LASER WELDING MACHINES

SPARTUS®

2024

Contents

Precision Welding with **SPARTUS®**

On behalf of the SPARTUS® team, we are thrilled to present to you our latest laser welder catalog, designed for modern industrial companies seeking world-class solutions. From the brand's inception, our mission has been to deliver innovative, reliable, and highly efficient solutions that not only meet but exceed customer expectations. Our goal is to create comprehensive welding solutions that help businesses thrive in a rapidly changing industrial environment.

In recent years, by constantly adapting to the industry's needs, we've developed a product range that embodies the essence of advanced welding technology. Each laser welder model featured in our catalog is the result of the dedicated efforts of our team, working daily to offer solutions that are not only specialized but also user-friendly.

We invite you to explore our catalog, which will help you discover how SPARTUS® products can support your business development by ensuring unmatched welding quality and efficiency. The SPARTUS® brand stands by your side, ready to provide advice and assistance at every step – from selecting the perfect device to implementing it in production, and ensuring comprehensive service and technical support.

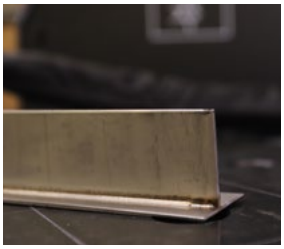
Why It's Worth It

Laser welding provides numerous benefits that establish it as the preferred method in advanced industrial applications. It delivers **unparalleled welding precision**, crucial for producing intricate connections. This precision results in **thinner and more accurate welds** while reducing damage to the base material.

Additionally, laser welding **minimizes the heat-affected zone**, which is vital when working with delicate or thin materials.

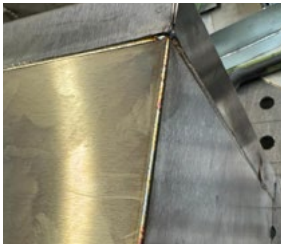
The speed and efficiency of this method significantly reduce production time and costs while guaranteeing the highest quality of weld.

ADVANTAGES OF LASER WELDING

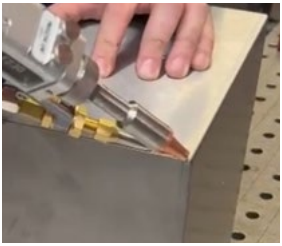


High level of welding precision

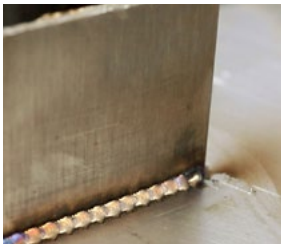
Excellent control over the welding process



Clean welds that require no finishing



Minimized distortions

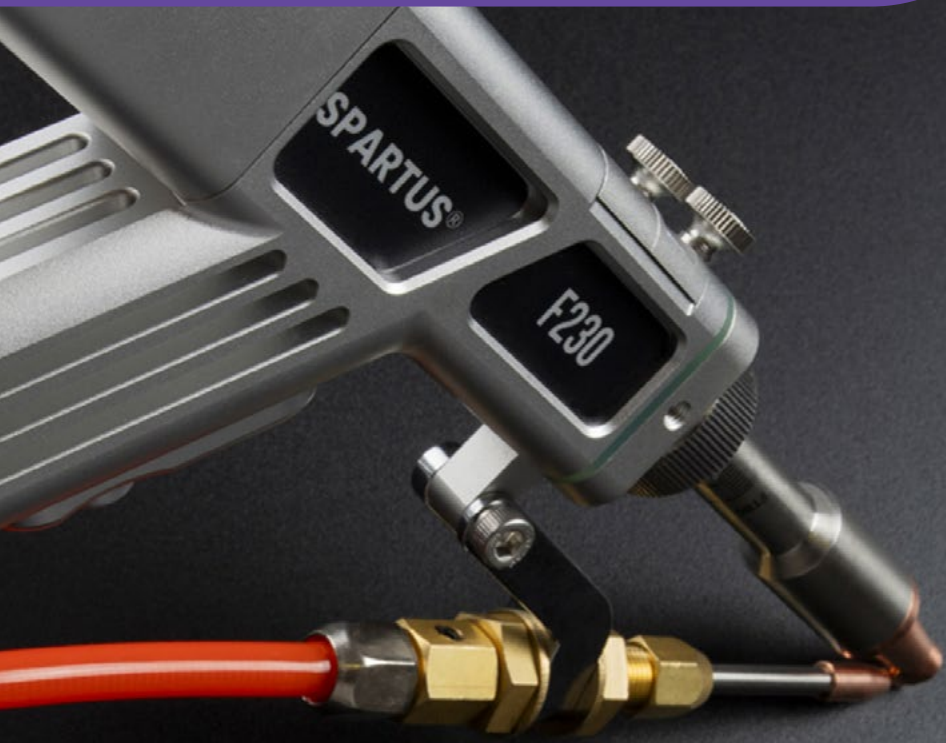


Durable and robust joints

Optimized production time

Easy laser welders

Easy laser welders are available in three power variants: 1.5 kW, 2 kW and 3 kW, allowing them to be tailored to various industrial needs. All models are equipped with advanced liquid-cooled laser sources, ensuring high performance and reliability. As a result, users can enjoy precise welding, process stability and energy efficiency, minimizing operating costs. The choice of power enables optimal adaptation of the machine to specific applications, ensuring efficient and economical production processes.



