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INSTRUCTIONS MANUAL

PUNTO TOP

PUNTO PLUS

PUNTO ROBOSTAR



ATTENTION

Carefully read this manual before using the spot welder.

This manual refers to the following spot welders: Punto Top, Punto Plus, Punto RoboStar

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MOVABLE SPOT WELDER SERIES: PUNTO

- This machine complies with the 89/392/CEE directives and subsequent modifications and supplements.

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NOTES AND PRECAUTIONS

Have the electrical connections made by qualified personnel in compliance with the relevant Laws and safety Codes. Make sure that the power box is properly connected to the grounding system and that it is complying with the CEI EN 60 204/1 Standard.

WARNING

Do not use cables with damaged insulation, loose connecting terminals or inadequate section.

Do not operate the spot welder in a humid or wet environment or in the rain.

Always disconnect the machine from the supply systems during installation or checking and maintenance operations.



Bring flammable materials or substances to a sufficient distance (at least 10 meters) from the working area.



It is extremely dangerous to weld (spot weld) containers or tanks which have contained liquid or gaseous substances or combustibles – because explosions may occur.

During normal spot welding, and especially when welding galvanized, painted or oil contaminated metal, smoke will be produced. Make sure there is an adequate air change or a suitable extraction systems.



Always protect your eyes with special safety glasses, wear gloves, apron and protective clothing without metal accessories.

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During welding operations the machine generates magnetic fields. Pay attention to the attraction of iron bearing working residues.

Watches as well as other mechanical, electric and/or electronic devices can be damaged.



WARNING: Persons with pacemakers or other cardiac devices must absolutely not use the machine.

In case of water leaks from the cooling circuit, immediately disconnect the machine from the power supply and look for the leak. Possible repairs must be made by qualified personnel.

The operator must have adequate knowledge and training in the use and the resistance welding procedure with this machine.



Do not allow unauthorized persons to access the working area; avoid that more than one person works simultaneously on the same machine.

The spot welder is equipped with balancing and movable mechanisms. Therefore all precautions must be taken to avoid hazardous situations.

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DEFINITION OF THE TERMS

Refer to the UNI EN 292 Standard for the definition of the terms used in this manual.

FEATURES OF THE MACHINE**GENERAL INFORMATION****MOVABLE RESISTANCE WELDING STATION**

Main components and controls:

- Mobile trolley of metal tubes and frame with wheels, covering of thermoplastic ABS plastic.
- Balancing arm of steel tubes, provided with gas springs, hinged joints mounted in ball bearings.
- Welding gun with incorporated transformer, vacuum sealed and water cooled.
- Electro-pneumatic operation of welding gun closure.
- Manometer unit for welding pressure regulation at the electrodes.
- Independent cooling system with closed circuit.
- Counterweight for balancing.

This machine has been manufactured in compliance with the following regulations:

- Machine Safety Directive 89/392/CEE, 91/368CEE, 93/44/CEE, 93/68/CEE
- 89/336/CEE Directive, electromagnetic compatibility.
- 73/23/CEE Directive, low voltage electric material.
- EN 50063 Standard, building and installation of resistance welders.
- UNI EN 292/1 and 292/2 Standard, machinery safety.

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TECHNICAL SPECIFICATIONS AND PERFORMANCES

See table of general technical data (fig.1).

DIMENSIONS		Punto Top	Punto Plus	Robo Star
Working height	mm	50÷2500	50÷2500	50÷2500
Maximum radius	mm	2300	2300	2300
Hinged joints	qty.	7	7	7
Dimensions (rest position) WxLxH	mm	1030x815x1250	1030x815x1250	1030x815x1250
Gun dimensions	mm	130x320x320	130x370x320	130x370x350
Weight	kg	150	150	165

ELECTRICAL specifications		Punto Top	Punto Plus	Robo Star
Nominal power at 50%	KVA	6	8	9
Welding thickness	mm	2+2	2,5+2,5	3x2,5
Input voltage (*)	1ph V/Hz	1/400/50	1/400/50	3/400/50
Secondary no-load voltage	V	2,7	5	12,5
Secondary short-circuit current	KA	8,8	13	13
Secondary welding current	KA	7,5	12,3	13
Duty cycles	%	8	9	9
Rated power	KVA	24	65	52
Fuses for 400 V	A	16	32	32

MECHANICAL features		Punto Top	Punto Plus	Robo Star
Cooling (closed circuit)		liquid	liquid	liquid
Compressed air operation (ISO 6431)		pneumatic	pneumatic	pneumatic
Electrode force at 800 kpa (8 bar)	daN	190	300	455 (6.5 bar)
Air consumption for 1000 spots	m³	0,6	0,8	0,9
Noise level (ISO 7779)	dB A	<65	<65	<65
Ambient temperature	°C	5÷35	5÷35	5÷35
Air humidity	%	<90	<90	<90
Throat depth	mm	120÷500	120÷500	120÷600
Electrode arm diameter	mm	20	20	25
Electrode arm distance	mm	120	120	120

Fig. 1

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PACKING

The spot welder comes packed on a special pallet, fastened with steel strips and wrapped in a plastic film.

When shipped in a container by sea, the spot welder is sealed with salt resistant plastic material.

On request, the spot welder is delivered on a pallet with wooden case and fastened with steel strips.

UNPACKING

- Remove the panels of the wooden case (if provided).
- Remove the steel strips.
- Remove the protective plastic material.
- Lift the spot welder with suitable means and remove the pallet.

CAUTION: The packing materials – wood, nails, plastics etc. – must not be left within the reach of children, as they could be a source of danger.

The packing materials must be subdivided and disposed of in compliance with the applicable Codes.

STORAGE

The spot welder must be stored at a temperature between 0 and 40 °C in a dry place, protected from weather and far from heat sources.

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LIFTING, DIMENSIONS AND WEIGHT**INSTRUCTIONS FOR LIFTING**

The spot welder must be moved with care, avoiding shocks and dropping which could damage the machine.

Figure 2, page 9 shows the points the lifting devices are to be attached to.

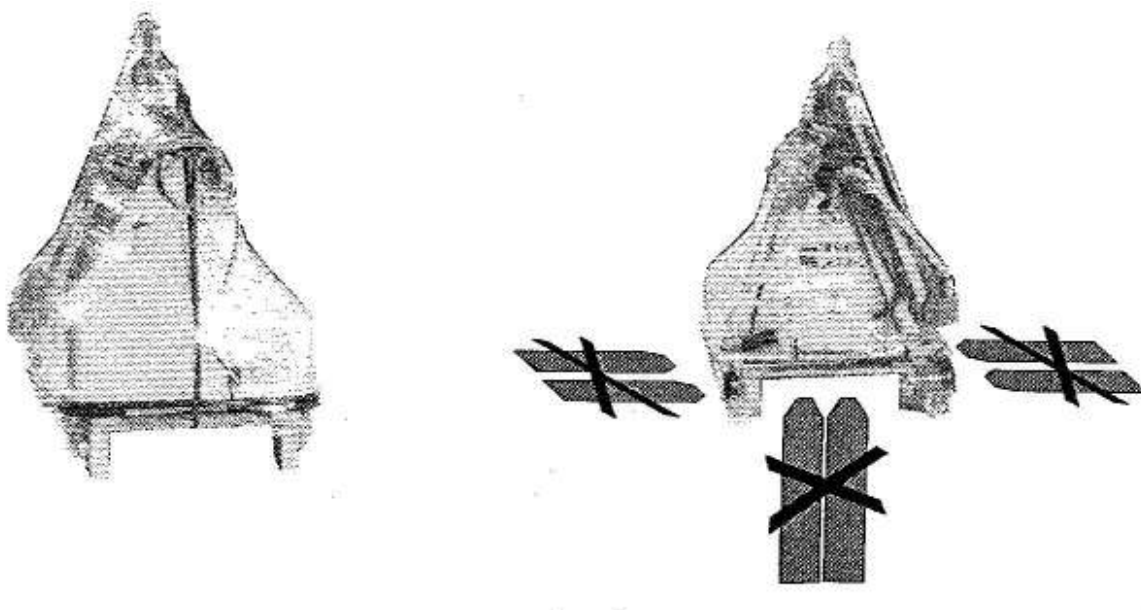


Fig. 2

DIMENSIONS AND WEIGHT

The closed and packed spot welder on pallet, or at request in a wooden cage, has the following dimensions and weight:

on pallet (8 kg)

W = width 1000 mm
L = depth 1200 mm
H = height 1250 mm
Weight: 150 kg

in cage (20 kg)

W = width 1000 mm
L = depth 1200 mm
H = height 1300 mm

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INSTALLATION**PRECAUTIONS AND CHECKS**

CAUTION: During all installation and connection operations, the machine must be absolutely isolated from the power supply line.

