Technical Data	Single wire SAW	Twin wire SAW	GMAW	GMAW MTW 600
Wire size (mm)				
Steel	1.6-4.0	2x1.2-2.5	0.8-1.6	1.0-1.6
Stainless	1.6-4.0		0.8-1.6	1.0-1.6
Cored wire	1.6-4.0		1.2-2.4	1.0-2.4
Aluminium	—	—	1.2-1.6	1.0-2.0
Max wire feed speed (m/min)	9	9	16	25
Flux volume (l)	6		—	—
Max. permissable load 100% (A)	1000	1000	600	600
Control voltage (V)	42	42	42	42
Linear slides/setting range (mm)		90	90	90

Other accessories	SAW	GMAW	
Pilot lamp, laser diode (for PEK)	•	•	0821 440 880
Thin wire straightener, single wire	•	•	0332 565 880
Gas handling equipment:			
Cooling unit OCE 2H 220 V, 50/60 Hz		•	0414 191 881
Hose (gas)		•	0190 270 101
Hose (cooling water)		•	0190 315 104
(State hose length in metres)			
Arc shield		•	0334 689 880

Optional equipment SAW	
Flux recovery unit OPC	0148 140 880
Flux container, silumin alloy	0413 315 881
Concentric flux funnel	0145 221 881
Contact tube, bent	0413 511 001
Wire reel plastic 30 kg	0153 872 880
Wire reel steel fixed width	0416 492 880
Wire reel steel flexible width	0449 125 880
Wire reel steel Ø 220 mm	0671 164 080
Conversion kit from SAW to GMAW A2 (2WD)	0461 247 880
Conversion kit from SAW to GMAW MTW 600 (4WD)	0461 248 880

Accessories		SAW	TWIN SAW	GMAW
Contact tips, wire size:				
M12				
1.6 mm	0154 623 008	•		
2.0 mm	0154 623 007	•		
2.5 mm	0154 623 006	•		
3.0 mm	0154 623 005	•		
3.2 mm	0154 623 004	•		
4.0 mm	0154 623 003	•		
M6				
0.8 mm	0153 501 002			•
1.0 mm	0153 501 004			•
1.2 mm	0153 501 005		•	•
1.6 mm	0153 501 007		•	•
2.0 mm	0153 501 009		•	
2.4 - 2.5 mm	0153 501 010		•	
M10				
1.6 mm	0258 000 909			•
2.0 mm	0258 000 910			•
2.4 mm	0258 000 911			•
3.2 mm	0258 000 915			•
Adapter M6/M10	0147 333 001			
Feed roller wire size:				
0.8 mm	0145 538 881			•
1.0 mm	0145 538 882			•
1.2 mm	0145 538 883			•
1.6 mm	0218 510 281	•		•
2.0 mm	0218 510 282	•		
2.4-2.5 mm	0218 510 283	•		
3.0-3.2 mm	0218 510 298	•		
4.0 mm	0218 510 286	•		
Knurled rollers with grooves for cored wire: Wire size				
0.8-1.6 mm	0146 024 880	•		•
2.0-4.0 mm	0146 024 881	•		•
Pressure roller wire size:				
0.8-1.6 mm	0146 025 880	•		•
2.0-4.0 mm	0146 025 881	•		•
Shaft stud for knurled pressure roller:	0212 901 101	•		•
Feed rollers for twin wires:				
2 x 1.2 mm	0218 522 486		•	
2 x 1.6 mm	0218 522 488		•	
2 x 2.0 mm	0218 522 484		•	
2 x 2.4-2.5 mm	0218 522 480		•	

Accessories GMAW MTW 600												
Wire,mm	Wire material type				Contact tip			Wear insert (liner)				Ref. table
Dia	Fe	Ss	Cw	Al	Mark	Hole,mm	Part No.	Steel	Teflon	Teflon	Brass	Item
1.0	X	X	X		W1.0	1.2	0457 625 005	A				A
1.0				X	W1.0	1.2	0457 625 005		B			B
1.2	X	X	X		W1.2	1.4	0457 625 006	A				A
1.2				X	W1.2	1.5	0457 625 007		B			B
1.4	X	X	X		W1.4	1.6	0457 625 008	A				A
1.6	X	X	X		W1.6	1.8	0457 625 009	A				A
1.6				X	W1.6	1.8	0457 625 009		B			B
1.6	X	X	X		W1.6	2.1	0457 625 010	A				A
1.6				X	W1.6	2.1	0457 625 010		B			B
2.0	X		X		W2.0	2.4	0457 625 011				D	D
2.0				X	W2.0	2.4	0457 625 011			C		C
2.4	X		X		W2.4	2.8	0457 625 012				D	D
2.4				X	W2.4	2.8	0457 625 012			C		C

