

# TX 38P

Orbital TIG orbital weld head for  
tube-to-tube sheet connections

## Tube-to-tube-sheet orbital weld head

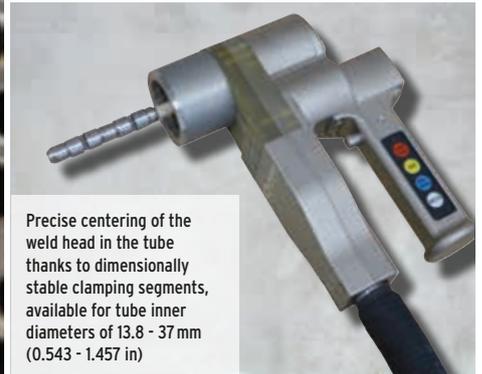
The orbital TIG weld head from Orbitalum for manufacturing tube-to-tube-sheet connections guarantees extremely short production times of industrial heat exchangers at constantly high reproducible quality. Also excellently suitable for repair, maintenance and servicing work.



Usable at flush, slightly offset and protruding tube ends



Ideal for the repair and maintenance of generously dimensioned heat exchanging systems



Precise centering of the weld head in the tube thanks to dimensionally stable clamping segments, available for tube inner diameters of 13.8 - 37 mm (0.543 - 1.457 in)

**Process heat exchanger tubes particularly effectively and simply: With the TX 38P for automated TIG orbital welding you can in the future weld the base plate and heat exchanger tubes precisely and highly accurately, for example, for thousands of connection at cooling tubes.**

In combination with an orbital weld head from ORBITALUM TOOLS the user holds an especially innovative as well economical welding system in their hands: The power sources detect the head automatically, so that before beginning welding only the specified welding program has to be called up and the welding process can be started.

To increase productivity, the optional ORBITWIN switching unit allows working with up to two heads in an alternating fashion, thus reducing conversion times and downtimes considerably.

### THE ADVANTAGES AT A GLANCE:

- Handy TIG orbital weld head for welding of tubes

in tube sheets

- Precise work in every position, thus high-quality results at horizontal or vertical tube sheets
- Can be used at flush, slightly offset and protruding tubes
- Compatible with AMI arbors, model 96
- Service-friendly design of the clamping and drive system in the housing
- Self-supporting at tube sheet through stable arbor designs (balancer anchorage point available)
- Limit switch for electrode position; thus start position can be selected freely
- Integrated express setting of the electrode position to the tube diameter
- Constant or pulsed rotor rotation possible (CONT-STEP mode)
- Robust, tachometer-regulated 24 volt drive motor with reduction gears
- Liquid-cooled sliding contact for weld current transfer. As a result no rotary transmission and no leaks
- Including highly flexible hose package

(length: 7.5 m/24.6 ft) with strain relief to the power source - optionally extendable to up to 20.0 m (64 ft)

### The highlights of the TX 38P:

- ✓ Pneumatic clamping and centering
- ✓ Liquid-cooled weld head housing
- ✓ One-hand operation
- ✓ Quick change system for arbors
- ✓ Integrated control panel
- ✓ Chambered protective gas cover



Simple and precise setting of the electrode position



One-hand operation through remote control and pneumatics operation integrated in handle



High-quality results at horizontal or vertical tube sheets



Rapid changing of clamping elements



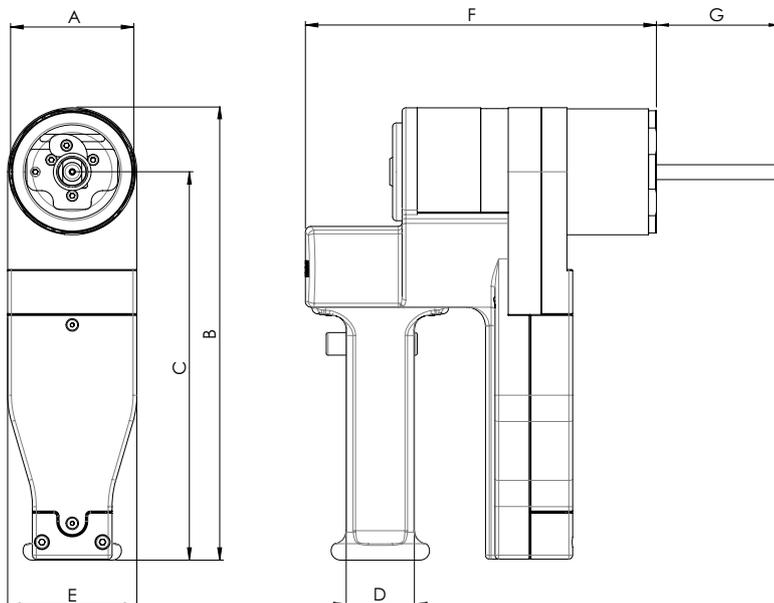
Optionally available: Ground cable, spring sleeves and diverse clamping segment sizes



The perfect supplement: Orbital welding power sources of the ORBIMAT series

APPLICATION AREA		TX 38P	
Code		830 000 005	
Tube OD, min. - max.	[mm]	10 - 40	
	[inch]	0.394 - 1.575	
TECHNICAL SPECIFICATIONS			
Weld current, max.	[Amp DC]	150	
Rotation speed, max.	[rpm]	10	
Drive motor with tachometer regulation	[VDC]	24	
Electrode diameter	[mm]	1.6 (optional 2.4)	
	[inch]	0.063 (optional 0.094)	
Gas flow	[l/min]	5 - 20	
Gas type		Argon/argon-helium/argon-hydrogen	
Water pressure max.	[bar]	2.5	
Pneumatics pressure	[bar]	5 - 7	
Hose package length	[m]	7.5	
	[ft]	25	
Machine weight including	[kg]	7.5	
Hose package	[lbs]	16.5	
Connection type		Fully compatible to all Orbitalum power sources	
DIMENSIONS			
Dimension "A"	[mm]	65.0	[inch] 2.559
Dimension "B"	[mm]	241.0	[inch] 9.488
Dimension "C"	[mm]	207.0	[inch] 8.150
Dimension "D"	[mm]	36.0	[inch] 1.417
Dimension "E"	[mm]	68.0	[inch] 2.677
Dimension "F"	[mm]	185.0	[inch] 7.283
Dimension "G"	[mm]	110.0	[inch] 4.331

Technical specifications are non-binding. They do not constitute any assurance of properties. We reserve the right to make changes.