CAUTION: Installation must be made by qualified personnel in compliance with the applicable regulations and in accordance with the instructions of the manufacturer.

CAUTION: Before connecting the machine to the mains supply, make sure that the data on the nameplate of the spot welder correspond to the voltage and frequency of the mains supply available on site.

Electrical safety of the spot welder is obtained only when connected to an efficient grounding system made in compliance with the applicable Regulations.

Have qualified personnel check the system for functional efficiency.

The Manufacturer cannot be held liable for possible damage caused by absence or inefficiency of the grounding system.

Check that the installed power on the electric supply meter as well as the cables of the electrical plant are adequate for the rated power of the spot welder.

CAUTION: In case the user makes modifications, alterations or changes of the spot welder or integrates it in a plant, any liability of the Manufacturer decays and the user is obliged to remove the CE label.

The non-observance of the above instructions will render the safety system provided by the Manufacturer ineffective, causing serious risks of personal injuries and material damage.

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ELECTRICAL CONNECTION

The electrical connection of the spot welder to the mains must be made by qualified personnel.

The electrical connection must be made in compliance with the prescriptions of the EN 50063 CEI 26-6 and CEI 64/8 Standard - installation of resistance welders (spot welders) - to a grounded power box provided with a differential circuit breaker having an adequate capacity for the power of the spot welder (tab.1, p.7, Electrical Features) and complying with the CEI EN 60204/1 Standards.

Make sure that the size of the electrical line (conductor section) and the capacity of the fuses are adequate.

Caution: The spot welder is SINGLE PHASE and provided with a power cord with two leads, plus a third lead intended only for connection to the grounding system; therefore it can be connected to a single phase power supply, or to a three phase power supply of which only two of the three available phases will be used.

COMPRESSED AIR CONNECTION

The spot welder must be connected to the compressed air supply (fig.1, p.7, Mechanical Features) using an appropriate rubber hose provided with a female quick coupler to be fit to the male coupler to be installed on the 1/4" gas sleeve of the spot welder (fig.3, p.11).

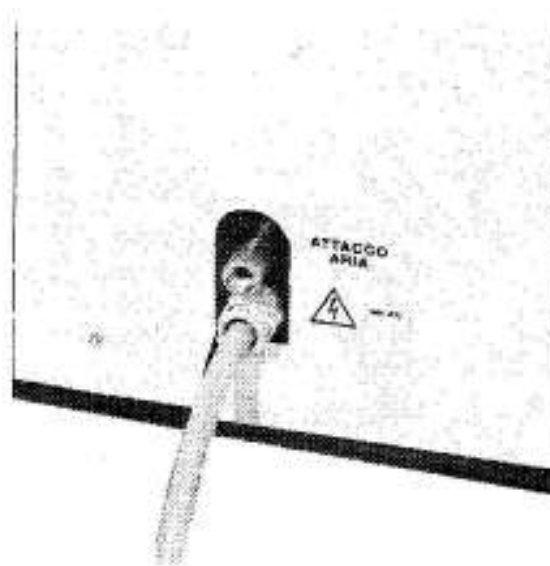


Fig. 3

- This machine complies with the 89/392/CEE directives and subsequent modifications and supplements.

COOLING CIRCUIT

An efficient closed circuit cooling system provided with a 4-liter tank, a pump for forced liquid circulation, fan and air/water heat exchanger provides for integral cooling of the transformer and the welding arms.

To fill up the cooling liquid level use the special filler plug.

Each time you start the spot welder, check the cooling system for proper circulation by checking the return flow situated inside the filler plug (fig.4, p.12).

WARNING: Welding operations performed with no or with insufficient cooling liquid circulation can cause damage through overheating and shut off the spot welder following to the activation of the safety thermostats.

Check the cooling liquid level on a regular basis in accordance with the use.

CAUTION: Always replace only one welding arm at a time, in this way you avoid discharge and loss of the cooling liquid contained in the piping of the circuit.

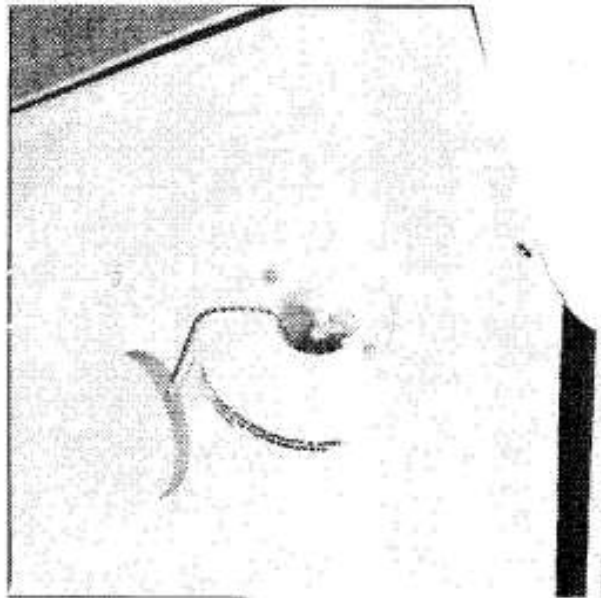


Fig. 4

- This machine complies with the 89/392/CEE directives and subsequent modifications and supplements.

CONTROLS – ADJUSTMENTS - CALIBRATION

WELDING GUN

The two-position welding switch is located on the gun handle (fig.5, p.14); pushing the switch forward only closes the gun, pushing the switch backwards also activates the welding cycle.

Note: When the switch is released at any time during the welding cycle, the cycle is interrupted and the welding gun opens.

To obtain the wide opening of the gun, press the appropriate release lever; to reset the normal working opening of the arms, press the welding switch forward.

After every welding arm replacement the welding gun must be balanced again (fig.6, p.14). Loosen the locking screws and position the gun by sliding the special bracket in the support. Upon reaching the proper position, lock the screws.

Note: Replace one welding arm at a time to avoid loss of the cooling liquid contained in the piping.

ARM CALIBRATION

The suspension and balancing arm is factory calibrated and does not require further adjustments. If adjustment should become necessary, pay much attention and proceed as follows (fig.7, p.14):

- a) Lift the balancing arm to the stop.
- b) Loosen the locking nuts using a wrench and counter-wrench.
- c) Act on the locking screws. Fastening the screws raises the lifting point of the gas spring and lowers the thrust, loosening them increases the thrust. When you have found the ideal position, carefully lock the nuts and counter-nuts.

CAUTION: ONLY A FEW ROTATIONS OF THE LOCKING NUTS ARE ENOUGH TO CONSIDERABLY CHANGE THE BALANCING BEHAVIOR OF THE ARM.

- This machine complies with the 89/392/CEE directives and subsequent modifications and supplements.

FRONT PANEL

The front panel of the spot welding machine contains the main welding control switch as well as the pressure regulation unit with manometer for the compressed air.



Fig. 5

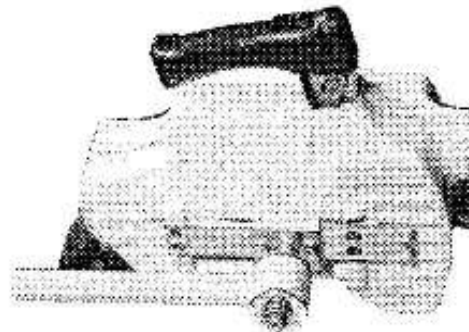


Fig. 6



Fig. 7

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WELDING CONTROL (PUNTO TOP – PUNTO PLUS)

Micro Digital 4 microprocessor-controlled welding control (with automatic tool identification only with specially designed machines).

CONTROLS (fig.10, p.16)

When turning the machine on, which is done by means of the main switch, the welding control LEDs light, indicating the proper power supply.

1) THERMOSTAT INDICATOR

Red LED that lights up in case of overheating of the welding circuit due to heavy operation or lack of cooling liquid. The safety thermostat stops the spot welder leaving only the cooling circuit in operation.

2) ENERGY CONTROL SELECTOR

Activates the energy control function. It is used when welding partially oxidized surfaces or surfaces contaminated with oil, paint etc.

