



Automated Gauge Reader

Additel 710 Automated Gauge Reader

-----Quick Start Guide

[Version: 2604V01]

Additel Corporation

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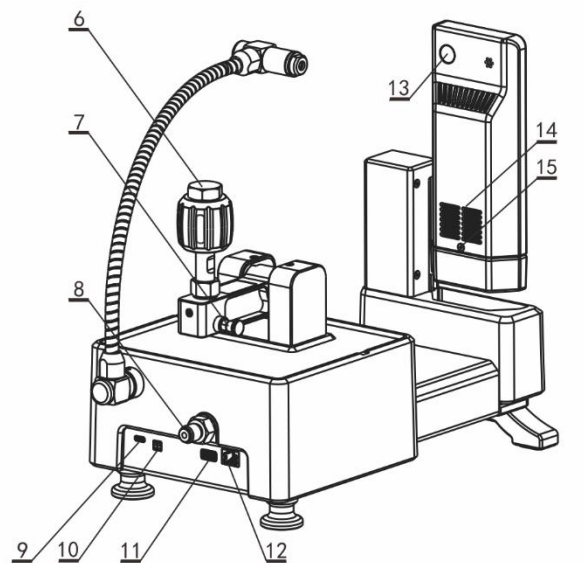
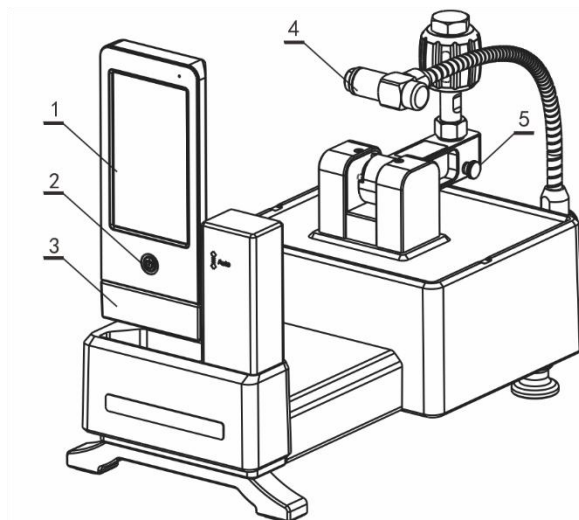
STATEMENT

This user manual provides operating and safety instructions for the Additel 710 Automated Gauge Reader. To ensure correct operation and safety, please follow the instructions in this manual. Additel Corporation reserves the right to change the contents and other information contained in this manual without notice.

Note:

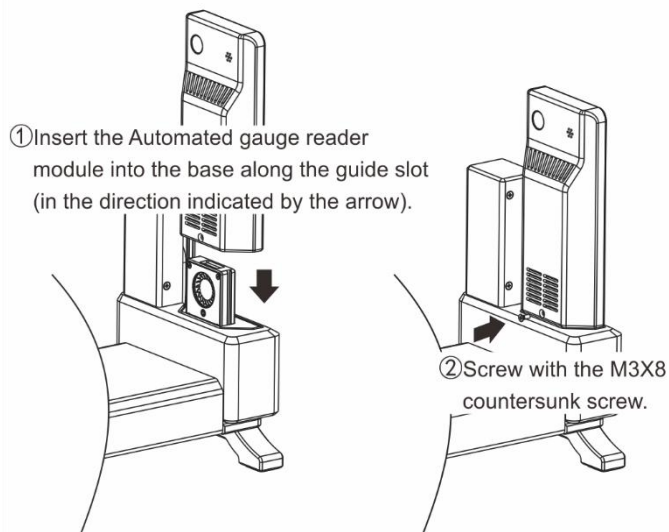
- ◆ Do not place your hands or objects under the lifting mechanism after it has been raised.
- ◆ When moving this device, lower the lifting mechanism to its lowest position.
- ◆ Use only the designated power adapter for power supply.
- ◆ Do not apply pressure beyond the rated range to this device.
- ◆ Do not uninstall the application software in the automated gauge reader yourself, It may affect the normal operation.
- ◆ Do not insert or remove the automated gauge reader module while the device is in operation.

