Additel 773
Pressure Controller/Generator

- **Pressure ranges from -380 inH2O (-0.95 bar) to 400 inH2O (1 bar)**
- **Two removable internal pressure modules with multi-range selection**
- **0.02%FS accuracy**
- **Control stability of 0.003%FS**
- **Ultra-High speed pressure generation and control**
- **Optional barometric pressure module**
- Built-in differential pressure pump
- Large 7" color touch screen display
- Modular design for easy maintenance, greatly reducing on-site downtime
- Emulation mode

OVERVIEW

These modular pressure controllers combine speed, cutting-edge control/measurement technology, modular design, and user-friendly features. The Additel 773 controller is optimized for low pressure work by utilizing Additel's proven low-pressure pump technology in combination with control capabilities that revolutionized the industry as seen in the well-known handheld model ADT760. For users who require automated production, test, and calibration, Additel has the workload covered with these pressure controllers. The ADT773 can be quickly outfitted with two controlling modules and one reference barometric module to cover a wide pressure range.

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Quick Change Pressure Modules (30 seconds)

Additel's 151 pressure control modules can be installed or replaced within 30 seconds or less. The upper edge of the cabin is simple to open. As the door opens, the controller will automatically release pressure, providing the safe removal and installation of the ADT151 modules. Additel offers various different pressure ranges for the ADT773 controller by utilizing these easy to swap pressure modules. Select from the module ranges listed on page 3.

20% Pressure Step within 10 seconds

In the process of efficient and fast-paced end-of-line testing, verification and calibration, companies have strict requirements on the speed of pressure controllers. ADT773 adopts professional pressure control technology to effectively improve control speed and control stability. Air pressure controller: control response time (typical) ≤10S, control stability ＜ 0.003%FS, see specifications for more details.

Built-in pump

The Additel 773 comes with an integrated internal low-pressure pump which provides users with a turnkey solution for pressure calibration work. Additel pump designs are well known and dependable. Not only are the fast, but they also offer the best control and stability in their class. In fact, the automated pumps in other Additel models have revolutionized the industry.

External Drive Valve Control

The ADT773 Controller provides valve control for up to 3 external valves. One of the channels is designated for controlling contamination prevention system (CPS), which helps to prevent media contamination. The remaining two channels can be used to control external vacuum pumps or external isolation valves for greater flexibility and compatibility for individual situations.

Contamination Prevention System (CPS) Extends the Maintenance Interval of the Controller

Calibration of DUT's (devices under test) often introduces contaminates to a calibration system. Contaminates can cause restrictions in valves, lines and filters. Additel has included a turn-key solution with the ADT773 to help reduce these concerns and improve durability and dependability when calibrating customers devices. The use of an automatic contamination prevention system and integration firmware to allow for purges between pressure cycles to further reduce the possibility of introducing contaminates into the system.

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Pressure Specifications

Model / Specification	ADT773
Max Pressure Range[1]	400 inH2O (14.5 psi, 1 bar)
Min Pressure Range	-380 inH2O (-13.5 psi, -0.95 bar)
Precison[2]	0.015%FS (DP2-DP5) 0.025%FS (DP10-DP1K)
Accuracy[3]	0.05%FS (DP2-DP5) 0.02%FS (DP10-DP1K)
Control Stability[4]	＜ 0.003%FS
Control Response Time[5]	＜ 10 Seconds
Pressure Type	Low Differential Pressure
Internchangeable Pressure Module Bays	2
Max Pressure Control Range of Internal Module	(-400~400) inH2O / (-1~1) bar
Min Pressure Control Range of Internal Module	(-1~1) inH2O / (-2.5~2.5) mbar
Range Switching Mode	Fixed or Auto
Supply Source	Built-in air pump
Control Mode	Fast, standard or custom
Maximum Overshoot	＜ 1%FS
Maximum Load Volume	500 mL
Contamination Prevention System (CPS)	Optional
Pressure Port	6 mm Festo
Port Filter[6]	Support

[1] The minimum negative pressure limit is given based on the atmospheric pressure value of 1 bar.
[2] Precision: the error components includes linearity, hysteresis, repeatability, resolution, and temperature compensation.
[3] Accuracy: the error components includ linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, annual drift, temperature compensation, K=2.
[4] The control stability is 0.003%FS or 0.05Pa, which is greater.
[5] The air pressure is tested under the condition of external load volume 50 mL, 20% step, and the time to reach 0.005% FS stability.
[6] All pressure ports are installed with 40~100μm filters.

