

Drucker DPI 612 Flex Series Variable Range Pressure Calibrator

Druck DPI 612 Flex series is the fifth generation of DPI 600 family. Since 1984, Druck has been launching the revolutionary all-in-one pressure calibrator, which integrates the functions of pressure source, signal measurement and loop power supply into a single instrument, the DPI 600 has always been a standard for industrial pressure calibration, and has even become one of Druck's business cards in many fields. Based on the accumulation of more than 30 years' experience in pressure measurement and calibration as well as the reserve of technical capability, DPI 612 Flex series inherits the reliability and convenience of Druck's successive generations of pressure calibration products, and at the same time realizes the variable range of the pressure module, higher accuracy as well as more efficient pressure building function.

Reliable and efficient pressurization

Three models covering pressure ranges from vacuum to 100 MPa

- Generates 2MPa gas pressure in 30 seconds
- 10MPa high-pressure gas pressure capacity, the site no longer need gas cylinders and regulators
- 100MPa liquid pressure generation capacity

Flexible range switching - direct replacement of the pressure module without any setup or change in the main unit

- Variable ranges for different applications and reduced downtime
- 31 interchangeable pressure modules with ranges from 2.5kPa to 100MPa.
- Accuracy up to 0.005% FS
- "Hot swappable", plug and play, no additional tools or seals required

The pressure modules of the DPI 612 pressure calibrator are freely interchangeable and can work on any host computer, and can also be used in conjunction with the pressure module of our other model, the DPI 620 Genii multifunction calibrator.

Hand-Twisted Quick Couplings Avoid Leaking Field Pressure Connections

- "Fast and leak-free" pressure fittings and connecting tubes without tools and additional seals

Full touch screen operation

- Application selection panel, quick selection of tasks and customized tasks from favorites
- Fast, any application task can be selected with three clicks
- Real-time error (pass/fail) display, result documentation function

Precision technology

Advanced processes and precision machining guarantee the excellent performance of the instrument.

The DPI 612 pressure system's innovative and efficient pressure building capabilities and precise pressure regulation are achieved through rigorous material selection and superior tolerances.

The careful selection of materials for the housing and the precision molding ensure that the DPI 612 is extremely robust and meets the requirements of all-weather use.

The latest analog and digital microelectronic technologies are used to achieve highly accurate electrical measurements and a unique easy-to-use interface.

Pressurization

Fast, efficient and reliable

There are three mainframe models in the Drucker DPI 612 Flex series, which can generate pressures from 95% vacuum to 100 MPa.

Reliable, high-performance pressure systems provide quick and easy pressurization as well as precise pressure regulation.

- DPI 612 pFlex: 95% vacuum to 2 MPa air pressure
- DPI 612 pFlexPro: 95% vacuum to 10 MPa gas pressure
- DPI 612 hFlexPro: 0 to 100 MPa Hydraulics

Pneumatic pFlex mainframe can be easily switched from vacuum generation to positive pressure generation by means of a simple reversing valve. Highly efficient and labor-saving pressure pumps as well as precise volumetric regulators ensure fast pressure generation and precise regulation.

Hydraulic hFlex type mainframe has a built-in reservoir, which can use mineral oil or water as the pressure transfer medium, the pre-pressure pump can complete the function of exhausting and filling, and the built-in booster makes it easier to realize large pressure.

- Fast pressurizing speed, either pneumatic pressure 2MPa or hydraulic pressure 100MPa, can be completed within 30 seconds.
- Avoiding the use of dangerous gas cylinders and realizing 10MPa air pressure output
- The ergonomic design and removable hand/shoulder strap make the DPI 612 Flex easy to use in the lab or in the field.
- Extensively proven mechanical construction guarantees high reliability and simple operation of the entire system.

Pressure range flexibility

Multimeter for pressure calibration

The DPI 612 Flex takes full advantage of the PM 620's interchangeable pressure modules, making it easy for field calibrations to change pressure modules according to the range of the meter under test to ensure optimal accuracy.

