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GIOTTO

Electric
diaphragm pump



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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.

GIOTTO

Electric diaphragm pump

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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 **SAMOA** 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.

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

B 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 the manufacturer 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 **the manufacturer**.



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.

C 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.

D 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 CONNEC

TION BETWEEN PUMP, FLEXIBLE HOSE AND SPRAY GUN BEFORE USING THE EQUIPMENT.

- ALWAYS USE THE FLEXIBLE HOSE SUPPLIED WITH 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 travel 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. 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.

- Do not carry the equipment neither unplug it by pulling the electric cable.
Protect the cable from heat, oil and sharp edges.
- When the tool is used outdoors, use only an extension cable suited for outdoor use and so marked.



Never attempt to tamper with the calibre of instruments.

- Take care when the pumping rod is moving.
Stop the machine whenever someone is within its vicinity.
- Repairs of the electrical equipment should only be carried out by skilled personnel, otherwise considerable danger to the user may result.

E WORKING PRINCIPLE

The **GIOTTO** unit is defined as an “electric diaphragm pump”. An electric diaphragm pump is used for high pressure paint spraying without air (*known as “airless”*).

The pump is powered by an electric (*internal combustion*) motor coupled with a cam shaft. The shaft acts on the hydraulic piston as it pumps oil from the hydraulic case and sends the suction diaphragm into fibrillation. When the diaphragm moves, it creates a vacuum.

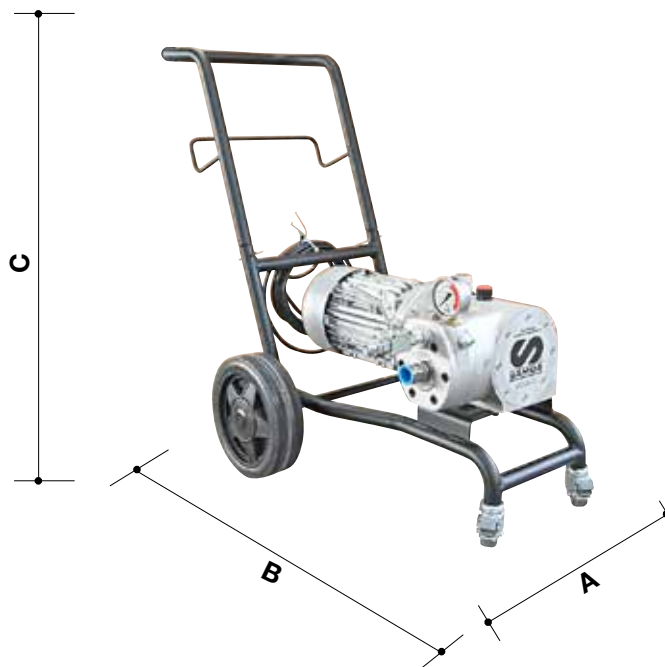
The product is sucked up, pushed towards the pump outlet and sent to the guns through the flexible hose. A hydraulic valve on the hydraulic case head allows setting and checking the pressure of the paint product at the pump outlet. A second hydraulic safety valve to avoid over-pressure, ensures total equipment reliability. The hydraulic box allows to convert the vertical gravity hopper version (1) to horizontal suction version (2).

Electrical safety precautions

- Check the “ON/OFF” switch is on the “OFF” position before connecting the cable to the mains.
- Never carry a plugged-in equipment.
- Disconnect the equipment before storing it and before performing any maintenance operation or replacing of accessories.

F TECHNICAL DATA

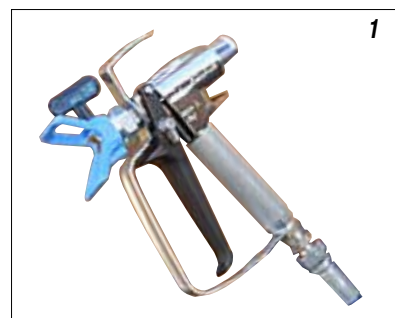
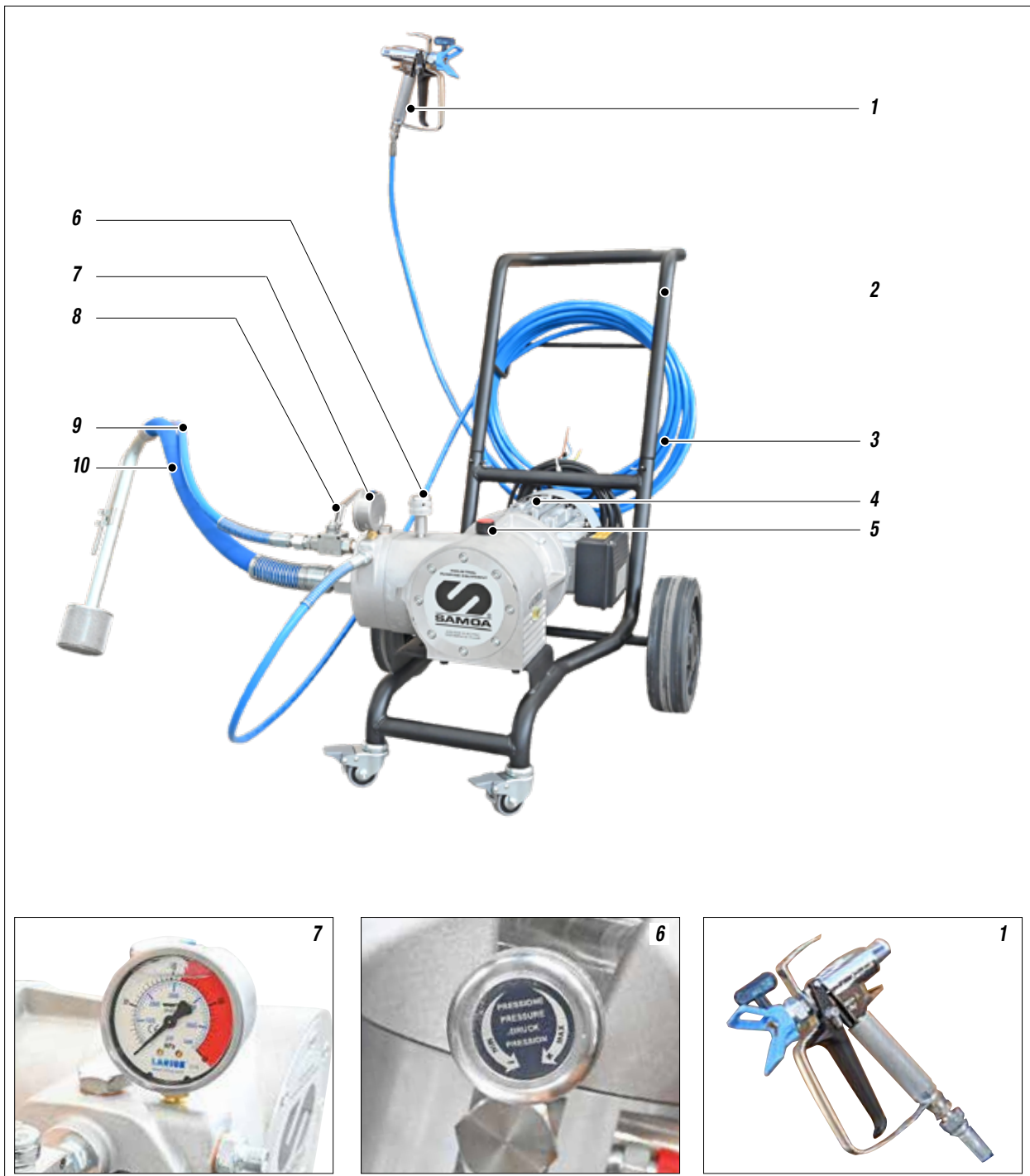
	GIOTTO
Version	Trolley
Max. delivery	8 l/m
Max. working pressure	220 bar
Motor power	2,2 Kw
Voltage	110 VAC (60Hz)
	220 VAC (50Hz)
	380 VAC (50Hz)
Weight	66 Kg
Max. nozzle size	0,033"
Power generation	5,5 Kw single phase
Material outlet	1/4" (M)
Livello pressione sonora	≤ 75dB (A)
Length (A)	1000 mm
Width (B)	600 mm
Height (C)	850 mm



PARTS OF THE PUMP IN CONTACT WITH THE MATERIAL: Stainless Steel AISI 420B, PTFE, Aluminium.

	COD.	MOTOR	FITTING	HOSE	GUN
SUCTION SYSTEM	K12480/1	220V	1/4"	Cod. 18023	Cod. 11090
	12450/1	220 V	1/4"	-	-
	K12482/1	110 V	1/4"	Cod. 18023	Cod. 11090
	12452/1	110 V	1/4"	-	-
	K12481/1	380 V	1/4"	Cod. 18023	Cod. 11090
	12451/1	380 V	1/4"	-	-
	K12483	Petrol	1/4"	Cod. 18023	Cod. 11090
TANK 50 L.	K12458/1	220 V	1/4"	Cod. 18023	Cod. 11090
	12458/1	220 V	1/4"	-	-

G DESCRIPTION OF THE EQUIPMENT



Pos.	Description
1	LARIUS AT 250 gun
2	Carriage
3	High pressure feed tube
4	Electric / combustion motor
5	Hydraulic oil filling cap

Pos.	Description
6	Pressure setting valve
7	High pressure manometer
8	Recirculation tap
9	Recirculation tube
10	Suction tube

H SETTING-UP

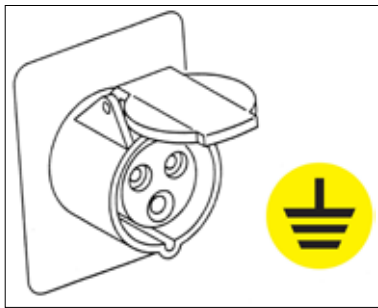
CONNECTION OF THE FLEXIBLE HOSE TO THE GUN

- Connect the high pressure flexible hose to the pump and to the gun, ensuring to tighten the fittings (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 (ref. 35017).
NEVER use a damaged or a repaired flexible hose.

