

LARIUS MIX 2K

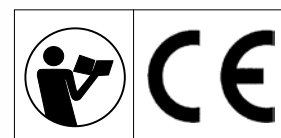
OPERATING AND MAINTENANCE INSTRUCTION



LARIUS[®]

PAINT SPRAYING EQUIPMENT

ENGLISH





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.

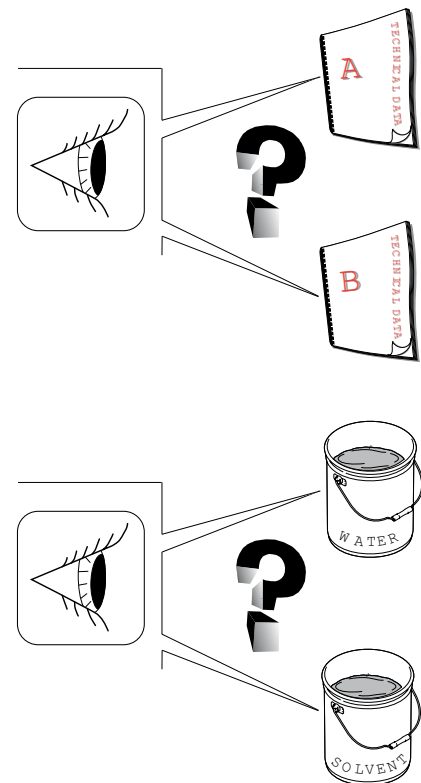
- Make sure that: if the product to be used is water-based, the relative circuit within the machine is cleaned using water. If, on the other hand, the product to be used is solvent-based, the relative circuit must be cleaned using a solvent.



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 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
- Feeding machine

ADVANTAGES OF USING THE LARIUS MIX 2K

- The possibility of using every methodology (high pressure / airless painting).
- 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.

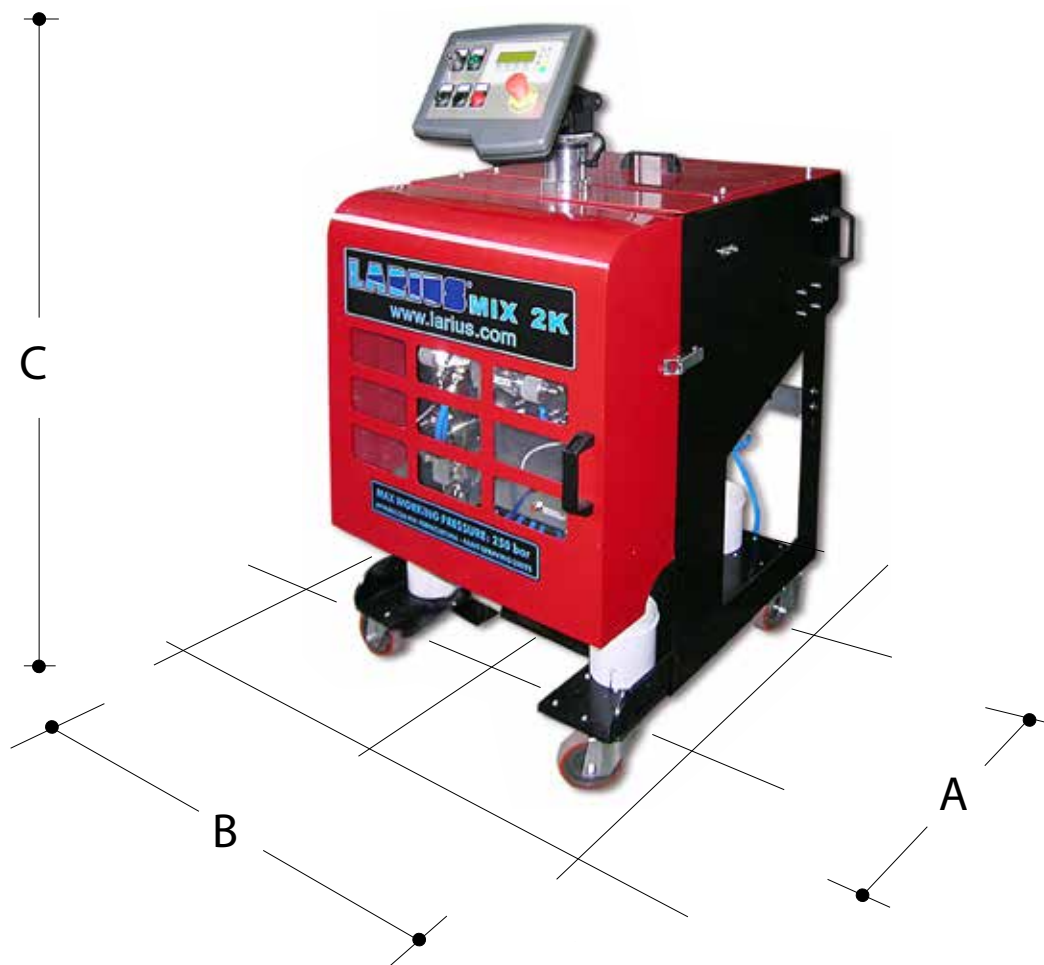
Sectors of use: Generic metalworking, Woodworking and Furnishings, Aerospace industry, Plastics, Bicycles and motorcycles, Automobile components, Automobiles, Painting of furniture, Varnishing, Emulsion painting.

B TECHNICAL DATA

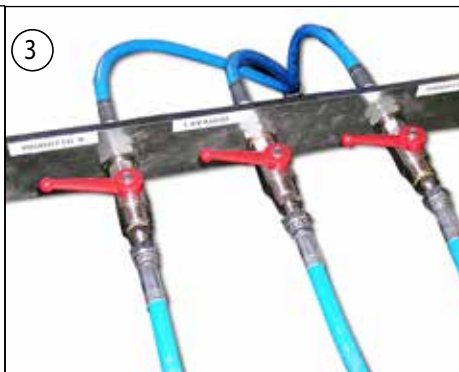
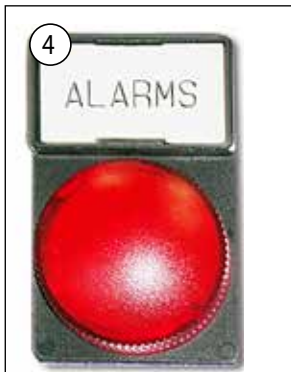
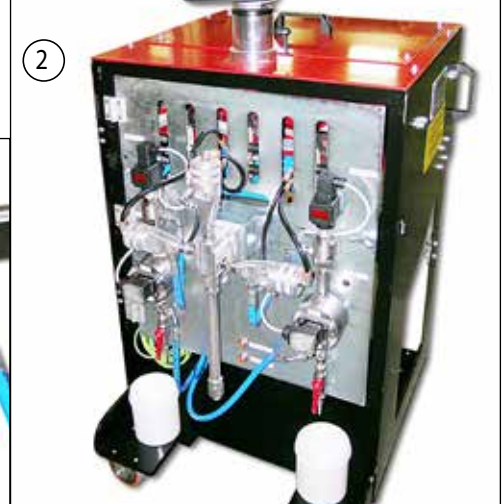
LARIUS MIX 2K	
Varnish compatibility	Bi-component water-soluble paints – bi-component solvent paints
Mixing ratio % in volume	min. 1: 1 max 30: 1 decimals included
Maximum capacity of mixed product (*)	14 L per minute
Max working pressure	0-250 bar
Measurement precision	< 1%
Max intake pressure air	7 bar
Electrical power supply	230 V 50 Hz
Machine working temperature (**)	min. 5°C max. 50°C
Sound pressure level	74 dB
Weight	147 Kg
Width	701 mm (with filters) 701 mm (without filters)
Lenght	935 mm (with filters) 770 mm (without filters)
Height	1400 mm (with filters) 1400 mm (without filters)

* 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.

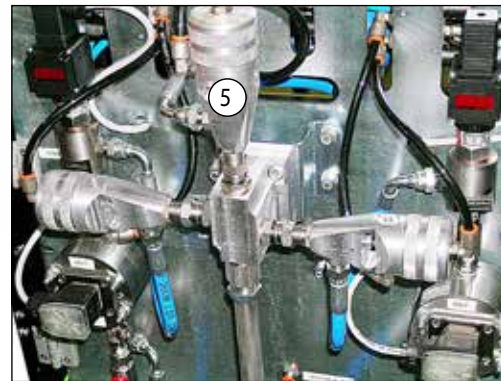


C DESCRIPTION OF THE EQUIPMENT



POS.	Description
1	Electronic management panel
2	Electro-pneumatic unit

POS.	Description
3	Fluid selection unit with A, B, and thinner product inlets
4	Visual alarm device located on the control panel



POS.	Description
5	0-250 bar mixing head
6	0-250 bar digital pressure gauges for controlling product pressure flow

POS.	Description
7	Panel for air-pressure regulation

D TRANSPORT AND UNPACKING

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

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.



The balancing of the machine, with respect to its weight distribution, was not taken into consideration during the design phase. When lifting, make sure that the parts of the machine are not excessively unbalanced. If necessary, adjust the lifting points in order to balance them properly.

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.

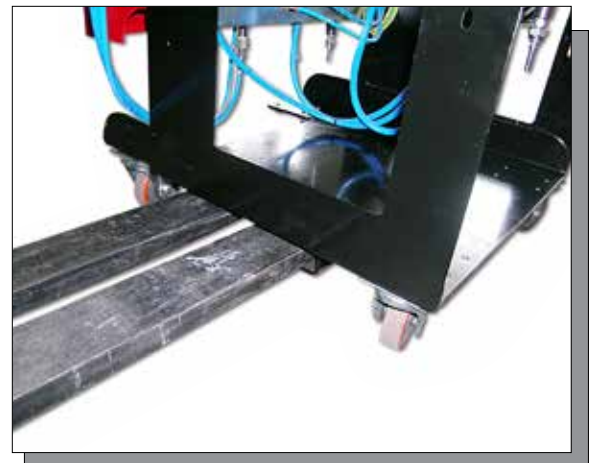
Do not stand beneath or near the machine while it is being lifted.

The machine may be lifted with a forklift.






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.




	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.
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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.

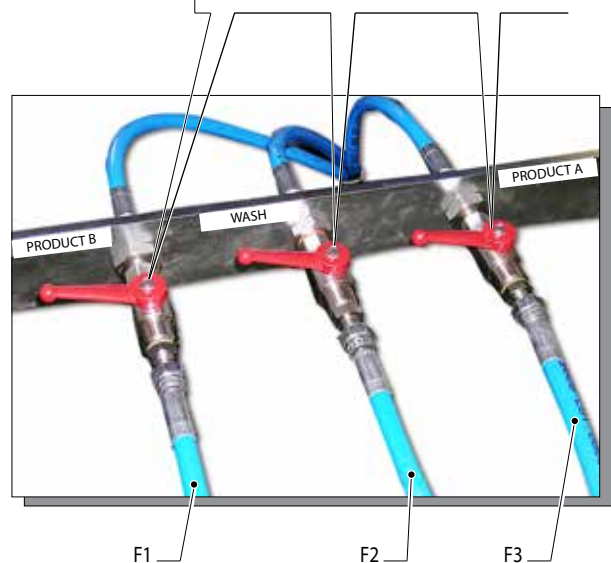
- MAKE SURE YOU KNOW HOW TO SHUT OFF THE EQUIPMENT IF NECESSARY. INEXPERIENCED USERS SHOULD BE TRAINED TO SAFELY AND PROPERLY USE THE MACHINE BEFORE OPERATING IT.
- KEEP UNAUTHORISED PERSONNEL AWAY FROM THE MACHINE, ABOVE ALL IF A TOXIC PRODUCT IS BEING UTILISED.
- IF NECESSARY, USE WARNING SIGNS TO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

F SETTING-UP

CONNECTION OF THE FLEXIBLE HOSE TO THE GUN


Connect the 4 flexible tubes to the machine.

- The three intake tubes are to be connected to the supply pump: the component A tube (F3), the component B tube (F1) and the wash fluid tube (F2).




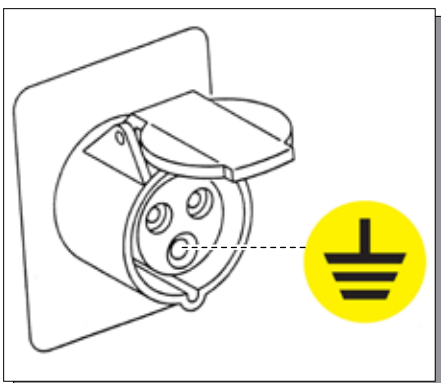
- The fourth tube (F4) is to be connected to the mixing tube's outlet (F5) and connected to the spray-gun. Make sure that the connections are tightly sealed. It is recommended to use two wrenches to tighten them.




 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.


CHECK ON POWER SUPPLY

 Make sure that the system is properly grounded. Use an electrical plug which guarantees the proper grounding of the system.

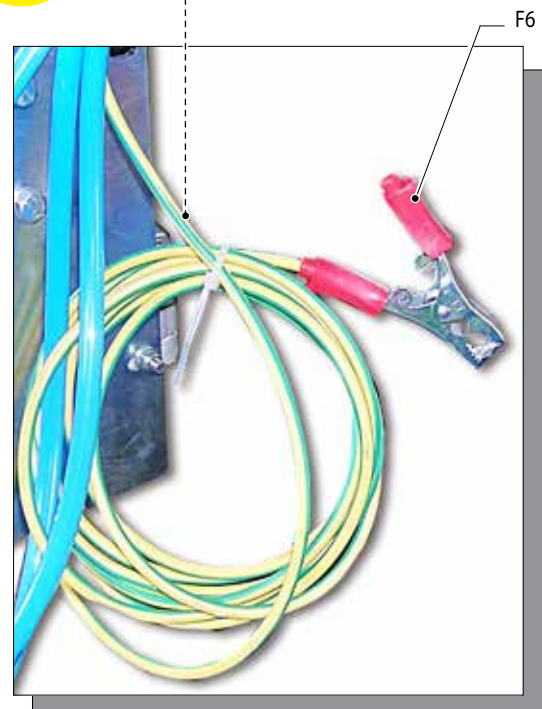


 The machine requires a 220V alternating current power supply.

 Should anyone use an extension cable between the tooling and the socket, it must have the same characteristics as the cable supplied (minimum diameter of the wire 4 mm²) 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.





LARIUS 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 (F6), 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

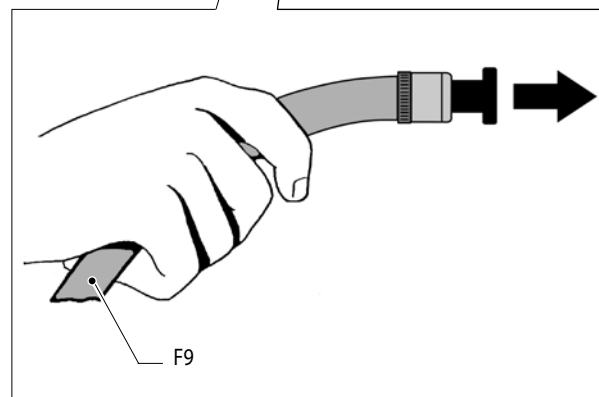
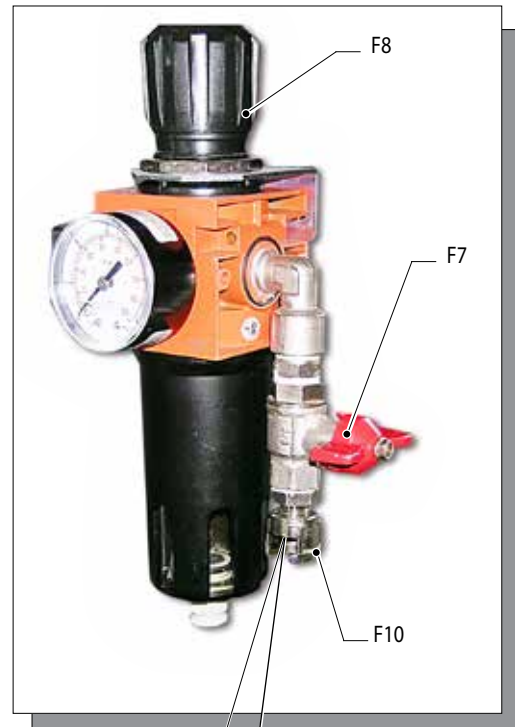
Make sure that the air line to be connected to the machine is capable of constantly providing pressure at 7 bar. Before opening the air line, turn the ball valve (F7) on the general regulator (F8) to its closed position (horizontal tap). After having opened the machine's air supply, open the valve completely and set the regulator to maximum.

PNEUMATIC CONNECTION

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 (F9) to the joint (F10).

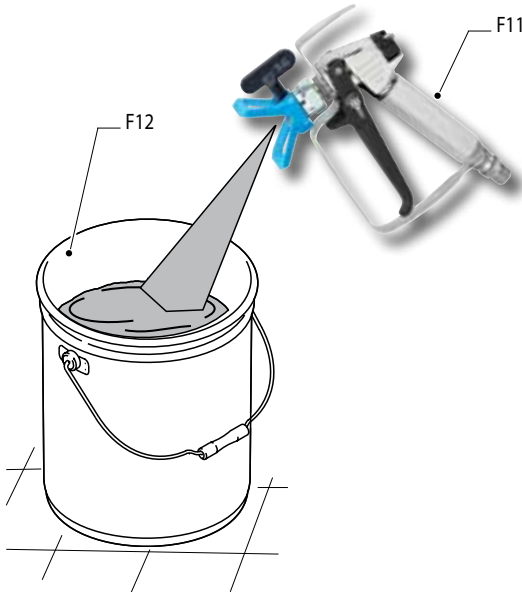
 It is advisable to install an on-off valve on the frontal part of the machine





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 liquid diluent containers or else pour liquid diluent into the gravity tanks.
- Make sure that all of the taps are closed.
- Circulate the liquid diluent within the output pumps and afterwards within the entire system.
- Open the machine's intake taps, as well as those at the flow-meter intake and leave the relative bleeder valves closed.

- Activate an automatic work cycle and circulate the liquid diluent until it comes out of the machine clean.
- Stop the automatic work cycle and activate a wash cycle. This cycle will help the user set all of the wash settings so that that machine will be predisposed to perform future wash cycles during working phases.
- During the wash cycle, hold the spray-gun (F11) over a container (F12) 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

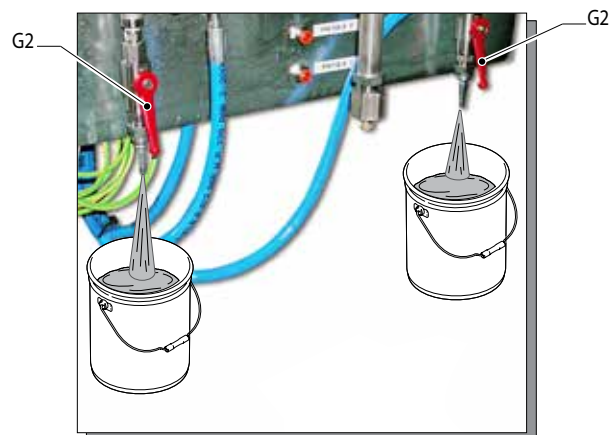
TURNING THE MACHINE ON

After having connected the machine to the electrical system, turn the switch located on the command panel (G1) to its ON position.



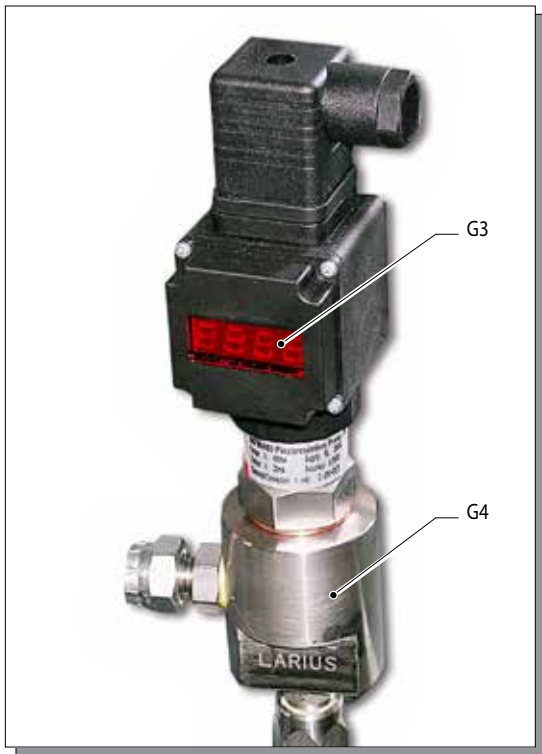
After having loaded the two supply pumps, make sure that the components are flowing, in their relative lines, up to the mixing block.

