

PRECO®

ST Series Workstations



Multi-Axis Workhorses

The Preco ST Series Laser Workstations are designed for multi-axis laser welding, heat treating, cladding, drilling and cutting of metallic components. The ST2000 Series Workstations are designed for fixed beam processing over an XY motion system. The ST1000 incorporates a moving beam design to operate over a two-position index table for high production applications. As standard, these systems are designed for manual part loading, however automated part load/unload options can be integrated.

The ST Workstations are offered in four distinct size configurations, allowing you to select the system that is best suited to your specific needs. These standard workstations can be engineered to meet your specific application.

Features / Benefits

Beam Delivery

Preco offers fixed and galvanometer beam delivery systems to optimize your process requirements. This range of beam delivery options coupled with our ability to integrate any laser source assures a fully optimized system for your application. The appropriate shield or cutting gas delivery system is integrated to match your process.

Table Design

The ST Series is available in four different table ranges. The precision machined aluminum table is ball screw-driven in the X & Y axis. Preco designed tooling can be easily integrated to the table.

Class I Safety Enclosure

A well designed enclosure provides excellent part access during set-up and maintenance, while providing CDRH Class I protection during operation. The simplicity of the enclosure design allows for manual or robotic part load/unload.

AcuNav™ II

Preco's PC based machine HMI is a CNC control specifically designed for laser processing using G-code programming. This control is powerful enough to also control clamping for tooling, start and stop assist gas flow, and maintain a process parameter file for ease of setup.

Providing laser, die cutting, laminating & screen printing solutions

Configured for Your Process

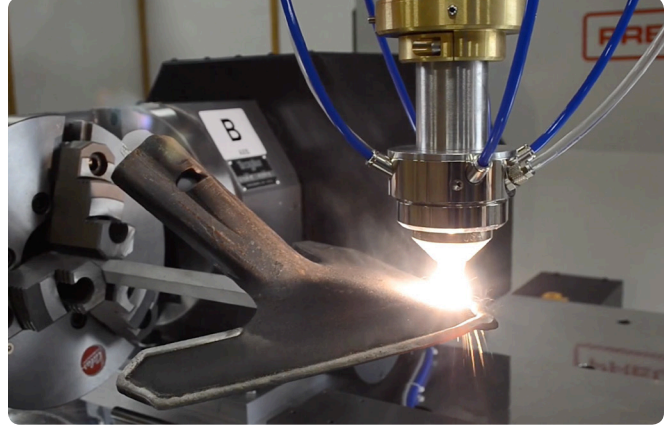
The ST Workstation is designed to support four primary laser processes, welding, heat treating, cladding and specialty cutting/drilling. Preco supports a technical infrastructure that will work with you to fully develop your specific process, design and build tooling for your part and configure the correct laser and optical components.



Laser Heat Treating

The ST series Workstations can be configured for laser heat treating by integrating the following components to the base system:

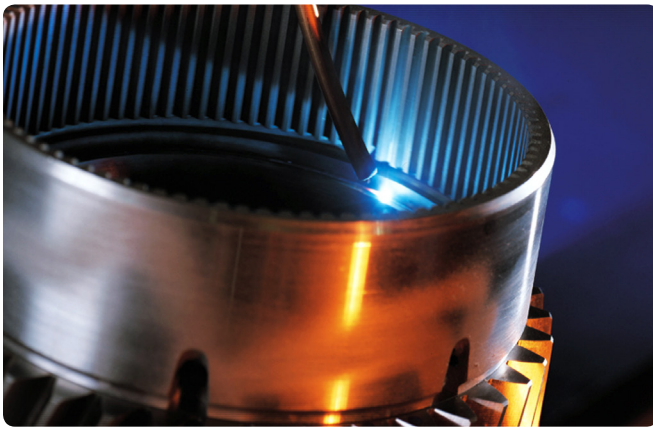
- Optimized beam shaping optics
- Closed loop pyrometer



Laser Cladding

The ST series Workstations can be configured for laser cladding by integrating the following components to the base system:

- Coaxial or off axis powder feed units
- Cold or hot wire feed units



Laser Welding

The ST Series Workstations can be configured for laser welding by integrating the following technologies to the base system:

- Scanner heads for high speed remote spot welding
- Cold or hot wire filler metal systems
- Seam tracking
- Laser weld monitoring and control for penetration and tracking control
- Induction heating for part pre-heating or post-heating when welding medium carbon steels



Laser Cutting/Drilling

The ST Series Workstations can be configured for laser cutting and drilling by integrating the following components to the base system:

- Triplet focusing optics minimize optical distortion
- Contact or non-contact autofocus
- Vacuum cutting box
- High pressure assist gas kit

ST Series Workstation Range



ST1000 – This system features a two-position index table to allow small part load/unload to take place during the laser processing cycle resulting in high productivity.