- On-site ready-to-swap, automatic matching
- Easy hand-twisted connections: no tools, seals, no cable connections required
- 31 pressure ranges available: minimum 2.5kPa, maximum 100MPa
- Accuracy up to 0.005% FS e.g. 0.0001MPa for 2MPa range

The PM 620 pressure module is the latest generation of digital output modules, utilizing the latest sensor technology and creatively designed with tool-less interchangeable pressure ranges and seals, as well as cable-less signal transmission and automatic identification. This is a leap forward for the all-in-one pressure calibrator, the module can be calibrated separately, thus reducing the number of instruments the user keeps, lowering the cost, and alleviating the trouble of carrying a large number of instruments for each inspection.

Pressure accuracy

Drucker Core Technology

Druck's advanced silicon sensor technology allows the PM 620 Interchangeable Pressure Module to be accurate to 0.005% FS.

When stability and temperature effects are taken into account, an overall assessment of the DPI 612Flex's performance over the course of a full year shows that it is approximately twice as accurate as its predecessor. This ensures more accurate and reliable use of the instrument between calibration cycles.

Electrical Signal Function

Highly accurate match to pressure



The DPI 612 Flex Series retains all the electrical measurement and output capabilities of the DPI 610 Series, with greatly improved measurement accuracy and simplified electrical connections.

	P1	P2 IDOS	mA	V	mV	10Vdc	24V	Switchgear
Measure	√	√	√	√	√			√
Source	√		√			√	√	

P2 IDOS for optional external pressure sensor

- The accuracy of the DPI 612 Flex's electrical signal measurements incorporates one year of stability, temperature effects, and the uncertainty of the calibration standards making it about three times more accurate than the DPI 610 series.
- Simplified wiring for electrical measurements, electrical sockets are four 4mm sockets

Pressure Quick Connect


Reduce site leaks, downtime

The pressure connections of the DPI 612 Flex series with quick couplings have many advantages over conventional pressure connections: All adapters and accessories, including moisture/dirt separators, can be connected quickly and easily.

- All adapters, pressure connection tubes and accessories, including moisture/dirt separators, can be connected quickly and easily without the need for additional seals and tools and guarantee a reliable seal.
- Replacement of damaged adapters is simple and reduces downtime.
- Ensuring the sealing of pressure connections is often time-consuming, even beyond the calibration process.

The DPI 612 Flex series has a well-proven system that significantly reduces the time spent on pressure connections.



	<p>Simple touch screen operation</p> <p>How many times do you usually need to press a button to move on to the next task?</p> <p>The DPI 612 Flex calibrator utilizes the uniquely designed on-screen display of the DPI 620 Multi-Purpose Pressure Calibrator, winner of Measurement Magazine's 2014 Innovation Award.</p> <ul style="list-style-type: none"> - The DASHBOARD is designed to allow quicker selection of functions without the need to enter cumbersome menus and buttons, and by tapping on the icon corresponding to the application (app). - The task menu provides frequently used configuration options, from the calibrator's current display screen simply slide the screen three times to complete another task selection and switching. - From the FAVOURITES menu, you can select daily use or customized tasks more quickly. - The touch screen displays only the necessary function keys, making the instrument's user interface very simple and easy to use, with no complex menu options compared to traditional keypad-based instruments. - Wiring diagrams for electrical signaling functions can be viewed directly on the screen.
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	Typical tasks	
Output mA		The box option on the right allows you to add the task to your favorites.
Pressure measurement		The mA measurement terminals are marked in green.

Just three simple steps

- 1) Swipe the screen from right to left
- 2) Tap to select
- 3) Select the task menu



Full documentation capabilities

Let the calibrator do the work for you

The DPI 612 Flex Series Calibrator is a tool that can be used for routine maintenance and calibration of pressure equipment and has advanced features similar to the DPI 620 Genii, such as automating the calibration process, calculating errors, and interfacing with computer

software/calibration maintenance systems.

- Automatic calibration process
- Pass/Fail Data Analysis
- Multi-channel data logging function
- 8Gb (standard) storage space.
- Interfaces with many calibration management software, including GE's 4Sight software, to reduce calibration time by automating the calibration process.

Calibration procedures generated by the calibration management software can be downloaded directly to the DPI 612 Flex. These calibration procedures are displayed on the DPI 612 Flex as work orders, each corresponding to a specific device under test. The calibration process runs automatically, all you have to do is generate the pressure and the data is saved directly to the DPI 612 Flex and can then be uploaded to a PC.

