



INDUTTORI DI CALORE A RENDIMENTO ELEVATO

ait[®]
automotive induction technologies

Use and maintenance manual

IT 6K400 LCD

IT 5K230 KB

IT 5K230 KB LITE

IT 5K400 KB

IT 4K230 KB





IT 3.5K230 KB







General contents

1	Safety instructions.....	2
2	Connection	4
3	Maintenance	4
4	Regulatory information	4
5	Disposal.....	5
6	Product identification.....	5
7	Product specifications	6
8	Description of devices.....	7
8.1	IT series description	10
8.2	Description IT 6K400 LCD.....	11
8.3	Description IT 3.5K230 KB	13
	Instructions for KB membrane keypad use.....	14
8.4	Membrane keypad alarm lights.....	15
9	Wiring diagrams.....	16
10	Application of the warranty	18
10.1	Return of products to ALBATROS	18
10.2	Recommendations regarding product transport	18
10.3	Recommendations for packaging and transport	18
10.4	Warranty duration and limits	19
11	Replacing the inductor.....	19
12	Maintenance.....	20
12.1	General recommendations	20
12.2	Preventive maintenance	20
12.3	Routine maintenance	20
12.3.1	Replacing the flow concentrator.....	21
12.4	Special maintenance	21
12.4.1	Replacing the antifreeze fluid.....	21
13	Machine logbook	22
14	Conformity.....	23

1 Safety instructions


	<p>This manual describes the operation of the unit and the precautions to be taken for your safety. Read it carefully before use and keep it in a safe place for future reference. These instructions must be read and understood before use. Do not undertake any modifications or maintenance other than those specified in the manual. The manufacturer shall not be held liable for physical or material damage due to improper use of the equipment. In case of problem or doubt, please consult a qualified person to use the unit correctly. The safety instructions must be observed. The manufacturer declines all liability in the event of improper or hazardous use. Any use not mentioned in this manual is strictly forbidden and potentially dangerous. The product is semi-automatic and requires the presence of an operator.</p> <p>This machine should only be used for the purpose for which it was expressly designed, that is: to generate heat inside ferrous materials. Any other use not expressly covered in this manual is strictly prohibited as considered improper and therefore dangerous. The machine is semi-automatic and therefore requires the presence of an operator. The operator has the direct responsibility for compliance with all safety standards not only where he is concerned but also for any persons who may be exposed to machine risks.</p> <p>Do not use the unit if the power cord or plug is damaged.</p>
	<p>Caution! Very hot surface. Risk of burns.</p> <ul style="list-style-type: none"> Overheated objects and equipment can cause burns. Do not touch hot objects with bare hands. Wait for the objects and equipment to cool down before using them. <p>In case of burns, rinse with plenty of water and seek medical advice immediately.</p>
	<ul style="list-style-type: none"> Machine use should only be entrusted to adult, suitably trained personnel in full compliance with current regulations and the instructions contained in the manual. Remove any jewellery and/or metal object before using this unit. Keep the machine in a suitable place, protected from weathering.
	<p>Danger from gases and vapours.</p> <ul style="list-style-type: none"> Keep away from fumes and do not breathe vapours. When working indoors, ventilate the room and/or use an air extractor to evacuate vapours and gases. Induction heating of certain materials, adhesives and fluids can produce vapours and gases. Breathing these gases and vapours may be dangerous to your health. If ventilation is insufficient, use a certified respirator. Read the product technical and safety data sheets (MSDS) and the manufacturer's instructions for adhesives, metals, coatings, detergents, and

	<p>pickling agents.</p> <ul style="list-style-type: none"> • Do not use the heater on degreasing or spraying parts. Heat can react with vapours to form highly toxic and irritating gases. • Only work in a confined space if it is well ventilated or using a certified vacuum cleaner. Vapours and gases resulting from heating can replace the oxygen in the air and cause sickness or death. Verify the quality of the air you breathe. • Do not overheat metals, such as galvanized steel, lead-coated steel, or cadmium-coated steel, unless the coating is removed from the surface to be heated, air is well ventilated, and, if necessary, wear a certified respirator. Castings and all metals containing these elements can release toxic vapours when heated. • Refer to the MSDS for temperature information
	<p>Caution! Electrical hazard.</p>
	<p>Caution! Strong magnetic field. Persons having active or passive implants must be informed.</p>
	<p>Do not approach the inductor at the head and vital parts level during operation.</p>
	<p>Persons with pacemakers or biomechanical equipment should not use the device. Risk of disturbances/interference in the operation of pacemakers/ biomechanical equipment in the vicinity of the device.</p>


