

Corner Seam Welding Machine

CORNERWELD 300 and 500

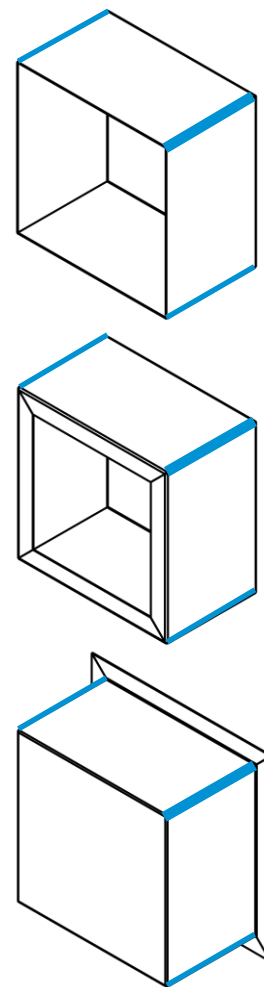
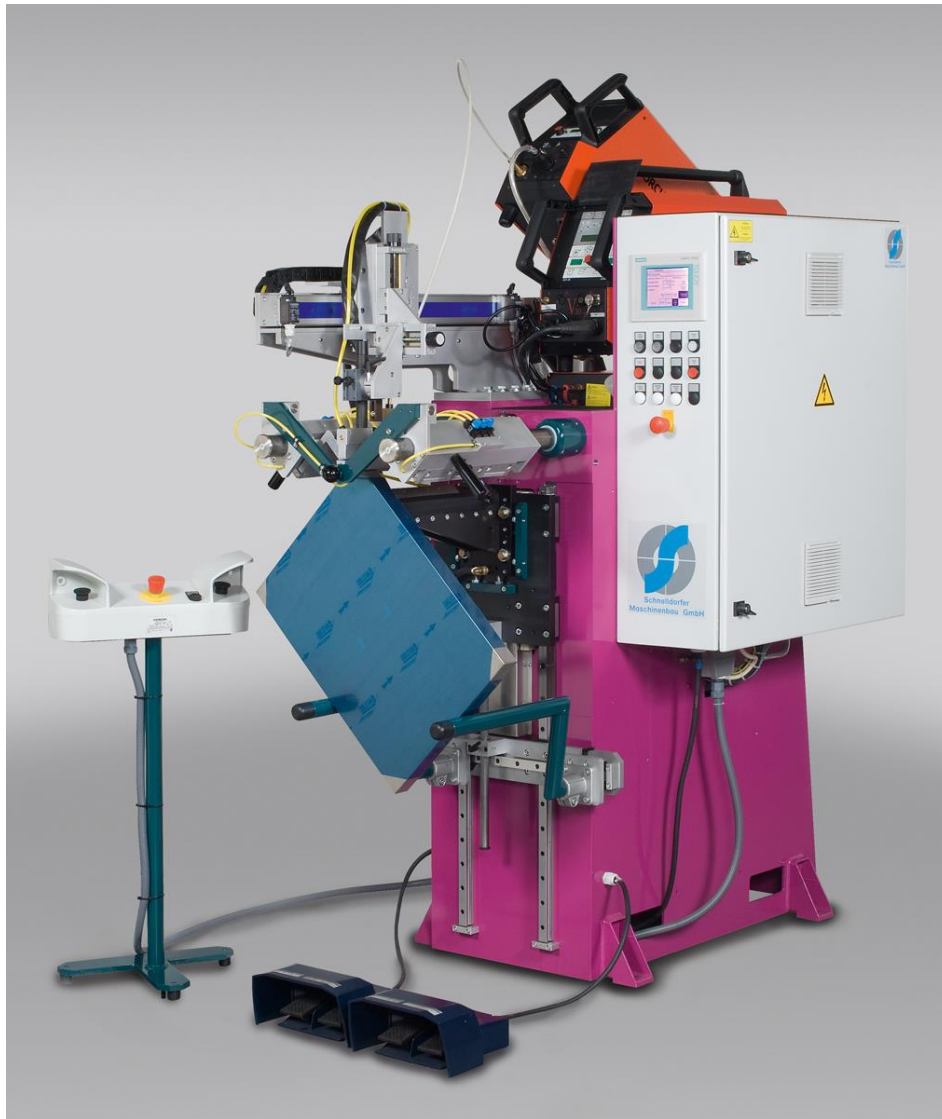


Figure 1: Cornerweld 300-42-HH

CORNERWELD seam welding machines are specifically designed for the welding of sheet metal at 90 degree angles. The machine has a precision clamping system with integrated water cooling and shield gas system to produce clean attractive welds. The machine also benefits from a clear and user friendly touch screen operator interface, which gives precise control over the whole welding cycle delivering high quality seam welds.

A wide variety of part geometries can be accommodated by a single machine because of the highly adjustable and versatile clamping system.

There are 2 CORNERWELD models available with a maximum welding length of 300mm and 500mm. The maximum inward bends on a component can be up to 42mm in length and the maximum outward bends can be up to 80 mm in length.

CORNERWELD seam welding machines can be used for many different applications including enclosures and cabinets made from stainless steel, mild steel and aluminum. Markets include household, hygienic and laboratory furniture. Larger containers can also be accommodated for example, ultrasonic cleaning vessels.