Ref. item	Wear insert (liner)	Part No.	
A	Steel spiral	Wire 1.0 - 1.6	0457 454 002
B	Teflon insert	Wire 1.0 - 1.6	0457 619 001 (to be cut to right length when mounting)
C	Teflon insert	Wire 2.0 - 2.4	0457 619 002 (to be cut to right length when mounting)
D	Brass tube	Wire 2.0 - 2.4	0457 620 002

Feed roller					Knurled roller for cored wire		
Wire diameter	Fe, SS	Al	Cored wire	Pressure roller	Wire diameter	Feed roller	Pressure roller
1.0-1.2 mm	0369 557 003	0369 557 006	0369 557 003	0369 728 001	1.0-1.2 / 1.4-1.6 mm	0369 557 004	0466 262 001
1.2-1.6 mm	0369 557 007		0369 557 007	0369 728 001	1.4-1.6 / 2.0-2.4 mm	0369 557 005	0466 262 001
1.6 mm		0369 557 008		0369 728 001			
2.0 mm		0369 557 009		0369 728 001			
Order quantity requirements: 2 feed rollers and 2 pressure rollers					Order quantity requirements: 2 feed rollers and 2 pressure		

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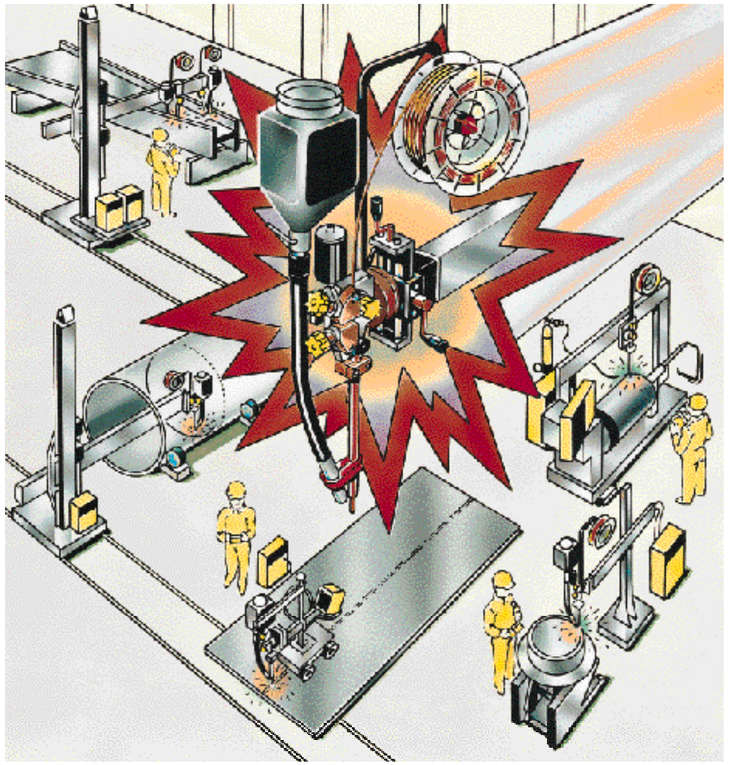
A2S Mini Master

A MULTI-PURPOSE AUTOMATIC WELDING SYSTEM



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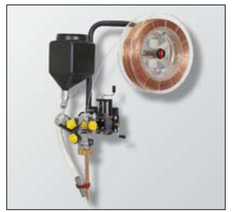
Multi-purpose means freedom of choice



SAW is one of main features of the A2-system. The pro-ductivity and quality can be improved considerably by using a welding head with a twin wire kit (double wire).

The higher current density which is achieved with two wires in line with the joint, normally allows a 30-40 % increase in the rate of bead deposition as compared with single wire welding. In addition the risk of porosity is greatly reduced when making fillet welds. With the wires parallel, penetration is minimized and the risk of burn-through and deformation is reduced. Gaps are easily bridged too.

Important add-on components
A2S Mini Master can be combined with motorised slides and other components from ESAB's A2 module systems.

The motorised slides are controlled by joystick, automatic joint tracking GMH or laser tracking.

