

## Features

- High accuracy 0.025% full scale (FS)
- Generates pressures up to 10,000 psi (700 bar)
- Dual pressure and electrical readout
- Thermal compensator for high speed stable control
- Unique vacuum priming of hydraulic system
- RS232 interface and documenting versions

The DPI 330/335 Series is designed to make the calibration of hydraulic systems and instrumentation quick and simple. Two versions are available, the DPI 330 and the DPI 335. The DPI 330 is the standard model with RS232 interface and the DPI 335 has full documenting capability.

These self-contained portable calibrators provide unparalleled accuracy and performance. Hydraulic pressures up to 10,000 psi (700 bar) can be generated quickly and easily with excellent setpoint control.

# DPI 330/335 Series

## Druck Portable High Pressure Hydraulic Calibrators

DPI 330/335 Series is a Druck product. Druck has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.



## Unique Priming System

The DPI 330/335 uses a unique priming system to conveniently fill the hydraulic system under test. The pressure/vacuum selector valve, combined with the priming pump, first evacuates the system and then fills the system with fluid from the reservoir and generates the initial pressure. Once the system is primed, any desired pressure can be easily set using the pressure pump and volume adjuster.

## Excellent Control Stability

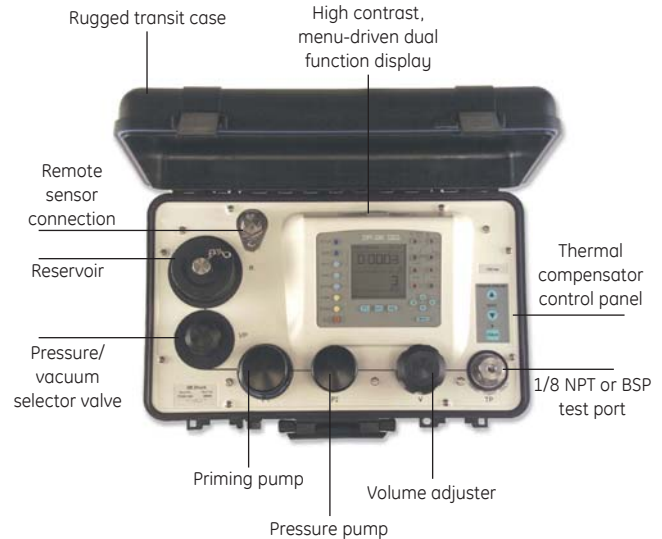
The thermal compensator eliminates adiabatic thermal effects that are generated by pressure changes within the hydraulic system. This innovative feature holds the generated pressure steady while a nudge facility allows the exact pressure to be set. Overall test/calibration time and precision is significantly improved.

## Dual Channel Display

The DPI 330/335 calibrators are dual channel instruments able to display the input and output values imultaneously. They are capable of providing current and voltage excitation to the device under test and can measure DC voltage, DC current and ambient temperature. Electrical terminations are made via industry-standard 4 mm sockets and the large backlit display provides a clear readout of the process parameters.

## Application Specific Task Menu

A dedicated task key provides instant access to the task menu permitting the calibrator to be configured for specific applications. For example, the P-I task configures the calibrator to source pressure and measure current. 24 VDC loop power is also available to allow complete pressure transmitter calibration. Running the Pressure Switch task captures the open and closed switch values and calculates switch hysteresis. The contact resistance of the switch can also be monitored.



## Reduced Process Downtime

The DPI 335 version enables calibration criteria to be easily entered via the keypad allowing fast diagnosis of field instruments and automatic reporting of errors with a Pass or Fail status. When used in conjunction with Intecal calibration management software, test procedures can be downloaded to the DPI 335 from a PC. The calibrator will prompt the technician during the calibration routine and the results will be recorded electronically, reducing plant downtime and human errors.

# DPI 330/335 Specification

## General

### Pressure

The DPI 330/335 series include an internal pressure sensor. The pressure range should be selected below.

Pressure Range	Accuracy* (% FS)	Maximum Overpressure	Type**
1000 psi (70 bar)	0.025%	2000 psi (140 bar)	G or A
2000 psi (140 bar)	0.025%	4000 psi (275 bar)	G or A
3000 psi (200 bar)	0.025%	6000 psi (400 bar)	G or A
5000 psi (350 bar)	0.025%	10,000 psi (700 bar)	G or A
10,000 psi (700 bar)	0.025%	12,000 psi (825 bar)	G or A

\*Combined non-linearity, hysteresis and repeatability.

