

Longitudinal Seam Welding Machine

ELENA[®] S-SERIES

Heavy Duty



Figure 1: ELENA 1100-II-S-K with operator and workpiece

ELENA S-Series longitudinal seam welding machines represent the culmination of 25 years of welding experience and intensive product development.

Equipped with high-quality components and designed for heavy duty, it offers the platform for all welding requirements in the sheet metal sector and gives the possibility for a wide range of welding applications utilising welding processes including, TIG (GTAW), Plasma-Keyhole, MIG / MAG and InFocus.

Their specially designed clamping system, combined with state-of-the-art production processes, allows the joining of sheet thicknesses up to 10 mm, which is ideal for producing pressure vessels and ventilator housings.

The ergonomic and robust design facilitates exceptional efficiency, reliability and ease of use, even when dealing with the most complex of welding tasks.

HIGHLIGHTS

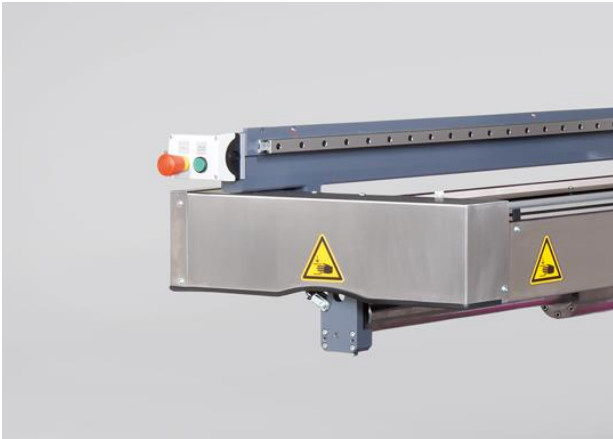


Figure 2: Automatic latch operation - Clamping system with adjustable fingers

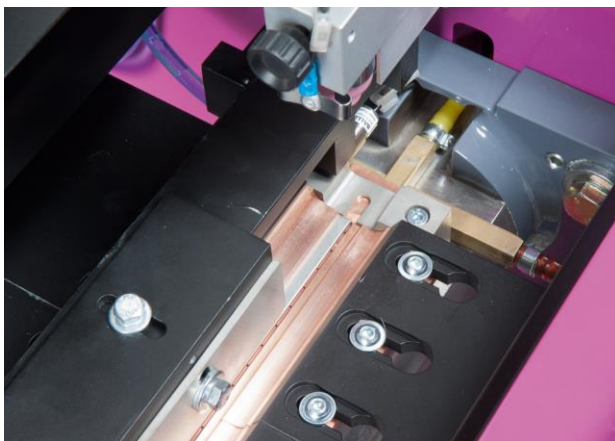
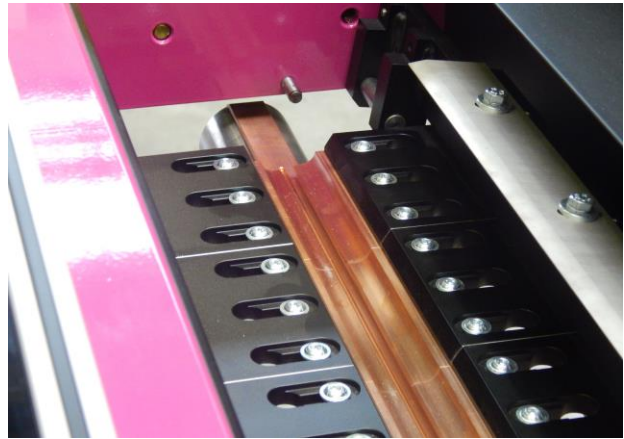


