



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

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

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2017

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

AC-2616

Certificate Number



ANAB Approval

Certificate Valid Through: 09/18/2020
Version No. 002 Issued: 09/20/2019



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, 2020

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	1% O ₂ 8 % O ₂ 21% O ₂	1 % of reading 1.1 % of reading 0.32 % of reading	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	(0 to 30) psi	0.03 psi	Pressure Modules 700P05
	(-15 to 30) psi	0.03 psi	700PD5
	(0 to 100) psi	0.08 psi	700P06
	(-15 to 100) psi	0.08 psi	700PD6
	(0 to 300) psi	0.42 psi	700P27
	(0 to 500) psi	0.45 psi	700P07
	(0 to 1 000) psi	1.1 psi	700P08
	(0 to 3 000) psi	3.9 psi	700P29
	(0 to 5 000) psi	6.5 psi	700P30
	(0 to 10 000) psi	6 psi	750P31
Differential Pressure ¹	(-1 to 1) inH ₂ O	0.008 inH ₂ O	Pressure Modules 700P00
	(-10 to 10) inH ₂ O	0.054 inH ₂ O	700P01
	(-1 to 1) psi	0.004 psi	700P22/750P22
	(-15 to 15) psi	0.015 psi	700P24
Scales ¹	Up to 15 lbs.	0.004 8 lbs.	ASTM Class F7 weights
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 8 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.



Vice President

