



- manually open the three solenoid valves (Ev A, Ev B, Ev L) and spray in such a way as to ensure that the residual pressure is released
- discharge and reset all the regulators (H13) present on the machine (make sure that the pressures shown on the related pressure gauges are at "0").



FILTER CLEANING

In case of obstruction or spraying difficulty, inspect the filter during the work phase:

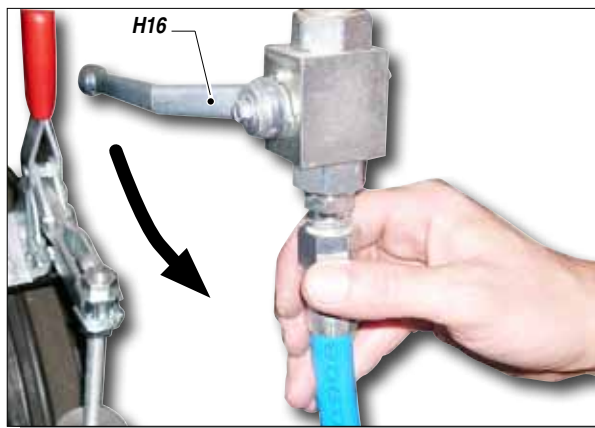
- open the slide valve (H14) of the pump you want to inspect to cut the air supply and discharge the pressure.



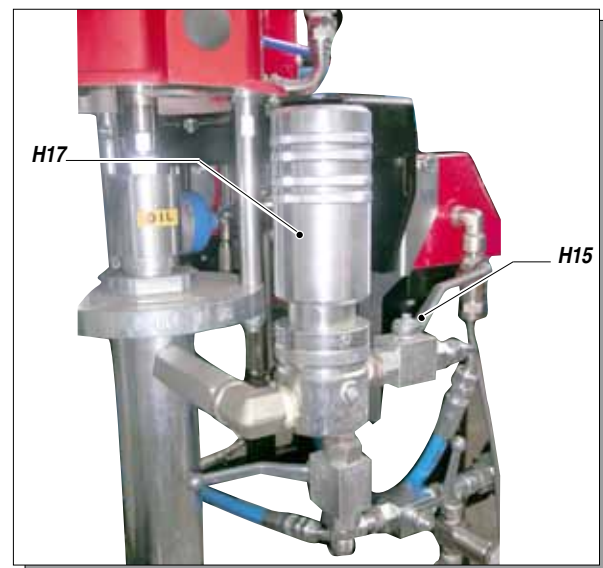
- if it is a "Nova pump", close the delivery valve (H15)



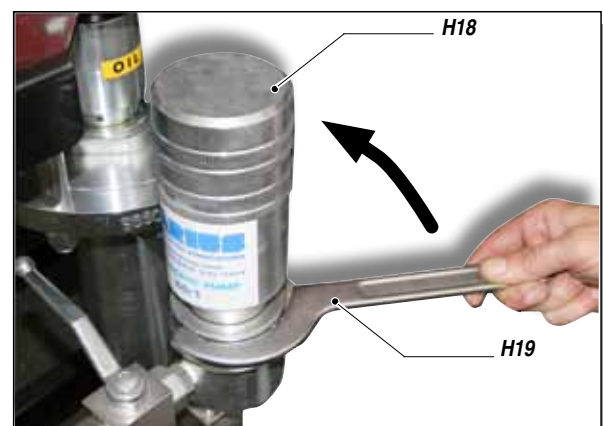
Slowly open the recirculation valve (H16).



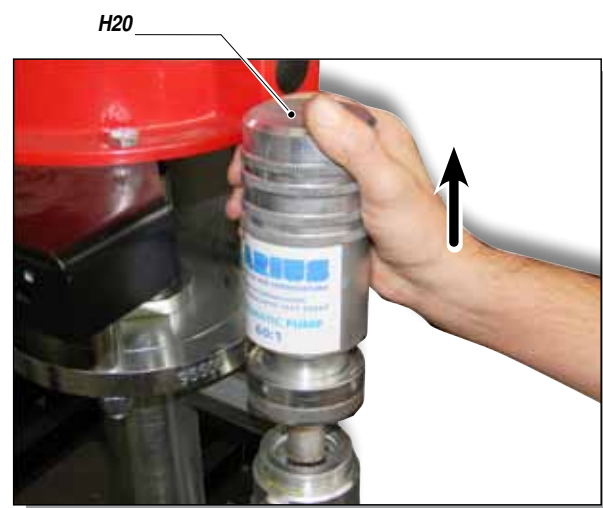
- Wait for the filter tank to empty (H17)



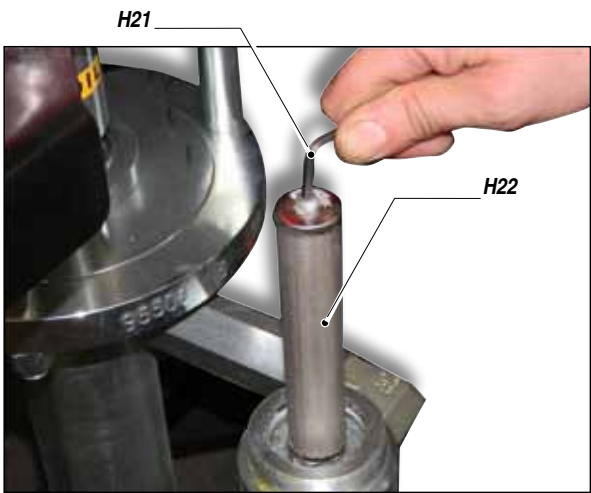
- Open the filter tank to inspect it as indicated below:
 - unscrew the filter (H18) using a suitable spanner (H19)



- remove the cover (H20)



- unscrew the filter (H21) with the spanner (H22)



- remove the filter (H23) and proceed to cleaning with the washing liquid.



GASKET PACK REGULATION



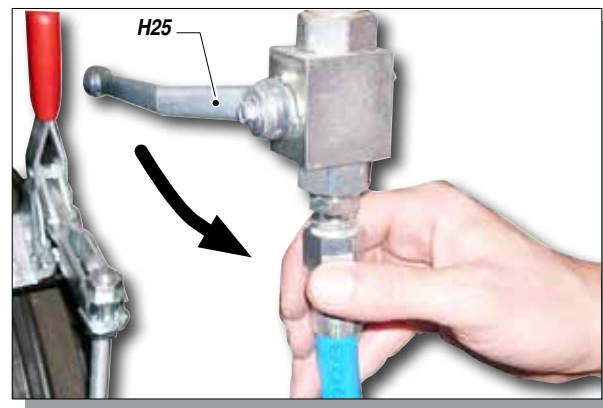
Always close the compressed air supply and discharge the pressure in the system before inspecting or carrying out any maintenance work on the pump.

When necessary, pull the gasket pack on the pump as indicated:

- open the slide valve (H24) to cut and release the air supply

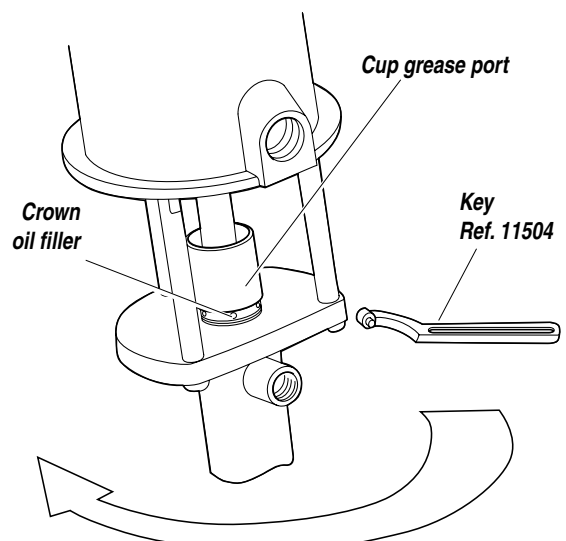


- open the recirculation valve (H25)



- check periodically (and whenever the pump is started after a long period of inactivity) that the press ring seals not come loose, causing the leakage.

Use the key provided (Ref. 11504). The nut must be tightened to prevent leaks but not too much in order not to cause the seizure of the pump piston and the wear of the seals. If it persists loss of product to replace the seals.



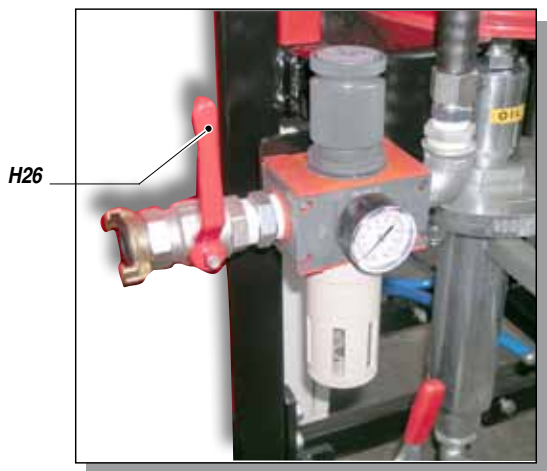
- Keep the bucket of lubricant liquid full (compatible with the product being used) in order to prevent the product from drying on the gun shaft.

CLEANING AFTER WORK ACTIVITIES



Make sure that the machine is not pressurised before performing any operations which require the closure or the connection of any machine component (*filter checks, seal closure, etc.*).

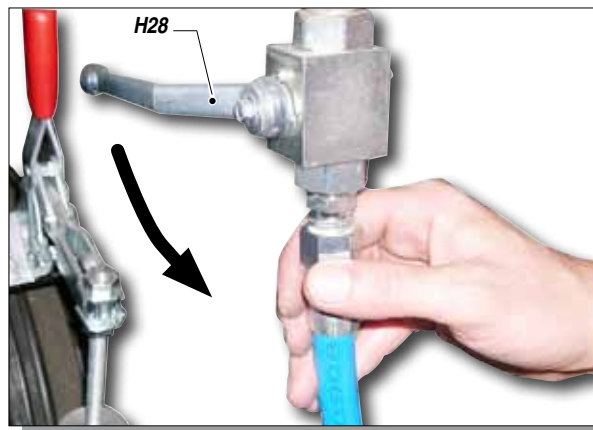
Close the machine's intake taps (H26).



- open the two relief valves located on the 2 digital pressure gauges (H27) and open the recirculation valves (H28).



In "MANUAL OPERATING MODE", use the electrovalves on the operator's panel to make sure that there is no pressure inside the mixing block. Open and close the three valves on the mixing block a few times (*see the page regarding "manual controls" in the manual*).



ROUTINE MAINTENANCE

Remember to perform a wash cycle before any lengthy periods of disuse. Periods of disuse can be judged according to the POT LIFE of the components which are being utilised.

The manufacturer recommends for a wash cycle to be performed at the end of every working day.

PERIODIC MAINTENANCE (weekly)

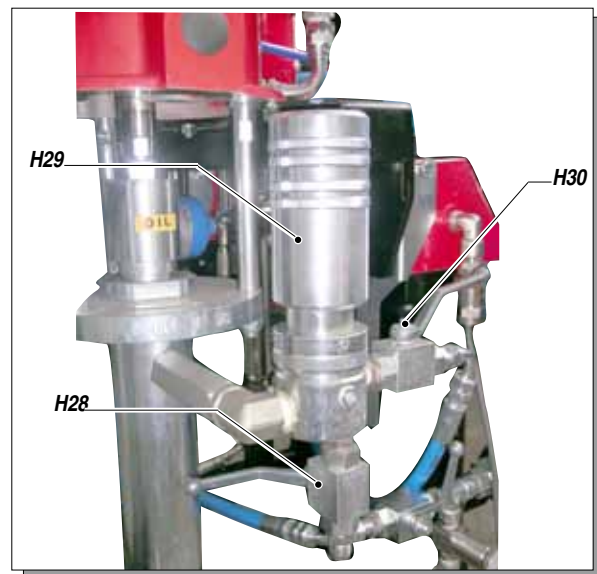
Check the machine's intake filters.



Before opening the filter, remove the filter's tank (H29) in accordance with the following indications:

- Close the delivery tap (H30);
- Open the filter's drain tap (H28);


This operation will drain any pressure contained within the filter.
Inspect the unit and make sure that the filter is not clogged.



Perform this same check upon all of the filters.

I OPERATOR PANEL

The explanations provided must be read by any personnel who will operate the system.



If the system functions in a different manner with respect to the information which has been inserted, the user is advised to communicate the event to the manufacturer so that a technician may verify the program which has been loaded onto the PLC.

Use the 4 arrow buttons to the right of the display to navigate within the selected screen.

Procedure for selecting a field to modify:

- use the arrow buttons to select the desired field ◀ ▶;
- activate the field by pressing **ENTER**;
- modify the set value with the ▲ and ▼ arrows;
- press the **ENTER** button to confirm the entry.

OPERATING PANEL

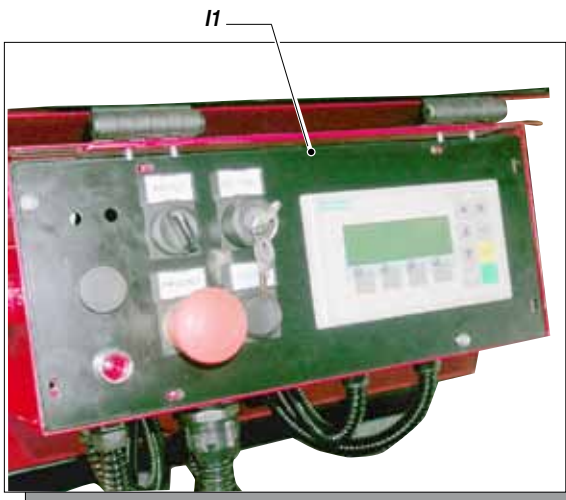
The operating panel is connected to the system and is used for:

- inserting and viewing process variables;
- viewing alarms and signals in order for the operator to easily identify them while the system is in function;
- selecting the desired function in manual mode.

CONTROL PANEL

The Control panel (I1) is used in conjunction with the Operating Panel by the user to control machine function, to select the cycles (*manual, automatic*) and functionalities, as well as for immediately viewing the system's functional status.

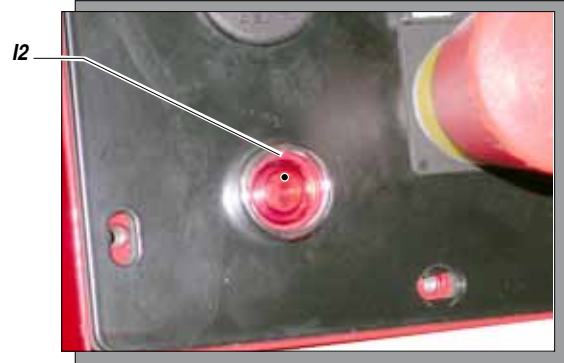
The light on the panel indicates whether any alarms are active.



ALARM CHECKS

The PLC reacts in the following manner to every alarm event:

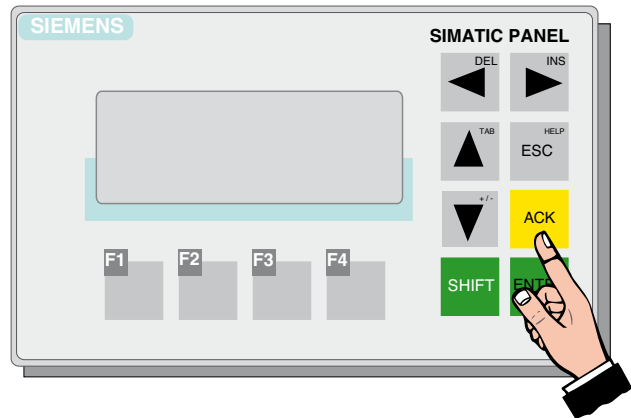
- The red light (I2) installed upon the control panel flashes;
- The operating panel displays the text which corresponds to the alarm.



The functionality in question which has generated the alarm is blocked until the anomaly has been fixed.

To cancel the alarm, do the following:

- resolve the situation which caused the alarm;
- press the F4 button on the alarm screen to reset the alarm;
- press the ACK alarms button to remove the alarm from the panel;

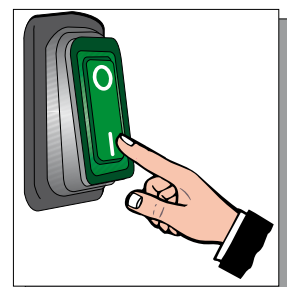


The system will not allow an alarm to be reset if the situation which caused the alarm has not been resolved.

Some alarms are automatically reset once the situation which caused the alarm has been resolved.

POWER STATUS

The power status is indicated by a green light located on the system's ON/OFF selector.



LOCKING SELECTOR

In order to prevent unauthorised personnel from modifying the machine's settings, a locking safety selector (I3) has been installed upon the panel.

The selector can be turned:

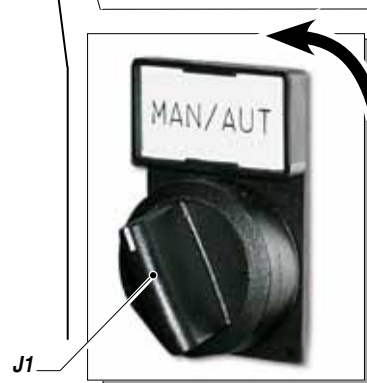
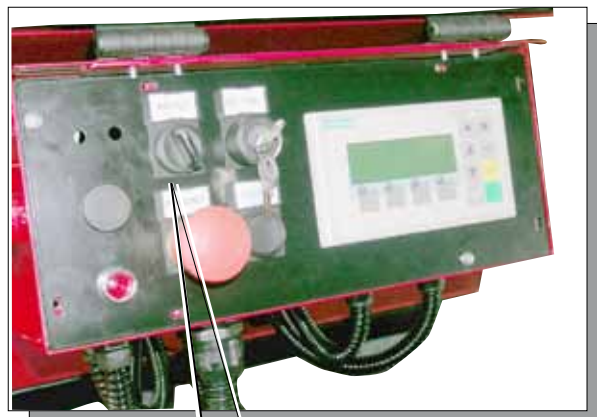
- to the right in order to allow for the machine's settings to be modified.
- to the left in order to protect the machine's settings with a secret password.

The machine is furnished with two keys (*one spare key for use in the event that the regular key is lost*).

The safety keys should be entrusted to a person who is authorised to modify the machine's settings and data.



In order to activate the manual operating mode, the user must turn the selector (J1) to the manual position.

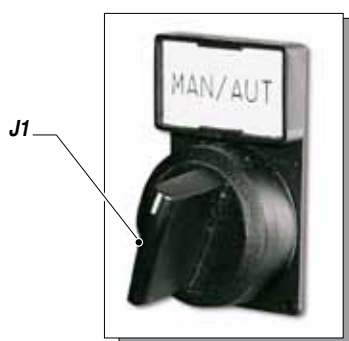


J START-UP PROCEDURES

The system has two operating modes:

- **MANUAL MODE**
- **AUTOMATIC MODE**

The operating mode can be selected using the 2-point selector (J1) located on the control panel.



MANUAL MODE

Manual operating mode allows the user to control all of the system's available functionalities as well as the wash function:

- **manual controls**
- **wash cycle**
- **tapping cycle** (when necessary)

Before activating any functions in manual mode, the operator must make sure that the workplace is free of obstacles in order to avoid damage to people, property and/or parts of the machine.

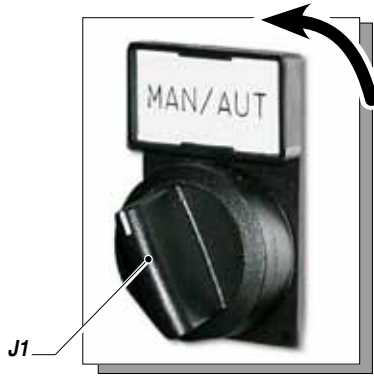
The manual controls must only be utilised by authorised personnel who are familiar with the system's functionalities.

The manual cycle keeps most of the interlocking parts disabled. It is therefore the operator who must activate or deactivate each single function. The operator will be responsible for the correct use of the system's functions in order to avoid damaging or blocking the lines.

During automatic function, the selection of the manual cycle will provoke the arrest of all of the system's functions and the cancellation of the manual cycle.

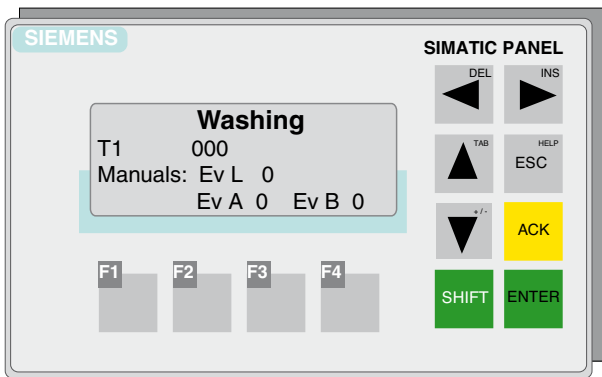
The operator can activate manual cycle functionality in the following manner:

- make sure that nobody is within the working area;
- turn the manual-automatic selector (J1) to the manual position.



F2

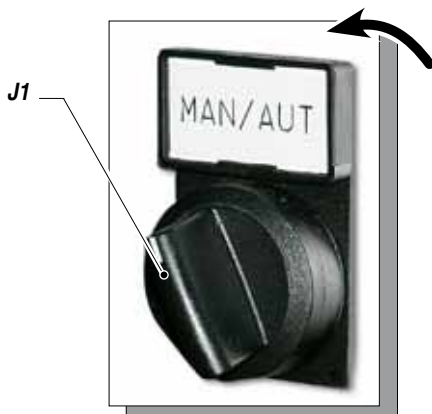
Manual controls



Press the **F2** button on the operating panel to access the manual controls screen. Select the field for the desired valve and set the value to 1. The valve will open automatically. The valves are defined as follows:

- **Ev L**: wash electrovalve manual control
- **Ev A**: component **A** electrovalve manual control
- **Ev B**: component **B** electrovalve manual control

These three fields can be used to switch over/open every single electrovalve while the selector (**J1**) is set to Manual.

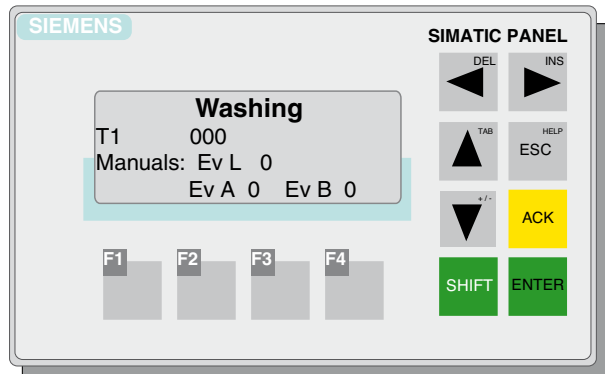


Modify the field's value to 0 or 1 in order to activate or deactivate the relative electrovalve and to allow the selected component to flow within the machine.

This function is necessary for performing a complete wash of the entire system when the two pumps have to be washed using two different wash fluids (i.e. component A requires water to be used as a wash fluid and the catalyser B requires the use of a solvent).

This operation must also be performed when releasing pressure. When a valve is opened in the absence of product, the pressure contained within the mixing block is released. Perform this operation for component A, component B and the wash fluid as well (Ev A, Ev B, Ev L).

Wash cycle

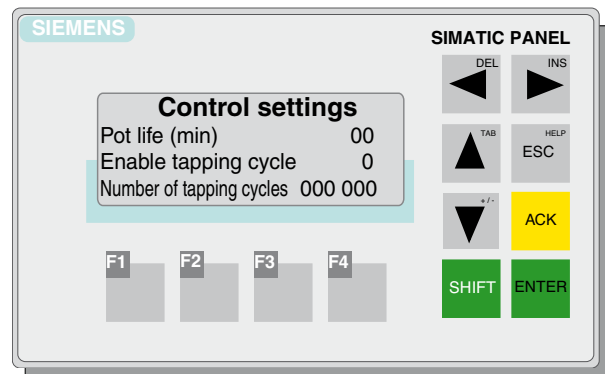


The wash cycle can be activated while the selector is in the manual position. In order to activate it, press the wash button located on the control panel.

T1 000

Time "T1" must be set, opening the page with the F2 key. The base of the time is in seconds.

Tapping cycle (when necessary)



The tapping cycle can be activated while the selector is in the manual position. In order to activate it, set the "**Enable tapping cycle**" value to "1" and set the Number of control cycles field to the "**number of tapping cycles**" to be performed.

