

THE NEXT GENERATION OF  
ORBITAL WELDING EQUIPMENT



## P-20

Tube To Tube Sheet Welding Head



The P-20 weld head has been designed to enable the welding of boiler tubes fitted to tube sheets in heat exchangers.

This head allows this task to be carried out using a precision Orbital Welding Power Supply, such as the ORBIMATIC range. This means that not only is the rotation of the torch consistent and the delivery of the welding current is also kept constant and can be varied around the circumference of the tube.

### The P-20

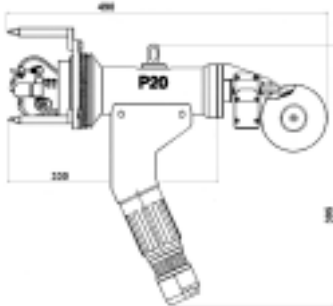
- ✚ Weld Flush, Recessed or Protruded Tubes
- ✚ Internal Bore Weld Torch (Optional)
- ✚ Eliminate Mundane Welding Tasks
- ✚ Achieve Guaranteed Results Every Time
- ✚ Increase Operator Efficiency

The P-20 uses a three point support system which holds the torch at a fixed distance from the weld joint. To align the tungsten to the tube a mandrel is used. This is entered in the bore of the tube to be welded. The head is supported by a chain to take the bulk of the weight of the weld head.

The P-20 can be used with or without a filler material.

In applications which use filler material a standard 4" (1kg) reel is used and this is mounted on the head body.

If welding highly reactive materials such as titanium the welding arc can be covered with a purge chamber which encapsulates the welding zone.



P-20 Dimensions

chamber which encapsulates the welding zone.

For tube inside diameters from 10mm to 26mm the welding torch can be tilted to 30 degrees to enable protruding tubes to be welded.

The P-20 will also accommodate tubes from 10mm to 70mm inside diameter with the torch positioned parallel to the tube to be welded.

For deeply recessed tubes and boiler tube repairs the P-20 can be fitted with an Internal Bore Welding Torch. This allows the weld to be performed deep into the tube plate or inside a vessel.



P-20 Mandrels

## Technical Specification

Welding Position – Horizontal or Vertical

Welding Process – TIG with or without filler

Welding Current – Maximum 200Amps

Tube Diameter Range – 10 to 70mm

Up to 26mm with torch inclined at 30 deg.

Up to 70mm with torch parallel to the tube

Welding Geometry – Recessed, Flush, Protruding

Transmission – Current by Lamellar Coupling

– Gas/Water by Rotary Coupling

Front Support – Three Point Support

Mandrel Support Vessel – Stainless Steel

Torch and Wire Nozzle – Adjustable on 3-axis

Torch Cooling – Water Up To Electrode

Electrode Work Piece Regulation –

Forward and Backward

Micrometric Regulation - Stroke +/- 5mm

Rotation & Wire Motor – 18v DC

Rotation Speed – 0.33 to 6 rpm

Wire Speed – 0.15 to 1.5 m/min

Wire Spool – 1 kg mini spool 100mm

Electrode Diameter – 1.0 to 3.2mm

Weight – With Filler Wire 6 kg

- Without Filler Wire 5 kg



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