3) HEATING SELECTOR

Activates the heating function and automatically sets the optimum values. It is used for operation with carbon electrodes.

4) PULSE SELECTOR

Activates the pulse function. It is used for welding of metal with a major thickness or under heavy welding conditions (deformed or greasy pieces etc).

5) APPROACH TIME (decrease)**6) APPROACH TIME (increase)**

Setting of the approach time; period of time between the activation of the welding switch and the beginning of welding. Adjustment ranges from 5 to 50 cycles.

7) WELDING TIME (decrease)**8) WELDING TIME (increase)**

Setting of the welding time. This will count a whole number of cycles with beginning and end in alternated semi-cycles. Adjustment ranges from 1 to 50 cycles.

9) WELDING CURRENT (decrease)**10) WELDING CURRENT (increase)**

Setting of the welding amperage. Adjustment ranges from 100% to 10%, (power of the spot welder).

11) PULSES (decrease)**12) PULSES (increase)**

Setting of the number of pulses. Adjustment ranges from 1 to 5 pulses, each of 5 mains cycles.

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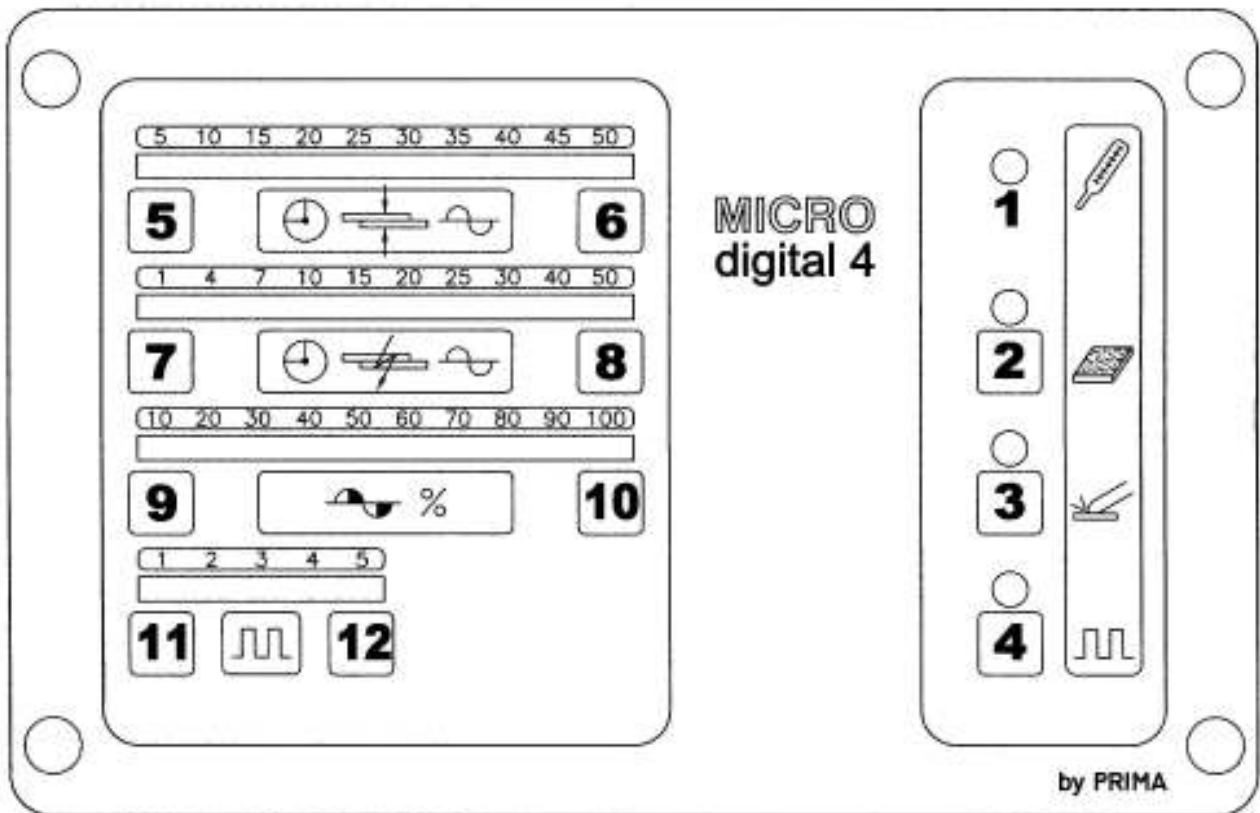


Fig.10 MICRO DIGITAL 4 type welding control front panel

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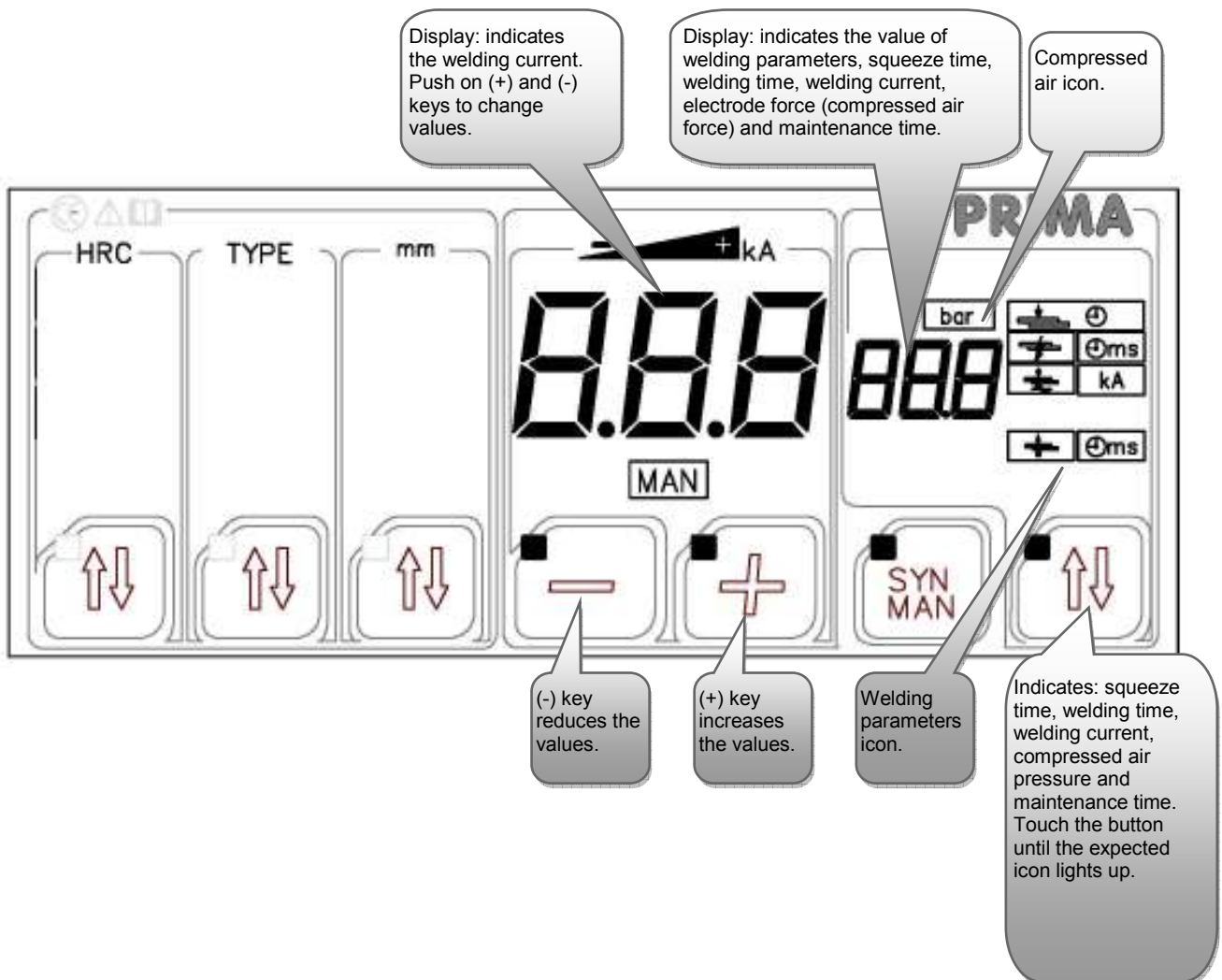
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WELDING CONTROL (ROBOSTAR):

MANUAL MODE

Use this regulation to use the welder as an inverter generator with different regulations of squeeze time, welding time, welding power, maintenance time, electrode force..