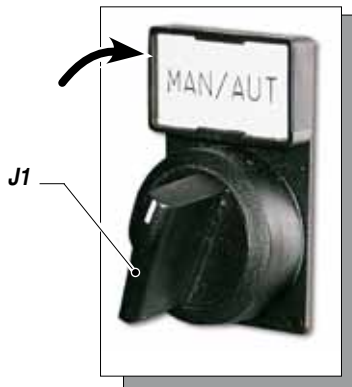
Once these values have been set, just turn the selector to the automatic position and then back to the manual position. The machine will perform the number of cycles requested.

AUTOMATIC MODE

The automatic cycle is used for regular working functionality.

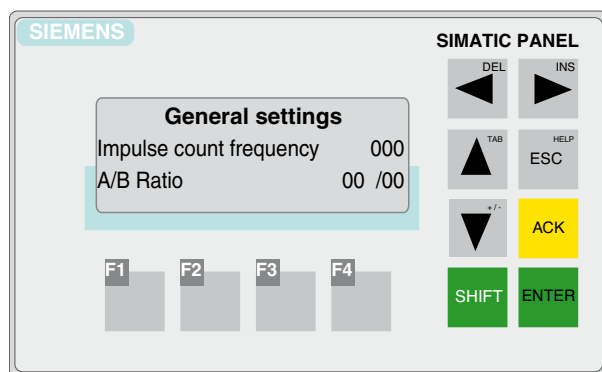
In order to activate automatic mode functionality, the operator must turn the selector (**J1**) to the automatic position.

To deactivate automatic mode functionality, just turn the selector (**J1**) to the manual position.



When the automatic cycle is active, the program controls the sequence of the valves for the two components and doses them based on the requested ratio and based on the "**impulse count frequency**" settings.

Just press the **F1** button to access the "**General Settings**" screen.



The "**impulse count frequency**" setting affects the frequency of the valve sequence.

Example:

Let us suppose we are selecting a volume ratio of 3/1 (3 parts **A** and 1 part **B**) and setting a pulse frequency of 1. The programme will control the valve opening, counting 30 pulses of the **A** supply measurer and 10 pulses of the **B** supply measurer.

If a pulse frequency of 2 were set, the machine would count 60 pulses of **A** and 20 pulses of **B**.

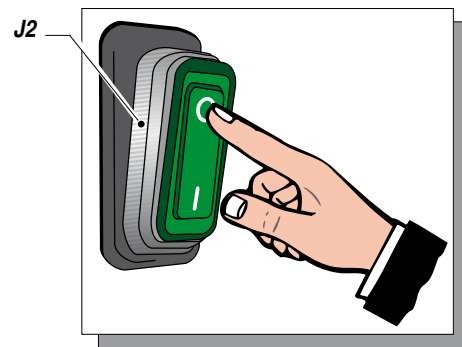


The adjustment of the "impulse count frequency" must be done in such a way so as to avoid high frequencies which may not be supported by the components.

TOTAL SHUTDOWN OF THE CONTROL PANEL

The system shutdown procedure requires the main switch (**J2**) to be turned to the "O" position.

This operation completely arrests all of the system's functionalities.



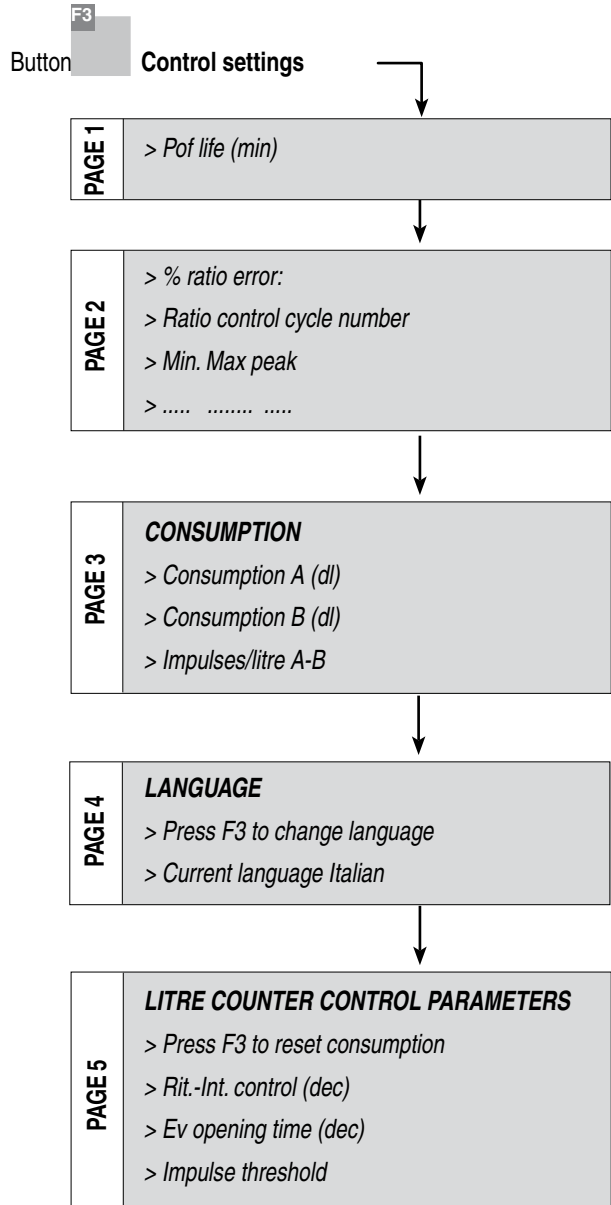
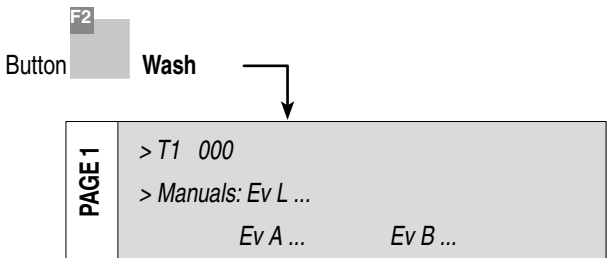
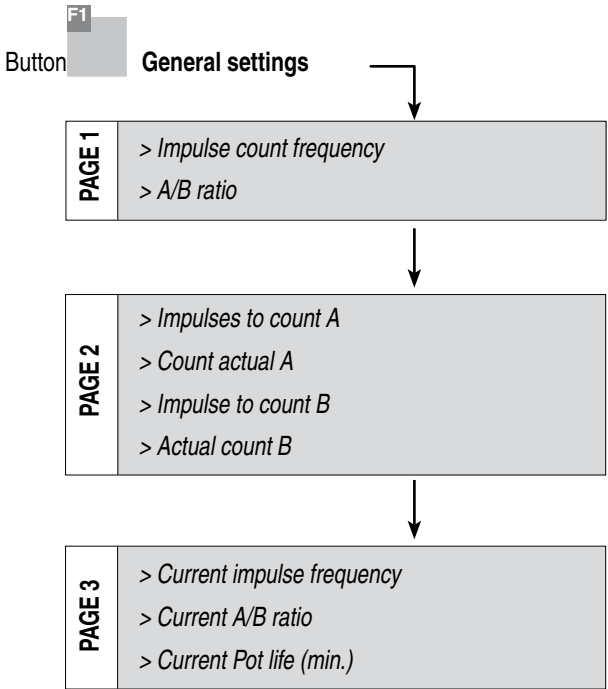
K DESCRIPTION OF THE PANEL'S FUNCTIONS

The OP73 panel is used by the operator to view and modify system process variables.

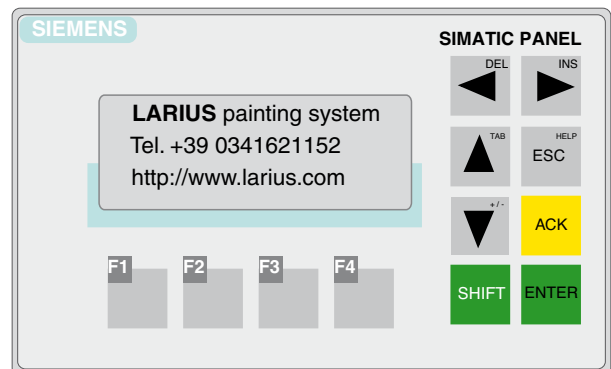
This interface allows the operator to configure some of the parameters which are necessary for working. This panel also displays any anomaly messages and/or alarms during the work cycle.

OP73 SCREEN

Description of the function buttons:

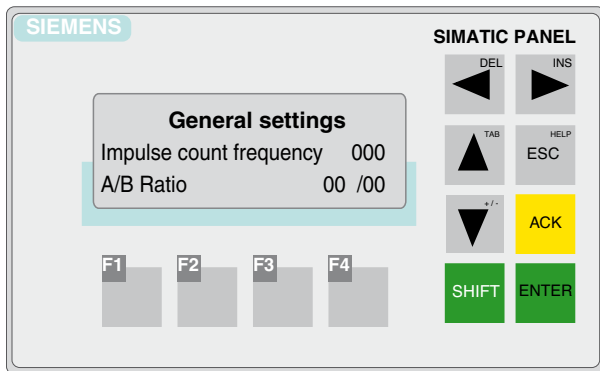


START-UP SCREEN



F1

GENERAL SETTINGS SCREEN (1)



The F1 screen is divided into two parts:

- The first, for setting the IMPULSE FREQUENCY (*impulse multiplication factor*) and the A/B RATIO (*the volumetric mixing ratio with which product A and catalyser B are dosed in order to obtain a proper mixture*);
- The second, where the machine displays the information regarding the passage of the components through the two flowmeters.

In order to access the second part of the screen, press the ▼ arrow button on the control panel. To return to the previous page, press the ▲ arrow button.

IMPULSE COUNT FREQUENCY:

When setting the IMPULSE FREQUENCY, keep in mind that the value inserted is inversely proportional to the mixing speed. The higher the value inserted, the slower the mixing speed.



Values which are excessively low may not guarantee the proper mixing of the components and may damage the electrovalves. This number must be set in accordance with the viscosity of the materials as well as the pressure with which the machine is working.

High pressure, low viscosity and a low IMPULSE FREQUENCY may cause excessive stress to the equipment and lead to non-homogeneous mixtures.

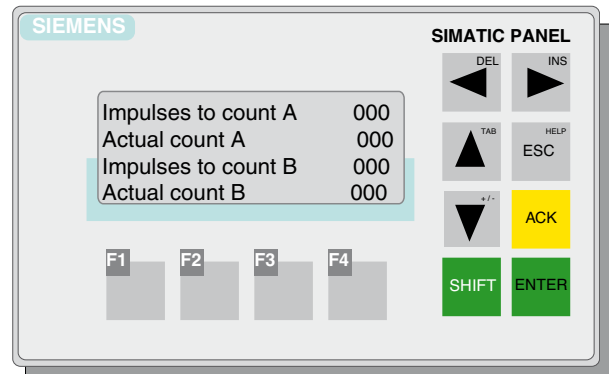
- In case of high viscosity and low working pressures 1 must be inserted.
- However, in case of low viscosity and high working pressures 5 must be inserted.

A/B RATIO:

The volumetric mixing ratio with which product A and catalyser B are dosed in order to obtain a proper mixture.

In order to access the second part of the screen, press the ▼ arrow button on the control panel. To return to the previous page, press the ▲ arrow button.

GENERAL SETTINGS SCREEN (2)

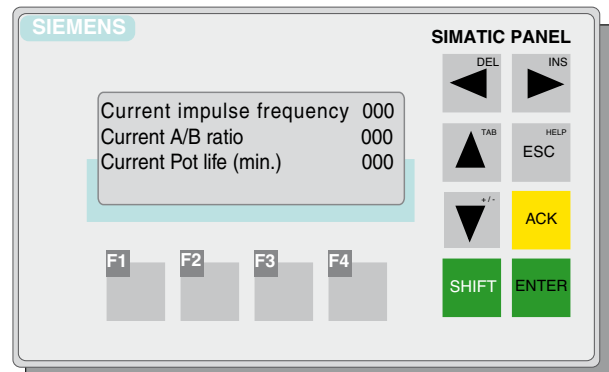


List of fields:

- **Impulses/to count A:** base impulses for parts of A.
- **Actual count A:** indicates the actual count of A.
- **Impulses/to count B:** base impulses for parts of B.
- **Actual count B:** indicates the actual count of B.

In order to access the second part of the screen, press the ▼ arrow button on the control panel. To return to the previous page, press the ▲ arrow button.

GENERAL SETTINGS PAGE (3)

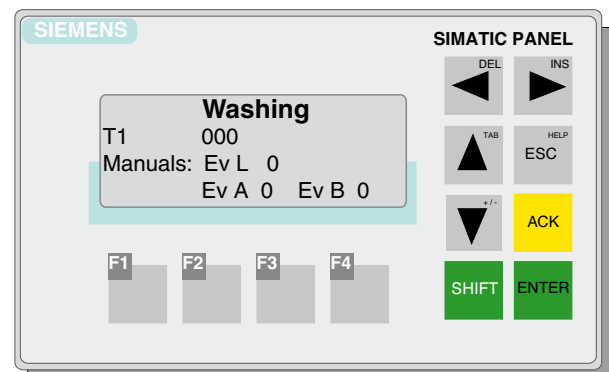


List of fields:

- Current impulse frequency
- Current A/B ratio
- Current Pot life (min.)


F2

WASH SCREEN

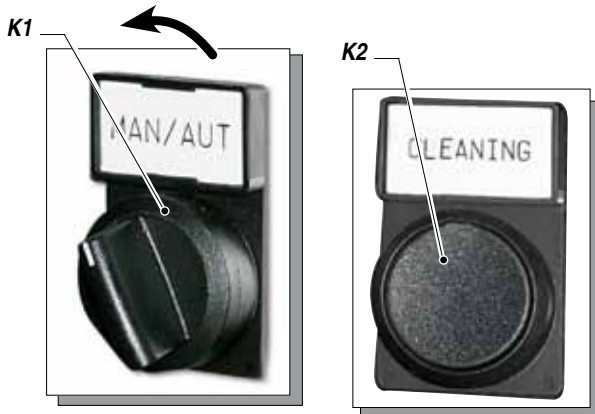


List of fields:


- T1: 1° thinner time washing.
- EV L: wash electrovalve manual control.
- EV A: material A electrovalve manual control.
- EV B: material B electrovalve manual control.


 The proper setting of the wash cycle guarantees the cleanliness of the mixing lines and prevents problems due to the solidification of the components within the machine.

Turn the selector (K1) to MAN and press the WASH button (K2) in order to activate the wash cycle. The machine will start the wash cycle. The operator must keep the spray-gun open until the cycle has completed.

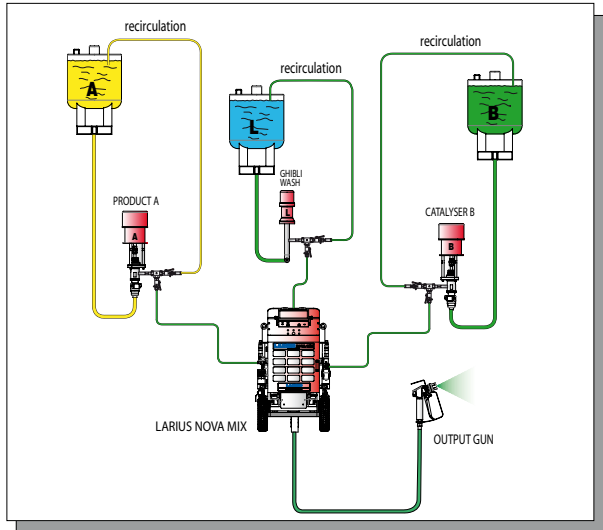


During the wash cycle, the message WASH IN PROGRESS will appear on the display. Once the cycle has completed the message WASH TERMINATED will appear.


 If the operator notices that the equipment has not been thoroughly washed, the settings must be corrected and the wash cycle must be repeated.

 This wash cycle must be performed whenever work has been completed and the machine is not expected to be used for a number of hours. This down time can be judged based on the pot life of the components being used (i.e. at the end of the working day or before lengthy pauses).

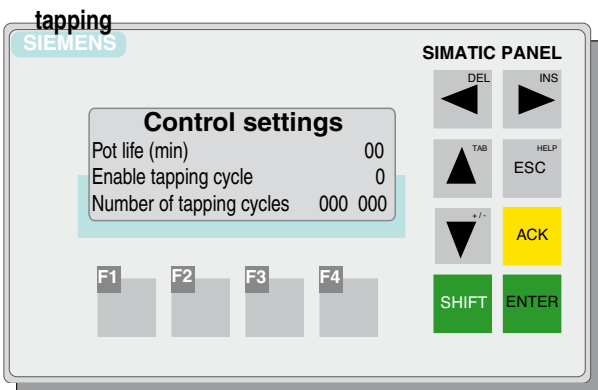
If one or both of the components is changed, perform a complete washing cycle in the entire LARIUS NOVA MIX 2K system, starting from the flow pumps. The wash fluid must be drawn into the system directly from the pumps and circulated throughout the entire system.



If component A requires a different wash fluid than catalyser B, the manual controls must be used in order to allow specific lines to be left open while others are kept closed. This will prevent unwanted reactions between the different components.

 When cleaning the machine, make sure that the wash fluid is compatible with the data sheets of the products (A and B) being utilised.


F3 CONTROL SETTINGS SCREEN (1)



List of fields:

- Pot life: safety time for wash alarm. Only upon request:
- Enable tapping cycle: enables the control cycle.
- Number of control cycles: allows the user to set the number of desired tapping cycles.

POT LIFE

 Before initiating any work activities, always make sure that this field is set properly in relation to that which is specified in the data sheets of the products being utilised. Incorrect settings could lead to the solidification of the mixed product within the mixing lines.

The pot life is the value which indicates the reaction time (in minutes) of product **A** with catalyser **B**.

Once the set time has passed, the machine displays a message and a relative alarm indicating that a wash cycle is required.

If the data sheets indicate a value of X as the reaction time, the machine must be set to a value inferior to X.

In the event of an interruption in the electric power supply, a washing must be carried out manually using Screw Y on the vertical solenoid valve \ominus : leave the air supply open.

When the power is restored and once washing is complete, reposition the Screw on the horizontal solenoid valve \ominus .



Since, in this case, the wash cycle cannot be initiated from the control panel, the valve will have to be switched manually using a flathead screwdriver. Alternate valve opening between the wash fluid and the air, thereby simulating an automatic wash cycle.

ENABLING CONTROL CYCLES AND SPECIFYING THE NUMBER OF CONTROL CYCLES

(Only for machines which are properly equipped for verifying component dosage)

These two fields allow the user to setup the cycle for checking the dosage of the two components and, therefore, the mixing ratio as well. In order to verify the mixing ratio, the relative mixing block is required.

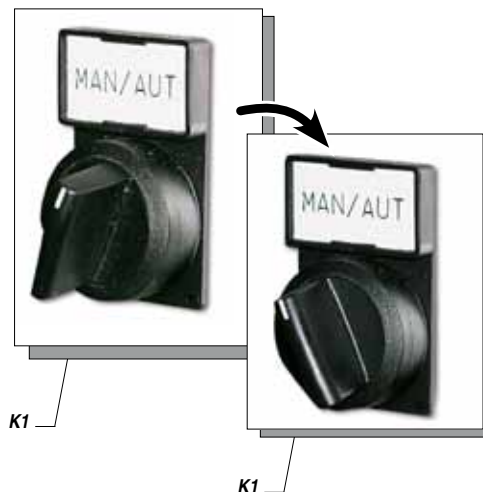
Set the MANUAL/AUTOMATIC selector to its MANUAL position.

In order to activate this component tapping cycle, the ENABLE CONTROL CYCLE field must be set to 1.

The NUMBER OF CONTROL CYCLES field establishes the number of cycles for which the test will last. During the verification, this same field will indicate the number of cycles that the machine is performing.

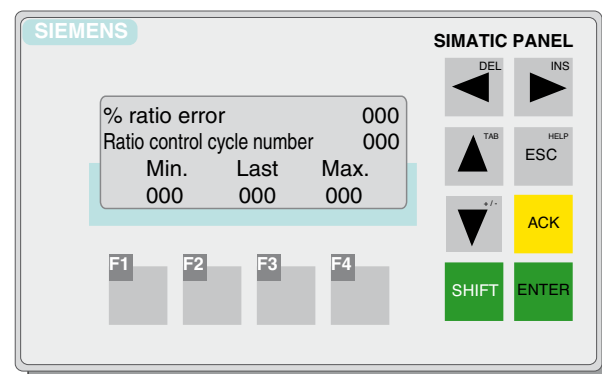
Once these two fields have been properly setup, turn selector (**K1**) to AUTOMATIC and then turn it back to MANUAL.

The machine will perform the requested number of cycles and will then stop.



In order to access the second part of the screen, press the \blacktriangledown arrow button on the control panel. To return to the previous page, press the \blacktriangle arrow button.

CONTROL SETTINGS SCREEN (2)



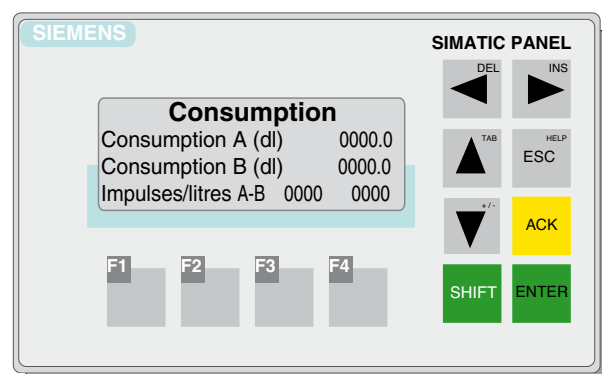
List of fields:

- **% ratio error**: % error ratio setting.
- **Ratio control cycle number**: number of cycles to calculate the error of the report
- **Min. Max peak**: indicates the minimum, last and maximum ratio calculated based on the percentage.

In order to access the second part of the screen, press the \blacktriangledown arrow button on the control panel. To return to the previous page, press the \blacktriangle arrow button.

CONTROL SETTINGS SCREEN (3)

CONSUMPTION



The second part of screen F3 displays, in dl, the consumption of the two components:

CONSUMPTION A (dl) = indicates the quantity of product A consumed, expressed in decilitres.

CONSUMPTION B (dl) = indicates the quantity of product B consumed, expressed in decilitres.

IMPULSI / LITRI A-B = indicates the number of impulses per litre of the linear transducers. The value is different depending on the supply pump model on the machine.

Press the **F3** button from the consumption screen to reset the consumption values. The program will ask for the user to confirm the operation.



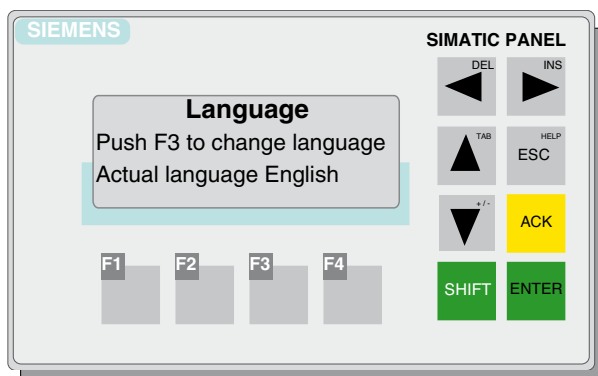
Use the RIGHT and LEFT arrow buttons to select YES or NO.

Press the button to reset the values.

In order to access the second part of the screen, press the arrow button on the control panel. To return to the previous page, press the arrow button.

CONTROL SETTINGS SCREEN (4)

LANGUAGE

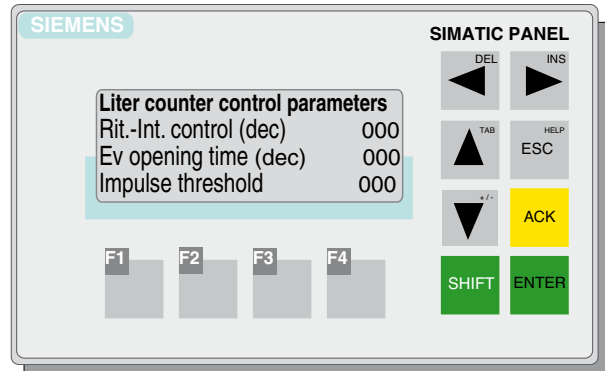


Press the **F3** button to set the panel's menu language.

In order to access the second part of the screen, press the arrow button on the control panel. To return to the previous page, press the arrow button.

