

Rujukan Kami: **(112) MOH/HQ/P/IKLAN-SH/2025**

LAMPIRAN 1

BIL	Quotation Reference	Description	Advertisement Date	Closing Date (Not Later Than 09.00AM)	Quotation Fee	Requesting Department
1	DSS/AQ/PROC/B50K/2025-2026/003 (QC)	TO SUPPLY, DELIVER, INSTALL, TEST AND COMMISSION FOUR (4) UNITS CALIBRATED PLATINUM RESISTANCE THERMOMETER (PRTS) WITH STAINLESS STEEL PROBES FOR QUALITY AND COMPLIANCE SECTION, DEPARTMENT OF SCIENTIFIC SERVICES, MINISTRY OF HEALTH.	09/08/2025	23/08/2025	\$5.00	JABATAN PERKHIDMATAN SAINTIFIK, KEMENTERIAN KESIHATAN

EQUIPMENT PURCHASE SPECIFICATION

TITLE OF TENDER/QUOTATION	TO SUPPLY, DELIVER, INSTALL, TEST AND COMMISSION FOUR (4) UNITS CALIBRATED PLATINUM RESISTANCE THERMOMETERS (PRTS) WITH STAINLESS STEEL PROBES FOR QUALITY AND COMPLIANCE SECTION, THE DEPARTMENT OF SCIENTIFIC SERVICES, MINISTRY OF HEALTH.
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TENDER REFERENCE NO.	DSS/AQ/PROC/B50K/2025-2026/003(QC)
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NAME OF ITEM	CALIBRATED PLATINUM RESISTANCE THERMOMETERS (PRTS) WITH STAINLESS STEEL PROBES
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NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick v) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
1	To supply, deliver four (4) units of ISO 17025 calibrated Platinum Resistance Thermometers with Stainless Steel probes with below specifications.				
2	Thermometer Specification				
2.1	Probe Temperature Range: -200.00°C to 500.000°C				
2.2	Temperature Resolution: 0.1°C to 0.0001°C				
2.3	Temperature Accuracy: ±0.05°C between -80°C to 290°C, otherwise 0.05%				
2.4	Included Probe: 4-wire platinum/ stainless-steel 316 probe				
2.5	Probe Dimensions: 7" stem length, 0.16" diameter, overall length 11.5"				

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2.6	Probe tip penetration: 0.3 inch				
2.7	Cable Length: 6 feet cable				
2.8	Accessories to be supplied: <ul style="list-style-type: none"> • A/C Plug (220 – 240 V, 50 – 60 Hz) • battery • platinum/ stainless-steel 316 probe, • cable, • computer output • plastic carrying case • Traceable® Certificate and individual ISO 17025 accredited Calibration Certificates. 				
3	Calibration Requirements				
3.1	The calibration laboratory engaged must have a Calibration and Measurement Capability (CMC) for Platinum Resistance Thermometers (PRTs) that meets the expanded uncertainty requirements specified in the table under point 3.5.				
3.2	The laboratory must provide a valid ISO/IEC 17025:2017 accreditation schedule, clearly indicating the validity period and the relevant scope of calibration. The schedule must explicitly highlight the scope of temperature calibration and the CMC values for PRTs within the requested temperature range.				
3.3	The laboratory must provide ISO/IEC 17025 accredited calibration certificates for each PRT calibrated, with all measurements traceable to the International System of Units (SI) through an unbroken chain of calibrations.				

3.4	Calibration shall be performed at the following temperature points to cover the full operating range of the PRTs: <ul style="list-style-type: none"> • -80°C • 0°C • +4°C • +25°C • +100°C • +300°C • +550°C 				
3.5	The calibration expanded uncertainty (coverage factor k=2, approximately 95% confidence) must be consistent with the laboratory's accredited CMC for IPRTs and meet or be better than the following maximum allowable values:				
	Temperature (°C)	Maximum Allowed Expanded Uncertainty (k=2) for Calibration			
	-80 to +250	≤ ±0.04°C			
	+250 to +400	≤ ±0.08°C			
	+400 to +600	≤ ±0.10°C			
3.6	The calibration laboratory shall use reference standards and methods traceable to SI units, such as:				
3.6.1	Standard Platinum Resistance Thermometers (SPRTs) with known and validated uncertainties better than the PRT under test.				
3.6.2	Fixed-point cells (e.g., Triple Point of Water at 0.01°C, Zinc, Tin, or other metal fixed points) for defining calibration points with high stability and reproducibility.				