The tube-to-tube-sheet orbital weld head TX 38P:  
 Ideal for the repair, maintenance and servicing of industrial heat exchanging systems

#### SCOPE OF DELIVERY

- Including:
- 1 tube-to-tube-sheet orbital weld head TX 38P (Code 830 000 005)
  - 1 hose package, length 7.5 m (25 ft)
  - 1 integrated remote control
  - 1 transport case
  - 1 tool set
  - 1 set of operating instructions and spare parts list

#### MANDATORY FOR THE USE OF THE TUBE-TO-TUBE-SHEET ORBITAL WELD HEAD:

- Please order separately:
- Arbors
  - Spring sleeves
  - Clamping segments
  - Electrode support

#### FURTHER ACCESSORIES

- Optionally available:
- Balancer springs
  - ESG electrode grinders
  - Ground cable
  - Hose package extensions 5 m/10 m/15 m
  - Double pressure reducer
  - WS2 tungsten electrodes

#### EQUIPMENT

- Integrated remote control, function keys:
- START/STOP welding process
  - ON/OFF gas
  - Motor (rotor rotation)
  - Approaching of the end position (home position)
  - Actuation of arbor pneumatics



TX 38P

## Tube-to-tube-sheet orbital weld head

### TX 38P

Properties, application area, technical specifications and delivery scope, see from page 74.

**The following accessories are mandatory for the use of the tube-to-tube-sheet orbital weld head and must be ordered separately:**

- Arbors, see page 73
- Spring sleeves, see page 73
- Clamping segments, see page 73
- Ground cable, see page 93

ITEM	CODE	MACHINE WEIGHT KG*	SHIPPING WEIGHT KG
Tube-to-tube-sheet orbital weld head TX 38P	830 000 005	7.500	15.600

\* Machine weight including hose package

### Suitable accessories (optionally available):

- Arbors, see page 73
- Spring sleeves, see page 73
- Clamping segments, see page 73
- Electrode adapters, see page 73
- Ground cable, see page 93
- Balancer spring, see page 78
- Hose package extensions, see page 94
- Welding current connection adapter set, see page 95

## Accessories for TX 38P

### Arbors

Base arbor including insulation sleeve and clamping cone.

ITEM	SUITABLE FOR	CODE	KG
Arbor TX 38P, Type A	Spring sleeves, Type A	<b>830 020 020</b>	0.130
Spring sleeves TX 38P, Type B	Clamping segments, Type B	<b>830 020 021</b>	0.130



Arbor TX 38P

### Spring sleeves

Suitable for arbor, Type A.

ITEM	TUBE ID [MM]	TUBE ID [INCH]	CODE	KG
Spring sleeve TX 38P, Type A1	10.0 - 11.3	0.394 - 0.445	<b>830 020 022</b>	0.030
Spring sleeve TX 38P, Type A2	11.0 - 12.7	0.433 - 0.500	<b>830 020 019</b>	0.030
Spring sleeve TX 38P, Type A3	12.5 - 14.0	0.492 - 0.551	<b>830 020 023</b>	0.030



Spring sleeve

### Clamping segments

Suitable for arbor, Type B.  
 Consisting of 1 set each with 2 clamping segments.  
 Differing dimensions on request.

ITEM	TUBE ID [MM]	TUBE ID [INCH]	CODE	KG
Clamping segments TX 38P, Type B1	13.8 - 16.8	0.543 - 0.661	<b>830 020 024</b>	0.025
Clamping segments TX 38P, Type B2	16.6 - 19.6	0.654 - 0.772	<b>830 020 025</b>	0.045
Clamping segments TX 38P, Type B3	19.4 - 22.4	0.764 - 0.882	<b>830 020 026</b>	0.065
Clamping segments TX 38P, Type B4	22.2 - 25.2	0.874 - 0.992	<b>830 020 027</b>	0.085
Clamping segments TX 38P, Type B5	25.0 - 28.0	0.984 - 1.102	<b>830 020 028</b>	0.105
Clamping segments TX 38P, Type B6	28.0 - 31.0	1.102 - 1.220	<b>830 020 029</b>	0.130
Clamping segments TX 38P, Type B7	31.0 - 34.0	1.220 - 1.339	<b>830 020 030</b>	0.160
Clamping segments TX 38P, Type B8	34.0 - 37.0	1.339 - 1.457	<b>830 020 031</b>	0.200
Clamping segments TX 38P, Type B9	37.0 - 40.0	1.457 - 1.575	<b>830 020 032</b>	0.200



Clamping segments

### Electrode adapters

ITEM	CODE	KG
Electrode adapter TX 38P cpl., 2.4 mm (0.094")	<b>830 013 010</b>	0.020



Electrode support

### Other accessories for orbital welding

- Ground cable, see page 93
- Double pressure reducer, see page 94
- ESG electrode grinders, see page 86
- WS2 tungsten electrodes, see page 94
- Torch and cold wire accessories, see page 97
- Welding current connection adapter set, see page 95

#### TUBE-TO-TUBE-SHEET ORBITAL WELD HEADS