ST2000 & ST2200 – These mid-range systems offer a compact footprint and are designed for manual loading/unloading of the work piece.



ST2400 – This system offers extended X-axis travel that is ideal for shaft, large parts, or multiple-up part processing.

ST Series System Specifications

MODEL	X-Y-Z TRAVEL	ACCURACY*	SPEED**	ENCLOSURE DIMENSIONS*** (WxDxH)
ST1000	300 mm x 150 mm x 100 mm (12" x 6" x 4")	± 25 µm (± 0.001")	12.7 m/min (500"/min)	890 mm x 1400 mm x 2160 mm (35" x 55" x 85")
ST2000	300 mm x 300 mm x 300 mm (12" x 12" x 12")	± 25 µm (± 0.001")	12.7 m/min (500"/min)	890 mm x 1400 mm x 2030 mm (35" x 55" x 80")
ST2200	600 mm x 600 mm x 300 mm (24" x 24" x 12")	± 25 µm (± 0.001")	12.7 m/min (500"/min)	1780 mm x 2540 mm x 2030 mm (70" x 100" x 80")
ST2400	1000 mm x 600 mm x 300 mm (40" x 24" x 12")	± 25 µm (± 0.001")	12.7 m/min (500"/min)	2285 mm x 2540 mm x 2030 mm (90" x 100" x 80")

*Accuracies are per 300 mm or 12" of travel. Higher accuracy tables are available as an option

**High speed linear motor drives available as an option

***Enclosure dimensions exclude the HMI, laser chiller, and other periphery devices

Options

Laser Options

To optimize your specific application, any laser manufacturer, wavelength or power level can be integrated into the ST Series product line.

Linear Motors / Encoders

The ST Series readily accepts linear motors and encoders in X and Y axis.

Rotary Positioning

Rotary and rotary/tilt tables are easily integrated to the ST Series Workstation. Worm drive or direct drive rotary stations can be supplied.

Extended Travel Z Axis

Additional Z axis travel is available for large parts.

Automated Enclosure Access Door

Designed for automation and to minimize operator fatigue.

Preco Designed Tooling

Preco can design and build tooling specific to your process.

Vision System

A range of options are available from simple CCTV devices for manual part alignment to integrated vision solutions that automate seam or part alignment.

Tilt Head with Fiber Delivered Lasers

Manual or programmable tilt heads are available.

Bar Code Reader

For part and program verification and tracking.

Conveyor

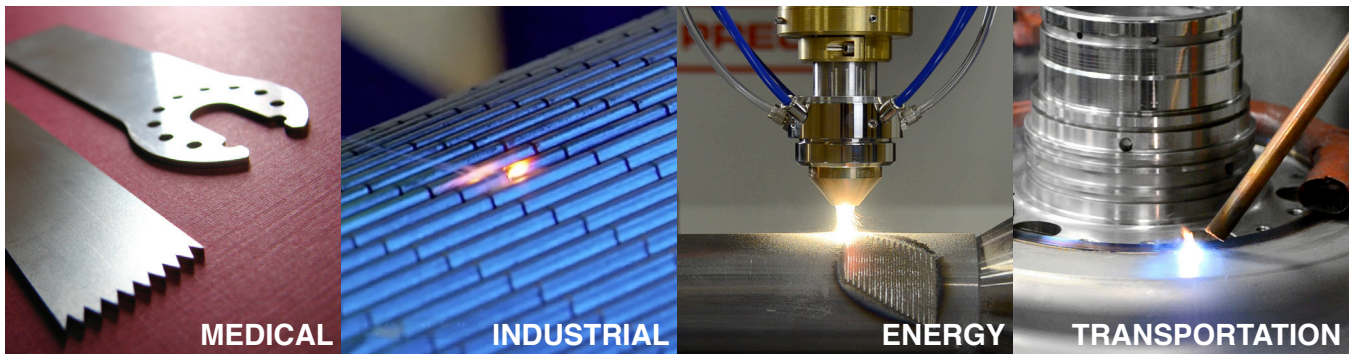
For pick-in-place or pass through automation.



Optional Configurations

This photo highlights a range of options integrated to a ST2000 Workstation. This system has an extended travel Z axis to accommodate a tall part. The enclosure door is also hinged to the left for access and viewing of the system HMI during set-up operations. Note the dual flat panel displays, this additional display is for a vision system. Preco offers a complete range of options for the standard ST Series Workstation in addition to custom engineered modifications if required.

Primary Markets



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