CONTROL SETTINGS SCREEN (5)

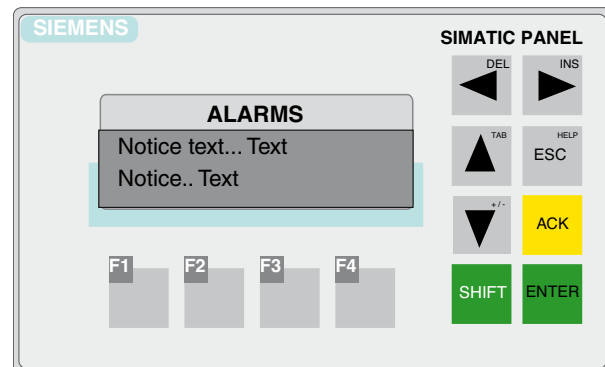
LITER COUNTER CONTROL PARAMETERS



List of fields:

- **Rit.-Int. control:** is the time interval between checks and the other on the meter.
- **Ev opening time:** is the opening time of the component in working to control the fluid passage.
- **Impulse threshold:** is the impulse threshold beyond which will an error on the liter-counter will be detected.

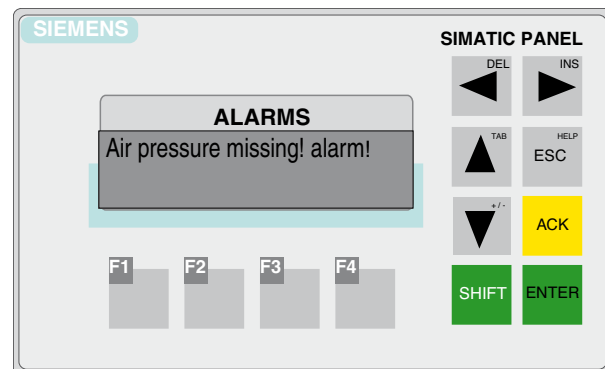
F4 ALARMS SCREEN



- **System in emergency status alarm:** indicates that the mushroom emergency push-button on the control panel has been pressed.

Reset: reset the emergency button and press **F4**.

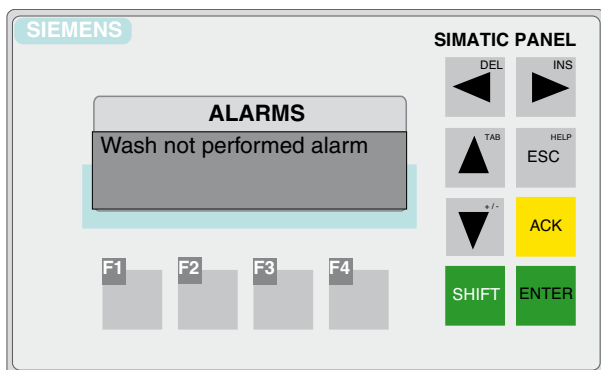
Remove text: takes place automatically by pressing **F4**.



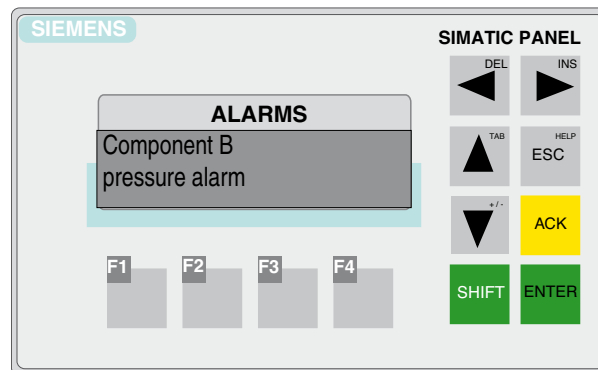
- **Air pressure missing alarm:** indicates that the air pressure has dropped beneath its minimum limit.

Reset: check, adjust the air pressure and press **F4**.

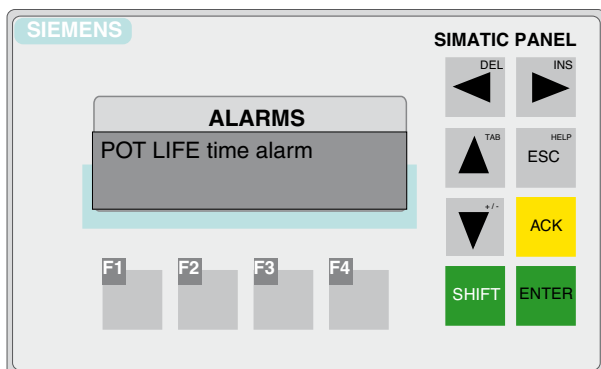
Remove text: takes place automatically by pressing **F4**.



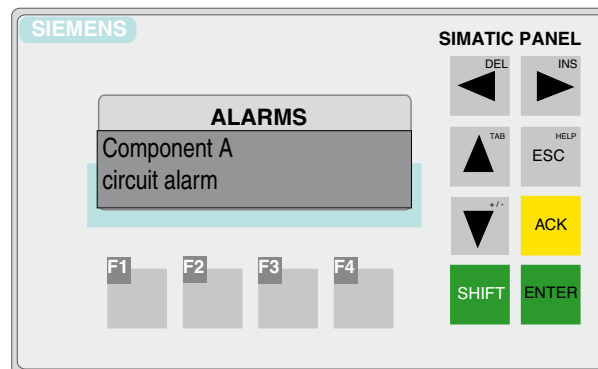
- **Wash not performed alarm:** indicates that the wash cycle was not performed before the power was turned off.
Reset: perform a wash cycle or press the mushroom emergency push-button if a wash cycle is not required then press **F4**.
Remove text: takes place automatically by pressing **F4**.



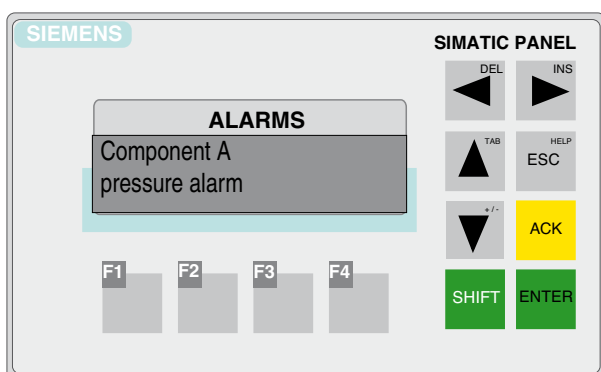
- **Component B pressure alarm:** indicates that the pressure of component **B** is not within the proper range.
Reset: check the pressure and pump circuit and press **F4**.
Remove text: takes place automatically by pressing **F4**.



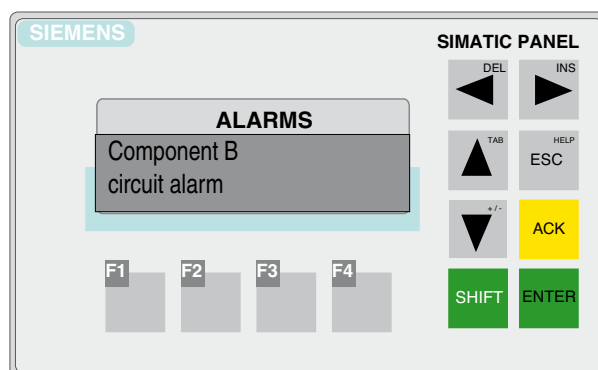
- **POT LIFE time alarm:** indicates that a wash cycle was not performed before the POT LIFE time expired.
Reset: perform a wash cycle or spray and press **F4**.
Remove text: takes place automatically by pressing **F4**.



- **Component A circuit alarm:** indicates possible leakage from valve **A** located on the mixing block or the possible leakage of material into the pumping unit of the supply pump.
Reset: start an automatic work cycle (in a purging zone) and check that the mixing valve functions properly.
 When valve **A** is closed, the led indicator on the flowmeter should not flash. If the led flashes, replace or repair the valve.
Remove text: turn the selector to its manual position, turn it back to automatic and then press **F4**.



- **Component A pressure alarm:** indicates that the pressure of component **A** is not within the proper range.
Reset: check the pressure and pump circuit and press **F4**.
Remove text: takes place automatically by pressing **F4**.



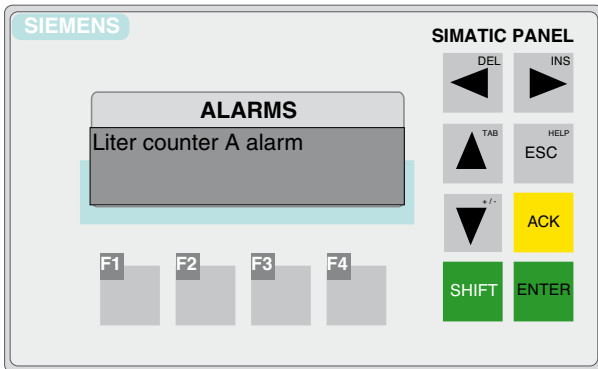
- **Component B circuit alarm:** indicates possible leakage from valve **B** located on the mixing block or the possible leakage of

material into the pumping unit of the supply pump.

Reset: start an automatic work cycle (in a purging zone) and check that the mixing valve functions properly.

When valve **B** is closed, the led indicator on the flowmeter should not flash. If the led flashes, replace or repair the valve.

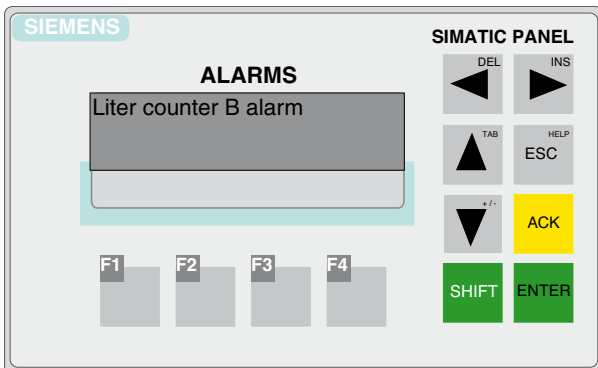
Remove text: turn the selector to its manual position, turn it back to automatic and then press F4.



- **Litre counter A alarm:** indicates that litre counter **A** (linear sensor) is not counting correctly.

Reset: press the **F4** key.

Remove text: occurs automatically pressing **F4**.



- **Litre counter B alarm:** indicates that litre counter **B** (linear sensor) is not counting correctly.

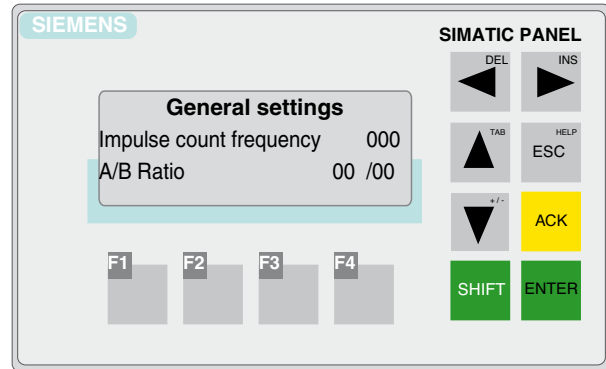
Reset: press the **F4** key.

Remove text: occurs automatically pressing **F4**.

AUTOMATIC CYCLE

When the automatic cycle is active, the program controls the sequence of the valves for the two components and doses them based on the requested ratio and based on the "impulse count frequency" settings.

Press the F1 button to access the "General Settings" screen.



The "base impulse count" setting affects the frequency of the valve sequence.

Example:

If a volume ratio of 3/1 has been selected (*3 parts A and 1 part B*) and a base impulse of 1 has been inserted, the program will check the opening of the valves by counting 30 impulses from the A flowmeter and 10 impulses from the B flowmeter.

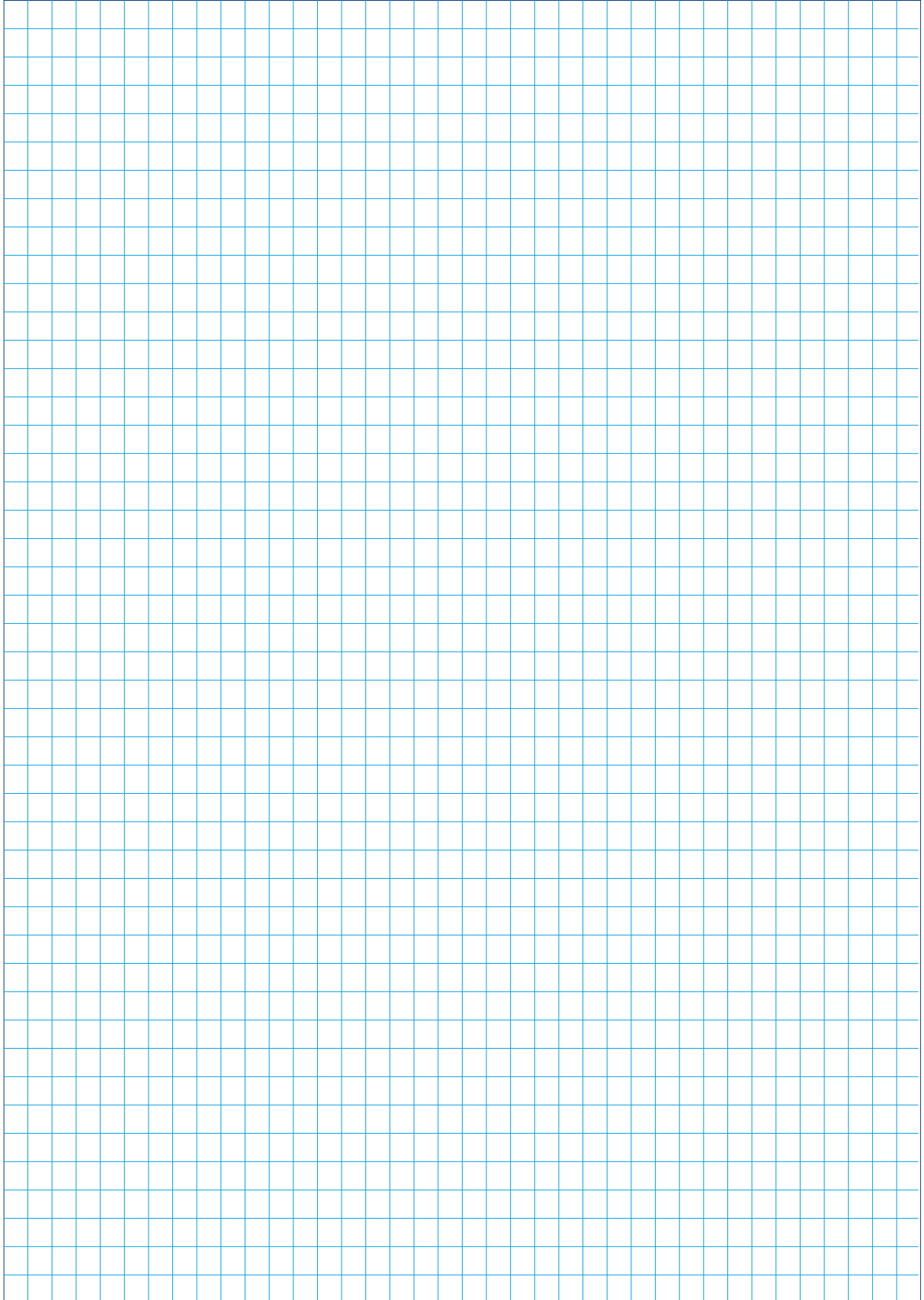


The adjustment of the "base impulse count" must be done in such a way so as to avoid high frequencies which may not be supported by the components.

LARIUS

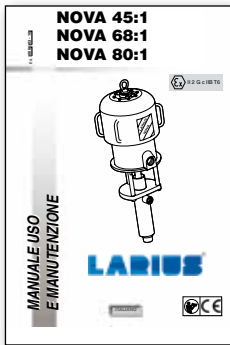
PAINT SPRAYING EQUIPMENT

*L'innovazione.
Quella vera.*



SPARE PARTS

English



OPERATING AND MAINTENANCE INSTRUCTION



OPERATING AND MAINTENANCE INSTRUCTION



O Protective casing assembly
Rif.24404 - 24405
pag. 42

AD Ghibli reducer assembly
Rif.24487 - pag. 57

AC Air regulator for wash pump
Rif.24484 - pag. 56

S Tank assembly kit 50 Lt.
Rif.24412 - pag. 46

P Electro-pneumatic
Rif.24408 - pag. 43

AI Wheels
Rif.24496 - pag. 62

R Group for power machine
Rif.24411 - pag. 45

AG Heater with A component
Ref.24493 page 60
AH Heater with B component
Ref.23494 page 61



Y Party with drain
-Rif. 24476 - pag. 52

X Air distributor assembly
Rif.24418 - pag. 51

AB Air supply tank
Rif.24479 - pag. 55

Z Air distributor assembly
Rif.24477 - pag. 53

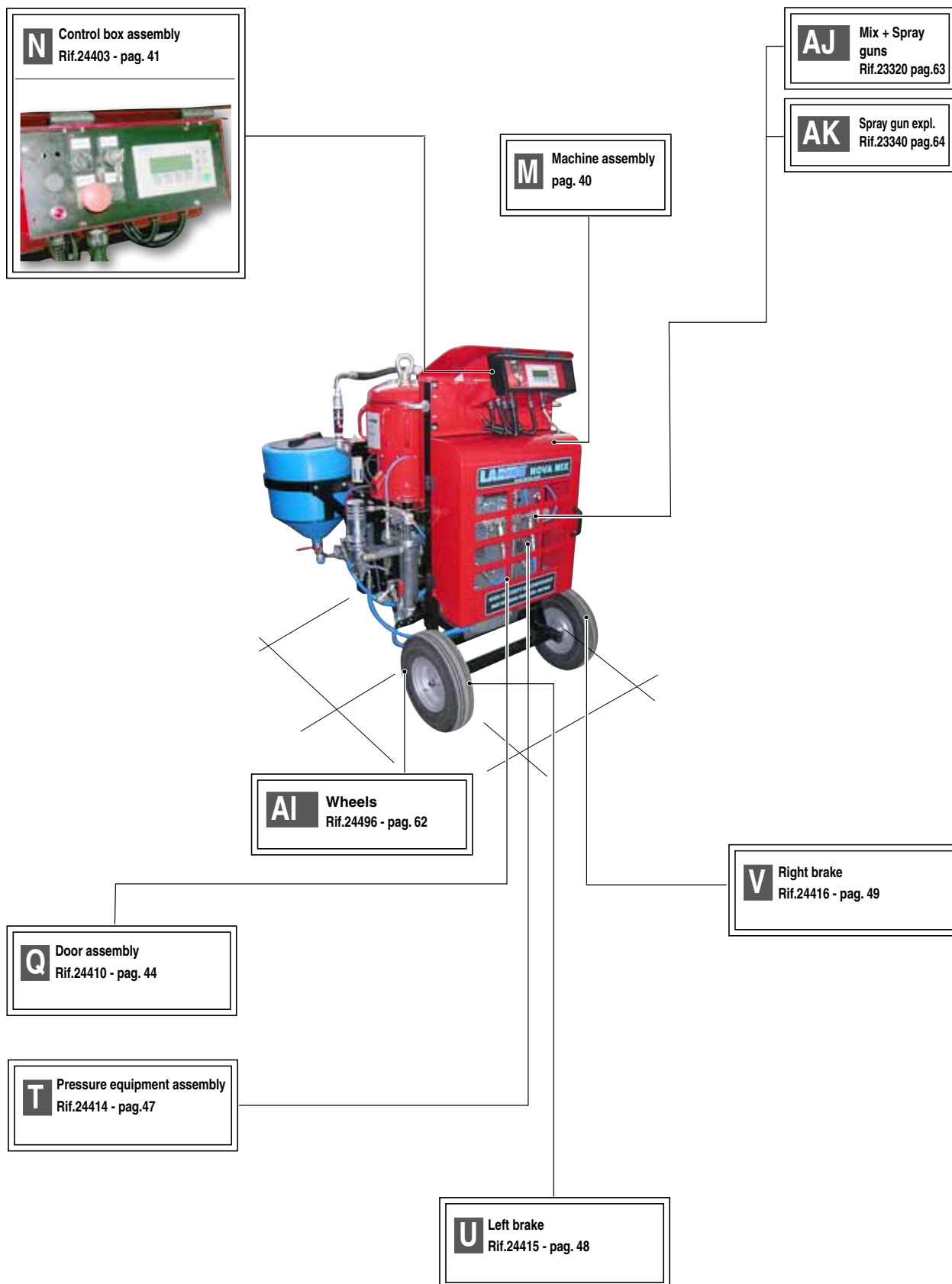
AF Flowmeter kit for Ghibli mix comp. dosage
Rif.24489 - pag. 59

AE Encoder kit for component dosage
Rif.24488 - pag. 58

AA Group assembly RL for Nova Pump
Rif.24478 - pag. 54

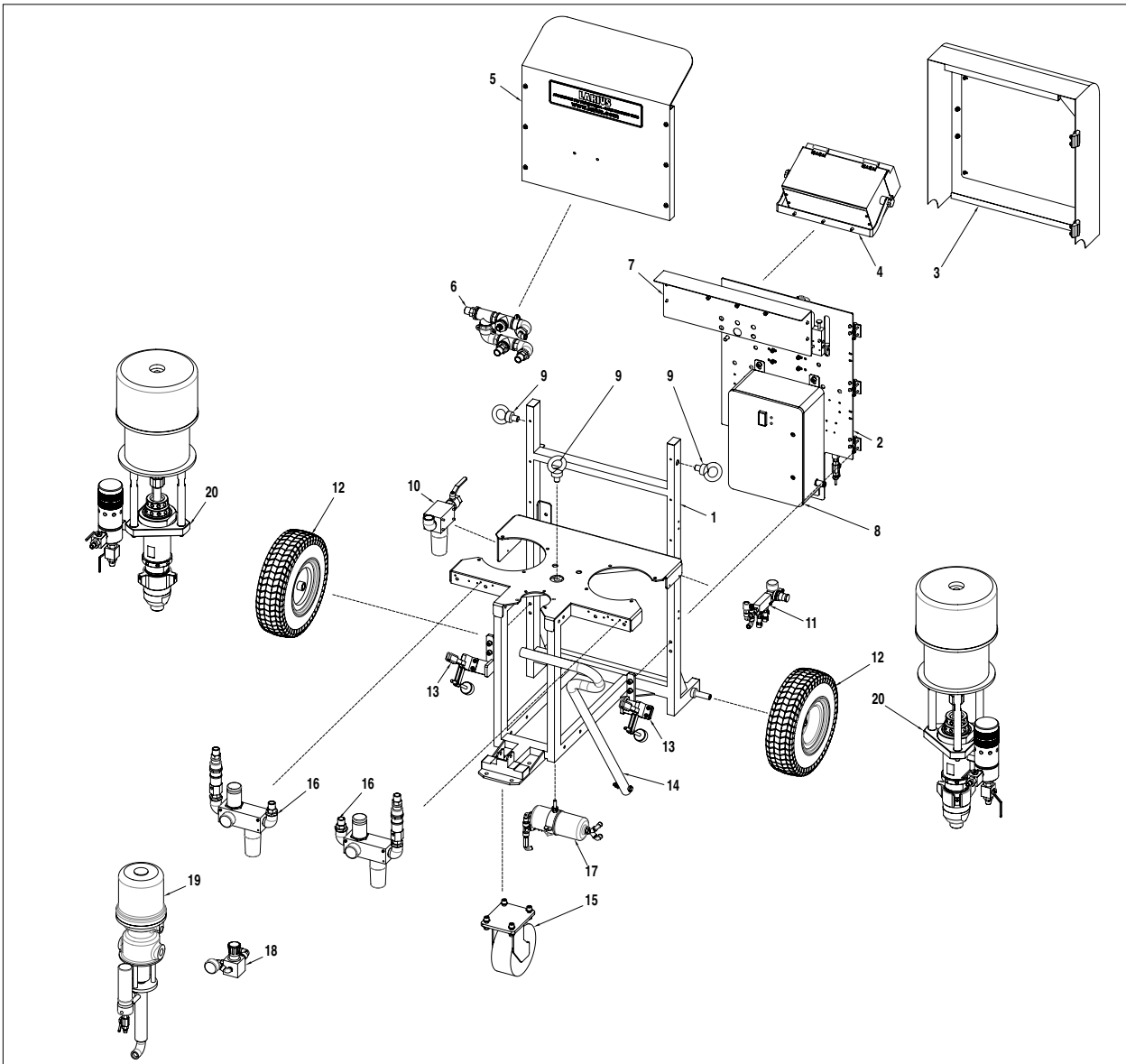
W Machine steering gear assembly
Rif.24417 - pag. 50

