

Technical Specification for Tender No. 2022-23/07 Released Government E-Marketing (GeM Portal)

Micro Bath (-100°C to 25°C)		
Sl. No.	Specification	Range / Value
1	Type	Portable; for onsite calibration
2	Temperature Range	(minus)-100 °C to + 25 °C or higher
3	Accuracy	±0.3 °C or better
4	Stability	±0.05 °C or better
5	Stabilisation Time	15 Min or better
6	Uniformity	±0.02 °C or better
7	Resolution	0.01°C (+25 to -19.99°C) or better
		0.1°C (-20°C from -100°C) or better
8	Heating Time	-100 °C to 25 °C: 50 minutes or better
9	Cooling Time	25 °C to -100°C: 60 Minutes or better
10	Power	94-234 VAC (±10 %), 50/60 Hz
11	Computer Interface	RS-232 included with free Interface-it software
12	calibration certificate	Traceability certificate will be provided from national and international accredited body

13	Accessories to be quoted and supplied along with machine / equipments:	Transport seal lid and a 2082-M test lid
		Spare test lid.
		Necessary spares& Accessories should be provided
		Carrying Case
		Spare Stir Bar

Micro Bath (35°C to 200°C)		
Sl. No.	Specification	Range / Value
1	Type	Portable; for onsite calibration
2	Temperature Range	35 °C to 200 °C or higher
3	Accuracy	±0.25 °C or better
4	Stability	±0.02 °C or better at 100 °C
		±0.03 °C or better at 200 °C
5	Stabilisation Time	10 Min or better
6	Uniformity	±0.02 °C or better
7	Resolution	0.01 °C or better

8	Heating Time	25 °C to 200 °C: 45 minutes or better
9	Cooling Time	200 °C to 100 °C: 45 minutes or better
10	Power	94–234 VAC (±10 %), 50/60 Hz, 400 W
11	Computer Interface	RS-232 included with free Interface-it software
12	calibration certificate	Traceability certificate will be provided from national and international accredited body
13	Accessories to be quoted and supplied along with machine / equipments:	Transport seal lid and a 2082-M test lid
		Spare test lid.
		76 mm (3 in) tank extension adapter (affects stability, uniformity, and range at extreme temperatures)
		Silicone oil, type 200.20, 1 liter (usable range: 10 °C to 230 °C)
		Carrying Case
		Spare Stir Bar

Micro Bath (–30°C to 120°C)		
Sl. No.	Specification	Range / Value
1	Type	Portable; for onsite calibration
2	Temperature Range	(minus)–30 °C or lower to 120 °C or higher

3	Accuracy	± 0.25 °C or better
4	Stability	± 0.03 °C or better at -25 °C
		± 0.05 °C or better at 120 °C
5	Stabilisation Time	10 Min or better
6	Uniformity	± 0.02 °C or better
7	Resolution	0.01 °C or better
8	Heating Time	25 °C to 100 °C: 45 minutes or better
9	Cooling Time	25 °C to -20 °C: 45 minutes or better
10	Power	$94-234$ VAC (± 10 %), 50/60 Hz, 400 W
11	Computer Interface	RS-232 included with free Interface-it software
12	calibration certificate	Traceability certificate will be provided from national and international accredited body
13	Accessories to be quoted and supplied along with machine / equipments:	ü includes a transport seal lid and a 2085 test lid
		ü Spare test lid
		ü Silicone oil, type 200.05, 5 litter
		ü Carrying Case
		ü Spare Stir Bar

BLACK BODY (35°C to 500°C)

Sl. No.	Specification	Range / Value
1	Type	Portable; for onsite calibration
2	Temperature Range	35 °C to 500 °C or higher
3	Accuracy	$\pm 0.35^{\circ}\text{C}$ or better at 35 ⁰ C
		$\pm 0.50^{\circ}\text{C}$ or better at 100 ⁰ C
		$\pm 0.70^{\circ}\text{C}$ or better at 200 ⁰ C
		$\pm 1.00^{\circ}\text{C}$ or better at 350 ⁰ C
		$\pm 1.50^{\circ}\text{C}$ or better at 500 ⁰ C
4	Stability	$\pm 0.05^{\circ}\text{C}$ or better at 35 ⁰ C
		$\pm 0.20^{\circ}\text{C}$ or better at 200 ⁰ C
		$\pm 0.40^{\circ}\text{C}$ or better at 500 ⁰ C
5	Uniformity (5.0 in dia of center of target)	$\pm 0.10^{\circ}\text{C}$ or better at 35 ⁰ C
		$\pm 0.50^{\circ}\text{C}$ or better at 200 ⁰ C
		$\pm 1.00^{\circ}\text{C}$ or better at 500 ⁰ C
6	Uniformity2	$\pm 0.10^{\circ}\text{C}$ or better at 35 ⁰ C
7	(2.0 in dia of center	$\pm 0.25^{\circ}\text{C}$ or better at 200 ⁰ C
8	of target)	$\pm 0.50^{\circ}\text{C}$ or better at 500 ⁰ C
9	Heating Time	20 min: 35 ⁰ C to 500 ⁰ C or better

10	Cooling Time	100 min: 500 ⁰ C to 35 ⁰ C or better
11	Stabilization time	10 minutes or better
12	Nominal emissivity	0.95 or better
13	Thermometer Emissivity Compensation	0.9 to 1.0 or better
14	Target Diameter	152.4 mm (6 in) or better
15	Power	94–234 VAC (±10 %), 50/60 Hz
16	Computer Interface	RS-232 included with free Interface-it software
17	calibration certificate	Traceability certificate should be provided from national and international accredited body
18	Accessories to be quoted and supplied along with machine / equipments:	Carrying Case

FORCE PROVING RINGS		
Sl. No.	Specification	Range / Value
1	Loading pattern	Compression & Tension
2	Capacity	100 N,2kN,20kN, 200kN,
3	Display type	Digital , High Resolution Colour Touch LCD or better
4	Class	1 or better
5	Reproducibility	0.2% or better
6	Repeatability	0.1% or better
7	Error of interpolation	± 0.1% or better
8	Hysteresis	0.3% or better

9	Creep (in 30 minutes)	0.1% or better
10	Zero Return	± 0.05% or better
11	Nominal emissivity	0.95 or better
12	Display Resolution	For 2kN, 20kN : - 0.0001kN or better
		For 200kN: - 0.01kN or better
13	Measurement Units	N, kN, kgf, lbf or better
14	Mode of Operation	Trace, Peak, Auto Peak or better
15	Plug and Play Sensors (No. of Sensors)	7 or more
16	Data Storage & Logging	Upto 9999 as Calibration Reports or better
17	Calibration Sequence and Report Capture as per ISO 7500-1	Automated Sequence to ensure data credibility
18	Data Transfer Options	USB-PC or Pendrive
19	Operating Temperature	-10 °C to +50 °C or better
20	Construction	Aluminium or better
21	calibration certificate	Traceability certificate Should be provided from National and international body
22	Accessories to be quoted and supplied along with machine / equipments:	Carrying Case