THORCAL CALIBRATION SERVICES

Additel
Metrology Made Simple

Additel 710
Automated Gauge Reader

- **Fully automated calibration when paired with Additel pressure controllers and ACal software—reduces labor and eliminates manual steps**
- **Accurate gauge readings regardless of lighting conditions—delivers consistent results**
- **Automatic camera positioning and focus—ensures fast setup and reliable, repeatable measurements**
- **Advanced AMetis recognition engine—provides high reading accuracy with continuous algorithm improvements**
- Barcode and QR code recognition—speeds up workflow and reduces data entry errors
- Built-in tapper—improves measurement stability and consistency

OVERVIEW

The Additel 710 is an automated dial and digital gauge calibration system designed for standard single-pointer, single-scale pressure gauges. It seamlessly combines a precision pressure connection platform with advanced image processing and machine learning technology.

When paired with Additel pressure controllers and ACal calibration software, the ADT710 delivers fully automated, hands-free calibration—eliminating manual readings and reducing human error. The result is significantly improved efficiency, consistency, and throughput.

Ideal for metrology labs, calibration service providers, and industrial instrument workshops, the ADT710 excels in high-volume, repetitive, and periodic calibration applications—helping you meet demanding schedules with reliable, repeatable results.

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Main Features

AI-Powered Visual Calibration

Advanced image processing and machine learning enable real-time recognition of gauge readings directly from the camera stream—eliminating manual interpretation.

An intelligent motorized system automatically centers the instrument and adjusts camera distance and zoom to ensure optimal focus and consistent measurement accuracy across different gauge sizes.

When integrated with Additel pressure controllers and ACal software, the ADT710 delivers fully automated, unattended calibration for both analog and digital pressure gauges—maximizing efficiency and throughput.

A convenient quick-start control allows operators to initiate or stop calibrations instantly, while the software provides full access to image data and system controls, including automated tapping functions.

The built-in barcode and QR code scanner captures instrument data instantly and sends it directly to the calibration software—streamlining identification, reducing input errors, and displaying results in real time.

Automatic Gauge Positioning

The system automatically raises and lowers the platform to locate and center the instrument, while the camera adjusts distance and focus—ensuring fast setup and consistent, accurate measurements.

Automated Barcode & QR Recognition

An integrated camera and scanner quickly read a wide range of barcode and QR code formats, enabling fast and reliable instrument identification.

Once scanned, the system automatically retrieves detailed instrument data through ACal software—including model, manufacturer, range, accuracy, and scale information—and displays it in real time. This streamlines setup, reduces manual entry, and minimizes errors.

Operating Considerations

While the Additel 710 Automated Gauge Reader has been trained on thousands of dial and digital pressure gauges, certain conditions can prevent correct readings from being displayed. Always confirm outlier readings on ACal by checking the gauge display screenshot of the setpoint once the calibration is complete. The following table details some of the conditions that may impair the reading ability of the ADT710.

Gauge Condition	Reading Ability
Extreme glare from tape or gauge cover	Commonly affected
Shadow on top of gauge display (digital)	Commonly affected
Gauge numbers do not line up with scale	Rarely affected
Multiple pointers in dial gauges	Cannot be read
Three or more pressure units	Info cannot be auto-recognized requires manual input into ACal
High accuracy (narrow) pointer in dial gauge	Cannot be read
Dial gauges with mismatched units for positive and negative ranges	Cannot be read
No accuracy shown on gauge display	Info cannot be auto-recognized requires manual input into ACal

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Radial & Axial Gauge Support

Calibrate both radial (side-connected) and axial (bottom-connected) gauges with a single system—no reconfiguration required.

Adaptive fixturing and intelligent vision technology automatically recognize gauge type and orientation, ensuring proper alignment and reliable connections every time.

For small-diameter axial gauges, the “Flip-Extend Sync” mechanism enables precise positioning and accurate readings—delivering a fast, fully automated calibration workflow.

Rapid Connector Changeover

Standard with multiple threaded connectors: M20×1.5, 1/4 NPT, 1/2 NPT, 1/4BSP, 1/2 BSP

Support for non-standard threads available to accommodate various imported and specialized equipment.

Auto-locking push-to-connect design enables fast and secure connection of the coupling.

Automated Tapping System

An integrated, electronically controlled tapping mechanism ensures consistent pointer stabilization in compliance with global calibration standards.

