

SPATZLSK80-25 Precision Welding Head

The **SPATZLSK80-25** welding head with electro-magnetic linear drive is designed for precision welding applications. Fields of utilisation are cycle time optimised, high speed automated production as well as highly sophisticated manual applications.

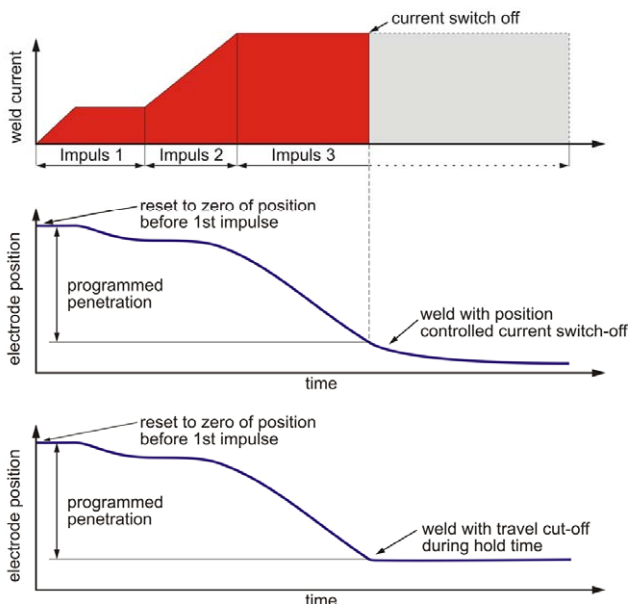
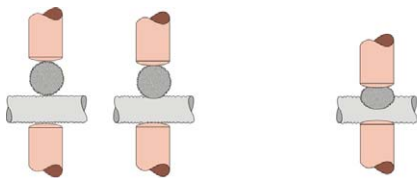
The precise internal position measuring system of the **SPATZLSK80-25** and the responsive control provided by the **SPATZH6000plus** power source ensure excellent and highly reproducible welding results.

The technical advantages of the **SPATZLSK80-25** precision welding head are particularly resulting from the electro-magnetic linear drive. Self-locking behaviour due to friction which is typical for ball screw spindle systems is avoided. In addition, the linear drive of the **SPATZLSK80-25** requires no viscosity-varying lubricants.

Unique motion algorithms provide a soft touch down capability despite extremely fast positioning and force build-up. Even sensitive electrodes are prevented from damage without the need for a shock-absorber. Force change "on the fly" allows an extremely fast changing of the electrode force within one weld program. Perfect electrode follow-up characteristics, comparable with the follow-up performance of an ideal mechanical spring also improve weld quality.

Electrode penetration capabilities:

- position-controlled current switch-off
- travel cut-off during hold time



(The stand is available on request)

Technical data

Welding force	2 - 50 N
Maximum stroke	25 mm 1.0 in.
Contact speed	5 - 20 mm/sec. 0.2 - 0.8 in./sec.
Contact force	2 N
Maximum traversing speed	800 mm/sec. 31.5 in./sec.
Maximum follow-up acceleration	200 m/sec. ² 656 ft./sec. ²
Positioning resolution	1 µm
Maximum cycle rate (dependent from application)	4/sec.
Force control	yes
Penetration control	yes
Component identification	yes
Width / Depth	23 / 92 mm 0.9 / 3.6 in.
Height	216 mm 8.5 in.
Weight	1.5 kg 3.3 lb



The 25 mm (1.0 in.) stroke range simplifies the integration of the **SPATZLSK80-25** welding head into welding machines.

Welding operations are possible from any position within the traversing range. An auto position referencing feature (REL and ABS) simplifies the electrode adjustment. The **SPATZLSK80-25** welding head includes a position measuring system with a resolution of 1 µm as standard. On automatic welding machines, this provides a cost-effective means for implementing a component and electrode wear detection system.

The control of the programmed current profiles is provided by the **SPATZH6000plus**-series 20,000 Hz high frequency inverter power source with 25 µs process feedback response time.

Extremely short weld times are possible for micro-welding applications (e.g. less than 5 ms) including time increments of 0.1 ms.

The welding current can be terminated at any time by a position-controlled current switch-off. The travel cut-off allows to keep a fix position during the hold time.

The set-up of the **SPATZLSK80-25** welding head is carried out via a **SPATZBG-02** graphic operating device or via a *AutoSPATZAS-32* PC-Software. The waveforms of the process signals (last weld) and the measured values of the last 10,000 welds are also available.

Despite the availability of high electrode force and the powerful inverter unit, the linear head is operated with safe 24 V DC motor power.

SPATZLSK80-25 Precision Welding Head - Enabling scheme

