

# Precision Pressure Controller/Calibrator

DPC 3800

HD

High pressure calibrations up to 2500 bar gauge pressure

## Applications

- Calibration laboratories
- Service industries and calibration services
- Laboratories for research and development
- Pressure gauge, pressure switch and sensor manufacturing as well as transmitter calibration and creation of certificates
- Long-term measurements
- Aerospace industry

## Construction

- **Pressure range** (gauge pressure): 0 – 400 bar to 0 – 2500 bar  
(0 – 5,000 psi to 0 – 35,000 psi)  
measurement uncertainty (k = 2): 0.01 % FS up to 1000 bar  
(15,000 psi)  
measurement uncertainty (k = 2): 0.04 % FS from 1600 bar  
(20,000 psi)
- Medium water or oil
- Pressure controller with precision pressure sensor
- Customised configurations of the pressure controller possible
- Very high measuring rate
- Colour touch screen, LED backlight
- Easily calibrated
- Modular construction
- Fully digital measuring instrument
- Automatic creation of test certificates via full version calibration software DynaCal

## Description

### Functionality

This instrument stands out due to its precision sensor that combines maximum precision with highest long-term stability. The DPC 3800 HD achieves a control stability of 0.003 % of the pressure range (up to 1000 bar (15,000 psi), then 0.015 %).

The instrument is operated intuitively via touch screen. All advanced functions are accessible via submenus.

### Software

Besides the full version calibration software DynaCal, which allows for comfortable calibration of pressure measuring instruments including automatic creation of test certificates, the user is able to create own software programmes, e.g. via LabVIEW®.

### Communication

For integration in already existing infrastructures, an RS-232, Ethernet or optionally an IEEE-488.2 interface or an analogue output is available. Customer-specific control commands can be translated.

### Complete Testing and Calibrating Systems

Fully mobile or stationary test benches can be manufactured upon customer request.

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## Technical Data

### Pressure Ranges

Gauge pressure	0 – 400 bar	0 – 5,000 psi
	0 – 600 bar	0 – 8,000 psi
	0 – 1000 bar	0 – 15,000 psi
	0 – 1600 bar	0 – 20,000 psi
	0 – 2500 bar	0 – 35,000 psi

### Pressure Units

23 fixed and 1 freely programmable

### Instrument Version

Desktop case and hydraulic cabinet

### Display

Screen division: actual value, reference value, steps  
Resolution: 6 digits  
Keypad: colour touch screen  
Warm-up time: < 10 minutes  
Response time: approx. 10 ms

### Pressure Range

1 pressure range

### Pressure Connections

M 16x1.5 high pressure screw fitting  
Optional: G ½ quick clamp adapter

### Medium

Water  
Optional: oil

### Overrange Protection

25 % of the pressure range  
Optional: mechanical overpressure protection

### Supply Voltage

Auxiliary energy 88...264 V AC, 47...63 Hz

[www.armano-messtechnik.com](http://www.armano-messtechnik.com)

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# Technical Data, Options, Scope of Delivery, Ordering Information

## Compressed Air Supply

≥ 10 bar

Optional: integrated compressor

## Permissible Ambient Conditions

Operating temperature: +10 °C to +40 °C (+50 °F to +104 °F)

Storage temperature: 0 °C to +70 °C (+32 °F to +158 °F)  
regard frost protection for medium water

Relative humidity: 0 to 95 % r. h. (non-condensing)

Compensated

temperature range: +15 °C to +35 °C (+59 °F to +95 °F)

## Communication

Interfaces: RS-232, USB, Ethernet

Optional

Interface: IEEE-488.2

Analogue output (16 bit): 0...1 V, 0...5 V, 0...10 V or 4...20 mA

Switching outputs: 24 V DC PWM or TTL level

Analogue inputs: 4...20 mA or 0...10 V,  
others upon request

## Instruction Sets

DPC 3800 HD

Optional: alternative instruction sets possible,  
alignment to existing HOST software upon request

## Approvals and Certificates

EMC directive 2014/30/EU, DIN EN 61 326-1 emission  
(group 1, class A) and stability (industrial sector)

Calibration certificate 3.1 according to DIN EN 10 204

Optional: internationally traceable calibration certificate  
(e.g. DAkkS)

## Further Options

The DPC 3800 HD is equipped with 4 switching outputs that can be used for options. Furthermore, up to four precision sensors can be actuated.

