



**Lötstation | *soldering station***

Manual

## SOLDERING STATION



**ATTENTION!** Please read the user manual completely and carefully. It is part of the product and includes important information for proper installation and use. Keep this guide to have it available, when there are uncertainties, or the product will be passed on.

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### 1 Description and Function:

The Soldering Station AP 2 is made for using in hobby-electronics, production and workshops. It comes with soldering iron, stand for the soldering iron with sponge tray and viscose-cleaning sponge, as well as an analog temperature adjustment. A compact, stabile and protective-insulated housing is included. The high-power 40 - 48 Watts soldering iron heats up quickly and is driven by safety-low voltage. Stepless adjusting is possible between 150-450°C.

### 2 Intended Use:

Your product is made for soft-soldering uses in households only. It means you may only use it for soldering / unsoldering of electric and electronic components in printed circuits and modules, for tin coating of conductor paths and cable ends as well as making cable connections. Another use is not allowed.

Use the product only in dry interior rooms. If not attending to these regulations and notes on safety, it might causes fatal accidents, injuries and damages to persons and property. Never use this product for heating up liquids, such as water, bases, solvents, etc. or plastic parts because of producing toxic smoke and there is a danger of burning!

### 3 Notes on Safety:

**ATTENTION! Only skilled electricians may assemble and disassemble the housing of the product. There is a risk of electric shock, short circuit and burning!**



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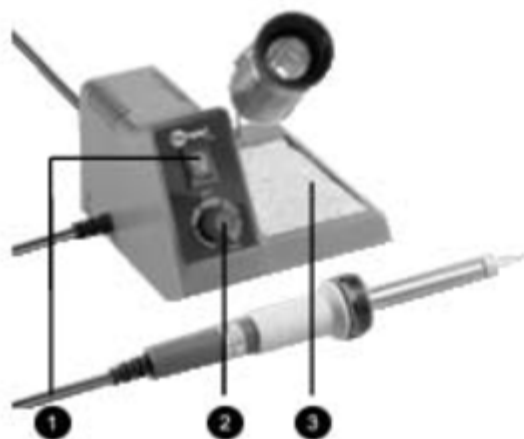
- Your product is not a toy and is not meant for children, because it contains small parts which can be swallowed and injured when used inappropriately!
- Warning: this tool must be placed on its stand when not in use.
- This appliance is not intended for use by persons (including children) with reduced 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.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similar qualified persons in order to avoid a hazard
- Please install and store the product and its accessories in a way persons cannot be injured, or objects not be damaged for example by dropping or stumbling.
- Please remove or store the packing materials well, because children may cut themselves on them while playing. Furthermore, there is a risk of swallowing and inhaling of incidentals and insulating material.
- By using in schools the soldering station must be supervised by a teacher.
- The soldering station may only be used in case of an assured operation. In the following cases you CANNOT expect an assured operation:
  - visible damages (e.g. faults of isolation, damage of the housing)
  - no function
  - long storing under bad conditions
  - improper transport
- A defective soldering station may not be put into operation, but must be disconnected from mains and protected against further use. Repairing, such as assembling and disassembling the housing is only allowed to skilled professionals. By repairing it yourself you will lose all warranties and there is a risk of electric shock, short circuit and burnings.
- Drive the product only with 220 - 240 V ~ / 50 Hz a.c. networks.
- Unplug the mains cable when not in use and during thunder storms.
- Avoid places with high humidity, or places which might come into contact with water.
- Do not use the device next to flammable material or gases.
- Only work in well ventilated rooms or under applicable exhaust hoods, because soldering smoke is harmful.
- Soldering work may only be done with current- and voltagefree parts.
- Mind and follow the terms of law and health care for using the device in industry.
- The soldering iron reaches temperatures of more than 160°C. Touching the heated metal parts can cause fatal burning injuries to people and animals.
- Switch off the soldering station during longer working breaks.
- Never dunk soldering iron or soldering station into water for cooling!
- Never expose the product to high mechanical pressure.
- The soldering station heats up very much during operating. So only place it on solid, fixed and fire resistant bases.
- Do not modify or change the product or its accessories! Also mind chapter "warranty"