Figure 3: Centre stop for easy and accurate component alignment



Figure 4: Pneumatics easily accessible from the rear of the machine

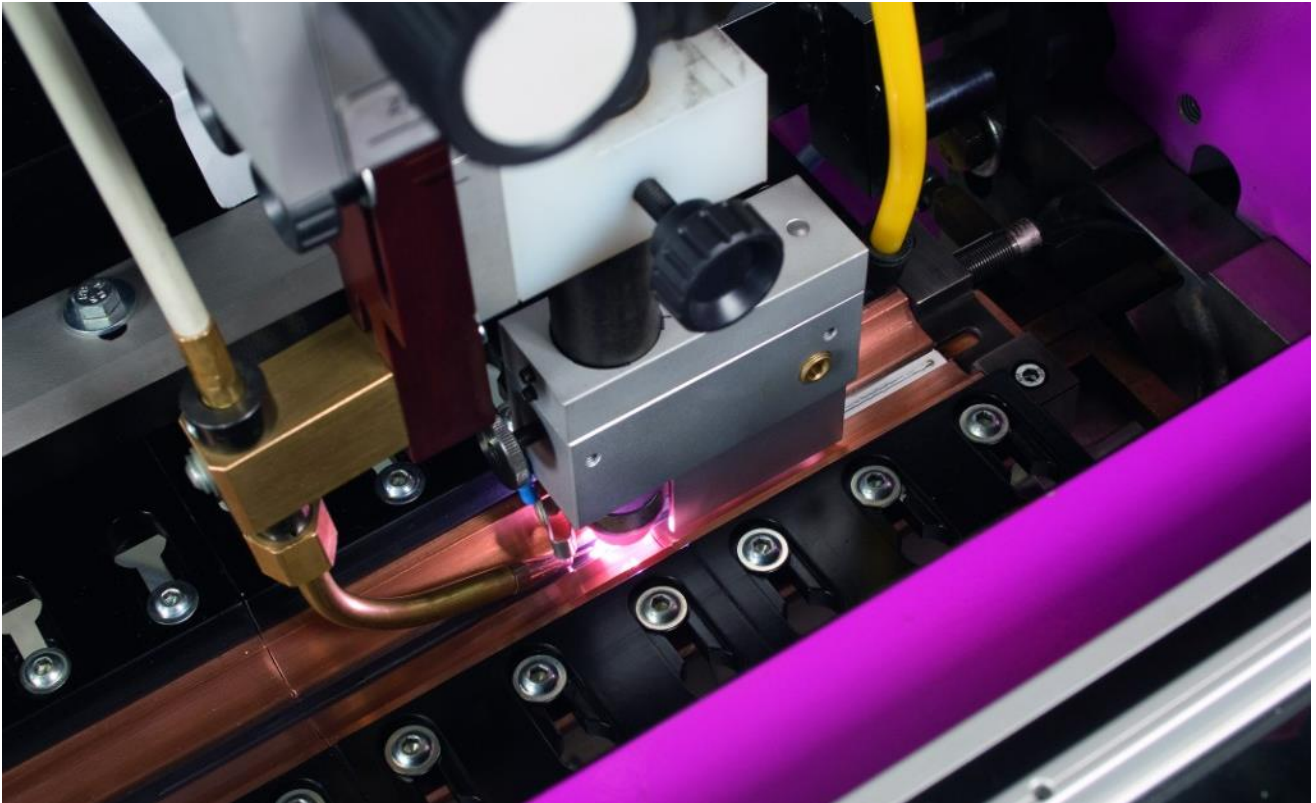


Figure 5: TIG / GTAW welding with trailing gas nozzle and coldwire feeding (Option)



