

LARIUS®

Transfer - Extrusion - Injection pumps - Paint spraying equipment

www.larius.eu

OPERATING AND MAINTENANCE INSTRUCTION

Airless Diaphragm Dali Liner Plus

Horizontal street marking



YOUR PARTNER FOR ALL YOUR MARKING NEEDS SINCE 1969

Ediz. 011 - 01/2019



Larius the ideal choice for achieving professional performance.

LARIUS®
Transfer - Extrusion - Injection pumps - Paint spraying equipment
Paint spraying equipment

WELL PROVEN TECHNICAL QUALITY FOR ANY ON-GROUND MARKING APPLICATION

The LARIUS airless line markers successfully join product performance with operator requirements and allow the marking and the maintenance of any kind of pavement lines on roads, motorways, airports, pedestrian crossings, cycle paths, yards and wherever is required by the Highway Code with regards to horizontal road signs, guaranteeing perfect lines on different surfaces.

The airless technology provides the high pressure spraying of the paint through a nozzle having centesimal dimensions as compared to the traditional low pressure spraying in which the paint flow is atomized through the air contribution.



Advantages of use

Net and clear lines on any kind of pavement with one coat only.

With a single coat the line is defined evenly: the line made by airless spraying is linear, clean-cut and marked thanks to the flat cut nozzle and without the jagged due to the turbulences caused by air.

Reduction of Over spray.

The airless operated marking guarantees the absence of the classic "Overspray", that is the dispersion of paint particles which is typical in the traditional air painting.

This translates, further than in a saving of paint, in a better protection for health of the operator and for environment.

Saving of paint up to 30%.

Thanks to the absence of Overspray almost all of the used product is applied on the surface without any waste.

Reduction of the vibrations.

The reduction of the vibrations ensures the best in industry quality of lines.

The paint dries quickly.

The airless operation requires that filtered paint specifically formulated for airless application is used, this means, by itself, even paint, smooth and uniform texture which will not return any crust nor will become neither jelly-like nor thick.

The paint holds tightly on any kind of pavement, with an excellent visibility and resistance to wear caused both by traffic and weather elements.

High quality paints guarantee a faster application speed, a better durability of the visibility of the line and a pleasant aesthetic result.

Reflective bead application.

Reflective beads can be applied using a gravity dispenser operated by the same command which operates

the paint gun. The spheres automatically fall onto the freshly marked line. No paints with pre-mixed beads can be used.

50 litre non-stick hopper.

Thanks to the big capacity of the hopper marking times are extended thanks to the absence of frequent interruptions to perform colour changes.

Template works and curved marking.

The gun can be released from its support in just a few seconds and, thanks to the 10 meters pipe it is connected to, it allows any template work, on walls as well.

The front wheel helps to mark lines close to the kerb and to mark arches and curves.

Intuitive use by the operator.

The operator commands are located right on the handlebar to adjust the operation of the line marker in the most handy way.

Optional equipment.

Airless line markers can be equipped basing on the different needs of the operator for offering a dedicated solution for any marking need.

Easy cleaning and maintenance.

Cleaning airless line markers is quick thanks to the absence of pressurized tanks to be cleaned and thus colour change times are extremely short both if using the can or the non stick paint tank. The high pressure of the airless line marker clears the spraying area from dirt and so it does not require that the ground is previously cleaned.

A regular cleaning at the end of the work is sufficient to keep the machine in perfect efficiency, even after prolonged standing periods.

The Larius Super Fast Clean airless nozzles allow that the nozzle is cleaned with a simple rotating movement, without any need to detach it.

YOUR PARTNER FOR ALL YOUR MARKING NEEDS SINCE 1969



Professional line markers for the ideal “line”

WHERE'S TARMAAC...

We can make a long “Road” together



LARIUS® <small>Transfer - Extrusion - Injection ovens - Paint servicing equipment</small>	MIRÒ LINER PLUS HAND PUSH	DALÌ LINER PLUS HAND PUSH	GIOTTO LINER PLUS SELF-PROPELLED	VIKING LINER
Motor Power	5,5 - HP	5,5 - HP	10 - HP	12,75 - HP
Max. flow rate	2 - l/m	4 - l/m	7 - l/m	8 - l/m
Max. supply	210 bar	210 bar	210 bar	210 bar
Airless guns	N°1 AT 250	N°1 AT 250	N°1 AT 250	N°2 AT 250
Bicomponent product sprayguns				*
Measure of the standard nozzles	1 x 11-40 1 x 13-40 1 x 15-40	1 x 11-40 1 x 13-40 1 x 17-40	1 x 11-40 1 x 13-40 1 x 17-40	2 x 11-40 2 x 13-40 2 x 17-40
Tank lt.50	*	*	*	
Colors	1	1	1	2
Automatic line painting				
Accessories	*	*	*	*
Applications	Small line painting jobs and road maintenance	Medium-sized line painting jobs and road maintenance	Medium-sized line painting jobs and road maintenance	Medium-sized line painting jobs and road maintenance
Multi-purpose sprayer	*	*	*	*
Weight	60 kg	65 kg	200 kg	110 kg
Dimensions	1200x700x1000	1650x750x1000	1650X750X1000	1650x750x1000

Professional line markers for the ideal "line"

... THERE'S LARIUS

An already marked work when you start.



EXCALIBUR LINER HAND PUSH	ZEUS LINER HAND PUSH	DRAGON LINER SELF-PROPELLED	EVEREST TH SELF-PROPELLED	K2 ECO SELF-PROPELLED
7 - HP	9 - HP	9,5 - HP	14 - HP	BATTERY
2 - l/m	3,5 - l/m	4,5 - l/m	6,5 - l/m	2,8 - l/m
210 bar	210 bar	230 bar	230 bar	230 bar
N°1 AT 250	N°2 AT 250	N°2 AT 250	N°2 LA95 + N°1 AT 250	N°1 AT 250
1 x 11-40 1 x 13-40 1 x 15-40	2 x 13-40 2 x 15-40 2 x 19-40	2 x 13-40 2 x 17-40 2 x 21-40 1 x 19-40	2 x 13-40 2 x 17-40 2 x 21-40 1 x 19-40	1 x 11-40 1 x 13-40 1 x 17-40
*	*	*	*	*
1	1	1	1	1
		*	*	
*	*	*	*	*
Medium-sized line painting jobs and road maintenance	Medium-sized line painting jobs and road maintenance	Large line painting jobs and road maintenance	Large line painting jobs and road maintenance	Medium-sized line painting jobs and road maintenance
*	*	*	*	*
80 kg	100 kg	220 kg	260 kg	280 kg
1400x600x1050	1650x750x1000	1650x750x1000	2000x800x1100	2000x800x1100

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



LARIUS[®]

Transfer - Extrusion - Injection pumps - Paint spraying equipment

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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>It indicates a fire or explosion risk if this warning is not followed. Eliminate all ignition sources such as pilot lights, cigarettes, portable electric lamps and plastic drop cloths. Keep work area free of debris. ONLY use this equipment in a well ventilated area. EARTH ALL THE EQUIPMENT LOCATED IN THE WORK AREA. Do not form connections or switch light switches on or off if the air contains inflammable fumes. If electrical shocks or discharges are encountered the operation being carried out using the equipment must be stopped immediately. Keep a fire extinguisher at hand in the immediate vicinity of the work area.</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>Report any danger of electric shock if the warning and presence of live electrical parts has not been indicated. Store in a dry place and do not expose to the rain. Check that the cables are in good condition. Switch off the equipment and discharge any electricity before cleaning or maintaining the equipment.</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.</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>



A WORKING PRINCIPLE

The **DALÌ LINER PLUS** is a self-propelled device which was conceived and designed for performing road markings along particularly difficult tracts of uneven road where marking would otherwise be difficult to complete.

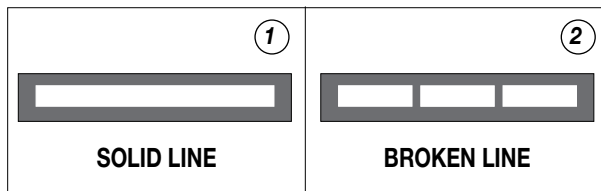
The internal combustion engine, mounted upon the undercarriage, powers the alternative piston pump and the alternator which is utilised for charging the battery unit. The two-wheel frontal-traction is powered by an electric motor which allows for easy operator movement, even on medium-grade inclines.

The control zone allows for the possibility of:

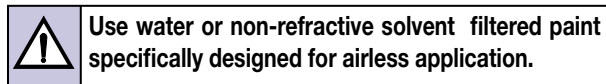
- Activating the dispensing spray gun;
- Enabling or disabling the frontal steering wheel;
- Increasing the motor's Rpm's;
- Enabling / disabling wheel traction;
- Gradually increasing the advancement speed of the self-propelled undercarriage;
- Selecting solid or broken-line painting functionality.

This type of equipment is capable of painting one line at a time in a single color.

The line may be solid or broken.



DALÌ LINER PLUS is ideal for medium marking and maintenance jobs.



Use water or non-refractive solvent filtered paint specifically designed for airless application.

DALÌ LINER PLUS allows for the marking and maintaining of all types lines on highways, freeways, pedestrian crossings, parking lots and squares, as well as every horizontal marking required by the highway code.

Airless marking has numerous proven benefits with respect to line-markers with pressurised tanks, which have been rendered obsolete by airless-technology line markers.

Airless line-marking guarantees:

- Decreased Environmental Impact;
- Decreased drying time.

The paint dries quickly and the line is defined in a uniform manner with a single coat. The airless function requires the use of filtered paint which is specifically designed for airless application. This means that the paint is homogeneous, of a smooth and uniform consistency and will not form crusts, nor will it become gelatinous or thick. With this airless line-marker, the paint adheres firmly to all types of pavement, with optimal visibility, and is resistance to wear caused both by traffic as well as atmospheric agents.



In the **LARIUS** models, the paint canister can be loaded directly upon the undercarriage or else poured into the non-stick, 50 L tank. In every case, cleaning, maintenance and colour change operations are facilitated.



The line-marker is equipped with a 360° pivoting frontal wheel which even increases the agility of the larger models. High yield, high efficiency, high versatility.

This line-marker utilises non-premixed paints. This allows it to achieve about 30% more yield with respect to standard line-markers. Every model is also an airless spray gun which can be used in the construction/decoration sector together with washable products, enamels, breathable paints and flooring resins.

A vast assortment of accessories is available to satisfy every customer demand.



B TECHNICAL DATA

DALì LINER PLUS	
Motor power	4 kW
Max. Delivery	4 - l/m
Max. pressure	210 bar
Airless spray-gun	N°1 AT 250
Supply	Petrol
Sizes of the furnished nozzles	1 x 11-40 - 1 x 13-40 - 1 x 17-40
50 L tank	standard model of ref. 18382
25 L tank	standard model of ref. 18383
Colours	1
Automatic line-marking	manual
Applications	Medium road-marking and maintenance
Multi-use sprayer	series
Weight	105 kg
Lenght	(A) 1600 mm
Height	(B) 1100 mm
Width	(C) 900 mm
Vibrations	$L_{eq(8h)}=1.8 \text{ m/s}^2$





Standard equipment	Accessories	Models
N°1 Filter with pressure gauge N°1 High pressure tube 3/16", 10 m N°1 Recirculation tube N°1 50 Lt gravity tank + closure valve and extractible filter N°1 Manual airless spray-gun AT250 N°1 Super fast clean base N°1 Super fast clean nozzle 11-40 N°1 Super fast clean nozzle 13-40 N°1 Super fast clean nozzle 17-40 N°1 Tool pack N°1 50 Lt gravity tank (Rif. 18382) N°1 25 Lt gravity tank (Rif. 18383)	Ref. 18359 Manual gun beads dispenser Ref.4038 Laser pointer kit	Ref. 18382 DALi LINER PLUS 50 Lt. Ref. 18383 DALi LINER PLUS 20 Lt.

SECTORS OF USE

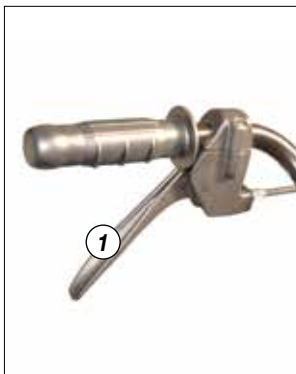
- External or underground parking lots (schools, hotels, airports, supermarkets, train stations, subway stations, ports);
- External public areas;
- Industrial and exhibition building zones;
- Freeway service areas and service stations;
- Pedestrian median lines, intersections, bicycle tracks, reserved lanes;
- Internal and external logistic area markings;
- Playing fields.

NOZZLES POSITION TABLE

Nozzle height from ground	20-degree angle Line Width	40-degree angle Line Width	60-degree angle Line Width
10 cm	~ 3 cm	~ 5 cm	~ 10 cm
15 cm		~ 7 cm	~ 13 cm
20 cm	~ 6 cm	~ 8 cm	~ 16 cm
25 cm		~ 10 cm	~ 20 cm
30 cm	~ 10 cm	~ 12 cm	~ 23 cm
35 cm			~ 26 cm

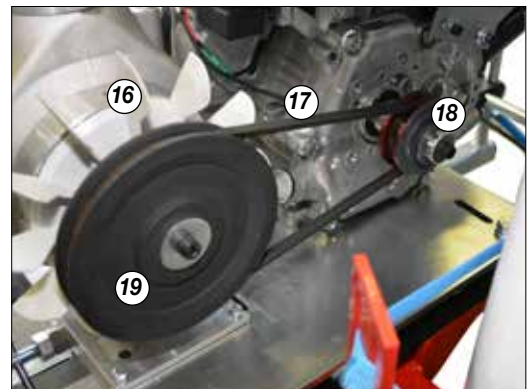


C DESCRIPTION OF THE EQUIPMENT



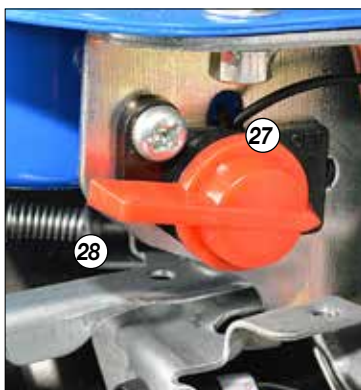
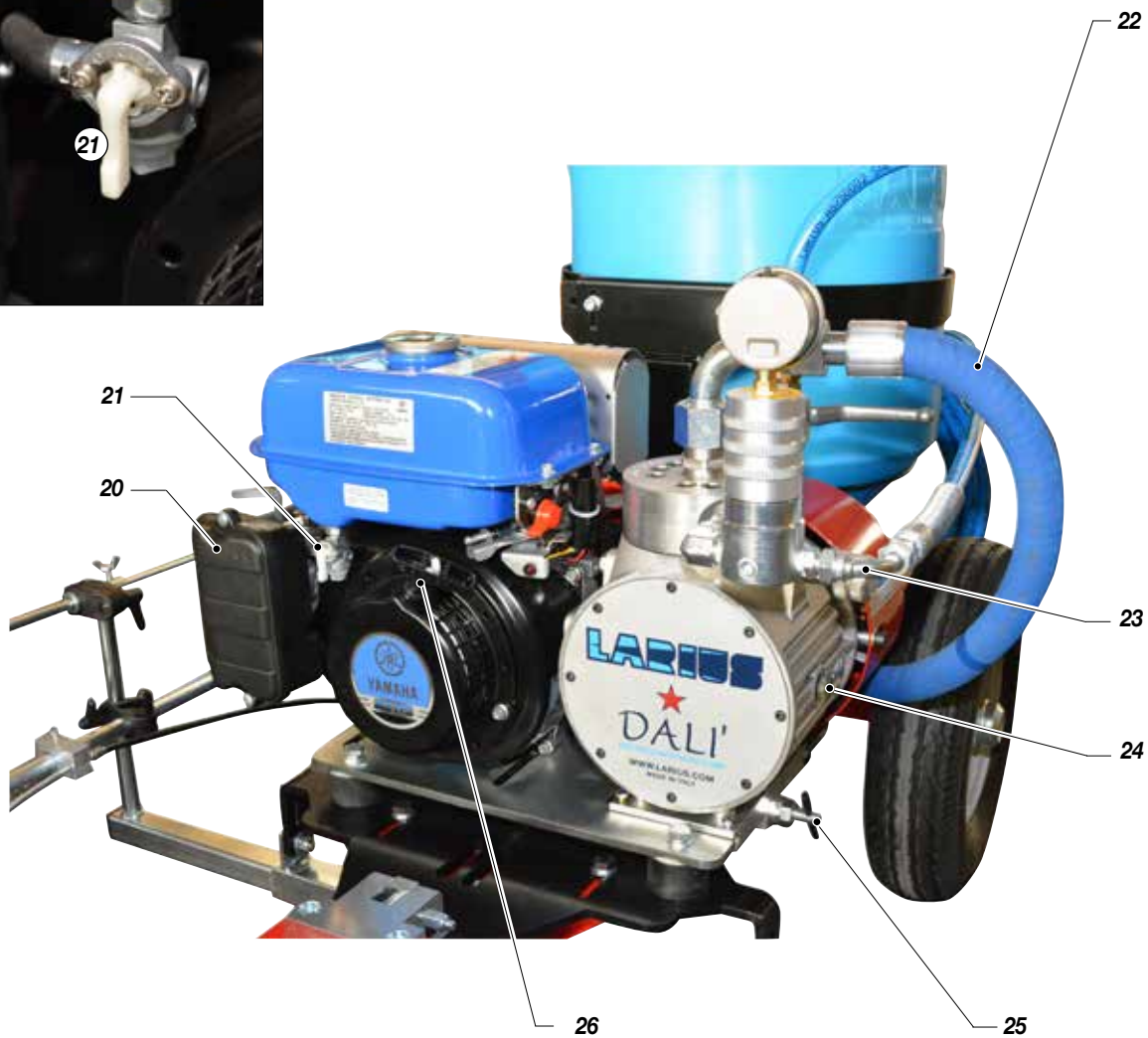
POS.	Description
1	Lever gun
2	Lever lock/unlock wheel direction
3	Tank
4	Recirculation tube