CHECK ON POWER SUPPLY



Make sure that the electrical system is earthed and complies with regulations.



- Check that the network tension corresponds to the value reported on the technical plate (1) of the equipment.



Fig. 1

- The supply cable (2) is provided without plug. Use a plug which guarantees the plant earthing. Only a technician or a skilled person should perform the connection of the plug to the electric cable.

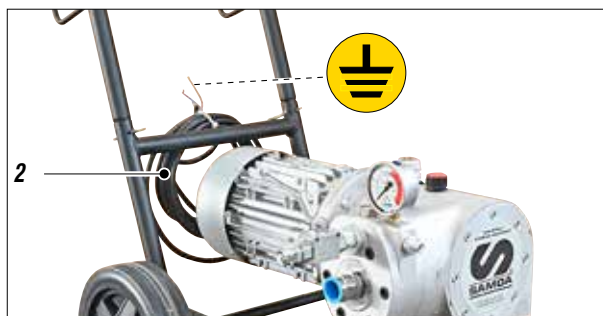


Fig. 2



Should anyone use an extension cable between the tooling and the socket, it must have the same characteristics as the cable supplied (*minimum diameter of the wire 2.5 mm²*) with a maximum length of 50 mt. Higher lengths and lower diameters can provoke excessive voltage falls and also an anomalous working of the equipment.



CONNECTION OF THE EQUIPMENT TO THE POWER SUPPLY

- Check the ON/OFF switch (3) is on the "OFF" position (0) before connecting the cable to the mains.

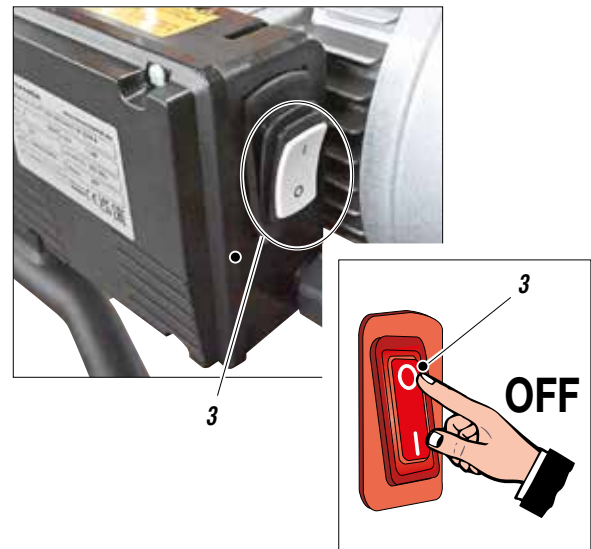


Fig. 3

- Place the pressure control knob (4) on the "MIN" position (turn counterclockwise).



Fig. 4

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.
- Lift the suction pipe and dip it into the solvent tank (5).

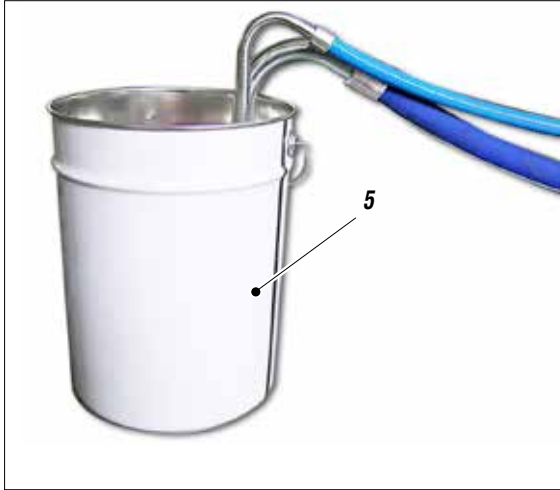


Fig. 5

- Ensure the gun (6) is without nozzle.

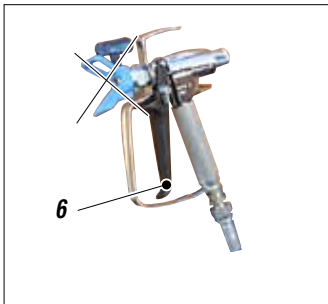


Fig. 6

- Open the re-circulation tap (7).

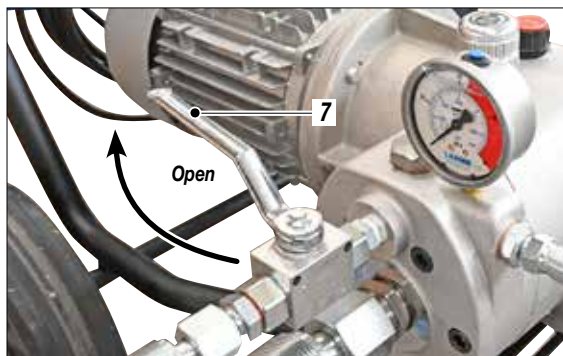


Fig. 7

- Turn the unit ON-OFF switch (3) on the "ON" position (I).

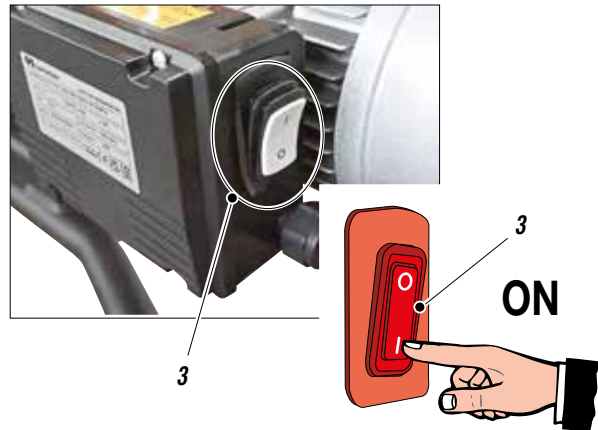


Fig. 8

- Rotate the pressure setting knob (4) slightly clockwise so that the machine operates at minimum power.



Fig. 9

- Point the gun (8) at a container (8) keeping the trigger pressed (so as to drain the oil inside) till a clean solvent comes out. Now, release the trigger.

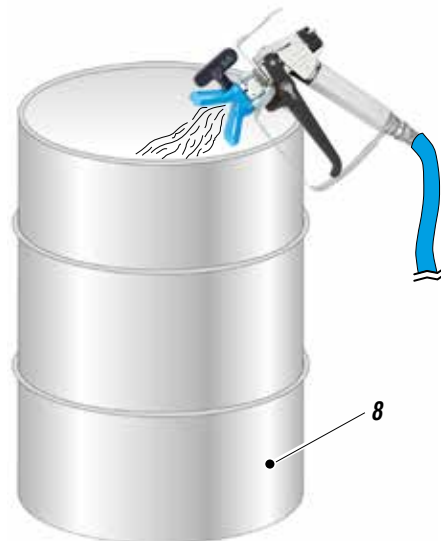


Fig. 10

- Remove the suction pipe and take away the solvent tank.
- Point the gun at the solvent tank and press the trigger so as to recover the residual solvent.
- As the pump idles, press the ON/OFF switch (3) on the position "OFF" (0) to stop the tooling.

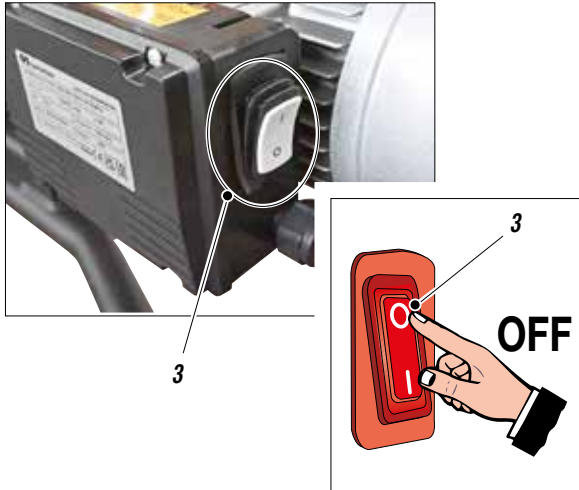


Fig. 11



Absolutely avoid to 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 electric motor.

- Now the machine is ready. Should you use water paints, besides the solvent wash, a wash with soapy and then clean water is suggested.
- Insert the gun trigger lock and assemble the nozzle.

PREPARATION OF THE PAINT

- 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 (ref.214)** and **LARGE-MESH (ref.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.

WORKING



Use power units with asynchronous alternator.

START OF THE PAINTING OPERATIONS

- Use the tooling after performing all the **SETTING UP** operations above described.
- Dip the suction pipe (1) into the product tank.

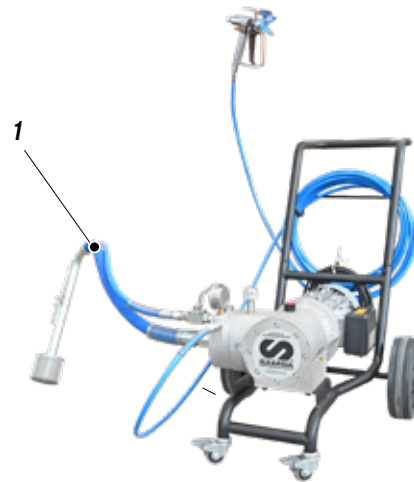


Fig. 1

- Open the re-circulation tap (2).

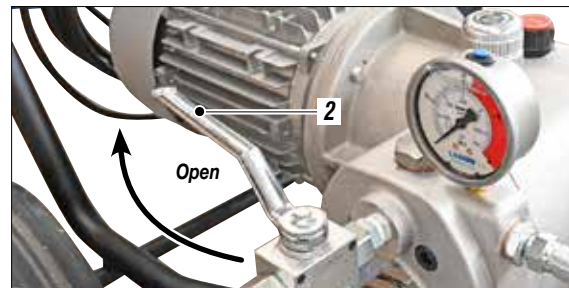


Fig. 2

- Press the ON/OFF switch of the equipment.