Use the manual valves (G2) located beneath the flowmeters (bleeder valves) to verify whether the components are present.



This operation allows for the elimination of any eventual air bubbles within the circuit.

Check the circuit's internal pressure by checking the values indicated on the two displays (G3) located above the pressure (G4). 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).



If the equipment is to be utilised for the first time, perform a wash cycle to make sure that the machine does not contain residues of oil leftover from the manufacturer's testing (see the "washing a new machine" page).

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 (G3) to the AUTOMATIC position.

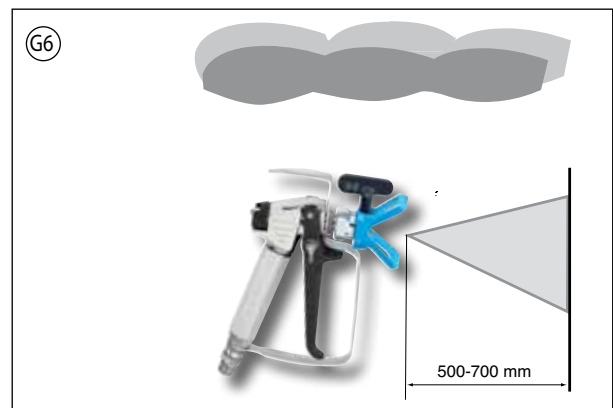
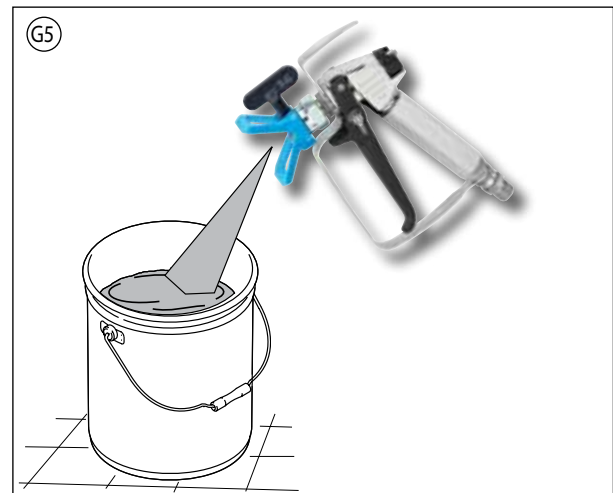


Wait for the flexible spray-gun tube to load (wait for the valves (G2) to shut off automatically).



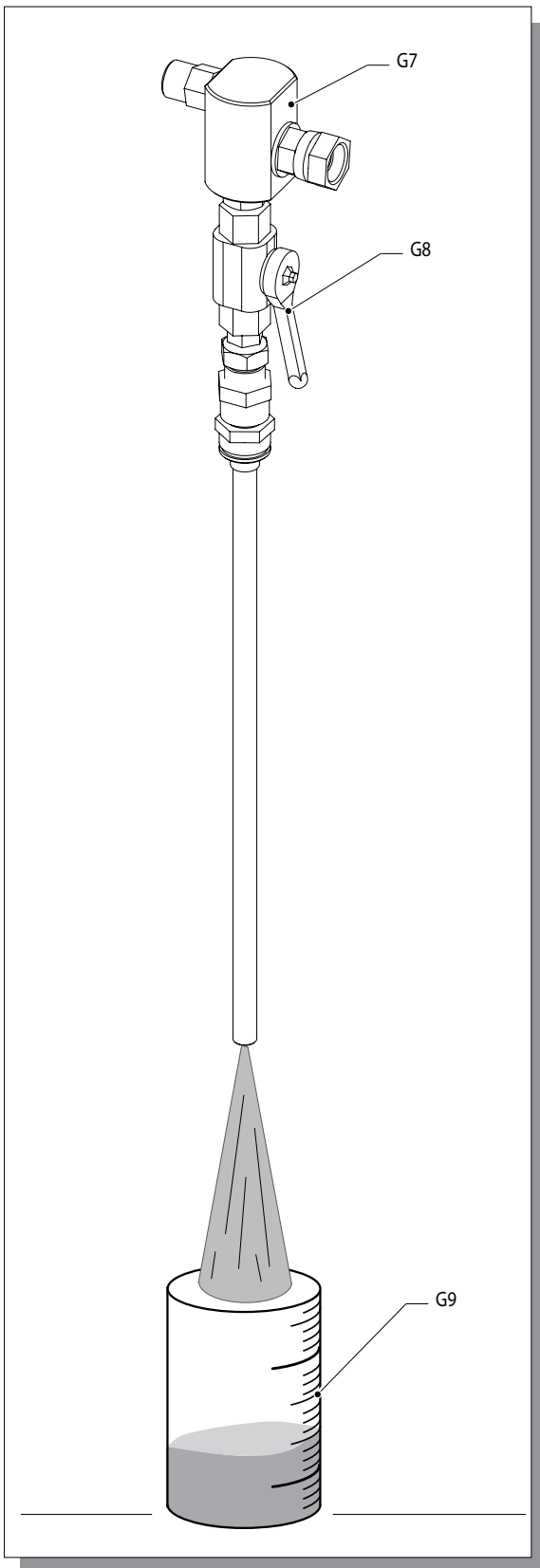
G2

Before painting, spray the product into a container (G5) or into a part of the cab (G6) 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 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 (G7).



The machine must not be pressurized.

- Open the valves (G8) and set the tapping cycle in order to check the dosage of the components.

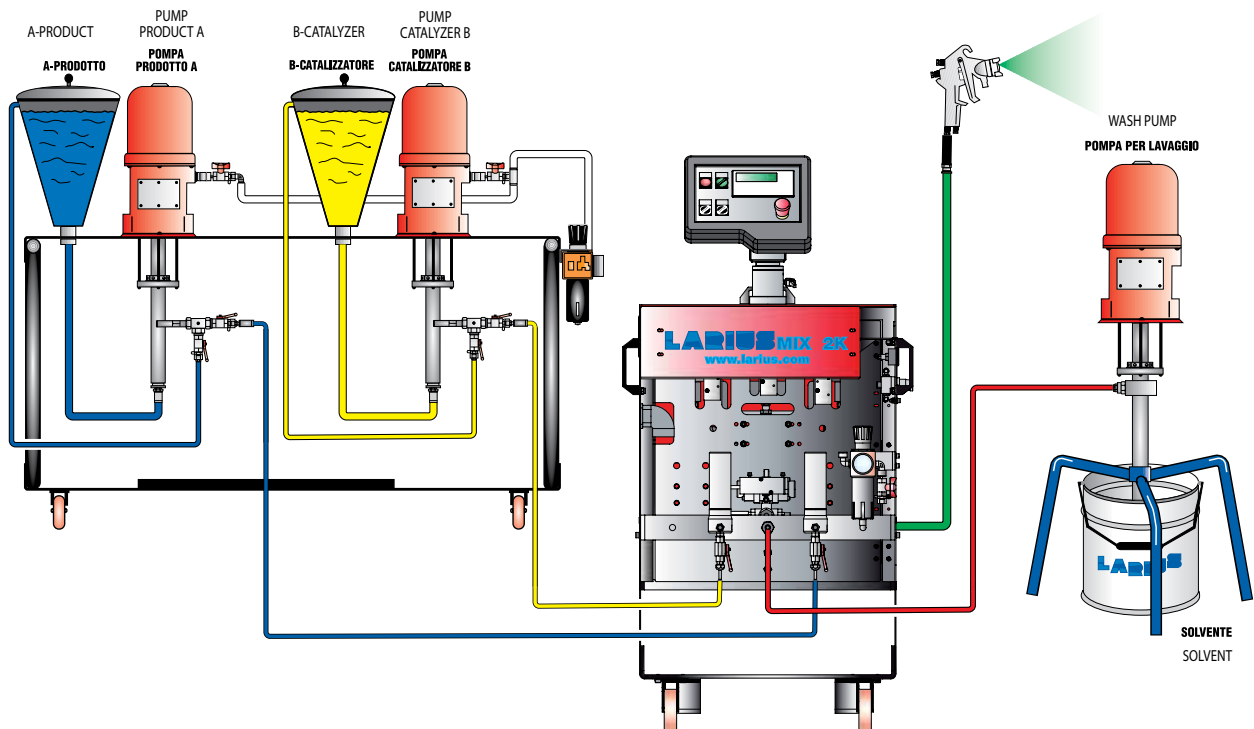


During the normal tapping phase, the valves (G8) must always be open.
During the normal working phase, the two blocks (G7) must not be mounted.

- By positioning the 2 containers (G9) 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 gravity tanks or from canisters.
- The 2 pumps send the components to the LARIUS MIX 2K machine.
- They must be filtered (upon request) at the machine's intake".
- From the filter outlets, the components proceed into 2 flow-meters where the quantity of material passing through is measured.
- 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 filters the wash fluid before sending it into the machine.
- The fluid passes through the wash valve where, during the appropriate cycle, it alternates with the air.
- The wash fluid and air pass 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.



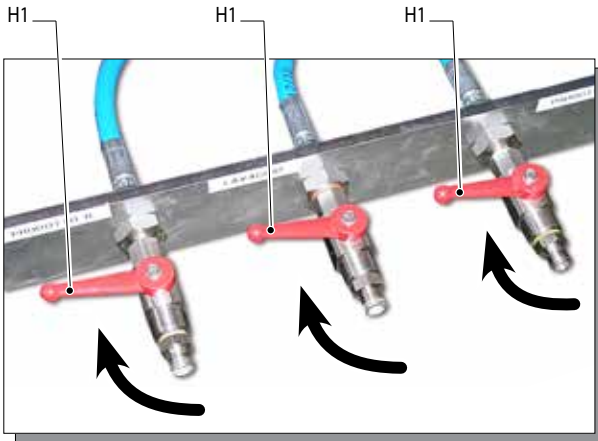
- It is recommended to ALWAYS keep the catalyser in part B of the circuit, both in the machine as well as in the flow pump, and to use part A exclusively for the product.
- Make sure that the wash fluid, whether water or solvent based, is compatible with the two components being utilized.
- If one or both of the components is changed, perform a "complete" washing cycle in the LARIUS MIX 2K system. The wash fluid must be drawn into the system directly from the flow pump. The machine must be set at a ratio of 1:1 and the base impulse value must be kept above 10.
- For the wash cycle, set the final air duration (T4) to a relatively high value, based on the length of the tube which leads to the outlet nozzle. After setting the 4 time values, and before initiating any work activities, perform a test wash cycle in order to make sure that no wash fluid residues remain within the tubes at the end of the cycle. Otherwise increase the T4 value. Repeat this process until the four time values (T1-T2-T3-T4) have been set properly.

H MAINTENANCE

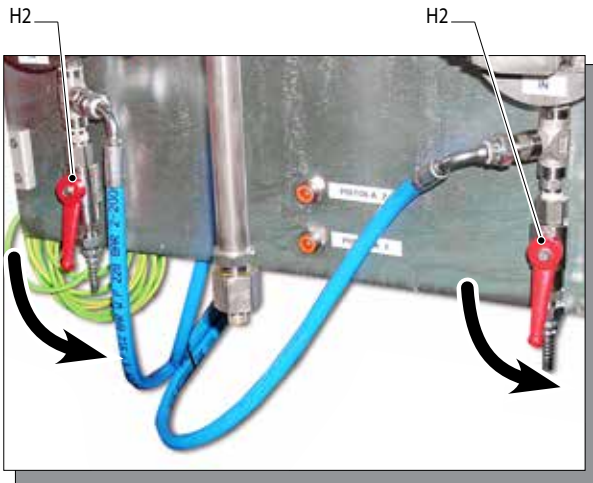
CLEANING AFTER WORK ACTIVITIES

 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 (H1).



Open the drain taps (H2), both those of the filter (where present, see accessories image) as well as those located beneath the pressure gauges.




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.

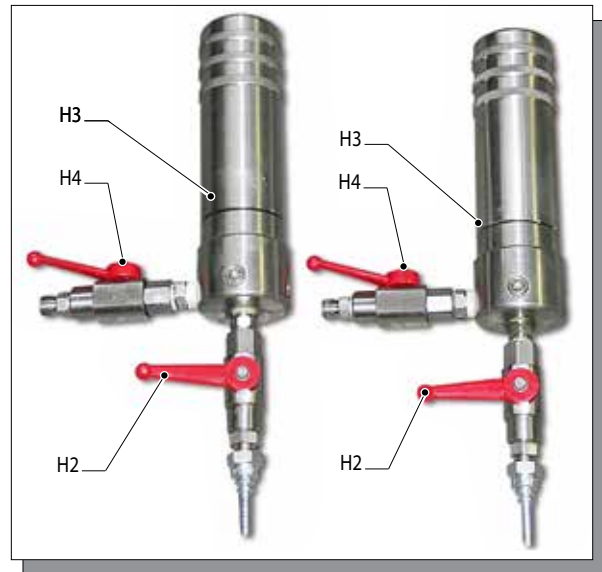
PERIODIC MAINTENANCE (weekly)

Check the machine's intake filters.

 Before opening the filter, remove the filter's tank (H3) in accordance with the following indications:

- Close the filter's intake tap (H4);
- Open the filter's drain tap (H2);


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 INTERFACE 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 
- modify the set value with the  and  arrows;
- press the  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.

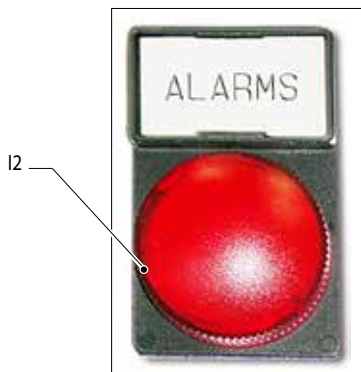
The light on the panel indicates whether any alarms are active.



ALARM CHECKS

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

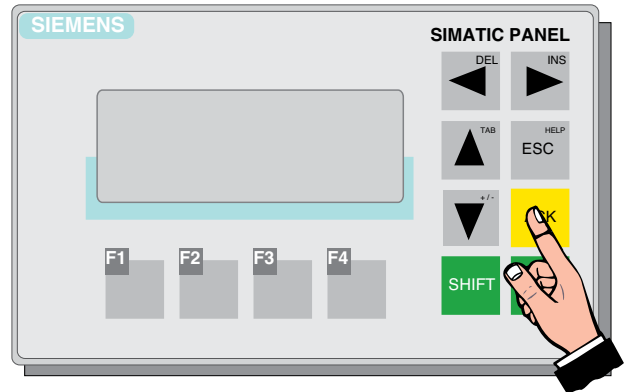
- The red light (I2) installed upon the control panel flashes;
- The operating panel displays the text which corresponds to the alarm.



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.



J START-UP PROCEDURES

The system has two operating modes:

- MANUAL MODE
- AUTOMATIC MODE

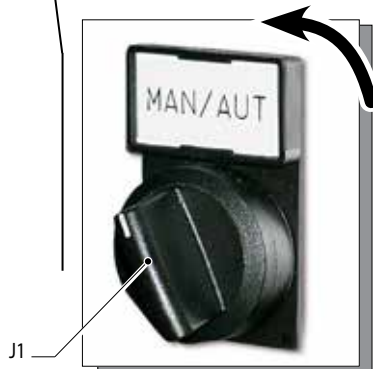
The operating mode can be selected using the 2-point selector (J1) located on the control panel.



MANUAL MODE

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

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



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.

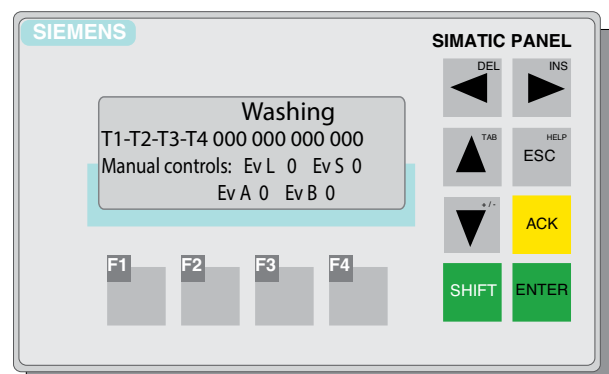
During automatic function, the selection of the manual cycle will provoke the arrest of all of the system's functions and the cancellation of the manual cycle.

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.



Manual controls

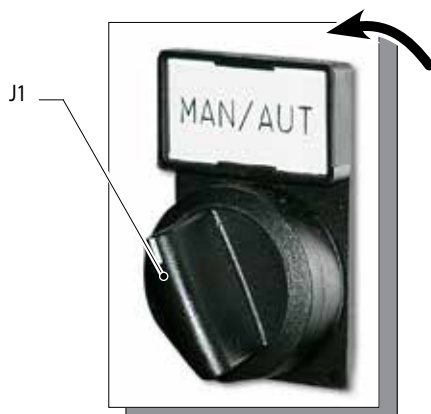


Press the F2 button on the operating panel to access the manual controls screen. Select the field for the desired valve and set the value to 1. The valve will open automatically.


The valves are defined as follows:

- Ev L: wash electrovalve manual control
- Ev S: solvent/thinner electrovalve manual control (based on the types of components being utilised)
- Ev A: component A electrovalve manual control
- Ev B: component B electrovalve manual control

These four 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.

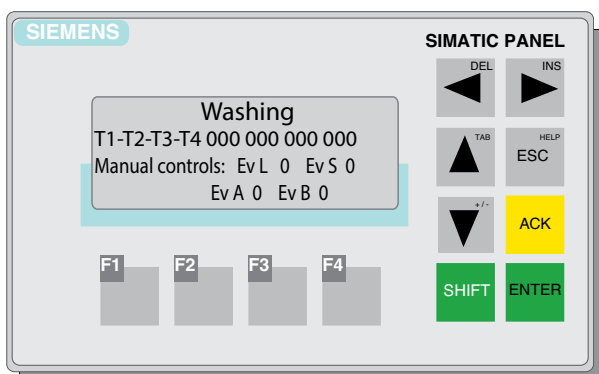


This function is necessary for performing a complete wash of the entire system when the two pumps have to be washed using two different wash fluids (i.e. component A requires water to be used as a wash fluid and the catalyser B requires the use of a solvent).

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

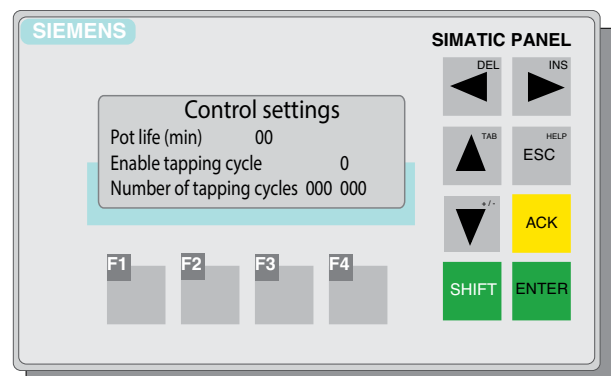


The wash cycle can be activated while the selector is in the manual position. In order to activate it, press the wash button located on the control panel. The wash cycle is divided into four stages:

- T1 Solvent/thinner
- T2 Air
- T3 Solvent/thinner
- T4 Air

The times must be calibrated based on the desired results. Use the F2 button to access the appropriate screen. The times are displayed, and must be inserted, in seconds.

Tapping cycle



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 tapping cycles field to the number of cycles to be performed.

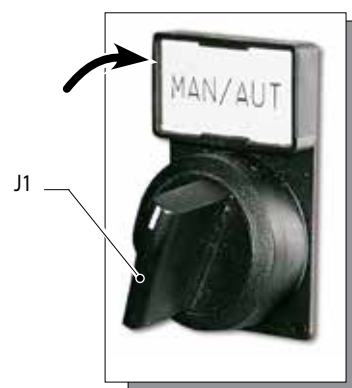
Once these values have been set, just turn the selector to the automatic position and then back to the manual position. The machine will perform the number of cycles requested.

AUTOMATIC MODE

The automatic cycle is used for regular working functionality.

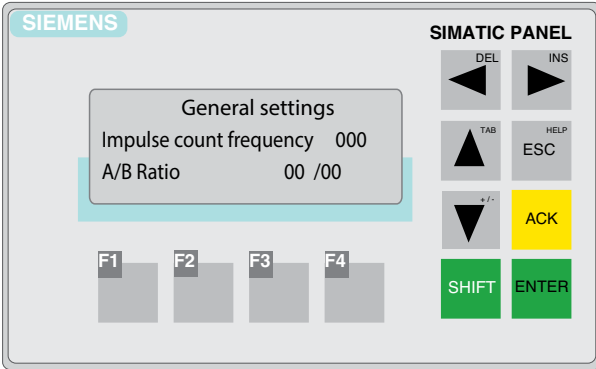
In order to activate automatic mode functionality, the operator must turn the selector (J1) to the automatic position.