Internal Module Specification

The following tables provide information regarding our ADT151 modular pressure sensors that are designed to easily mount in the front bays of the ADT773 Pressure controller. Our differential pressure (DP) module accuracy specifications include linearity, hysteresis, repeatability, temperature compensation resolution, reference standard measurement uncertainty, annual drift and K=2, precision specifications include linearity, hysteresis, repeatability, resolution, and temperature compensation. The DP style gauges can be zeroed by the controller from time to time to mitigate the effect of zero drift. The specifications are valid from 15°C~35°C. We recommend that these pressure models be calibration annually.

Differential Pressure Module for ADT773						
Model	Differential Pressure		Measurement Type	Pressure Medium	Precision[2] [3] (%FS)	Accuracy[4] (% FS)
	1st range[1]	2nd range				
ADT151-XX-DP400	(-400~400) inH2O (-1000~1000) mbar	(-200~200) inH2O (-500~500) mbar	DP	G	0.015	0.02
ADT151-XX-DP300	(-300~300) inH2O (-700~700) mbar	(-150~150) inH2O (-350~350) mbar	DP	G	0.015	0.02
ADT151-XX-DP200	(-200~200) inH2O (-500~500) mbar	(-100~100) inH2O (-250~250) mbar	DP	G	0.015	0.02
ADT151-XX-DP150	(-150~150) inH2O (-350~350) mbar	(-100~100) inH2O (-250~250) mbar	DP	G	0.015	0.02
ADT151-XX-DP100	(-100~100) inH2O (-250~250) mbar	(-50~50) inH2O (-125~125) mbar	DP	G	0.015	0.02
ADT151-XX-DP50	(-50~50) inH2O (-125~125) mbar	(-30~30) inH2O (-75~75) mbar	DP	G	0.015	0.02
ADT151-XX-DP30	(-30~30) inH2O (-75~75) mbar	(-20~20) inH2O (-50~50) mbar	DP	G	0.015	0.02
ADT151-XX-DP20[5]	(-20~20)inH2O (-50~50)mbar	(-10~10) inH2O (-25~25)mbar	DP	G	0.015	0.02
ADT151-XX-DP10[5]	(-10~10) inH2O (-25~25) mbar	(-5~5) inH2O (-10~10) mbar	DP	G	0.015	0.02
ADT151-XX-DP5[5]	(-5~5) inH2O (-10~10) mbar	(-2~2) inH2O (-5~5) mbar	DP	G	0.025	0.05
ADT151-XX-DP2[5]	(-2~2) inH2O (-5~5) mbar	(-1~1) inH2O (-2.5~2.5) mbar	DP	G	0.025	0.05

[1] The overload pressure of all pressure modules is 150%FS, and the burst pressure of modules: DP20 / DP 10 / DP5 / DP2: 100mbar, DP100 / DP50 / DP30:1000mbar, DP400/DP300 / DP200 / DP150: 4000 mbar.
[2] FS specification applies to the span of the range.
[3] Precision: the error components include linearity, hysteresis, repeatability, resolution, and temperature compensation.
[4] Accuracy: the error components include linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, annual drift, temperature compensation, K=2.
[5] Recommended calibration period 180 days.

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Barometric Specifications

Model[1]	Absolute Pressure Range	Accuracy
ADT151-BP	(60~110) kPa	±22 Pa
ADT151-BPH	(60~110) kPa	±10 Pa

[1] Additel 773 controller can be equipped with an barometric pressure module. After inserting the barometric pressure module, the controller can be toggled to and from gauge and absolute pressure units.

