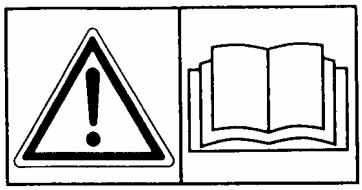
LAVASPRUZZA COMPACT

AUTOMATIC / MANUAL WASHING WITH SOLVENT

mod. 163DX

OPERATING AND MAINTENANCE MANUAL



Read the instructions in this manual carefully before using the machine.

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I Edition

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This text is the English VERSION of the ORIGINAL INSTRUCTIONS.
For any controversy, the legally binding text is the Italian source text. ROSAUTO waives any and all liabilities for damages by misinterpretations and/or incorrect use caused by imperfect or imprecise translations.

DICHIARAZIONE CE DI CONFORMITÀ
EC - DECLARATION OF CONFORMITY

AI SENSI DELLE DIRETTIVE 94/9/CE – 2006/42/CE
IN COMPLIANCE WITH THE 94/9/CE – 2006/42/CE DIRECTIVES

NOI: *THE UNDERSIGNED:*

ROSAUTO S.r.l.
VIA LUNGOCHIAMPO, 53
36054 MONTEBELLO (VICENZA) - ITALIA

DICHIARIAMO SOTTO LA NOSTRA ESCLUSIVA RESPONSABILITÀ CHE LA LAVATRICE PER AEROGRAFI ED ACCESSORI DENOMINATA:
HEREBY DECLARES UNDER ITS OWN RESPONSIBILITY THAT THE WASHER FOR SPRAY-GUNS AND ACCESSORIES HEREUNDER REFERRED TO AS:

LAVASPRUZZA COMPACT

MOD. 163AX	SERIES No:	YEAR:

Classificazione apparecchio secondo Direttiva 94/9/CE:
Equipment classified in compliance with Directive 94/9/CE:

ATEX: **Gruppo II Categoria 2 - G - T5**
Group II Category 2 - G - T5

AL QUALE QUESTA DICHIARAZIONE SI RIFERISCE È CONFORME AI REQUISITI ESSENZIALI DI SICUREZZA E SALUTE E ALLE SEGUENTI DISPOSIZIONI LEGISLATIVE:
WHICH THIS DECLARATION REFERS TO, COMPLIES WITH THE FOLLOWING RULES ALREADY IN FORCE:

- **DIRETTIVA 2006/42/CE (SICUREZZA MACCHINE)**
  DIRECTIVE 2006/42/CE (MACHINERY SAFETY)
- **DIRETTIVA 94/9/CE (SICUREZZA ATMOSFERE POTENZIALMENTE ESPLOSIVE)**
  DIRECTIVE 94/9/CE (SAFETY IN POTENTIALLY EXPLOSIVE ATMOSPHERES)

PER LA VERIFICA DELLA CONFORMITÀ ALLE DISPOSIZIONI LEGISLATIVE SONO STATI UTILIZZATI I SEGUENTI DOCUMENTI NORMATIVI:
COMPLIANCE WITH LEGAL PROVISIONS IS GUARANTEED BY THE APPLICATION OF THE HARMONISED REGULATIONS HERE BELOW:

EN 349:1993+A1:2008, EN 626-1:1994+A1:2008, EN 983:1996+A1:2008, EN 1127-1:1997, EN ISO 11202:2009, EN ISO 12100-1:2003, EN ISO 12100-2:2003, EN 12921-1:2005, EN 12921-2:2005+A1:2008, EN 13463-1:2009, EN ISO 13849-1:2009, EN ISO 13857:2008, EN 14121-1:2007, EN ISO 3746:2009

ROSAUTO S.r.l.

Montebello Vic.no, *Sig. Giuseppe ROSA (legal representative)*

Il fascicolo compilato ai sensi dell'art. 8, paragrafo 1, lettera b), sottolettera ii) della direttiva 94/9/CE ATEX, è stato trasmesso all'organismo notificato di seguito indicato. - *Name and address of the Notified Body:*

I.C.E.P.I. S.p.a.
Istituto Certificazione Europeo Prodotti Industriali
Via Paolo Belizzi, 29/31/33 - 29100 PIACENZA – ITALIA
N. IDENTIFICATIVO:

Numero della DICHIARAZIONE DELLA RICEVUTA DI DEPOSITO:

Il fascicolo tecnico, compilato ai sensi dell'allegato VII parte A della direttiva 2006/42/CE, è custodito presso la sede della ROSAUTO S.r.l. di Montebello Vicentino (VI), via Lungochiampo n. 53, per 10 anni dalla data di emissione della presente dichiarazione CE di conformità. Esso sarà reso disponibile dal sig. **Giuseppe ROSA** domiciliato c/o **ROSAUTO S.r.l.** su richiesta motivata dell'organo di vigilanza nazionale.
The technical file prepared in compliance with Annex IV - Directive 2006/42/EC, is kept and stored at the ROSAUTO S.r.l. head office located in Montebello Vicentino (Vicenza), Via Lungochiampo No. 53. This file will remain available for 10 years from the date of issue of this EC declaration of conformity, and will be made available by Mr. Giuseppe ROSA with his seat at ROSAUTO S.r.l. upon motivated request of the supervisory body.

1. INTRODUCTION

This manual contains instructions for the installation, use and maintenance of the **LAVASPRUZZA COMPACT mod. 163DX.** In the following manual, the **LAVASPRUZZA COMPACT mod. 163DX** will be referred to as **Spray Washer**. **This manual is an integral part to the product and should be kept with the due care in order to allow for its use and consultation during the life of the Spray Washer.**
The regular operation, economy and safety of the **Spray Washer** depends on the compliance with the instructions given in this manual. It is mandatory to follow the procedures as described in this manual.

This manual must be read and understood perfectly prior to installing, using or performing any type of operation or maintenance on the machine. The Spray Washer must be used exclusively to wash spray-guns or small parts, using solvent, water or water-based solvents with specific characteristics. Use of the Spray Washer for processing other than the type indicated in this manual is considered improper use and is therefore prohibited. ROSAUTO declines any and all responsibilities for damages caused by the Spray Washer to persons, animals or property, due to use other than the use described herein, or for damages due to negligence or failure to observe the instructions contained in this manual.

The **Spray Washer** is manufactured according to the provisions contained in the following European Directives:

- **Directive 2006/42/CE (Machine Safety).**
- **Directive 94/9/CE (Equipment to be used in potentially esplosive environments).**

With reference to the Directive 94/9/CE (“ATEX” directive) the **Spray Washer** is a machine designed and built to work in compliance with the operating parameters fixed by **ROSAUTO** and guarantees a normal level of protection in regard to the appliances group II, category 2 G. The machine supplied is accompanied by the following documents:

- **Manual for use and maintenance.**
- **EC Declaration of conformity.**
- **EC Mark.**

1.1 GUARANTEE

Upon delivery of the **Spray Washer**, it is necessary to make sure that no damages have occurred during shipment and the supply of accessories is complete and undamaged. Claims must be filed within 8 days of delivery. The buyer is eligible for the guarantee coverage only when he has complied with the guarantee conditions listed below.

ROSAUTO guarantees its products under the following conditions:

a) The **Spray Washer** is guaranteed for a period of two years from the date of purchase as certified by a delivery document issued by the Dealer. When the customer requests guarantee service he must specify the model, serial number and year of manufacture of the appliance.
b) The guarantee covers free replacement or repair of the appliance component parts which are recognized to have manufacturing defects without any charge for labour.
c) Guarantee services are performed at the manufacturer's factory or at authorized service centres. The appliance must be sent already prepaid to them and shall be returned to the customer at his own expense and risk. If any intervention by technicians is requested under guarantee coverage at the customer's installation site, then the customer shall be charged for the transfer time, for mileage and for all board and lodging expenses according to the valid fees applied by the Service Centre. No charge is made for the time required to repair and replace parts.
d) The manufacturer waives all liability for any damage that may directly or indirectly be caused to persons or property resulting from failure to comply with all the provisions in the instruction manual. In particular, this regards failure to comply with warnings about placing, installing, operating and maintaining the appliance. The present guarantee does not cover any reimbursement for direct or indirect damage due to appliance down-time. Guarantee coverage is only valid when payments are all in due order.
e) This agreement is governed by current law in the Republic of Italy. Any controversy deriving from this agreement shall be settled by the Court in Vicenza, Italy.

In addition to the cases stated above, **guarantee coverage is waived** in the following cases:

- Whenever the **Spray Washer** has been handled or operated incorrectly by the operator.
- Whenever the machine has been handled or operated incorrectly by the operator.
- Whenever the damage is due to insufficient maintenance.
- Whenever the **Spray Washer** has been damaged by modifications following repairs done without **ROSAUTO's** consent or the installation of non-original spare parts.
- Whenever the owner fails to comply with the instructions given in this manual.
- Whenever corrosive solvents are used that do not correspond to legal standards or included among those listed by **ROSAUTO.**

1.2 APPLICATION

1.2.1 PERMITTED USES

The **Spray Washer** is a common appliance for bodyshops where it is mainly used to clean spray guns with their cups and components: empty paint tins, containers for preparing paints, filters and mixing rods. It can also be used by silk-screen printers to wash their inkpots and components soiled with paint as well as to wash small mechanical parts stained with oil or grease. Objects to be washed must be small in size not exceeding 300x120x2 mm. Maximum weight allowed is 3 kg. When using solvent for washing plastic parts and objects, ensure the material is antistatic.

- **Use in environments with potentially explosive atmospheres.**

The **Spray Washer** has been designed and built by **ROSAUTO** in order to guarantee a high level of protection, efficient operations and conformity to the working parameters provided for **devices group II, category 2 G** in explosive atmospheres caused by gas, vapour or mist in compliance with Directive 94/9/CE (ATEX).
The Spray Washer is fitted with protection systems that guarantee the required level of protection also when recurring troubles or working faults of the appliance itself are expected.
Thanks to such a design and manufacture, the **Spray Washer** can be used in environments where the atmosphere is potentially explosive. Environments are classified according to the following risk areas (Directive 1999/92/CE).

- **ZONE 1 :** Area in which – during normal working activities - an occasional explosive atmosphere is to be expected which consists of a composition of air and flammable substances in form of gases, vapours or mists.

The device can always be used in areas where there is a lower risk of explosion, such as in zone 2.

