

## SYMBOLS USED IN THIS MANUAL



= Wear eye protection



= Wear a dust mask



= Wear protective gloves



= Read the operating manual

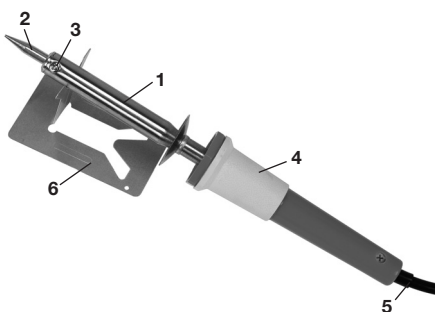
## Operational Safety Instructions for the soldering iron



- Soldering means fusing metallic materials by means of molten solder. Almost all metals and metal alloys can be soldered, especially brass, copper and iron etc. A distinction can be made between soft soldering and hard soldering (brazing).
- Hard soldering (brazing) is performed at temperatures over 450 degrees. Hard solders and silver brazing solders are made of metal alloys that melt only at temperatures which cannot be achieved using an electric soldering iron. Soft soldering is performed at temperatures under 400 degrees. Soldering performed with a soldering iron is soft soldering.
- Make certain that the rated power stated on the machine's rating plate (230-240 V) agrees with the local mains voltage before connecting the machine to the mains.
- Make sure that the tip is correctly fitted before heating the soldering iron. It must be fastened tightly with the clamping screw.
- We recommend that you work in the vicinity of the mains socket so that you can quickly pull the plug from the socket in the event of an emergency.
- Be sure to disconnect the machine from the mains after finishing work.
- Allow the machine to cool down completely before storage! Rest the device on the stand provided or on a non-flammable surface during breaks or after finishing work. Do not leave the soldering unsupervised until it has cooled down completely.
- Do not use the soldering iron if the handle, the mains cable or the mains plug are damaged. Send the device to an authorised workshop for repair. Never open the device yourself.
- Do not expose the device to water or moisture.
- The device may only be used indoors.
- Make sure that no liquids can enter the device.
- The soldering tip may only be removed when it is cool and when the soldering iron is off. Slide the new soldering tip into the soldering iron as far as it will go and fasten it with the clamping screw. Do not use unnecessary force.
- Never heat up the soldering iron without a soldering tip fitted.
- Do not touch the tip while operating the machine. Danger of burns!
- Use the device only in well ventilated rooms. Toxic fumes can be produced when soldering which can lead to damage to the mucous membranes and/or chronic respiratory illness..
- Do not eat or drink whilst soldering as solder can contain lead. Always wash your hands thoroughly after finishing work.
- The soldering iron is fitted with a special mains cable, which may not be damaged. When working, take care not to touch the mains cable with the hot soldering iron. Damaged mains cables can not be replaced. Never operate the soldering iron if the mains cable is damaged. Instead, dispose of it safely as described in the 'Recycling' section of this manual.
- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.**

## FEATURES

- 1 Soldering iron
- 2 Soldering tip
- 3 Fixing screw for tip
- 4 Handle
- 5 Cable with plug
- 6 Stand



## SCOPE OF USE

The soldering irons are designed for joining metallic workpieces by means of molten solder. Almost all metals and metal alloys can be soldered, especially brass, copper and iron etc. Soldering performed with a soldering iron is soft soldering. Soft soldering is performed at temperatures under 400 degrees.

## TECHNICAL SPECIFICATIONS



**Model: HS-060A-15, HS-060A-25, HS-060A-40, HS-060A-60 HS-060A-80, HS-060A-100**

Rated voltage	230-240 V~ / 50 Hz
Rated power:	15 W, 25 W, 40 W, 60 W, 80 W, 100 W
 Protection category I	

## CONNECTING TO THE MAINS



The machine is designed for use with single phase alternating current 230-240 V AC / 50 Hz and is double-insulated. Make certain that the rated voltage stated on the soldering iron's rating plate matches the local mains voltage.

If the work area is not close to the mains outlet, use an extension cable with sufficient conductor diameter (min. 1.5 mm<sup>2</sup>).

The extension cable used should be as short as possible.

## SWITCHING ON AND OFF

The applicator wand is switched ON as soon as the plug (5) is connected to the mains. Disconnect the machine from the mains to switch it OFF.