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.

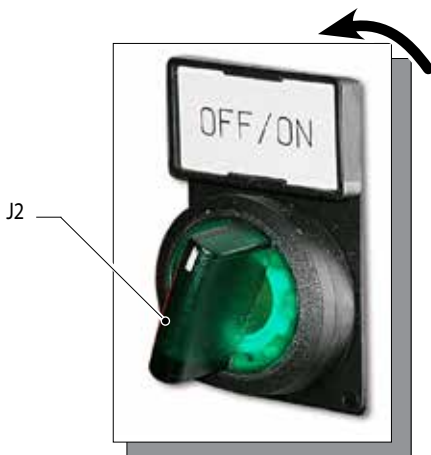
If a pulse frequency of 2 were set, the machine would count 60 pulses of A and 20 pulses of B.

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 OFF position.

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



K DESCRIPTION OF THE PANEL'S FUNCTIONS

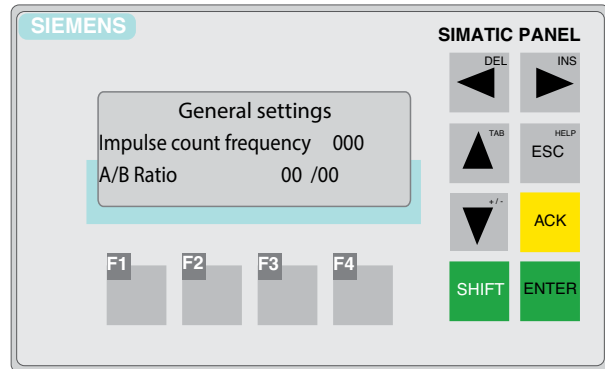
The OP73 panel is used by the operator to view and modify system process variables.

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.

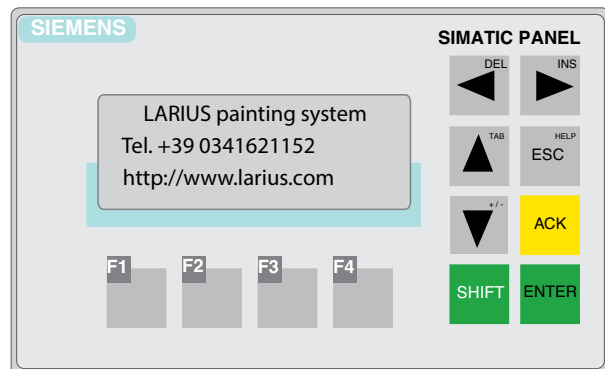
OP73 SCREEN

Description of the function buttons:

- Button F1 Accesses the General settings screen (3 screens)
- Button F2 Accesses the manual Wash/Controls screen
- Button F3 Accesses the Control settings page
- Button F4 Accesses the Alarms page

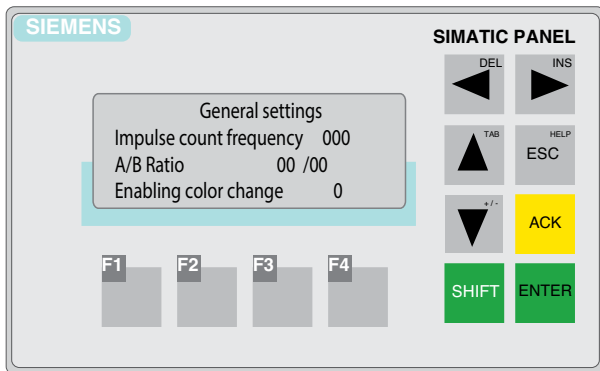


START-UP SCREEN



F1

GENERAL SETTINGS SCREEN (1)



The F1 screen is divided into three parts:

- The first, for setting the IMPULSE FREQUENCY (impulse multiplication factor), 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 ENABLING COLOR CHANGE (enabling the change of the color fo the unit providing it).
- The second, where the machine displays the information regarding the passage of the components through the two flowmeters.
- The third, where the machine displays fields that can not be modified.

List of fields:



- Impulse count frequency:impulse multiplication factor. When setting the IMPULSE FREQUENCY, keep in mind that the value inserted in inversely proportional to the mixing speed. The higher the value inserted, the slower the mixing speed.
- In case of high viscosity and low working pressure, use a value between 10 and 15.
- On the other hand, in case of low viscosity and high working pressure, use a value around 15 and 20.



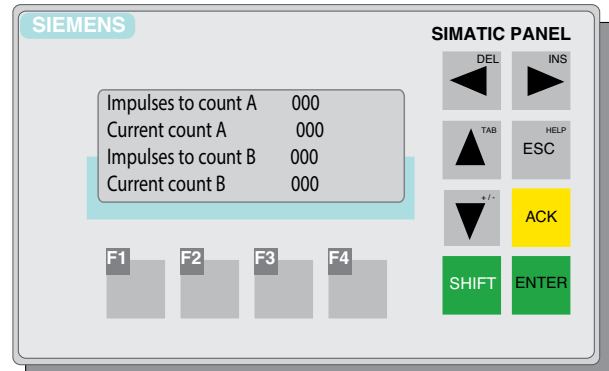
Values which are excessively low may not guarantee the proper mixing of the components and may damage the electrovalves. This number must be set in accordance with the viscosity of the materials as well as the pressure with which the machine is working.

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

- A/B ratio: it is the volumetric mixing ratio with which product A and catalyser B are dosed in order to obtain a proper mixture.
- Enabling color change: for the machine providing the color change, enter "1" to enable the color change and enter "0" to disable the color change.

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.

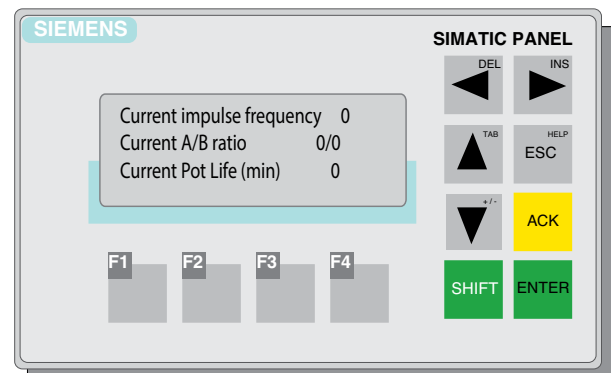
GENERAL SETTINGS SCREEN (2)



List of fields:

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

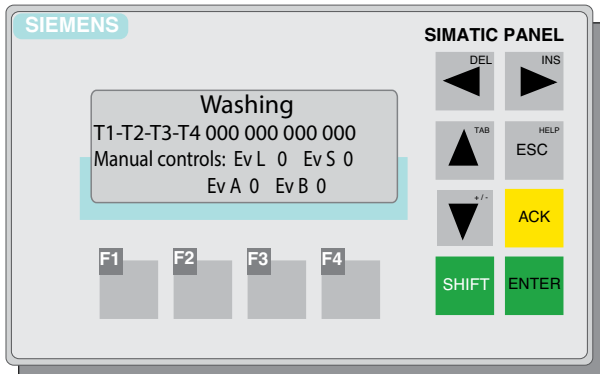
GENERAL SETTINGS SCREEN (3)



List of fields (display only):

- Current impulse frequency
- Current A/B ratio
- Current Pot Life

F2 WASH SCREEN




List of fields:

T1-T2-T3-T4:

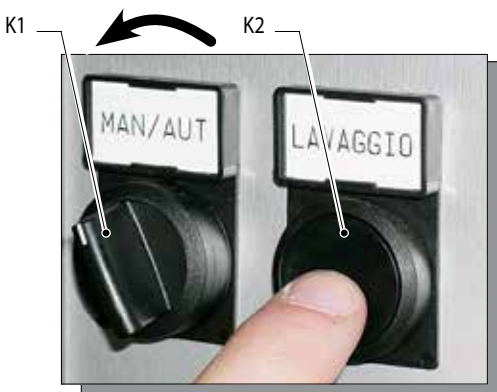
The wash cycle is made up of the following 4 time settings.

- T1: 1° thinner time.
- T2: 1° air time
- T3: 2° thinner time.
- T4: 2° air time
- EV L wash electrovalve manual control.
- EV S solvent/thinner 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.

After having set the 4 times, 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 DONE 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.


The wash cycle is divided into four phases (times):

- during T1 and T3, thinner (wash fluid) circulates within the machine.
- during T2 and T4, air circulates within the machine. These values are set in seconds.

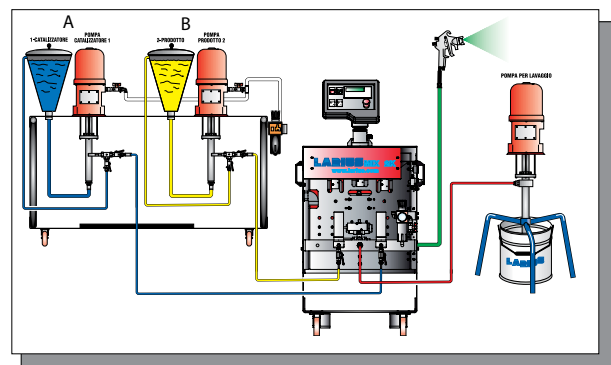
The air is required to dry the mixing lines after the passage of the thinner.

In order to avoid product waste, make sure that the T4 value is sufficiently high to guarantee that the air flow is capable of emptying and drying the mixing lines.


The four times must be regulated based on the length and the diameter of the tube, on the type of spray gun and on the type of product being used.

 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 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.

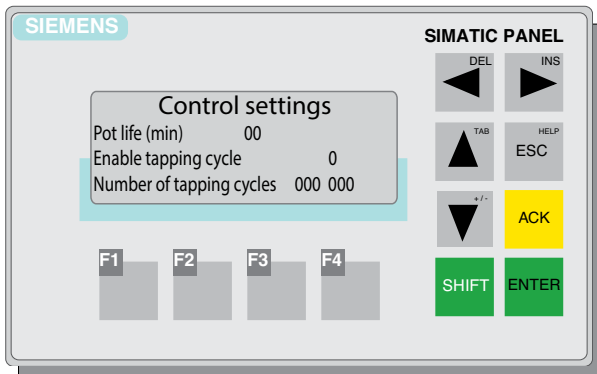


If component A requires a different wash fluid than catalyser B, the manual controls must be used in order to allow specific lines to be left open while others are kept closed. This will prevent unwanted reactions between the different components.

 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

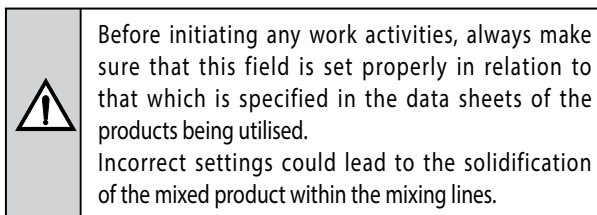
CONTROL SETTINGS SCREEN (1)



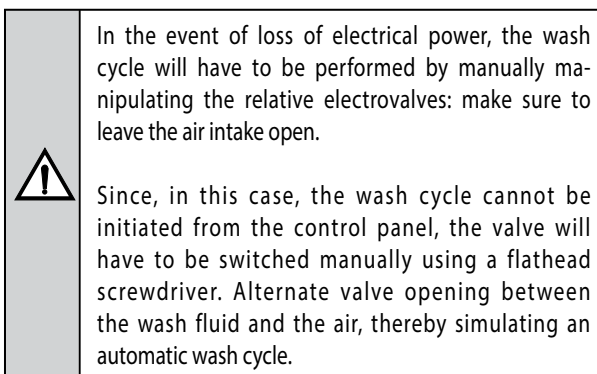
List of fields:

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

POT LIFE



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.



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.

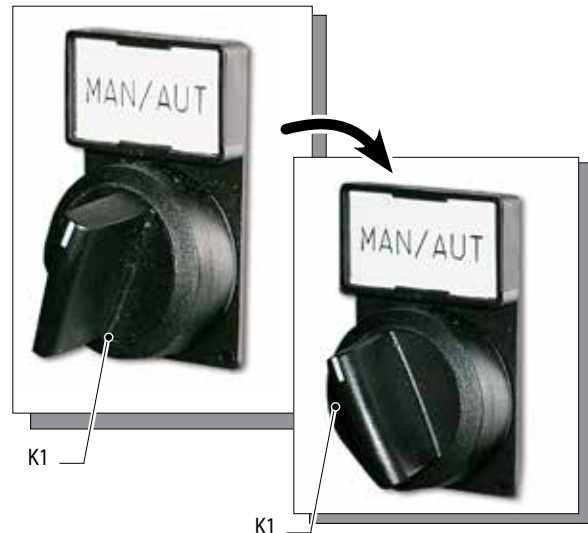
Set the MANUAL/AUTOMATIC selector to its MANUAL position.



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

The NUMBER OF TAPPING 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.

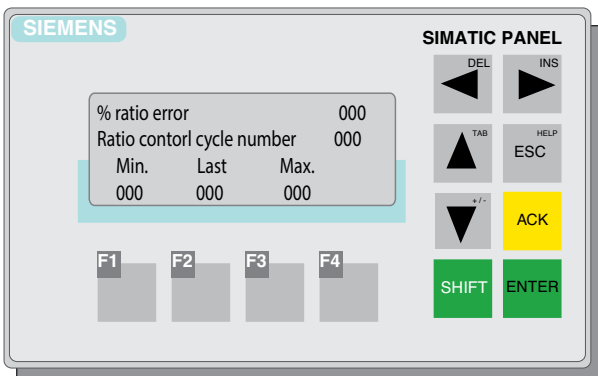
Once these two fields have been properly setup, turn selector (K1) to AUTOMATIC and then turn it back to MANUAL.

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  arrow button on the control panel. To return to the previous page, press the  arrow button.

CONTROL SETTINGS SCREEN (2)



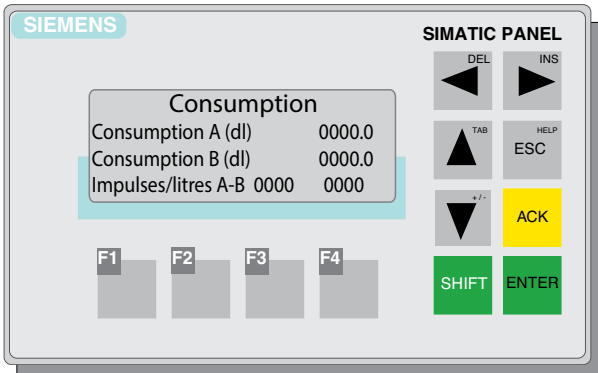
List of fields:

- % 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 arrow button on the control panel. To return to the previous page, press the arrow button.

CONTROL SETTINGS SCREEN (3)

CONSUMPTIONS



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

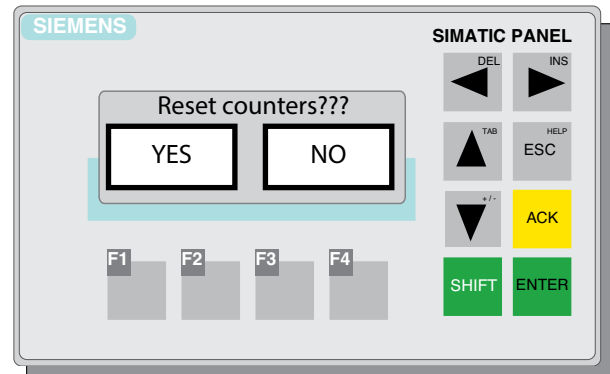
CONSUMPTION A (dl) = indicates the quantity of product A consumed, expressed in decilitres.

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

IMPULSES / LITRES A-B = indicates the number of impulses per litre from the flowmeters, (standard 4082).

THE VALUE 4082 MUST NEVER BE MODIFIED.
This value must only be modified if the model of flowmeter is changed. The incorrect modification of this field will result in the incorrect dosage of the components and incorrect consumption calculations.

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



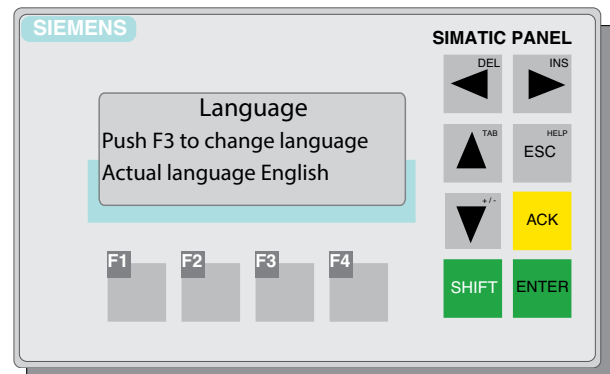
Use the RIGHT and LEFT arrow buttons to select YES or NO.

Press the button to reset the values.

In order to access the following 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

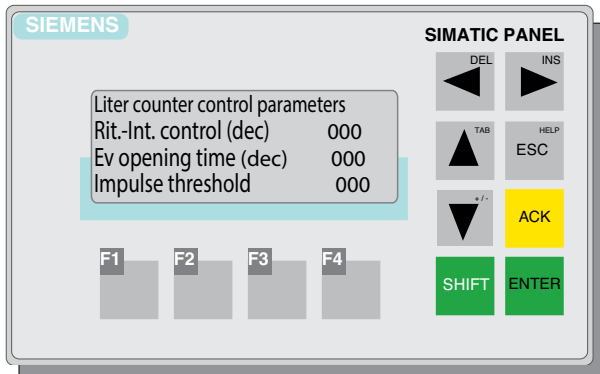


Press the F3 button to set the panel's menu language.

In order to access the following 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

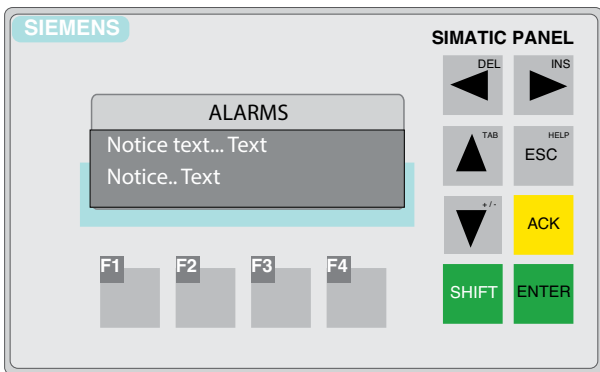


List of fields:

- Rit.-Int. control: is the time interval between two checks on the liter counter.
- Ev opening time: is the opening time of the resting component for the flow control.
- Impulse threshold: is the impulse threshold beyond which will an error on the liter-counter will be detected.

F4

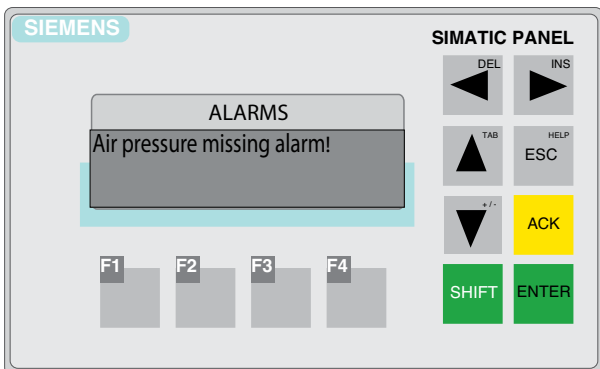
ALARMS SCREEN



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

Reset: reset the emergency button and press F4.

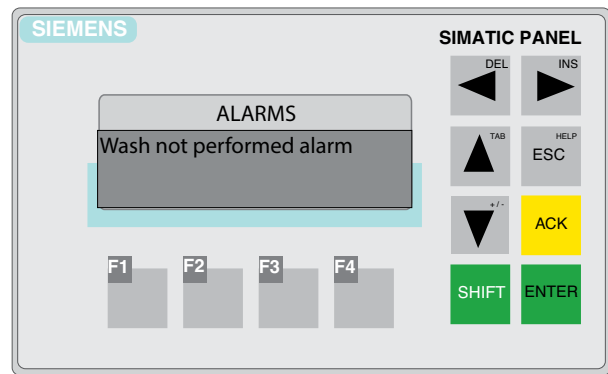
Remove text: takes place automatically by pressing F4.



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

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

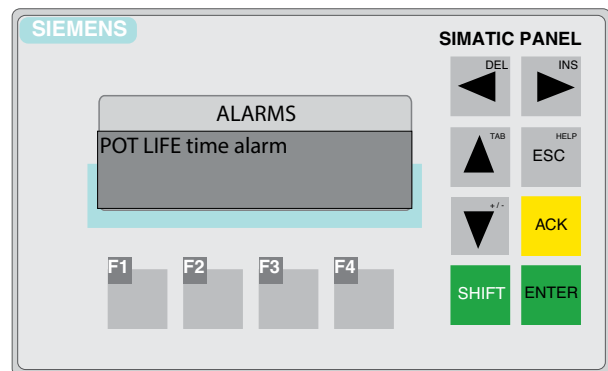
Remove text: takes place automatically by pressing F4.