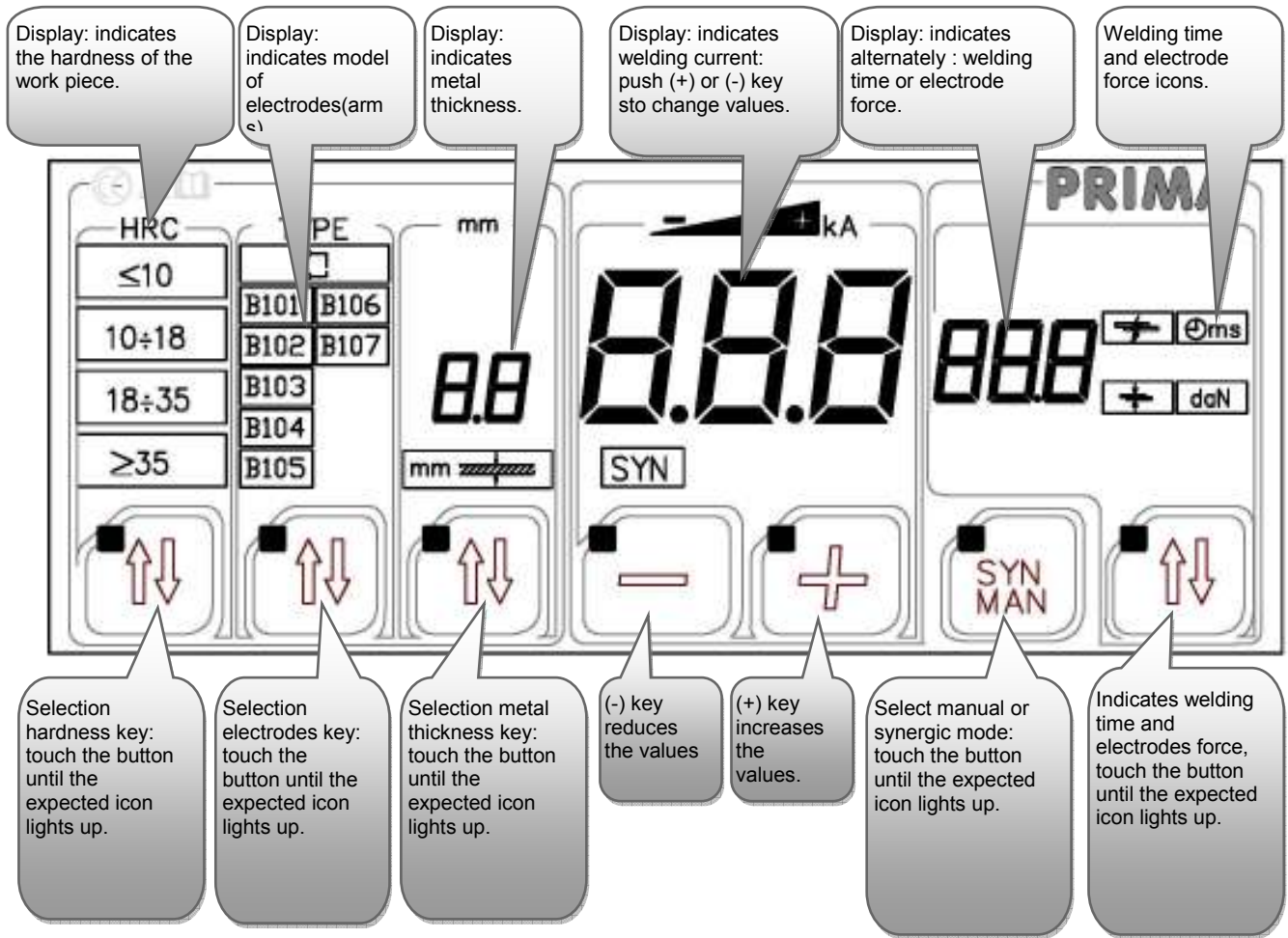


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SYNERGIC MODE

Resistance synergic welding (SPOT), indicates the regulation system, in which it is not necessary regulate every welding parameter, select on frontal panel the basic parameters that are: hardness and thickness of workpiece and type of arms, all welding parameters are set up automatically by the machine with inside programs.



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START UP

WARNING: Remember some safety precautions to be taken in order to avoid hazardous situations.

- The operator must have adequate knowledge and training in resistance welding procedures (spot welding) with this type of spot welder.
- Do not allow unauthorized persons to access the working area.
- Avoid that more than one person works simultaneously on the same spot welder.
- The spot welder is equipped with moving elements, balancing arm, welding arms and electrodes; therefore all precautions must be taken to prevent these elements from striking against persons or things and to prevent hands or other parts of the body from squeezing between the welding arms.

CAUTION:

Do not wear magnetic metal objects as rings, bracelets, watches etc. during welding operations, because these objects can be violently attracted by the magnetic field generated by the spot welder or considerably overheated due to the Joule effect and cause burns.

The operator must wear safety glasses, gloves and an apron to protect himself against sparkling incandescent particles, burns and cuts in the hands.

Note: The individual protective systems must be in compliance with the applicable Regulations.

LIMIT OF USE

This spot welder has been designed, dimensioned and manufactured for resistance welding on thin steel sheet (fig.1, p.7, Electrical Features). Any use with different welding procedures, non-iron metals, different sheet thickness or with more duty cycles as indicated may affect proper operation and cause damage to the spot welder.

Therefore the machine must be destined only for the use foreseen and described in this manual, any other use is to be considered improper and may cause hazards to the operator's safety and material damage.

The manufacturer cannot be held liable for possible personal injuries or material damage arising from improper or unreasonable use.

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ENVIRONMENT

Working ambient temperature: 5°C to 35°C.

Working air humidity: lower than 90%.

STARTING THE MACHINE

WARNING: The first start-up of the spot welder must be made by qualified personnel. Before performing any welding operation, a series of checks and adjustments must be made.

- Make sure the electrical connection has been made properly and in compliance with the applicable Regulations.
- Check the connection to the compressed air supply and adjust the pressure value.
- Check the diameter and the good state of the welding electrode tips.
- On the welding control front panel, set all parameters according to the type and quality of the sheet metal to be spot welded: approach time, welding time, welding current, holding time, interval time, if the automatic spot repetition function is used, energy control in case of oxidized or dirty metal sheets.
- The main switch When turning the machine on, which is done by means of the main switch, the welding control LEDs light, indicating the proper power supply.
- Check the cooling circuit for proper circulation and liquid level (fig.4, p.12).
- Position the welding gun on the metal sheets to be welded and press the welding switch located on the gun handle backwards (fig.5, pag.14), so that the sheets are squeezed with the pre-set force between the electrodes and the welding current passes for the pre-set period of time. Wait until the electrodes automatically open, then release the button at the end of the cycle.
- To lock the sheets between the gun electrodes during the pre-welding phases, press the switch forward. When releasing the switch the gun opens. To pass over to welding with the sheets remaining locked between the electrodes, quickly slide the finger on the switch from the front position to the back position to start the welding cycle.

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- To reach welding points behind high sheet rims, press the release lever (fig.5, p.14) to obtain the wide opening of the gun. To reset the normal working opening of the arms, press the welding switch forward.

Note: When releasing the switch at any time during the welding cycle, the cycle is interrupted and the welding gun opens.



- **WARNING:** At the tip of the electrodes a force of approximately 150 kg is applied. Do not put your hands between the arms and the electrodes of the gun, pay much attention – danger of squeezing (fig.11, p.20).
- Avoid spot welding without metal sheets between the electrodes.
- Turning off: operate (open) the main switch. The spot welder and the power supply indicator turn off.

WARNING: The spot welder must be used by trained personnel.

HANDLING

CAUTION: Use particular care in handling and positioning the spot welder in the shop during the welding operations.

- The spot welder is equipped with mobile and balancing elements, therefore all precautions must be taken to avoid dangerous situations to arise.
- The spot welder must be moved and positioned using the handle while the balancing arm must be lowered to its rest position (fig.12, p.20).
- Do not move the spot welder when the balancing arm is raised, because this could cause personal injuries or material damage.
- Do not move the spot welder with the balancing arm in the upper position; this could cause hazards due to possible tilting of the welder.
- Do not allow unauthorized personnel to access the working area; avoid that more than one person works simultaneously on the same machine.
- Before operation check the machine for level and stable positioning.

