LARIUS®

SAMOA Group

www.larius.com

ED. 14 - 09/2020

Manuale Cod. 150136

OPERATING AND MAINTENANCE MANUAL

DALÌ LINER PLUS

Horizontal street marking

EN

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Larius the ideal choice for achieving professional performance.

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 beats 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.

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

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

DALÌ LINER PLUS

Horizontal street marking

INDEX

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.

A 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.

- 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.

- It indicates an accident risk or serious damage to equipment if this warning is not followed.

FIRE AND EXPLOSION HAZARD
- Solvent and paint fumes in work area can ignite or explode.
- **To help prevent fire and explosion:**
  - Use equipment ONLY in well ventilated area.
  - Eliminate all ignition sources, such as pilot lights, cigarettes and plastic drop cloths (potential static arc).
  - Ground equipment and conductive objects.
  - Use only grounded hoses.
  - Do not use trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminium equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.
  - Do not form connections or switch light switches on or off if the air contains inflammable fumes.
- If electrical shocks or discharges are encountered the operation being carried out using the equipment **must be stopped immediately**.
- Keep a fire extinguisher at hand in the immediate vicinity of the work area.

- 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.

- Report any risk of chemical reaction or explosion if this warning has not been given.
- (IF PROVIDED) There is a risk of injury or serious lesion related to contact with the jet from the spray gun. If this should occur, IMMEDIATELY contact a doctor, indicating the type of product injected.
- (IF PROVIDED) Do not spray before the guard has been placed over the nozzle and the trigger on the spray gun.
- (IF PROVIDED) Do not put your fingers in the spray gun nozzle.
- Once work has been completed, before carrying out any maintenance, complete the decompression procedure.

- It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.

- Mark any clamps attached to earth cables.
- Use ONLY 3-wire extension cords and grounded electrical outlets.
- Before starting work make sure that the electrical system is grounded and that it complies with safety standards.
- High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin.
- **To help prevent injection, always:**
  - (IF PROVIDED) Engage trigger lock when not spraying.
  - (IF PROVIDED) Do not put your hand over the spray tip. Do not stop or deflect leaks with your hand, body or other.
  - (IF PROVIDED) Do not point gun at anyone or at any part of the body.
  - (IF PROVIDED) Never spray without tip guard.
  - Do pressure relief if you stop spraying or being servicing sprayer and before any maintenance operations.
  - Do not use components rated less than sprayer Maximum Working Pressure.
  - Never allow children to use this unit
  - (IF PROVIDED) Brace yourself; gun may recoil when triggered.

If high pressure fluid pierces your skin, the injury might look like "just a cut", but it is a serious wound!
Get immediate medical attention.

- 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.

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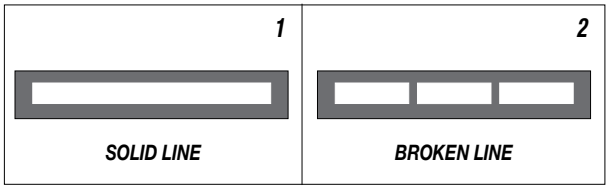
B WORKING PRINCIPLE

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 Rpms;
- 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.

Fig. 1B

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.

Fig. 2B

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.

C 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
Altezza	(B) 1100 mm
Width	(C) 900 mm
Vibrations	$L_{EQ(8H)}$=1.8 m/s^2

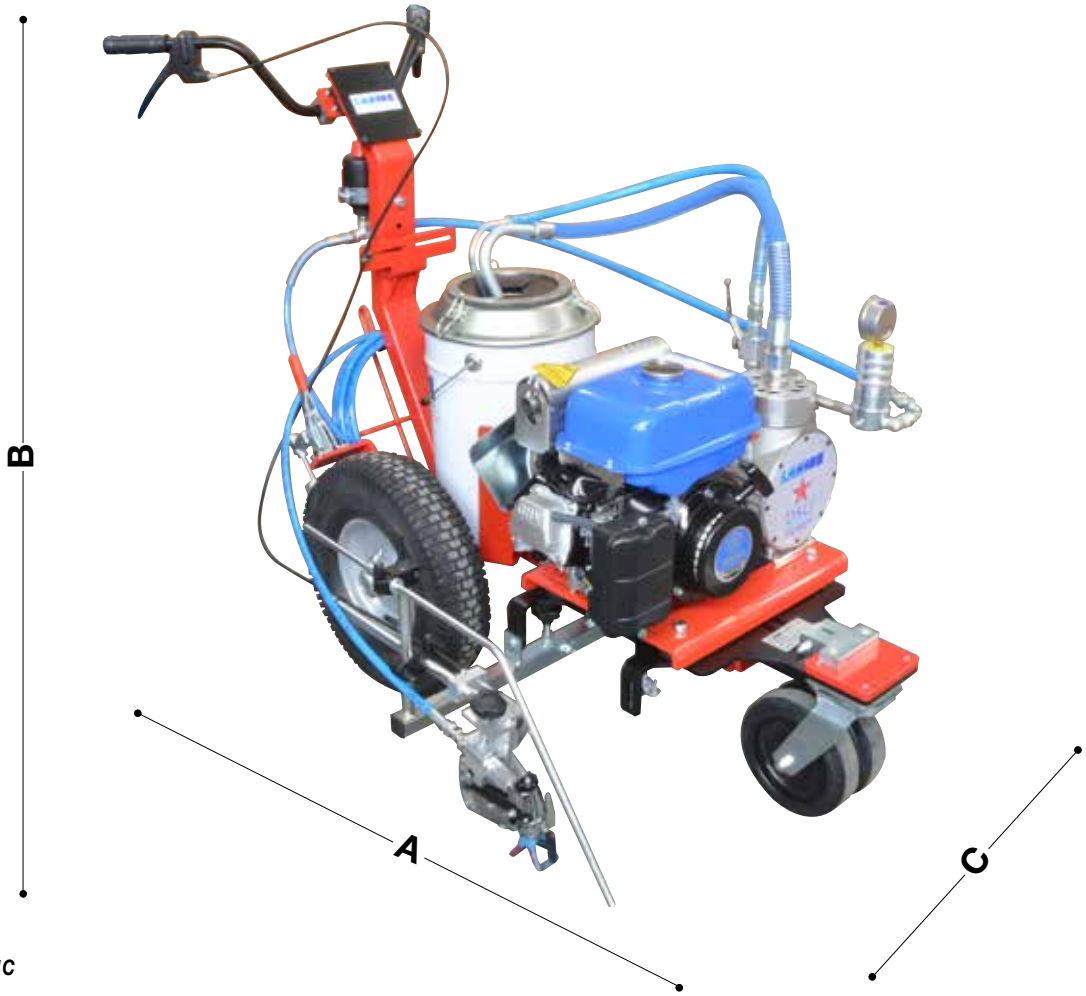


Fig. 1C

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Standard equipment	Accessories	Models
N°1 Filter with pressure gauge	**Ref. 18359**	**Ref. 18382**
N°1 High pressure tube 3/16", 10 m	Manual gun beads dispenser	Dalì Liner Plus 50 lt.
N°1 Recirculation tube		
N°1 50 Lt gravity tank + closure valve and extractible filteri		**Ref. 18383**
N°1 Manual airless spray-gun AT250	**Ref. 4038**	Dalì Liner Plus 20 lt.
N°1 Super fast clean base	Laser pointer kit	
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)		

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

D DESCRIPTION OF THE EQUIPMENT

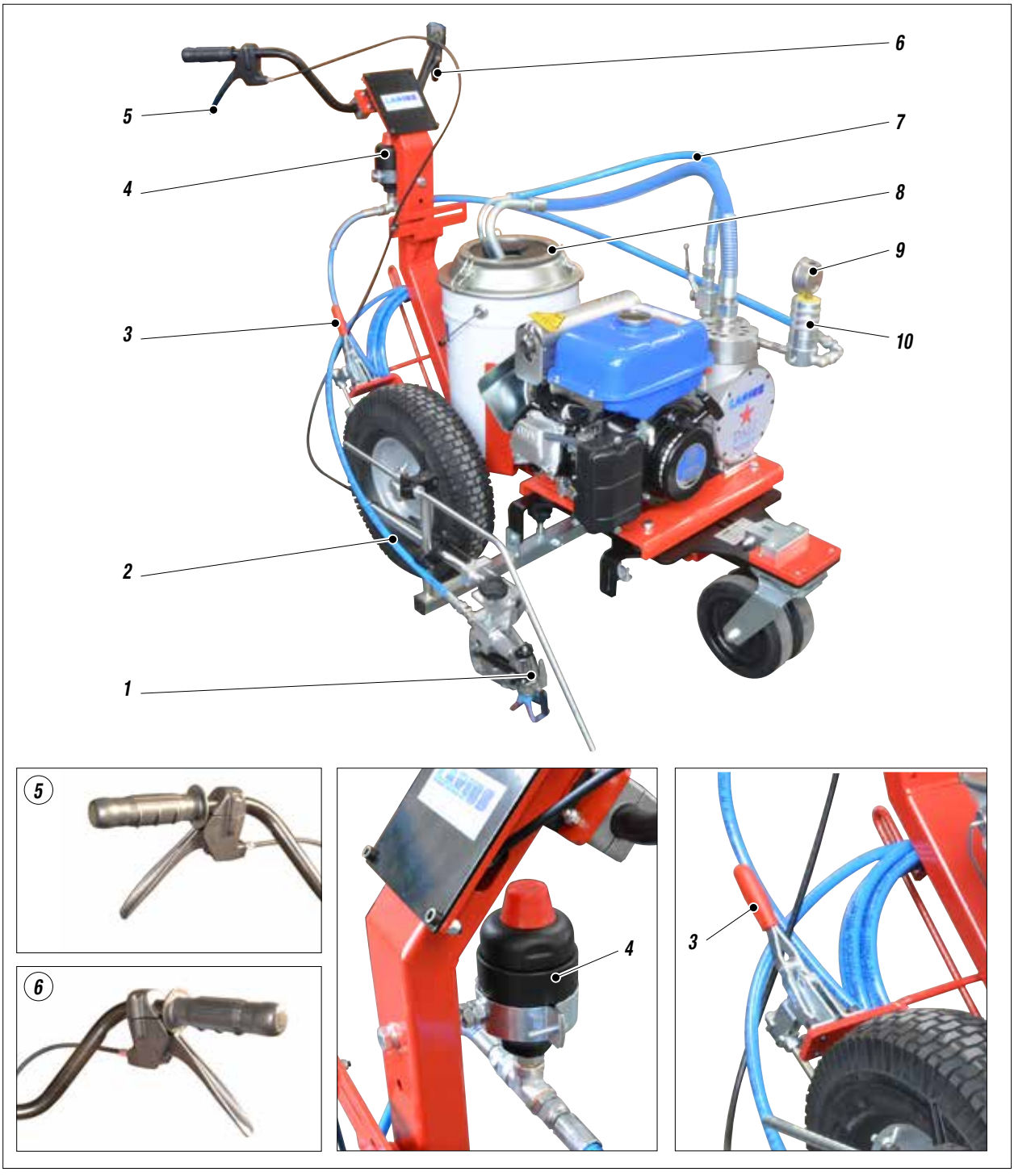

Fig. 1D

Pos.	Description
1	AT 250 gun
2	Spraying gun feeding tube
3	Lock brake safety
4	Flow compensator
5	Lever gun

Pos.	Description
6	Lever lock/unlock wheel direction
7	Recirculation tube
8	Tank
9	Manometer high pressure
10	Filter

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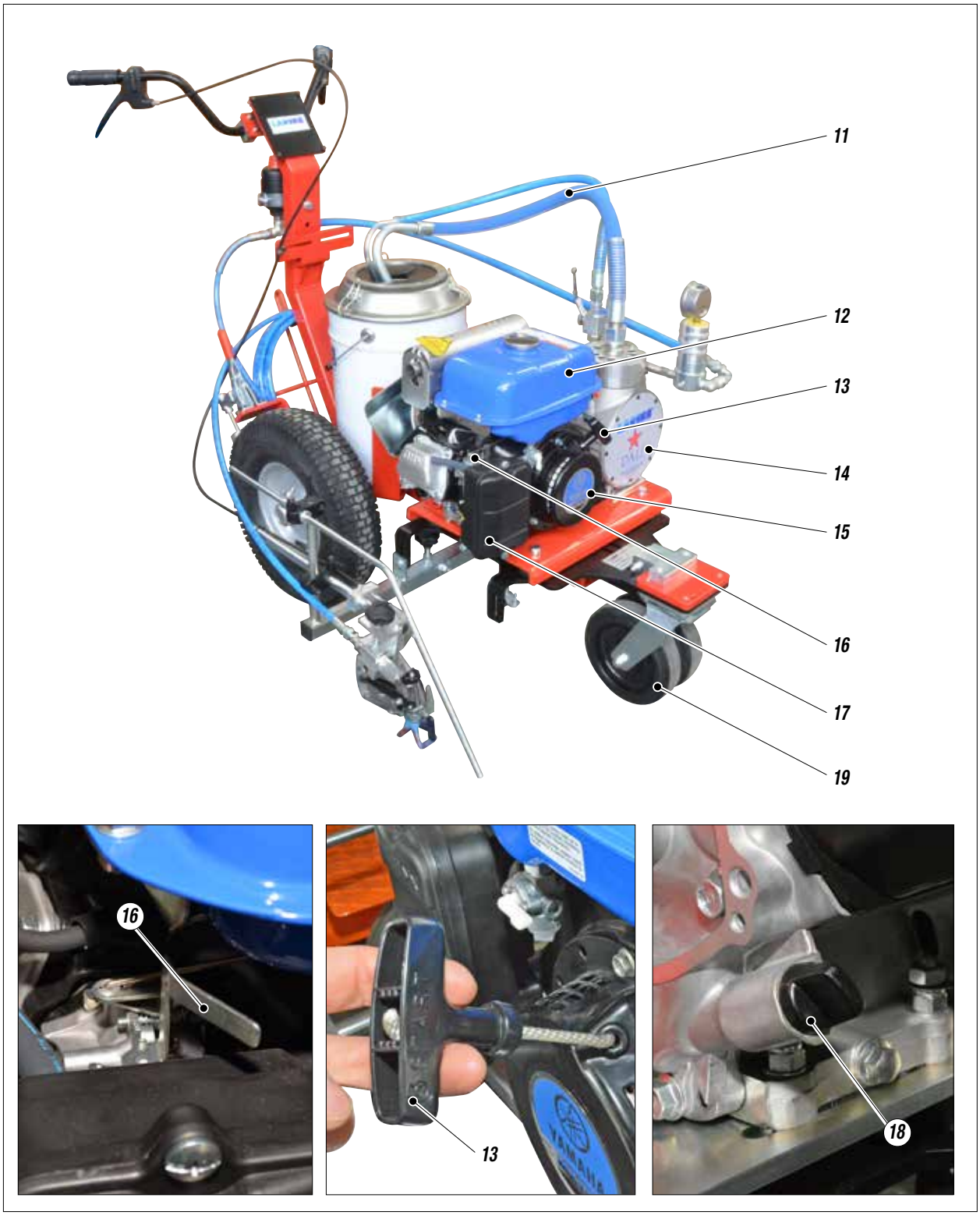

Fig. 2D

Pos.	Description
11	Product feeding tube
12	Petrol tank
13	Rope starter motor
14	Pumping group
15	Combustion engine

Pos.	Description
16	Air cold starting
17	Air filter
18	Oil level cap combustion engine
19	Rotating wheel

Fig. 3D

Pos.	Description
20	Fuel tap OPEN/CLOSE
21	Spraying gun feeding tube
22	Oil level light hydraulic body
23	Belt tensioning screw
24	ON - OFF switch combustion engine

Pos.	Description
25	Accelerator lever
26	Cooling fan
27	Transmission belt pumping group
28	Driving pulley
29	Free pulley

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E 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.