HIGHLIGHTS

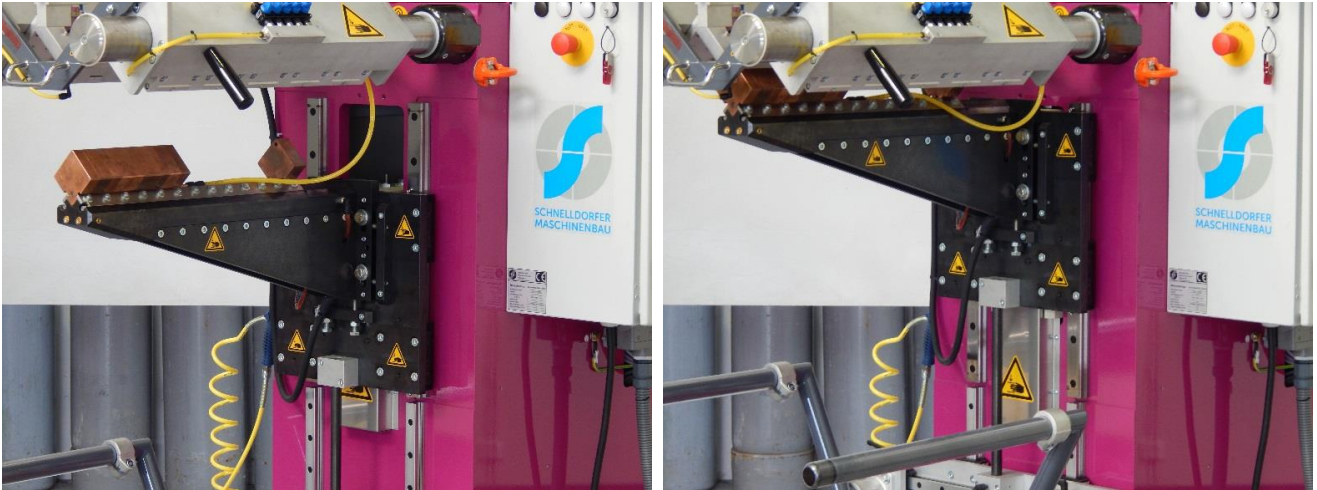


Figure 2: Mandrel lift, pneumatically operated



Figure 3: Flexible outside clamping system for outward bends up to 80 mm



Figure 4: Cornerweld 500-42-HH and 300-42-HH



Figure 5: Mandrel lift down, Two-Hand-Control



Figure 6: Mandrel lift up with clamped part

TECHNICAL DATA

CORNERWELD	300-42-HH	500-42-HH
Welding length up to	300 mm	500 mm
Component dimensions min.	see Table 1 (page 6)	
Component dimensions max.	see Diagram 1 (page 7)	
Clamping height above ground	app. 1220 mm	
Material Type	Stainless Steel, Mild Steel, Galvanised Steel, Aluminium	
Material Thickness	0,4 mm – 3,0 mm	
Inward bends max.	42 mm	
Outward bends max.	80 mm	
Internal clamping Tool	Hard Wearing Copper (CuCrZr); Stainless steel (Option)	
Clamping Finger	Hard Wearing Copper (CuCrZr); Stainless steel (Option)	
Clamping System	Pneumatic, Pre-clamp feature	
Arc Length	Constant (over whole welding length)	
Welding process	TIG	
Welding direction	free selectable	
Gas	Torch Gas, Backing Gas, Trailing Gas	
Cooling Circuit	Mandrel (Internal clamping tool), Torch	
Control	Siemens S7-ET 200	
Operator Panel	Siemens Multipanel 7"	
Motor	Siemens Simodrive Posmo	
Welding Interface	Roboterinterface, Profibus	
Standard	CE-Mark or UL-Standard (Option)	
Electric Supply/Input	400/230 Volt / 3 / N / PE; 50/60 Hz; TN-grid	
Air Supply	6 bar, dry, filtered	
Ambient Temperature	+ 10°C bis + 35°C	
Colour	RAL 4006 / 7015 or to customer requirements	
Dimensions (W x L x H)	800 mm x 1200 mm x 1800 mm	800 mm x 1400 mm x 1800 mm
Weight	860 kg	980 kg



CONTROL SYSTEM DISPLAY (EXAMPLES)

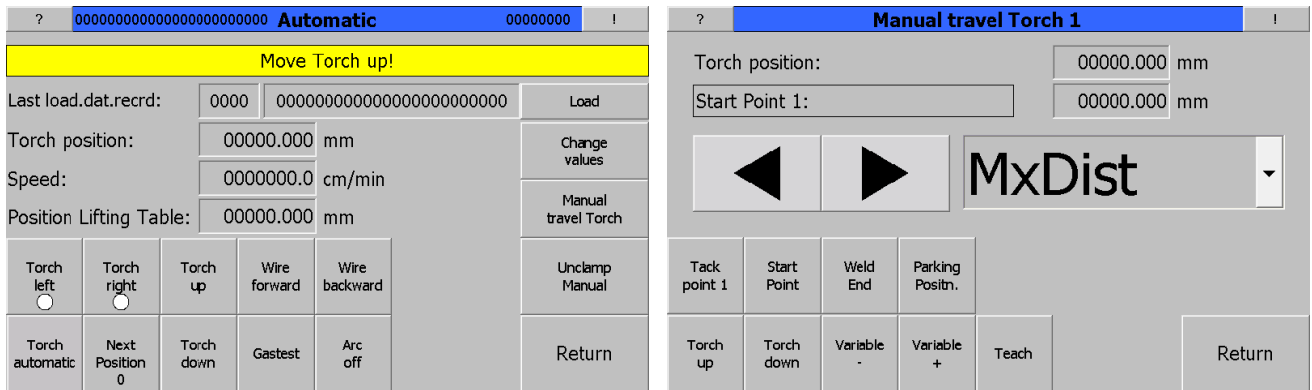


Figure 7: Automatic and manual torch movement menus

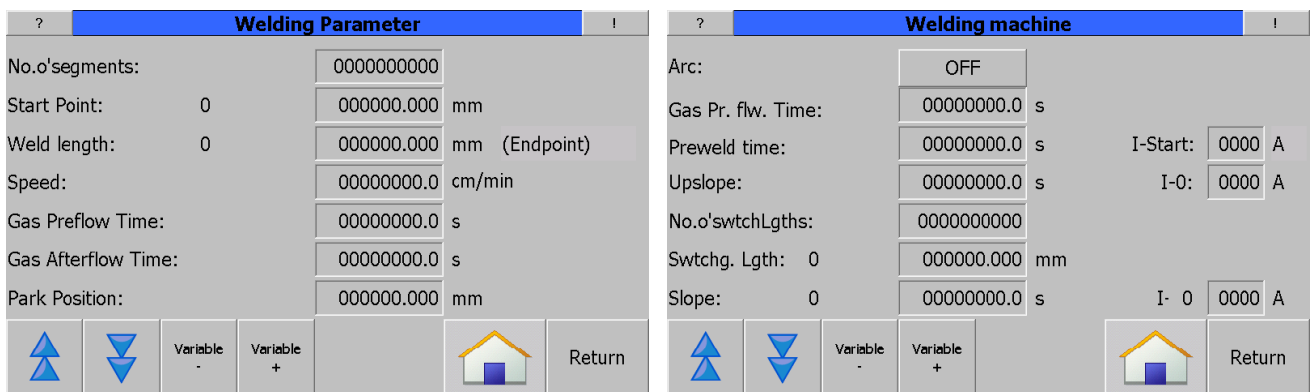


Figure 8: Menu for welding parameter setting (welding current controlled via Profibus)