Wear the following PPE during use





2 Connection

	This unit must be connected to a properly grounded electrical outlet.
---	---


3 Maintenance

	<ul style="list-style-type: none">• Maintenance must be carried out by qualified personnel.• Warning! Disconnect the machine cable from the power supply before performing any maintenance on the unit.• Never use solvents or other aggressive cleaning products.• Clean the surfaces of the unit with a dry cloth.
--	---

4 Regulatory information

	Device in compliance with European directives
	EAC (Eurasian Economic Community) mark of conformity

5 Disposal

	<p>This material is subject to separate waste collection. It must not be disposed of with household waste.</p> <ul style="list-style-type: none">•
---	--

6 Product identification

A label is located on the back of the machine bearing the “**CE**” conformity mark:

- Name and address of manufacturer
- Date of manufacturing
- Model
- Type of product
- Operating voltage

7 Product specifications

	IT 6K400 LCD	IT 5K230K B	IT 5K230 KB LITE	IT 5K400 KB	IT 4K230 KB	IT 3.5K230 KB
Rated power	6 Kw	5 Kw	5 Kw	5 Kw	3.7 Kw	3.5 Kw
Rated voltage	400 V	230 V	230 V	400 V	230 V	230 V
Mains voltage frequency	50 Hz – 60 Hz	50 Hz – 60 Hz	50 Hz – 60 Hz	50 Hz – 60 Hz	50 Hz – 60 Hz	50 Hz – 60 Hz
Electrical intensity	I max 16 A	I max 16 A	I max 16 A	I max 16 A	I max 16 A	I max 16 A
Heater frequency	15 KHz – 30 KHz	15 KHz – 30 KHz	15 KHz – 30 KHz	15 KHz – 30 KHz	15 KHz – 30 KHz	15 KHz – 30 KHz
Insulation class	IP 21	IP 21	IP 21	IP 21	IP 21	IP 21
Coolant tank capacity	20 L	20 L	20 L	20 L	20 L	2 L
Electrical cable length	8 m	8 m	8 m	8 m	8 m	2 m

8 Description of devices

Model	Description	Details
<p>IT 6K400 LCD</p>		<p>See par. 8.1</p>
<p>IT 5K230 KB</p>		<p>See par. 8.1</p>

Model	Description	Details
<p>IT 5K230 KB LITE</p>		<p>See par. 8.1</p>
<p>IT 5K400 KB</p>		<p>See par. 8.1</p>

Model	Description	Details
<p>IT 4K230 KB</p>		<p>See par. 8.1</p>
<p>IT 3.5K230 KB</p>		<p>See par. 8.2</p>