POS.	Description
5	Petrol tank
6	Manometer high pressure
7	Filter
8	Air cold starting



POS.	Description
9	Lock brake safety
10	Pumping group
11	Combustion engine
12	Rotating wheel
13	AT 250 gun
14	Spraying gun feeding tube

POS.	Description
15	Oil level cap combustion engine
16	Cooling fan
17	Transmission belt pumping group
18	Driving pulley
19	Driving pulley




POS.	Description
20	Air filter
21	Fuel tap OPEN/CLOSE
22	Product feeding tube
23	Spraying gun feeding tube
24	Oil level light hydraulic body

POS.	Description
25	Belt tensioning screw
26	Rope starter motor
27	ON - OFF switch combustion engine
28	Accelerator lever



D TRANSPORT AND UNPACKING

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


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 the product in the hose can create static electricity through discharges and sparks. It is suggested to earth the equipment.


 The pump is earthed through the earth cable of the supply. The gun is earthed through the high pressure flexible hose. All the conductors near the work area must be earthed.





- 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.

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.

Engine safety precautions:

- Read the engine operator's manual annex.



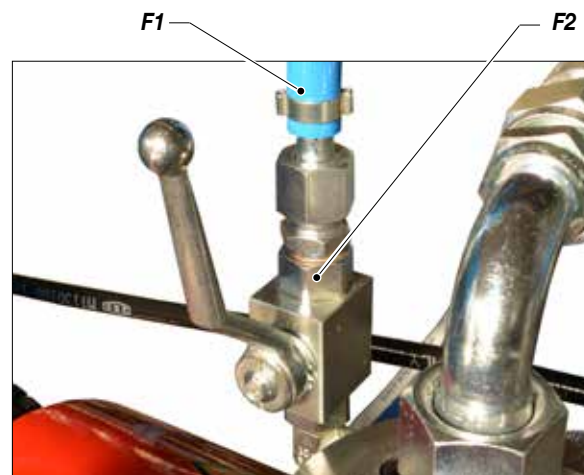
 Never attempt to tamper with the calibre of instruments.

F SETTING-UP

TUBE CONNECTIONS

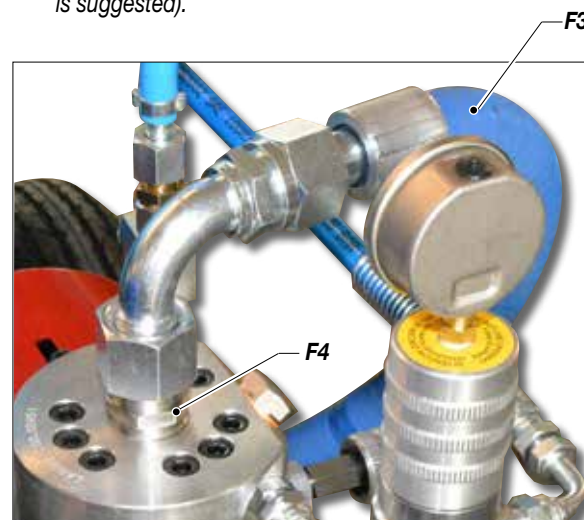
Flexible re-circulation tube connection

- Connect the flexible re-circulation tube (F1) to the connector (F2) ensuring to tighten the fittings (*the use of two wrenches is suggested*).



Pump unit flexible tube connection

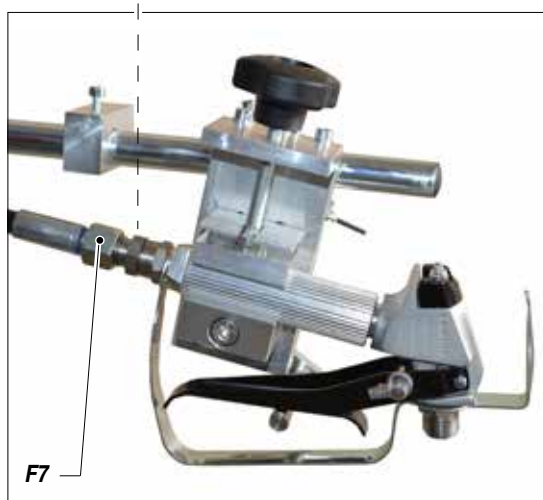
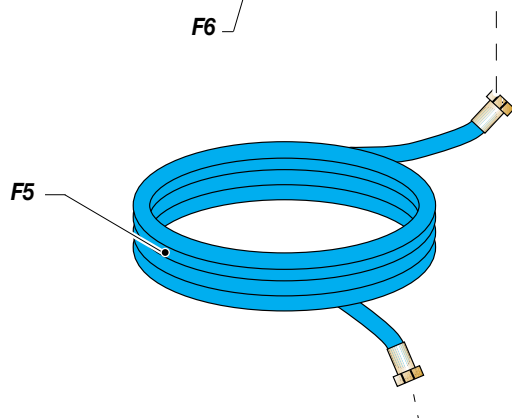
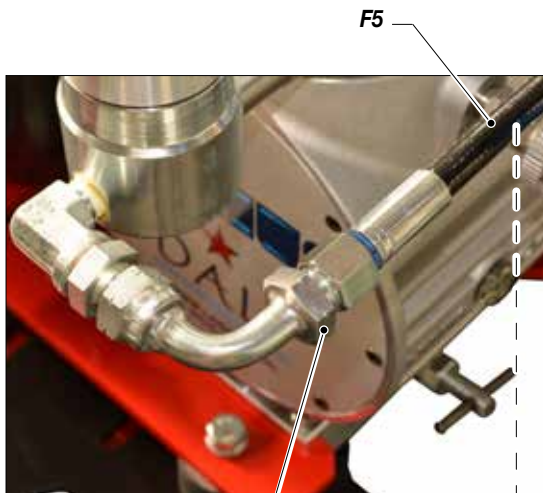
- Connect the product suction flexible tube (F3) to the connector (F4) ensuring to tighten the fittings (*the use of two wrenches is suggested*).





CONNECTION OF THE GUN

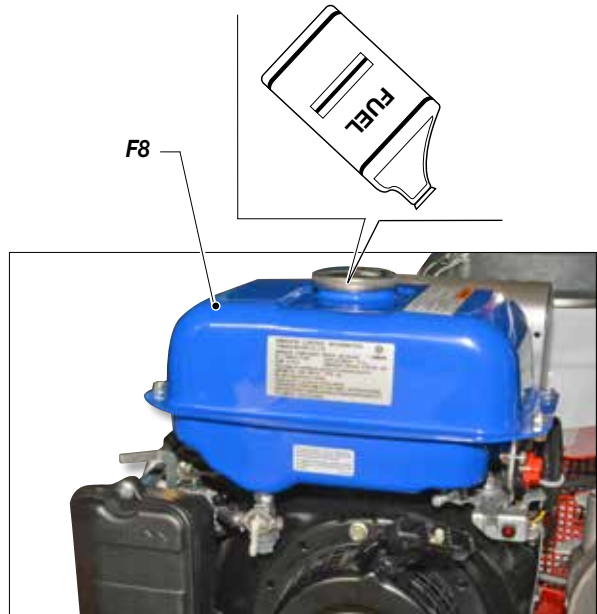
- Connect the high pressure flexible hose (F5) to the fitting (F6) and the gun (F7) tightening the fittings strongly (*the use of two wrenches is suggested*). **NEVER** use sealants on fittings' threads.
- It is recommended to use the hose provided with the standard kit. **NEVER** use a damaged or a repaired flexible hose.



STARTING THE COMBUSTION ENGINE

To switch the internal combustion engine proceed as follows:

- Fill the fuel tank (F8).



- Open the fuel tap (F9) and position it to "ON" (I).

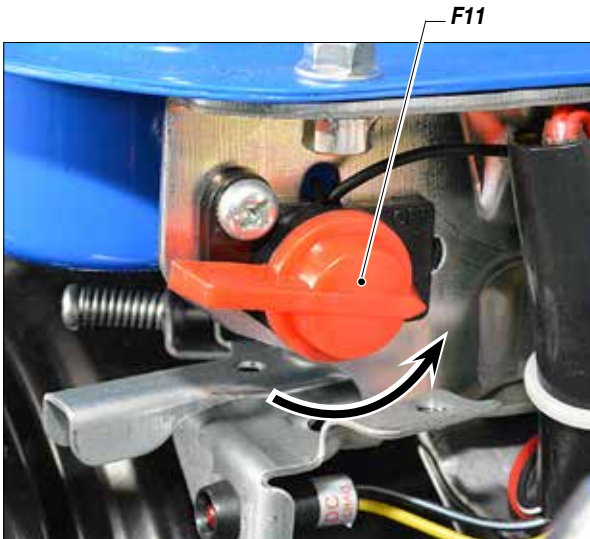


- Pull lever (F10) for first start-up cold (*position it to "I"*).

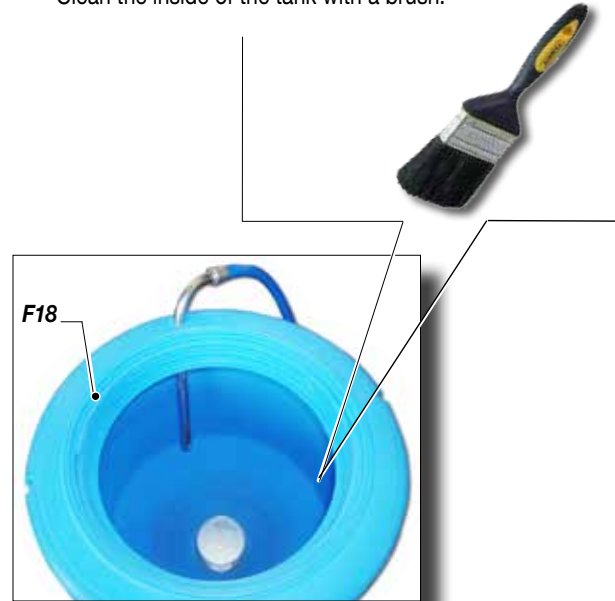




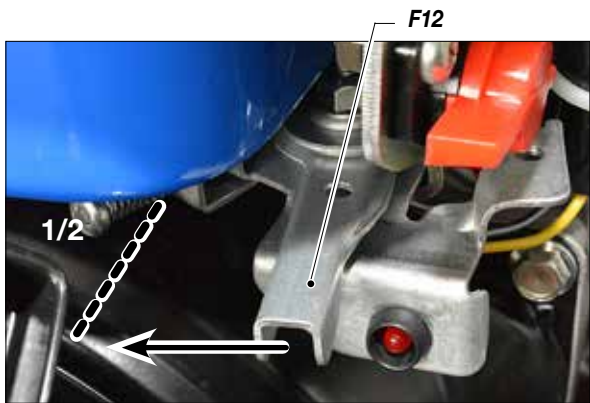
- Turn the equipment's switch (F11) to ON (I)



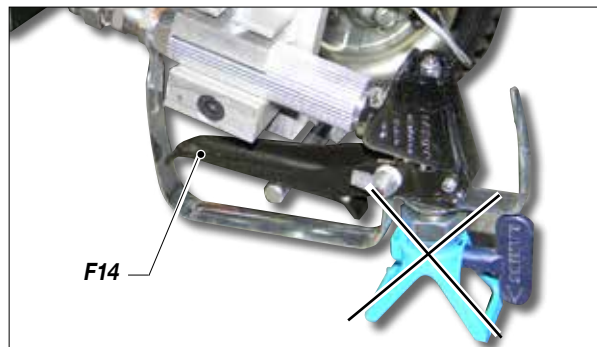
- Fill the product tank with wash fluid.
- Clean the inside of the tank with a brush.



- Bring the accelerator lever (F12) to about 1/2 of its run.



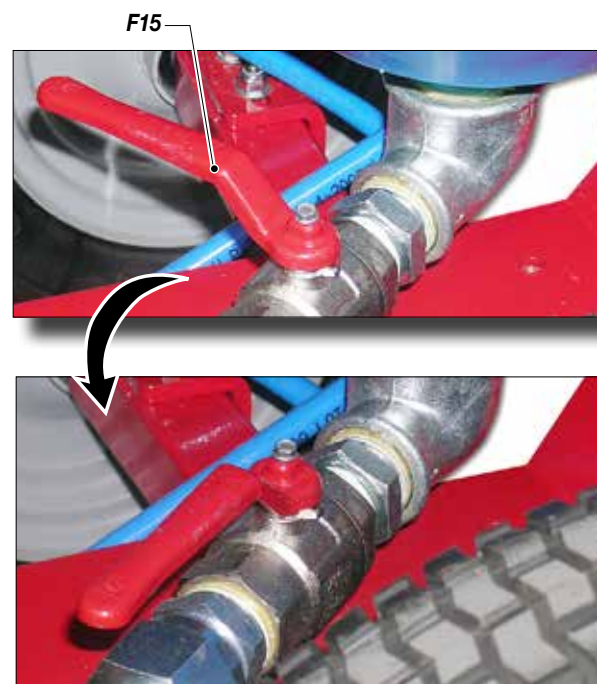
- Ensure the gun (F14) is without nozzle.



- Pull the rope to start (F13).



- Open the product output tap (F15).

