



I4s Evo

Instruction Manual

EN User and maintenance manual	1
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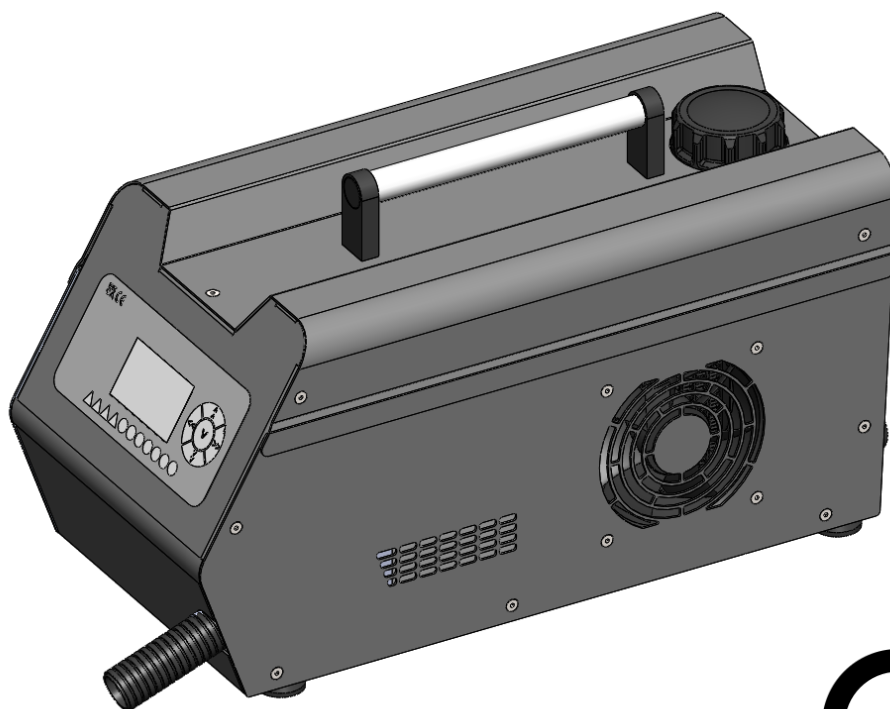


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E Q U I P M E N T L T D

User and maintenance manual

I4s EVO



CE

User and Maintenance

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1. Warranty

1.1 Return of products to ALBATROS

At the time when the retailer declares a product malfunction, the retailer must provide ALBATROS with the following information:

- the serial number of the product;
- a description of the problem encountered with the product;
- photos of the defects found, if possible.

The retailer has the option of returning defective products to ALBATROS, but the transportation costs are his/her responsibility; Albatros does not accept any return of freight collect goods.

Products will be repaired and sent back with a customer's next order. If a shipment is requested in advance of an order being shipped, shipping costs are the responsibility of the retailer.

If the products are under warranty, spare parts and repair costs are the responsibility of ALBATROS. If the products are not under warranty, ALBATROS will make an estimate for repair which will be accepted or not accepted by the customer. For any product that returns for a warranty replacement or repair and has no defect or malfunction, a charge slip will still be issued for the inspection performed on the product.

The warranty does not apply if the returned products are found to be improperly packed, so they may have been damaged in transit. Be careful because transporters mistreat packages!!!

1.2 Recommendations about the transportation of products

ALBATROS does not accept returns freight collect, only free port.

The retailer is solely responsible for damage that products may suffer due to poorly made packaging, even if the package has been accepted by our warehouse. Since it is not possible to open every package upon arrival, Albatros Trade Srl will place a reservation on the carrier's delivery note if the package packaging appears damaged.

1.3 Packaging and transportation recommendations.

If possible arrange the goods on pallets; this is considered the best solution to avoid damage to the products during transport.

If necessary, pack the products in cardboard, using bubble wrap, so that the packaging absorbs the stresses that may occur during transport.

Place the packed product in a very thick carton making sure it is surrounded on each side by bubble wrap or any material capable of protecting the transported product as much as possible

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1.4 Duration and limits of the warranty

A product remains under warranty for one year from the date of purchase. In any case, the warranty period will not exceed two years from the date of manufacture of the product, unless the end customer provides proof of the date of purchase.

The warranty does not apply in the following cases:

- an external cause (a mechanical shock, a lightning strike, a sudden change in voltage)
- damage occurring during transport or storage
- a product that has been installed in a manner not in accordance with the manufacturer's specifications
- a product containing too much dust inside
- a product exposed to rain or moisture
- a product that has been subject to modification by the customer
- deterioration caused by misuse of the tool
- use of unsuitable accessories or consumables
- natural wear and tear of different parts of the tool
- freezing caused by insufficient or unsuitable use of coolant

Warranty does not apply to normal wear and tear of accessories, nor to consumables (ferrites).

If the equipment is modified or repaired by unauthorized personnel, the warranty is automatically void.



WARNING! The inductor must not be bent or its shape altered in any way. If the inductor is modified, the warranty automatically becomes void.