- 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-head emergency button if a wash cycle is not required then press F4.

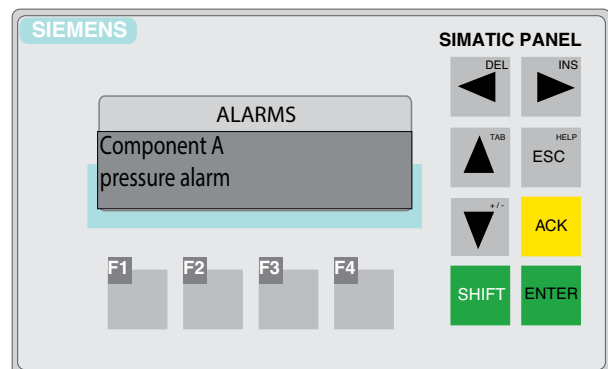
Remove text: takes place automatically by pressing F4.



- 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.

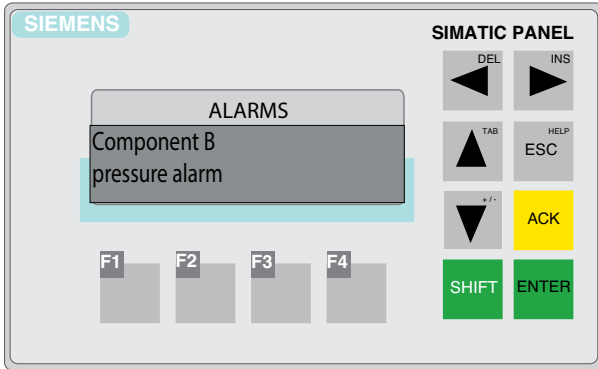
Remove text: takes place automatically by pressing F4.



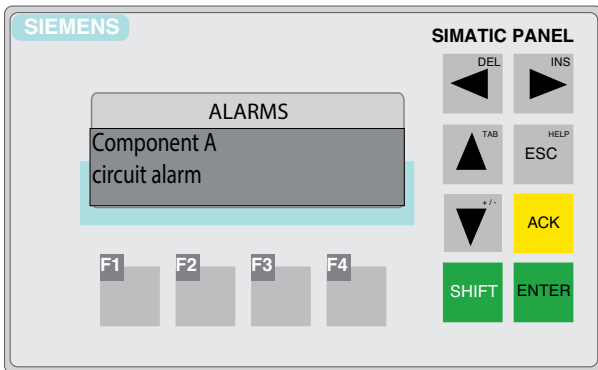
- Component A pressure alarm: indicates that the pressure of component A is not within the proper range.

Reset: check the pressure and pump circuit and press F4.

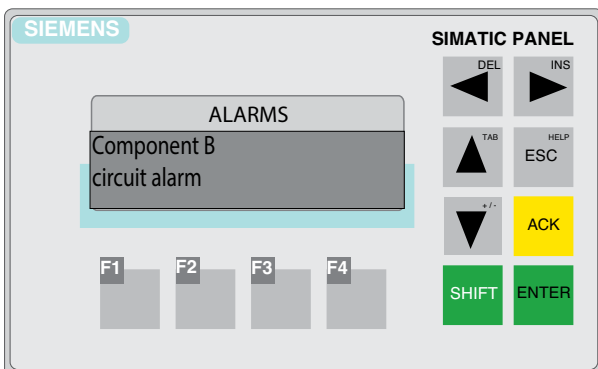
Remove text: takes place automatically by pressing F4.



- Component B 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.



- Component A circuit alarm: indicates possible leakage from valve A located on the mixing block.
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.



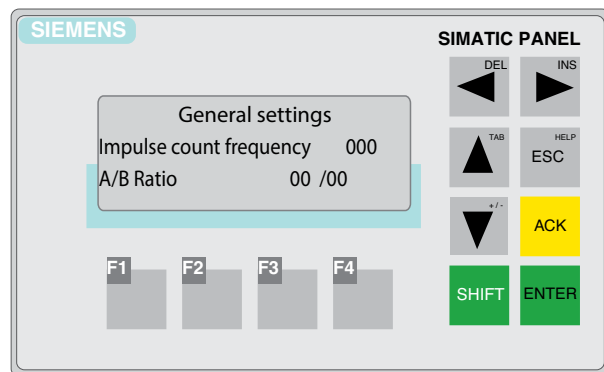
- Component B circuit alarm: indicates possible leakage from valve B located on the mixing block.

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.

L 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:

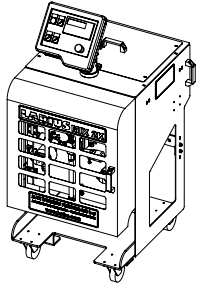
If a volume ratio of 3/1 has been selected (3 parts A and 1 part B) and a base impulse of 1 has been inserted, the program will check the opening of the valves by counting 30 impulses from the A flowmeter and 10 impulses from the B flowmeter.



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.

SPARE PARTS

M Assembly
page 28



N Control panel
page 29



R Air intake Ref.23220
page 35

O PLC casing
page 30

P Machine structure
page 32-33-34

S Material intake block
Ref. 23250
page 36

T Pneumatic unit
page 38

P Air distributor (Ref. 23350)
page 31

U Regulation panel (Ref. 23500)
page 40

V Mixer + spray guns (Ref. 23320)
page 41

W Flowmeter (ref. 23400)
page 42

X Spray gun
Ref. 23340
page 43

Y Wash valve (Ref. 23536)
page 44

Z Air reserve tank Ref. 23545
page 45

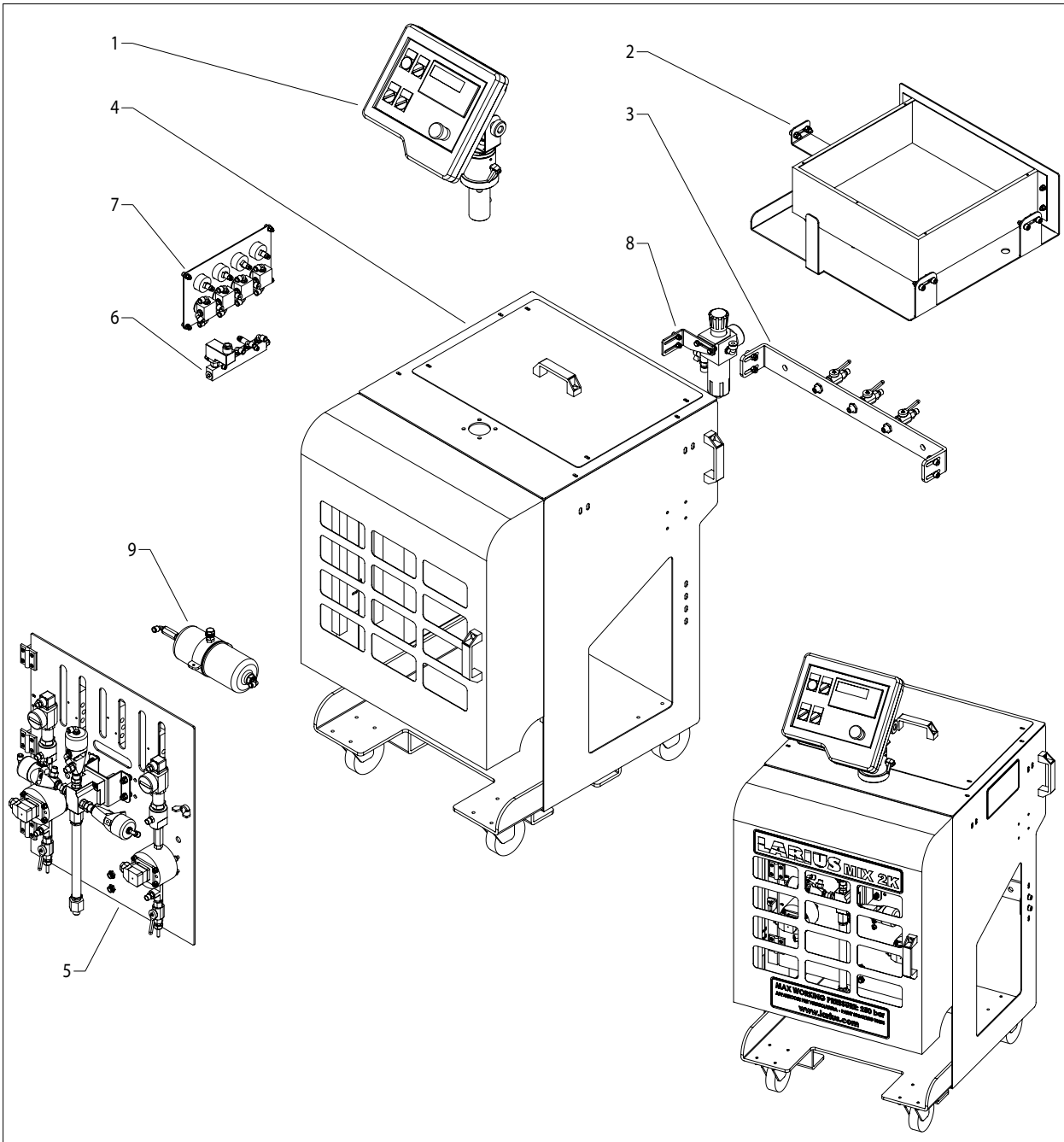
A-A Tapping block
Ref. 23140
page 46

A-B Accessories
page 46



M ASSEMBLY

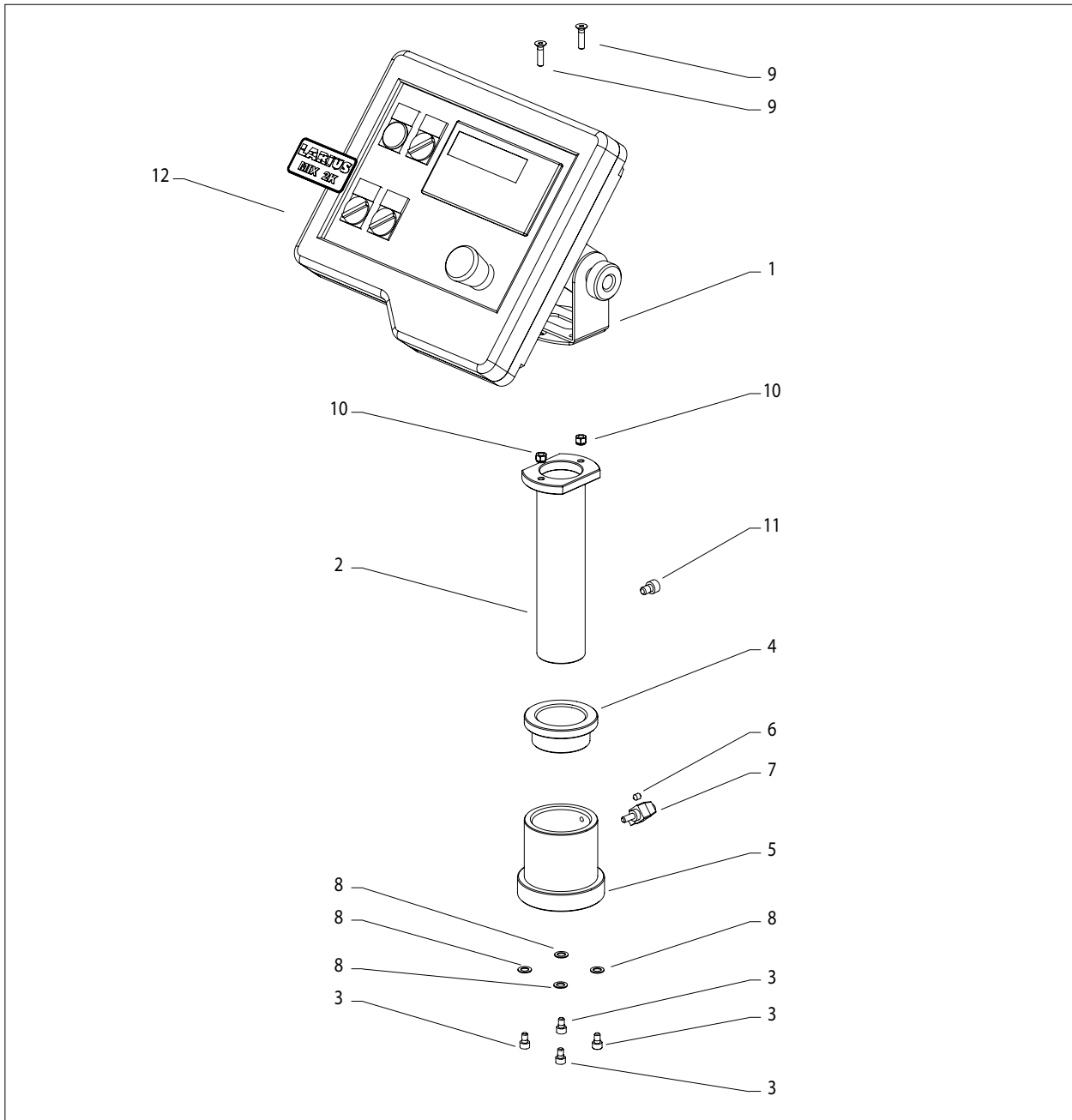
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	23100	Control panel	1	6	23350	Air distributor	1
2	23150	PLC casing	1	7	23500	Air regulation panel	1
3	23250	Materials intake block	1	8	23220	Regulator filter	1
4	23200	Machine structure	1	9	23545	Air tank	1
5	23300	Pneumatic unit	1				

N CONTROL PANEL

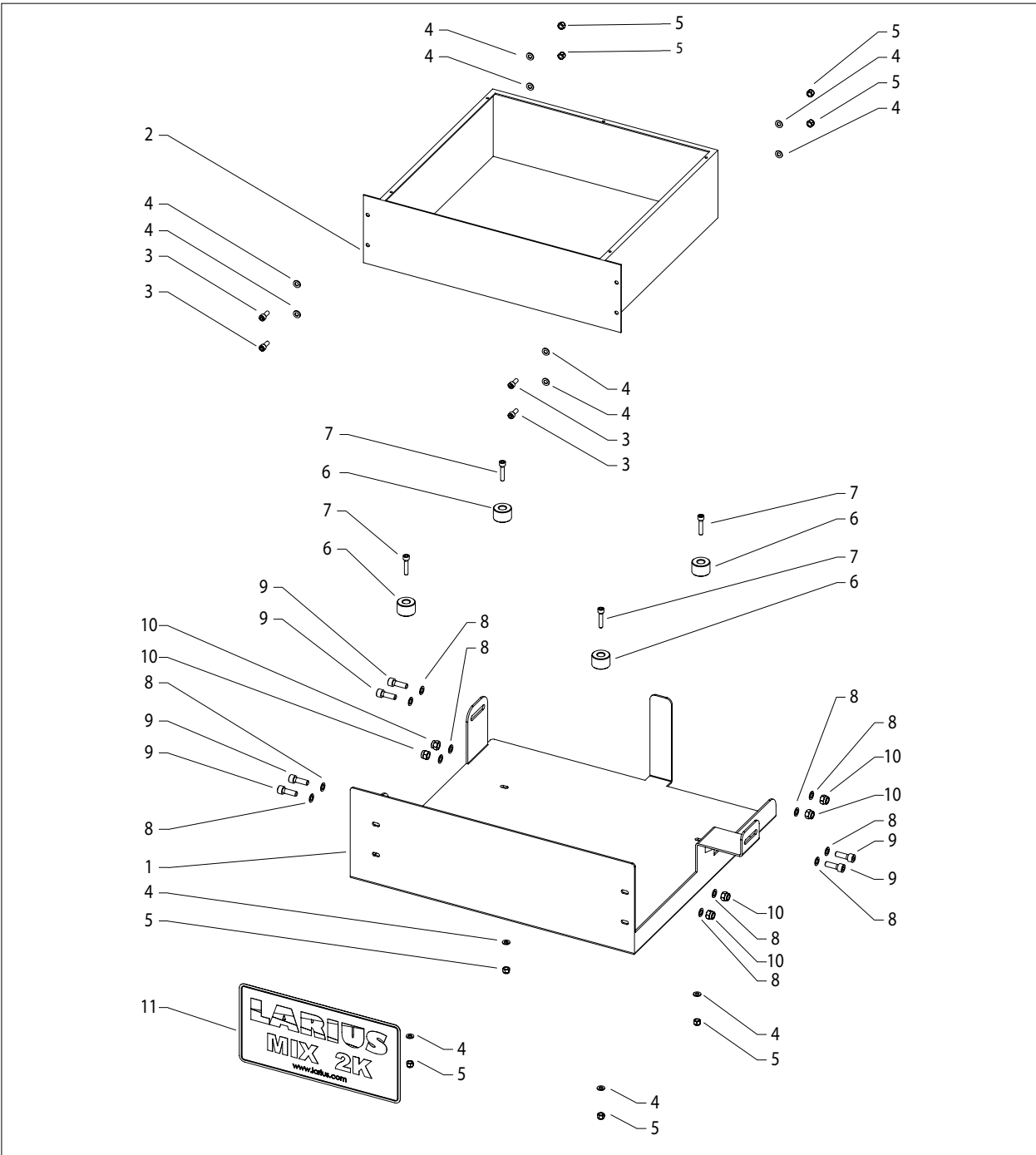
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23101	Control panel	1	7	4489	Lever with peg	1
2	23102	Height adjustment tube	1	8	95063	Washer	4
3	54004	Screw	4	9	510028	Screw	2
4	23103	Bushing	1	10	8042	Self-tightening nut	2
5	23104	Control panel base	1	11	91062	Screw	1
6	31102	Dowel	1	12	23111	Label	1

0 PLC CASING

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

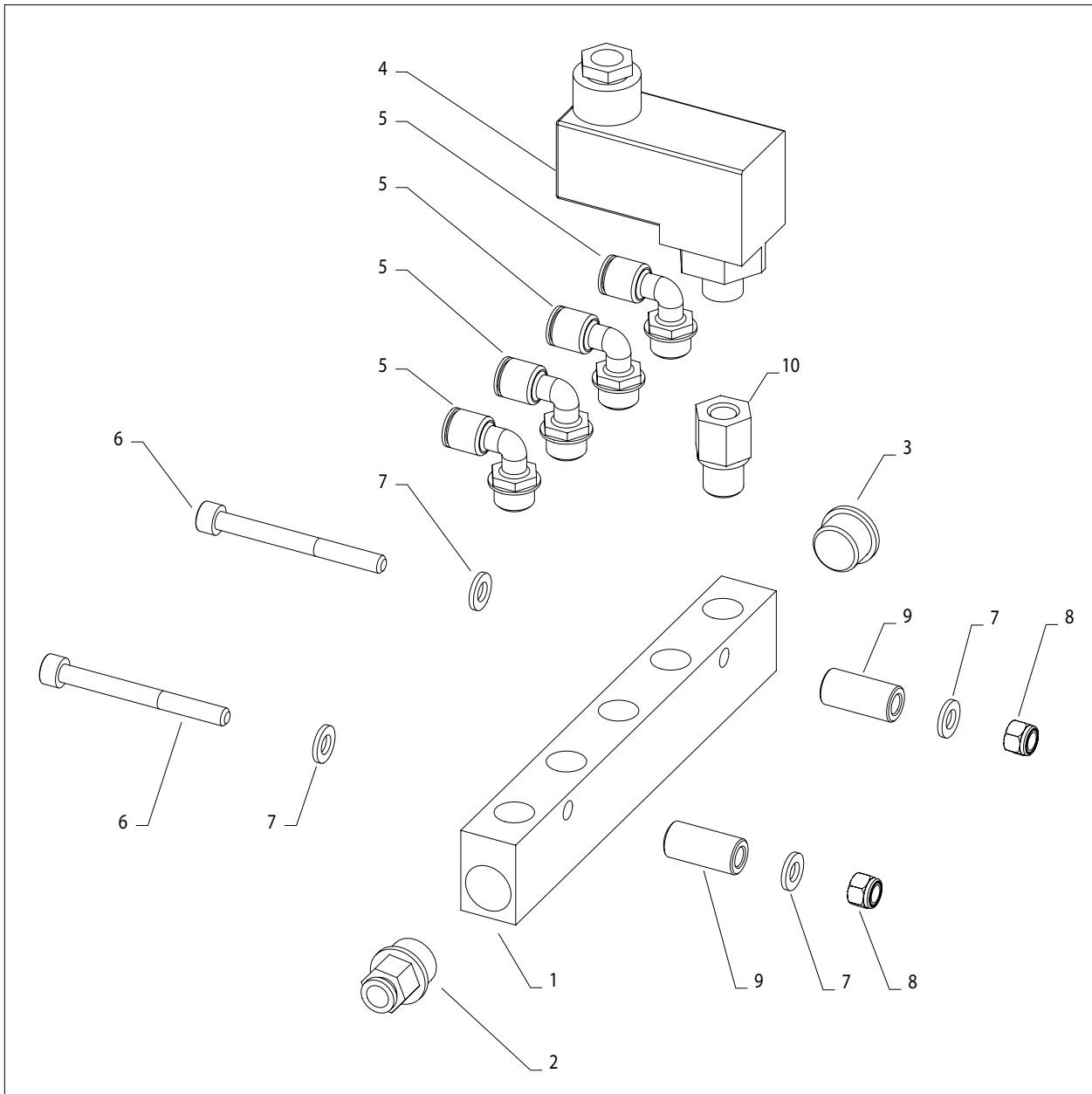


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23151	PLC box protection	1	7	8029	Screw	4
2	23152	PLC Box	1	8	32024	Washer	12
3	54004	Screw	4	9	34008	Screw	6
4	95063	Washer	12	10	3637	Nut	6
5	8042	Nut	8	11	23110	Rear label	1
6	23153	PLC Box thickness	4				