Figure 6: ELENA 1100-II-S-K

TECHNICAL DATA

Machine Type	ELENA 600-II-S	ELENA 1100-II-S	ELENA 1300-II-S	ELENA 1600-II-S
Tube Length (max).	640 mm	1140 mm	1340 mm	1640 mm
Tube-Ø min.	80 mm	115 mm	125 mm	140 mm
Tube-Ø max.	800 mm	800 mm	800 mm	800 mm
Material Thickness	0,5 - 10,0 mm	0,5 - 10,0 mm	0,5 - 10,0 mm	0,5 - 10,0 mm
Material Type	Stainless Steel, Mild Steel, Galvanised Steel, AL, CU, Titanium			
Welding Process	TIG / GTAW, Plasma, InFocus, MIG / MAG			
Gas	Torch Gas, Backing Gas, Trailing Gas			
Torch Travel Speed	5 cm/min – 700 cm/min			
Mandrel Latch	Pneumatic, Position controlled			
Backing Bar	CuCrZr or SS			
Clamping Fingers	CuCrZr or SS			
Clamping System	Pneumatic, Pre-clamp Feature			
Arc Length	Constant (over whole welding length)			
Cooling Circuit	Backing Bar (Mandrel), Torch			
Control	Siemens S7 ET200S			
Operator Panel	Siemenspanel Comfort Panel 7"			
Motor	Siemens Posmo			
Control Welding Equipment	ProfiBUS			
Standard	CE-Mark or UL (option)			
Electric Supply	400/230 Volt / 3 / N / PE 50 Hz			
Air Supply	6 bar, dry, filtered			
Ambient Temperature	+ 10°C to + 35°C			
Colour	To customer request			



MACHINE CONTROL

? Automatic 00000000 !				
Please load Part / Close Lock				
Last load.dat.recrd:	0000	000000000000000000000000	Load	
Torch position:	00000.000	mm	Change values	
Speed:	0000000.0	cm/min	Manual travel Torch	
Center stop up	Open lock	Torch up	Wire forward	Wire backward
Center stop down	Close lock	Torch down	Gasest	Arc off
Unclamp Manual Return				

Figure 7: Automatic menu for machine operation

? Welding machine !				
Arc:	OFF			
Gas Pr. flw. Time:	00000000.0	s		
Preweld time:	00000000.0	s	I-Start:	0000 A
Upslope:	00000000.0	s	I-0:	0000 A
No.o'swtchLgths:	0000000000			
Swthchg. Lgth:	0	000000.000	mm	
Slope:	0	00000000.0	s	I- 0 0000 A
Variable - Variable + Return				

? Welding Parameter !				
No.o'segments:	0000000000			
Start Point:	0	000000.000	mm	
Weld length:	0	000000.000	mm (Endpoint)	
Speed:	00000000.0 cm/min			
Gas Preflow Time:	00000000.0 s			
Gas Afterflow Time:	00000000.0 s			
Park Position:	000000.000 mm			
Variable - Variable + Return				

Figure 8: Menus for movement and welding parameter setting

? Data Record Management !				
Active recipe:	0000	000000000000000000000000		
1	Datensatzname: 1			
2	Datensatzname: 2			
3	Datensatzname: 3			
4	Datensatzname: 4			
5	Datensatzname: 5			
6	Datensatzname: 6			
7	Datensatzname: 7			
8	Datensatzname: 8			
Return				

Figure 9: Data storage management for welding procedures with password protection (option)

EQUIPMENT (OPTION)



Figure 10: Mandrel manufactured from Stainless Steel, stepped up for producing e.g. cones



Figure 11: Coldwire Feeding System



Figure 12: Machine body with base plate for diameters up to 1000 mm



Figure 13: Adjustable part stop



Figure 14: ELENA 1300-II-S with higher machine body and insertion aid with roller tracks

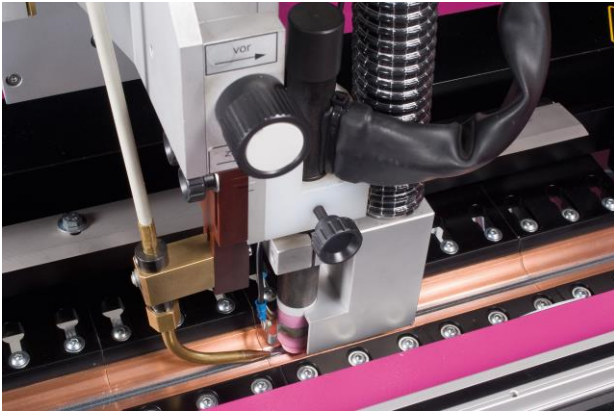


Figure 15: Weld fume extraction (for welding galvanized steel)



