

EVERYTHING ABOUT SOLDERING STATION

What is a Soldering Station?

A Soldering Station is an 'adjustable temperature' based soldering device designed for soldering through-hole and SMD electronic components. It is primarily used in electronics and electrical engineering world. A Soldering Station has one or more soldering tools connected to the main control unit (CU), which includes manual/automatic temperature controllers, temperature/ timer indicator display etc. The main unit may contain a transformer depending on the wattage offered by the Soldering Station.



SOLDERING STATIONS (WITH SOLDER FEEDER) DSF73E + HIGH MASS SOLDERING STATION DSSHPO3G

Who invented Soldering Station?

In late December of 1926 *William Alferink* files for a U.S. patent for a "Combined Holder and Automatic Circuit Breaker for Electric Soldering Irons" recognised as the first basic foundation of a soldering station.

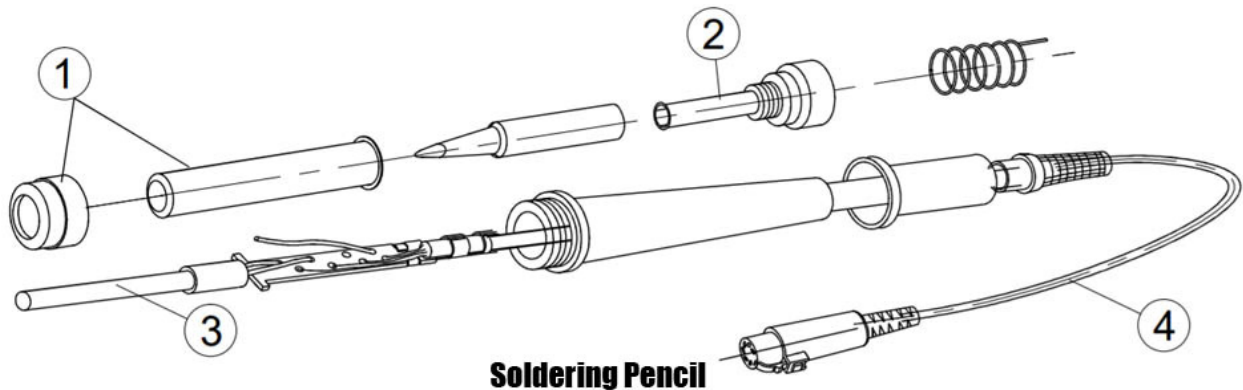
What is the difference between a Soldering Iron and a Soldering Station?

A Soldering Iron is used to solder through-hole components which don't affect the temperature variations. On the other hand SMD components are very sensitive to high temperatures and they might get damaged when exposed to high temperatures. For such Small Chip Components soldering stations are very effective. They offer temperature control function and some hot air soldering facilities to avoid any damage to the SMD Components. In simple words, a soldering station is good for SMD works and the ordinary soldering iron is good for local through-hole soldering.

The only disadvantage that Soldering Station has is that it occupies more space than a Soldering Iron on a work-bench.

What are the basic accessories of Soldering Station?

A Soldering Pencil (or a soldering iron), The Main Control Unit (that might be digital or analogue type), Soldering Tips, Support Rack for the Soldering Pencil, Cleaning Sponge (or mesh) for Soldering Tips, Self Solder Feeder (it is optional – it virtually eliminates the need of two hand operation of soldering station as solder wire is automatically fed).



What are the standard features of an Intelligent Soldering Station?

LED Digital Display, Password Protection, Digital Temperature Controller, Temperature Offset for Calibration, Error Messages (if there is any issue with the Control Unit or the Soldering Pencil), Stand-By Temperature setting, Temperature Switch-off Time setting, Temperature Difference Offset setting, Setback Time Setting, Temperature Window can be defined.

What is the life of a Soldering Station?

A Soldering Station can last for many years without any major issue. However, regular self maintenance is always advised if you are particularly well versed with electronics. Regular replacement of Soldering Tips may though be required.

What is the life of a Soldering Tip of a Soldering Station?

A good soldering tip (branded) should last for at least 1 year. However, that depends on how roughly or smoothly you use your soldering pencil. It also depends on the time period for which a soldering tip is used on a regular basis.

How to use a Soldering Station?

Adjust the soldering temperature on the **Main Control Unit** to an ideal point where the solder wire melts immediately when touched to the tip of the soldering pencil. Clean the surface to be soldered and ensure that there is no corrosion or oxidization. Place your soldering pencil (soldering iron) on the

joint (or on the component) to be soldered with a small amount of melted solder on the soldering tip. Now apply the soldering tip to the joint and the component. That's it – the component is soldered on the Printed Circuit Board (PCB).

What is Auto Solder Feeder for Soldering Station?

Auto Solder Feeder automatically feeds the solder wire to the tip of the soldering pencil of a Soldering Station. Auto Solder Feeder is ideally used to raise production rate and to avoid solder wire wastage.



