



Velleman Temperature Controlled Soldering Station User Manual

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TEMPERATURE-CONTROLLED SOLDERING STATION



USER MANUAL 3



VTSS5U



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USER MANUAL

1. Introduction

Important environmental information about this product



— This symbol on the device or the package indicates that disposal of the device after its life cycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to

a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

If in doubt, contact your local waste disposal authorities.

Thank you for choosing Velleman! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

- The device is equipped with an electronic, temperature-controlled analogue scale from 374 to 896°F.
- The soldering iron is connected to ground.
- Power is switched on or off by the temperature control button. A LED indicator lights up when the device is on.

2. Safety Instructions

This device can be used by children aged from 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision.



Read and understand this manual and all safety signs before using this appliance.



Indoor use only. Keep this device away from rain, moisture, splashing and dripping liquids. Never put objects filled with liquids on top of or close to the device.



Always disconnect mains power when the device is not in use or when servicing or maintenance activities are performed. Handle the power cord by the plug only.

Caution! After switching off, **leave the power**

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cord plugged in for a few minutes. When you switch off the unit, the automatic cooling function blows cooling air through the heater pipe for a short period. This protects the heater from damage and extends its lifetime. Do not disconnect the mains plug during this cooling process.

Do not crimp the power cord and protect it against damage.

Warning! If the power cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid any hazard.



Make sure that the available voltage does not exceed the voltage stated in the specifications of this manual. Plug the power cord into a suitable, **earthed** mains outlet.

Risk of electroshock when opening the cover. Touching live wires can cause life-threatening electroshocks. Do not disassemble or open the housing yourself. Have the device repaired by qualified personnel.

Do not operate the device with wet hands.



Never use the device on live electronic circuits. Make sure power to the work piece is cut and capacitors are discharged.



Do not use near inflammable products or in explosive atmospheres. Heat can cause fire to inflammable

products even when they are not in sight. Only use in properly ventilated rooms.

 **Incorrect use may cause fire.**

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Do not touch the shafts, tips, or hot air gun as this can cause serious burns. Keep the tips and hot air away from the body, clothes, or other flammable material. Do not aim the hot air gun at the eyes. Use gloves and/or heat-resistant tools to pick up the PCB assembly to prevent burns. Always return the irons and gun to their stands between uses; always let the device cool down after use and before storage.

Place the device on a level, stable, and fire resistant working surface.

 **WARNING!** – This tool must be placed on its stand when not in use; do not leave the tool unattended when switched on.



Do not inhale solder fumes. The vapours that are released during soldering are harmful. Therefore, you shall only use the soldering station in well-ventilated areas or under an exhaust hood (solder fume extractor). Dispose of fume filters and solder residue in accordance with local regulations.

- Use the soldering iron on a heatproof workbench.
- Place the soldering iron in its holder after use.
- Let a hot soldering iron cool down naturally and do not immerse in water.

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3. General Guidelines

Refer to the **Velleman® Service and Quality Warranty** on the last pages of this manual.

  **Indoor use only.** Keep this device away from rain, moisture, splashing and dripping liquids. Never put objects filled with liquid on top of or close to the device.

  Keep this device away from dust and extreme heat. Make sure the ventilation openings are clear at all times.

 Protect this device from shocks and abuse. Avoid brute force when operating the device.

- Familiarise yourself with the functions of the device before actually using it.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorised way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.

- Do not switch the device on immediately after it has been exposed to changes in temperature.
Protect the device against damage by leaving it switched off until it has reached room temperature.

4. Overview

Refer to the illustrations on page 2 of this manual.

- 1 power cord
- 2 temperature controller
- 3 sponge
- 4 iron stand
- 5 bit
- 6 heating element
- 7 antiskid rubber
- 8 handle

5. Instructions



Warning: this tool must be placed on its stand when not in use; do not leave the tool unattended when switched on.

5.1 Preparation

1. Put the soldering iron holder [4] in the corresponding hole in the casing of the soldering station.
2. Make sure the sponge [3] is completely saturated with clean water and let it drip off before you put it in the sponge tray.
3. Put the soldering tip [5] into the shaft [6] and attach it to the soldering iron with a coupling nut. Only change a soldering tip when the soldering iron has cooled down. Loosen the coupling nut and gently pull out the soldering tip. Check the screw fitting regularly and tighten it when necessary. **Warning: Never use the soldering iron without the soldering tip.**

5.2 Electrical Connection

Connect the power cord [1] to a 230V/50Hz power supply. The power LED turns ON and the soldering station is now ready for use.

5.3 Temperature setting

1. Use the rotary control [2] on the front panel to switch the device on and set the desired temperature.
2. Set the temperature controller [2] between the second and third scale, wait a few moments and try to melt some solder. If it doesn't melt fluidly, rotate the temperature controller [2] a little further clockwise, wait a little while and try again until it does.