1.2.2 IMPROPER USES

The **Spray Washer** has been built in such a way that improper operations might be carried out. **Under improper use the producer means and includes – to his sole discretion - all uses of the Spray Washer that may cause danger and/or damage to heath of persons, animals and/or damages to the machine.**
Some reasonably expectable improper uses are listed here below as an example:

- Mixing water with solvent when washing.
- Washing and de-greasing objects destined to come in contact with food products.
- Operating and/or soaking incandescent metal parts.
- Washing animals.
- Wahing personal belongings.
- Lighting fires inside the Spray Washer.
- Cleaning plastic parts with solvent.
- Using the Spray Washer in environments where potentially explosive atmospheres generated by gas, vapour, mist of fog classified <Zone 0> in compliance with Directive 1999/92/EC may occur.
- Using the Spray Washer in environments where inflammable air and dust are present.

DANGER

The Spray Gun Washer must be used exclusively for the purpose for which it was designed and built. All other uses not covered by this manual are to be considered inappropriate and are strictly forbidden. ROSAUTO declines any and all responsibility for damage to persons, animals and property deriving from improper use of the Spray Gun Washer and/or from failure to observe the instructions in this manual.

1.2.3 EXPOSURE AREA

When solvents and flammable products in general are used for washing, the **Spray Washer** generates a hood-like area of potentially explosive atmosphere caused by the mixture of flammable vapours contained in the products themselves and the environmental air. The diagram (fig. XZ) illustrates the area exposed to potentially explosive atmosphere in average ventilation conditions. As a general rule, working equipment cannot be operated inside this type of areas unless they are design and built and mandatorily fitted with protection devices in compliance with Directive 94/9/EC (Atex). In particular:

- Zone 1 - inside the area at an operating distance of 1 meter from the machine – working equipment must comply with group II – category 2 G (gas).
- Zone 2 - inside 1-meter area at an operating distance of 1 meter from Zone 1 - working equipment must comply with group II – category 3 G (gas).

The user, as provided for by Directive 1999/92/EC, must ensure that the dangerous area illustrated by the figure is respected, and the work environment where potentially explosive atmospheres are likely to occur is opportunely classified.

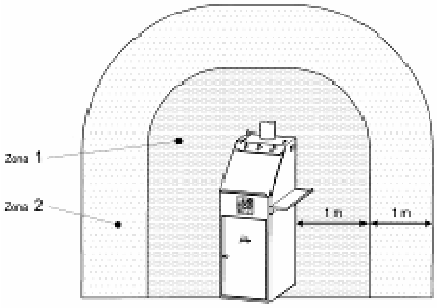


Figure XZ

1.2.4 WASHING PRODUCTS

Spray guns and accessories can be washed with:
The **solvent washing mixture as customary used by bodyshop** for solvent-based paint parts usually contains:

- Acetone, methyl acetate, carbinol, methyl cyanide, propyl chloride, dichloroethene, hexane, Isopropyl alcohol, M.E.K. (methyl ethyl ketone), methyl acetate, propylene .
- Hydrocarbon, gas oil, kerosene-based solvent
- Water-based liquid detergent. The compound technical specifications must include: pH ranging from 6.5 to 12; lack of flammable components of wih a share not over 8 %.

The above washing products must comply with the legal prescriptions set forth against environmental pollution in force in the Country where the **Spray Washer** is used.

1.2.5 FORBIDDEN WASHING PRODUCTS

The use of products not recommended by the producer may endanger health, compromise safety during operations or damage the machine. This is the reason why, it is forbidden to use products not listed in this manual. As a general yet not exhaustive rule, here below you may find some products that are commonly used in bodyshops but are forbidden when operating the **Spray Washer**:

- Petrol and its by-products.
- Ethyl alcohol and other primary alcohol products.
- Non-flammable solvents but health dangerous (chloride, chlorinated or fluorocarbon solvents), such as thricloromethane, trichloroethane, metyl chloride, freon, carbon tetrachloride, perchloroethylene, chlorothene, trichloroethylene, etc..

DANGER

It is forbidden to mix water with solvent.

DANGER

It is forbidden to use solvent composed of toxic substances such as chlorides, fluorocarbons or other halogenated hydrocarbon-based substances dangerous for your health: use only products recommended by the producer. ROSAUTO waives any and all liabilities for damages to persons and/or animals caused by the use of improper or forbidden products when operating the Spray Washer, as detailed in this manual.

1.3 DESCRIPTION.

The **Spray Washer** basically consists of a steel drum (see fig.1) in which are stored:
A closed chamber where an automatic washing occurs operated by a pneumatic pump (pos.32 fig.1), a manual washing operated by a brush (pos.36 fig.1) controlled by a pneumatic pump (pos.31 fig.1), a venturi pump (pos.21 fig.1) and a nebulizer (pos.22 fig.1), a grid plate (pos.6C fig.1) used for placing and draining spray guns and accessories, a control panel in the upper front of the unit. **Spray Washer** have flexible hoses (pos. 23-24-26-29S fig.1) for the intake and discharge of solvent situated in the drums near the base of the machine. When the upper door (pos.11 fig.1) is closed, the membrane pump (pos.32 fig.1) is active and ready to work. When the upper door (pos.11 fig.1) is open a venturi suction generated by a nozzle (pos.15 fig.1) inside the hose (pos.16 fig.1) blow out and discharge all solvent vapours generated inside; furthermore, the venturi pump (pos.21 fig.1), nebulizer (pos.22 fig.1) and the brush (pos.36 fig.1) are ready to work. Before vapour discharge hose (pos.16 fig.1), it is possible to install an active carbon purifier (optional) to combat the polluted gaseous particles.

From the upper front control panel the operator can perform the following:

- Command of the venturi pump (pos.19 fig.1).
- Command of the nebulizer (pos. 18 fig.1).
- Command of the brush (pos.13 fig.1).
- The setting of the automatic wash time by means of the timer (pos. 14 fig.1).

Description of the SPRAY WASHER (See fig. 1):

163-3	Calamita sportello inferiore.
163-4	Flexible hose for supplying air to the gun.
163-5	Air and vapour conveyor.
163-5C	Washer door.
163-6C	Grill for manual wash.
163-10	Air exit fitting.
163-11	Upper door.
163-11A	Lower door.
163-11M	Internal door handle.
163-12	Air entrance fitting with filter.
163-13	Washing brush command switch.
163-14	Timer.
163-15	Vapour intake nozzle.
163-16	Vapour discharge hose (ø 120 mm).
163-18	Nezulizer command lever.
163-19	Venturi pump command lever.
163-21	Clean solvent Venturi pump.
163-22	Clean solvent nebulizer.
163-23	Flexible supply hose from the nebulizer.
163-24	Flexible supply hose from the pump.
163-26	Flexible discharge hose from the grill.
163-27	Dirty solvent drum.
163-28	Clean solvent drum.
163-29	Flexible pump supply hose.
163-29F	Pump supply filter (filter only).
163-29S	Flexible pump supply hose from the dirty solvent pump.
163-31	Pneumatic membrane pump MP for brush.
163-32	Pneumatic membrane pump PA for dirty solvent.
163-34	Hook for internal door.
163-36	Washing brush.
163-39	Security valve to block the washer pump.
163-41	Automatic vapour intake command valve.
163-42	Support hook for upper door.
163-46	Hood inspection manhole cover.
163-47	Collecting basin.
163-72	Command panel sticker.
163-74	Outside ground wire.

