

PPC2+™ BG0002™

PRESSURE CONTROLLER/CALIBRATOR FOR VERY LOW GAUGE PRESSURE



- Three ranges in one instrument: ± 20 , 40 and 60 in. H₂O (± 5 , 10 and 15 kPa)
- Delivered pressure uncertainty of ± 0.01 % of each range
- Control precision to ± 0.0004 in. H₂O (± 0.1 Pa)
- Reliable, stable pressure control, even in difficult environments
- Self adapting to test volume and leak changes
- True bi-directional (\pm) operation, through zero, without hi/lo switching
- Local and remote protocol identical to other PPC2+ and PPCK+ pressure controller/calibrator models



**Calibration Solutions
for Pressure
and Flow™**

PPC2+™ BG0002™

INTRODUCTION

PPC2+ BG0002 is a special PPC2+ model designed specifically to handle the difficult domain of very low positive and negative gauge pressures. From a local and remote user standpoint, it is identical to other PPC2+ models (see the PPC2+ brochure).

STABLE, RELIABLE LOW PRESSURE CONTROL

PPC2+ BG0002 sets and stabilizes pressure reliably with little or no interference from the outside environment. A separate TEST(-) port allows the low sides of the controller and the test system to be tied together and isolated from ambient pressure changes. Thermally isolated accessory control volumes further dampen ambient pressure noise.

INTERNAL BYPASS VALVE

An internal high/low bypass valve connects the TEST(+) and TEST(-) ports together automatically when vented assuring a true zero differential on the RPT and devices under test.

TRANSFER STANDARD QUALITY MEASUREMENT

A new, very low pressure oscillating quartz crystal reference pressure transducer (RPT) with real time line pressure compensation provides the low measurement uncertainty needed to calibrate and test a wide variety of low pressure devices. In addition to its extraordinary pressure measurement capability the BG0002 RPT offers the advantages of very low warm up time, no gas species dependence, isolation of the measuring element from the test medium and minimal sensitivity to orientation.

FEATURES, FEATURES, FEATURES

PPC2+ BG0002 includes all the features of other PPC2+ models... automatic head corrections for maximum accuracy... very low gas consumption... on-board programmable calibration sequences... valve driver option for system design... rugged enough for standard shipment without special packaging... flash memory for easy software upgrades by download from **DHI's** website...

CONFIGURATION NOTES

1. PPC2+ BG0002 may only be configured with one RPT. It does not support two RPT installation.
2. To operate within pressure control specifications, PPC2+ BG0002 must be operated with accessory volumes of at least 840 cc on the TEST(+) and TEST(-) ports. The PK-PPC-BG-DVU accessory kit provides these volumes with thermal isolation for maximum stability. If the test volumes connected to the BG0002 will always exceed 840 cc, the DVU may be omitted.
3. To operate within pressure control specifications, the PPC2+ BG0002 EXHAUST port must be connected to a vacuum source of 70 kPa absolute (10 psia) or less.

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SPECIFICATIONS

All PPC2+ BG0002 specifications, other than those listed below, are identical to other PPC2+ models (see the PPC2+ brochure).

RANGES	US Version Ranges (psi)			SI Version Ranges (kPa)		
	1	2	3	1	2	3
	-0.8 to 0.8	-1.5 to 1.5	-2.2 to 2.2	-5 to 5	-10 to 10	-15 to 15

GENERAL

Pressure Supplies:
Supply Port 70 kPa gauge (10 psi)
Exhaust Port Vacuum of 70 kPa absolute (10 psia) or less, 90 l/m (3 cfm) displacement

PRESSURE MEASUREMENT (± Span of Active Range)

Measurement Precision¹:	0.008 %	
Stability:	<u>90 day</u>	<u>1 year</u>
w/Autozero	0.003 %	0.009 %
Measurement Uncertainty²:	<u>90 day</u>	<u>1 year</u>
w/Autozero	0.010 %	0.015 %

PRESSURE CONTROL (± Span of Active Range)

Control Precision³:	0.001 %	
Delivered Pressure Uncertainty⁴:	<u>90 day</u>	<u>1 year</u>
	0.010 %	0.015 %

**Nominal Test Volume
(in addition to PK-PPC-DVU):** 0 to 1 000 cc (250 cc optimal)

- 1 Measurement Precision: Combined linearity, hysteresis, repeatability of measurements made by the reference pressure transducer.
- 2 Measurement Uncertainty: Maximum deviation of the PPC2+ BG0002 indication from the true value including precision, stability, temperature effect and calibration standard accuracy of ± 0.003 %.
- 3 Control Precision: Minimum useable hold limit in dynamic control mode.
- 4 Delivered Pressure Uncertainty: Maximum deviation from the true value of pressure applied to the device under test in dynamic control mode with default hold limit. Assumes use of PK-PPC-BG-DVU dual volume unit and connection of a vacuum source to the PPC2+ EXHAUST port.

PK-PPC-BG-DVU ACCESSORY KIT (Required)

The PK-PPC-BG-DVU accessory kit is necessary to assure that PPC2+ BG0002 operates within pressure control specifications. The kit includes a PPC2+ style housing containing two (2) thermally isolated 840 cc aluminum volumes and the necessary interconnections to connect the volumes in line with the PPC2+ BG0002 TEST(+) and TEST(-) ports.

Specifications of Dual Volume Unit (DVU)

Dimensions:	18 cm H x 32 cm W x 40 cm D (7.1 in x 12.6 in x 15.8 in) Case identical to PPC2+ case
Weight:	6.8 kg (14.9 lb)
Pressure Connections:	1/4 in NPT F (x 2) and 1/4 in swage

ORDERING INFORMATION

Model:	PPC2+ BG0002
Description:	Pressure Controller/Calibrator
P/N:	401696

OPTIONS

Drivers:	(8) 12V on/off drivers with rear panel connector
SI Units:	Nominal units and limits in SI

DUAL VOLUME UNIT KIT

Model:	PK-PPC-BG-DVU
Description:	Dual volume unit
P/N:	401699

OTHER ACCESSORIES

Rack Mount Kit (4U):	P/N 400440
Reusable Molded Shipping Case:	P/N 401272
VA-PPC/MPC-REF, Vacuum Pump Kit, 110V:	P/N 400922
VA-PPC/MPC-REF, Vacuum Pump Kit, 220V:	P/N 400440

Due to a policy of continuous improvement, all specifications, descriptions and features are subject to change without notice.

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