Trace Moisture Measurement in Welding - Orbital

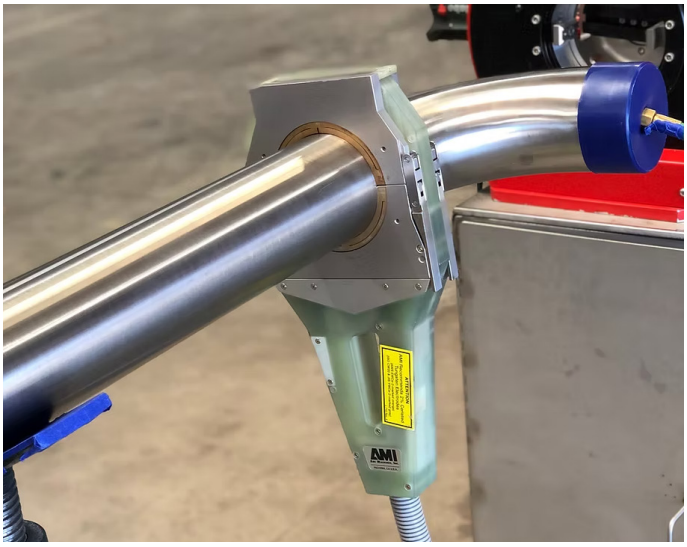
Application Note

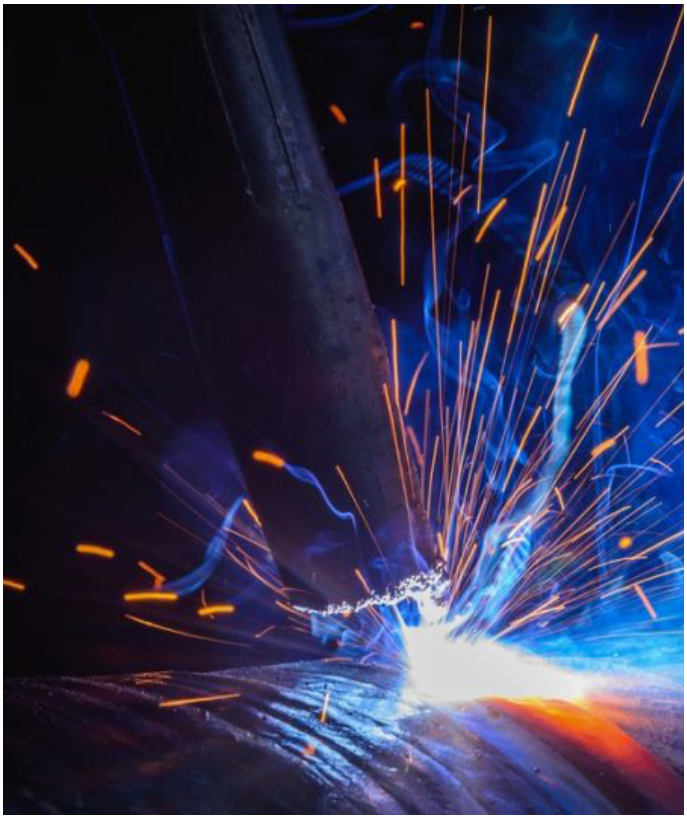
SHAW MOISTURE METERS

Orbital welding is a precision welding process in which the welding arc is mechanically rotated 360° around a stationary workpiece, typically a pipe, to produce a continuous and highly repeatable weld. It is most commonly carried out using the TIG (Tungsten Inert Gas) welding method.

In this process, the welding head is clamped securely around the pipe and rotated to complete the weld in a controlled manner. Interchangeable collets on either side of the weld allow different pipe diameters to be accommodated, giving the system flexibility across a range of applications.

A low flow of shielding gas, typically 1 - 2 litres per minute and commonly referred to as the purge, is passed through the inside of the pipe to protect the weld from atmospheric contamination. Measuring the moisture content of this purge gas is straightforward, as the supply line can be connected directly to a hygrometer for accurate testing.





The orbital welding head is also flooded with shielding gas to maintain a protective environment around the weld area. To measure the moisture content of the gas within the head, a short length of tubing, ideally 6 mm outer diameter, can be clamped into a collet on one side of the head, with a solid collet fitted on the opposite side. This allows gas to flow out of the welding head and through the tubing, where it can then be connected to the hygrometer for measurement.

Monitoring moisture at both the purge and welding head stages helps ensure optimal weld quality and reduces the risk of contamination related defects.

Suitable Products



Dewpoint Sensor



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Portable Sample System

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