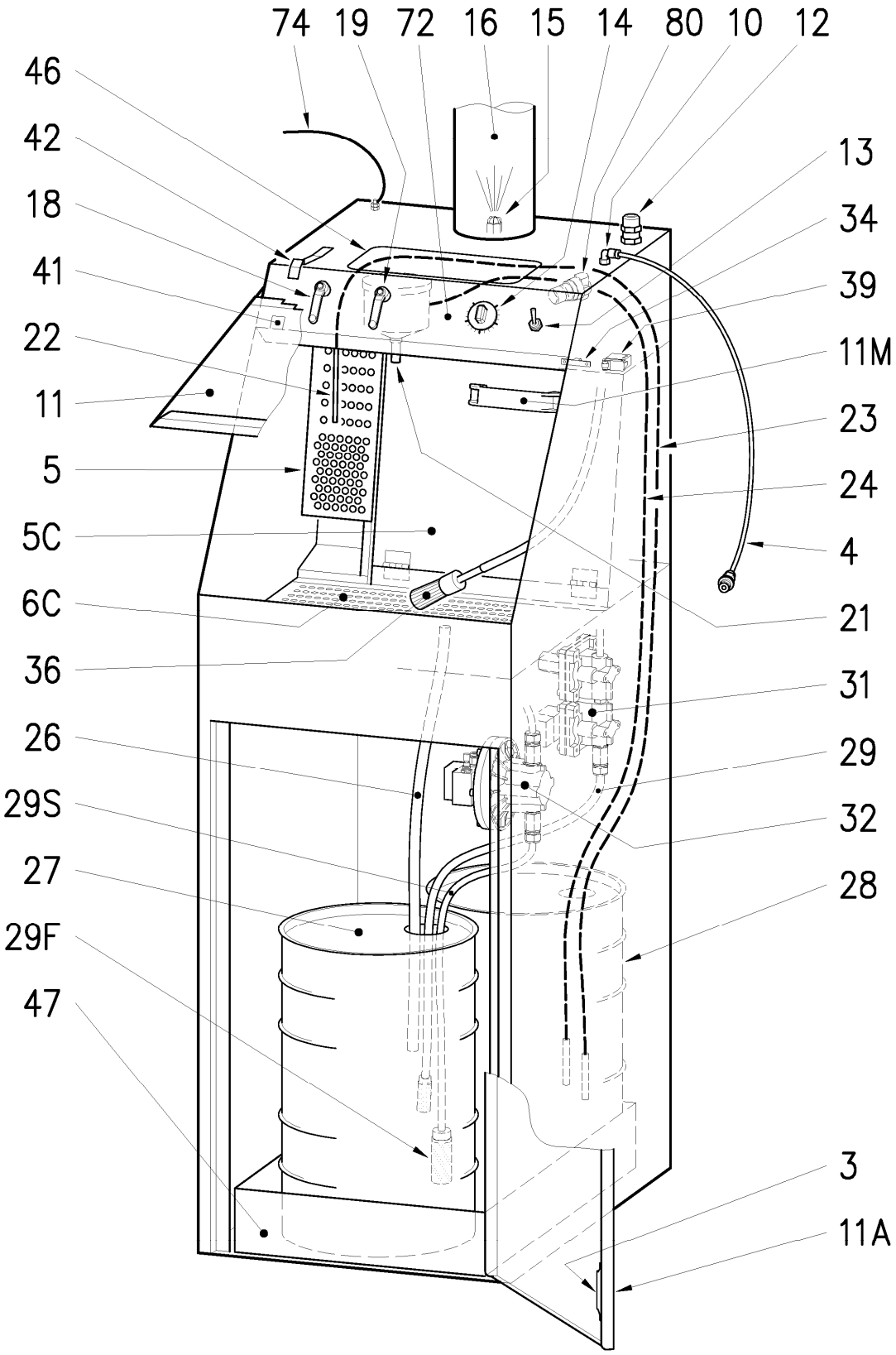


Figure 1

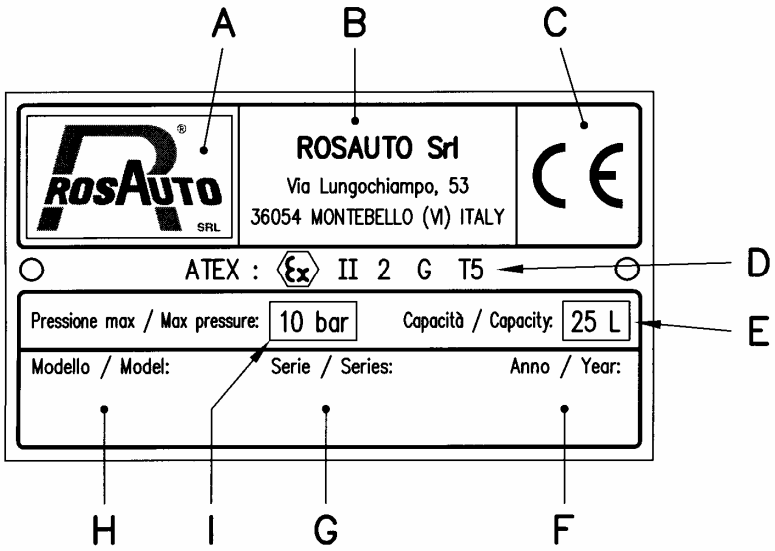
N.B. Consult the "LIST OF SPARE PARTS" when ordering spares and always indicate the MODEL – SERIAL NUMBER and YEAR OF MANUFACTURE

1.4. IDENTIFICATION (See fig. A)

Every **Spray Washer** has a CE identification plate that shows

A - Manufacturer's brand.
B - Manufacturer's name and address.
C - EC Mark.
D - Danger Group, Class, Type in compliance with the "ATEX" Directive
E - Amount of washing product.
F - Year of manufacture.
G - Serial number
H - Model.
I - Maximum Pressure.

N.B.: The **H** - **G** - **F** data listed in the identification plate must be always specified when calling for service and/or supply of spare parts.



1.5 TECHNICAL DATA

Figure A

Description	Unit of measure	Value
Mass (Weight).	Kg	50
Height	mm	1500
Width.	mm	500
Depth	mm	700
Max air supply pressure.	bar	10
Pressure of air supply operation	bar	6÷10
Advised pressure with the Spraywasher in use	bar	8
Diameter of the 3 intake nozzle holes pos. 15 (fig.1)	mm	0.8
Consumption of air of the intake nozzle (at 8 bar)	Nm^3/h	16
Diameter of the vapour intake chute pos. 16 (fig.1)	mm	120
Air speed at the entrance of the intake hood (at 6 bar)	m/sec	0.63
Quantity of air that exits from the chute	m^3/h	411
Number of pump strokes (pos.32 fig.1)	N°impulse/mi n.	60÷70
Number of pump strokes (pos.31 fig.1)	N°impulse/mi n.	100
Capacity of a single detergent drums pos. 27 e 28 (fig.1)	dm^3 (litres)	Up to 60
Number of drums located in the Spraywasher	N°	2
Number of spray guns to wash in only one cycle	N°	2

1.6 SOUND LEVEL

The sound level emitted by the Spray Washer has been measured under working conditions using a sound level meter with integrator.
Measures were taken by a skilled laboratory technician in accordance with EN ISO standard 3746: 1995. Results are as follows:

- Acoustic pressure equivalent average level: LpAm = 73,2 dB (A).
- Acoustic pressure level at the operating post: LpA = 81,8 dB (A).
- Conventional Acoustic pressure level: LwA = 88,5 dB (A).

1.7 DANGER PLATES AND SIGNS

The **Spray Washer** carries the manufacturer's identification plate as well as symbols (labels) that warn against residual hazards present on the machine.
Figure 2 indicates the positions of the Manufacturer's identification plate and the warning signs.
The signs have the following meanings:

1. Manufacturer's brand. CE Mark, Model, Serial number and Year of Manufacture, Maximum pressure, Danger Group, Class, Type in compliance with the “ATEX” Directive Group, Amount of washing product.
2. Generic hazard.
3. **It is mandatory** that the instruction manual is carefully red before starting work with the Machine.
4. **It is forbidden** to use open flames and smoke near the machine.
5. **It is mandatory** that you wear a protective mask before you start working.
6. **It is mandatory** that you wear anti-solvent rubber gloves before you start working.
7. **It is mandatory** that you wear protective eyewear before you start working.
8. **It is mandatory** that you disconnect the compressed air supply before starting any maintenance or repair operations in the machine.
9. **It is mandatory** that you ensure hoses are well fitted in the drum.
10. **It is mandatory** that you check the solvent level in the drum periodically to avoid overflows.
11. Correct procedure to manually wash the gun

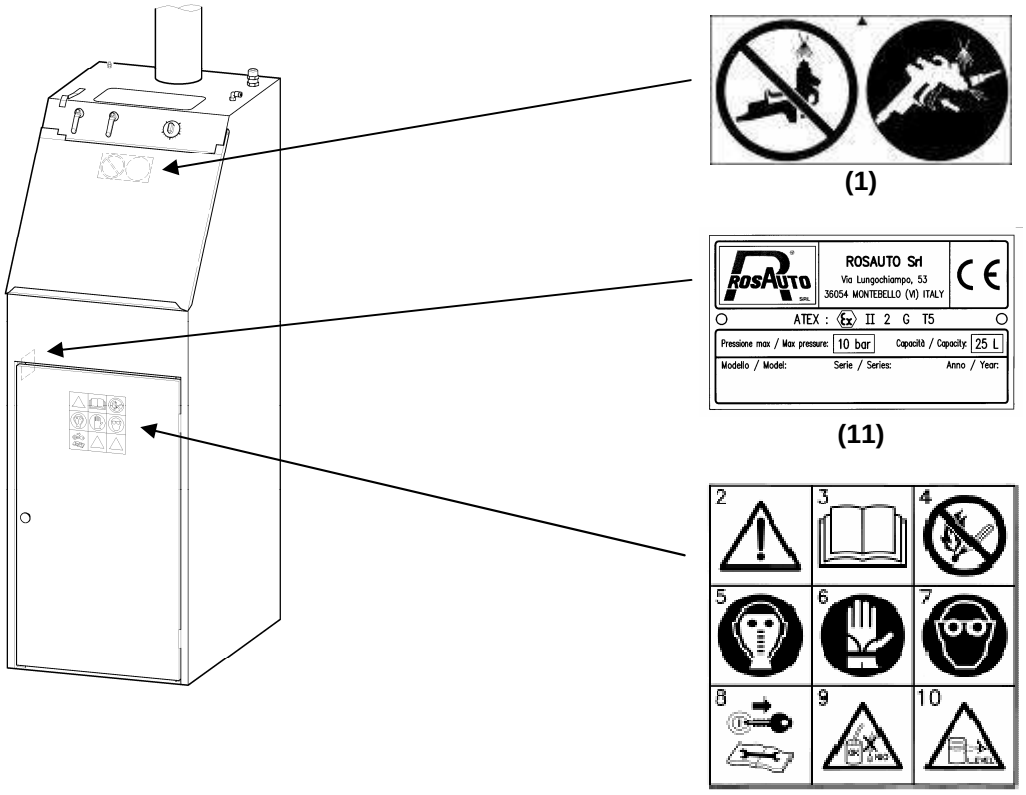


Figure 2

1.8 EC CERTIFICATION OF THE SPRAY WASHER

On 29 December 2009, Directive 2006/42/EC - which is the result of the previous directives on machine safety - repealed directive 98/37/CE, and stresses the minimum requirements machinery must be brought in line with in order to be placed on the European Union market. All machinery covered by this Directive may be placed on the market and put into service only if they do not endanger the health and safety of persons, domestic animals or property. The **Spray Washer** is a machine designed and built to wash spray-guns or small parts, and is not included in any of the categories indicated in the list attached to the Directive (Annex IV – highly dangerous machinery).
Prior to placing its machines on the market and in order to demonstrate that the machines are in compliance with the provisions set forth by Directive 2006/42/EC, **ROSAUTO** has implemented the procedure under article 5, and, in this sense, ensures that the relevant safety requirements are complied with; the technical file required by Annex VII-A is available; all tests and controls required by the reference regulations have been conducted and meet the essential safety and health requirements as provided for by Annex I of the aforementioned Directive. The technical construction file that includes the fundamental project data and all the specifications relating to the machine safety has been drawn in compliance with Annex VII-A, and is made available to any controls by the inspection authorities - prior to detailed notification, as provided for by the ruling provisions in this matter.
Given that the machine has been designed and built in compliance with the provisions set forth by directive 2006/42//EC, and can be safely operated under the conditions stated by this manual**, ROSAUTO** puts the **Spray Washer** on the market provided with:

- **EC Mark**
- **EC Declaration of Conformity**
- **Instructions for use (User's Manual)**

The Directive 94/9/EC defines the minimum conditions required to design, build and put on the European Union market a machine to be operated in an environment where there might form potentially explosive atmospheres. The above Directive includes the measures that must be adopted to operate the machine preventing any ignition sources or causes of potentially explosive atmosphere.
According to Directive 94/9/EC, the **Spray Washer** is a device of group II, category 2 G, and can be safely operated in environments with potentially explosive atmospheres classified in **Zone 1**. **ROSAUTO** has conducted all the controls and tests required and has submitted all the requested documentation to the notified body as provided for by art. 8, para. 1, letter b), under-letter ii) of Directive 94/9/EC. For this reason, the **ROSAUTO** guarantees that the **Spray Washer** complies with the following directives given that its design and construction comply with the requirements provided for by the legal provisions referring to this matter:

- **Directive 94/9/EC** (ATEX).
- **Directive 2006/42/EC** (Machine safety).

