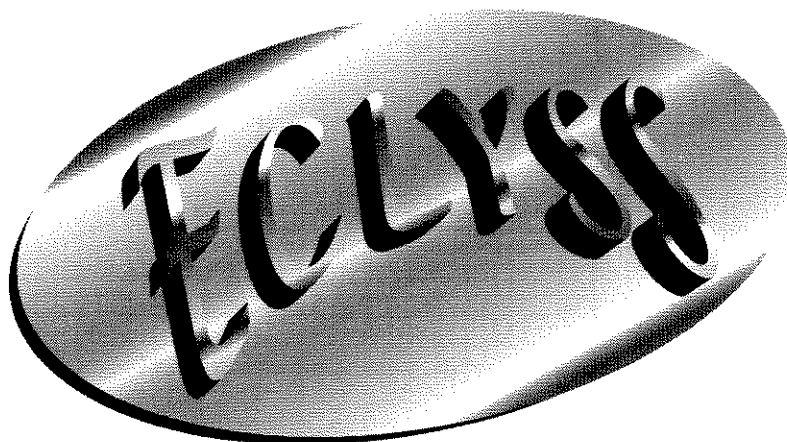


Ucima Member

# *HOT – MELT APPLICATOR*



## *SERIES TRATTO 2*

### *USE AND MAINTENANCE MANUAL*

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Edition n° 1  
24 / 04 / 97

*Officine PREO S.n.C.*

**- High Precision Mechanical Manufacturing Industry and Hot - Melt Division-**

Adhesive application systems design and development

Via A. Volta, 7 - 20094 CORSICO (MI) - Tel : (++39) 2 48.60.12.60 r.a. - Fax : (++39) 2 450.33.23

*Gentile Cliente,*

ringraziandola anticipatamente per aver scelto un applicatore di elevata qualità prodotto da PREO Divisione Hot - Melt, vorremmo ricordarLe alcune preziose utili informazioni.

Il **Certificato di Garanzia** costituisce parte integrante del Sistema da Lei appena acquistato.

Si prega pertanto di leggere attentamente le Condizioni di Garanzia poste nel retro della stessa e di voler provvedere, **entro 30 (trenta) giorni** dalla data di acquisto della merce, alla restituzione di una copia della Garanzia debitamente timbrata e controfirmata in ogni sua parte.

Si ricorda inoltre che, se ciò non dovesse essere effettuato entro i termini previsti o nelle modalità prescritte, le condizioni di Garanzia risulteranno invalidate.

Confidando nella Sua preziosa collaborazione, cogliamo l'occasione per porgerLe i Nostri migliori saluti.

*Dear Customer,*

*we'd like to thank you for choosing this high quality applicator manufactured by PREO Hot - Melt Division, and we'd like to remember you some important informations.*

*The **Warranty Certificate** is an integrant part of Your system ; we recommend to read with attention the Warranty Conditions in the back of the form and send in copy properly filled in all its parts **within 30 days** from date of purchase on pain the annulation of the Warranty Conditions.*

*Thanking in advance for Your valuable collaboration, we remain,  
Yours Faithfully*

**OFFICINE PREO S.N.C.**



HOT - MELT DIVISION

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### USE OF THE MANUAL

The instruction manual is the document which accompanies the machine from its construction to its demolition. Therefore, it is an integral part of the machine. The manual has to be read before carrying out *any activity* concerning the machine including its transport and its unloading from the means of transport.

To allow a better consultation, the instruction manual is subdivided into the following sections:

- Section ①** Packing, handling and transport, check on the purchased product and storing.
  - Section ②** This section describes the machine and its field of application. It also describes all the technical features of the machine. These information can be compared to those of an illustrative brochure.
  - Section ③** Installation and machine test while it is operating.
  - Section ④** It describes machine safety systems and their function.
  - Section ⑤** Ordinary and extraordinary maintenance.
  - Section ⑥** Demolition
  - Section ⑦** Control description for the use.
- Enclosures** Electric pneumatic diagram, technical cards.

### SYMBOLS EMPLOYED IN THE MANUAL



It indicates all the operations that, if they are not carried out properly, can be dangerous.



It indicates all the operations for whose execution a trained staff is required.



It indicates to pay much attention to electric power.



It indicates to pay much attention to electric power.



It indicates to pay much attention to high pressures

**NOTE:** train the staff charged with the use of the machine and check if what is indicated in the manual is accomplished.

### INFORMATIVE LETTER

This instruction and maintenance manual is an integral part of the machine and it must be easily found by the staff charged with the use and the maintenance.

The user and the maintenance worker must know the content of this manual.

All descriptions and drawings contained in this manual are not binding.

Although the main features of the machine are not subject to change, PREO S.n.c. reserves the right to make possible changes of the machine members, details and accessories that it will consider necessary in order to improve the product or to meet manufacturing or commercial requirements, at any time and without being obliged to update this manual.



All rights are reserved

The reproduction of any part of this manual is forbidden, in any form, without the explicit written permission of PREO.

In order to make this guide as complete and comprehensible as possible, great care has been taken in collecting and checking the documentation included in this manual.

The drawings and any other document are PREO's propriety which reserves all the rights.

**PREO HOT - MELT DIVISION GRANTS A GUARANTEE OF 12 MONTHS FROM THE DELIVERY FOR MECHANICAL AND ELECTRIC PARTS.**

The guarantee includes the free replacement or repair of the parts composing the machine that are acknowledged to be faulty at the origin because of manufacture faults. The assistance in guarantee is granted only if it is carried out PREO assistance service.

### Technical assistance service

**OFFICINE MECCANICHE PREO S.n.c.**

**DIVISIONE HOT - MELT**

Via Alessandro Volta, 7

20094 CORSICO (MI)

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The original configuration of the machine must not be absolutely modified

On the receiving of the machine check that:

- ◇ The package is integral and is not damaged.
- ◇ The supply corresponds to order specifications.

In the case of damages, please inform our Company.

## NOTE OF THE COMPANY

We thank you in advanced for the attention paid and invite you to point out any eventual mistake or advice that you consider necessary in order to improve this product.

## CONFORMITY TO THE STANDARDS

PREO Hot - Melt applicators series ECLYSS are, in any part, in compliance with the following standards:

- ◇ **EN 292-1:** Machine safeties. Main concepts, terminology, basic methodology
- ◇ **EN 292-2:** Machine safeties. Main concepts - Specifications and technical principles
- ◇ **DR 89/392 :** Machine directive
- ◇ **DR 91/368 :** Machine directive (supplement)

The machines are not designed to operate in places with the danger of explosions and/or fires.

For any information, please apply to PREO technical assistance service in our company.

## COMPANY PRESENTATION

Officine Meccaniche PREO S.n.c. has been working with a pluriannual and consolidated experience in the field of high precision mechanics since about 60 years.

Founded in 1938 by Antonio PREO, they have always devoted their greatest care to the production of mechanical particulars in the civil, militar and aeronautic field. In these last years a new Hot - Melt Division has been created in continuous evolution and kept up always with the times.

The use of a computerized system CAD - CAM for the automatic programming, allows the elaboration and inserting, in a real time, of the programs that are destined to the use of the machine tools with numeric checking between the most precise and sofisticated ones. Particular care is used in the study and realization of new applications or products which are always innovative in order to satisfy each market necessity.

A system of quality checking, based on the suitable manual and equipped with the most modern equipment, gives the greatest safety by increasing the product reliability and permitting the certification of the final testing. Machine fleet, conceived for the most various manufactures, and the employ of highly-qualified staff ensures particular flexibility to the productive system by making Officine Meccaniche PREO, a modern factory skilled to offer a guarantee of perfect reliability of its products at any moment and to satisfy all the specific

problems by means of the execution of special personalised applications even for the most exacting Customer.

A speed and efficient assistance network always and everywhere warrants original spare parts that can be chosen among a great range of particulars.

Officine Meccaniche PREO, member of UCIMA (Union of Italian manufacturers of automatic machines for packing and packaging), certificate each of their particulars in compliance with CE standards by warranting technology and experience in order to offer a complete and economic solution to your problems in the following fields:

- ◇ MACHINES FOR PACKAGE AND PACKING
- ◇ MACHINES FOR FILTER PRODUCTION
- ◇ MACHINES FOR WOODEN WORKING
- ◇ MACHINES FOR BOTTLING AND LABELLING
- ◇ MACHINES FOR THE CERAMIC
- ◇ GRAPHIC INDUSTRY AND CONTINUOUS MODULE PROD.
- ◇ GLASS INDUSTRY
- ◇ ELECTRONIC INDUSTRY
- ◇ COSMETIC INDUSTRY
- ◇ TEXTILE INDUSTRY
- ◇ ALIMENTARY INDUSTRY
- ◇ CARTOTECHNICAL INDUSTRY
- ◇ PHARMACEUTICAL INDUSTRY
- ◇ MECHANICAL AND ASSEMBLY INDUSTRY

Since 1938 the tradition of a great name and the guarantee of a consolidated experience

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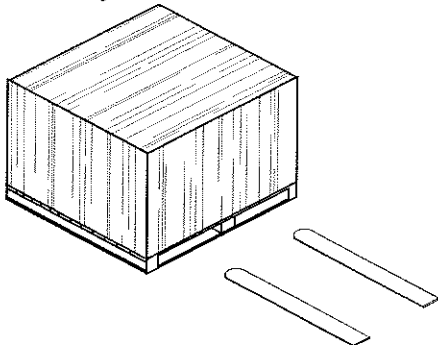
## SECTION 1

### TRASPORTO



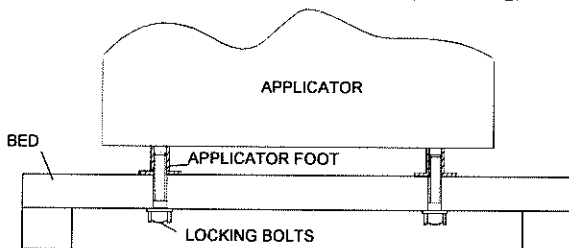
#### 1.1 TRANSPORT

The transport of the machine is achieved by means of a wooden crate (see the following drawing). The handling can be carried out by a fork-lift truck.



#### 1.2 LOCKING OF THE MACHINE TO THE CRATE

During the transport the machine is locked to crate base by means of 4 bolts that are screwed at the support feet of the machine. Hoses, guns and possible fittings are disconnected from the equipment and packed into bags and boxes that are placed inside the crate. If the accessory quantity or their size are relevant, these are packaged in boxes separated from the others. Unscrew the locking bolts and extract the machine (see the following drawing).



Make sure of the capacity of the transport mean considering the weight of the machine 50-80 Kg.



Make sure that none of the operators is present beside the machine when this is moved, and that this is lifted very slowly.

#### 1.3 INTERNAL HANDLING

To move the machine inside the departments, it is enough to use a lift truck.



Before handling the machine once it has been used, wait for 5 - 8 hours in order that the glue inside the machine cools.



Uplift the machine into a gravity-center position.



It is advisable that the staff charged with the load handling works with protective gloves (in compliance with the LAW EN 388/94).



Even if the weight of the machine is 50 - 80 kg it is forbidden to lift or handle it manually.

#### 1.4 STORING

During the transport and handling make sure that the temperatures between - 25°C and 55°C, 70°C or for short periods, not longer than 24 hours, are not exceeded. If the machine is to be stored, make sure that this is placed in areas with a degree of humidity between 30 and 90%.

## SECTION 2

### DESCRIPTION OF THE MACHINE



#### 2.1 NAMEPLATE DATES

The machine indicates the plate of conformity CE 89/392 regulations. For any communication to the constructor, please report always the serial number (represented on the same plate). The plate must not be displaced for any reason, even if the machine had to be sold another time.



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**UCIMA**  
Member

Unione Costruttori Italiani  
Macchine Automatiche  
per il Confezionamento  
e l'Imballaggio

Italian Association  
of Automatic Packing and Packaging  
Machinery Manufacturers

**Modello**

**Matricola**

**Anno costruzione**


#### 2.2 DESCRIPTION OF THE MACHINE

With an innovated and original design, the new PREO consoles series ECLYSS are indicated for the application of adhesives and thermoplastic materials with a viscosity included between 500 and 30.000 Centipoise. Realized in compliance with the law 626 of the 19th September 1994 concerning the industrial plants, they have been designed, manufactured and assembled, following the most advanced technologies relative to safety, quality and precision, by resulting therefore certified in compliance with CE 89/392 regulations. The new PREO consoles are characterized by the modular concept and their versatility as it is possible to assemble various microprocessors and tanks with a capacity of 3,5 and 5 kg, by keeping the same overall dimensions.

#### 2.3 TECHNICAL CHARACTERISTICS

Technical characteristics not usually offered by other Hot - Melt application systems, are standard and fundamental for PREO consoles.

- ☞ Inexistent glue carbonization and oxidation.
- ☞ Modular concept and minimum maintenance.
- ☞ Use facility and immediacy.
- ☞ Ease value setting by means of a digital keyboard.
- ☞ Automatic protection for overtemperature and automatic anomaly search.

- ◇ Sheets heated at the bottom of the tank for the increase of melting capacity, and the gradual slip of the glue towards the bottom of the tank.
- ◇ Sequential heating : tank, hose, gun, with intervals of 50°.
- ◇ Manifold with enbloc and oversized filter .
- ◇ Red alarm and green warning light of ready machine .
- ◇ Hardware key for keyboard locking.
- ◇ Double size display.

## 2.4 ELECTRIC CHARACTERISTICS

All the electric connections, (for power and signals), are realized with the suitable connectors in compliance with the standards so that only the correct connector couples with its correspondent by eliminating in advance the possibility to carry out wrong connections.

## 2.5 PNEUMATIC CHARACTERISTICS

All the consoles are equipped with pneumatic double effect piston pump with a compression ratio of 13:1. The advantage of the pump with double effect (housed in the rear part of the tank and heated by means of the contact of the glue), consists that its working assures a constant glue flow inside the hoses, a fundamental factor in each application. The pneumatic plant has been realized with the aim to facilitate each Customer's need.

## 2.6 MACHINE COMPONENTS

PREO applicators are supplied with the following parts:

- ◇ **TNK**
- ◇ **MANIFOLD**
- ◇ **PNEUMATIC PUMP**
- ◇ **INVERTER**
- ◇ **MICROPROCESSOR**
- ◇ **THERMOHEATED HOSES**
- ◇ **GUNS**
- ◇ **NOZZLES**

As follows technical characteristics are represented :

### ◇ **TANK**

The tank (with the capacity of 3,5 kg or 5 kg in order to satisfy each exigency of production), constitutes the principal core of a hot - melt system because inside it the adhesive, in granules or pigs, that will be lead to the melting temperature, is placed.

The parts in contact with the adhesive, are covered by PTFE resisting to high temperatures.

This covering has a fundamental importance, because it permits to avoid that the glue forms a film on the walls. It is necessary that these are well-levelled and treated by means of antiadhering and antiscratch material in order to facilitate the skipping towards the lower part of the glue.

In fact at the application temperature the residual transforms itself into a carbonized one, that would be very dangerous for system working .

The bottom of the tank, with a double thickness than the traditional tanks, permits a larger heat distribution.

The heating of the tank is performed in a gradual and constant way thanks to the cylindric resistances

(replaceable) of great and proved reliability, that are inserted in the bottom of the tank. Temperature survey and check are guaranteed by means of probes with a very high precision degree.

On the bottom of the tank the speed drainage of the glue is obtained by means of an opening system placed on the rear part.

### ◇ **MANIFOLD**

On the rear part of the tank the manifold is situated, obtained by an aluminium enibloc.

It is possible to connect 4 hoses by means of threaded unions. The fuse adhesive, is pushed by the pump into the manifold and is distributed inside the hoses in order to reach finally the guns.

For this reason the manifold has a great importance in a hot - melt system, in fact upon its constructive precision the good applicator system depends.

Inside the manifold the glue filter is placed, constructed in stainless steel in a sole casing, with mesh cage of 100 mesh ( 0,15 mm ).

### ◇ **PNEUMATIC PUMP**

All PREO consoles are equipped with pneumatic piston pump with double effect with a compression ratio of 13:1. The advantage of the double effect pump (cased on the tank and heated for the contact of the glue), consists that its working assures a constant glue flow, by avoiding the typical single effect pump pulsations.

### ◇ **ELECTRIC INVERTER**

The pump exchange between lifting and lowering is carried out by an electric inverter operated by the same pump.

### ◇ **MICROPROCESSORS**

Microprocessors keep the complete checking of all the operations of the machine for what concerns the thermoregulation of the glue inside the various parts of the console, and for what concerns the distribution of the glue on 2 or 4 channels completely independent.

The microprocessor programming results facilitated and of immediate receipt thanks to the revolutionary keyboard subdivided into 3 main parts : one part concerning the section of the system characterized by universal symbols, one part concerning value setting and one part concerning the distribution of the glue lines (depending upon the computer).

