



MODEL 9901C

## HIGH FREQUENCY SHOCK TUBE

- Measure resonant frequency of pressure sensors
- Estimate high frequency response of pressure sensors
- Allows high frequency sensitivity calculation

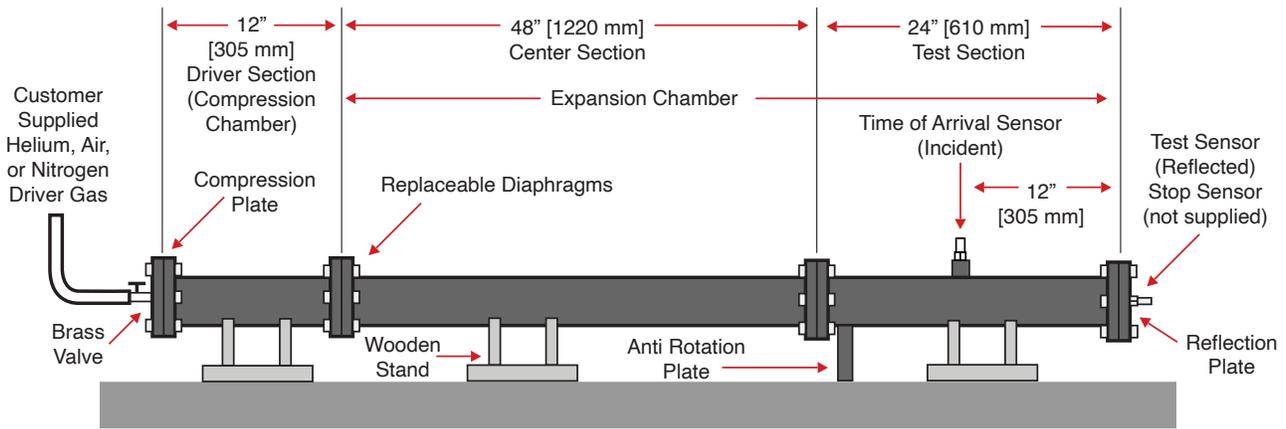
### TYPICAL APPLICATIONS

- Explosive ordnance disposal suit research
- Body armor research
- Research & development

### LAB ACCURACY TO THE FIELD

The High Frequency Dynamic Pressure Sensor Calibration Shock Tube Model 9901C is used for the dynamic characterizations on a wide range of pressure sensors. The system produces a shock wave by the sudden burst of a replaceable diaphragm mounted in the tube. Utilizing the sensors the amplitude and the timing of the shock wave can then be measured for engineers to calculate the sensitivity of a test sensor mounted in the end of the shock tube. The frequency response and resonant frequency of the test sensor may also be measured as a result of this shock wave.

APPROXIMATE SHOCK PRESSURES AS A FUNCTION OF DIAPHRAGM					
Required Driver Pressure (psi [kPa])	Incident Shock Pressure (psi [kPa])	Reflected Overpressure (psi [kPa])	Diaphragm Material	Diaphragm Material Thickness (in [mm])	Driver Gas
1400 [9700]	180 [1200]	1050 [7200]	Aluminum	0.064 [1.6]	Helium
880 [6100]	144 [1000]	790 [5400]	Aluminum	0.04 [1]	Helium
760 [5200]	130 [900]	690 [4800]	Aluminum	0.032 [0.8]	Helium
423 [2900]	90 [600]	435 [3000]	Aluminum	0.02 [0.5]	Helium
760 [5200]	58 [400]	245 [1700]	Aluminum	0.032 [0.8]	Nitrogen
225 [1600]	32 [200]	110 [800]	Mylar <sup>[1]</sup>	0.01 [0.3]	Nitrogen
7 [50]	3 [20]	6.6 [50]	Mylar <sup>[1]</sup>	0.001 [0.03]	Air



**Shock Tube Diagram**

SPECIFICATIONS		
<b>Physical</b>		
Driver Section Dimensions (Inner Diameter x Length)	2 in x 12 in	50 mm x 305 mm
Driven Section Dimensions (Inner Diameter x Length)	2 in x 72 in	50 mm x 1 829 mm
Driven Gas	Dry air	
Driver Gas	Dry air, helium, other inert gas	
Mounting Stand Footprint (Length x Width)	96 in x 11 in	2 438 mm x 280 mm
Incident Position Pressure Ports	QTY. 2	
Reflected Position Pressure Ports	QTY. 1-2 <sup>[2]</sup>	

SUPPLIED ACCESSORIES
ICP® Pressure Sensors, Signal Conditioning, and Cabling
Mounting Adaptors for Sensors with PCB 112 Series and 109 Series Form Factor
Consumable Diaphragms

[1] Mylar diaphragms may be stacked for higher pressure levels.  
 [2] Two separate end plates are included. One with a single port, and another with dual ports for side-by-side comparison testing.