- and liability".
- Do not use damaged parts.
  - The soldering station may only be installed and used in dry interior rooms. • Do not let the soldering station out of view.
  - Do not plug things like metal parts and unfitting cables into ventilation slots or ports. There is a risk of electric shock and short circuit!
  - Keep enough space around all devices for a good ventilation and free motion and to avoid damages.
  - Take care of protecting the conducting blank metal of cables and contacts from contact by suitable means like covering, insulation with non combustible material.
  - Please observe the recommendations of the manufacturer regarding the application of suitable soldering material such as solder paste, solder tincture, etc.
  - During transport, observe the details listed in the Chapter "Specifications", and implement measures suitable for transport, e.g. use the original package.
  - For questions, defects, mechanical damages, malfunctions, and other functional problems which cannot be resolved by this guide, please contact your dealer for repair or replacement, as described in the Chapter "Warranty and Liability".
  - Mind chapter "Specifications".
  - Please also observe the terms of use described in the Chapter "Intended Use".

#### 4 Parts Package:

- 1 pc. soldering station AP 2
- 1 pc. soldering iron 40 - 48 Watts with solder tip
- 1 pc. user's manual

#### 5 Operating- and Adjusting Elements, Connecting:



1. Mains switch for switching the device on and off
2. Selector switch to set the desired soldering temperature
3. Stand for the soldering iron with sponge tray

## 6 Operating:

### 6.1 Preparing:

1. Insert the spiral-shaped metal holder into the corresponding opening of the soldering iron stand.
2. Soak the viscose cleaning sponge with clean water and drain it well before replacing it in the sponge tray.
3. The soldering tip is mounted into the shaft and fixed by a safety socket to the soldering iron. Change the soldering tip only at the cooled down soldering iron. In order to do so, unscrew the union nut at the soldering iron and push off the safety socket. Now the soldering tip is exposed and you can pull it off carefully. The screw connections should be inspected regularly regarding their tight fitting and, if required, be tightened accordingly.
4. Fix the soldering stand to the right side of the soldering station by plugging in.

**The soldering iron may not be operated without the soldering tip in any case.**



### 6.2 Connecting:

Connect the mains plug of the soldering station with the 220 - 240 V AC / 50 Hz mains socket, while the mains switch is turned off to the 0-status.

*Now the soldering station is ready to use.*

### 6.3 Adjusting the Temperature:

1. Switch on the soldering station by turning the mains switch into the I-status. The soldering station is heating up now.
2. By using the rotary switch, the soldering temperature can be adjusted steplessly, also during use at every time.

**In case of defects the soldering station has to be switched off immediately, disconnected from mains and checked regarding possible causes of the error.**



### 6.4 Handling:

Use suitable soldering wires and handle the soldering station in a correct way. This is prerequisite for impeccable soldering operation. We recommend electronics soldering wires with colophony solder core. In no case solder cores should contain halogens. The solder core within the solder wire liberates the soldering spot from solder-inhibiting contaminations and oxides and prevents the producing of new oxide during soldering.

The most commonly applied electronics solder is the Fixpoint® leadfree solder wire of Fixpoint® solder wire L-SN 60 Cu 2 (DIN EN ISO 12224-1) with a tin content of 60% (60/40 solder). This solder is available in different wire diameters (0.56 - 1.5 mm). We recommend a solder wire diameter of 1 mm for electronics.

NOTE:

**Before using the soldering station the first time, burn the soldering tip free of production residues and tin-coat it. Therefor switch on the soldering station and let some soldering tin deliquesce at an approx. temperature of 200°C to a thin connected film on the soldering tip.**

The correct soldering temperature is crucial for the quality of the soldered spots. In electronics the common soldering temperature is 300 - 380°C. Too low soldering temperatures lead to cold solder joints. At too high soldering temperatures the solder core burns in a way interrupting the solder flow. Moreover, there is a danger of damaging the circuit board and other components caused to these high soldering temperatures. Wipe the soldering tip directly before soldering with the moist cleaning sponge. Remains of incompletely vapourised solder cores, oxides and other contaminations will be removed this way and disappear from the soldering spot. Before replacing the soldering iron to the stand after work, the soldering tip has to be cleaned again and be tinned with some new solder. It is important to hold the soldering tip always tinned because otherwise it will become passive after a while and disable to absorb solder anymore.

1. Hold the cleaned and well tinned soldering tip, heated up to the set soldering temperature, to the soldering wire and to the spot being soldered. Now the solder core flows and cleans the surface of the metal parts being soldered and then the soldering tip in order to make the electrically conducting connection.