Common and important characteristics of PREO microprocessors are:

- ✱ **Sequential heating** of the various channels: on switching on the plant, the tank, which forms the greater volume of glue to melt, is the first to reach the working temperature, followed by hoses and guns at 50° C .

The advantage is that system components reach the temperature at the same time by saving energy and obtaining a better conservation of the hot - melt.

- ✱ **Pump start** to avoid pump submitting to the work pressure before that the glue is not completely melted, on the pneumatic circuit a solenoid valve is placed, this is managed by the microprocessor which

enables the pump 5° C before reaching the set - point. A further safety is given by the automatic disconnection by means of the solenoid valve microprocessor, when tank temperature comes out from the alarm band that is fixed by a value range that is between -10°C and +8° C on the ground of the set - point, by causing glue distribution interruption and by turning on the red warning light.

- ✱ **Anomaly signalling** : in the case of interruption of the survey temperature probe of any component, or of the probe in short circuit, proper anomaly-signalling messages are displayed in order to facilitate fault localization .
- ✱ **Economy function**: temperature lowering to a value that is set up in a way to keep the glue fluid but not at the operating temperature.
- ✱ **Clock and Weekly Programming** : automatic turning on and off on the ground of the programming inserted in the microprocessor.
- ✱ **Check Display Function** : permits an immediate working checking of all the led display segments and of the indication led.
- ✱ **Maximum absolute temperature alarm** : if the temperature taken from any channel exceeds the threshold value (230°C) for more than 15 seconds, the thermoregulation on all the channels disconnects automatically. A further safety is assured by the thermic fuse that has the task to lock the machine whenever the tank temperature exceeds 228 °C.
- ✱ **Double size display** opposite to the normal for an easy reading, modification and even a remote checking of the set up values.

We can subdivide PREO microprocessors into two distinctive categories:

**series TERMO** (section thermoregulation only)

**series TRATTO** (with glue line programming)

To **TERMO** series the microprocessors **TERMO 2 - TERMO 4** belong:

- ✱ Temperature management on 5 channels : tank, 2 hoses, 2 guns (TERMO 2)
- ✱ Temperature management on 9 channels : tank, 4 hoses, 4 guns (TERMO 4)
- ✱ Anomaly-signalling system with Led
- ✱ 24 V cc control for guns
- ✱ Automatic scanning of all the temperatures set up in the system
- ✱ Economy function (temperature lowering to a set-up value)
- ✱ Clock
- ✱ Weekly programming
- ✱ Check display function
- ✱ Maximum absolute temperature alarm
- ✱ Proportional valve management
- ✱ Level checking management
- ✱ Autoanalysis programme

To **TRATTO** series **TRATTO 2 - TRATTO 4** microprocessors belong:

- ✱ Temperature management on 5 channels : tank, 2 hoses, 2 guns (TRATTO 2 )
- ✱ Temperature management on 9 channels : tank, 4 hoses, 4 guns (TRATTO 4 )
- ✱ Anomaly-signalling system with Led
- ✱ Automatic scanning of all the temperatures set up in the system
- ✱ Economy function (temperature lowering to a set-up value)
- ✱ Clock
- ✱ Weekly programming
- ✱ Check display function
- ✱ Maximum absolute temperature alarm
- ✱ Proportional valve management
- ✱ Level checking management
- ✱ Autoanalysis programme
- ✱ 4 glue line programming for each channel
- ✱ 12 programmes (TRATTO 2) that can be stored
- ✱ 99 programmes (TRATTO 4) that can be stored
- ✱ Drop glue distribution
- ✱ Correction programme of starting and final glue lines
- ✱ Glue line management by means either of encoder or timer
- ✱ Photocell channel pairing by means of the keyboard
- ✱ 2 start inputs
- ✱ 1 reset input
- ✱ 1 encoder input

## ⇒ GUNS

For standard execution and for high temperatures PREO Hot - Melt adhesive guns have been designed and studied with different configurations in order to satisfy the most various Customer requests for particular applications. Classic standard guns with one module, those special ones with two modules with different axle bases and nozzles, the ones with tighten profile or those with depressed profile and finally those with one or two solenoid valves are available. Their heating is obtained by means of high-reliability resistance and it is checked by high precision sensors.

The presence of one stainless steel filter with meshes with 100 mesh that can be extracted without hose disassembling, guarantees the total impurity lack during glue delivery by increasing the already known great reliability of PREO guns.

The new dispenser module is a fundamental part of the system and presents in its interior an **innovative cartridge seal system** (studied and realized on purpose) that guarantees a perfect seal at high pressures and at high temperature, as well as a slightest and simple maintenance. It is sufficient to unscrew the cartridge containing the seals and replace it with a new one already assembled in our Seat in order to have the module operating again.

Other technical expedients are a hard steel shutter with titanium covering and a flow balancer which channels the air into the chamber in a correct way.

PREO gun characteristics are:

- ✱ use and installation ease
- ✱ very high speed with millimetric precision during the applications



- low maintenance costs and the same maintenance reduced to the minimum
- modular frame
- reduced dimensions
- use versatility
- special executions at request and particular applications
- great care during the planning and carrying out stage

The complete PREO gun range includes :

- Series ZCKV** with 1 or more LONG LIFE modules with zero cavity and short version nozzle.
- Series ZCLV** with 1 or more LONG LIFE modules with zero cavity and short version nozzle.
- Series NDS** with 1 or more LONG LIFE modules with threaded terminal for straight interchangeable nozzles or nozzles at 90° (see NDS / NDS-O nozzle table).
- Series MVN** with 1 or more LONG LIFE modules with terminal with metal ring for multivein nozzles (see nozzle table series MV / OR).
- Series CH** with 1 or more LONG LIFE modules with terminal for coating head applications.
- Series LOWERED** with 2 or 4 LONG LIFE modules series NDS for applications with minimum dimensions.
- Series SLIM** with 1 LONG LIFE module for applications with minimum dimensions.

## ☞ THERMOHEATED HOSES

The hydraulic connections between the console and the gun is carried out by means of flexible hoses that are thermoregulated at a high pressure as the type used by aeronautics.

## ☞ NOZZLES

These are available with different standard and special configurations, and include the following models :

- Zero Cavity Nozzles series ZC / KV and ZC / LV:** manufactured in stainless steel, they equip the standard modules. They have the possibility of holes with a minimum diameter of 0,3 mm until a maximum of 1,2 mm. They are defined Zero Cavity because the shutter closes directly the nozzle hole by crumbling possible impurities and by warranting a continuous cleaning of the same nozzle and the consequent good system operation.
- Straight Nozzles at 90° series NDS and NDS - O:** manufactured in brass, are formed by threaded terminal adaptor on which the straight nozzle (series NDS) or the one at 90° (NDS - O) is screwed. As they are available with different measures for each application type, they are usually used when extreme precision for glue flow adjustment is required.
- Multivein Nozzles Series MVN with 1 - 2 - 3 - 4 tracks:** are formed by a stainless steel threaded terminal and a brass nozzle with 1 or more holes with different angles. Even these ones are used where guns with more modules are not utilized.

- Coating Nozzles Series CH:** constituted by a stainless steel body that is supplied with a seal, they are used where it is necessary to apply an adhesive coat with the lowest thickness and large surface that can not be obtained by traditional nozzles.

**NOTE :** At the end of the manual, in the section ENCLOSURES all technical cards, concerning each machine component, are reproduced.

## 2.7 SERIAL EQUIPMENT

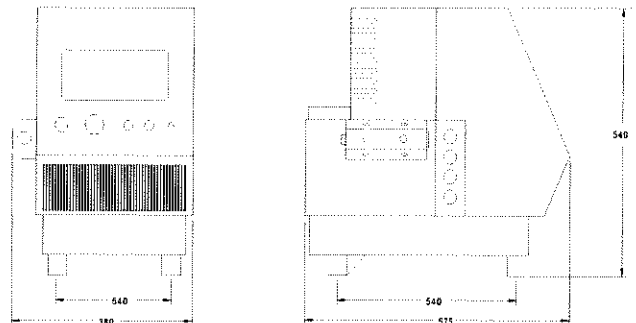
The base machine model is supplied with the following serial equipment:

- Conformity declaration to standard CE 89/392
- Manual of instructions (USE and MAINTENANCE)
- Pump panel opening key
- Keyboard locking key

## 2.8 CHARACTERISTICS, WEIGHT AND SIZE

Noise average during a working cycle:	0 db
Maximum noise:	0 db
Minimum brilliancy for working operations:	60 lux
Base machine weight:	45 kg

The machine has the dimensions, indicated in the drawing:



## SECTION 3

### INSTALLATION



#### 3.1 CHECK ON THE PURCHASED PRODUCT

Before the installation check that the machine has not been subject to damages due to transport or preservation conditions. Furthermore check if all the ordered optionals and the serial equipment are contained inside the package. Check :

- ☞ That the coachwork does not present any possible dents, cracks, scratches or abrasions.
- ☞ On opening the side-computer box, check that there are not disconnected electric connections.
- ☞ That the hoses do not have any broken connector (either electric or hydraulic).
- ☞ That the guns do not have damaged connectors, with dents or corrosion signs.
- ☞ That all machinery connections, which can be disassemble, are properly locked.

## 3.2 CONDITIONS FOR THE INSTALLATION



Employ a qualified staff that has read this manual with attention before carrying out machine installation.



Prearrange a flooring or a level support frame in order to avoid undesired swingings and vibrations during the working.



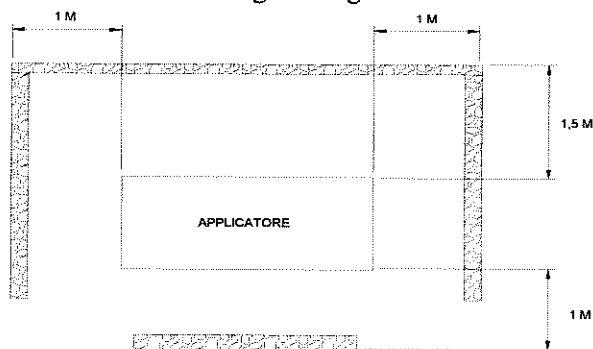
Make sure that environmental conditions are compatible with its preservation



Avoid uplifting or moving the applicator by leaning against the metallic base

## 3.3 FREE SPACES

To be able to operate freely on the machine and carry out the respective tooling or maintenance operations, make sure that the minimum distance from the walls is the one indicated in the following drawing:



## 3.4 POSITIONNING



Do not use the system at temperatures lower than  $-6^{\circ}\text{C}$  and higher than  $+50^{\circ}\text{C}$



Avoid placing the machine on surfaces subject to vibrations or in dusty places.



Fasten the machine to the support plane by using the respective threaded feet.



Protect the guns if machine installation is carried out in open spaces or in areas subject to air currents.



Excessive heat dispersions cause irregular operations.



The applicators are not fluid-tight sealed, avoid always the contact with the air.

## 3.5 ELECTRIC CONNECTION



Before connecting the equipment to the power grid, check the voltage indicated on the plate

Make sure that the lines are able to feed the machine (380 V THREEPHASE), observing safety rules (for the required characteristics see the table in the section Enclosures). Carry out the correct and real grounding connection of the whole equipment. Operate always in the conditions of prescribed voltage and amperage. Fuses must be of the appropriate type on the ground of what is indicated on the respective containers.



Different operative conditions, for what concerns voltage and amperage, different from what prescribed cause potential risks, apply to the manufacturer for the different assembly typologies.



Do never use PHASE and GROUND!

## 3.6 PNEUMATIC CONNECTION

It is advisable the use of dehumidified compressed air. The recommended pressure is minimum 4.5 bar, it is better to have a regulator from 0 to 10 bar.



Do not use the system with pressure values higher than 6 – 7 bar

## 3.7 MACHINE ASSEMBLE

The machine is supplied pre-assembled by the manufacturer; hoses and guns must be connected.

### HOSE INSTALLATION



Do not lock or screw the cool system hoses in order to avoid ruining the union with the consequent glue loss.

Connect electrically the hoses to the respective connectors placed on the left side of the machine by means of the 14 pin connector and connect the manifold hydraulically. If a connection is not used, cover it with the respective plug.



The number, by which hose is identified by computer, depends on the connection with the connector not on the connection at the manifold

Although it is necessary to refer to the number indicated on the panel, as it is reproduced in section 7.



Avoid enclosing the hoses inside any container that prevents the correct heat loss.



Avoid keeping the hoses in contact with the flooring or other cool surfaces.

Cold points of the external surface cause restriction of the hose adhesive flow, by provoking a non-correct adhesive application or a delivery lack.



Install hoses preventing abrasions or torsions that can damage their envelope and prevent bending them with bending radius lower than 150 mm

### GUN INSTALLATION



Protect guns from vibrations and make sure that these are fastened in such a way not to change position during the plant working posizione durante l'esercizio dell'impianto



Do never use a gun without anyone of its components. Gun body contains parts under voltage



Do never touch guns during their working. Burn danger.



Do never point the gun against anybody

Connect gun and hose, install the guns the nearest is possible to the surface to treat (2/3 mm - 50 mm), and feed guns with compressed air max 6 bar by connecting the hose to the connection that is placed on the manifold.

## SECTION 4

### SAFETY PROTECTIONS



#### 4.1 SAFETY PROTECTIONS

All PREO applicators are equipped with several safety systems in order to protect and guard operator's health and safety during the use of the machine. These protections are:

- ◇ **PUMP SIDE CLAMPING OPENING**
- ◇ **TANK TEMPERATURE SURVEY PROBE**
- ◇ **SAFETY BY - PASS**
- ◇ **TEMPERATURE MONITORING MICROPROCESSOR**
- ◇ **KEYBOARD LOCKING KEY**
- ◇ **SAFETY ELECTRIC CONNECTIONS**
- ◇ **COMPUTER OPENING APERTURE SAFETY MICRO**
- ◇ **READY AND STOP MACHINE WARNING LIGHTS**
- ◇ **SAFETY HOSES FOR HIGH PRESSURES**



Do never remove the protections listed above and do never use the system without any paneling and protection with which it is equipped

Protections are prearranged to safeguard operator's safety during the carrying out of its tasks. The materials, (in compliance with the standards in force), have sufficient thickness and such qualities to withstand mechanic and thermic stresses to which they are subject. All the materials purchased outside are certified and, this documentation is preserved in the Company in the TECHNICAL BOOKLET of the machine.

#### ◇ **PUMP SIDE CLAMPING OPENING**

The access to the rear and front part of the machine is prevented by the use of a metallic coachwork which protects the pump and avoids the casual insert of objects or hands inside it. The protection presents holes in order to permit a better heat disposal. To enter the pump, it is necessary to have the special key which clamps the cover.



The special key of pump panel opening must be in possession of the operator charged with machine maintenance and must be never kept unguarded or inserted.

#### ◇ **TANK TEMPERATURE SURVEY PROBE**

The maximum temperature that can be set up is 255°C independently from the type of adhesive used. As a matter of fact only the temperature of 228°C (limit that is set up by the thermic fuse) can be set up. Temperature survey probe are inside the tank, the hoses and the guns.

#### ◇ **SAFETY BY-PASS**

The safety by-pass presence, permits the release of possible overpressure that are present in the circuit, as well as the adhesive flow adjustment by keeping the air pressure inalterated.

#### ◇ **TEMPERATURE MONITORING MICROPROCESSOR**

Working temperature (0°-255°C) is set up by the keyboard and taken immediately by probes placed in the tank. One of microprocessor special functions consists in signalling on the display when the temperature exceeds of 8°C the temperature that has been set up as set-point.



Check the display in order to make sure of the correct system working, in case of anomalies stop the machine and consult the manual.

**NOTE :** Errors or anomalies in the heating circuit are signalled by the following messages on the display:

**S co.** (probe in short circuit). It indicates that the probe is not able to «read» any more and therefore the heating of the respective element is inhibited (tank, hose, gun).

**S.in.** (interrupted probe). It indicates that the element is disconnected from the equipement and there is not any heating.

Example: in a system with 2 hoses and 2 guns set up the value of disconnected hoses and guns to 0 (zero). Without this expedient, the system localizes the channel to which any component is not connected, it compares it with the respective set-up value of SET-POINT (where it takes a value different from «0») and warns the operator that channel 4 has an interrupted probe (as it were a damage) by making the message S.in blink on TEMPERATURE display.

#### ◇ **Keyboard locking key**

PLC keyboard can be disinhibited by means of the suitable key, whose lock is placed on the front panel.



The special keyboard locking key must be in possession of the operator charged with machine maintenance only and must be never kept unguarded or inserted.

#### ◇ **Safety electric connections**

All the elctric connections for the power and the signals that are present on PREO machines are realized by means of suitable connectors with a conformation that only the proper connector can couple with its respective one by eliminating in advance the possibility to carry out wrong connections that damage the system.

High-insulating connections have been arranged where it is foreseen a voltage passage at 380V, while for signal and service connections, connectors with high capacity contact have been chosen in order to avoid casual signal loss problems because of a bad contact. External connections are supplied with a covering plug in order to prevent the case that they are not used and are in compliance with CE STANDARDS.