The automated calibration process using the DPI 611/615 Pressure Calibrator dramatically reduces the time spent on the calibration process from the typical 40 minutes to around 10 minutes and includes setup time, and even more time if you count the time spent on data processing and report generation, as these operations can be done through the software.

PASS/FAIL Data Analysis

The error analysis function can calculate the error of the measured meter and determine whether it passes or exceeds the error. The error can be displayed in real time, which makes it easier to adjust the zero point and full scale.

Troubleshooting, multi-channel data logging function

The data of the three channels can be recorded simultaneously, and the acquisition can be done by clicking the acquisition button on the screen or by timing. The collected data can be displayed directly on the screen or transferred to a computer for further data processing.

Calibration software

Interfaces with many calibration management software

The DPI 612 Series can be interfaced with leading calibration and service software, including GE's Intecal and 4Sight, which enable automated, paperless calibration solutions that dramatically reduce operating costs, ensure compliance and improve efficiency.

Intecal Calibration Management Software

Intecal is easy-to-use, stand-alone management software that allows you to manage your organization's assets, define test procedures, download test procedures to the DPI 612 calibrator, automate the calibration process, and provide accurate data traceability and compliance.

User account management and level setting

- Asset Database
- Automated schedule reminders
- Defining the test process
- Support for portable calibrators and laboratory instruments
- Data analysis, certificate generation
- Expanded support to include DPI 611, DPI 612, DPI 620 and PACE series instruments

4Sight Calibration Maintenance Software

4Sight is a school web-based verification service management software (SaaS).

- Ensuring Compliance
- Provides 24/7 access to audit requirements

- Significantly reduces operational costs
- Provides automated paperless solutions
- Ensures quality system compliance with regulatory requirements
- Optional web-based version to manage via the web

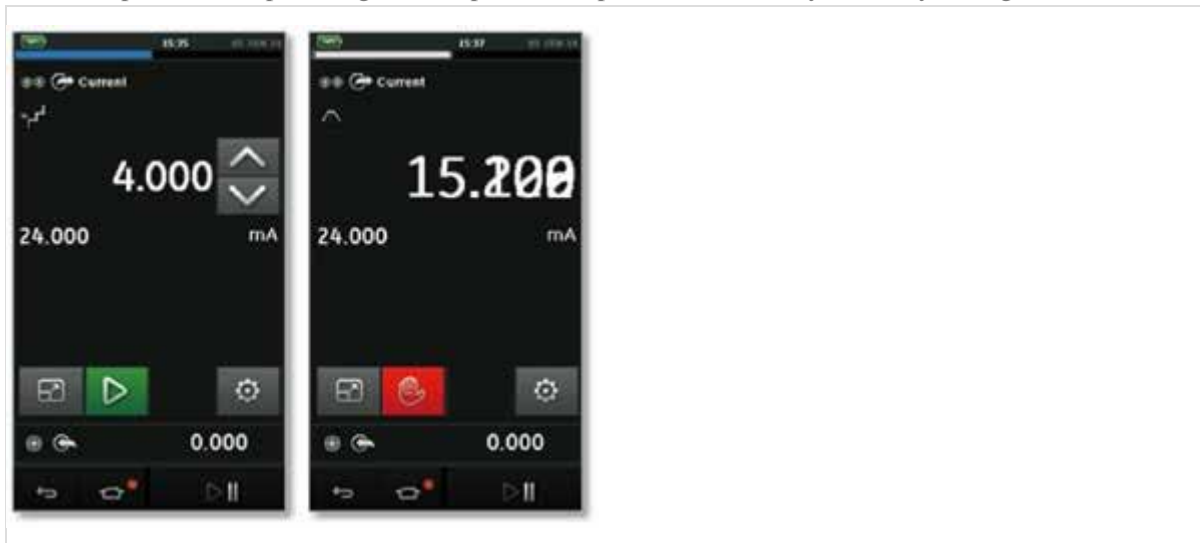
4Sight calibration and management software enables users to take complete control of their calibration and maintenance tasks.

4Sight calibration management software helps you to comply with various specifications, reduce operating costs and improve process efficiency. As a calibration manager, 4Sight's automated processes, reliable data management, and traceability can significantly reduce calibration and maintenance costs.