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Figura 11



Figura 12

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MAINTENANCE

WARNING: Never remove the panels of the spot welding machine and access the interior without having previously removed the power cord from the power supply box.

WARNING: Possible checks inside the spot welding machine, performed when energized, can cause heavy electrical shocks generated by direct contact with current carrying parts.

WARNING: Maintenance must be performed by qualified personnel.

SCHEDULED MAINTENANCE

Maintenance of components and wear materials must be performed on a regular basis once a week or more often according to the use and the environmental conditions as listed below.

- Check the welding electrodes every 100 spot welds; restore the original diameter of the tip (circa 4÷5 mm). Using a fine-grained file, remove iron residues that come off the sheet metal as well as the craters that have formed.
- Check and carefully clean the locking seats of the arms in the gun as well as the extremities of the welding arms.
- Check the circulation and the level of the cooling liquid (fig.4, p.12).
- Check the state of the power cord, the tightness of the compressed air hoses and make sure the supply cable bushing between the machine and the gun is undamaged.
- Inspect the spot welder and remove dust and particles that may have deposited on the various components.

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Once a month, inspect the balancing arm / welding gun unit, and particularly:

A) Pivots, screws and locking screws of the gas springs.

B) Pivots and screws of the joints mounted in ball bearings.

In regular intervals and with a frequency based on the use, at least every 4 months, check all electrical contacts of the secondary circuit of the spot welding machine, the low voltage supply and the flexible connection; make sure the screws are tightened and that there are no traces of oxidation; check the cooling circuit for liquid leaks and inspect all pneumatic and hydraulic hoses; check the hose clips for perfect seal.

The proper maintenance assures high welding performance of the machine and limits consumption and current absorption.

In the machine interior, inspect all electric, pneumatic, hydraulic and mechanical components. Remove dust and particles that may have deposited on the various components.

EXTRAORDINARY MAINTENANCE

Repair and replacement of components of the welding machine, if required, must be performed by qualified personnel using only original spare parts.

WARNING: Replacement of components with non original spare parts and/or alterations of the machine causes the decay of any liability of the manufacturer for personal injuries or material damage that may arise.

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EMERGENCY**FIRE**

In case of fire, use only powder extinguishers complying with the applicable Regulations.

WARNING: NEVER USE LIQUID FIRE EXTINGUISHERS, BECAUSE THE MACHINE COULD BE ENERGIZED.

WARNING: WHEN BURNING, SOME PARTS OF THE MACHINE MAY PRODUCE TOXIC COMBUSTION GASES OR SMOKE.

DISASSEMBLY - DISPOSAL**CAUTION:**

If the machine is to be put out of service, provide for disassembly and disposal according to the applicable Regulations.

Subdivide the different materials:

- Metal
- Electric material
- Electronic material
- Plastic and rubber material

ATTENTION: Waste materials must be subdivided and disposed of in compliance with the applicable Laws.

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TROUBLESHOOTING

Below is a list of possible problems and malfunctions that may occur and the remedies to eliminate them

PROBLEM	CAUSE	REMEDY
The spot welder does not turn on.	Connection error. Control panel switch open.	Check connection and control panel.
The welding gun does not close after having pressed the welding switch.	Switch defective. Solenoid valve fuse burnt out, short circuit in coil. Welding control defective. Control fuse burnt out.	Check switch. Check solenoid valve fuse, coil and control unit; perform tests with the solenoid valve manual control. Check the welding control.
When pressing the welding switch, the welder performs the cycle without spot welding.	Welding switch Weld / No Weld in position No weld. Welding control defective.	Activate welding function. Check the welding control.
The spot welder does not weld, the red overheating LED lights.	Activation of the safety thermostats.	Check liquid circulation and temperature and wait until thermostats are reactivated.
Execution of spot welds with sparkling of melted material. Holes and craters at the welds on the sheets.	Approach time too short. Excessive welding current. Insufficient electrode pressure. Electrode arms with wrong profile. Electrode tip with metal residue deposits.	Increase approach time. Decrease welding current. Increase compressed air pressure. Properly profile the welding arms. Clean the electrodes.

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PROBLEM**CAUSE****REMEDY**

The welding gun opens immediately at the end of the welding time producing sparks between the electrodes.

Holding time too short.
The operator releases the welding switch before the end of the cycle.

Increase the holding time.
Wait until the end of the welding cycle.

The electrodes leave deep welding impressions on the sheets.

Electrode tip too small.
Welding time too long.
Excessive welding current.
Elevated pressure at the electrodes.

Increase diameter of electrode tip.
Decrease the welding time.
Decrease the welding current.
Reduce the pressure at the electrodes.

The welding gun held by the balancing arm goes down.

Wrong position of the gas spring lifting point.

Position properly or replace the gas springs.

MOVABLE SPOT WELDER SERIES: PUNTO

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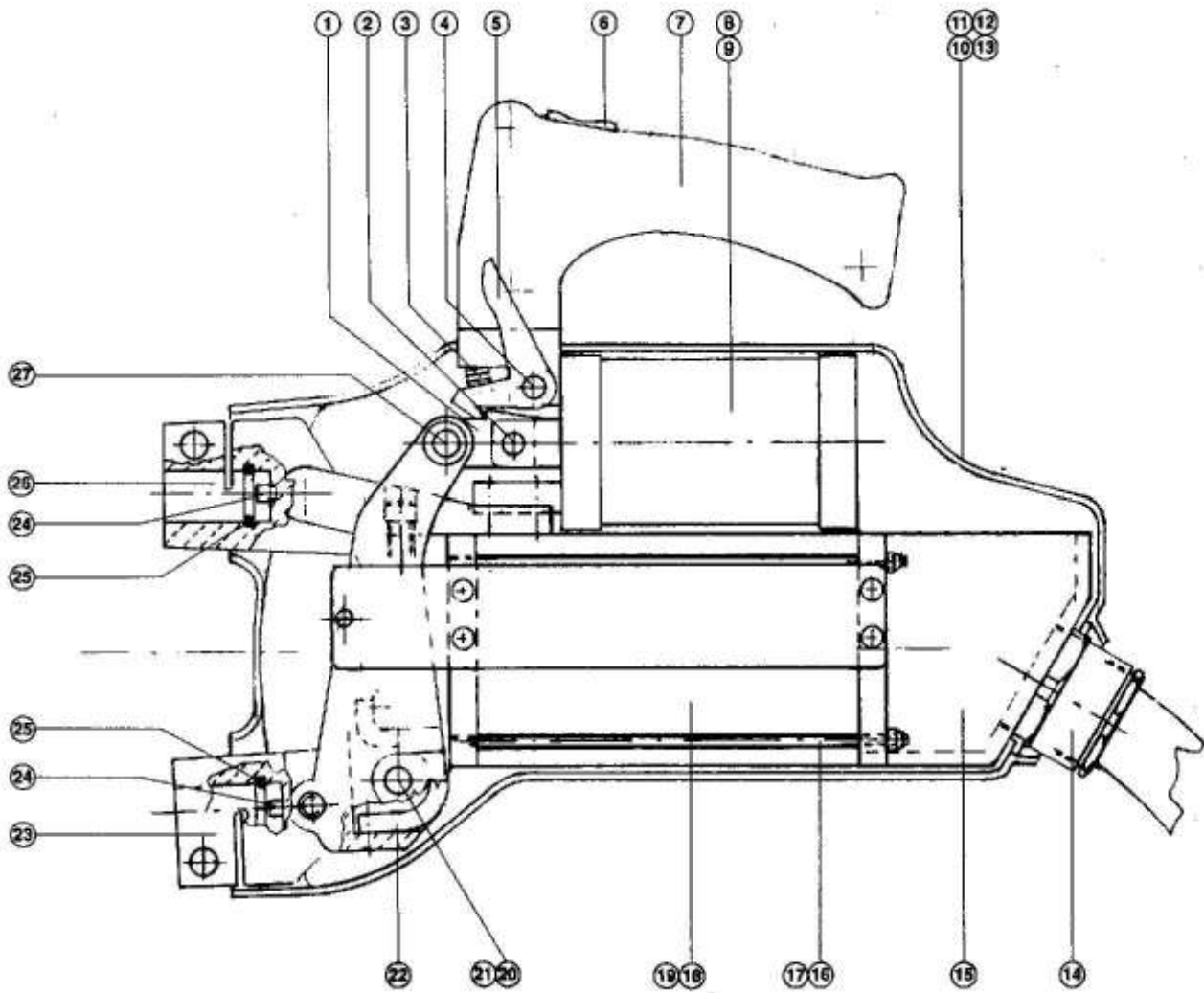
<u>Ref.</u>	<u>Description</u>	<u>Ref.</u>	<u>Description</u>
01	ROD	47	GAS SPRING
02	PIVOT	48	ARM
03	SPRING	49	FRONT SUPPORT
04	PIVOT	50	BEARING
05	LEVER	51	SPACER
06	SWITCH	52	BUSHING
07	HANDLE	53	BEARING
08	CYLINDER	54	WASHER
09	SET OF GASKETS	55	REVOLVING SUPPORT
10	RIGHT COVER	56	WASHER
11	LEFT COVER	57	BEARING
12	RIGHT COVER (Punto Top)	58	BUSHING
13	LEFT COVER (Punto Top)	59	SUPPORT
14	CONNECTION	60	SUPPORT
15	CAP	61	BRACKET
16	TIE-ROD	62	ARM
17	TIE-ROD (Punto Top)	63	REGULATION UNIT
18	TRANSFORMER	64	FRONT COVER
19	TRANSFORMER (Punto Top)	65	LEFT COVER
20	PIVOT	66	WELDING CONTROL
21	BUSHES	67	ELECTRIC PUMP
22	FLEXIBLE CONNECTION	68	HEAT EXCHANGER
23	LOW SUPPORT	69	FAN
24	TUBE	70	V.24 CC SOLENOID VALVE COIL
25	SILICONE O-RING	71	SOLENOID VALVE
26	UPPER SUPPORT	72	REVOLVING WHEEL
27	PIVOT	73	SPECIAL SCREW
28	CONNECTOR	74	SCR DIODE BOARD
29	HOSE	75	SCR DIODES
30	RUBBER HOLDER	76	TRANSFORMER
31	CONNECTOR	77	MAIN SWITCH
32	HOSE	78	TANK
33	CONNECTOR	79	RIGHT COVER
34	CONNECTOR	80	CONNECTOR
35	BUSHING	81	FILLER PLUG
36	BUSHING	82	CAP
37	GAS SPRING	83	ENERGY COIL
38	TIE-ROD FIXING UNIT	84	PIVOT
39	SWIVEL HEAD	85	FORKED LEVER
40	TIE-ROD	86	M 10 KNOB
41	LEFT SWIVEL HEAD	87	M 8x20 KNOB
42	PIVOT	88	M 10x30 KNOB
43	COUPLE OF BUSHINGS	99	PROTECTIVE DEVICE
44	BACK SUPPORT	90	MANOMETER
45	PIVOT WITH WASHERS	91	WHEEL WITH BREAK
46	BEARING	92	WHEEL PROTECTION