Figure 16: HKS Welding Data Monitoring system



Figure 17: Center Mark with laser pointer, for part alignment (manual)



Figure 18: Plasma-Keyhole welding equipment



Figure 19: MIG/MAG welding equipment



Figure 20: InFocus High performance TIG welding equipment

ITEM LIST

Item	Machine	Welding length [mm]	Min. Tube ID [mm]
1017544	ELENA 600-II-S	640	80
1017045	ELENA 1100-II-S	1140	115
1017545	ELENA 1300-II-S	1340	125
1017546	ELENA 1600-II-S	1640	140

Item	Options mandrel design	Type	
Selection	Mandrel made from stainless steel	ELENA II S 400 - 1600	
Selection	Mandrel with special geometry	ELENA II S 400 - 1600	

Item	Options machine control	Type	
1017089	Welding program memory	up to 200 programs	
1017579	Barcode scanner	for program memory	
1030073	Router for remote diagnosis	via internet	
1017558	Air conditioning unit	for the electrical cabinet	
1031288	Network connection	including 2 media switch	
1027620	Control panel in national language	Touchscreen only	
1017217	Control panel in national language	Including operating manual and documentation	
1017093	Welding data monitoring system	Mikro Weld QAS	

Item	Options Gas		
1032953	Gas regulator manually with Rotameter		
1030793	Gas regulation unit, automatic with mass flow controller	Integrated into machine control	
1017206	Gas switchover (electric)	Integrated into machine control	
1038339	Gas tubing diffusion optimised		

Item	Options machine design	Type	
Selection	Insertion aid roller tracks	ELENA II 400 - 1600	
Selection	Insertion device with matrix trolley	ELENA II 400 - 1600	
1017165	Mandrel lift, pneumatically operated	ELENA II 400 - 1600	
1028103	Machine body in left version	ELENA II 400 - 1600	
Selection	Machine body higher 100 – 1500 mm	ELENA II 400 - 1600	
1017175	Machine body with base plate	ELENA II 400 - 1600	
1017176	Machine body with flange plate	ELENA II 400 - 1600	
1044249	Special colour	1 colour	
1044250	Special colour	2 colours	
1017523	Foot switch additional (installed)		
Selection	Part stop adjustable	With scale in mandrel incl.	
1030797	Lamp with High Performance LED		
1017481	Centre Mark with laser pointer		
1019028	UL-Standard	Execution electrical system and pneumatic	
1017157	Stainless Steel clamping kit	Clamping jaw inserts and backing bar	
Selection	Backing bar made of high-alloy stainless steel	ELENA II 400 - 1600	
Selection	Backing bar made of wear resistant copper alloy	ELENA II 400 - 1600	
1017169	Clamping jaw insert, made of high alloy stainless steel (CrNi)	ELENA II 400 - 1600	
1017138	Clamping jaw insert, made of wear resistant copper alloy (CuCrZr)	ELENA II 400 - 1600	

Item	Welding and Cooling units		Info
1017014	FRONIUS TT 3000 DC	ProfiBUS Interface	TIG
1017043	FRONIUS TT 4000 DC	ProfiBUS Interface	TIG
1027546	FRONIUS TT 5000 DC	ProfiBUS Interface	TIG
1017018	FRONIUS MW 3000 AC/DC	ProfiBUS Interface	TIG
1017023	FRONIUS MW 4000 AC/DC	ProfiBUS Interface	TIG
1017027	FRONIUS MW 5000 AC/DC	ProfiBUS Interface	TIG
1027652	LORCH V30 mobil DC	ProfiBUS Interface	TIG
1017528	LORCH V30 mobil AC/DC	ProfiBUS Interface	TIG
1041167	FRONIUS TT 4000 DC + PlasmaModule 10	ProfiBUS Interface	Plasma
1017557	MIG-O-MAT PlasmaJET 350	ProfiBUS Interface	Plasma
1044546	FRONIUS TT 5000, InFocus 1000 Brenner	ProfiBUS Interface	
1044548	FRONIUS 2x TT 5000, Power Sharing InFocus 1000 Brenner	ProfiBUS Interface	
1044549	KJELLBERG InFocus 1000A	ProfiBUS Interface	InFocus
1031641	FRONIUS KD 4000 D-11 wire feeder unit	ProfiBUS Interface	Cold wire
1031643	LORCH Feed 1 wire feeder unit	ProfiBUS Interface	Cold wire
1044868	FRONIUS TPS 500i Pulse	ProfiBUS Interface	MIG/MAG
1017082	HYFRA LWK 17	Air blast cooler	
1036824	HYFRA eCHILLY 1	Chiller	
1036825	HYFRA eCHILLY 2	Chiller	
1044560	HYFRA eCHILLY 3	Chiller	
1040575	PFANNENBERG RACK 1100 UL	Chiller	
1017193	Weld fume extraction - Preparation		
1017041	Weld fume extraction - TEKA		
1017044	Weld fume extraction - FUMATOR		

Item	Accessoires		
1030791	Gauge for clamping fingertip distance		
1039081	Tool set, small		
1019042	Three-phase transformer	3 x 480 V, 50-60 Hz, 16 KVA	
1019058	Electrode grinding tool TEG 4.0		
1017522	Electrode grinding machine KAINDL WIG 4	Complete set	
1039897	Spare part package (new machine)	ELENA II 400 - 1600	

Item	Packaging and transport		
Selection	Wooden pallet for transport by truck	ELENA II 400 - 1600	
Selection	Packing in wooden box, land or air transport	ELENA II 400 - 1600	
Selection	Packing in wooden box, sea worthy	ELENA II 400 - 1600	

GENERAL

A wide range of other options are available upon request. ELENA II longitudinal seam welding machines can be adapted to suit specific customer requirements.