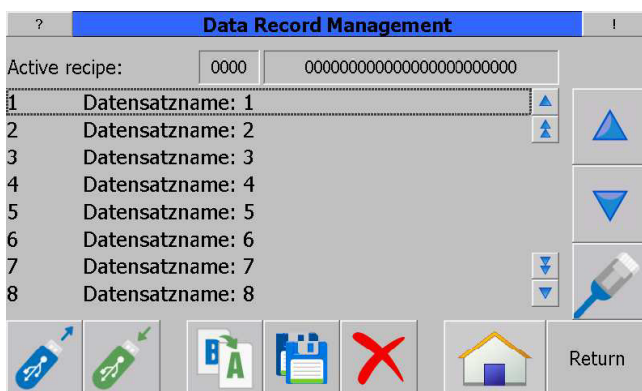


Figure 9: Data storage management for welding procedures with password protection

INTERNAL TOOLING (STANDARD)

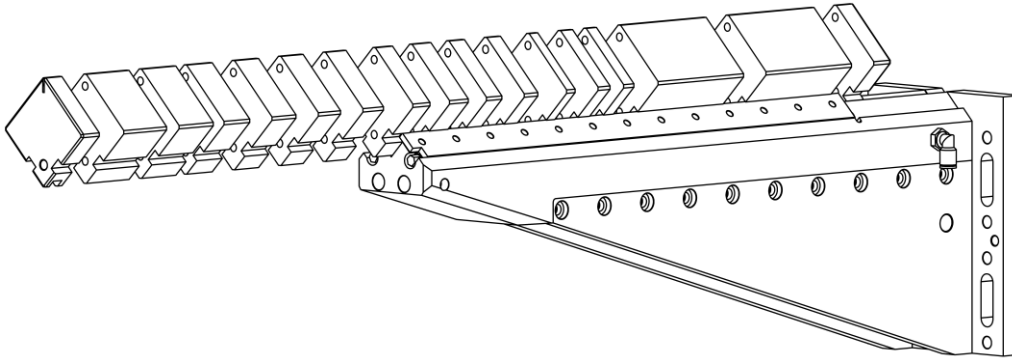


Figure 10: Modular clamping tool set

COMPONENT DIMENSIONS MINIMUM (STANDARD)

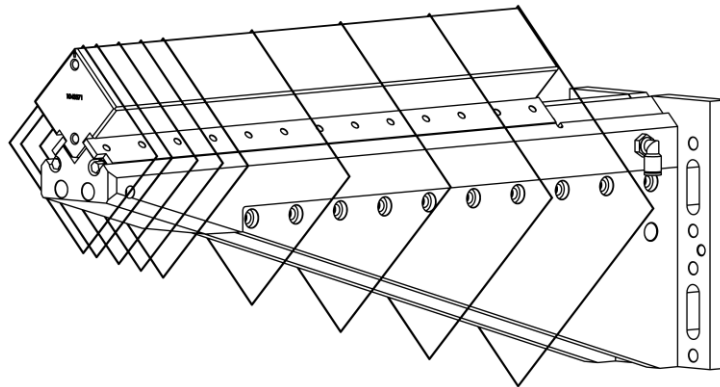


Figure 11: Component dimensions regarding different welding length

CORNERWELD 300 - 500	□ Minimum Component Opening
Weld length up to 10 mm	117 mm
Weld length up to 25 mm	121 mm
Weld length up to 50 mm	125 mm
Weld length up to 100 mm	135 mm
Weld length up to 200 mm	155 mm
Weld length up to 300 mm	175 mm
Weld length up to 400 mm	195 mm
Weld length up to 500 mm	205 mm

Table 1: Minimum component dimensions

COMPONENT DIMENSIONS MAXIMUM (STANDARD)

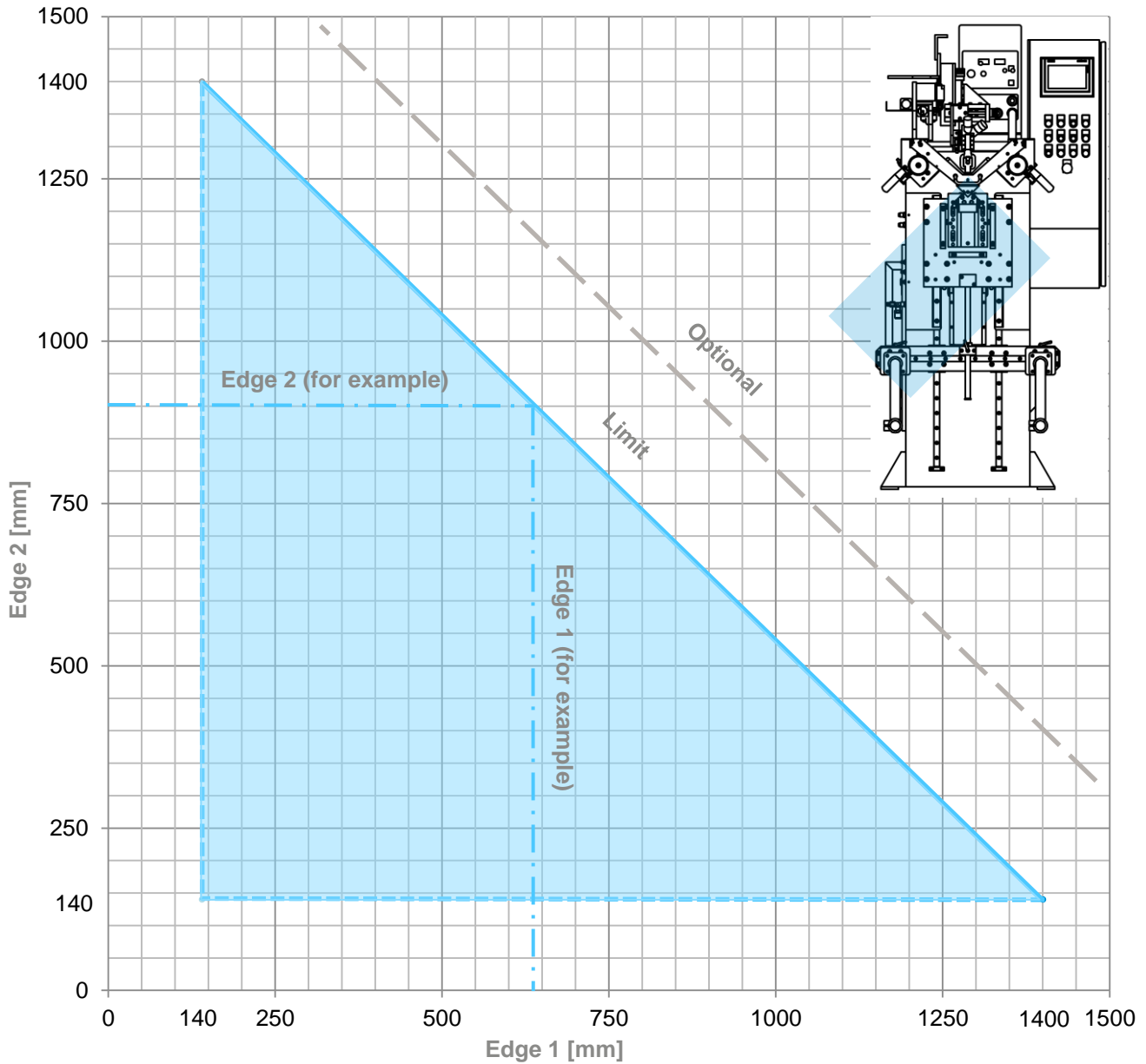


Diagram 1: Component dimensions maximum, mandrel height standard machine

FLEXIBLE CLAMPING SYSTEM (STANDARD)