PRIMA

MOVABLE SPOT WELDER SERIES: PUNTO

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WELDING GUN LATERAL VIEW

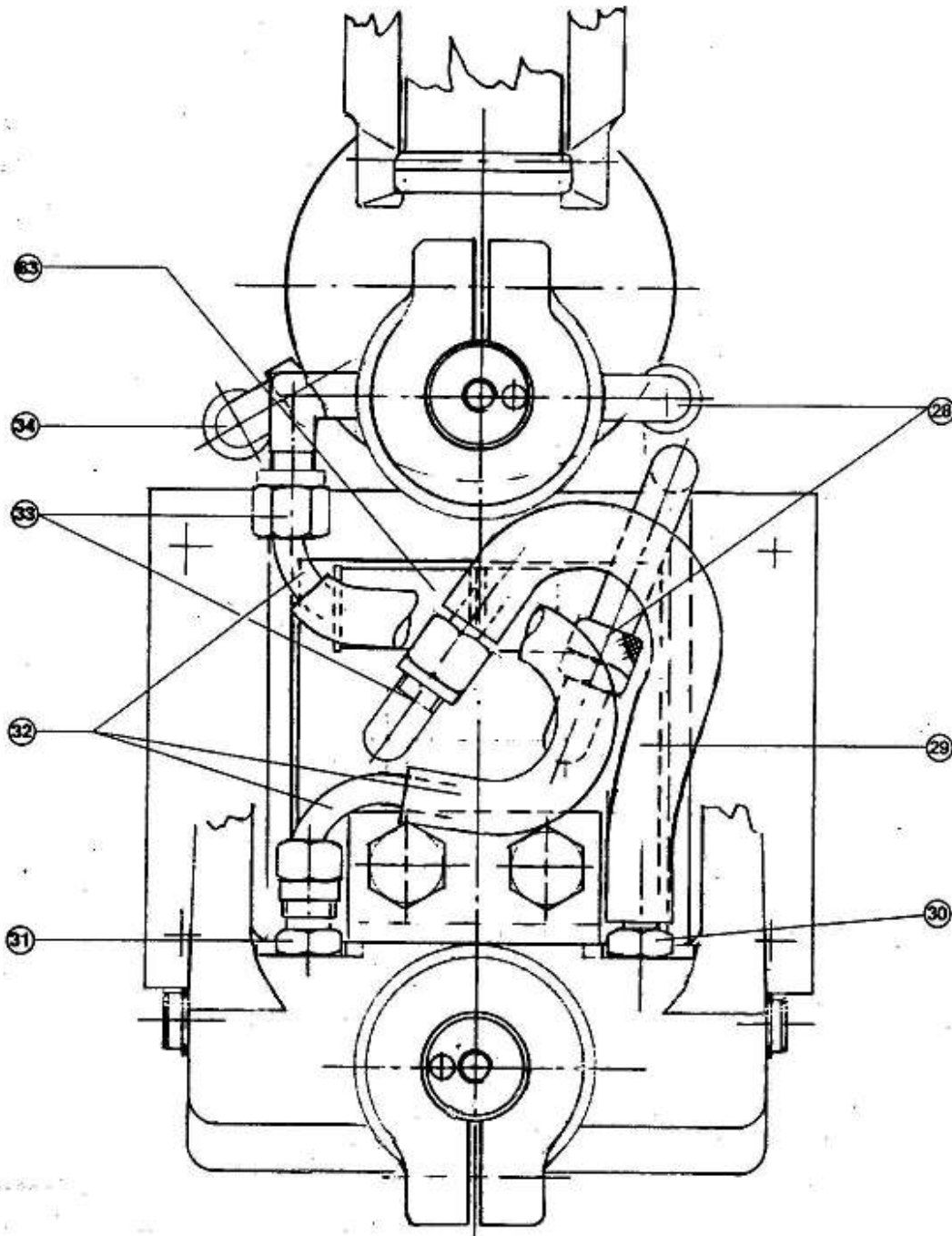


PRIMA

MOVABLE SPOT WELDER SERIES: PUNTO

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WELDING GUN FRONT VIEW

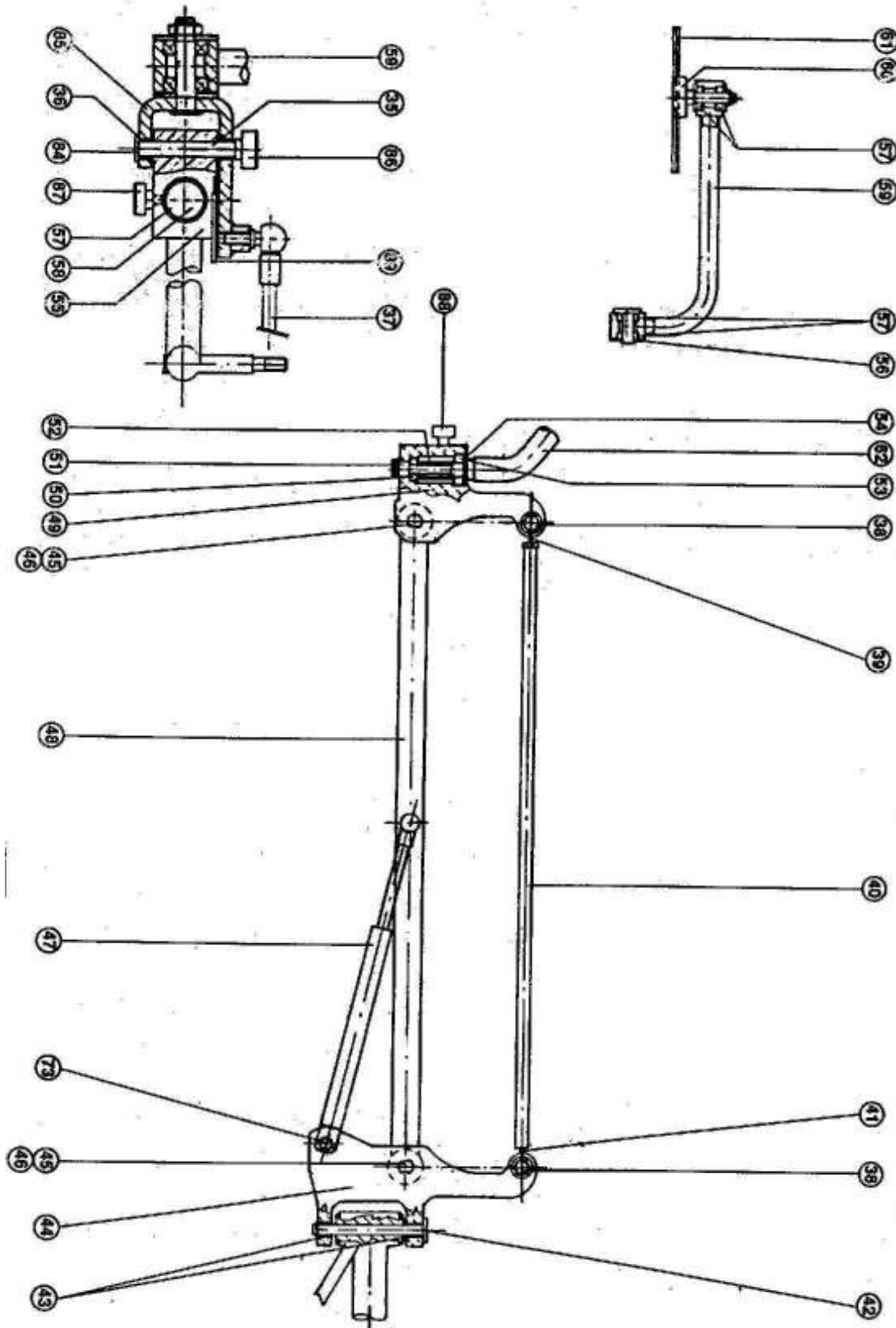


PRIMA

MOVABLE SPOT WELDER SERIES: PUNTO

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BALANCING ARM

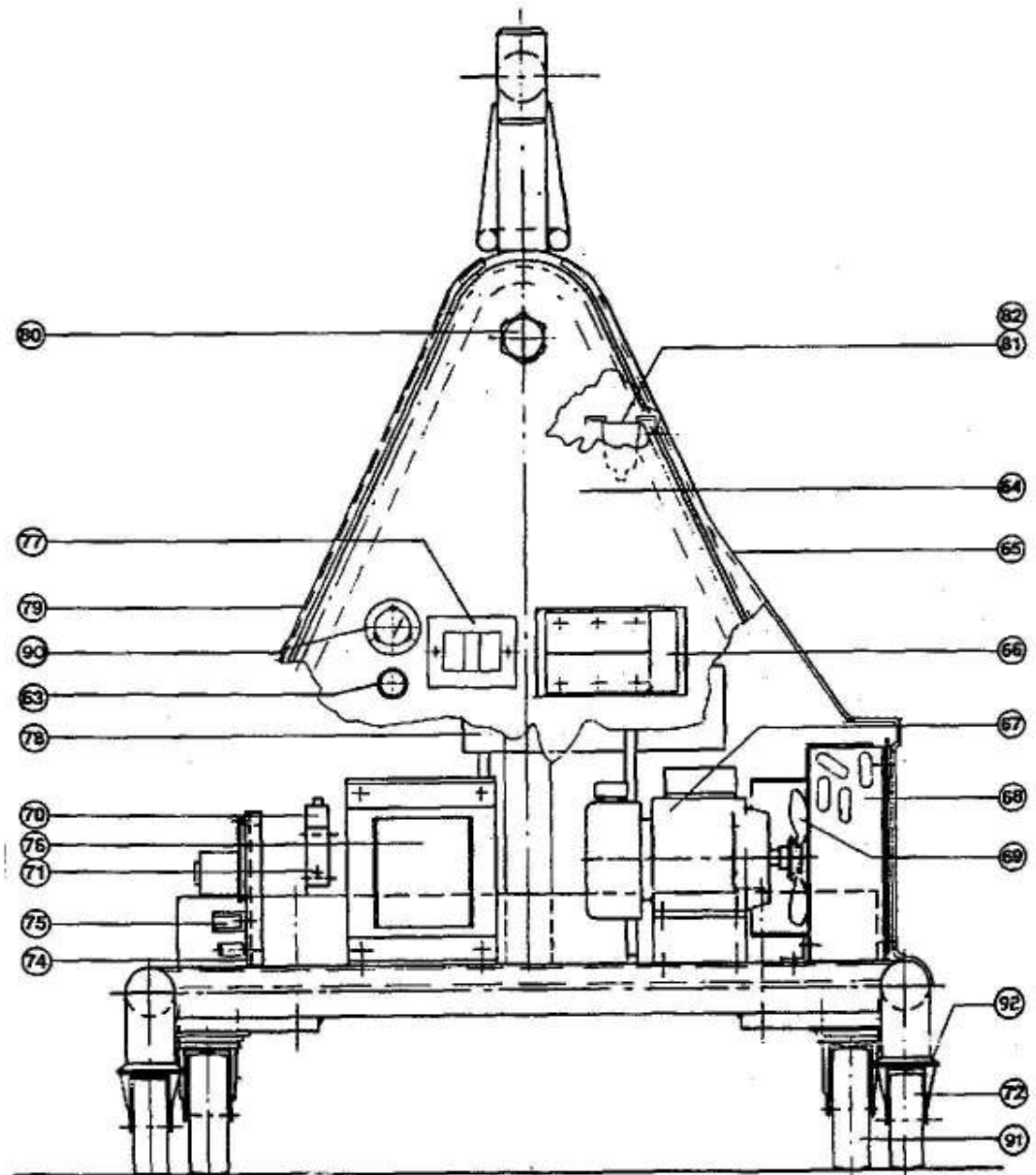


PRIMA

MOVABLE SPOT WELDER SERIES: PUNTO

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TROLLEY