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2. Safety

	This manual describes the operation of the device and precautions to be followed for your safety Read it carefully before use and keep it carefully for later reference. These instructions should be read and understood before use. Do not carry out any modification or maintenance that is not indicated in the manual. The manufacturer cannot be held responsible for physical or material damage due to improper use of the equipment. In case of any problem or uncertainty, please consult a qualified person to use the device properly. Instructions regarding safety must be followed. In case of inappropriate or dangerous use, the manufacturer cannot be held responsible. Any use not mentioned in this manual is strictly prohibited and potentially dangerous. The product is semi-automatic and requires the presence of an operator. This machine shall be intended only for the use it was expressly designed for, namely: generating heat inside ferrous materials. Any other use not expressly covered in this manual is strictly prohibited as improper and therefore dangerous. The machine is semiautomatic so it requires the presence of an operator. The operator has firsthand responsibility for compliance, not only by himself but also by those who may be exposed to the hazards of the machine, with all regulations that pertain to safety. Do not use the device if the power cord or socket is damaged. Misuse of the machine is extremely dangerous. The manufacturer accepts no liability for any damage to persons or property resulting from use other than that intended.
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2.1 Safety rules when using the equipment

- Remain focused on the work at all times in order to minimize the possible risks associated with using the equipment.
- Always wear appropriate clothing that will not get caught in the device causing serious damage to the operator and/or the device itself. To the same end, avoid wearing bracelets or other dangling objects and always keep your hair tightly tied up.
- Do not attempt to repair or perform maintenance on parts not specifically mentioned in this manual. Contact the technical service department.
- Before connecting the machine to the mains, make sure that the output voltage supplied differs by no more than 10% from the voltage indicated on the plate. An output voltage that is not compatible with that specified on the label can cause hazards and serious damage to the machine.
- Do not disconnect the appliance from the power supply by pulling the cord. Do not disconnect the staple gun connector by pulling it.
- Use the machine only on level surfaces.

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2.2 Intended use of the equipment

This machine shall be intended only for the use it is expressly designed for, namely: induction heating of metal parts and performing processing such as brazing, shrink-welding, hardening, pre/post heating straightening, and annealing.

Any other use not expressly covered in this manual is strictly prohibited as improper and therefore dangerous. The machine is semiautomatic so it requires the presence of an operator.

2.3 Improper use

It is considered misuse of the machine, therefore **prohibited**:



- use the equipment to perform work other than that specified in Section 2.2.
- using the device in environments with fire and/or explosion hazards.
- using the device in wet places and/or in the rain.
- using the device in unsuitable places. Always make sure the work area is well dry and ventilated.
- smoking in the vicinity of the device in order to avoid possible fire.
- using open flames that could cause fire.
- using the device near highly flammable materials such as paper, cardboard, packaging, dry wood, etc.
- using the device near oxygen cylinders or other flammable gases.
- using the machine in environments where an explosive atmosphere remains or is likely to form during normal operation;
- using the machine without complying with the directions provided by the Manufacturer;
- use by operators who have not attained the minimum age for starting work required by the laws in force in the respective countries of use;
- use by operators who have not been previously trained and informed of any hazards and residual risks of the machine as well as trained in workplace hazards;
- not using personal protective equipment (PPE) as required in this manual;
- circumventing, even temporarily, machine protection measures;
- using the machine even when it exhibits symptoms of failure or is partially broken down;
- performing operations for which information has not been provided by the Manufacturer;
- performing operations expressly prohibited in the instructions.

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2.4 Personal Protective Equipment

The following Personal Protective Equipment (PPE) must be used while using the equipment:

SYMBOL	DESCRIPTION	WHEN TO USE
	Protective clothing EN 340	During all phases of work, including maintenance and cleaning, wear non-fluttering clothing so as to reduce the risk of possible entanglement and/or dragging.
	Protective goggles or mask EN 166	Wear eye protection when operating and maintaining the equipment.
	Heat-resistant protective gloves EN 407	During the stages of use and, in any case, when the device is still warm.
	Protective footwear EN 345-346-347	During all phases of work, including maintenance and cleaning, use impact-resistant safety footwear with non-slip soles.

2.5 Residual risks

	Warning! Very hot surface. Risk of burns. • Overheated objects and equipment can cause burns. • Do not touch hot objects with bare hands. • Wait for objects and equipment to cool down before using them. In case of a burn, rinse with plenty of water and consult a doctor immediately.
	Warning! • The machine should be operated only by adult and properly trained personnel, in full compliance with current regulations and the directions in the manual. • Remove any jewelry and/or metal objects before using this device. • Keep the machine in a suitable place, not exposed to the weather. • Use the machine only on level surfaces.
	Warning! Risk of projection of hot metal parts Wear safety glasses with side shields or use a shield over the face. Wear appropriate work clothes. Wear gloves against mechanical hazards.