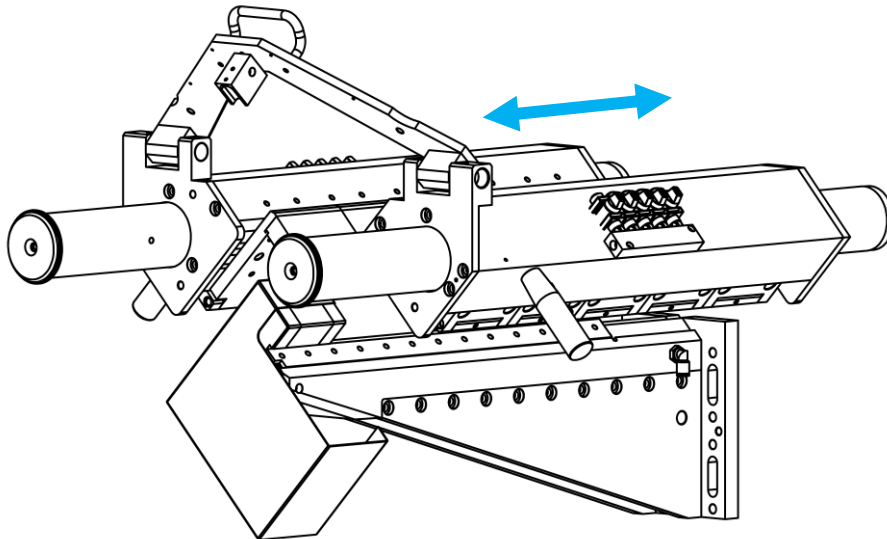


Figure 12: Slidable outside clamping system for loading parts with inward bends and welding length up to 100 mm (Standard internal tool set) without mandrel lift.

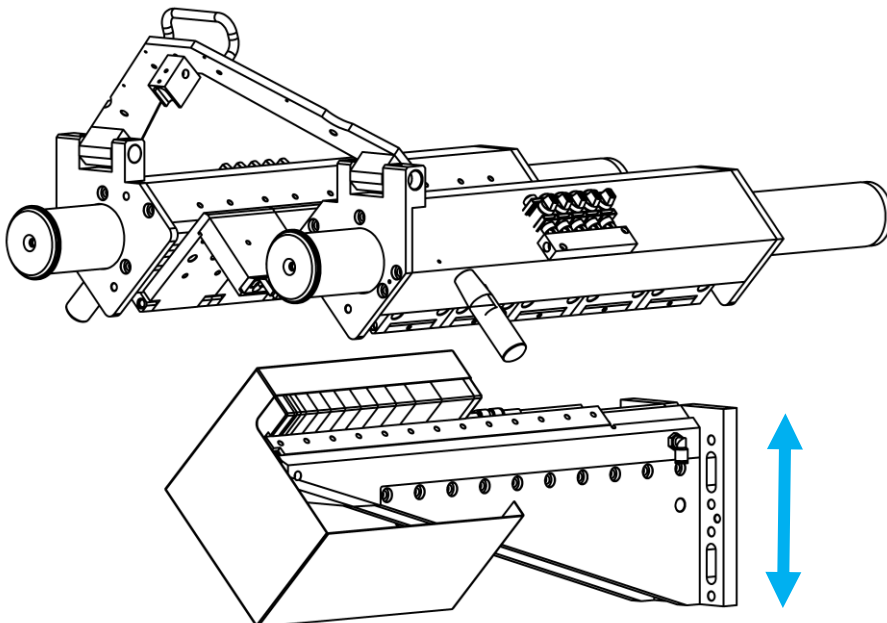


Figure 13: Pneumatic mandrel lift with Two-hand control for loading parts with inward bends up to maximum welding length (Standard internal tool set).

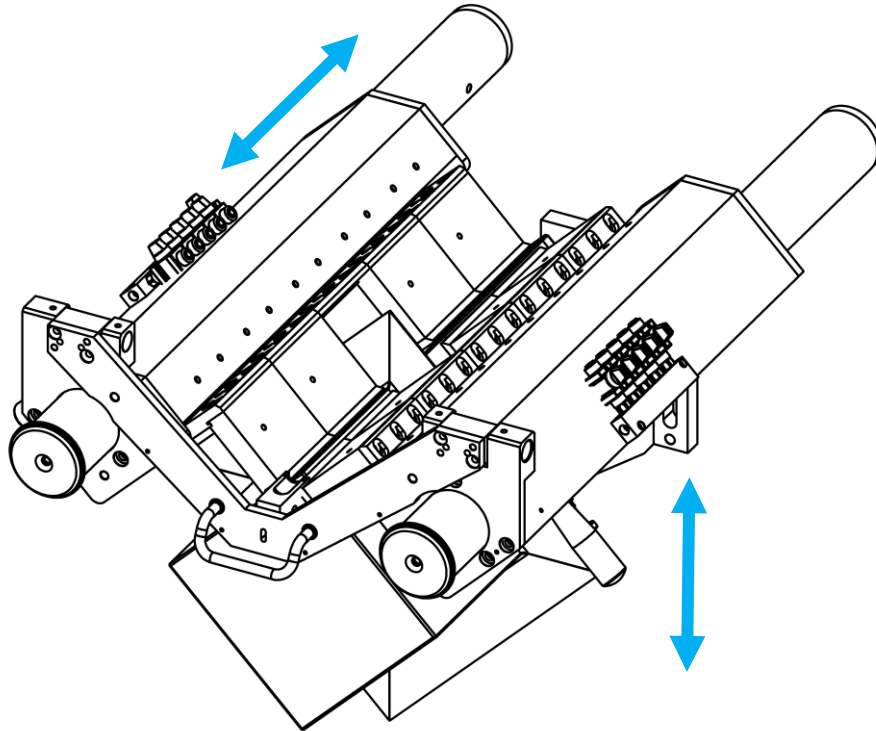


Figure 14: Mandrel lift and flexible outside clamping system for loading parts with outward bends (max. 80 mm) up to maximum welding length.

