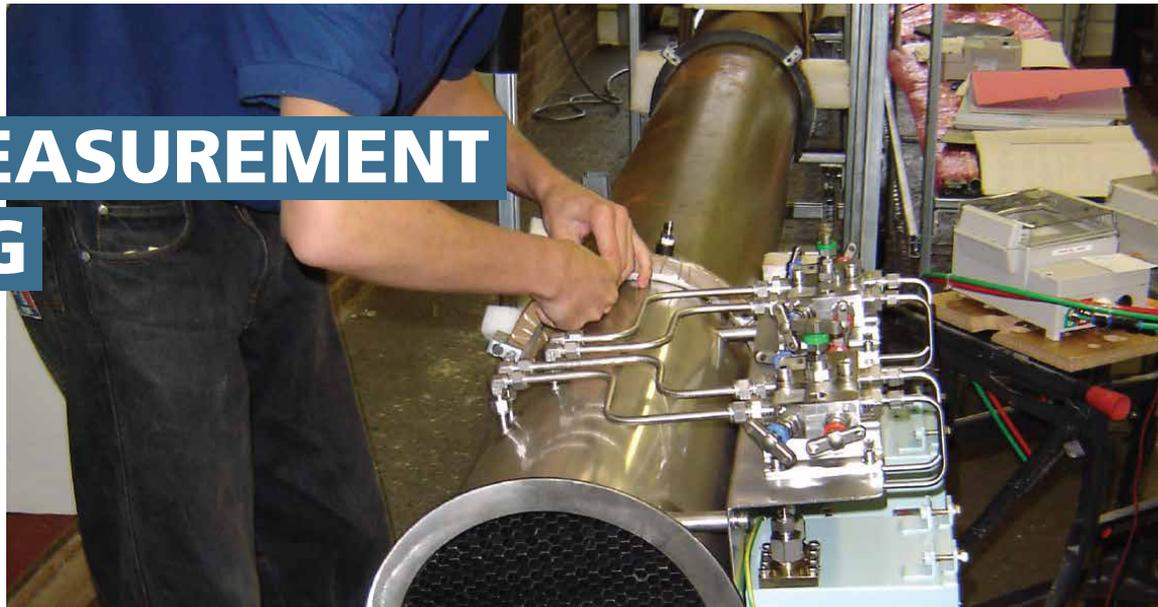


FLOW MEASUREMENT TRAINING



STACK MONITORING SYSTEM DESIGN
 PRINCIPLES OF FLOW MEASUREMENTS
 TYPES OF FLOW METERS
 IN-SITU CALIBRATION OF STACK FLOW METERS
 CALIBRATION OF SAMPLE FLOW SYSTEMS
 REQUIREMENTS OF FLOW SYSTEMS
 REPORTING OF STACK FLOW DATA

The flow measurement training course has been designed to give an understanding of the complexities of flow measurement, with the course emphasis being on flow measurement for stack sampling systems. Training courses are held at the Ultra Electronics Nuclear Control Systems premises in Wimborne, UK and are carried out by a member of our stack monitoring team using the in-house stack testing equipment.

The course comprises of basic flow measurement theory of gases in pipes and large conduits. The affects of pressure and temperature on flow meters and flow measurements are described in detail, and an understanding of fluid dynamic terminology is provided, for example Reynolds numbers.

Particular emphasis will be given to differential pressure generating flow meters; orifice plates, Pitot tubes and Venturi meters. A discussion of other types of flow meter is given, including the benefits and disadvantages of

each type. The ideal stack flow configuration and system design is presented and the restrictions of retrofitted equipment are discussed.

A large part of the training course will be carried out at a practical level, including both demonstrations and hands-on experiments. This will allow the trainee to identify the functions of flow meters and the effects of location, as well as to learn how to setup secondary equipment such as differential pressure transmitters. The practical experience will also assist the trainee in understanding the needs of gaseous sampling systems, and identify the differences and considerations relevant to both monitoring and sampling systems.

The important interaction between flow measurement and stack sampling is identified, and in particular the need for companies to comply to their own, and also national, standards both current and in the future.

Finally the attendees will be taught the importance of clear and precise specifications, in order to both service the needs of the company and also meet the relevant requirements of the regulatory authority.

We can also offer courses for radiometric measurements & equipment, with the option of courses being tailored to customers particular requirements and need. Please contact Ultra for further information.

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