

TECHNICAL DATA

Fluke 729 Automatic Pressure Calibrator



KEY PRESSURE FUNCTIONS:

Pressure sourcing/control and measurement

KEY ELECTRICAL FUNCTIONS:

mA source, simulate and measure.
Measure mA with 24V loop power.
Measure Vdc and measure temperature (with optional RTD probe).

FLUKE CONNECT COMPATIBILITY:

With Fluke Connect® mobile app and desktop software compatibility, technicians can wirelessly monitor and log measured and sourced pressure values.

Portable automatic pressure calibrator simplifies pressure calibration

The Fluke 729 Automatic Pressure Calibrator has been designed specifically with process technicians in mind to simplify the pressure calibration process and provide faster, more accurate test results. Technicians know that calibrating pressure can be a time-consuming task, but the 729 makes it easier than ever with an internal electric pump that provides automatic pressure generation and regulation in an easy-to-use, rugged, portable package.

The ideal portable pressure calibrator, the 729 allows you to simply type in a target pressure, and the calibrator will automatically pump to the desired set-point. Then, internal fine adjustment control automatically stabilizes the pressure at the requested value.

The Fluke 729 can also automatically test multiple pressure test points and automatically document the results. Calibration is as easy as typing in the starting and ending pressure and the number of test points and tolerance level. The 729 does the rest.

Built-in HART communication capabilities enable HART transmitter mA adjustments, light HART configuration and the ability to adjust to applied 0 % and 100 % values.

Upload and manage documented calibration results with DPCTrack2™ Calibration Management Software, making it easy to manage your instrumentation, create scheduled tests and reports, and manage calibration data.

With three ranges to choose from, 30 psi (2 bar, 200 kPa), 150 psi (10 bar, 1 MPa) and 300 psi (20 bar, 2 MPa), Fluke 729 Automatic Pressure Calibrators are designed to perform when and where you need them.





Fluke 729 key features:

- Automatic pressure generation and regulation to 300 psi
- Easily document the process using onboard test templates
- Automatic internal fine-pressure adjustment
- Measure, source and simulate 4 to 20 mA signals
- 24V loop power for powering transmitters for tests
- Bright dual/triple-channel color graphical display
- HART communication for testing HART smart transmitters
- Built in leak testing for verifying test setups for leakage
- Rugged portable design with standard 3-year warranty
- Fluke Connect® App compatibility
- Measure temperature with optional 720RTD probe
- Measure Vdc for testing 1 V dc to 5 V dc output transmitters
- Compatible with 700 Series and 750 Series pressure modules
- Upload documented test results to DPCTrack2™ Calibration Management Software
- Innovative semi-rigid carrying case designed for field work

Automatic pressure generation and control to 300 psi, (20 bar, 2 MPa). Enter a pressure and the 729 automatically pumps to the desired pressure. Fill in a test template and the 729 will automatically pump to and document a multiple-point pressure calibration test.

Easy calibration documentation using defined templates for transmitters and switches. Type in the starting and ending test pressures and number of test points. The 729 does the rest by documenting the applied pressure, measured mA and % error for each test point. The bright color graphical display will flag out of tolerance test results in red.

Automatic internal fine pressure adjustment helps compensate for minor leaks in hoses and test setups. No need to manually turn a vernier to compensate for leaks helping to eliminate the hassle of manual pumping and manual fine adjustment of test setups.

HART communication enables mA output trim, trim to applied values and pressure zero trimming of HART pressure transmitters. You can also do light configuration tasks such as changing a transmitter tag, measurement units and ranging. Other supported HART commands include setting fixed mA outputs for troubleshooting, read device configuration and variables and read device diagnostics.

Measure mA signals on transmitter outputs, source and simulate mA signals for testing I/Ps and other mA loop devices. Includes a 24V loop power supply for testing and powering transmitters in standalone tests disconnected from the control system.

Rugged portable design and 3-year warranty set the 729 apart from most other pressure calibrators. The 729 is tested and warranted to withstand a 1-meter drop test so it is ready for field instrumentation calibration work.

Fluke Connect® compatibility enables a user to perform remote monitoring using the Fluke Connect mobile app and also manage and store pressure measurements and logging events. Share measurements using ShareLive™ video calls and emails.

Measure temperature with optional 720RTD probe for performing custody transfer calibrations.

Measure pressure with legacy 700 Series and the new 750 Series pressure modules if different pressure measurement ranges or resolution is desired.

Multiple language support, select language from the instrument setup utility. Hart communication commands are limited to English per the HART device descriptors and protocol.

Semi-rigid carrying case designed for field work, with room in the case to store test hoses, fittings, test leads and small hand tools needed for field pressure calibrations.

