

Perspective:

The Universal Welding Machine (UWM) is a universal system, which is applicable for laser welding of a large variety of products. With the use of 4 programmable axes, all forms of laser welds can be generated in the working area of the machine. It is originally designed to laser weld assemblies and components for human implant. The application is intended for operator intervention with parts (load, adjust and unloading of products) and laser interaction with parts to form welded assemblies.

Accurate positioning:

The laser fibre-optics are mounted on a 3 axes slide system (X,Y,Z). The slides are servo motor controlled, and have a repeatability $\leq \pm 10$ microns per axis. The products can be rotated by means of a 4th servo driven axis. The combination of 4 freely programmable axes enable a large variety of contours to be welded (welding on the fly or spot to spot).



Options:

- **Laser**
All type of lasers with fibre-optics can be used; either 1 laser for 1 welding station or in share mode (1 laser for several welding stations). Attached to the fibre-optics is a (movable) nozzle for supply of several covergasses. Flow and position of the nozzle are freely programmable, to ensure optimal welding quality. Several lenses are used for multiple focus distances (100, 120, 200 and 300 mm); mounting of lenses is designed to enable fast and accurate changing of the lenses.
- **Vision**
CCD camera with icon generator for alignment laser spot to product.
- **Configurations**
Machine is easy adaptable for different types of products and/or production.
Manual or automatic loading.
In line production or standalone production.
- **Service**
After sales service can be supplied in flexible formats: preventive and/or curative maintenance, at customer location or remote, periodic calibration, spare parts, reaction time, etc.)
- **Training**
Training on operator level, maintenance level and training for engineers to set up UWM for welding of specific products. Training can be done at Simac or at customer location.