F 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.

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

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.

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.

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.

Engine safety precautions:
- **Read the engine operator's manual annex.**

Never attempt to tamper with the calibre of instruments.

H SETTING-UP

TUBE CONNECTIONS

Flexible re-circulation tube connection

- Connect the flexible re-circulation tube (**H1**) to the connector (**H2**) ensuring to tighten the fittings (*the use of two wrenches is suggested*).

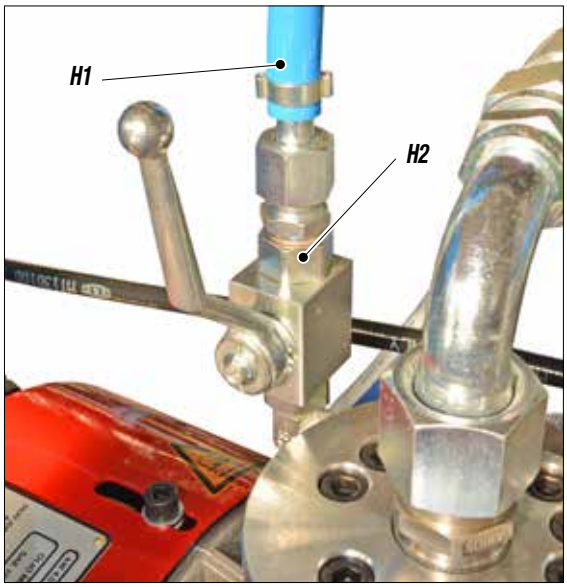

Fig. 1H

Pump unit flexible tube connection

- Connect the product suction flexible tube (**H3**) to the connector (**H4**) ensuring to tighten the fittings *(the use of two wrenches is suggested*).

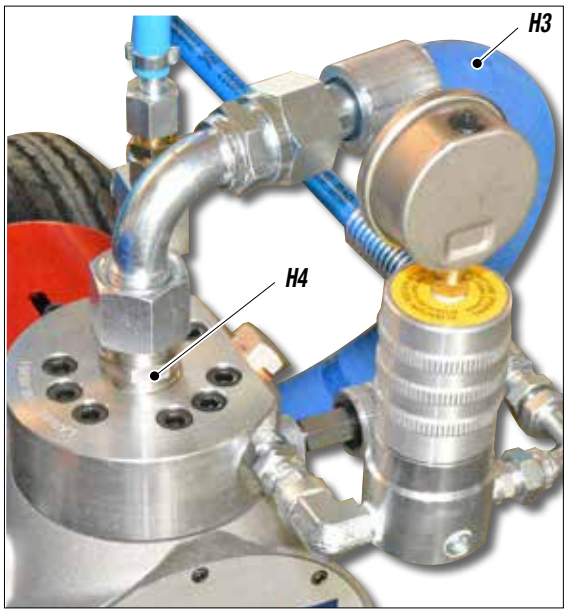

Fig. 2H

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CONNECTION OF THE GUN

- Connect the high pressure flexible hose (**H5**) to the fitting (**H6**) and the gun (**H7**) 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.

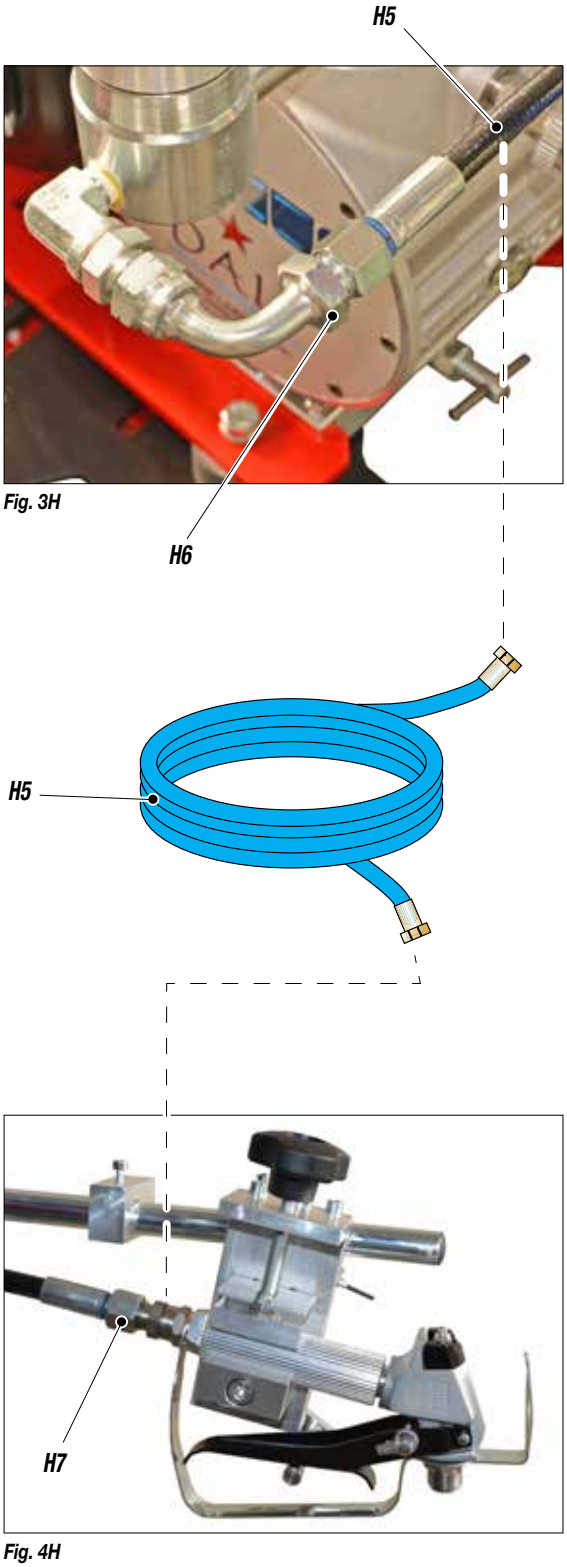

Fig. 3H

Fig. 4H

STARTING THE COMBUSTION ENGINE

To switch the internal combustion engine proceed as follows:

- Fill the fuel tank (**H8**).

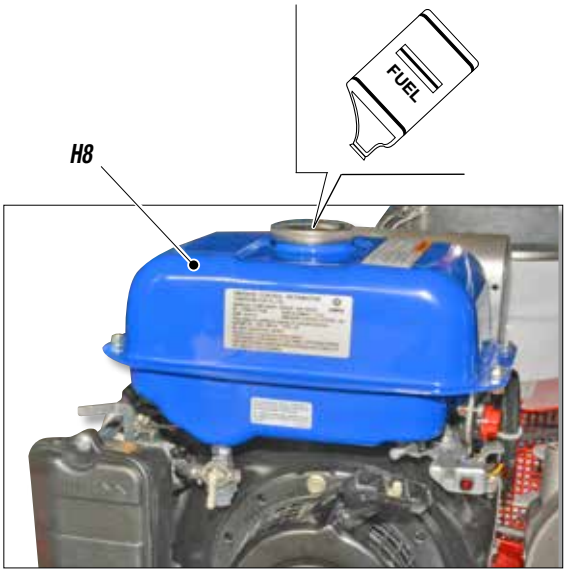

Fig. 5H

- Open the fuel tap (**H9**) and position it to ***"ON" (I)***.

Fig. 6H

- Pull lever (**H10**) for first start-up cold (*position it to "I"*).

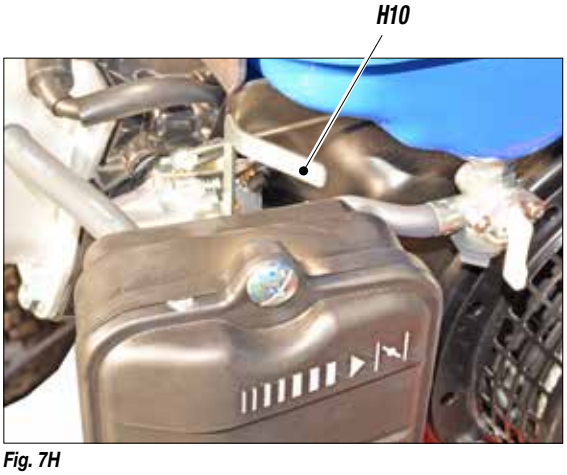

Fig. 7H

- Turn the equipment's switch (**H11**) to ***ON (I).***

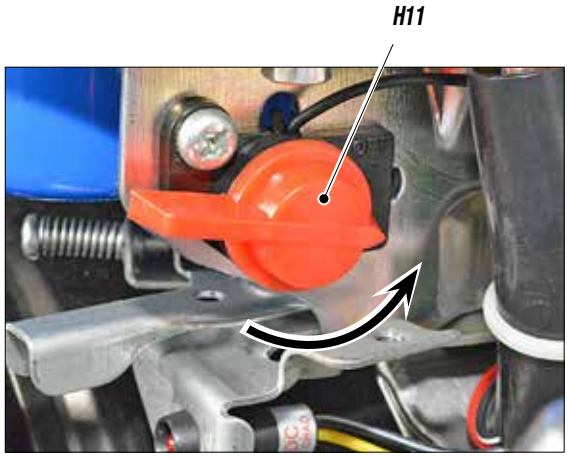

Fig. 8H

- Bring the accelerator lever (**H12**) to about 1/2 of its run.

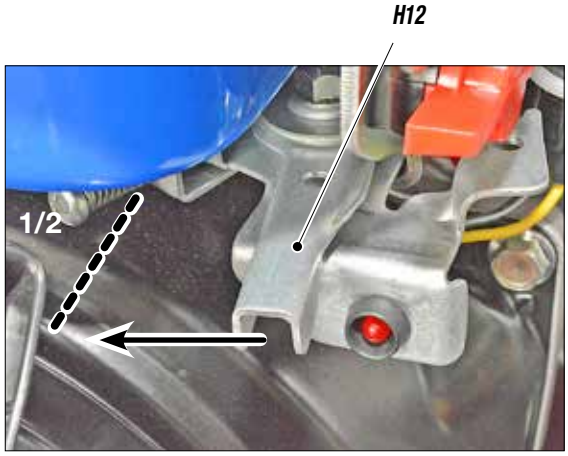

Fig. 9H

- Pull the rope to start (**H13**).

Fig. 10H

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.

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

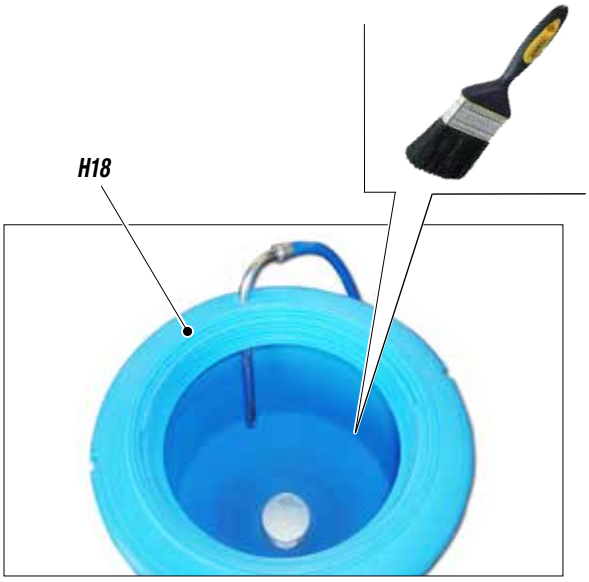

Fig. 11H

- Ensure the gun (**H14**) is without nozzle.

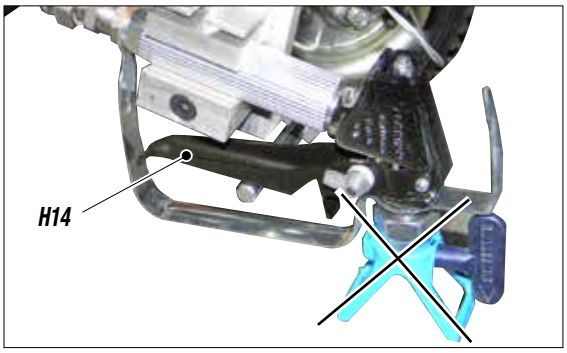

Fig. 12H

- Open the product output tap (**H15**).

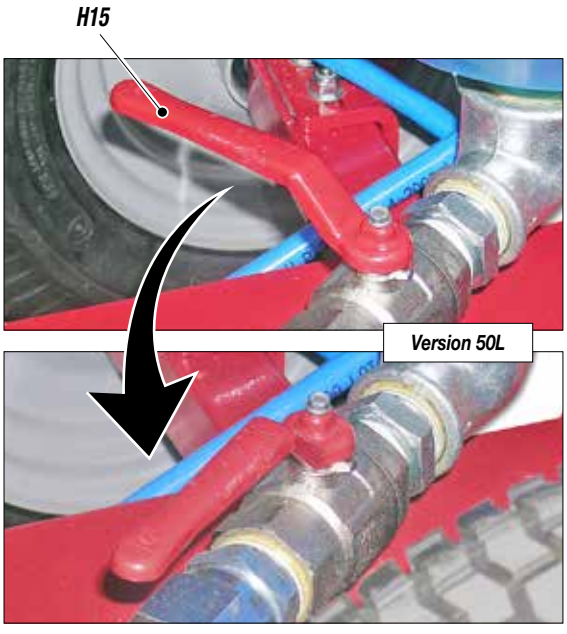

Fig. 13H

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- Open the recirculating-safety valve (**H16**).