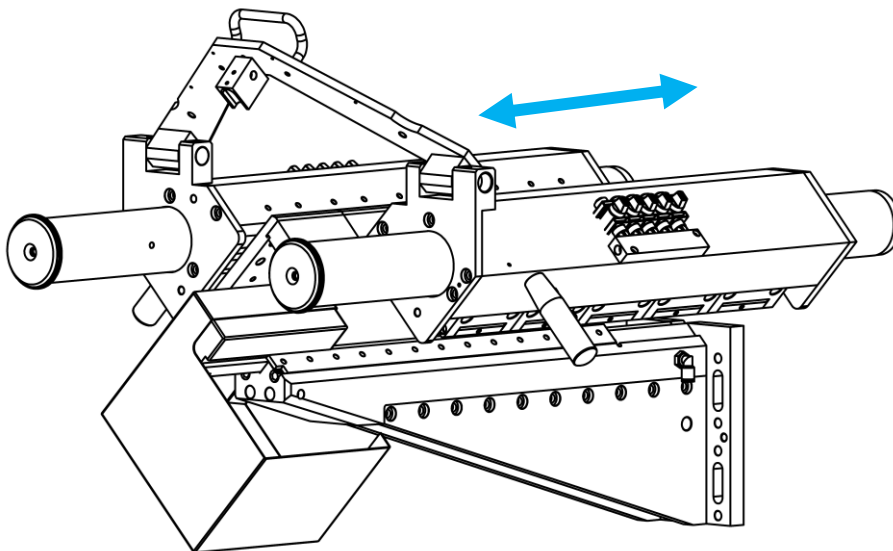


Figure 15: Slidable outside clamping system with special internal tooling for loading parts with inward bends (max. 42 mm) up to 200 mm welding length, without mandrel lift.

TORCH SWIVEL UNIT (STANDARD)

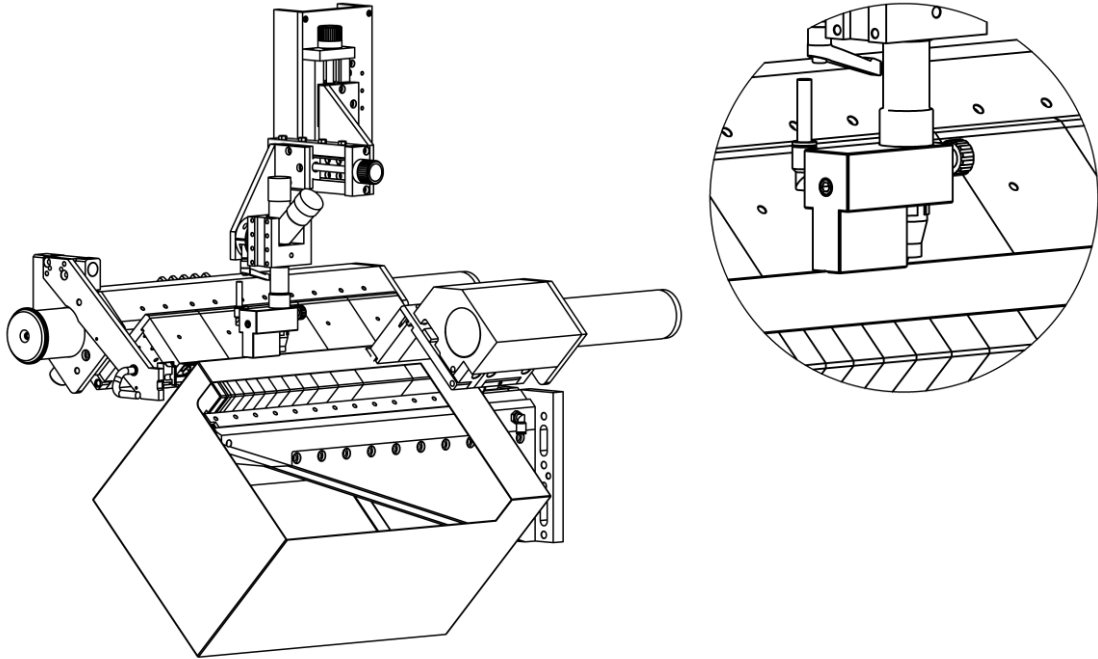


Figure 16: TIG-Torch with shielding gas nozzle 90° set up

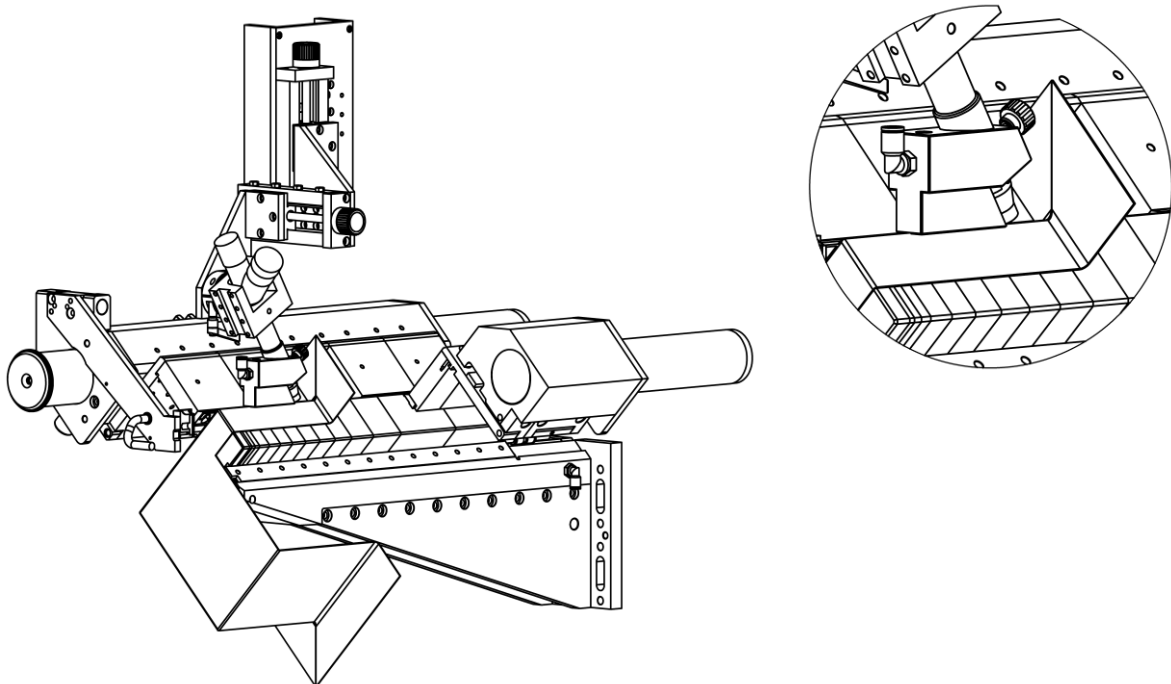


Figure 17: TIG-Torch with shielding gas nozzle 60° set up

TORCH SHIFT UNIT (OPTION)