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	Warning! Gas and vapor hazards. • Keep away from fumes and do not breathe the vapors. • When working indoors, ventilate the room and/or use an air extractor to evacuate vapors and gases. • Induction heating of some materials, adhesives and fluids can produce vapors and gases. Breathing these gases and vapors can be dangerous to your health. • Read product safety and data sheets (MSDS) and manufacturer's instructions for adhesives, metals, coatings, cleaners, and pickling agents. • Do not use heating on parts being degreased or sprayed. Heat can react with vapors and form highly toxic and irritating gases. • Work in a confined space only if well ventilated. Vapors and gases resulting from heating can replace oxygen in the air and cause illness or death. Make sure of the quality of the air you breathe. • Do not overheat metals, such as galvanized, lead-coated or cadmium-coated steel, unless the coating is removed from the surface to be heated, the air is well ventilated and, if necessary, wear a certified respirator. Smelts and all metals containing these elements can release toxic vapors when overheated. • Refer to the MSDS for temperature information.
	Warning! Electrical hazard Disconnect the power supply cord when maintenance is performed on the machine.
	Warning! Strong magnetic field. People who have active or passive implants should be informed. During operation, do not bring the inductor close to the head or vital organs.
 	Wearers of pacemakers or biomechanical equipment should not use the device. Risk of disturbance/interference of the operation of pacemakers/biomechanical equipment in the vicinity of the device.

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3. Connection

	This device must be connected to a grounded power outlet.
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4. Regulation

	Device in accordance with European guidelines
	Device in accordance with UK guidelines
	EAC (Eurasian Economic Community) Mark of Conformity

5. Disposal

At the end of its life cycle, the product must be disposed of according to the applicable laws of the country in which it is used.
The various components that make up the product are suitable for separate collection.

PRODUCT WASTE	TYPE OF WASTE	MODE OF DISPOSAL
Iron	Non-hazardous	Recyclable
Steel	Non-hazardous	Recyclable
Plastic and rubber	Non-hazardous	Recyclable
Electronic Components	Hazardous	Recyclable
Electrical Cables	Hazardous	Recyclable

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Used electrical and electronic equipment (WEEE) should not be thrown away with general household waste.

6. Product identification

On the back of the machine is a label which, in addition to the “CE” conformity mark, states:

- Name and address of the manufacturer.
- Date of manufacture.
- Model.
- Product type.
- Usage voltage.

7. Noise emission

The machine has been designed and manufactured to reduce airborne noise emission at the source to the lowest possible level (Machinery Directive 2006/42/EC, Annex I, section 1.5.8.).

Measurement was conducted to determine the sound pressure level, in accordance with harmonized standards EN ISO 3746:1995; ISO 11200:1995.

The sound pressure level L_{pA} , measured at the operator's station, is found to be:

$$L_{pA} \leq 80 \text{ dB(A)}$$

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8. Product specifications

	IT 3.7K230 LCD EVO
Rated power	3,7 Kw
Rated voltage	230 V
Mains voltage frequency	50 Hz 60 Hz
Electrical intensity	Max 16 A
Heater frequency	15 KHz 30 KHz
Insulation class	IP 21
Coolant tank capacity	1.4 LT
Power cord length	2 m
Weight (kg)	13
Dimensions (WxDxH) (mm)	500x250x280

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9. Machine description

The IT 3.5K230 LCD EVO machine is made for a wide range of applications: brazing, keying, quenching, pre/post heating straightening, annealing, etc. It also helps remove stuck tires and perform wheel alignment. It is composed of an aluminum body. Transportation is by means of a special grip. Other typical applications of the machine include:

- Unlocking of bolts/nuts.
- Unlocking and replacement of pins or bearings.
- Folding.
- Removal of suspension, shock absorbers, and mufflers.
- Straightening of drive shafts.

