



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Turnkey Instrument Solutions, Inc.
1132 Southeastern Ave.
Indianapolis, IN 46202

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 18 September 2022

Certificate Number: AC-2616



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Turnkey Instrument Solutions, Inc.

1132 Southeastern Ave.
Indianapolis, IN 46202
Pat Roche 317-946-6354

CALIBRATION

Valid to: **September 18, 2022**

Certificate Number: **AC-2616**

Chemical Quantities

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
pH Meters ¹	4 pH 7 pH 10 pH	0.03 pH	Standard pH Solutions
Conductivity Meters ¹	10 mS/cm 100 mS/cm 200 mS/cm	0.20 mS/cm 0.49 mS/cm 0.82 mS/cm	Standard Conductivity Solutions
Oxygen Meters ^{1,2}	1 % O ₂ 8 % O ₂ 21 % O ₂	0.07 % O ₂ + 0.6R 0.11 % O ₂ + 0.6R 0.13 % O ₂ + 0.6R	Standard Gas Mixture

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Current – Measure ¹	(0 to 30) mA	0.07 % of reading + 0.002 mA	Process Calibrator
DC Current –Source ¹	(0 to 24) mA	0.018 mA	Process Calibrator
RTD Simulation ¹	PT100 Ω 385 (-200 °C to 400) °C (400 °C to 800) °C	0.56°C 0.84°C	Process Calibrator
Thermocouple Simulation ¹ Source	Type J (-210 °C to 1 200) °C Type K (-210 °C to 1 372) °C	0.68 °C 1 °C	Process Calibrator



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Thermocouple Measurement ¹ Measure	Type J (-210 °C to 1 200) °C	0.95 °C	Process Calibrator
	Type K (-210 °C to 1 372) °C	1.1 °C	

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Absolute Pressure ¹	(0.5 to 100) psia	0.1 psi	700PA6 Pressure Module
Gauge Pressure ¹ Pneumatic	(0 to 30) psi	0.03 psi	Fluke 7xx Series Pressure Modules
	(-15 to 30) psi	0.03 psi	
	(0 to 100) psi	0.08 psi	
	(-15 to 100) psi	0.08 psi	
	(0 to 300) psi	0.42 psi	
Gauge Pressure ¹ Hydraulic	(0 to 500) psi	0.45 psi	Fluke 7xx Series Pressure Modules
	(0 to 1 000) psi	1.1 psi	
	(0 to 3 000) psi	3.9 psi	
	(0 to 5 000) psi	6.5 psi	
Differential Pressure ¹	(0 to 10 000) psi	6 psi	Fluke 7xx Series Pressure Modules
	(-1 to 1) inH ₂ O	0.008 inH ₂ O	
	(-10 to 10) inH ₂ O	0.054 inH ₂ O	
	(-1 to 1) psi	0.004 psi	
Scales ¹	(-15 to 15) psi	0.015 psi	ASTM Class F7 weights
	Up to 15 lbs.	0.002 7 lbs.	
Liquid Mass Flow ¹	(1.24 to 31) lbs/min	0.35 % of reading	8 mm Reference Meter Portable Flow Rig
	(13.3 to 333) lbs/min	0.28 % of reading	25 mm Reference Meter Portable Flow Rig
	(34 to 850) lbs/min	0.32 % of reading	50 mm Reference Meter Portable Flow Rig
	(110 to 2 570) lbs/min	0.32 % of reading	50 mm Reference Meter Inline

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Liquid Volume Flow ¹	(0.16 to 4) GPM	0.35 % of reading	8 mm Reference Meter Portable Flow Rig
	(1.6 to 40) GPM	0.28 % of reading	25 mm Reference Meter Portable Flow Rig
	(4.1 to 102) GPM	0.32 % of reading	50 mm Reference Meter Portable Flow Rig
	(12.4 to 310) GPM	0.32 % of reading	50 mm Reference Meter Inline
Totalize Mass Flow ¹	(0.6 to 15) lbs.	0.004 1 lbs.	Scale

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Liquid in Glass Thermometers (Partial immersion) ^{1,2}	(-5 to 200) °C	0.27 °C + 0.6R	Oil Baths, Dry Block, RTD Thermometer, 753/754 Process Calibrator
Digital & Mechanical Thermometers ^{1,2}	(-5 to 200) °C Ambient to 400 °C	0.27 °C + 0.6R 1.3 °C + 0.6R	
RTD/TC Thermometers & Transmitters ¹	(-5 to 200) °C Ambient to 400 °C	0.5 °C 1.4 °C	

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ($k=2$), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. R = resolution of unit under test.
3. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2616.



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