1. Basic Structure

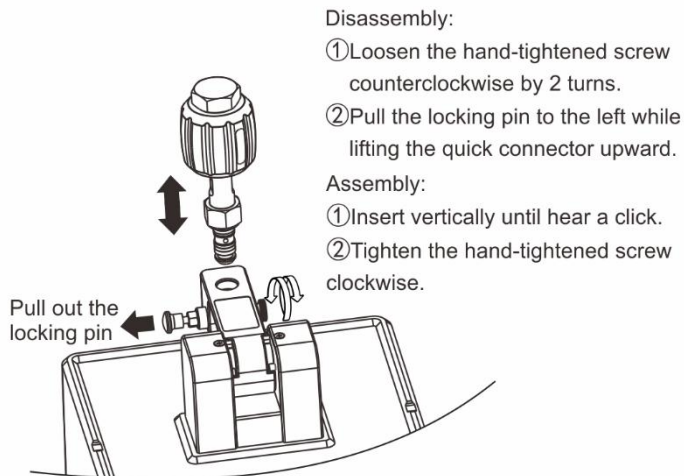


No	Name	Description
1	Display touch screen	Automated Gauge Reader main display touch screen.
2	Power button	Power button of intelligent identification module
3	Lifting device	The camera automatically adjusts its height to align with the center of the DUT.
4	Light tapping hammer	Strike the tested gauge, adjust the metal hose to bring the hammer head close to the back or side of the gauge, with a distance ≤ 7 mm.
5	Knurled thumb screw	A safety latch providing dual protection.
6	Quick connector	The pressure connection port of the DUT and order the quick connector type (M20X1.5, 1/4NPT, 1/2NPT, 1/4BSP, 1/2BSP) according to requirements.
7	Lock pin	Quick connector assembly automatic locking pin.
8	Pressure inlet port	1/4 BSP M standard thread
9	DC5V PD	Power supply interface. Please use the Additel power adapter and cable.
10	Vent valve control port	Connect with Additel 108 or 109 contamination Prevention System
11	USB-A port	For software upgrades via USB driver or another USB device
12	LAN port	Ethernet interface
13	Camera	Image and QR code recognition camera
14	Electric fan	For the active cooling for Intelligent recognition module.
15	Locking screw	M3×8 countersunk head screw, used for locking intelligent identification module.

2. Disassembly and Assembly of the Automated gauge reader module and quick connector



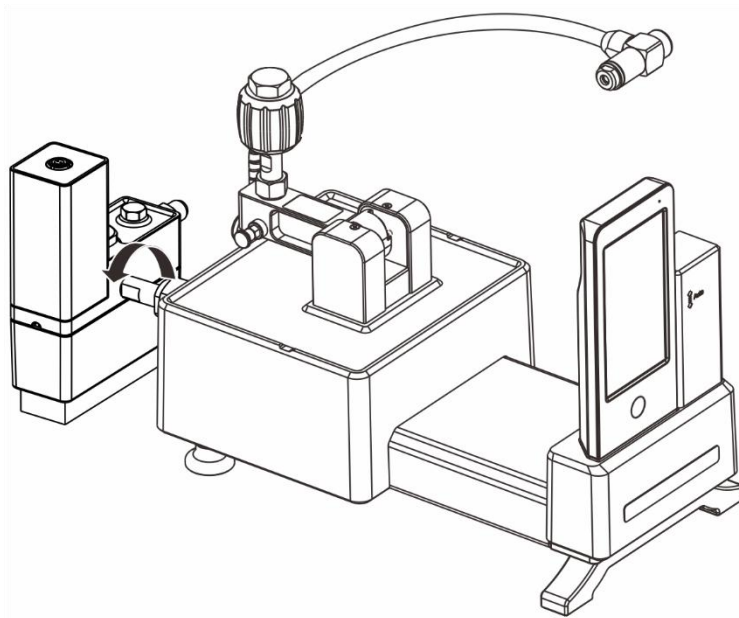
Installation of Automated gauge reader module



