





LASER WELDING AND CLEANING MACHINES

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**Ensure Maximum Safety in Laser Work!** 

We offer ready-made laser welding cells and components for building custom workstations.



# Precision and quality with SPARTUS®

On behalf of the SPARTUS® team, we are thrilled to present to you our latest catalogue of laser welding and cleaning machines, 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 contains the essence of advanced welding technology. Each laser welder and laser cleaning machine model featured in our catalogue is the result of the dedicated efforts of our team, who work daily to provide solutions that are not only specialized but also user-friendly.

We invite you to explore our catalogue, which will help you discover how SPARTUS® products can support your business development. 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.





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 joints. 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
- >>> Clean welds that require no finishing
- >>> Durable and robust joints
- >>> Excellent control over the welding process
- **>> Minimized** distortions
- >> Optimized production time

# >>> 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.



# EASY LASER **WELDERS**

Easy laser welders are available in four power variants: 1.2 kW, 1.5 kW, 2 kW and 3 kW, allowing them to be tailored to various industrial needs. All models are equipped with advanced laser sources, which ensures their high efficiency and reliability. As a result, users benefit from precise welding, process stability and energy efficiency, minimizing operating costs. The range of power options enables optimal adaptation of the machine to specific applications, ensuring efficient and economical production processes.

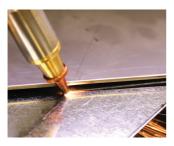




# **>>** WELDING



>> CUTTING



**>>>** CLEANING



A laser welding machine is superior to traditional welding methods such as MIG or TIG due to it's exceptional precision. The laser allows for much smaller welds with microscopic dimensions, significantly minimizing the heat-affected zone on the surrounding material. As a result, laser welding is an excellent choice for seamlessly joining even very small components that are difficult to weld using traditional methods.

Laser cutting enables the precise separation of various materials, creating accurate and clean edges without requiring additional mechanical processing. This feature, 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 like copper and aluminum, which have a high beam reflection coefficient, should not be subjected to laser cutting due to the risk of beam reflection.

Laser cleaning is an effective method of removing contaminants, paint layers, or rust from material surfaces, while preserving their integrity and quality. This application of laser technology, delivers 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 enhances process efficiency by minimizing material losses but also ensures high-quality welds required for 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 for high-standard productions. Its design ensures seammless integration with various models of SPARTUS® Easy laser welders.



# **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

Enables quick adaptation to changing project requirements.

# **Process optimization**

Allows users to seamlessly switch between wires with different properties to adjust the welding process to specific tasks.



# Easy 1200AIR





PARAMETERS	
Output power	1 200W
Input	230V
Operating mode	continuous / modulation
Scanning speed	2 - 6000 mm/s
Scanning width	0 - 6 mm
Frequency	5 - 5000Hz
Cooling type	gas

	_
Duty cycle	100%
Weight	57 kg
Dimensions	730 × 350 × 640 mm

WELDING MATERIALS		
Stainless steel	3 mm	
Carbon steel	3 mm	
Aluminum	3 mm	

# The set includes: -

- ✓ laser source
- **⊘** handheld laser head (8,5m) with F150 focus lens
- **⊘** wire feeder with 1.2 1.6V fi37 rollers
- **⊘** 2x wire guide rollers 0.8 1.0V fi37
- (V) insulated steel liner

- **⋖** set of single nozzles for the laser head
- single wire feeder tips
- g protective lenses

# Available with head

# A230



# Easy **1500**



PARAMETERS	
Output power	1 500W
Input	230V
Operating mode	continuous / modulation
Scanning speed	2 - 6000 mm/s
Scanning width	0 - 6 mm
Frequency	5 - 5000Hz
Cooling type	liquid
Duty cycle	100%

.40 kg		
956 x 580 x 823 mm		
WELDING MATERIALS		
mm		
1 mm		
5 mm		
1 mm		
3 mm		
mm		

# The set includes:

- 2x wire guide rollers 0.8 1.0V fi37

# Available with head

F210 or F230





# Easy **2000**



PARAMETERS	
Output power	2 000W
Input	230V
Operating mode	continuous / modulation
Scanning speed	2 - 6000 mm/s
Scanning width	0 - 8 mm
Frequency	5 - 5000Hz
Cooling type	liquid
Duty cycle	100%