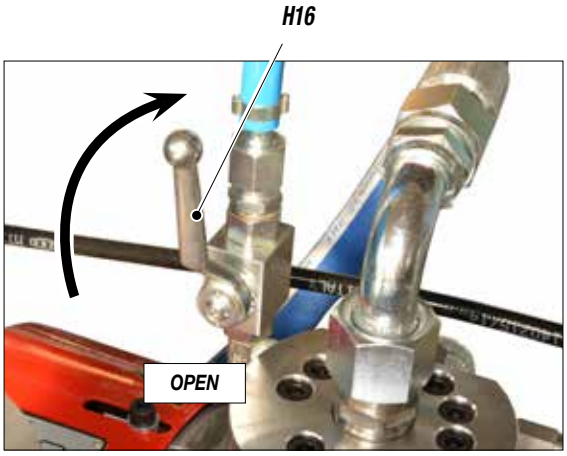

Fig. 14H

- Start the combustion engine following the indications provided in the chapter "**STARTING COMBUSTION ENGINE**".
- Rotate the pressure setting knob (**H17**) slightly clockwise so that the machine operates at minimum power.

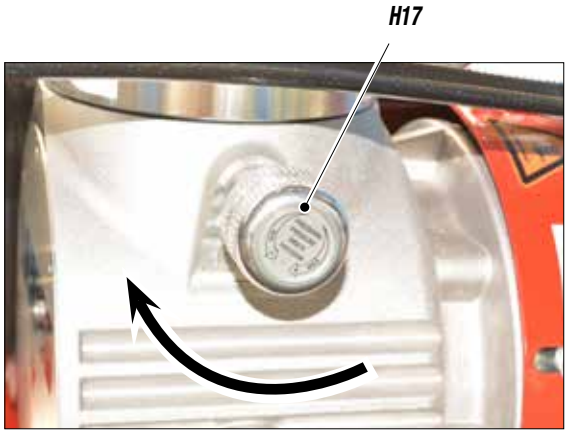

Fig. 15H

- Visually check that the wash fluid starts to re-circulate within the tank (**H18**).

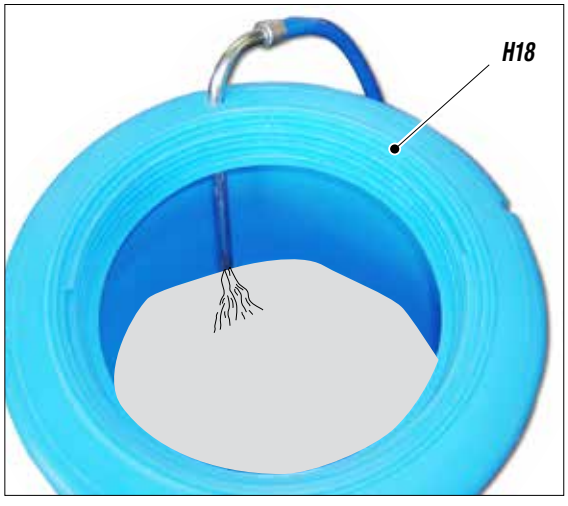

Fig. 16H

- Once the wash fluid has circulating enough, close the recirculating-safety valve (**H16**).

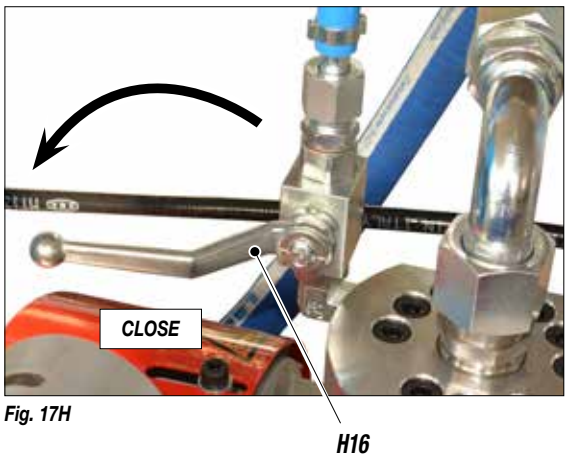

Fig. 17H

- Remove the gun (H14) from its support and point it into a container (H19). 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.

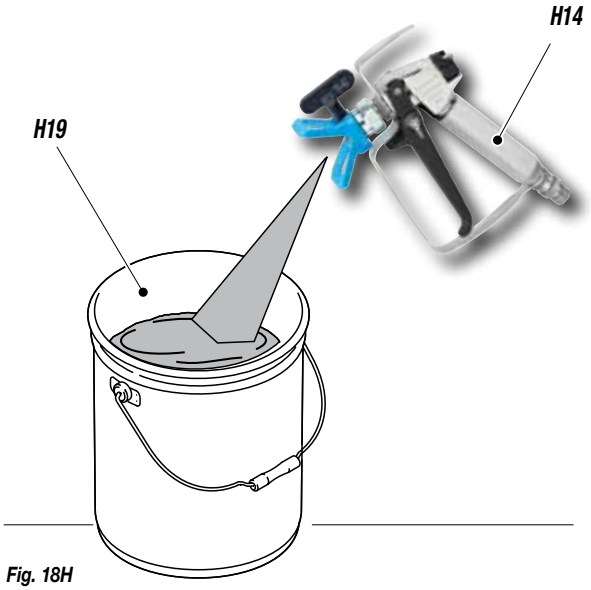

Fig. 18H

Repeat the same operations with clean solvent if necessary.

- After having completed the wash operations, bring the handle to its MIN position (**H17**) and point the gun (**H14**) into a collection container (**H19**) 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 (**H20**) with the paint.

Fig. 19H

I REGULATIONS

ADJUSTING THE GUN POSITION

In order to adjust the position of the spray gun (**I1**) use the knobs (**I2-I3**).

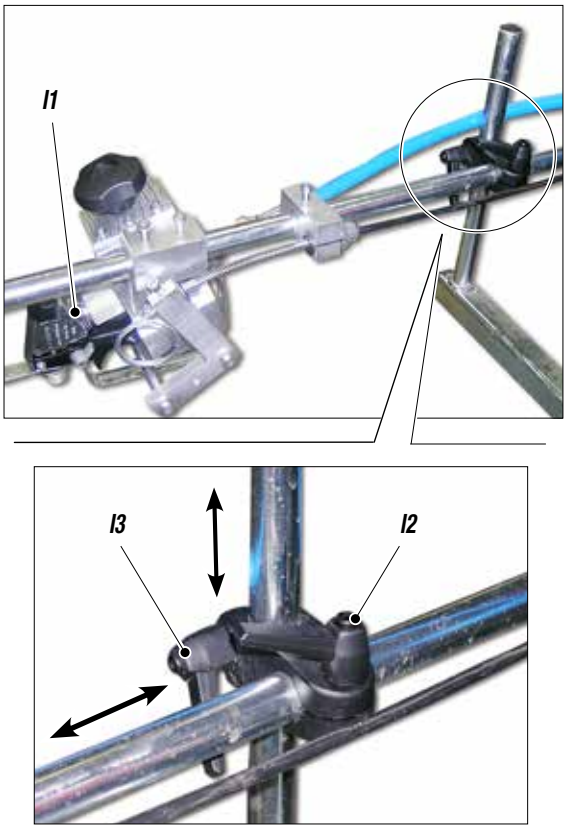

Fig. 1I

ADJUSTING THE GUN SUPPORT ARM

In order to adjust the position of the spray gun (**I4**) use the knobs (**I5**).

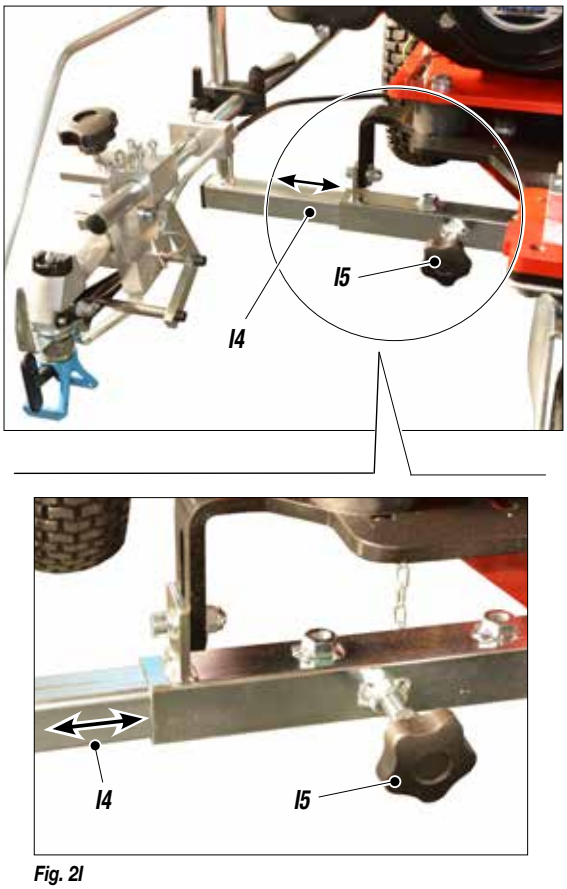

Fig. 2I

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ADJUSTING BELT TENSION

To adjust the belt tension (**I6**) you need to follow the following procedure:

- Unscrew the 4 screws (**I7**).
- Unscrew the locknut (**I8**).
- Turn the screw (**I9**) to make the adjustment.

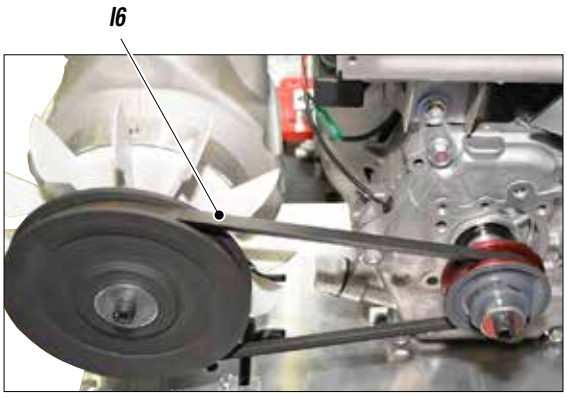

Fig. 3I

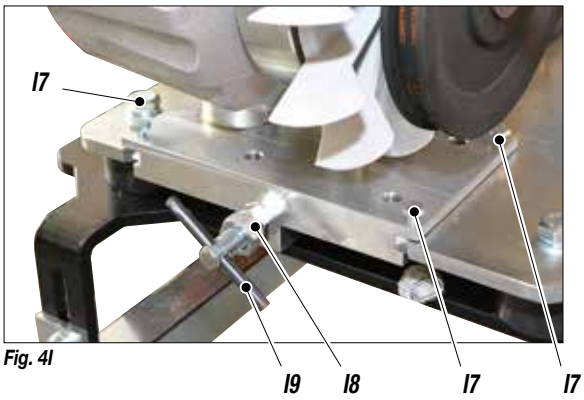

Fig. 4I

J 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 (**J1**).

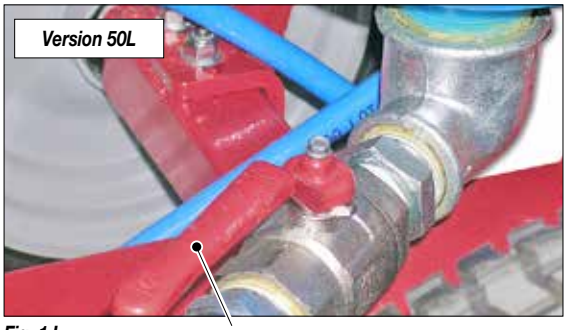

Fig. 1J

- Turn the equipment knob (**J2**) on **ON (I)**.

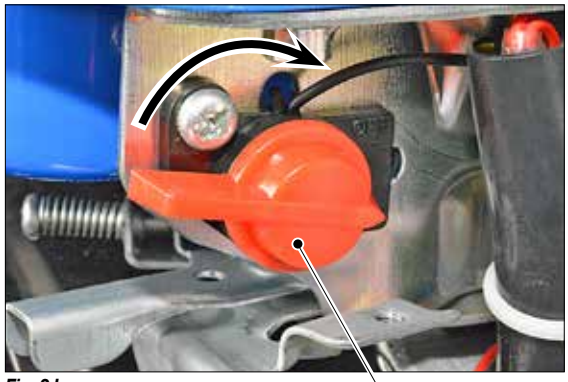

Fig. 2J

- Start the combustion engine following the indications provided in the chapter "**STARTING COMBUSTION ENGINE**".
- Make sure that the re-circulation/safety valve (**J3**) is closed (*spray enabled*).

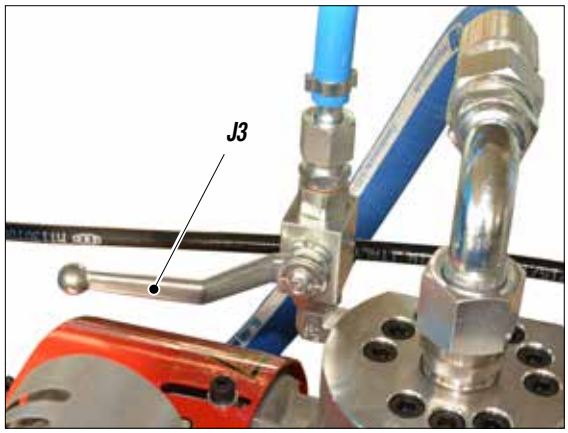

Fig. 3J

- Turn the pressure (**J4**) adjustment handle clockwise until the desired setting has been reached.

