

HYDRAULIC IMPULSE CALIBRATOR

PERFORMANCE (ACTUATOR)

Manufacturer Model Number	PCB	913B02	[1]
Amplitude Range (useable)	psi [Bar]	200 to 15,000 [13.8 to 1034.2]	
Typical Rise Time	Ms	3	[2]
Typical Pulse Duration	Ms	6 to 8	[2]

PERFORMANCE (REF TRANSDUCER)

Manufacturer Model Number	PCB	136A	[1]
Sensor Type		Charge Piezoelectric	
Sensing Element Material		Tourmaline	
Sensitivity (+/- 15%)	pC/psi [pC/kPa]	0.2 [0.029]	
Measurement Range	psi [Bar]	15,000 [1034.2]	
Resolution	psi [kPa]	0.5 [3.45]	[3]
Resonant Frequency	MHz	≥ 1.0	
Rise Time (Reflected)	μs	≤ 3.0	
Linearity	% FS	≤ 0.5	
Capacitance	pF	10	

PERFORMANCE (CHARGE AMPLIFIER)

Manufacturer Model Number	PCB	443B02	[1]
Time Constant	s	10 to 100,000	[4][5]
Frequency Response (-10%)			
High Pass	Hz	0.2 or 2.0	
Low Pass	kHz	0.1, 1, 3, 10, 30, 100 or 200	
Input Range	pC	up to 100,000	
Charge Sensitivity	V/pC	0.0001 to 10	
Broadband Noise (1 Hz – 10 kHz)	μV [dB]	9 [-101]	[6]
Drift	pC/s	< 0.03	[7]

PHYSICAL

Two-port Test Manifold	Material	Brass	
Drop Tube	Material	Aluminum	[8]
Base Assembly	Material	Aluminum with Delrin Pad	
Impact Mass	Material	Stainless Steel	[9]
Piston with O-ring	Material	Stainless Steel	
Oil Couplant	Material	Dow Corning 200	[10]
Shop Rags	Material	Cotton	
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Shop Rags	Material	Cotton	

All specifications are at room temperature unless otherwise specified.

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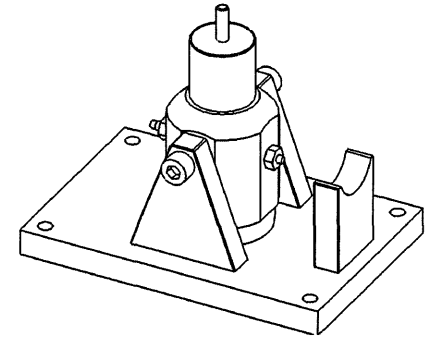
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In the interest of constant product improvement, specifications may change without notice.

K9913C CALIBRATION SYSTEM COMPONENTS*

Qty 1	TMS 9913 Hydraulic Impulse Calibrator
Qty 1	PCB 108A04 Verification Pressure Transducer
Qty 1	PC System Controller, includes PC, Flat Panel Monitor, and Printer
Qty 1	National Instruments PCI 4461 24-bit Data Acquisition Card
Qty 1	PCB 482A21 ICP Sensor Signal Conditioner
Qty 1	TMS Automated Impulse Calibration Software
Qty 1	Microsoft Access for Transducer Database
Qty 1	Microsoft Excel for Certificate Print Generation

PCB 913B02 two-port manifold shown assembled in base with piston and transducers installed, in impact-ready position.



* System also available as option to TMS 9155 Accelerometer Calibration Workstation (reference model 9155D-913)

NOTES:

- [1] See manufacturer data for full specifications
- [2] Measured using Dow Corning 200 silicon oil
- [3] Typical value, dependent upon range setting and cable length used in charge amplifier system
- [4] Dependent upon gain setting
- [5] Medium TC mode 10, 100, or 1000 s. Long TC mode up to 100,000 s
- [6] Measured at gain of 1mV/pC with 1nF cap
- [7] In long TC mode only
- [8] 3 ft (91 cm) in length
- [9] Variety of sizes, configurable up to 9 lb (4 kg)
- [10] 120 mL

Accessories:

- 1x 003C10 cable
- 1x 012A03 cable
- 1x 061M149 adapter
- 1x 061M150 adapter
- 1x 061M151 adapter
- 10x 065A06 ¼" seal
- 10x 065A09 ½" seal
- 1x sieve

Project Engineer:

Product Manager:

Mkt Team Leader:

Spec Number:

PS-0058

Date: 8-16-12

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Date: 8/16/12



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