

Solder-Wire-Feeders



LV 02: The “third hand” for soldering



PLS 03: The programmable soldering station



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Solder Wire Feeder LV 02

Orion Industry

Application

The automatic solder wire feeder LV02 was designed to make manual soldering easier. During conventional soldering the solder wire must be held by one hand and the soldering iron by the other. To hold the workpiece, especially the part to be soldered (e.g. a wire), a "third hand" would be needed.

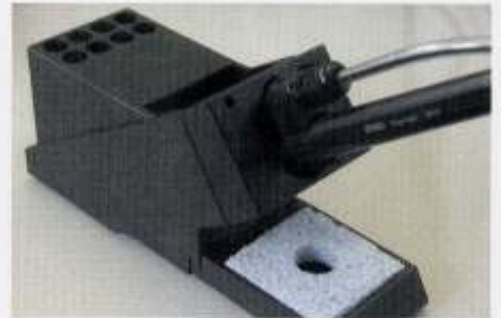
With the solder wire feeder LV 02 the wire needs no hand to be held. The hand is free for the handling of the workpieces.

Additionally the repeatability of the soldering process is improved:

- Feeding velocity (feeding rate) and
 - Feeding duration (time)
- remain constant.

The productivity grows as the handling of the solder wire is no longer necessary.

Also the health hazard of the lead within the solder wire being touched by the fingers is avoided.



Soldering iron holder



Soldering iron types:

(Specify with order)

- Handle with start-button
- Adcola
- Bonkote SR-2252
- ERSA TE 40/50
- ERSA CTA 60
- ERSA 30
- ERSA Ergo / Power / Tech
- Express 48 W
- JBC 2045 (different types)
- JBC 50 W
- Metcal STSS / SP 200
- Pace SP 2
- Pace PS 80
- Philips Gam50s
- Selectra TE 6/4
- Ungar 9931 AS
- Weller LR20 / LR21 / W61 / FE 50M
- Weller MLR-21
- Weller TCP-S
- Weller W 100

Solder wire diameter:

(Specify with order)

- 0,7 bis 0,75 mm
- 1,0 mm
- 1,5 mm

System-description

The main component of the wire feeder is the feeding mechanism. It is explained on the last page of this brochure.

With specific adapters the solder wire feeder can be mounted to the handle of all major soldering irons. The feeding motor is started by a push-switch in the adapter.

Also an optional foot-switch can be used to start the solder transportation.

Advantages

- + No Health hazard by touching solder wire containing lead
- + Repeatable feeding velocity (feeding rate)
- + Repeatable feeding time
- + One hand free to hold workpieces



Adapter with push-switch

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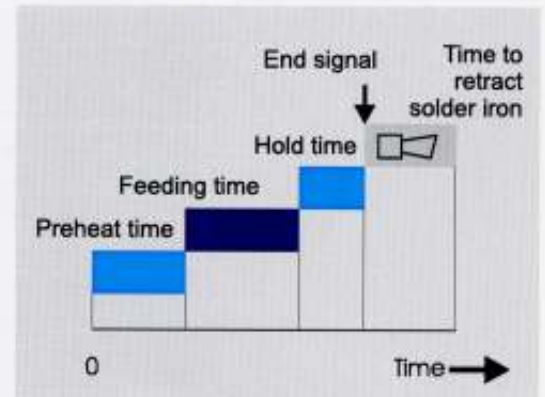
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Application

Insufficient solder spots with

- too little solder,
- too thin or thick intermetallic zone

can not be prevented, if conventional hand soldering is performed. The soldering quality can only be ensured by a precise control of the soldering process. With the help of the programmable soldering station PLS 03 this is now possible, not only for soldering robots, but also for hand soldering.



Soldering process

System-description

The integrated programmable controller (PLC) makes the ideal soldering process for iron soldering possible:

1. Contact of soldering iron to the solder spot

The solder iron is positioned manually to the solder spot. The sensor in the handle senses the contact to the solder spot. The sensor signal starts the soldering process.

2. Preheating

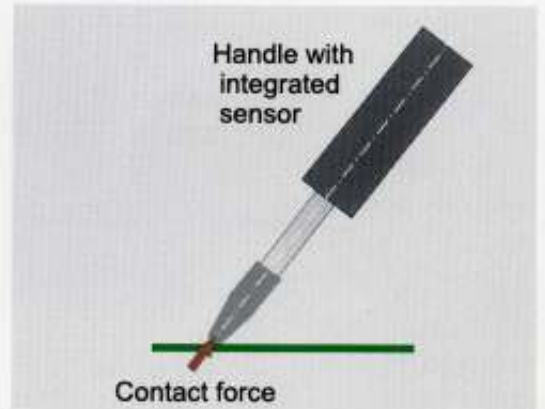
The preheat time is needed to preheat the solder spot. This time is programmable.

3. Solder wire feeding

After the preheat time, solder wire feeding is started automatically. Feeding rate and time are programmable.

4. Hold time

The solder iron must contact the solder spot until the hold time has elapsed. At the end of the hold time a sound signals that the solder iron can be pulled off the solder spot.



Soldering iron contact

Advantages

- Additional to the LV 02:
- + High soldering quality even with little qualified personal
 - + More flexible as soldering robots with much smaller cost



Patent pending

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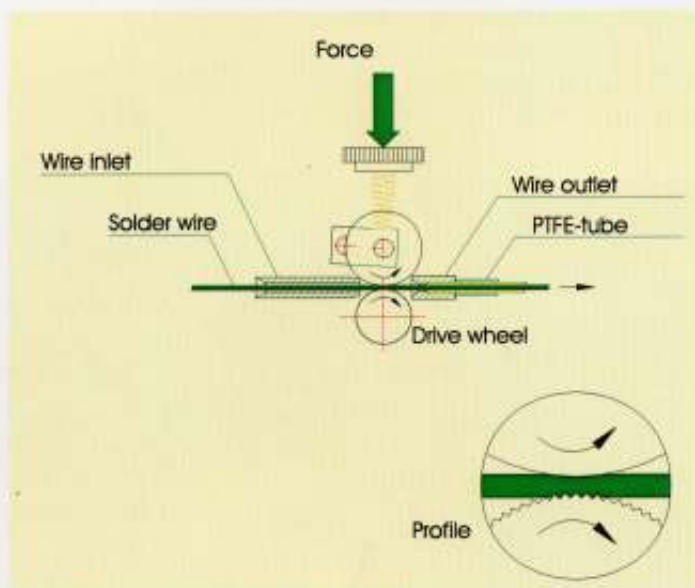
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Feeding principle

The solder wire is moved from the roll to the solder tip by the feeding unit. The feeding unit has a drive wheel with two ball bearings and a second wheel to press the solder wire against the drive wheel. The drive wheel is driven by a DC-motor. The feeding force is not only transmitted by friction. Additionally the drive wheel has a profile to grip the the solder wire.

The gripping profile presses little notches into the solder wire. These notches do not cause any damage to the solder wire. In fact solder tests show, that the marks improve the flow of the flux core inside the solder wire. This improves the soldering process.



For more information
see our website

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Robust feeding mechanism

Besides the high feeding force, a low friction feeding tube is important.

- The friction must be very low even with a small radius in the feeding tube.
- The buckling of the solder wire in the feeding mechanism be prevented.
- Tolerances in solder wire diameter should not be critical.

Therefore the solder wire is guided exclusively in teflon material.

Health hazard solder wire:

Lead remaining on the fingers can move into the human body through food and cigarettes.



With solder wire feeders
contact with lead is prevented

Special Soldering

Assembly
Automation