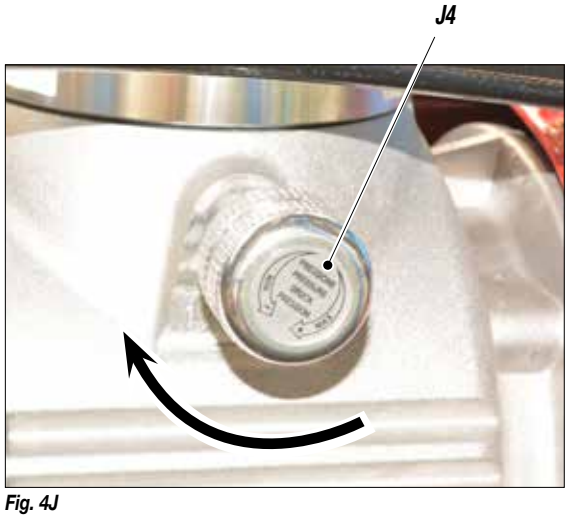

Fig. 4J

ADJUSTING PUMP UNIT SPEED

- Move the motor acceleration lever (**J5**) 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 (**J5**) at about 3/4 of its maximum run.

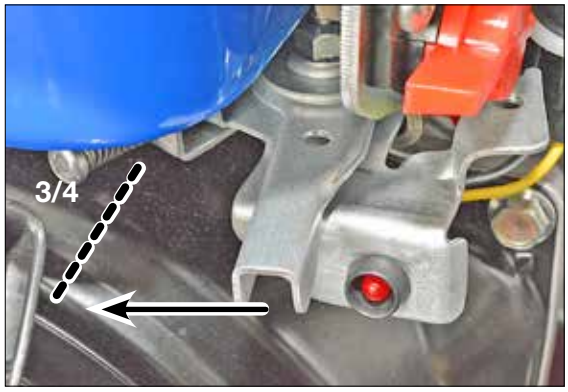

Fig. 5J

K PAINTING OPERATIONES

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

- Turn the pressure adjustment handle (**K1**) clockwise to allow the line-painting gun to dispense paint when the appropriate lever is activated.

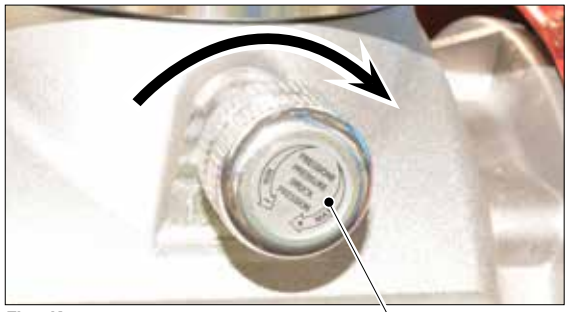

Fig. 1K

- 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 (**K2**) to activate the spray gun and begin working, advancing the machine in a continuous manner.

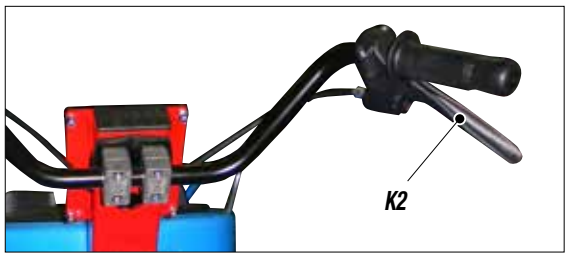

Fig. 2K

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 (J2) valve opens automatically eliminating part of the product from the recirculating tube (J5).
Then it closes so as to go back to the first working conditions.

L CLEANING AT THE END OF WORK

- Reduce pressure to the minimum (*turn counterclockwise the pressure control knob (**L1**)*).

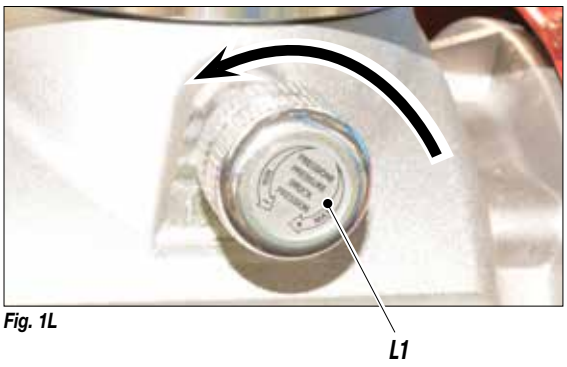

Fig. 1L

- 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 (**L2**) by placing the re-circulation tube (**L3**) into a container.
- Open the recirculating-safety valve (**L4**).

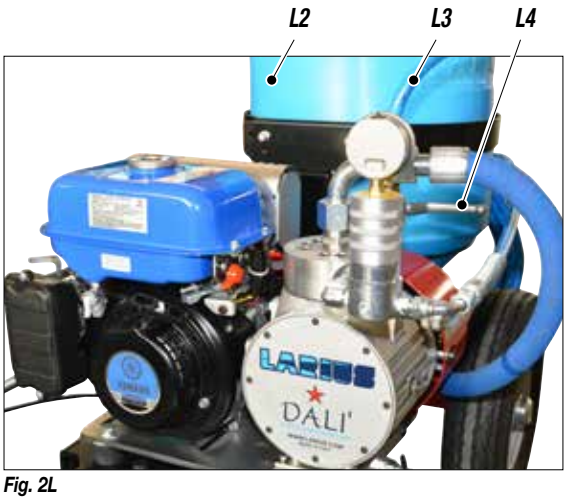

Fig. 2L

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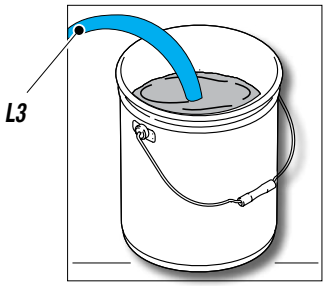

Fig. 3L

- Turn the pressure adjustment (**L1**) 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 (**L1**) to its minimum position.
- Fill the tank (**L2**) with wash fluid.
- Clean the walls of the tank with a brush.
- Turn the pressure adjustment (**L1**) handle slightly clockwise to make the machine function at minimum pressure (pump activated).
- Make sure the re-circulation tube (**L3**) is inserted into a container and wait for clean wash fluid to come out of it.
- Turn the pressure adjustment handle (**L1**) 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 (**L1**) slightly clockwise to make the machine function at minimum pressure (pump activated).
- Point the manual gun (**L5**) into a container (**L6**), drain the residual paint and wait for the wash fluid to come out clean the entire spraying circuit.

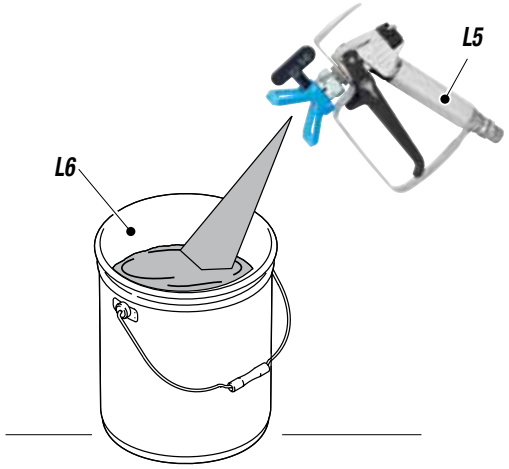

Fig. 4L

- Empty all of the wash fluid from the tank and turn off the equipment.
- Turn the pressure adjustment handle (**L1**) 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.

M 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.

N 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.

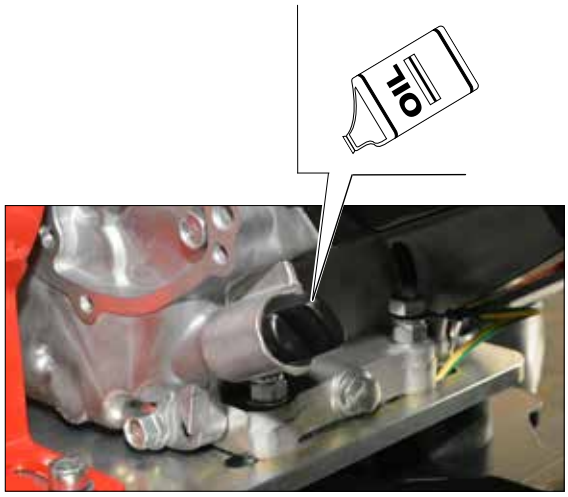

Fig. 1N

TOP UP HYDRAULIC OIL

With each start up, check the hydraulic oil level by looking through the gauge (**N1**) on the side of the; If necessary, use to top up the level:

AGIP DICREA 150 type hidraulic oil

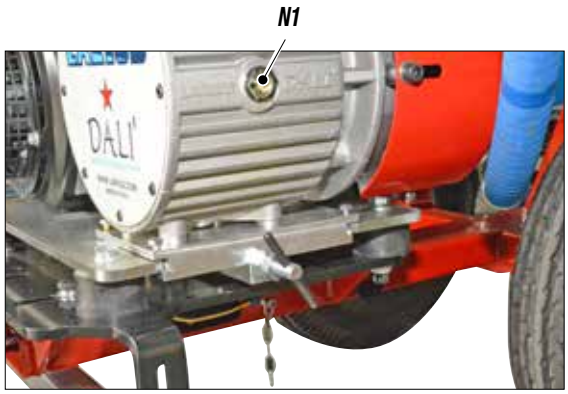

Fig. 2N

REPLACING HYDRAULIC OIL

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

- Discharge the waste oil through the plug (N4) fitted at the bottom of the pump casing.
- Clean the seals on the cap and replace it if worn.
- Clean the filter (**N6**).
- Clean and, if necessary, replace the worn seals (**N6**).
- Fill the pump with the recommended oil until it reaches the maximum level the plug (**N5**).

AGIP DICREA 150 type hidraulic oil

- Then, substitute the oil every 250 hours.

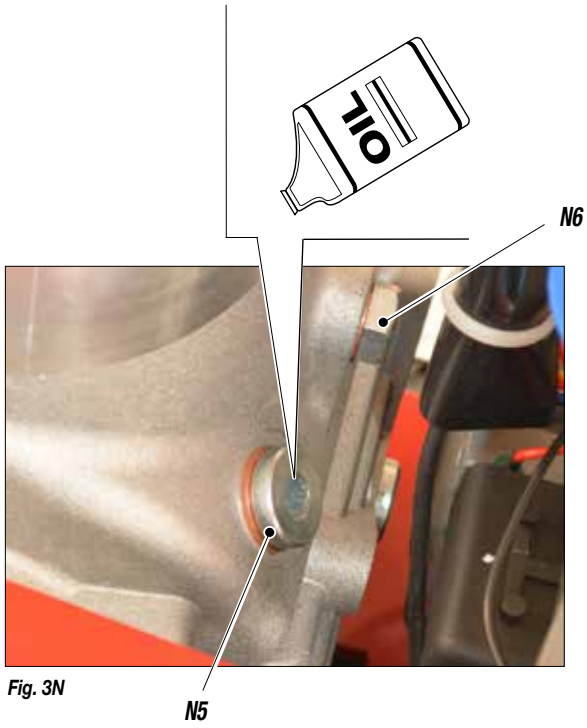

Fig. 3N

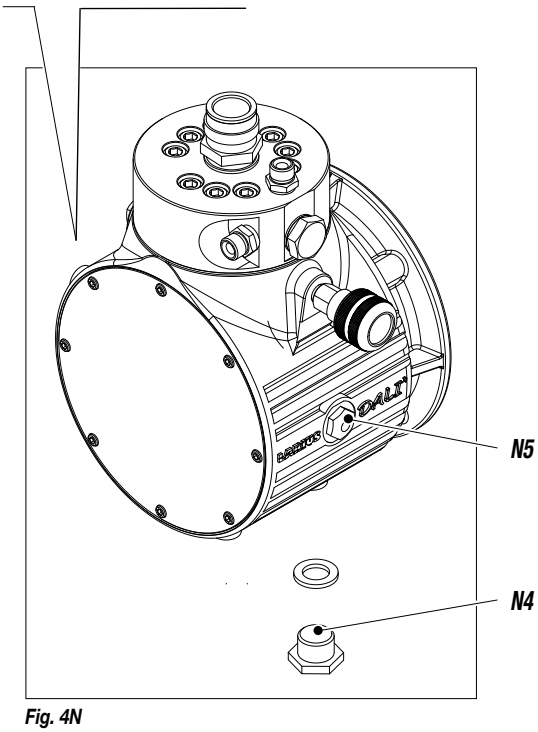

Fig. 4N

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O CORRECT PROCEDURE OF DECOMPRESSION

- Press the switch **(O1)** to "***OFF***" ***(0)*** to turn off the equipment.

Fig. 10

01

- Reduce the pressure to the minimum *(turn the pressure adjustment knob **(O2)** anticlockwise).*

Fig. 20

02

- Unlock the safety clamp (**O3**).

03

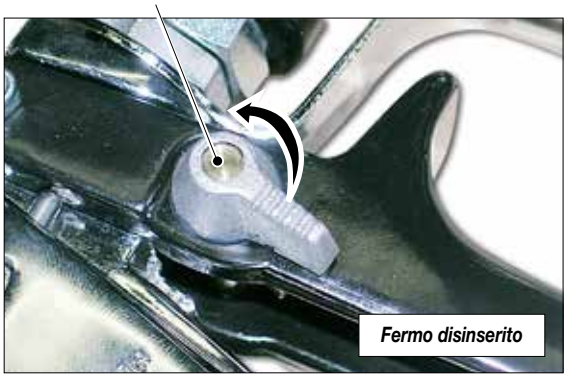

Fig. 30

- Point the gun (**O4**) at the receptacle (**O5**) used to collect the product and press the trigger to release the pressure. When completed, activate the safety catch again.

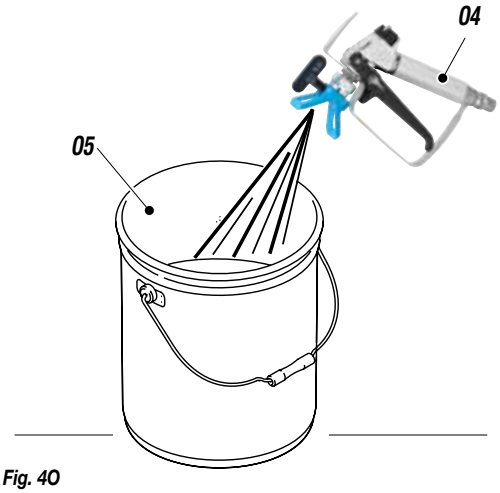

Fig. 40

- Open the recirculating-safety valve (**O6**) to release the remaining pressure.