Advanced Features

Step and ramp mA outputs: The instrument can simply be simulated as a transmitter output to test control loops, valve positions and system safety. This function allows you to set the final signal value of the output and the signal change process either manually or automatically, and can be quickly set by following the options below:

- % Step: The step value is in the form of a percentage, e.g. for 25%, the five test points are 4, 8, 12, 16 and 20mA.
- Custom Step: The step value is a customized value in mA.
- Span Check: outputs a fixed value repeatedly between two endpoints, e.g. outputs 4 to 20mA for checking zero and full scale.
- Ramp: Linear output of signals at a pre-set ramp rate is ideal for dynamically testing switches.



Nudge fine-tuning: through the up and down arrow keys to carry out the output signal micro small adjustments, this function is mainly used for testing travel switches.

Switch Test: Automatically captures the closed and open values of the pressure switch and automatically calculates the switching differential. automatically calculates the switching difference.



Pressure Leakage Test: Automatically records and calculates the system leakage condition and leakage rate during the set time, and finally displays the start pressure, end pressure as well as the change of pressure and leakage rate.



Max/Min: Captures the max/min values and calculates the average.

Release Valve Test: Captures the release valve evacuation pressure

Proportionality: Converts measured values to process signal values. For example, converting mA value in % form, by scaling the differential pressure flow transmitter. The output of the transmitter allows for flow correction.

Resolution: Selectable from 4 to 7 digits, depending on the resolution of the meter under test. The resolution is adjustable from 4 to 7 digits, depending on the resolution of the meter under test, for easy comparison.

Help: The DPI 612Flex is supplied with a quick guide that allows the user to get started very quickly. The DPI 612Flex comes with a quick guide that allows the user to start using the instrument very quickly. In addition, a complete electronic version of the user manual is stored in the main unit. In addition, a complete electronic version of the user manual is stored in the main unit and can be viewed in detail on the main unit at any time or printed out. The DPI 612Flex comes with a quick guide to get you up and running very quickly.

Technical specifications of the Druck DPI 612 Flex series

DPI 612 pFlex Interchangeable Range Low and Medium Pressure Barometric Calibrator

Ideal for pressure calibrators up to 2MPa, meeting air pressure calibration requirements between a few kPa and 2MPa.

DPI 612 pFlexPro Interchangeable Range Low/High Pressure Calibrator

Ideal for pressure calibrations up to 10MPa, meeting air pressure calibration requirements from a few kPa to 10MPa. Completely covering the functionality of the pFlex 2MPa system, it also

extends the pressure building capacity by a factor of 5 to 10MPa. The built-in pressure multiplier quickly provides a clean 10MPa air source for on-site calibration, is safe and reliable, and avoids the inconvenient problem of using gas cylinders for transportation.

DPI 612 hFlexPro Interchangeable Range High Pressure Hydraulic Calibrator

This model has a built-in reservoir and can be used with water or mineral oil as a pressure-conducting cutoff to generate a pressure of 100 MPa for calibration.

External Pressure Module

The IDOS (Intelligent Digital Output Sensor) pressure module can be connected to the USB port on the side of the main unit via a USB converter (order number P/N IO620-USB-IDOS) to provide a second channel of pressure measurement or an external hand pump can be used to provide a pressure source to this external pressure module.

Multi-parameter simultaneous display capability, the screen display can be configured to show up to three channels of parameters simultaneously, pressure, electrical measurements or outputs and IDOS external pressure blocks.

PM 620 Digital Pressure Module

The PM 620 represents advanced digital output transducer technology with revolutionary innovations in structural design, enabling quick switching of pressure ranges. Simple hand screw mounting completes the pressure and electrical connections without tools or sealing tape, and no cables are required for signal transmission. Digital features allow the module to be plug-and-play with no setup or calibration required.

