GB

INDUCTION HEATING TOOL

99798

These instructions accompanying the product are the original instructions. This document is part of the product, keep it for the life of the product passing it on to any subsequent holder of the product. Read all these instructions before assembling, operating or maintaining this product.

This manual has been compiled by Draper Tools describing the purpose for which the product has been designed, and contains all the necessary information to ensure its correct and safe use. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product.

Whilst every effort has been made to ensure the accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

1. TITLE PAGE

1.1 INTRODUCTION:

USER MANUAL FOR: INDUCTION HEATING TOOL
Stock No's: 99798
Part No's: IHT-11

1.2 REVISIONS:

Date first published June 2020.

As our user manuals are continually updated, users should make sure that they use the very latest version.

Downloads are available from: http://drapertools.com/manuals

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1.3 UNDERSTANDING THIS MANUALS SAFETY CONTENT:

WARNING! – Information that draws attention to the risk of injury or death.
CAUTION! – Information that draws attention to the risk of damage to the product or surroundings.

1.4 COPYRIGHT © NOTICE:

2. CONTENTS

3. WARRANTY

3.1 WARRANTY

Draper tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, please return the complete tool to your nearest distributor or contact

Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England.

Telephone Sales Desk: (023) 8049 4333 or Product Help Line (023) 8049 4344.

A proof of purchase **must** be provided with the tool.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty period covering labour is 12 months from the date of purchase except where tools are hired out when the warranty period is 90 days from the date of purchase. This warranty does not apply to any consumable parts, any type of battery or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

Note: If the tool is found not to be within the terms of warranty, repairs and carriage charges will be quoted and made accordingly.

This warranty applies in lieu of any other warranty expressed or implied and variations of its terms are not authorised.

Your Draper warranty is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the warranty period.

Please note that this warranty is an additional benefit and does not affect your statutory rights.

Draper Tools Limited.

4. INTRODUCTION

4.1 SCOPE

This device generates an alternating current of high frequency. The current passing through a 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 within the work field of the instrument. The more easily magnetizable material, the more heat it creates. That is why the device heats nonferrous metals and their alloys easily but has no effect on glass, wood, textiles and other non-conductive materials.

4.2 SPECIFICATION

Stock No. 99798
Part No. IHT-11
Rated voltage 230V
Rated frequency 50Hz
Input current 1.25kW
Power 1.1kVA
PF 0.95kVA
Cover IP20
Dimensions 200x140x75mm
Weight (machine only) 2.83kg

4.3 HANDLING AND STORAGE

– Care must be taken when handling this product.
  - Dropping this product could have an effect on its accuracy and could also result in personal injury. This product is not a toy and must be respected.
– Environmental conditions can have a detrimental effect on this product if neglected.
  - Exposure to damp air can gradually corrode components.
  - If the product is unprotected from dust and debris, components will become clogged.
  - If not cleaned and maintained correctly or regularly, the product will not perform at its best.

Store in a dry location out of the reach of children.

5. HEALTH AND SAFETY INFORMATION

5.1 HEALTH AND SAFETY INFORMATION

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.

Draper Tools will not be liable for damages or injuries resulting from improper use and handling of the device.

The device may be operated only by persons properly trained and appropriately qualified. Do not operate IHT-11 under the influence of drugs, alcohol or medication

Bystanders and animals 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.

When working with the device always have a fully functional fire extinguisher within reach.

5.2 SAFETY RULES FOR PERSONAL PROTECTION

The equipment must not be used by person with pacemakers, or any other metal or electronic implants.

Risk of fire.

The equipment may only be used by trained person.

Risk of explosion.

Intense magnetic field

Caution, source of intensive heat!

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

When working with IHT-11 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. - IHT-11 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 always wear safety goggles or face shield.

When using the device 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 always wear protective gloves with corresponding thermal resistance. High temperatures generated by the use of may cause serious burns in the case of touching the heated part.

Always keep proper footing and balance for safe control of the device at all times.

Do not use IHT-11 near a device with pyrotechnics (e.g. airbag). The resulting heat can cause their unexpected explosion. Keep a minimum distance of 10-20cm from these devices.

5. HEALTH AND SAFETY INFORMATION

5.3 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 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 IHT-11 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.

Before replacing the applicator (coil), disconnect IHT-11 from the power source (wall outlet).