#### ◇ **COMPUTER OPENING APERTURE SAFETY MICRO**

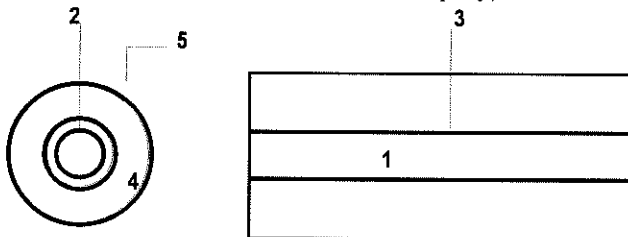
To avoid working with the machine without any protection, a microswitch that stops feeding voltage in case of cover opening is placed near the clamping cover.

#### ◇ **READY AND STOP MACHINE WARNING LIGHTS**

The machine is supplied with two warning lights that signal machine proceeding: with switched-on warning light the machine is ready to be used; with red warning light the machine has found an anomaly or the glue has not reached the set point temperature.

## 4.1 SAFETY HOSES FOR HIGH PRESSURE

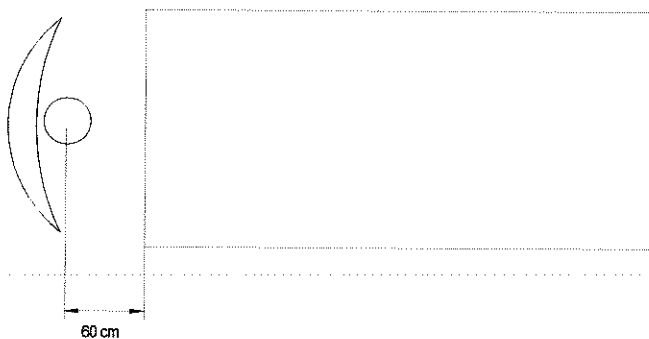
The hydraulic connection between the console and the gun is carried out by means of flexible hoses thermoregulated at high pressure as the ones that are used by aeronautics. The frame is formed by a teflon hose with a diameter of 8 mm and reinforced by a stainless steel plait that resists at high pressure. Around it an electric heating resistance, that is insulated in PTFE, screened and covered by glass fiber band and equipped with a ground conductor, is spilar shaped. In a correct position a probe is connected for temperature survey. A thick silicone foam sheath guarantees the perfect thermic insulation, while an auxiliary polyester mesh covers the whole by increasing heat resistance to shoves, and abrasions (see the following drawing). The hoses are manufactured in order to resist to temperatures until 110 bar and are in compliance to CE standards in force; (the copy of conformity certificates is kept in the machine technical booklet at PREO company).



- ❶ Teflon hose diam. 8 mm
- ❷ Stainless steel metallic plait
- ❸ Electric resistance
- ❹ Silicone foam
- ❺ Polyester mesh

## 4.2 SAFETY AREA

In the drawing the working area and the minimum distance from the machine in order to have the best position are indicated.



## 4.3 CLOTHES



Wear protective gloves, goggles and safety shoes during working operations in order to prevent accidents.

For any thing, please observe standard references of the laws in force (Ex. LAW 626/94)



Do not wear necklaces, bracelets or clothes such as scarves or shirts with loose-fitting sleeves that can entangle in the machine.

## 4.4 SAFETY SYMBOLS

On the machine labels with normalized symbols and bilingual translation are placed:



**First aid in case of burnes:** if the hot adhesive comes into contact with the skin, pour cold water above it and apply to the doctor.



**Caution fire danger:** Inflammable adhesives; do not exceed the maximum temperature advised by the adhesive manufacturer. Do not keep inflammable stuffs at the working place.



**Caution high pressure presence:** do not exceed the maximum air feeding pressure of 5 bar. Disconnect air line before any intervention.



**Caution electric discharge danger:** disconnect electric current when you have to remove the protections from maintenance panels.



**Caution high temperature:** the adhesive is hot and under pressure, protect the hands with gloves or in another way.

## 4.5 RESIDUAL RISKS

There are risks that can be summarized in the :



Possibility to have access to the fuses placed under the heat dissipator with the machine under voltage.



Possibility to touch the manifold that has a high temperature



Possibility that the hot glue drops from the guns.

## 4.6 IMPROPER AND DANGEROUS USES

The use of the machine for workings different from the provided ones causes damage to the equipment and danger for the operator.



Do not use the machine for dangerous, explosive and/or toxic workings.

For special material workings, different from those described in section 2, please require manufacturer's approval.

## 4.7 EMERGENCY SITUATION



FIRE

Use powder extiguishers, that must be placed near the machine as it is provided by LAW (Law 626/94 safety in the factory).



Do not use water.

The staff must be trained in order to know how to operate in these conditions.

## SECTION 5

### MAINTENANCE



#### 5.1 MAINTENANCE

A suitable maintenance constitutes a determinant factor for machine duration in the best working conditions, and guarantees safety under a functional profile during the times.



Carry out maintenance operations with a trained staff that is supplied with individual protections means and observe safety protections prescribed in the next chapter.

#### 5.2 WARNINGS DURING THE MAINTENANCE

The main warnings to observe on occasion of maintenance interventions on the applicator are :



Do not touch uncovered connections and components without having disconnected the electric feeding (feeding switch on OFF).



Disconnect electric feeding before removing any protective panel or carry out electric component replacements.



Do not wear rings, necklaces, bracelets etc. during maintenance operations.



Use an insulating rubber mat under the feet when maintenance operations are carried out. Avoid operating on wet floorings or in very damp places



Use always protective gloves and clothes that cover body parts the most as possible.



Do not use free flames, points or pins for the cleaning.



Do not smoke

#### 5.3 ORDINARY CLEANING

Machine ordinary cleaning must be carried out daily and at the end of each working phase in order to keep the machine in a good state. Clean the control panel, and machine external parts by using a water-drenched cloth or other detergent.



Do not use Alcool for plant cleaning.



Disconnect electric feeding before carrying out any maintenance or cleaning intervention.

#### 5.4 PARTS SUBJECT TO WEAR



Use only and exclusively PREO original spare parts by applying to the commercial office in the Company .

Consult the "ADVISED SPARE PARTS LIST" in the section Enclosures at the end of this manual.

#### 5.5 GLUE FILTER REPLACEMENT

The glue filter (placed in the manifold) must be replaced on the ground of the use and the glue. Check its condition weekly. Replace it by removing the manifold cover and unscrew it by means of a spanner. Reassemble it by oiling the thread.



Do not touch the manifold, burn danger.



Replace the filter after making sure to have released the system pressure.

#### 5.6 PULIZIA DELLA VASCA



The following procedures must be carried out by a trained staff..

Proceed with the tank cleaning as follows:

- ◇ Place a vessel resistant to high temperatures under the discharge.
- ◇ If the glue is completely dissolved in the tank, open the valve placed on the rear machine.



The opening valve must be open entirely in order to avoid damaging the seals.

- ◇ Let the glue outflow completely and close the valve.
- ◇ Enter **ECOCLEANER 96** in order to carry out a correct applicator cleaning.



The use of other products could damage the seals irretrievably.

PREO recommends its use because the product is completely biodegradable, inert chemically, non-toxic and does not etch the tank sides by allowing a sure and perfect plant cleaning.

#### 5.7 FUSE S REPLACEMENT

To replace the fuses (relative to the electronic plant) on the power card, unscrew the four screws that clamp the front heat dissipator .



This device is not protect by a safety micro for voltage disconnection in case of opening

To replace the fuses on the glue line management card (only for models with microprocessors series TRATTO) enter the computer .

#### 5.8 PROBLEMS AND THEIR SOLUTION

As follows the modalities to solve machine defaults are described. The symbol (⚠) indicates the problem, the symbol (⇒) the possible solution:

##### PROBLEMS ABOUT THE MECHANICAL PART ?

###### ⚠ Does the pump not work?

- ⇒ Check if the adhesive in the tank is melted; if it is not melted check the set point in the tank.

- ⇒ Check air pressure on the pump manometer; if it is lower than 0,3 Bar : increase the pressure value; if it does not increase, check the main power grid.

## ADHESIVE APPLICATION PROBLEMS ?

### Is there a reduction of delivered glue quantity?

- ⇒ Pneumatic reversal does not exchange properly
- ⇒ Check the reversal valve clamping.

### Undulated bead?

- ⇒ Adhesive in the tank cooler than the required application temperature.
- ⇒ Room temperature near zero.
- ⇒ Nozzles / guns subject to currents and coolings.
- ⇒ Gun temperature setting too low.
- ⇒ Nozzles too remote from application surface, approach them (Max distance 50mm).

### Adhesive excess at bead beginning?

- ⇒ Insufficient pump feeding air pressure.
- ⇒ Too remote nozzles from application surface.
- ⇒ Nozzles, that are partially clogged, must be cleaned.
- ⇒ Insufficient gun feeding air pressure.

### Adhesive excess at bead end?

- ⇒ Insufficient pump feeding air pressure.
- ⇒ Too remote nozzles from application surface.
- ⇒ Nozzles, that are partially clogged, must be cleaned.
- ⇒ Insufficient gun feeding air pressure.

### Does the bead narrow and widen out?

- ⇒ Too remote nozzles.
- ⇒ Too high viscosity.
- ⇒ Cold adhesive.
- ⇒ Gun slow response (apply to the technical service)
- ⇒ Too old adhesive.

### Concentric glue deposits?

- ⇒ Too hot adhesive.
- ⇒ Too low viscosity.
- ⇒ Application cycles at too high speed.

### Does the adhesive bounce or expand on the surface?

- ⇒ Too hot adhesive
- ⇒ Excessive pump feeding air pressure.
- ⇒ Too low viscosity
- ⇒ Too big nozzle diameter

## PROBLEMS ABOUT ELECTRIC OR ELECTRONIC PART RELATIVE TO THE TEMPERATURE?

### Does tank temperature fall?

- ⇒ Check that the static relay connector inside the computer is inserted properly.
- ⇒ Check the fuses inside the machine.
- ⇒ Check that the set points have not been changed.

### The microprocessor signals alarm and it places on tank temperature and on temperature display the message S.in is visualized.

- ⇒ Check the signal quality of tank probe (it must have a resistive signal equal to 100 Ohm at room temperature). If it is necessary, replace the pump.

### The microprocessor signals alarm and it places on the temperature relative to a hose or to a gun and on temperature display the message S.in is visualized.

- ⇒ Check that temperature data relative to a disconnected component have not been inserted wrongly; in fact it

it happened, it would be as the computer found an interrupted probe, therefore : when temperatures are programmed, it is necessary to set up the value «ZERO» on all the disconnected outputs.

- ⇒ If, on checking point 1, everything is OK, check signal quality of the probe relative to the component indicated by the microprocessor. The probe must have a resistive signal equal to 100 Ohm at room temperature. If the signal is different, replace the probe if guns are treated. For what concerns the hoses, please apply to the technical assistance service.

### The computer gets in alarm and the channel temperature falls from the programmed levels.

- ⇒ Check and in case replace the resistance. Check and in case replace the fuses.

### The microprocessor signals continuous sudden changes of temperature of one component.

- ⇒ Check the connections and the respective probe signal that must give a resistive load of 100 Ohm. If the connections are OK, replace the probe because its operation is not regular.

## PROBLEMS ABOUT THE ELECTRIC OR ELECTRONIC PART RELATIVE TO THE PROGRAMME?

### The programme starts without any evident reason.

- ⇒ Check that no base machine component excites the photocell too.

### The programme is not more excited.

- ⇒ Check the control switch of 24V.
- ⇒ Check that the photocell is not intercepting some foreign body.
- ⇒ Check that rays do not interfere with photocell reading beam.
- ⇒ Check that the respective fuses are good.
- ⇒ Check gun - hose, hose - console and interface - microprocessor connections.
- ⇒ Check the transformer.
- ⇒ Where the encoder is used, check that its signals arrive correctly to the microprocessor, because the signal lack for the computer means stopped machine
- ⇒ Check that the reset contact is correct, this means that is open in order to permit programme starting.

### The glue is applied on a box and not on the next one.

- ⇒ The photocell reads the following box when the programme is still operating on the previous one; it is necessary to increase the distances between the boxes or to approach the photocell to the nozzle line and to programme again the microprocessor.

### The glue line changes the size on the ground of the speed.

- ⇒ Install the encoder, the proportional valve and programme again the system in encoder.

### The glue line, even if it is in encoder and uses the proportional valve, moves backwards on changing of the speed that increases.

- ⇒ Programme the relative to automatic correction (see the part relative to the microprocessor).

## 5.9 MAINTENANCE TABLE

As follows a simple CHECK - LIST of the prescribed maintenance interventions are indicated.

### ◇ **DAILY :**

- ✱ Keep the applicator clean
- ✱ Clean the glue filter by means of the manifold
- ✱ Keep the tank clean and free from impurities

### ◇ **WEEKLY :**

- ✱ Nozzle cleaning (except for Zero - cavity)
- ✱ Clean nozzle holes or tips
- ✱ Clean MANIFOLD filter
- ✱ Check filter net
- ✱ Check O-Ring seal

### ◇ **SIX-MONTHLY :**

- ✱ Check gun wiring harness
- ✱ Check wire insulation and the grounding
- ✱ Check connecting terminal clamping
- ✱ Check electric connections

### ◇ **VARIABLE ON THE GROUND OF THE USE :**

- ✱ Carry out general maintenance procedure of :  
box computer
- ✱ Electric connections and terminals
- ✱ Carry out the cleaning of:  
console  
nozzles  
guns  
filters  
change seal kit and O-Ring

## SECTION 6 DEMOLITION



### 6.1 MACHINE STORING

- ◇ If it is foreseen not to use the machine for a certain period, it is advisable to:
- ◇ Turn off the machine.
- ◇ Disconnect ELECTRIC feeding.
- ◇ Disconnect PNEUMATIC feeding..
- ◇ Check with much attention that the pneumatic feeding hoses have not been damaged or cracked, on the contrary replace them.
- ◇ Clean by means of a water jet all the parts on sight.
- ◇ Empty and clean the tank with the method indicated in section 5.
- ◇ Pass with a film of oil all the parts subject to rust.
- ◇ Cover the whole machine with a waterproof tarpaulin
- ◇ Keep the machine in a dry place in order to preserve all the electric parts. Room temperature must be included between 25 °C and 40° C.

## 6.2 FINAL DEMOLITION

If you want, for any reason, to demolish the machine, it is necessary to comply with some basic rules aiming at safeguarding the environment. Sheaths, flexible tubes, components made up of plastic or non-metallic materials, must be disassembled and disposed of separately.

Hydraulic and electric components, such as valves, solenoid valves, etc., must be disassemble in order to be used again if they are in good conditions, or to be, if it is possible, overhauled and recycled.

**NOTE:** The machine DOES NOT CONTAIN POLLUTING OILS.

## SECTION 7

### NORMAL USE



### 7.1 INTRODUCTION

This section aims at indicating all the controls that are at the operator's disposal in order to use properly the machine during its working phase.



Because the machine has several controls and adjustment equipment, that part is required to be read by the operator with much attention.

### 7.2 SAFETY RULES DURING THE USE

It is davisable to follow always these precautions during the use of PREO machines:



Work on the machine always protected by safety gloves and shoes.



When the operator works near the guns, wear goggles.



Do not exceed pressure values higher than 6 – 7 Bar.



Do not work next to volatile materials or gases or explosives.



Work with the suitable protections, insulating materials and panels with which the consoles are equipped.



Do not work at room temperature lower than - 6°C or higher than + 50°C.



Do not close the hoses in containers that prevent the correct heat dissipation.



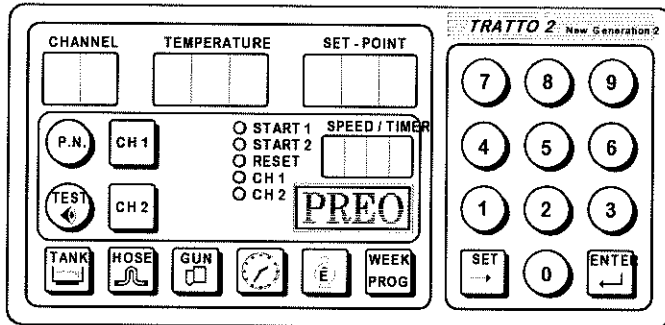
Do not work with long glue lines, glue feeding in contact with the flooring or other cold surfaces.altre superfici fredde.



The glue solidifies rapidly, on the contrary it keeps a high temperature, and it must not be touched for some minutes.

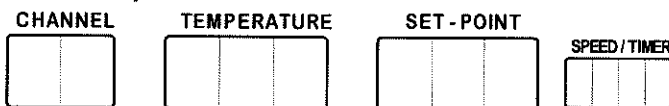
## 7.3 TRATTO 2 PROGRAMMING

All PREO Series ECLYSS consoles are equipped with microprocessors of the last **TRATTO 2** generation, studied and carried out in order to keep the complete control and the management of all the temperatures concerning the system in a very easy and immediate way.



