



Application Note

Trace Moisture Measurement in Welding - Orbital

Orbital Welding



Orbital welding is a specialised welding process in which the welding arc is mechanically rotated 360° around a stationary work piece, most commonly a pipe, in a continuous operation. This technique is almost exclusively performed using the TIG (Tungsten Inert Gas) welding method.

During orbital welding, the welding head is clamped securely around the work piece and then rotated to complete the weld. Interchangeable collets on either side of the weld can be used to accommodate various pipe diameters and allow flexibility in different applications.



A low flow of shielding gas, typically 1 to 2 litres per minute and commonly referred to as the “purge,” is passed through the interior of the pipe to protect the weld from atmospheric contamination. Checking the moisture content of this purge is straightforward; the supply pipe can be connected directly to a hygrometer for accurate measurement.

The orbital welding head itself is also flooded with shielding gas to maintain a protective environment around the weld. To assess the moisture content of the gas within the welding head, a short length of tubing, ideally 6 mm in outer diameter, can be clamped in a collet on one side of the head, with a solid collet inserted on the opposite side. This setup allows gas from the head to flow out through the tube, which can then be connected to the hygrometer for testing.

Suitable Products



Portable Hygrometers



Online Hygrometers



Online Hygrometers



Trace Moisture Analysers

If you would like more details of trace moisture measurement in welding gases, please contact: +44 (0) 1274 733100 or contact@amsystems.co.uk