PM 620 技术指标												
型号	压力量程		准确度 (NLHR)	总不确定度 (包含一年稳定性)		工作介质	推荐使用的 PM 620 气压液压	压力模块和 IO620-PRV-XX		压力释放阀 (PRV)		
订购信息			%FS	%FS			DPI 612 pFlex (最大 2 MPa/300 psi)	DPI 612 pFlexPro (最大 10MPa/1500 psi)		DPI 612 hFlexPro (最大 100MPa/15000 psi)		
PM 620	Pa	psi	表压	绝压	表压	绝压	PM 620	PRV	PM 620	PRV	PM 620	PRV

表压量程

+/- 2.5 kPa	+/-10 inH2O g	0.09		0.09		1	✓		✓		
+/- 7kPa	+/-1 psi	0.025		0.03		1	✓		✓		
+/- 20 kPa	+/-3 psi	0.02		0.027		1	✓	P1	✓	P1	
+/- 35kPa	+/-5 psi	0.02		0.025		2	✓	P1	✓	P1	
+/- 70 kPa	+/-10 psi	0.015		0.02		2	✓	P1	✓	P1	
+/- 100 kPa	-14.5 ~ 15 psi	0.015		0.02		2	✓	P1	✓	P1	
-100~200kPa	-14.5 ~ 30 psi	0.015		0.02		2	✓	P6	✓	P6	
-100~350kPa	-14.5 ~ 50 psi	0.01		0.02		2	✓	P2	✓	P2	
-100~700kPa	-14.5 ~ 100 psi	0.01		0.02		2	✓	P7	✓	P7	
-0.1~ 1 MPa	-14.5 ~ 150 psi	0.005		0.02		2	✓	P7	✓	P7	
-0.1 ~2 MPa	-14.5 ~ 300 psi	0.005		0.02		2	✓	P3	✓	P3	
0 ~3.5 MPa	0 ~ 500 psi	0.005		0.02		2			✓	P4	
0 ~ 7 MPa	0 ~ 1000 psi	0.005		0.02		2			✓	P5	✓ H2
0 ~ 10 MPa	0 ~ 1500 psi	0.005		0.02		2			✓	P5	✓ H2
0 ~ 13.5 MPa	0 ~ 2000 psi	0.005		0.02		2					✓ H2
0 ~ 20 MPa	0 ~ 3000 psi	0.005		0.02		2					✓ H2

绝压量程

0 ~35kPa	0 ~ 5 psi		0.03		0.05	2	✓ P1		✓ P1		
0 ~ 120 kPa	0 ~ 35 inHg		0.02		0.036	2	✓ P1		✓ P1		
0 ~ 200 kPa	0 ~ 30 psi		0.015		0.036	2	✓ P1		✓ P1		
0 ~ 350 kPa	0 ~ 50 psi		0.015		0.036	2	✓ P6		✓ P6		
0 ~ 700 kPa	0 ~ 100 psi		0.015		0.036	2	✓ P7		✓ P7		

绝压和密封表压双功能*

0 ~ 1 MPa	-14.5 ~ 150 psi	0.005	0.015	0.02	0.030	2	✓ P7		✓ P7		
0 ~2 MPa	-14.5 ~ 300 psi	0.005	0.015	0.02	0.030	2	✓ P3		✓ P3		
0 ~ 3.5 MPa	0 ~ 500 psi	0.005	0.015	0.02	0.030	2			✓ P4		
0 ~ 7 MPa	0 ~ 1000 psi	0.005	0.015	0.02	0.030	2			✓ P5		✓ H2
0 ~ 10 MPa	0 ~ 1500 psi	0.005	0.015	0.02	0.030	2			✓ P5		✓ H2
0 ~ 13.5 MPa	0 ~ 2000 psi	0.005	0.015	0.02	0.030	2					✓ H2
0 ~ 20 MPa	0 ~ 3000 psi	0.005	0.015	0.02	0.030	2					✓ H2
0 ~ 35 MPa	0 ~ 5000 psi	0.005	0.015	0.02	0.033	2					✓ H3
0 ~ 70 MPa	0 ~ 10000 psi	0.005	0.015	0.02	0.033	2					✓ H4
0 ~ 100 MPa	0 ~ 15000 psi	0.005	0.015	0.02	0.033	2					✓ H5

FS = 满量程

NLHGR = 非线性, 迟滞和重复性

介质 1 非腐蚀性气体

介质 2 与不锈钢兼容的流体

* 绝压模块可以在通大气的情况下进行迁移, 让后作为密封表压的模块来使用

PM 620 通用规格	
最大过压	2 × 满量程压力
最大工作压力	110% 满量程压力
防护等级	IP 65 (防尘和防水溅)
尺寸和重量	长度: 56 mm, 直径: 44 mm, 106 g

Ordering Information:

Please provide the complete model number as shown in the technical specification sheet. For example, if ordering a standard DPI 620 pFlexPro 2MPa kit, the model number would be DPI 612, PFP, 20G. This ordering information indicates a kit and would include the various accessories labeled in the DPI 612 pFlexPro technical specifications sheet.