If you are not using IHT-11, 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 interference.

5.4 FIRE SAFETY RULES

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 heating IHT-11 may cause them to explode and their contents may ignite.

Do not use the heating spiral (coil), if the insulation is damaged. A defect in the insulation 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 insulation will void the warranty.

5.5 SAFETY RULES FOR USING THE DEVICE

Do not leave uncontrolled when it is connected to the mains power supply. Always switch off at the mains when not in use!

Make sure that the power supply and device has an adequate supply of air for cooling. 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. The device does not contain any user-serviceable components, except for replaceable heating coils.

Before connecting IHT-11 to the power outlet make sure the outlet voltage corresponds to the voltage on the rating plate. If the power outlet voltage does not match the voltage indicated on the rating plate, it may result in a serious risk of damage.

Do not exceed the operating cycle - 2 minutes heating (on) a 2 minutes cooling (off). The main equipment is protected against device overheating, but heating coils are not, which may cause their damage.

- Extension cords - if necessary, you may use only the following extension cords:
  - up to 5m with 2.5mm^2 diameter
  - up to 15m with 4mm^2 diameter

  Use only one extension cord – do not connect two or more extension cords. Do not use any other extension cords other than those mentioned above. Ensure the extension cord is fully unwound.
- 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 3-4 kW, or DC/AC inverter with a power output of 2-3 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.

6. TECHNICAL DESCRIPTION

6.1 IDENTIFICATION

① Coil holder.
② Connection cord.
③ Switch on and overheating indication light.
④ Carry strap.
⑤ ON/OFF switch.

7. UNPACKING & CHECKING

7.1 PACKAGING

Carefully remove the machine from the packaging and examine it for any sign of damage that may have happened during shipping. Lay the contents out and check them against the parts shown below. If any part is damaged or missing; please contact the Draper Helpline (the telephone number appears on the Title page) and do not attempt to use the machine.

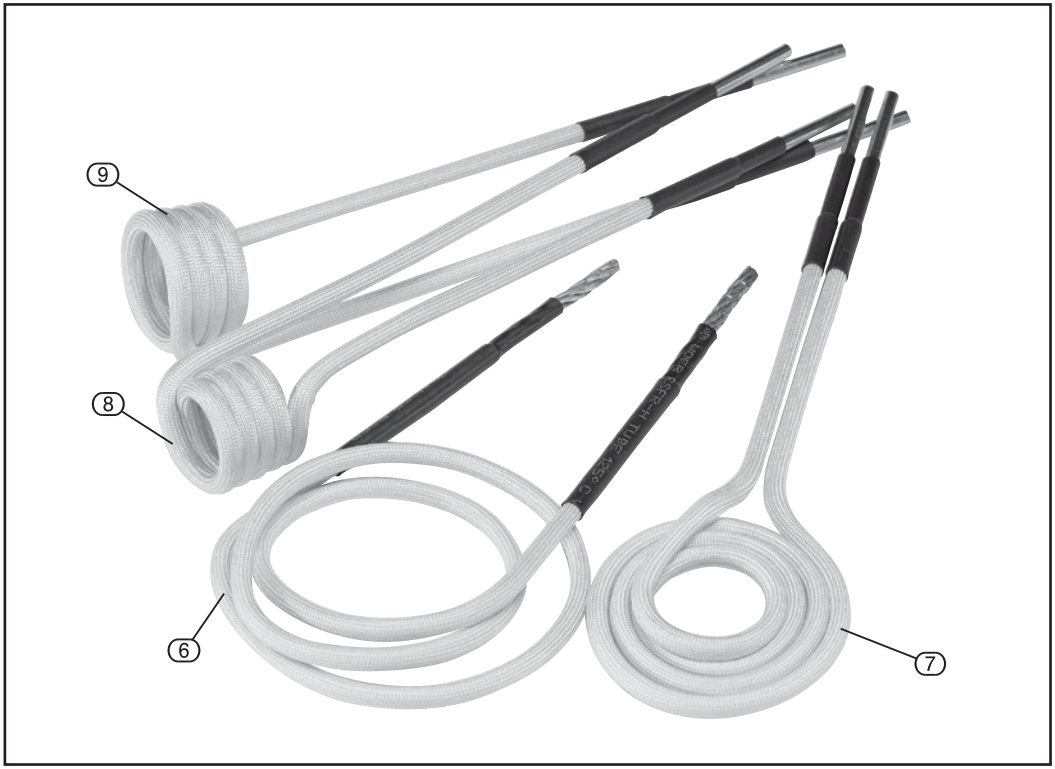
The packaging material should be retained at least during the guarantee period: in case the machine needs to be returned for repair.