	_	
Weight	165 kg	
Dimensions	956 x 580 x 823 mm	
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:

- wire feeder with 1.2 1.6V fi37 rollers
- 2x wire guide rollers 0.8 1.0V fi37

# Available with head

# F210, F230 or F280\*

\*In the option with a double feeder

- ø teflon liner
- *⊗* single wire feeder tips

- ø head support for double liner\*
- ∅ 6 double welding nozzles\*







\* additional set elements when choosing a double

# Easy **3000**



PARAMETERS	
Output power	3 000W
Input	400V
Operating mode	continuous / modulation
Scanning speed	2 - 6000 mm/s
Scanning width	0 - 8 mm
Frequency	5 - 5000Hz
Cooling type	liquid
Duty cycle	100%
	•

Weight	220 kg	
Dimensions	1140 x 595 x 1080 mm	
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**
- ø handheld laser head (9,5m)
   with F150 focus lens
- wire feeder with 1.2 1.6V fi37 rollers
- Ø 2x wire guide rollers 0.8 1.0V fi37

- g protective lenses
- ø head support for double liner\*





\* additional

set elements

choosing

a double feeder

Available with head

F210 or F230

# **Accessories**



**WELDING NOZZLE** 

### TYPE 1

·SP050-10-001



# **WELDING NOZZLE**

### TYPE 2

·SP050-10-002



**CUTTING NOZZLE** 

• SP050-10-003



WELDING NOZZLE

# TYPE 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**

# TYPE 2

- SP050-10-208 wire fi 0.8mm
- SP050-10-210 wire fi 1.0mm
- SP050-10-212 wire fi 1.2mm
- SP050-10-216 wire fi 1.6mm



# 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**

# TYPE 1

- SP050-10-610 double wire fi 1.0mm
- SP050-10-612 double wire fi 1.2mm
- SP050-10-616 double wire fi 1.6mm
- SP050-10-620 double wire fi 2.0mm



# WIRE FEEDER TIP

- SP050-15-610 double wire fi 1.0mm
- SP050-15-612 double wire fi 1.2mm
- SP050-15-616 double wire fi 1.6mm • SP050-15-620 double wire fi 2.0mm



# **GRADUATED TUBE**

·SP050-12-010



# LASER HEAD SUPPORT

• SP050-12-005 single guide



### LASER HEAD SUPPORT

• SP050-12-605 double guide



LASER WELDING MACHINE parts diagram







# **PROTECTIVE LENS**

·SP050-11-001



# FOCUS LENS

F150

·SP050-11-002

welding, cutting, cleaning up to 30mm



# **FOCUS LENS**

F400

·SP050-11-003

celaning up to 60mm



# FOCUS LENS

F800

• SP050-11-004 celaning up to 120mm



# O-RING FOR THE LENS

• SP050-11-010



# INSULATED STEEL LINER

• SP050-16-012 wire fi 0.8-1.6mm

single



### **TEFLON LINER**

• SP050-17-012 wire fi 0.8-1.6mm double



# 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
- SP-ROL371510-2029 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

..... .. 2.0 2.0.



# LASERFROST COOLING LIQUID

• SP050-90-005

# ->> LASFRBOX

LaserBOX is a complete set of spare parts desiganted for the head of a laser welding machine. LaserBOX provides everything needed to quickly and efficiently replace worn or damaged components.



