

Accreditation No.	193
Accreditation Date	05/10/2002
CURRENT ACCREDITATION	Click here for more information.
Last Scope Review	7/9/2021
Corporate Name	PRESYS INSTRUMENTOS E SISTEMAS LTDA.
Laboratory Name	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	Measurement and Calibration Capability (CMC)
<i>(Performed at permanent facilities)</i>		
TEMPERATURE MEASUREMENT 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 Thermosistive 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
Temperature Calibrator with Block	Comparison Method with Reference Thermometer and Euramet cg.13	
	Parameter: Stability	
	- 80 °C to 400 °C	0.20°C
	> 400 °C up to 660 °C	0.60°C
	> 660 °C up to 1100 °C	1.5°C
	Parameter: Uniformity	
	- 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: 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	
Thermoresistance 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 up to 1100°C	0.30°C
	961.78°C	0.10°C
		Comparison method with resistance thermometer / reference thermocouple.
	Method of comparison with reference thermometer.	
	Comparison method with thermometric fixed points.	
Temperature Meter with Thermosistive 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.
	Method of comparison with reference thermometer.	
	Comparison method with thermometric fixed points.	

Base Metal 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. Method of comparison with reference thermometer.	
Noble Metal Thermocouple	- 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 up to 1100 °C	0.30°C
Comparison method with resistance thermometer / reference thermocouple. Method of comparison with reference thermometer. Comparison method with thermometric fixed points.		

thermoreistance	- 55°C to -40°C	0.20°C
	> -40 °C to < -38.829 °C	0.011°C
	-38.8290°C	0.0019°C
	> -38.829 °C to < 0 °C	0.011°C
	0°C	0.015°C
	0.0100°C	0.0010°C
	> 0.010 °C to < 29.7646 °C	0.010°C
	29.7646°C	0.0013°C
	> 29.7646 °C up to 90 °C	0.010°C
	> 90 °C up to 156 °C	0.015°C
	> 156 °C to < 231.928 °C	0.016°C
	231.9280°C	0.0038°C
	> 231.928 °C to < 419.527 °C	0.019°C
	419.5270°C	0.0051°C
	> 419.527 °C to < 660.323 °C	0.027°C
	660.323°C	0.015°C
	Comparison method with reference thermoresistance	
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.