P AIR DISTRIBUTOR (REF. 23350)

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

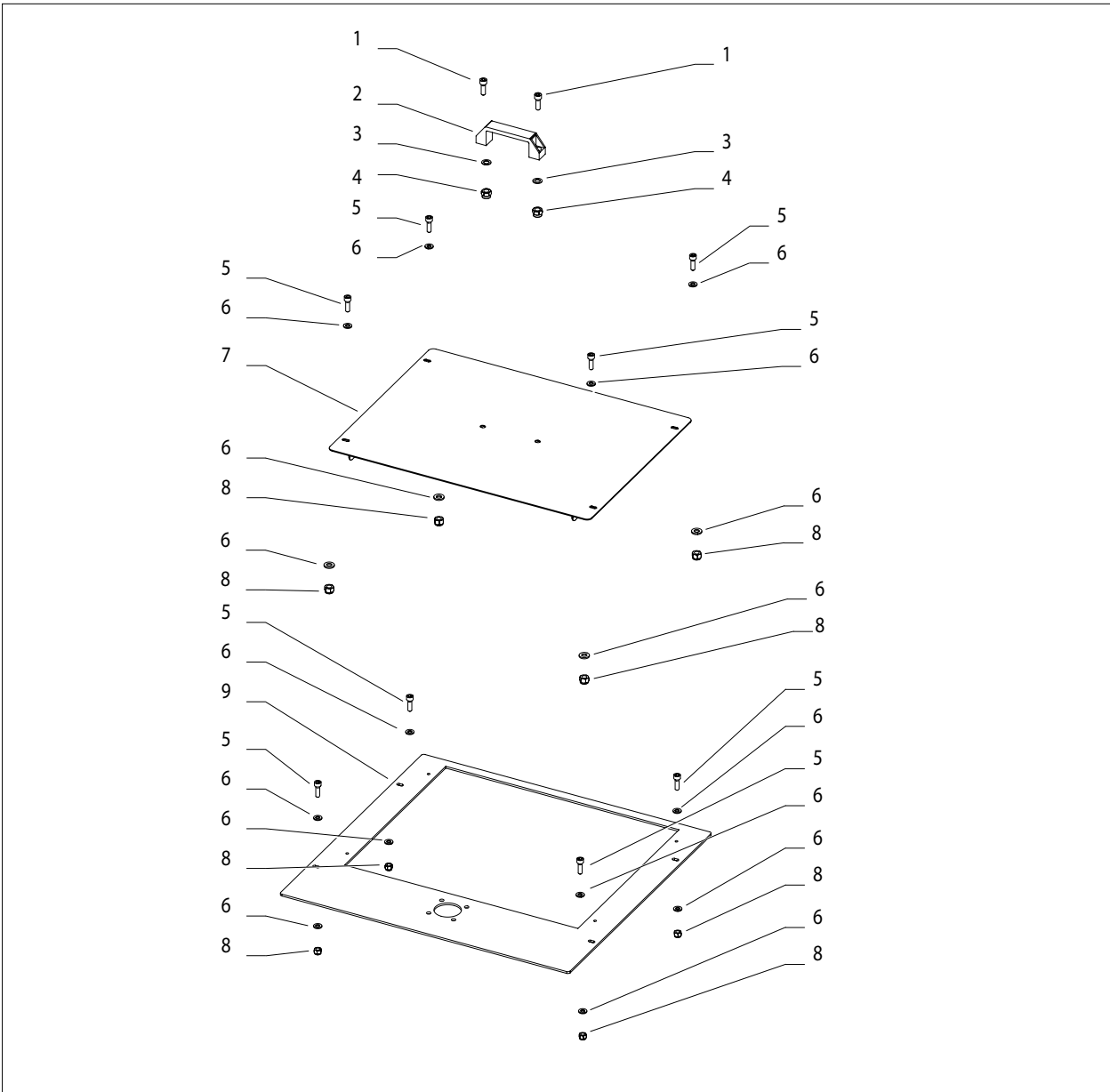
English



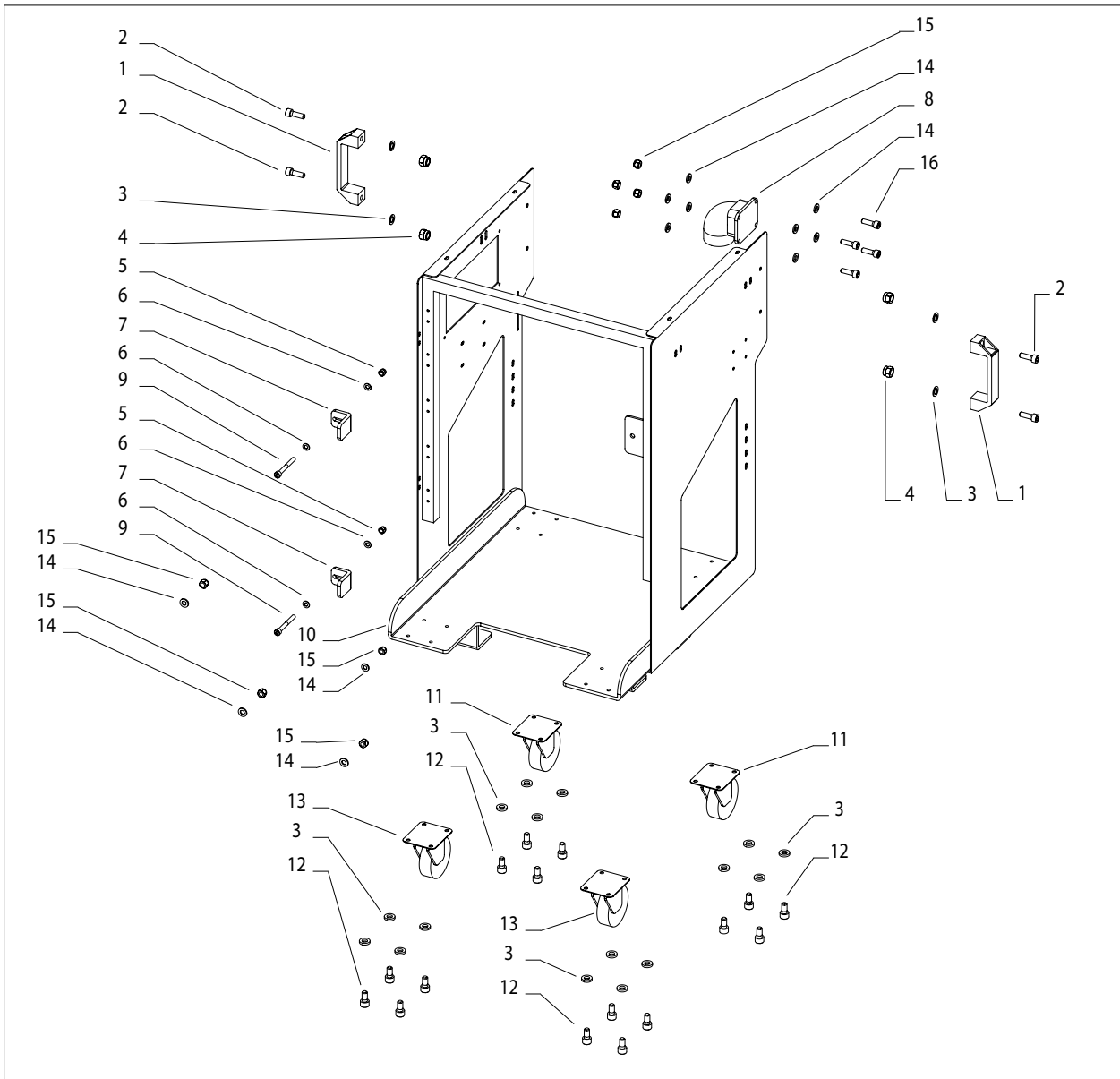
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23350	Complete air distributor kit		6	20436	Screw	2
1	23351	Air manifold	1	7	95063	Washer	4
2	5392	3/8 tube diameter 8 quick connector	1	8	8042	Self-tightening nut	4
3	8124	Plug 3/8	1	9	23353	Spacer	2
4	23352	Manostat	1	10	22020	Adapter	1
5	8063	1/4 tube diameter 8 rotating elbow	4				

Q MACHINE STRUCTURE

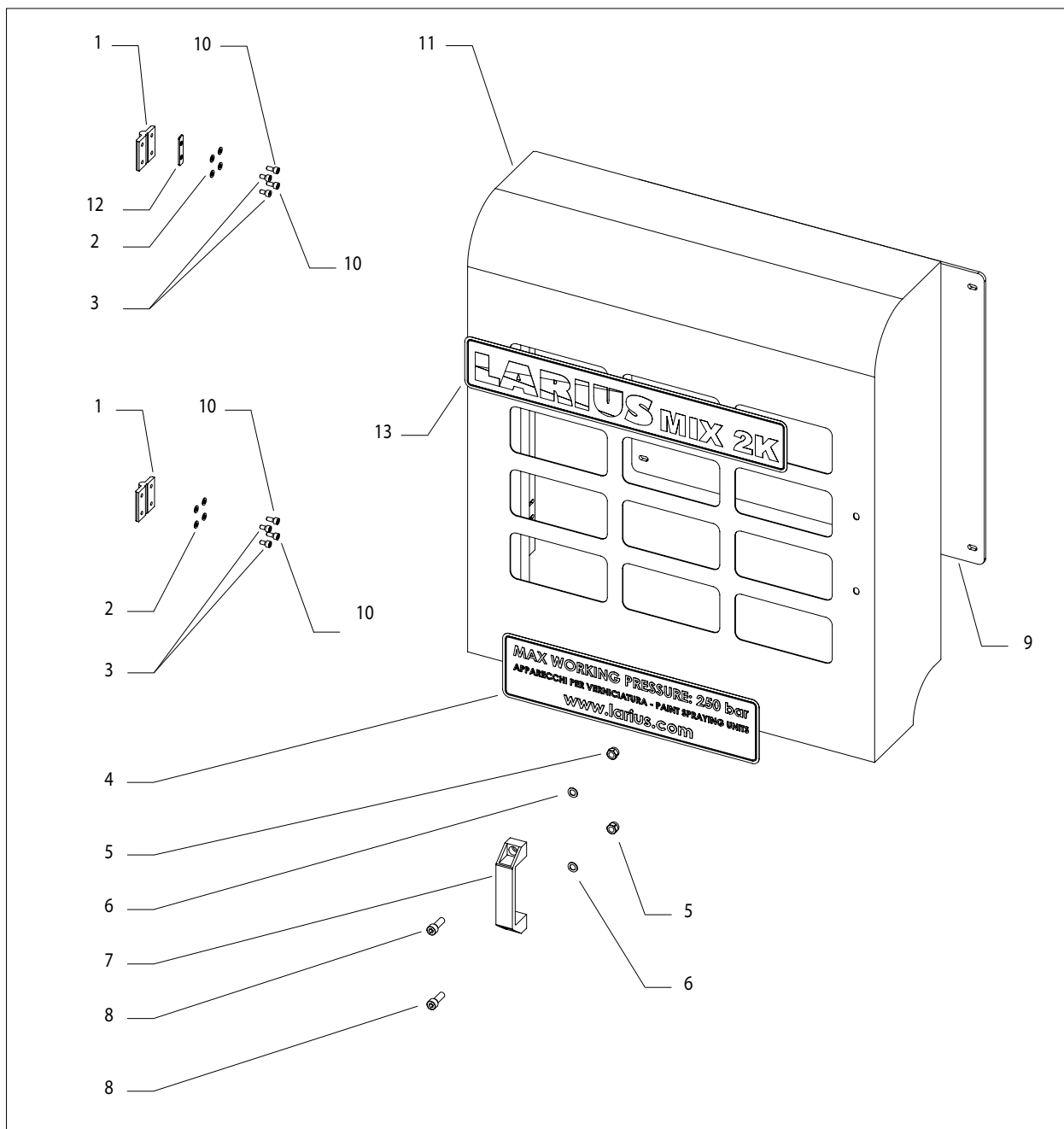
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	34008	Screw	2	6	95063	Washer	16
2	32003	Handle	1	7	23206	Cover	1
3	32024	Washer	2	8	8042	Self-tightening nut	8
4	3637	Self-tightening nut	2	9	23205	Upper wall of the machine	1
5	91062	Screw	8				



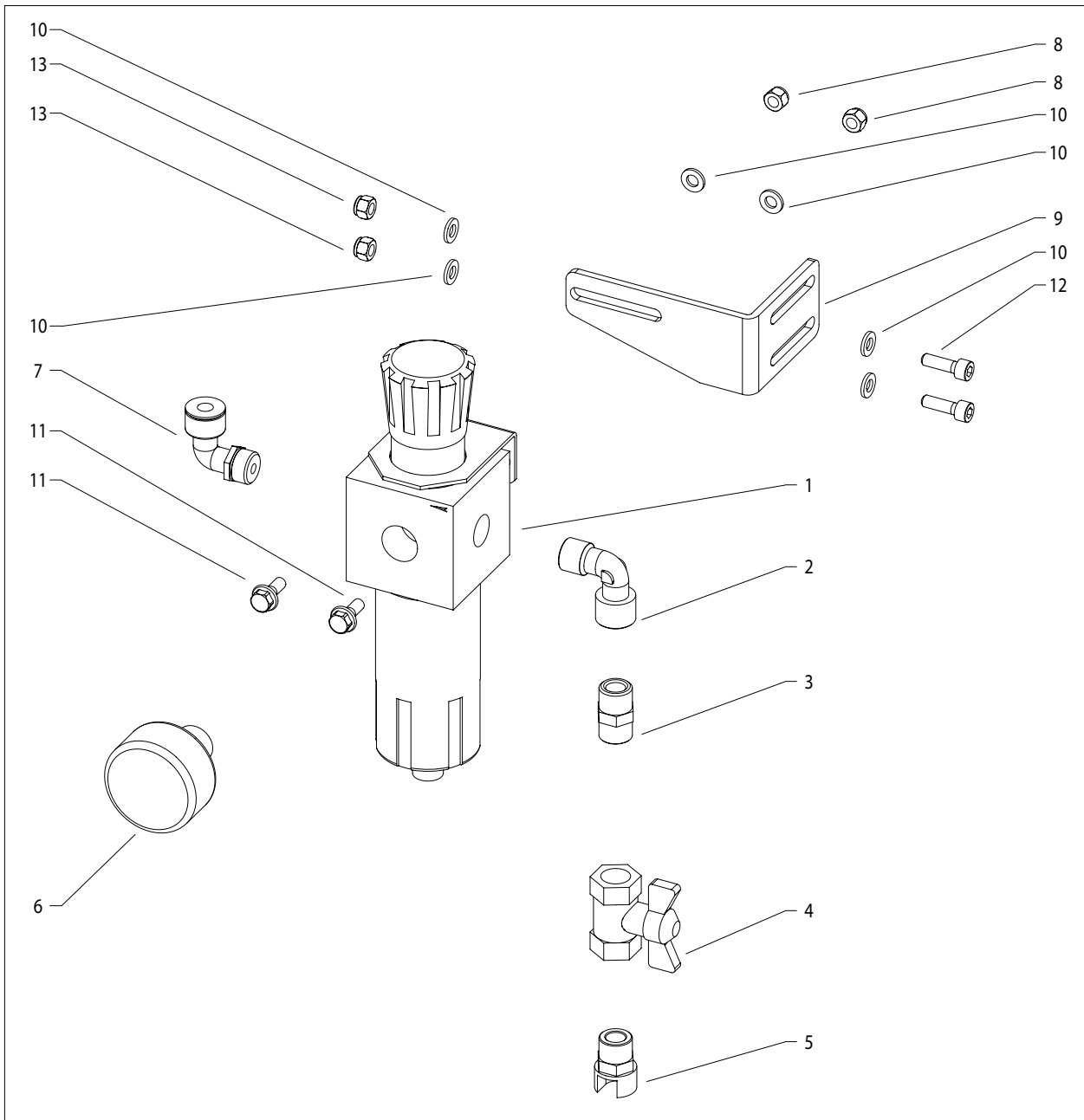
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	32003	Handle	2	9	23208	Screw	2
2	34008	Screw	4	10	23201	Machine base structure	1
3	32024	Washer	20	11	23204	Braking pivot wheel	2
4	3637	Self-tightening nut	4	12	8178	Screw	16
5	33024	Self-tightening nut	2	13	1000203	Pivoting wheel	2
6	33023	Washer	4	14	95063	Washer	12
7	23207	Door locking bracket	2	15	8042	Self-tightening nut	8
8	23209	Electrical plug 220 V	1	16	91062	Screw	4



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23203	Hinge	2	8	34008	Screw	2
2	33023	Washer	8	9	23214	Protection panel	1
3	32032	Screw	4	10	95206	Screw	4
4	23112	Interior frontal label	1	11	23202	Frontal door	1
5	3637	Self-tightening nut	2	12	23561	Hinge spacer	1
6	32024	Washer	2	13	23113	Upper frontal label	1
7	32003	Handle	1	-	9721	Door closing hook	1

R AIR INTAKE REF.23220

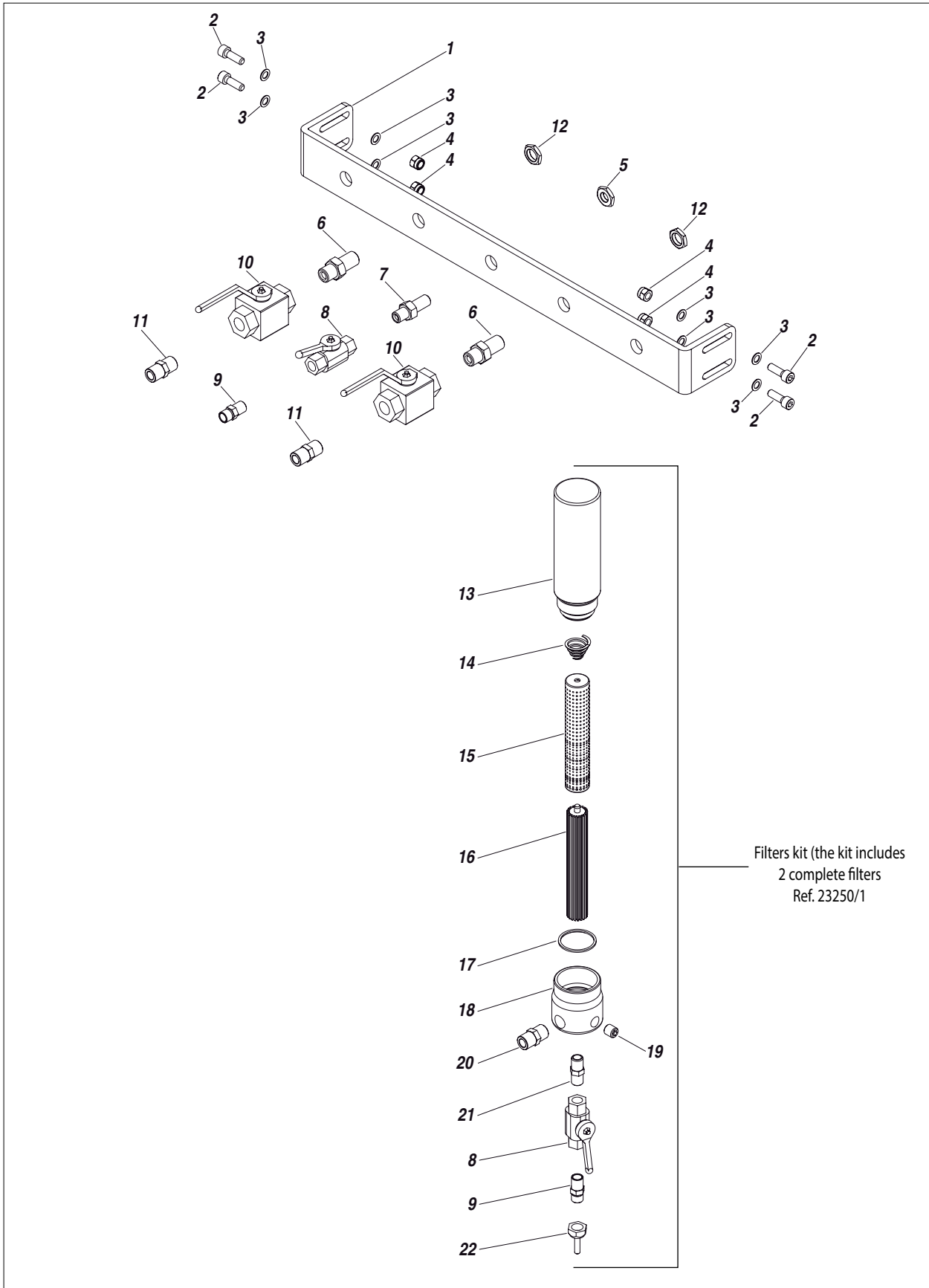
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23220	Complete air intake kit		7	510088	90° quick attachment for diam.8 tube	1
1	91107	Bracket + regulator unit	1	8	8042	Self-tightening nut	4
2	91102	Union elbow	1	9	23221	Air regulator door bracket	1
3	91020	M/M 3/8 Adapter	1	10	95063	Washer	4
4	91101	3/8 Ball valve	1	11	900662	Screw	2
5	10103	Bayonet connection	1	12	91062	Screw	2
6	96259	Pressure gauge	1				