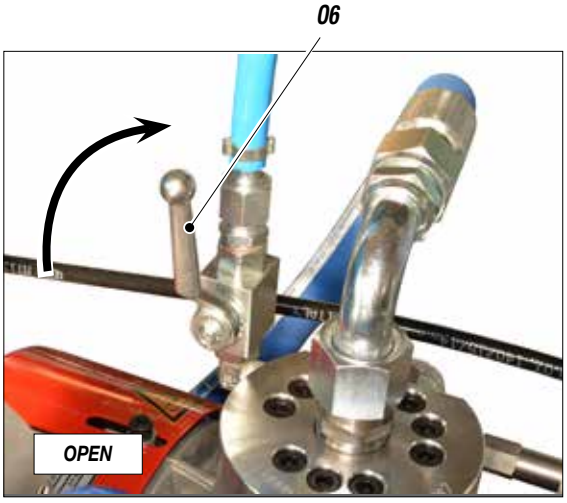

Fig. 50

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.**

P PROBLEMS AND SOLUTIONS

Problem	Cause	Solution
The equipment does not start	The petrol manifold is closed;	Open the petrol manifold;
	Engine is out of gas;	Refill gas tank;
	Cold engine;	Use choke;
	Setting valve faulty pressure;	Verify and replace it, if necessary;
	The product is solidified inside the pump;	Open the drain valve to release pressure in the circuit and stop the machine. Disassemble the pumping group and the pressure transmitter and clean;
	Spark plug cable is disconnected or damaged;	Connect spark plug cable or replace spark plug;
The equipment does not suck the product	Breakdown of pressure transmitter;	Verify and replace it, if necessary;
	The line of material coming out of the pump is already under pressure;	Open the drain valve to release pressure in the circuit;
	The product is solidified inside the pump;	Open the drain valve to release pressure in the circuit and stop the machine. Disassemble the pumping group and the pressure transmitter and clean;
	The equipment sucks air;	Check the suction pipe;
The equipment sucks but does not reach the pressure desired	Lack of product;	Add the product;
	The equipment sucks air;	Check the suction pipe;
	The drain valve is open;	Close the drain valve;
	Suction or delivery valve dirty;	Disassemble the colour group;
When pressing the trigger, the pressure lowers considerably	Nozzle too big or worn;	Replace it with a smaller one;
	The product is too dense;	Dilute the product, if possible;
	The filter of the gun-butt is too fine;	Replace it with a larger-mesh filter;
The pressure is normal but the product is not atomized.	The nozzle is partially clogged;	Clean or replace it;
	The product is too dense;	Dilute the product, if possible;
	The filter of the gun-butt is too fine;	Replace it with a larger-mesh filter;
The atomization is imperfect	The nozzle is worn;	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").*

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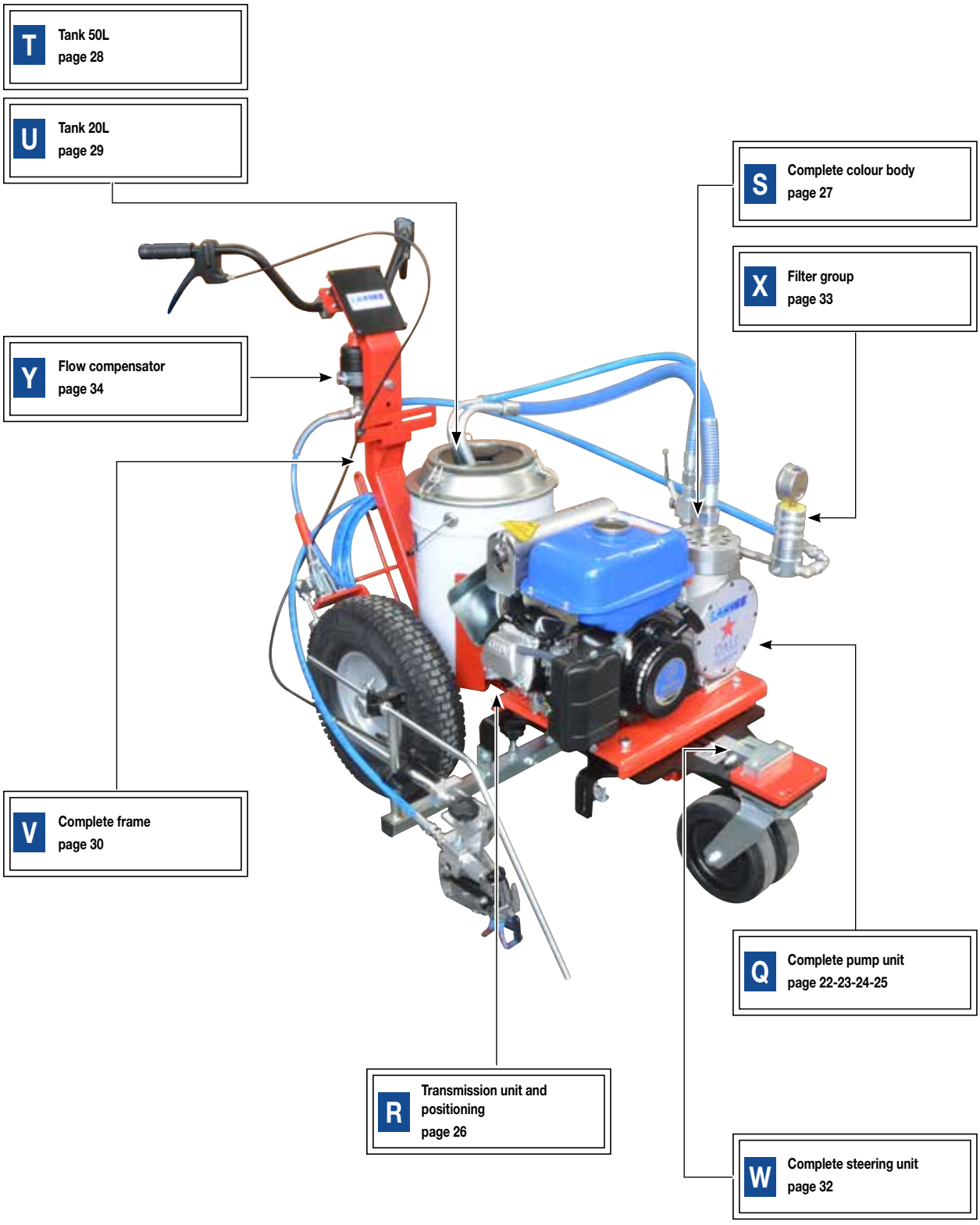
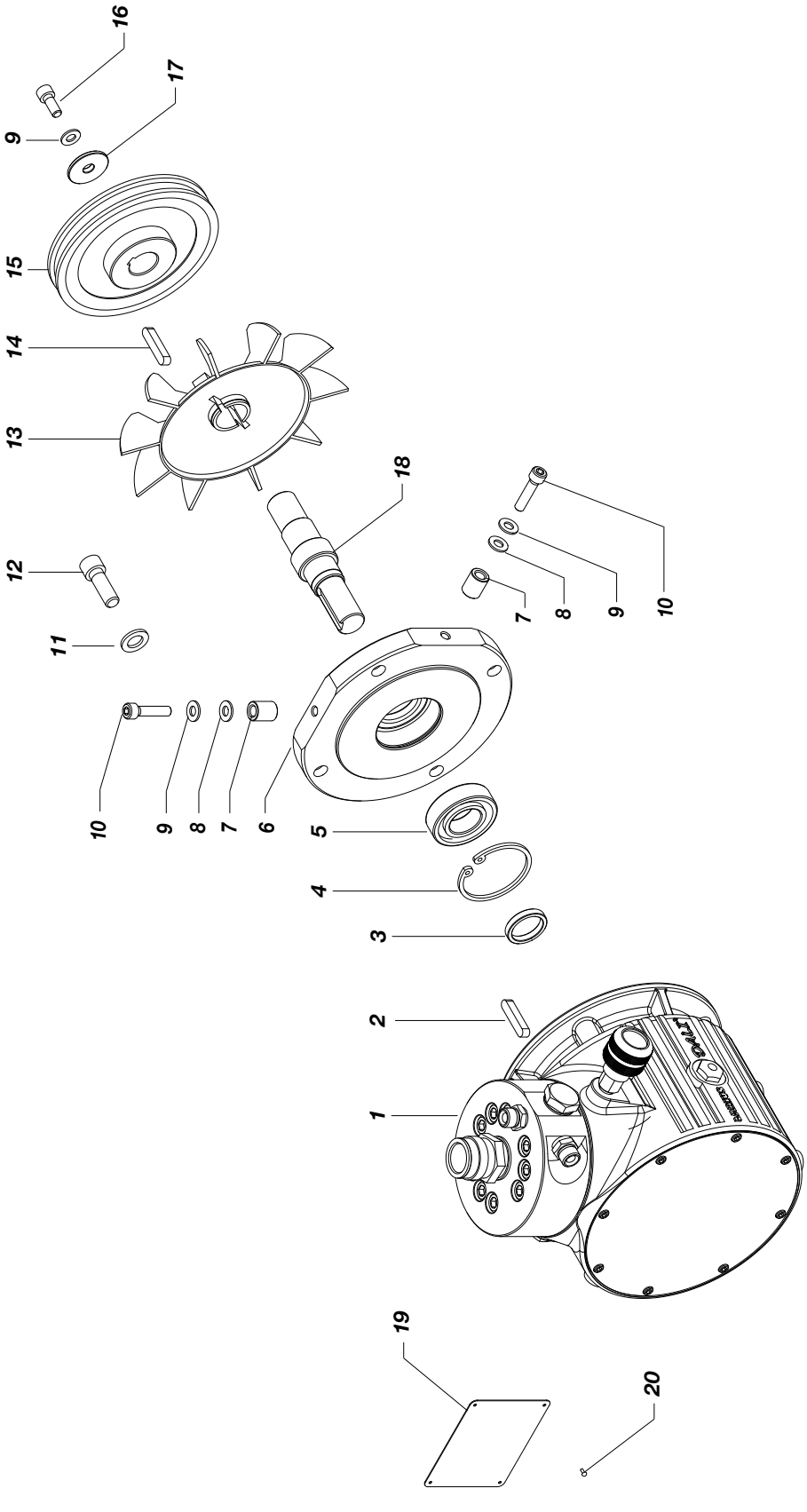
SPARE PARTS


T Tank 50L page 28
U Tank 20L page 29
S Complete colour body page 27
X Filter group page 33
Y Flow compensator page 34
V Complete frame page 30
Q Complete pump unit page 22-23-24-25
R Transmission unit and positioning page 26
W Complete steering unit page 32

Q COMPLETE PUMP UNIT REF. 18306

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



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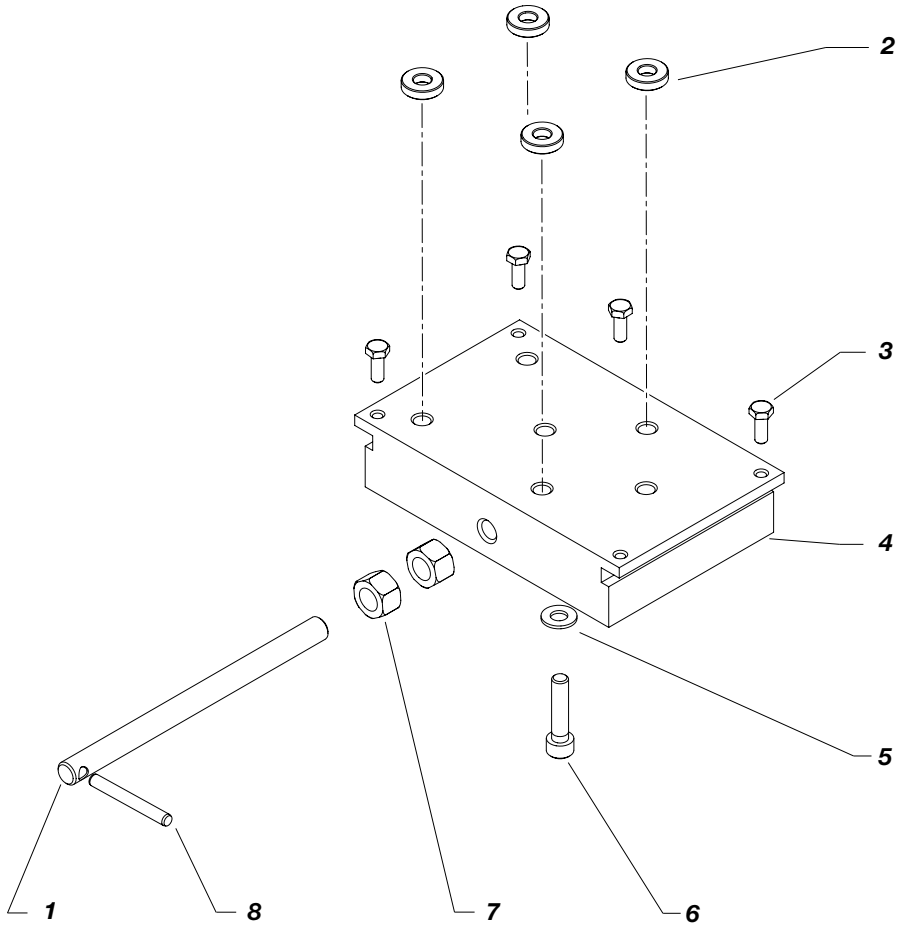
Pos.	Code	Description
1	18970	Complete hydraulic bpdy
2	18919	Tab
3	18321	Spacer
4	18341	Ring
5	42255	Bearing
6	18314	Flange
7	18324	Spacer
8	32024	Washer
9	34009	Screw
10	81032	Screw