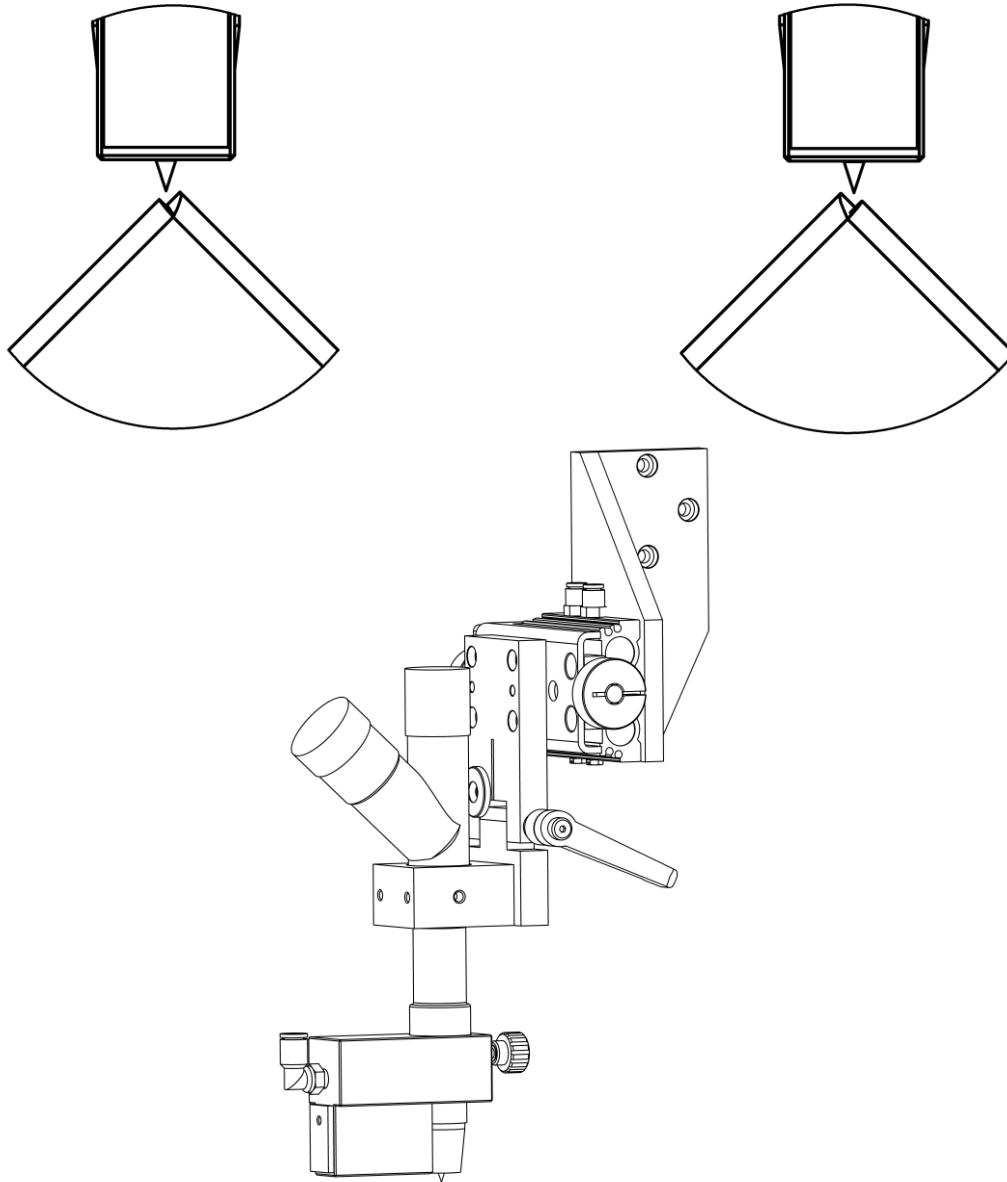


Figure 18: Torch shift unit for welding left and right Corners, Item: 1037432

ELEVATING UNIT FOR COMPLETE MACHINE (OPTION)