REFERENCES



ELENA II | Configuration | S-Series



NOTES

WELDED COMPONENTS

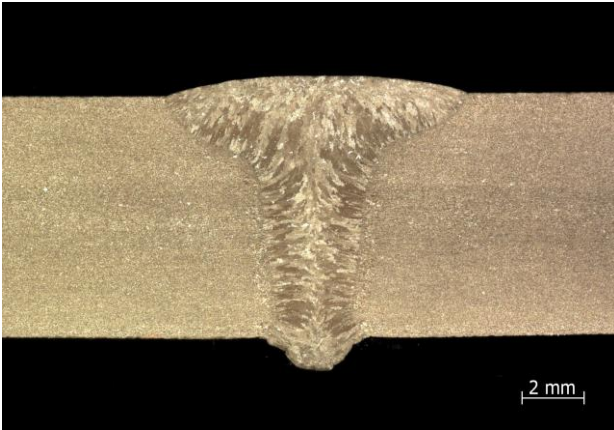


Figure 21: Plasma-Keyhole, Steel sheet $t = 8,0$ mm

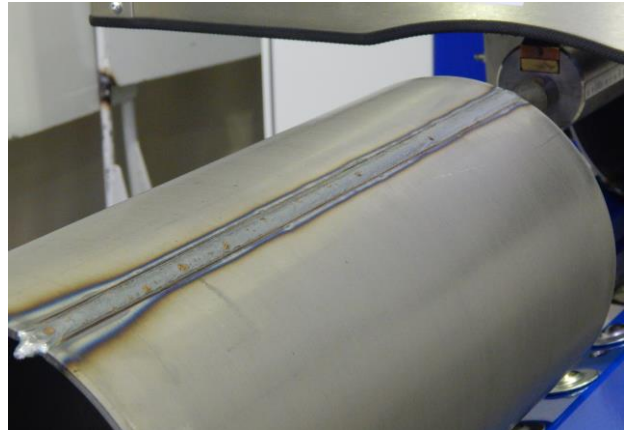


Figure 22: MAG welded Steel Tube $t = 5,0$ mm

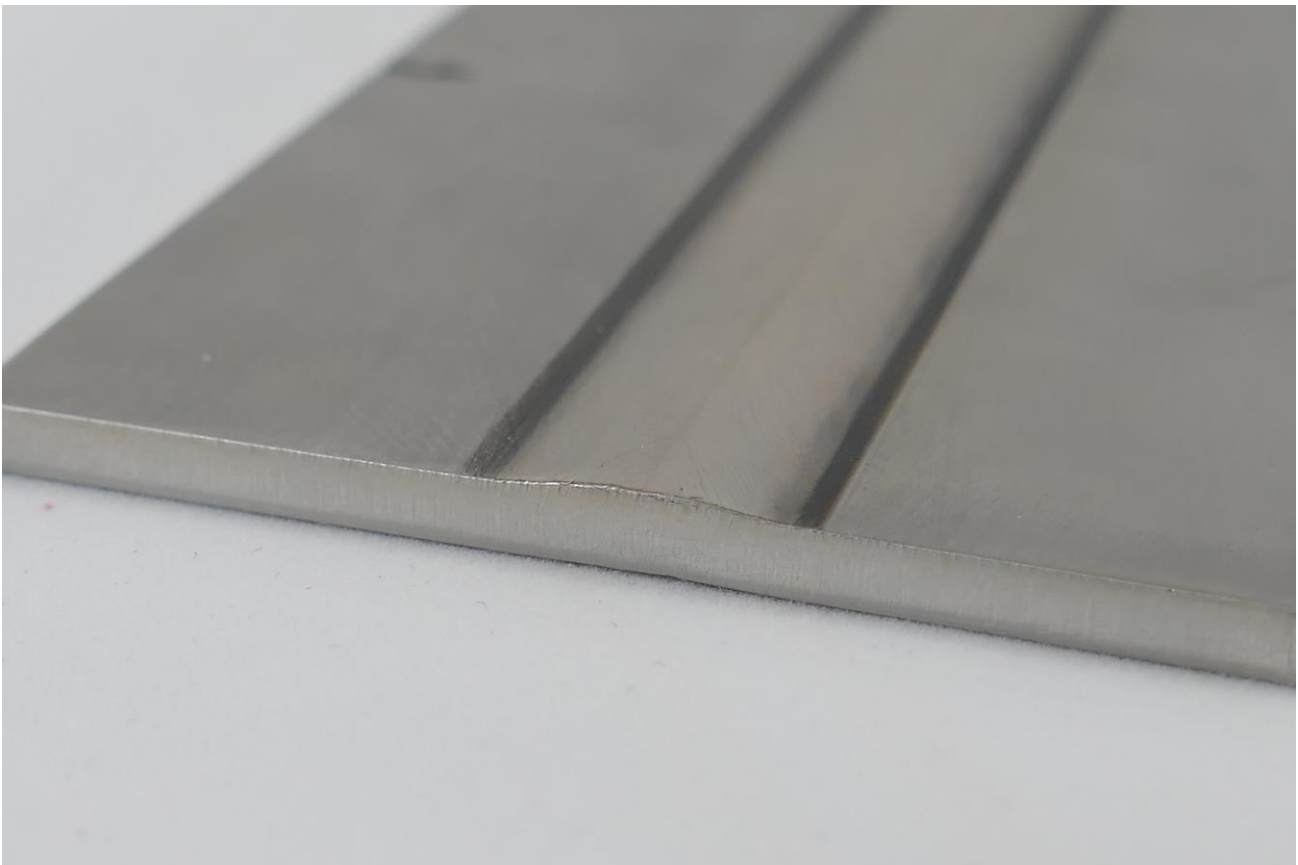


Figure 23: Stainless Steel sheet welded by InFocus $t = 4,0$ mm