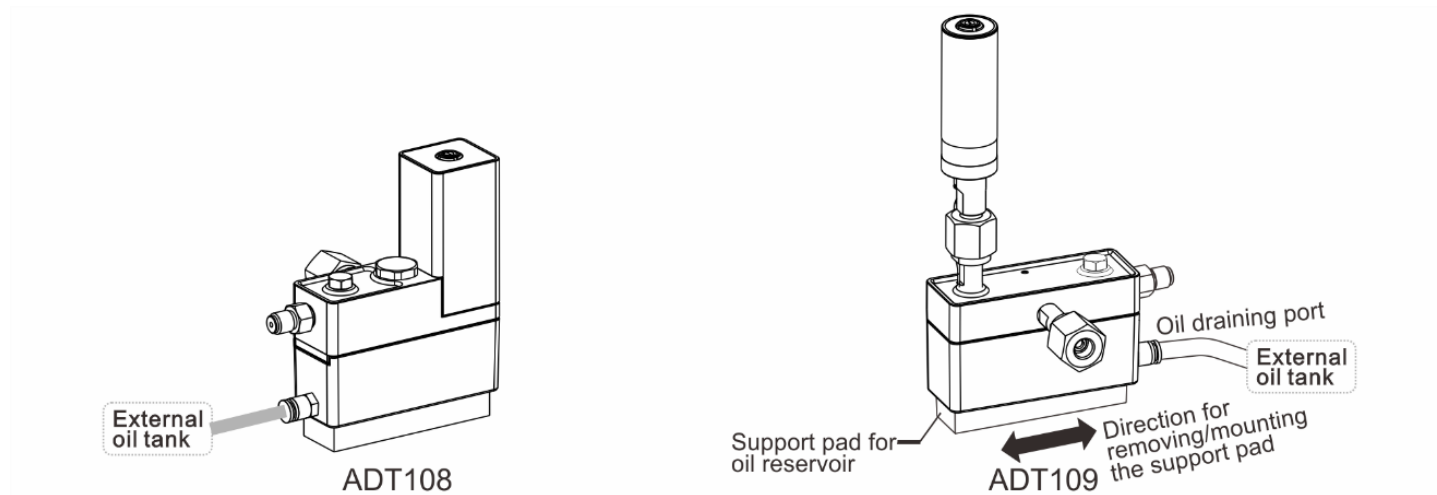
Disassembly and assembly of the quick connector

3. Disassemble and assemble of Additel 108 and Additel 109

3.1. Connect the Additel 108/109 quick connector and the Additel 710 pressure port by inserting them together and then tighten them with wrench.