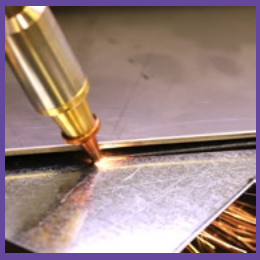
SPARTUS® LASER HEAD

Modern laser head allows for focal length adjustment. Additionally, it is equipped with a welding wire feeding mechanism. The ergonomic shape and ease of use ensure precise and comfortable work for the operator.

ONE DEVICE
MANY **FUNCTIONS**

WELDING

The device surpasses traditional welding methods such as MIG or TIG due to the exceptional precision it offers. The laser allows for much smaller welds with microscopic dimensions, which in turn minimizes the heat-affected zone on the surrounding material. As a result, laser welding is an excellent choice for easily joining even very small elements that are difficult to weld using traditional welding methods.



CUTTING

Laser cutting enables the precise separation of various materials, creating accurate and clean edges without the need for additional mechanical processing. This function, as an additional option in laser devices, allows for cutting stainless steel up to 2 mm thick and carbon steel up to 1.5 mm thick. However, materials such as copper and aluminum, which have a high beam reflection coefficient, should not be subjected to laser cutting due to the risk of beam reflection.

CLEANING

Laser cleaning is an effective method of removing contaminants, paint layers, or rust from material surfaces, while preserving their integrity and quality. Through these applications of laser technology, we achieve exceptional material processing efficiency with minimal impact on their structure. By exchanging the focusing lens in the laser head, it is possible to obtain a precise cleaning beam with a width ranging from 30 to 120 mm.

APPLICATION OF WIRE FEEDER IN **LASER WELDING**

The wire feeder, which is an integral part of the laser welding system, enables precise and controlled delivery of additional material to the welding zone. This not only increases process efficiency by minimizing losses but also allows for the achievement of high-quality welds required in projects where the highest accuracy and durability of joints are essential.

Single wire feeder

Designed for precise and stable delivery of welding wire to the welding zone, which is essential in applications requiring the highest quality joints. The feeder enables the production of uniform and clean welds, which are crucial in high-standard productions. Its design ensures easy integration with various models of SPARTUS® Easy laser welders.

SP050-01-010

Double wire feeder

The SPARTUS® double wire feeder is designed to increase the efficiency and quality of welding processes in the most demanding industrial environments. The SPARTUS® double wire feeder offers:

Increased productivity
Reduces downtime associated with spool replacement, contributing to speeding up and increasing the efficiency of production cycles.

Versatility
Allows for quick adaptation to changing project requirements.

Process optimization
Users can easily switch between wires with different properties to adjust the welding process to specific tasks.

SP050-01-015

Available with head
F210 or **F230**

Easy 1500

PARAMETERS

Input	: 230V
Output power	: 1 500W
Operating mode	: continuous / modulated
Scanning speed	: 2 - 6000 mm/s
Scanning width	: 0 - 6mm
Frequency	: 5 - 5000Hz

WELDING MATERIALS

Stainless steel	: 5 mm
Galvanized sheet	: 4 mm
Iron	: 5 mm
Mild steel	: 4 mm
Aluminum	: 3 mm
Brass	: 2 mm

The set includes:

- laser source Raycus
- handheld laser head
- wire feeder with 1.2 - 1.6V fi37 rollers
- 2x wire guide rollers 0.8-1.0V fi37
- insulated steel liner
- teflon liner
- set of nozzles for the laser head
- single wire feeder tips
- protective lenses

Easy 2000

Available with head
F210 or **F230**

Option with a double feeder

PARAMETERS

Input	: 230V
Output power	: 2 000W
Operating mode	: continuous / modulated
Scanning speed	: 2 - 6000 mm/s
Scanning width	: 0 - 8mm
Frequency	: 5 - 5000Hz

WELDING MATERIALS

Stainless steel	: 6.5 mm
Galvanized sheet	: 5 mm
Iron	: 6 mm
Mild steel	: 6 mm
Aluminum	: 5 mm
Brass	: 3 mm

The set includes:

- ✓ laser source Raycus
- ✓ handheld laser head
- ✓ wire feeder with 1.2 - 1.6V fi37 rollers
- ✓ 2x wire guide rollers 0.8-1.0V fi37
- ✓ insulated steel liner
- ✓ teflon liner
- ✓ set of nozzles for the laser head
- ✓ single wire feeder tips
- ✓ protective lenses
- ✓ 4 wire guide rollers 2.0 -2.5V fi37*
- ✓ head support for double liner*
- ✓ 6 double welding nozzles*
- ✓ 3 double wire feeder tip*

* additional set elements when choosing a double feeder

Easy 3000

Available with head
F210 or **F230**

Option with a double feeder

PARAMETERS

Input	: 400V
Output power	: 3 000W
Operating mode	: continuous / modulated
Scanning speed	: 2 - 6000 mm/s
Scanning width	: 0 - 8mm
Frequency	: 5 - 5000Hz

WELDING MATERIALS

Stainless steel	: 8 mm
Galvanized sheet	: 6 mm
Iron	: 8 mm
Mild steel	: 8 mm
Aluminum	: 5 mm
Brass	: 4 mm

The set includes:

- ✓ laser source Raycus
- ✓ handheld laser head
- ✓ wire feeder with 1.2 - 1.6V fi37 rollers
- ✓ 2x wire guide rollers 0.8-1.0V fi37
- ✓ insulated steel liner
- ✓ teflon liner
- ✓ set of nozzles for the laser head
- ✓ single wire feeder tips
- ✓ protective lenses
- ✓ 4 wire guide rollers 2.0 -2.5V fi37*
- ✓ head support for double liner*
- ✓ 6 double welding nozzles*
- ✓ 3 double wire feeder tip*

* additional set elements when choosing a double feeder

Accessories

Welding nozzle TYP 1

SP050-10-001

Welding nozzle TYP 2

SP050-10-002

Cutting nozzle

SP050-10-003

Welding nozzle TYP 1

SP050-10-008 wire fi 0.8mm
SP050-10-010 wire fi 1.0mm
SP050-10-012 wire fi 1.2mm
SP050-10-016 wire fi 1.6mm

Welding nozzle TYP 2

SP050-10-208 wire fi 0.8mm
SP050-10-210 wire fi1.0mm
SP050-10-212 wire fi 1.2mm
SP050-10-216 wire fi1.6mm

Wire feeder tip

SP050-15-008 wire fi 0.8mm
SP050-15-010 wire fi 1.0mm
SP050-15-012 wire fi 1.2mm
SP050-15-016 wire fi 1.6mm

Welding nozzle TYP 1

SP050-10-612 **double wire** fi1.2mm
SP050-10-616 **double wire** fi1.6mm
SP050-10-620 **double wire** fi2.0mm

Wire feeder tip

SP050-15-612 **double wire** fi1.2mm
SP050-15-616 **double wire** fi1.6mm
SP050-15-620 **double wire** fi 2.0mm

Graduated tube

SP050-12-010

Laser head support

SP050-12-605

Protective lens

SP050-11-001

Focus lens F150

SP050-11-002

Welding Cutting
Cleaning up to 30mm

Focus lens F400

SP050-11-003

Cleaning up to 60mm

Focus lens F800

SP050-11-004

Cleaning up to 120mm

O-ring for the lens

SP050-11-010

Accessories

Insulated steel liner

SP050-16-012 wire fi 0.8-1.6mm

single

Teflon liner

P050-17-012 wire fi 0.8-1.6mm

single

Insulated steel liner

SP050-16-612 wire fi 0.8-1.6mm

double

Teflon liner

SP050-17-612 wire fi 0.8-1.6mm

double

Wire guide roller FI37 V

SP-ROL371510-0810V wire fi 0.8-1.0mm
SP-ROL371510-1216V wire fi 1.2-1.6mm
SP-ROL371510-1620V wire fi 1.6-2.0mm
SP-ROL371510-2025V wire fi 2.0-2.5mm

Wire guide roller FI37 U

SP-ROL371510-0810U wire fi 0.8-1.0mm
SP-ROL371510-1012U wire fi 1.0-1.2mm
SP-ROL371510-1216U wire fi 1.2-1.6mm
SP-ROL371510-2025U wire fi 2.0-2.5mm

Helmet LS87

Field of view: 112x87mm
Wavelength range: 900-1100nm OD7+
DIN protection class: 4
Filtering highly specialized:
900-1100nm D LB6 + IR LB7 LP S

080-05-001

Helmet LS120
Przyłbica LS120

Field of view: 112x120mm
Wavelength range: 900-1100nm OD7+
DIN protection class: 4
Filtering highly specialized:
900-1100nm D LB6 + IR LB7 LP S

080-05-002

Safety glasses

Wavelength range:
800-900nm OD>6
900-1100nm OD>7
DIN protection class: 4
Highly specialized filtration:
800-900nm D LB5 +IR LB6
900-1080nm D LB5 + IR LB7 LP S

SP050-20-003

ASSORTMENT AVAILABLE: