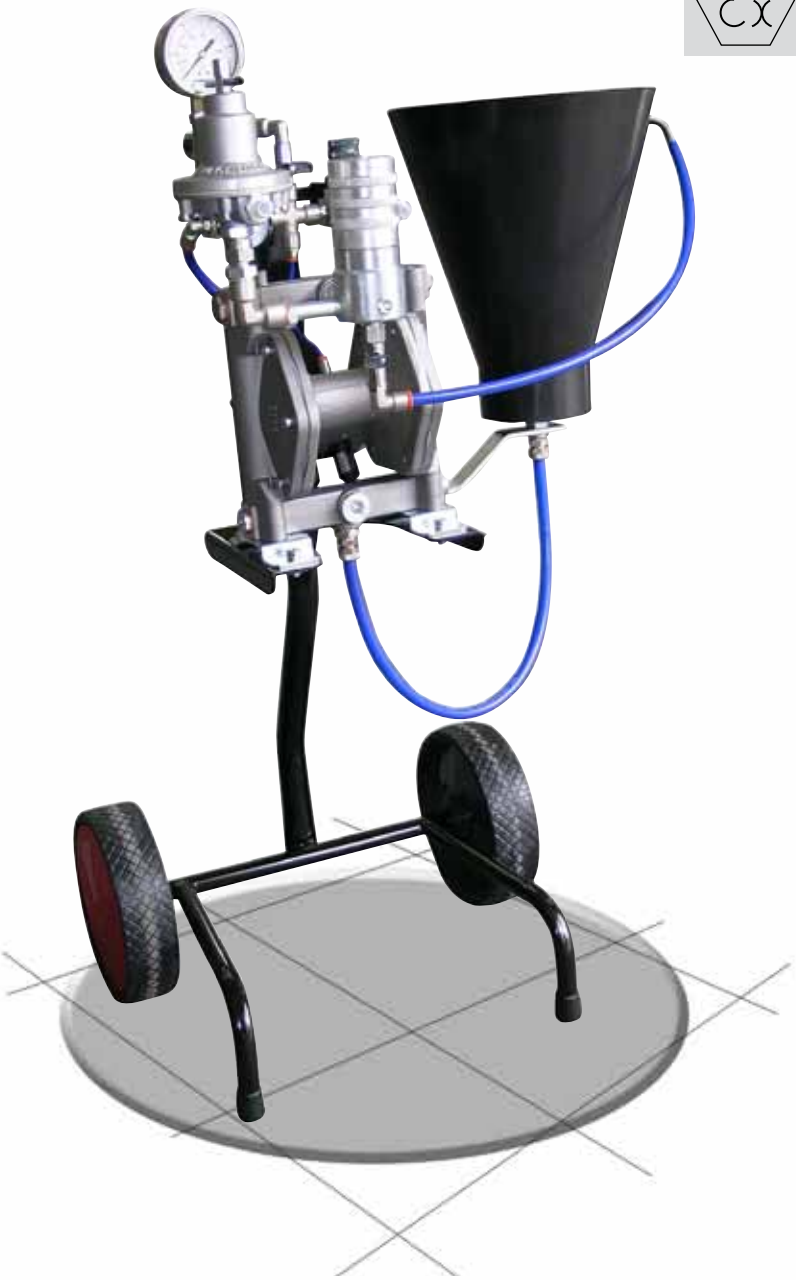
Ed. 004 | 04 - 12

LARIUS 22

Painting

II 2 G c IIB T4



OPERATING AND MAINTENANCE INSTRUCTIONS

LARIUS®

PAINT SPRAYING EQUIPMENT

ENGLISH

English

PNEUMATIC DOUBLE DIAPHRAGM PUMP

				
Read this operator's manual carefully before using the equipment. An improper use of this machine can cause injuries to people or things.	It indicates an accident risk or serious damage to equipment if this warning is not followed.	It indicates a fire or explosion risk if this warning is not followed.	It is obligatory to wear suitable clothing as gloves, goggles and face shield.	It indicates important recommendations about disposal andrecycling process of products in accordance with the environmental regulations.

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 WORKING PRINCIPLE

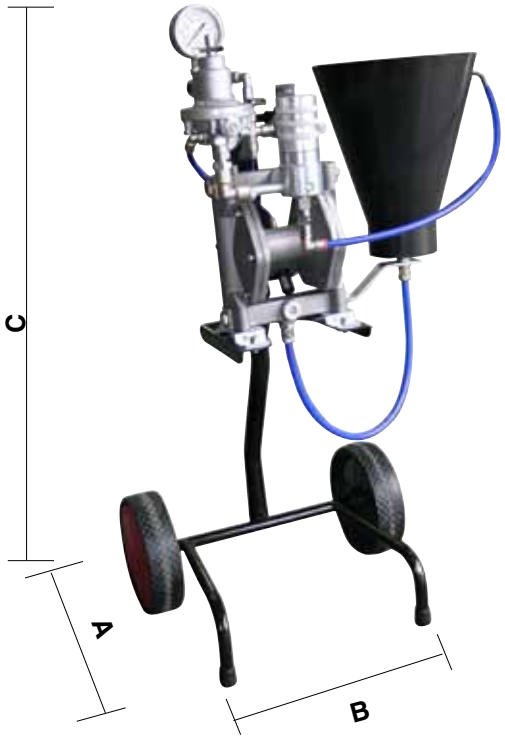
The ***LARIUS 2*** unit is defined as being a “diaphragm pump” that is used for low pressure painting. This type of equipment can be used to paint using a number of spray guns.
The feed passes through a low pressure flow regulator, fitted with a pressure gauge.

The ***LARIUS 2*** can also be used as a transfer pump.

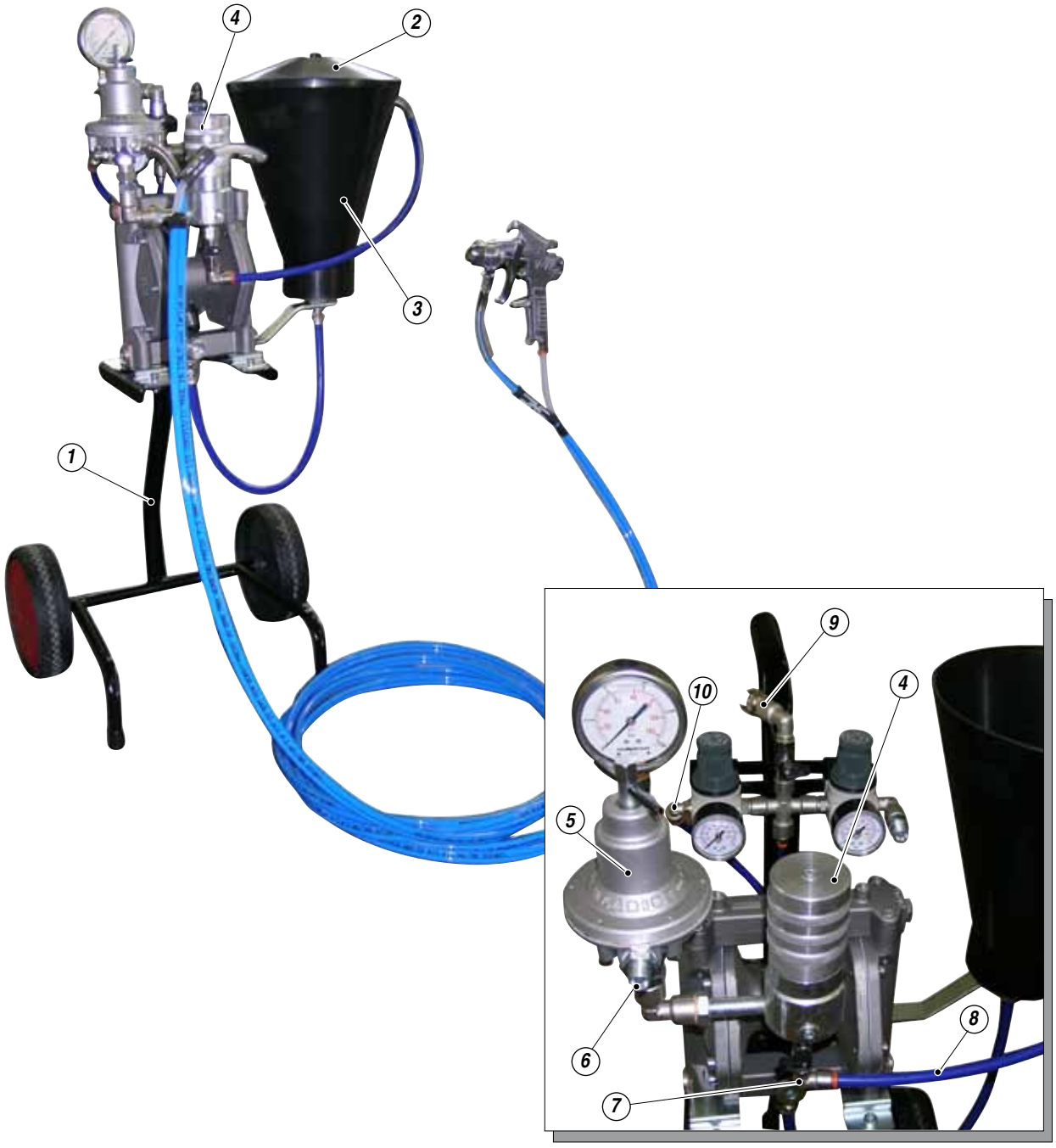
B TECHNICAL DATA

RATIO 1:1

	LARIUS 2
MAX WORKING PRESSURE (product)	7 bar
MAX (air) SUPPLY PRESSURE	7 bar
AIR INLET PRESSURE	7 bar
PUMP AIR CONSUMPTION	120 L/min
WEIGHT	22 Kg
LEVEL OF THE SOUND PRESSURE	≤ 70dB(A)
LENGTH	(**A**) 500 mm
WIDTH	(**B**) 600 mm
HEIGHT	(**C**) 1060 mm

