



CERTIFICATE OF CALIBRATION			
ISSUED BY:	JMW Limited	DATE OF ISSUE:	03/07/2014
CERTIFICATE SERIAL NUMBER:		4070014	
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Customer/Acc. No:	Example	M24178
Instrument:	Kane 455 flue gas analyser	
Instrument S/No:	182513187	
Instrument ID No:	N/A	
JMW Proc. No:	3317	

Location:	Post Code
Calibration Interval:	12 months
Calibration Date:	03/07/2014
Calibrated by (Op. No):	04
Approved by (Op. No):	29

Traceability:	The instrument referred to in this certificate was re-calibrated by applying known concentrations of test gas mixtures and recording the indicated values (gas ranges) and by applying nominal values at a number of points and recording the indicated values (temperature ranges). The test gas mixtures and equipment used, for which the company maintains traceability to international standards by means of certificates issued by the supplier, are listed below (ambient air at the internationally recognised value of 20.9%v/v).
Allowances:	The allowance is based on the manufacturers published specification where available or recognised industry standards.
Limitations of Use:	The following results do not carry any implications as to the long term stability of the instrument.
Environmental Conditions:	The ambient temperature and humidity throughout the calibration period were uncontrolled and unmonitored but were, typically 20°C ±5°C and 50% RH ±20% RH.

CALIBRATION REFERENCE STANDARDS					
Reference	Description	Uncertainty	JMW Ref	Description	Uncertainty
069	10%v/v (nom) carbon dioxide	±2%	014	500ppm (nom) carbon monoxide	±2%
036	Oxygen @ 0.000005%v/v	±2%	041	Temperature indicator/simulator	±0.25°C
023	Digital pressure calibrator	±0.05 mbar			

ACCESSORIES								
	Present	Sound		Present	Sound		Present	Sound
Filter assy:	Y	Y	Mains Adaptor:	N	N/A	Sampling line/probe:	N	N/A
Printer:	N	N/A						

PRE-CALIBRATION FUNCTIONAL CHECKS						
Instrument is -	Complete:	Y	Free from damage:	Y	Operational:	Y
	Pump is operational:	Y	Adaptor/charger is operational:	N/A		

RESULTS					
Range	Applied value	Allowance	As received		After adjustment
			Indicated reading	P/F	Indicated reading
Carbon dioxide: 0-20%v/v	0% v/v	±0.2%v/v	0.0%v/v	P	0.0%v/v
	CO ₂ /air @ 10% v/v	9.8-10.2%v/v	10.3%v/v	F	10.0%v/v
Carbon monoxide: 0-2000ppm	0ppm	±10ppm	0ppm	P	0ppm
	CO/air @ 500ppm	475-525ppm	487ppm	P	500ppm
Temperature: 0-600°C	0°C	±1°C	0 °C	P	
	200°C	197.4-202.6°C	199.7°C	P	
	400°C	396.8-403.2°C	399.2°C	P	
	600°C	596.2-603.8°C	598.6°C	P	
Pressure: 0-80mbar	1.000mbar	±0.03mbar	1.00	P	
	50.00mbar	±1.50mbar	49.90	P	

The uncertainties are for a confidence probability of not less than 95%