ORBITAL WELDING SOLUTIONS

TUBE-TO-TUBESHEET SATP

0.47 - 3.23" o/d / 12 - 82 mm o/d



AXXAIR
AN ASME GROUP BRAND

Daonte
Tecnología Metalmecánica

TUBE-TO-TUBESHEET SATP

0.47 - 3.23" o/d / 12 - 82 mm o/d

Water cooled

- **Function:** Orbital TIG welding
- **Materials:** Any kind of steel and exotic alloys
- **Powered by the SAXX power source**

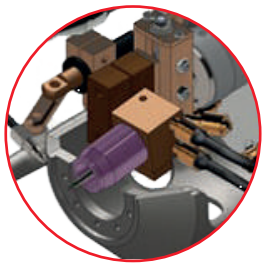
The SATP tube-to-tubesheet welding head, fully water-cooled, is designed for heat exchanger production across various industries such as aeronautics, agri-food, and energy production.

Heat exchangers are increasingly crucial in these sectors, and our welding head provides economical, reliable, and high-quality assembly of tubes to plates. The SATP-80X accommodates nearly all common tube-to-tube sheet configurations in stainless steel, titanium, and black steel.

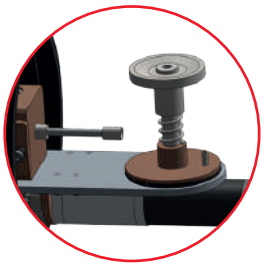


MAIN FEATURES

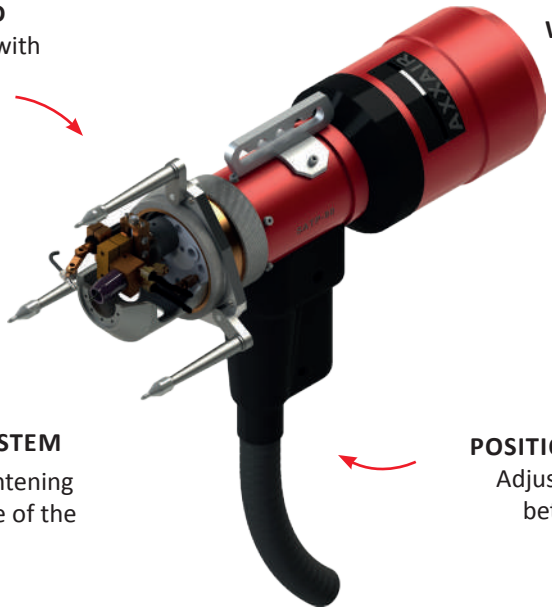
- Tilting water cooled head
- Built-in rotating wire dispenser
- Specific mandrel with ball centering pushed by springs: precise positioning and quick installation



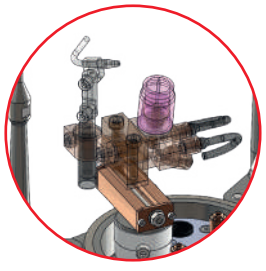
TILTING HEAD
Water cooled with tilting wire



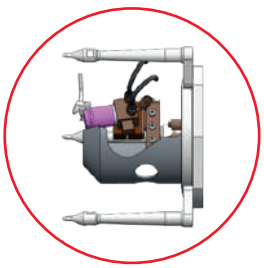
WIRE HOLDER
1 kg



FLEXIBILITY
Head and wire adjustment trolley



MANDREL SYSTEM
Concentric tightening from the inside of the tube



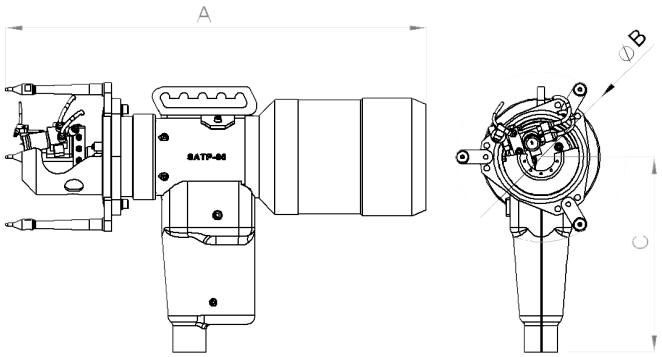
POSITIONING STOPS
Adjustable stops for better tube sheet stability