The soldering time in electronics is not longer than 2 seconds. A good soldering spot in cooled status looks smooth and shiny after the removal of the soldering iron. Poor, defective soldering spots look dull, uneven and brittle after cooling-down. Beside the application of unsuitable solder or a too high soldering temperature set, defective soldering spots often occur due to too short or too long soldering times.

A soldering spot may not be heated too long. On the other hand do not take away the soldering iron from the soldering spot too early, but only when the soldering tin flows like bare silver.

2. After finishing the soldering, leave some solder at the soldering tip before placing it into the holder and switch off the soldering station. The remaining solder will then be wiped off the hot soldering tip by the moist cleaning sponge before starting the next soldering operation.

## 6.5 Notes on Application:

The easy handling and the short heating time might lead to careless handling of the soldering station. Avoid this behavior absolutely! In order to ensure risk free soldering for users and protecting the soldering station from damages, follow the safety instructions and warning notes in this manual as well as the valid national or european directives.

## 7 Care, Maintenance, Storage and Transport:

**ATTENTION! There is a risk of electric shock, short circuit and burnings!**



- Always disconnect the mains plug from mains and let the device cool down!
- Use a dry cotton cloth to clean your product, or use a slightly moist cloth for heavy stains. Look out for live cables of your device during cleaning! Do not use any cleaning supplies and avoid liquid entry to the device.
- Make sure there is sufficient space around the system to ensure proper ventilation during work breaks and cooling down.
- Avoid places with high temperatures, humidity, or places which can become wet, also during care, maintenance, storage, and transport.
- Mind the notes on safety also regarding care, maintenance, storage and transport.
- Keep the product away from children!
- Reposit the original packaging as protection from dust and humidity for transporting.
- Follow the safety symbols on the packing during transport.
- In case of transporting the the soldering station from cold to warm rooms the sudden change of temperature may lead generating condensation water causing negative effects or damages to the electronics of the device. Only switch on the soldering station when having adapted to room temperature.

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## 8 Troubleshooting:

Problem	Help
The soldering station does not heat up.	Check the mains connection and the adjusted temperature at the rotary switch.
No good soldering joint is practicable.	Read chapter 6.4.
The temperature is hard to adjust.	Read chapter 6.3 or consult your dealer.
other questions	Consult your dealer.

## 9 Warranty and Liability:

- The producer grants a 2 years warranty to a new device.
- As the manufacturer has no influence on installation, warranty of the product only applies to the product.
- If any fault or damage is detected on your device, please contact your dealer and provide your sales slip or invoice as evidence of the purchase, if necessary. Your dealer will repair the fault either on site, or send the device to the manufacturer. You make the work of our technicians considerably easier, when you describe possible faults in detail – only then you can be assured that faults occurring only rarely will be found and repaired with certainty! If your dealer cannot be contacted, you can also contact us directly.
- The manufacturer is not liable for damages to persons or property caused by improper installation or operation not described in this guide. This includes, among others, any alteration and modification of the product and its accessories.
- Any use other than described in this user's guide is not permitted, and causes loss of warranty, loss of guarantee, and non-liability.
- We reserve our right for misprints and changes of the device, packing, or user manual.

## 10 Specifications:

Operating voltage	220 - 240 V AC / 50Hz
Power of the soldering iron	40 - 48 W
Temperature adjusting range	150 - 450 °C
Display range	1 - 460 °C
Temperature Display	-
Ambient temperature	+5 to +40 °C
relative air humidity	less than 85 % (non-wetting)
Air pressure	600 - 1000 hPa
Dimensions (B x H x T)	115 x 120 x 140 mm (without soldering iron)
Weight	0.56 kg net, 0.87 kg gross weight

NOTE: Table to convert the temperature from °C to °F: 
$$\frac{T(^{\circ}\text{C}) \times 9}{5} + 32 = T(^{\circ}\text{F})$$

## 11 Note on Waste Disposal:



In accordance with the European WEEE directive, electrical and electronic equipment must not be disposed with consumer waste. The consumer is committed by law to deposit electrical and electronic devices at public collecting points or to the dealer at the end of the device's lifetime for free. Particulars are regulated in national law. The symbol on the product, in the manual or on the packaging alludes to these terms. With this kind of application of used devices you achieve an important share to environmental protection.