SPARE PARTS



M MACHINE ASSEMBLY

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

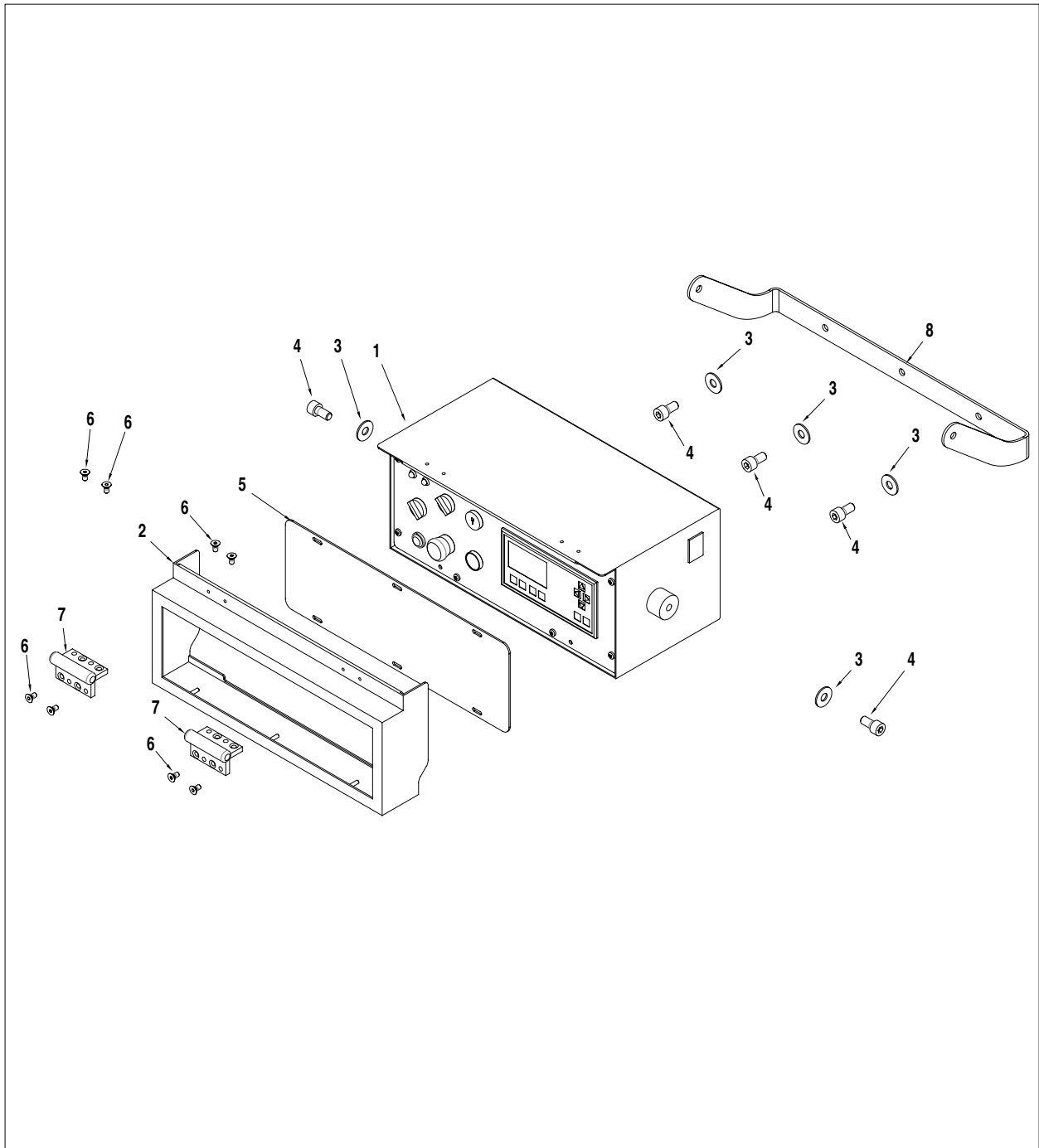


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24409	Machine frame	1	11	24477	Air control machine	1
2	24408	Electro-pneumatic panel	1	12	24496	Rear wheels	1
3	24210	Door	1	13	24416/5	Brake DX + Brake SX	1+1
4	24403	Comand box	1	14	24417	Machine steering gear	1
5	24405	Protection panel	1	15	24496/1	Front wheels	1
6	24418	Air distributor	1	16	24478	Group RL	2
7	24404	Protection panel	1	17	24479	Spare air tank	1
8	24411	Box for pneumatic power supply	1	18	24484	Washing pump regulator	1
9	24420	Eyebolts	3	19	-	Washing pump	1
10	24476	Air intake filtre	1	20	-	Component pump A/B	2

N CONTROL BOX ASSEMBLY REF. 24403

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

English

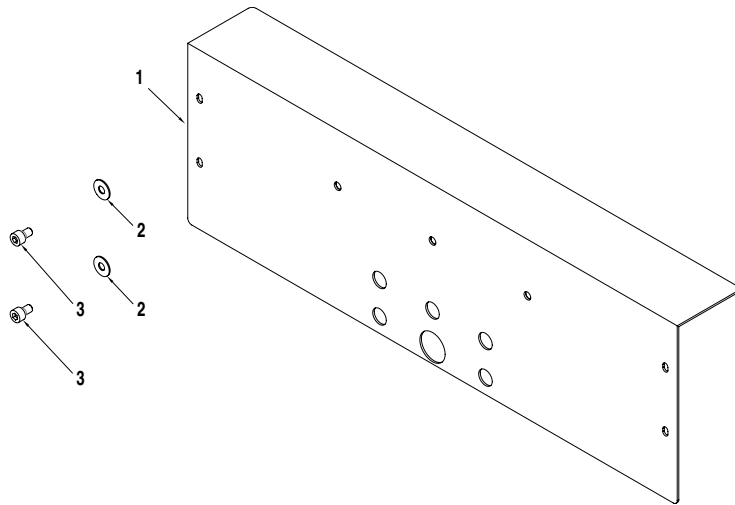


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24475	Control box	1	5	24455	Transparent panel	1
2	24453	Control box door	1	6	5534	Screw UNI 6109 TSP M4x10	8
3	32024	Washer UNI 6595 d8	5	7	24486	Hinges	2
4	32004	Screw UNI 5961 TCE M8x16	5	8	24454	Bracket	1

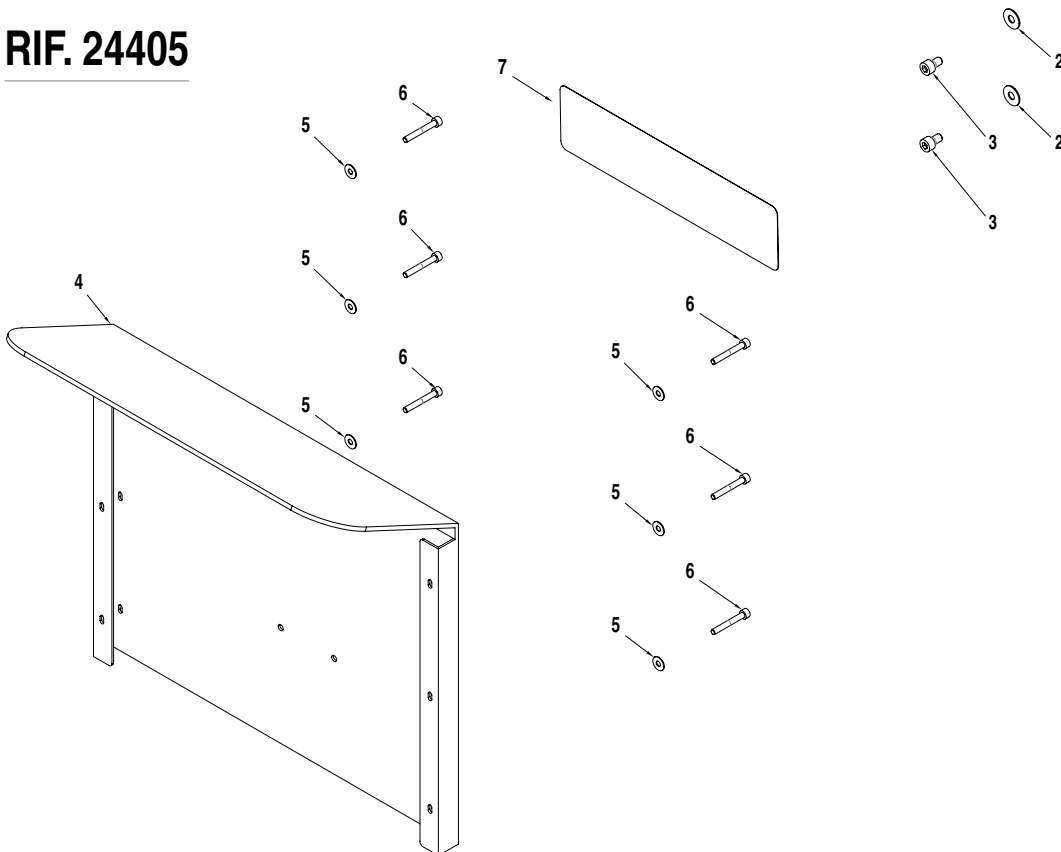
PROTECTIVE CASING ASSEMBLY

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

RIF. 24404



RIF. 24405

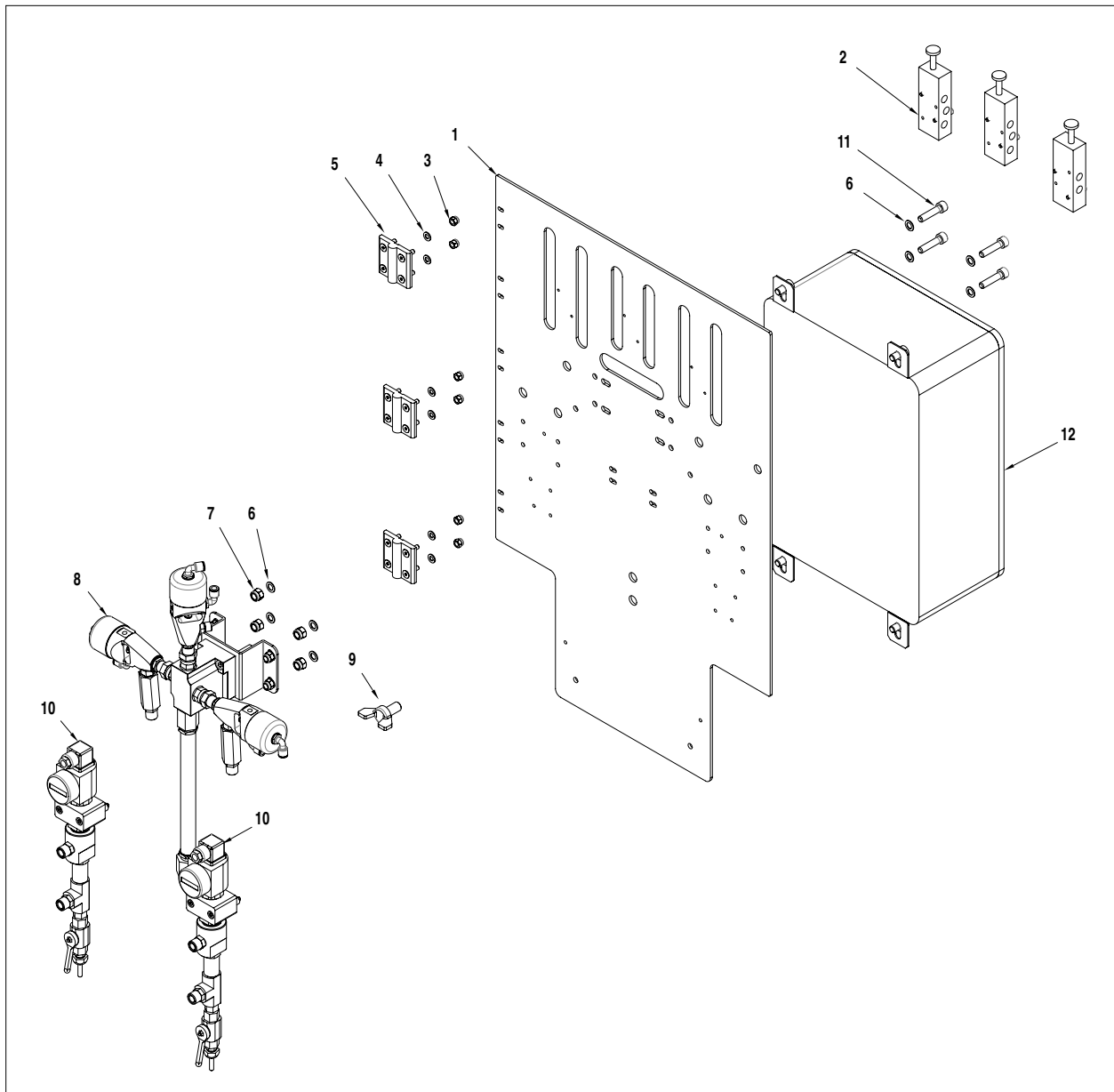


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24457	Protective casing	1	5	510068	Washer UNI 6592 d.6	6
2	95063	Washer UNI 6592 d.6 Zn	4	6	95623	Screw TCE UNI 5931 M6x50	6
3	6136	Screw TCE UNI 5931 M6x10	4	7	24472	Label LARIUS	1
4	24456	Protection panel	1				

P ELECTRO-PNEUMATIC PANEL REF. 24408

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

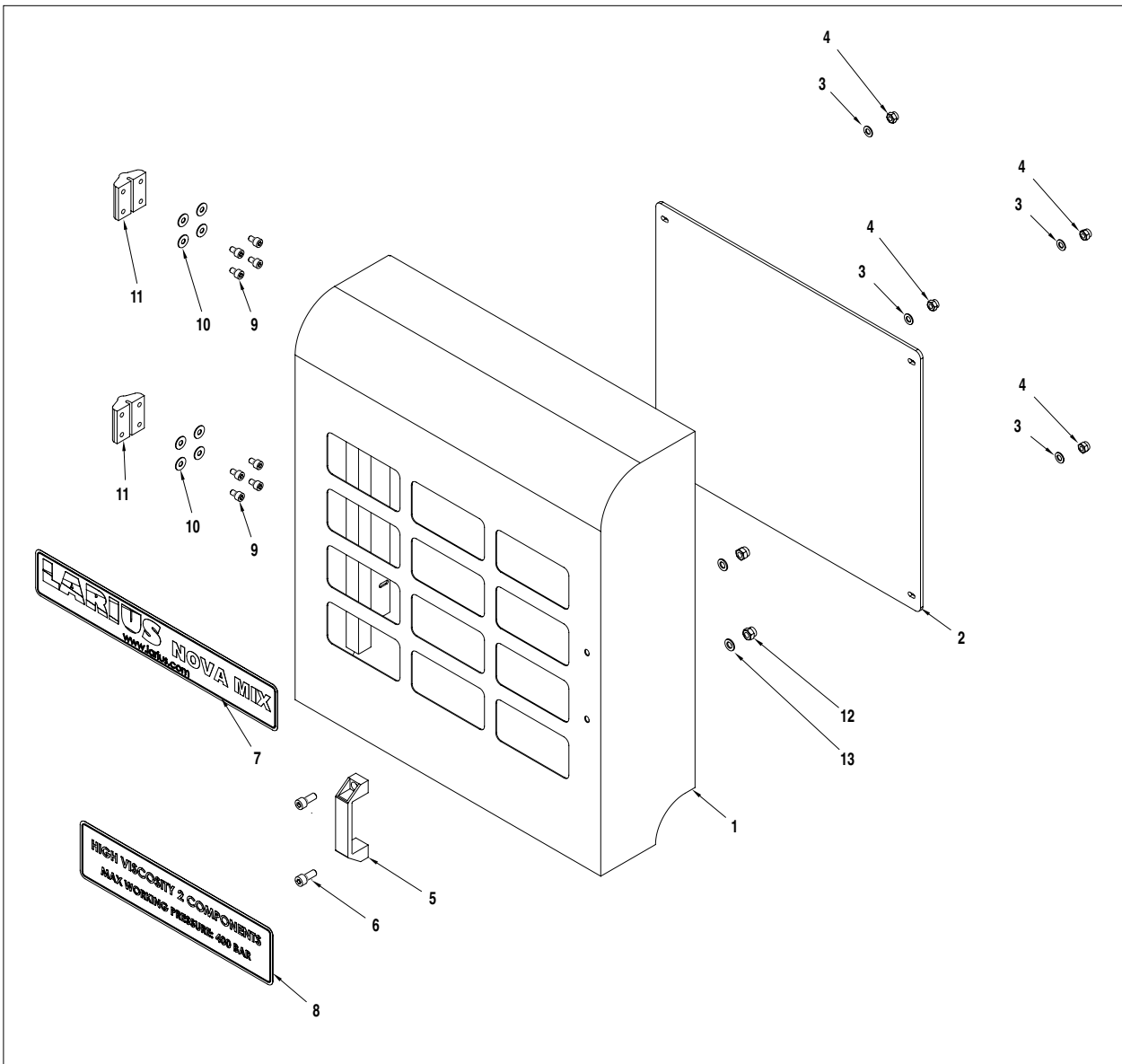
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24460	Component fixing panel	1	7	3637	Self-tightening nut M8	4
2	23304/1	Electrovalves	3	8	23320	Mixing head	1
3	33024	Self-tightening nut M5	6	9	23305	Butterfly screw	1
4	33023	Washer d.5	6	10	24414	Manostat group	2
5	23302	Hinges	3	11	39405	Screw TCE UNI5931 M8x35	4
6	32024	Washer d.8	8	12	24411	Power generator unit	1

Q DOOR ASSEMBLY REF. 24410

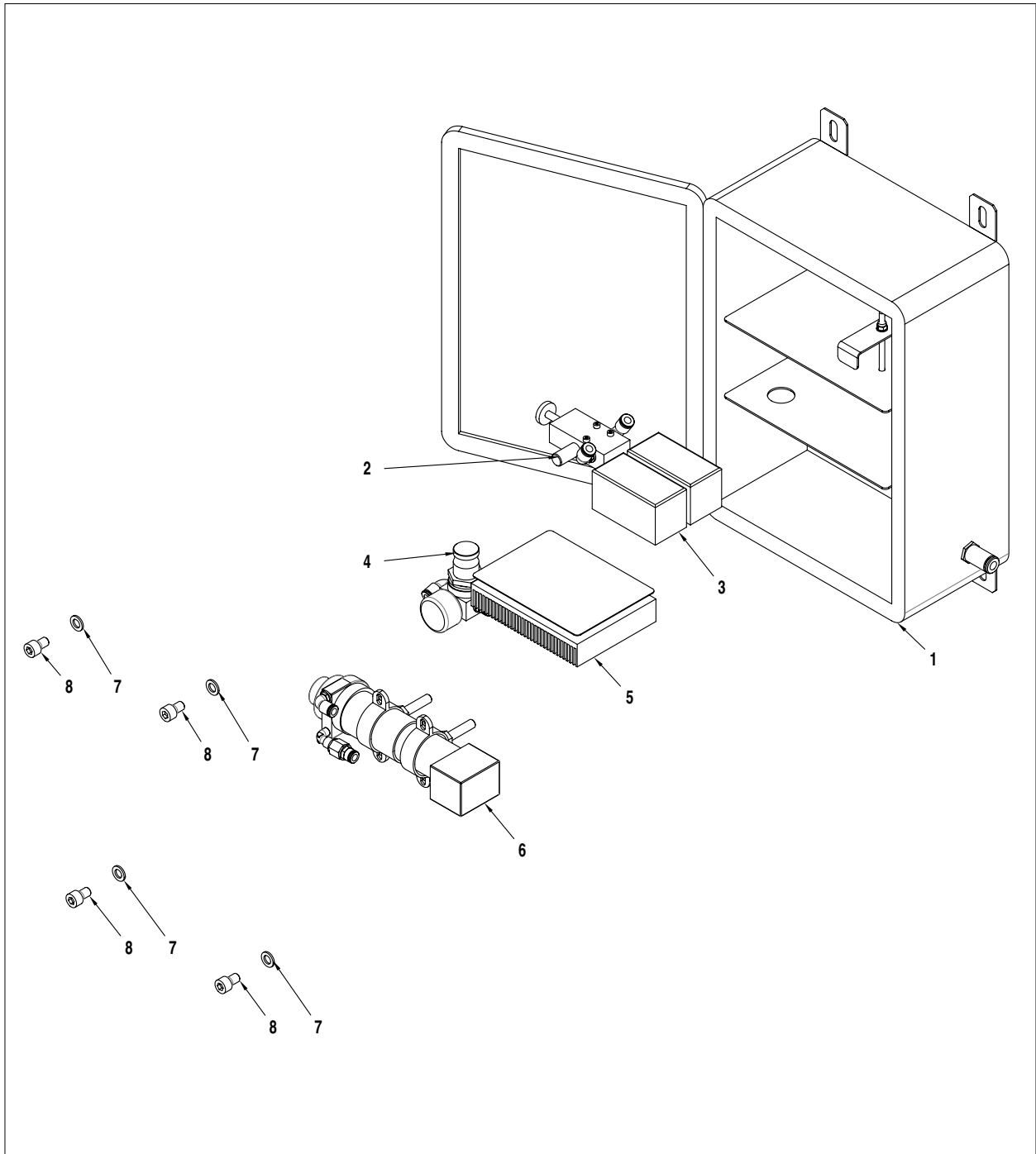
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23202	Door	1	8	24473	Working pressure label	1
2	23214	Transparent panel	1	9	32032	Screw UNI 5931 TCE M5x12	8
3	95063	Washer d6	4	10	33023	Washer UNI 6592 d5 Zn	8
4	8042	Self-tightening nut M6	4	11	24183	Hinges	2
5	32003	Handle	1	12	3637	Nut UNI7473 Autobl. M8	2
6	34008	Screw UNI 5931 TCE M8x20	2	13	32024	Washer UNI 6592 d.8 Zn	2
7	24470	Label machine name	1				

R GROUP FOR POWER MACHINE REF. 24411**WARNING:** Always indicate code and quantity for each part required.