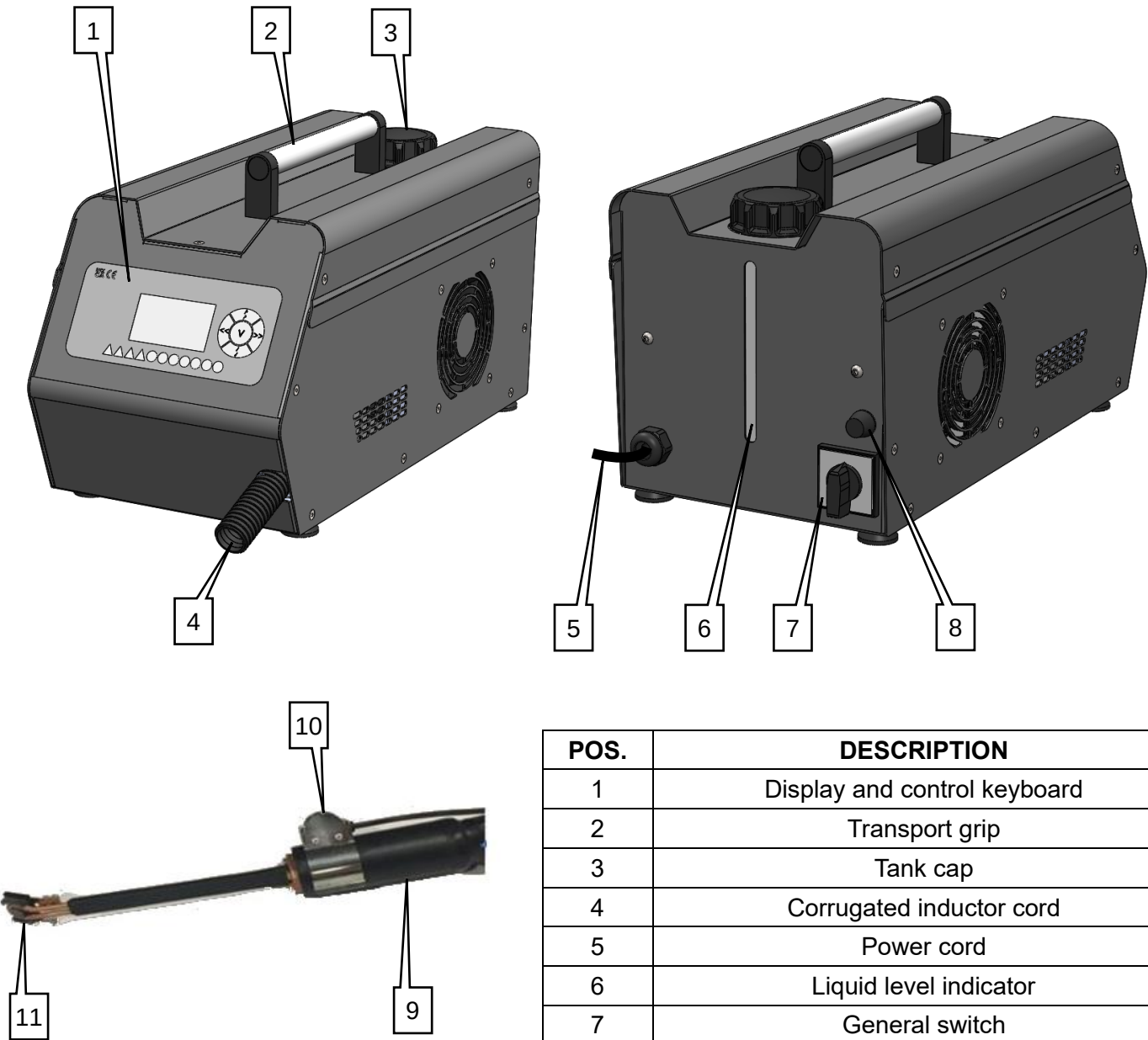
9.1 Standard technical features

- Liquid cooling system.
- 2-liter canister for cooling.
- Heat exchanger with fan for air extraction.
- Settable power level.
- Rapid change of inductors.
- External liquid reservoir cap.
- Liquid level indicator.
- LCD screen with control keypad.
- Corrugated inductor cable (length 3 m).
- Power cable (length 2 m).

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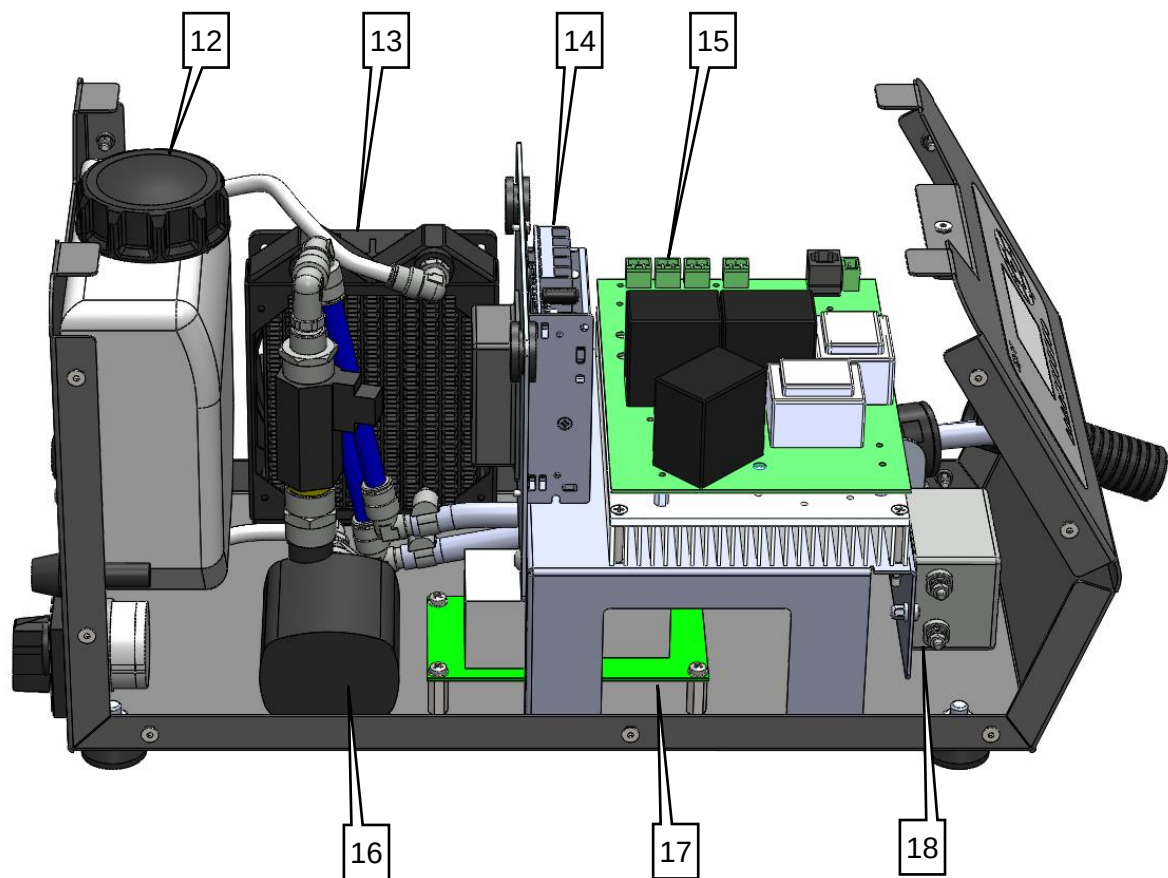
10. Machine components