3.6.3	Precision temperature baths or dry-block calibrators with documented uniformity and stability. The calibrators must have documented temperature uniformity and stability.				
3.7	The calibration laboratory shall comply with all applicable requirements of ISO/IEC 17025:2017 related to the reporting of calibration results. Specifically, the laboratory must report the expanded measurement uncertainty for each calibration point, expressed with a coverage factor $k=2$, corresponding to approximately 95% confidence level. Each calibration result shall be accompanied by the expanded uncertainty value, a clear statement of the coverage factor and confidence level, and a reference or summary of the uncertainty budget and its evaluation method.				
4.0	<u>TRAINING</u> Training shall be included as follows:				
4.1	On-site training for ALL staff members expected to handle the machine. Please ensure that adequate time is allocated such that training will take place in small groups to minimize disruption to laboratory work.				
4.2	The training modules should include but not limited to:- <ul style="list-style-type: none"> • Correct and safe handling to ensure reliable measurements; • Understand proper immersion depth to avoid stem conduction errors; • How to validate working thermometers in baths/ovens; • Interpreting calibration certificates for pass/fail decisions and how to transfer uncertainty from 				

	reference thermometers to working instruments; <ul style="list-style-type: none"> Spot drift/errors in reference and working thermometers and tracking PRT drift with control charts. 				
4.3	Certificate of competence is to be issued to all trainees after completion of training.				
5	<u>TENDER BRIEFING</u>				
5.1	It is MANDATORY for the tenderer to attend tender briefing by Quality and Compliance Section, Department of Scientific Services prior to tender submission. Non-attendance will be considered as non-compliance.				
6	<u>WARRANTY</u>				
6.1	A minimum of one (1) year warranty for manufacturer's defect on the hardware, software (if applicable) and all cost of repairs and/or replacements should be included.				
6.2	After-sales services must be provided for the product after one (1) year.				
6.3	One-off preventive maintenance to be carried out just before or soon after the one-year warranty period. Scope of work to follow manufacturer's manual/ recommendation specific for the equipment offered, which may include: <ul style="list-style-type: none"> Inspection Cleaning Annealing to restore sensor stability if drift or oxidation is detected any other related preventive maintenance works required 				

	<ul style="list-style-type: none"> Calibration (refer to 6.4). 				
6.4	One-time performance check by ISO 17025 accredited calibration laboratory to ensure the PRTs remain within their specified accuracy, including drift checks at fixed points, such as the Triple Point of Water to monitor sensor stability.				
7	<u>DELIVERY</u> Items offered MUST be delivered within _____ from date of Purchase Order. (Vendor to indicate the delivery period.)				
8	<u>PRICE VALIDITY</u> Price validity MUST NOT BE LESS THAN 270 days or nine (9) months.				
<u>TOTAL PRICE (\$)</u>					

No.	GENERAL SPECIFICATIONS*	VENDOR'S OFFER
A	Total Price: B\$	
B	Delivery Period:	
C	Model & Brand:	
D	Country of Origin:	
E	Where marketed:	
F	Year of Manufacture:	
G	Warranty:	
H	Power Requirement:	
I	Battery Back-up:	
J	International Safety Standard:	
K	Technical Support:	
L	Equipment Whole Life Support:	
M	Dimensions (WxHxD) cm:	
N	User Manuals:	

No.	GENERAL SPECIFICATIONS*	VENDOR'S OFFER
O	Service Manuals:	
P	Spare-parts & Consumables Listing:	
Q	Technical Training On-Site:	
R	Site Requirements:	

*To all participating companies, please fill in the table above along with your other documents during submission of tender.

Bahagian/Unit/Makmal :	QUALITY AND COMPLIANCE SECTION		
Bil. Rujukan Bahagian/Unit/Makmal :	O2K/QC/2025/003		
Pegawai dirujuk :	Nama : Sia Fwu Shii / Nur Nisrinah Yusof		
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