Laser welding machine MOST XTW-1500

The MOST XTW-1500 laser welding machine has been widely used in joining materials with thicknesses up to 6 mm. Various types of materials and shapes can be joined with a laser beam (also with the use of welding wire). The obtained joints are aesthetic and durable, and deformations are negligible. In most cases no mechanical treatment is required after the welding process is completed.
Currently in welding, laser technology is widely used in many branches of the industry such as automotive industry, astronautics, electronics, aviation, power industry, production of sanitary equipment, production and regeneration of matrices, food processing.
Laser welding is one of the most modern welding methods, it become a competition for advanced welding processes, incl. electron welding. The welding process is very efficient and it can be used to combine various shapes in all welding positions, which increases the efficiency of production processes.

Advantages of laser welding:

- narrow welding seam,
- narrow heat-affected zone,
- high speed of the process,
- it does not require any additional material (welding wire can be used),
- high precision,
- high purity of the process,
- high power density,
- minimal deformation,
- the possibility of joining difficult-to-weld materials.

Laser welding is a highly efficient method in mass production, automated or robotic production, especially for connecting thin-walled elements, where the advantages are fully used in this method.

Model	MOST XTW-1500
Laser type	optical fiber, Nd-Yag, continuous mode
Laser output power	max 1500 W
Dot diamater	0,5-1,0 mm
Laser head cable length	10 m (8 m outside the machine)
Fiber core diameter	50 μm
Power consumption	max 7 kW, 32 A
Power type	230 V ±20%
Cooling method	active cooler with forced liquid circulation
Weight	250 kg
Penetration depth	<4 mm
Dimensions DxHxW	1000 x 1100 x 580 mm
Laser head with wobbler	biaxle
Oscillator	7 operating modes
Catalog No.	3L 00 000001

MOST XTW-1500 laser welding machine is a set which includes:

- 1500 kW power source with the biaxial laser head and a built-in cooler,
- stabilizer,
- wire feeder.

Rodzaje materiału i podstawowe dane:

Material type	Maximum penetration	Maximum thickness
Stainless steel	4 mm	5 mm
Galvanized steel	3 mm	5 mm
Mild steel	4 mm	6 mm
Aluminium	2 mm	3 mm
Copper	2 mm	2 mm

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Laser head and controls

The welding precision is determined by the head, which in case of the MOST welding machine is a biaxial head, which allows for setting several types of oscillation - operating modes (see photo 1).
The head has a display with the currently set parameters of the device, such as output power, type of oscillation,, frequency and beam working area width (see photos 2 and 3).

Photo 1: Laser head

Photo 2: Operating mode

Photo 3: Display on the laser head

Laser head accessories included in the set:

No.	Name	Catalog No.
1	Protective lens QL	3L 00 020001
2	Wire feed fixture	3L 00 020003
3	Wire hose clamp	3L 00 020004
4	Copper nozzle holder	3L 00 020005
5	Anti-splash fixed shaft	3L 00 020006
6	Anti-splash outer corner welding nozzle	3L 00 020007
7	Anti-splash butt welding nozzle with wire	3L 00 020008
8	Anti-splash corner welding nozzle with wire	3L 00 020009
9	Cutting nozzle	3L 00 020010
10	Outer corner welding nozzle	3L 00 020011
11	Wire feeding nozzle	3L 00 020012
12	Butt welding nozzle	3L 00 020013
13	Wire feeder little nozzle 0.8-1.0mm	3L 00 020014
14	Wire feeder little nozzle 1.0-1.2mm	3L 00 020015
15	Wire feeder little nozzle 1.2-1.6mm	3L 00 020016
16	Wire feeder roller 0,8-1,0V	3L 00 020017
17	Wire feeder roller 1,2-1,6V	3L 00 020018

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