

Accreditation No.	193
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CURRENT ACCREDITATION	Click here for more information.
Last Scope Review	08/11/2024
Company Name	PRESYS INSTRUMENTS AND SYSTEMS LTDA.
Name of Laboratory	PRYMELAB LABORATORY
Situation	Active
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Calibration Service Group	TEMPERATURE AND HUMIDITY
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SCOPE OF ACCREDITATION - ABNT NBR ISO/IEC 17025 - CALIBRATION

Service Description	Parameter, Range and Method	Calibration and Measurement Capability (CMC)
<i>(Carried out at permanent facilities)</i>		
TEMPERATURE MEASURING INSTRUMENTS		
Temperature Meter for Thermocouple Sensor	- 250 °C to <- 100 °C	0.6 °C
	- 100 °C to < 100 °C	0.07 °C
	100°C to 1000°C	0.02 °C
	> 1000 °C to 1370 °C	0.09 °C
	> 1370 °C to 2300 °C	0.10 °C
	Comparison Method with Standard Multimeter	
Temperature Meter for Thermoresistive Sensor or Other Sensors	-200 °C to 600 °C	0.03 °C
	> 600 °C to 800 °C	0.05 °C
	Comparison Method with Standard Multimeter	

THERMAL MEDIA

Thermostatic Bath

Stability Parameter

- 55 °C to 180 °C	0.04 °C
> 180 °C to 420 °C	0.10 °C

Parameter: Uniformity

- 55 °C to 180 °C	0.04 °C
> 180 °C to 420 °C	0.10 °C

Parameter: Control Temperature Deviation

- 55 °C to 180 °C	0.04 °C
> 180 °C to 420 °C	0.10 °C

Comparison Method with Reference Thermometer and Euramet cg.13

Temperature Calibrator with Block

Parameter: Stability

- 80 °C to 400 °C	0,20 °C
> 400 °C to 660 °C	0,60 °C
> 660 °C to 1100 °C	1,5 °C

Parameter: Uniformity

- 80 °C to 400 °C	0,20 °C
> 400 °C to 660 °C	060 °C
> 660 °C to 1100 °C	1.5°C

Parameter: Control Temperature Deviation

- 80 °C to 400 °C	0,20 °C
> 400 °C to 660 °C	0.60 °C
> 660 °C to 1100 °C	1.5°C

Comparison Method with Reference Thermometer and Euramet cg.13

SIMULATORS (CALIBRATORS)

Thermocouple Simulator

- 250 °C to <- 100 °C	0.6 °C
- 100 °C to 700 °C	0.02 °C
> 700 °C to 1000 °C	0.04 °C
> 1000 °C to 1300 °C	0.06 °C
> 1300 °C to 2100 °C	0.09 °C
> 2100 °C to 2300 °C	0.20 °C

Comparison Method with Standard Multimeter

Resistance Thermometer Simulator

-200°C to 600°C	0.03 °C
> 600 °C to 800 °C	0.05 °C

Comparison Method with Standard Multimeter

CONTACT THERMOMETRY

Temperature Meter with Thermocouple Sensor

- 55°C to 0°C	0,25 °C
> 0 °C to 157 °C	0,23 °C
> 157 °C to 232 °C	0,16 °C
> 232 °C to 420 °C	0,15 °C
> 420 °C to < 660.323 °C	0,14 °C
660,323 °C	0,11 °C
> 660.323 °C to < 961.78 °C	0,11 °C
> 961.78 °C to 1100 °C	0.30 °C
961,78 °C	0,10 °C

Comparison method with resistance
thermometer / reference
thermocouple.

Comparison method with reference
thermometer.

Comparison method with
thermometric fixed points.

Temperature Meter with Thermoresistive Sensor or Other Sensors

- 55 °C to - 40 °C	0.20 °C
> -40°C to 0°C	0.011 °C
0 °C	0.015 °C
> 0°C to 90°C	0.010 °C
> 90 °C to 156 °C	0.015 °C
> 156 °C to 232 °C	0.016 °C
> 232 °C to 420 °C	0.019 °C
> 420 °C to 661 °C	0.029 °C

Comparison method with resistance
thermometer / reference
thermocouple.

Comparison method with reference
thermometer.

Comparison method with
thermometric fixed points.

Basic Metals Thermocouple	- 55 °C to 0 °C	0.20 °C
	> 0 °C to 200 °C	0.10 °C
	> 200 °C to 350 °C	0.20 °C
	> 350 °C to 500 °C	0.50 °C
	> 500 °C to 650 °C	0.60 °C
	> 650 °C to 900 °C	0.60 °C
	> 900 °C to 1100 °C	0.75 °C
	Comparison method with resistance thermometer / reference thermocouple.	
Noble Metal Thermocouple	Comparison method with reference thermometer.	
	- 50 °C to 0 °C	0,25 °C
	> 0 °C to 157 °C	0,23 °C
	> 157 °C to 232 °C	0,16 °C
	> 232 °C to 420 °C	0,15 °C
	> 420 °C to < 660.323 °C	0,14 °C
	660,323 °C	0,11 °C
	> 660.323 °C to < 961.78 °C	0,11 °C
	961,78 °C	0,10 °C
	> 961.78 °C to 1100 °C	0,30 °C
	Comparison method with resistance thermometer / reference thermocouple.	
	Comparison method with reference thermometer.	
	Comparison method with thermometric fixed points.	

Thermoresistance	- 55 °C to - 40 °C	0,20 °C
	> -40 °C to < -38.829 °C	0.011 °C
	-38,8290 °C	0,0010 °C
	> -38.829 °C to < 0 °C	0,011 °C
	0 °C	0,015 °C
	0,0100 °C	0,0005 °C
	> 0.010 °C to < 29.7646 °C	0,010 °C
	29,7646 °C	0,0010 °C
	> 29.7646 °C to 90 °C	0,010 °C
	> 90 °C to 156 °C	0,015 °C
	> 156 °C to < 231.928 °C	0,016 °C
	231,9280 °C	0,0015 °C
	> 231.928 °C to < 419.527 °C	0,019 °C
	419,5270 °C	0,0020 °C
	> 419.527 °C to < 660.323 °C	0,027 °C
	660,323 °C	0,005 °C
	Comparison method with reference resistance thermometer	
	Comparison method with thermometric fixed points	

Comments:

1. Measurement and Calibration Capability (CMC) refers to the lowest uncertainty that the Laboratory is able to obtain, with a coverage probability or confidence level of approximately 95%. If the laboratory uses more than one method to perform a given calibration or measurement, the CMC will refer to the method by which the laboratory obtains the lowest measurement uncertainty. (See NIT-Dicla-021)
2. The CMC identified by an asterisk (*) does not include all contributions from the calibrated instrument or standard or the measured device.
3. The Laboratory may declare in its calibration certificates, measurement uncertainties greater than its CMC, due to contributions relative to the properties or characteristics of the standard or calibrated measuring instrument.