

A FINELY-TUNED MACHINE CONCEPT

FLW 180 Laser Welding Center



 FELSOMAT®



FLW 180 Laser Welding Center

An ideal, finely tuned machine concept for welding symmetrical, precise, rotating parts such as:

- ▶ Gears, differential gears, planetary carriers
- ▶ Clutch and torque converters

Faster due to...

...a rotary indexing table with simultaneous manufacturing processes possible on multiple stations

The Pros:

- ▶ Excellent accessibility due to the central pillar design with fully developed and clearly defined machine, operating, and maintenance concept
- ▶ Simple and quick changeover of welding guard and fixtures
- ▶ Simple to automate and integrate into the Flexline
- ▶ Small footprint, low operating and maintenance costs
- ▶ Significant energy savings when compared to a CO₂ laser, due to doubled efficiency
- ▶ Cost reduction through energy and time sharing : laser shared with up to 6 welding cells

Precise due to...

...high rigidity and superb damping characteristics of the machine body resulting from a composite construction with mineral concrete filling

The Pros:

- ▶ Standard machines with finished areas already prepared for multiple process modules
- ▶ The optimal solution includes the capability within each index position to elevate the part out of the indexing table, rotate and accurately position it into each process module
- ▶ The NC controlled indexer and each process module are designed to be completely separated, mechanically locked, and isolated from the machine body, which prevents any vibration being transmitted during the welding process
- ▶ Best beam quality due to the solid state laser, compact operating optic and a flexible fiber optic light beam transmission cable
- ▶ Class 1 laser enclosure



Automatically better with system partnership

Trumpf and Felsomat – the power of productivity, quality and flexibility: all from a single source

Our know-how:

- ▶ Trumpf solid state laser and application know-how from a technology leader: comprehensive, world-wide, rapid process development and prototype part production
- ▶ Felsomat knows which processes to use for optimized complete solutions to achieve the production of consistently high quality, high value parts
- ▶ Due to a compact machine design, the FLW 180 assures a mobile platform with minimal installation costs
- ▶ Simple operation and optimal access to all process modules

Flexible due to...

...Individual equipment options that fit your requirements perfectly

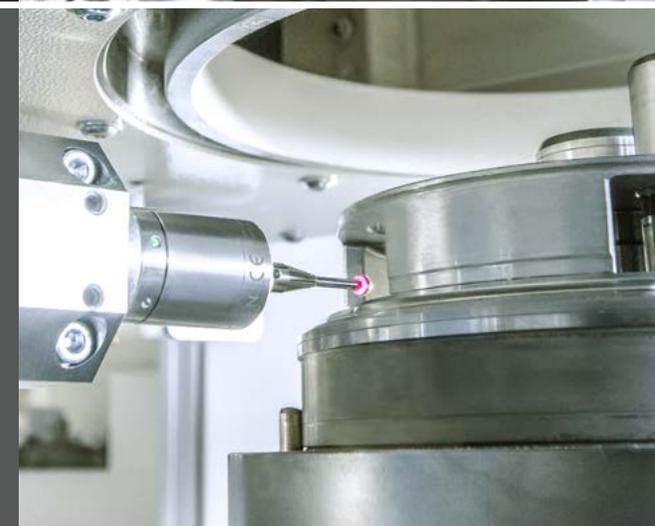
The Pros:

- ▶ Workpiece specific mechanical fixtures
- ▶ Flexible integration of multiple process modules, for example:
 - Loading and unloading in the clamping station
 - Assembly of the workpieces with force-distance-monitoring of the pressing operation
 - Homogenous heating, magnetic or inductive
 - Welding with highest beam quality with minimal heat input
 - Brushes to remove welding spatter
 - Face run out and concentricity checking
 - Optical or ultrasonic inspection of welds
- ▶ The combination of 2 welding stations on one machine provides for highly productive, serial or parallel double welding



Technical data FLW 180

Max outside diameter	180 mm
Laser equipment	TRUMPF TruDisk
Laser optic	TRUMPF BEO D70
Motorized focusing	Available
CCD Camera with cross hair generator and 17" monitor for observation of the welding area	Available
Weld monitoring	PLASMO or Precitec
Press type	servo electric with force-distance-monitoring
Press manufacturer	Kistler
Total connected power	approx. 60 kVA
Weight of the main machine	approx. 6 t
Footprint main machine	2,540 x 3,475 mm



Flexline: highest efficiency, cost-effectiveness and quality

The Future of Gear Manufacturing



Machines, tooling and automation, including integrated quality assurance for every individual process: REISHAUER and FELSOMAT are redefining the integration of gear manufacturing technologies.

The task

Combining all process technologies into one complete system. Every process step is integrated into the seamless, continuous-flow production process, thereby streamlining the production line and drastically reducing throughput time and work in process.

The result

A highly efficient integrated production system, consisting of interchangeable technology modules and automation components. This results in lowest cost per part and maximum return on investment, without compromising process reliability or quality.



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GROUP

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