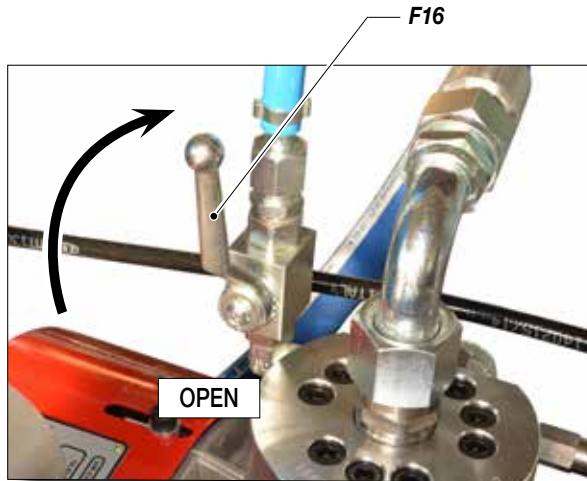


WASHING OF THE NEW EQUIPMENT

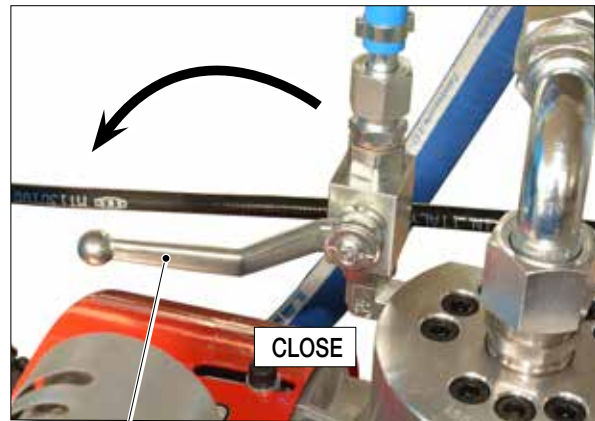
- The equipment has already been adjusted at our factory with light mineral oil left inside the pumping group as protection. Therefore, wash with diluent before sucking the product.



- Open the recirculating-safety valve (F16).

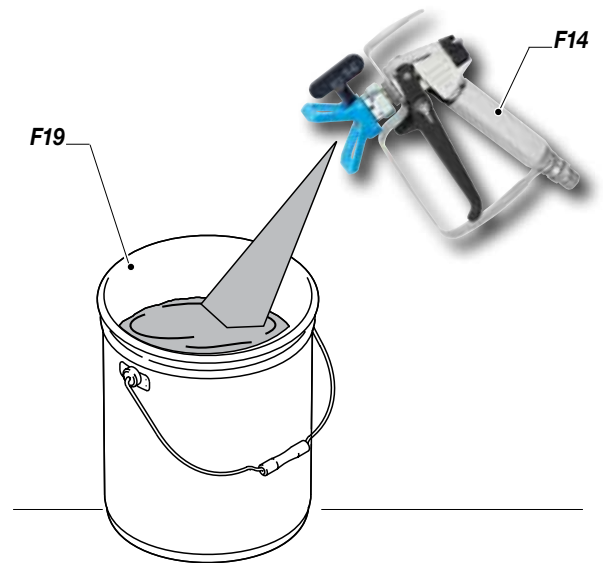
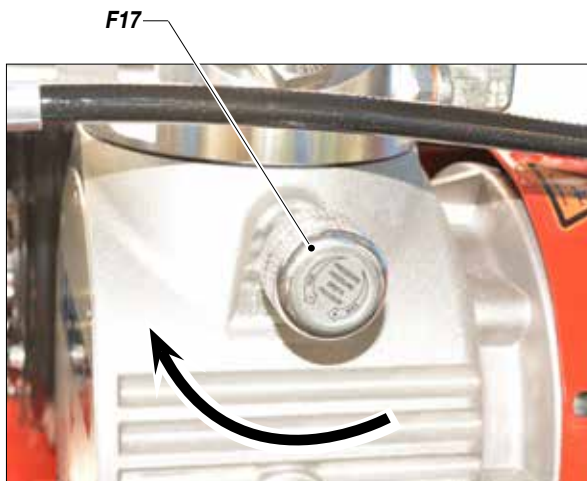


- Once the wash fluid has circulating enough, close the recirculating-safety valve (F16).

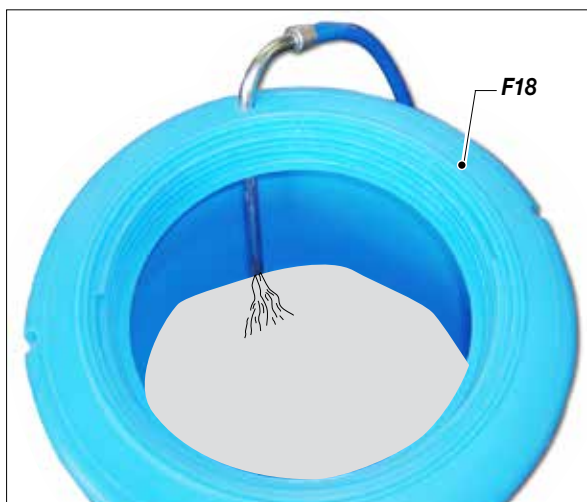


- Start the combustion engine following the indications provided in the chapter **"STARTING COMBUSTION ENGINE"**.
- Rotate the pressure setting knob (F17) slightly clockwise so that the machine operates at minimum power.

- Remove the gun (F14) from its support and point it into a container (F19). Hold the trigger down (*to perform the cleaning*) until clean solvent comes out, or else until all of the wash fluid has been expelled from the tank.



- Visually check that the wash fluid starts to re-circulate within the tank (F18).



! Repeat the same operations with clean solvent if necessary.

- After having completed the wash operations, bring the handle to its MIN position (F17) and point the gun (F14) into a collection container (F19) and press the trigger to release the residual pressure. Release the trigger when finished.

! NEVER spray solvents indoors. In addition, it is recommended to keep away from the pump in order to avoid the contact between the solvent fumes and the motor.




- When the pump idles stop the combustion engine.
- At this point the machine is ready. If water-based paints are to be used, after the wash with solvent wash the tank again with soap and water, then rinse with clean water (repeating the previously described procedures).
- Insert the manual gun trigger lock and assemble the nozzle.

PRODUCT PREPARATION

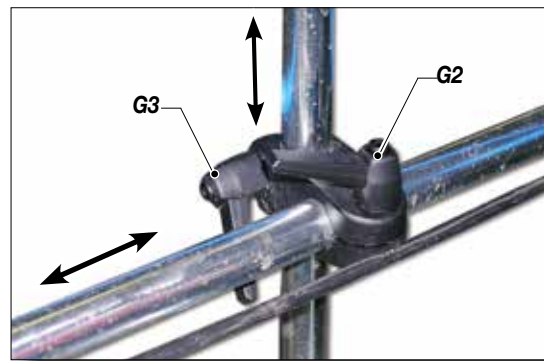
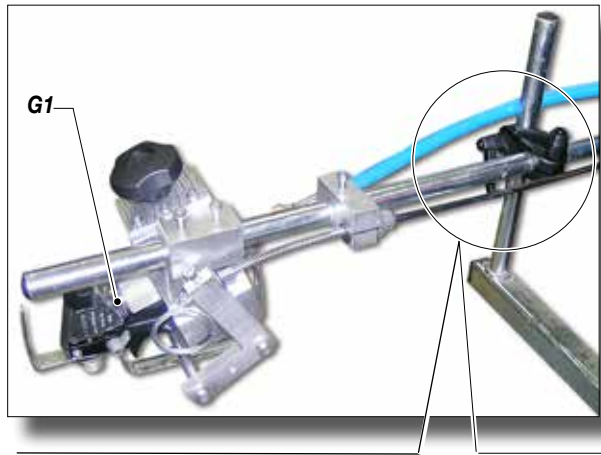
 **MAKE SURE THE PRODUCT IS SUITABLE TO BE USED WITH A SPRAY GUN.**

- Mix and filter the product before using it. For filtration use **CLOSE-MESH** (rif. 214) and **LARGE-MESH** (rif. 215) LARIUS METEX braids.

 **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.**

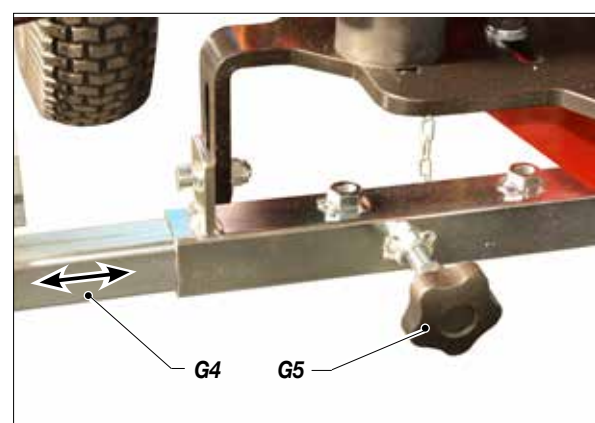
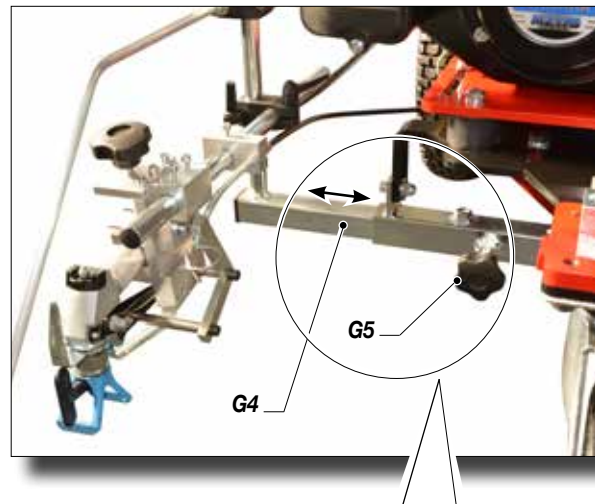
Never use products containing halogen hydrocarbons (as *methylene chloride*). If these products come into contact with aluminium parts of the equipment, can provoke dangerous chemical reactions with risk of explosion.

- Fill the tank (F20) with the paint.



ADJUSTING THE GUN SUPPORT ARM

In order to adjust the position of the spray gun (G4) use the knobs (G5).



G REGULATIONS

ADJUSTING THE GUN POSITION

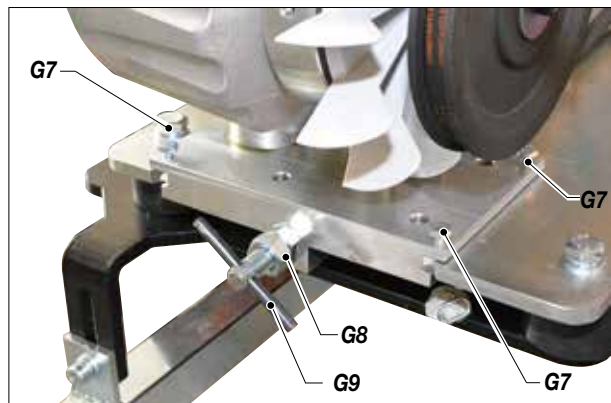
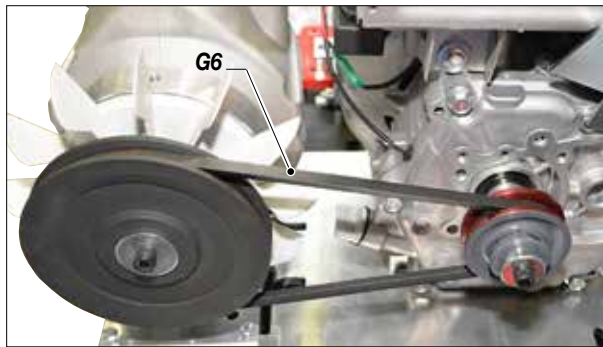
In order to adjust the position of the spray gun (G1) use the knobs (G2-G3).



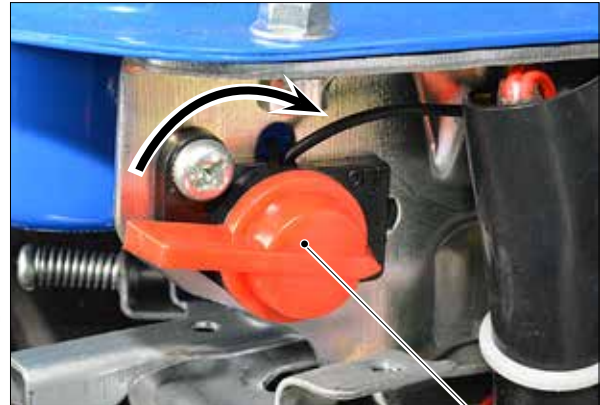
ADJUSTING BELT TENSION

To adjust the belt tension (**G6**) you need to follow the following procedure:

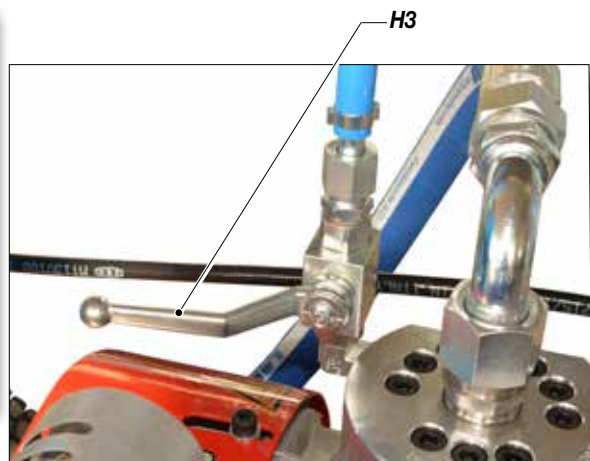
- Unscrew the 4 screws (**G7**).
- Unscrew the locknut (**G8**).
- Turn the screw (**G9**) to make the adjustment.



- Turn the equipment knob (**H2**) on **ON (I)**.



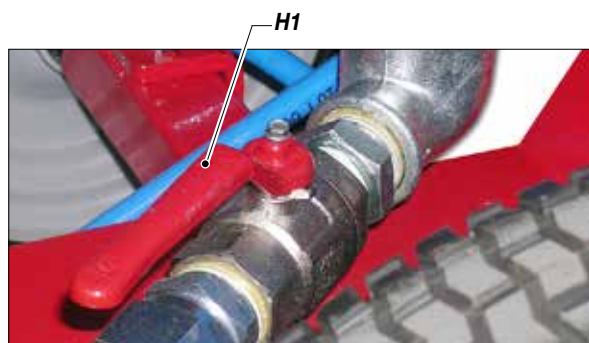
- Start the combustion engine following the indications provided in the chapter "**STARTING COMBUSTION ENGINE**".
- Make sure that the re-circulation/safety valve (**H3**) is closed (spray enabled).



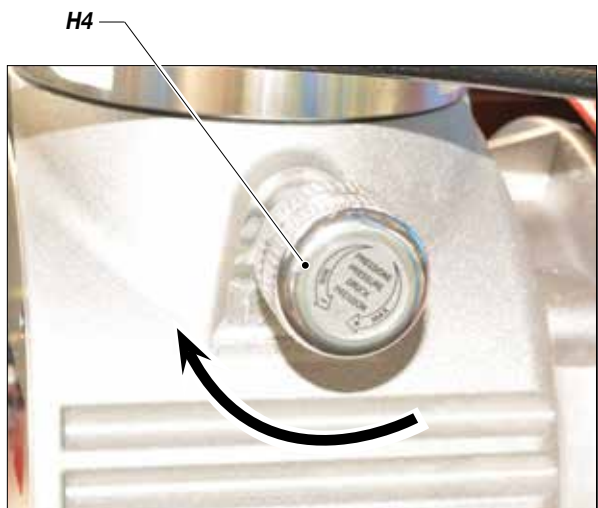
H OPERATION

SETUP PROCEDURE

- Use the tooling after performing all the **SETTING UP** operations above described.
- Check that there is enough unleaded petrol.
- Open the product output tap (**H1**).



- Turn the pressure (**H4**) adjustment handle clockwise until the desired setting has been reached.

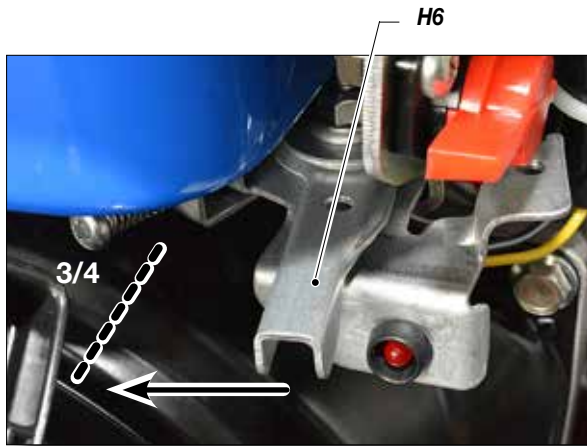




ADJUSTING PUMP UNIT SPEED

- Move the motor acceleration lever (H5) gently to increase or decrease the speed of the pump.

