

Induction heater **KMi** heater X350

Instructions for use and maintenance



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INDUCTION HEATER - **KMi** heater X350

2 INTRODUCTION

This device generates alternating current of high frequency. The current passing through a heating coil creates an alternating magnetic field which by using the principle of electromagnetic induction vibrates electrons inside the heated material. The energy of moving electrons is dissipated as heat, which heats the metal in the work field of the instrument. The more easily magnetizable material, the more heat it generates. The device heats easily ferrous metals and their alloys, but has no effect on glass, plastics, wood, textiles and other non-conductive materials.

2.1 INDUCTION HEATING PRINCIPAL

Induction heating is the process of heating an electrically conducting object (usually a metal) by electromagnetic induction, through heat generated in the object by eddy currents. An induction heater consists of an electromagnet, and an electronic oscillator that passes a high-frequency alternating current (AC) through the electromagnet. The rapidly alternating magnetic field penetrates the object, generating electric currents inside the conductor called eddy currents. The eddy currents flowing through the resistance of the material heat it by Joule heating. In ferromagnetic (and ferrimagnetic) materials like iron, heat may also be generated by magnetic hysteresis losses. The frequency of current used depends on the object size, material type, coupling (between the work coil and the object to be heated) and the penetration depth.

An important feature of the induction heating process is that the heat is generated inside the object itself, instead of by an external heat source via heat conduction. These objects can be heated very rapidly. In addition there need not be any external contact, which can be important where contamination is an issue. Induction heating is used in many industrial processes, such as heat treatment in metallurgy, Czochralski crystal growth and zone refining used in the semiconductor industry, and to melt refractory metals which require very high temperatures. It is also used in induction cooktops for heating containers of food; this is called induction cooking.

3 SAFETY INSTRUCTIONS

3.1 GENERAL SAFETY RULES



Read carefully all instructions in the manual. Failure to follow these instructions may result in electric shock or burns, fire and / or serious personal injury!

Users are responsible for installing and using the system in accordance with the instructions provided in this manual. The contractor shall not be liable for damages resulting from improper use and handling.

The device may be operated only by persons properly trained and appropriately qualified. Do not operate KMi heater X350 under the influence of drugs, alcohol or medications.

Bystanders should be kept safely away when operating with the device, even when cooling the heated material.

Avoid working in the rain, water and moist environments. Keep work area well ventilated and dry, clean and well lit.

This device cannot be used by children, people of any physical or mental disabilities, non trained persons and people of little or no knowledge of the usage of the device. The induction heater KMi heaterX350 must be used only for the purposes of the induction heating. The device KMi heaterX350 cannot be used for the welding or charging purposes.

3.2 ELECTRICAL SAFETY RULES



This is a safety class I device, which may be supplied with power only from the power outlet with a protective conductor, which must be connected to the device as first and in any case must not be interrupted /e.g. by an extension cord/. Any interruption of the protective earth conductor, or its disconnection will cause a potential electric shock hazard that can cause injury. Make sure that the device /device chassis/ is properly grounded.



Do not twist or sharply bend the power cord, as it may damage the internal wiring. Never use KMi heater X350 if the power cord shows any signs of damage. Keep the power cord away from heat, oil, sharp edges or moving parts. Never repair the power cord if damaged, the power cord must be replaced. Damaged cords create a risk of electric shock.

It is necessary to tight the screws for coil /9/ properly after every changing. Free screws can harm damages on the machine and sparking which causes the overheating of the contacts – the working current is 300A!!! The material of the heating coil is being expanded and contracted while working. Therefore it is necessary to check all the time the tightened of the screws on the handle.

It is forbidden to use the device if the cover, handle, coil or cable is damaged or not in a 100% fit – there is a danger of injury or death by the electrical current or a fire. Keep the cables, working coils and the device itself off the another heat devices, acetone, colours, dope, hydroxides, the other chemicals, sharp edges or moving parts. The red isolation to the handle /4/ and the isolation of the coils /10/ is resistant for the oils, acids only for a little. If the cord, isolation or the isolation of the working coil is damaged, must be replaced only by the manufacturer or responsible person trained by the manufacturer to prevent any injury or harm.