TECHNICAL FEATURES

PART NO.	SATP-80X
DESCRIPTION	Tube to tubesheet welding head supplied with wire dispenser
TUBE OUTSIDE DIAMETER	12 - 82 mm
	0.47 - 3.23"
TUBE INSIDE DIAMETER	10 - 78 mm
	0.39 - 3.07"
ELECTRODE DIAMETER	2.4 mm / 3⁄32
WEIGHT (WITHOUT REEL)	7.5 kg / 16.5 lbs
WIRE FEEDING	Diameter: 0.8mm (0.03") Maximum speed: 200 cm/min (78.7" / min) Spool: D100 (1 kg / 2.2 lbs)
MAX WELDING CURRENT	200 A
OPERATING TEMPERATURE	+0°C / + 40 °C (32°F / 104°F)

DIMENSIONS (MM/INCH)

DIM	SATP-80X	
A	451 mm	17.7"
B	182 mm	7.2"
C	210 mm	8.3"



POWER SOURCE

SAXX-201



Orbital TIG welding power source
200A, 110 - 220v
with cooling system

SAXX-200



Orbital TIG welding power source
200A, 110 - 220v
with cooling system

SAXX-210



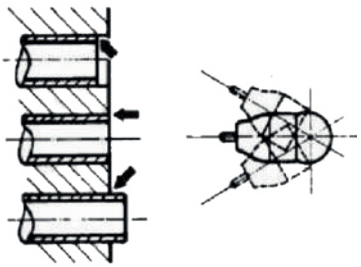
Orbital TIG welding power source
210A, 110 - 220v

SAXX-300



Orbital TIG welding power source
300A, 400v

- 3 tube-to-tube sheet welding configurations
- Outside diameter of the straight torch tube: 12 - 82 mm
- External diameter of the tube **if torch tilted at 30°:** 12 - 40 mm

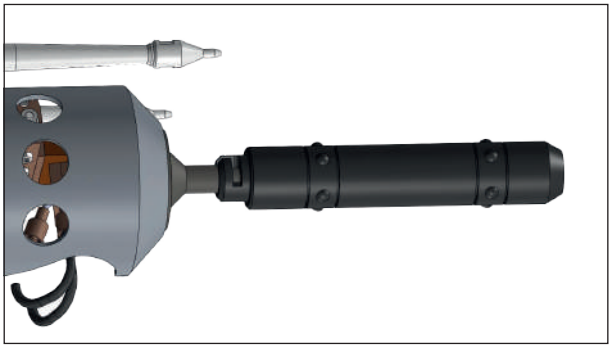


MANDRELS

The mandrel used must be chosen according to the inner diameter of the tube to be welded to the tubesheet.

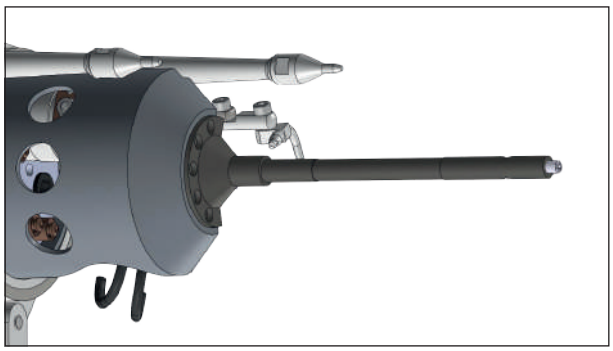
Depending on the mandrel used, it will be necessary to choose the compatible spindle.