## USING THE SOLDERING IRON

1. Ensure that the rated voltage stated on the rating label is the same as the local mains voltage.
2. Carefully check the tip (2) before switching the machine on. The tip fixing screw (3) must be tightly fastened.
3. Connect the soldering iron to the mains.
4. Never heat up the soldering iron without a tip fitted.
5. The tip may only be removed from the machine when the machine is switched off. Never use force to remove the tip. Insert the replacement tip as far as it will go into the tip holder.
6. Allow the soldering iron to cool down after finishing the job. Do not cool by rinsing under water.
7. Place the soldering iron on the stand (6) during breaks in your work.

### Caution!

The soldering iron is fitted with a special mains cable. Do not use the soldering iron if this mains cable is damaged. When working, take care not to touch the mains cable with the hot soldering iron. Damaged mains cables can not be replaced. Never operate the soldering iron if the mains cable is damaged. Instead, dispose of it safely as described in the 'Recycling' section of this manual.

### Caution!

- To prevent the risk of fire, always place the soldering iron on the stand provided or a similar non-flammable surface after finishing work or during breaks.
- Always disconnect the soldering iron from the mains after finishing work. Allow the soldering iron to cool down to room temperature before putting it away.
- Keep children out of the area.

## WORKING WITH THE MACHINE

### Solder and flux

Solder for the DIY market is almost exclusively produced in the form of wire.

There are two types of solder wire on the market:

1. Simple, unfilled solder wire.
2. Solder wire with flux core

Fluxes remove oxide residue and prevent oxide residue forming on the workpiece during the soldering process.

Soldering grease and liquid flux should be carefully removed from the workpiece after soldering using a brush or cloth. Resin residue forms after soldering using solder wire with a flux core. Resin residue should not be removed.

### Solder

Solder	Melting temperature approx. 185°C Good for electrical use.
Radio solder	For model making or fine soldering Melting temperature approx. 235°C
Soft solder	For general purpose soldering.
Solder stone	For cleaning the tip
Soldering grease	Flux paste.
Liquid flux	Flux for inaccessible workpieces

## PREPARING THE SOLDERING IRON TIP AND THE JOINT

- The parts to be soldered must always be cleaned. Use a solvent solution to clean the parts. Remove any oxidation either chemically, or mechanically with a file or spatula.
- Do not use aggressive acids such as hydrochloric, sulphuric or nitric acid unless you are an expert. Instead a 10 % citric acid solution, warm or hot is usually suitable. Do not touch the workpiece with your fingers after cleaning.
- When the right temperature is reached, the solder melts to a filmy consistency. If lumps are formed, the tip is not yet hot enough. If beads are formed the tip should be cleaned.

## SOLDERING

The soldering iron may only be used indoors.

The soldering iron is designed for soldering electrical wires and circuit boards as well as repairing small electronic appliances.

The soldering iron is for indoor use only and may not be used outdoors. The soldering iron cannot be used for soldering large workpieces.

- Heat the joint with the soldering iron. Hold the solder to the joint until it is molten.
- Remove the soldering iron tip from the joint and allow the solder to set.
- Do not move the joint until the solder has set.

## DE-SOLDERING WITH DE-SOLDERING BRAID

- Dip the end of the de-soldering braid in flux.
- Heat the joint with the soldering iron. Hold the soldering braid to the molten solder.
- The molten solder flows onto the braid.
- Cut off the used part of the de-soldering braid.

## MAINTENANCE

### REPLACING THE MAINS CABLE

The soldering iron is fitted with a special mains cable, which may not be damaged. When working, take care not to touch the mains cable with the hot soldering iron. Damaged mains cables can not be replaced. Never operate the soldering iron if the mains cable is damaged. Instead, dispose of it safely as described in the 'Recycling' section of this manual.

### MAINTENANCE

The tip is a wear part and must be replaced from time to time.

Loosen the screw on the metal shaft of the soldering iron and remove the worn tip. Replace with a new tip. Re-tighten the tip fixing screw.

## RECYCLING



This symbol indicates that this product may not be disposed of together with domestic waste in compliance with the (2002/96/EC) Regulation pertaining to waste electrical and electronic devices (WEEE). This product must be handed in at an designated collection point. This can occur, for example, by returning it when a similar product is purchased or by handing it in at an authorised collecting point for the recycling of waste electrical and electronic equipment. Owing to potentially hazardous substances that are frequently contained in waste electronic equipment, incorrect handling of waste equipment may have a negative impact on the environment and on the health of human beings. By disposing of this product correctly, you are also contributing towards an efficient use of natural resources. Information on collecting points for waste equipment can be obtained from your local authority, the public waste disposal authority, an authorised institution for the disposal of waste electrical and electronic equipment or the waste collection services.