Microprocessor programming and value setting result facilitated and immediately comprehensible thanks to the revolutionary digital keyboard subdivided in such a way :

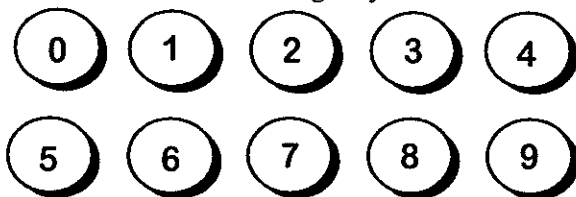
- 3 displays with double size for a facilitated reading of the set-up data and one normal.



- 6 square yellow keys characterized by universal symbols, indicating the 3 system sections (tank, hoses, guns) and the 3 main functions (clock, economy, weekly programme)



- 10 numeric and circular orange keys



- 2 green square key concerning the value setting



- 6 square-and circular- shaped keys for the glue line setting and the gun testing



After having feeded the system appropriately and connected either the hoses or the guns, the machine can be switched on and it can be proceeded with the temperature adjustment of the various system components, as it will be described as follows. On switching on the instrument the

tank temperature is displayed and indicated henceforth by **t1** together with its set point. The temperature and the respective set point of the other channels (H1 - ... - H2, G1, ... , G2) measured in Centigrade Degrees (°C) can be displayed by digiting on the keyboard the symbol of the same channel followed by the identification number. The «range» of the temperatures taken by the probe is between -2°C and + 249°C ; all the temperatures lower than - 2°C are signalled as «S.co» (probe at short circuit) while the others higher than + 249°C are displayed as «S.in» (interrupted probe). Around the set point of each channel an alarm band of - 9°C ÷ + 8°C is fastened. If the temperature of all the channels is kept inside this band, a **green warning lamp** of ready machine (ready) turns on, if, on the contrary, the temperature (even of one channel only) goes out of this band and remains there for at least a period of 4 seconds, the value visualization on the display blinks and the **red warning light** of machine stop (stop) turns on. Under the conditions of ready machine and after 30 seconds from the pressing of the last key, the microprocessor will display automatically by **scanning**, (with a stay time of 5 seconds for section), the taken temperatures and the respective set points of the enabled channels only (with set point > 0). By pressing the key relative to the concerned channel, the display keeps fixed on it. The thermoregulation of the various channels is performed in a group-divided way, this means with a proportional integrative action around the set point. Therefore on switching on the tank plant (**t1**), which constitutes the higher volume of glue to fuse, the first section reaches the pre-set temperature, followed at intervals of 50° C by the hoses, then by the guns. At the tank set point the fixed value of 50°C is subtracted ; afterwards each hose will be enabled when the temperature of **t1** has exceeded this value. At hose set point a fixed value of other 50°C is subtracted; after having exceeded this value the thermoregulation of the respective gun is enabled. The advantage is that the 3 system components reaches the temperature by saving energy and obtaining a better preservation of hot-melt at the same time.

## 7.4 HARDWARE KEY OF KEYBOARD LOCKING

The computer **TRATTO 2** is supplied by a further protection (a hardware key placed on the applicator face) in order to avoid the accidental input or variation of the set data by disconnecting the keyboard.

## 7.5 CHECK DISPLAY FUNCTION

By pressing **WEEK. PROG.** twice, all the led display segments will turn on by allowing to carry out a checking of the correct microprocessor working.



## 7.6 MAX. ABS. TEMP. ALARM INTERVENTION

In the memory a temperature value of 230°C is placed and determines the intervention threshold of the maximum



absolute alarm on any enabled channel. If the temperature taken by any enabled channel exceeds 230°C for a time period longer than 15 seconds, the green warning light of ready machine (ready) turns off, the red warning light of machine stop (stop) turns on and the thermoregulation on all the channels is immediately stopped. On **SET POINT**, «AL.t» appears with the channel temperature in blinking alarm at its side. To remove the alarm condition, it is necessary to turn off and turn on again the instrument after having removed the cause of the alarm.

## 7.7 TANK TEMPERATURE SETTING

Each computer can set up tank temperature (t1). By pressing the yellow key **TANK** followed by the number 1 on the display, the setting of the set point relative to the tank and identifiable by the letter **t1** on the **CHANNEL** display is enabled. By pressing the green key **SET**, the set point starts blinking by enabling the numeric keys in order to set up the desired temperature that can be confirmed by the green key **ENTER**.

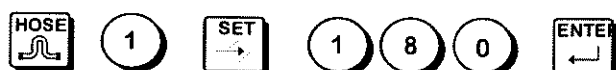


If **ENTER** has not been pressed within about 30 sec., the system goes back to the starting procedure configuration by keeping memorized the previous value and by starting the automatic scanning of the set-up channels.

The temperature of the channel set up on the **TEMPERATURE** display will keep on blinking until it reaches 9°C under the set point value.

## 7.8 HOSE AND GUN TEMPERATURE SETTING

By pressing the yellow key **HOSE** followed by the number of the hose that must be set up (1 ... 2), the setting of the set point relative to the hose and identifiable by the letter **H1**, ..., **H2** on the **CHANNEL** display is enabled.



It identifies the procedure to set up the values of the guns. Press **GUN** followed by the number of the gun that you want to set up (1 ... 2), on the display the setting of the set point relative to the gun and identifiable with the letter **G1**, ..., **G2** on the display **CHANNEL** is enabled.



Repeat the operation for all the other hoses and guns by paying attention to set up at zero the value relative to the components which are not present; on the contrary, the microprocessor would understand a value not set in presence of a connected element as a failure of the probe **S.in.** (Interrupted Probe).

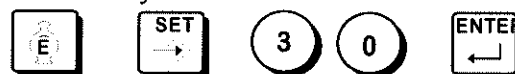
## 7.9 ECONOMY

Economy consists in a system temperature lowering to a value that have been previously set up in order to preserve

the fluid glue but not at operation temperature. The function is useful when the stops at the line are extended (product change or interval); the resumption of work will be quicker and the adhesive will keep longer the pre-set temperature without being moved. Economy starting is performed pressing **ECONOMY** and **ENTER**.



To change the value press **ECONOMY** and then **SET**. On **SET POINT** the economy value is displayed in the set-up °C. By **ENTER** one can confirm it, by the **NUMERIC KEYS** one can modify it.



In such a way the set-up value is subtracted from the set point of each channel and temperature thermoregulation is performed around the new value. On the contrary, this function state is signalled by the message on the display «Ecy on». To come out of the Economy function and reset the usual values, press again **ECONOMY**.

## 7.10 CLOCK KEY CALIBRATION

**PREO** computer series **TRATTO 2** has the clock function, useful to set the weekly programming of automatic starting and stopping. To set up system hour and date properly, press the **CLOCK** key; on the display, the present hour is displayed and the indicated value blinks, this sign means that it can be changed by the **NUMERIC KEYS** and confirmed by **ENTER**. From hours and minutes one can pass to the week day (1 Monday, ... , 7 Sunday) modifiable by the **NUMERIC KEYS** ➡ **ENTER**.



## 7.11 WEEKLY PROGRAMME SETTING

The computer **TRATTO 2** has the chance to turn on and off automatically by anticipating the machine starting. At the pre-set hour, the machine will reach the correct temperature. The system must be feeded and the main switch must be in **ON** position. By pressing **WEEK PROG** on the display **TEMPERATURE**, **SET POINT**, the actual state of the programme of thermoregulation weekly enabling will be displayed (blinking), by means of «Enb YeS» or «Enb no». The display state can be confirmed by **ENTER** or changed by **SET** and **ENTER**.



If «Enb no» is confirmed, the weekly programme is automatically disconnected and the thermoregulation is enabled at any hour; if «enb YeS» is confirmed, the thermoregulation is enabled with weekly hour and the display visualizes the programme from the starting hour of the day 1 (Monday), until the stopping of the day 7 (Sunday) by pressing in succession **ENTER**. To modify the hour : **NUMERIC KEYS** ➡ **ENTER**.



If the machine is not to be started on Sunday but it must be left in the condition to turn on again on the following Monday, set up the starting hour longer than the stopping one. The following example helps to explain better :

1	(Monday)	on	7.3	off	18.3
2	(Tuesday)	on	7.3	off	18.3
3	(Wednesday)	on	6	off	17
4	(Thursday)	on	6.3	off	17.3
5	(Friday)	on	7.2	off	18.2
6	(Saturday)	on	6.3	off	12.3
7	(Sunday)	on	10	off	9

**NOTE :** to set up the decimes, use the numbers inclusive between 1 and 5, this means 11.5 = 11 : 50

## 7.12 GLUE LINE PROGRAMMING

Before proceeding with the explanation of the glue line programming, it is useful to know that the computer can work in two different manners : **TIMER** and **ENCODER**

On **TIMER** one can work when the line speed is constant and it is possible to programme the time scale in order to have for each channel a different timer intervention speed. In Timer the inserted values are expressed in **MILLISECONDS**.

On **ENCODER** one can operate when it is necessary to follow speed variations. The Encoder is connected mechanically to the line, so that its impulse is equal to 1 mm of line. In Encoder modality the inserted values are in **MILLIMETERS**.

## 7.13 DISTRIBUTION PROGRAM CHOICE

Tratto 2 has 99 glue distribution programmes; each one contains the data relative to glue distribution for two channels (guns 1-2) that can be programmed by means of 4 glue lines. By pressing p.n. on **TEMPERATURE**, Pr.n is displayed while on **SET - POINT** a blinking number between 1 and 99 is displayed by indicating the programme number. Choose the desired programme number by the numeric keys ➡ enter. Operate the glue distribution line programme by placing the red lighting 24 Volt switch for the control of the solenoid valve gun ON.



## 7.14 CHANNEL PROGRAMMING

Press **CH1**, on **CHANNEL** the program previously selected is displayed (i.e. 1), on **TEMPERATURE 1.b.1** (Prog. 1 space 1 ) appears and on **SET POINT** a value inclusive between 000-999 relative to the first glue line is displayed. With **SET** the value blinks and by means of the **NUMERIC KEYS** it is changed and by **ENTER** it is confirmed. Pressing again **ENTER**, **1.G.1** (Prog. 1 glue 1) will be displayed. The same procedure for all 4 **CH1** channel lines.



If the lines to set up are less than four, those unused must be at 0. For 4 glue lines that are 50 long lines, there will be:

1.b1	1.G1	1.b2	1.G2	1.b3	1.G3	1.b4	1.G4
50	50	50	50	50	50	50	50

for 2 glue lines, there will be:

1.b1	1.G1	1.b2	1.G2	1.b3	1.G3	1.b4	1.G4
50	50	50	50	0	0	0	0

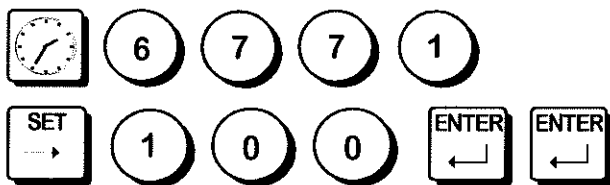
The same modalities to programme **CH2** are in the programme 1. Analogously the programmes from 1 to 99 that are useful to avoid the change of the programming values are stored at each product change. It will be enough to recall the programme by means of **P.N. ➡ NUMERIC KEYS ➡ ENTER**.

## 7.15 CONTINUOUS LINE PROGRAMMING

By programming: **1.b1 = X** (with the X number included between 0 and 999) and **1.G1 = 0** the glue line continues in an indefinite way until the disconnecting input (**RESET**).

## 7.16 DROP DISTRIBUTION PROGRAMMING

This programme operates on all the lines of a same programme and on each channel independently from the others and has the effect to separate the glue lines that are set up in very short lines or drops with the desired dimensions. Starting from the normal machine visualization state with the tank temperature on the display, press the key **CLOCK** followed by **6771**. **CHANNEL C1** is displayed and indicates the channel that is being programmed, on **TEMPERATURE dot** and on **SET POINT XXX** with **XXX = 1-999** is drop length. Change the data by means of **SET ➡ NUMERIC KEYS ➡ ENTER**. By pressing **ENTER** this message will be displayed: **C1 SPC XXX** with **XXX = 1-999** is the length of the space between the drops. Change by means of **SET ➡ NUMERIC KEYS ➡ ENTER**.



This programme divides the glue line that is set up in drops and programmed spaces:

1.G1	=100	_____
dot	=10	_____
SPC	=10	_____

The obtained line is this \_\_\_\_\_

**NOTE:** to disconnect the **DOT**, it is necessary to place the dot and **SPC** values equal to 0 (zero).

## 7.17 GUN MANUAL TEST

By pressing **TEST** and **ENTER**, on the display **SPEED / TIMER** the message **test** appears and this means that the computer is passed from the state of automatic gun guide

to the manual one. By means of CH1 ... CH2 the gun solenoid valves are controlled and the respective green led turns on; this signals that the operation is carried out properly. In the modality TEST the glue channels are inhibited. Therefore, carry out the TEST with a stopped line. To come out press TEST.



## 7.18 GLUE LINE PROGRAMMING IN TIMER

By pressing **CLOCK 0392**, on *TEMPERATURE* Enc will appear blinking and on *SET POINT* Yes or no will be displayed. Modify Yes or no by SET, by confirming with ENTER.

By choosing NO, the glue distribution with the distance measurement based on time units (TIMER) is enabled, this means that it is set up in the machine data, that we will analyze as follows; the fixed speed of the plant in m/min, and afterwards the glue lines in mm, set up on each channel, will be realized by computing the opening time of the nozzles that is necessary at this speed.

After having confirmed the modality TIMER choice by ENTER, on *SET POINT* the Machine Data will be displayed in succession (by pressing repeatedly ENTER) and on *SPEED / TIMER* their value modifiable by means of SET  $\Rightarrow$  NUMERIC KEYS  $\Rightarrow$  ENTER will be displayed.



The displayed Machine Data are the following ones:

Param.	Value	Measure unit	Description
OF.1	xxxx	xxxx = mm	photocell. - gun ch 1 dist.
OF.2	xxxx	xxxx = mm	photocell - gun ch 2 dist.
CH.1	St.x	x = 1 o 2	pairing ch.-photocell. ch. 1
CH 2	St.x	x = 1 o 2	pairing ch.-photocell. ch. 2
SP.1	xxx	x = m/min	plant fixed speed on ch. 1
SP.2	xxx	x = m/min	plant fixed speed on ch. 2

- ⇒ **OF.1...2** : this parameter permits to zero the distance between the photocell and the gun, in order to have the starting of the first glue line at the programming 1 ms; that is not possible if considering the photocell and solenoid valve intervention time. Therefore the off-set value is a delay at the starting of the programme since the photocell has signalled that it is ready to start. Each time that photocell is darkened, the computer computes this off-set value before starting programme execution.
- ⇒ **CH.1...2** : permits to assign the photocells to anyone of the four channels by means of the keyboard.
- ⇒ **SP.1...2** : refers to the conversion factor for the speed of the surface to treat; the values indicate the time in sec. necessary to the machine to advance of 1 mm.

## 7.19 GLUE LINE PROGRAMMING IN ENCODER

Pressing **CLOCK and 0392**, Enc will appear blinking on the *TEMPERATURE* and on *SET POINT* Yes or no are displayed.

Modify Yes or no by SET and confirm by means of ENTER. Choosing Yes, the glue distribution is enabled with the measurement of the distances by means of the Encoder increasable 1000 impulsus/turns.



After having pressed ENTER, on *SET POINT* the data machine will be displayed in succession (by pressing repeatedly ENTER) and on *SPEED / TIMER* their value modifiable by means of SET  $\Rightarrow$  NUMERIC KEYS  $\Rightarrow$  ENTER will be displayed.

The displayed Machine data will be :

Param.	Value	Measure Unit	Description
Att	xxx	xxx = %	attenuation coefficient Out 0 - 20 mA 0 - 100 %
inF	xxxx	xxxx=m/min	min speed out 0 - 20 ma
SUP	xxxx	xxxx=m/min	max speed out 0 - 20 ma
E.C.1	xxxx	xxxx=mm/giro	movement mm for each encoder turn of ch. 1
E.C.2	xxxx	xxxx=mm/giro	movement mm for each encoder turn of ch. 2
OF.1	xxxx	xxxx = mm	photocell - gun ch 1 dist.
OF.2	xxxx	xxxx = mm	photocell - gun ch 2 dist.
CH.1	St.x	x = 1 o 2	pairing ch.-photocell. ch. 1
CH 2	St.x	x = 1 o 2	pairing ch.-photocell. ch. 2
In.1	xx.x	msec	starting advance on ch. 1
Fi.1	xx.x	msec	final advance on ch. 1
In.2	xx.x	msec	starting advance on ch. 2
Fi.2	xx.x	msec	final advance on ch. 2

- ⇒ **Att** : expressed in percentage, it indicates the attenuation coefficient; the set-up value is the one of the maximum pressure condition delivered by the pump (or of maximum motor speed): by setting up this value at 50%, the motor, during the automatic working, will go at the maximum of 50% of its speed range in correspondence with the highest speed of the basic machine. Most of the cases 100% is set.
- ⇒ **inF** and **SUP**: include the value range in m/min taken by the encoder connected to the basic machine where the programme must operate.