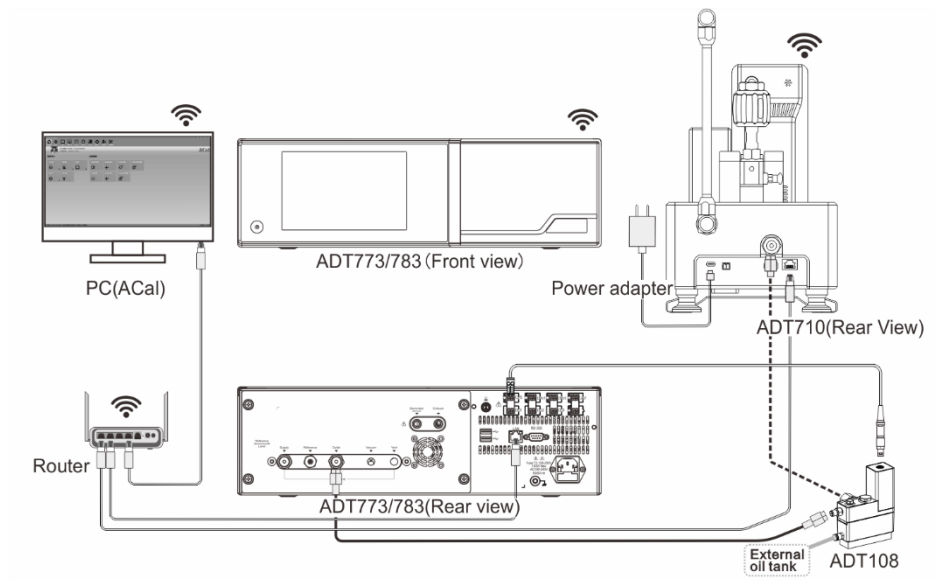


3.2. ADT108/109 connect with an external oil tank



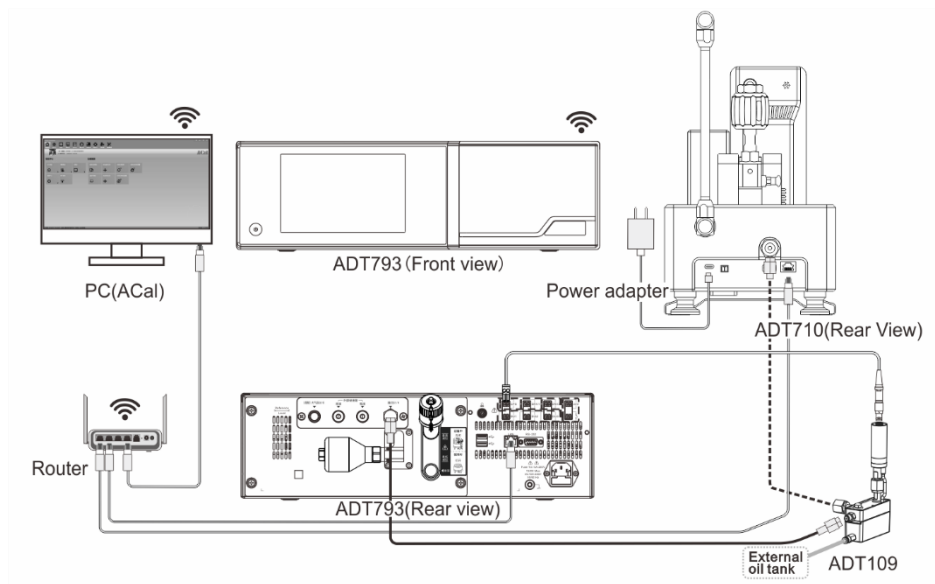
4. Typical connection

4.1 Connection with Additel 773 or Additel 783 pressure controllers



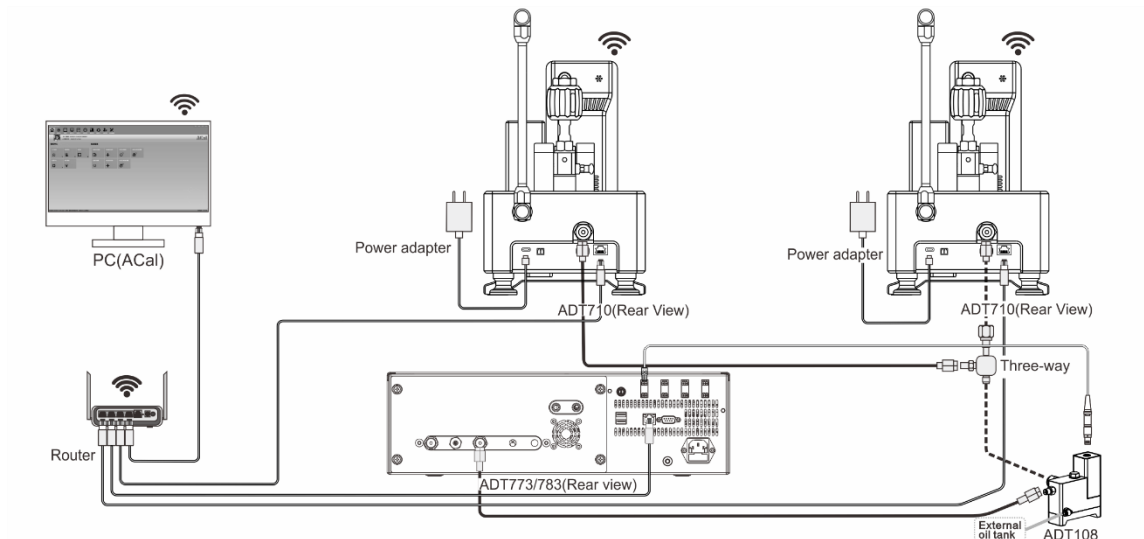
Note: Optional network connections: WLAN, Ethernet, or a hybrid combination of both.

4.2. Connection with Additel 793 pressure controller



Note: ① Optional network connections: WLAN, Ethernet, or a hybrid combination of both.