### Option M

The following features were integrated:

- On and off switch for a vacuum pump
  - Internal separation of regulator and test item
  - An additional ventilation valve for the test item side
- This option is suitable, for example, for pressure gauge adjustment.

### Option Vac

With this option, a 24 V signal can be actuated in order to switch a vacuum pump on or off, for example.

### Calibration Work Station

Extensions of the standard version

- 1 work bench
- 1 desk with wheels
- 1 complete high pressure piping

## Scope of Delivery

- Precision pressure controller/calibrator in desktop case
- Hydraulic cabinet
- Full version calibration software DynaCal
- Mains cable 1.5 m
- Operating instruction
- Calibration certificate 3.1 according to DIN EN 10 204

## Ordering Information

Please specify in your order:

<b>Basic model</b>	DPC 3800 HD
<b>Pressure range</b>	e.g. 0 – 400 bar
<b>Options</b>	e.g. Option M

<b>Example:</b>	<b>DPC 3800 HD, 0 – 400 bar, Option M</b>
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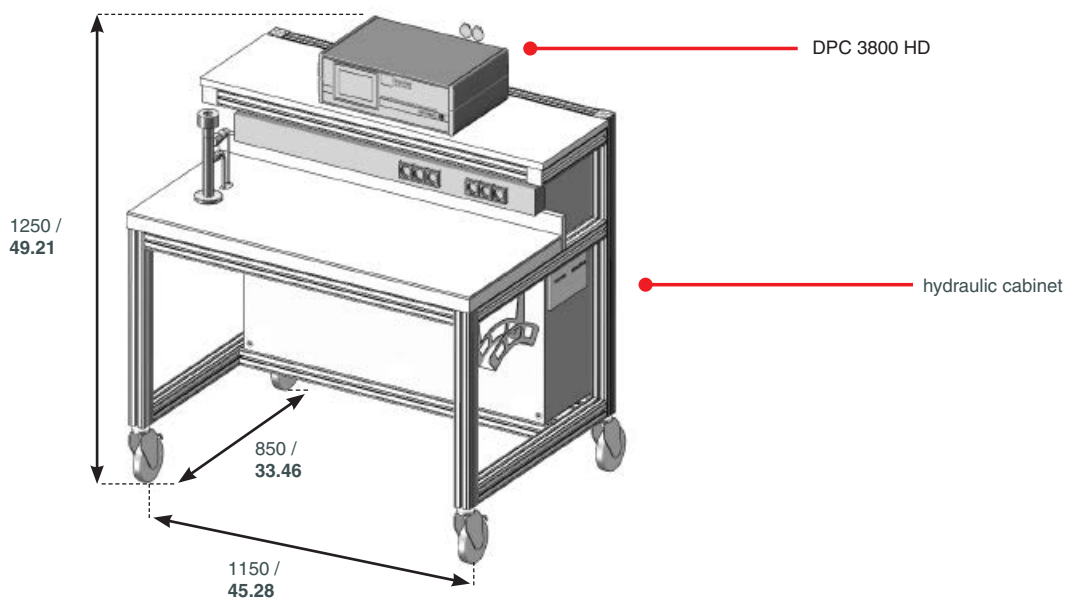
## Options

- Portable case
- Dirt traps
- Medium separators
- Pressure generators
- Vacuum pumps

## Dimensional Data and Weight

### Dimensional Data in mm/inch

Recommended instrument version: calibration work station



### Weight

Approx. 7.0 kg (15.43 lb)

+ 52 kg (114.64 lb) hydraulic cabinet up to 1000 bar (15,000 psi)

+ 65 kg (143.30 lb) hydraulic cabinet from 1600 bar (20,000 psi)