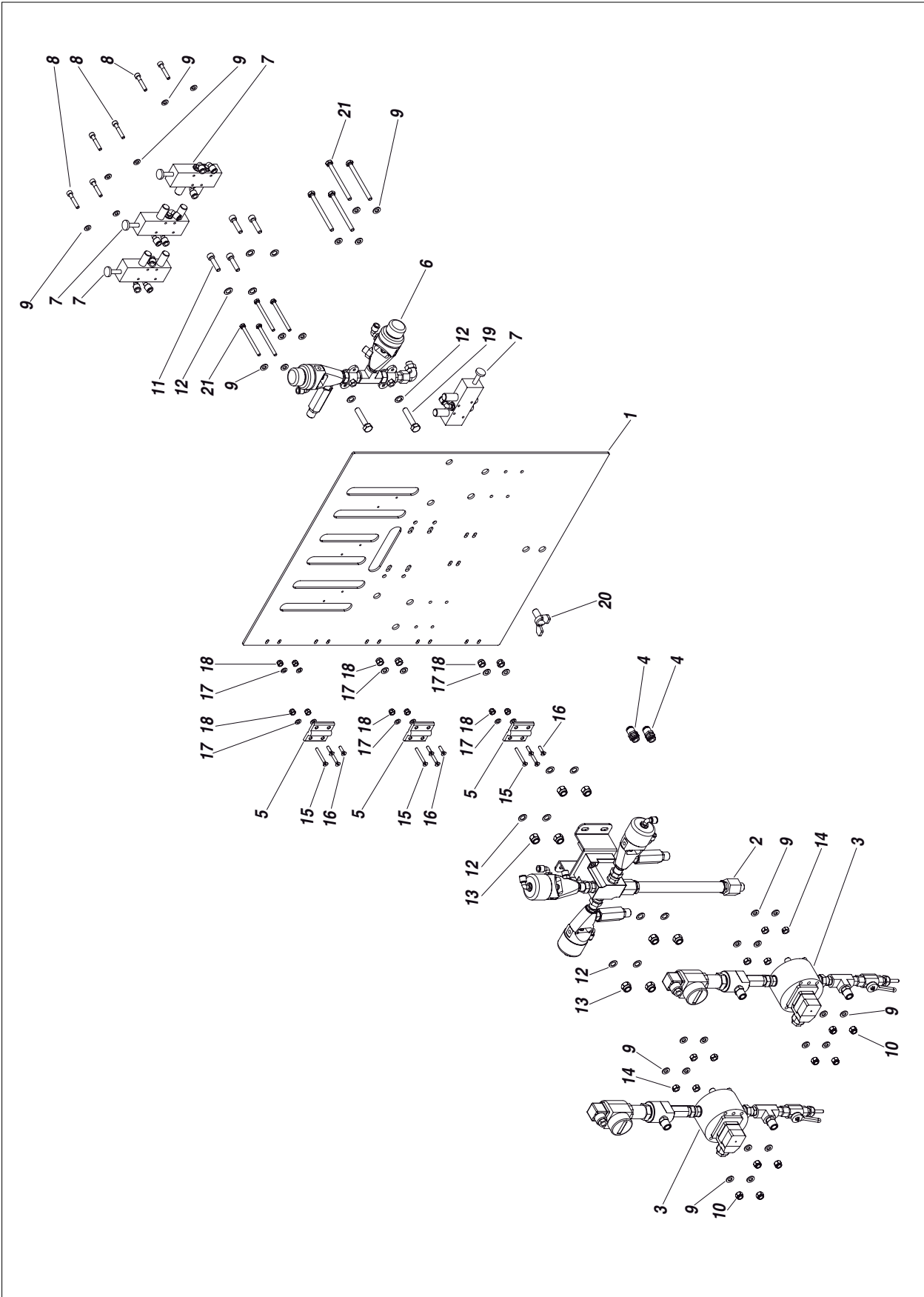
S MATERIAL INTAKE BLOCK REF. 23250

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



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23250/1	Filters kit (the kit includes 2 complete filters)		11	6149	3/8-3/8-M-M CON-CIL Adapter	2
				12	24103	3/8 Locknut	2
1	23251	Support bar for filters	1	13	98384	Filter tank	1
2	96031	Screw	4	14	96202	Sieve spring	1
3	96753	Washer	8	15	95220	Filter sieve	1
4	3637	Self-tightening nut	4	16	96207	Sieve holder	1
5	23252	Locknut	3	17	96203	Gasket	1
6	23253/1	Material intake connection	2	18	96204	Filter base	1
7	23253	Wash intake connection	1	19	98386	Tap 1/4"	1
8	98325	1/4 Ball valve	3	20	6149/1	3/8-3/8 M-M CON-CON Adapter	1
9	3110	1/4-1/4 M-M CON-CIL Adapter	3	21	23383	1/4-1/4 M-M CON-CON Adapter	1
10	33037	Ball valve	2	22	18206	Connection 1/4 for pipe 1/4	1

T PNEUMATIC UNIT



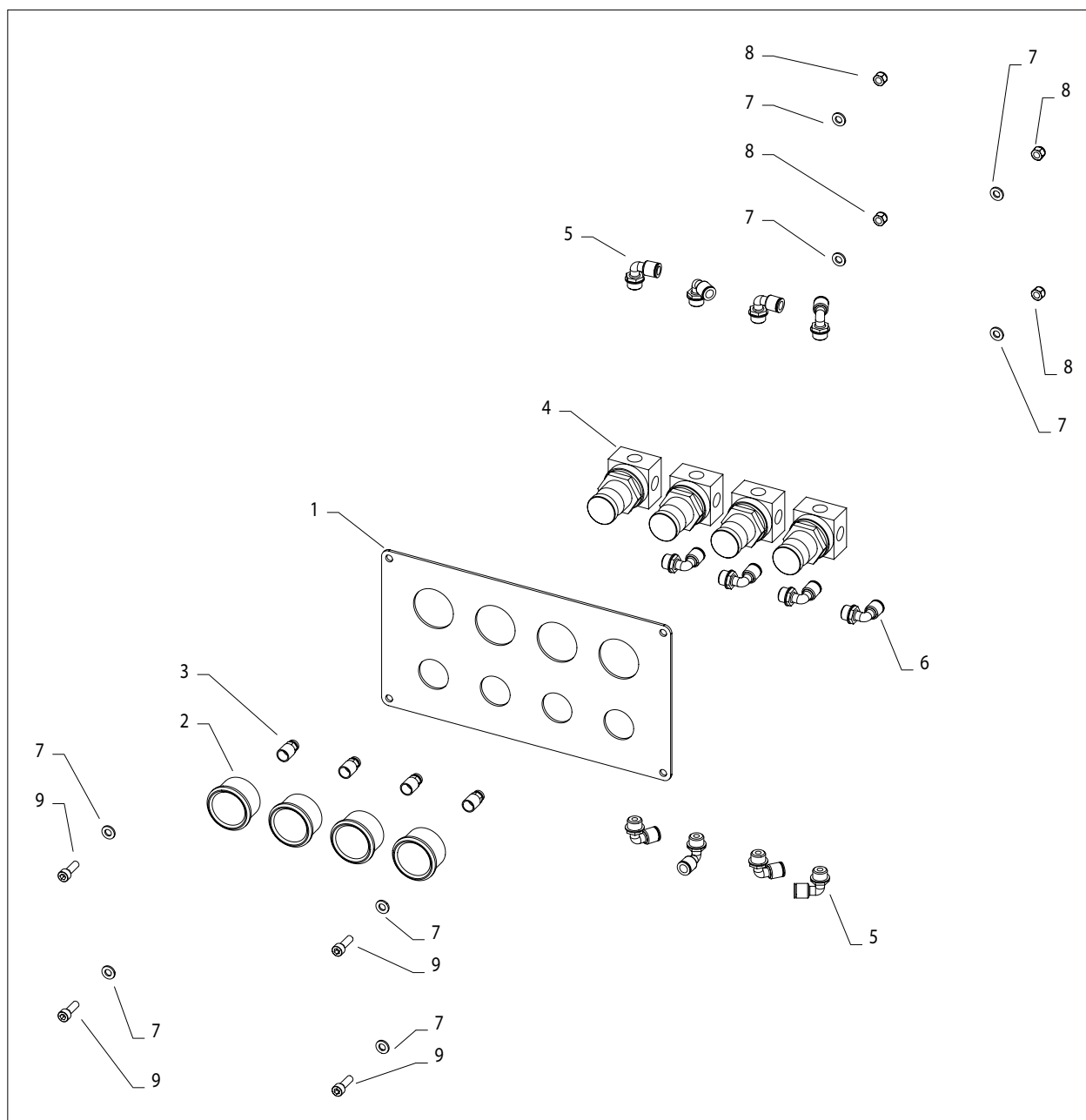
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23301	Pneumatic zone panel	1	12	32024	Washer	14
2	23320	Spray guns and mixer unit	1	13	3637	Self-tightening nut	8
3	23400	Flowmeter unit	2	14	91026	Nut M6	8
4	19176	Diameter 8 tube passage	2	15	23552	Screw	6
5	23302	Hinges	3	16	23553	Screw	6
6	23536	Wash valves unit	1	17	33023	Washer	12
7*	23304/1	Electrovalves	4	18	33024	Self-tightening nut	12
8	23306	Screw	6	19	69012	Screw	2
9	95063	Washer	30	20	23305	Butterfly screw	1
10	8042	Self-tightening nut	8	21	23303	Screw	8
11	39405	Screw	4				

*Specific for 1 electrovalve 23304/1

Code	Description	Q.ty
8063	Air connection elbow	3
8054	Silencer	2
23308	Coil	1
23309	Connector	1
23304	Electrovalve	1
510020	Quick air connector	1

U REGULATION PANEL (REF. 23500)

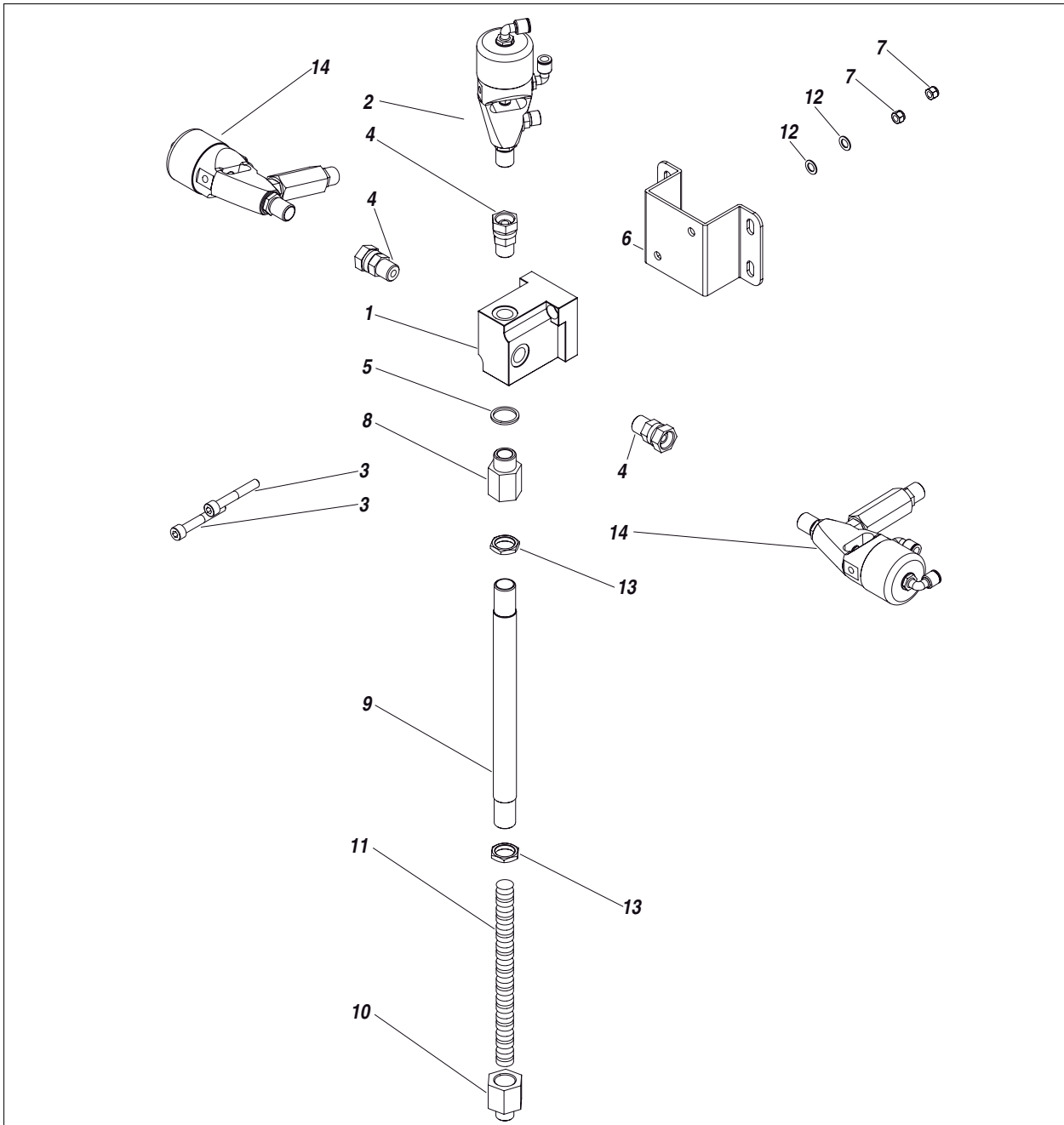
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23500	Regulation panel kit		5	8063	Elbow for diameter 8 tube	8
1	23501	Regulator panel	1	6	22014	Elbow for diameter 4 tube	4
2	5341	Pressure gauge	4	7	95063	Washer diameter 6	8
3	19162	Diameter 4 tube quick connector	4	8	3637	Self-tightening nut	4
4	3344	Air regulators	4	9	91062	Screw	4

V MIXER + SPRAY GUNS (REF. 23320)

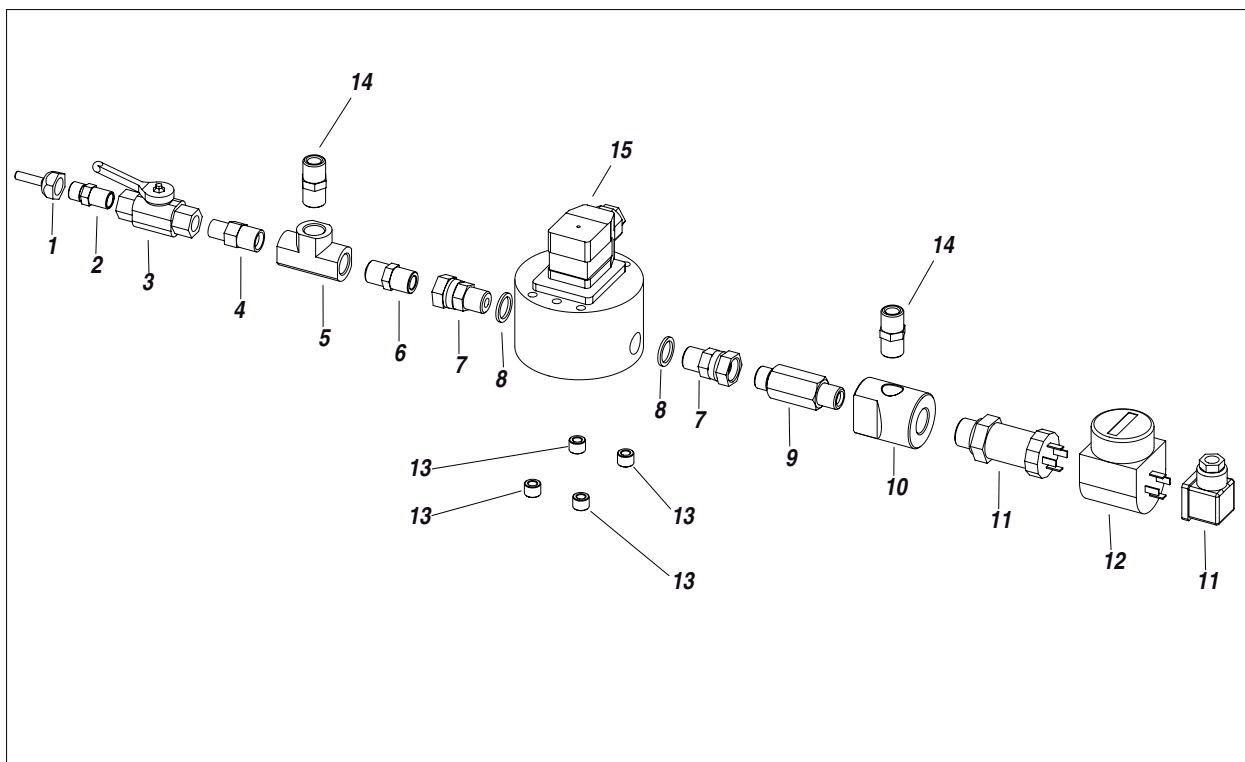
WARNING: Always indicate code and quantity for each part required.