The following European standards and technical norms have been used by the manufacturer and can be a reference in order to verify the conformity with the legal European provisions:

- EN 349-1:1993+A1:2008:	SAFETY OF MACHINERY - Minimum gaps to avoid crushing of parts of the human body
- EN 626-1:1994+A1:2008:	SAFETY OF MACHINERY. Reduction of risks to health from hazardous substances emitted by machinery. Part 1: Principles and specifications for machinery manufacturers
- EN 954-1:1996:	SAFETY OF MACHINERY - Safety-related parts of control systems – Part 1: General design principles .
- EN 983:1996+A1:2008:	SAFETY OF MACHINERY – Safety requirements for the fluid power systems and its components – Pneumatics.
- EN ISO 13849-1:2009:	SAFETY OF MACHINERY - Safety-related parts of control systems – Part 1: General design principles
- EN ISO 13857:2008:	SAFETY OF MACHINERY – Safety distances to prevent hazard zones being reached by upper limbs.
- EN ISO 14121-1:2007:	SAFETY OF MACHINERY – Risk assessment - Part 1: Principles.
- EN 1127-1:1997:	EXPLOSIVE ATMOSPHERE – Explosion prevention and protection - Part 1: Basic concepts and methodology.
- EN ISO 3746:2009:	ACOUSTICS - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane
- ISO 7000:1996:	Graphical symbols for use on equipment – Index and synopsis.
- EN ISO 11202:2009:	ACOUSTICS - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Survey method in
- EN ISO 12100-1:2003:	SAFETY OF MACHINERY -- Basic concepts, general principles for design -- Part 1: Basic terminology, methodology
- EN ISO 12100-2:2003:	SAFETY OF MACHINERY - Basic concepts, general principles for design. Technical principles
- EN 12921-1:2005:	Machines for surface cleaning and pretreatment of industrial items using liquids or vapours – Part 1: Common safety requirements
- EN 12921-2:2005+A1:2008:	Machines for surface cleaning and pre-treatment of industrial items using liquids or vapours - Part 2: Safety of machines using water based cleaning liquids.
- EN 13463-1:2009:	Non-electric appliances for potentially explosive atmospheres – Basic methods and requirements.

2. GENERAL SAFETY PREVENTION REGULATIONS

2.1 LEVELS OF DANGER AND TERMINOLOGY

The safety of both the operator and the persons exposed to the machinery is the primary concern of the designer and builder of the machine. In designing a new **Spray Washer,** every attempt is made to prevent any possible situations of danger and risks connected with use of the machine, by applying the appropriate solutions to make the equipment as safe as possible. It is therefore recommended that you read this manual carefully, especially this section, which concerns the safety norms, and that you avoid inopportune behaviour or behaviour that is contrast with the instructions contained herein.

Pay attention to danger signals when these are indicated in this manual. Comply with all safety regulations.

There are three levels of danger signal:

DANGER

This sign warns the operator that incorrectly executed procedures may cause severe harm, death or long-term health risks. This is the highest ranking risk sign

WARNING

This sign warns the operator that incorrectly executed procedures may endanger health and cause medium or long-term severe injuries. This is a lower ranking risk than the previous one.

CAUTION

This sign warns that incorrectly executed procedures can cause damage to the machine. This is the lowest ranking risk sign.

TERMINOLOGY: The following definitions are provided for the terminology used in this manual. The correct explanation of this terminology is necessary to ensure perfect understanding of situations of danger that could arise in using the machine and therefore directly concerns the operator and persons exposed to the machine:

- **DANGER :** a potential source of injury or damage to health (Art. 1.1.1, letter a), annex I, Directive 2006/42/EC).
- **RISK:** combination of the probability and the degree of an injury or damage to health that can arise in a hazardous situation (
- **DANGEROUS AREA:** any area next to or inside the machine, where the presence of an exposed person constitutes a risk for the safety and health of said person (Art. 1.1.1, letter b), annex I, Directive 2006/42/EC).
- **EXPOSED PERSON:** any person next to or inside a dangerous area, for any reason whatsoever (Art. 1.1.1., letter c), annex I, Directive 2006/42/EC.
- **OPERATOR:** In a general sense, the person or persons in charge of transporting, installing, adjusting, operating, cleaning and performing ordinary maintenance it (Art. 1.1.1, letter d), annex I, Directive 2006/42/EC
- **INTENDED USE :** the use of the machine in compliance with the information provided in the instructions for use (Art. 1.1.1, letter h), annex I, Directive 2006/42/EC).
- **REASONABLY EXPECTABLE IMPROPER USE:** use of the machine in a way different from the one described in the instructions for use, but the expectable result of human behavior (Art. 1.1.1, letter i), annex I, Directive 2006/42/EC).

- **USER:** the organization or company who has purchased or rented the **Spray Washer**, and is in charge of training operators who will run the machine to be used only for the uses recommended by the producer.
- **SPECIALISED TECHNICIAN:** an especially trained and qualified person to perform maintenance intervention or repairs, which require special in-depth knowledge of the machine, its operation, safety devices, dangerous areas and methods of intervention, who is therefore capable of recognising and avoiding dangers arising from use of the machine.
- **AREAS AT RISK OF EXPLOSION:** an area in the environment where the **Spray Washer** is operated, where atmospheres with a mixture of gas or explosive vapours could develop under certain atmospheric conditions (Art. 7, directive 1999/92/EC).
- **ZONE 1:** an area in which the formation of an explosive atmosphere, consisting of a mixture of air and flammable substances in the form of gas, vapour or mist, is likely to occur in normal operation occasionally (Attachment I, directive 1999/92/EC).
- **EXPLOSIVE ATMOSPHERE:** a mixture of air under atmospheric conditions, with flammable substances in a gaseous state, vapours or mists, whose combustion after ignition propagates together with the unburnt mixture (Art. 1, para 3, letter c), directive 94/9/EC.
- **POTENTIALLY EXPLOSIVE ATOMOSPHERE:** atmosphere which is likely to transform into an explosive atmosphere due to local operational conditions (Art. 1, para 3, letter c), directive 94/9/EC.
- **FLAMMABLE SUBSTANCE:** a liquid preparation having a flame or ignition point equal to or greater than 21°C and lower or equal to 55°C (directive 67/548 /EC).
- **pH:** measurement that expresses the acidity of a solution. The pH scale ranges from 0 to 14. For pure water the pH value = 7. When pH is above 7 the solution in alkaline; when it is less than 7 the solution is acid

WARNING

Read the following instructions carefully. failure to apply them can cause harm to the machine operator, other persons, animals or property. ROSAUTO declines all liability for damages caused by failure to comply with the following safety and accident prevention rules and regulations. ROSAUTO further declines all liability for damage caused by improper use of the spray gun washer and/or caused by adjustments carried out without the manufacturer's authorization.

2.2 CLOTHING

The type of clothing depends on the work that must be carried out. When using the **Spray Washer** and relevant products, comply with the regulations below:

- **It is forbidden** to use cell phones in environments where a mixture of flammable gasses or vapours may be present. t is advisable not to have a cell phone with you. If you have a cell phone with you, it must be turned off.
- The operator **must** wear solvent-proof rubber gloves to prevent contact between his hands and the products used for washing.
- The operator **must** always wear protective eyewear to prevent the solvent coming into contact with his eyes.
- The operator must use a protective mask to avoid inhaling gas and dust.
- **It is mandatory** that all operators within the risk area where an explosion may occur wear suitable clothes and shoes that prevent any accumulation of dangerous electrostatic charges.

2.3 ECOLOGY AND POLLUTION

- **Comply** with Laws in the country where the **Spray Washer** is installed regarding use and disposal of washing products. Comply with the recommendations given by the manufacturer of these products.

2.4 STANDARDS FOR SAFE OPERATION

The **Spray Washer** was designed and built to be used in an environment in which an explosive atmosphere, consisting of a mixture of air and flammable substances in the form of gas, vapour or mist, is likely to occur. The **Spray Washer** guarantees a normal level of protection in conformity with **equipment group II, category 2 G, in accordance with directive 94/9/EC.**

- **It is forbidden to** use the **Spray Washer** following instructions which are not included in the final application.
- **It is prohibited** to use water-based products that have a pH value of less than 6.5 or greater than 12 for washing operations. If the mixture contains flammable substances, the concentration must not exceed 8%.
- **It is forbidden** to use solvents that contain chlorurate or fluorocarbons, such as: Trichloroethane, Methylene Chloride or other substances with halogenated hydrocarbon-based products.
- The use of the **Spray Washer** is strictly **forbidden** to anyone who has not fully read and understood the contents of this instruction manual
- **It is strictly forbidden** to let the **Spray Gun Washer** be used by anyone who is not properly skilled or duly trained or is not in perfect health
- **It is forbidden** to put unsuitable objects and weights above 10 Kg on the grid of the **Spray Washer** (pos. 6C fig.1).
- **It is forbidden** to run the pneumatic diaphragm pumps (pos.31-32 fig.1) without solvent in the drums (pos. 27-28 fig.1).
- **It is forbidden** to continually disconnect and reconnect the air supply hose from its connection (pos.12 fig.1).
- **It is forbidden** to puncture, scratch or scrape metal on the sides of the **Spray Washer**, as it could cause sparks
- **It is forbidden** to have nylon, plastic, glass wool, GRP or similar products next or over the **Spray Washer** to avoid electrostatic charges
- **It is forbidden** to use plastic drums (pos.27 e 28 fig.1).
- **It is forbidden** to use welders of open flame equipments and incandescent materials in the same area housing the **Spray Washer**
- Before using **the Spray Washer** all safety devices **must** be checked for integrity
- It is **mandatory** to verify that at the beginning of the washing cycle the solvent being used is not corrosive. If traces of corrosion are detected on the internal hoses of the wash basin or on the grid top, suspend the wash cycle and immediately replace the solvent.
- Before using the **Spray Washer** it is **mandatory** to connect the external earth cable (pos. 74 fig. 1) to the workshop plant.
- Before using the **Spray Washer** it is **mandatory** that the operator has eliminated all electrostatic charges accidentally accumulated.
- **It is mandatory** that while loading and unloading the bins you do not spill their content on the workshop floor.
- Before using the **Spray Washer, it is mandatory** that the solvent loading and unloading hoses (pos.23-24-26-29-29S fig.1) are firmly inserted in their respective bins, be careful not to bend them and make sure they are not damaged.
- Before using the Spray Gun Washer **you must** ensure that the cover (pos.46 fig.1) closes perfectly the inspection hole.
- When clearing gun manually**, it is mandatory** to comply with the instructions contained in this manual (position of the gun).
- **It is mandatory** that you periodically clean the dry filter (pos.20 fig.1).
- **It is mandatory** that you periodically clean the work grid (pos.6C fig.1) , the conveyor (pos.5 fig.1) and the internal door (pos.5C fig.1).
- Spray guns, covers and containers to be washed **must** only be inserted in the nozzles and in the positions shown in fig 3A.
- **It is mandatory** that, to avoid an overflow, you periodically check the level of solvent in the drum making sure it is not excessive (pos.27 - 28 fig.1).
- Before you start working **it is recommended** that you are familiar with the control devices and their functions.
- Should skin or eyes come in contact with washing products, rinse abundantly with water.
- If pieces are not washed well, **it is recommended** that you check and, if necessary, clean the nozzles inside the washing machine (vedi fig.3).
- When you start the Spray Washer **it is recommended** that you pour 10 litres of solvent in the drum (pos.27 fig.1).
- **It is recommended** that you periodically replace the used solvent when it is necessary and deliver it to a company specialized in disposing of it.

