CERTIFICATE OF CALIBRATION

PRX-300 Automated DC Proximity Probe Tester

AGATE TECHNOLOGY

Certificate No. PRX-2026-1103-01

Calibration date: Nov 03, 2026

Calibration due: Nov 03, 2027

CUSTOMER

Company	Sample Plant Services Inc.
Address	100 Example Way, Houston, TX 77002, USA
Purchase order	PO-48210
Agate order	SO-26-1187

UNIT UNDER TEST

Model	PRX-300
Serial number	PRX3-0012
Controller firmware	v4
Target	AISI 4140, S/N T4140-0012
Condition received	New
Condition returned	In tolerance, no adjustment

METHOD

The PRX-300 was run through its standard 0 to 90 mil test sequence three times, starting from the reference gap. At each test point the actual target displacement was measured on the probe axis with a reference length gauge contacting the target face. The table gives the mean of the three runs, the error from nominal, the spread of the three runs and the length of each 10 mil segment, which sets the incremental scale factor (ISF) the AT2040 reports. Measured per Agate procedure CP-PRX300 rev B.

TARGET POSITION, AS FOUND AND AS LEFT

Nominal (mil)	Measured (mil)	Error (mil)	Error (µm)	Spread, 3 runs (mil)	Segment (mil)	Segment length (mil)	Segment error	Result
0	0.000	+0.000	+0.00	0.000	Reference	-	-	**Pass**
10	10.012	+0.012	+0.30	0.012	0-10	10.012	+0.12 %	**Pass**
20	20.018	+0.018	+0.46	0.016	10-20	10.006	+0.06 %	**Pass**
30	30.009	+0.009	+0.23	0.010	20-30	9.991	-0.09 %	**Pass**
40	40.021	+0.021	+0.53	0.020	30-40	10.012	+0.12 %	**Pass**
50	50.015	+0.015	+0.38	0.014	40-50	9.994	-0.06 %	**Pass**
60	60.026	+0.026	+0.66	0.018	50-60	10.011	+0.11 %	**Pass**
70	70.019	+0.019	+0.48	0.022	60-70	9.993	-0.07 %	**Pass**
80	80.031	+0.031	+0.79	0.016	70-80	10.012	+0.12 %	**Pass**
90	90.024	+0.024	+0.61	0.020	80-90	9.993	-0.07 %	**Pass**

Tolerances: position ±0.20 mil (±5.1 µm) at each point; segment length ±1.0 % of 10 mil; run-to-run spread 0.10 mil max. Expanded uncertainty (k = 2, about 95 %): position ±0.04 mil (±1.0 µm), segment length ±0.4 %. As found and as left data are the same; no adjustment was made.

PASS All measured values are within tolerance.

Decision rule: simple acceptance (ILAC-G8, w = 0). Test uncertainty ratio 5 : 1 on position.

EXAMPLE

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ADDITIONAL CHECKS

Check	Method	Tolerance	Measured	Result
Return to home	10 cycles, home re-measured each time	0.0127 mm max	0.0004 mm max	**Pass**
Target diameter	Digital micrometer, 3 places	0.990 ±0.002 in	0.9903 in	**Pass**
Target face flatness	Length gauge sweep across the face	0.0005 in max	0.0002 in	**Pass**
Target face to probe axis	Length gauge sweep, 8 mm pin in the holder	±0.50°	0.12°	**Pass**
Target material	Mill certificate review	AISI 4140	4140, heat 48213	**Pass**
Probe holder range	5 mm and 19 mm gauge pins	Clamps both	Clamps both	**Pass**
Homing	Homes before every test	Homes	Homes	**Pass**
Travel protection	Commanded past the end of travel	Motion stops	Motion stops	**Pass**
Screw slip check	Reported by the AT2040 each run	0.5 mil max	0.016 mil max	**Pass**
AT2040 link and power	AT2040 S/N 2040-0412, 12 V USB-C PD	Operates	Operates	**Pass**

REFERENCE STANDARDS

Standard	Model	Serial number	Certificate	Calibration due
Length gauge, 0.1 µm resolution	Mitutoyo LGK-0510	LG-20731	AGT-STD-2026-031	Aug 12, 2027
Gauge block set, grade 0	Mitutoyo 516-940-26	GB-11406	AGT-STD-2026-019	May 06, 2027
Digital micrometer, 0-1 in	Mitutoyo 293-340-30	MC-55821	AGT-STD-2026-024	Jun 18, 2027
Thermo-hygrometer	Fluke 971	TH-40387	AGT-STD-2026-027	Jul 22, 2027

ENVIRONMENT

Temperature	Relative humidity	Soak time before measurement	Calibration interval
20.4 °C (68.7 °F)	41 %	4 hours	12 months

STATEMENTS

The reference standards are traceable to the SI through the National Institute of Standards and Technology (NIST). The expanded uncertainties are stated at a coverage factor k = 2, for a level of confidence of about 95 %, following the GUM.

This certificate covers the mechanical positioning of the PRX-300 and its target. The DC voltage measurement is made by the AT2040, which is calibrated separately (AT2040 S/N 2040-0412, Agate certificate 2040-0412-2026, due Sep 14, 2027). This calibration is not within Agate Technology's ISO/IEC 17025 scope of accreditation.

The results relate only to the item calibrated. This certificate may not be reproduced except in full without written approval from Agate Technology.

M. Cornwell

Calibrated by: M. Cornwell, Calibration Technician

Nov 03, 2026

Date of issue

Nov 03, 2027

Calibration due

EXAMPLE