- ◇ **E.C.1 - 2** : concern the encoder speed; the value to insert is the measure in mm of machine advancement in correspondence with 1 encoder turn. Use 100 impulse/turn Encoder and set up the values between 200 and 9999 only.
- ◇ **OF.1 ... 2** : reduces to zero the photocell - gun distance, in order to have the first glue line start with 1 ms programming, which is not possible if we consider photocell and solenoid valve intervention times. The off-set value is a delay at the programme starting since the photocell has signalled that it is ready to start. Whenever the photocell is darkened, the computer compute this off-set value before starting the programme execution.
- ◇ **CH.1 ... 2** : permits to assign the photocells to anyone of the four channels by means of the keyboard.
- ◇ **In.1-2 e Fi.1-2** : are corrective factors on the work set point on the ground of the product speed.

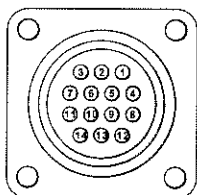
To each channel Ch1 - Ch2, an initial and final advance time expressed in msec. can be joined and applied to on and off spray gun starting in order to obtain glue lines of constant dimensions at any the product change.

For guidance, as initial and final advance, a time in msec. will be set up (with a decimal) corresponding to the opening and closing delay of, respectively, the solenoid valve - and nozzle system used for each distribution channel.

## 7.20 CONNECTORS

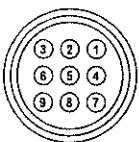
Electric connections are carried out by means of suitable connectors in compliance with the standards, so that only the correct connector couples with its corresponding one by eliminating the chance of wrong connections.

### ◇ **APPLICATOR - HOSE CONNECTION**



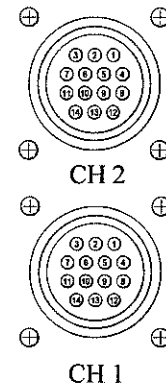
- 1 - 3 RESISTANCE GUN
- 4 - 6 PROBE GUN
- 5 GROUND
- 7 - 9 SOLENOID VALVE GUN
- 11 - 12 HOSE PROBE
- 13 - 14 HOSE RESISTANCE

### ◇ **HOSE - GUN CONNECTION**



- 1 - 3 RESISTANCE
- 4 - 6 GUN PROBE
- 5 GROUND
- 7 - 9 SOLENOID VALVE GUN

## 7.21 TRATTO 2 ELECTRIC CONNECTIONS



## 7.22 ANALOGUE OUTPUT 0 - 20 MA

The instrument available analogue output, in the **Encoder** working, can guide a pressure regulator for pump delivery with a linear function of the conveyor belt speed. In **Timer**, this output is disconnected (always 0 mA). In **Manual Test** it will assume the value 0-100% set up in the parameter of the encoder machine data. The maximum acceptable impedance is 600 ohm.

## 7.23 SIGNAL CONNECTIONS

- ◇ **PHOTOCELL** : connect the photocell to the terminal block as it is indicated in the following table. The computer has 2 suitable yellow led (Start 1 and 2) that lighten when the photocell works. The minimum taken impulse is 1 msec. and the impulses can be guided by the microswitch with a normally open contact and by means of photocells or other sensors with transistor NPN output (these sensors are feeded at 15 Vcc)
- ◇ **MICROSWITCH** : if a microswitch is used instead of the photocell, connect the two wires to the terminal block .
- ◇ **RESET** : Beside the two starts a digital input for the reset of all the outstanding programmes is available and useful to inhibit the guns in the case of an emergency stop. The contact is normally closed, and on the computer there is a red led for checking. As it is connected to a clean machine contact, when this stops it clamps the gun adhesive outlet. As it is connected to the stop contact, if the working needs a continuous glue delivery, once the machine is stopped, it clamps the 24 V solenoid valve and glue flow feeding.
- ◇ **ENCODER** : Connect the encoder to the terminal block as it is indicated in the following table. The digital input for the encoder accepts the continuous 5-15 Vcc voltages; (push/pull o PNP output); the highest acceptable frequency on this input is about 20 KHz and the equivalent speed in m/min is displayed for the default on the **SPEED / TIMER** display. If an encoder different from that one which is supplied is used this must be of the square wave type.

# USE AND MAINTENANCE MANUAL

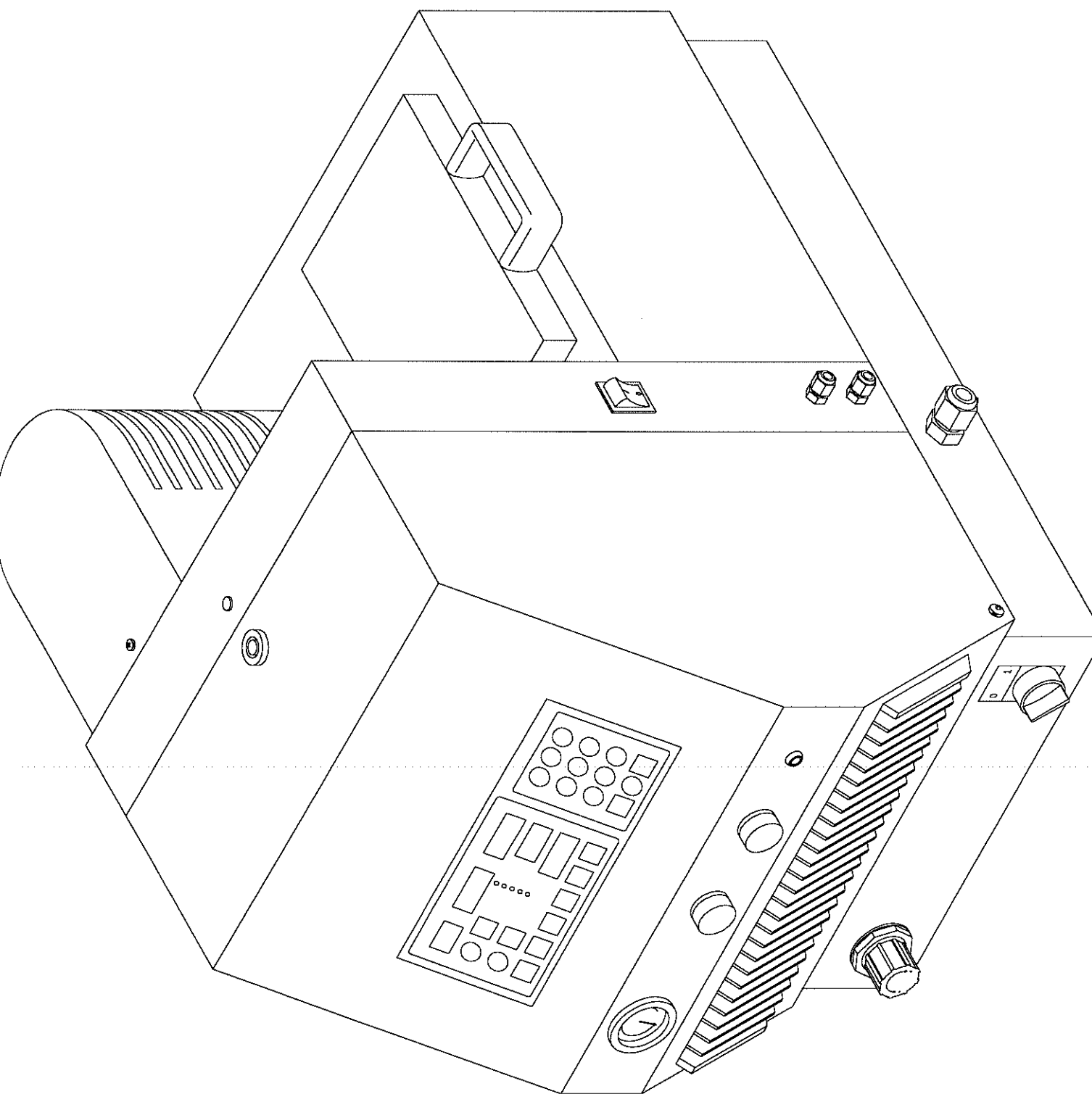


As follows the table concerning with the signal connections to carry out is reproduced:

ENCODER		RESET		START 2		START 1	
E3		R3		S6		S3	
E2		R2		S5		S2	
E1		R1		S4		S1	
E1	Segnale	R1	Segnale	S4	Segnale	S1	Segnale
E2	Massa (-)	R2	Massa (-)	S5	Massa (-)	S2	Massa (-)
E3	15 V (+)	R3	15 V (+)	S6	15 V (+)	S3	15 V (+)

**NOTE :** carry out the connection in the terminal block *lower part*, where the terminals are empty.

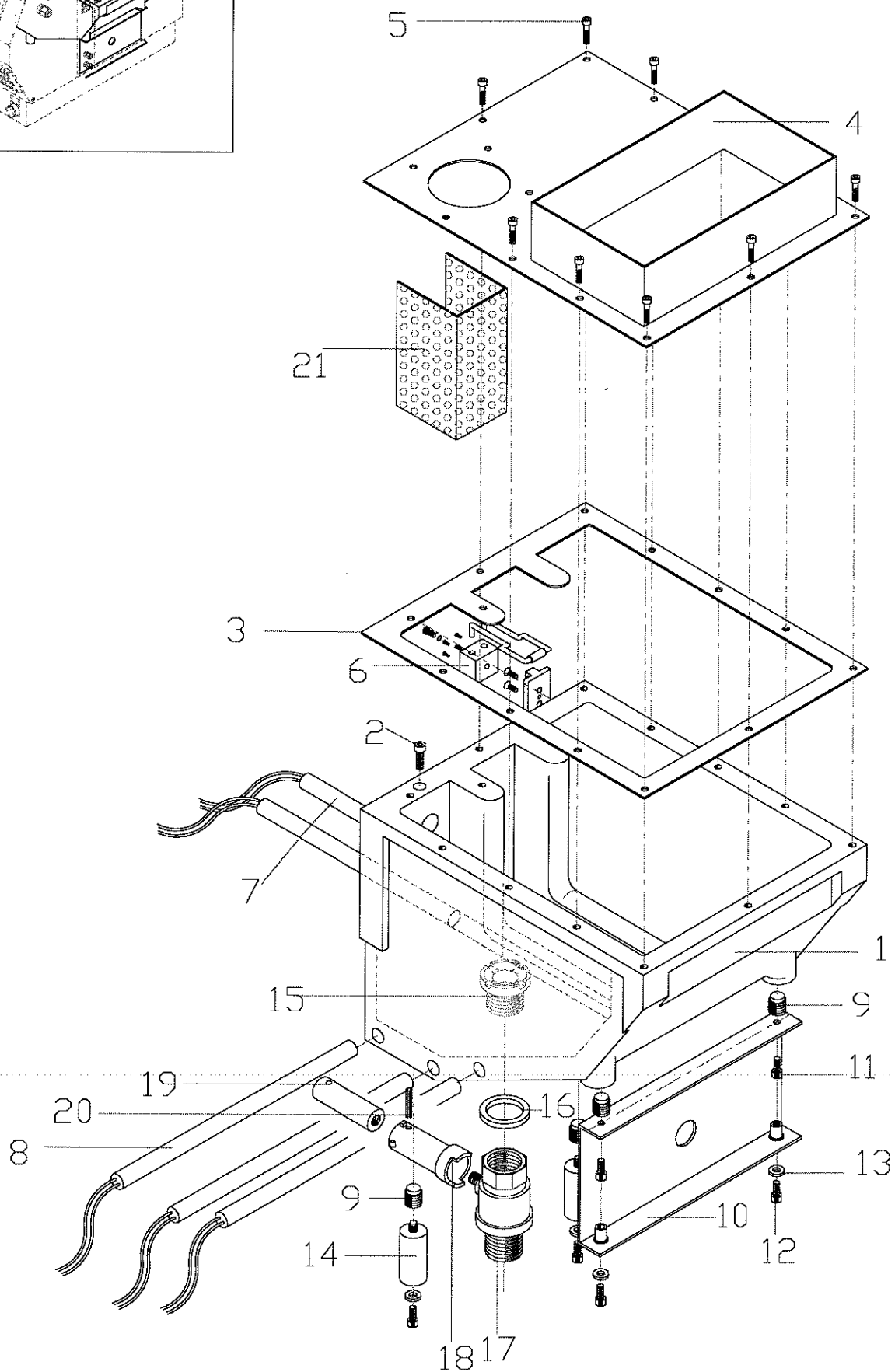
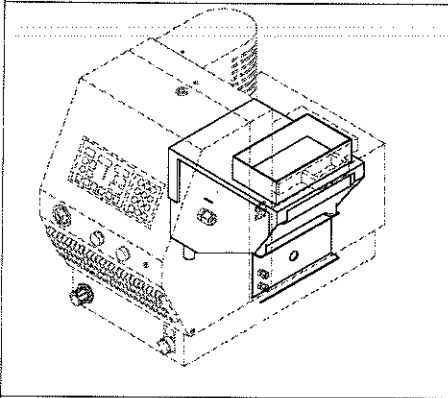




**GRUPPO VASCA SERIE ECLYSS****CODICE VV2000EC**

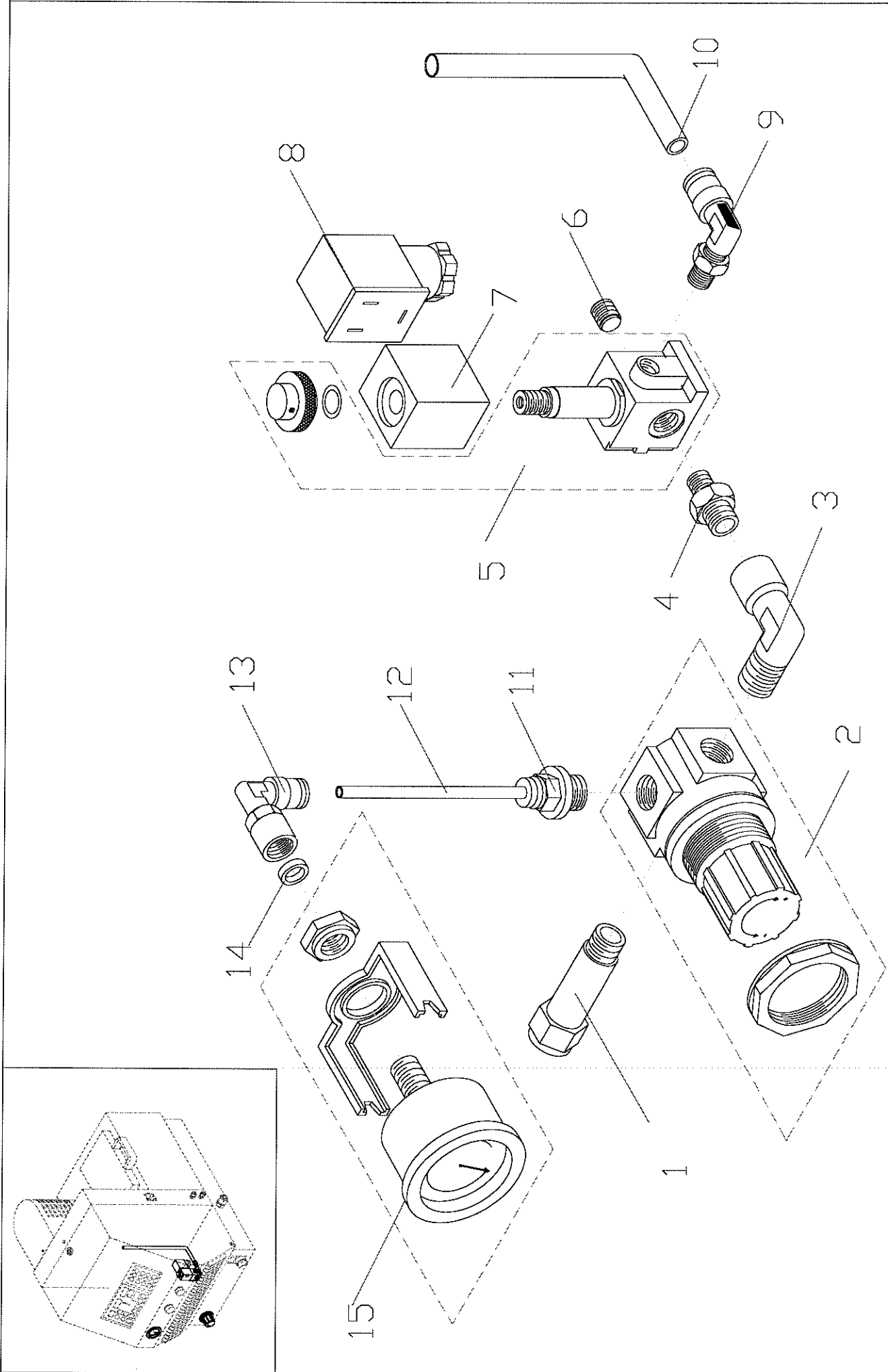
<b><i>POSIZIONE</i></b>	<b><i>CODICE PREO</i></b>	<b><i>DESCRIZIONE</i></b>	<b><i>Q.TA</i></b>
01	VVR2010E	Vasca 5 Kg Serie Eclyss	01
02	KKF1038	Vite a brugola fissaggio manicotto pompa	01
03	VVR2030E	Guarnizione isolante per vasca	01
04	CC2020EC	Piastra Supporto Pompa	01
05	KKF1039	Vite fissaggio piastra	10
06	KKE1700	Fusibile termico	01
07	KKE1520	Resistenza per aletta	02
08	KKE1522	Resistenza per vasca	03
09	KKC1051	Distanziale isolante	04
10	CC2110EC	Supporto per vasca	01
11	KKF1030	Vite a brugola fissaggio distanziale	02
12	KKF1012	Vite a brugola fissaggio supporto	04
13	KKH1015	Rondella	04
14	VVR1230	Piedino supporto vasca acciaio zincato	02
15	VVR2150E	Bussola fissaggio valvola a sfera	01
16	KKH2009	Rondella in rame	01
17	VVR2170E	Valvola a sfera	01
18	VVR2180E	Prolunga per valvola a sfera	01
19	VVR2190E	Comando per valvola a sfera	01
20	VVR1220	Spina elastica	01
21	VVR2210E	Rete protezione pompa	01