4.3. Connect two or more Additel 710 (Pneumatic)

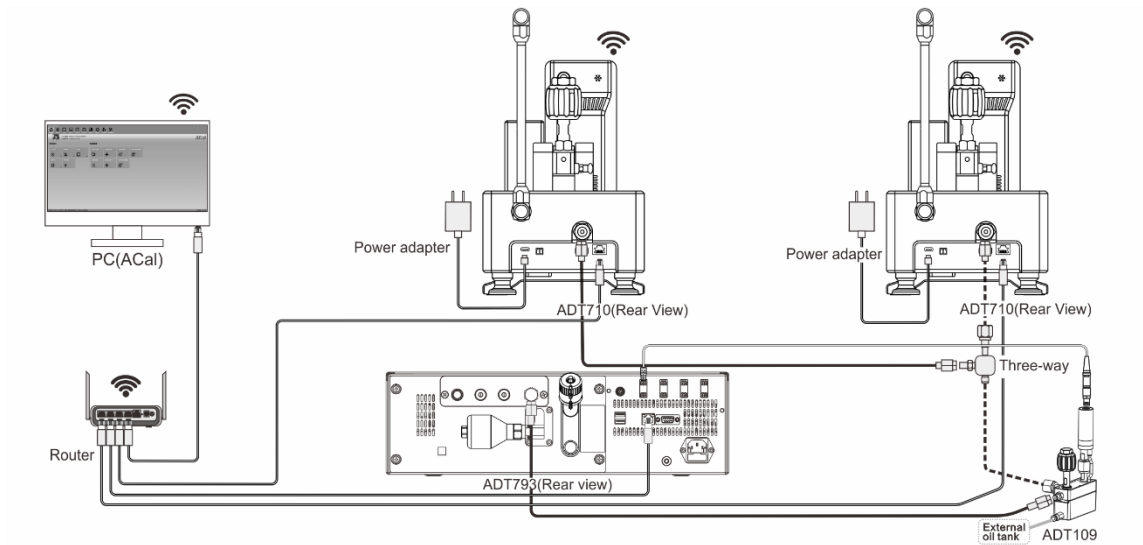


Note: ① Optional network connections: WLAN, Ethernet, or a hybrid combination of both.

② Only need one pressure controller and one ADT 108. By connecting two or more Additel 710 through a three-way extension pressure port, batch calibration can be achieved.

③ This Connection kit which is a tubing kit to connect multiple ADT710 gauge readers is optional.

4.4. Connect two or more Additel 710 (Hydraulic)



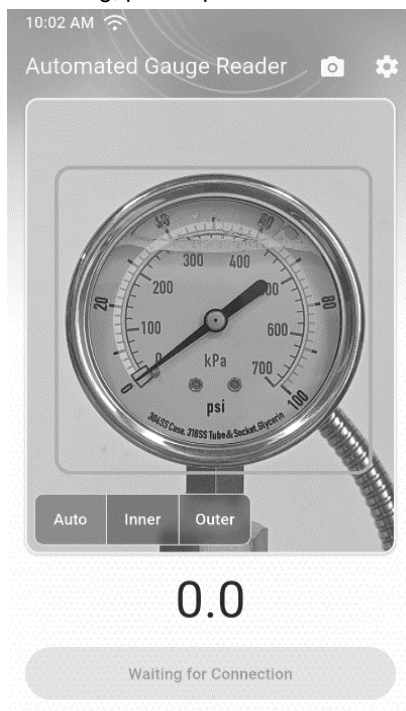
Note: ① Optional network connections: WLAN, Ethernet, or a hybrid combination of both.

② Only need one pressure controller and one Additel 109. By connecting two or more Additel 710 through a three-way extension pressure port, batch calibration can be achieved.

③ This Connection kit, which is a tubing kit to connect multiple ADT710 gauge readers together is optional.

5. Display main interface

Plug in the power adapter. If the display shows nothing, please press and hold the power button to enter main interface.



5.1 Status Bar

System Time: Displays the current system time. The system time can be modified in "Settings > Date and Time."

Automated Gauge Reader Module Status:  Flashing red indicates a device malfunction. Troubleshoot the issue before using the device.

5.2 Task Start/End Button

System Time: Displays the current system time. The system time can be modified in "Settings > Date and Time."