DANGER

It is forbidden to spray and/or blow with the gun aimed at the operator or other persons:
THIS COULD CAUSE SERIOUS DAMAGE TO HEALTH.

Before using the Spray Washer, ensure that the following measures are taken:

- **It is forbidden** to use water to extinguish fires. If the materials come in contact with water, it could generate noxious or flammable gases or greatly increase in temperature.
- Suitable fire extinguishing systems, including portable fire extinguishers for first aid purposes, **must be** installed depending on the conditions in which they will be used. These appliances must be kept in working order and inspected at least every six months by an expert.
- **It is mandatory** that in case of an emergency that personnel get easily and quickly away from danger zones.

2.5 DEMOLITION AND DECOMISSIONING

Upon demolition or decommissioning of the **Spray Washer,** we recommend that you take the necessary precautions to avoid danger to exposed persons and the risk of environmental pollution:

- Disconnect the **Spray Washer** from the pneumatic energy source and discharge the residual energy accumulated.
- Residual liquid possibly left in the sink and hoses of the equipment must be carefully drained.
- The other parts of the **Spray Washer** must be treated in accordance with the regulations for special waste. Proceed by disassembling the machine: group the various units and parts into homogeneous lots and provide for their disposal separately, in accordance with environmental protection laws in the country where the machine is installed.

In general, please bear in mind that:

- **Plastic or rubber parts** are **special waste.**
- **Ferrous scrap and carpentry** are **special waste.**

3. SHIPMENT AND UNLOADING

The **Spray Washer** is shipped in a palletised carton with the warnings <fragile> and <do not turn over>. With the use of a cart, move the **Spray Washer** near to where it is to be installed, take it out of the carton and pallet and make sure that no damages have occurred during shipment.

4. POSITIONING

It is obligatory to place the **Spray Washer** on a smooth, horizontal surface, in an environment with a temperature between 10° C and 40° C. The Spray Washer was desig ned and built to be used in an environment in which an explosive atmosphere, consisting of a mixture of air and flammable substances in the form of gas, vapour or mist, is likely to occur in normal operation occasionally: the **Spray Washer** guarantees a normal level of protection in conformity **with equipment group II, category 2 G, in accordance with directive 94/9/EC.**

4.1 CHECKS BEFORE INSTALLATION

Before installation, make sure that the pressure and the quality of the air supply to the **Spray Washer** is suitable.

WARNING

The Spray Washer operates at a minimum or 6 and a maximum of 10 bar If the power supply of the workshop is above 10 bar, install a filter-regulator-reducer group regulating the pressure at: 9 bar if the Spray Washer is not in operation (static) or at 8 bar if it is in operation.

If this is not the case, be sure to install a compressed air tank, in order to guarantee the minimum level of autonomy of the **Spray Washer**.

WARNING

All the following operations of installation, adjustment and testing must be carried out exclusively by qualified and responsible personnel who can guarantee the safety standards in the mechanical and pneumatic fields.

4.2 INSTALLATION

In order to install the **Spray Washer** correctly, it is useful to bear in mind that the inlet air speed into the suction hood, indicated in table <1.5 TECHNICAL DATA> is influenced by the length and shape of the fume exhaust pipe. An extremely long or curved pipe, with section reductions or long horizontal sections will inevitably cause a drop in air flow to the exhaust stack, with consequently greater concentrations of vapour in the washing area. Therefore, follow instructions carefully.
Comply with the following instructions when installing the **Spray Washer**:

- Extend the vapour exhaust stack (pos. 16, fig. 1) and insert it into the hole on top of the **Spray Washer** positioning it perfectly vertical for at least 1 meter and connect it to the outside of the work room. If the outlet hole is farther than 2 metres away, it is advised to use a diam. 15 cm galvanized pipe **(not plastic),** and mount it at the angle farthest away from the **Spray Washer** (see figure AS). Example: if the outlet hose is 5 metres long, put at least 3-4 metres vertically and 2-1 metres the horizontally, rather than 1 metre vertically and 4 metres horizontally.
- Connect the hose (pos. 4 fig. 1), using a piece of Teflon tape to the compressed air outlet fitting (pos. 10, fig. 1).
- Connect to the filtered air entrance (pos. 12 fig.1) with a hole of at least 8mm. It is advised to use a fast-on connection to facilitate periodical lubrication (3-4 times a year) with an oil for atomizers.
- Connect the external ground cable (pos. 74 fig.1) to the workshop system.
- Before using the **Spray Washer**, it is recommended spreading peel-off paint on the conveyer (pos. 5, fig. 1) and side walls inside to simplify periodic cleaning.

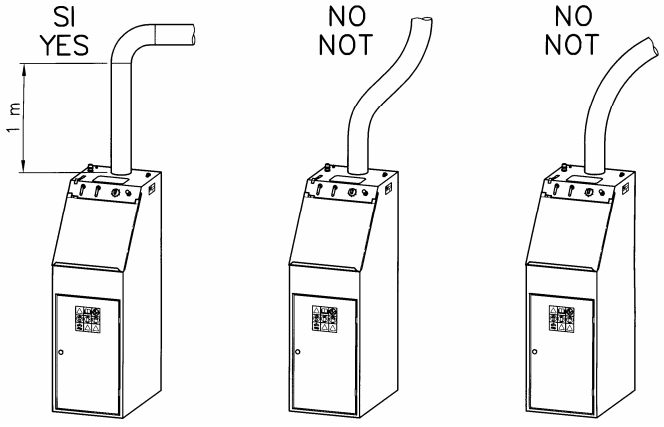


Figure AS

5. INTERNAL VIEW OF THE WASHER

D - Drilled screw.
G - Grid.
H - Spray gun covers support.
T - Spray nozzle.
U - Upper washing nozzles kit.
L - Internal spray hose.
Y - Spray gun support.
Z - Nozzle.
M - Hose kit complete with accessories (except H-U).