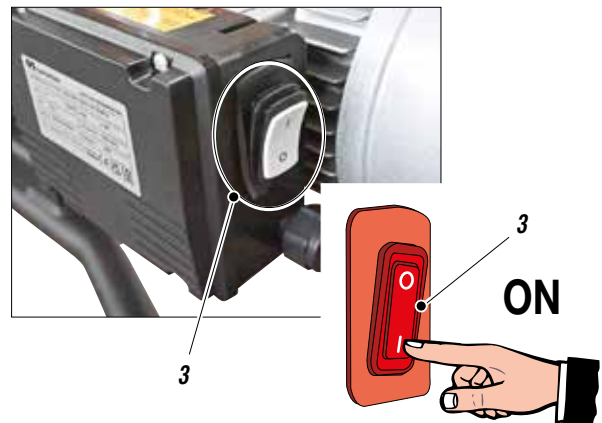


Fig. 3

- Turn a little the pressure control knob (3) clockwise, so as the machine works at the idle speed.



Fig. 4

- Make sure the product recycles from the return tube (4).

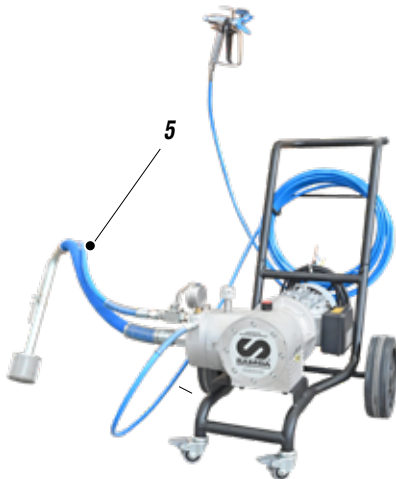


Fig. 5

- Close the re-circulation tap (2).

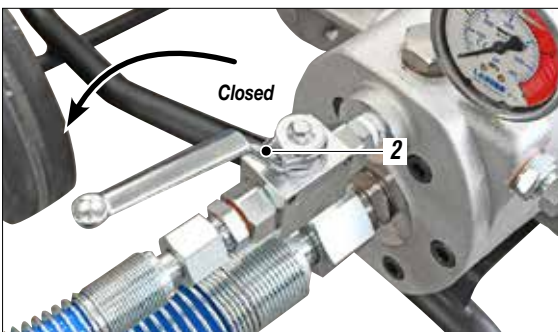


Fig. 6

- At this point the machine will continue to suck the paint product until the delivery hose is completely full. Afterwards, the product will re-circulate automatically.

SPRAY ADJUSTMENT

- Slowly turn clockwise the pressure control knob to reach the pressure value in order to ensure a good atomization of the product.
- 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..
- In order to avoid overthickness of paint, let the gun advance sideways (*right-left*) when spraying.
- Always paint with regular parallel bands coats.
- Keep a safety and constant distance between the gun and the support to be painted and also keep yourselves perpendicular to it.



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.



J CLEANING AT THE END WORK

- Reduce pressure to the minimum (*turn counterclockwise the pressure control knob (1)*).



Fig. 1

- Press the ON/OFF switch (2) placed on the box of the electric motor, to stop the equipment.

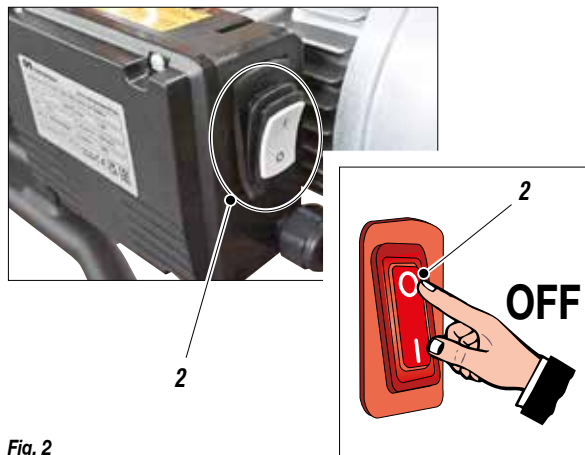


Fig. 2

- First release the residual pressure from the gun by holding it pointed down towards the paint container, then open the re-circulation tap (3).

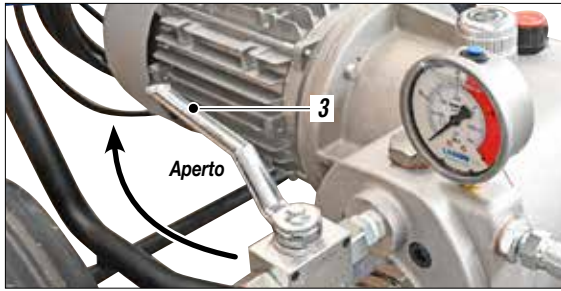


Fig. 3



For the horizontal version, lift the suction hose and replace the bucket containing the product with a bucket of solvent (make sure it is compatible with the product you are using).

- Unscrew the gun nozzle (do not forget to clean it with solvent).
- Turn the ON-OFF switch (2) on the ON position and rotate the pressure setting knob (1) slightly clockwise.
- Make sure the solvent recycles the washing fluid from the return tube (4).



Fig. 4

- Close the recirculation tap (2).

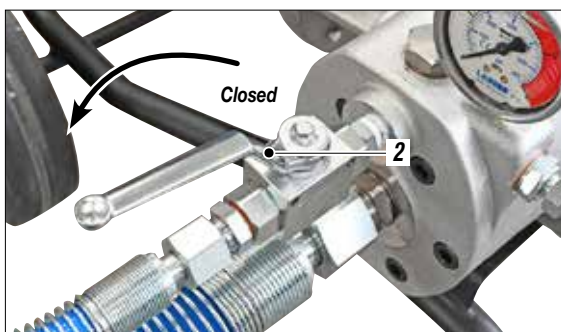


Fig. 5

- Point the gun (5) at the product tank (6) and, keeping the trigger pressed, release the remaining product till a clean solvent comes out. Now, release the trigger.

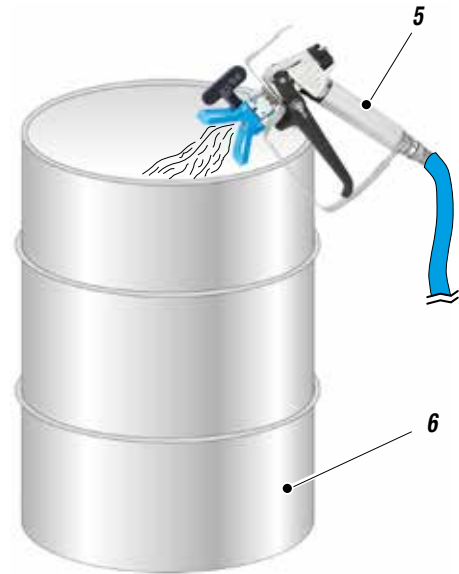


Fig. 6

- Lift again the suction pipe and remove the solvent tank.
- Now point the gun at the solvent tank and press the trigger so as to recover the residual solvent.
- As the pump starts idling, press the ON/OFF switch (2) su OFF (0) to stop the equipment.

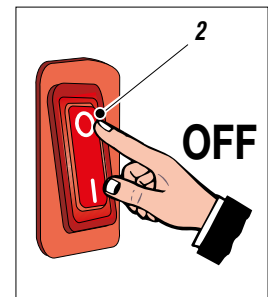


Fig. 7

- 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 ROUTINE MAINTENANCE

TOPPING-UP HYDRAULIC OIL

With each start up, check the hydraulic oil level by looking through the gauge (1) on the side of the hydraulic body. If necessary, use to top up the level:

**AGIP DICREA 150 type hydraulic oil
0,7 LT**



Fig. 1

RELEASE THE SUCTION VALVE

If the pump malfunctions, release the suction valve fitted on the head of the pump in the following way:

- Remove the suction hose fitting (*Mirò horizontal version*) or the suction tank (*Mirò vertical version*) and release the valve by inserting a rigid rod (2) with a diameter of no more than 15 mm.



Fig. 2

REPLACING HYDRAULIC OIL

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

- Discharge the waste oil through the plug (4) fitted at the bottom of the pump casing.
- Clean the seals on the cap and replace it if worn.
- Remove and clean the filter (5) on the side of the pump casing; if necessary, replace the filter and the respective seals.
- Clean and, if necessary, replace the worn seals (5).
- Replace the plug (4).
- Fill the pump with the recommended oil until it reaches the maximum level.

AGIP DICREA 150 type hydraulic oil

- Then, substitute the oil every 250 hours.

CLEANING THE MOTOR COOLING FAN GUARD

Clean the motor cooling fan protection guard (6) and the finned motor casing periodically to ensure the maximum cooling.

L PROBLEMS AND SOLUTIONS

Problem	Cause	Solution
The equipment does not start	Lack of voltage;	Check the correct connection to the power supply;
	Considerable drops in mains voltage;	Check the extension cable;
	ON-OFF switch disconnected;	Ensure the ON-OFF switch is on the "ON" position and turn clockwise the pressure control knob;
	Breakdown of motor electric control box;	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. Remove the compression valve and clean it;
The equipment does not suck the product	Suction filter clogged;	Clean or replace it;
	Suction filter too fine;	Replace it with a larger-mesh filter (<i>with very dense products, remove the filter</i>);
	Suction valve dirty;	Disassemble and clear it;
	The equipment sucks air;	Check the suction pipe;
The equipment suck 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 body 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. Leakage from the seal-tightening screw	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 close the air compressed supply and unload the plant pressure before performing any check or replacement of pump parts (see "correct procedure of decompression").