No	Task Name	Button Color	Description
1	Waiting for Connection	Gary	When not connected to ACal, the button is disabled.
2	Quick Start	Blue	The button means connected to ACal and can be clicked to start calibration.
3	Starting	Gary	State means after clicking "Quick Start."
4	Stop	Red	The button means in the calibration process. Clicking it stops calibration.
5	Stopping	Gary	state after clicking "Stop."

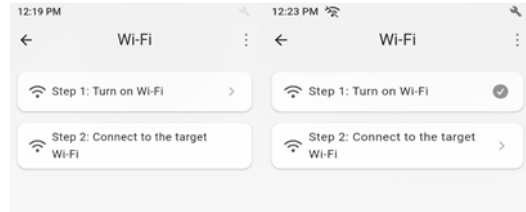
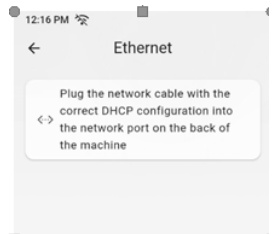
5.3 Settings

Click  to enter the settings menu. Personalize settings, configure network, upgrade firmware, and view system information as needed.

5.4 Snapshot

Click  on the upper right corner of the display to have a snapshot. It can view, delete, and export screenshots in Settings > Screenshot Management.

5.5 Network Connection

Type	Settings	
Network Requirements	WLAN: Click "Wi-Fi" and follow the prompts to turn on Wi-Fi and connect to the target Wi-Fi.	
	Ethernet: DHCP support required, i.e., automatic IP address assignment; manual IP address configuration is not supported.	
Network Settings	In the Settings menu, tap WLAN or Ethernet (select the network type as needed, ensuring stable and reliable network connectivity; for self-organized wireless networks, mainstream gigabit routers are generally sufficient).	1) Enter the WLAN settings: If the WiFi is off, the left figure is displayed; if the WiFi is on but no WiFi network is connected, the right figure is displayed. Follow below to connect to the network. 
		2) Enter the Ethernet settings: Follow to connect to the network. 

		3) Enter the Hotspot settings: Click "Settings > Hotspot" to set the hotspot name and password, enabling networking and communication between this device and other devices.
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6. ACal Software Model Selection

The ACal Pressure Calibration System software is a professionally designed calibration and verification platform sold globally. It supports the calibration and verification of over 10 types of pressure instruments. The software can operate in a networked environment, enabling multi-user collaborative work. Its calibration procedures, data calculation processes, and issued certificates all comply with national verification regulations. Featuring a simple and user-friendly interface with a consistent operation style, the software also supports touch operation, ensuring low learning curve and allowing calibration personnel to quickly start their metrology tasks.

The Additel 710 Automated Gauge Reader cannot be used alone and requires purchasing ACal software to use together. The software selection table is as follows:

Type	Model	Specification
Basic Software [1]	ACal Network	ACal software -Network version
	ACal Professional	ACal software- Professional version

Note:

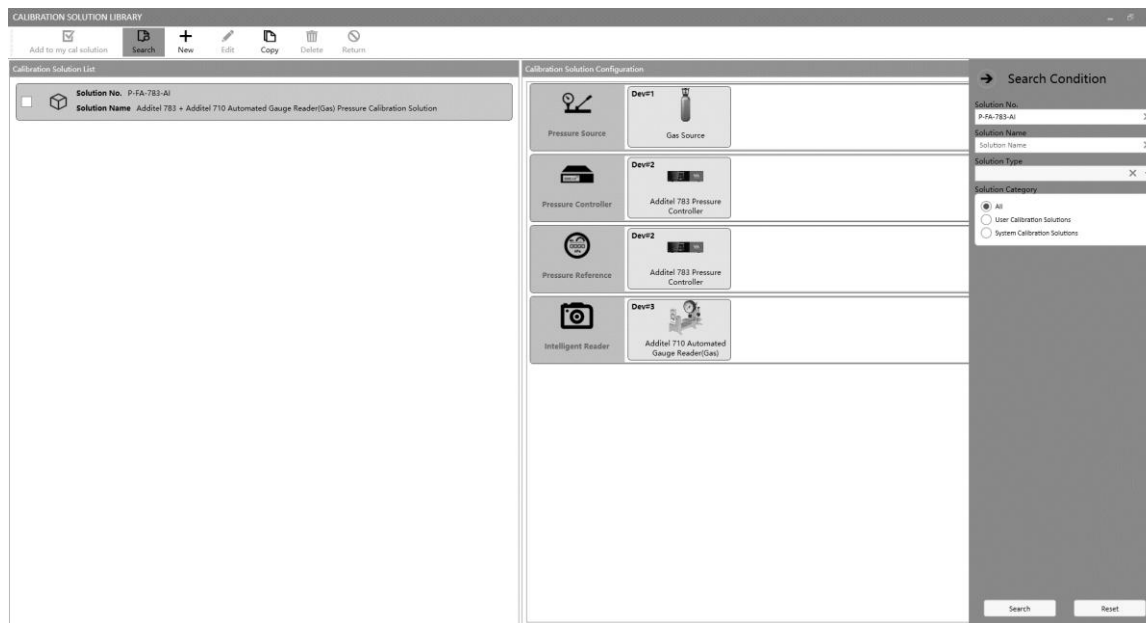
[1] Only need to choose one of the two software options: ACal Network or ACal Professional.

