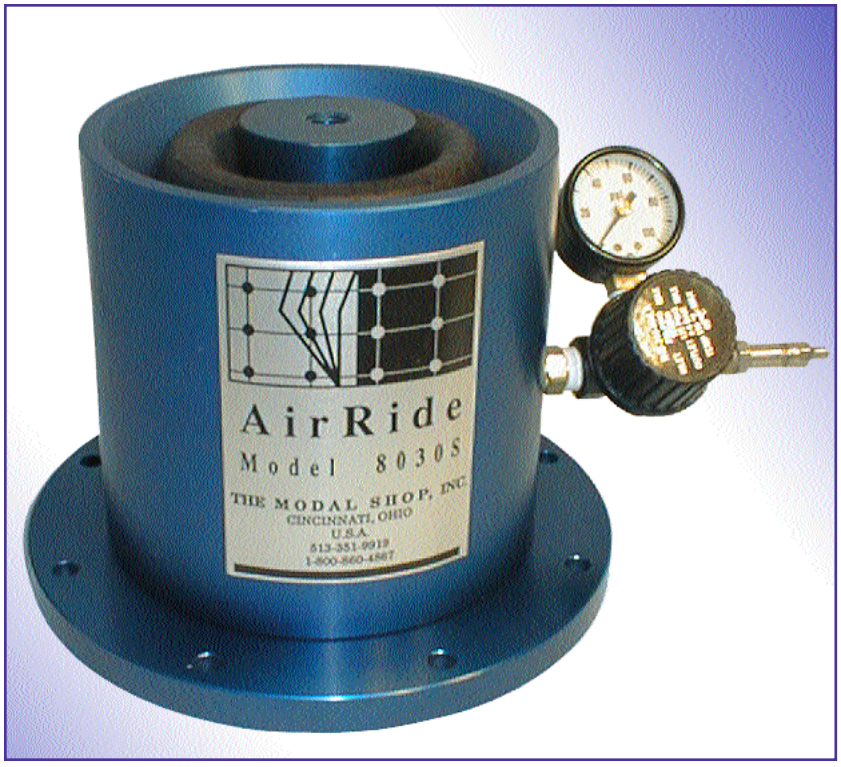
MODEL 8030S

AIRRIDE MOUNT



The Model 8030S AirRide provides excellent isolation and support of heavy structures during modal testing. AirRides meet the modal challenge of keeping the mounting (rigid body) frequencies well below the frequency of the first deflection mode. Used extensively for "body-in-white" vehicle modal tests, they offer a typical mounting frequency of 1.35 Hz for a 310 lb. mass. Since the natural frequency does not vary appreciably with load, several mounts may be used to support a structure at various loading points with good agreement on overall system mounting frequency. AirRides offer the highest degree of isolation of any type of vibration isolator.

PRODUCT BENEFITS:

- Provides extremely low mounting frequencies for large test structures
- Eliminates "chatter" seen in coil springs
- Eliminates multiple mounting frequencies, since AirRide natural frequency does not change significantly with changes in load
- Compact in size, light in weight
- Pressure regulator & gauge

TYPICAL APPLICATIONS:

- Body-in-white
- Natural frequency isolation
- Critical frequency isolation
- Modal testing
- Vibration isolation