During the painting operation it is normally recommended to maintain the position of the accelerator lever (H5) at about 3/4 of its maximum run.



I PAINTING OPERATIONS

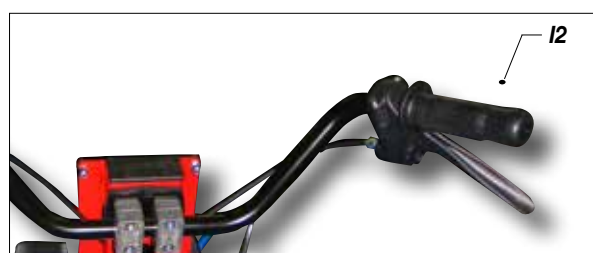
After having performed all of the operations in the "OPERATION" chapter, work may be started using the following controls:

- Turn the pressure adjustment handle (I1) clockwise to allow the line-painting gun to dispense paint when the appropriate lever is activated.



I1

- An irregular and marked spray on the sides indicates a low working pressure. On the contrary, a too high pressure causes a high fog ("overspray") and waste of product.
- Pull the lever on the right (I2) to activate the spray gun and begin working, advancing the machine in a continuous manner.

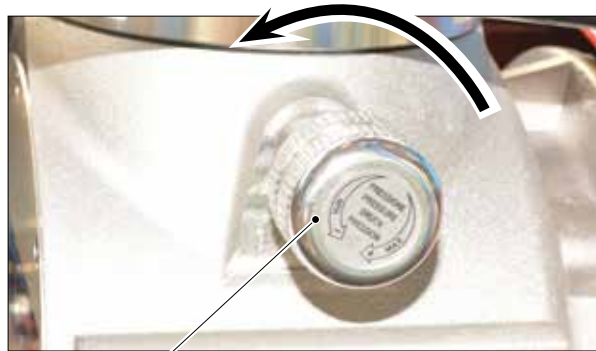


NEVER point the spray gun at yourselves or at other people. The contact with the casting can use serious injuries. In case of injuries caused by the gun casting, seek immediate medical advice specifying the type of the product injected.

Recirculating-safety valve: when working at the maximum pressure available, releasing the gun trigger sudden increases of pressure can occur. In this case, the recirculating-safety valve opens automatically eliminating part of the product from the recirculating tube. Then it closes so as to go back to the first working conditions.

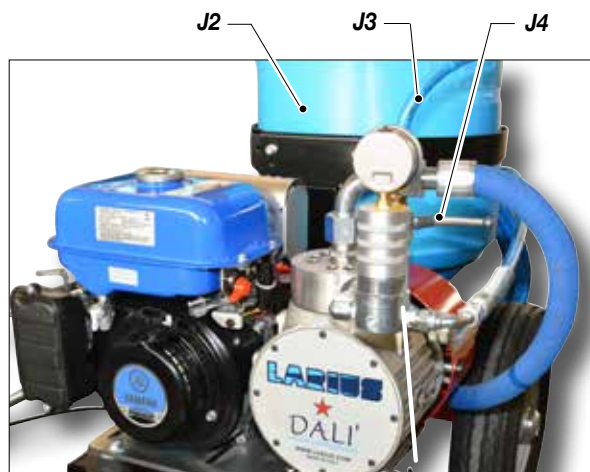
J CLEANING AT THE END OF WORK

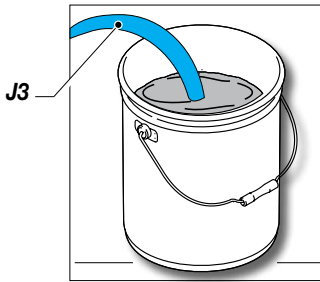
- Reduce pressure to the minimum (turn counterclockwise the pressure control knob (J1)).



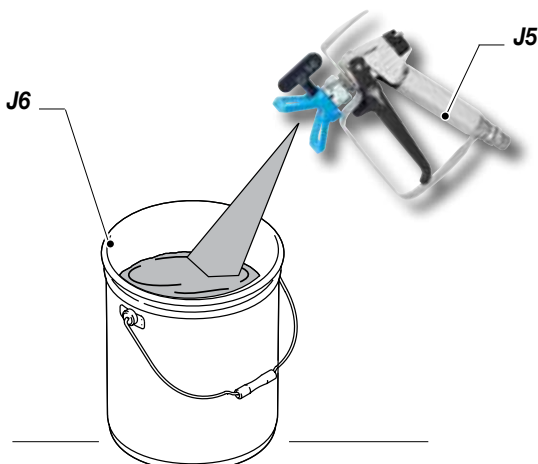
J1

- Release the residual pressure by holding down the trigger of the gun and pointing it into a container.
- Eliminate the paint remaining within the tank (J2) by placing the re-circulation tube (J3) into a container.
- Open the recirculating-safety valve (J4).





- Turn the pressure adjustment (**J1**) handle slightly clockwise to make the machine function at minimum pressure (*pump activated*), until the tank has been completely emptied then shut off the pump by bringing the handle (**J1**) to its minimum position.
- Fill the tank (**J2**) with wash fluid.
- Clean the walls of the tank with a brush.
- Turn the pressure adjustment (**J1**) handle slightly clockwise to make the machine function at minimum pressure (*pump activated*).
- Make sure the re-circulation tube (**J3**) is inserted into a container and wait for clean wash fluid to come out of it.
- Turn the pressure adjustment handle (**J1**) to minimum (*pump stopped*).
- Place the re-circulation tube back into the tank.
- Keep the gun's trigger pressed to release any residual pressure.
- Remove the nozzle from the gun and wash it separately.
- Closed the recirculating-safety valve
- Turn the pressure adjustment handle (**J1**) slightly clockwise to make the machine function at minimum pressure (*pump activated*).
- Point the manual gun (**J5**) into a container (**J6**), drain the residual paint and wait for the wash fluid to come out clean the entire spraying circuit.



- Empty all of the wash fluid from the tank and turn off the equipment.
- Turn the pressure adjustment handle (**J1**) to minimum (*pump stopped*).

- Shut off the motor.
- In case of long storage, we recommend you to suck and to leave light mineral oil inside the pumping group and the flexible hose.



Follow the washing procedure before using again the equipment.

K GENERAL MAINTENANCE



Discharge the pressure in the pump unit (*open the discharge valve*) before carrying out any maintenance operation.

DAILY

- Clean the filters;
- Clean the nozzles;
- Clean all the varnish circuit with a specific product;
- Check the fuel motor (*see the maintenance table*).

PERIODICALLY

- Check the pumping gaskets draft (*if the product draws, replace gaskets*);
- Clean the mobile parts from the varnish deposits (*spray guns, etc.*);
- Check the gun cables tightening, the wheel block;
- Check that the tubes and all the fittings are correctly locked.

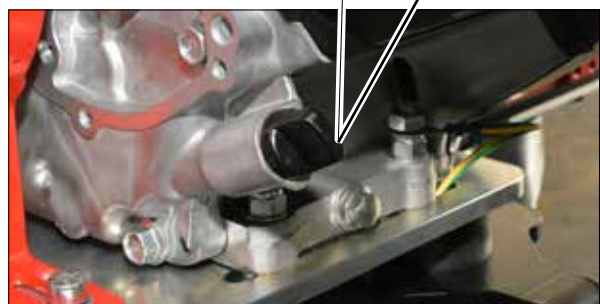
L ROUTINE MAINTENANCE

CONTROL THE OIL LEVEL IN THE MOTOR



Always check that there is oil in the motor.

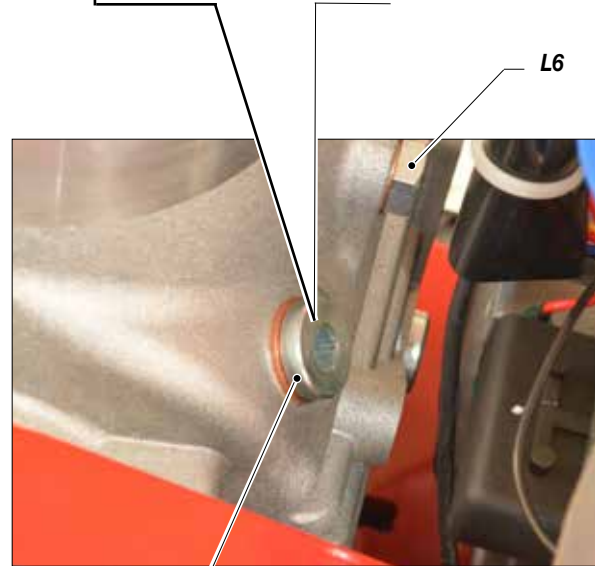
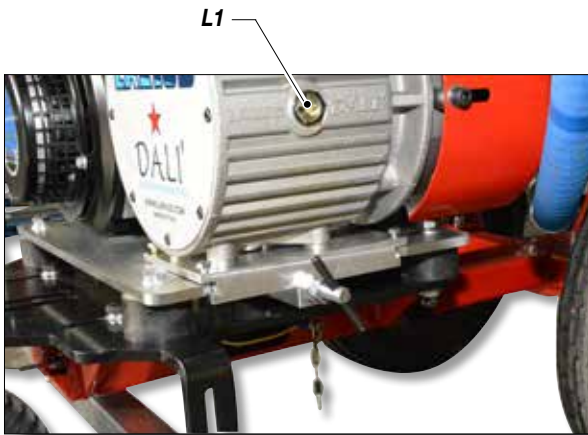
Check the motor oil every 100 working hours via the relevant measuring caps positioned on the bottom of the petrol motor. Top up if necessary.





TOP UP HYDRAULIC OIL

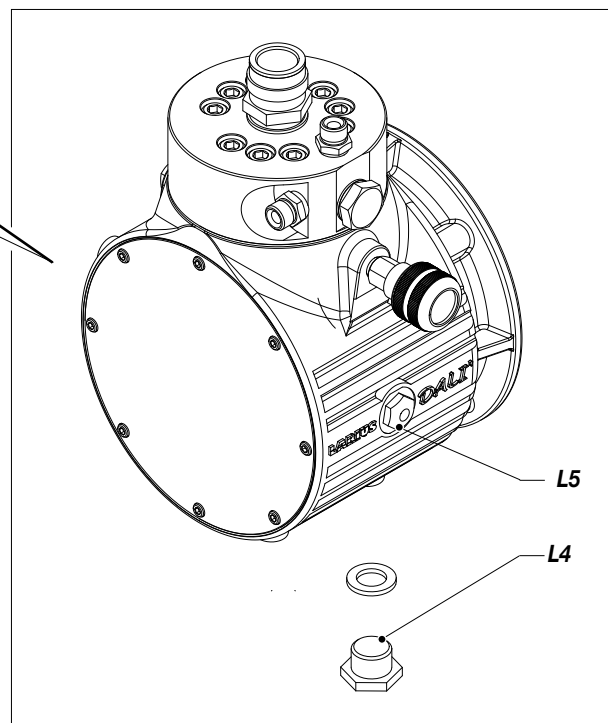
With each start up, check the hydraulic oil level by looking through the gauge (L1) on the side of the; If necessary, use "AGIP OSO 46 type hydraulic oil" to top up the level.



REPLACING HYDRAULIC OIL

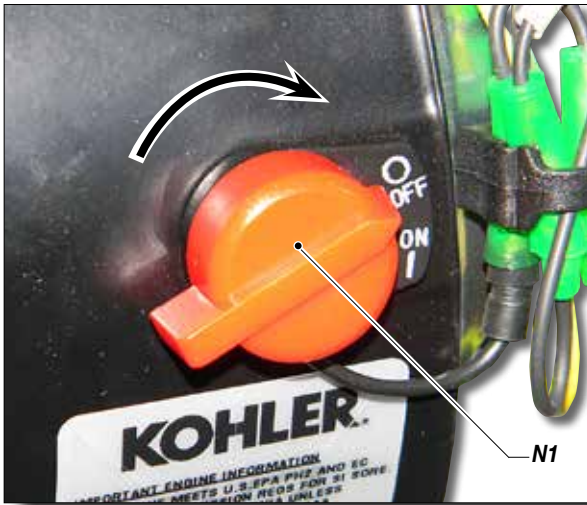
After operating for 100 hours, replace the oil in the pump;

- Discharge the waste oil through the plug (L4) fitted at the bottom of the pump casing.
- Clean the seals on the cap and replace it if worn.
- Clean the filter (L6).
- Clean and, if necessary, replace the worn seals (L6).
- Fill the pump with the recommended oil until it reaches the maximum level the plug (L5).
- Then, substitute the oil every 250 hours.

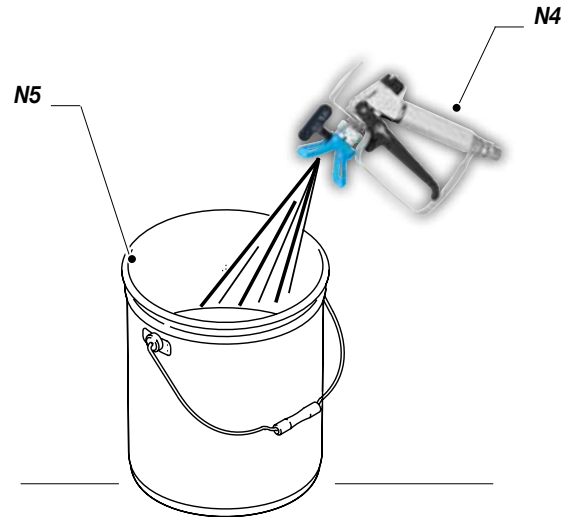


M CORRECT PROCEDURE OF DECOMPRESSION

- Premere l'interruttore (N1) su "OFF"(0) per spegnere l'apparecchiatura.



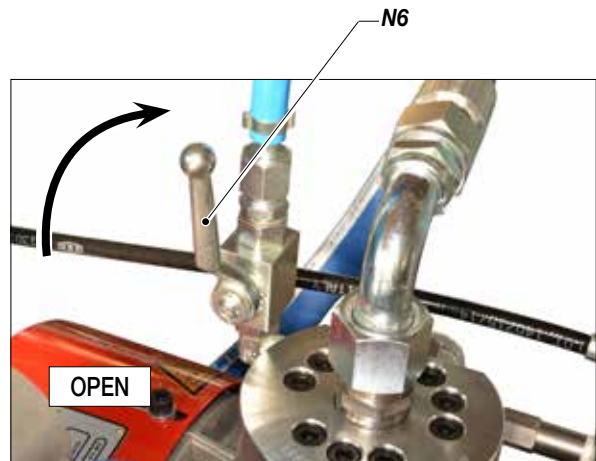
- Point the gun (N4) at the receptacle (N5) used to collect the product and press the trigger to release the pressure. When completed, activate the safety catch again.



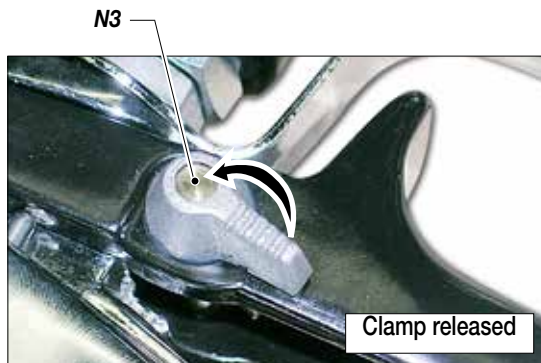
- Ridurre la pressione al minimo (ruotare in senso antiorario la manopola di regolazione (N2) della pressione).



- Open the recirculating-safety valve (N6) to release the remaining pressure.



- Unlock the safety clamp (N3).