Specifications

Pressure specification*

One-year specification	0.02 % of full scale
Control specification	0.005 % full scale minimum

*See manual for detailed specifications

Model	Psi range, resolution	Bar range, resolution	kPa range, resolution	Comment
729 30G	-12.0000 to 30.0000 psi	-0.82737 to 2.06842 bar	-82.737 to 206.843 kPa	No wireless communication
729 150G	-12.000 to 150.000 psi	-0.8273 to 10.3421 bar	-82.73 to 1034.21 kPa	No wireless communication
729 300G	-12.000 to 300.000 psi	-0.8273 to 20.6843 bar	-82.73 to 2068.43 kPa	No wireless communication
729 30G FC	-12.0000 to 30.0000 psi	-0.82737 to 2.06842 bar	-82.737 to 206.843 kPa	Wireless communication for Fluke Connect
729 150G FC	-12.000 to 150.000 psi	-0.8273 to 10.3421 bar	-82.73 to 1034.21 kPa	Wireless communication for Fluke Connect
729 300G FC	-12.000 to 300.000 psi	-0.8273 to 20.6843 bar	-82.73 to 2068.43 kPa	Wireless communication for Fluke Connect
729CN 200K	-12.0000 to 30.0000 psi	-0.82737 to 2.06842 bar	-82.737 to 206.843 kPa	For China, no wireless communication
729CN 1M	-12.000 to 150.000 psi	-0.8273 to 10.3421 bar	-82.73 to 1034.21 kPa	For China, no wireless communication
729CN 2M	-12.000 to 300.000 psi	-0.8273 to 20.6843 bar	-82.73 to 2068.43 kPa	For China, no wireless communication
729CN 200K FC	-12.0000 to 30.0000 psi	-0.82737 to 2.06842 bar	-82.737 to 206.843 kPa	For China, wireless communication for Fluke Connect
729CN 1M FC	-12.000 to 150.000 psi	-0.8273 to 10.3421 bar	-82.73 to 1034.21 kPa	For China, wireless communication for Fluke Connect
729CN 2M FC	-12.000 to 300.000 psi	-0.8273 to 20.6843 bar	-82.73 to 2068.43 kPa	For China, wireless communication for Fluke Connect
729JP 200K	N/A	N/A	-82.737 to 206.843 kPa	For Japan, no wireless communication
729JP 1M	N/A	N/A	-82.73 to 1034.21 kPa	For Japan, 1 MPa range, no wireless communication
729JP 2M	N/A	N/A	-82.73 to 2068.43 kPa	For Japan, 2 MPa range, no wireless communication
729JP 200K FC	N/A	N/A	-82.737 to 206.843 kPa	For Japan, wireless communication for Fluke Connect
729JP 1M FC	N/A	N/A	-82.73 to 1034.21 kPa	For Japan, wireless communication for Fluke Connect
729JP 2M FC	N/A	N/A	-82.73 to 2068.43 kPa	For Japan, wireless communication for Fluke Connect

Electrical specification

All specifications are valid to 110 % of range, except 24 mA source and simulate which are valid to 100 % of range.

Ranges

mA measure, source and simulate	0 mA to 24 mA
Volts dc measure	0 V dc to 30 V dc

Resolution

mA dc source, simulate and measure	1 μ A
Voltage dc measurement	1 mV
Accuracy	0.01 % $\pm$ 2 LSD all ranges (at 23 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C)
Stability	20 ppm of full scale / $^{\circ}$ C from -10 $^{\circ}$ C to +18 $^{\circ}$ C and 28 $^{\circ}$ C to +50 $^{\circ}$ C
Loop compliance voltage	24 V dc @ 20 mA
mA simulate external voltage requirement	12 V dc to 30 V dc
Temperature measurement only/100 Ω Pt(385) RTD	-50 $^{\circ}$ C to 150 $^{\circ}$ C (-58 $^{\circ}$ F to 302 $^{\circ}$ F)
Temperature resolution	0.01 $^{\circ}$ C (0.01 $^{\circ}$ F)
Temperature accuracy	$\pm$ 0.1 $^{\circ}$ C (0.2 $^{\circ}$ F) $\pm$ 0.25 $^{\circ}$ C ($\pm$ 0.45 $^{\circ}$ F) combined uncertainty when using 720 RTD probe (optional accessory)
Drive capability	1200 Ω without HART resistor, 950 Ω with internal HART resistor

General specifications	
Mechanical specification	
Size (HxWxL)	7 cm x 27.94 cm x 17.27 cm (2.75 in x 11 in x 6.8 in)
Weight	6.5 lbs., 2.95 kg
Ingress protection	IP54
Environmental specification	
Operating temperature	-10 °C to 50 °C for measurement, 0 °C to 50 °C for pressure control
Operating temperature with battery	-10 °C to 40 °C
Battery will only charge to 40 °C	
Storage temperature	-20 °C to 60 °C
Operating altitude	3000 m
Storage altitude	13000 m
Wireless (729FC only)	
Radio frequency certification	FCC ID: T68-FBLE IC:6627A-FBLE
Wireless radio frequency range	2412 MHz to 2462 MHz