M CORRECT PROCEDURE OF DECOMPRESSION

- Insert the gun clamp (1).

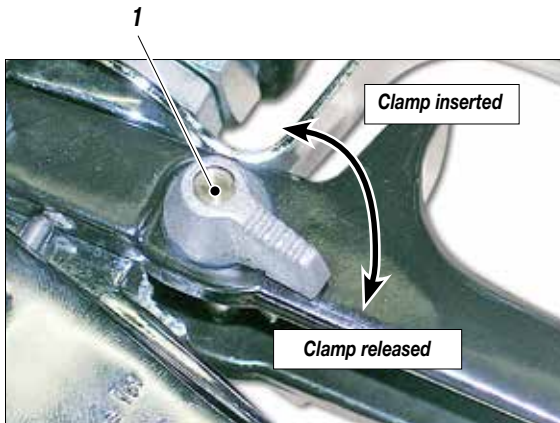


Fig. 1

- Move the ON/OFF switch (2) to the **OFF position (0)** to stop the equipment.

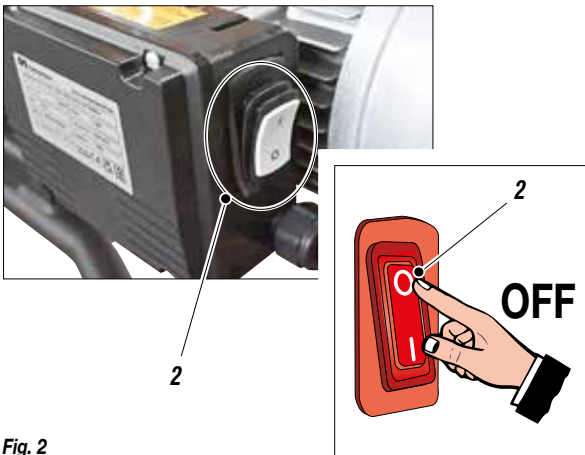


Fig. 2

- Set the valve (3) at its minimum pressure setting (*turn anti-clockwise*).



Fig. 3

- Disconnect the power supply cable (4).

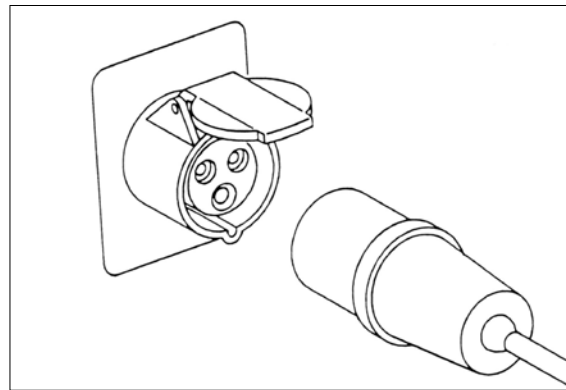


Fig. 4

- Release the gun clamp (1). Point the gun at the tank of the product and press the trigger to release pressure. At the end of the operation, insert the gun clamp.
- Open the re-circulation tap (5) to release residual pressure.

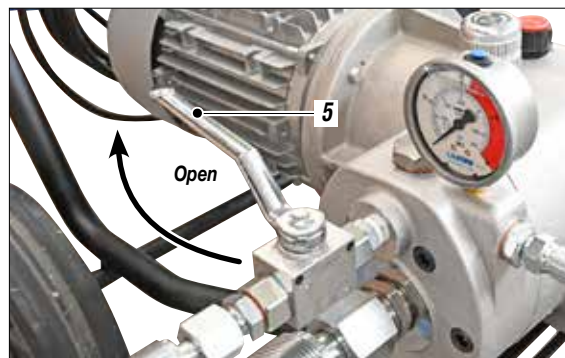


Fig. 5

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 FLYWHEEL DISASSEMBLING

1

Necessary tools and equipment



Procedure

The flywheel (1a) is equipped with 2 dowels (1b) to be removed as indicated below



1.1 Insert the hex key (1c) into the hole (1d).

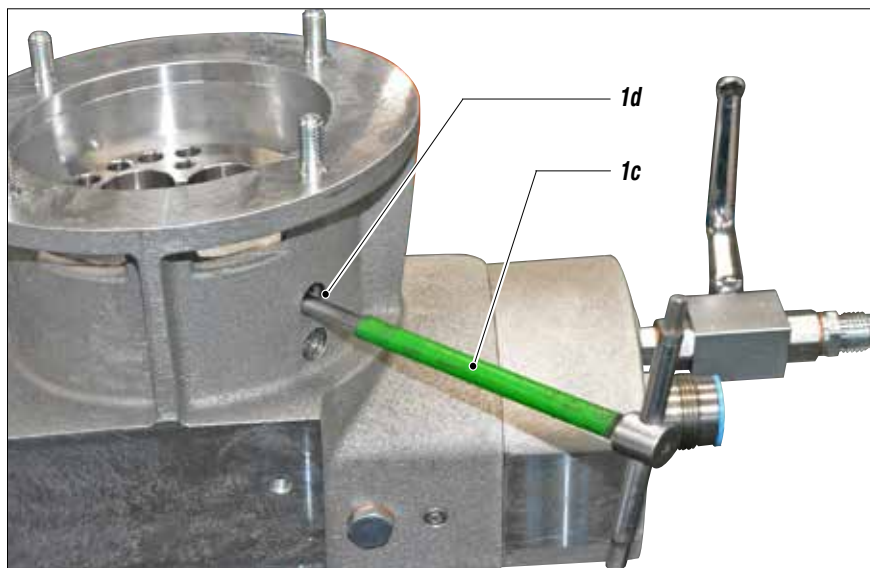
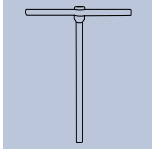


Fig. 1

2

Necessary tools and equipment



Procedure

2.1 Remove the two dowels (**2a**) and (**2b**) as shown in figure.

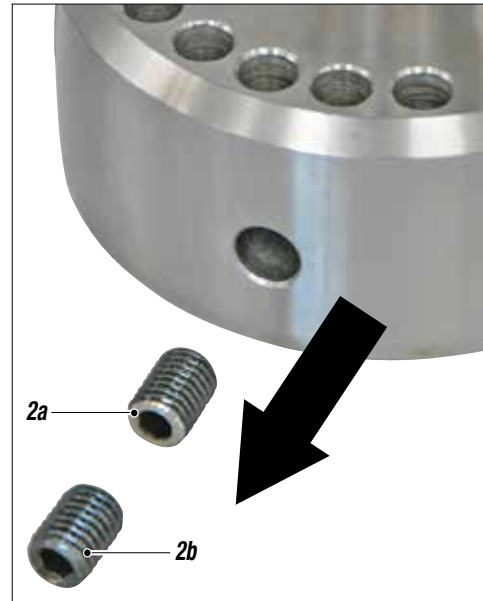
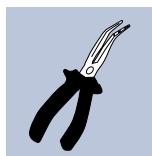


Fig. 2

3

Necessary tools and equipment



Procedure

3.1 Remove the elastic ring (**3a**) using the special pliers (**3b**).

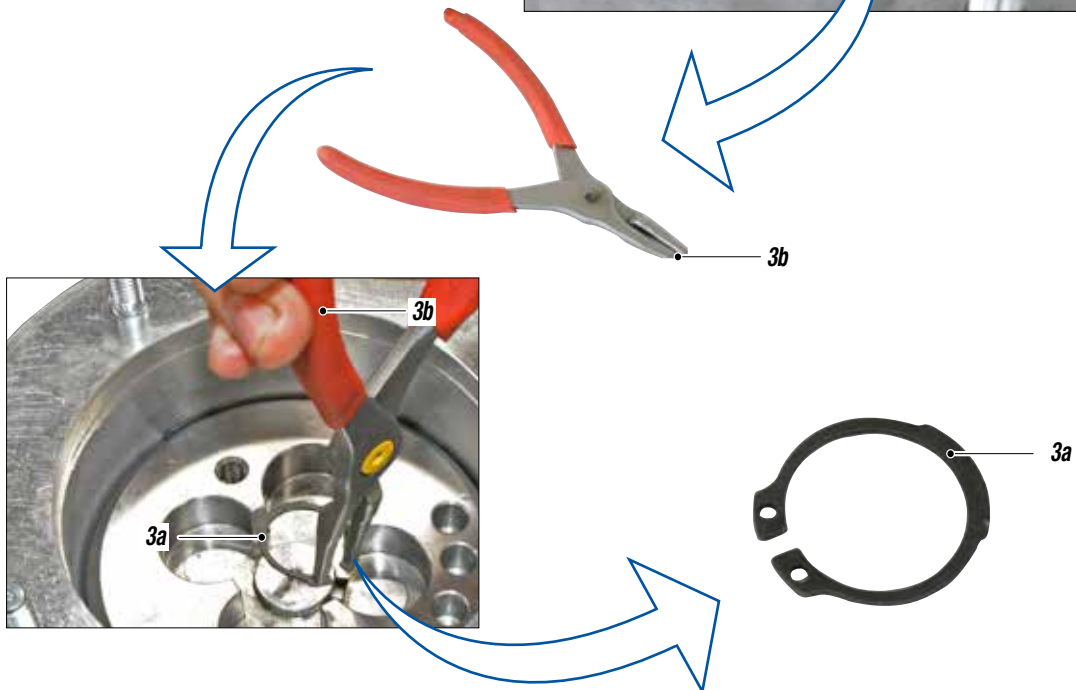
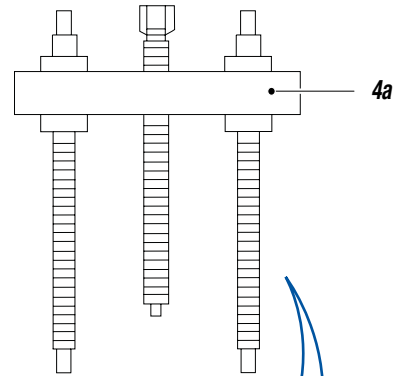
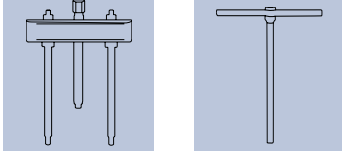


Fig. 3

4

Necessary tools and equipment



Procedure

4.1 Insert the special extractor **(4a)** (not supplied, available on the market) and remove the flywheel **(4b)** using the hex wrench **(4c)**.