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	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	23340/1	Material gun unit	2
7	3637	Self-tightening nut	2				

W FLOWMETER (REF. 23400)

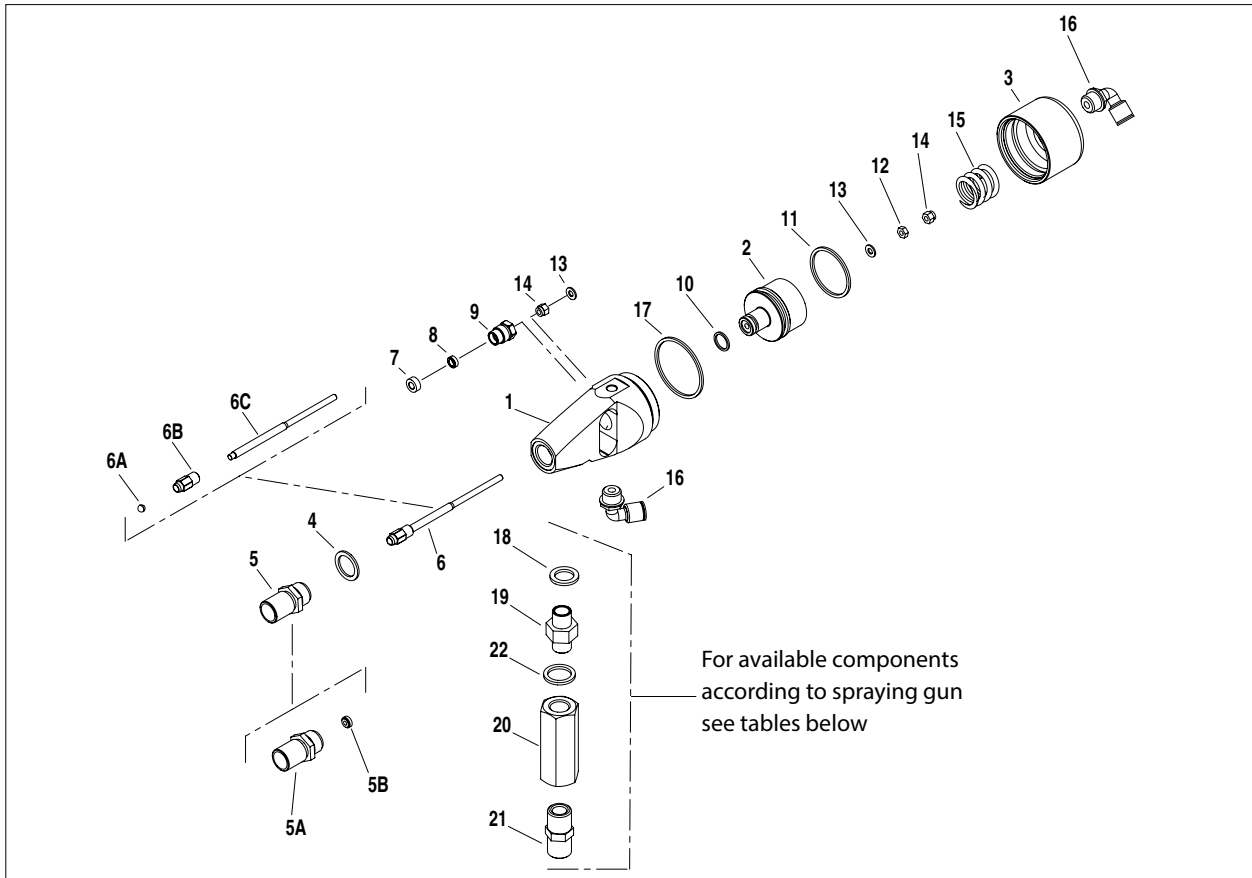
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23400	Complete flowmeter kit		8	33010	3/8 Check valve	2
1	18206	1/4 Connecting nozzle	1	9	23134/1	Extension for manostat	1
2	3110	1/4-1/4 Adapter	3	10	1	Manostat connector	1
3	98325	1/4 ball valve	1	11	20461	Manostat+Connector+Seal	1+1+1
4	23383	1/4-1/4 CON-CON Adapter	2	12	23133	Manostat display	1
5	23409	3/8 T-Adapter	2	13	23353/1	Spacer	4
6	23402	1/4-3/8 Adapter	2	14	6149	Adapter 3/8 CON-CIL	2
7	23161	3/8 Rotating adapter	2	15	23401	Flowmeter	1

X 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

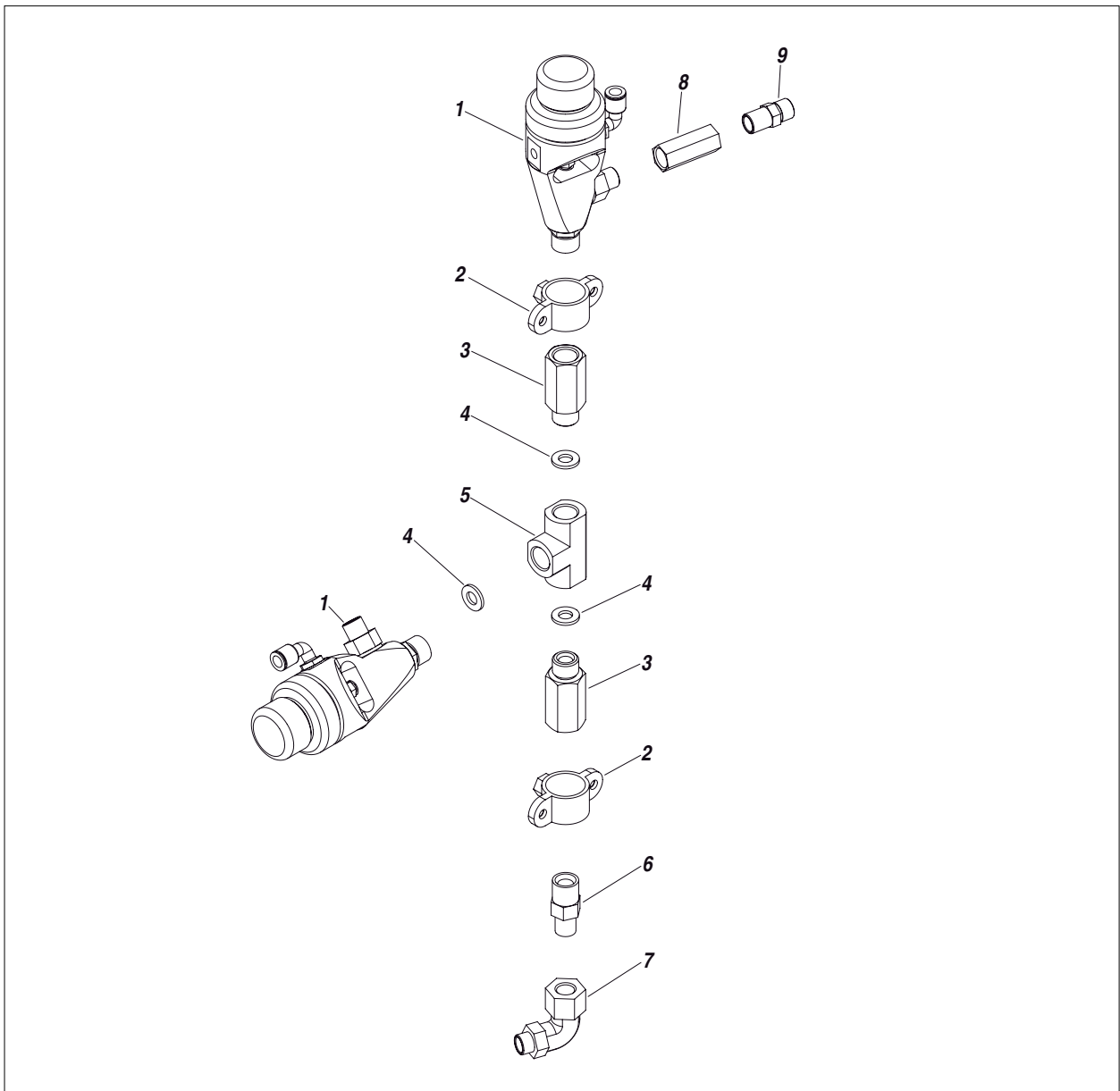
Components for material A/B gun on Larius Mini Mix Ref.23340/3

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

Y WASH VALVE (REF. 23536)

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



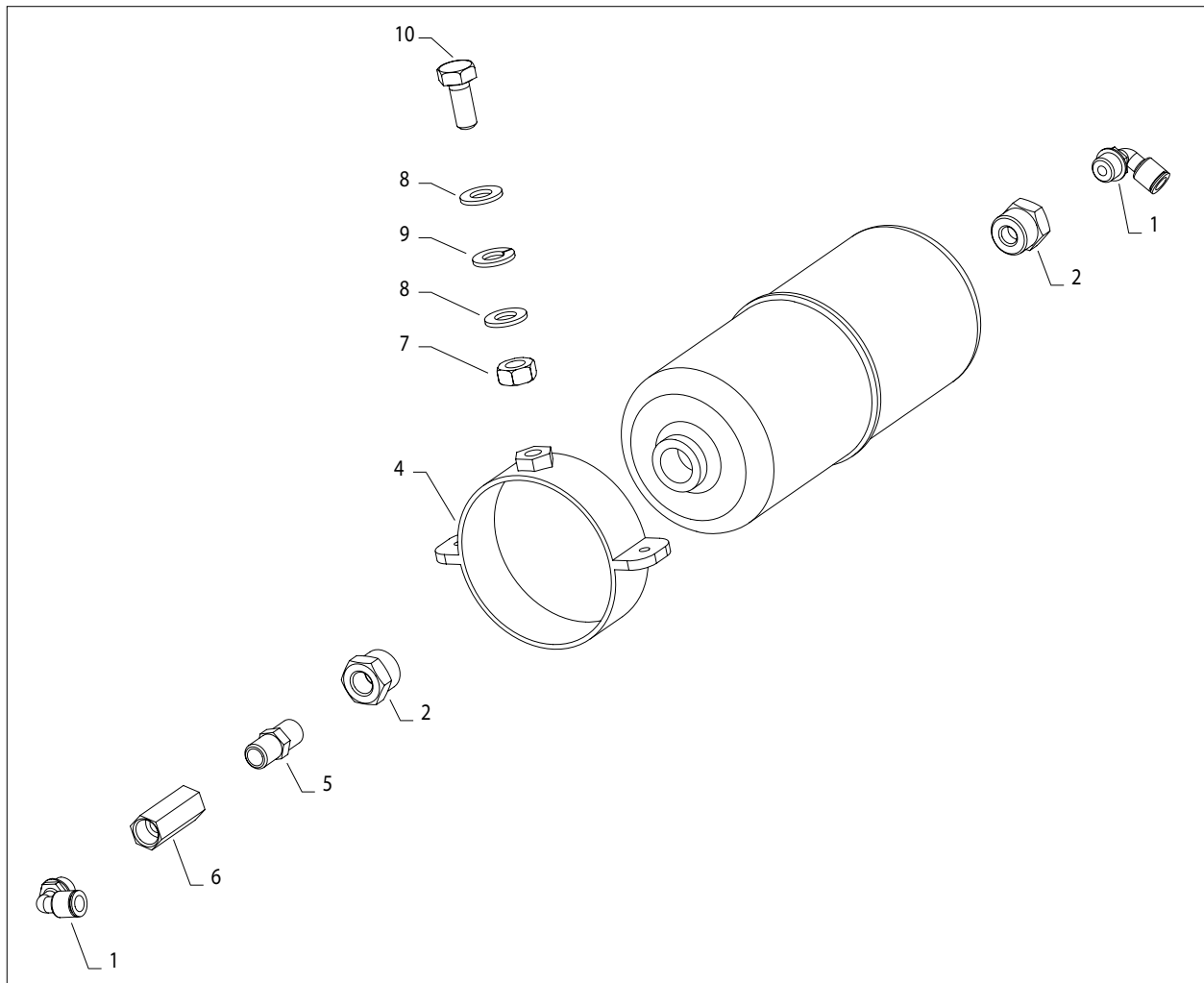
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23536	Complete wash valve kit		8	23403	Check valve	1
1	11700	Gun LA95	2	9	3110	1/4 CON-CIL Connector	1
2	4516	3/4 Collar	2	*	8063	Elbow for air attachment	3
3	23537	M-F 3/8 Extension	2	*	8054	Silencer	2
4	3310	3/8 Gasket	3	*	23308	Coil	1
5	23409	T-connector 3/8	1	*	23309	Connector	1
6	6147	3/8-1/4 Adapter	1	*	23304	Electrovalve	1
7	23384	Elbow connector 1/4	1	*	510020	Quick air connector	1

*Specific for electrovalve 23304/1

Z AIR RESERVE TANK REF. 23545

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

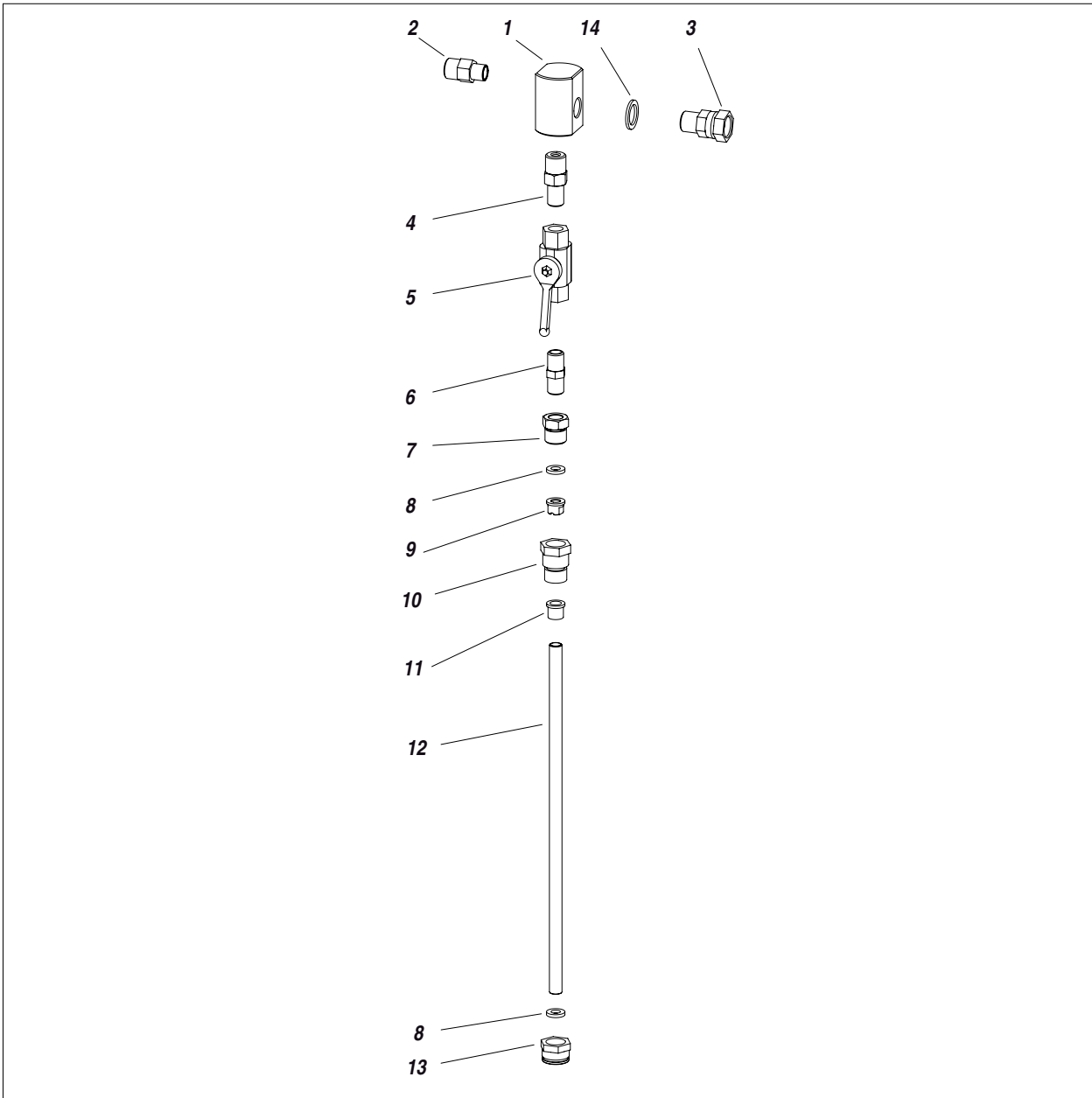
English



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23545	Complete air reserve tank kit		6	9902	1/4 check valve	1
1	8063	1/4 rotating connector	2	7	95158	Nut M10	1
2	5356	1/2-1/4 reduction	2	8	81033	Washer	2
3	23546	Tank 1L	1	9	95096	Washer	1
4	4413	3" Collar	1	10	4409	Screw	1
5	23383	1/4" CON adapter	1				

A-A TAPPING BLOCK REF. 23140

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



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	23140	Complete tapping block kit		9	ST21-40	Nozzle	1
1	23127	Tapping block	1	10	320	Extrusion coupling	1
2	22022	3/8-1/4 Nipple	1	11	15002	Nozzle connection	1
3	23161	3/8 Rotating connector	1	12	163	Tapping tube	1
4	23124	Tapping nipple	1	13	11033	Nozzle holder ring-nut	1
5	98325	1/4 ball valve	1	14	33010	3/8 Gasket	1
6	23383	1/4 Nipple	1	-	23231	Graduated container	1
7	162/1	Extension connector	1	-	23231/1	Cover for graduated container	1
8	11003	Gasket	2				

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 AIRLESS SPRAY-GUN LA95
Code 11700



LOW PRESSURE SPRAY-GUN MA98L
Code 11300



MANUAL AIR ASSISTED AIRLESS SPRAY-GUN 07
Code 19950



MANUAL AIR ASSISTED AIRLESS SPRAY-GUN
Version with MIST-CLEAN nozzle Code 19960



AUTOMATIC AIR ASSISTED AIRLESS SPRAY-GUN
High finish Code 11820



MANUAL LOW PRESSURE SPRAY-GUN V71



STAR 2001 SERIES SPRAY-GUN (MANUAL AND AUTOMATIC)



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



MESH
OUTPUT FOR TWO SPRAY-GUNS



FILTER
Code 95218: MESH 30M
Code 95219: MESH 60M
Code 95220: MESH 100M
Code 95221: MESH 200M



PISTON GUNSTOCK FILTERS
Code 11039: Green (30M) - Code 11038: White (60M)
Code 11037: Yellow (100M) - Code 11019: Red (200M)



PAIR OF FILTERS FOR COMPONENT INTAKE
Code 23250/1



Code 7030: AP FLOW REGULATOR



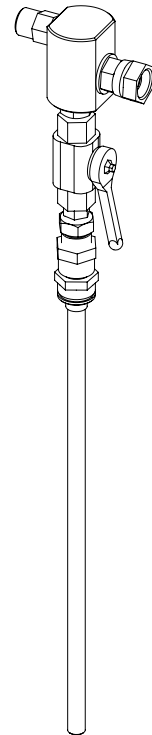
LOW PRESSURE STAINLESS STEEL PRESSURE GAUGE
Code 150/1:



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



2K CARRIAGE WITHOUT PUMPS
Code 23539:



KIT FOR COMPONENT DOSAGE CONTROL
Code 23140:



Code 6099: HEATER



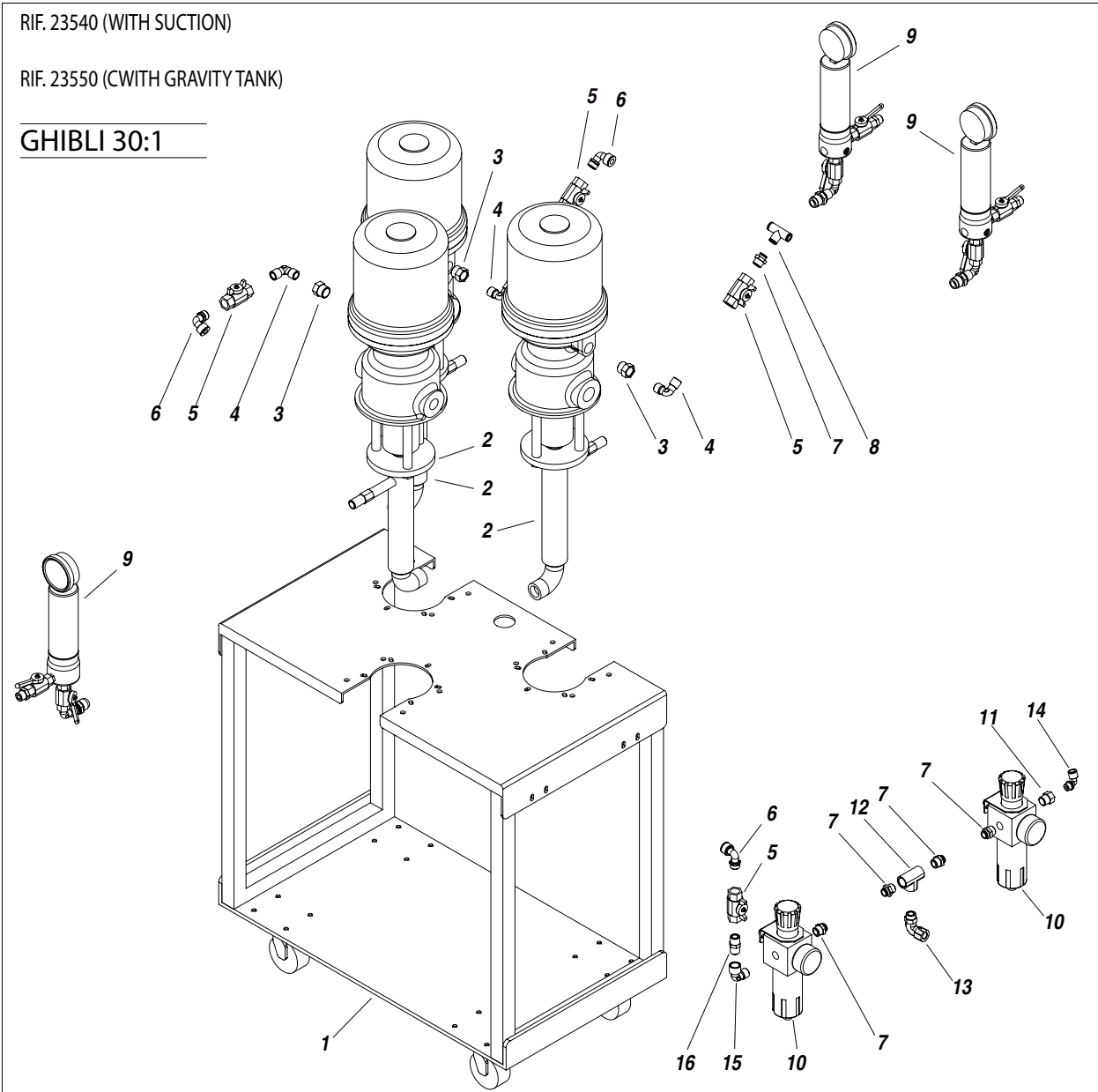
EXTENSION
Art. 153: cm 30 - Art. 153: cm 40
Art. 155: cm 60 - Art. 158: cm 80 - Art. 156: cm 100