If a pressure range is ordered that is not in the Technical Specification Sheet, e.g. a 35 kPa range is ordered, then the model number is DPI 612, PFX, 00, and then the PM 620 Pressure Module, 35 kPa range will need to be ordered separately. This model only contains the rechargeable battery kit and no other accessories.

Attachment

NOTE - Accessories preceded by an asterisk (*) are standard in the kit when the kit is ordered; consult the Technical Specifications table.

* Carrying case (P/N IO620-CASE-3)

Soft carrying protective case with shoulder strap and large volume accessory pocket to carry a variety of accessories. Spare rechargeable battery pack (P/N IORBAT-7W) Spare lithium battery for DPI 611 and DPI 612 series mainframes

Backup power adapter (P/N IO620-PSU)

Power adapter as well as charger with various power outlet plugs, input voltage 100~240V, 50/60Hz. Battery charging cradle (P/N IOBAT-7-DC) External battery charging cradle as well as universal charging head for charging spare batteries, one full fill time is about 6½ hours.

USB Cable (P/N IO620-USB-PC)

For connection of a computer to the DPI 612.

IDOS to USB Converter

(P/N IO620-IDOS-USB)

For connection of an external IDOS pressure module to a DPI 612 host computer. A USB cable (P/N IO620-USB-PC) is also required to use this accessory.

USB to RS232 Cable (P/N IO620-USB-RS232)

Provides an RS232 interface for the DPI 612.

Moisture Fouling Isolator

It is used to isolate all kinds of moisture/dirt from entering the DPI 612 and to avoid mutual contamination between air pressure systems. One end can be connected directly to the DPI 612 quick connectors and the other end has the same connection as the DPI 611 quick pressure outlet.

Only for pneumatic models, not for hydraulic DPI 612 hFlex models.

***P/N IO620-IDT621: Maximum working pressure 2MPa**

***P/N IO620-IDT622: Maximum working pressure 10MPa**

Pressure quick couplings and connecting tubes

The following connection tubes and pressure fittings are also available for the pressure bases of the DPI 612 Flex, DPI 611 and DPI 620 series.

*IOHOSE-NP1: 1 meter pneumatic connection hose, max. pressure 4 MPa

*IOHOSE-NP2: 2 m pneumatic connection tube, max. pressure 4 MPa

*P/N IO620-HOSE-P1: 1 meter pneumatic connection hose, max. pressure 40 MPa

P/N IO620-HOSE-P2: 2 meter pneumatic connection hose, max. pressure 40MPa

*P/N IO620-HOSE-H1: 1 meter hydraulic hose, max. pressure 100 MPa

P/N IO620-HOSE-H2: 2 m hydraulic hose, max. pressure 100 MPa

P/N IO620-BSP: G thread fitting kit, G1/8 male, G1/4 male, G1/4 female, G3/8 female and G1/2 female

P/N IO620-NPT: NPT pressure fitting kit 1/8" male, 1/4" male, 1/4" female, 3/8" female and 1/2" female

P/N IO620-NPT: NPT pressure fitting kit 1/8" male, 1/4" male, 3/8" female and 1/2" female

P/N IO620-HOSE-H1: 1 meter hydraulic hose, max. pressure 100MPa female

P/N IO620-MET: M14*1.5 female thread and M20x1.5 female connector

P/N IO620-COMP Comparison Test Pump Connector

To improve calibration efficiency, two gauges can be connected together using the Comparison Test Pump option. One end of the option can be connected directly to the DPI611 Pressure Calibrator, while the other end provides two pressure outputs.

***Pressure relief valves**

Used to protect the PM 620 pressure module as well as the inspected meter from over pressurization.