The manufacturer and the seller are not responsible for the consequences of an inappropriate usage of the device written in this manual.

Do not touch the working coil while in process of heating. Do not switch on the machine without the working coil. There are high current peaks while the machine is ON without the working coil and therefore the device can be damaged by that because of the damaging the overvoltage protection. Do not use the working coils with damaged isolation or no isolation.

Before replacing the applicator /coil/, disconnect KMi heater X350 from the power source /wall outlet.

If you are not using KMi heater X350, unplug the power cord from the outlet.



CAUTION

This product is for class A industrial use. It may cause radio interference in residential, commercial and light industrial environments. This product is not intended for installation in residential environment, business environment and light industry with connection to the public supply network; user may be required to take adequate measures to reduce the interference.

Caution! High voltage danger 1600V on the primary side of the transducer. Caution! High current 300A on the secondary side of the transducer and on the output of the device.

Do not open the cover of the KMi heaterX350 while working process.

3.3 FIRE SAFETY RULES

Do not use the device if suspecting the gas leaking or flammable or blowing up materials.



Do not heat aerosol or other cans, metal containers, and any pressure vessel used for the storage of fuel, compressed gases and liquids. The heat generated by KMi heater X350 may cause them to explode and their contents may ignite.

Do not use the heating spiral /coil/, if the isolation is damaged. A defect in the isolation may cause sparks in contact with metal objects or between the turns of the coil. In particular, when working on / or near gas pipes and / or gas tanks it may pose a danger of explosion or fire. Using coils with damaged isolation will void the warranty.

Always have the fire extinguisher near to the device while working which is able to extinguish the electrical devices under the voltage – CO2 or dust extinguishers.

The water or foam extinguishers are absolutely inappropriate.

The fire under the voltage always extinguish from the distance at least 2m.

If possible switch off the power.

3.4 SAFETY RULES FOR PERSONAL PROTECTION



Persons with pacemakers or other metal or electronic surgical implants must not operate with the device KMi heater X350 and must keep a safe distance of at least 1m from the device.



When working with KMi heater X350 do not wear any metal objects such as jewellery, rings, watches, necklaces, identification tags, belt buckles, piercing and even clothing with metal parts such as metal rivets, buttons and zippers, etc. KMi heater X350 can heat up these metal objects quickly and cause serious burns or clothing ignition.

ATTENTION: Coil applicator and heated object can reach high temperatures and cause burns or cause a fire.



When using the device KMi heater X350 always wear safety goggles or face shield.



When using the device KMi heater X350 hazardous fumes may be produced by burning old paint, lubricants, sealants, adhesives, etc.

These exhalations can be toxic. Always wear appropriate protective masks or respirators.



When working with the device KMi heater X300 always wear protective gloves with corresponding thermal resistance. High temperatures generated by the use of KMi heater X350 may cause serious burns in the case of touching the heated part. Always keep proper footing and balance for safe control of the device even in un-expected situations. The isolation of the working coils consists of glass fibres so while manipulating always use the protective gloves. The cable from the device to the handle can be overheated for some reason so always use the non flammable protective gloves. Do not touch the components of the device by the non protected skin. Do not wear the clothes from oils, grease or petrol. There is a risk of fire or burning.

The working space always kept in a fresh air condition.

While working with the KMi heater X350 do not wear on you and do not get close with the red cable /4/ or the working coil /10/ to the electrical devices like cell phones, USB media etc.... There is a real risk of damaging such a devices.

While working close to the sensitive electrical devices always unplug them from the source of power or from batteries. Always stay on a flat, dry and non electrical ground.

Do not use KMi heater X350 near the device with pyrotechnics /e.g. airbag/. The resulting heat can cause their unexpected explosion. Keep a minimum distance of 10-20 cm from these devices.

3.5 SAFETY RULES FOR USING THE DEVICE

Do not leave KMi heater X350 unattended when switched on. Make sure that the power supply unit and the handle has an adequate supply of air for cooling and cooling liquid in the liquid box.

After finishing the work with the KMi heaterX350 do not switch it off immediately but keep it on 5minutes to cool down properly. After that you can switch off the device from the source of power. The working coils always let cool down on the non flammable surface before putting them to the case.