Warning! Some of the packaging materials used may be harmful to children. Do not leave any of these materials in the reach of children.

If any of the packaging is to be thrown away, make sure they are disposed of correctly; according to local regulations.

7.2 WHAT´S IN THE BOX?

As well as the main product, there are also several other parts not fitted or attached to it. If any part is damaged or missing; please contact Draper Helpline (the telephone number appears on the title page) and do not attempt to assemble or use the product.



(6) Flexible coil.
(7) Pad coil.
(8) Direct coil - 19mm.
(9) Direct coil - 26mm.

8. INSTRUCTIONS FOR USE

8.1 USE

Before using the device, check all components assure that they are not damaged.

1. Disconnect the device from the electric supply and loosen the locking screws on the handle.
2. Insert the required working coil into the holes and clamp tightly using locking screws.
3. Connect the supply cable of the device into a properly earthed 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 button - do not exceed the operating cycle of 2 minutes of heating and 2 minutes of cooling.
5. After finishing the cycle, release the button on the handle and remove the heating coil from the heated material.

Note: During heating there should be a gap of around 3-5mm between the coil and the heated material to avoid excessive wear of the heating coil. A gap larger than 3-5mm decreases heating efficiency and extends the heating time.

After finishing heating, place the handle with the heating coil in a safe, inflammable place until the heating coil is completely cooled. Then turn off the device using the main switch and disconnect it from the electric supply.

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

8.2 DIRECT COILS - FIG. 1

Application of the direct coils 19 and 26mm for the heating of nuts, couplings, gaskets, hinges, screws etc.

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

During heating, there should be a gap around 3-5mm between the coil and the heated material to avoid excessive wear of the heating coil. Holding of the coil directly on the hot material can cause the burning of the coil insulation, thereby shortening the service life of the coils. We recommend limiting direct contact of the coil with the hot material to the minimum.

For loosening nuts, screws etc., it is not necessary to heat the material until it is red hot. Heat the nut for 2 seconds and try to loosen it using a wrench. If it is not possible, heat again for 2 seconds and then try loosening using the wrench again.

Note: Damage to the coil caused by burning will not be coverd by the warranty.

FIG.1

8.3 PAD COIL - FIGS. 2 - 3

The flat spiral shaped coil is intended for the heating of flat sheet metals and for the straightening of small dents in car bodies by heating. The flat coil is also intended for easy peeling off of stickers, sealants, putties etc by heating of the base material - steel sheet metal.

Note: It is possible to use the coil to remove various adhesive stickers, sealants and gaskets which are stuck to sheet metal or metal – for example in automotive, services etc. The coil is used heating of the base material and thus softening, or alternatively, hardening of the glue, putty, etc. We recommend holding the coil around 5-15mm far from the heated material - it is possible to regulate the required temperature and heating time by changing the distance.

Warning: If using the coil on a painted surface be VERY careful not to over-heat the metal and burn the paint off!

If using the coil to soften windscreen bonding be careful not to over-heat the base metal - as distortion of the metal may damage the windscreen.

We recommend testing on non-critical components to understand the correct method for each application.

Note: Damage to the coil caused by burning will not be covered by the warranty.