WARNING:

If the equipment is still under pressure after performing the operations above described because of the nozzle or the flexible hose clogged, proceed as follows:

- Loosen very slowly the gun nozzle.
- Release the clamp.
- Point the gun at the container of the product and press the trigger to release pressure.
- Loosen very slowly the fitting of connection from the flexible hose to the gun.
- Clean or replace the flexible hose and the nozzle.





N PROBLEMS AND SOLUTIONS

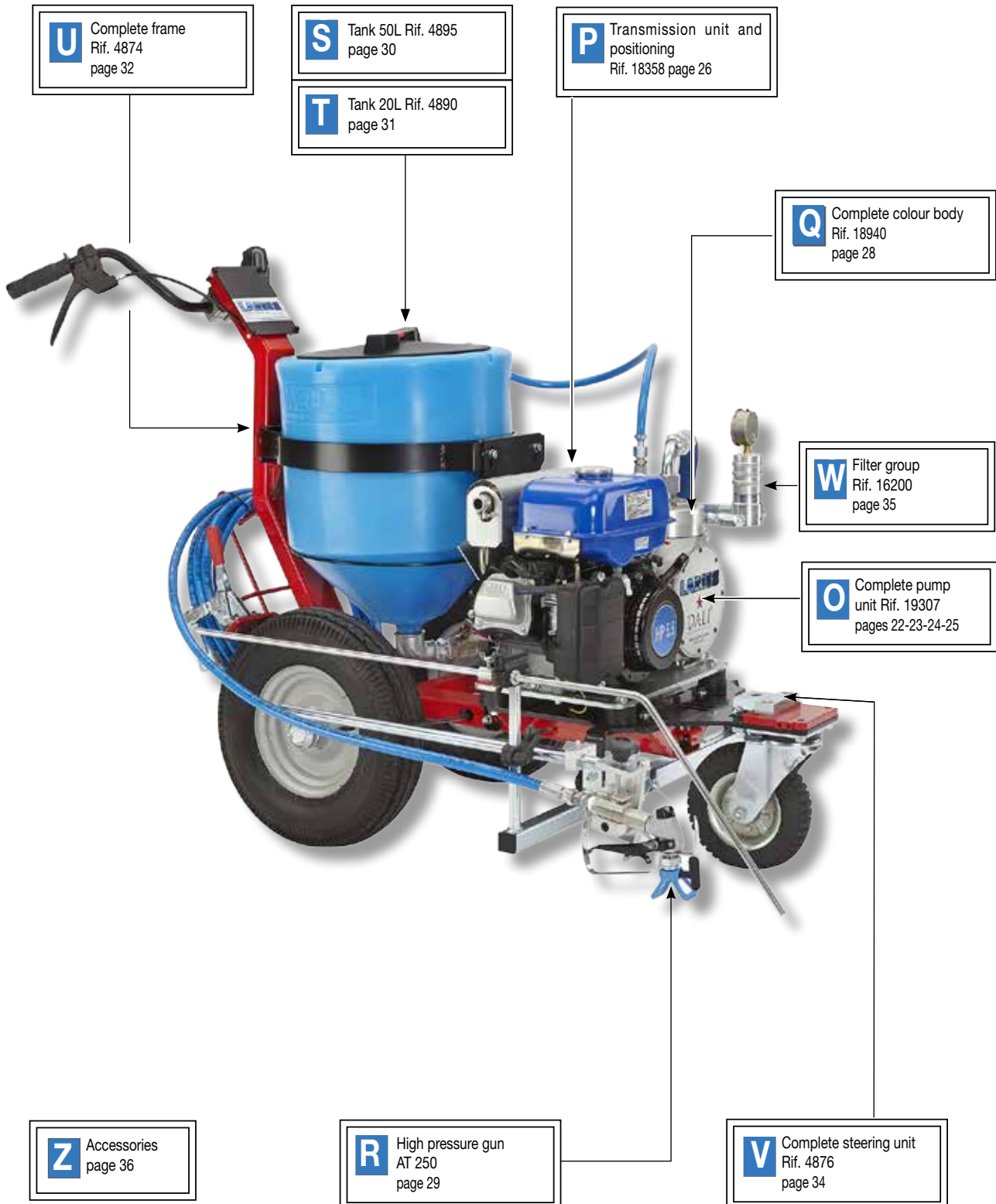
Problem	Cause	Solution
<ul style="list-style-type: none"> The equipment does not start 	<ul style="list-style-type: none"> The petrol manifold is closed; Engine is out of gas; Cold engine; Setting valve faulty pressure; The product is solidified inside the pump; Spark plug cable is disconnected or damaged; 	<ul style="list-style-type: none"> Open the petrol manifold; Refill gas tank; Use choke; Verify and replace it, if necessary; Open the drain valve to release pressure in the circuit and stop the machine. Disassemble the pumping group and the pressure transmitter and clean; Connect spark plug cable or replace spark plug;
<ul style="list-style-type: none"> The equipment does not suck the product 	<ul style="list-style-type: none"> Breakdown of pressure transmitter; The line of material coming out of the pump is already under pressure; The product is solidified inside the pump; 	<ul style="list-style-type: none"> Verify and replace it, if necessary; Open the drain valve to release pressure in the circuit; Open the drain valve to release pressure in the circuit and stop the machine. Disassemble the pumping group and the pressure transmitter and clean;
<ul style="list-style-type: none"> The equipment does not suck the product 	<ul style="list-style-type: none"> The equipment sucks air; 	<ul style="list-style-type: none"> Check the suction pipe;
<ul style="list-style-type: none"> The equipment sucks but does not reach the pressure desired 	<ul style="list-style-type: none"> Lack of product; The equipment sucks air; The drain valve is open; Suction or delivery valve dirty; 	<ul style="list-style-type: none"> Add the product; Check the suction pipe; Close the drain valve; Disassemble the colour group;
<ul style="list-style-type: none"> When pressing the trigger, the pressure lowers considerably 	<ul style="list-style-type: none"> Nozzle too big or worn; The product is too dense; The filter of the gun-butt is too fine; 	<ul style="list-style-type: none"> Replace it with a smaller one; Dilute the product, if possible; Replace it with a larger-mesh filter;
<ul style="list-style-type: none"> The pressure is normal but the product is not atomized. 	<ul style="list-style-type: none"> The nozzle is partially clogged; The product is too dense; The filter of the gun-butt is too fine; 	<ul style="list-style-type: none"> Clean or replace it; Dilute the product, if possible; Replace it with a larger-mesh filter;
<ul style="list-style-type: none"> The atomization is imperfect 	<ul style="list-style-type: none"> The nozzle is worn; 	<ul style="list-style-type: none"> Replace it;



Always release the air compressed supply and unload the plant pressure before performing any check or replacement of pump parts (see "correct procedure of decompression").



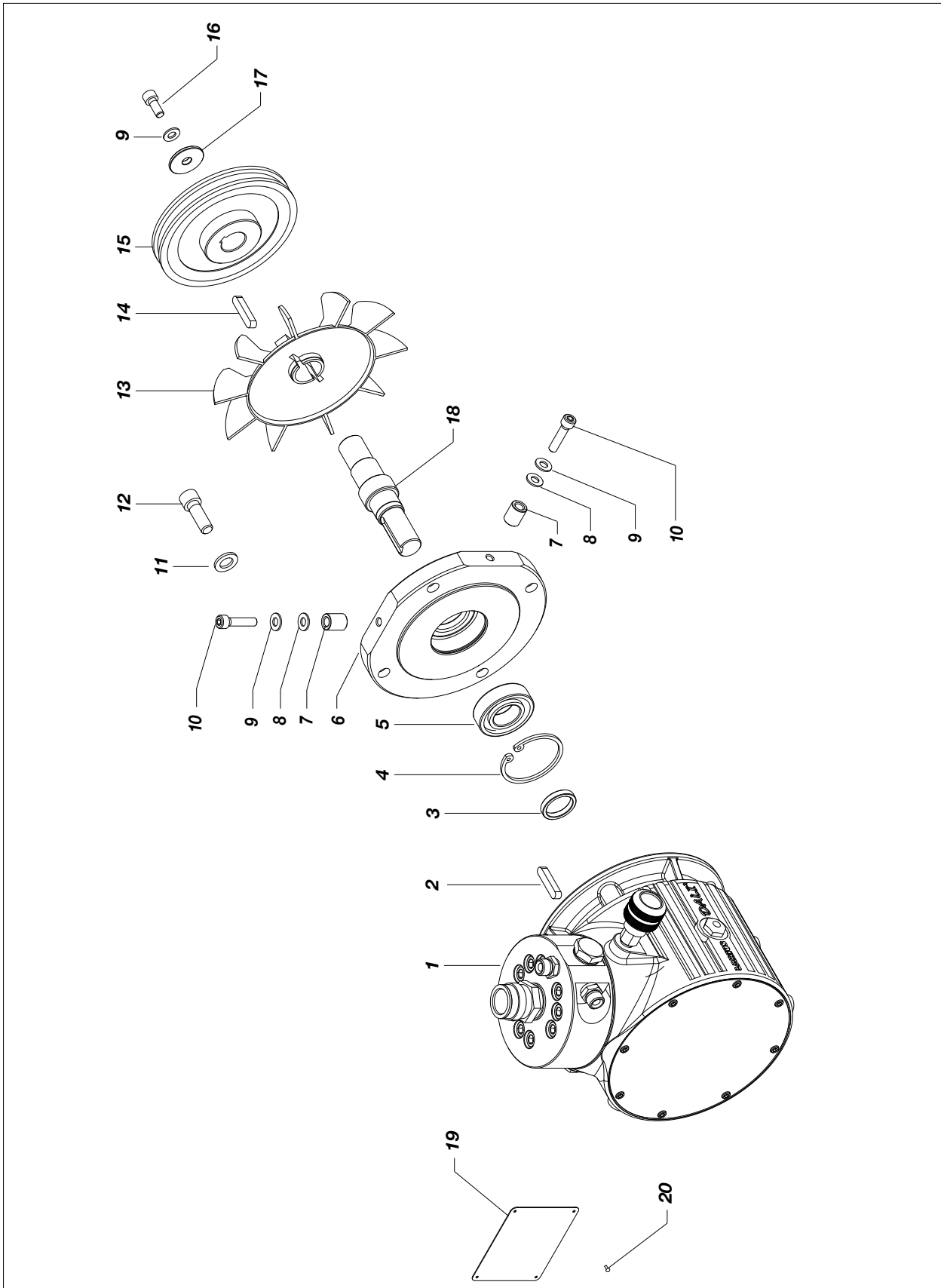
SPARE PARTS





0 COMPLETE PUMP UNIT REF. 18306

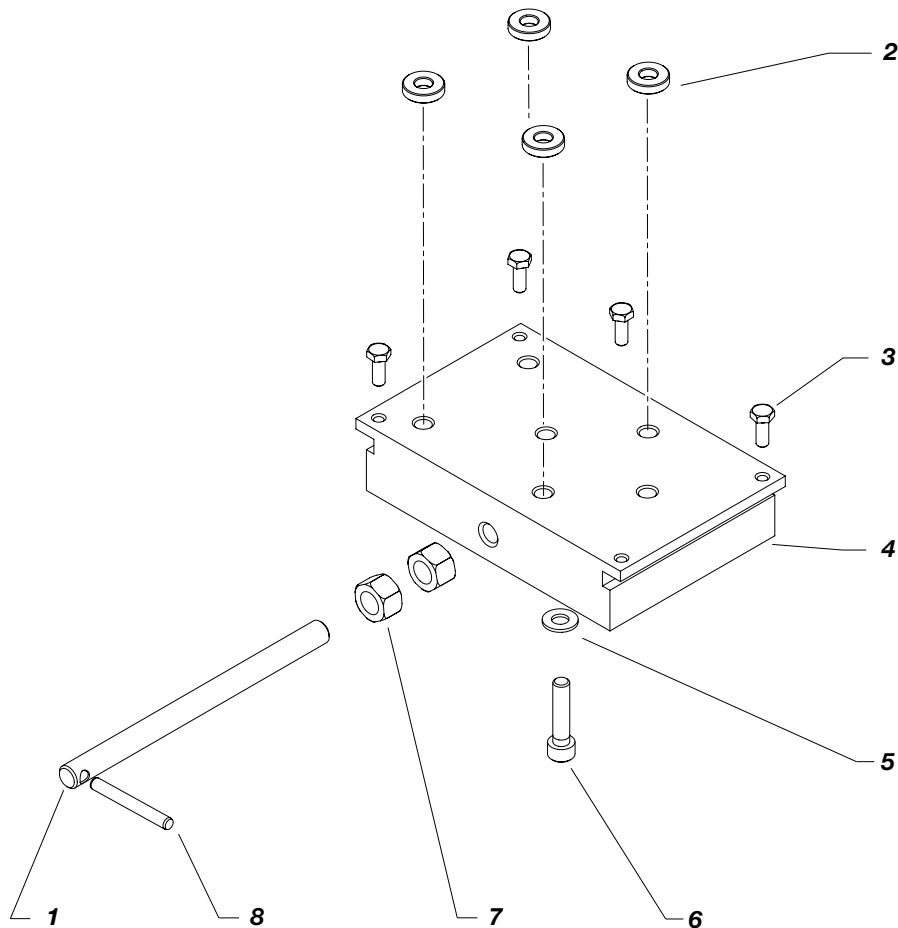
WARNING: Always indicate code and quantity for each part required.



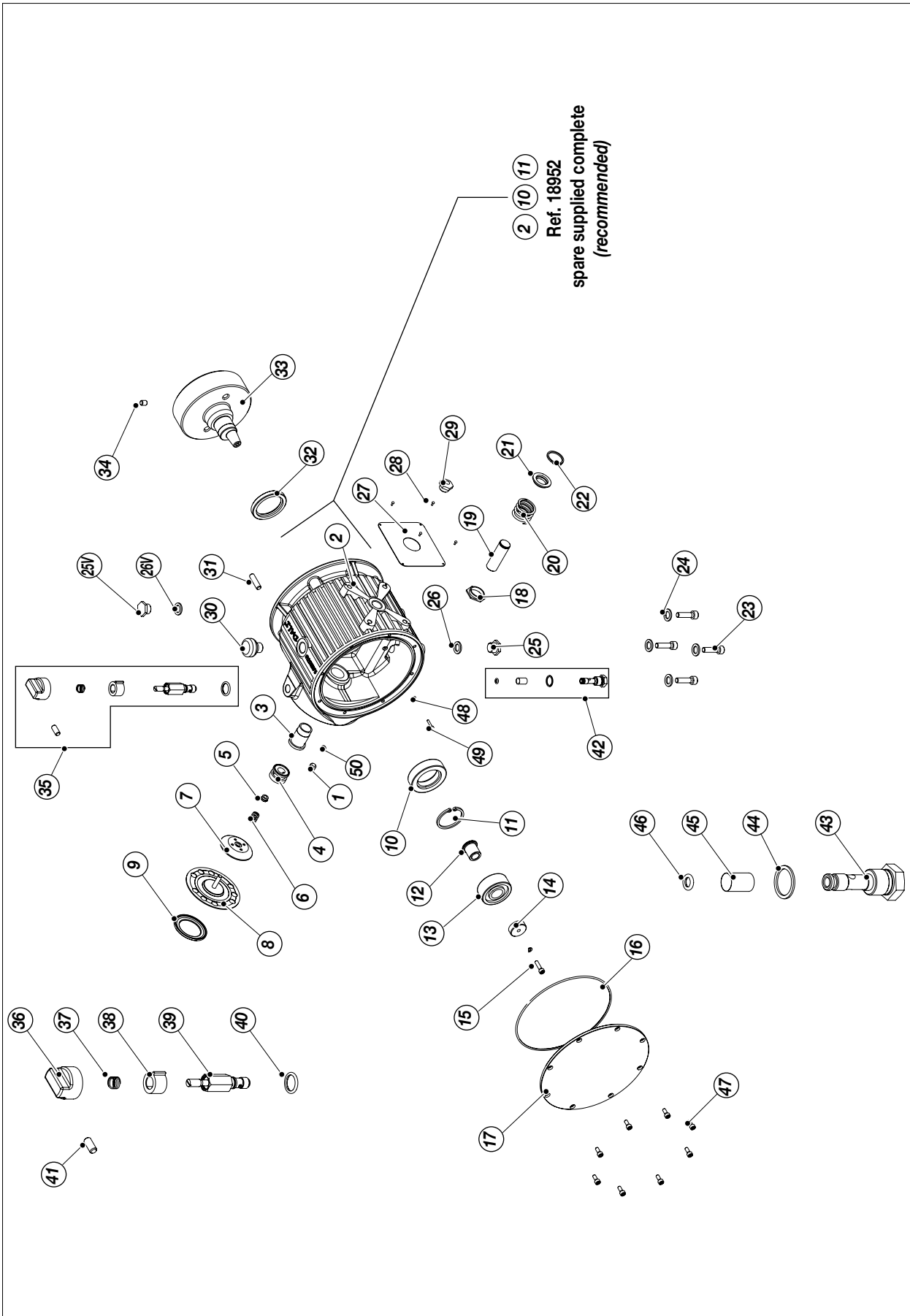


Pos.	Code	Description	Pos.	Code	Description
1	18970	Complete hydraulic bpdy	11	95114	Washer
2	18919	Tab	12	18171	Screw
3	18321	Spacer	13	18342	Fan
4	18341	Ring	14	81014	Tab
5	42255	Bearing	15	18320	Pulleya
6	18314	Flange	16	96031	Screw
7	18324	Spacer	17	95153	Washer
8	32024	Washer	18	18316	Shaft
9	34009	Screw	19	18357	Identification plate
10	81032	Screw	20	34020	Rivet