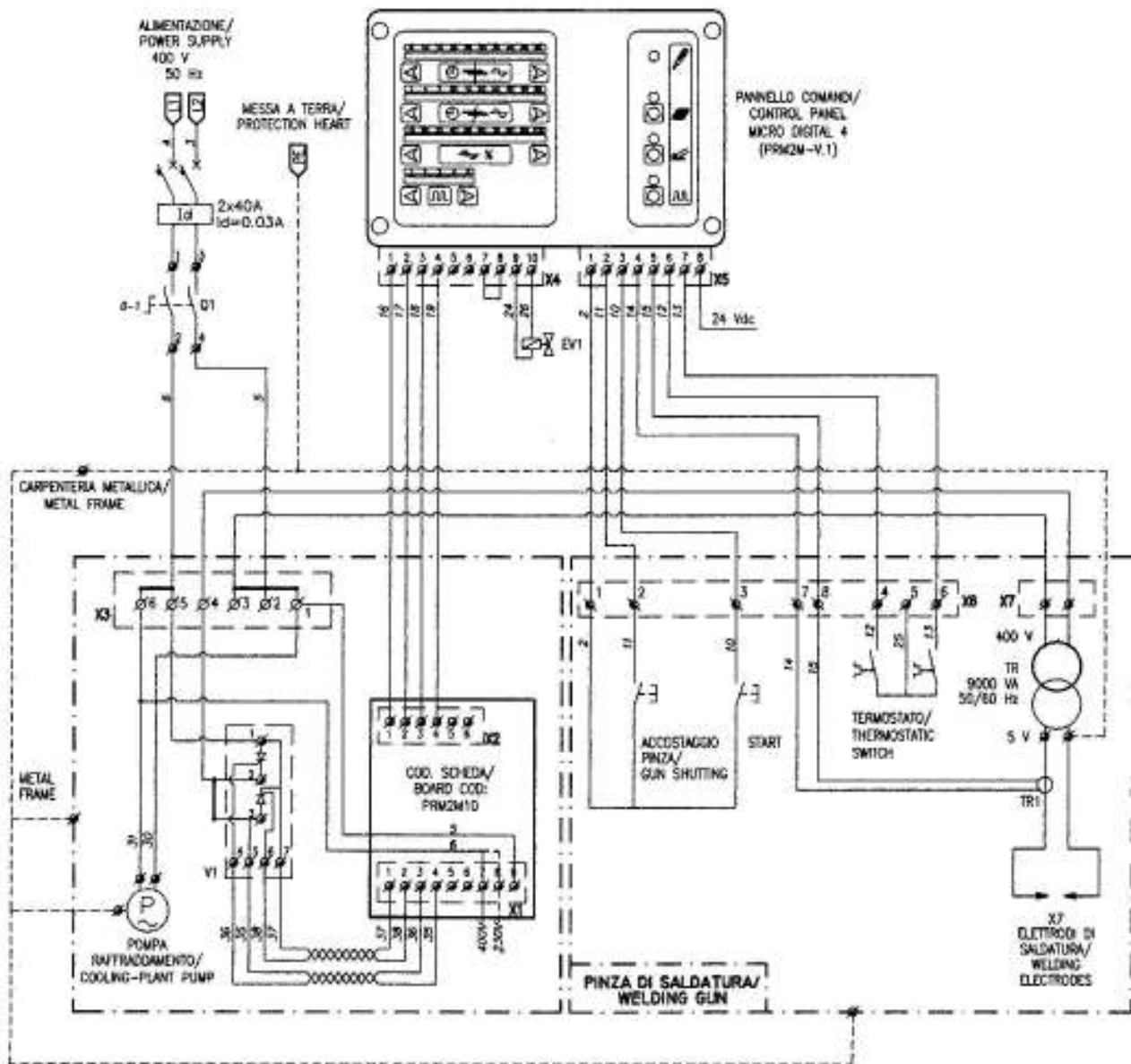


PRIMA

MOVABLE SPOT WELDER SERIES: PUNTO

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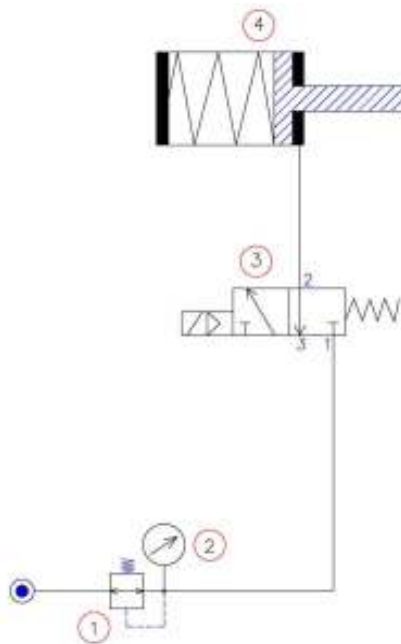
WIRING DIAGRAM (PUNTO TOP - PLUS)



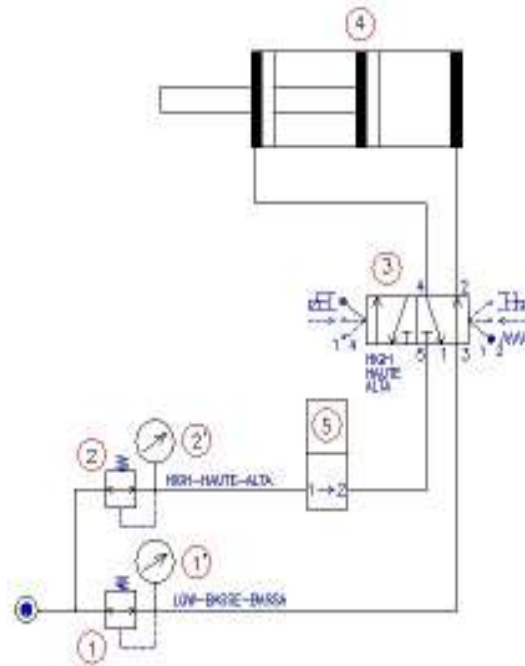
MOVABLE SPOT WELDER SERIES: PUNTO

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PNEUMATIC DIAGRAM



PUNTO TOP – PLUS



ROBOSTAR

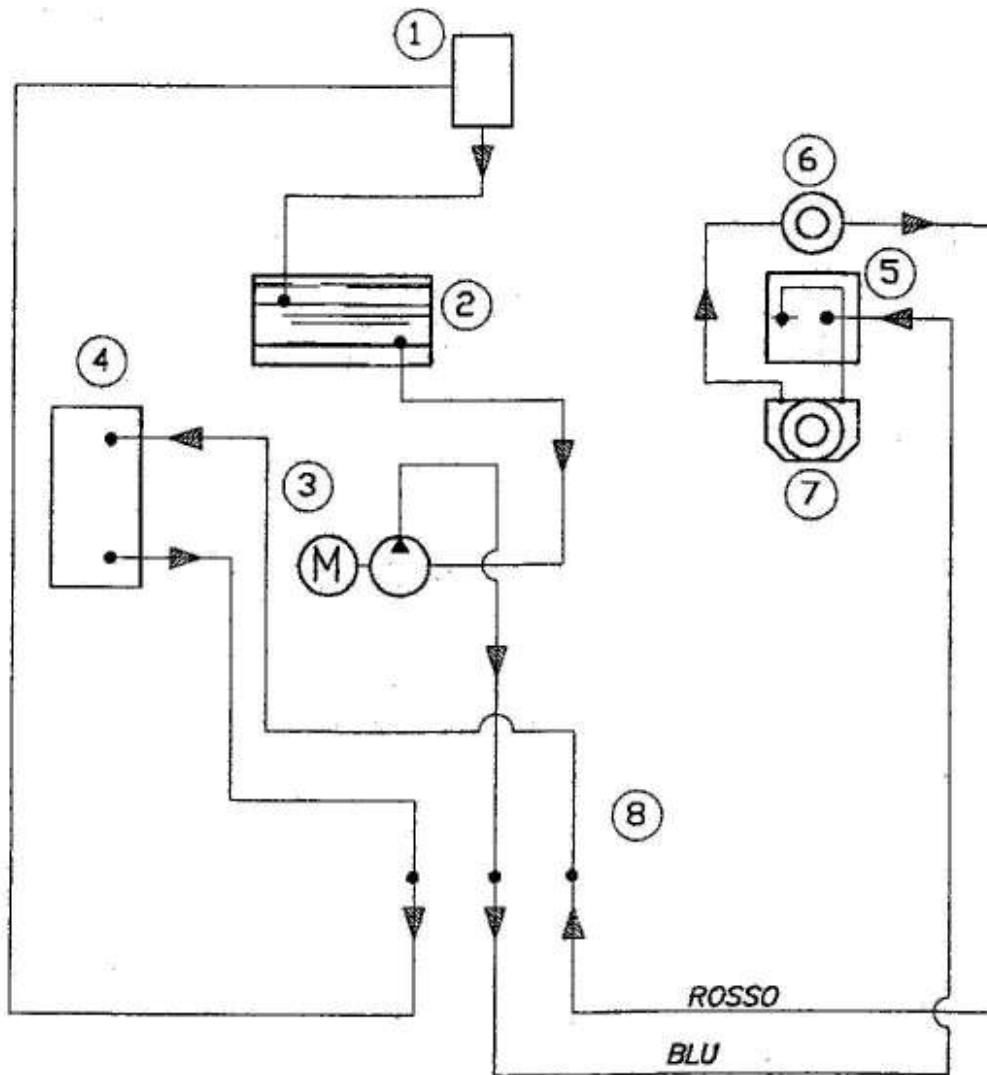
- 1 Pressure regulator 1/8"
- 2 Manometer diam.40–1/8" scale: 0/12
- 3 Electric valve 3/2 1/8" 24Vcc NC 7010020200
- 4 Cylinder D.63-50 code: 90010101 (Punto Top)
- 5 Cylinder D.80-50 code: 90010105 (Punto Plus)

- 1 Low pressure regulator 1/8"
- 1' Low pressure manometer scale 0/12
- 2 High pressure regulator 1/8"
- 2' High pressure manometer scale 0/12
- 3 Electric valve 5/2 1/8" 24Vcc MFS0640Z
- 4 Tandem Cylind. D.80-50 cod.90010103
- 5 Electronic pressure regulator ITV1050

MOVABLE SPOT WELDER SERIES: PUNTO

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COOLING DIAGRAM



1. Water inlet
2. Water tank
3. Electric pump
4. Thermic changer
5. Welding Transformer
6. Upper holder arm
7. Lower holder arm
8. Raccords