8.1 IT series description

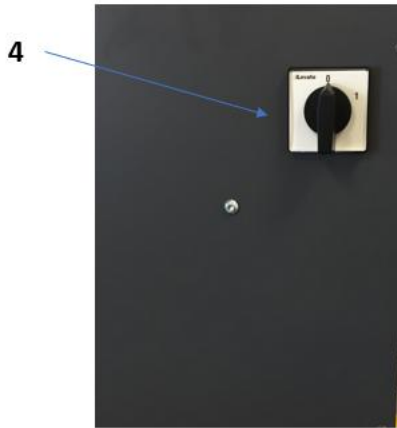


Fig. 1

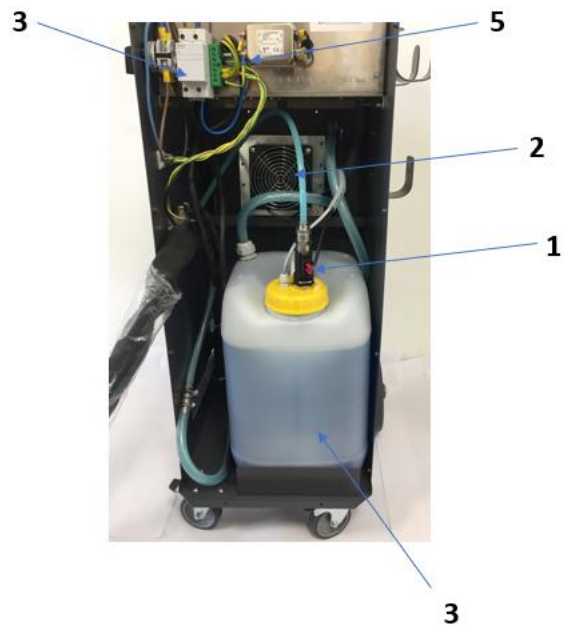


Fig. 2

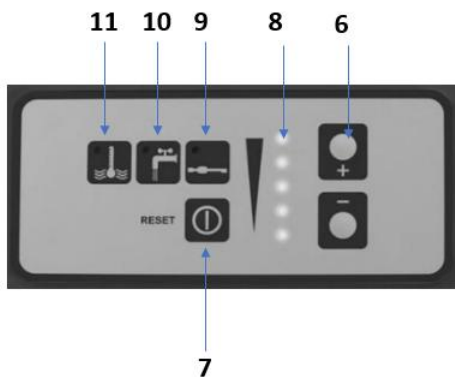


Fig. 3

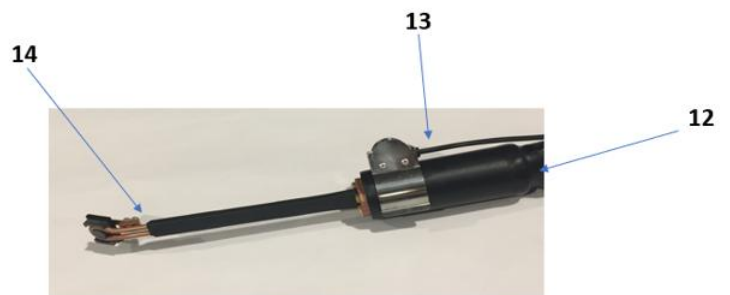


Fig. 4

Key	
1	Pump
2	Radiator
3	Antifreeze fluid tank
4	Main switch
5	Fuse holder
6	Power level adjustment buttons
7	Reset button
8	Power level signal LED

9	Handpiece error signal
10	Pump error signal
11	Antifreeze fluid temperature signal
12	Inductor
13	Heating start button
14	Flow concentrator