SUPPORT UNIT PUMP



Pos.	Code	Description	Pos.	Code	Description
1	18355	Rod	5	34009	Screw
2	18326	Spacer	6	81032	Screw
3	95062	Screw	7	81010	Nut
4	18312	Slide	8	7238	Pin





Pos.	Codice	Descrizione	Pos.	Codice	Descrizione
1	18946	Dowel	27	18910	Identification plate 220V 50Hz
2**	18901	Hydraulic body	27	18931	Identification plate 110V 60Hz
3**	32018	Cylinder liner	27	18357	Petrol identification plate
4	32033	Piston insert	27	18933	Identification plate 380V 50Hz
5**	91026	Nut	28	34020	Rivet
6**	33002/3	Spring	29	32007	Oil inspection window
7**	18937	Oil distributor	30	32108	Plug
8**	33002/1	Diaphragm	31	81012	Spline
9	18936	Diaphragm insert	32	18909/1	Corteco
10**	31125	Bearing	33	18947	Eccentric flywheel
11**	81020	Elastic ring	34	81009	Dowel
12	18906	Bushing	35	32150	Complete pressure regulation valve
13	32026	Bearing	36	32017	Knob
14	32027	Cover	37	32017/2	Spring
15	32029	Screw	38	32016	Retainer
16	18908	OR	39	32155	Valve body
17	18907	Cover	40	32014	OR
18**	32041	Check nut	41	32017/1C	Dowel
19	32019	Piston	42	12475	Oil filter assembly
20	32022	Spring	43	12461	Filter
21	32021	Spring cap	44	32010	Copper washer
22	32020	Elastic ring	45	258	Filter sieve 60 MESH
23	96031	Screw	46	32012	OR
24	32024	Washer	47	32032	Screw
25	32108	Plug	48	5059	Washer
25V*	32108	Plug	49	18567	Screw
26	33010	Washer	50	91915	Ball
26V*	33010	Washer			

* Only in the vertical configuration

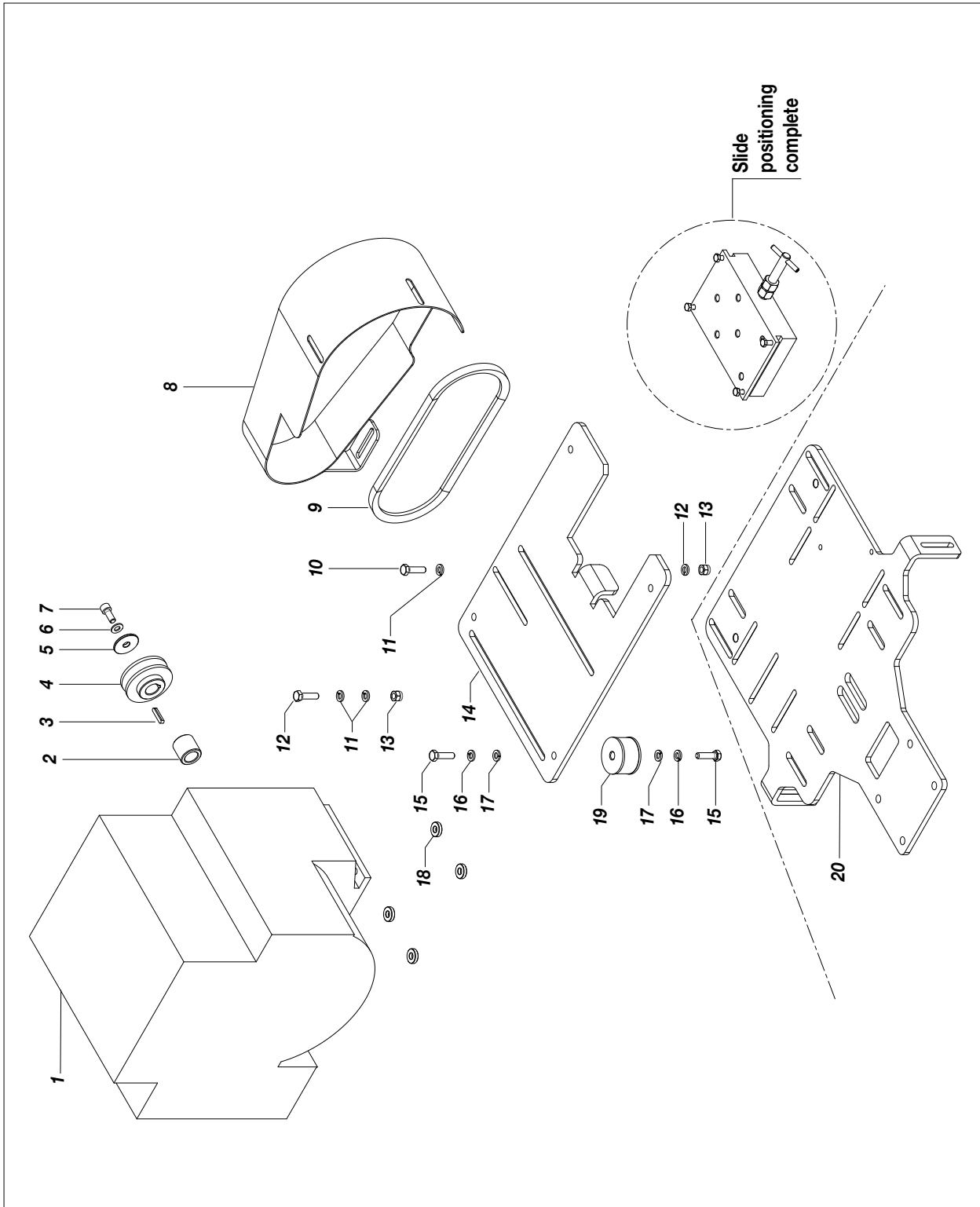
**Pos. 2-3-10-11-18 spare supplied complete (*recommended*) - Ref. 18952

**Pos. 5-6-7-8 complete diaphragm - Ref. 18904



P TRANSMISSION UNIT AND POSITIONING RIF. 18358

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



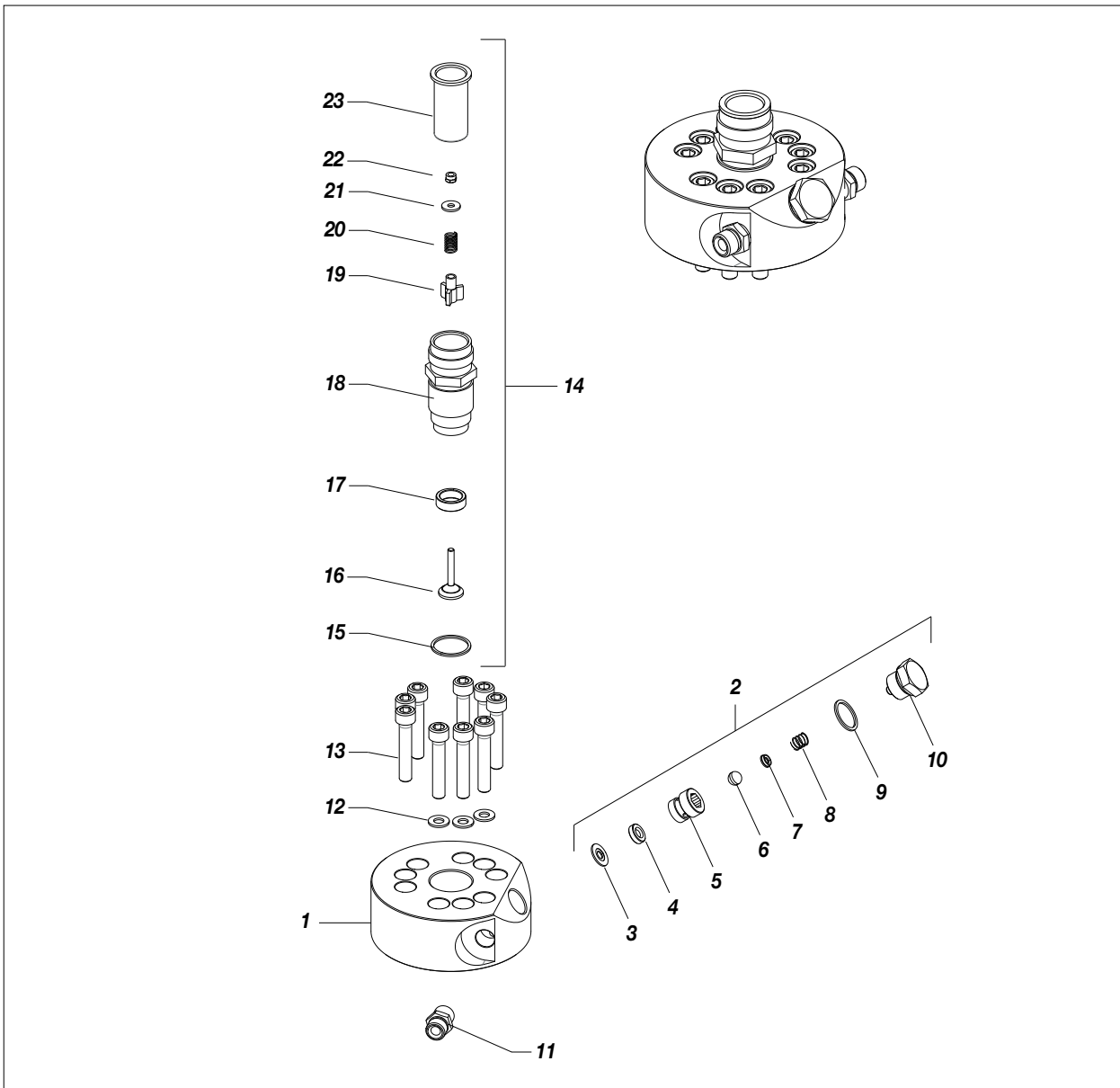


Pos.	Code	Description	Q.tà	Pos.	Code	Description	Q.tà
1	18185	Motor	1	11	32024	Washer	10
2	18325	Spacer	1	12	6151	Nut auto b.	4
3	4244M	Tab	1	13	3637	Washer	5
4	18318	Pulleya	1	14	18311	Support plate	1
5	32024/1	Washer	1	15	6130	Screw	8
6	34009	Washer	1	16	95096	Washer	8
7	18935	Screw	1	17	81033	Washer	8
8	18317	Protective casing	1	18	18326	Spacers	4
9	4752	Belt transmission	1	19	20537	Anti-vibrator	4
10	901568	Screw	1	20	4871	Mounting plate	1



Q COMPLETE COLOUR BODY REF. 18940

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

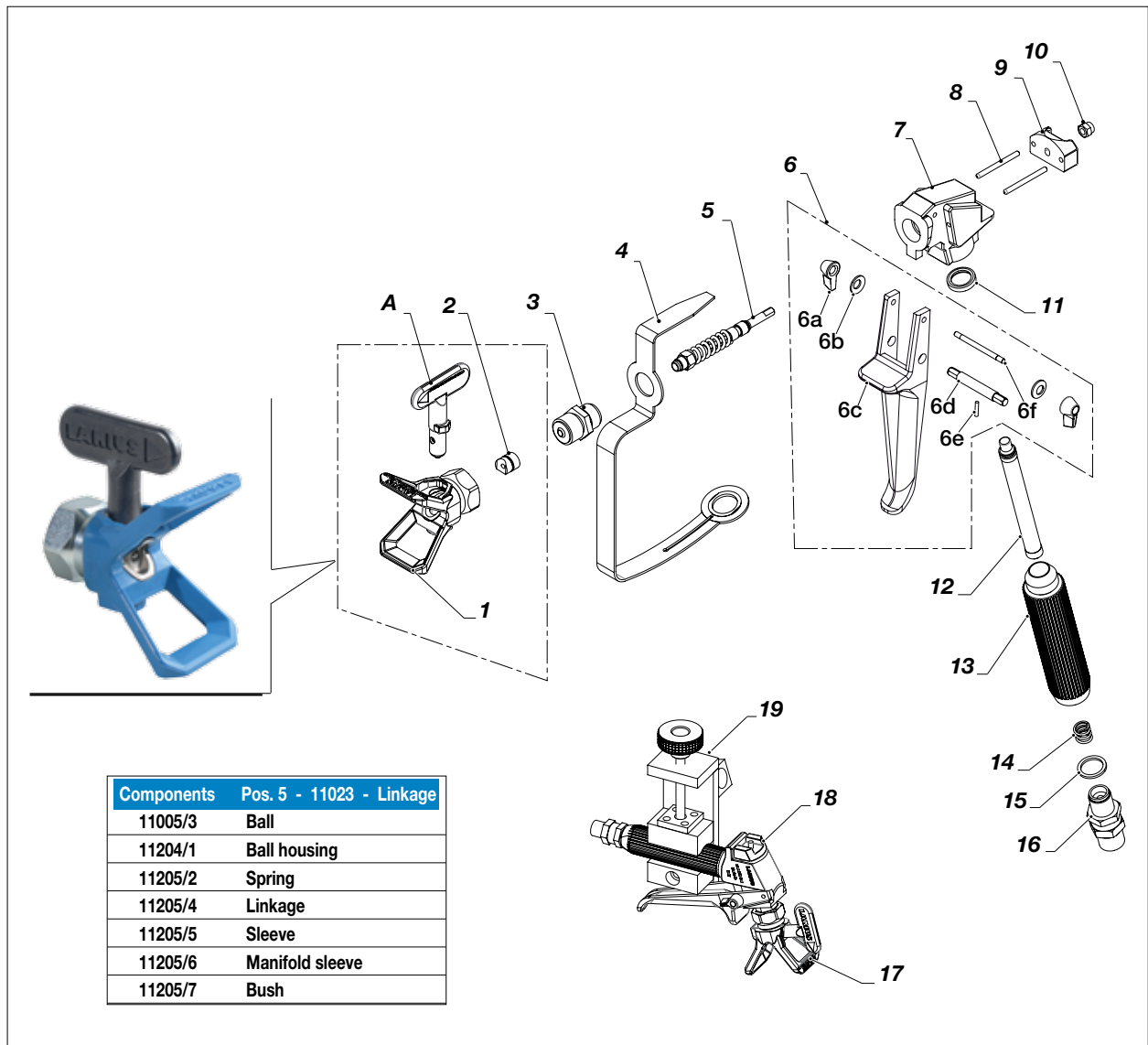


Pos.	Code	Description	Pos.	Code	Description
1	18915	Vertical colour body	13	33004	Screw
2	33033	Valve assembly	14	33017	Complete valve body
3	33026	Gasket	15	33018	Gas-ring
4	33027/2	Ball seat	16	33019	Conical shutter
5	33027/1	Valve housing	17	33020/1	Spear valve seat
6	33028	Ball	18	33020	Valve body
7	33029	Sede Spring	19	33021	Shutter guide
8	53006/1	Spring	20	33022	Spring
9	33031	Gas-ring	21	33023	Washer
10	33032	Check nut	22	33024	Nut
11	95284	Union	23	96099	Seal sleeve
12	33005	Washer			