7.Acal typical calibration solution

A typical calibration solution example using the built-in P-FA-783-AI calibration solution.

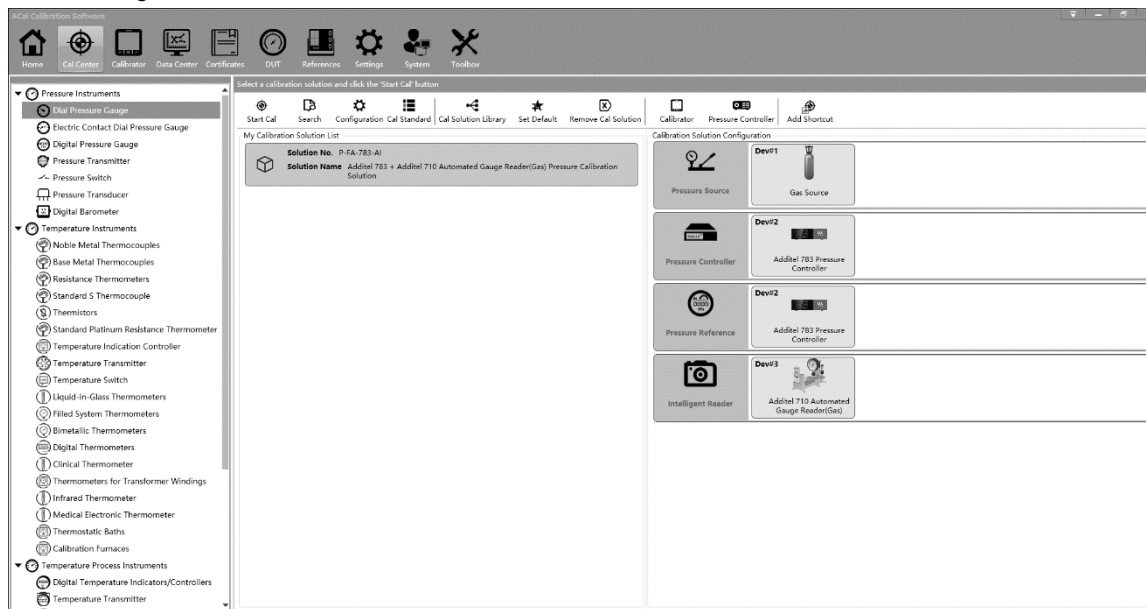
7.1

Search the P-FA-783-AI in the calibration solution library., click it and add it into your solution library.



7.2 Calibration solution configuration

In the Calibration Center, select a calibration plan and click "Configuration" to open the calibration solution configuration interface. Configure the items in the configuration as needed.