8.2 Description IT 6K400 LCD

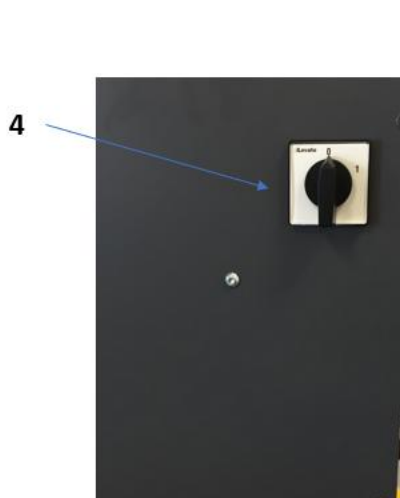


Fig. 1

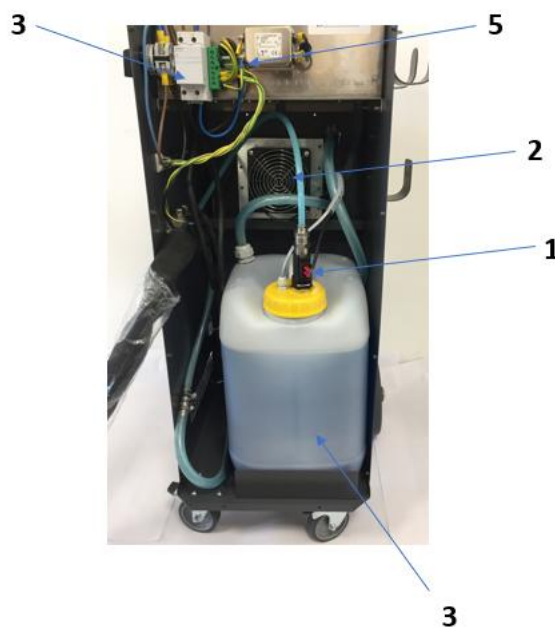


Fig. 2



Fig. 3

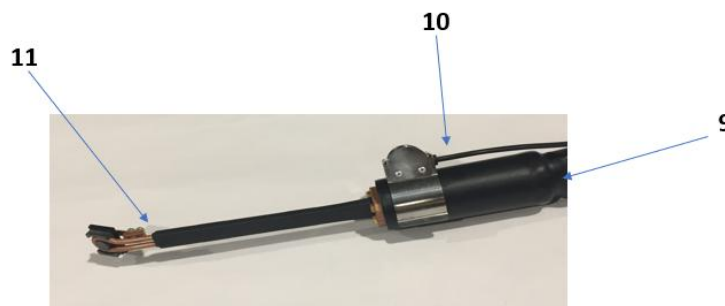


Fig. 4

Key	
1	Submersible pump
2	Radiator
3	Coolant tank
4	Main switch
5	Fuse holder
6	Power level adjustment knob, and reset button
7	Power level signal bars
8	Coolant temperature indicator
9	Inductor
10	Heating start button
11	Flow concentrator

8.3 Description IT 3.5K230 KB

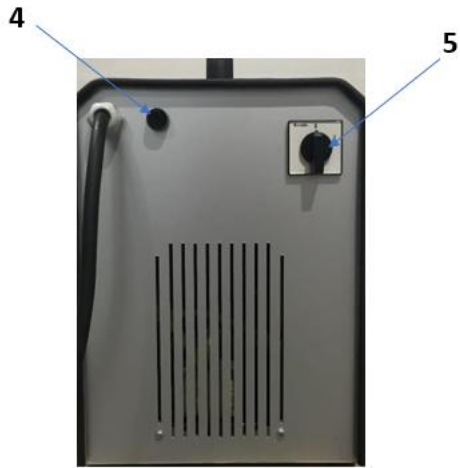


Fig. 1

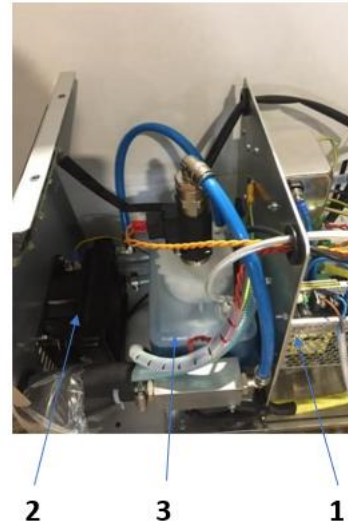


Fig. 2

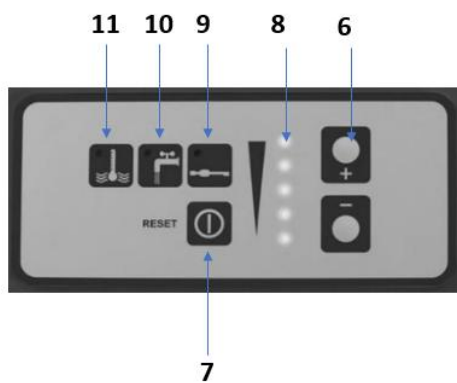


Fig. 3

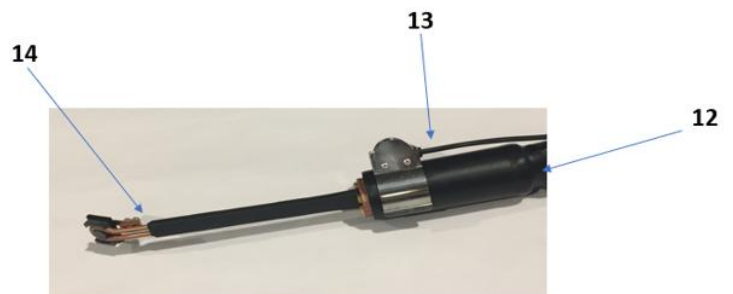


Fig. 4

Key

1	Submersible pump
2	Radiator
3	Antifreeze fluid tank
4	Fuse holder
5	Main switch
6	Power level adjustment buttons
7	Reset button

