Issue date: 25 March 2025
Valid Until: -

NO: SAMM 1147

LABORATORY LOCATION/ CENTRAL OFFICE:	Calibration Laboratory, UMW Aerospace Sdn. Bhd. Lot 29138, Mukim Bandar Serendah, 48200 Serendah, Selangor , 48200, SELANGOR MALAYSIA
ACCREDITED SINCE :	25 MARCH 2025
FIELD(S) OF CALIBRATION:	DIMENSIONAL PRESSURE TEMPERATURE TORQUE

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

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FIELD(S) OF CALIBRATION :	DIMENSIONAL, PRESSURE, HEAT & TEMPERATURE, TORQUE

SCOPE OF CALIBRATION : DIMENSIONAL

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
And Plunger Type	None	None	Standards Dial
Caliper	0 to 300 mm	0.02 mm	Calibrated using
	Up to 150 mm	0.01 mm	checkers as
	0 mm to 600 mm (Internal Measurement) 0 mm to 600 mm (External Measurement	0.01 mm 0.01 mm	Calibrated using Caliper Checker with reference to BS 887:2008

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
	0mm to 300 mm 301 mm to 600 mm (Internal Measurement)	0.01 mm 0.02 mm	Calibrated using Caliper Checker with reference to BS 887:2008
	0 mm to 600 mm (Internal Measurement) 0 mm to 600 mm (External Measurement	0.01 mm 0.01 mm	Calibrated using Caliper Checker with reference to BS 887:2008
	0mm to 300 mm 301 mm to 600 mm (Internal Measurement)	0.01 mm 0.02 mm	Calibrated using Caliper Checker with reference to BS 887:2008
	0.01 mm to 300 mm 300 mm to 600 mm 600 mm to 1000 mm	9um 12 um	Gauge Block Caliper Checker
	0 mm to 150 mm 0 mm to 200 mm 0 mm to 300 mm 0 mm to 450 mm 0 mm to 600 mm	11 um 12 um 13 um	Calibrated using Gauge Blocks as standards with reference to ISO 13385: 2011
	None	None	gauge block as
	350 mm to 450 mm	13 um	using Caliper
	External measurement	None	Calibrate using
	0 mm to 300 mm	0.01 mm	gauge blocks as
	300 mm to 600 mm	0.02 mm	standards based on
	Internal measurement	None	JIS B 7507:2016
	0 mm to 300 mm	0.01 mm	Partial
	0 mm to 300 mm	None	Measuring face
	0 mm to 300 mm	None	contact error
	0 mm to 300 mm	None	Repeatability of
	0 mm to 300 mm	None	partial
	0 mm to 300 mm	None	measuring face
	0 mm to 300 mm	None	contact error
	0 mm to 300 mm	None	Parallelism of
	0 mm to 300 mm	None	jaws
	0 mm to 300 mm	None	Full measuring
	0 mm to 300 mm	None	face contact
	0 mm to 300 mm	None	error
	0 mm to 300 mm	None	Scale shift error
	Omm to 300mm	6 um	Calibrated using caliper
	Omm to 300mm	None	checker and gauge
	300mm to 600mm	None	block with reference to
	300mm to 600mm	None	JIS B 7507:2016

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	Up to 300 mm 300 mm to 1000 mm 1000 mm to 2000 mm	17 um 27 um	Calibrated using Gauge Block.with reference to ISO 13385-1:2019
	0 ~ 300 mm	0.02 mm	reference to BS
	0.01 mm to 600 mm	10 um	Caliper Checker JIS B 7507
Dial Indicators -” Lever	0 to 50 mm	0.002 mm	Calibrated using
Plain Plug Gauges	2mm to 25 mm	0.0022 mm	Calibrated using

SCOPE OF CALIBRATION : PRESSURE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Pressure Measuring	0 bar to 30 bar	11 mbar	Calibrated using
	None	None	Calibrated using
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	30 psi to 600 psi	0.8 psi	
	None	None	
	None	None	
	None	None	
	None	None	
	15 psi to 1000 psi	0.3 psi	Calibrate using dead
	0 psi to 1000 psi	5 psi	standards based on DKD-R 6-1
	0 to 16000 psi	0.03 % of reading	Calibrated using
	None	None	Calibrated using
	-500Pa to +500Pa2Pa -500Pa to +500Pa	-500Pa to +500Pa	Calibration by
	None	None	
	Up to 600 bar	None	on 837-1:1998, BS
	None	None	
	None	None	

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SCOPE OF CALIBRATION : TEMPERATURE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
A) Thermocouple Type	-50 °C to 1000 °C	0.38 °C	temperature
Devices	None	None	electrical
	None	None	Digital Pressure
	None	None	Digital Pressure
	Radiated Power (EIRP)	ANSI/TIA-102.CAAA-E: 2016	
	0 °C to 630 °C	0.48 °C	
Temperature Indicating	None	None	Calibrated by
	None	None	
	None	None	
	None	None	
	None	None	
	None	None	
	None	None	
	-80 °C to -40 °C	0.19 °C	Comparison with
	-20 °C to 150 °C	0.10 °C	Comparison with
	None	None	
	to 400 °C	1.2°C	Comparison with
	None	None	
	-200 °C to0 °C	0.25 °C	calibrator.

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SCOPE OF CALIBRATION : TORQUE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Hand Torque Tools	1.2 N.m to 500N.m	1% reading	Calibrated by
	up to 10 N.m above 10 to 20 N.m above 20 to 50 N.m above 50 to 100 N.m	0.03 N.m 0.05 N.m 0.15 N.m 0.35 N.m	With reference to ISO 6789-1 & 2: 2017 by using torque meter
	above 100 to 140 N.m	0.8 N.m	
	above 140 to 200 N.m	1.5N.m	
	0.06 N.m to	1.6% of Reading	
	0.3 N.m	1.5% of Reading	Calibration using
	6 N.m to	0.9% of Reading	reference torque
	20 N.m to	0.4% of Reading	testers with
	100 N.m to	0.4% of Reading	reference to ISO
	500 N.m to	0.9% of Reading	6789-2:2017
	1000 N.m to to 2100 N.m	0.7% of Reading	
	2N.m to	1.9 % of rdg. 1.1 % of rdg 0.8 % of rdg 0.4 % of rdg 0.3 % of rdg	Calibrated by using torque calibrator based on ISO 6789-2:2017
	0.3 N.m	3.0% of reading	Calibration using torque transducers
	2.N.m to 1500 N.m	1.0%	
	2.N.m to 1500 N.m	None	2. The CMC quoted is
	2.N.m to 1500 N.m	None	the relative expanded
	2.N.m to 1500 N.m	None	uncertainty at each
	2.N.m to 1500 N.m	None	calibration point