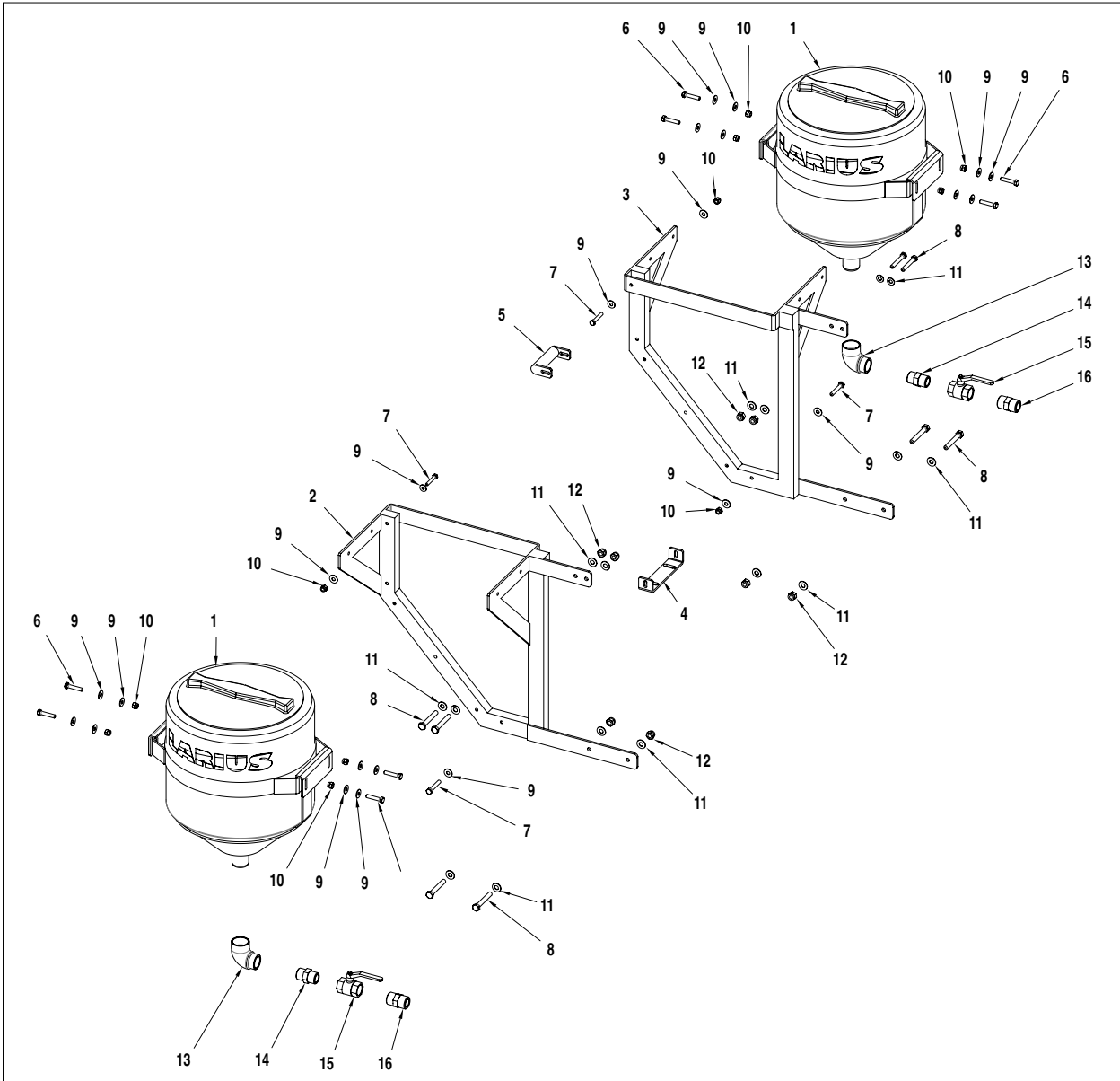
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24425	Housing for power supply box	1	5	24426	Board + dissipator	1
2	24422	Electrovalves	1	6	24424	Current generator	1
3	24421	Pair of batteries	1	7	81033	Washer d10	4
4	24480	Regulator	1	8	95068	Screw UNI 5931 TCE M10x16	4

S TANK ASSEMBLY KIT 50 LT. REF. 24412

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

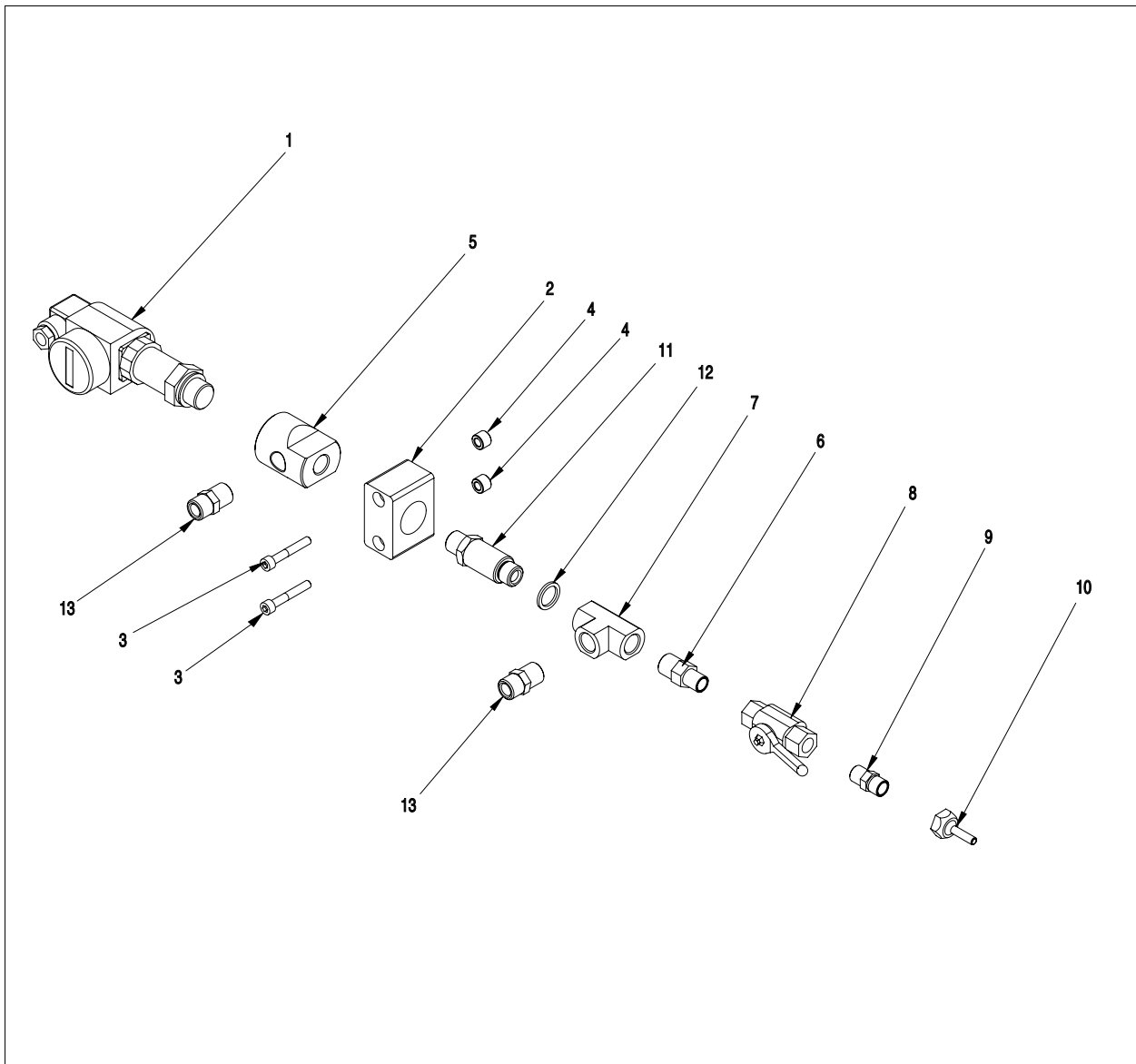


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	18241	Tank complete 50 lt.	2	10	3637	Self-tightening nut M8	12
2	24425	Tank door comp. A	1	11	95096	Washer d.10	16
3	24426	Tank door comp. B	1	12	95158	Nut M10	8
4	24427	Base cross beam	1	13	18251	Elbow connector 1" 1/2-1"	2
5	24428	Upper cross beam	1	14	8375	1" Nipple	2
6	69012	Screw TE M8x40	8	15	30532	1" Ball valve	2
7	69016	Screw TE M8x50	8	16	95032	1" - M36x2 Adapter	2
8	20539	Screw TE M10x70	8	-	24498	Connecting pipe material	2
9	32024	Washer d.8	24				

T PRESSURE EQUIPMENT ASSEMBLY REF. 24414

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

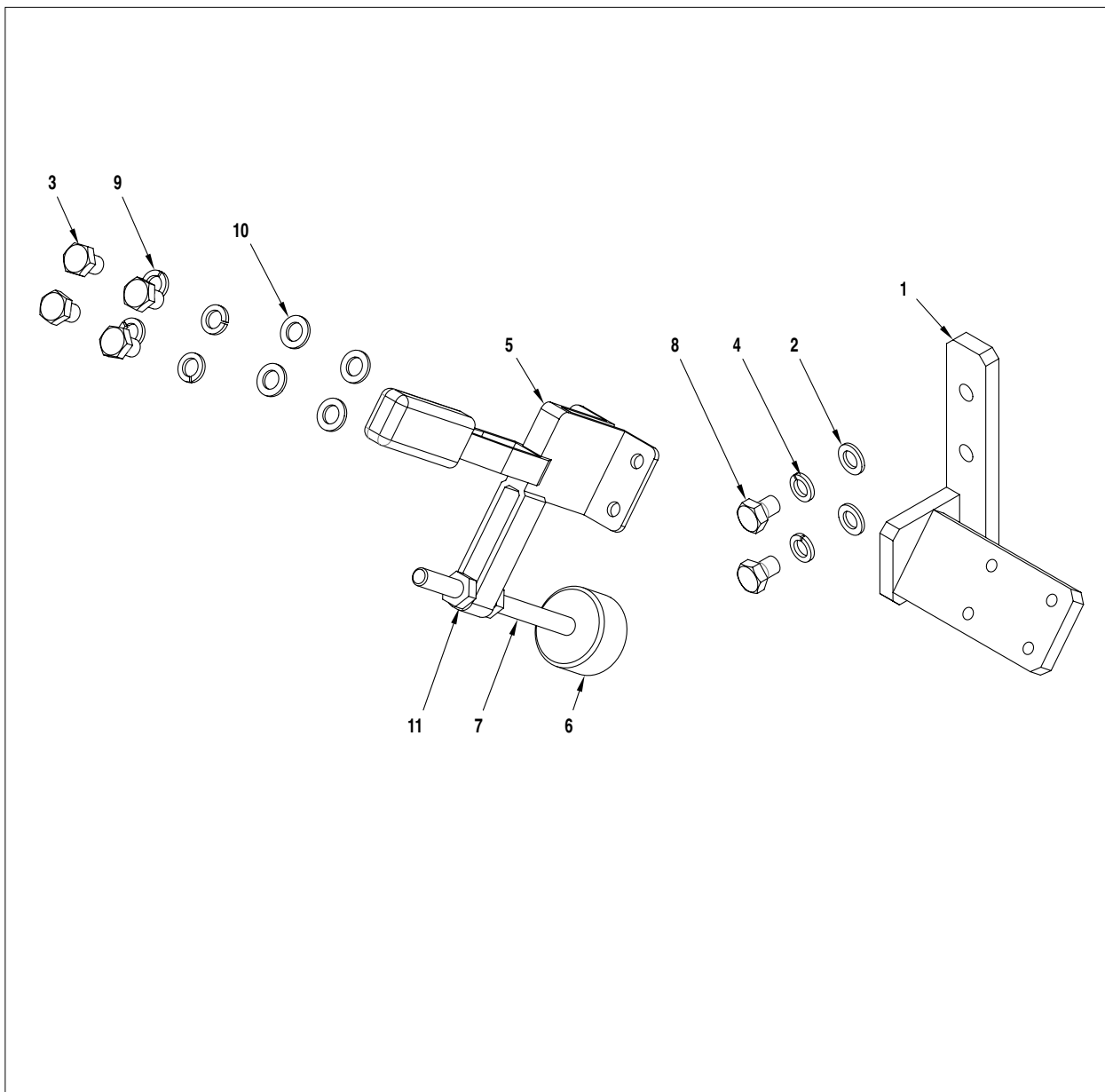
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	20457	Pressure switch with + display	1+1+1	7	23409	T-connector 3/8" FFF	1
	20421			8	98325	Ball valve 1/4"	1
	23133			9	3110	T-connector 1/4"	1
2	4866	Collar PFC d22	1	10	18206	Gun 1/4"	1
3	8037	Screw UNI 5931 TCE M6x40	2	11	23134/1	Adapter 3/8" conical	1
4	23353/1	Hinge spacer	2	12	33010	Seal 3/8" seal	1
5	23128/1	T-connector	1	13	6149	Connector 3/8"	2
6	23402	Adapter 3/8-1/4 conical-conical mm	1				

U LEFT BRAKE REF. 24415

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

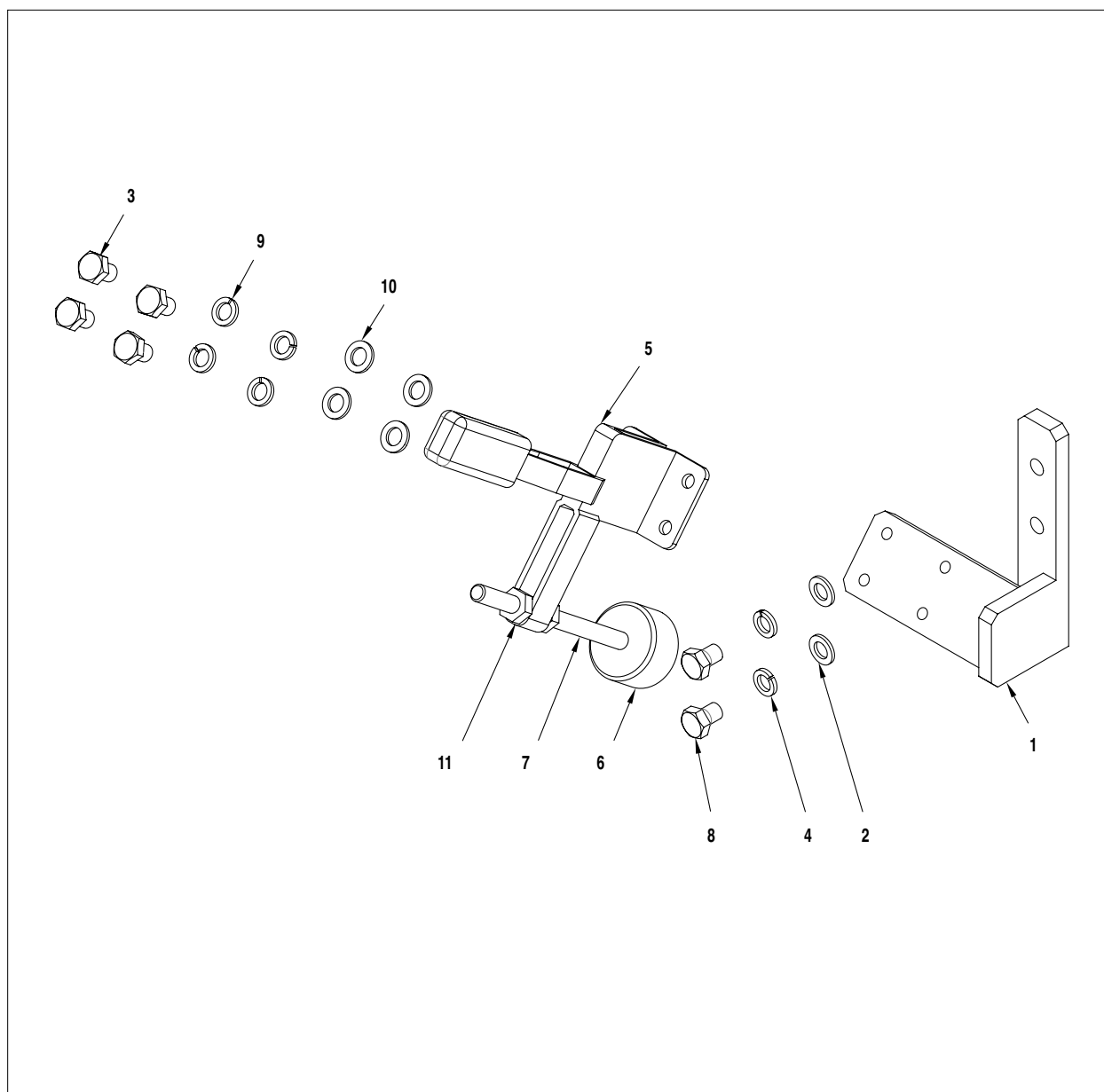


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24458	Bracket for left brake	1	7	-	M10 threaded rod for brake 160mm	1
2	81033	Washer UNI 6592 d.10	2	8	4409	Screw TE M10x25	2
3	69011	Screw TE M8x20	4	9	96030	Washer Grower d.8	4
4	95096	Washer Grower d.10	2	10	32024	Plain washer d.8	4
5	4465	Brake	1	11	95158	Nut M10	2
6	4443	Head brake	1				

V RIGHT BRAKE REF. 24416

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

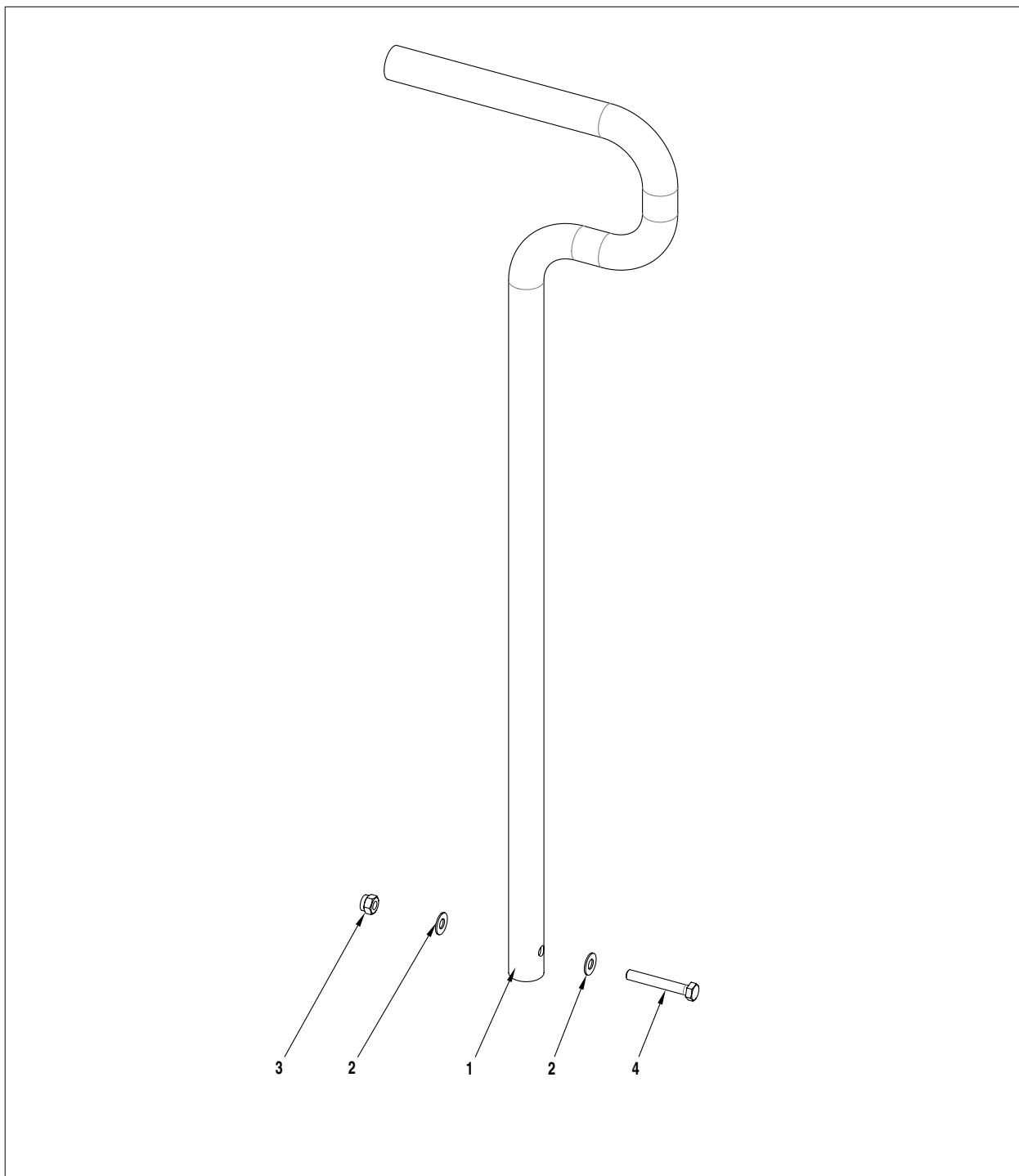
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24459	Bracket for right brake	1	7	-	M10 threaded rod for brake 160mm Zn	1
2	81033	Washer UNI 6592 d.10	2	8	4409	Screw TE M10x25	2
3	69011	Screw TE M8x20	4	9	96030	Washer Grower d.8	4
4	95096	Washer Grower d.10	2	10	32024	Plain washer d.8	4
5	4465	Brake	1	11	95158	Nut M10	2
6	4443	Head brake	1				

W MACHINE STEERING GEAR ASSEMBLY REF. 24417

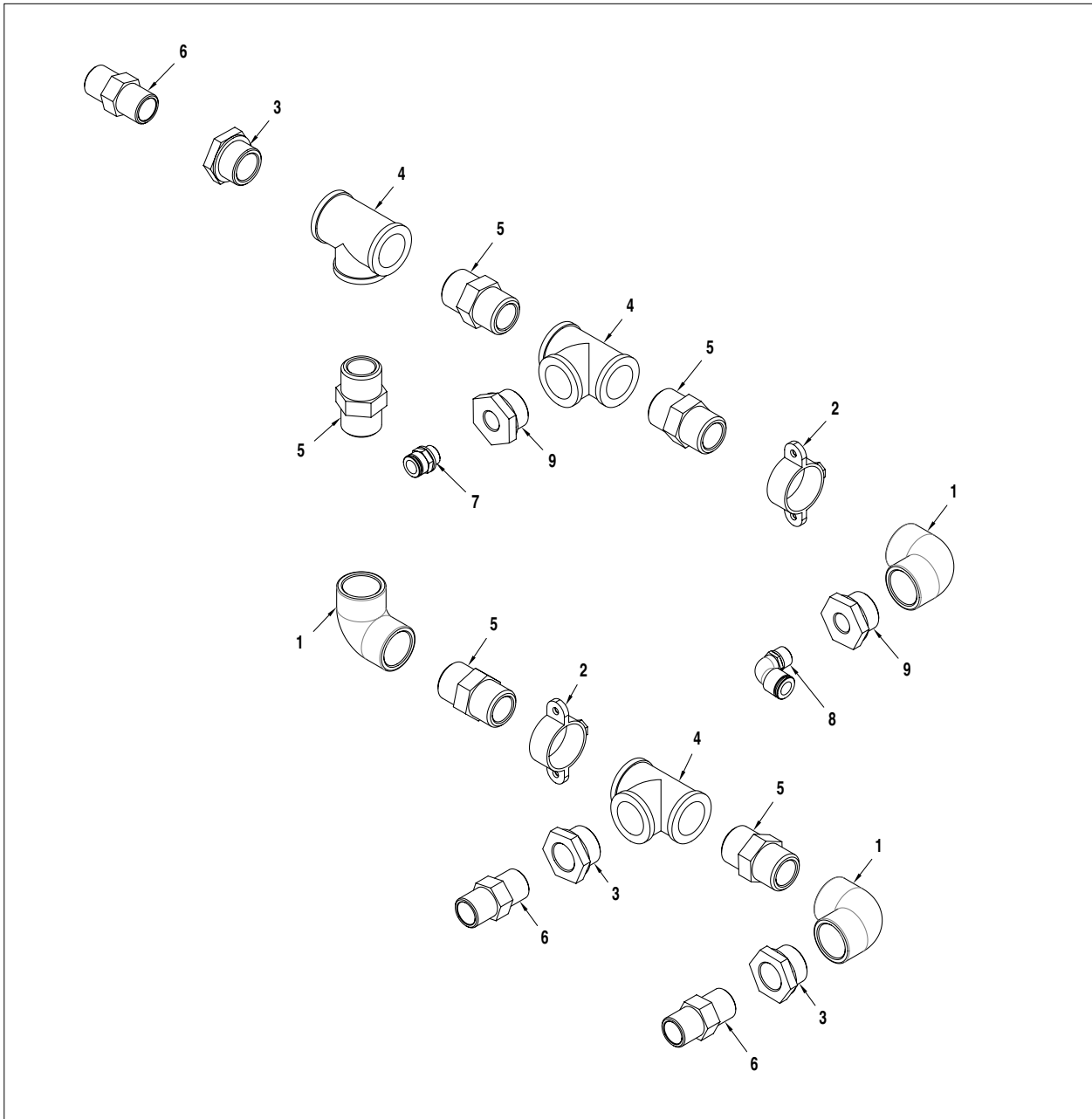
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24417/1	Machine steering gear	1	3	96080	Self-tightening nut M10	2
2	81033	Washer UNI 6592 d.10	1	4	20539	Screw TE UNI5737 M10x75	1

X AIR DISTRIBUTOR ASSEMBLY REF. 24418**WARNING:** Always indicate code and quantity for each part required.