8	Power level signal LED
9	Handpiece error signal
10	Pump error signal
11	Antifreeze fluid temperature signal
12	Inductor
13	Heating start button
14	Flow concentrator

Instructions for KB membrane keypad use

- Turn the main switch (4) to ON position. The machine checks the system and prepares to work, then wait a few seconds.
- Use the buttons (6) to select the desired power level. These levels are shown by the power level indicators (8, see *Figure 3*).
- Place the flow concentrator on the part to be heated (*Figure 5*) and press the heating start button (13, *Figure 4*):

Correct



NOT Correct



Figure 5

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

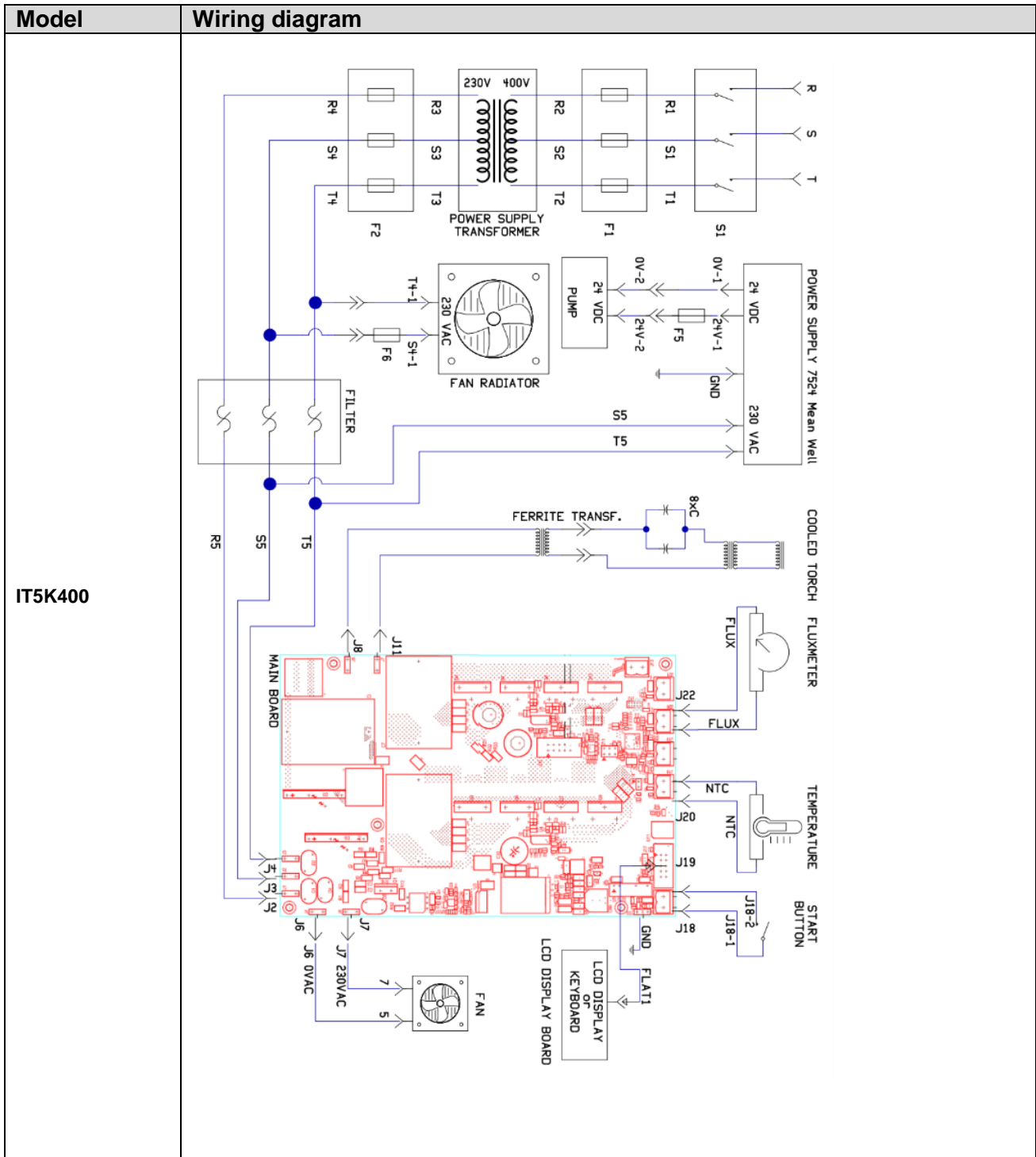


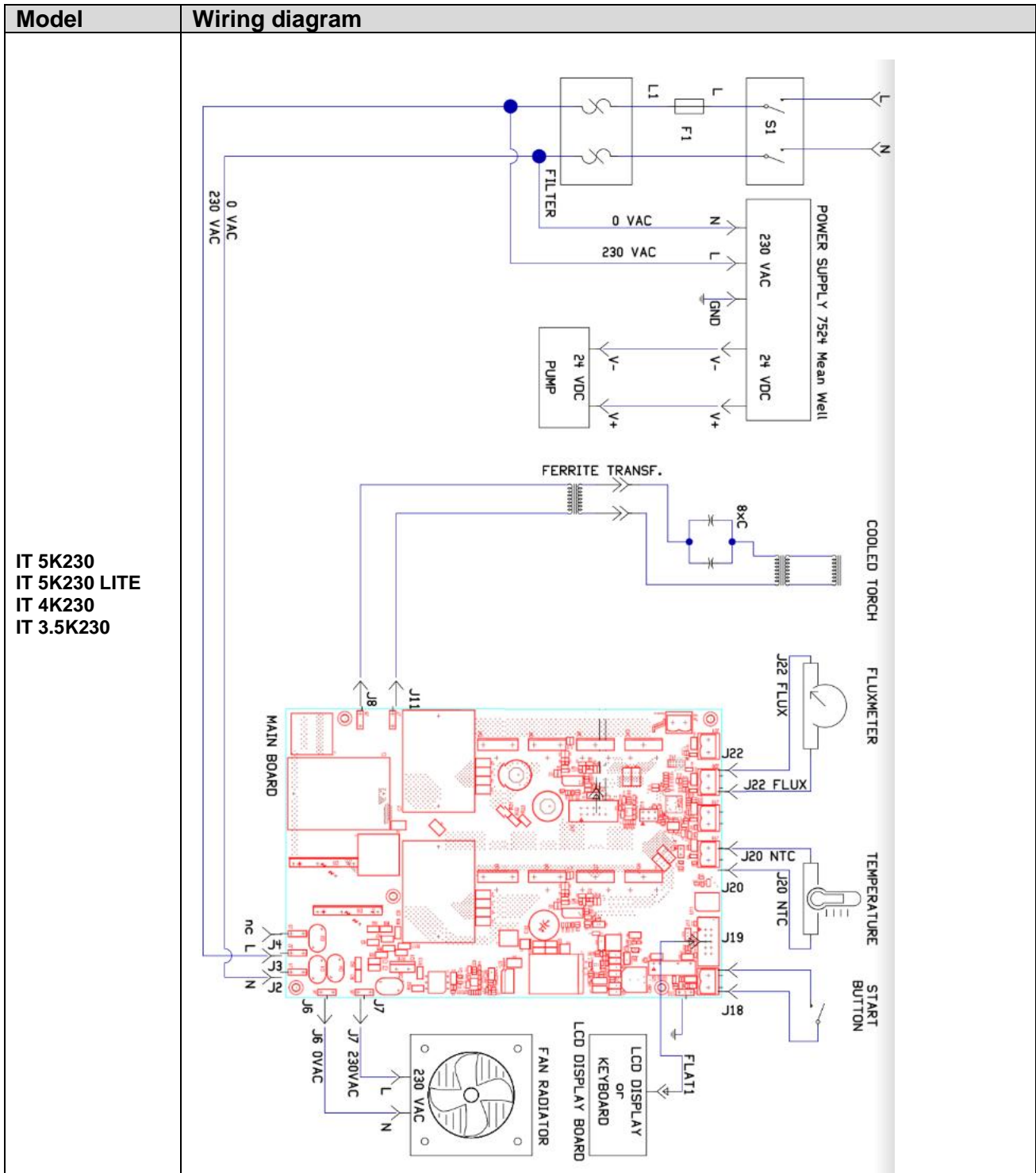
The machine has been designed to minimize the risks due to electromagnetic fields. Additional risks exist and it is recommended to keep a minimum safety distance of 30 cm between the inductor and the operator's head or bust.