10.1 External components



POS.	DESCRIPTION
1	Display and control keyboard
2	Transport grip
3	Tank cap
4	Corrugated inductor cord
5	Power cord
6	Liquid level indicator
7	General switch
8	Fuse holder
9	Inductor
10	Heating start button
11	Flow concentrator

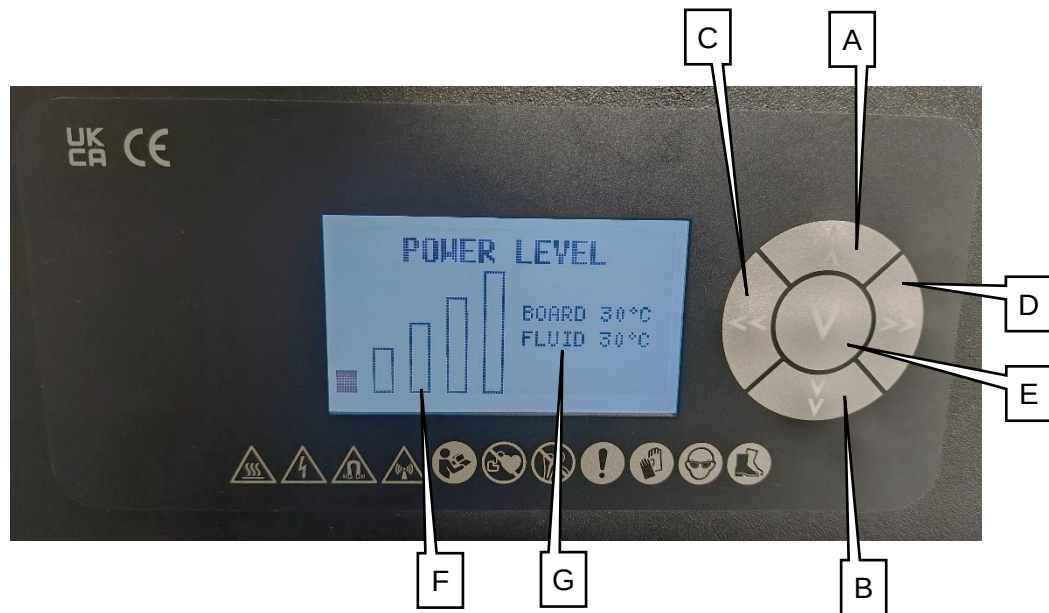
10.2 Internal components



POS.	DESCRIPTION
12	Tank
13	Radiator with fan
14	Feeder
15	Control board
16	Liquid pump
17	Capacitor board
18	Mains filter

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11. Controls



- A. Increasing power. Press and hold to make a quick change of power level.
- B. Decreasing power. Press and hold to make a quick change of power level.
- C. (Disabled)
- D. (Disabled)
- E. Reset errors: press once to reset the errors shown on the display. If the error does not reset (because there is a malfunction or the liquid temperature is still too high) press and hold for about 5 seconds to cancel the sound alarm.
- F. Indicator of the set power level (level: 1 to 5).
- G. Temperatures measured by machine sensors of the control board and coolant, respectively.

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12. Use

- Turn the main switch to the ON position. The machine performs a system check and prepares to work, then wait a few seconds until the message shown in the following image disappears.



- Use the buttons to select the desired power level. These levels are shown by the power level indicators.
- Place the flow concentrator on the part to be heated and press the start heating button.

Correct



NOT Correct



NOTE: If the machine is used for long periods of time, it is advisable to leave it on for a few minutes before turning it off so that the liquid in the tank can cool faster.



The machine is designed to minimize risks due to electromagnetic fields. Additional risks exist and it is recommended that a minimum safety distance of 30 cm be maintained between the inductor and the operator's head or torso.

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12.1 Alarm lights

- Flowmeter Error: the control unit detects a problem at the hydraulic level.



- Fluid Temp Error: the maximum fluid temperature has been reached, you need to let the machine cool down.



- Heat Sink Temp Error: the maximum temperature of the board has been reached.



- Tool Error: generic error identifying any malfunction when trying to deliver power.