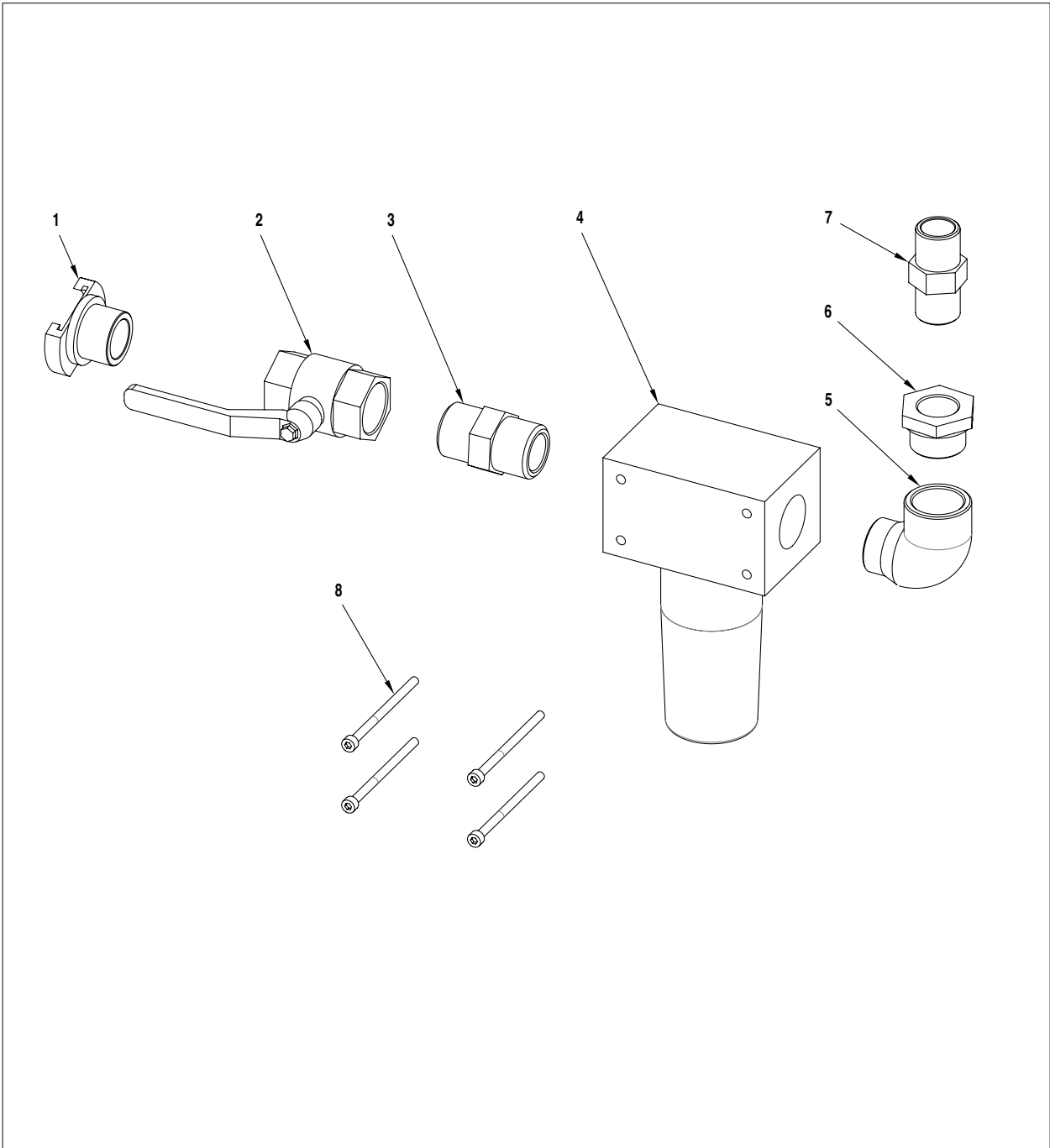
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	20816	Connector 90° FF 1"	3	6	95090	Con.mm 3/4" conical-cylindrical gasket	3
2	1000506	1" Collar	2	7	96215	3/8" quick attachment for diam.12 tube	1
3	95313	1" - 3/4" Reduction	3	8	96216	90° 3/8 quick attachment for diam.12 tube	1
4	30534	T-connector FFF 1"	3	9	24485	1" - 3/8" Reduction	2
5	8375	Connector mm 1" conical	5				

Y PARTY WITH DRAIN REF. 24476

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

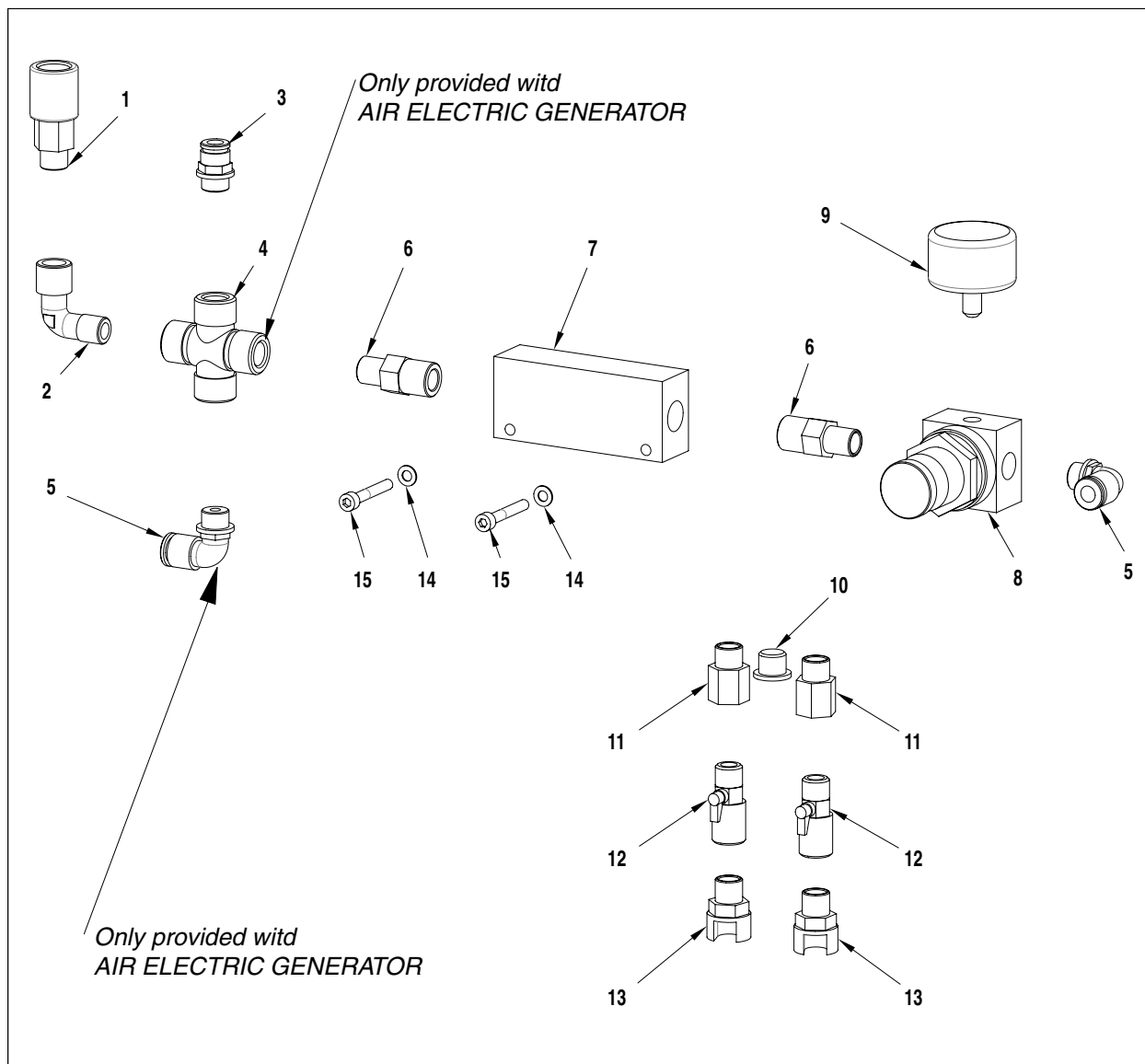


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	95392	Air inlet fitting	1	5	95031	90° M-F 1" Connector	1
2	30532	1" Ball valve	1	6	95313	M-F 1"-3/4" Reduction	1
3	8375	1" Nipple	1	7	95090	3/4" Nipple	1
4	24483	1" Group filtre air	1	8	37221	Screw TCE UNI 5931 M5x70	4

Z AIR DISTRIBUTOR ASSEMBLY REF. 24477

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

English

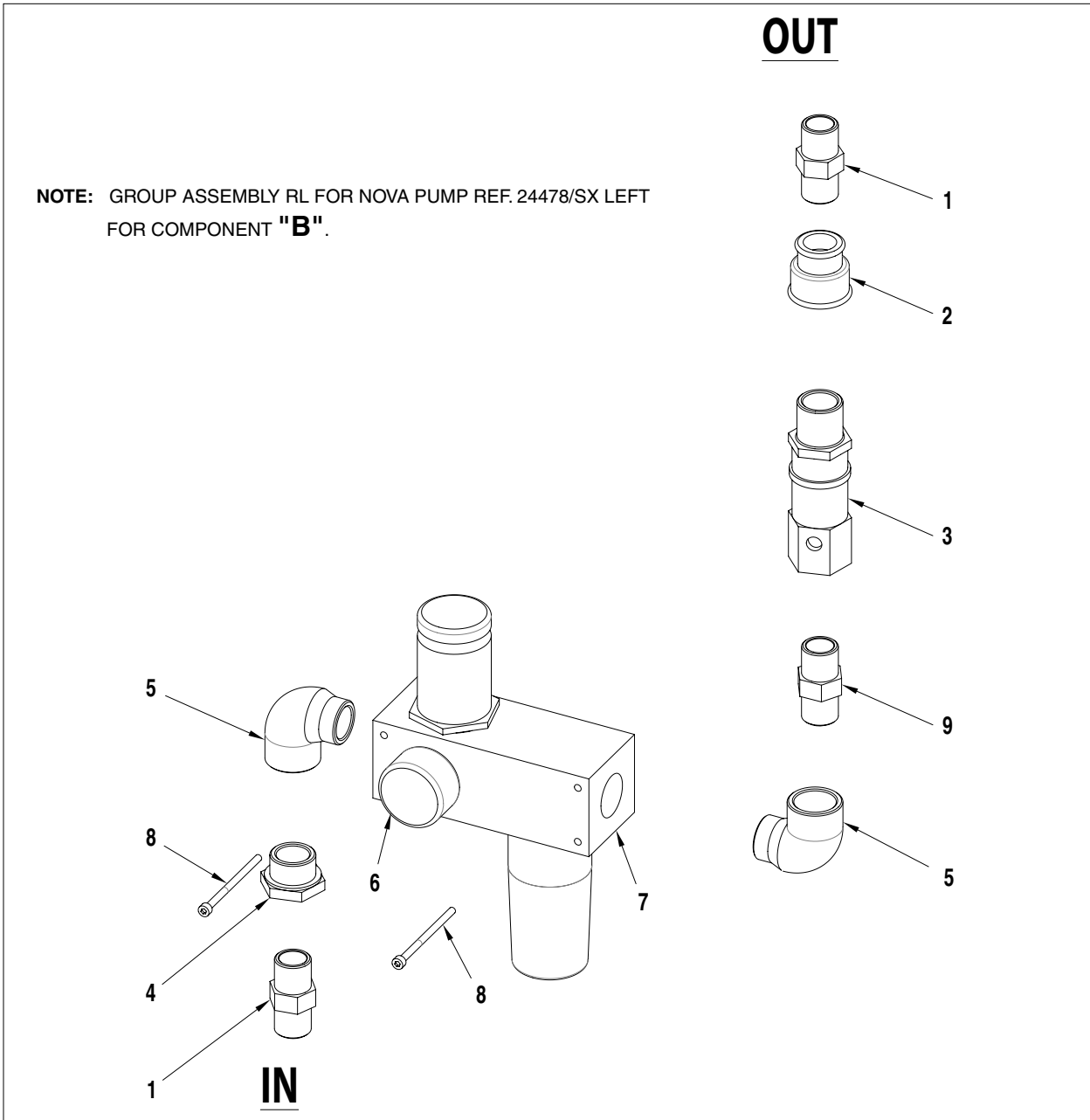


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	95319	Slide quick coupling	1	9	8167	0-8 bar manometer	1
2	5255	90° M-F 1/4 Connector	1	10	8083	Tap 1/4	1
3	4006	1/4" quick attachment for diam.8 tube	1	11	22027	3/8-1/4 M-F Reduction	2
4	23533	1/4 cross connection	4	12	4004	1/4 Ball valve	2
5	8063	90°1/4" quick attachment for diam.8 tube	2	13	10103	Bayonet attachment	2
6	3560	3/8-1/4" Nipple conical-conical	2	14	33023	Washer d.5	2
7	24480	Air distributor	1	15	510067	Screw TCE UNI5931 M5x35	2
8	3344	Regulator	1				

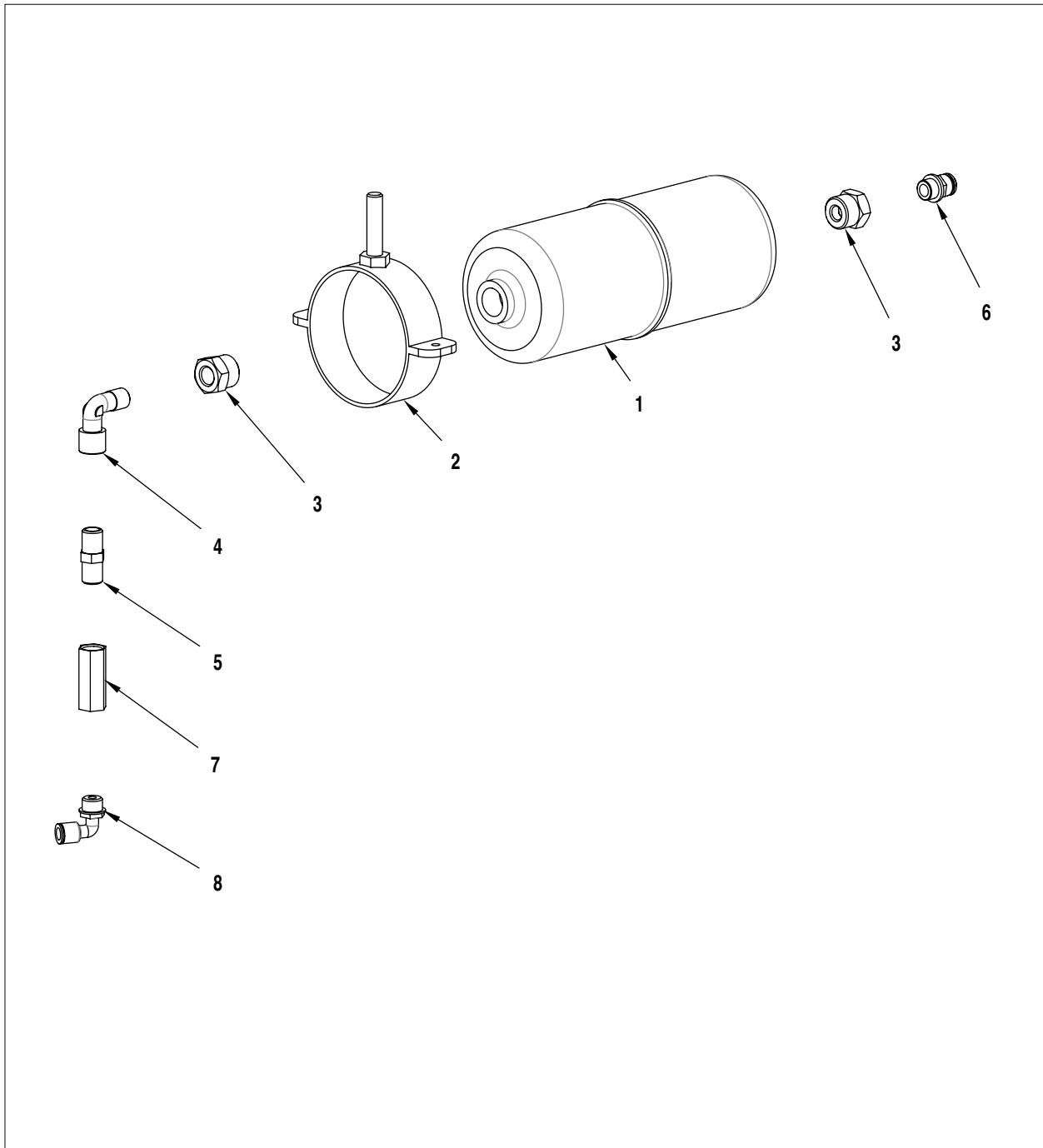
AA GROUP ASSEMBLY RL FOR NOVA PUMP REF. 24478 RIGHT FOR COMPONENT "A"

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

NOTE: GROUP ASSEMBLY RL FOR NOVA PUMP REF. 24478/SX LEFT FOR COMPONENT "B".



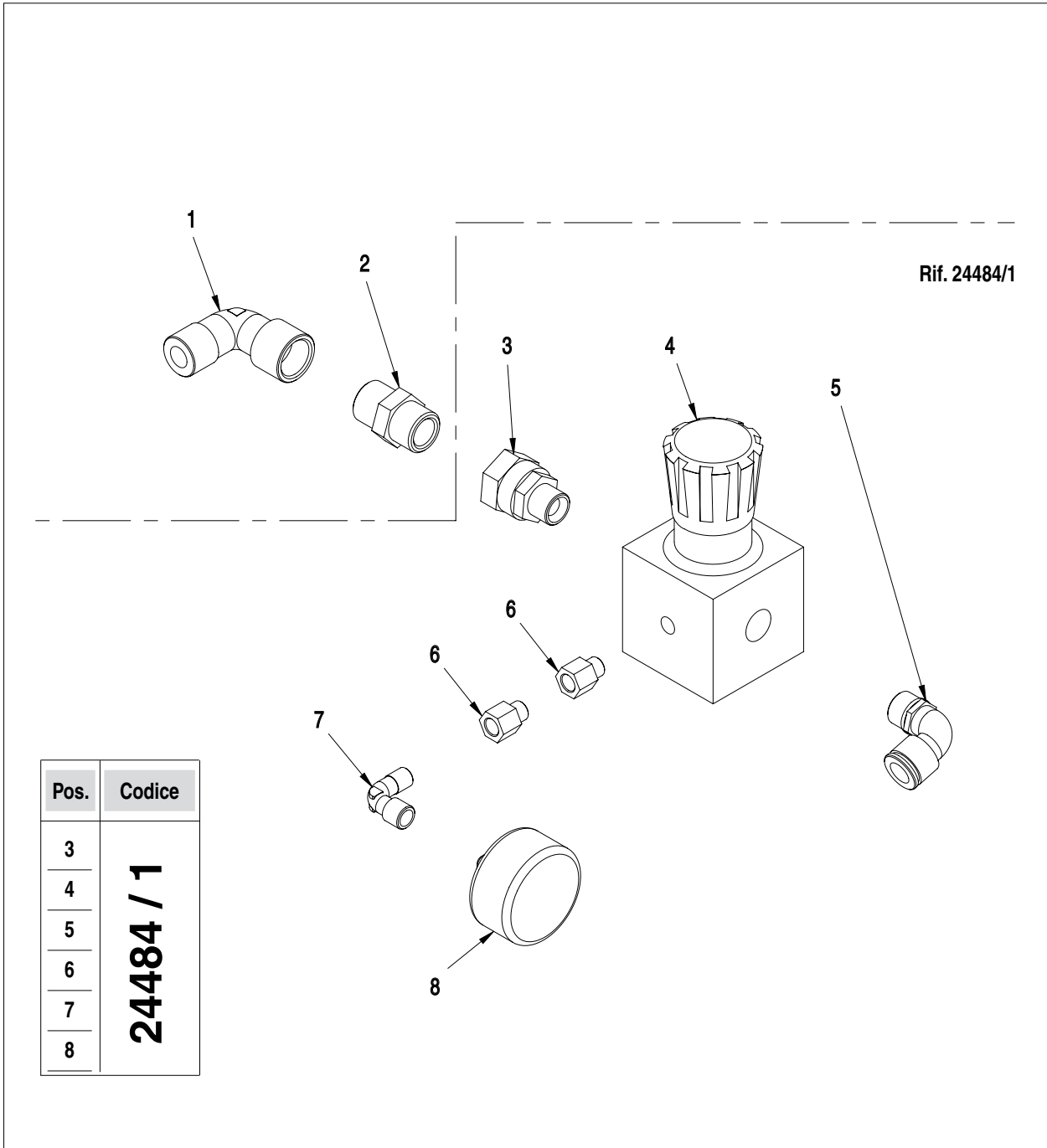
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	8375	1" Nipple conical-cylindrical gasket	3	6	96259	Manometer	1
2	510109	1"-3/4" Reduction	1	7	24482	RL 1" Group right	1
3	95323	Slide valve	1	7	24482/1	RL 1" Group left	1
4	95313	1"-3/4" M-F Reduction	1	8	37221	Screw TCE M5X70 UNI 5931	2
5	95031	1" M-F Elbow	2	9	8375	NIPPLO 1" CON-CIL	1

AB AIR SUPPLY TANK REF. 24479**WARNING:** Always indicate code and quantity for each part required.

Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23546	Air supply tank	1	5	23383	1/4" mm Adapter conical	1
2	4413	Collar 3"	1	6	4006	1/4" quick attachment for diam.8 tube	1
3	5356	1/2"-1/4" MF Reduction	2	7	23403	Check valve	1
4	5255	1/4" MF Adapter elbow	1	8			

AC AIR REGULATOR FOR WASH PUMP REF. 24484

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

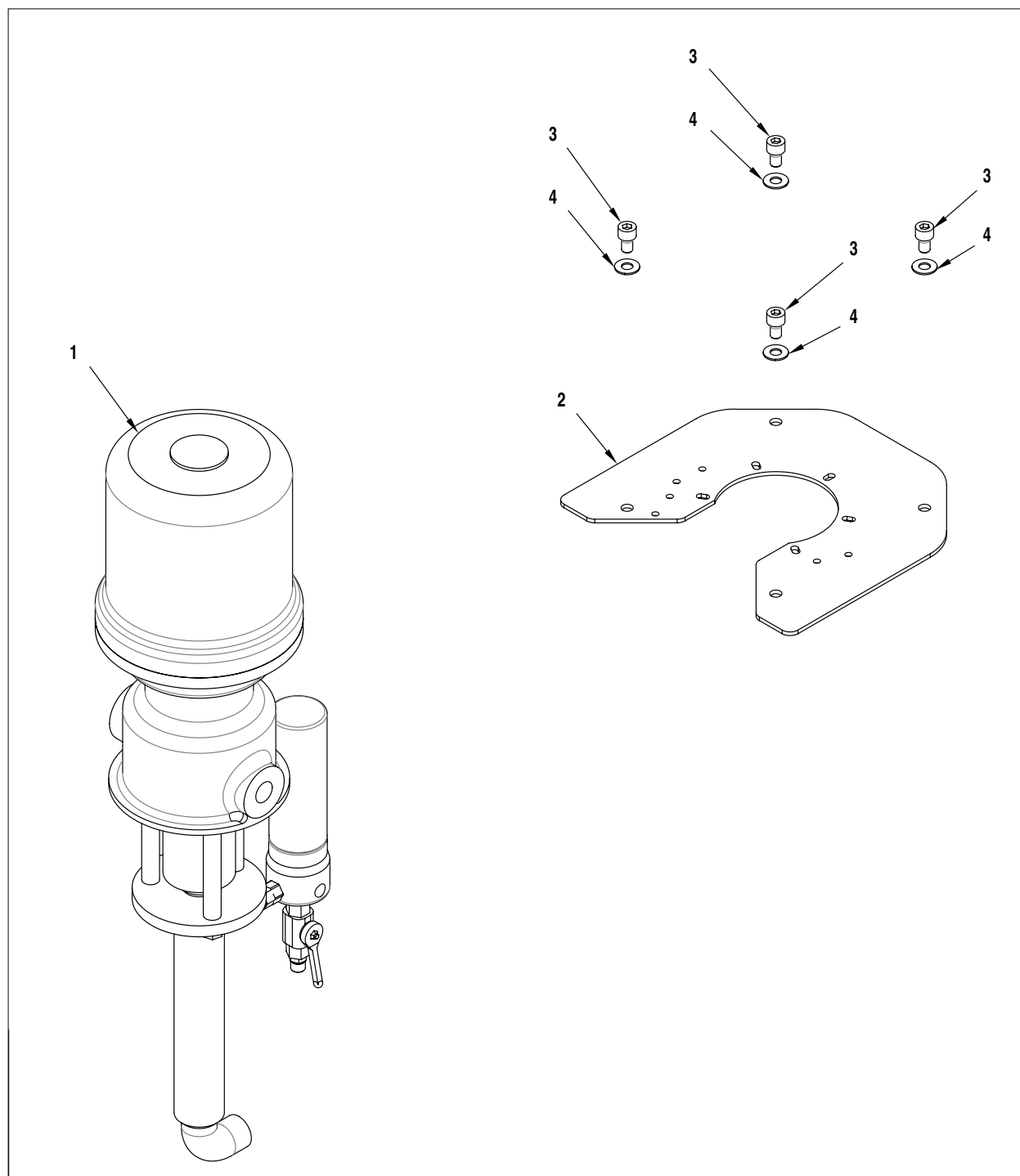


Pos.	Codice
3	24484 / 1
4	
5	
6	
7	
8	

Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	20451	1/2" M.F.Connector elbow	1	5	96215	3/8" quick attachment for diam.12 tube	1
2	96255	1/2" Adapter conical-cylindrical gasket	1	6	3343	Adapter 1/8 M.F.	2
3	8069	Rotating connector 3/8"-1/2" MF	1	7	3341	1/8" M.F. Adapter elbow	1
4	91736	Air regulator 3/8"	1	8	96259	Manometer BP	1

AD GIBLI REDUCER ASSEMBLY REF. 24487**WARNING:** Always indicate code and quantity for each part required.