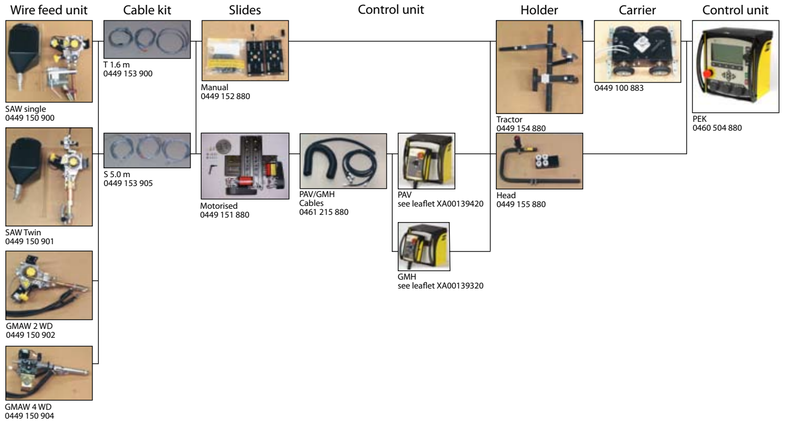
- Low weight and compact design gives greater flexibility
- Easy to use and therefore easy to place right in the joint with help of manual adjustable or motor driven slides.

In the welding industry great demands are made on flexible production solutions which are capable of meeting variations in manufacturing processes. Reduced positioning and cycle times clearly increase both the degree of utilisation of equipment and the cost efficiency per produced unit.
A2S Mini Master is built around a number of basic units. The degree of automation and process orientation of the base unit you choose can be expanded on or modified as needed, depending on the application.
A2S Mini Master is controlled via A2-A6 Process controller (PEK) or A2 Process controller (PEI). All necessary programming of welding parameters is done from the control panel.
Different welding heads can be put on a beam travelling carriage or welding column & boom.

Select your base version and process equipment based on PEK control unit

Feed unit SAW	Feed unit SAW Twin	Feed unit GMAW	Feed unit GMAW MTW 600	Cable kit	90 mm manual slides	180 mm motorised slides	Holder	PAV	GMH	PEK	Cable kit PAV/GMH	Base machine	Nozzle	Feed rollers	Pilot lamp	Thin wire Straightener	Cooling unit and hoses	Arc shield	Twin Arc kit	Flux container silumin	Concentric flux funnel	Bent contact tube	Electrode reel, steel, flexible, plastic	Conversion kit GMAW
X				X	X		X			X		0449 170 900	■	■	■	■			■	■	■	■	■	■
X				X		X	X	X		X	X	0449 170 901	■	■	■	■			■	■	■	■	■	■
X				X		X	X		X	X	X	0449 170 902	■	■	■	■			■	■	■	■	■	■
X				X		X	X			X		0449 170 903	■	■	■	■			■	■	■	■	■	■
	X			X	X		X			X		0449 171 900	■	■	■	■			■	■	■	■	■	■
	X			X		X	X	X		X	X	0449 171 901	■	■	■	■			■	■	■	■	■	■
	X			X		X	X		X	X	X	0449 171 902	■	■	■	■			■	■	■	■	■	■
	X			X		X	X			X		0449 171 903	■	■	■	■			■	■	■	■	■	■
		X		X	X		X			X		0449 180 900	■	■		■	■	■						
		X		X		X	X	X		X	X	0449 180 901	■	■		■	■	■						
		X		X		X	X		X	X	X	0449 180 902	■	■		■	■	■						
		X		X		X	X			X		0449 180 903	■	■		■	■	■						
			X	X	X		X			X		0449 181 900	■	■		■	■	■						
			X	X		X	X	X		X	X	0449 181 901	■	■		■	■	■						
			X	X		X	X		X	X	X	0449 181 902	■	■		■	■	■						
			X	X		X	X			X		0449 181 903	■	■		■	■	■						