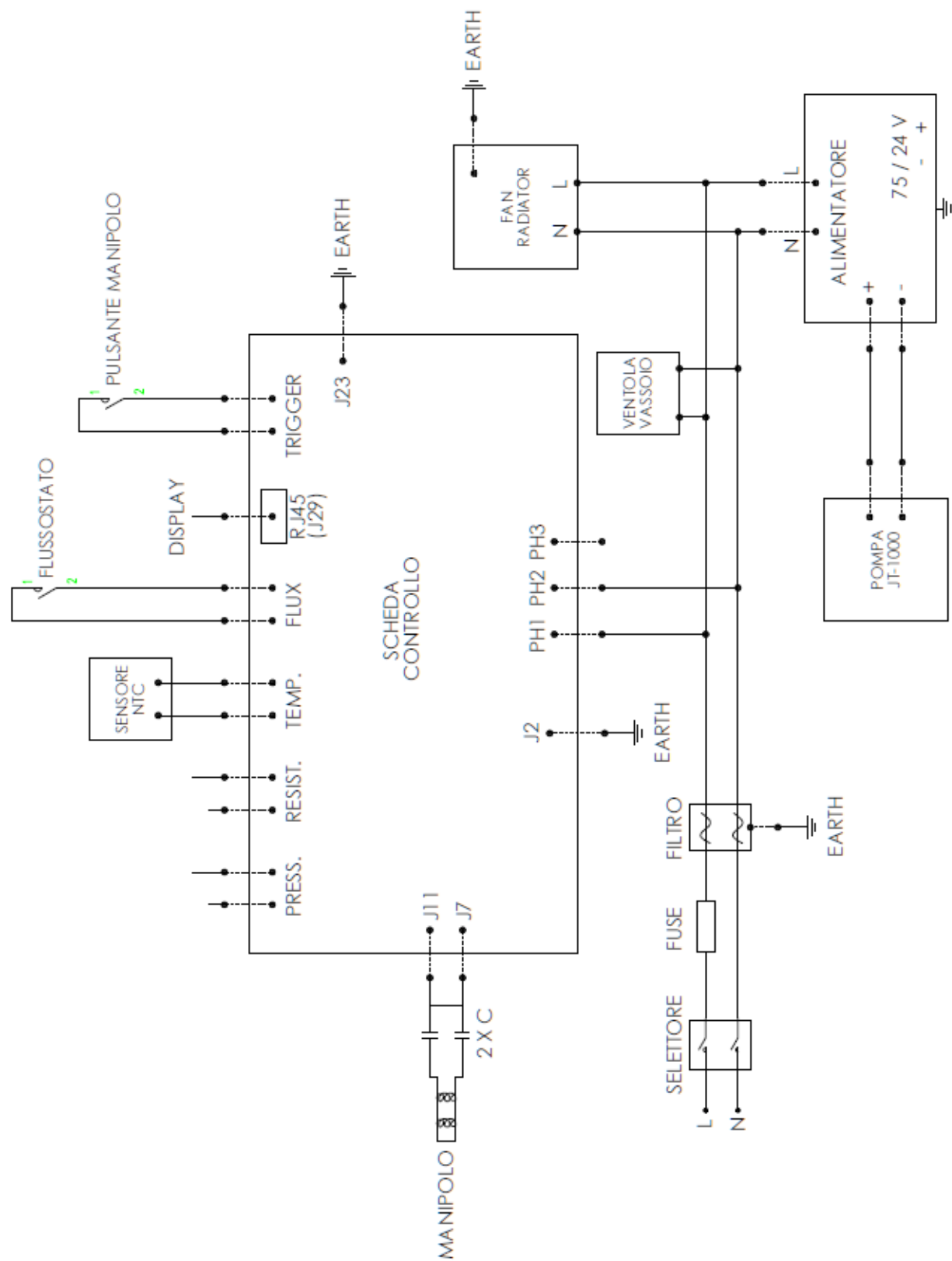


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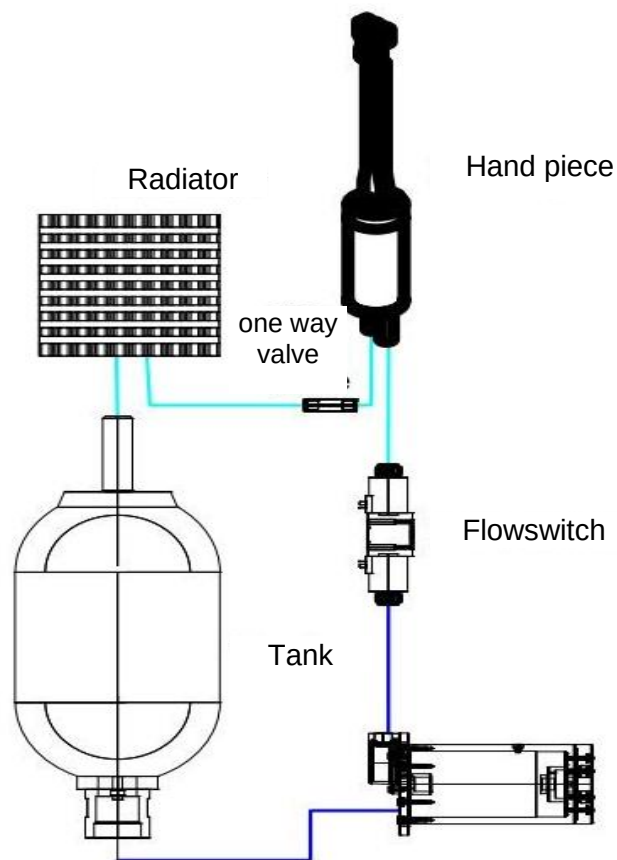
- No Answer From Motherboard: the LCD display fails to communicate with the board.



13. Wiring diagram



14. Hydraulic diagram



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15. Maintenance



Machine maintenance should be performed by qualified and authorized personnel who are familiar with the operating procedures.

Warning! Disconnect the machine cable from the power supply before performing any maintenance on the device.