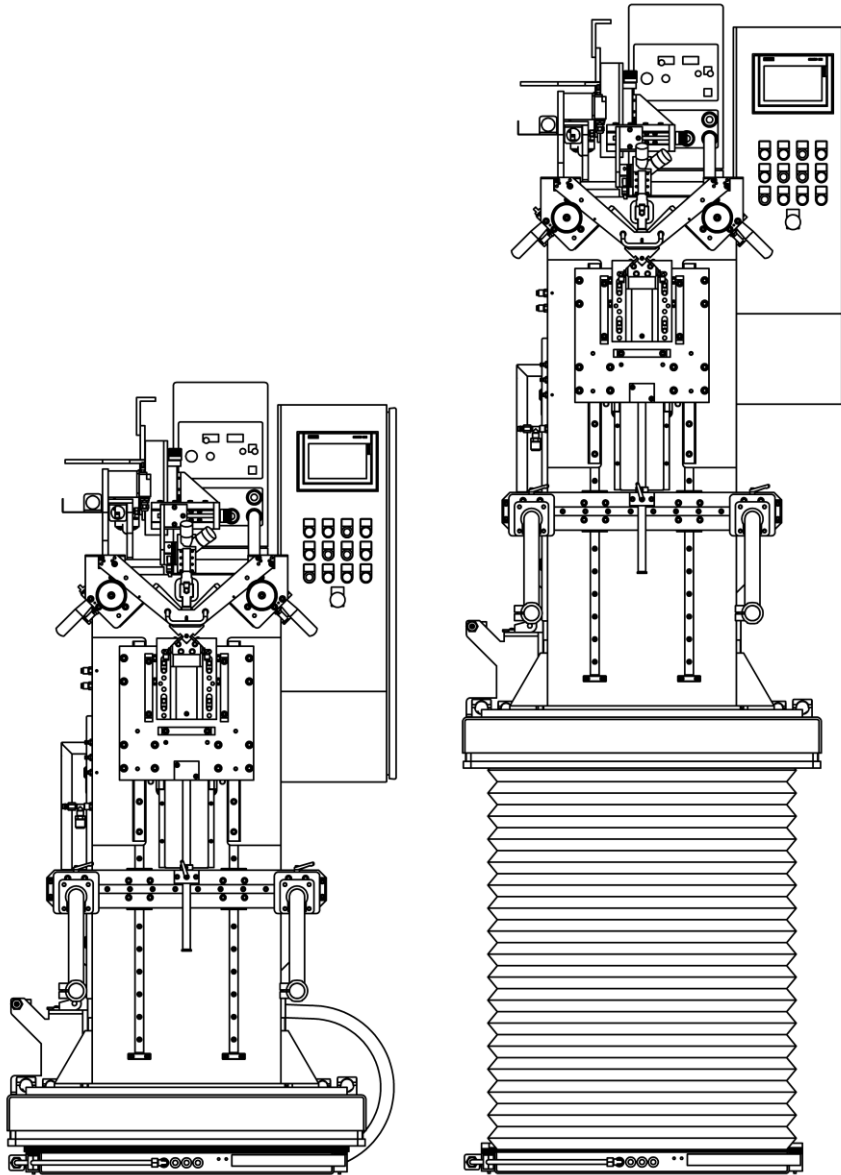


Figure 20: Elevating Unit for complete machine, Item: 1032781, mandrel height up to 2420 mm

SPECIAL VERSION (OPTION)

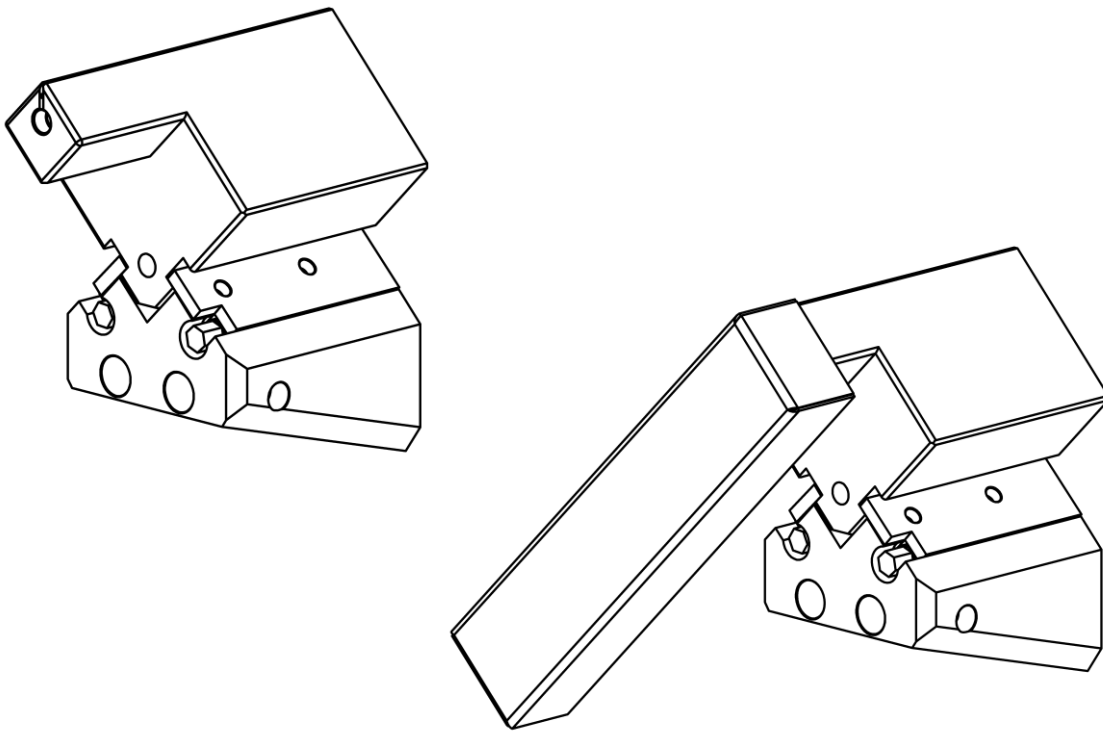


Figure 20: Special inside Clamping Tools for smaller dimensions customized, on request

COMPONENT PREPARATION (RECOMMENDATION EDGE OVERLAP)

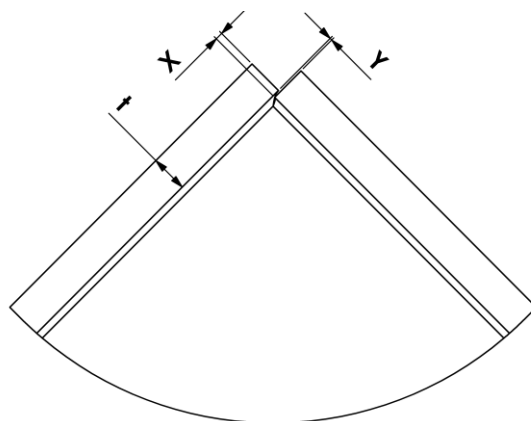


Figure 21: Edge overlap and maximum gap

Recommended component preparation for stainless steel (like 304, 316 L and similar)

Material Thickness t [mm]	Edge overlap X [mm]	Max. Gap Y [mm]	Max. Opening bending eye [mm]
0.5 – 0.6	0.6 – 0.7	0.05	0.1
0.7 – 0.8	0.6 – 0.7	0.06	0.2
1.0 – 1.3	0.6 – 0.8	0.1	0.3
1.5 – 2.0	0.6 – 0.8	0.2	0.3
2.2 – 3.0	0.6 – 0.8	0.2	0.5

Recommended component preparation for Mild Steel, Galvanized Steel

Material Thickness t [mm]	Edge overlap X [mm]	Max. Gap Y [mm]	Max. Opening bending eye [mm]
0.5 – 0.6	0.6 – 0.7	0.05	0.1
0.7 – 0.8	0.6 – 0.7	0.06	0.2
1.0 – 1.3	0.6 – 0.8	0.1	0.3
1.5 – 2.0	0.6 – 0.8	0.2	0.3
2.2 – 3.0	0.6 – 0.8	0.2	0.5

Recommended component preparation for Aluminium und Aluminium alloys

Material Thickness t [mm]	Edge overlap X [mm]	Max. Gap Y [mm]	Max. Opening bending eye [mm]
0.7 – 0.8	0.7 – 0.8	0.06	0.2
1.0 – 1.3	0.8 – 1.0	0.1	0.3
1.5 – 2.0	1.2 – 1.5	0.2	0.3
2.2 – 3.0	1.5 – 1.8	0.3	0.5