Make sure the vents are clean and free of dust and dirt not to impede the flow of cooling air.

Do not attempt to repair KMi heater X350. The device does not contain any user-serviceable components, except for replaceable heating coils.



Before connecting KMi heater X350 to the wall outlet make sure the outlet voltage corresponds to the voltage on the rating plate. If the wall outlet voltage does not match the voltage indicated on the rating plate, it may result in a serious risk of damage to KMi heater X350.



Do not exceed the operating cycle KMi heaterX350 which has no time limitation but the thermal fuse which switches OFF the unit if overheated and switches ON when cooled down. The main equipment is protected against device overheating, but heating coils are not, which may cause their damage.

EXTENSION CORDS:

Extension cords – if necessary, you may use only the following extension cords:

- up to 5m with 2.5 mm² diameter
- up to 15m with 4 mm² diameter

Use only one extension cord – do not connect two or more extension cords. Do not use any other extension cords than those mentioned above. Unpack the extension cords - tightly packed extension cords may overheat and cause fire.

GENERATORS:

When using the device with an alternate source of power – e.g. with mobile electric generator, it is necessary to use a quality alternate source of sufficient power and AVR quality control. Use a generator with a power output of at least 7 kW, or DC / AC inverter with a power output of 7 kW and only with a sine wave – do not use the inverter with a square or quasi-sine wave. Failure to comply with the above requirements may result in damage to the device and void the warranty.

The device must be protected from rain and moisture, mechanical damage and possible ventilation of neighbouring machines, excessive overloading and rough handling.



1. Setting up volume button
2. Liquid cooling system box entrance
3. Carrying Handle
4. Display
5. Ferrite heating up focus coil
6. On/OFF button removable
7. Burner holder
8. Burner
9. Power ON/OFF button
10. Power supply socket
11. Cooling liquid level display



4 TECHNICAL DATA KMI HEATERX350

TECHNICAL DATA	
Input voltage	230V +10% -15% 50/60 Hz
Input current	max. 14A
Input	max. 3,9 kW
Power	max. 3,5 kW
PF (power factor)	0,99PFC
Load factor	100 %
Cover	IP 20
Dimensions cm	44x20x24
Weight kg	13,5

5 USE

Before usage of the device, check the incoming cable, handle and the handle cable to assure that they are not damaged.

1. Disconnect the device from the electric network and loosen the screws on the handle.
2. Insert the working coil into the burner and tight it up properly
3. Connect the supply cable of the device into a properly grounded standard socket ~230V, 50/60Hz and turn on the device using the main switch. Before turning on, make sure that the handle is laid in a safe place and that the heating button is not pressed down.
4. Attach or put the working coil on the material you want to warm up and press the button on the handle. Heating remains activated during the pressing of the trigger.

After finishing the cycle, release the button on the handle and remove the heating coil from the heated material.

While working with the KMi heaterX350 slowly move with the working coil to prevent the sticking to the heated material. You can hear a little buzz during the operation or small vibrations which is absolutely normal features of the induction procedure.

Always check the tightened of the working coils to prevent leaking the cooling liquid.



NOTE: During heating keep the ferrite coil on the surface of the heating up material to reach the best quality performance.

After finishing heating, place the handle with the heating coil in a safe, inflammable place until the heating coil is completely cooled. The induction heater itself the same as the burner is cooled down by the cooling liquid internally and by the additional fan externally. This keeps the continuity of the working process. Then turn off the device using the main switch and disconnect it from the electric network.



ATTENTION: The coil and the heated object can reach a high temperature and/or cause burns or result in fire.

5.1 HEATING COILS



NOTE: The service life of the coils can be increased by cleaning rust, paint, oil etc. from the heated material.



NOTE: It is possible to use the coil to remove various adhesive stickers, seal-ants and gaskets which are stuck to sheet metal or metal – for example in automotive, services etc.



If the overload of the device occurs /the LED warning light on the device is flashing red.