- Never perform cleaning, lubrication or maintenance operations while the machine is running.
- Before any maintenance work, set the main switch to “0” to cut off the power supply, disconnect it from the power supply to avoid electric shock or other hazards from improper use.
- Never wear rings, watches, jewelry, loose or dangling clothing such as ties, torn clothing, and scarves, unbuttoned or zippered jackets that can get caught in moving parts during work.
- It is advisable to use suitable clothing for accident prevention, e.g.: non-slip footwear, ear protectors, goggles, appropriate gloves, etc.
- Never use gasoline or flammable solvents to clean the machine. Use water and, if necessary, commercial non-toxic solvents.
- Use a dry rag to clean surfaces.
- After operations are completed, always reinstall the removed guards before restarting the machine.

Wear the Personal Protective Equipment listed below during all phases of maintenance:

SYMBOL	DESCRIPTION
	Protective clothing EN 340
	Protective goggles or mask EN 166
	Protective gloves against general mechanical hazards EN 388
	Protective footwear EN 345-346-347

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15.1 Routine maintenance

Meticulous inspections conducted at regular intervals are necessary for the purpose of detecting and eliminating any faults in a timely manner, before greater damage can be caused.



Whenever the machine is to be used, check in advance the efficiency of the safety devices, the condition of the connections, or that there are no other anomalies, by carrying out some test maneuvers at no load and on scrap ferrous material.

Check the wear and readability of warning signs daily.

Operation		Daily	Weekly	Bi-weekly	Monthly	Twice-monthly	Quarterly	Every four months	Biannual	Annual	On condition
General cleaning of the machine	1		X								
Check for liquid leakage	1				X						
Ensure that the ventilation openings are not obstructed	1	X									
Changing the coolant	1									X	
Bleeding of the hydraulic system	1									X	
Replacement of the flow concentrator	1										X
Replacing the inductor	1										X

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15.2 Preventive maintenance

The safe operation of the machine can only be guaranteed if repairs are carried out using only genuine or otherwise approved spare parts and if maintenance instructions are carried out correctly.

At the end of each use, it is necessary, with the machine disconnected from the power supply, to carry out a general cleaning of the machine by promptly removing deposits of dust or dirt in general, as they may decrease ventilation and alter its proper operation and service life.

Before each use, check the operation of control devices, safety devices and the integrity of electrical connection cables.

15.3 Replacement of the flow concentrator

If the flow concentrator wears out, remove the screws securing the brass tab, pull out the flow concentrator, thoroughly clean the copper part, and replace the worn out concentrator with a new one by securing it with the appropriate tab and respective screws.



15.4 Replacement of coolant and bleeding of hydraulic system

After a working period of about 1 year, it is good practice to replace the antifreeze fluid both to increase the service life of machine components and for a time-performing working cycle.

To replace the fluid, proceed as follows:

- 1) Remove the front panel of the machine to access the liquid tank.
- 2) Remove the end cap of the tank itself (along with the meshed rubber hose).
- 3) Place it inside an empty container (same capacity as the machine tank).
- 4) Start the machine, wait until the same has emptied and turn off the machine.
- 5) Add approx. 2 lt. of ready-to-use antifreeze liquid
- 6) Close the tank with its cap, start the machine and wait a few seconds for the circuit feeding the inductor to charge.
- 7) If the level in the tank has dropped, add more liquid to the established level.

NB: Whenever there are breakages that require disassembly of machine parts, contact the manufacturer or authorized dealer.

15.5 Replacing the inductor

	Inductor replacement should be carried out only by expressly authorized personnel and only after the power supply has been turned off.
	Wear protective gloves during maintenance and/or repair work. Electrically insulate the machine by disconnecting it from the power supply. During the inductor replacement operation make sure that there is no significant liquid leakage from the manipulator. In case of significant leakage, refill the liquid in the appropriate tank. When fixing the inductor, the tightening should not exceed 5Nm. Carry out tightening with appropriate torque wrench.