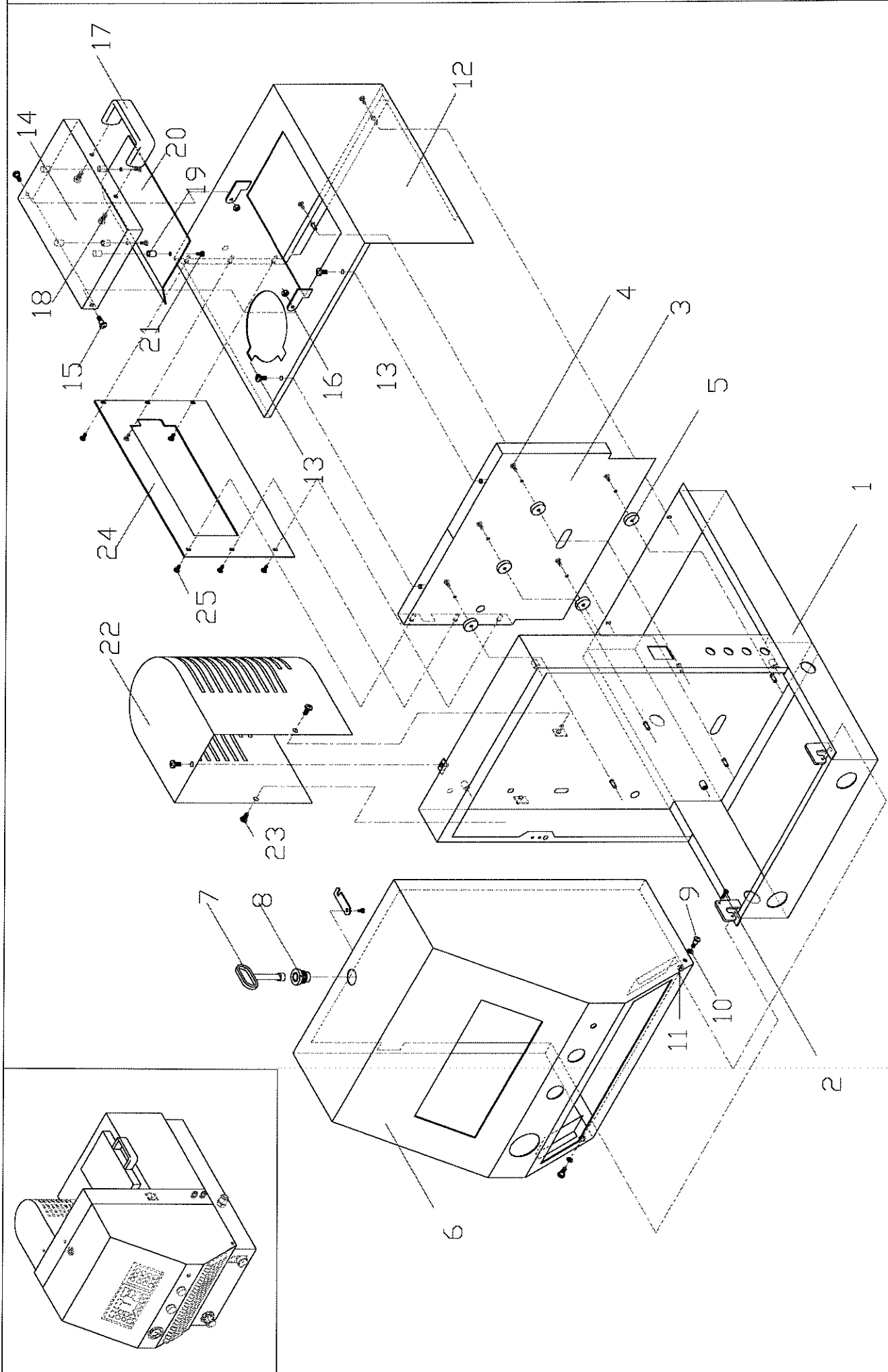
**GRUPPO PNEUMATICO SERIE ECLYSS****CODICE TG2000EC**

<b><i>POSIZIONE</i></b>	<b><i>CODICE PREO</i></b>	<b><i>DESCRIZIONE</i></b>	<b><i>Q.TÀ</i></b>
1	KKA1019	Prolunga diritta	1
2	TGR1140	Regolatore di pressione	1
3	KKA1016	Prolunga 90°	1
4	KKA1024	Nipples conico	1
5	TGR1210	Elettrovalvola partenza pompa	1
6	KKF2000	Grano di chiusura	1
7	TGR1230	Bobina 24 V per elettrovalvola	1
8	KKE1010	Connettore per elettrovalvola	1
9	KKA1012	Raccordo girevole 90°	1
10	KKJ1081	Tubo aria	1
11	KKA1034	Raccordo diritto	1
12	KKJ1012	Tubo aria	1
13	KKA1015	Raccordo girevole 90°	1
14	KKH2004	Rondella in rame	1
15	TGR1180	Manometro 0 – 6 bar	1



**GRUPPO CARROZZERIA SERIE ECLYSS 5 KG****CODICE CC2000EC5**

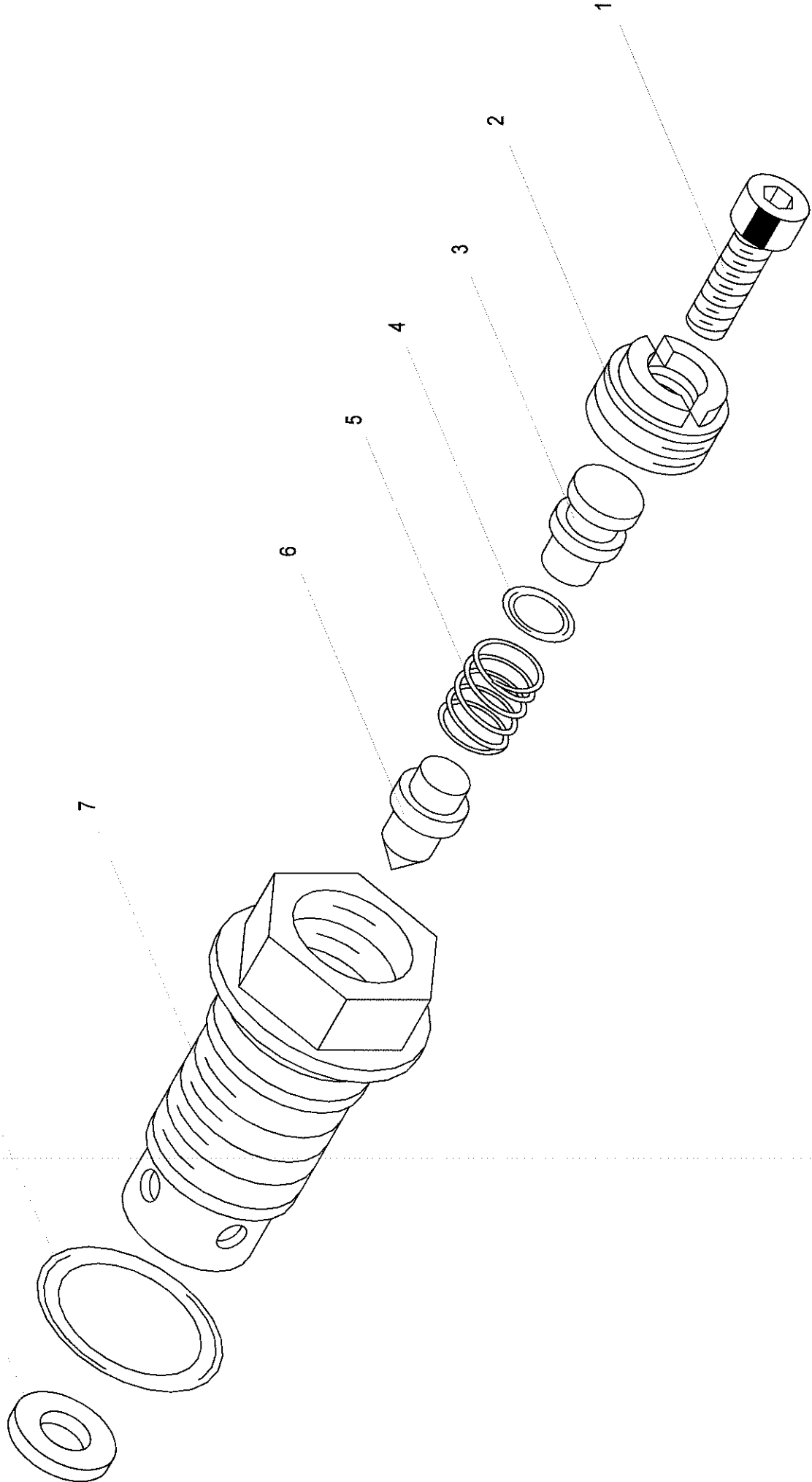
<i><b>POSIZIONE</b></i>	<i><b>CODICE PREO</b></i>	<i><b>DESCRIZIONE</b></i>	<i><b>Q.TÀ</b></i>
1	CC2010EC	Basamento	01
2	KKF1028	Vite fermo apertura scatola lato computer	02
3	CC2020EC	Paratia	01
4	KKF1002	Vite a croce fissaggio paratia	05
5	CC2021EC	Distanziale	05
6	CC2030EC	Scatola Lato Computer	01
7	CC2032EC	Chiave Per Serratura	01
8	CC2031EC	Serratura con leva mm 45 a beccuccio per Scatola Computer	01
9	KKF1037	Vite a brugola Fissaggio Scatola Lato Computer	02
10	KKC1043	Rondella	02
11	KKG1004	Dado	02
12	CC2040EC	Scatola Lato Vasca	01
13	KKF1010	Vite a croce	04
14	CC2060EC	Coperchio vasca acciaio inox	01
15	KKF1009	Vite a brugola fissaggio coperchio	02
16	KKG1005	Dado per vite fissaggio coperchio	02
17	KKC2000	Maniglia per coperchio	01
18	KKF1024	Vite testa esagonale fissaggio maniglia	02
19	CC2062EC	Distanziale per controcooperchio	03
20	CC2061EC	Controcooperchio	01
21	KKF1045	Vite a testa esagonale fissaggio controcooperchio	03
22	CC2070EC	Carter pompa	01
23	KKF1002	Vite a croce fissaggio carter pompa	03
24	CC2090EC	Lamiera coprivasca acciaio inox	01
25	KKF1002	Vite a croce inox fissaggio lamiera	04



**GRUPPO BY - PASS SERIE ECLYSS**

**CODICE BS1000**

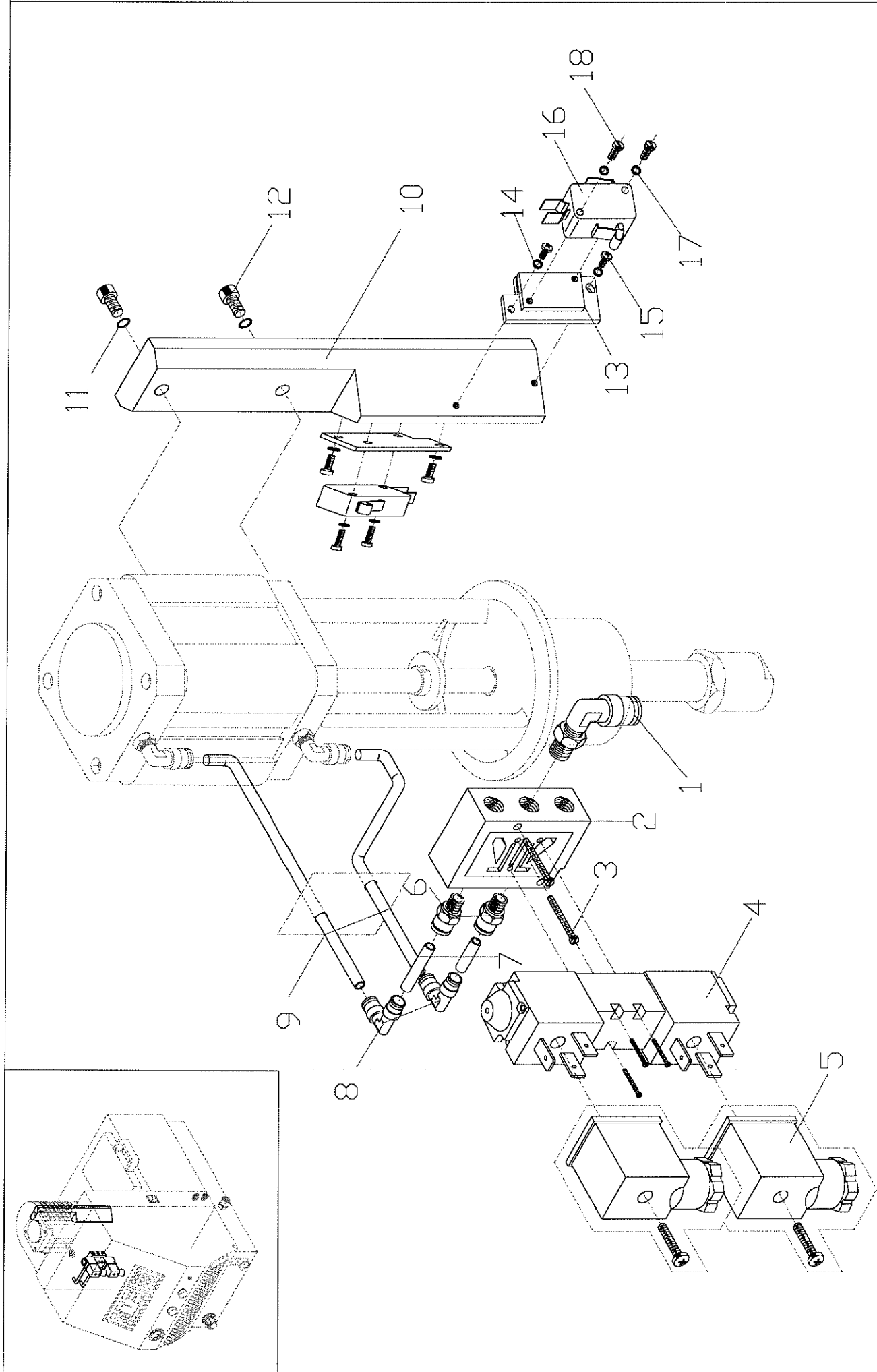
<b><i>POSIZIONE</i></b>	<b><i>CODICE PREO</i></b>	<b><i>DESCRIZIONE</i></b>	<b><i>Q.TÀ</i></b>
01	KKF1023	Vite a brugola	1
02	BSR1020	Ghiera di chiusura	1
03	BSR1030	Pistoncino di precarica	1
04	KKB1001	Guarnizione	1
05	BSR1050	Molla	1
06	BSR1060	Spillo	1
07	BSR1070	Corpo by – pass	1
08	KKB1002	Guarnizione	1
09	KKH2000	Rondella di rame	1