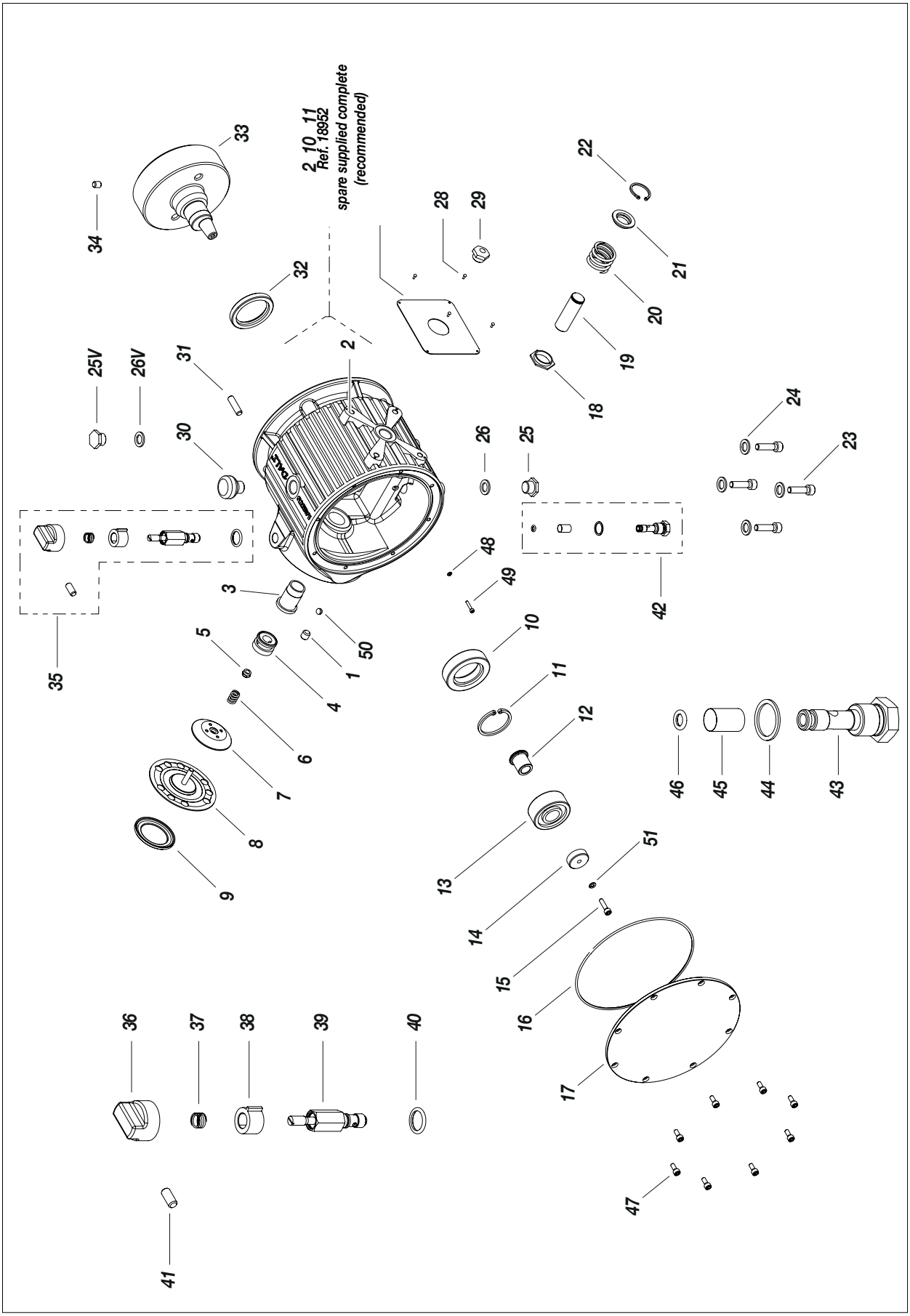
Pos.	Code	Description
11	95114	Washer
12	18171	Screw
13	18342	Fan
14	81014	Tab
15	18320	Pulleya
16	96031	Screw
17	95153	Washer
18	18316	Shaft
19	18357	Identification plate
20	34020	Rivet

SUPPORT UNIT PUMP



Pos.	Code	Description
1	18355	Rod
2	18326	Spacer
3	95062	Screw
4	18312	Slide

Pos.	Code	Description
5	34009	Screw
6	81032	Screw
7	81010	Nut
8	7238	Pin



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Pos.	Code	Description
1	18946	Dowel
2	18901	Hydraulic body
3	32018	Cylinder liner
4	32033	Piston insert
5	33002/5	Nut
6	33002/3	Spring
7	18937	Oil distributor
8	33002/1	Diaphragm
9	18936	Diaphragm insert
10	31125	Bearing
11	81020	Elastic ring
12	18906	Bushing
13	32026	Bearing
14	32027	Cover
15	32029	Screw
16	18908	OR
17	18907	Cover
18	32041	Check nut
19	32019	Piston
20	32022	Spring
21	32021	Spring cap
22	32020	Elastic ring
23	96031	Screw
24	32024	Washer
25	32108	Plug
25V*	32108	Plug
26	33010	Washer
26V*	33010	Washer

Pos.	Code	Description
27	18910	Identification plate 220V 50Hz
	18931	Identification plate 110V 60Hz
	18357	Petrol identification plate
	18933	Identification plate 380V 50Hz
28	34020	Rivet
29	32007	Oil inspection window
30	32108	Plug
31	81012	Spline
32	18909/1	Corteco
33	18947	Eccentric flywheel
34	81009	Dowel
35	32150	Complete pressure regulation valve
36	32017	Knob
37	32017/2	Spring
38	32016	Retainer
39	32155	Valve body
40	32014	OR
41	32017/1C	Dowel
42	12475	Oil filter assembly
43	12461	Filter
44	32010	Copper washer
45	258	Filter sieve 60 MESH
46	32012	OR
47	32032	Screw
48	5059	Washer
49	18567	Screw
50	91915	Ball
51	32028	Washer (Typ Grower)

* Only in the vertical configuration

Spare supplied complete *(recommended)*

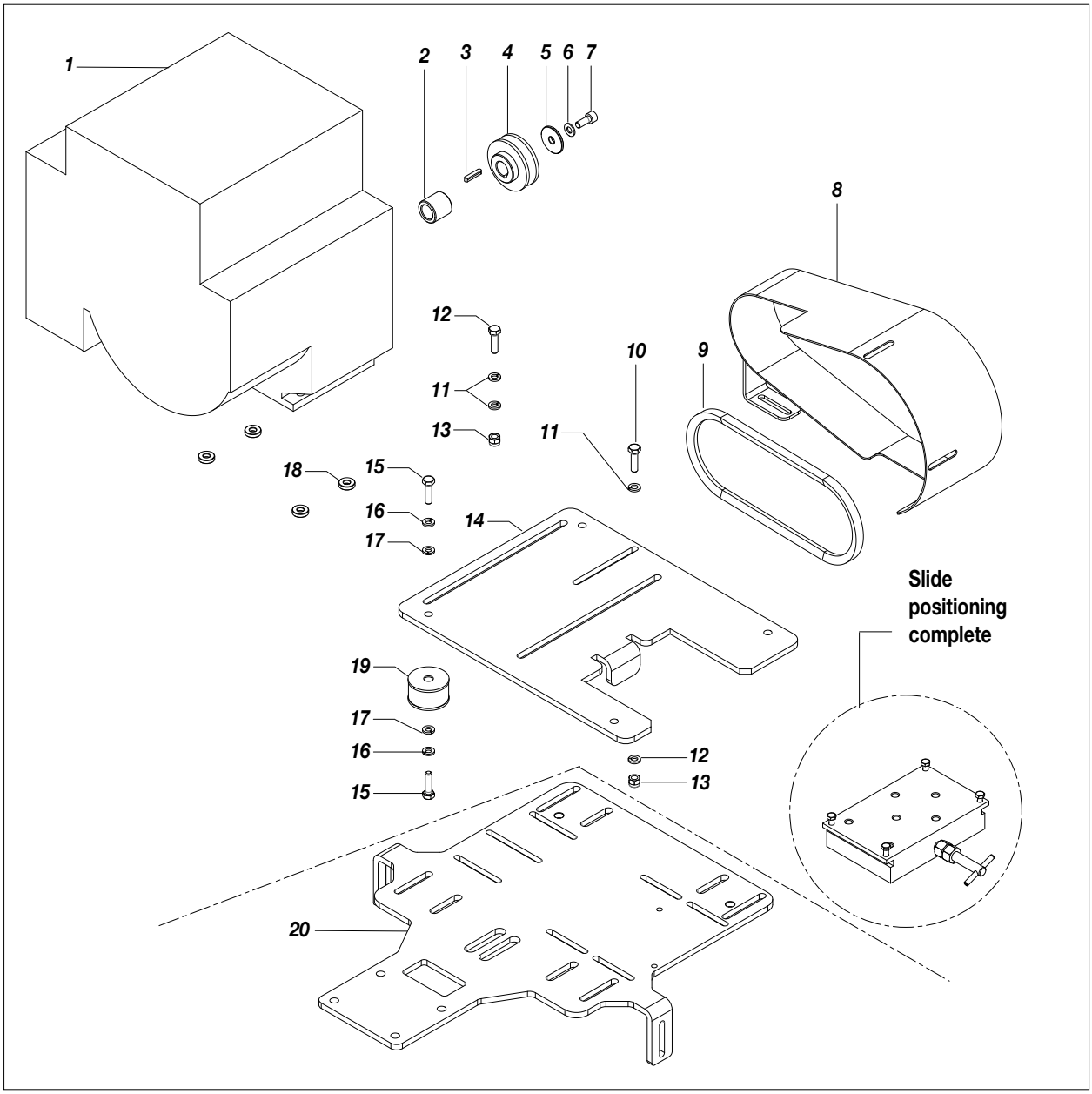
Pos.	Code	Description
2	18952	Hydraulic body
3		Cylinder liner
10		Bearing
11		Elastic ring
18		Check nut

Complete diaphragm

Pos.	Code	Description
5	18904	Nut
6		Spring
7		Oil distributor
8		Diaphragm

R TRANSMISSION UNIT AND POSITIONING RIF. 18358

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



Pos.	Code	Description	Q. tà
1	18185	Motor	1
2	18325	Spacer	1
3	4244M	Tab	1
4	18318	Pulleya	1
5	32024/1	Washer	1
6	34009	Washer	1
7	18935	Screw	1
8	18317	Protective casing	1
9	4752	Belt transmission	1
10	901568	Screw	1

Pos.	Code	Description	Q. tà
11	32024	Washer	10
12	6151	Nut auto b.	4
13	3637	Washer	5
14	18311	Support plate	1
15	6130	Screw	8
16	95096	Washer	8
17	81033	Washer	8
18	18326	Spacers	4
19	20537	Anti-vibrator	4
20	4871	Mounting plate	1

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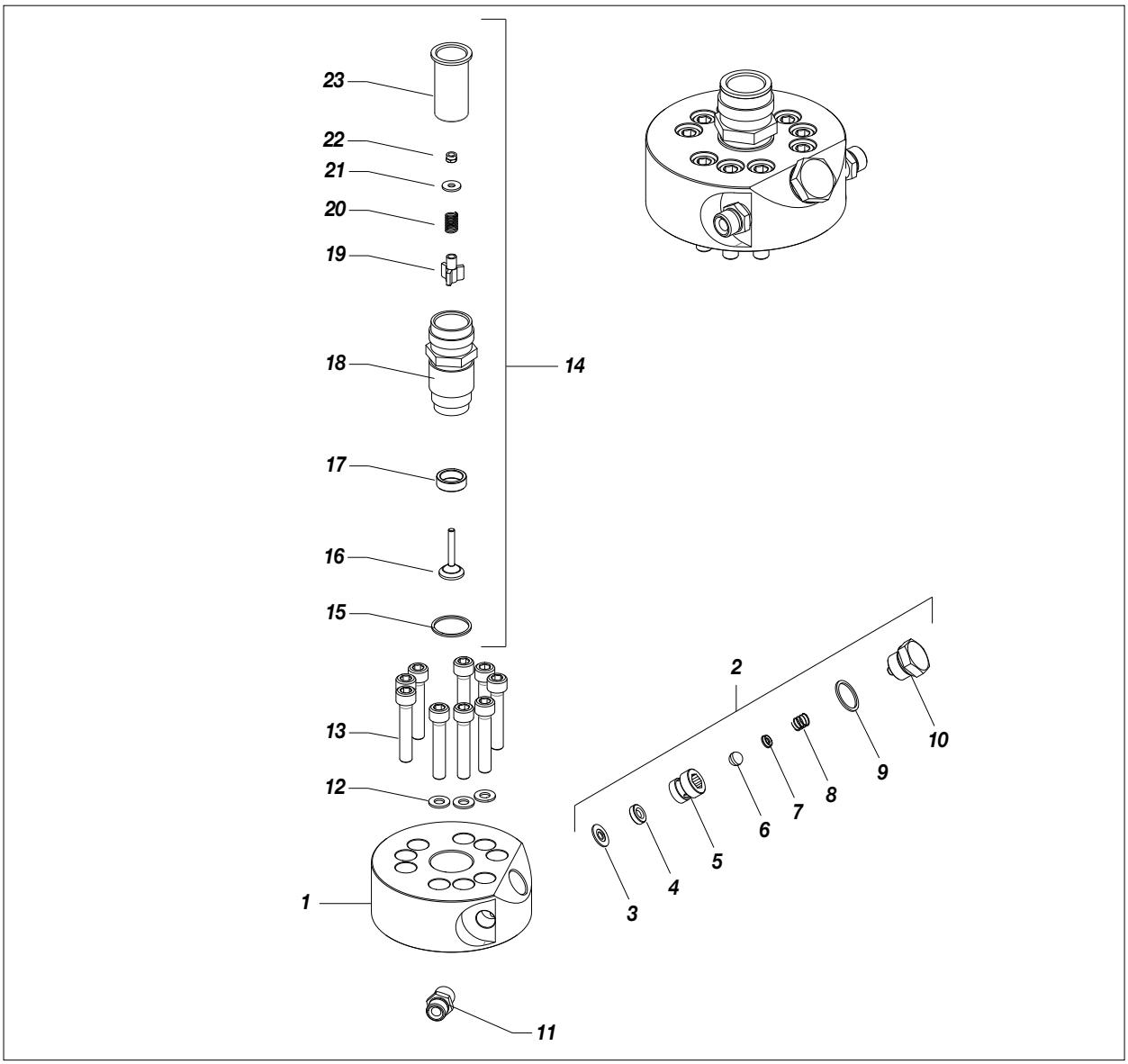
S COMPLETE COLOUR BODY REF. 18940