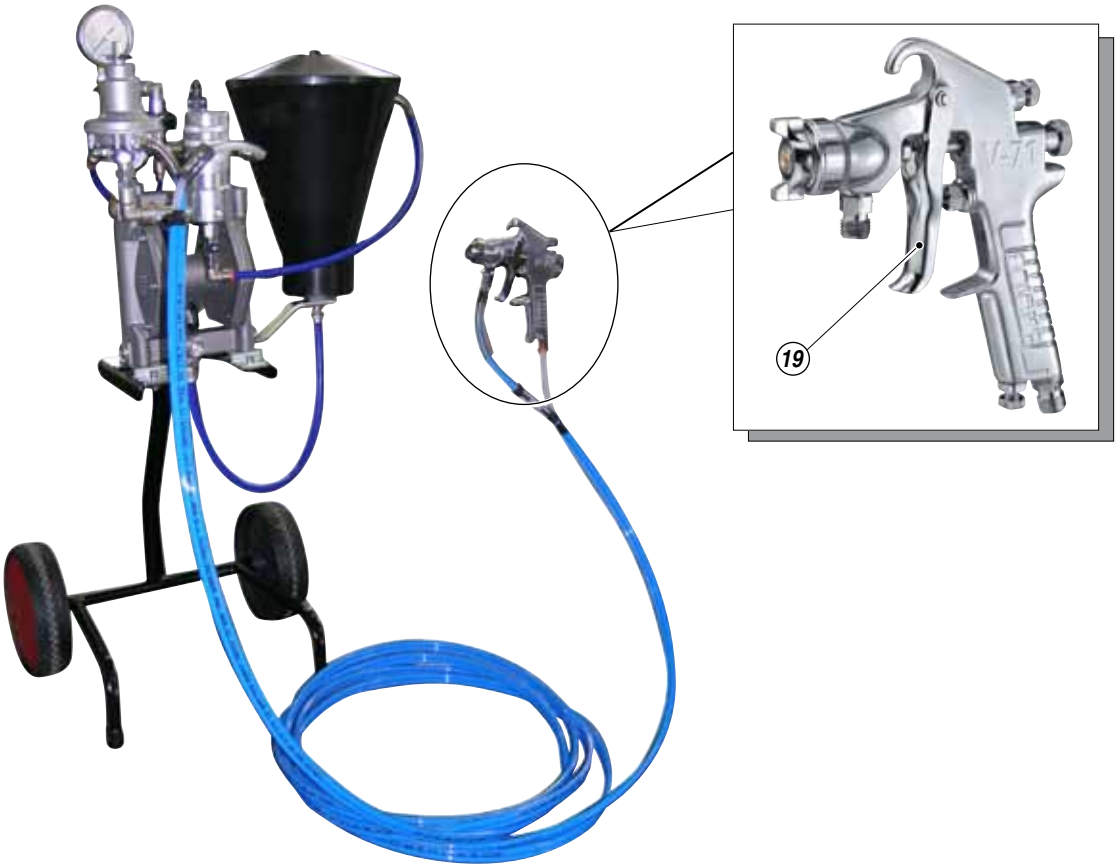


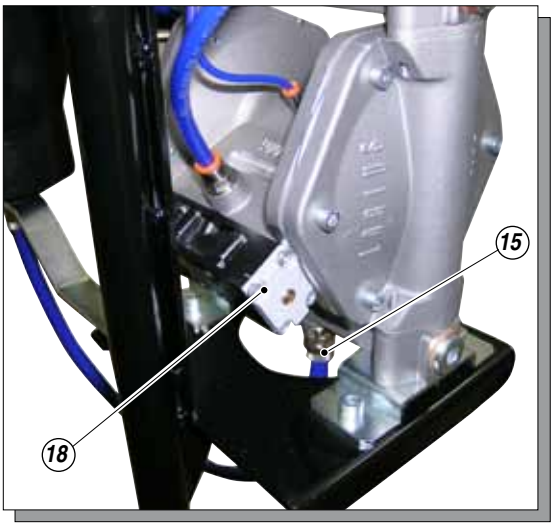
C DESCRIPTION OF THE EQUIPMENT

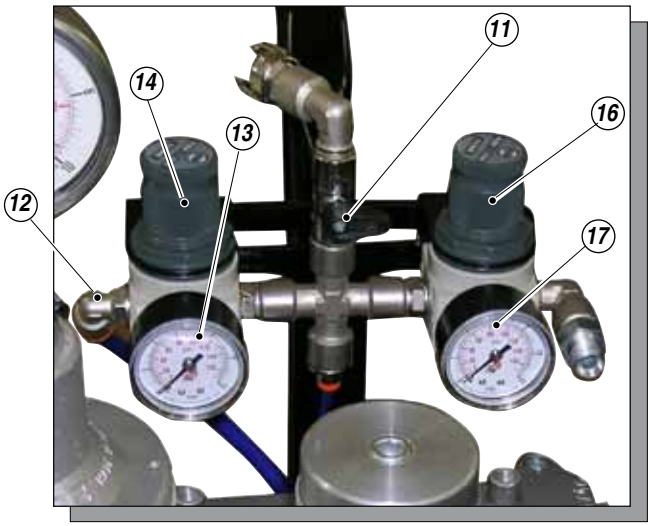


POS.	*Description*
1	Trolley
2	Tank cover
3	Gravity feed tank with 6 liters capacity
4	Product filter
5	Flow regulator

POS.	*Description*
6	Product outlet
7	Product recycling tap
8	Product recycling hose
9	Pump feeding air inlet
10	Pump feeding air outlet







POS.	*Description*
11	Air distribution tap
12	Atomising air outlet
13	Atomizing air pressure manometer
14	Atomizing air pressure setting knob
15	Product inlet

POS.	*Description*
16	Product pressure setting knob
17	Air pressure gauge for pump supply
18	Pilot valve
19	Spray gun

D TRANSPORT AND UNPACKING

- The packed parts should be handled as indicated in the symbols and markings on the outside of the packing.
- Before installing the equipment, ensure that the area to be used is large enough for such purposes, is properly lit and has a clean, smooth floor surface.
- The user is responsible for the operations of unloading and handling and should use the maximum care so as not to damage the individual parts or injure anyone.
  To perform the unloading operation, use only qualified and trained personnel (truck and crane operators, etc.) and also suitable hoisting equipment for the weight of the installation or its parts.
  Follow carefully all the safety rules.
  The personnel must be equipped with the necessary safety clothing.
- The manufacturer will not be responsible for the unloading operations and transport to the workplace of the machine.
- Check the packing is undamaged on receipt of the equipment. Unpack the machine and verify if there has been any damage due to transportation.
  In case of damage, call immediately LARIUS and the Shipping Agent. All the notices about possible damage or anomalies must arrive timely within 8 days at least from the date of receipt of the plant through Registered Letter to the Shipping Agent and to LARIUS.
- The disposal of packaging materials is a customer's competence and must be performed in accordance with the regulations in force in the country where the plant is installed and used.It is nevertheless sound practice to recycle packaging materials in an environment-friendly manner as much as possible.

E SAFETY RULES

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

  THE BEHAVIOUR OF THE EMPLOYEES SHALL STRICTLY COMPLY WITH THE ACCIDENT PREVENTION AND ALSO ENVIRONMENTAL REGULATIONS IN FORCE IN THE COUNTRY WHERE THE PLANT IS INSTALLED AND USED.

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

The unauthorised tampering/replacement of one or more parts composing the machine, the use of accessories, tools, expendable materials other than those recommended by the Manufacturer can be a danger of accident.
The Manufacturer will be relieved from tort and criminal liability.

- KEEP YOUR WORK PLACE CLEAN AND TIDY. DISORDER WHERE YOU ARE WORKING CREATES A POTENTIAL RISK OF ACCIDENTS.
- ALWAYS KEEP PROPER BALANCE AVOIDING UNUSUAL STANCE.
- BEFORE USING THE TOOL, ENSURE THERE ARE NOT DAMAGED PARTS AND THE MACHINE CAN WORK PROPERLY.
- ALWAYS FOLLOW THE INSTRUCTIONS ABOUT SAFETY AND THE REGULATIONS IN FORCE.
- KEEP THOSE WHO ARE NOT RESPONSIBLE FOR THE EQUIPMENT OUT OF THE WORK AREA.
- **NEVER** EXCEED THE MAXIMUM WORKING PRESSURE INDICATED.
- **NEVER** POINT THE SPRAY GUN AT YOURSELVES OR AT OTHER PEOPLE. THE CONTACT WITH THE CASTING CAN CAUSE SERIOUS INJURIES.
- IN CASE OF INJURIES CAUSED BY THE GUN CASTING, SEEK IMMEDIATE MEDICAL ADVICE SPECIFYING THE TYPE OF THE PRODUCT INJECTED. **NEVER** UNDERVALUE A WOUND CAUSED BY THE INJECTION OF A FLUID.
- ALWAYS DISCONNECT THE SUPPLY AND RELEASE THE PRESSURE IN THE CIRCUIT BEFORE PERFORMING ANY CHECK OR PART REPLACEMENT OF THE EQUIPMENT.
- NEVER MODIFY ANY PART IN THE EQUIPMENT. CHECK REGULARLY THE COMPONENTS OF THE SYSTEM. REPLACE THE PARTS DAMAGED OR WORN.
- TIGHTEN AND CHECK ALL THE FITTINGS FOR

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

- ALWAYS USE THE FLEXIBLE HOSE SUPPLIED WITH STANDARD KIT. THE USE OF ANY ACCESSORIES OR TOOLING OTHER THAN THOSE RECOMMENDED IN THIS MANUAL, MAY CAUSE DAMAGE OR INJURE THE OPERATOR.
- THE FLUID CONTAINED IN THE FLEXIBLE HOSE CAN BE VERY DANGEROUS. HANDLE THE FLEXIBLE HOSE CAREFULLY. DO NOT PULL THE FLEXIBLE HOSE TO MOVE THE EQUIPMENT. NEVER USE A DAMAGED OR A REPAIRED FLEXIBLE HOSE.

The high speed of 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.

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

Always check the product is compatible with the materials composing the equipment (pump, spray gun, flexible hose and accessories) with which it can come into contact. Never use paints or solvents containing Halogen Hydrocarbons (as the Methylene Chloride).

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

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

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

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.
- 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 considerabledanger to the user may result.

F SETTING-UP

CONNECTION OF THE FLEXIBLE HOSE TO THE GUN

- Connect the dual hose to the pump and the spray gun, making sure that the connections are properly tight (*it is best to use two spanners*).
  NEVER use sealants on fittings' threads.
- It is recommended to use the hose provided with the standard kit (*rif. 8151*).
  NEVER use a damaged or a repaired flexible hose.

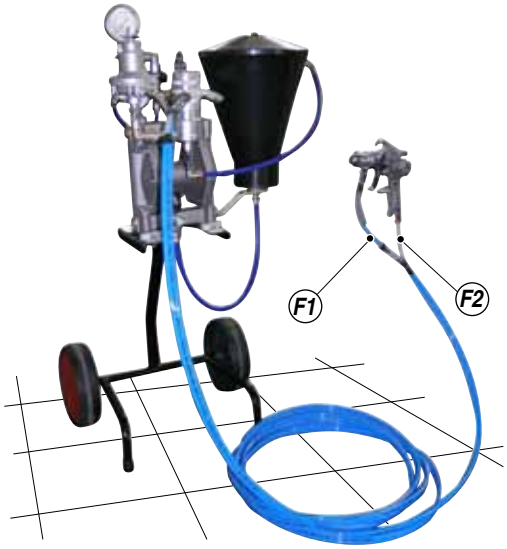
CONDITIONS OF GUARANTEE

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.

WASHING OF THE NEW EQUIPMENT

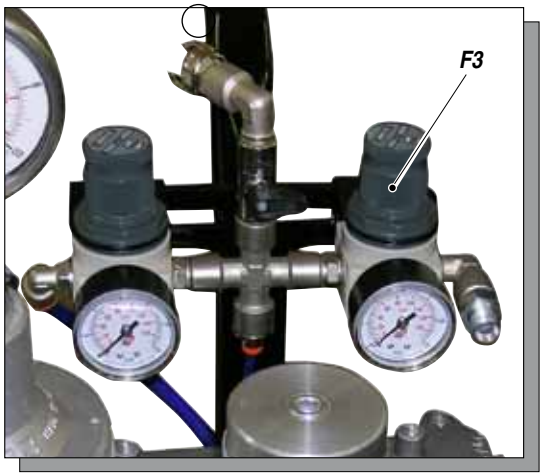
- The equipment has already been adjusted at our factory with light mineral oil left inside the pumping group as protection. As soon as the connections have been carried out, before putting the product in the tank, it is necessary to rinse the pump by means of the circulation of solvent (thinner for paints).

- Clean hoses (**F1**) and (**F2**) by blowing compressed air before connecting them.



- Make sure that the atomising air supply is shut off.

- Rotate the pressure setting knob (**F3**) slightly clockwise so that the machine operates at minimum power.



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

- Point the gun at the solvent tank and press the trigger so as to recover the residual solvent.

- Close the pressure setting knob (**F3**).

Do not set the pump to work without product, because this could spoil its gaskets.

Absolutely avoid to spray solvents indoors. In addition, it is recommended to keep away from the pump in order to avoid the contact with the solvent fumes.

- Now the machine is ready. Should you use water paints, besides the solvent wash, a wash with soapy and then clean water is suggested.

PREPARATION OF THE PAINT

- Make sure the product is suitable to be used with a spray gun.