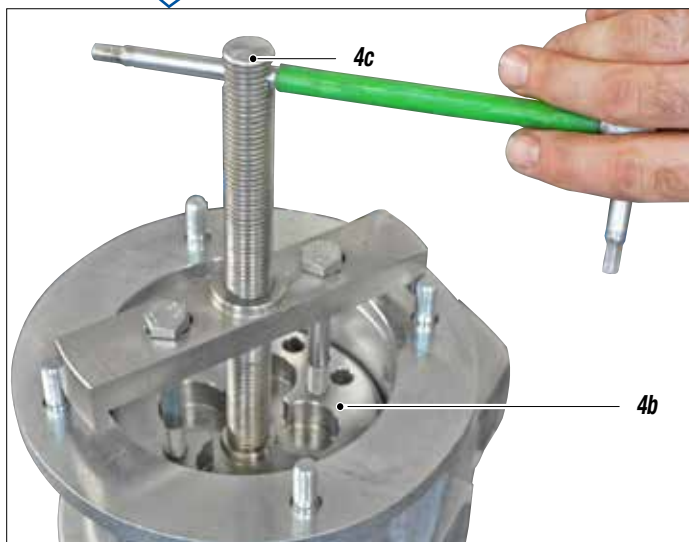
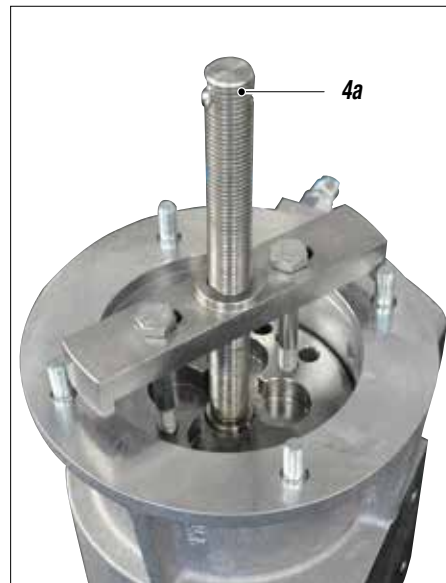
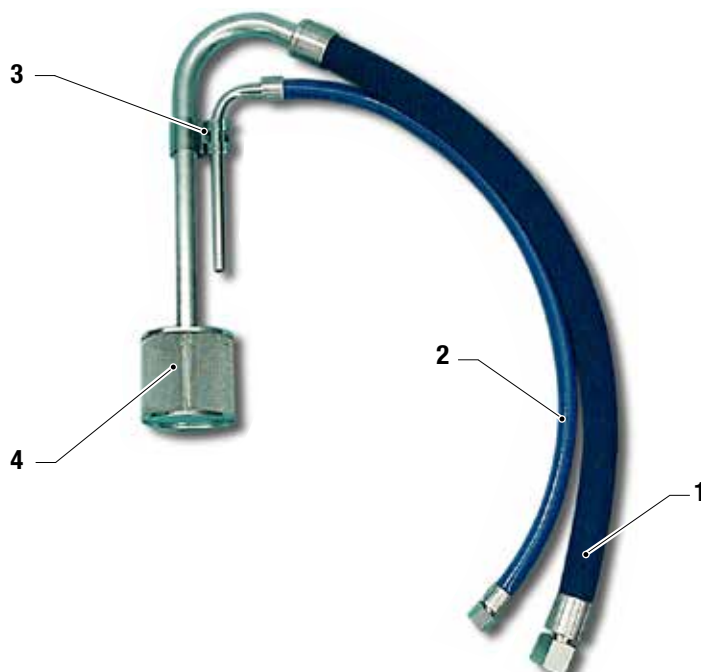


Fig. 4

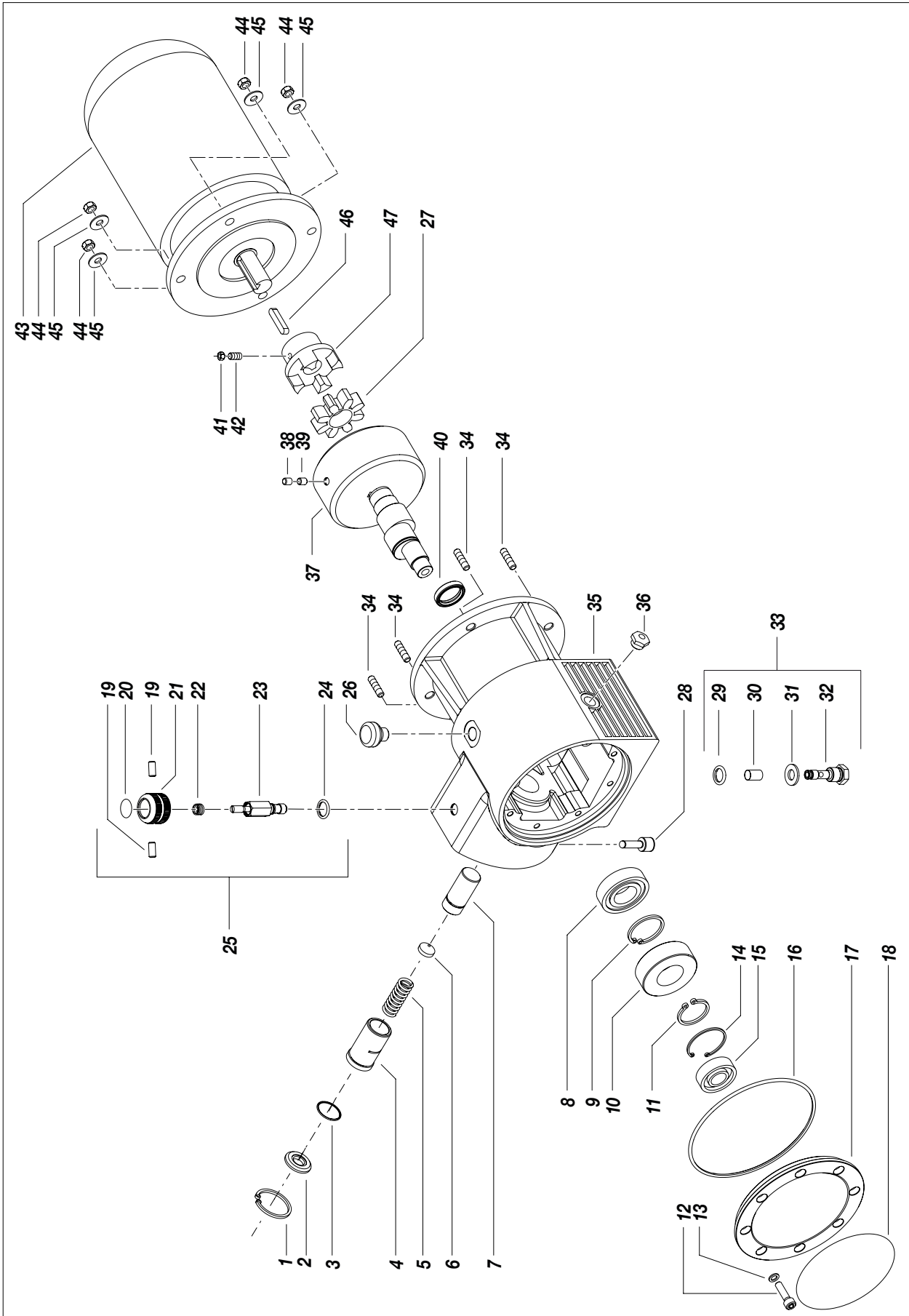
0 SUCTION SYSTEM



Pos.	Code	Description
-	85009	Suction systems
1	85010	Suction tube
2	16609	Recirculation tube
3	18096	Spring
4	85012	Filter of suction