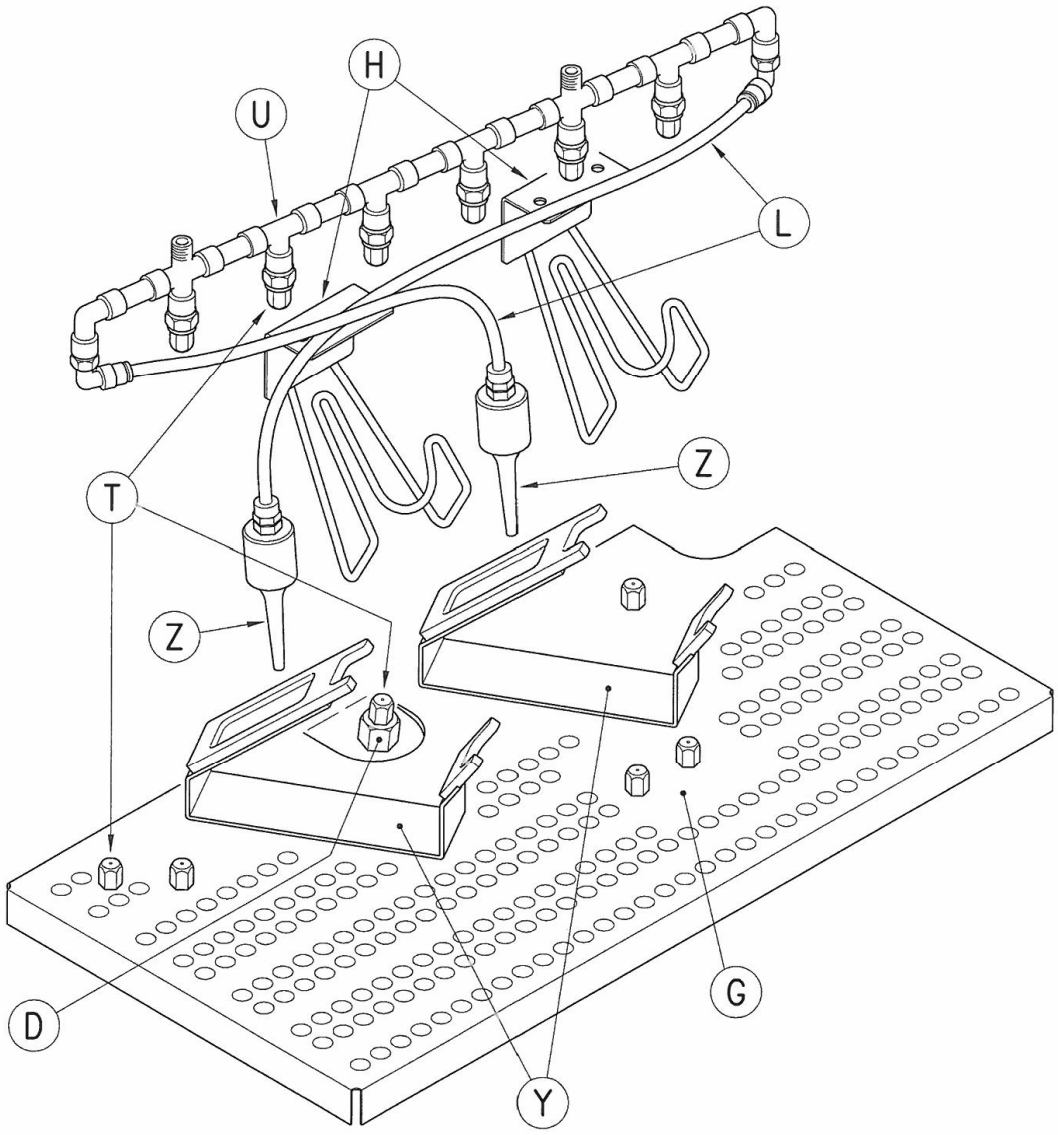


Figure 3

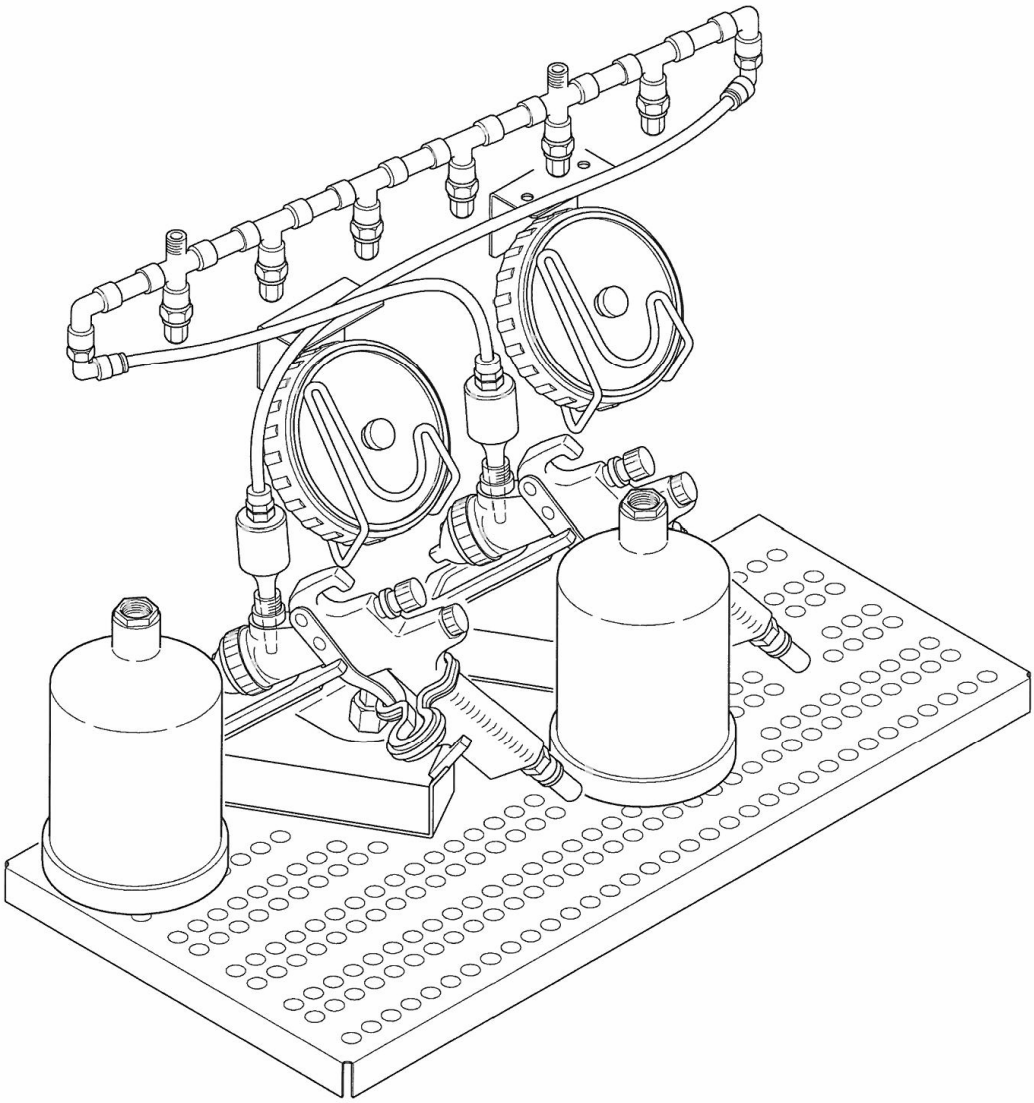


Figura 3A

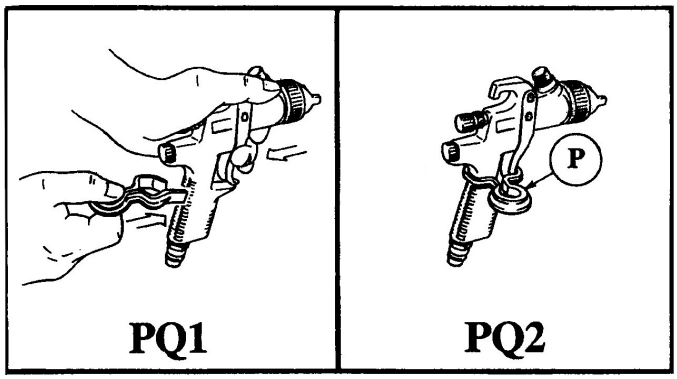


Figura PQ1-PQ2

6. INSTRUCTION FOR USE

The following instructions must be read and fully understood before starting to work with the **Spray Washer**. With the washer, it is possible to wash the spray guns in several ways:

1) Automatic washing up to two gravity guns and accessories.
2) Manual washing of spray guns and accessories.

6.1 PREPARATION FOR USE OF THE SPRAYWASHER

- Take a **25 L** drum full of clean solvent (pos.28 fig.1), and an empty one of the same capacity (pos.27 fig.1).
- Pour approx. **10 L** of clean solvent from the drum 28 to the drum 27**.** Be sure that pump filter (pos.29F fig.1) is completely immersed into the solvent.
- Position the two drums in the collecting basin (pos.47 fig.1) inside the **Spray Washer.**
- Insert the two hoses 23-24 in the drum 28 and the two hoses 26-29-29S in the drum 27. This latter will be used also to recuperate the dirty solvent after washing. Be sure that pump filter (pos.29F fig.1) is completely immersed into the solvent.
- Check the operation of the membrane pump (pos. 32 fig.1) of the automatic wash and if it is necessary, adjust it, turning the screw (pos.56 fig.PA) located on the pump itself. The pump must carry out 60 ÷ 70 impulses/min.
- Check the operation of the pump MP (pos. 31 fig.1) of the manual wash with brush and if it is necessary, adjust it, turning the screw (pos.62 fig.PA) located on the pump itself. The pump must carry at least 70 impulses/min.

6.2 AUTOMATIC WASHING OF SPRAY-GUNS AND ACCESSORIES

Remove the nozzle and the gun cover. Empty the residual content to an external container and dismantle the cup. Open with an hand the internal door (pos.5C fig.1) and put the cup upside down over the grid **G** over the nozzles **T**, put the cover of the cup with the inside downwards on support **H**, also put mixing bars and other accessories over the grid **G**. Pull the gun trigger using hook **P** (fig.PQ1-PQ2) and place spray guns over **Y** support. Insert **Z** nozzle inside the paint channel of the spray gun. Complete this operation, close the door (pos.5C fig.1) using the hook (pos.34 fig.1) and activate the pump membrane, setting the timer on maximum (pos. 14 fig. 1). At the end of the wash cycle the pump will stop automatically.

6.3 MANUAL WASHING OF SPRAY-GUNS AND ACCESSORIES

Keep the nozzle facing down to prevent the solvent from penetrating the compressed air duct and to guarantee a thorough cleaning of the gun with no damages to its internal parts.
Open the washer door (pos.5C fig.1) and remove the parts in the basin and set them on the draining table (pos.6C fig.1). If it is necessary for the final washing, use the brush (pos.36 fig.1) operated by switch (pos.13 fig.1), use the nebulizer (pos.22 fig.1) activated by the lever (pos.19 fig.1) or the venturi pump (pos.21 fig.1) activated by the lever (pos.18 fig.1).
With the same pump (pos. 21 fig.1), put the solvent in the gun cup, connecting it with the flexible nozzle (pos.4 fig.1) and spray the conveyor (pos.5 fig.1). At the end of each washing, dry washed parts with a clean cloth.

DANGER

**It is forbidden to spray and/or blow with the gun aimed at the operator or other persons:
THIS COULD CAUSE SERIOUS DAMAGE TO HEALTH.**

CAUTION

Spray only inside the conveyor (pos.5 fig.1)

CAUTION

It is forbidden to have the nozzle facing up when cleaning manually the gun.

Periodically verify the integrity of the adhesive label showing the position of the gun during the manual wash (pos.11 fig.2): Replace it, if necessary.

7. PNEUMATIC MEMBRANE PUMP PA

PA-38	Inlet air valve.
PA-38A	Curved inlet.
PA-39	Inlet spring valve.
PA-40	Inlet/outlet calve washer.
PA-41	Spheres with support.
PA-42	Outlet spring valve.
PA-43	Inlet/outlet calve washer.
PA-44	Outlet valve..
PA-45	Pump body.
PA-46	Stainless steel spring.
PA-47	Brass spring.
PA-48	Teflon membrane.
PA-49	Armoured rubber membrane.
PA-50	Stainless steel membrane.
PA-51	Membrane lock screw.
PA-52	Pump body cover.
PA-53	Pump body cover screw.
PA-54	Pneumatic valve.
PA-56	Impulse adjustment screw.
PA-57	Outlet
PA-58	Air inlet fitting.
PA-80	Atex – CE identification plate.
PA-81	Self-threading rivet 2.5x6.5 UNI 7346