Ordering information

Model	Description	Comment
FLK-729 30G	Fluke 729 30G, 30 psi, 2 Bar Automatic Pressure Calibrator	30 psi, 2 bar range, no wireless communication
FLK-729 150G	Fluke 729 150G, 150 psi, 10 Bar Automatic Pressure Calibrator	150 psi, 10 bar range, no wireless communication
FLK-729 300G	Fluke 729 300G, 300 psi, 20 Bar Automatic Pressure Calibrator	300 psi, 20 bar range, no wireless communication
FLK-729 30G FC	Fluke 729 30G FC, 30 psi, 2 Bar Automatic Pressure Calibrator, with Fluke Connect	30 psi, 2 bar range, includes wireless communication for Fluke Connect
FLK-729 150G FC	Fluke 729 150G FC, 150 psi, 10 Bar Automatic Pressure Calibrator, with Fluke Connect	150 psi, 10 bar range, includes wireless communication for Fluke Connect
FLK-729 300G FC	Fluke 729 300G FC, 300 psi, 20 Bar Automatic Pressure Calibrator, with Fluke Connect	300 psi, 20 bar range, includes wireless communication for Fluke Connect
FLK-729CN 200K	Fluke 729CN 200K, 200 kPa Automatic Pressure Calibrator, China	For China, 200 kPa range, no wireless communication
FLK-729CN 1M	Fluke 729CN 1M, 1 MPa Automatic Pressure Calibrator, China	For China, 1 mpa range, no wireless communication
FLK-729CN 2M	Fluke 729CN 2M, 2 MPa Automatic Pressure Calibrator, China	For China, 2 MPa range, no wireless communication
FLK-729CN 200K FC	Fluke 729CN 200K FC, 200 kPa Automated Pressure Calibrator, China with Fluke Connect	For China, 200 kPa Range, includes wireless communication for Fluke Connect
FLK-729CN 1M FC	Fluke 729CN 1M FC, 1 MPa Automatic Pressure Calibrator, China with Fluke Connect	For China, 1 MPa range, includes wireless communication for Fluke Connect
FLK-729CN 2M FC	Fluke 729CN 2M FC, 2 MPa Automatic Pressure Calibrator, China with Fluke Connect	For China, 2 MPa range includes wireless communication for Fluke Connect
FLK-729JP 200K	Fluke 729JP 200K, 200 kPa Automatic Pressure Calibrator, Japan	For Japan, 200 kPa Range, no wireless communication
FLK-729JP 1M	Fluke 729JP 1M, 1 MPa Automatic Pressure Calibrator, Japan	For Japan, 1 MPa Range, no wireless communication
FLK-729JP 2M	Fluke 729JP 2M, 2 MPa Automatic Pressure Calibrator, Japan	For Japan, 2 MPa range, no wireless communication
FLK-729JP 200K FC	Fluke 729JP 200K FC, 200 kPa Automatic Pressure Calibrator, Japan with Fluke Connect	For Japan, 200 kPa range, includes wireless communication for Fluke Connect
FLK-729JP 1M FC	Fluke 729JP 1M FC, 1 MPa Automatic Pressure Calibrator, Japan with Fluke Connect	For Japan, 1 MPa range, includes wireless communication for Fluke Connect
FLK-729JP 2M FC	Fluke 729JP 2M FC, 2 MPa Automatic Pressure Calibrator, Japan with Fluke Connect	For Japan, 2 MPa range, includes wireless communication for Fluke Connect

Ordering information continued

Wireless versions include:

Calibrator with wireless communication, soft case, stackable test leads, AC280 hook clips, alligator clips, test probes, magnetic hanger kit, carrying strap, wireless adapter, quick start guide, safety sheet, power supply, rechargeable battery (installed), hose kit with push fit adapters, hanging clip, USB cable, 1/8 in FNPT to 1/4 in FNPT adapter, 1/8 in FNPT to F-M20 adapter, 1/8 in FNPT to 1/4 in FBSP adapter, PTFE tape, (2) sintered filters, water trap drain and valve tuning hoses.

Versions with no wireless functionality include:

Calibrator without wireless communication, soft case, stackable test leads, AC280 hook clips, alligator clips, test probes, magnetic hanger kit, carrying strap, quick start guide, safety sheet, power supply, rechargeable battery (installed), hose kit with push fit adapters, hanging clip, USB cable, 1/8 in FNPT to 1/4 in FNPT adapter, 1/8 in FNPT to F-M20 adapter, 1/8 in FNPT to 1/4 in FBSP adapter, PTFE tape, (2) sintered filters, water trap drain and valve tuning hoses.



Preventive maintenance simplified. Rework eliminated.

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect® system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Access baseline, historical and current measurements by asset.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Share your measurement data using ShareLive™ video calls and emails.
- Fluke 729 Automatic Pressure Calibrator is part of a growing system of connected test tools and equipment maintenance software. Visit the website to learn more about the Fluke Connect® system.

Find out more at flukeconnect.com



All trademarks are the property of their respective owners. WiFi or cellular service required to share data. Smartphone, wireless service and data plan not included with purchase. First 5 GB of storage is free. Phone support details can be viewed at fluke.com/phones.

Smart phone wireless service and data plan not included with purchase. Fluke Connect is not available in all countries.

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