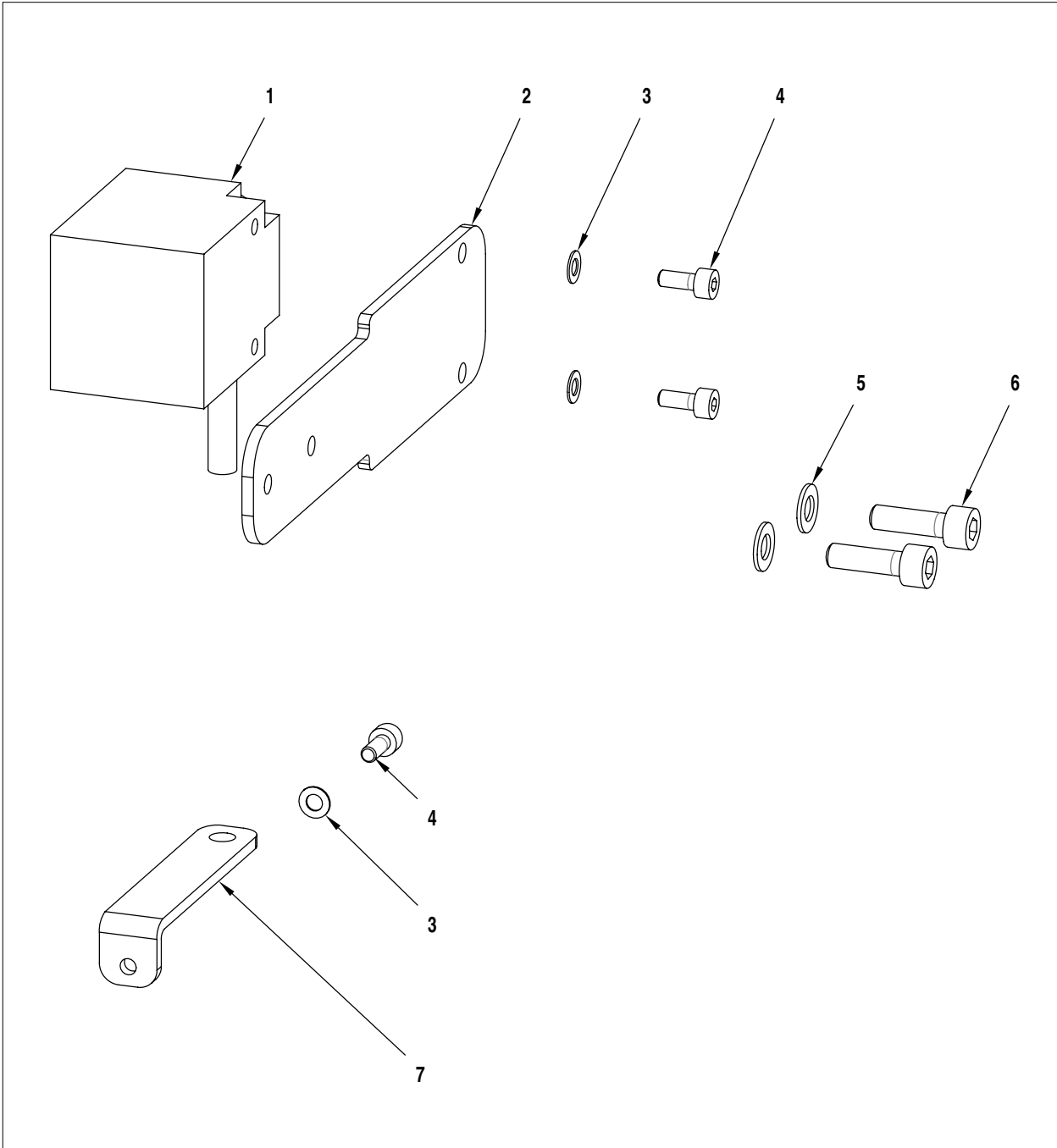
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	96057	Ghibli 40:1 Div. Inox pump	1	3	81033	Washer UNI 6592 d.10	4
2	24467	Reduction plate	1	4	6656	Screw UNI 5931 TCE M10x25	4

AE ENCODER KIT FOR COMPONENT DOSAGE REF. 24488

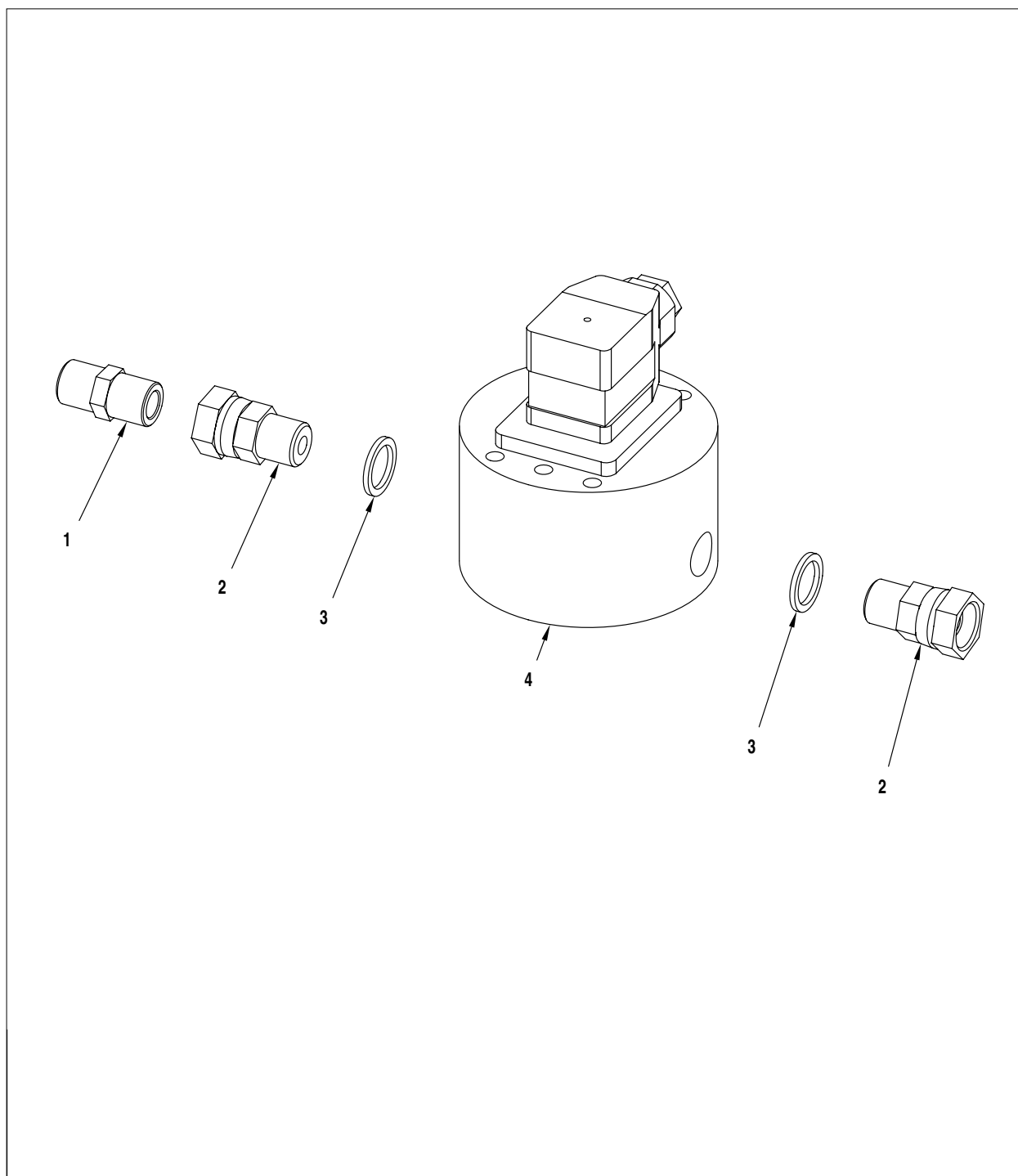
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	24490	Encoder wire	1	5	95068	Washer d.6 UNI 6592 Zn	2
2	24491	Bracket 1 for encoder	1	6	91062	Screw TCE UNI 5931 M6x20	2
3	5339	Washer d.4 UNI 6592 Zn	3	7	24492	Bracket 2 for mounting on pump Nova	1
4	5378	Screw TCE UNI 5931 M4x10	3				

AF FLOWMETER KIT FOR GHIBLI MIX COMP. DOSAGE REF. 24489**WARNING:** Always indicate code and quantity for each part required.

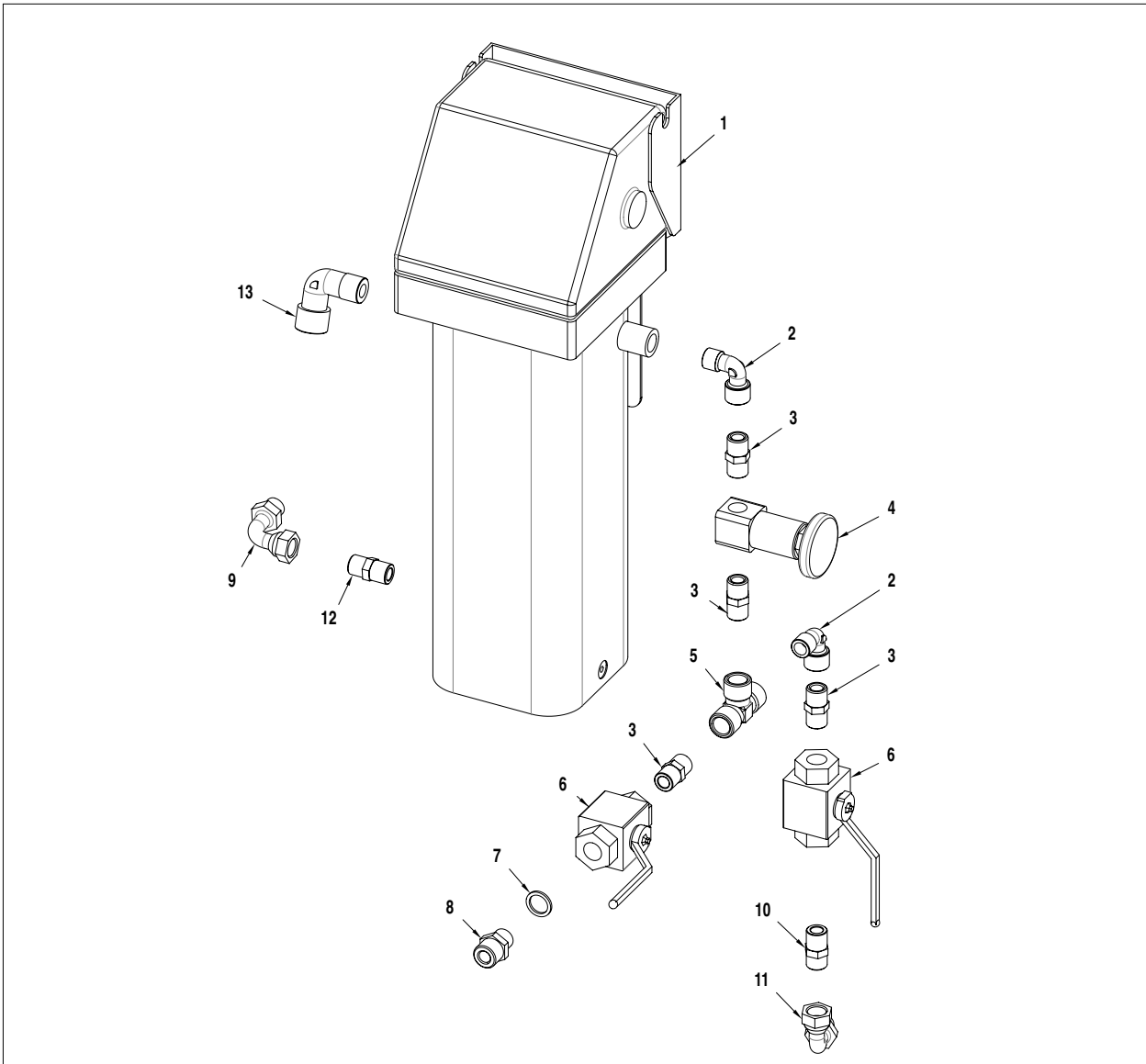
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	6149	3/8" Adapter conical-cylindrical gasket	1	3	33010	3/8" Seal	2
2	23161	MF 3/8" Revolving adapter	2	4	23401	Flowmeter unit	1

AG HEATER WITH A COMPONENT REF. 24493

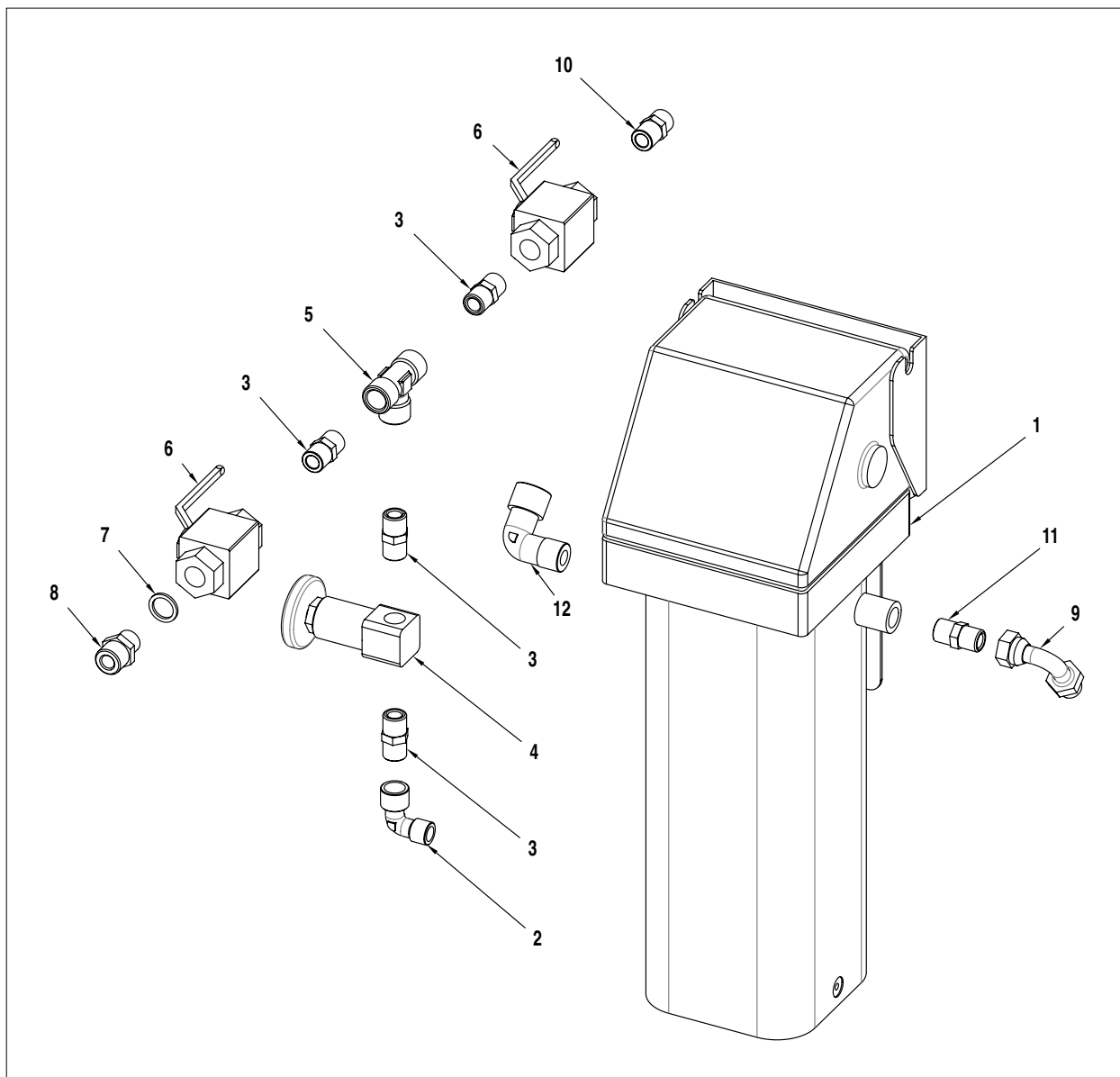
WARNING: Always indicate code and quantity for each part required.



Pos.	Code Ref. 24493	Code Ref. 24493/1 vers. INOX	Description	Q.ty	Pos.	Code Ref. 24493	Code Ref. 24493/1 vers. INOX	Description	Q.ty
1	6099	6099	Heater	1	8	3387	3385	Adapter 3/8" cil-M20x2	1
2	8078	8074	Elbow connector 3/8" MF	2	9	4709	4709	M16x1.5 MF Revolving conn. elbow	1
3	6149/1	6149/1	Adapter 3/8" conical	4	10	95230	6149	Adapter 3/8" conical-cyl. gasket	1
4	6139+6164	6139+6164	Termometer + connector 3/8"	1+1	11	3121	3121	Elbow connector 3/8" MF bp	1
5	8078/1	3379	T-connector 3/8"	1	12	6148	95284	Adapter M16x1.5	1
6	33034	33037	3/8" Ball valve	2	13	20811	20811	Elbow connector 1/2" MF bp	1
7	33010	33010	3/8" Seal	1					

AH HEATER WITH B COMPONENT REF. 23494**WARNING:** Always indicate code and quantity for each part required.

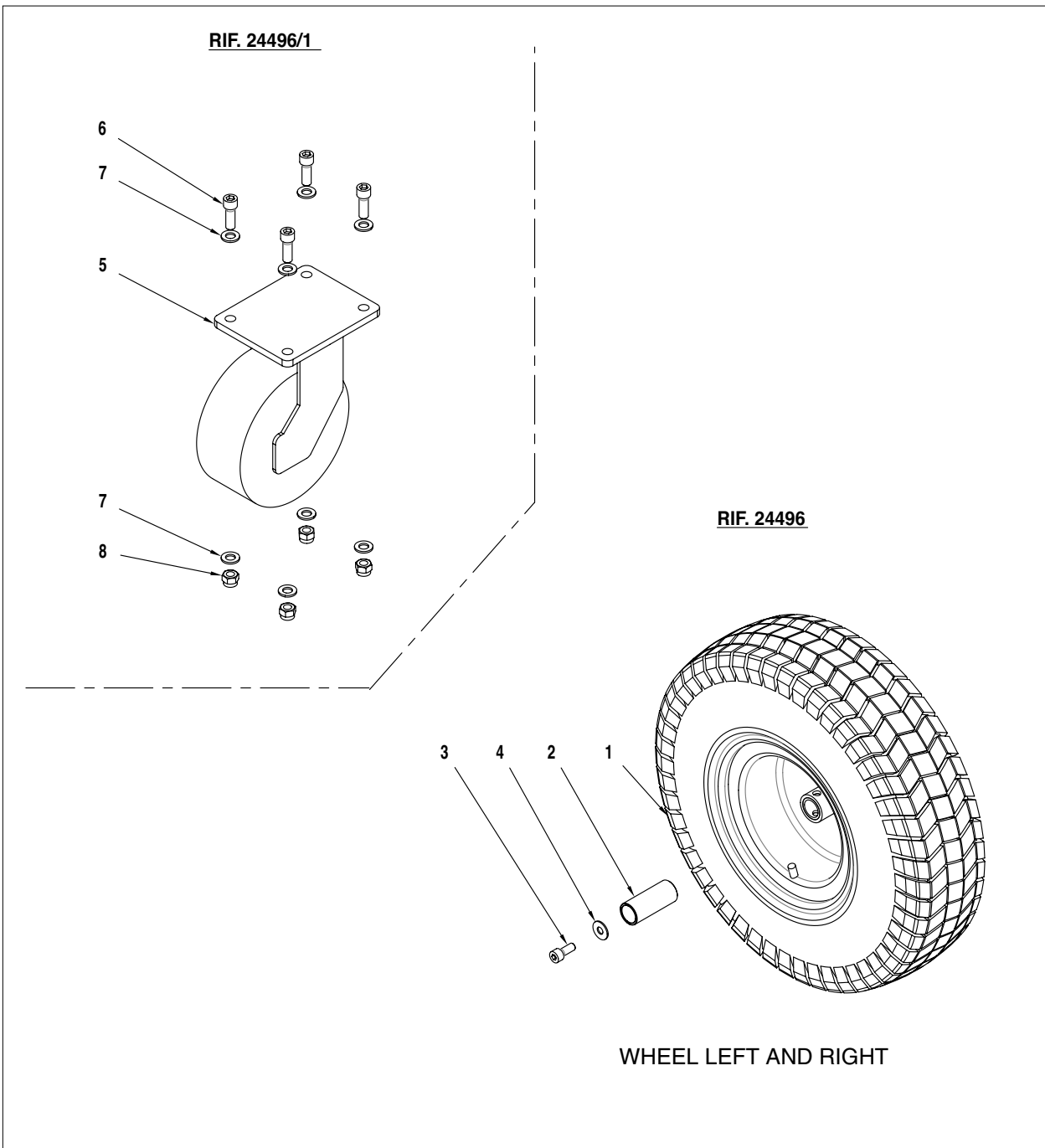
English



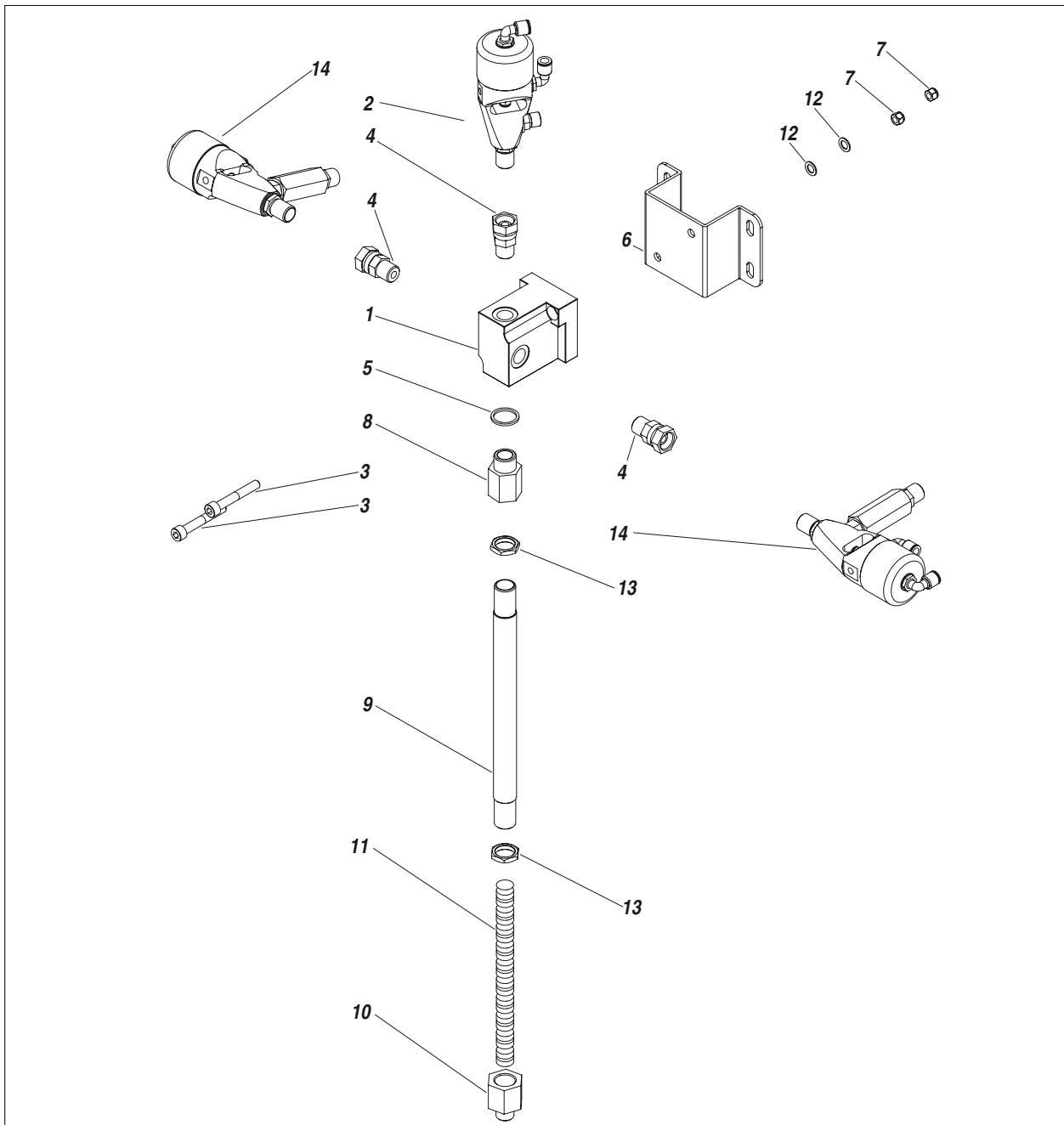
Pos.	Code Ref. 24494	Code Ref. 24494/1 vers. INOX	Description	Q.ty	Pos.	Code Ref. 24494	Code Ref. 24494/1 vers. INOX	Description	Q.ty
1	6099	6099	Heater	1	7	33010	33010	3/8" seal	1
2	8078	8074	Elbow connector 3/8" MF	2	8	3387	3385	Adapter 3/8" cil-M20x2	1
3	6149/1	6149/1	Adapter 3/8" conical	4	9	4709	4709	M16x1.5 MF Revolving conn. elbow	1
4	6139+6164	6139+6164	Termometer + connector 3/8"	1+1	10	95230	6149	Adapter 3/8" conical-cyl. gasket	1
5	8078/1	3379	T-connector 3/8"	1	11	95284	6148	Adapter M16x1.5	1
6	33034	33037	Ball valve 3/8" ap	2	12	20811	20811	Elbow connector 1/2" MF bp	1