15.6 Cleaning

	Before any operation, set the main switch to "0" to cut off the power supply, disconnect it from the power supply to avoid electric shock or other hazards from improper use. Never use gasoline or flammable solvents to clean the machine. Use water and, if necessary, commercial non-toxic solvents.
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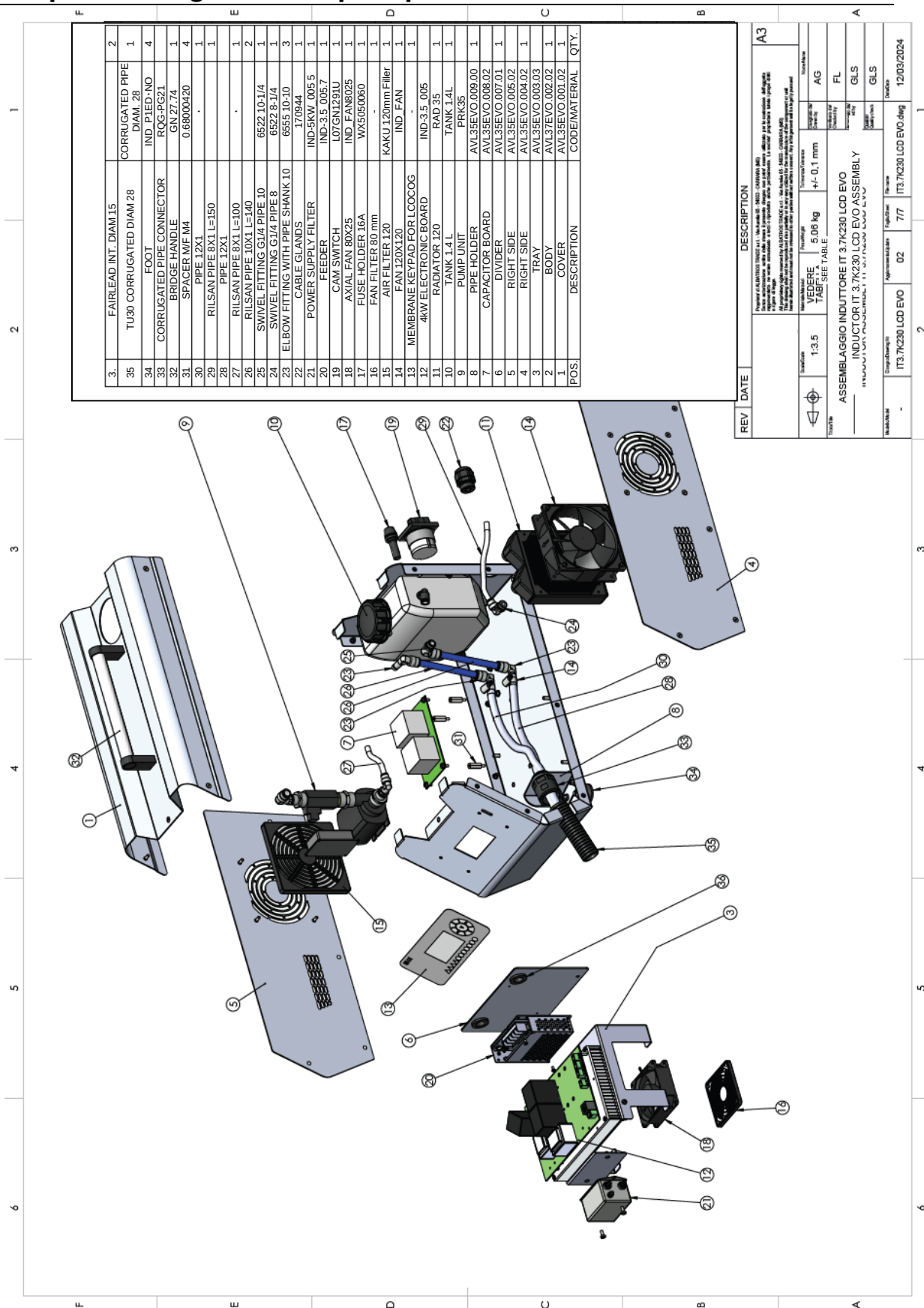
Carry out machine cleaning using a damp cloth. Do not use/spray water directly.

Ensure that fans and vents are not obstructed by dust or other debris. In case of obstruction, remove debris by blowing outward.

Use a dry rag to clean surfaces.

After operations are completed, always reinstall the removed guards before restarting the machine.

16. Exploded diagram and spare parts



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17. Machine record

We recommend using the diagram below to note machine maintenance and any work done on the tool over time.

This will enable the user to have suitable information on the machine's duty cycle at all times.

N.B.
The proper recording of inspections and maintenance on the Machine Log is expressly prescribed by the Manufacturer and, in addition to being good practice, is set as an obligation of the user.

MACHINE RECORD IT 3.7K230 LCD EVO
Serial number Date of construction

DATE	INSPECTIONS MAINTENANCE	AND	ANY REPLACEMEN TS	OPERAT OR SIGNATURE

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18. Compliance

CE DECLARATION OF CONFORMITY
(pursuant to Machinery Directive 2000/42/EC as amended. Attachment II /A)

Manufacturer

ALBATROS TRADE s.r.l.
Via Aurelia, 65
54033 CARRARA (MS)
ITALY

Declares that the machine:

IT 3.7K230 LCD EVO	-	2024
Model	Serial Number	Year of manufacture

High-performance induction heating equipment
Commercial name

Induction heating for unlocking, bending, treatment of metal parts
Intended use

Complies with Directives

Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16/EC.
Directive 2013/35/EU of the European Parliament and of the Council of 26 June 2013 on the minimum safety and health requirements regarding the exposure of workers to the risks arising from physical agents (Electromagnetic fields)
Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility (EMCD).
Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits (LVD)
Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)

Reference to harmonized standards:

EN 60204-1:2018 - Safety of machinery - Electrical equipment of machines - Part 1: General requirements.
EN IEC 60519-1: 2020 - Safety in electroheating and electromagnetic processing installations - Part 1: General requirements.
EN 55011:2016+A1:2017+A11:2020 - Industrial, scientific and medical equipment - Radiofrequency disturbance characteristics - Limits and methods of measurement.
EN IEC 61000-6-2: 2019 - Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standards for industrial environments.

And authorized to create the technical file on its behalf:

Gian Luca Simonini	54033	MS
Via Aurelia. 65	Italy	
Carrara		

Carrara, __/__/__

Changes affecting the technical specifications and conforming use specified in the instruction manual invalidate this Declaration of Conformity!