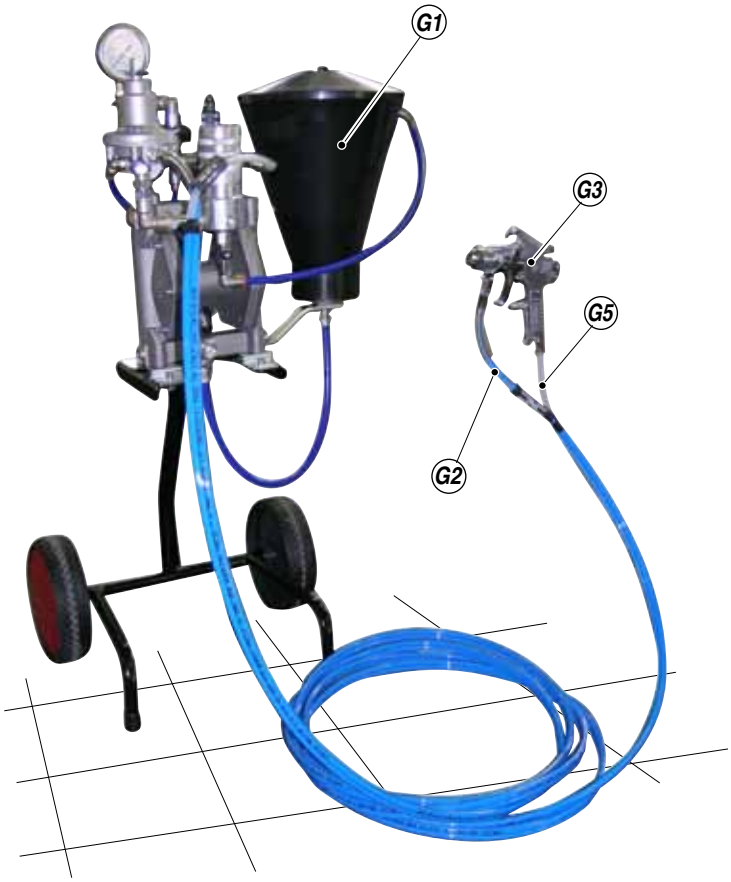
- Mix and filter the product before using it.

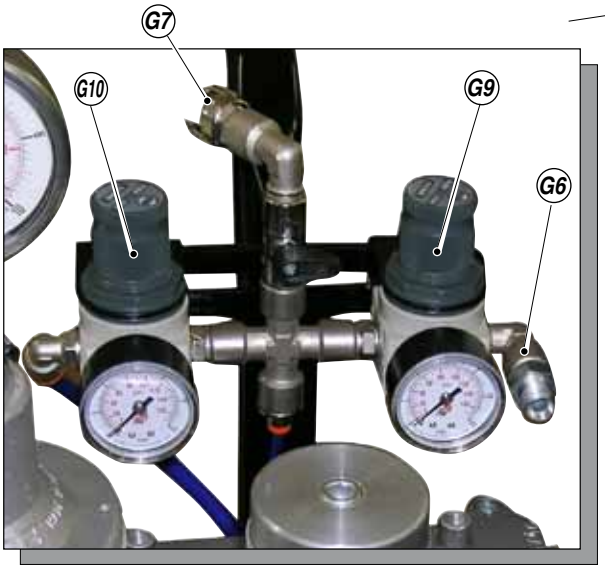
Make sure the product to be used is compatible with the materials employed for manufacturing the equipment (*stainless steel, aluminium and carbon steel*). Because of that, please contact the supplier of the product.

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.

English

G OPERATION





START OF THE PAINTING OPERATIONS

- Use the tooling after performing all the **SETTING UP** operations above described.
- Fill tank (**G1**) with pure and perfectly filtered product.
- Connect up the product hose (**G2**) from the spray gun (**G3**) to the flow regulator (**G4**).
- Connect up the air hose (**G5**) from the spray gun (**G3**) to the coupling (**G6**).
- Connect the compressed air plant to the quick connection (**G7**); the pressure must be of roughly 6 bar, max. 7,5 bar.
- Open the recycling tap (**G8**).
- Start pump by means of the knob (**G9**); the pump will be set to work. Let the product recycle for a short period (2 minutes) and then close the recycling tap (**G8**).
- Set the atomizing air pressure by means of the knob (**G10**).
- Make a spraying test.
- The pump is now ready to work.

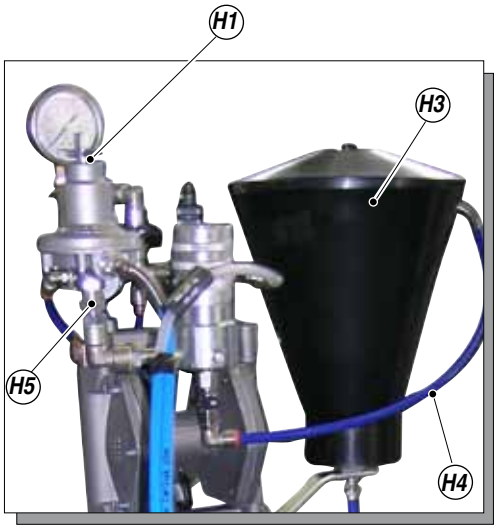
SPRAY ADJUSTMENT

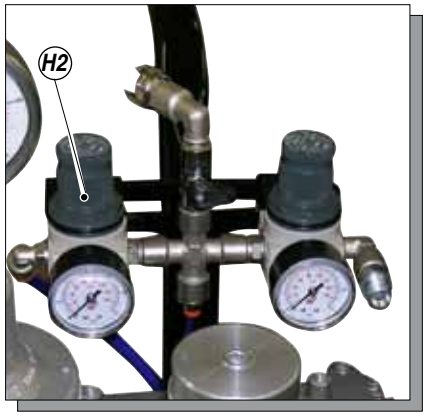
- Slowly turn the knob on the flow regulator clockwise, until a pressure is obtained that guarantees good atomisation of the product.
- An irregular and marked spray on the sides indicates a low working pressure. On the contrary, a too high pressure causes a high fog (*"overspray"*) and waste of product.
- 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.

H CLEANING AFTER THE SPRAY PAINTING OR IN CASE OF PRODUCT CHANGE

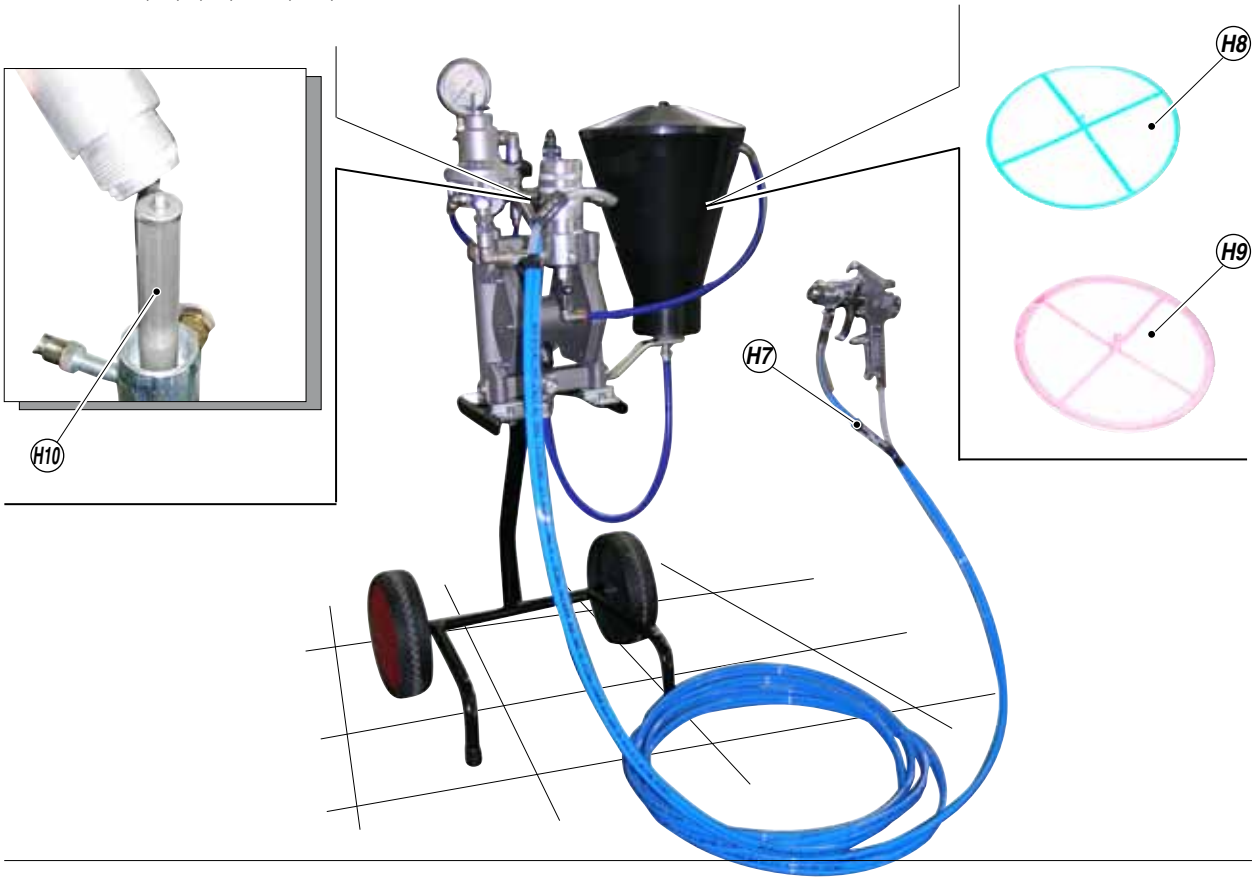
- Reduce product pressure to the minimum (0,5-1 bar) by means of knob (**H1**).
- Use knob (**H2**) to set the air atomisation knob to zero.
- Disconnect the return hose (**H4**) from tank (**H3**) and introduce it into an empty can for recuperating the product.
- Open the recycling tap (**H5**) and let the pump work until the tank and the pump itself have been emptied.
- Close the recycling tap (**H5**).
- Put back the recycling hose (**H4**) into the tank (**H3**).
- Pour some solvent in the tank (**H3**).
- Open the recycling tap (**H5**), set the product pressure at the minimum value by means of the knob (**H1**).
- The pump will be set to work. Let the solvent recycle for a short time and then close the recycling tap (**H5**).
- Unscrew the atomizing head (**H6**) and rinse it with the solvent, put it back and by means of the spray gun discharge in a tank the product left until the solvent comes out.





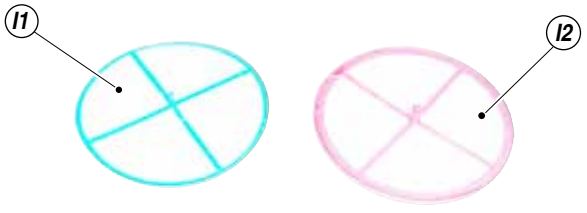
- With the spray gun over the thinner tank, press the trigger in order to let the thinner circulate during at least five minutes.
- If necessary change the thinner and repeat this operation more times until all the residues of the product will have been eliminated.
- Clean the product hose (**H7**) by means of a rag and wash the filters (**H8**), (**H9**) and (**H10**) with the solvent.
- After the use of products with a base of polyvinyl alcohol or of water soluble products, first clean the pump with water and then let some alcohol circulate through the plant.

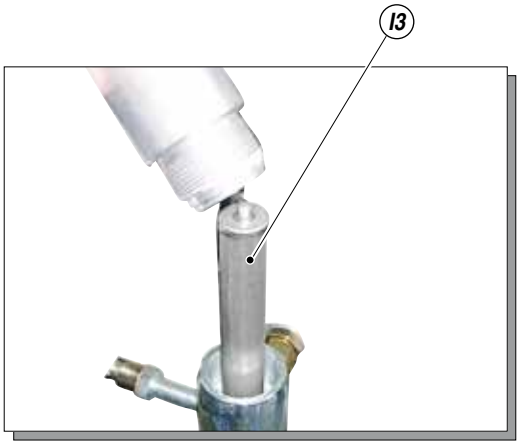
If it is foreseen a long period of standstill for the pump, after the cleaninng let some light mineral oil circulate in order to protect it against corrosion.



I ROUTINE MAINTENANCE

- Check that all the hose connections are tight.
- Clean and, if necessary, replace the worn seals.
- Check filters (**I1**), (**I2**) and (**I3**) and replace them when necessary.
- Check the nozzle on the spray gun and clean it.