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P COMPLETE HYDRAULIC BODY

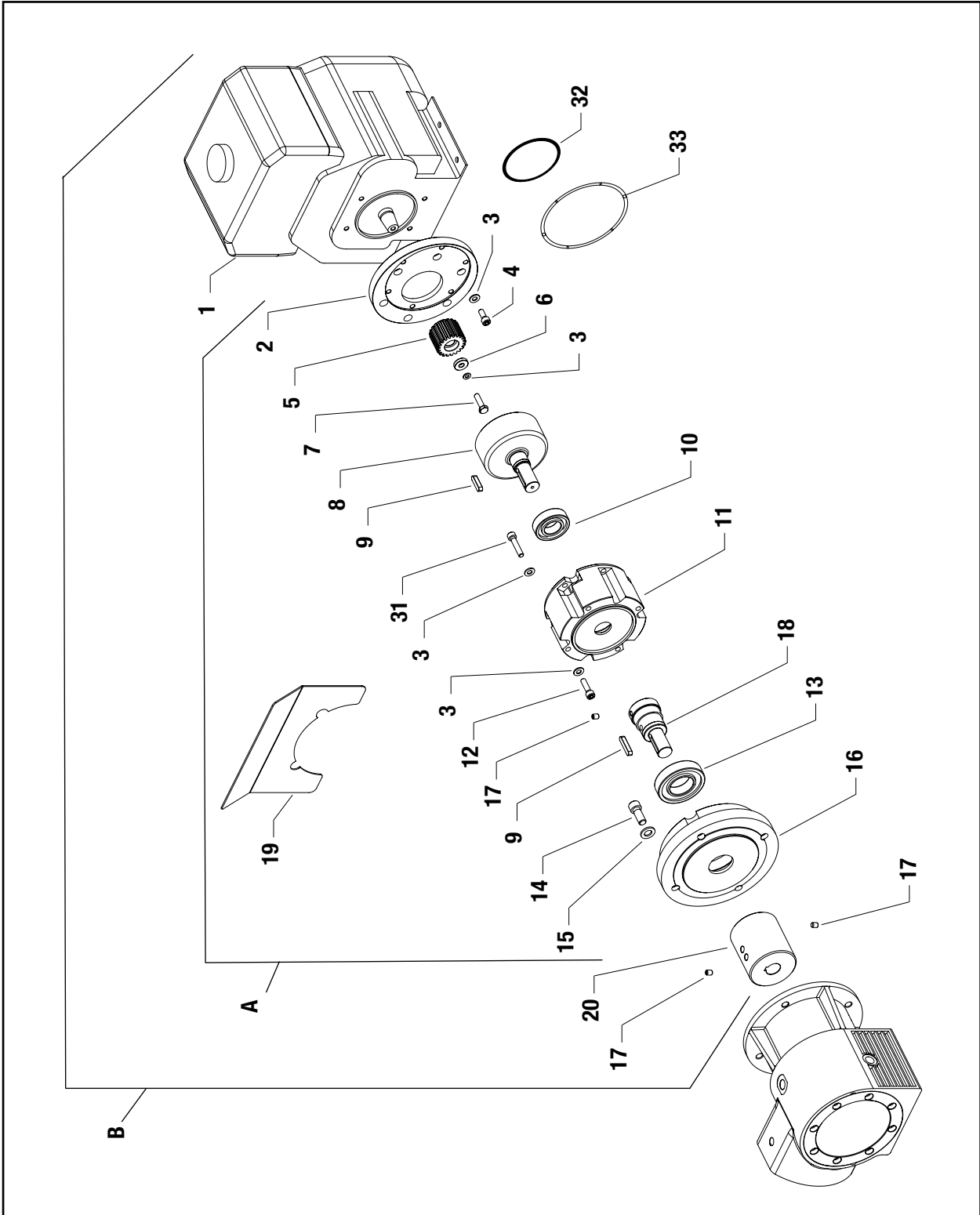


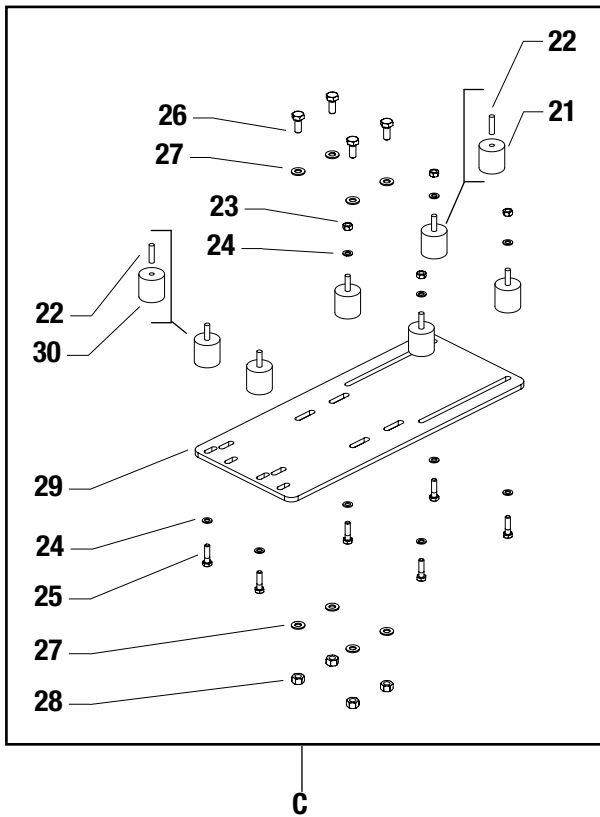
Pos.	Code	Description	Q. ty	Pos.	Code	Description	Q. ty
1	82024	Elastic ring	1	26	32006	Plug	1
2	82023	Spring housing	1	27	81038	Shock absorber	1
3	82022	O-Ring	1	28	200224	Fixing screw	1
4	82017	Cylinder liner	1	29	32012	O-Ring	1
5	82021	Spring	1	30	258	Filter	1
6	82019G	Spring pad	1	31	32010	Washer	1
7	12456	Hydraulic piston	1	32	12461	Oil filter body	1
8	31125	Bearing	1	33	12475	Oil filter screw	1
9	81020	Elastic ring	1	34	81012	Spline	4
10	12457	Bearing	1	35	12455	Hydraulic support	1
11	12467	Elastic ring	1	36	32007	Oil level plug	1
12	901568	Screw	1	37		Flywheel assembly	1
13	12462	PTFE Washer	1	38	12490	Dowel	1
14	12466	Elastic ring	1	39		Dowel	1
15	12465	Bearing	1	40	31128	Gas-ring	1
16	12464	O-Ring	1	41	3637	Nut	1
17	12459	Cover	1	42	81019	Dowel	1
18	12463	Label	1		81001	Electric motor 230V 50HZ	1
19	32017/1C	Dowel	2	43	81002	Electric motor 400V 50Hz three-phase	1
20	16308	Label	1		81003	Electric motor 115V 60HZ	1
21	320171	Knob	1	44	95158	Nut	4
22	32017/2	Spring	1	45	81033	Washer	4
23	32155	Valve body	1	46	81014	Key	1
24	32014	O-Ring	1	47	12460	Half-joint	1
25	32150	Pressure regulation	1				

**SPARE SUPPLIED COMPLETE (RECOMMENDED)
COD. 12488**

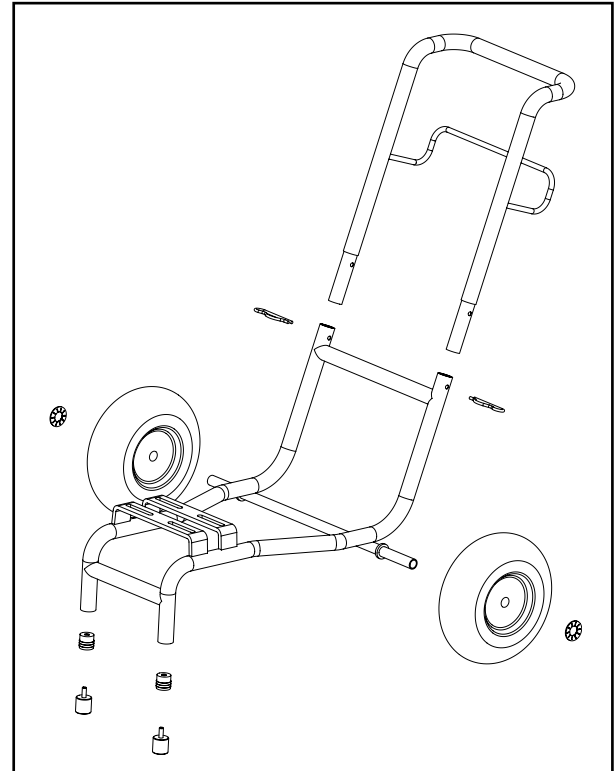
Pos.	Description
4	Cylinder liner
8	Bearing
9	Elastic ring
28	Fixing screw
34	Spline
35	Hydraulic support
40	Gas-ring
	Hex socket set screw
	Self blocking ring unit