AI WHEEL REF. 24496

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



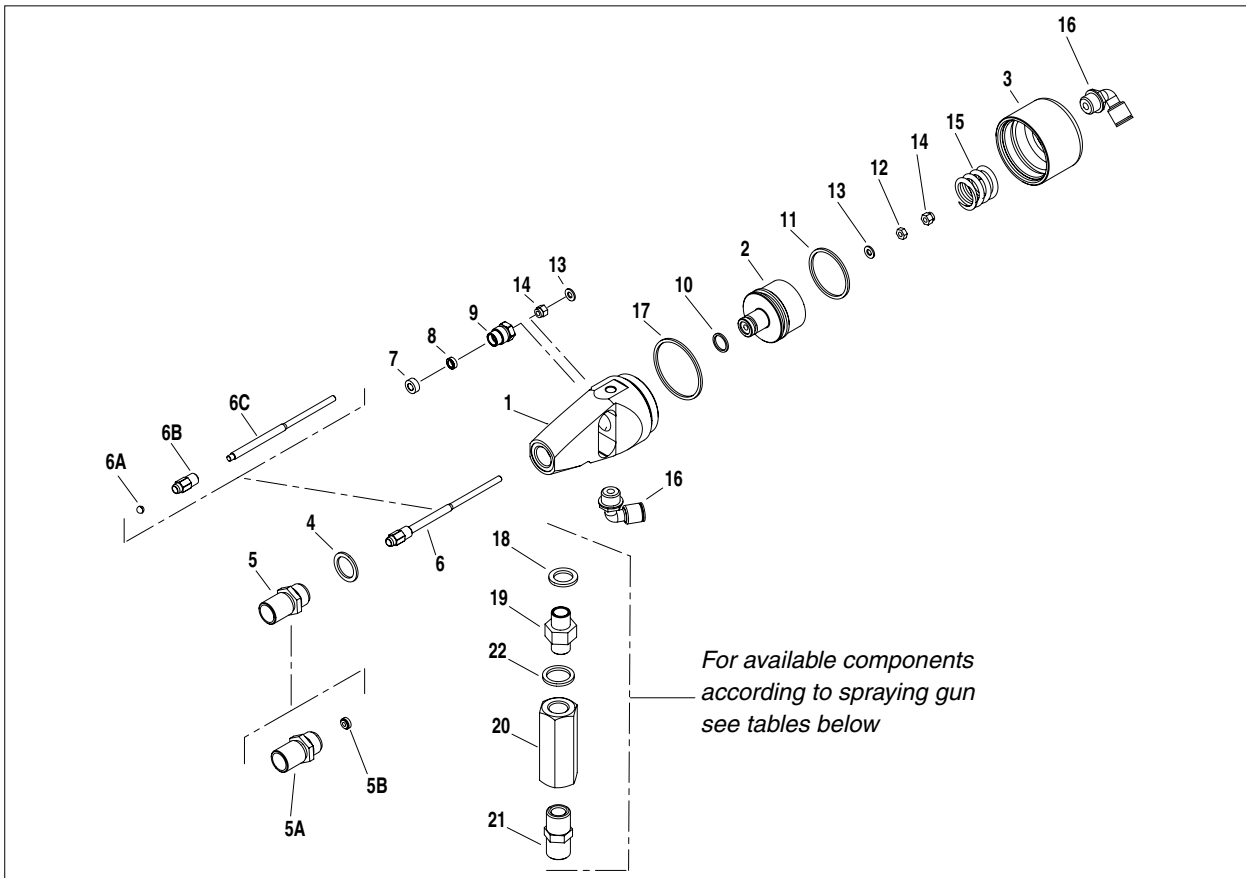
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	4493/1	Self-tightening nut M12	2	5	24497	Full front wheel	1
2	24495	Washer d.12	2	6	7112	Screw TCE UNI 5931 M12x35	4
3	34008	Screw TCE UNI 5931 M12x35	2	7	95066	Washer d.12	8
4	95153	Washer d.8	2	8	5756	Self-tightening nut M12	4

AJ MIXER + SPRAY GUNS (REF. 23320) EXPLODED VIEW**WARNING:** Always indicate code and quantity for each part required.

Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23320	Complete mixer + spray guns kit		8	23324	Intake connector	1
1	23321	Mixer body	1	9	23325/1	Mixing tube	1
2	23340/4	Wash gun unit	1	10	23329	Outlet connector	1
3	37406	Screw	2	11	23327	Spiral mixer	1
4	23161	Rotating connector	3	12	96753	Washer	2
5	8071	Gasket d. 1/2"	1	13	23328	Locking nut	2
6	23323	Support plate	1	14	23340	Material gun unit	2
7	3637	Self-tightening nut	2				

AK SPRAY GUN LA 95 REF. 23340/4

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



Components for material A/B gun on Larius Mix 2K Ref.23340/1

Pos.	Code	Description	Q.ty
18	33012	1/4 Gasket	1
19	22022	1/4-3/8 CIL-CIL Adapter	2
20	23412	Check valve	1
21	95230	3/8-3/8 CON-CIL Adapter	1
22	33010	3/8 Gasket	1

Components for wash gun on Larius Mix 2K Ref. 23340/2

Pos.	Code	Description	Q.ty
18	33012	1/4 Gasket	1
19	3103	1/4-1/4 CIL-CIL Adapter	1

Components for material A/B gun on Larius Mini Mix Ref.23340/3

Pos.	Code	Description	Q.ty
18/22	33012	1/4 Gasket	2
19	3103	1/4-3/8 CIL-CIL Adapter	2
20	23403	Check valve	1
21	3110	3/8-3/8 CON-CIL Adapter	1

Pos.	Code	Description	Q.ty
-	23340/4	Complete gun	
1	23341	Housing	1
2	23342	Piston	1
3	23343	Rear spray gun stopper	1
4	33007	Gasket	1
5	23336	Sleeve complete	1
5A	11216/1	Sleeve	1
5B	11004/2	Ball seat	1
6	23330	Rod complete	1
6A	11005/3	Ball Ø 5	1
6B	23331	Prick punck	1
6C	23332	Rod	1
7	23333	Seal holder ring	1
8	23334	Gasket	1
9	23335	Seal holder screw	1
10	23338	OR 2043	1
11	23339	OR 3131	1
12	5114	Nut	1
13	5339	Ball Ø 4	2
14	4043	Self-tightening nut	2
15	11814	Spring	1
16	8063	1/4" rotating elbow	2
17	23348	OR 3162	1

A-B ACCESSORIES

Art. 11250: AT 250 1/4"
Art. 11200: AT 250 M16X1,5



Art. 11131: L91X 1/4"
Art. 11130: L91X M16X1,5



AUTOMATIC SPRAY-GUN LA95
Art. 11700



LOW PRESSURE SPRAY-GUN MA98L
Art. 11300



MANUAL MIST-LESS SPRAY-GUN 07
Art. 19950



MANUAL MIST-LESS SPRAY-GUN
 Version with MIST-CLEAN nozzle **Art. 19960**



AUTOMATIC MIST-LESS SPRAY-GUN High finish
Art. 11820



MANUALE LOW PRESSION SPRAY-GUN V71



STAR 2001 SERIES SPRAY-GUN (MANUAL AND AUTOMATIC)



Art. 11000: AT 300 M16x1,5
Art. 11090: AT 300 1/4"



OUTPUT FOR TWO GUNS



FILTER

- Art. 95218: MESH 30M
- Art. 95219: MESH 60M
- Art. 95220: MESH 100M
- Art. 95221: MESH 200M



PISTON GUNSTOCK FILTERS

- Art. 11039: Green (30M) - Art. 11038: White (60M)
- Art. 11037: Yellow (100M) - Art. 11019: Red (200M)



PAIR OF FILTERS FOR COMPONENT INTAKE
Art. 23250/1



Art. 7030: AP FLOW REGULATOR



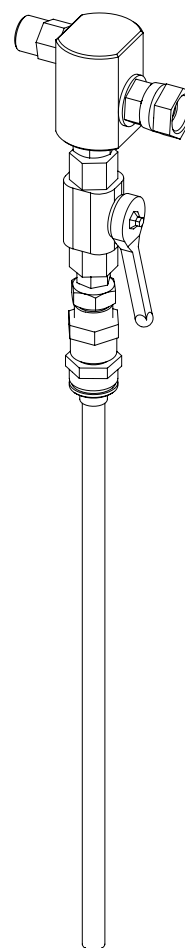
LOW PRESSURE STAINLESS STEEL PRESSURE GAUGE
Art. 150/1:



HIGH PRESSURE STAINLESS STEEL PRESSURE GAUGE
Code 150: 1/4"



Art. 6099: HEATER



KIT FOR COMPONENT DOSAGE CONTROL
Art. 23140:



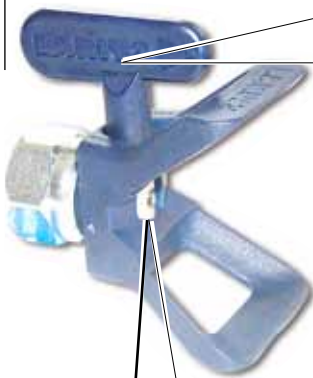
EXTENSION

Art. 153: cm 30 - Art. 153: cm 40

Art. 155: cm 60 - Art. 158: cm 80 - Art. 156: cm 100

Nozzles code		
SFC07-20	SFC19-60	SFC29-80
SFC07-40	SFC21-20	SFC31-40
SFC09-20	SFC21-40	SFC31-60
SFC09-40	SFC21-60	SFC31-80
SFC11-20	SFC23-20	SFC33-40
SFC11-40	SFC23-40	SFC33-60
SFC13-20	SFC23-60	SFC33-80
SFC13-40	SFC25-20	SFC39-40
SFC13-60	SFC25-40	SFC39-60
SFC15-20	SFC25-60	SFC39-80
SFC15-40	SFC27-20	SFC43-40
SFC15-60	SFC27-40	SFC43-60
SFC17-20	SFC27-60	SFC43-80
SFC17-40	SFC27-80	SFC51-40
SFC17-60	SFC29-20	SFC51-60
SFC19-20	SFC29-40	SFC51-80
SFC19-40	SFC29-60	

SUPER FAST-CLEAN



SUPER FAST-CLEAN TIP



Code 18280: GASKET

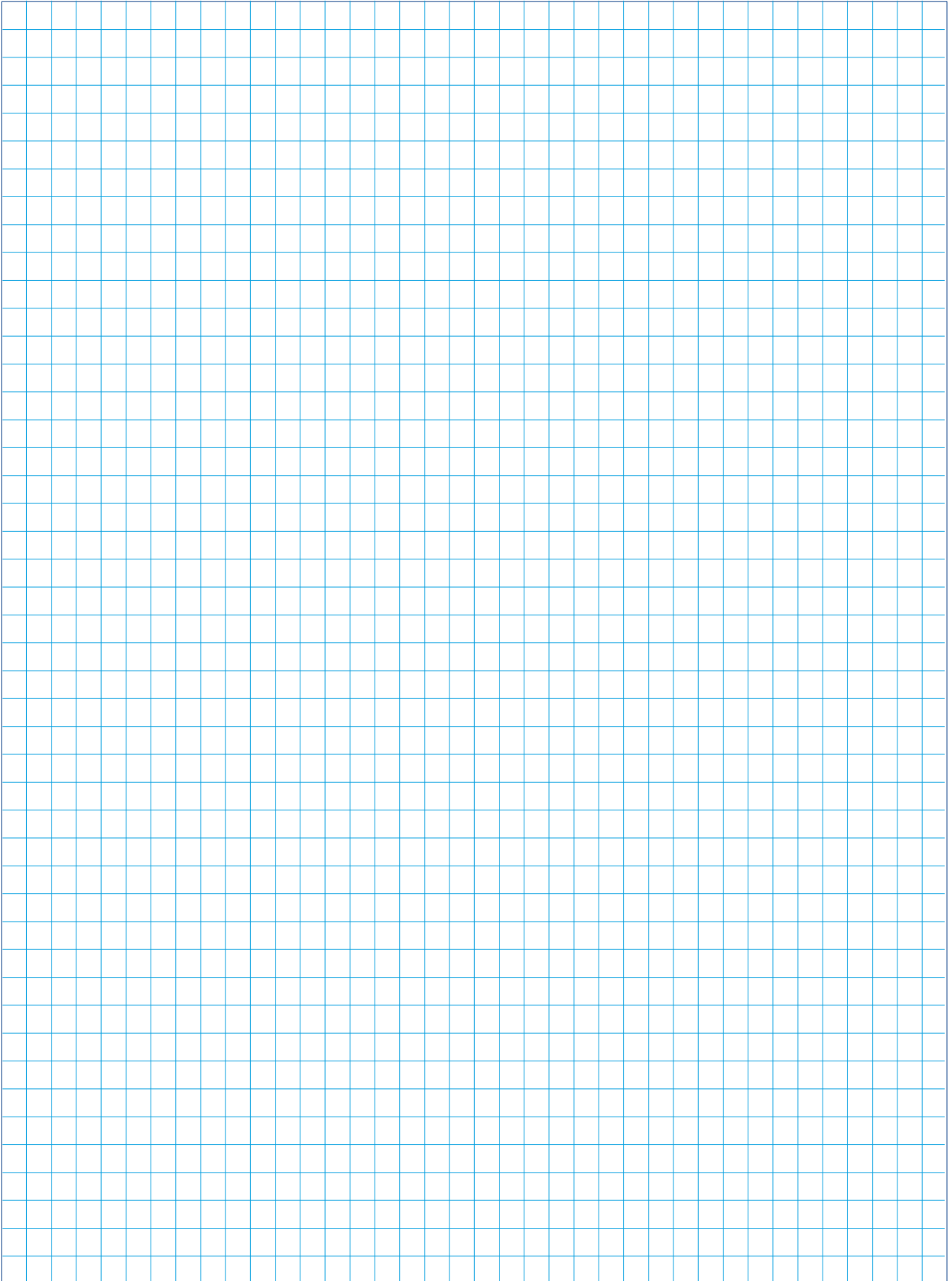


Code 18270: SUPER FAST-CLEAN base UE 11/16x16

LARIUS

PAINT SPRAYING EQUIPMENT

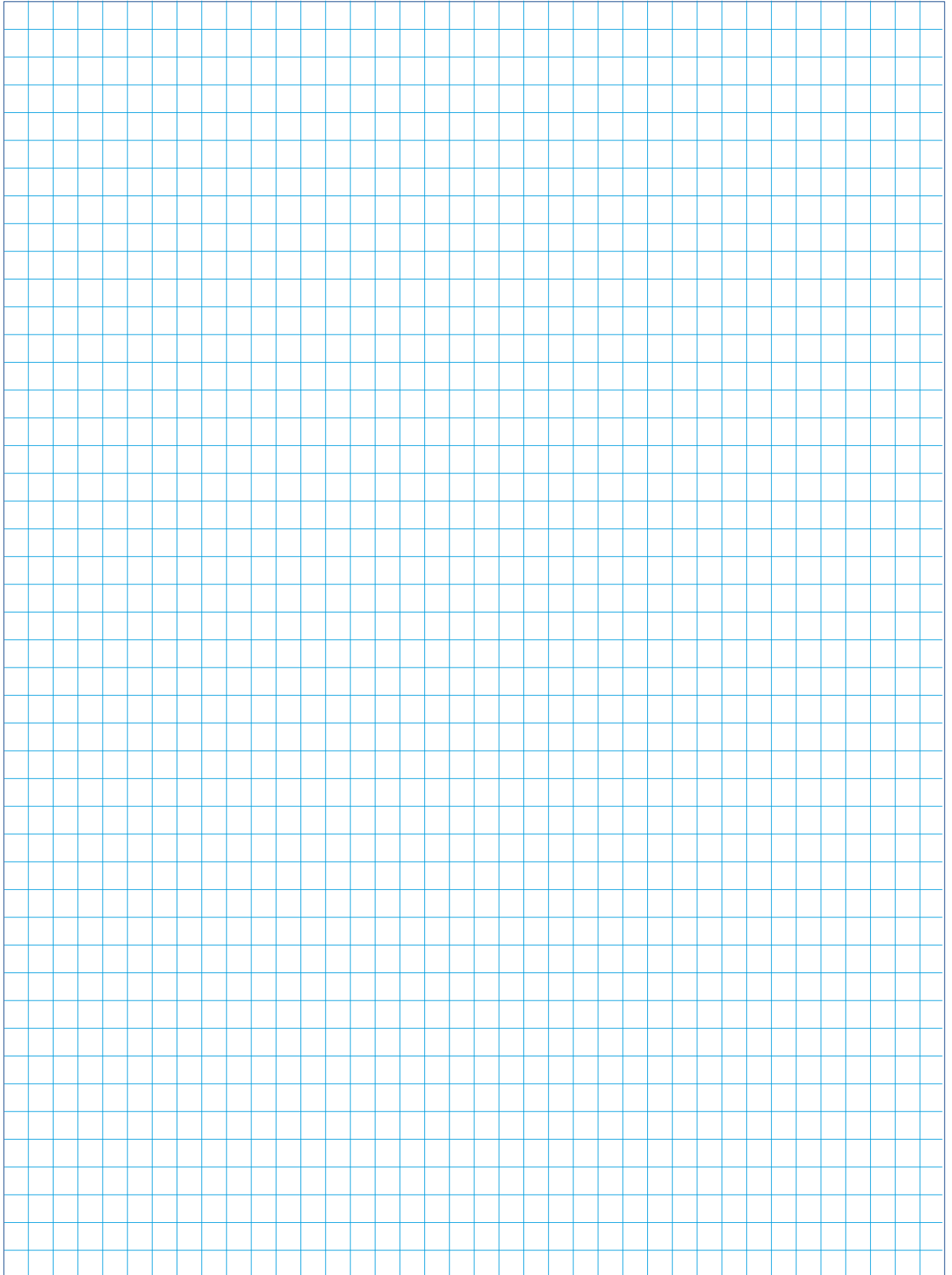
*L'innovazione.
Quella vera.*



LARIUS

PAINT SPRAYING EQUIPMENT

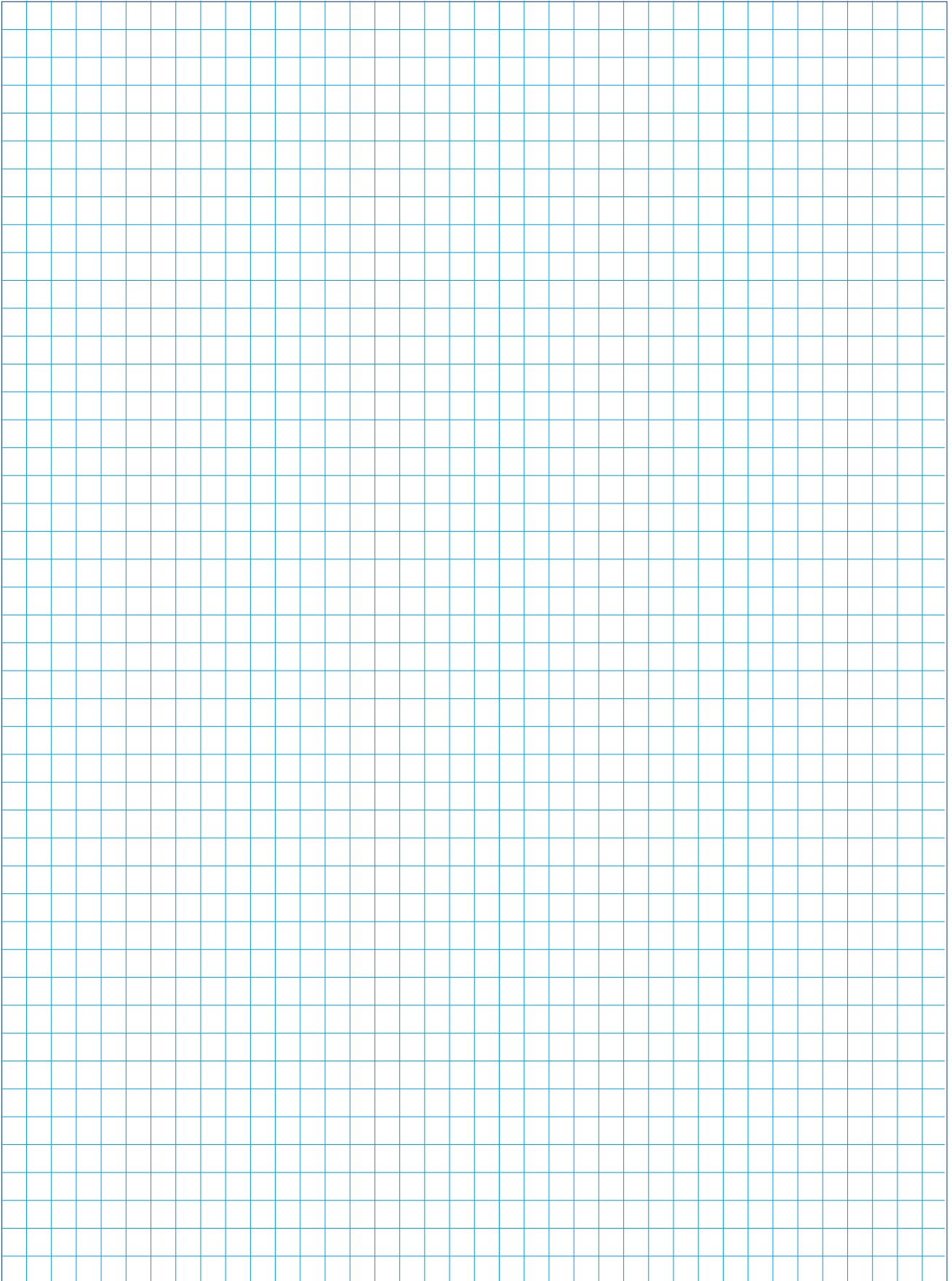
*L'innovazione.
Quella vera.*



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PAINT SPRAYING EQUIPMENT

*L'innovazione.
Quella vera.*



ELECTRONIC DOSING BI-COMPONENT SYSTEMS



GHIBLI MIX 2K 40:1 INOX with air electric generator - Code 24566



**VEGA MIX 2K 5:1 INOX
Code 24571**



**LARIUS MINI MIX on trolley
Code 24001**



MIX 2K - Code 23000

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LARIUS®

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