5.4 Operation

- Prerequisite for clean joints is the use of suited solder and a correct use of the soldering station. We recommend the use of solder with a resin flux core. Halogen containing solder should not be used in any case. Before the first uses, you should tin the new soldering tip. Switch on the soldering station and apply some solder to the soldering tip at a temperature of 200°C (temperature controller between scale 2 and 3). Perfect joints are only possible at the right soldering temperature. When the soldering temperature is too low, the solder will not melt enough causing unclean (cold) soldering points. At too high temperatures, the solder will burn and the tin-solder will not flow. Moreover there is the danger of damaging the PCB or the components. Only when the temperature of the soldering tip is perfectly adapted to the solder will you have clean joints.
- The most common soldering alloys used in the electronics industry consist of 60% tin and 40% lead. The operating temperature of this type of solder is detailed below and can vary from manufacturer to manufacturer. However, to meet RoHS requirements, these solders are no longer allowed and are replaced by lead-free solders that require a working temperature which is $\pm 30^{\circ}\text{C}$ (54°F) higher.

	leaded solder	lead-free
Melting point	215°C (419°F)	220°C (428°F)
Normal Operation	270-320°C (518-608°F)	300-360°C (572-680°F)
Production Line Operation	320-380°C (608-716°F)	360-410°C (680-770°F)

- The included soldering tip consists of copper-plated iron. Used correctly, the soldering tip has a long durability. Clean the tip immediately before use by rubbing it on the moist sponge. By doing so residues of unevaporated solder, oxides or other impurities will be removed.
- Before you put the soldering iron back into the holder, you should clean it again and apply some fresh solder. It is important to keep the tip covered with some solder as it will become passive, not accepting any more solder after a while.

5.5 Use

Do not press too hard on the tip while soldering: this does not improve the heat transfer and may damage the tip.

6. Tip maintenance

- The soldering uses extremely high temperatures. Make sure that the unit is switched off for maintenance purposes.
- Remove the tip and clean it after heavy or moderate use. We recommend cleaning the tip daily if the station is used frequently.
- Always tin the tip before returning it to the holder, prior to turning off the station or to storing it for long periods of time. Wipe the tip on a wet sponge or use our tip cleaner (ref. **VTSTC**) before activating the device.
- Using excessive temperatures (more than 400°C or 750°F) will shorten the life span of the tip.
- Do not exercise excessive pressure on the tip while soldering, as this may cause damage to the tip.
- Never clean the tip with a file or with abrasive materials.
- Do not use flux containing chloride or acid. Use only resinous fluxes.
- If an oxide film has formed, you should remove it by buffing carefully with a 600-800 grit emery cloth or by using isopropyl alcohol and consequently applying a new protective layer of solder.
- Wet the sponge with nothing but water.

IMPORTANT

Remove and clean the tip daily. Remove excess solder from the barrel nut assembly when installing a new tip.

7. Maintenance

Note: Always shut off the soldering station and disconnect it from the mains before cleaning and changing the soldering tip. Make sure the soldering iron has cooled down and has reached room temperature; otherwise it can cause severe burns! Damage to the soldering station may occur if the system is left on and the removed tip has not been replaced.

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- Unscrew the coupling nut on the soldering iron and remove the soldering tip. Clean off the rust which may have formed in the cylinder. Don't ever try to remove the soldering tip during use (burn hazard). If the soldering tip should loosen during use, turn off the soldering station and let the soldering iron cool down until it has reached room temperature. Then tighten the coupling nut.
- After removing the tip, you should blow out any oxide dust that may have formed in the tip receptacle. Be careful not to get dust in your eyes. Replace the tip and tighten the screw. Pliers can be used to avoid contact with hot surfaces **but should be used with caution** because over tightening may cause damage to the element or fuse the tip to the element.
- The outer cover of the iron and station may be cleaned with a damp cloth using small amounts of liquid detergent. Never submerge the unit in liquid or allow any liquid to enter the case of the station. Never use any solvent to clean the case.
- If the iron or station should become faulty or, for some reason does not operate normally, the system should be returned to the service department of your authorized dealer or service agent.


8. Technical Specifications

heater power for soldering iron 50 W
temperature..... 374-896 °F
voltage supply..... 115 VAC
weight..... 2.65 lbs
dimensions 7 1/4" x 3 31/32" x 3 1/2"
input power 50 VA max.
spare bits (sold seperately)..... BITS5, BITS5C/1, BITS5C/2, BITS5C/3

Use this device with original accessories only. Velleman nv cannot be held responsible in the event of damage or injury resulted from (incorrect) use of this device. For more info concerning this product and the latest version of this manual, please visit our website www.velleman.eu. The information in this manual is subject to change without prior notice.

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Documents / Resources

	<p>Velleman Temperature Controlled Soldering Station [pdf] User Manual Temperature Controlled Soldering Station, VTSS5U</p>
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References

-  [Velleman](#) – Wholesaler and developer of electronics