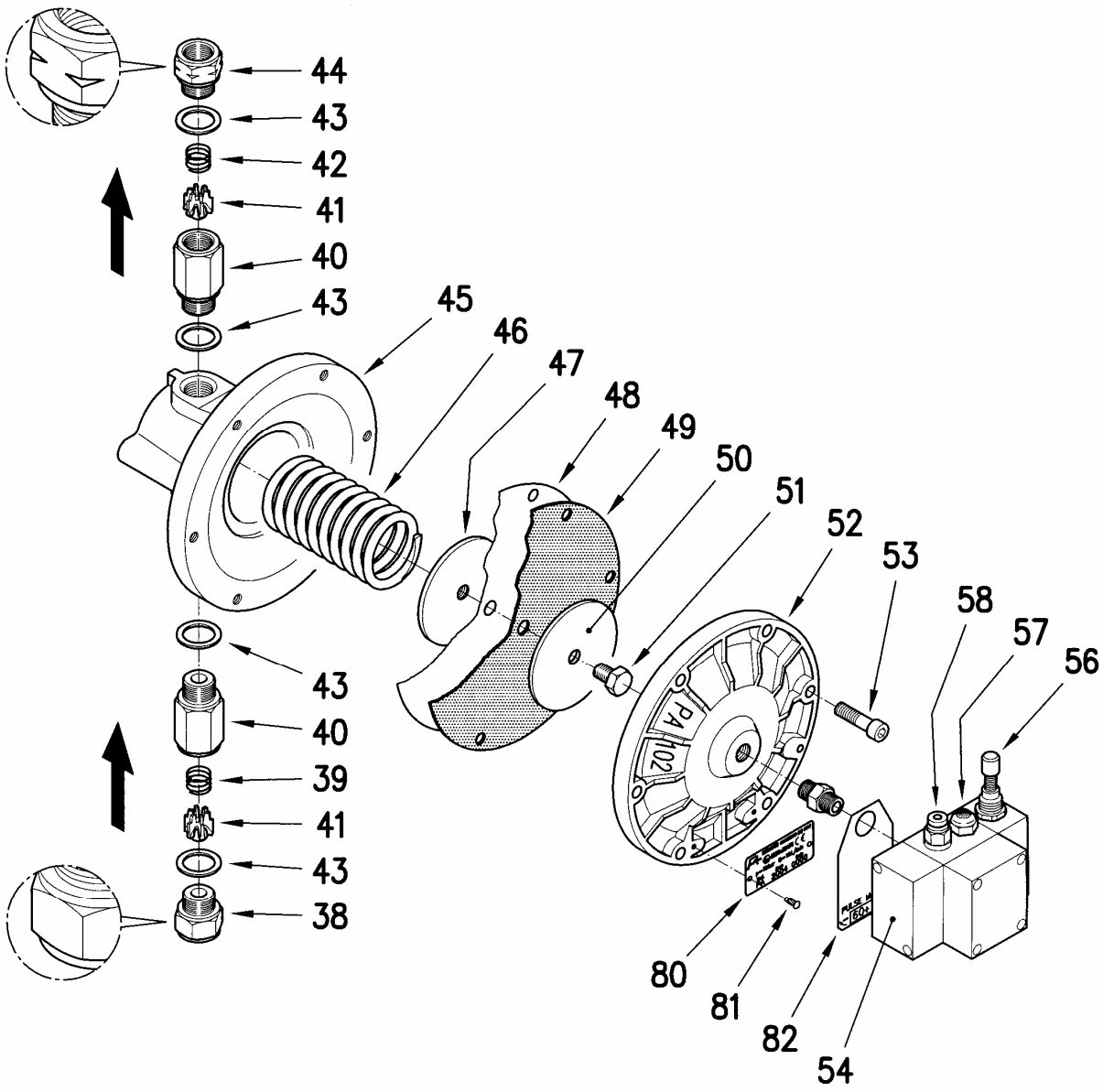


Figure PA

8. PNEUMATIC MEMBRANE PUMP MP.

53	Gasket 5 3/8.
54	Body pump.
55	Central spring.
57	Pump cover.
58	Screw M6x25-8.8 UNI 5931.
65	Spring camper plug.
66	Spring camper cover.
67	Connection.
80	Medium nut M6 UNI 5588.
81	
82	Washer 6.5x24x3.
83	Diaphragm.
84	Diaphragm.
85	Screw M6x14 UNI 5737.
86	Valve body.
87	Ball 11/32” (Ø 8.731).
88	Spring.
89	Valve fitting.
90	Body.
91	Suction spring.
92	Ball sport.
93	Brass suction fitting
94	Atex – CE identification plate
95	Self-threading rivet. 2.5x6.5 UNI 7346.

52	Suction ball valve.
56	Complete diaphragm.
64	Complete valve.

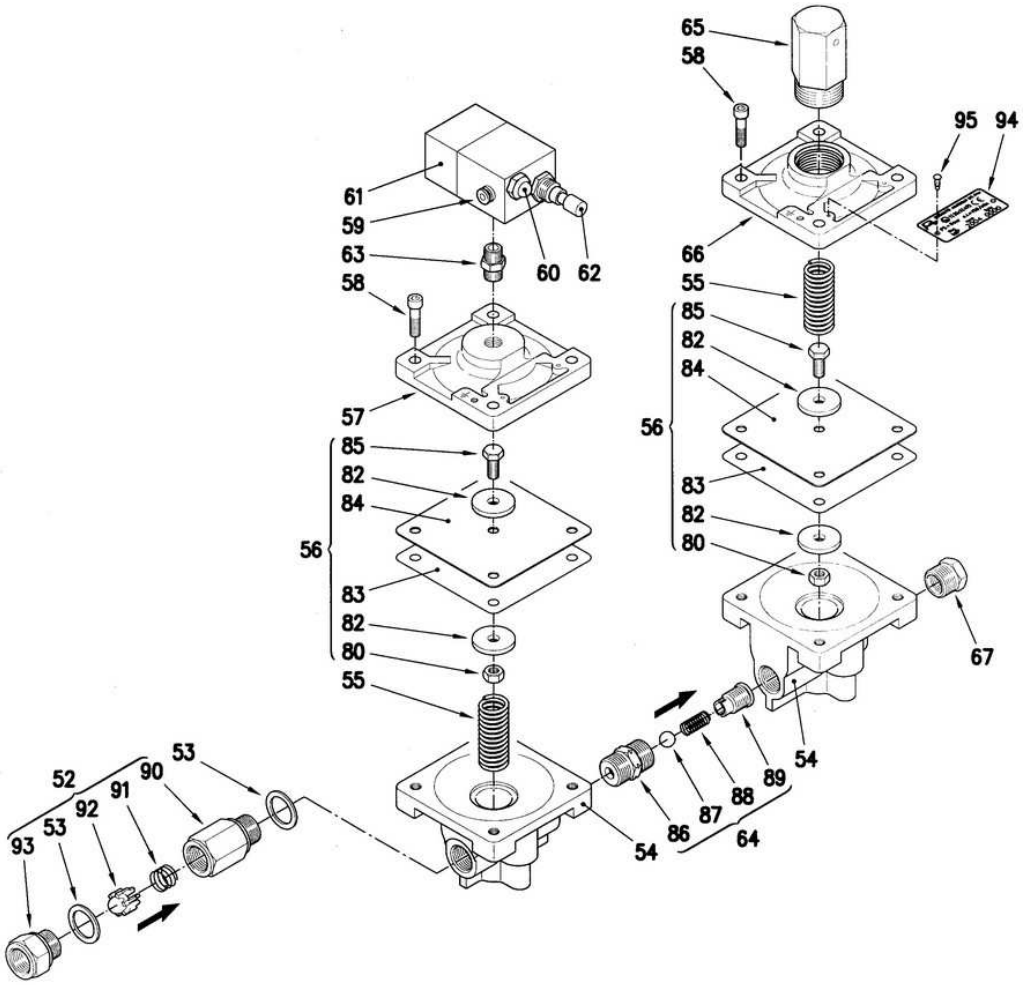


Figure MP

9. PNEUMATIC SYSTEM

1 - Air filter
3 - 3 way Valve (upper door)
4 - 3 way Valve (washer door)
5 - 3 way (timer activated)
6 - 3 way continuous motor valve
7 - Membrane pump
8 - Dirty solvent drum
9 - Washer basin
10 - Sphere valve (pump command)
11 - Sphere valve (nozzle command)
12 - Blower (fume intake)
14 - Eventual spray gun
15 - Tube pump
16 - Nozzle tubes
17 - Clean solvent drum
18 - Pressure regulator
19 - Sphere valve(pump command)
20 - Tube pump
21 - Final wash button
22 - Membrane pump

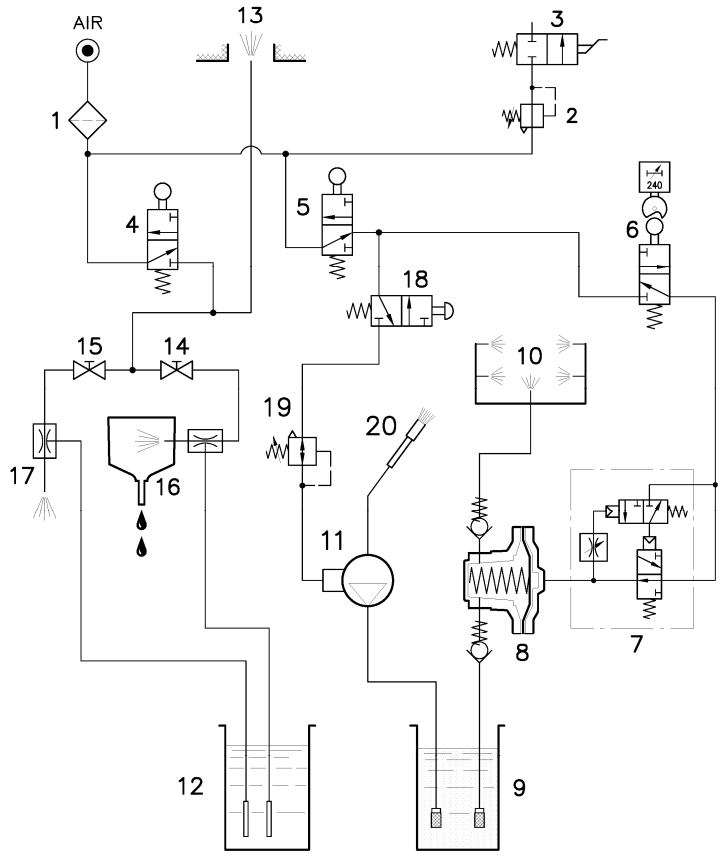


Figure 5

9.1 OPERATION (See fig.5)

Compressed air enters through the filter **1**, air pressure regulator **2**, valve **4** and valve **5**. With the internal door closed (pos.5C fig.1), valve **5** feeds the pump timer **6**. With the timer set, valve **6** feeds valve **7** that generates the impulses to the membrane pump **8** that takes fluid from the drum **9** and sprays the washer basin **10**. With the upper door open (pos.11 fig.1), valve **4** feeds blower **13** and valves **14**-**15**. With the valve **14** open, through a suction system works the venturi pump **16**, with the valve **15** open, works the nebulizer **17**; Both take clean solvent from drum **12**.

9. SAFETY DEVICES

WARNING

The following devices must never be tampered with or excluded from operation.
They must always be kept in perfect working order

- The exhaust aspiration valve (pos.41 fig.1).
- The safety valve (pos. 39 fig.1) stops the pump (pos.32 fig.1) when the operator opens the internal door (pos.5C fig.1).
- Connection of the ground wire supplied (pos.74 fig.1).
- Support latch on the upper door (pos.42 fig.1).

10. MAINTENANCE AND PERIODICAL CHECKS

DANGER

Disconnect the air supply when you need to carry out repairs or maintenance.

