







## MODEL K9903C

# LOW PRESSURE CALIBRATION WORKSTATION

- Assures accurate, traceable calibrations
- Turnkey system includes all necessary components
- Windows PC supplies familiar, intuitive user interface
- Setup tests, acquire data, save results, and print reports quickly with precision and automation
- Define pass/fail criteria for each test and automatically recall them from the internal database
- Prints customizable ISO compliant certificates
- Automates calibration procedures

# **TYPICAL APPLICATIONS**

- Turbine engine monitoring
- Dynamic combustion measurements
- Explosives research
  - Defense
  - Mining

## LOW PRESSURE TO 150 PSI

The Model K9903C Low Pressure Calibration Workstation performs low pressure calibrations on a wide range of dynamic pressure sensors. The Model K9903C is a turnkey system that includes the calibration fixture, data acquisition hardware, Windows PC, and software to automate test setup, data acquisition, data archiving, and report generation. The K9903C provides low (up to 150 psi [1 MPa]) transient pressure pulses to the Sensor Under Test, in accordance with ANSI B88.1. The K9903C calculates sensor sensitivity, linearity, and discharge time constant.

K9903C is based on two product lines with a rich heritage of calibration experience. The pressure actuators and measurement equipment have been in use for decades at PCB Piezotronics, while the data acquisition and automation software is based on The Modal Shop's 9155 Series of vibration sensor calibration workstations. The K9903C merges these two product lines to form a standalone dynamic pressure calibration system with mature measurement capability. In addition, the K9903C01 is offered as a retrofit package to existing customer owned PCB 903B02 calibration systems. The 9155D-903 adds pressure calibration capability to existing 9155D Accelerometer Calibration Workstations.

## AUTOMATED PRESSURE CALIBRATION SOFTWARE

By combining PCB's factory calibration hardware with The Modal Shop's system software and expertise, pressure calibration systems meet the needs of the most discerning user. These turnkey systems reproduce the factory calibration techniques of pressure sensors for customers with the added advantage of a single point for product support and Total Customer Satisfaction. Test activity and results are shown in the easy-to-use software:

- Displayed pressure response data allows technician to view and check for anomalies
- Software automatically computes sensitivity values
- Pressure Response table provides a snapshot of results including % Deviation

Transient Calibrator - Pressure Response				
		?		
Reference Sensitivity (Spress) 22.0878 mV/MPa at	138 MF	<sup>y</sup> a		
Spress = M x Lref + B				
Reference Pressure Tolerance (% Spress) 2.0000	Lref (MPa)	138		
Difference from Prev. (% Spress) -4.3284	M (mV/(MPa)²)	3.2036E+3		
	B (mV/MPa)	0.000000		
	Std Dev (mV/MPa)	0.273549		
Pressure Response Curve Pressure Response Table				
268.00-	· · · · ·			
240.00-	Pressure Outp (MPa) (m)			
220,00-	0.77 16.5	57 0.0176		
200.00-	3.19 69.8			
180.00-	6.67 146.			
	12.07 267.	06 0.0146		
E 160.00-				
(j) 160.00- j 140.00- j 120.00-				
100.00-				
80.00-				
60.00-				
40.00-				
16.00- 0.00 2.00 4.00 6.00 8.00 10.00 12.00 13.0	0			
Pressure (MPa)		ose		

#### **Transient Calibrator - Pressure Response**

K9903C calibrates at predetermined levels and calculates linearity over the testing range

SPECIFICATIONS			
Performance			
Calibration Pressure Range	0 to 150 psi	0 to 1.0 MPa	
Pressure Step Rise Time (nominal)	5 ms		
Reference Gauge Range (FS)	0 to 150 psi	0 to 1.0 MPa	
Reference Gauge Accuracy	0.2 % FS		
Size ( L x W x H) [actuator only]	22 x 24 x 24 inch	560 x 610 x 610 mm	
Weight [actuator only]	50 lb	23 kg	
Reservoir Maximum Pressure	200 psi	1.37 MPa	

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#### **Calibration Certificate**

K9903C automatically generates customizable calibration certificates for printing and archiving



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