[single wire feeder] • SPBOX7-LASER-10



**LASERBOX** 



SP050-10-001	Welding nozzle TYPE 1	2 pcs
SP050-10-002	Welding nozzle TYPE 2	2 pcs
SP050-10-008	Welding nozzle TYPE 1 wire 0.8mm	3 pcs
SP050-10-010	Welding nozzle TYPE 1 wire 1.0mm	3 pcs
SP050-10-012	Welding nozzle TYPE 1 wire 1.2mm	3 pcs
SP050-10-016	Welding nozzle TYPE 1 wire 1.6mm	2 pcs
SP050-10-212	Welding nozzle TYPE 2 wire 1.2mm	2 pcs
SP050-10-216	Welding nozzle TYPE 2 wire 1.6mm	2 pcs
SP050-15-008	Wire feeder tip 0.8mm	3 pcs
SP050-15-010	Wire feeder tip 1.0mm	3 pcs
SP050-15-012	Wire feeder tip 1.2mm	3 pcs
SP050-15-016	Wire feeder tip 1.6mm	2 pcs
SP050-11-001	Protective lens	4 pcs
SP050-11-002	Focus lens F150	1 pcs
SP050-11-003	Focus Iens F400	1 pc
SP050-11-004	Focus Iens F800	1 pc
SP050-11-010	O-ring	2 pcs

¥		
SP050-10-001	Welding nozzle TYPE 1	2 pcs
SP050-10-002	Welding nozzle TYPE 2	2 pcs
SP050-10-612	Welding nozzle TYPE 1 (double wire 1.2mm)	5 pcs
SP050-10-616	Welding nozzle TYPE 1 (double wire 1.6mm)	5 pcs
SP050-10-620	Welding nozzle TYPE 1 (double wire 2.0mm)	5 pcs
SP050-15-612	Double wire feeder tip 1.2mm	4 pcs
SP050-15-616	Double wire feeder tip 1.6mm	4 pcs
SP050-15-620	Double wire feeder tip 2.0mm	3 pcs
SP050-11-001	Protective lens	4 pcs
SP050-11-002	Focus lens F150	1 pc
SP050-11-003	Focus lens F400	1 pc
SP050-11-004	Focus lens F800	1 pc
SP050-11-010	O-ring	2 pcs





# **HELMET LS120**

• 080-05-002

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



# **SAFETY GLASSES**

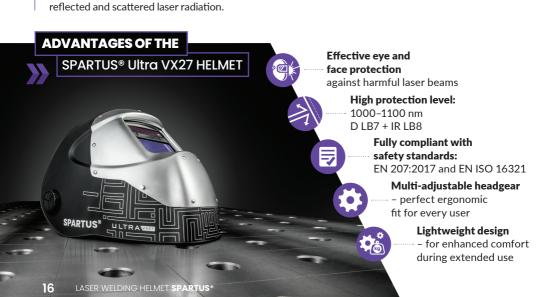
· SP050-20-003

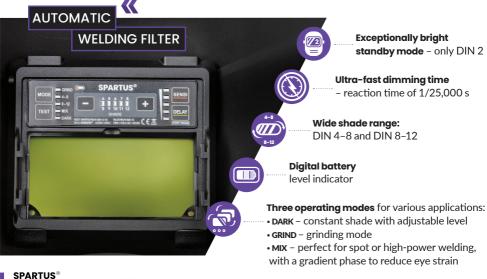
Wavelength range: 800-900nm OD>6 900-1100nm OD>7 DIN protection class: 4 Highly specialized filtration: 800-900nm D LB5 +IR LB6 900-1080nm D LB5 + IR LB7 LP S





>>> The SPARTUS® Ultra VX27 is a specialized helmet designed for laser welding, cleaning, and cutting, developed with maximum user protection in mind. It's more than just an auto-dimming filter – it's a comprehensive facial protection system that, thanks to a special coating, effectively shields against





**Ultra VX27** 

Product code:

• 080-05-VX27

APPLICATION	laser welding, cleaning and cutting
ACTIVE FIELD OF VIEW	96 x 46.5 mm
FILTER OPTICAL CLASS	1/1/1/2
CARTRIDGE SIZE	110 x 90 x 9 mm
SENSORS	2
SHADING (STANDBY)	2
VARIABLE WELDING SHADES (OPERATING)	4-8/8-12
LIGHT TO DARK SWITCHING TIME	1/25 000 s
DELAY CONTROL LIGHT TO DARK SWITCHING TIME	0.1 - 1.0 s
UV/IR PROTECTION DEGREE	to DIN 16
HIGHLY SPECIALIZED FILTRATION :	1000 -1100nm D LB7 + IR LB8
SPECIAL MODES	GRIND / MIX / DARK
POWERED	solar cells, battery CR2450

>> The SPARTUS® Ultra VX27 is a solution for professionals who demand not only effective protection, but also comfort and top-quality craftsmanship. This laser welding helmet meets the demands of modern industrial technologies and responds to the real needs of professionals.