R HIGH PRESSURE GUN "AT 250"

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

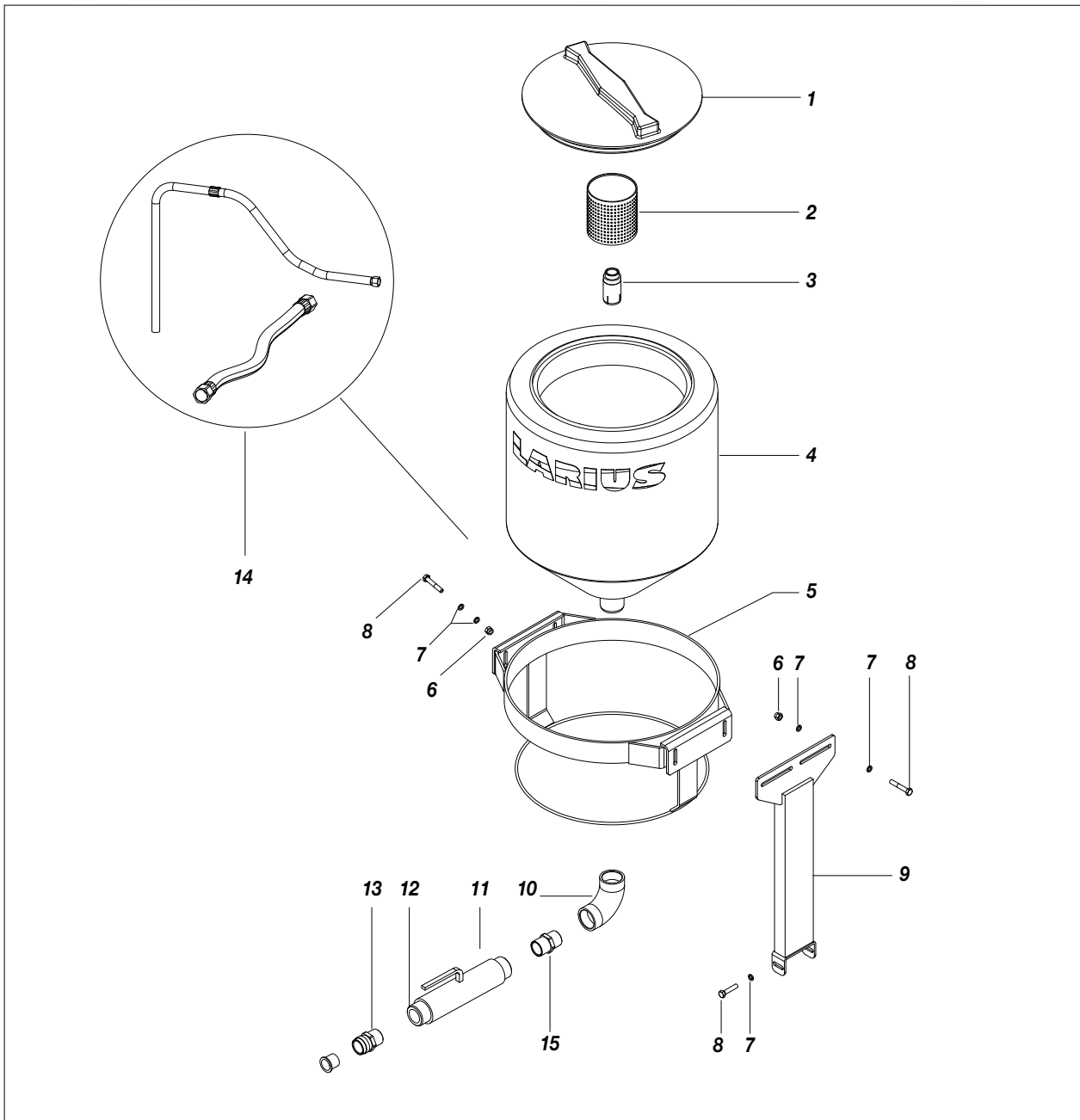


Pos.	Code	Description	Pos.	Code	Description
A	Veditab.*	Super Fast Clean nozzle	7	11206	Spray gun body
1	18270	Super Fast Clean body	8	11207	Plug
2	18280	Super Fast Clean gasket	9	11208	Plate
3	11004	Sleeve	10	11209	M5 self-locking nut
4	11006 + 11032	Hand guard + 3 TSP 3x8 screws	11	11020	Copper gasket
5	11203	Complete linkage rod	12	-	Filter
6	11008	Complete trigger	13	11018	Handgrip
6a	11010	Safety lever	14	11017	Spring
6b	11011	Brake washer	15	32010	Copper gasket
6c	11014	Trigger	16	11015	M16X1.5 articulated joint
6d	11012	Pin		11155	1/4" articulated joint
6e	11013	Pin	17	4833	Fast Clean Small Liner
6f	11034	Pin	18	11210	Gun full AT250
			19	4448	Group holder gun full



S TANK 50L RIF. 4895

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

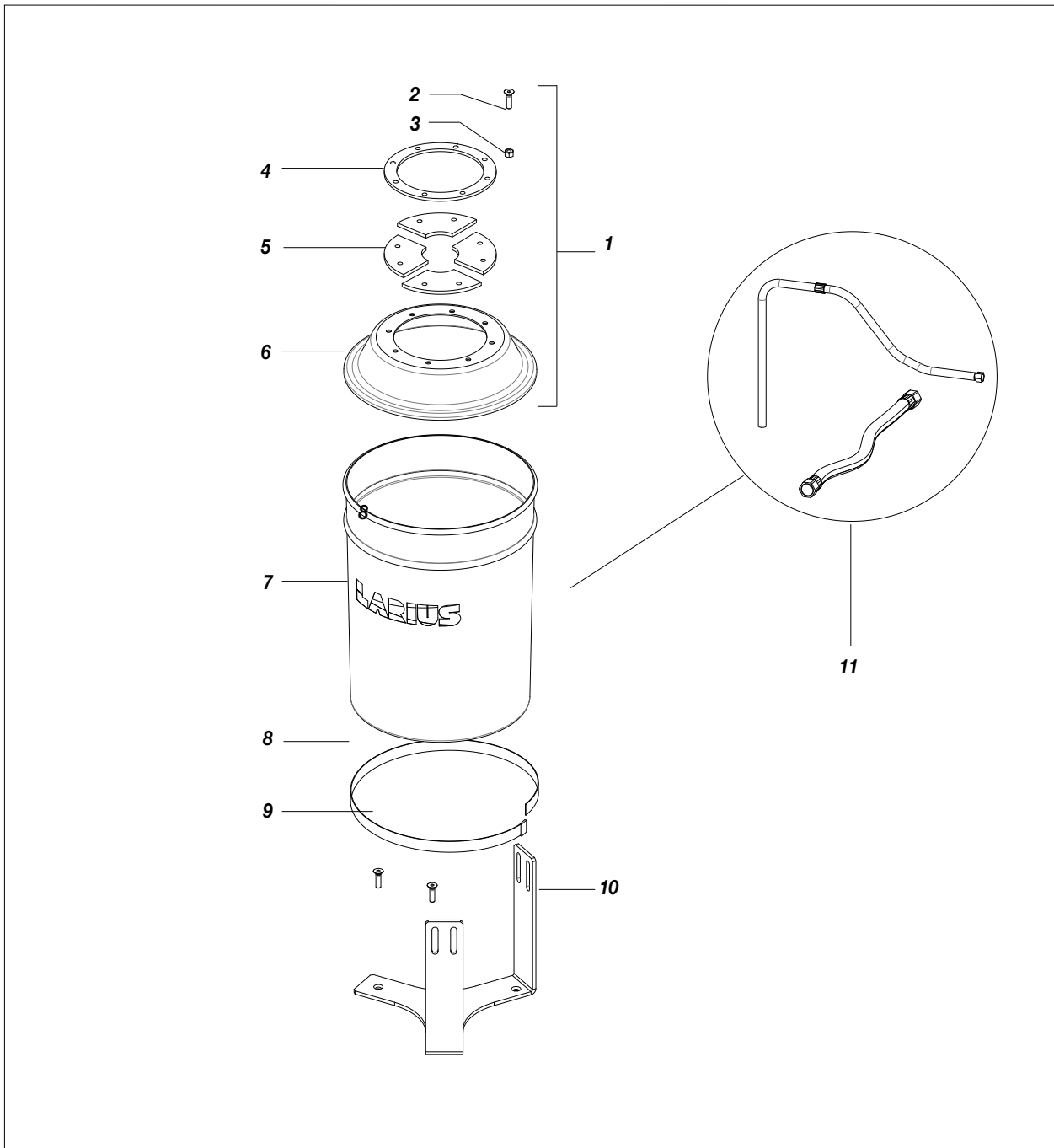


Pos.	Code	Description	Pos.	Code	Description
1	18249/1	Cover	9	4894	Sport
2	85014	Filter	10	18215	Elbow
3	18231	Union	11	34107	Adaptor
4	18249	Tank	12	95032	Union
5	18246	Union	13	96099	Seal
6	3637	Nut	14	4834	Complete suction+delivery system
7	96030	Washer	15	8375	
8	901568	Screw			



T TANK 20L RIF. 4890

Always indicate code and quantity for each part required.

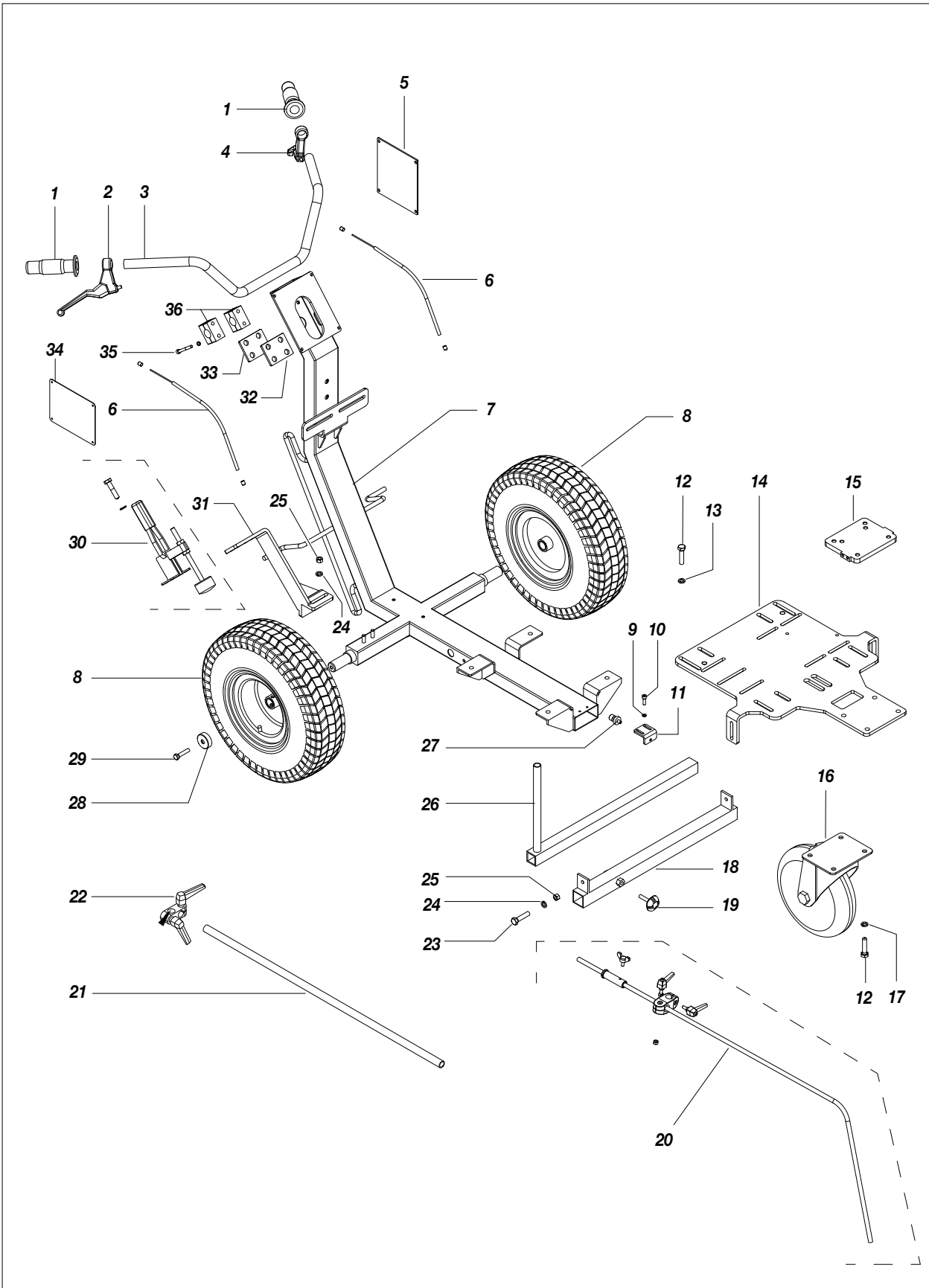


Pos.	Code	Description	Pos.	Code	Description
1	4111	Complete cover	7	4064	Tank
2	4314	Screw	8	4274	Belt
3	52017	Nut	9	69014	Screw
4	4308	Ring	10	4250	Base
5	4309	Rubber	11	4834	Complete suction+delivery system
6	4109	Cover			