General Specifications

Specification	*Description*
Power Requirements	Power supply: AC100~240 V, 50/60 Hz
	Fuse: T3.15A 250V AC
	Maximum Power consumption: 150W
Size /Weight	Chassis Size: 17.32 × 5.23 × 14.96 in (440(W) × 133(H) × 380(D) mm)
	Rack Mount Dimensions: 3U-19" rack, Horizontal Direction
	Chassis weight: 17.6 kg
	Pressure module weight: 0.5 kg
Environment	Operating Ambient: 10℃ ~50℃
	Storage Temperature: -20℃ ~70℃
	Operating humidity: 5%RH~95%RH, non-condensing
	Altitude (Operation): <2000 m
	Ingress Protection: IP20, Indoor use only
	Vibration level: 2 G
	Impact intensity: 4 G
	Warmup Time: 15 minutes
	Machine drop height: 250 mm
Conformity	CE, UKCA
Communications	RS232, USB-A*2, LAN
	WIFI, Bluetooth, GPIB, mouse, keyboard and other peripheral components can be expanded based on the USB port.
	SCPI Command set is compatible with ADT780, PACE5000/6000, DRUCK DPI520, user customizable
External drive valve port	3-channel external drive valves, green terminal connector with lock
	Maximum driving ability 24 V / 12 W, 30 V max
	One channel fixed to the CPS pollution prevention device, the remaining 2 channels can be used to control the external vacuum pump and external isolation valve.
I/O Alarm port	3-channel, green terminal connector with a lock
	Volt-Free No/Nc relay, the maximum current-carrying capacity: 24 V / 0.5 A, 30 V max
Pressure switch test port	One channel, green terminal connector with lock
	Maximum load 24 V / 0.1 A 30 V max
	Support mechanical switch, electronic switch testing
Display	7-inch capacitive touch screen, 1280 * 800 resolution, reflective panels, black, white background can be user selectable.
	Communication update speed: 10 times per second
	Display refresh rate: 5 times per second
	Pressure value maximum displays: + 9999999, display digits is adjustable
External pressure module	Measurement only
Internal pressure control module port	Opening the cabin door will automatically release the pressure for safe removal of modules
	Inside of cabin, 3 pressure module bays, from left to right including a high pressure module bay, a low pressure module bay, and a barometric pressure module bay
Warranty	1 year
Hose & Filter End of Life	The estimated End of Life (EOL) expectancy for all hoses and filters (pneumatic and hydraulic) is approximately 10 years and should be replaced at the first sign of wear or damage.

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ORDERING INFORMATION

Model Number (Base Unit Only - No Pressure Modules)

ADT773

Note of ADT151 Pressure Modules	
ADT151 Pressure Modules for High Module Bay	
ADT151-XX-DP30 ~ DP400	At least one module within the range of DP30 to DP400 must be installed in the high side module bay.
ADT151 Pressure Modules for Low Module Bay	
ADT151-XX-DP2 ~ DP400	The low module bay can be left empty, but when a low-pressure module is installed, the range must be lower than the installed high pressure module.
ADT151 Barometer Modules for Barometer Module Bay	
ADT151-BP ADT151-BPH	See ADT151 barometric specifications table for details.

ADT151 — 02 — DP2

- 02: **Accuracy:**
  - 02 = 0.02% of full span
  - 05 = 0.05% of full span
- DP2: See internal module specification table

ADT151 — BP

- BP: Model:
  - ADT151-BP (±22 Pa)
  - ADT151-BPH (±10 Pa)

ADT151-02-DP2

ADT151-BP

Accessories (included)		
Model number	**Quantity**	**Picture**
AC power cord (10A 250V)	1 pc	
ISO17025 accredited calibration certificate	1 pc	
Green terminal plug (For switch detection)	2 pcs	
O-ring 3.5*1.5 (For ADT151)	10 pcs	
Festo plug 6 mm (For sealing)	2 pcs	
Silicone tube 120 kPa max	0.3 m 3 pcs	
Polyurethane tube 700 kPa max	1.5 m 2 pcs	
ADT100-BARB-FESTO	2 pcs	

General Optional Accessories		
Model number	**Description**	**Picture**
9050	USB to 232 cable	
9055-1	USB to Bluetooth module	
9055-2	USB to WIFI module	
9053	USB to GPIB adapter	
9050-EXT	RS232 communication line	
9245	Rack Flange Assembly	
9055	Green terminal plug	
9054	Calibration fixture for ADT151 (Including adapter base w/ 1/4BSP male fitting, RS232/ power supply cable, 9V adapter, calibration software)	

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Output pressure connections of ADT773 (Optional)			
Model number		**Description**	**Picture**
9240A		DP gauge holder with a built-in 80 ml chamber	
ADT121-X		External Manifold	
Need this 2 parts on Vent or Exhaust ports to drain the internal liquid to external container	1650700087	Quick connetcor (6 mm)	
	1650800039	Polyurethane tube (6 mm× 1.5 m)	
ADT108-KIT		Contamination Prevention System (Including ERP#:1650800039 polyurethane hose 700 kPA Max 1.5m length, and adaptor, 6mm Festo to 1/4BSP F)	

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