Q GIOTTO PETROL - GIOTTO LINER





C

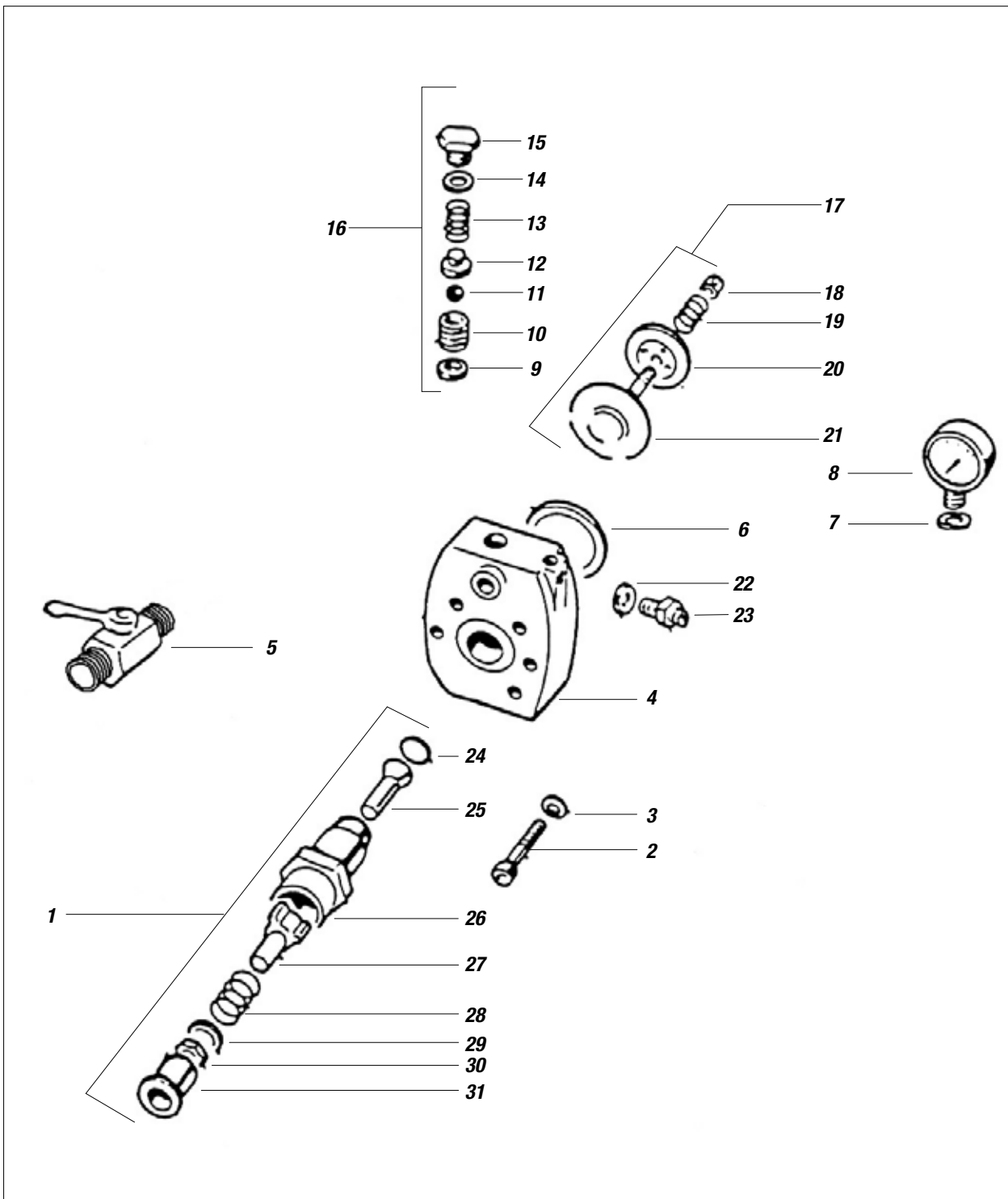


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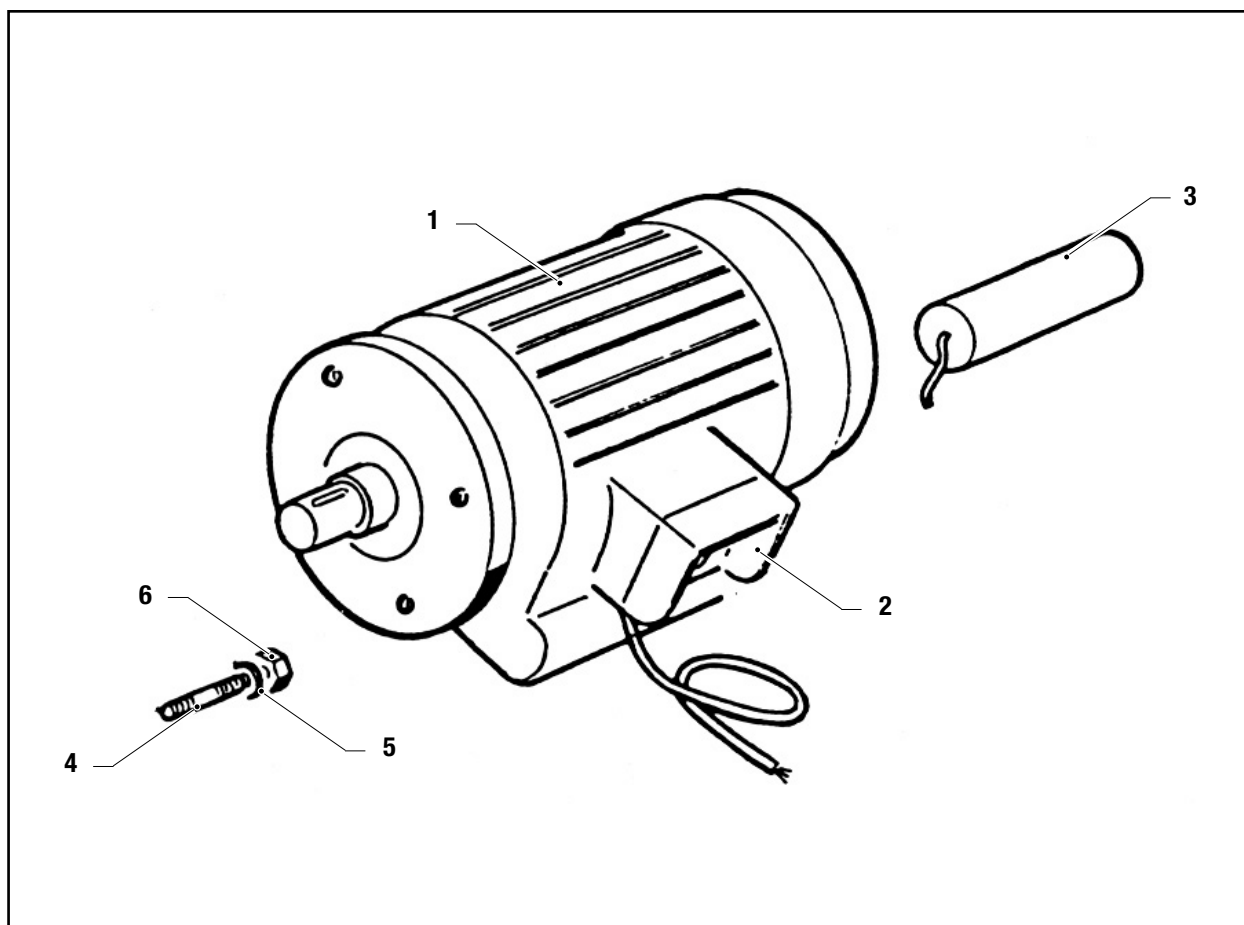
Pos.	Code	Description
A	18260	Complete gearbox – petrol membrane version
B+C+D	18342	Complete gearbox kit – Giotto petrol version with trolley
B+C	18346	Complete Giotto liner kit
1	4416	Motor
2	18261	Motor flange
3	34009	Washer
4	96031	Screw
5	18262	Pignone
6	18263	Washer
7	8385	Pin
8	18265	Toothed bell
9	18919	Tab
10	42255	Bearing
11	18266	Gearbox cone
12	34008	Screw
13	18267	Bearing
14	18344	Screw
15	95114	Washer

Pos.	Code	Description
16	18268	Hydraulic flange
17	81009	Dowel
18	18269	Reduction
19	18264	Plating guard
20	18258	Ball seat
21	81107	Vibration damper
22	18942	Threaded pin
23	52017	Nut
24	32024	Washer
25	34008	Screw
26	95156	Screw
27	81033	Washer
28	95158	Threaded pin
29	18254	Fixing plate
30	700711	Vibration damper
31	7059	Screw
32	18282	Motor gasket
33	18283	Gearbox gasket

R COMPLETE COLOUR BODY

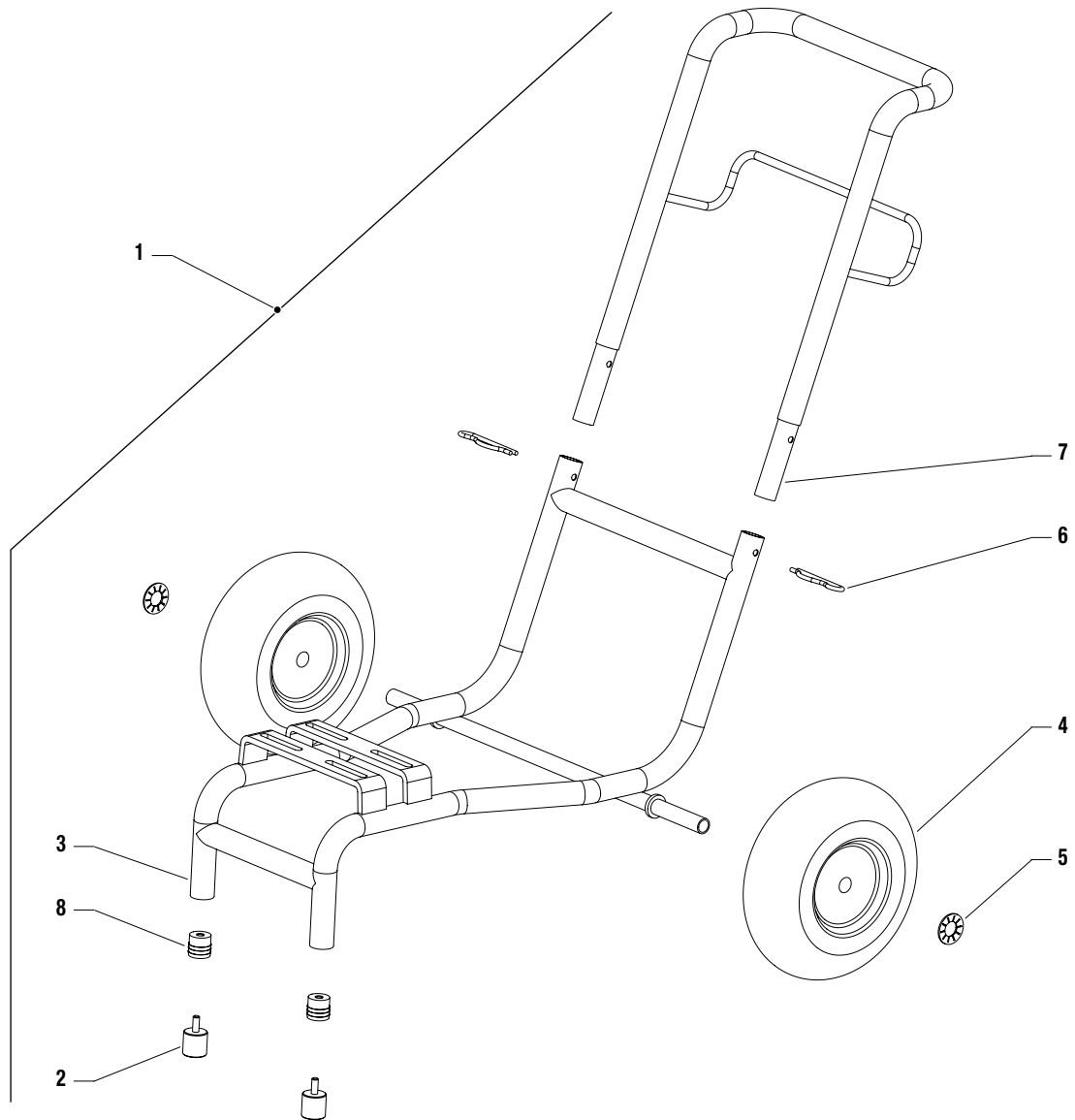


	Pos.	Code	Description
83000 Complete colour body	1	33017	Complete suction valve
	2	83004	Screw
	3	33005	Easher
	4	83001	Giotto pump body
	5	33013/2	Ball valve
	6	83003	Diaphragm insert
	7	33009	Copper washer
	8	33008	Manometer
	9	33026	Ball valve seat gasket
	10	33027	Complete ball valve seat
	11	33028	Ball
	12	33029	Spring support ring
	13	53006/1	Exhaust valve spring
	14	33031	Copper washer
	15	33032	Plug
	16	83033	Complete exhaust valve
	17	83002	Complete diaphragm
	18	83002/4	Sealing block
	19	83002/3	Spring
	20	83002/2	Oil distributor
	21	83002/1	Diaphragm
	22	33007	Washer
	23	33006	Feed tube union
	24	33018	PTFE Gasket
	25	33019	Conical shutter
	26	33020	Suction valve body
	27	33021	Shutter guide
	28	33022	Spring
	29	33023	Washer
	30	33024	Self-tightening nut
	31	96099	Cylinder liner