Automatic Solder Wire Feeder

What are the types of Soldering Stations?

There are two types of Soldering Stations – The Analogue type Soldering Station and the Digital type Soldering Station.

Analogue Soldering Station:

The temperature stabilization in an Analogue Soldering Station works as following:

- The heating element inside the soldering pencil of a Soldering Station works till the soldering tip reaches a preset temperature (that is set by rotating a knob on the Control Unit), then the power is automatically switched off.
- Similarly when the temperature of the soldering tip comes down than the set level (on the Control Unit) the heating element in the Soldering Pencil is switched 'on' again and the soldering tip resumes its heating to attain the set level again.

The 'switching off' and 'switching on' of Soldering Pencil in an Analogue Soldering Station is done by a standard electro-magnetic relay combined with a thermostat (that senses the temperature of the soldering tip and results in energising and de-energising of the relay).

Advantage of a an Analogue Soldering Station

The advantage of an Analogue Soldering Station is that it is very cheap when compared to Digital Soldering Station. It has it's own disadvantages also – like the temperature set through the knob on the control unit is not precise and may overheat (you may not even know) resulting in damage to electronic components and soldering tips. It is certainly not recommended for soldering SMD or sensitive components.

Digital Soldering Station:

The **Main Control Unit** of the Digital Soldering Station has a (Proportional–Integral–Derivative) PID regulator that controls the temperature of the Soldering Pencil very precisely using an advanced inbuilt microprocessor. The operation of a Digital Soldering Station is more or less similar to the one in Analogue System. However the microprocessor (the heart of the Digital Soldering Station) inside the Control Unit can be calibrated to sense and control the temperature very precisely for soldering complex SMT circuits and highly sensitive Small Chip Components. The Digital Display on the Control Unit shows the exact real-time temperature of the Soldering Tip – that helps a professional technician make his decisions while soldering. Digital Soldering Stations are expensive than Analogue Soldering Station but they are worth every penny spent.

What are the other types of Soldering Stations?

As electronic components become smaller and sensitive the need for safer Soldering Stations is growing. Small Chip Components (SMD) might easily get damaged with traditional soldering stations, so today we have ‘Non-contact Type Soldering Stations’. The tip of the Soldering Pencil would not physically touch the SMD component for soldering. There are two types of such Soldering Stations.

- Infrared soldering stations
- Hot Air Soldering Stations
Hot Air Station blows very hot air through it’s tip to help solder an SMD component without actually touching the component and the board.

Should I buy a Soldering Station or a Soldering Iron?

If you are not working on SMT Circuits then a simple Soldering Iron would be sufficient. However, if you are working on SMT Circuits/SMDs then Soldering Station becomes mandatory. Further, if you rarely need to solder something then opt for Soldering Iron.

What type of Soldering is performed by a Soldering Station?

High Mass Automotive Component Soldering, Fine Pitch SMD Soldering, Through-Hole Soldering, Solar Panel and Cell Soldering, SMD LED Soldering, Power Capacitor Soldering.



Should I opt for an Analogue Soldering Station or a Digital Soldering Station?

That clearly depends on your pocket. For a small service center an Analogue Soldering Station would suffice all the basic requirements. However if your pocket permits, then a Digital Soldering Station is far better option than an Analogue model.

What are the best Soldering Stations available in India?

There are plenty of good Soldering Stations available in India and some of them are available as following:

- Model WSD81i : Weller Digital Soldering Station
- Model DSSLF120ESD-UF: Ultra Fast Thermal Recovery Soldering Station
- Model Weller WES51: Analogue Soldering Station
- Model Hakko FX888D: Digital Soldering Station
- Model ISSD70: Highly Temperature Stable Soldering Station
- Model DSSLF04H: Best VFM intelligent Soldering Station

Does every Soldering Station ESD Safe?

Not by default. But there are many Soldering Stations available in the market today that are ESD safe by nature – however for such soldering stations you may need to shed some additional money. At INDE Enterprises they are very competitively priced.

Where can I buy the best Soldering Station with Warranty in India?

To buy a best Soldering Station with Long Term Extended Warranty and Service assurance, you can always trust only one name – INDE Enterprises. They sell and render full after sales service support for Weller, Hakko, Quick, INDE Soldering Stations. Since 1976, they are the pioneers in supplying the best soldering stations to private and public sector companies. Following is their address.

INDE Enterprises

745, Sector 8-B, Chandigarh 160009 (India)

Contact: Paras & Romesh

Mobile: 9316134502

Email: info@indeonline.in | Website: <https://indeonline.in>

Where can I buy the Spare Parts for my Soldering Stations in India?

To get spare parts for your soldering stations you may contact INDE Enterprises. They have a large stock of spare parts for various soldering stations. They also keep a huge stock of spare parts for all the discontinued Soldering Stations.

Where can I get my Soldering Station Serviced?

To get your soldering station serviced you can contact INDE Enterprises.