8.4 Membrane keypad alarm lights

- LED 9 indicates a malfunction of the inductor.
- LED 10 indicates a malfunction of the hydraulic circuit
- LED 11 indicates that the antifreeze liquid has reached the temperature threshold.

9 Wiring diagrams





10 Application of the warranty

10.1 Return of products to ALBATROS

If the reseller declares the malfunctioning of a product, they are required to submit the following information to ALBATROS:

- product serial number
- a description of the problem with the product
- photo of encountered defects, if possible

The reseller can send defective products to ALBATROS, however they shall bear all shipment costs. The company ALBATROS does not accept the return of products ex works.

Products shall be repaired and resent with a customer's successive order. In case of request for sending in advance of order shipment, transport costs shall be borne by the reseller.

If products are in warranty, spare parts and repair costs shall be borne by ALBATROS. If products are not in warranty, ALBATROS shall issue a repair quote which the customer then accepts or refuses. For all products in warranty returned for replacement or repair and which do not bear any defect or malfunctioning, a debit document shall be issued for the check carried out on the product. The warranty does not apply in the case of products resent without being appropriately packaged and thus at risk of damage during shipment. Please take care as hauliers tend not to handle packages with due care!!

10.2 Recommendations regarding product transport

The company ALBATROS only accepts carriage paid and not ex works returns.

The reseller is exclusively liable for damage caused to a product due to inadequate packaging, even if the package is accepted by our warehouse. Since it is not possible to open each package upon arrival, Albatros Trade Srl shall accept goods with reservation from haulier if there is visible damage to packaging material.

10.3 Recommendations for packaging and transport

If possible, organise goods on pallets. This is considered the best solution to avoid damage to products during shipment.

If required, that goods are packaged in cardboard using bubble wrap so that packaging absorbs shock that may occur during shipment.

Place packaged product in very thick cardboard and ensure that all sides are wrapped in bubble wrap or other material that can ensure protection of products as much as possible during shipment.

10.4 Warranty duration and limits

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

The warranty does not apply to the following cases:



- an external cause (mechanical shock, lightening, sudden changes in voltage)
- damage incurred during transport or storing
- a product installed in a manner that does not comply with manufacturer specifications
- a product containing too much dust in inner parts
- a product exposed to rain or humidity
- a product which has been modified by the client
- deteriorations caused by ill use of equipment
- use of unsuitable accessories or consumables
- natural wear of different parts of equipment
- freezing caused by insufficient or unsuitable use of the coolant

The guarantee does not apply to normal wear of accessories or consumables (ferrite).

If the equipment is modified or repaired by unauthorised personnel, the warranty shall be void.

CAUTION: The inductor (Fig. 4) must not be bent or altered in shape in any way. If the inductor is modified, the warranty shall be automatically rendered void.

11 Replacing the inductor

	<p>Inductor replacement should be performed only by authorised personnel and only after cutting off power to the machine.</p>
	<p>Wear protective gloves during maintenance and/or repairs. Electrically isolate the machine by disconnecting it from the mains. When replacing the inductor, verify that there are no significant liquid leaks from the manipulator. If there are any significant leaks, top up liquid in the corresponding tank.</p> <p>Tightening should not exceed 5Nm when fastening the inductor. Tighten using a suitable torque wrench.</p>

12 Maintenance

12.1 General recommendations

- Machine maintenance must be carried out by qualified, authorised personnel who are aware of its operating procedures.
- Never perform any cleaning, lubrication or maintenance with the machine running.
- Before any maintenance work, set the main switch to "0" to cut off power, unplug it from the mains to prevent electrical shock or other hazards resulting from mishandling.
- Never wear rings, watches, jewellery, loose or dangling clothing such as ties, torn garments, scarves, unbuttoned jackets or jackets that zip open that can get tangled during work.
- It is instead advisable to use suitable clothes for accident prevention, for example: non-slip shoes, anti-noise headphones, goggles, appropriate gloves, etc.
- Never use gasoline or flammable solvents to clean the machine. Use water and, if necessary, commercial non-toxic solvents.
- After operations have been completed, always refit any protections that were removed before re-starting the machine.