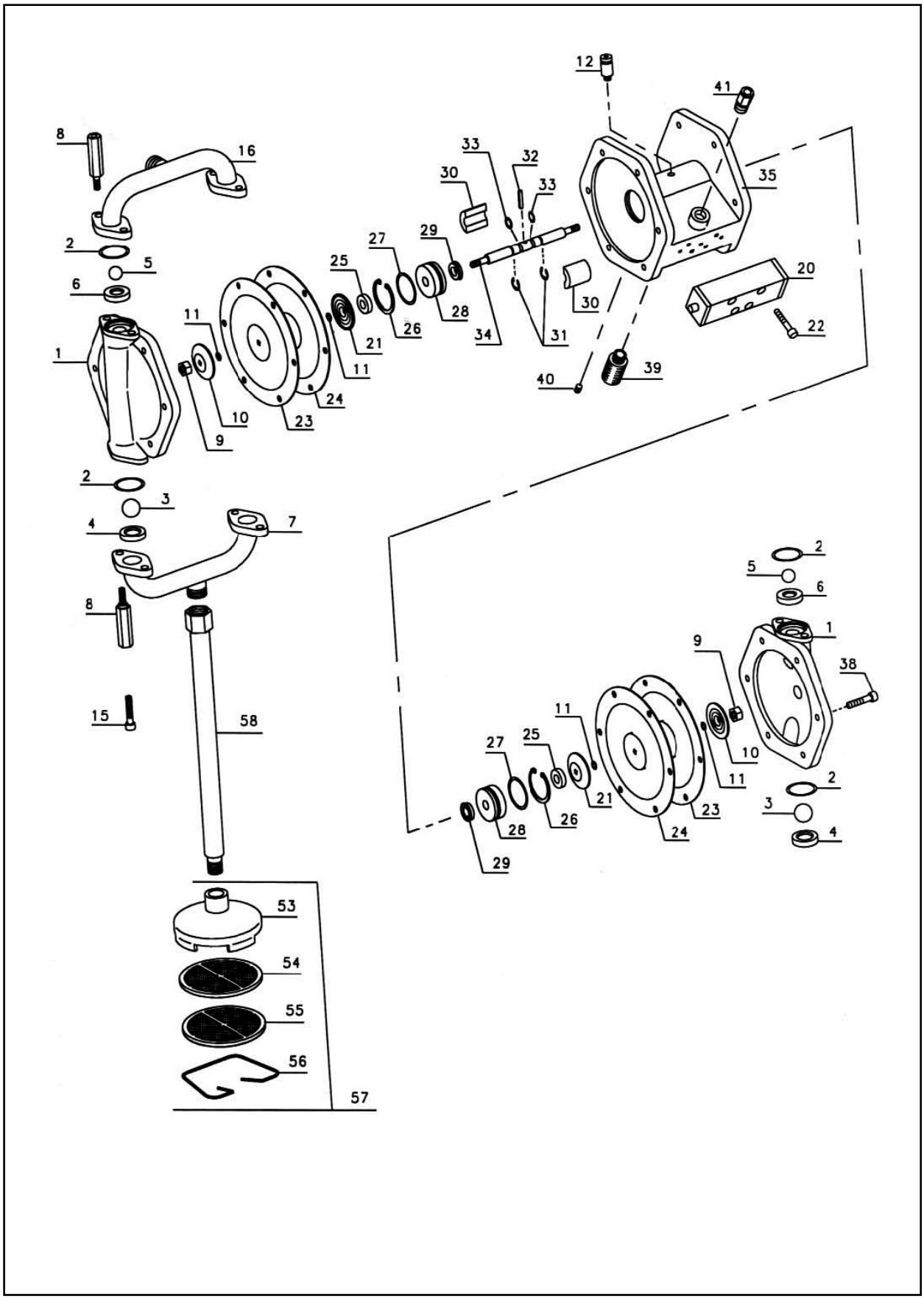




J TROUBLESHOOTING

Problem	Cause	Solution
• **The equipment does not suck the product**	• Suction filter clogged; • Suction filter too fine; • The equipment sucks air;	• Clean or replace it; • Replace it with a larger-mesh filter (*with very dense products, remove the filter*); • Check the suction pipe;
• **The equipment suck but does not reach the pressure desired**	• Lack of product; • The equipment sucks air; • The circulation tap is open;	• Add the product; • Check the suction pipe; • Close the circulation tap;
• **When pressing the trigger, the pressure lowers considerably**	• Nozzle too big or worn; • The product is too dense;	• Replace it with a smaller one; • Dilute the product, if possible;
• **The pressure is normal but the product is not atomized.**	• The nozzle is partially clogged; • There is no atomising air; • The product is too dense;	• Clean or replace it; • Check the flow regulator for the atomising air; • Dilute the product, if possible;
• **Leakage from the seal-tightening screw**	• Gasket worn or needs adjustment;	• Replace or adjust the gasket;
• **The atomization is imperfect**	• The nozzle is worn;	• Replace it;

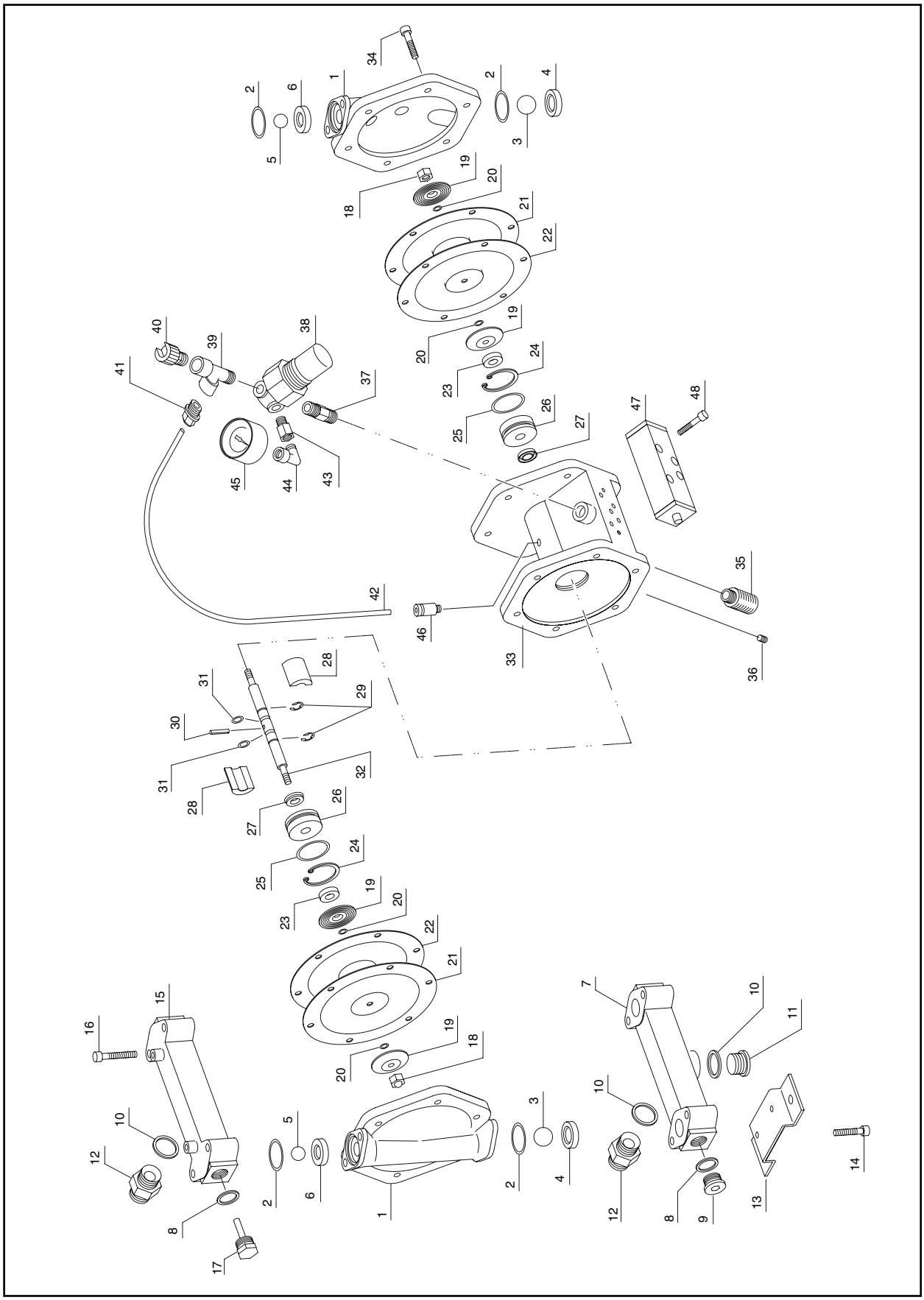
K STAINLESS STEEL L2 PUMP



Pos.	Code	N°	Description	Pos.	Code	N°	Description
1	8134	2	Flange	**27**	8005	2	O ring
2	8039	4	O ring	**28**	8004	2	Seal ring seat
3	91641	2	Lower ball Ø3/4"	**29**	8006	2	Seal ring
4	8016	2	Lower ball seat	**30**	8021	2	Pilot pad
5	8017	2	Upper ball Ø9/16"	**31**	8009	2	Elstic ring
6	8015	2	Upper ball seat	**32**	8010	1	Elastic pin
7	8148	1	Lower manifold	**33**	8043	2	O ring
8	8147	8	Support	**34**	8008	1	Rod
9	8158	2	Selflocking nut	**35**	8001	1	Pump body
10	8138	2	Membrane pressing	**38**	8047	12	Screw
11	301013	4	O ring	**39**	8054	2	Silencer
12	8056	1	Fitting	**40**	8026	2	Grub screw
16	8136	1	Upper manifold	**41**	4006	1	Fitting
20	8027	1	Pilot valve	**53**	35005/1	1	Filter bell
21	8012	2	Membrane pressing	**54**	35006	1	Fine filter
22	8084	2	Screw	**55**	35007	1	Coarse filter
23	8013	2	PTFE membrane	**56**	35008	1	Elastic ring
24	8014	2	Rubber membrane	**57**	35004		Complete filter
25	8011	2	Washer	**58**	8117	1	Rigide tube
26	8007	2	Elastic ring				