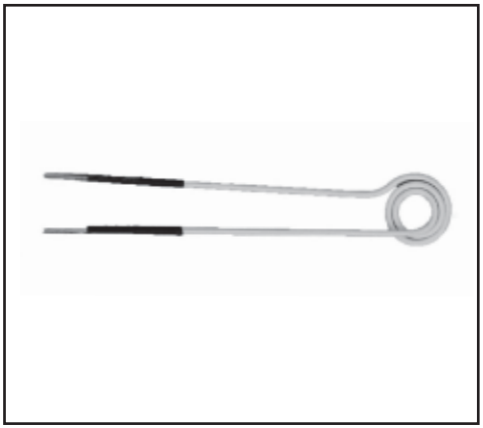


FIG.2

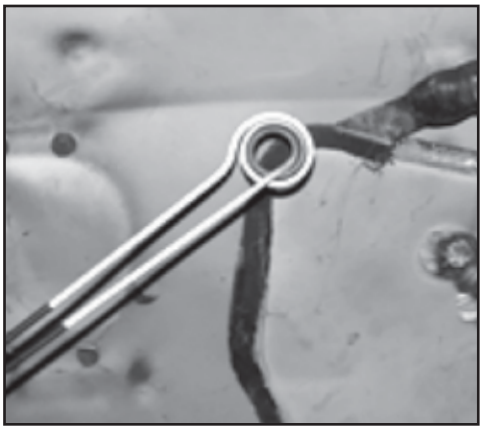


FIG.3

8.4 FLEXIBLE COIL - FIGS. 4 - 6

The flexible coil is used for the loosening of axle fitments, stiffened sensors, ball joints etc and in applications where is not possible to use direct coils.

Applications:

1. Connect one end of the coil to the coil holder and secure it by the locking screw.
2. Wrap the free end of the conductor over the part which needs to be heated. Make around 2-4 turns.
3. Connect the second - free end of the coil into the coil holder and secure it by the locking screw.

If too many loops are used it may cause the device to overload (the LED warning light on the front panel is flashing red), unwind one loop and repeat the procedure until the heating begins.

Note: Be careful not to over-heat and burn the insulation coating of the wire. Damage to the wire by burning will not be covered by the warranty.

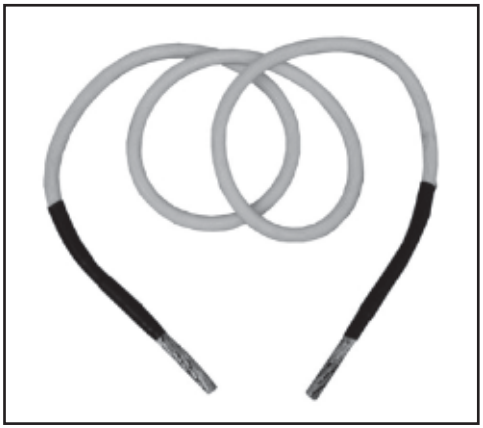


FIG.4

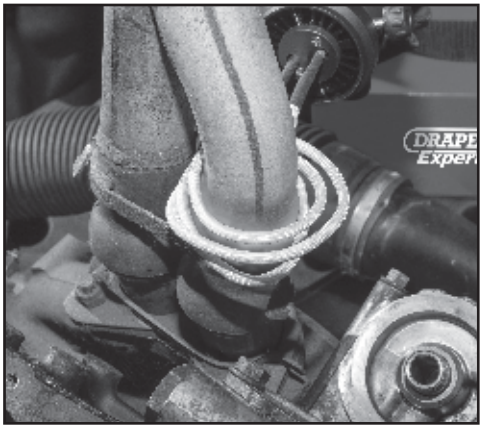


FIG.5

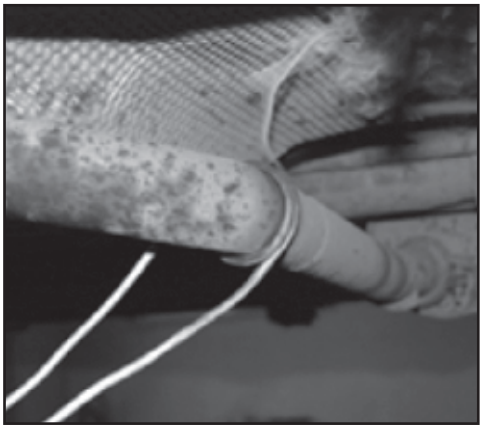


FIG.6

8.5 DEVICE INDICATORS

Lights on the device indicate the following states of the device:

- Green ..... Standby
- Yellow..... Heating in progress
- Yellow flashing ..... Device is overheated
- Red flashing..... Bad coil or power overload
- Red light..... Error

9. MAINTENANCE

9.1 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 in the case. Place the cords so as to avoid their sharp bending or twisting – it could cause their damage.

9.2 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, applicators and cables before placing DHI-15 in the storage case.

Use freely available non-volatile cleaning agents for grease, oil and dirt that is difficult to remove. Before the first reuse of IHT-11 allow all components to air dry.

Do not immerse any part of the device in water or other liquids. Do not spray and wash the device down with water spray. 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.

