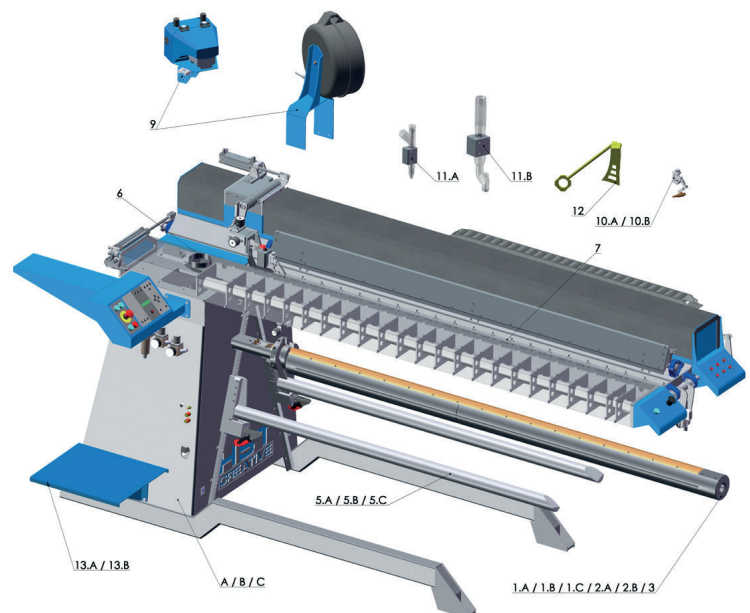


## MALW – Most Auto Longitudinal Welding



MALW is a modern welding automat of new generation designed for longitudinal welding, which features perfect ergonomics and operating parameters. Maximal length of weldment is 2050 mm, maximal diameter of welded material – 1500 mm, thickness of material in range of 0,5-3,5 mm. The detailed mechanical construction, electronics, drivers of the newest generation and highly advanced technologies of TIG DC, TIG AC, Plasma Weld DC, Plasma Weld AC welding methods provide the wide range of applications in welding of all types of steel. The construction of arms is designed as spatial construction, characterized by high flexibility and quality. The overpressure of the work-piece to the welding mandrel is realized pneumatically through the gear levers, use of copper segments provides the optimal settings and enables to carry off heat precisely from the welding area. The backing sheet is made of the high quality CuCrZr alloy and features the high resistance. The advanced driving system of welding torch is realized by servomotor and allow the precise positioning with exactness of 0,2 mm, welding speed of 10-300 cm/min and feed of 600 cm/min, what significantly shortens stoppage in welding processes. The gas management system is one of the functions worth mentioning. The gas distribution is realized by three independent systems: the welding torch, the weld cooling and forming gas. The forming gas distribution flow applies the unique cascade system of backing weld protection. Depending on the actual position of torch, the cascade gas flow system split forming gas automatically into sections, with 10 or 15 – out of 80 – holes opened in the same time. This solution greatly reduces the forming gas consumption by 70%. The unit can be equipped with an additional cold wire feeder, what extends the range of its application in thicker sheet welding (e.g. in pressure tanks production and other objects which manufacturing processes that demand the wire application). The unit is provided with the integrated welding fume extraction system, which can be connected to the central filtration system, and the integrated cooling system. The device is controlled by digital control system, which has been designed especially for longitudinal welding automats. Control system has a wide range of functions, by which all requirements of longitudinal welding are solved.

Model	MALW 1000	MALW 1500	MALW 2000
Max. length of the product	1100 mm	1500 mm	2050 mm
Min. diameter of the product	60 mm	80 mm / 100 mm	120 mm
Max. diameter of the product	1500 (1800) mm	1500 (1800) mm	1500 (1800) mm
Dimensions of material thickness (Fe)	0,4-3,5 mm	0,4-3,5 mm	0,5-3,5 mm
Dimensions of material thickness (CrNi)	0,35-3,5 (4) mm	0,35-3,5 mm	0,5-3,5 mm
Dimensions of material thickness (Al, Ti)	0,4-3,0 mm	0,4-3,0 mm	0,5-3,0 mm
Dimensions of material thickness (Cu)	0,5-2,0 mm	0,5-2,0 mm	0,5-2,0 mm
Range of welding speed	10-300 cm/min	10-300 cm/min	10-300 cm/min
Clamping force of welded part	0,35-250,0 N/mm <sup>2</sup>	0,35-250,0 N/mm <sup>2</sup>	0,35-250,0 N/mm <sup>2</sup>
The forming gas flow system	System kaskadowy	System kaskadowy	System kaskadowy
Duty cycle	100%	100%	100%
Voltage	3x400V 50/60 Hz	3x400V 50/60 Hz	3x400V 50/60 Hz
Power consumption	350 VA	350 VA	350 VA
Protection class	IP21	IP21	IP21
Weight	610 kg	740 kg	1050 kg
Dimensions:			
▪ length	1350 mm	1350 mm	1350 mm
▪ depth	1200 mm	1200 mm	1200 mm
▪ width	2150 mm	2600 mm	3200 mm
Control system	MCS-XL – MOST Control System	MCS-XL – MOST Control System	MCS-XL – MOST Control System



## MCS-X – MOST Control System

The MCS-X control system provides a clear and easily understandable user interface with full programming capabilities and results in a higher level of production throughout the entire process.

Some of control features:

- process control,
- diameter of the product, the way of rotation, angle of turning (maximal 720°, exactness 0,1°),
- axis rotation,
- delay/acceleration of the rotation before welding (time after the confirmation of the stable arc is sent by the welding machine),
- the precise closing/opening sequence and defect-free connection of beginning and end of the weld (angle and number),
- O-point – exact return to the start point,
- points (automatic calculation of angles on the basis of entering information, entering the number of tack welds).

Axis motoric:

- in rotary mode of welding – the setting of the longitudinal welding position on the X axis and its acting during the operating cycle,
- in longitudinal mode of welding – the setting of the welding position, the delay of activity after the welding process has started, the final time of welding, finishing of the sequence, the acting during the operating cycle and radial position of the weld on the rotary axis,
- the angle of tailstock's spindle 0- 90°, the fluent movement using the extract drive of tailstock's tilt or with pneumatically controlled stroke.

Torch axis – pneumatic or electric supports.

Oscillation:

- the delay of starting the oscillation after the sign of the stable arc is sent (sec),
- frequency of the oscillatory movement (Hz),
- right/centre/left divergence, in mm, separately for each sides, (exactness 0,1 mm).

Welding system with digital communication system equipped-CAN BUS

Forming gas – pre-blowing and after-blowing of forming gas functions

Programs – Memory Box:

the machine can memorize the own settings including the whole operating cycle. Programs saved in Memory boxes can be arbitrarily combined into the functional lines and create even the difficult operating cycle..

Optional accessories:

- f AVC control when TIG and PLASMA welding (automated regulation of arc height),
- f joints/seam tracing (electromechanical indicator),
- f camera viewing system.

Special version suitable for longitudinal mode of welding MCS-XL available.