12.2 Preventive maintenance

Meticulous inspections carried out regularly are necessary in order to detect and eliminate faults quickly before they can cause any major damage.



Any time you need to use the Inductor IT series, first check the efficiency of safety devices, the conditions of connections and if there are any anomalies by performing some no-load tests and on ferrous scrap material.
Check daily for wear and legibility of warning signs.

12.3 Routine maintenance

Machine operating safety can only be guaranteed if repairs are performed using only original or however approved replacement parts and if maintenance instructions are followed correctly.

At the end of each use, with the machine disconnected from the electrical mains, proceed with a general cleaning of the machine, quickly removing dust or dirt deposits in general as this could reduce ventilation and alter machine function and durability.

Before each use, verify the functionality of control devices, safety devices and the conditions of electrical connecting cables.

12.3.1 Replacing the flow concentrator

In the event of flow concentrator (ferrite, *Figure 7*) wear



Figure 7

Remove the screws fastening the brass tab, extract the flow concentrator, carefully clean the copper part and replace the worn concentrator with a new one fastening it with the appropriate tab and the respective screws (*Figure 8*).



Figure 8

Note: to increase both the efficiency of the machine and the life span of the flow concentrator, **cover the concentrator surfaces in contact with the copper with a thin layer of conductive paste.**

12.4 Special maintenance

12.4.1 Replacing the antifreeze fluid



After a working period of about 1 year, it is advisable to replace the antifreeze fluid both to increase the service life of the machine components and for a working cycle that is efficient in terms of time.

Proceed as follows to replace the antifreeze fluid:

Remove the front panel of the machine to access the fluid tank, remove the closing cap of the fluid tank (together with the meshed rubber hose), place it inside an empty container (same capacity as the machine tank), start the machine, wait for the machine to be emptied and turn off the machine. Fill approx. 20 L of ready to use antifreeze liquid.

Close the tank with the cap, start the machine and wait a few seconds for the circuit supplying the inductor to charge. It is evident that the tank level has decreased, so add more liquid to the specified level.

Note: Contact the manufacturer or an authorised dealer whenever there are any breakages requiring the removal of machine.

13 Machine logbook

It is advisable to use the following diagram to record Inductor IT series maintenance and any work performed on the tool over time.
 This will allow the user to have appropriate information about the machine's operating cycle on hand at all times.

NOTE

A correct record of inspections and maintenance in the Machine Logbook is expressly stipulated by the Manufacturer and, in addition to being good practice, is set forth as an obligation of the user.

MACHINE LOGBOOK Inductor
 Serial nr. Year of manufacturing

DATE	INSPECTION AND MAINTENANCE	ANY REPLACEMENTS	OPERATOR SIGNATURE

14 Conformity

CE DECLARATION OF CONFORMITY

(in accordance with Machinery Directive 2006/42/EC and subsequent amendments, Annex II /A)

The Manufacturer

ALBATROS TRADE s.r.l.

Via Aurelia, 65

54033 CARRARA (MS)

ITALY

Declares that the machine

Model IT 6K400 LCD KB - IT 5K230 KB –
IT 5K230 KB LITE - IT 5K400 KB –
IT 4K230 KB – IT 3.5K230 KB

Ser. Nr

Serial

Year of manufacturing

High performance induction heating equipment

Commercial name

Complies with the Directives

Machinery Directive 2006/42/EC

Directive 2013/35/EU Exposure to electromagnetic fields

EMC Directive 2014/30/EU

RoHS Directive 2011/65/EU

EC Directive 2012/19/EU

References of entity authorised to compile the technical file

Gian Luca Simonini

Albatros Trade s.r.l.

Address Via Aurelia, 65

Post code 54033

Province MS

City CARRARA, Italy

Carrara,

ALBATROS TRADE S.R.L.
Via Aurelia, 65
54033 - CARRARA (MS)
P.I. 01223190453
Gian Luca Simonini
Albatros Trade s.r.l. General manager

Changes that affect the technical specifications and the compliant use specified in the instructions manual shall invalidate this Declaration of Conformity!

In compliance with EN82079 Directive "User and maintenance manual" document can be downloaded from our website: www.ait-induction.com