The maintenance must be carried out by skilled or qualified individuals, according to the instructions given in this manual. To guarantee safe maintenance on the **Spray Washer**, the following procedures must be employed:

- Periodically check the efficiency and the state of the safety devices.
- Safety devices must never be tampered with or removed.
- The labels on the **Spray Washer** provide information to the operator to avoid accidents. These labels must be kept clean and must be replaced if even partially damaged or detached. Use of the **Spray Washer** is forbidden if even only one of the labels is missing from the point where it was placed by the manufacturer.
- Use only original spare parts during repair work and maintenance.
- Make sure the machine is always connected to the ground wire.
- Lubricate the compressed air system 3-4 times per year as follows:
  Disconnect the air supply at the air inlet fitting (pos.12 fig.1) and pour one spoonful of oil for nebulizer into the same fitting.
- Clean or replace the dry filter (pos. 20 fig. 1)
- Clean the work surface (pos.6C fig.1) and the internal door (pos.5C fig.1).
- Clean the air and vapour conveyer (pos. 5 fig.1).
- Inspect and clean from time to time the air inlet filter inside the fitting (pos.12 fig.1) if possible without disassembling the fitting.
- Clean solvent inlet filter (pos.29F fig.1).
- Check that hoses (pos. 23-24-26-29S fig.1) are not bent, worn or broken and are well inserted into the containers (pos.27-28 fig.1).
- Check that the pump strokes (pos. 32 fig. 1) are 60-70 per minute.

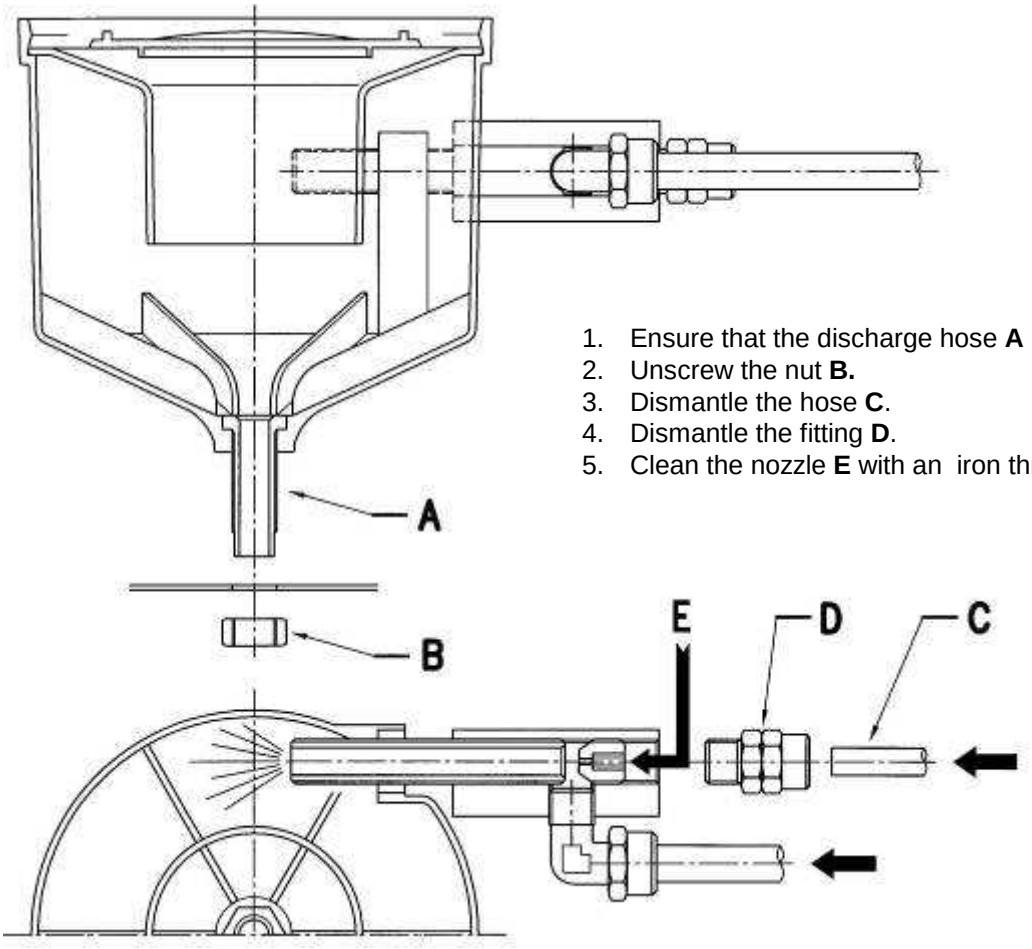
10.1 PROBLEMS WITH THE MEMBRANE PUMP

- Make sure inlet air pressure is at least 6 bar.
- Detach the pump feeding hose and with the timer activated, check that the compressed air is exiting.
- Check that the pump pulse at 60-70 strokes per minute. If not, adjust the screw PA 56 as necessary.
- If the pump does not prime and no solvent is delivered, check and clean the suction filter (pos.29F fig.1) and ensure that the drum (pos.27 fig.1) contains at least 10 litres of solvent. Be sure that pump filter (pos.29F fig.1) is completely immersed into the solvent.
- In case air continues to escape from the vent (pos.57 fig.PA) and there are no pump strokes, remove valve 54 from the pump and thoroughly clean the middle shutter.
- If the pump pulse is normal (60-70 strokes per minute) and no solvent is delivered, check that the inlet ball PA41 is not stuck to its seat. If so, gently hit the inlet valve body PA38-40 with a small hammer while the pump is in operation. If the ball does not move from its seat, dismantle the pump and the hose (pos. 29F fig.1) and blow inside with compressed air after you have closed the washer door (pos.5C fig.1), or blow and hit simultaneously.
- If the impulses of the pump (pos.32 fig.1) are irregular, it is necessary to lubricate the PA 54: detach the air intake (pos.12 fig.1), pouring oil for nebulizer into the intake itself, reattach the air and set the timer (pos.14 fig.1). If the number of pump impulses (pos.32 fig.1) are too high, turn screw PA 56 counter-clockwise.
- If solvent comes out of the silencer PA57, then the diaphragms PA 48 and 49 are broken. Replace the diaphragms and the complete valve PA54.

10.2 INSUFFICIENT VAPOUR EXHAUST

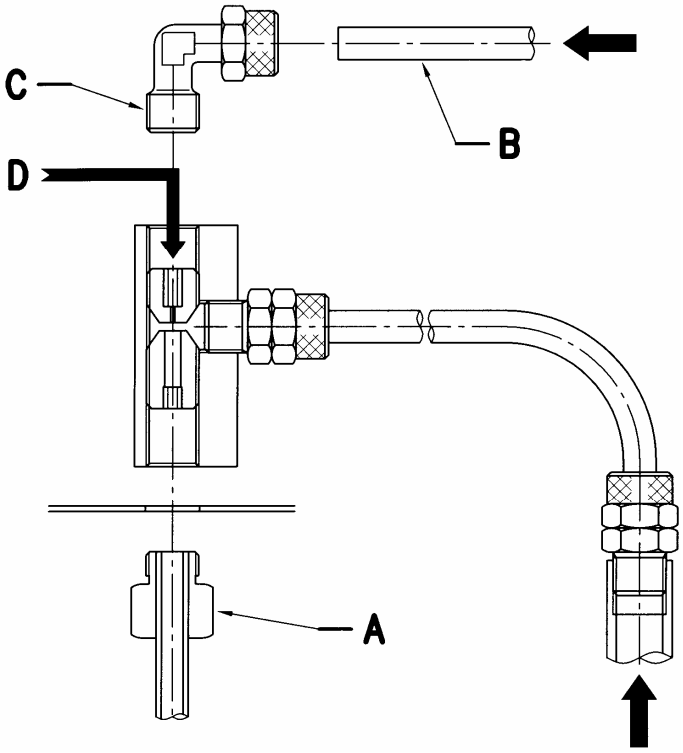
- Check that the inlet air pressure is at least 6 bars.
- Check that the exhaust hose (pos.16 fig. 1) is perfectly vertical for at least 1 meter and that there are no reductions in diameter or junctions or obstructions badly constructed.
- Dismantle and clean the air inlet filter placed inside the connection fitting (pos.12 fig.1).
- Dismantle the nozzle(pos.15 fig.1) and check that the 3 holes are not obstructed

11.3 CLEANING THE VENTURI PUMP



1. Ensure that the discharge hose **A** IS NOT obstructed.
2. Unscrew the nut **B.**
3. Dismantle the hose **C**.
4. Dismantle the fitting **D**.
5. Clean the nozzle **E** with an iron thread..

11.4 CLEANING THE NEBULIZER



1. Dismantle the fitting **A**.
2. Dismantle the hose **B**.
3. Dismantle the fitting **C**
4. Clean the nozzle **D** with an iron thread.

12. SPARE PARTS LIST

When ordering spares, always quote the code number and the data on the CE plate:
MODEL, SERIAL NUMBER, YEAR OF CONSTRUCTION.

GENERAL SPRAYWASHER (See fig.1)

163-3	Lower door magnet.
163-4	Flexible hose for supplying air to the gun.
163-5	Air and vapour conveyor.
163-5C	Washer door.
163-6C	Grill for manual wash.
163-11	Upper door.
163-11A	Lower door.
163-11M	Internal door handle.
163-12	Air entrance fitting with filter.
163-14	Timer.
163-15	Vapour intake nozzle.
163-16	Vapour discharge hose (ø 120 mm).
163-18	Atomizer command lever.
163-19	Venturi pump command lever.
163-21	Clean solvent Venturi pump.
163-22	Clean solvent nebulizer.
163-23	Flexible supply hose from the atomizer.
163-24	Flexible supply hose from the pump.
163-26	Flexible discharge hose from the grill.
163-27	Dirty solvent drum.
163-28	Clean solvent drum.
163-29F	Pump supply filter (filter only).
163-29S	Flexible pump supply hose from the dirty solvent pump.
163-32	Pneumatic membrane pump PA for dirty solvent.
163-34	Hook for internal door.
163-39	Security valve to block the washer pump.
163-41	Automatic vapour intake command valve.
163-42	Support hook for upper door.
163-46	Hood inspection manhole cover.
163-47	Collecting basin.
163-72	Command panel sticker.
163-74	Outside ground wire.

INSIDE THE WASHER (See fig. 3)

163-D	Drilled screw.
163-G	Grid.
163-T	Spray nozzle.
163-L	Internal spray hose.
163-Y	Spray gun support.
163-Z	Nozzle.
163-M	Hose kit complete with accessories (except H-U).

PNEUMATIC MEMBRANE PUMP (See fig. PA)

163-PA46	Stainless steel spring.
163-PA57	Outlet silencer.
163-PA58	Air inlet fitting.
163-PA38K	Complete inlet valve Kit: PA38-38A-39-40-41-43.
163-PA44K	Complete outlet valve Kit: PA40-41-42-43-44.
163-PA48K	Complete membrane: PA47-48-49-50-51.
163-PA54K	Complete membrane valve: PA54-56-57-58.