**GRUPPO INVERSOE ELETTRICO SERIE ECLYSS****CODICE IE2000EC**

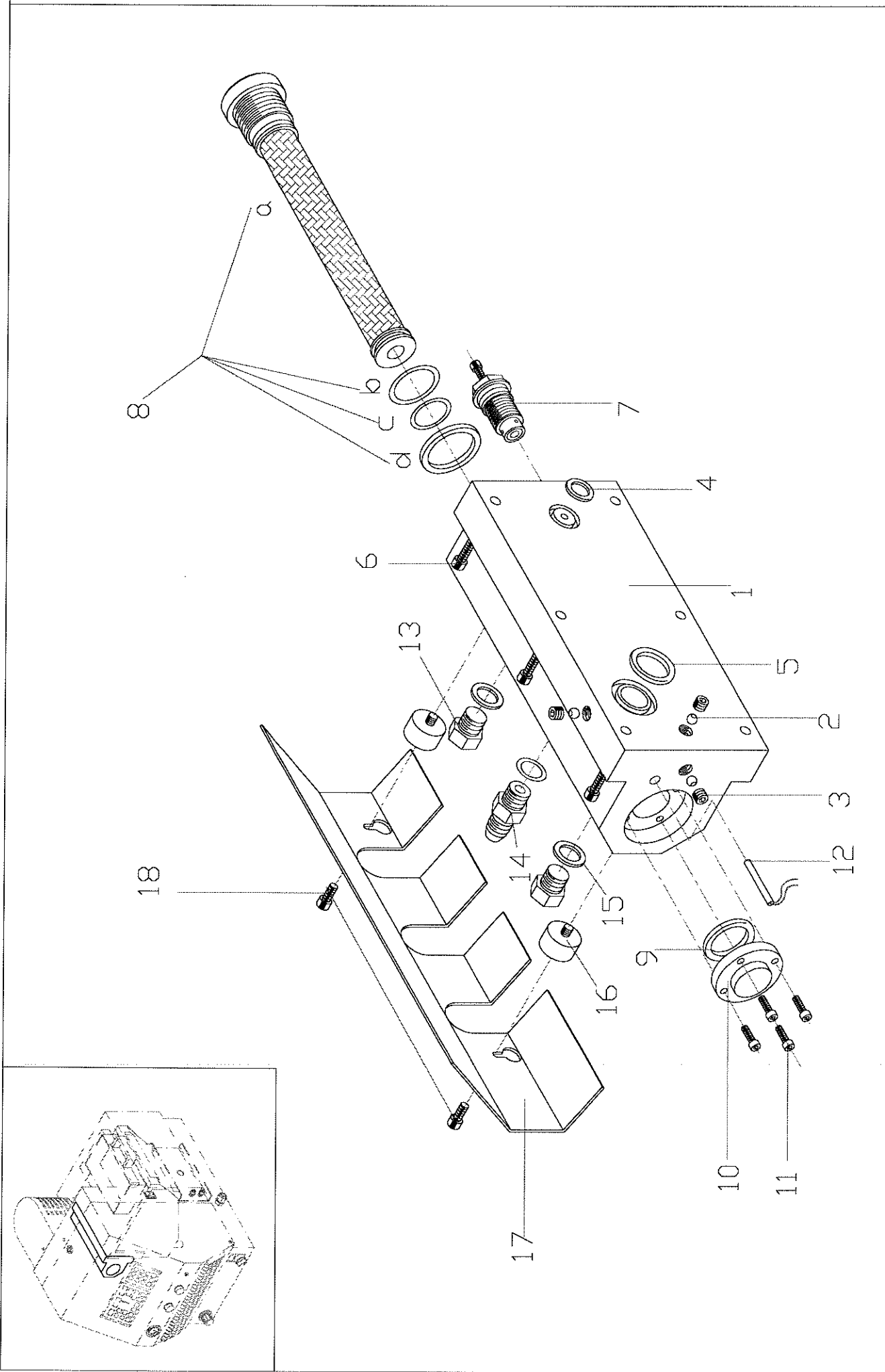
<b><i>POSIZIONE</i></b>	<b><i>CODICE PREO</i></b>	<b><i>DESCRIZIONE</i></b>	<b><i>Q.TÀ</i></b>
1	KKA1012	Raccordo girevole	1
2	IER1020	Base per valvola inversione	1
3	KKF1011	Vite a brugola fissaggio base valvola	2
4	IER1040	Valvola inversione	1
5	KKE1010	Connettore per valvola inversione	2
6	KKA1030	Raccordo diritto	2
7	KKJ1043	Tubo aria	2
8	KKA1039	Raccordo 90°	2
9	KKJ1062	Tubo aria	2
10	IER1110	Supporto microswitch	1
11	KKH1012	Rondella	2
12	KKF1012	Vite a brugola	2
13	IER1130	Piastrina regolazione microswitch	2
14	KKH1010	Rondella	4
15	KKF1014	Vite a croce fissaggio piastrina	4
16	IER1160	Microswitch per fine corsa	2
17	KKH1011	Rondella	4
18	KKF1013	Vite a taglio fissaggio microswitch	4





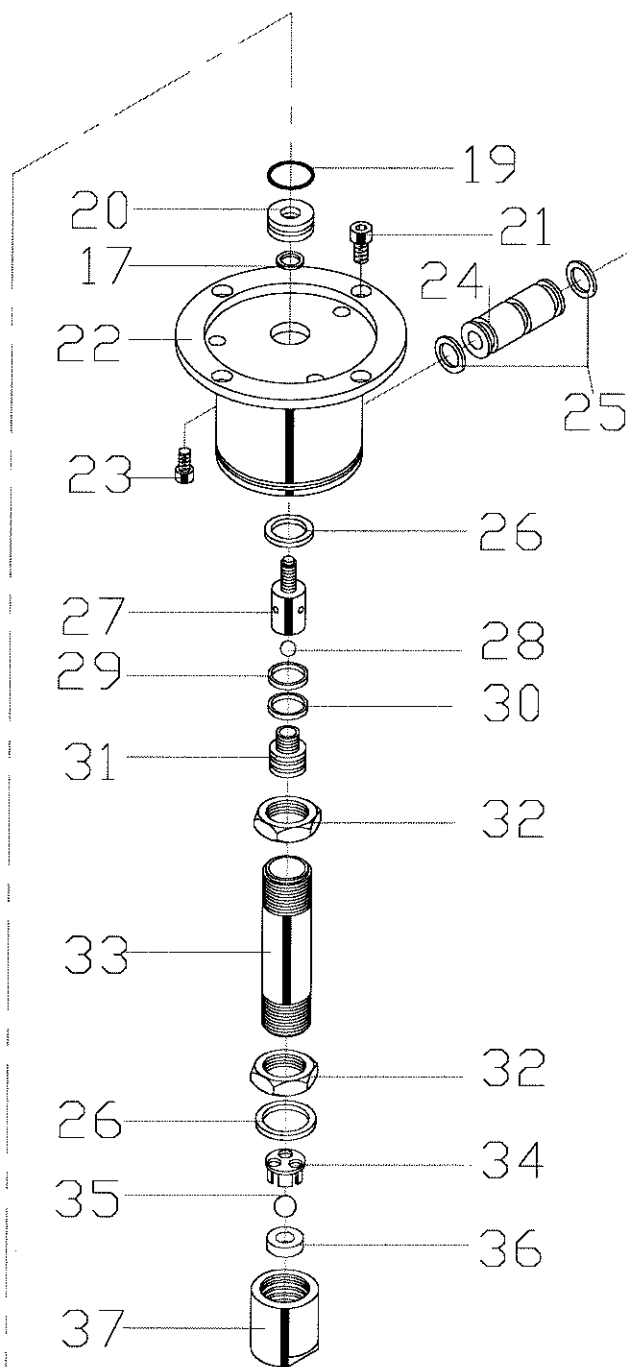
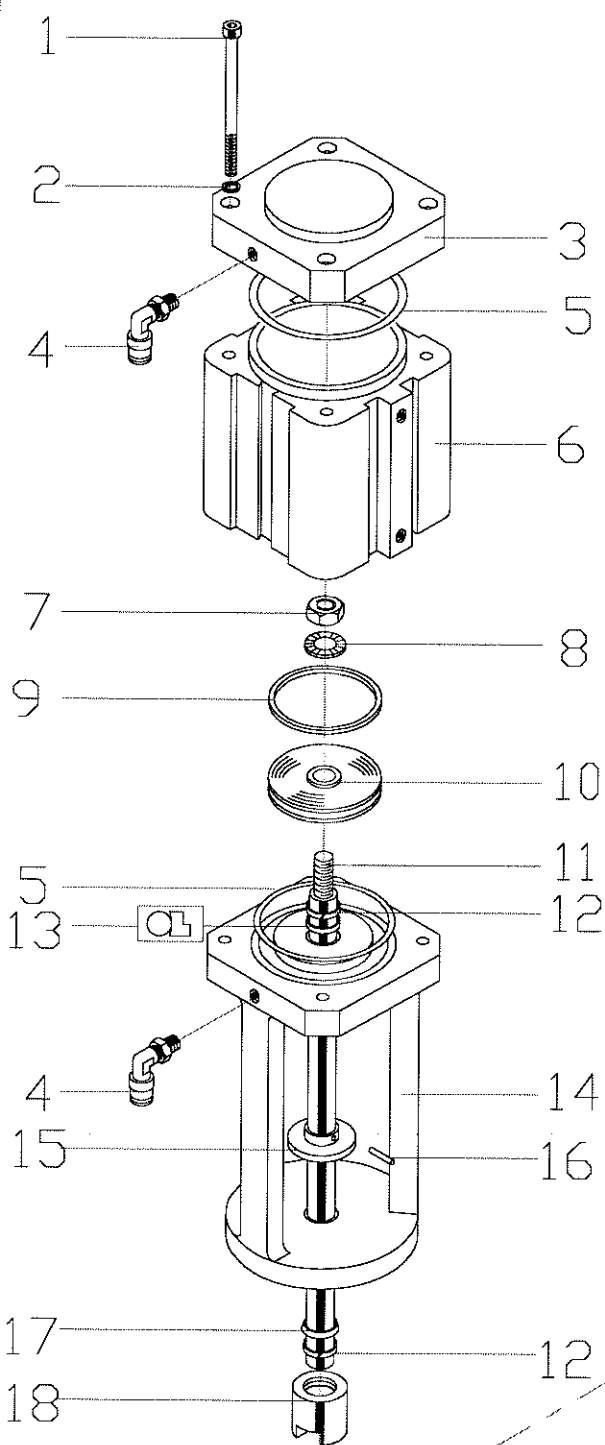
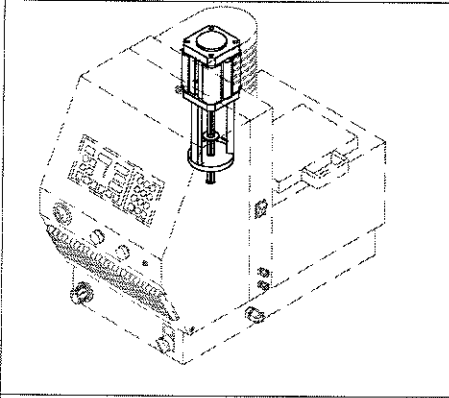
**GRUPPO MANIFOLD SERIE ECLYSS****CODICE DD2000EC**

<b><i>POSIZIONE</i></b>	<b><i>CODICE PREO</i></b>	<b><i>DESCRIZIONE</i></b>	<b><i>Q.TÀ</i></b>
01	DDR2010E	Manifold 4 tubi	01
02	DDR2020E	Pastiglia in rame	03
03	KKF2000	Grano di chiusura	03
04	KKB1004	Guarnizione	01
05	KKB1014	Guarnizione	01
06	KKF1040	Vite a brugola	06
07	BS1000	Gruppo by- pass completo	01
08	DDR1120	Gruppo filtro per manifold completo	01
09	KKB1003	Guarnizione	01
10	DDR2100E	Tappo per filtro	01
11	KKF1041	Vite a brugola	04
12	KKE1601	Sonda rilevamento temperatura	01
13	DDR1040	Tappo di chiusura	0 – 3
14	KKA1001	Raccordo dritto	1 – 4
15	KKH2001	Rondella in rame	02
16	KKC1023	Distanziale isolante	02
17	CC2080EC	Coprimanifold	01
18	KKF1005	Vite a brugola fissaggio coprimanifold	02



**GRUPPO POMPA PNEUMATICA SERIE ECLYSS****CODICE PP2000EC**

<i><b>POSIZIONE</b></i>	<i><b>CODICE PREO</b></i>	<i><b>DESCRIZIONE</b></i>	<i><b>Q.TA</b></i>
	PPR1500	Kit Guarnizioni Lato Aria (5- 9-10-12-13-17)	
	PPR1510E	Kit Guarnizioni Lato Colla (17-19-25-26-29-30-31-32-33)	
1	KKF1015	Vite a brugola	04
2	KKH1012	Rondella	04
3	PPR1030	Testa cilindro pneumatico	01
4	KKA1010	Raccordo girevole 90 ° con attacco rapido	02
5	KKB1006	Guarnizione o – ring	02
6	PPR1060	Cilindro lato pneumatico rapporto 13 : 1	01
7	KKG1000	Dado	01
8	KKH1013	Rondella	01
9	KKB1007	Guarnizione	01
10	PPR1100	Pistone lato pneumatico rapporto 13 : 1	01
11	PPR1110	Stelo pompa	01
12	KKB1008	Guarnizione	02
13	KKB1009	Guarnizione	01
14	PPR1140	Castelletto pompa	01
15	PPR1150	Disco inversione	01
16	PPR1160	Spina elastica	01
17	KKB1010	Guarnizione	02
18	PPR1180	Bussola di tenuta pneumatica	01
19	KKB1011	Guarnizione	01
20	PPR1200	Ghiera di tenuta pneumatica	01
21	KKF1016	Vite a brugola	04
22	PPR2220E	Supporto inferiore pompa	01
23	KKF1017	Vite a brugola	03
24	PPR2240E	Manicotto	01
25	KKB1021	Guarnizione o – ring	02
26	KKH2006	Rondella in rame	02
27	PPR1270	Cartuccia di tenuta	01
28	KKI1000	Sfera	01
29	PPR1290	Fascia elastica destra	01
30	PPR1300	Fascia elastica sinistra	01
31	PPR1310	Pistone lato idraulico	01
32	PPR1320	Controdado cilindro idraulico	02
33	PPR1330	Cilindro lato idraulico pompa pneumatica	01
34	PPR1340	Piattello di travaso	01
35	KKI1001	Sfera	01
36	PPR1360	Sede di tenuta	01
37	PPR1370	Cartuccia valvola di aspirazione mandata	01



**PISTOLA LOW PROFILE SERIE LONG LIFE**

**CODICE GP4ND00**

<i>POSIZIONE</i>	<i>CODICE PREO</i>	<i>DESCRIZIONE</i>	<i>Q.TÀ</i>
01	GGR1010	Elettrovalvola 8,5 Watt 24 Vcc	01
02	KKA1010	Raccordo girevole 90° - 1/8"	01
03	GGR1060	Tubetto passaggio aria	02
04	KKA1041	Raccordo 90° - 1/8"	01
05	KKA1003	Raccordo 45°	01
06	KKB1016	Guarnizione	01
07	KKF2005	Grano	03
08	GPR1080	Pastiglia rame	03
09	GPR1091	Corpo pistola	01
10	GGR1110	Gruppo filtro per pistola completo	01
11	KKB1000	Guarnizione	02
12	LLND00	Modulo Long Life Serie NDS	01
13	KKF1021	Vite a brugola M6 x 25 inox	02
14	KKE1600	Sonda	01
15	KKE1510	Resistenza	02
16	KKC1000	Morsetto	01
17	GPR1171	Coperchio per corpo	01
18	KKF1042	Vite a brugola M3 x 8 inox	03
19	HH1800	Tubo Termoregolato L. 1800	01
20	UGCD3323	Ugello Orientabile 90° Diam. 0,40 Serie NDS	01
21	GGR1230	Raccordo per tubo	02
22	GGR1240	Ghiera di fissaggio per tubo	02
23	GGR1251	Tubo	01
24	GGR1252	Tubo	01
25	GGR1270	Boccola antistrappo	02
26	KKE1050	Corazza per connettore AMP	01
27	KKE1080	Connettore volante maschio 9 pin AMP	01
28	KKE1015	Contatto maschio dorato	02
29	KKE1020	Contatto maschio stagnato	05

22/12/1997

ATTENZIONE:

QUESTA COPIA ANNULLA E SOSTITUISCE LA PRECEDENTE.