Adjustable tapping frequency and intervals allow you to match specific verification requirements—delivering accurate, repeatable results without manual intervention.

Multi-Unit Cascade Calibration

Multiple units can be connected in parallel using cascaded stainless steel piping to create a scalable calibration system. When automated with Additel ACal, up to ten ADT710 units can be daisy-chained together.

Integrated with ACal software, the system enables unified control, synchronized operation, and centralized data management—significantly increasing throughput for laboratory and batch calibration applications.

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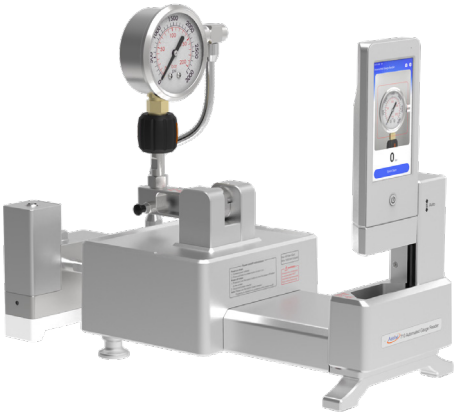
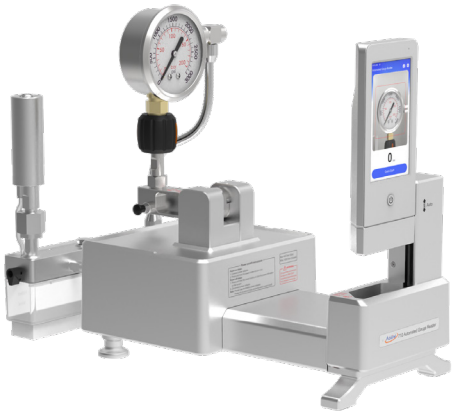
General Specifications

Specification	*Description*
Pressure Range[1]	-14.5 to 15,000 PSI (-1 to 1,035 Bar) for liquid media
Working Medium[2]	Nitrogen, compressed air, or liquid
Pressure Inlet	1/4 BSP Male Hand-tight quick connector
Pressure Connection	One hand-tight quick connector
Display Screen	5-inch TFT Touch Screen
Camera	HD Camera (50 Million Pixels), supporting auto zoom and focus
Recognition Accuracy	Better than 0.1 division
Working environment	Working temperature: (0~40) ℃ Storage temperature: (-20~70) ℃ Environment humidity: <90% RHD (no condensation)
Power supply requirements	（100~240）VAC, (50/60) Hz, 65W Max
Communication	WLAN, Ethernet
Size & Weight	7.48 × 10.82 × 15.43 in (190(W) × 275(H) × 392(D) mm), 8.5kg
Certification	CE
Warranty	1 Year

[1] For gas media, the pressure range should be -14.5 to 6,000 psi (-1 to 420 bar).
[2] Once used with liquid, never use for gas.



ADT710 with ADT108



ADT710 with ADT109

Ordering Information

Model Number

*ADT710 – N

- Model ADT710
- Pressure port type:
  - N -1/4NPT female
  - N2 - 1/2NPT female
  - B - 1/4BSP female
  - B2 - 1/2BSP female
  - M-M20X1.5 female

* ADT100-710-KIT – Cascading Connection Kit is required for multi-unit operation. One kit is required for each additional ADT710 beyond the first unit.

Accessories

Standard Accessories		
Description	**Quantity**	**Picture**
9819-X Power cord	1 pc	
O rings	1 Set	
ADT100-710-X	1 pc	

Optional Accessories		
Model	**Description**	**Picture**
ADT100-HTK-15K-BSPF4-BSPF4	Hose Test Kit, 5 feet flexible hose, 15000 psi, 1/4BSP female to 1/4BSP female	
ADT100-710-X	Hand tight quick connector for ADT710	
ADT100-710-KIT	Cascading Connection Kit to connect mulitple ADT710 gauge readers (Input connector: 1/4BSP M; Out put connectors: 1/4BSP F）	
ADT108-KIT	Contamination Prevention System for pneumatic controllers 3600 psi (250 bar) and lower	
ADT109-KIT	Contamination Prevention System (only for ADT793 hydraulic controller)	
ADT100-BSPF4-FNG	Adapter, 1/4BSP female to M10 male finger tight connection (for the connection between ADT761A and ADT710)	

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