



Micro & Mini-SHED's

Is a full sized SHED just too big for your testing needs?

The Analytical Process Systems, Inc. Micro and Mini-SHED's (Sealed Housing for Evaporative Determination) are environmental test chambers with separate electrical control and pneumatic sections. Configurable for a variety of applications related to emissions testing the mini-SHED is commonly used for small engines, canister preconditioning, and permeation testing of fuel system components.

Based on specific application needs the mini-SHED is available with a stainless steel or aluminum test chamber and a heavy duty all steel welded frame and enclosure. APS also includes convenience items such as heavy duty lockable casters and fork lift tubes.



Test Chamber

The environmentally sealed and isolated test chamber is sized to meet customer specifications and testing requirements. Specifically designed for your application, APS provides observation windows as required. Bulkheads are provided for tubing for sampling and process use plus signal connections for instrumentation within the test chamber.



Control System Components:

- ◆ PC based control system
- ◆ Data acquisition and automated control
- ◆ Emergency stop system
- ◆ Power for devices under test
- ◆ Optional Variable Volume (VV) type lung control system based on test chamber pressure - internal for mini-SHED and external for micro-SHED
- ◆ Temperature controller - heating and cooling capacity
- ◆ Safety systems -
 - Hazardous gas monitoring
 - Pre-test chamber purging
 - Interlocks
- ◆ Optional hydrocarbon monitoring analyzer
 - FID 0-100,000 PPM

The APS mini-SHED offers a cost-effective and convenient method for smaller testing requirements where a full sized SHED is too costly or large for the application. Systems are available for permeation testing, evaporative emission monitoring, ORVR testing, canister testing or a combination of these applications. APS's engineering team will work with you to develop a system that meets all your requirements.

APS mini-SHED's include the following features:

Chamber enclosure	All internal surfaces compatible with Methanol, Ethanol, and Gasoline vapor. Insulated to minimize heat transfer to ambient surroundings. Air tight - all joints and seams are either welded or sealed. Tube penetrations for extracting samples to measure the mass of hydrocarbon and/or methanol in the enclosure as well as diagnostic purposes.
Chamber door	Outward opening with heavy duty hinges and latch. Gasketed to provide an airtight seal. Limit switches and automatic latches for status indication.
Viewing windows	Heat tempered, screen reinforced glass. Located in one wall and the door. Additional locations available upon request.
Enclosure electric	Lighting to illuminate the interior with the door open or closed. Explosion-proof/Intrinsically safe pushbuttons for door control and emergency alarm activation (human entry enclosures only). One spare explosion-proof 115 VAC, 60 Hz (240 VAC, 50 Hz) power receptacle. Two RTD's mounted at the mid-span of the enclosure wall. Explosion-proof/spark resistant mixing blower with a minimum of one CFM per cubic foot of interior volume.
Volume control	Capable of maintaining a fixed volume for testing. Bag type, "lung system" capable of compensating for a $\pm 15\%$ volume change.
Temperature control	The heating/cooling system requires 480 VAC, 3 phase, 60 Hz (380 VAC, 3 phase, 50 Hz) power. Self-contained and independent temperature conditioning system. Capable of controlling internal enclosure air temperature air temperature between 60°F and 140°F. Stainless steel heat exchanger included for temperature control.
Acquisition and control	PC based operator interface and control program. Analog calibration routines provided in the software.

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