6 DEVICE INDICATORS

Error code	Description
1	Power supply undervoltage
2	Power supply overvoltage
3	Input overcurrent
4-5	Output overcurrent
6	Power overload
7-8	Output frequency out of range
9-10-11	Regulation error
12	Lack of coolant
13	Hose squeezed or clogged
14-15-16-17-18	Device overheating
19	Power supply wrong grid frequency
20-25-26	Device servicing errors

7 STORAGE AND MAINTENANCE

7.1 COOLING, DISMANTLING AND STORAGE

After completion of heating, make sure that the coil holder and coils used are placed in a safe place. Handling the device or its parts before letting it cool down can result in injury, damage to the equipment or fire.

After completion of heating, leave the device turned on for 10 more minutes – the device will be cooled down by fans until cooled off completely and then will turn off the fans. Then shut it down by the main power switch and disconnect it from the power supply.

If you unplug the unit immediately, let all working coils cool down for at least 15 minutes.

After cooling, place the device and its accessories to the safe place. Place the cords so as to avoid their sharp bending or twisting – it could cause their damage.

Always use the air pressure device to blow up all the dust and small parts of the metal to prevent any damage of the induction heater. Do not open the cover of the device! Only person after the training.

7.2 PROPER CLEANING AND MAINTENANCE

Make sure the device is turned off, unplugged and cooled. Use a dry, clean cloth or paper towel to remove grease, oil and other impurities from the machine. Use freely available non-volatile cleaning agents for grease, oil and dirt that is difficult to remove. Before the first reuse of KMi heater X350 allow all components to air dry.

Do not immerse any part of the device in water or other liquids. Do not clean the components with volatile organic compounds such as gasoline, benzene, kerosene, methyl ethyl ketone (MEK), fuel oil, brake parts cleaners, paint and thinner remover, varnish removers, self-adhesive solvents, etc. These substances cause fire and cause hardening or dissolving of polymeric materials used in the device.

Do not use heat sources, heaters, burners, microwave ovens or gas furnaces, etc. for drying the device and its parts after cleaning.

8 WARRANTY

Machine warranty period is determined by the manufacturer for 12 months from the sale of machinery buyer.

Warranty period begins on the date of de-livery of the machine to the purchaser, or the possible delivery date.

The warranty period does not cover expendable parts – coils. Warranty period does not include the period from the application of a legitimate complaint until the machine is repaired.

Content of the guarantee is responsible for the delivery of machines at the time of delivery, and the warranty period will have the characteristics laid down by mandatory specifications and standards.

Responsibility for defects that occur after the machine sold under warranty, consists in the obligation of free defect removal machine supplier, or service organization authorized by the machine.

Condition of warranty is that the machine is used in a manner and for the purposes for which it is intended. Such defects are not recognized extraordinary wear and damage due to insufficient care or neglect seemingly insignificant defects.

For example, the defect cannot recognize:

- Equipment damage due to inadequate maintenance,
- Mechanical damage due to rough handling, etc.

The warranty does not cover damage due to failure to meet the obligations of the owner, his inexperience, of impairments, failure to comply with the provisions referred to in the instructions for use and maintenance, the use of machines for the purposes for which it is not intended, overloading the machine, even if temporary. Maintenance and repairs must be exclusively used by original equipment manufacturer.

During the warranty period are not allowed any modifications or changes to the machine, which can affect the function of each part of the machine, otherwise the warranty will not be applied.

Warranty claims must be applied immediately upon detection of manufacturing defects or material defects, and that at the retailer.

If a warranty repair will replace the defective part, transferred ownership of the defective part to the manufacturer.

8.1 NON-WARRANTY CONDITIONS

1. The usage of the KMi heaterX350 in other way that is allowed by the manufacturer.
1. The usage of inappropriate working coils which are not being supplied by the manufacturer.
2. The usage of another isolation than is recommended by the manufacturer.
3. The damage due to the overloading the device.
4. Manual damage of the device and its components by the user.
5. The other non specified manual or technical damages made by the user.
6. Damaging of the overvoltage protection components.

9 WARRANTY SERVICE

Warranty service can be performed only by a trained service technician authorised by KM Equipment s.r.o.r.s.p.