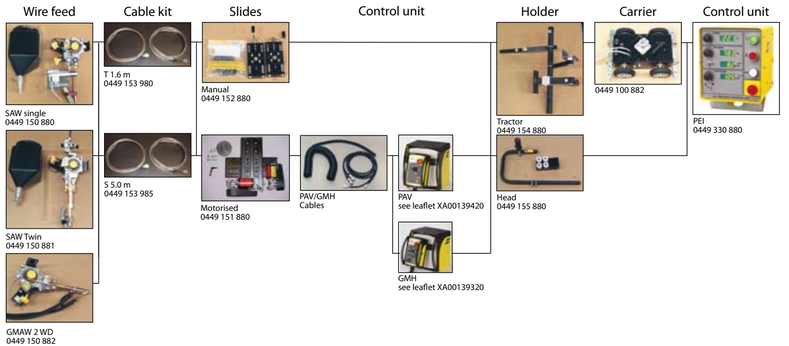
■ = SAW ■ = GMAW



Select your base version and process equipment based on PEI control unit

Feed unit SAW	Feed unit SAW Twin	Feed unit GMAW	Cable kit	90 mm manual slides	180 mm motorised slides	Holder	PAV	GMH	PEI	Cable kit PAV/GMH	Base machine	Nozzle	Feed rollers	Thin wire Straightener	Cooling unit and hoses	Arc shield	Twin Arc kit	Flux container silumin	Concentric flux funnel	Bent contact tube	Electrode reel, steel, flexible, plastic	Conversion kit GMAW
X			X	X		X			X		0449 370 900	■	■	■			■	■	■	■	■	■
X			X		X	X	X		X	X	0449 370 901	■	■	■			■	■	■	■	■	■
X			X		X	X		X	X	X	0449 370 902	■	■	■			■	■	■	■	■	■
	X		X	X		X			X		0449 371 900	■	■	■			■	■	■	■	■	■
	X		X		X	X	X		X	X	0449 371 901	■	■	■			■	■	■	■	■	■
	X		X		X	X		X	X	X	0449 371 902	■	■	■			■	■	■	■	■	■
		X	X	X		X			X		0449 380 900	■	■	■	■	■						
		X	X		X	X	X		X	X	0449 380 901	■	■	■	■	■						
		X	X		X	X		X	X	X	0449 380 902	■	■	■	■	■						

■ = SAW ■ = GMAW



Pilot lamp

When welding SAW it can be difficult because of the flux bead to know where in the joint the wire is positioned. A pilot lamp can then be a big help. The pilot lamp projects a luminous spot in front of the flux bead and the welder can then by help of the bright spot adjust the position of the wire. The pilot lamp can be delivered in two versions, one with a light bulb and one with a laser diode.

Positioning and joint following

Rapid positioning of welding equipment is a basic requirement for increasing the arctime factor and thereby reducing cycle times. Accurate joint-following lays the foundation for a high quality result without the risk of costly post-weld repairs. Motordriven ball bush slides with the joystick control (PAV) can be the first step towards improving efficiency. With the (GMH) control equipment for fully automatic joint-following you achieve complete control. With ESAB Laser joint tracker it is now possible to track joints that were previously impossible to track automatically.

Flux handling

The improvement in continuity and savings in material costs you gain with a rational flux handling system make it a wise investment. At the same time as flux consumption is reduced, the workplace is kept clean and free from flux spillages. Manual intervention is reduced and personnel are free to get on with more important work. Flux handling can be implemented to differing degrees depending on individual requirements. The air-driven OPC flux vacuum can be quickly mounted on existing flux containers.

Twin wire head

Uniform steady wire feed forms the basis for a strong weld with a good appearance. The size and tractive force of the wire feed unit guarantee that these conditions are fulfilled when welding with twin wires. The A2S Mini Master is powerful enough to handle two 2.5 mm wires. The twin wire weld head consists of:

- Contact tube Ø35 mm
- Spherical tensioning roller
- Thin wire straightener
- Hub brake
- Flux nozzle

Supplement this with feed rollers and a contact tip for twin wires and the equipment is ready to go!

GMAW

The GMAW version of the welding head can be combined to advantage with mechanised cored wire welding which in itself is a highly productive process. When welding heavier sections the risk of lack of fusion is significantly reduced compared to GMAW welding with solid wire. Obviously the latter method is better when welding thin sections, particularly in aluminium. The A2-A6 Process control system guarantees sound starts when welding aluminium.

GMAW MTW 600

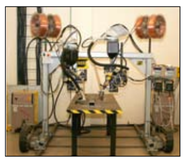
The new GMAW torch, MTW 600 is designed for high efficiency, mechanised gas metal arc welding. The MTW 600 torch has a very effective "whirlcool liquid cooling system" that is integrated in both the contact tube and in the outer jacket of the torch for maximum cooling effect. All connections are positioned in the upper end of the torch for easy mounting and to protect the connections from welding arc radiation.

Cooling unit

The water cooling unit OCE-2H is an efficient, compact cooling unit designed for use together with water-cooled welding equipment. The water tank and pump is made of corrosion resistant material. A flow guard is available as option for control of the water flow down to approximately 1l/min.

Beam travelling carriage

The beam travelling carriage can be used together with the complete range of A2S Mini Master. The carriage is developed to be used on a standard I-profile IPE 300. When demands for a straight and smooth welding motion, the machined track, produced by ESAB can be used. The travelling speed will be controlled by the control box PEK. The carriage can even be moved by hand. See separate leaflet XA00091920.



MechTrac

The MechTrac is a gantry that can be equipped with one or two A2S MiniMaster welding heads. The gantry travels on a rail on the floor and is ideal for long work objects like beams. The MechTrac is available in widths from 1730 to 3000 mm, the height under the gantry is 1500 mm. The MechTrac is designed to work together with the PEK control box. See separate leaflet XA00143720.