ASSEMBLY DRAWING FOR HIGH PRESSURE CARRIAGE WITH MATERIAL SUCTION

RIF. 23540 (WITH SUCTION)

RIF. 23550 (CWITH GRAVITY TANK)

Ghibli 30:1



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23539	2K Carriage	1	9	23563	Filter with pressure gauge	3
2	96056	Ghibli 30:1 div. stainless steel	3	10	91107/1	Air unit	2
3	96261	1/2-3/8 reduction	3	11	22066	3/8-1/4 reduction	3
4	5255	1/4-1/4 M-F Elbow connector	2	12	3379	3/8 T-connector	1
5	91101	3/8 ball valve	3	13	10103	3/8 Bayonet attachment	1
6	91410	3/8 tube diameter 12 elbow attachment	3	14	8123	1/4 elbow for tube diameter 10	1
7	5390	3/8 tube diameter 10 air attachment	4	15	91102	M-F 3/8 elbow	1
8	510049	T-connector for tube diameter 10	1	16	91020	3/8 Adaptor	1

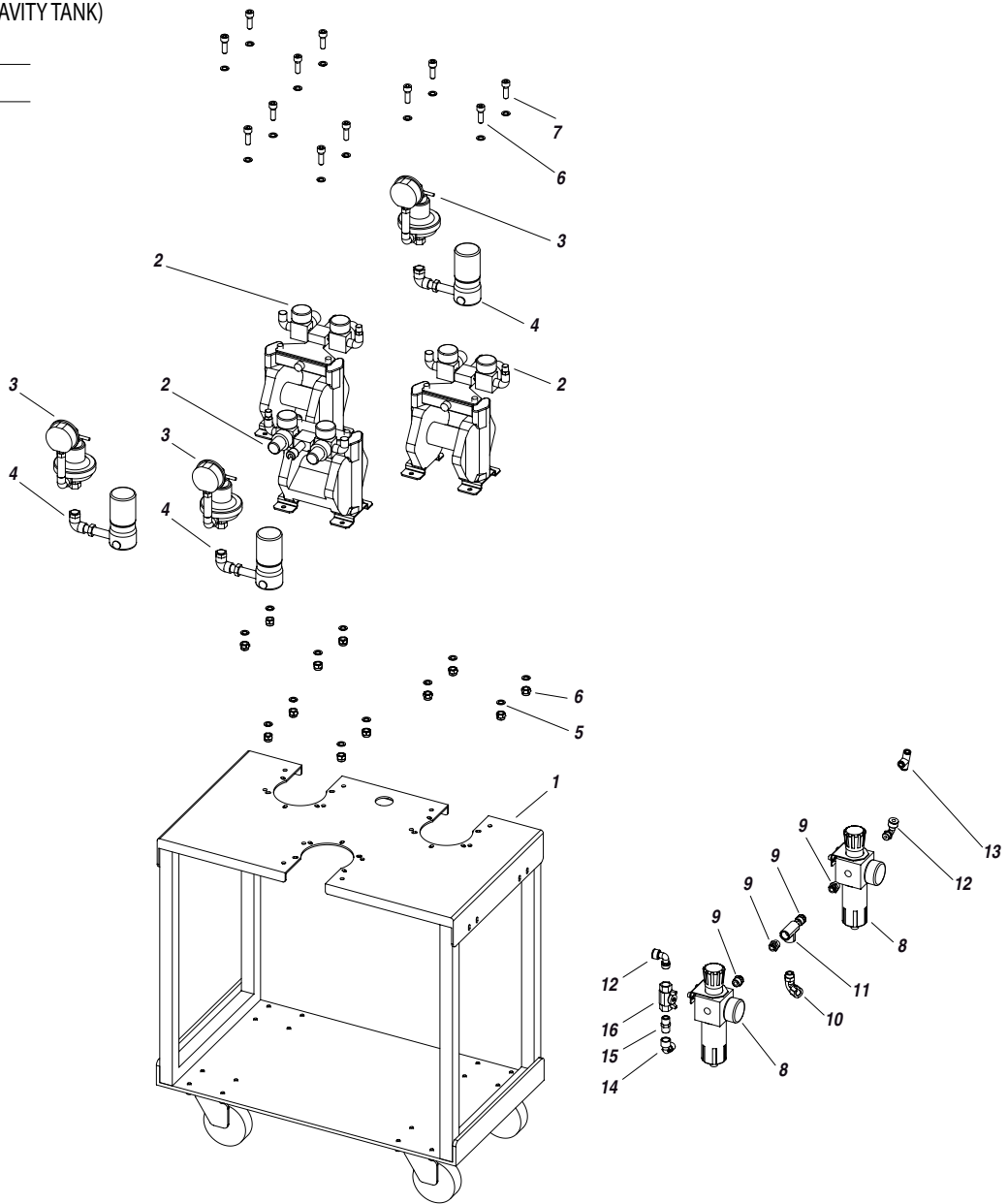
ASSEMBLY DRAWING FOR LOW PRESSURE CARRIAGE WITH MATERIAL SUCTION

English

RIF. 23551 (WITH SUCTION))

RIF. 23541 (WITH GRAVITY TANK)

LARIUS 2



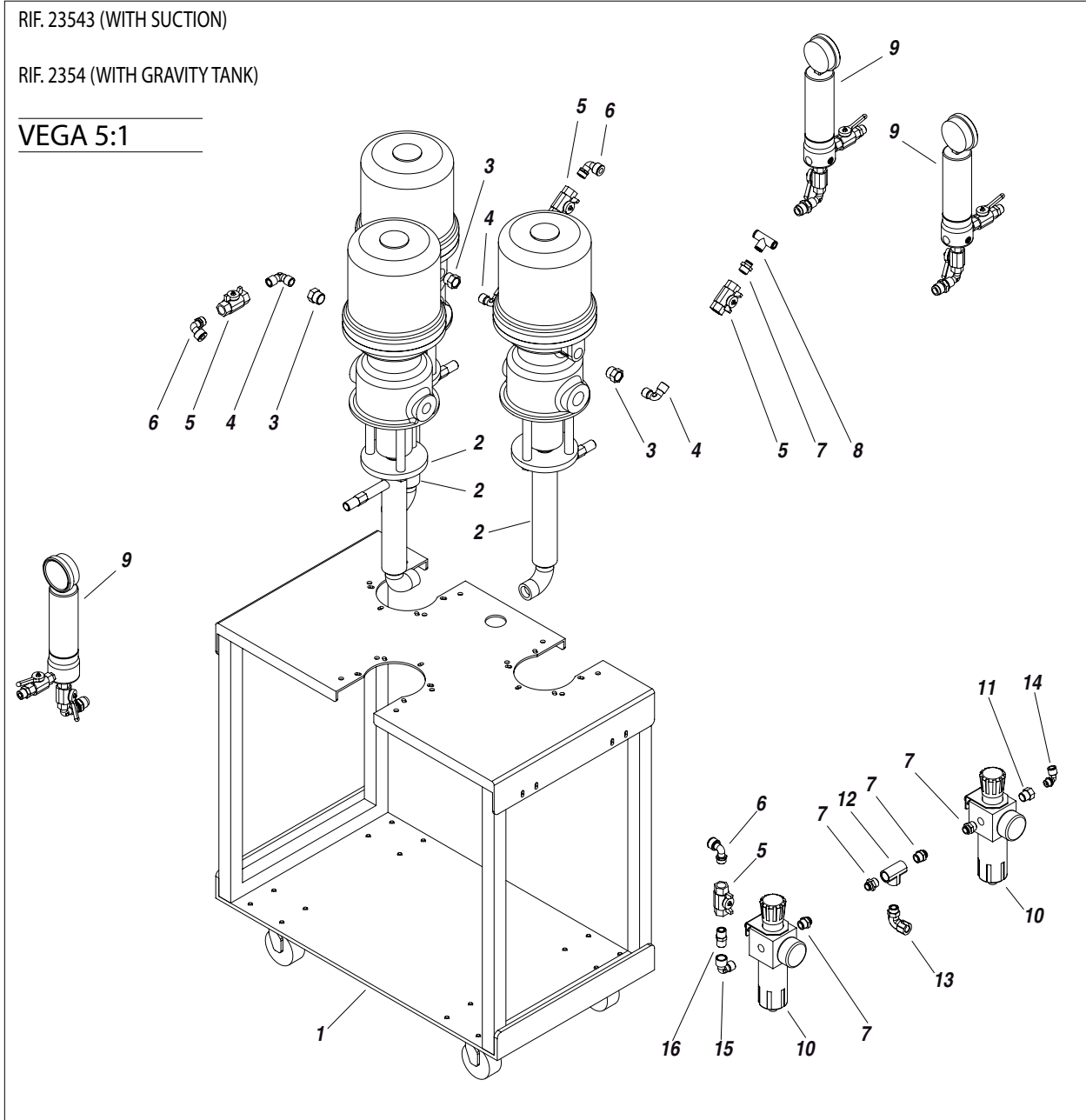
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23539	2K Carriage	1	10	10103	3/8 Bayonet attachment	1
2	8000K	Larius 2 with regulators	3	11	3379	3/8 T-connector	1
3	7201	Flow regulator	3	12	510088	1/4 elbow for tube diameter 10	2
4	8107	Nut	3	13	510020	T-connector for tube diameter 8	1
5	3637	Self-tightening nut	12	14	91102	M-F 3/8 elbow	1
6	96753	Washer	24	15	91020	3/8 CON Adaptor	1
7	34008	Screw	12	16	91101	3/8 ball valve	1
8	91107/1	Air unit	2	-	8144	Complete suction tube	3
9	5392	3/8 tube diameter 10 air fitting	4				

ASSEMBLY DRAWING FOR HIGH PRESSURE CARRIAGE WITH MATERIAL SUCTION

RIF. 23543 (WITH SUCTION)

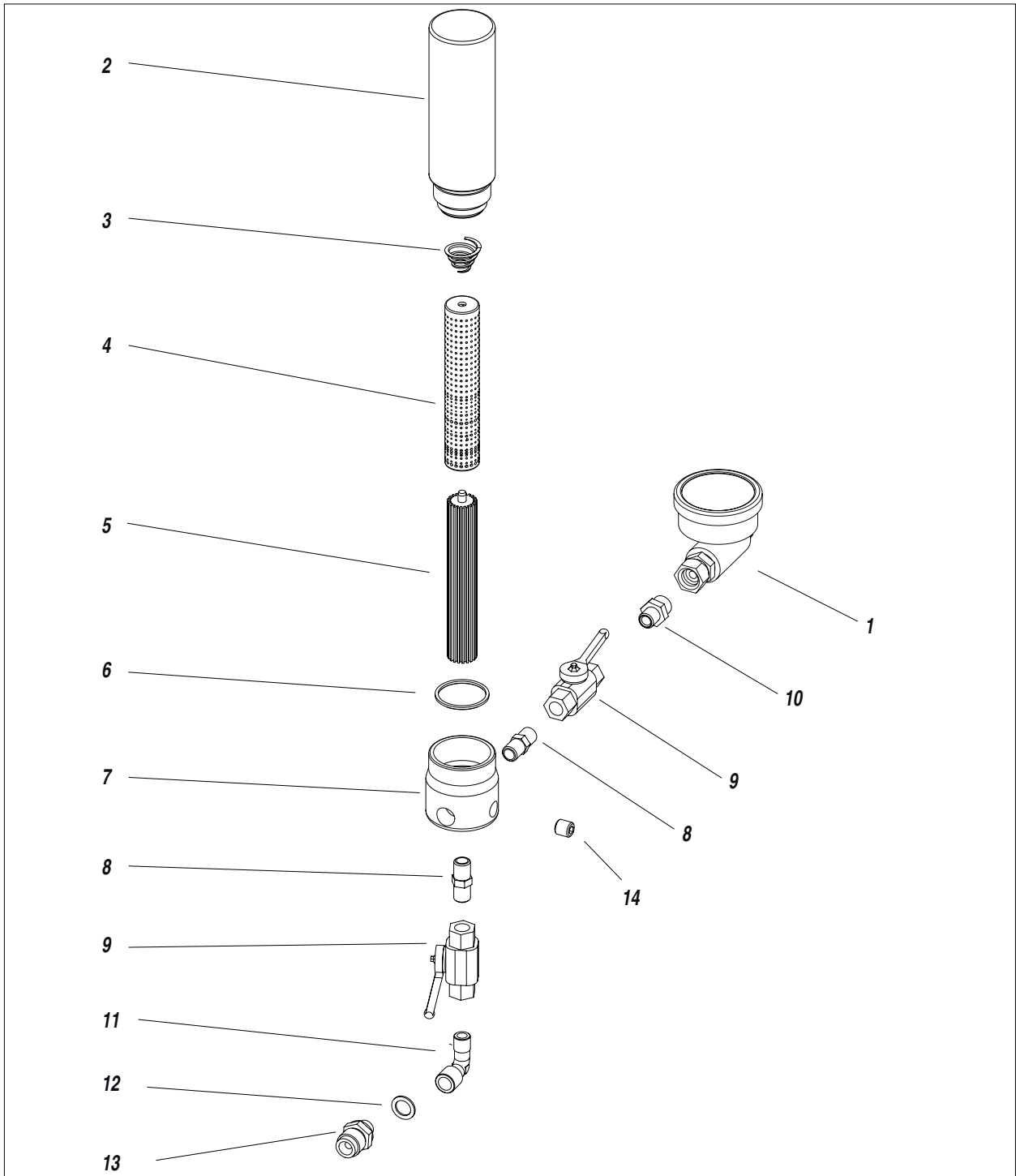
RIF. 2354 (WITH GRAVITY TANK)

VEGA 5:1



Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	23539	2K Carriage	1	9	23563	Filter with pressure gauge	3
2	91363/1	Vega 5:1	3	10	91107/1	Air unit	2
3	96261	1/2-3/8 reduction	3	11	22066	1/4-3/8 reduction	3
4	5255	Elbow connector 1/4-1/4 M-F	2	12	3379	3/8 T-connector	1
5	91101	3/8 ball valve	3	13	10103	3/8 Bayonet coupling	1
6	91410	3/8 tube diameter 12 elbow coupling	3	14	8123	1/4 elbow for tube diameter 10	1
7	5390	3/8 tube diameter 10 elbow coupling	4	15	91102	M-F 3/8 elbow	1
8	510049	T-connector for tube diameter 10	1	16	91020	3/8 Adaptor	1

ASSEMBLY DRAWING FOR 2K FILTER CARRIAGE REF.23563

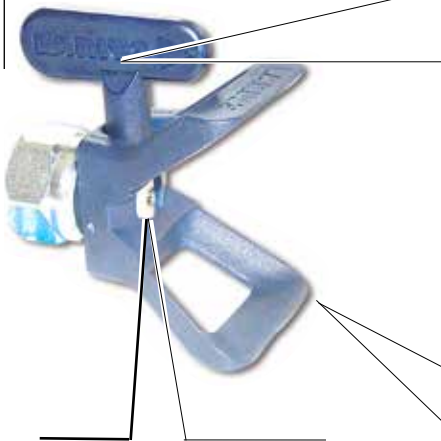


Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	150	Fitting with pressure gauge	1	8	23383	1/4-1/4 CON Adaptor	2
2	98384	Filter tank	1	9	98325	Ball valve	2
3	96202	Filter sieve spring	1	10	98383	1/4 Adaptor	1
4	95220	Screen filter	1	11	5255	Elbow connector 1/4	1
5	96207	Screen support	1	12	33012	Copper seal	1
6	96203	Gasket	1	13	33015	Connector	1
7	96206	Filter base	1	14	98386	Tap 1/4	1

English

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

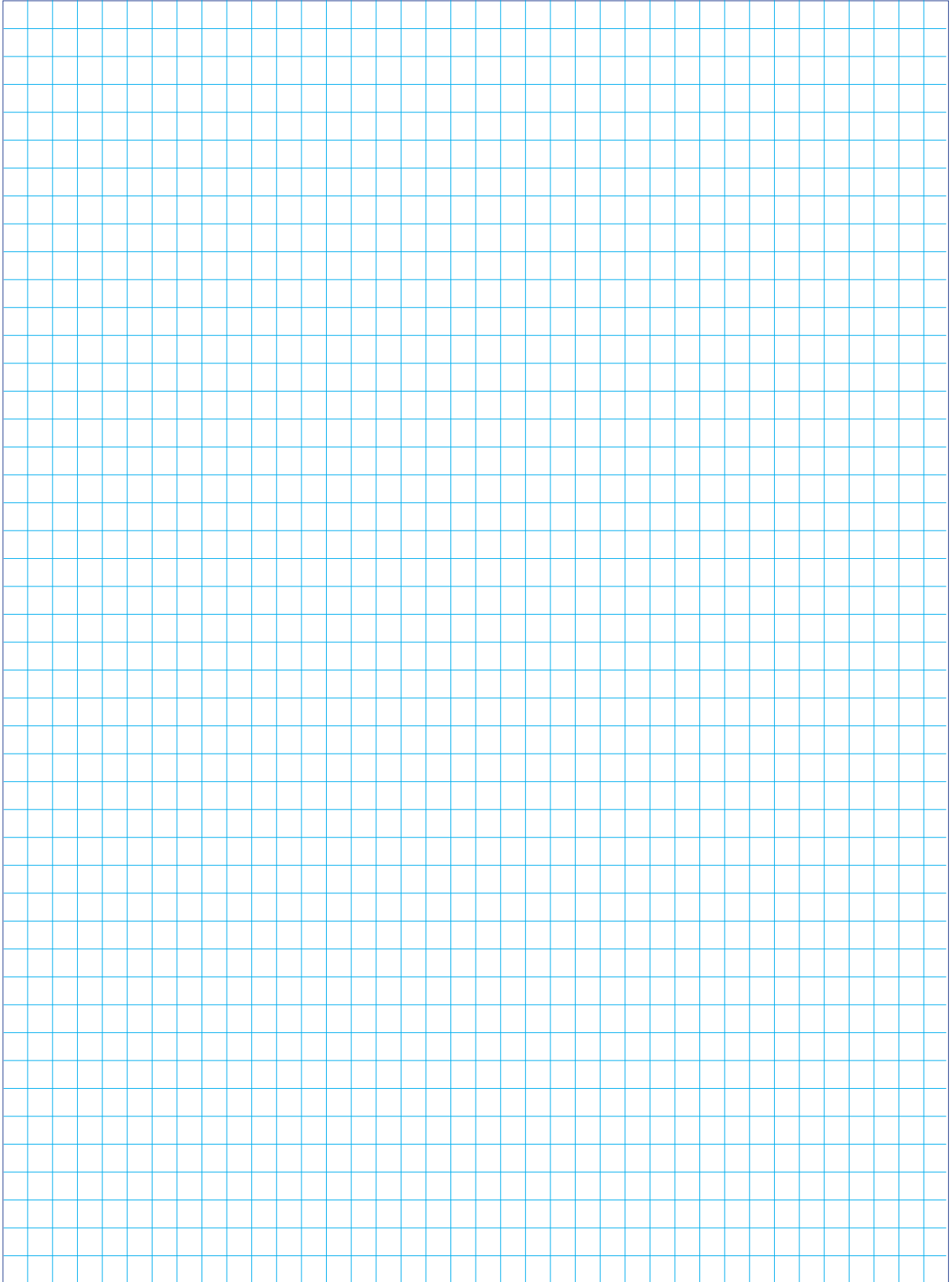


Code 18270: SUPER FAST-CLEAN base UE 11/16x16

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GHIBLI MIX 2K 40:1 INOX con air electric generator - Cod. 24566



VEGA MIX 2K 5:1 INOX
Cod. 24571



LARIUS MINI MIX su carrello
Cod. 24001



NOVA MIX 45:1 INOX con air electric generator - Cod. 24515

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