S MOTOR**ELECTRIC MOTOR**

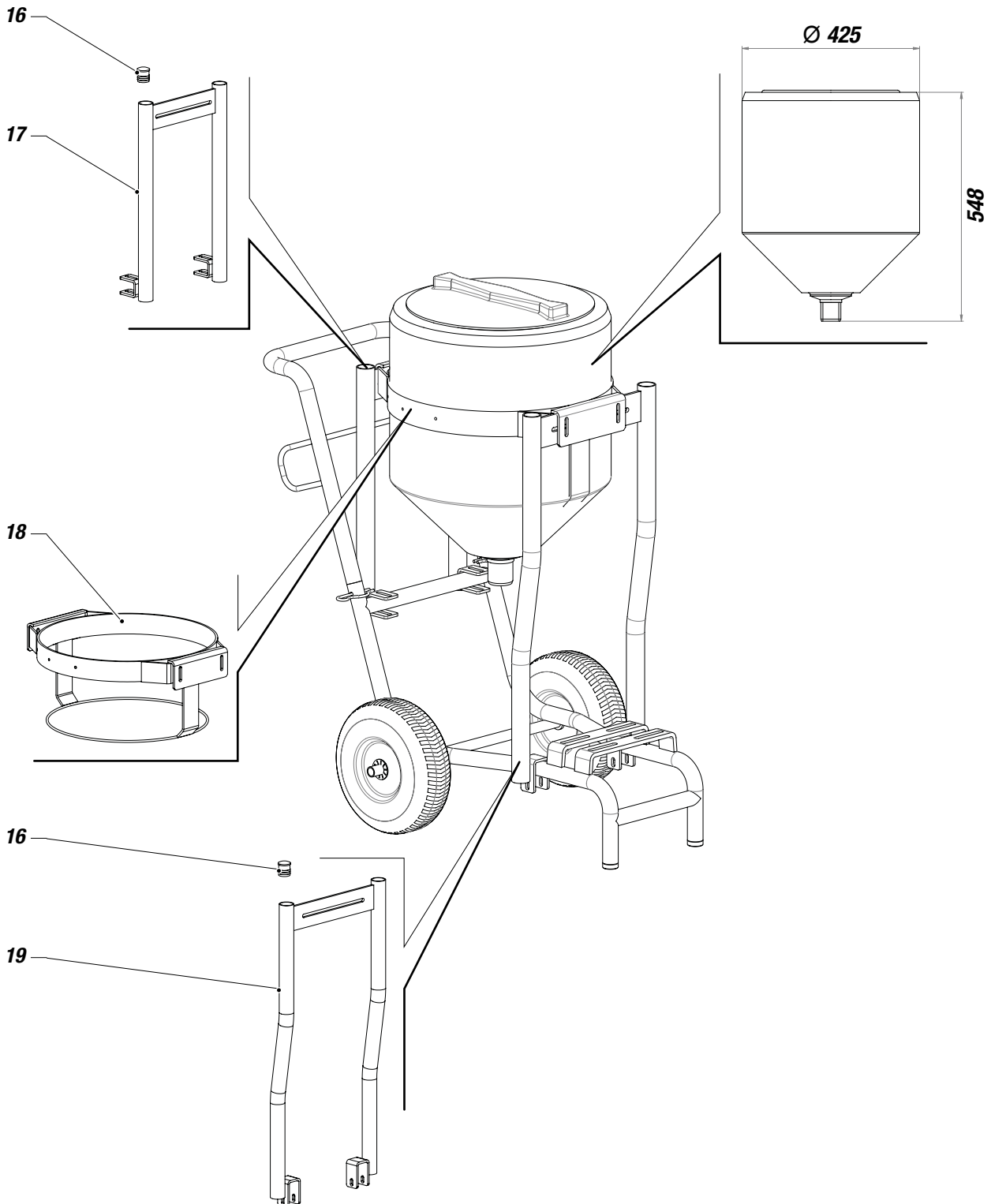
Pos.	Code	Description
1	81001	Electric motor 230V 50HZ
1	81002	Electric motor 400V 50Hz three-phase
1	81003	Electric motor 115V 60Hz
2	86003	Electric box
3	86001	Electric box
4	81012	Stud bolt
5	81033	Washer
6	95158	Nut

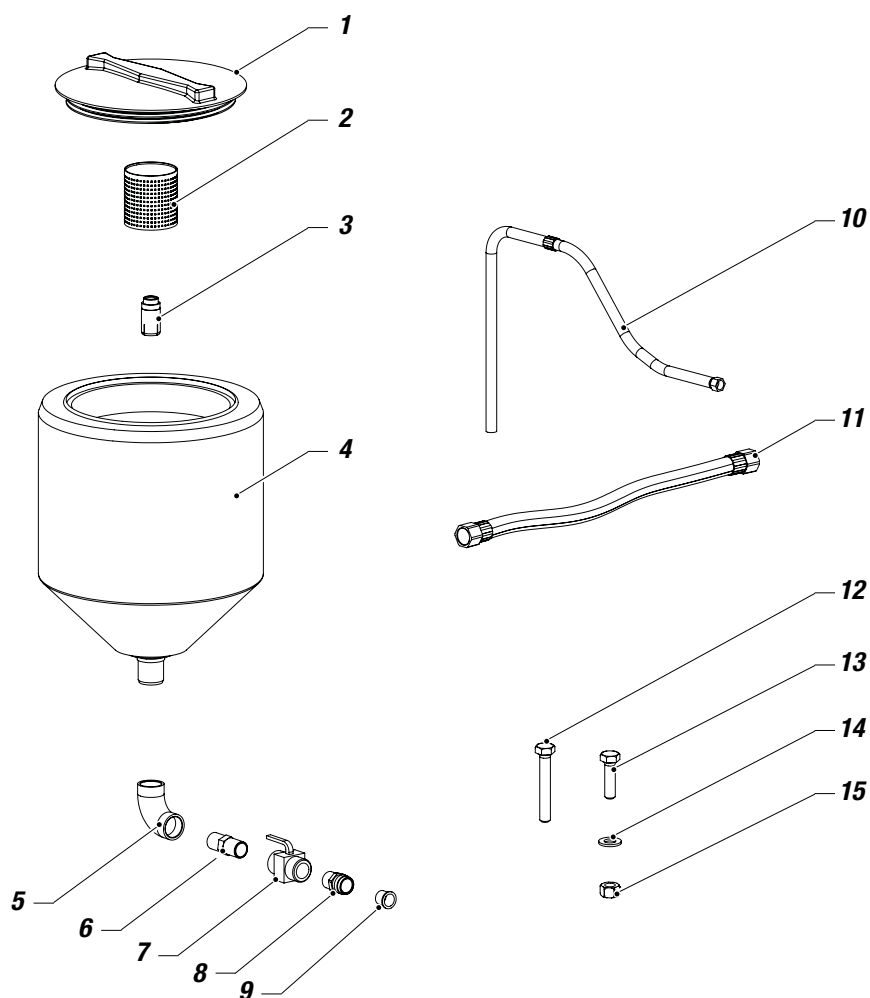
T TROLLEY



Pos.	Code	Description
1	12355	Trolley assembly
2	12454	Vibration damper foot
3	12710	Trolley base
4	37218	Pneumatic wheel
5	91047	Elastic washer
6	84007	Split pin
7	12711	Trolley handle
8	12473	Threaded plug

S GRAVITY TANK 50L GIOTTO REF. 18240





Pos.	Code	Description
1	18249/1	Cover
2	85012	Drum filter - 40 mesh
3	18231	Filter extension
4	18249	50L tank
5	20833	Elbow
6	20817	Junction
7	20825	Tap
8	96098	Junction
9	96099	Seal ring
10	18224	Recirculation tube

Pos.	Code	Description
11	18223	Suction tube
12	37406	Screw
13	901568	Screw
14	32024	Washer
15	52017	Nut
16	37142	Plug
17	18247	Short support
18	18246	Basket
19	18248	Long support

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CE DECLARATION OF CONFORMITY



Company



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Tel: +39 0341 621152
Fax: +39 0341 621243
E-mail: larius@larius.com

Declares under his owns responsibility that the product:

GIOTTO Electric diaphragm pump

complies with the directives:

- EC Directive 2006/42 Machinery Directive
- EU Directive 2014/30 Electromagnetic Compatibility (EMC)
- EU Directive 2014/35 Low Voltage (LVD)

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 exclusively 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

Pierangelo Castagna
Managing Director

Calolziocorte, 21 May 2024
Location / Date

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