PART NO.	RANGE MM / INCH (I/D)		DESCRIPTION	ON SPINDLE
SATP-M11	9.8 - 10.3 mm	0.38 - 0.40"	Centering mandrels, for range 9.8 up to 10.3 mm	SATP-B01
SATP-M12	10.3 - 10.8 mm	0.40 - 0.42"	Centering mandrels, for range 10.3 up to 10.8 mm	
SATP-M13	10.8 - 11.3 mm	0.42 - 0.44"	Centering mandrels, for range 10.8 up to 11.3 mm	
SATP-M14	11.3 - 11.8 mm	0.44 - 0.46"	Centering mandrels, for range 11.3 up to 11.8 mm	
SATP-M15	11.8 - 12.3 mm	0.46 - 0.48"	Centering mandrels, for range 11.8 up to 12.3 mm	
SATP-M16	12.3 - 13.0 mm	0.48 - 0.51"	Centering mandrels, for range 12.3 up to 13.0 mm	
SATP-M21	12.8 - 14.0 mm	0.50 - 0.55"	Centering mandrels, for range 12.8 up to 14.0 mm	SATP-B02
SATP-M22	13.8 - 15.0 mm	0.54 - 0.59"	Centering mandrels, for range 13.8 up to 15.0 mm	
SATP-M23	14.8 - 16.0 mm	0.58 - 0.63"	Centering mandrels, for range 14.8 up to 16.0 mm	
SATP-M24	15.8 - 17.0 mm	0.62 - 0.67"	Centering mandrels, for range 15.8 up to 17.0 mm	
SATP-M25	16.8 - 18.0 mm	0.66 - 0.71"	Centering mandrels, for range 16.8 up to 18.0 mm	
SATP-M26	17.8 - 19.0 mm	0.70 - 0.75"	Centering mandrels, for range 17.8 up to 19.0 mm	
SATP-M27	18.8 - 20.5 mm	0.74 - 0.80"	Centering mandrels, for range 18.8 up to 20.5 mm	
SATP-M28	19.8 - 22.5 mm	0.78 - 0.88"	Centering mandrels, for range 19.8 up to 22.5 mm	
SATP-M29	22.3 - 24.8 mm	0.88 - 0.98"	Centering mandrels, for range 22.3 up to 24.8 mm	SATP-B03
SATP-M30	24.5 - 27.0 mm	0.96 - 1.06"	Centering mandrels, for range 24.5 up to 27.0 mm	
SATP-M31	26.5 -29.0 mm	1.04 - 1.14"	Centering mandrels, for range 26.5 up to 29.0 mm	
SATP-M32	28.5 - 31.0 mm	1.12 - 1.22"	Centering mandrels, for range 28.5 up to 31.0 mm	
SATP-M33	30.5 - 33.0 mm	1.20 - 1.30"	Centering mandrels, for range 30.5 up to 33.0 mm	
SATP-M34	32.5 - 36.0 mm	1.28 - 1.42"	Centering mandrels, for range 32.5 up to 36.0 mm	
SATP-M35	35.5 - 39.0 mm	1.40 - 1.53"	Centering mandrels, for range 35.5 up to 39.0 mm	
SATP-M36	38.5 - 42.0 mm	1.51" - 1.65"	Centering mandrels, for range 38.5 up to 42.0 mm	
SATP-M37	41.5 - 45.0 mm	1.63 - 1.77"	Centering mandrels, for range 41,5 up to 45.0 mm	
SATP-M38	44.5 - 48.0 mm	1.75 - 1.89"	Centering mandrels, for range 44.5 up to 48.0 mm	
SATP-M39	47.5 - 51.0 mm	1.87 - 2.01"	Centering mandrels, for range 47.5 up to 51.0 mm	
SATP-M40	50.5 - 54.0 mm	1.99 - 2.12"	Centering mandrels, for range 50.5 up to 54.0 mm	SATP-B04
SATP-M41	53.5 - 58.0 mm	2.11 - 2.28"	Centering mandrels, for range 53.5 up to 58.0 mm	
SATP-M42	57.5 - 62.0 mm	2.24 - 2.44"	Centering mandrels, for range 57.5 up to 62.0 mm	
SATP-M43	61.5 - 66.0 mm	2.42 - 2.60"	Centering mandrels, for range 61.5 up to 66.0 mm	
SATP-M44	65.5 - 70.0 mm	2.58 - 2.75"	Centering mandrels, for range 65.5 up to 70.0 mm	
SATP-M45	69.5 - 74.0 mm	2.74 - 2.91"	Centering mandrels, for range 69.5 up to 74.0 mm	
SATP-M46	73.5 - 78.0 mm	2.89 - 3.07"	Centering mandrels, for range 73.5 up to 78.0 mm	

SPINDLES





PART NO.	DESCRIPTION	FOR MANDREL
SATP-B01	Spindle size 1 for mandrel M11 up to M16	M11 to M16
SATP-B02	Spindle size 2 for mandrel M21 up to M28	M21 to M28
SATP-B03	Spindle size 3 for mandrel M29 up to M39	M29 to M39
SATP-B04	Spindle size 4 for mandrel M40 up to M46	M40 to M46

AXXAIR
INNOVATIVE ORBITAL SOLUTIONS

TUBE-TO-TUBESHEET SATP: CONSUMABLES

ELECTRODES

- Tungsten electrodes
- AXXAIR's electrodes are specifically sharpened at 20° with a flat

PART NO.	DESCRIPTION	NET WEIGHT		PLASTIC BOX (CM/INCH)	
SCE24-39.5	Pre-ground tungsten electrode diameter 2.4 mm / 3⁄32" length 39.5 mm (per 10)	0.05 kg	0.11 lbs	5.5 x 4.5 x 1	2.0 x 1.6 x 0.4"



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