ALSO AVAILABLE option with helmet Product code:

• 080-05-VX27K

SPARTUS



>>> SPARTUS® Ultra VX27 is a specialist helmet designed for laser welding, cleaning, and cutting, developed with maximum user protection in mind. It is not just an auto-darkening filter that protects the eyes – it is a comprehensive face protection system, equipped with a special coating that effectively shields against reflected and scattered laser radiation. When combined with the Ultra X air supply system, it forms a complete solution for protecting the eyes, face, and respiratory tract, tailored to the demands of industrial environments.







- SPARTUS® Ultra VX27 helmet with air supply system
- 5 pcs. outer protective cover lens
- 2 pcs. inner protective cover lens
- Ultra X air supply system
- Air hose with protective sleeve
- Main HEPA filter
- Spark guard
- Pre-filter with activated carbon
- Airflow indicator
- Lithium-ion battery
- Harness
- Charger

# **ULTRA X AIR SUPPLY SYSTEM**

TECHNICAL DETAILS

ADJUSTMENT KNOB AND SWITCH	inside	
VARIABLE AIR SUPPLY SPEED CONTROL	170 l/min ; 210 l/min	
OPERATING TIME	9h	
CHARGING CYCLE	≥ 500	
CHARGING TIME	1h	







# **Accessories**



**POLYCARBONATE SHIELD** 

95 × 111 mm [front - Ultra VX27]

·082-95-111



**POLYCARBONATE SHIELD** 

51 × 98 mm [inside - Ultra VX27]

• 082-51-098



### **SWEATBAND**

for helmet SPARTUS® Ultra VX27

• 080-05-VX27-I



# HEADGEAR

for helmet SPARTUS® Ultra VX27

•080-05-VX27-C



**FABRIC SEAL** 

for helmet SPARTUS® Ultra VX27

• 080-05-VX27-M



# HOSE COVER

for helmet SPARTUS® Ultra VX27

• 080-05-VX27-P



### PARTICULATE FILTER

for SPARTUS® Ultra X air supply

• 080-15-101



### **PRE-FILTER**

for SPARTUS® Ultra X air supply

• 080-15-104



### **SPARK SCREEN**

for SPARTUS® Ultra X air supply

• 080-15-103



**GAS FILTER A2** 

for SPARTUS® Ultra X air supply

• 080-15-120



### GAS FILTER ABEK1

for SPARTUS® Ultra X air supply

• 080-15-122



### **BATTERY**

[standard] for SPARTUS® Ultra X air supply

• 080-15-110



# BATTERY

[high-capacity] for SPARTUS® Ultra X air supply

•080-15-110L



### CHARGER

for SPARTUS® Ultra X air supply

• 080-15-111



# SHOULDER STRAP

for SPARTUS® Ultra X air supply

• 080-15-141



### **BELT CUSHION**

for SPARTUS® Ultra X air supply

• 080-15-140



### **HOSE COVER**

for SPARTUS® Ultra X air supply

• 080-15-106



### **QUICK-CONNECTION HOSE**

for SPARTUS® Ultra X air supply

• 080-15-105



# O-RING

for SPARTUS® Ultra X air supply

• 080-15-109



### **AIRFLOW INDICATOR**

for SPARTUS® Ultra X air supply

• 080-15-130



# Protective cover

FOR SPARTUS® EASY LASER
WELDER AND CLEANER .....

Ensure longer service life for your equipment with a dedicated protective cover for SPARTUS®

Easy laser welders and cleaners. Made from durable material, the cover effectively shields the devices from dust, debris, and dirt that could negatively impact sensitive components and electronics.

Thanks to the built-in drawstring at the bottom, the cover fits snugly around the housing, preventing accidental slipping and further limiting the entry of contaminants. A simple yet highly effective solution for storing equipment in a workshop, warehouse, or production hall.