U COMPLETE FRAME 4874

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



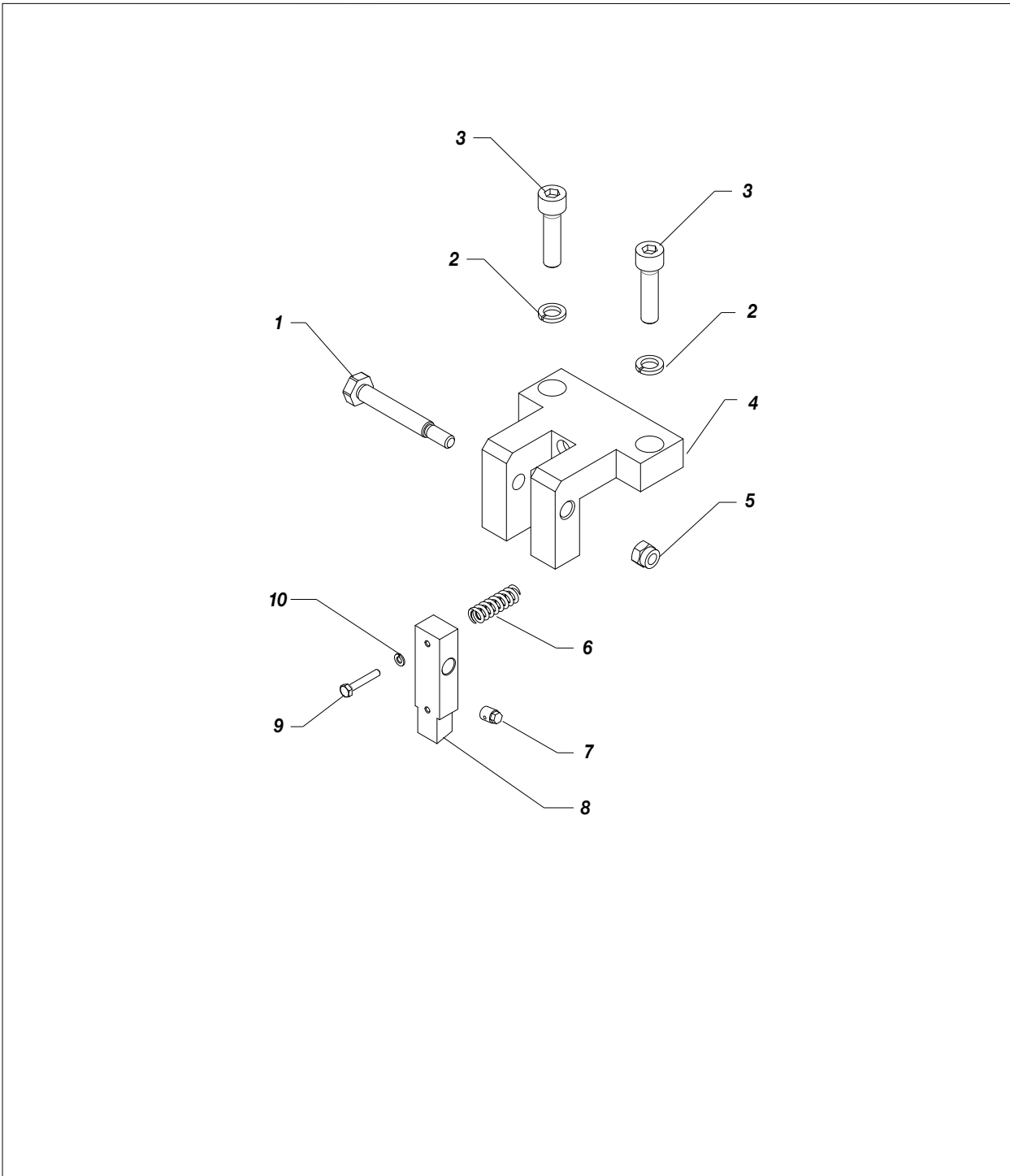


Pos.	Code	Description	Pos.	Code	Description
1	4256	Handle	20	26020	Pointer unit
2	4464	Right lever	21	4450	Rod
3	4865	Handlebar	22	4869	Block
4	4463	Left lever	23	8385 +	Screw
5	4923	Cover		3204/1	Washer
6	4873	Complete cable	24	34009	Washer
7	4864	Frame	25	3637	Nut
8	4461	Wheel	26	4429	Gun support
9	32028	Washer	27	4265	Wire stopper
10	32039	Screw	28	4492 +	Washers
11	4870	Plating		96030	
12	4409	Screw	29	8371	Screw
13	81033 +	Washers	30	4868	Complete brake
	95096		31	4867	Brake support
14	4871	Plate	32	4824	Plate
15	4872	Plate	33	4825	Plate
16	4260	Pivoting wheel	34	8079	Technical data label
17	95096	Washer	35	7043 +	Screw
18	4429/1	Telescopic unit		32005	Washer
19	4490	Block	36	4866	Block



V COMPLETE STEERING UNIT RIF. 4876

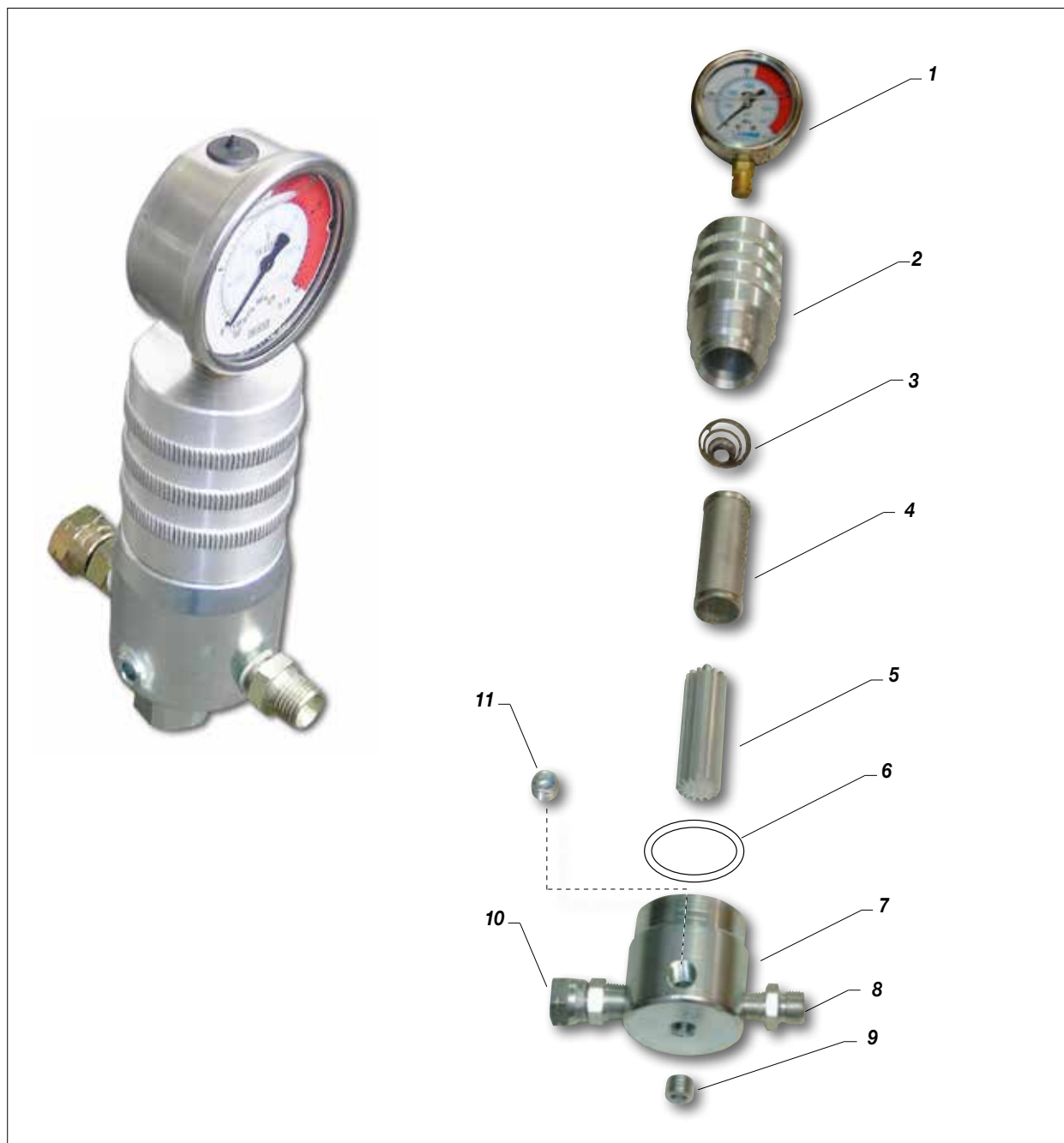
WARNING: Always indicate code and quantity for each part required.



Pos.	Code	Description	Pos.	Code	Description
1	4735	Screw	6	92038	Spring
2	4737	Washer	7	4253	Wire stopper
3	330058	Screw	8	4875	Threaded pin
4	4737	Base	9	4739	Screw
5	3637	Nut	10	5339	Washer

W FILTER GROUP REF. 16200

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



	Code			Pos.	Code	Description	Q.tà
1	33008	Manometer 0-400 bar	1	6	96203	Gasket	1
2	16201	Filter tank	1	7	96204	Filter Base	1
3	96020	Spring	1	8	96026	Union	1
4	16205	Standard sieve 60	1	9	96205	Dowel	1
	16204	Standard sieve 100	1	10	3279	Articulated joint 3/8" Gas con.	1
	16203	Standard sieve 200	1	11	96205	Dowel	1
5	16202	Sieve support	1				



Z ACCESSORIES

WARNING: Always indicate code and quantity for each part required



Art. 4038: LASER POINTER



PISTON GUNSTOCK FILTERS

Art. 11039: Green (30M) - **Art. 11038:** White (60M)

Art. 11037: Yellow (100M) - **Art. 11019:** Red (200M)



Art. 217560: MX 1000 E



**KIT 40325: L91X +
FAST-CLEAN REVERSIBLE TIP INCLUDED
HOSE 3/8 x 15 mt. - M16x1,5**



Art. 16205: FILTER 60 MESH
Art. 16204: FILTER 100 MESH
Art. 16203: FILTER 200 MESH



**Art. 0147:
MANOMETER**



**Art. 16685:
SUCTION DISPERSION
SYSTEM**



HIGH PRESSURE PIPES
Ø 3/16 - 1/4 - 3/8



**Art. 16200:
COMPLETE LINE FILTER**



PLA 1/4" + BASE

SUPER FAST-CLEAN

Art. K11420-K11425-K11430:

cm 130-180-240

PLA M16x1,5 + BASE

SUPER FAST-CLEAN

Art. K11421-K11426-K11431:

cm 130-180-240



Art. 16780:

TELESCOPIC PAINT ROLLER

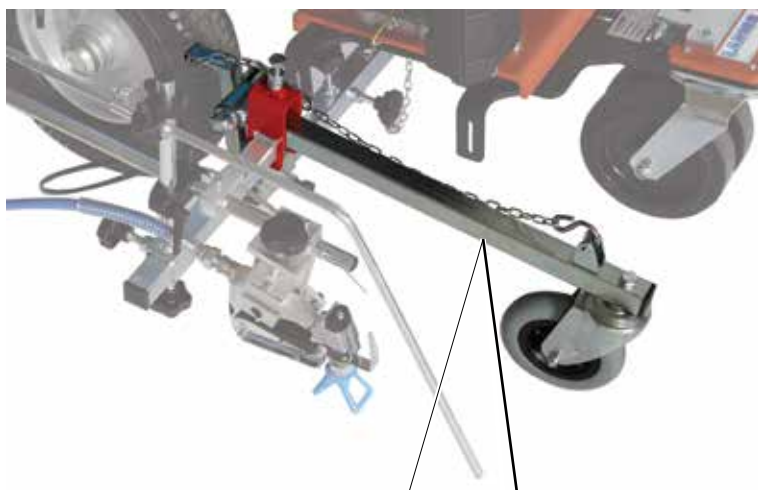
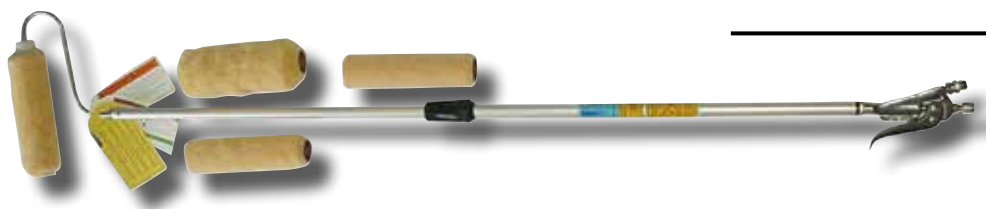
complete with:

n. 1 Roller with extra-long fiber

n. 1 Roller with long fiber

n. 1 Roller with medium fiber

Flexible hose mt. 2 3/16 " M16x1,5



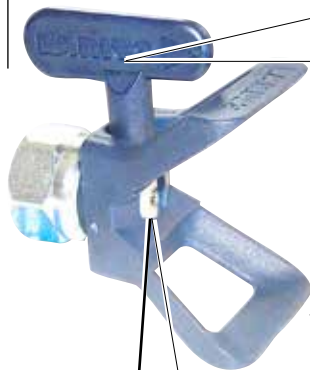
Art. 4840

Kit stabilizer arm with wheel





SUPER FAST-CLEAN



SUPER FAST-CLEAN TIP

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	



Art. 18280: GASKET



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



GUN EXTENSION

Art. 153: cm 30

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



GUN EXTENSION REVERSIBLE TIP INCLUDED

Art. 170: cm 30

Art. 171: cm 60 - Art. 172: cm 100



PLA 1/4"

+ FAST-CLEAN TIP INCLUDED

Art. 11420-11425-11430: cm 130-180-240

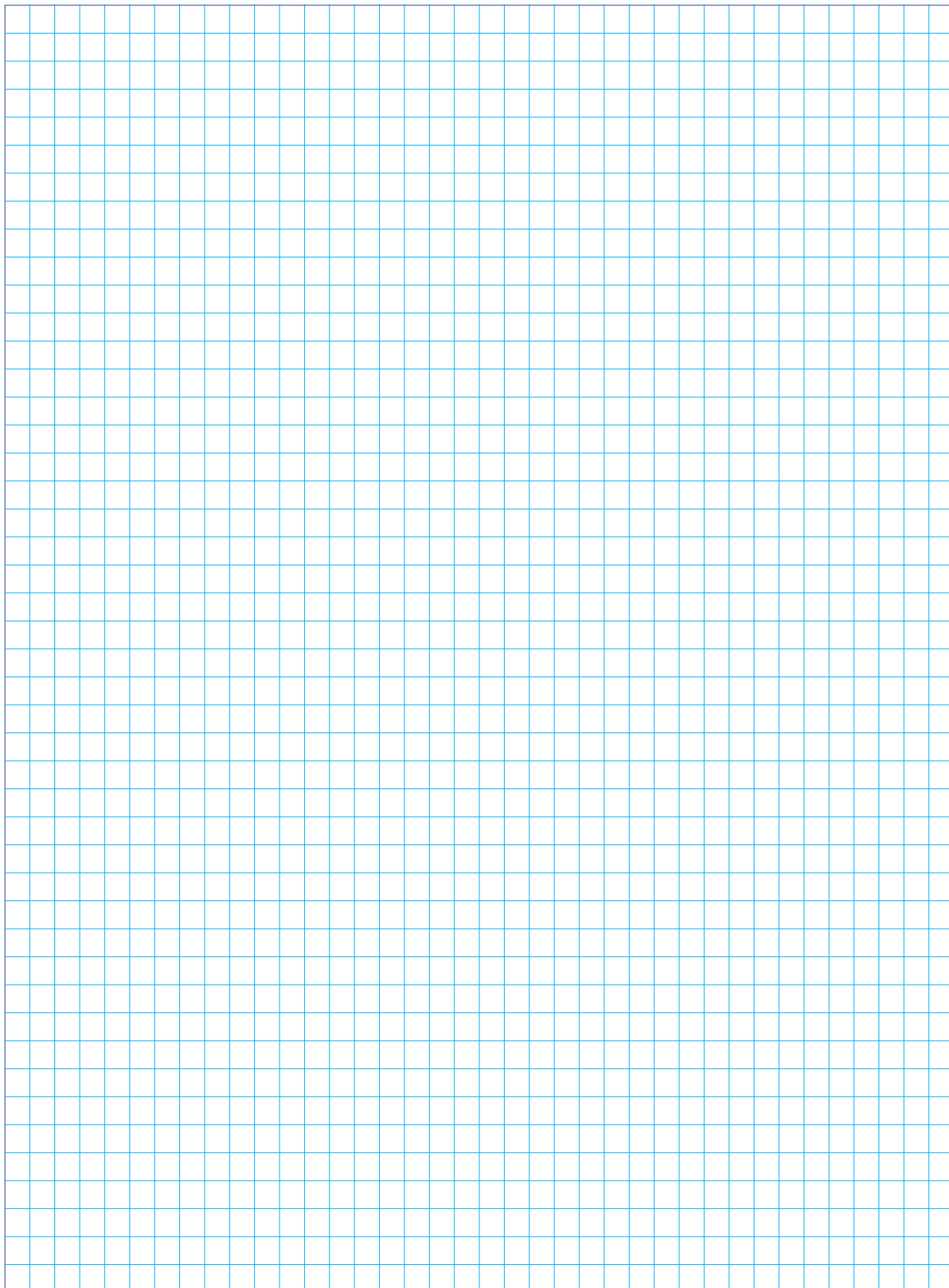
PLA M16x1,5

+ FAST-CLEAN TIP INCLUDED

Art. 11421-11426-11431: cm 130-180-240



*L'innovazione.
Quella vera.*



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23801 **CALOLZIOCORTE** - LECCO - ITALY - Via Antonio Stoppani, 21

TEL. (+39) 0341/62.11.52 - Fax (+39) 0341/62.12.43

E-mail: larius@larius.com - Internet <http://www.larius.eu>