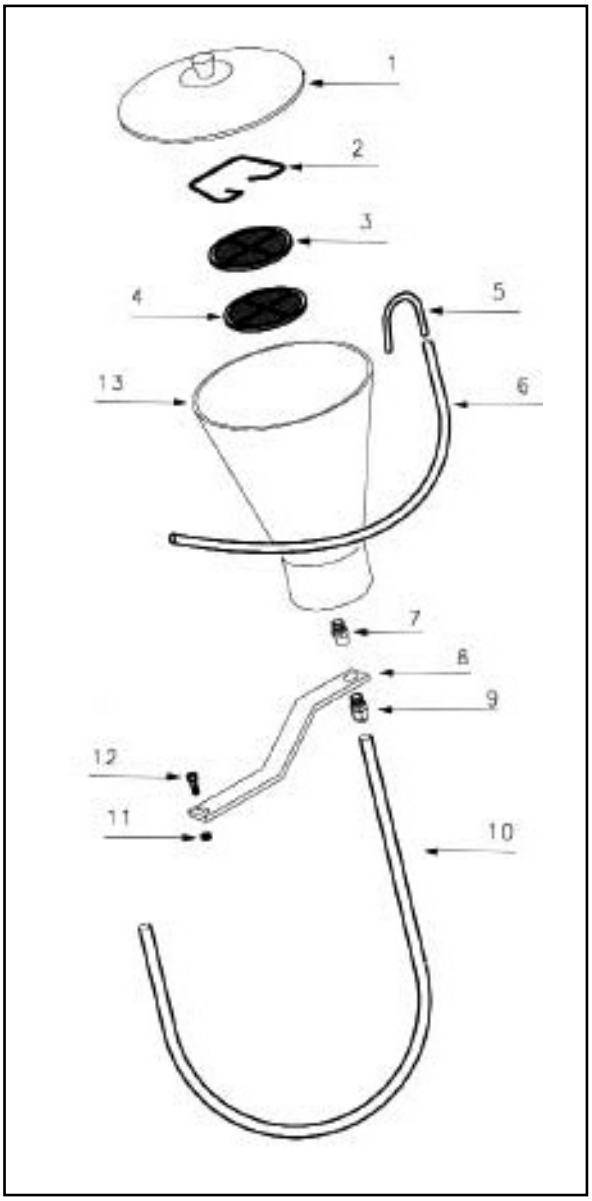
English

ALUMINIUM L2 PUMP



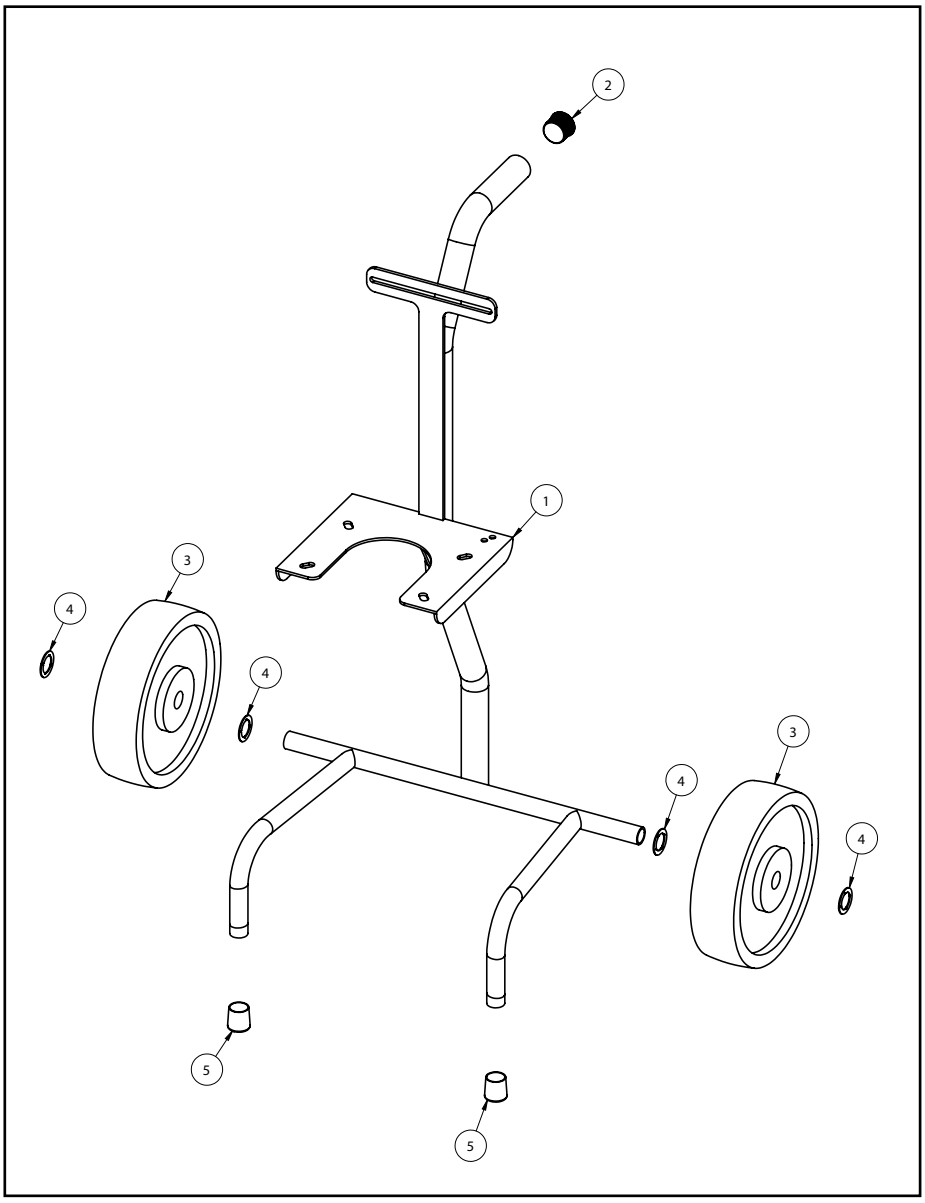
Pos.	Codice	N°	Descrizione	Pos.	Codice	N°	Descrizione
1	8002	2	Flange	25	8005	2	O ring
2	8039	4	O ring	26	8004	2	Seal ring seat
3	91641	2	Lower ball Ø3/4"	27	8006	2	Seal ring
4	8016	2	Lower ball seat	28	8021	2	Pilot pad
5	8017	2	Upper ball Ø9/16"	29	8009	2	Elastic ring
6	8015	2	Upper ball seat	30	8010	1	Elastic pin
7	8040	1	Lower manifold	31	8043	2	O ring
8	33010	4	Washer	32	8008	1	Rod
9	32108	2	Plug 3/8" GAS	33	8001	1	Pump body
10	8071	3	Washer	34	8047	12	Screw
11	8108	1	Plug 1/2" GAS	35	8054	2	Silencer
12	8058	2	Fitting 1/2" GAS	36	8026	2	Grub screw
13	8022	2	Bracket	37	8055	1	Fitting
14	7043	4	Screw	38	3344	1	Pressure regulator
15	8003	1	Upper manifold	39	8032	1	"I" fitting
16	8037	4	Screw	40	3338	1	Bayonet fitting
17	8020	2	Plug	41	8031	1	Fitting ¼"-Ø4
18	8158	2	Nut	42	8044/1	1	Hose
19	8012	4	Membrane pressing	43	3343	1	Fitting
20	301013	4	O ring	44	3341	1	Union elbow
21	8013	2	PTFE membrane	45	8167	1	Manometer
22	8014	2	Rubber membrane	46	8056	1	Fitting
23	8011	2	Washer	47	8027	1	Pilot valve
24	8007	2	Elastic ring	48	8084	4	Screw

L TANK



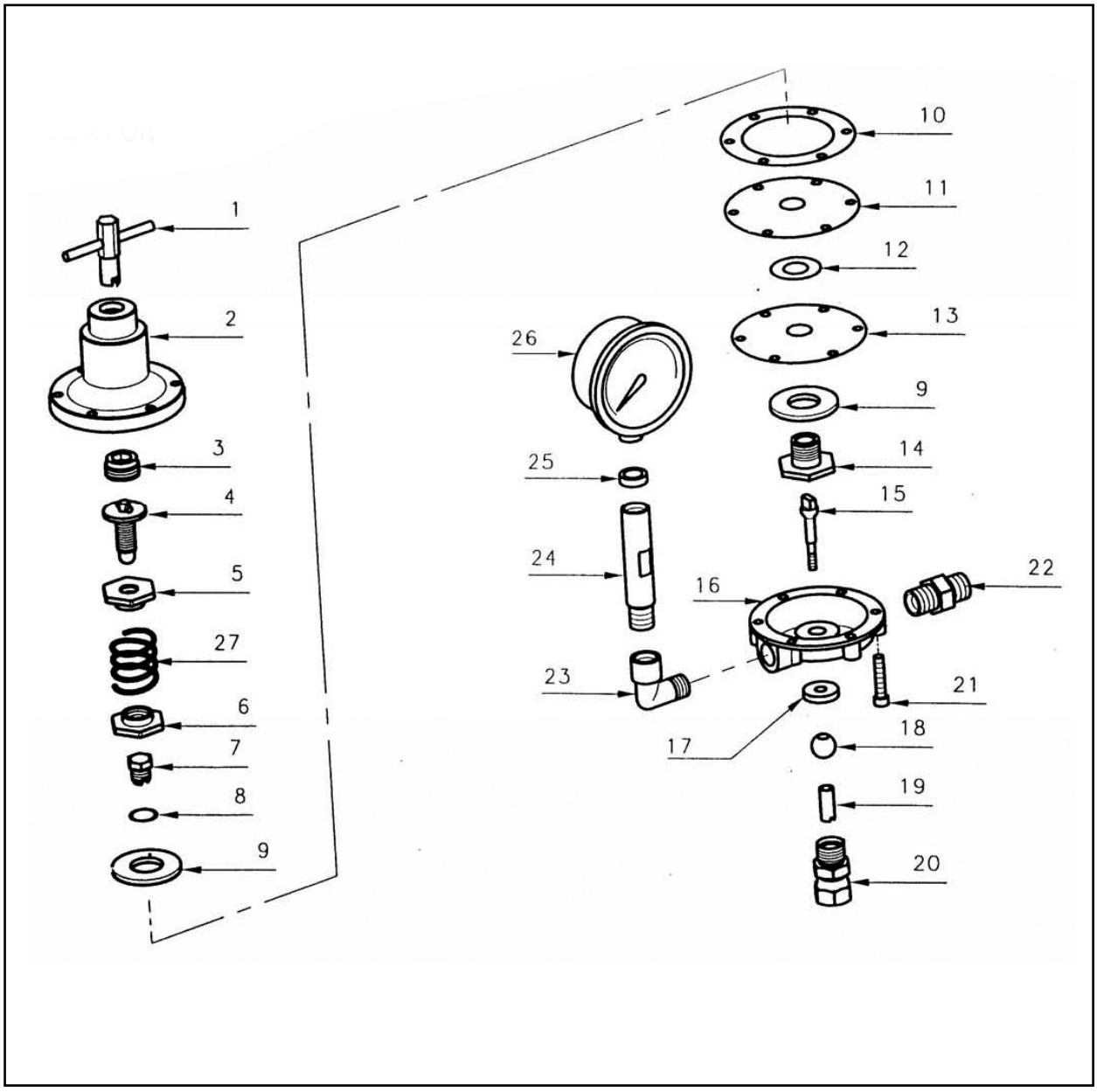
Pos.	Code	Description	Pos.	Code	Description
1	55000	Cover	**8**	4122	Bracket
2	35008	Elastic ring	**9**	22097	Fitting Ø12
3	35006	Fine filter	**10**	96217	Hose Ø12
4	35007	Coarse filter	**11**	54004	Screw
5	8085	Rigid tube	**12**	91026	Nut
6	18170	Hose Ø10	**13**	55001	Hopper
7	4123	Fitting			

M COMPLETE TROLLEY



Pos.	Code	N°	Description	Pos.	Code	N°	Description
	96320/1		**Complete trolley**	**3**	91023	2	Wheels
1	21653	1	Trolley frame L1-L2	**4**	95159	4	Wheel washer
2	91047	1	Plug Ø 30	**5**	8018	2	Feet Ø 20