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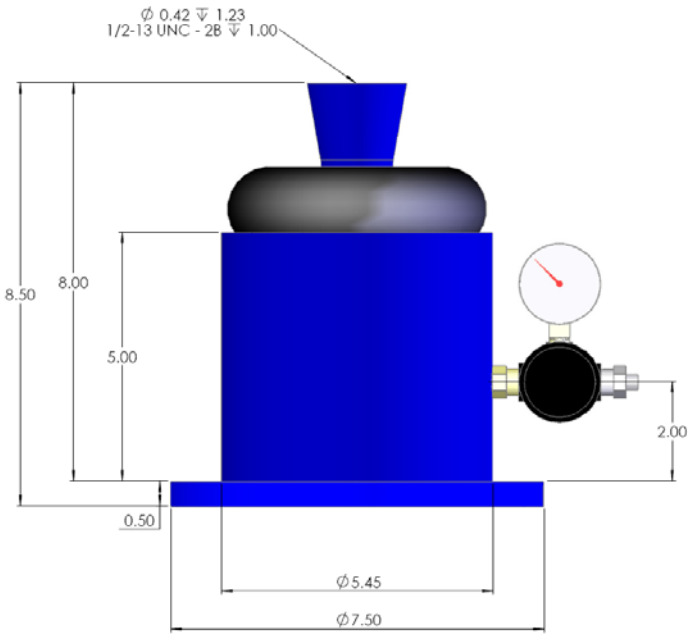
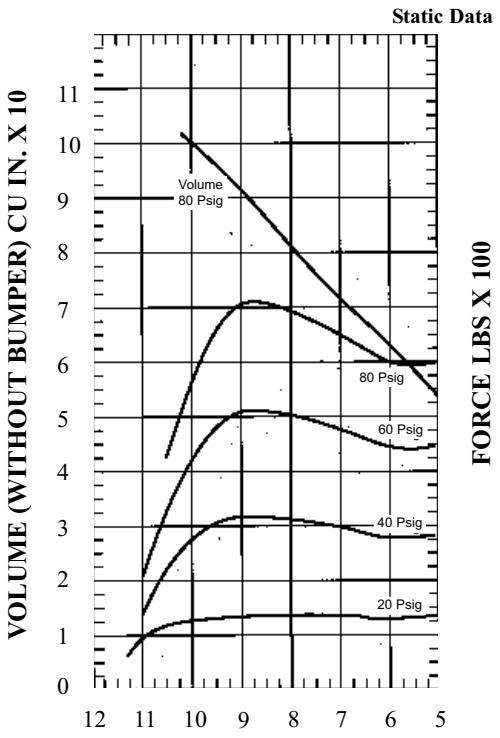
The AirRide functions as an "air spring" to support and isolate structures for modal testing. For good results in modal testing, one goal is to separate the last rigid body frequency from the first deflection mode frequency by a factor of 5 to 10. By achieving this separation, the residuals of the rigid body modes do not contribute appreciably to the deformation modes. This is accomplished by using a relatively "soft" mount to achieve the lowest rigid-body frequencies possible. The AirRide provides a soft support utilizing a column of compressed air.

The AirRide is a rubber/fabric bellows which contains a column of compressed air. The rubber bellows itself does not provide force or support load; this is accomplished by the column of air. The bellows is made of four layers of rubber, with two plies of fabric reinforced rubber, between two more layers of calendered rubber. The bellows is mounted on a metal case with a 1/4 NPT air inlet.



RECOMMENDED AIRMOUNT DESIGN HEIGHT



HEIGHT INCHES

Dynamic Characteristics at 8.0 in. Design Height (as shown graphically at left)				
Volume @ 80 PSIG = 81 in³			Natural Frequency	
Gage Pressure (PSIG)	Load (lbs.)	Spring Rate (lbs./in.)	CPM	Hz
40	310	58	81	1.35
60	500	77	74	1.23
80	680	96	71	1.18

Installation:
Mouting Pillar: 1/2-13 UNC 2B x 1 inch depth
Mounting Base: eight 5/16" mounting holes equally spaced on a Ø6.75" bolt center.

AirRide must be mounted on a smooth, flat surface. A convenient pressure gauge and regulator are included for easy set up and pressure monitoring. Air leaks may occur over time while not connected to line pressure (typical 4 psi/hour, no load, over 60 to 25 psi range).

Other TMS Products For Structural Test Applications

- **Large Channel Signal Conditioning:** 440 Series offers a flexible, compact solution for acceleration, sound pressure, and force sensor signal conditioning. When using tens, hundreds or more channels of sensors, the modular architecture allows great flexibility and scalability for users to add or change testing capabilities in the future.
- **Model 400B76 TEDS Sensor / Computer Interface Kit:** Offers single mouse click read and write of TEDS data using your Windows PC. Model 400B76 supports more TEDS templates than any other available TEDS sensor interface kit.
- **Model 2050A Lateral Excitation Stand**: Offers convenient mounting of vibration shakers for structural testing.
- **Model 8032S AirRide Test Structure Support Fixture**: Provides excellent isolation and support of structures (up to 1790 lbs) during modal testing.

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