


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p>UKAS CALIBRATION 4338</p> <p>Accredited to ISO/IEC 17025:2005</p>	<p>Vacuum Furnace Engineering Ltd trading as VFE Calibration Services</p> <p>Issue No: 011 Issue date: 18 September 2017</p>	
	<p>Unit 22 Wessex Trade Centre Ringwood Road Poole Dorset BH12 3PQ</p>	<p>Contact: Mr I Jenner Tel: +44 (0)1202 630033 Fax: +44 (0)1202 630022 E-Mail: Calibration@vfe.co.uk Website: www.vfe.co.uk</p>
<p>Calibration performed by the Organisations at the locations specified below</p>		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
<p>Address Unit 22 Wessex Trade Centre Ringwood Road Poole Dorset BH12 3PQ</p> <p>Local contact Mr I Jenner Tel: +44 (0)1202 630033 Fax: +44 (0)1202 630022 Email: Calibration@vfe.co.uk Website: www.vfe.co.uk</p>	<p>Humidity, Temperature, Pressure, Electrical, Time</p>	<p>Lab</p>

Site activities performed away from the locations listed above:

Location details	Activity	Location code
<p>The customers' site or premises must be suitable for the nature of the particular calibrations undertaken and will be the subject of contract review arrangements between the laboratory and the customer</p> <p>Local contact Mr I Jenner Tel: +44 (0)1202 630033 Fax: +44 (0)1202 630022 Email: Calibration@vfe.co.uk Website: www.vfe.co.uk</p>	<p>Humidity, Temperature, Pressure, Electrical, Time</p>	<p>Site</p>



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DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
RELATIVE HUMIDITY				
Relative humidity instruments	11 %rh to 90 %rh for the temperature range 10 °C to 50 °C	2.0 %rh to 2.2%rh	Calibrations of devices with an electrical output may be undertaken.	Lab
Saturated salt capsules	11 %rh to 95%rhfor the temperature range 10 °C to 50 °C	1.9 %rh to 2.1%rh	The accreditation covers other humidity units directly related to relative humidity, eg, equilibrium relative humidity (ERH).	Site
Humidity controlled chambers (inclusive of associated indicators, controllers and recorders, all with sensors within the specified parameters and ranges)	10 %rh to 30 %rh 10 °C to 50 °C 30 %rh to 98 %rh 10 °C to 20 °C 30 %rh to 98 %rh 20 °C to 85 °C	1.8 %rh 2.0 %rh 2.0 %rh		
Relative humidity instruments	11 %rh to 95 %rh at ambient temperature	2.4 %rh		Site
Relative humidity instruments	In free air at ambient humidity and temperature	3.1%rh		Site
Saturated salt capsules	10%rh to 95%rh at ambient temperature	1.9%rh to 2.2%rh		Site



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TEMPERATURE				
Platinum resistance thermometers	50 °C to 250 °C	0.20 °C	In oil bath	Lab
Thermocouples	50 °C to 250 °C	0.29 °C	In oil bath	
Temperature sensors with indicators or transmitters	50 °C to 250 °C	As for sensor type	In oil bath	
Platinum resistance thermometers	- 40 °C to +20 °C 20 °C to 50 °C 50 °C to 100 °C	0.20 °C 0.13 °C 0.15 °C	In air chamber	
Thermocouples	-40 °C to +20 °C 20 °C to 50 °C 50 °C to 100 °C	0.22 °C 0.17 °C 0.20 °C	In air chamber	
Temperature sensors with indicators or transmitters	-40 °C to 100 °C	As for sensor type	In air chamber	
Temperature controlled fridges, freezers, autoclaves, ovens, environmental chambers and water baths	-80 °C to -40 °C -40 °C to 0 °C 0 °C to 50 °C 50 °C to 250 °C 250 °C to 500 °C 500 °C to 1200 °C	0.85 °C 0.65 °C 0.50 °C 0.70 °C 1.6 °C 3.3 °C	Single or multiple point measurements	Site
Electronic thermometers with sensors	-80 °C to -40 °C -40 °C to 0 °C 0 °C to 50 °C 50 °C to 250 °C 250 °C to 500 °C 500 °C to 1200 °C	0.85 °C 0.65 °C 0.50 °C 0.70 °C 1.6 °C 3.3 °C	Calibration using customer chamber, oven etc. Calibrations of devices with an electrical output may be undertaken.	
PRESSURE				Lab and site
Gas Pressure (Gauge)				
Calibration of pressure indicating instruments and gauges	- 95 kPa to 100 kPa 100kPa to 2 MPa	0.24 kPa 0.060% + 0.25 kPa	Including instruments integrated into pressure controlled enclosures	
Gas Pressure (Absolute)				
Calibration of pressure indicating instruments and gauges	3.5kPa to 120 kPa	0.025kPa	Calibrations can be carried out in altitude units such as feet above sea level	Lab and site



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Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
ELECTRICAL				
Generation and measurement				
DC Voltage	0 mV to 100 mV 100 mV to 10 V	4.3 μ V 1.0 mV		Lab
DC Resistance	0 Ω to 100 Ω 100 Ω to 1000 Ω	11 m Ω 31 m Ω		
DC Current	0 mA to 20 mA	5.0 μ A		
Electrical calibration of temperature indicators and simulators				
Resistance thermometers (Pt100)	-200 $^{\circ}$ C to 0 $^{\circ}$ C 0 $^{\circ}$ C to 850 $^{\circ}$ C	0.030 $^{\circ}$ C 0.080 $^{\circ}$ C		
...Base metal thermocouples	-200 $^{\circ}$ C to 100 $^{\circ}$ C 100 $^{\circ}$ C to 1370 $^{\circ}$ C	0.20 $^{\circ}$ C to 0.080 $^{\circ}$ C 0.080 $^{\circ}$ C to 0.15 $^{\circ}$ C	Excluding cold junction compensation	
...Noble metal thermocouples	0 $^{\circ}$ C to 500 $^{\circ}$ C 500 $^{\circ}$ C to 1768 $^{\circ}$ C	0.80 $^{\circ}$ C to 0.40 $^{\circ}$ C 0.40 $^{\circ}$ C	Excluding cold junction compensation	
Cold junction compensation	Ambient temperature	0.11 $^{\circ}$ C		
DC Voltage	0 mV to 100 mV 100 mV to 10 V	0.025 mV 3.5 mV		Site
DC Resistance	0 Ω to 100 Ω 100 Ω to 1000 Ω	0.020 Ω 0.040 Ω		
DC Current	0 mA to 20 mA	0.010 mA		
Electrical calibration of temperature indicators, controllers and recorders for the following sensors:			Calibrations of devices with an electrical output may be undertaken.	Site
Noble metal thermocouples Base metal thermocouples	0 $^{\circ}$ C to 1700 $^{\circ}$ C - 190 $^{\circ}$ C to + 1370 $^{\circ}$ C	0.75 $^{\circ}$ C 0.50 $^{\circ}$ C	Including cold junction compensation	
Resistance sensors 4 wire 2 and 3 wire	- 200 $^{\circ}$ C to + 850 $^{\circ}$ C - 200 $^{\circ}$ C to + 850 $^{\circ}$ C	0.25 $^{\circ}$ C 0.50 $^{\circ}$ C		
TIME INTERVAL				Lab & Site
Timers	10 s to 2 hrs	0.50 s		
END				