# **PROTECTIVE COVER**

for the Easy 1500/2000 laser welder and Easy 1500CL cleaner

• SP050-25-001



# PROTECTIVE COVER

for the Easy 3000 laser welder and Easy 2000CL cleaner

• SP050-25-002

Advertisement





# The most advanced and efficient metal cleaning technology

The SPARTUS® Easy 1500CL/2000CL is an advanced laser cleaning device designed for professionals in the metal processing industry. This machine offers an ideal solution for fast and efficient removal of rust, paint, contaminants, and other unwanted layers from various metal surfaces. Utilizing modern fiber laser technology, SPARTUS® 1500CL/2000CL ensures high-precision cleaning without damaging the base layer of the metal.

Power - equipped with powerful capabilities, it enables quick and effective cleaning, even of the toughest contaminants.

Technology - the use of laser light allows for precise targeting and removal of unwanted layers without physical contact with the material.

Safety and Ecology - laser cleaning technology is safe for the user and eliminates the need for chemicals. making it environmentally friendly.

Ease of Use - an intuitive control panel and ergonomic design make the SPARTUS® laser cleaner userfriendly, even for less experienced operators.

Versatility of Applications - ideal for renovation, maintenance, and surface preparation for further processing.

# >> CLEANING HEAD SPARTUS® C220

The exceptionally lightweight and ergonomic SPARTUS® C220 cleaning head is a key component of the laser cleaners. Constructed from lightweight materials, it ensures ease of use even during prolonged operations. Various focusing lenses allow for precise adjustment of the cleaning width to 150 mm, 225 mm, or 300 mm, depending on project requirements. This versatility makes the C220 head highly effective across a range of industrial applications, enabling quick and accurate cleaning of metal surfaces.

# **APPLICATION OF A LASER** CLEANING MACHINE

Perfect for cleaning metals across various industries, including automotive, aviation, machinery manufacturing, and many others. It also performs exceptionally in renovation workshops and maintenance facilities.

# **ADVANTAGES** OF LASER CLEANING















# Easy 1500CL Easy 2000CL



PARAMETERS	EASY 1500CL	EASY 2000CL
Output power	1 500 W	2 000 W
Input	230 V	230 V
Duty cycle	100%	100%
Operating mode	continuous	continuous
Scanning speed	2 - 6 000 mm/s	2 - 6 000 mm/s
Scanning width	F400: 0 - 150 mm F600: 0 - 225 mm F800: 0 - 300 mm	F400: 0 - 150 mm F600: 0 - 225 mm F800: 0 - 300 mm
Frequency	5 - 5 000 Hz	5 - 5 000 Hz
Cooling type	liquid	liquid
Weight	140 kg	220 kg
Dimensions	956 x 580 x 823 mm	1140 x 595 x 1080 mm

# The set includes:

# Available with head

C220



# **Accessories**



PARTS DIAGRAM for laser cleaners



**PROTECTIVE LENS** 

·SP050-11-071



FOCUS LENS

·SP050-11-074

Cleaning up to 150mm



# **FOCUS LENS**

F600

• SP050-11-076
Cleaning up to 225mm



# FOCUS LENS

• SP050-11-078

Cleaning up to 300mm



# O-RING FOR THE LENS

• SP050-11-710



# SEAL FOR PROTECTIVE LENS

• SP050-11-740







We offer ready-made laser welding cells and components for building custom workstations - quick to assemble and compliant with safety standards.

# Ready-to-Use Laser Welding Cell Options!



MODEL A

>> 3360x3300 mm

Compact - perfect

for small spaces



MODEL B



>> 4460x4400 mm Medium - optimal for most applications

MODEL C



>> 5560x5500 mm

Large - ideal for advanced production lines

# **Build Your Own Laser Welding Cell!**



Modular screens and doors enable protection to be configured according to your needs.









Screen 1100x2000 mm

Panel z podglądem 1100x2000 mm

Door 1100x2000 mm

>> Door with viewing window 1100x2000 mm

Why is it worth it?





Compliance with laser

safety standards: DIN EN 12254:2012-4, EN 60825-4:2006, DIN EN 12254:2010+AC:2011

> Easy and fast assembly with expandability

> > **Effective protection**

against Class 4 laser radiation

Modern and aesthetic design

> Secure your laser welding workstation today!





**}**}

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