\*\*G = Gage, A = Absolute (pressure reference).

### Stability

0.015% of reading/annum

### Temperature Effects

(Averaged and w.r.t. 20°C) w.r.t.  $\pm 0.004\%$  reading/°C

### Pressure Source

Internal hydraulic reservoir (volume 300 cubic inches) with volume adjuster high pressure pump and pre-prime pump

### Recommended Media

Mineral oil or distilled water

### External Pressure Sensor

Up to 10 remote sensors (option B) may also be ordered per calibrator and connected to the instrument via the 1/4 inch test port. Consult factory for available ranges.

### Test Port Connections

1/8 NPT or BSP female

## Electrical

In addition to pressure, the dual display can simultaneously monitor mA, V, switch, continuity and ambient temperature. Also, 10 VDC and 24 VDC power supplies are available for the device under test (DUT).

Input	Range	Accuracy	Resolution	Remarks
<b>Voltage*</b>	±50 VDC	0.05% Rdg 0.004%	100 :Vmax	Autoranging
		FS		>100 MW
<b>Current*</b>	±55 mA	0.05% Rdg 0.004%	0.001 mA	10 W, 50 V
		FS		maximum
<b>Temp</b>	15°F to 105°F (-10°C to 40°C)	2°F (-16°C)	0.1°F (-17°C)	Case ambient
<b>Switch</b>	Open/Closed			5 mA whetting

Output	Range	Accuracy	Resolution	Remarks
<b>Voltage</b>	10 VDC	0.01%		Maximum load 10 mA
<b>Voltage</b>	24 VDC	5%		Maximum load 26 mA
<b>Current*</b>	0 to 24 mA	0.05% Rdg 0.01%	FS0.001 mA	

\*Temperature coefficient 0.0075% reading/°C w.r.t. 20°C

### Electrical Stability

0.03% of reading/annum

## Features

### Pressure Units

25 scale units plus one user defined

### mA Source

Auto 10 second step cycle and programmable (60 second end-to-end) ramp

### Process Functions

Filter, maximum/minimum, tare, flow, and % span

### Power Management

Auto power off, auto backlight off, battery status indicator

### Display

2.36 in x 2.36 in (60 mm x 60 mm) graphic LCD with backlight.  $\pm 99999$  readout, 2 readings per second.

### Data Storage

92 KB memory

## Environmental

### Temperature

- Operating range: 15°F to 120°F (-10°C to 50°C)
- Calibrated range: 15°F to 105°F (-10°C to 40°C)

### Humidity

0 to 90% non-condensing

### Sealing

Type 12/IP54

# DPI 330/335 Specification

## Conformity

- EN61010
- EN61326 Class A
- CE marked

## Physical

23 lb (10.4 kg)

## Dimensions

16.9 in x 10 in x 6.5 in (429 mm x 254 mm x 165 mm)

## Power Supply

Battery powered 7.2 V NiMH cell. In addition, the unit will operate from AC power supply 85 V to 265 V, 45 to 400 Hz, which also allows the battery pack to recharge. Display indicates a low battery condition.

## DPI 335 Additional Specifications

The fully documenting DPI 335 also provides the following features:

Error analysis with Pass/Fail status and graphs. Storage of As Found and As Left results. Two-way PC interface for transferring test procedures and results. Compatible with Intecal calibration management software.

## Options

### External Pressure Sensor

**(B1)** The DPI 330/335 Series has a second pressure channel that can be configured with up to 10 remote pressure sensors (one at a time). For ease of use the sensors are fitted with an electrical connector and 1/4 inch pressure ports.

*At least one mating cable is required per DPI 330/335 when ordering remote pressure sensors.*

**(B2)** A 3 ft (1 m) mating cable for connecting remote sensors to the DPI 330/335

**(C)** 1 quart ST 55 mineral oil (P/N PPA9152) if operation with oil is desired

### Supplied as Standard

The DPI 330 and DPI 335 are supplied with a rechargeable cell, battery charger, test lead, user guide and calibration certificate as standard.

### Calibration Standards

Instruments manufactured are calibrated against precision calibration equipment traceable to international standards.

## Related Products

- Portable field calibrators
- Laboratory and workshop instruments
- Pressure transducers and transmitters

## Ordering Information

Please state the following (where applicable):

1. DPI 330 or DPI 335 type number, indicate 1/8 NPT or BSP test port adaptors
2. Internal pressure range
3. Options (if required) including external pressure sensor range