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

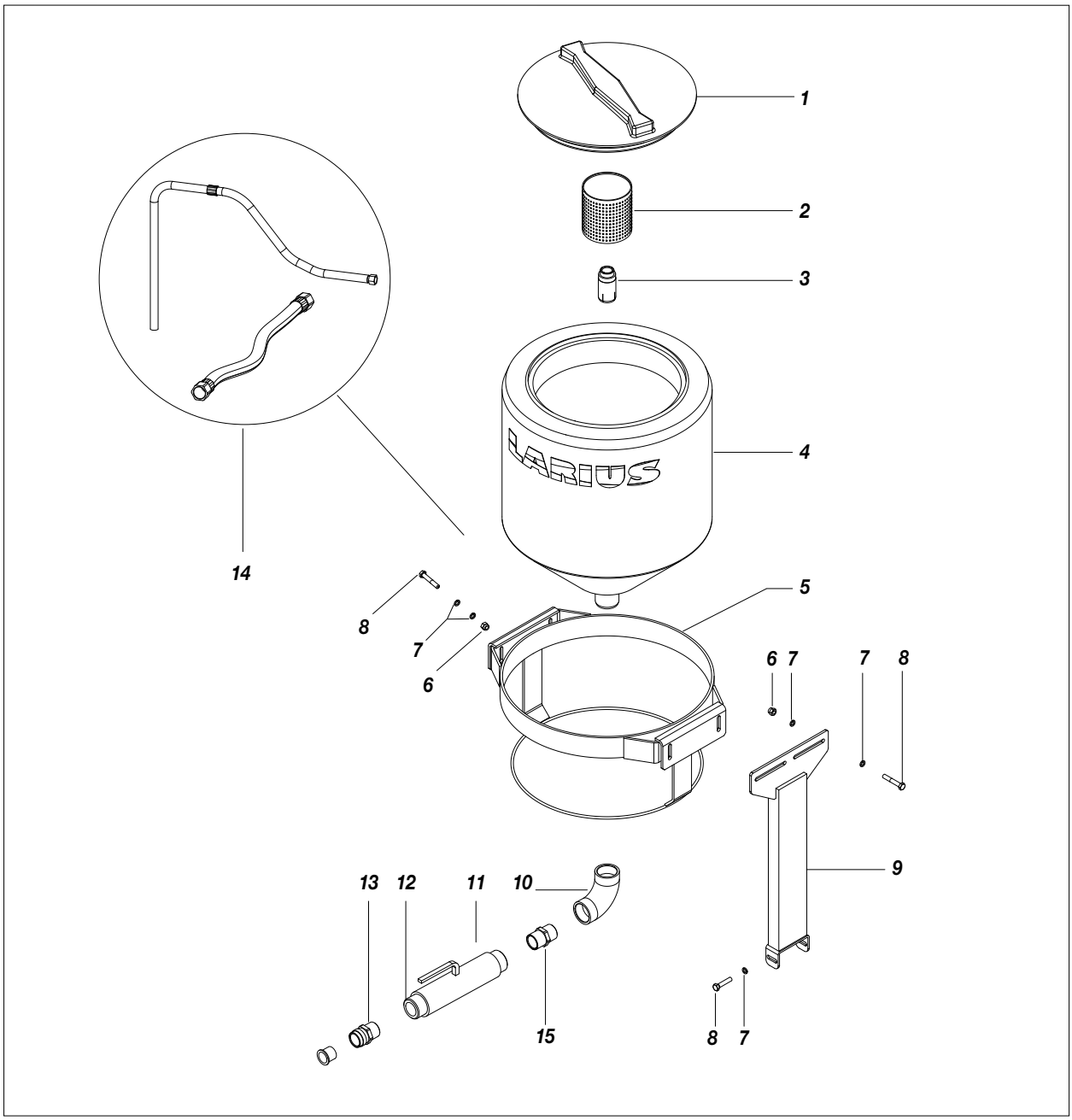


Pos.	Code	Description
1	18915	Vertical colour body
2	33033	Valve assembly
3	33026	Gasket
4	33027/2	Ball seat
5	33027/1	Valve housing
6	33028	Ball
7	33029	Sede Spring
8	53006/1	Spring
9	33031	Gas-ring
10	33032	Check nut
11	95284	Union
12	33005	Washer

Pos.	Code	Description
13	33004	Screw
14	33017	Complete valve body
15	33018	Gas-ring
16	33019	Conical shutter
17	33020/1	Spear valve seat
18	33020	Valve body
19	33021	Shutter guide
20	33022	Spring
21	33023	Washer
22	33024	Nut
23	96099	Seal sleeve

T TANK 50L RIF. 4895

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



Pos.	Code	Description
1	18249/1	Cover
2	85014	Filter
3	18231	Union
4	18249	Tank
5	18246	Union
6	3637	Nut
7	96030	Washer
8	901568	Screw

Pos.	Code	Description
9	4894	Spport
10	18215	Elbow
11	34107	Adaptor
12	95032	Union
13	96099	Seal
14	4834	Complete suction+delivery system
15	8375	Raccordo

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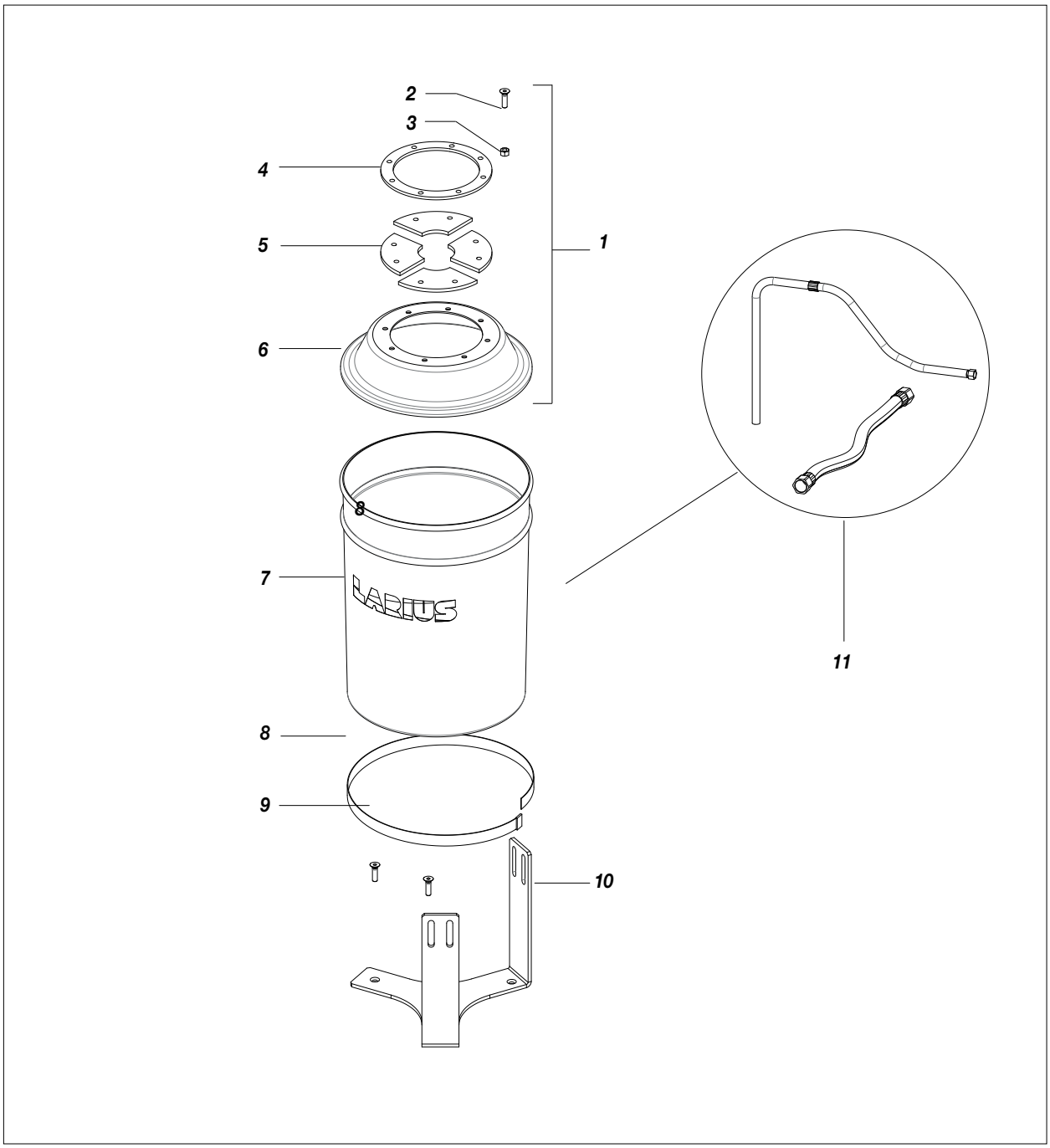
U TANK 20L RIF. 4890

Always indicate code and quantity for each part required.

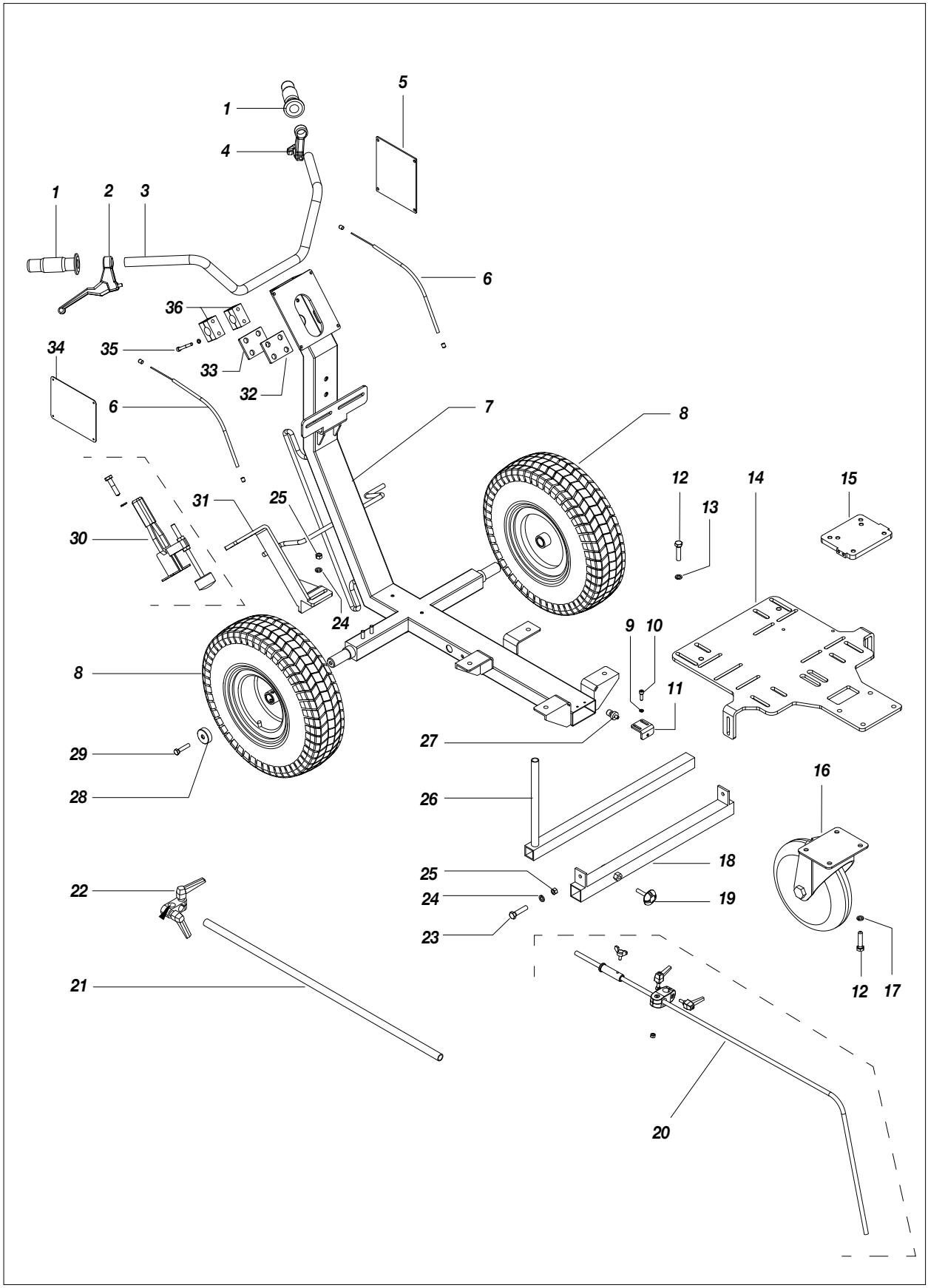


Pos.	Code	Description
1	4111	Complete cover
2	4314	Screw
3	52017	Nut
4	4308	Ring
5	4309	Rubber
6	4109	Cover

Pos.	Code	Description
7	4064	Tank
8	4274	Belt
9	69014	Screw
10	4250	Base
11	4834	Complete suction+delivery system

V COMPLETE FRAME 4874

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



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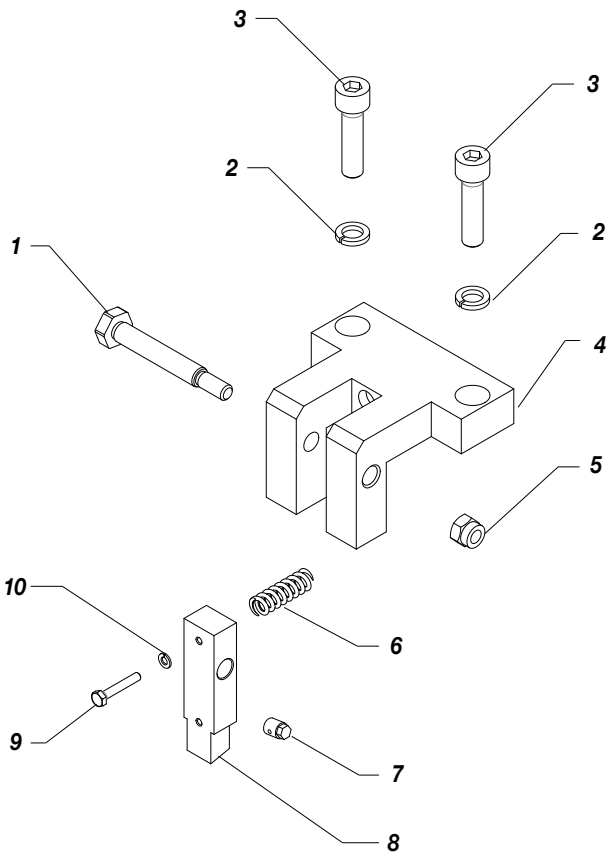
Pos.	Code	Description
1	4256	Handle
2	4464	Right lever
3	4865	Handlebar
4	4463	Left lever
5	4923	Cover
6	4873	Complete cable
7	4864	Frame
8	4461	Wheel
9	32028	Washer
10	32039	Screw
11	4870	Plating
12	4409	Screw
13	81033 + 95096	Washers
14	4871	Plate
15	4872	Plate
16	4260	Pivoting wheel
17	95096	Washer
18	4429/1	Telescopic unit
19	4490	Block