Before performing warranty repairs it is necessary to check the data of the machine – the date of purchase, serial number, machine type. If the data are not consistent with the conditions for the recognition of warranty repairs, for example, expiry of the warranty period, improper use of the product contrary to the instructions for use, etc., it is not a warranty repair. In this case, all costs associated with the repair shall be borne by the customer.

10 DISPOSAL OF USED EQUIPMENT



These machines are built with materials that do not contain substances that are toxic or poisonous to the user. For the disposal of waste equipment use the collection points for the abstraction of used EEE. Do not dispose of the used equipment in common waste.

11 THE MEANING OF USED SYMBOLS



- Usage restriction of the persons with the cardiac stimulator or any other metal or electrical implant!
- Usage only by the trained persons!
- Danger of explosion!
- Danger of fire!
- Caution very strong intensity of magnetic field!
- Caution strong heat device!

- Before usage read the manual carefully.
- Use the protective equipment – gloves, glasses.
- Always use the protective clothes.
- Use the protective respirators.
- Use the protective working gloves.
- Switch OFF the device while not in use and unplug from the power of supply.



12 POSSIBLE DEFECTS AND THE SOLUTIONS

<i>Defect</i>	<i>Feature of the defect</i>	<i>Solution</i>
The heated material is not being heated.	LED light is flashing on RED. When pushing the trigger on the handle with the coil without any load. Wrong coil or damaged coil, coil without the exact number of rounds or bad connection of the coil.	Use the standard coil supplied by the manufacturer and check the correct connection.
Heated material is being heated slowly.	The temperature of the heated material is increasing slowly or not at all.	Use another working coil. Check if the heated material is ferromagnetic and the coil if it is not damaged or harmed. Check the connector where is the device plugged in if there is enough power of 230V. Check if the power is not from another power source such as generator or DC/AC power device where is not the sinus current but only quasi-sinus current or the power supply device is not powerful enough! Plug the device into another power of supply. Check the prolonger cable for the interference.
The cable from the device to the handle is overheated.	The temperature of the cable is higher than normal.	Check the induction heater KMi heaterX350 if it is not being overloaded for a very long period of time or if the coolant is not leaking or circulating.
The heated material is not being heated.	LED light is flashing on RED. The device is overheated.	Let the device KMi heater X350 to be cooled down and control it all the time.
	The LED light is switched on RED even after the time 3 min of cooling down. LED light is not being ON at all. The ventilators of the device are being stopped. The induction heater KMi heaterX350 has no reaction on the trigger. There is some defect on the device KMi heaterX350.	Send the induction heater KMi heaterX350 to the service centre or directly to the manufacturer. Do not use the device!

13 WARRANTY CERTIFICATE

Date of sale	
Dealer signature and stamp	

Record of the service operation			
Date of takeover by service	Date of repair	Number of claim protocol	Signature

14 CERTIFICATES OF QUALITY

Producer: **KM Equipment s.r.o. r.s.p.**

Product type: **KMi heater X350**

Serial number:

Date of output control:

Controlled:

15 DECLARATION OF CONFORMITY

Producer:

KM Equipment s.r.o. r.s.p.

Declare that the product:

Induction heater KMi heater X350

This conformity certificate confirms the conformity of the product with essential safety requirements of the

following EC/EU New Approach Directives as amended:

2014/35/EU LVD Directive 2014/35/EÚ Low voltage

2014/30/EU EMC Directive 2014/30/EÚ EMC

Harmonized standards used for the conformity assessment:

EN 60335-1:2012/AC:2014/A11:2014/A13:2017/A1:2019/A14:2019/A2:2019/A15:2021

EN 60335-2-45:2002/A1:2008/A2:2012

EN 61326-1:2013

EN 55011:2016/A1:2017/A11:2020/A2:2021

EN 61000-3-3:2013

Other standards and specifications used for conformity assessment:

EN IEC 61000-3-2:2019/A1:2021

EN 61000-3-3:2013/A1:2019/A2:2021/AC:2022-01

The certificate has been issued on the basis of the tests of the product type sample.

The results are recorded in the Conformity assessment report No. 230500016 dated 01.09.2025.

mark can be used only in the case of conformity assessment according to all relevant EC/EU Directives

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