COMPONENT PREPARATION (RECOMMENDATION OPENING BENDING EYE)



Figure 22: Bending eye 304 t = 1.0 mm



Figure 23: Bending eye 304 t = 1.0 mm

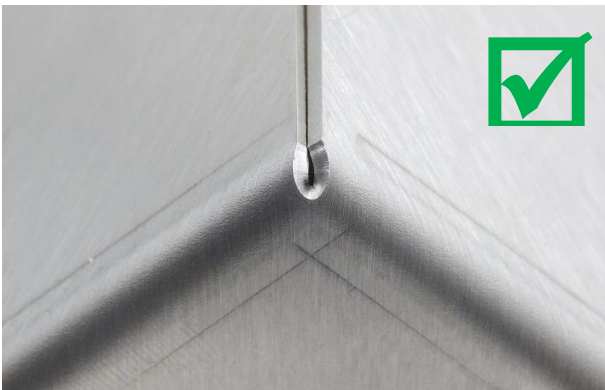


Figure 24: Bending eye 304 t = 1.5 mm



Figure 25: Bending eye 304 t = 2.5 mm

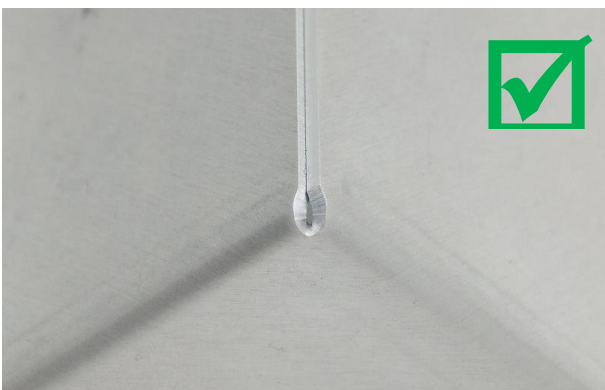


Figure 26: Bending eye Aluminium t = 1.5 mm

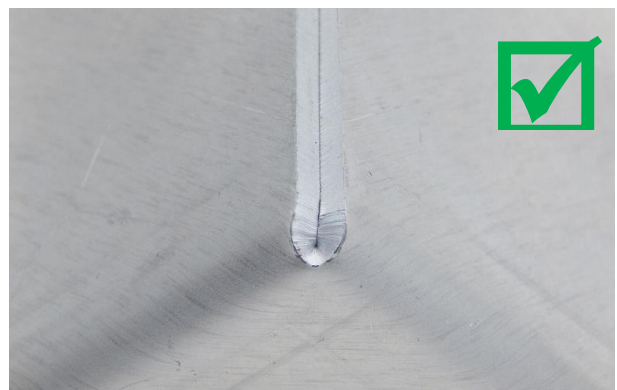


Figure 27: Bending eye Aluminium t = 2.5 mm



ITEM LIST

Item	Maschine		Weight
9999999	CORNERWELD 300-42-HH	Cornerwelding machine	860 kg
9999999	CORNERWELD 500-42-HH	Cornerwelding machine	980 kg
1017234	CORNERWELD 300	Cornerwelding machine	760 kg

Item	Options Machine design		
1037432	Torch shift unit (sidewise), pneumatically	for Cornerweld	
1031110	Internal clamping tool with special geometry	for Cornerweld	
1039899	Spare part package (new machine)	for Cornerweld 300 and 500	
1017179	Machine body higher (250 mm)	Mandrel height 1470 mm	
1017180	Machine body higher (500 mm)	Mandrel height 1720 mm	
1017524	Machine body higher (1000 mm)	Mandrel height 2220 mm	
1032781	Elevating unit for complete machine, motorized	Scissor lifting table	
1019028	UL- Execution electrical system and pneumatic		
1019042	Three-phase transformer	for primary 3 x 480 V, 50-60 Hz	
1039081	Tool set, small	for Cornerweld	

Item	Options Machine Control		
1017089	Welding program memory for up to 200 programs		
1017579	Barcode scanner for program memory		
1032670	Router for remote diagnosis via internet		
1017558	Air conditioning unit for the electrical cabinet		

Item	Welding and Cooling equipment		Weight
1028169	FRONIUS TT 2200 Job DC, (without chiller)	Profi Bus Robot interface	18 kg
1028136	FRONIUS MW 2200 AC/DC, (without chiller)	Profi Bus Robot interface	22 kg
1036883	FRONIUS TT 2500 Job DC, (without chiller)	Profi Bus Robot interface	34 kg
1017012	FRONIUS MW 2500 AC/DC, with chiller	Profi Bus Robot interface	48 kg
1027560	LORCH V24 mobil DC, with chiller	Profi Bus Robot interface	31 kg
1027561	LORCH V24 mobil AC/DC, with chiller	Profi Bus Robot interface	32 kg
1027562	LORCH V30 mobil DC, with chiller	Profi Bus Robot interface	34 kg
1017528	LORCH V30 mobil AC/DC, with chiller	Profi Bus Robot interface	38 kg
1040574	FRONIUS TT 2500 Job DC, MV UL	Profi Bus Robot interface	34 kg
1042838	FRONIUS MW 2500 Job AC/DC MV UL	Profi Bus Robot interface	38 kg
1031641	FRONIUS KD 4000 D-11 wire feed unit	Profi Bus Robot interface	20 kg
1031643	LORCH Feed 1 wire feed unit	Profi Bus Robot interface	19 kg
1042850	FRONIUS KD 4000 D-11 wire feed unit UL	Profi Bus Robot interface	20 kg
1036434	Ware part set for ABITIG MT 300 W, BINZEL		
1017193	Weld fume extraction - Preparation		
1017041	Weld fume extraction TEKA		28 kg
1017044	Weld fume extraction FUMATOR		36 kg
1019058	Electrode grinding machine TEG 4.0		6 kg
1017522	Electrode grinding machine KAINDL WIG 4	complete Set	23 kg
1036824	Water chiller HYFRA eChilly 1	CE Mark	49 kg
1040575	Water chiller PFANNENBERG	RACK 1100, UL Mark	25 kg
Item	Packing		Weight
1032660	Palette for transportation by truck or train	for Cornerweld	55 kg
1028220	Packing in wooden box	Land or air transport	150 kg
1028221	Packing in wooden box	Sea worthy	155 kg

REFERENCES



CORNERWELD 300-42-HH and 500-42-HH | Configuration



NOTES

WELDED COMPONENTS