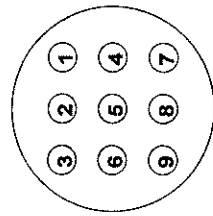
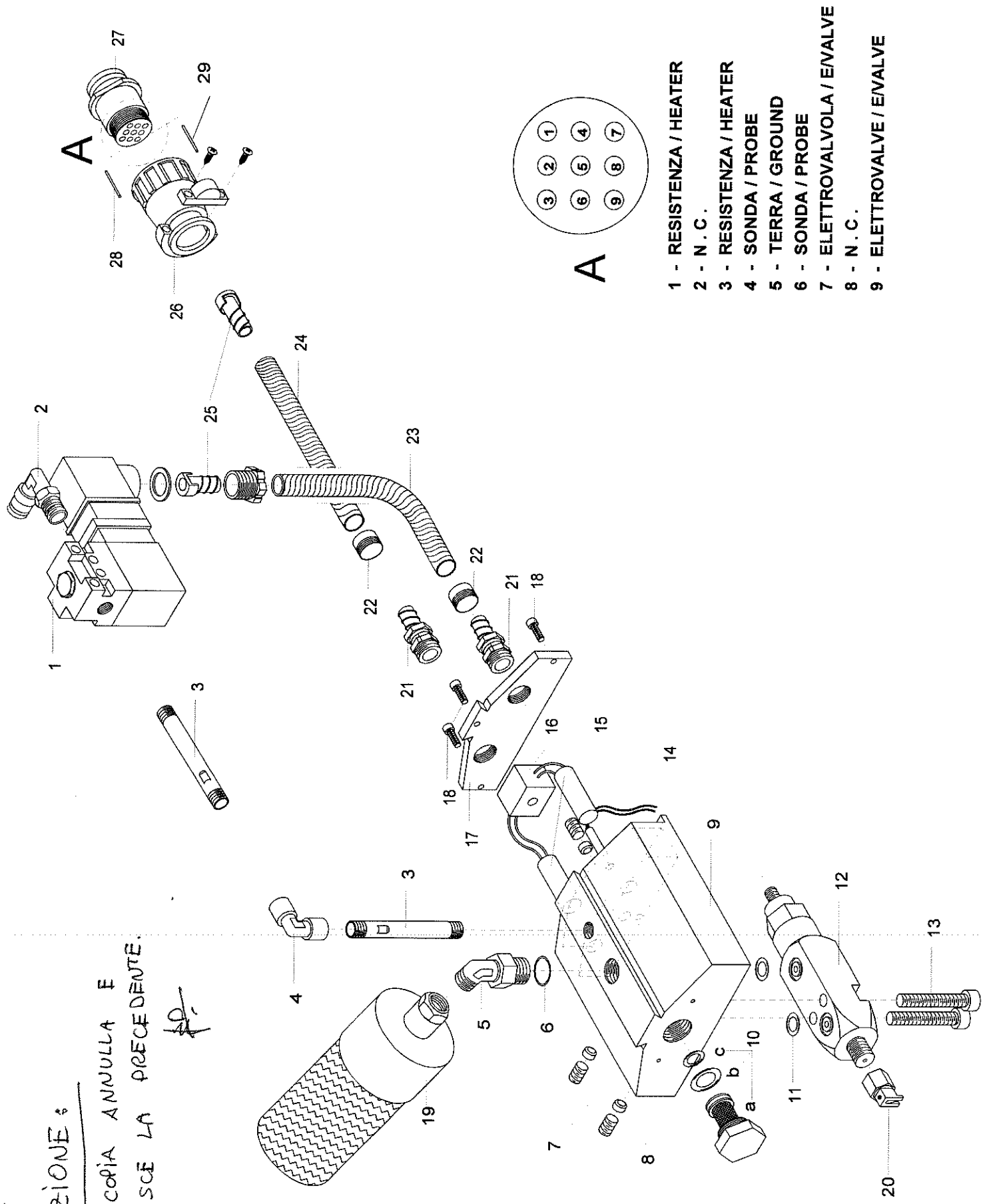


12/12/1994

# ATTENZIONE:

QUESTA COPIA ANNULLA E  
SOSTITUISCE LA PRECEDENTE

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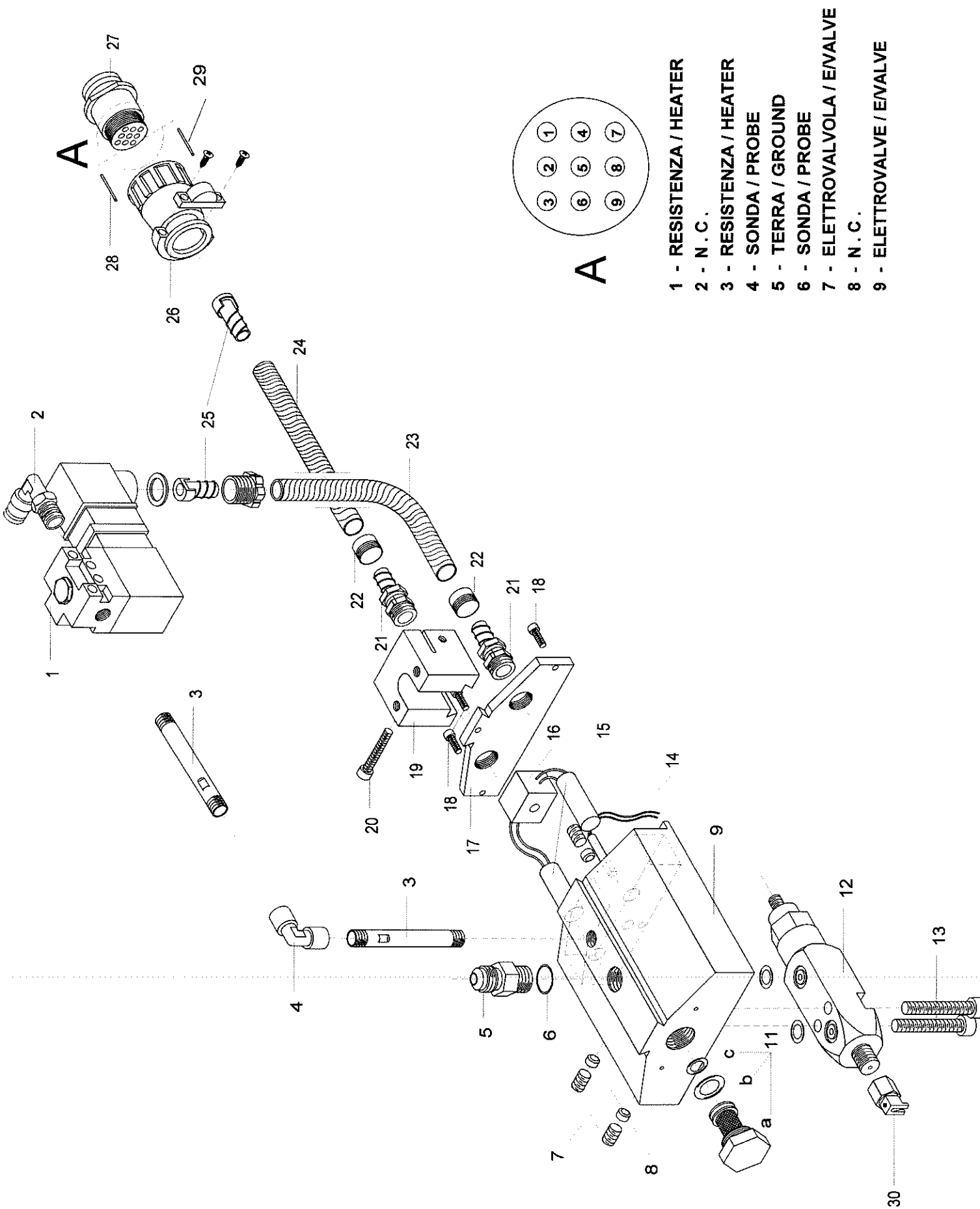


- 1 - RESISTENZA / HEATER
- 2 - N . C .
- 3 - RESISTENZA / HEATER
- 4 - SONDA / PROBE
- 5 - TERRA / GROUND
- 6 - SONDA / PROBE
- 7 - ELETTROVALVOLA / ENVALVE
- 8 - N . C .
- 9 - ELETTROVALVE / ENVALVE

**PISTOLA PROFILO RIBASSATO SERIE LONG LIFE****CODICE GP4ND00**

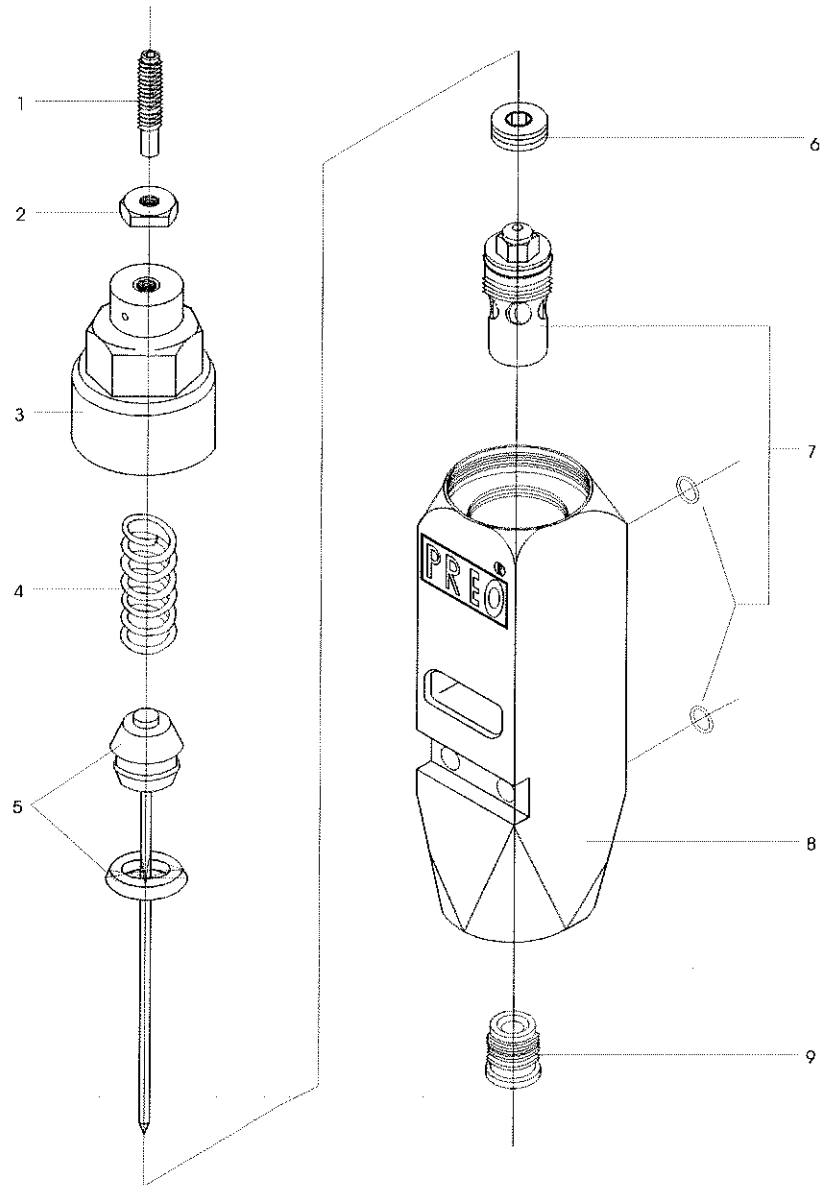
<b>POSIZIONE</b>	<b>CODICE PREO</b>	<b>DESCRIZIONE</b>	<b>Q.TÀ</b>
01	GGR1010	Elettrovalvola	01
02	KKA1010	Raccordo girevole 90°	01
03	GGR1060	Tubetto passaggio aria	02
04	KKA1041	Raccordo 90°	01
05	KKA1001	Raccordo dritto	01
06	KKB1016	Guarnizione	01
07	KKF2005	Grano	03
08	GPR1080	Pastiglia rame	03
09	GPR1091	Corpo pistola	01
10	GGR1110	Gruppo filtro per pistola completo	01
11	KKB1000	Guarnizione	02
12	LLND00	Modulo Long Life Serie NDS	01
13	KKF1021	Vite a brugola	02
14	KKE1600	Sonda	01
15	KKE1510	Resistenza	02
16	KKC1000	Morsetto	01
17	GPR1171	Coperchio per corpo	01
18	KKF1042	Vite a brugola	03
19	GPR1190	Morsetto	01
20	KKF1043	Vite a brugola	01
21	GGR1230	Raccordo per tubo	02
22	GGR1240	Ghiera di fissaggio per tubo	02
23	GGR1251	Tubo	01
24	GGR1252	Tubo.	01
25	GGR1270	Boccola antistrappo	02
26	KKE1050	Corazza per connettore	01
27	KKE1080	Connettore volante maschio 9 pin	01
28	KKE1015	Contatto maschio dorato	02
29	KKE1020	Contatto maschio stagnato	05
30	UGCD3323	Ugello Orientabile 90° Diam. 0,40 Serie NDS	01





**MODULO SERIE LONG LIFE NDS****CODICE LLND00**

<b><i>POSIZIONE</i></b>	<b><i>CODICE PREO</i></b>	<b><i>DESCRIZIONE</i></b>	<b><i>Q.TÀ</i></b>
01	KKF2001	Grano Di Regolazione	1
02	KKG1002	Dado	1
03	LLR1030	Cappellotto Di Chiusura	1
04	LLR1040	Molla Standard	1
05	LLR1050KV	Otturatore NDS Con Guarnizione	1
06	LLR1060	Bilanciatore Di Flusso	1
07	LLR1070	Kit Guarnizioni Completo per Modulo Long Life	1
08	LLR1080	Corpo Modulo NDS	1
09	UGCD3310	Ugello Adattatore Serie NDS	1



## GRUPPO ELETTRICO SERIE ECLYSS TRATTO 2

<i>POSIZIONE</i>	<i>CODICE PREO</i>	<i>DESCRIZIONE</i>	<i>Q.TÀ</i>
01	KKE1150	Interruttore rosso luminoso 24 V per abilitazione tratti colla	1
02	KKE1190	Pressacavo per cavi segnali completo di ghiera	2
03	KKE1180	Pressacavo PG 16 per cavo alimentazione completo di ghiera	1
04	KKE1230	Interruttore Verde accensione macchina	1
	KKE1260	Lampadina per spia luminosa	1
05	KKE1170	Interruttore a chiave per bloccaggio tastiera	1
06	KKE1250	Spia Luminosa Rossa Fermo Macchina	1
	KKE1260	Lampadina per spia luminosa	1
07	KKE1240	Spia Luminosa Verde Macchina Pronta	1
	KKE1260	Lampadina per spia luminosa	1
08	MP0TRA2	Computer Completo Tratto 2	1
a	MP1040	Scheda Cpu Tratto 2	1
b	MP2010	Scheda Di Potenza 2 Canali	1
c	MP3010	Scheda Distribuzione Colla 2 Canali	1
d	MP4010	Flat Cable 16P 50 Cm Cpu – Scheda di Potenza	1
e	MP4020	Flat Cable 14P 40 Cm Cpu – Tratti Colla	1
f	MP4060	Cavo Connessione Segnali	1
g	MP5010	Trasformatore Toroidale 80 Va Per Scheda Tratti Colla	1
h	OZE1010	Batteria Tampone	1
09	KKE1120	Connettore per chiave di sicurezza tastiera	1
10	MP5020	Trasformatore 20 VA	1
11	KKC1061	Distanziale per trasformatore	2
12	KKF1046	Vite testa esagonale M6 x 65 Fissaggio trasformatore	1
13	KKH1015	Rondella piana M6 per vite trasformatore	1
14	KKG1006	Dado M3 per fissaggio scheda Cpu	6
15	KKH1010	Rondella Piana M3 per dado fissaggio scheda Cpu	6
16	KKF1014	Vite a croce M3 x 8 per fissaggio schede computer	8
17	KKH1010	Rondella piana M3 per vite fissaggio computer	4
18	KKC1071	Distanziale per scheda tratti colla 10 x 9,5 x 5	4
19	KKE1130	Interruttore di sicurezza apertura vano computer	1
20	KKF1047	Vite a taglio M3 x 5 fissaggio microinterruttore	2
21	KKE1000	Connettore da pannello per connessione elettrica tubo	2
22	KKE1281	Guida Din L. 70 mm	1
23	KKE1283	Guida Din L. 230 mm	1
24	KKE1282	Guida Din L. 110 mm	1
25	KKF1002	Vite a croce M4 x 8 fissaggio guida din	6
26	KKH1000	Rondella dentellata M4 per vite fissaggio guida din	4
27	KKG1003	Dado M4 per vite fissaggio guida din	2
28	CC2100EC	Piastra componenti elettrici	1
29	KKF1049	Vite a taglio M4 x 10 fissaggio piastra	4
30	KKE2060	Terminale di bloccaggio	3
31	KKE2058	Morsetto Triplo per attacco fotocellule reset encoder	4
32	KKE2059	Paretina di chiusura per morsetto triplo	1
33	KKE2055	Morsetto Giallo Verde	2
34	KKE2052	Morsetto Blu	6
35	KKE2053	Morsetto Grigio	5
36	KKE2054	Paretina di chiusura morsetto grigio	3
37	KKE2064	Ponticello di collegamento trasversale 2 poli	1
38	KKE2065	Ponticello di collegamento trasversale 5 poli	1
39	KKE2050	Morsetto Portafusibile 5 x 20	2
40	KKE1270	Fusibile 1,6 A 5 x 20	2
41	KKE1200	Portafusibile triplo	1
42	KKE1271	Fusibile 10 A 10 x 38	3
43	KKE1220	Teleruttore 3 Kw	1