Pos.	Code	Description
20	26020	Pointer unit
21	4450	Rod
22	4869	Block
23	8385 +	Screw
	3204/1	Washer
24	34009	Washer
25	3637	Nut
26	4429	Gun support
27	4265	Wire stopper
28	4492 + 96030	Washers
29	8371	Screw
30	4868	Complete brake
31	4867	Brake support
32	4824	Plate
33	4825	Plate
34	8079	Technical data label
35	7043 + 32005	Screw
		Washer
36	4866	Block

W COMPLETE STEERING UNIT RIF. 4876

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



Pos.	Code	Description
1	4735	Screw
2	4737	Washer
3	330058	Screw
4	4737	Base
5	3637	Nut

Pos.	Code	Description
6	92038	Spring
7	4253	Wire stopper
8	4875	Threaded pin
9	4739	Screw
10	5339	Washer

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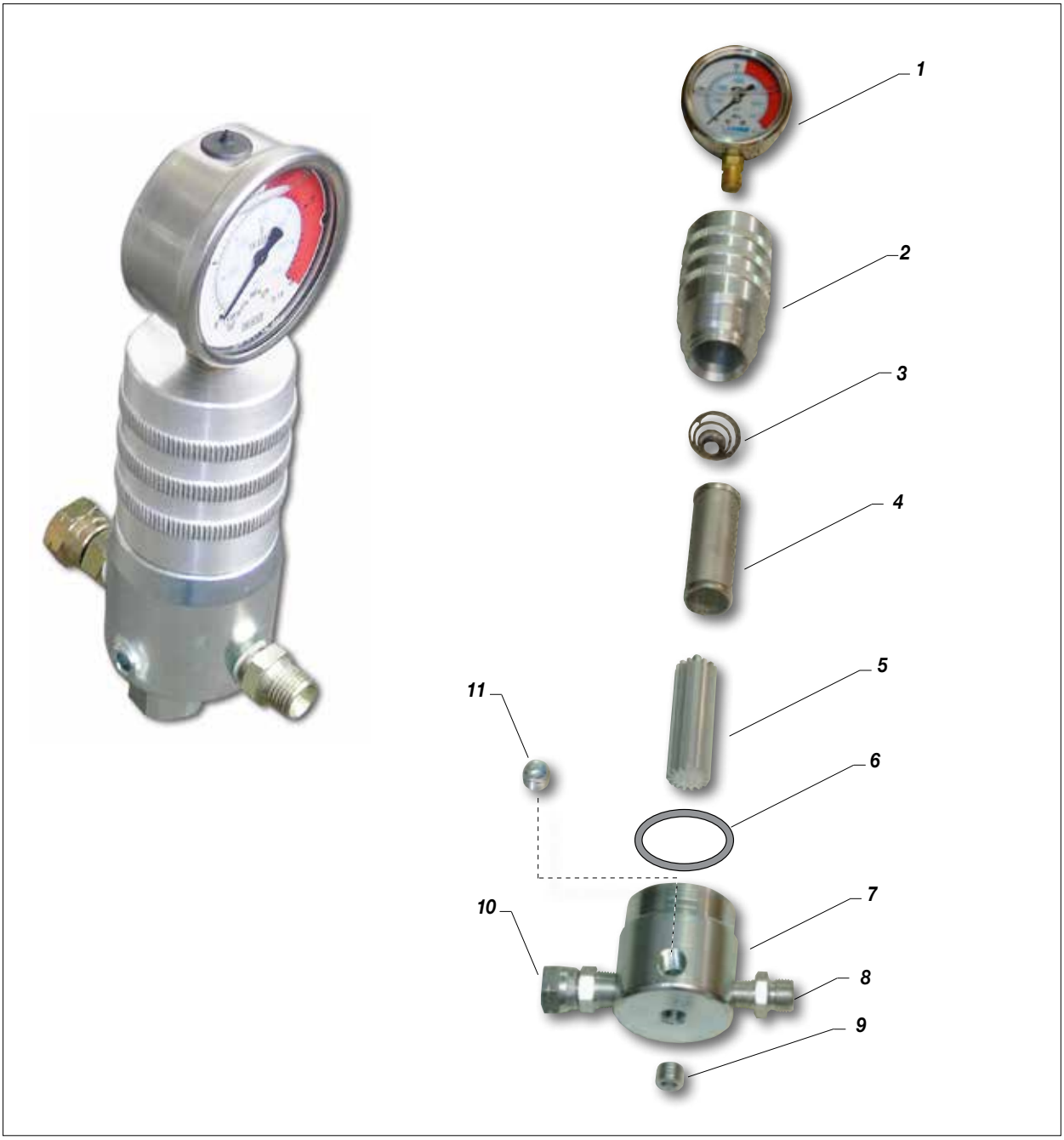
X FILTER GROUP REF. 16200

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

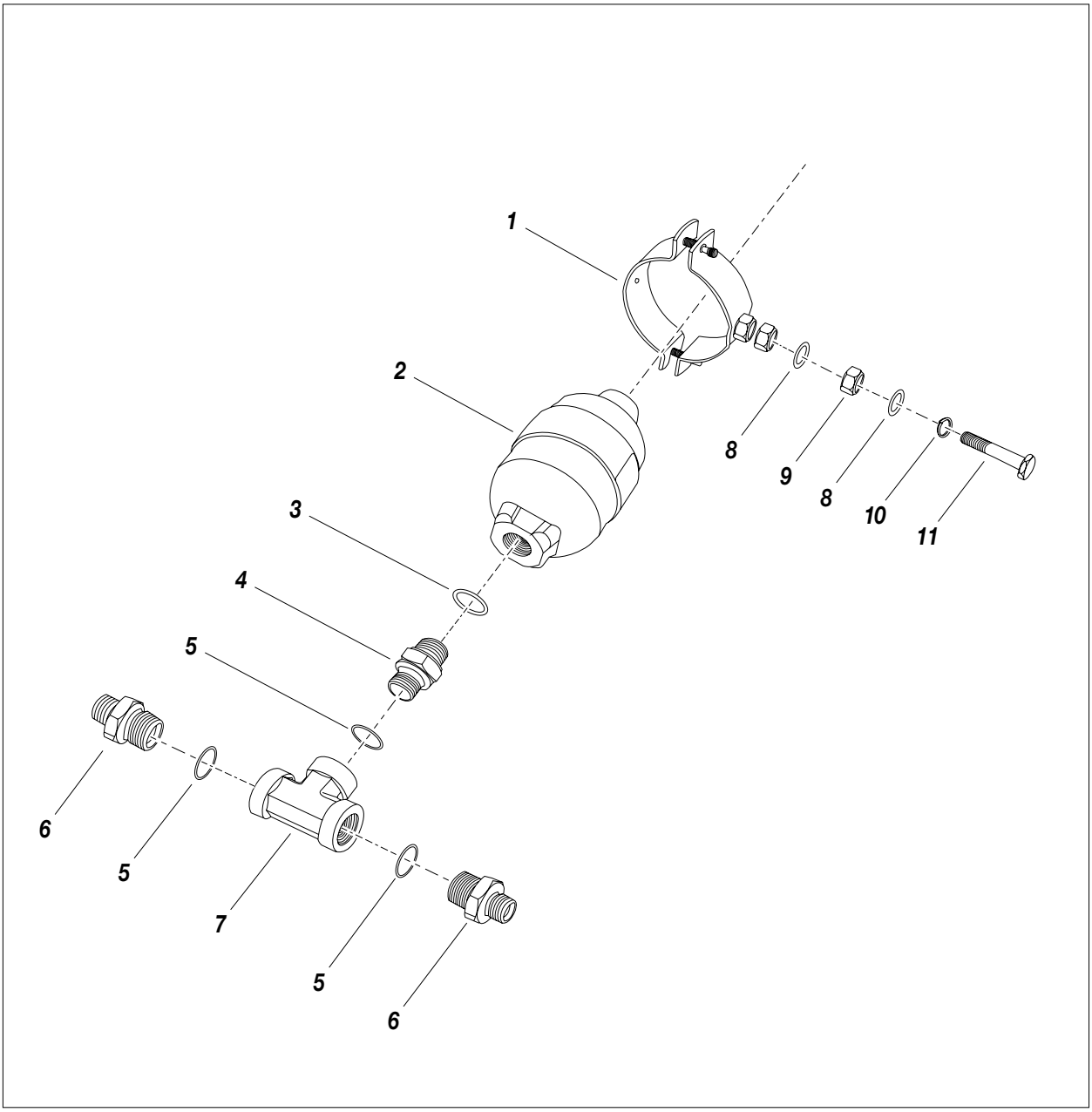


Pos.	Code	Description	Q. tà
1	33008	Manometer 0-400 bar	1
2	16201	Filter tank	1
3	96020	Spring	1
4	16205	Standard sieve 60	1
	16204	Standard sieve 100	1
	16203	Standard sieve 200	1
5	16202	Sieve support	1

Pos.	Code	Description	Q. tà
6	96203	Gasket	1
7	96204	Filter Base	1
8	96026	Union	1
9	96205	Dowel	1
10	3279	Articulated joint 3/8” Gas con.	1
11	96205	Dowel	1

Y FLOW COMPENSATOR

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



Pos.	Code	Description	Q.ty
1	4522	Collar	1
2	3372	Flow compensator	1
3	37180	Gasket	1
4	3283	Union	1
5	33010	Gasket	3
6	95231	Union	2

Pos.	Code	Description	Q.ty
7	8078/1	T fitting	1
8	81033	Washer	2
9	96080	Nut	1
10	95096	Washer (Typ Grower)	1
11	4407	Screw	1

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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: FILTRO 60 MESH
Art. 16204: FILTRO 100 MESH
Art. 16203: FILTRO 200 MESH

Art. 0147:
MANOMETER

Art. 16685:
SUCTION DISPERSION SYSTEM

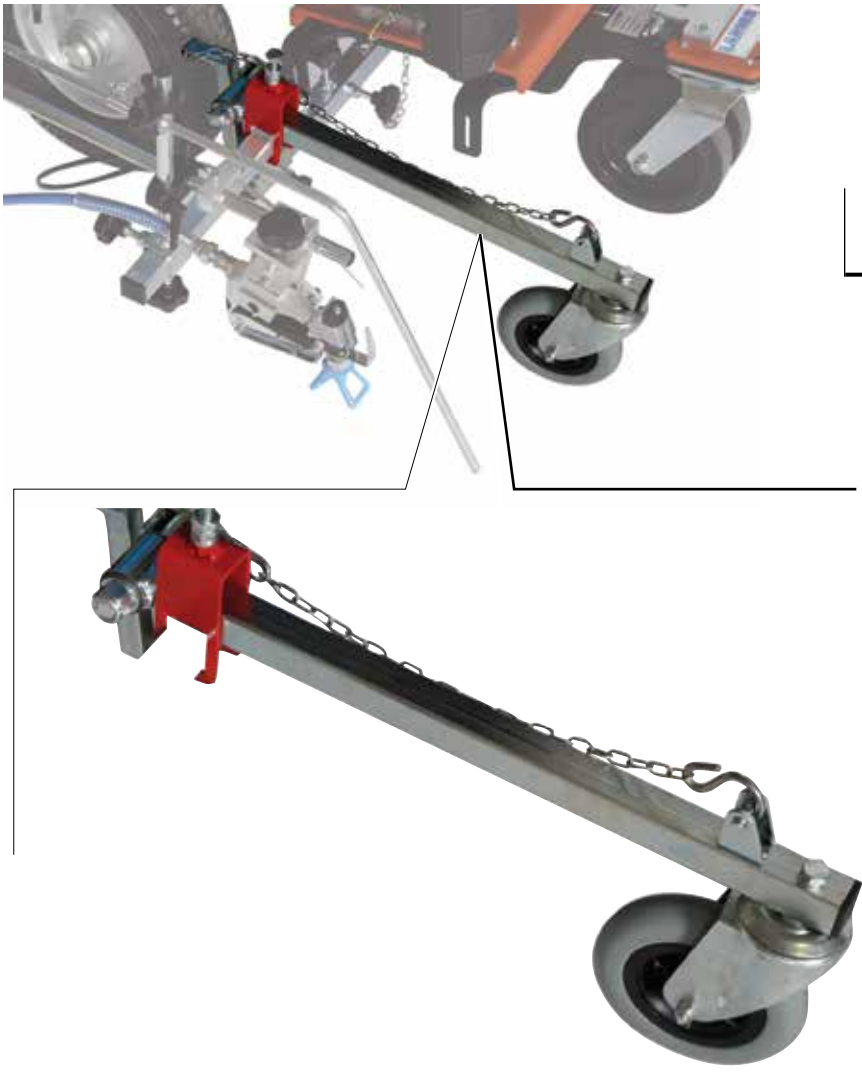
HIGH PRESSURE PIPES
Ø 3/16 - 1/4 - 3/8

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

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CE DECLARATION OF CONFORMITY

Company

LARIUS srl
Via Antonio Stoppani 21 - 23801 Calolziocorte (LC) ITALY
Tel: +39 0341 621152
Fax: +39 0341 621243

E-mail: larius@larius.com

Declares under his owns resonsibility that the product:

DALI' LINER PLUS
Horizontal street marking

complies with the directives:	**- EC Directive 2006/42 Machinery Directive**
furthermore to the harmonized standards:	**- UNI EN ISO 12100-1/-2** **Machinery safety, basic concepts, general principles of design. Basic terminology, methodology. Technical principles.**

This declaration relates exclusevely to the product in the state in which it was placed on the market, and excludes components or modifications which are added or carried out subsequently by end user.

Signature

Calolziocorte, 4 June 2020
Location / Date

Pierangelo Castagna
Managing Director

LARIUS srl
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