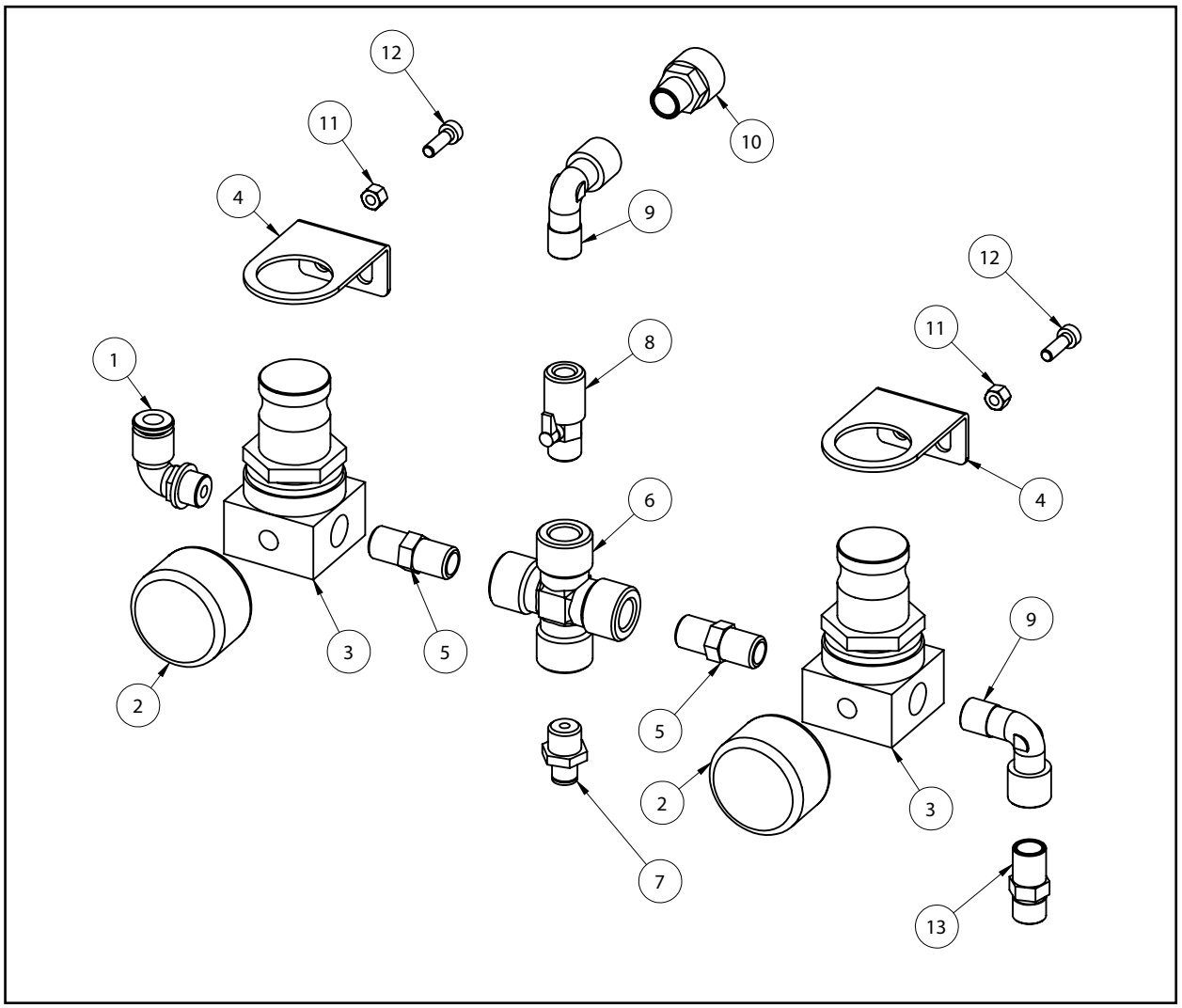
N FLOW REGULATOR



Pos.	Code	Description	Pos.	Code	Description
	7185	**Alluminium fluid regulator with manometer**	14	7223	Retainer
			15	7222	Valve rod
1	7234	Key	16	7510	Alluminium body
2	7211	Cap of regulator	17	7225	Seat valve
3	7212	Screw	18	7220	Ball
4	7240	Screw	19	7226	Nut
5	7213	Nut	20	7235	Swivel joint (3/8" GAS)
6	7214	Nut	21	7237	Screw
7	7217	Screw	22	33011	Carbon steel fitting (GAS)
8	7215	Gasket	23	5255	Union elbow
9	7522	Gasket	24	8064	Connector
10	7521	Washer	25	11623	Washer
11	7520	Diaphragm (nylon)	26	8168	Fluid pressure gauge
12	7518	Gasket	27	7218	Standard spring (0-4 bar)
13	7519	Diaphragm (teflon)	27	7209	Special spring (0-7 bar)

Pos.	Code	Description	Pos.	Code	Description
	7201	**Stainless steel fluid regulator with manometer**	14	7223	Retainer
			15	7222	Valve rod
1	7234	Key	16	7510	Stainless steel body
2	7211	Cap of regulator	17	7225	Seat valve
3	7212	Screw	18	7220	Ball
4	7240	Screw	19	7226	Nut
5	7213	Nut	20	7235/1	Swivel joint (3/8" GAS)
6	7214	Nut	21	7237	Screw
7	7217	Screw	22	6147	Stainless steel fitting (GAS)
8	7215	Gasket	23	5255	Union elbow
9	7522	Gasket	24	8064	Connector
10	7521	Washer	25	11623	Washer
11	7520	Diaphragm (nylon)	26	8168	Fluid pressure gauge
12	7518	Gasket	27	7218	Standard spring (0-4 bar)
13	7519	Diaphragm (teflon)	27	7209	Special spring (0-7 bar)

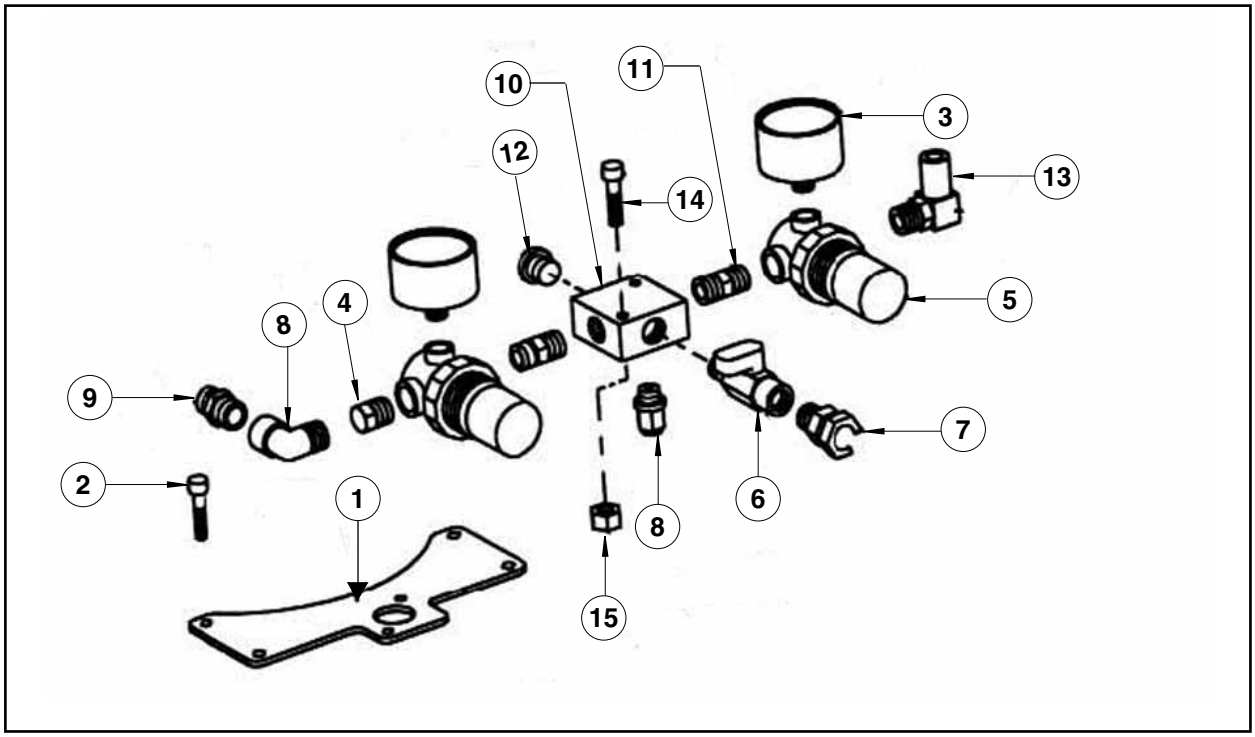
O AIR CONTROL GROUP ON TROLLEY



Pos.	Code	N°	Description	Pos.	Code	N°	Description
	96322		**Complete group**	**8**	4004	1	Ball valve 1/4"
1	4006	1	Quick coupling 1/4" tube Ø 8	**9**	5255	2	Elbow 1/4"
2	8167	2	Manometer	**10**	3338	1	Bayonet fitting
3	3344	2	Regulator	**11**	91026	2	Nut M6
4	510510	2	Regulators bracket	**12**	54004	2	Screw UNI 5931 TCE M6x16
5	3354	2	Adapter 1/4"	**13**	96208	1	Nipple 1/4"
6	8072	1	Fitting 1/4"				
7	8031	1	Quick connection 1/4" tube Ø 4				

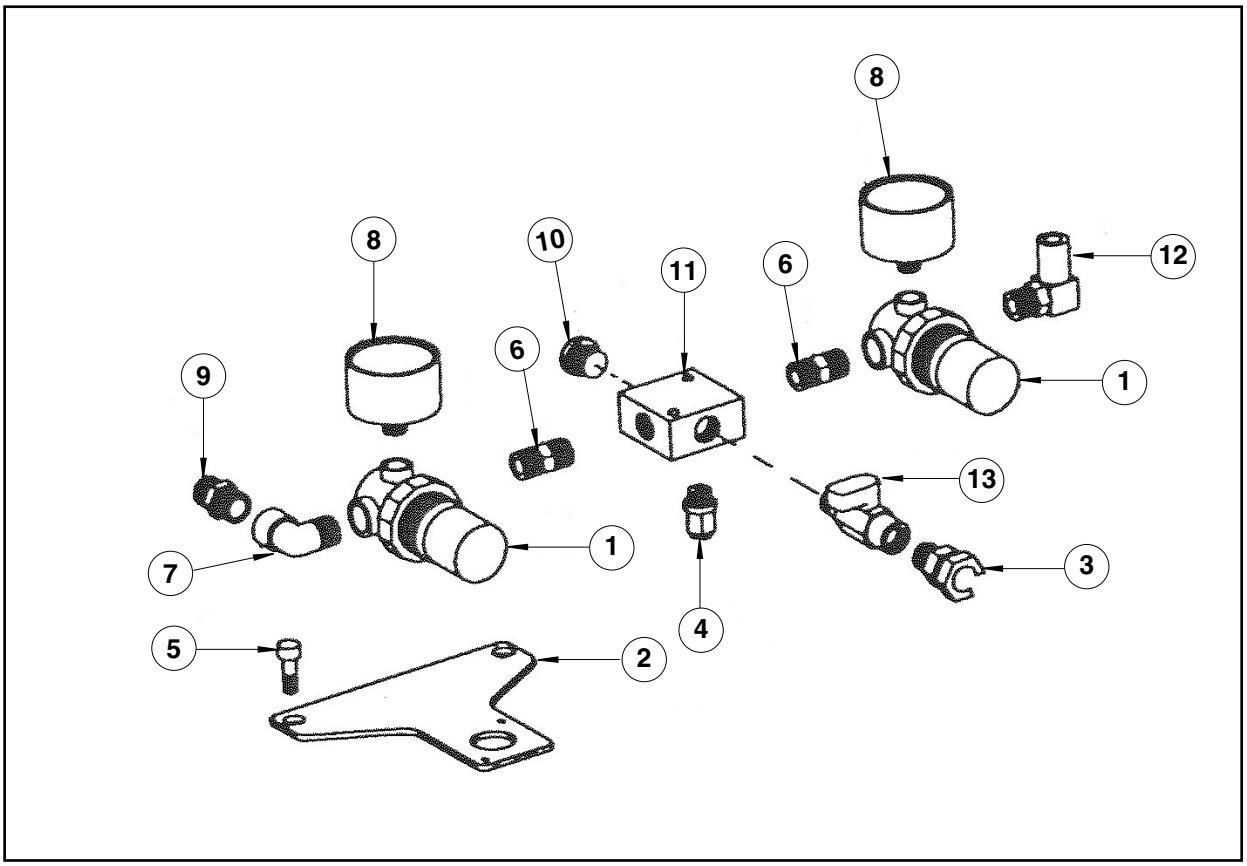
P AIR CONTROL GROUP WITHOUT TROLLEY

INOX VERSION



Pos.	Codice	N°	Descrizione	Pos.	Codice	N°	Descrizione
1	8170	1	Adjustable brackets	9	96208	1	Junction 1/4"
2	54004	8	Screw	10	8073	1	Block air
3	8167	2	Manometer	11	3354	2	Junction
4	22027	1	Junction	12	8083	1	Stopper 1/4"
5	3344	2	Reg pressure	13	8063	1	Swivel Elbow
6	4004	1	Ball valve	14	8084	2	Screw
7	3338	1	Bayonet	15	11209	2	Nut
8	5255	1	Fitting elbow				