CALIBRATION SOLUTION CONFIGURATION									
 Auto Scan Save Cancel Calibration Solution Description Solution No. P-FS-783-AI Solution Name Additel 783 + Additel 710 Automated Gauge Reader(Gas) Pressure Calibration Solution	Solution Device List <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;"> Dev#1 Gas Source </td> <td style="padding: 5px; text-align: center;"> Dev#2 Additel 783 Pressure Controller </td> <td style="padding: 5px; text-align: center;"> Dev#3 Additel 710 Automated Gauge Reader(Gas) </td> </tr> </table>	Dev#1 Gas Source	Dev#2 Additel 783 Pressure Controller	Dev#3 Additel 710 Automated Gauge Reader(Gas)					
Dev#1 Gas Source	Dev#2 Additel 783 Pressure Controller	Dev#3 Additel 710 Automated Gauge Reader(Gas)							
Communication Configuration Device Name 2FAAdditel 783 Pressure Controller Communication Mode Network I/P Address : 8000 Device Name 3AAAdditel 710 Automated Gauge Reader(Gas) Communication Mode Custom 	Calibration Solution Configuration <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;"> Pressure Source </td> <td style="padding: 5px; text-align: center;"> Dev#1 Gas Source </td> </tr> <tr> <td style="padding: 5px; text-align: center;"> Pressure Controller </td> <td style="padding: 5px; text-align: center;"> Dev#2 Additel 783 Pressure Controller </td> </tr> <tr> <td style="padding: 5px; text-align: center;"> Pressure Reference </td> <td style="padding: 5px; text-align: center;"> Dev#2 Additel 783 Pressure Controller </td> </tr> <tr> <td style="padding: 5px; text-align: center;"> Intelligent Reader </td> <td style="padding: 5px; text-align: center;"> Dev#3 Additel 710 Automated Gauge Reader(Gas) </td> </tr> </table>	 Pressure Source	Dev#1 Gas Source	 Pressure Controller	Dev#2 Additel 783 Pressure Controller	 Pressure Reference	Dev#2 Additel 783 Pressure Controller	 Intelligent Reader	Dev#3 Additel 710 Automated Gauge Reader(Gas)
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 Pressure Controller	Dev#2 Additel 783 Pressure Controller								
 Pressure Reference	Dev#2 Additel 783 Pressure Controller								
 Intelligent Reader	Dev#3 Additel 710 Automated Gauge Reader(Gas)								
Cal Mode Config ☐ Traditional Mode: Highly flexible, allows free addition or removal of DUT. ☒ Starton Mode: Fixed quantity, streamlined process for efficient one-stop test and record management. Supported: Dial Pressure Gauge Digital Pressure Gauge									
Reference Profile ☒ Automated Detection ☐ Including internal module information ☐ User Profile Enter									
Pressure Control Slew Rate Config ☒ Default ☐ Custom									
Collection Settings ☐ Enable Soft filter									
Medium									

7.3 Start calibration

Select the calibration solution and click the [Start Test] button to start the calibration process. Once the calibration panel opens, the following buttons can be used to complete various operations:

- **Information Input:** Manually enter the DUT information in the panel, or directly select the DUT from the device library;
- **Config:** Click to configure the workstation and verification parameters;
- **Set Points:** Used to configure the set points during the calibration execution process;
- **Start Test:** Click to formally enter the test phase; the test can be paused or stopped at any time during the process;
- **Test Complete:** The scheme adopts fully automated execution; simply wait for the test to be completed automatically. After completion, click the [Data Center] button to review the calibration data.

DIAL PRESSURE GAUGE CALIBRATION SYSTEM
2016/5/13 Admini Approv AsFound AsLeft 20 50 %RH

Start Test
Auto Recognition
Set Points
Config
Query
Save
Data Center
Close

SelfPoint
Reference
No startup



0.00 MPa

Station1-?

ACal No. :

Customer :

DUT Name : Dial Pressure Gauge

S/N : 23080533

Mfr. :

Model : 0~1.6MPa

Range : 0 ~ 1.6 MPa

% of Span : 1.6 %FS

Resolution : 0.05 MPa ☒ Shot pin

Set Point	Reference		Not Tapped		Tapped		Tolerance	Indication Error	Δ tapping		TAR
	ASC.	DESC.	ASC.	DESC.	ASC.	DESC.			ASC.	DESC.	
0.0											
0.4											
0.8											
1.2											
1.6											
							Tolerance		Max Error		
Indication							/		/		
Δ tapping							/		/		
Hysteresis							/		/		



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