10. TROUBLESHOOTING

10.1 TROUBLESHOOTING

DEFECT	FAILURE MODE	SOLUTION
The material to be heated is not heating up	Red LED located on the front panel is flashing: After the button is pressed when the coil is not loaded –incorrect (unsuitable size or number of coil threads) or incorrectly connected coil.	Use a standard coil and check correct connection (that the coil terminals are inserted enough and bolts are tightened).
	Red LED located on the front panel is flashing: After the button is pressed when the heating coil is inserted to the part to be heated, or when the heating coil is being inserted to the part, or during the heating process – the overload protection circuit of the power supply system was activated.	Make the distance between the material and the coil larger – e.g. place the coil further from the material, or use a bigger coil.
		Check where the equipment is connected to the mains. Power supply from the mains may be distorted or, supply voltage frequency may be distorted. The power socket may be connected to the mains which is supplied by standby source of power supply (generator), or by DC/AC invertor, where there is not a sine wave at the output (there is only square wave or quasi-sine wave), or the power output is not sufficient! Connect the equipment to another socket. Caused by interference by other equipment connected to the same mains. Caused by extension cable where the interference may be induced. Connect the equipment to another socket. Check the function of the equipment by pressing the button when a standard coil is connected correctly without the heated part inserted. Yellow LED must be lighting.
The material to be heated is heating up slowly	Temperature of the material to be heated increases too slowly or not at all.	Use a coil the diameter of which is larger by 10mm than the diameter of material to be heated is. Check that the material is ferromagnetic.
Connection cord wire is heated up	Higher temperature of the wire can be felt when the wire is touched.	Check the load time, check that the equipment is not overloaded. Keep the maximum operation time of 2 min. and cooling time of 2 min.
The material to be heated is not heating up	Yellow LED located on the front panel is flashing. The equipment is overheated	Let the device cool down.
	Red LED located on the front panel is lighting. Failure of the equipment.	Send to an authorized service centre.

10. TROUBLESHOOTING

1. IHT-15 is designed and constructed so that when an overload occurs, there is a temporary turning off, which is indicated by the flashing of the LED on the front panel.
2. The induction coils do not have any thermal protection and thus they are not protected against overload. The operating cycle of the induction coils is set for 2 minutes of activity - heating and 2 minutes of cooling.
3. If the device stops working, check that it is properly connected with the electric supply and also check the plug connector and socket, the fuses or breaker. Check the value of the supplied network current. Also make sure that the incoming and connection cable is not damaged. Let the device cool off for at least 10 minutes and then reconnect it. If the problem persists, contact your supplier.
4. Usage of an inappropriate extension cable (too long, small diameter of wires) can cause insufficient power of the device - see the safety regulations.
5. In case of other problems contact your supplier.

11. ACCESSORIES

11.1 ACCESSORIES

STOCK NO.	PART NO.	DESCRIPTION
80901	YIHT-15	19mm Direct Coil
80902	YIHT-15	26mm Direct Coil
80903	YIHT-15	Flex Coil
80906	YIHT-15	Pad Coil

12. EXPLANATION OF SYMBOLS

12.1 EXPLANATION OF SYMBOLS

Read the operation manual before starting the equipment.

Use protective equipment, goggles.

Use protective equipment, working suit.

Use protective equipment, breathing masks.

Use protective equipment, protective gloves.

Always disconnect the equipment from the power supply when it is not being used.

The equipment must not be used by person with pacemakers, or any other metal or electronic implants.

The equipment may only be used by trained person.

Intense magnetic field

Risk of fire.

Risk of explosion.

Caution, source of intensive heat!

13. DISPOSAL

13.1 DISPOSAL

– At the end of the machine's working life, or when it can no longer be repaired, ensure that it is disposed of according to national regulations.
– Contact your local authority for details of collection schemes in your area.

In all circumstances:

- Do not dispose of power tools with domestic waste.
- Do not incinerate.
- Do not abandon in the environment.
- Do not dispose of WEEE* as unsorted municipal waste.

* Waste Electrical & Electronic Equipment.

CONTACTS

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General Enquiries: (023) 8026 6355

Service/Warranty Repair Agent:
For aftersales servicing or warranty repairs, please contact the Draper Tools Helpline for details of an agent in your local area.

YOUR DRAPER STOCKIST

DBCM0620