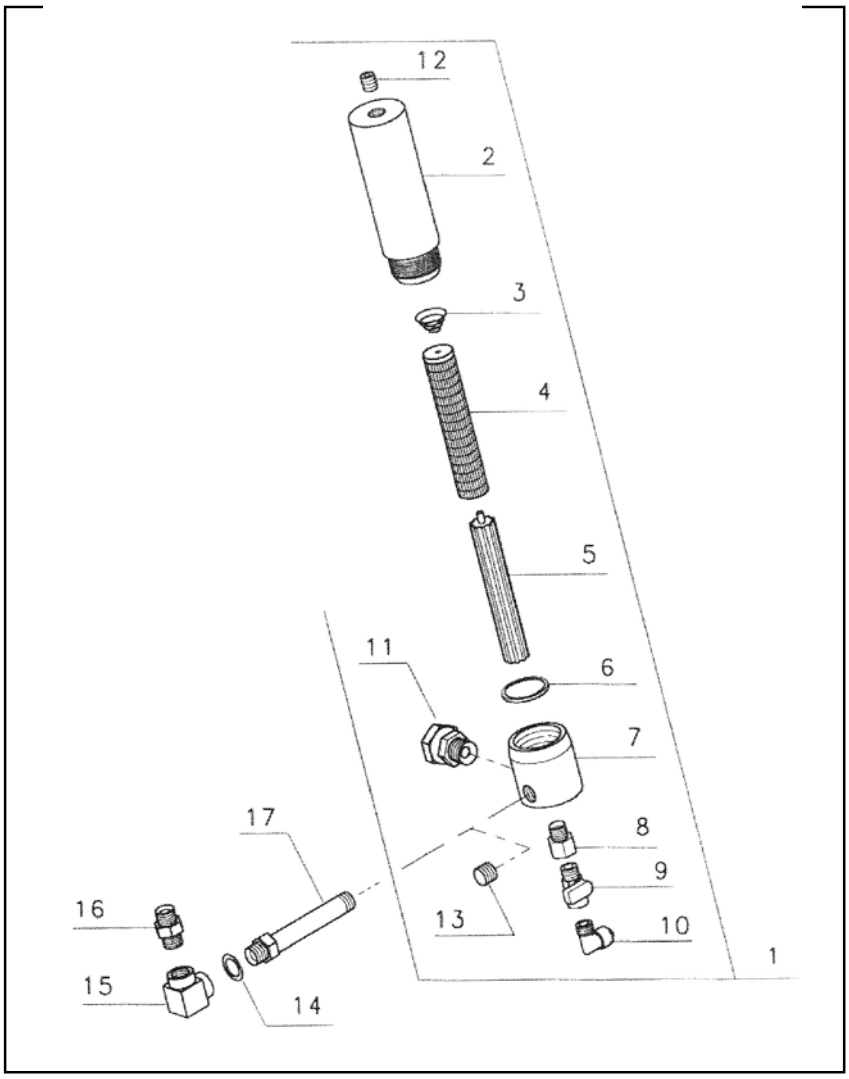
ALUMINIUM VERSION



Pos.	Codice	N°	Descrizione	Pos.	Codice	N°	Descrizione
1	3344	2	Reg pressure	**8**	8167	2	Manometer
2	8060	1	Adjustable brackets	**9**	96208	1	Junction 1/4"
3	3338	1	Bayonet	**10**	8083	1	Stopper 1/4"
4	8031	1	Junction 1/4" - Ø4	**11**	8073	1	Block air
5	32004	2	Vite	**12**	8063	1	Swivel Elbow
6	3354	2	Junction	**13**	4004	1	Ball valve
7	5255	1	Fitting elbow				

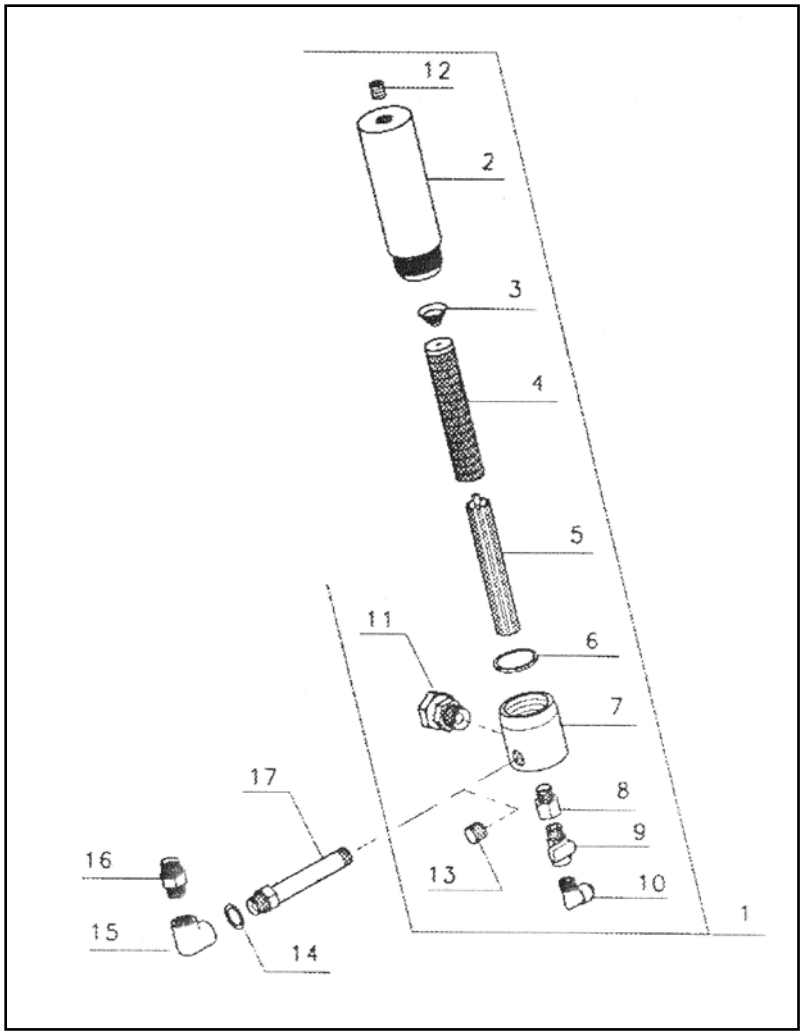
Q FILTER WITH CIRCULATION

STAINLESS STEEL MODEL



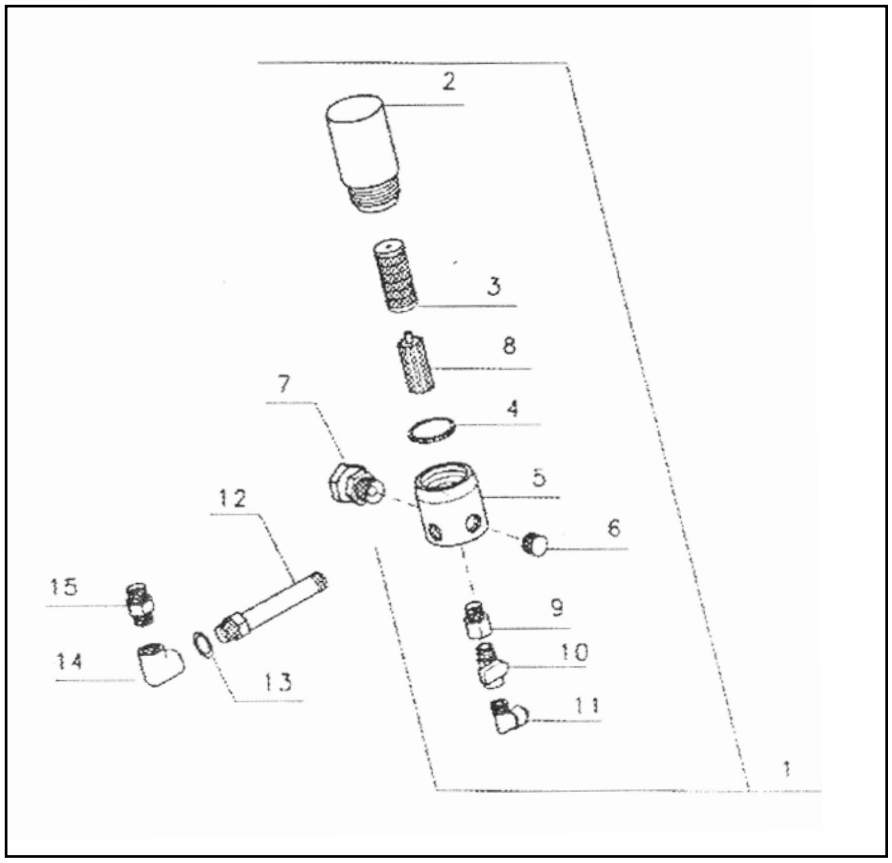
Pos.	Code	N°	Description	Pos.	Code	N°	Description
1	**8096**		**Complete filter**	**10**	8123	1	Elbow
2	98384	1	Filter tank	**11**	8156	1	Revolving fitting
3	96202	1	Elastic ring	**12**	98385	1	Plug 3/8"
4	95220	1	Filter sieve 100 M	**13**	98386	1	Plug 1/4" GAS
5	96207	1	Filter sieve support	**14**	33010	1	Washer
6	96203	1	O ring	**15**	8074	1	Elbow
7	98380	1	Filter base	**16**	6149	1	Fitting
8	22027	1	Fitting	**17**	8057	1	Filter fitting
9	4004	1	Ball valve				

ALUMINIUM MODEL



Pos.	Code	N°	Description	Pos.	Code	N°	Description
1	**8049**		**Complete filter**	**10**	8123	1	Elbow
2	96201	1	Filter tank	**11**	8069	1	Revolving fitting
3	96202	1	Elastic ring	**12**	95214	1	Plug 3/8"
4	95220	1	Filter sieve 100 M	**13**	96205	1	Plug 1/4" GAS
5	96207	1	Filter sieve support	**14**	33010	1	Washer
6	96203	1	O ring	**15**	8087	1	Elbow
7	96204	1	Filter base	**16**	3561	1	Fitting
8	22027	1	Fitting	**17**	8057	1	Filter fitting
9	4004	1	Ball valve				

R SUCTION LINE FILTER



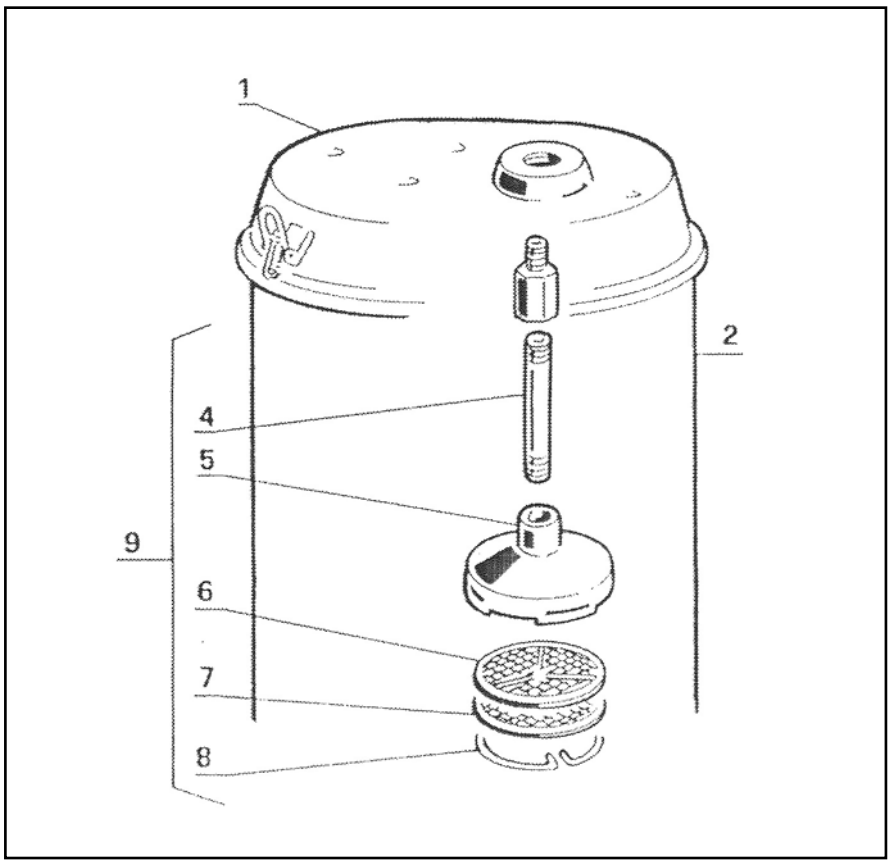
COMPLETE SUCTION FILTER

Pos.	Code	N°	Description
1	**8107**		**Complete filter**
2	8052	1	Filter tank
3	16205	1	Filter sieve 60 M
4	96203	1	O ring
5	96204	1	Filter base
6	96205	1	Plug 1/4" GAS
7	8069	1	Revolving fitting
8	16202	1	Filter sieve support
9	22027	1	Fitting
10	4004	1	Ball valve
11	8123	1	Elbow
12	8057	1	Filter fitting
13	33010	1	Washer
14	8087	1	Elbow
15	3561	1	Fitting

COMPLETE DROP FILTER

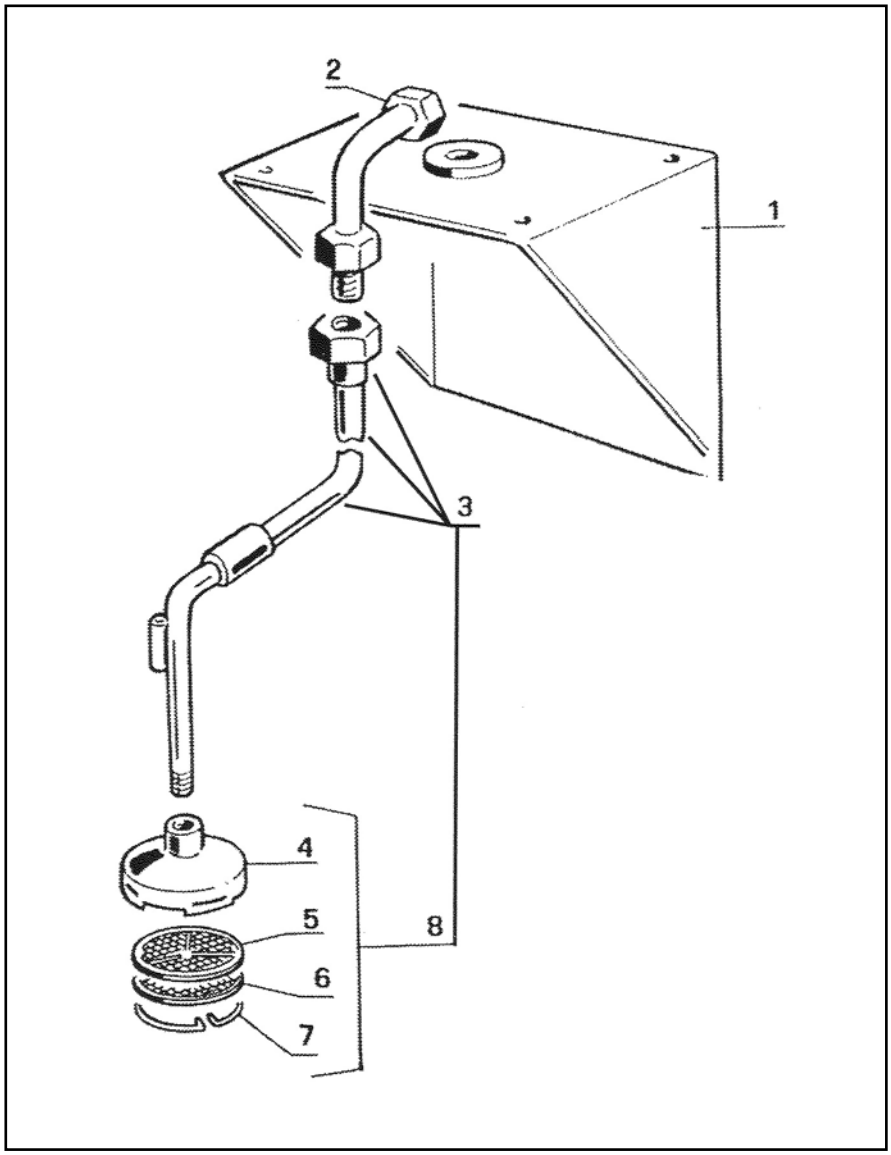
Pos.	Code	N°	Description
1	**8113**		**Complete filter**
2	8052	1	Filter tank
3	16205	1	Filter sieve 60 M
4	96203	1	O ring
5	96204	1	Filter base
6	96205	1	Plug 1/4" GAS
7	8069	1	Revolving fitting
8	16202	1	Filter sieve support
9	22027	1	Fitting
10	4004	1	Ball valve
11	5314	1	Elbow
12	8057/1	1	Filter fitting
13	33010	1	Washer
14	8087	1	Elbow
15	3561	1	Fitting

S SUCTION TANK MODEL



Pos.	Code	N°	Description
1	4109	1	Complete cover
2	4064	1	30 Liters tank
4	8046	1	Product hose
5	35005/1	1	Filter bell
6	35006	1	Fine filter
7	35007	1	Coarse filter
8	35008	1	Elastic ring
9	**8041**	**1**	**Complete suction pipe with filter**

T WALL-MOUNTED MODEL



Pos.	Codice	N°	Description
1	4202	1	Wall bracket
2	8036	1	1/2" elbow
3	8131	1	Suction hose
4	35005	1	Bell
5	35006	1	Fine sieve filter
6	35007	1	Coarse sieve filter
7	35008	1	Elastic ring
8	35004	1	Complete filter bell

U DESCRIPTION

These safety instructions are related to installation, use and service for use of transfer low pressure double diaphragm pumps – series 2 and 4 – in potentially explosion Hazardous environments due to presence of gas or vapour.

These instructions must be followed as further precautions to those already listed within the use and service instruction manual.

The double diaphragm pumps series 2 and 4 are group II equipment, suitable to use in areas classified with iresence of gas and vapour *(Category 3G, group IIB).* The pumps are designed and manufactured to suit the rules ATEX 94/9/CE and the European Rules: EN 1127-1, EN 13463-1ed EN 13463-5.

V TECHNICAL FEATURES

Low pressure transfer double diaphragm pumps series 2 and 4.

Environment temperature: -10°C÷+50°C
Max. fluid temperature [°C]: 60°C
Max. air temperature [°C]: 30°C

LOW PRESSURE TRANSFER DOUBLE DIAPHRAGM PUMPS	SERIE 2 LARIUS	SERIE 4 LARIUS
PRESSURE RATIO	1:1	1:1
PUMP FEEDING AIR PRESSURE **[bar]**	1÷7	2÷8
PUMP FEEDING AIR INLET	1/4" GAS	1/4" GAS
MAX. FLUID DELIVERY **[l/min.]**	21	40
MAX. AIR CONSUMPTION **[l/min.]**	120	190

W MARKING

Low pressure double diaphragm transfer pumps series 2 and 4.

CE ⟨Ex⟩ **II 2 G c IIB T4 Tamb: -10°C ÷ + 50°C Tmax. fluido: 60°C Tech. File: LARIUS 2-4/ATEX/05**

II =	Group II (surface)
2 =	Category 2 (zone 1)
G =	Explosion hazardous environment with presence of gas, fog and vapour
c =	Manufacturing safety "c"
T4 =	Class of temperature T5
- 10°C ÷ + 50°C	Environment temperature
60°C	Maximum fluid temperature
xxxxx/AA	Serial number xxxxx = PROGRESSIVE/ year = AA

Relation between hazardous areas, products and categories

DANGEROUS AREA		CATEGORIES AS PER RULES 94/9/CE
Gas, vapour or fog	Zone 0	1G
Gas, vapour or fog	Zone 1	2G or 1G
Gas, vapour or fog	Zone 2	3G, 2G or 1G

X SAFETY INSTRUCTIOINS FOR ONSTALLATIONS IN HAZARDOUS AREAS

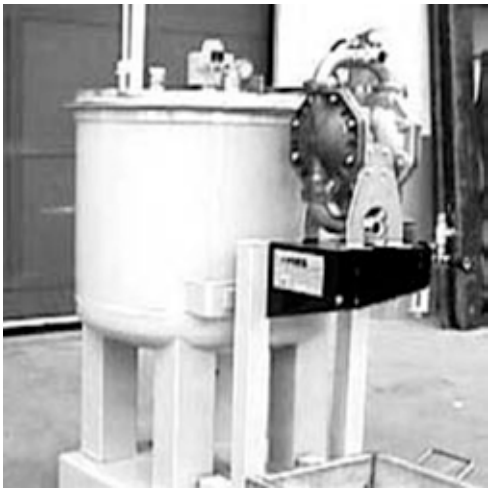
Before proceeding with the installation carefully read the use and service manual. All the service operations must be carried out as stated in the manual.

- The low pressure double diaphragm transfer pumps series 2 and 4 must be connected to the ground with a suitable connector anti-release and anti-rotation.
- Gas and vapour of flammable liquids must belong to the group IIB and compatible with class temperature T4.
- According with the nature of the operations and products, the operator must regularly check the presence of deposit, the cleaning, the wearing and the correct pump's functioning.
- It is advisable that a filter will be placed at the suction of the material to prevent solid parts entering the pump.
- The pipes used to connect suction and delivery must be metallic, or plastic with metallic braid or plastic with fabric braid with suitable earthing cable.
- According to duties it is recommended the control of diaphragms and replacement.
- The air feeling the pump needs to be filtered and originated by a safe area.

The low pressure double diaphragm transfer pumps series 2 and 4 must not work empty of material.

All the operations, installation and service, must be carried out by qualified operators.

Y EXAMPLE OF INSTALLATION



The picture shows a typical example of installation of a Larius double diaphragm pump.

DECLARATION OF CONFORMITY

We Larius S.r.l.
Via Stoppani, 21
24032 Calolziocorte (LC)

declare under our sole responsibility that the product

Low pressure transfer double diaphragm pumps - series 2 and 4.

to which this declaration relates complies with the following Directives:

- Directive 94/9/EC (ATEX)

The conformity are under observance of the following standards or standards documents:

- EN 1127-1 - EN 13463-5
- EN 13463-1

Marking

CE **II 2 G c IIB T4 Tamb.: - 10°C ÷ 50°C Tmax. fluido: 60°C**
Tech. File: LARIUS 2-4/ATEX /05
Technical file c/o: INERIS (0080)

Calolziocorte- LC Signature

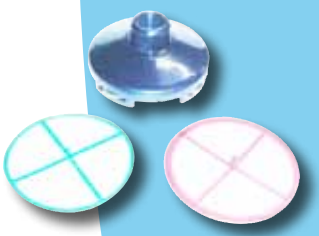
Code 14090: SPRAY GUN V71P
Code 14132: NOZZLE 0,8 mm
Code 14092: NOZZLE 1,0 mm
Code 14090: NOZZLE 1,3 mm
Code 14096: NOZZLE 1,5 mm
Code 14134: NOZZLE 1,8 mm

Code 7208: STAINLESS STEEL 0-14 BAR
RETURN REGULATOR

Code 8131: SUCTION RETURN SYSTEM
Code 8144: SUCTION RETURN SYSTEM (stainless steel)

Code 7185: FLOW REGULATOR

Code 16205: FILTER SIEVE 60 MESH
Code 16204: FILTER SIEVE 100 MESH
Code 16203: FILTER SIEVE 200 MESH
Code 16205/10: FILTER SIEVE 60 MESH 10 pcs
Code 16204/10: FILTER SIEVE 100 MESH 10 pcs
Code 16203/10: FILTER SIEVE 200 MESH 10 pcs



SUCTION BELL KIT
Code 35004: FILTER BELL - **Code 35006:** FILTER 100 MESH
Code 35007: FILTER 50 MESH - **Code 35007/1:** FILTER 30 MESH

Code 55007:
6LT DROP TANK

Code 8107: SUCTION LINE FILTER
Code 8113: DROP LINE FILTER

LINEA DIRETTA

SERVIZIO TECNICO CLIENTI

Tel. (39) 0341.621256 - Fax (39) 0341.621234

COSTRUTTORE:

LARIUS®

PAINT SPRAYING EQUIPMENT

23801 **CALOLZIOCORTE** - LECCO - ITALY - Via Antonio Stoppani, 21
Tel. (39) 0341/62.11.52 - Fax (39) 0341/62.12.43
E-mail: larius@larius.com - Internet http://www.larius.com

PNEUMATIC PUMPS

NOVA **Ref. 95040**

OMEGA **Ref. 7300**

GHIBLI **Ref. 96000**

VEGA **Ref. 91500**

OMEGA ZINC **Ref. 7430**

GHIBLI ZINC **Ref. 96900**

MANUFACTURER:

LARIUS®

23801 CALOLZIOCORTE - LECCO - ITALY - Via Stoppani, 21
Tel. (39) 0341/62.11.52 - Fax (39) 0341/62.12.43
E-mail: larius@larius.com - Internet http://www.larius.com

DIRECT LINE

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Tel. (39) 0341/621256
Fax (39) 0341/621234