



VV/VT SHED

The Evaporative Emissions Test System, Variable Volume/Variable Temperature (VV/VTS) Sealed Housing for Evaporative Determination (SHED), is designed for use in measuring automotive diurnal evaporative hydrocarbon (HC) emissions from non-operating test vehicles.



Evaporative Emissions Test System, VV/VT SHED is designed and constructed to conform to the latest standards regulations and executes the test methods and procedures:

1. U.S. EPA Evaporative Emission Regulation, 40 CFR Part 86, subpart B, 1993 & 1990 versions.
2. California Air Resources Board's (CARB's) Evaporative Emission Regulations for light passenger cars, revised 20 1991 and 1996.
3. Euro III, IV, V, & VI, EEC 98/69, parts relevant to Diurnal Evaporative Emissions and Hot Soak Test.
4. GB/T 18352.1, 18352.2

Typical Specification

15°C to 45°C Temperature Control range

≤±0.5°C Instantaneous Temperature Control tolerance

≤±0.2°C average temperature control during temperature vs time profile:

≤±25Pa pressure control during temperature vs time profile

≤±0.5% Volume calibration accuracy

≤±0.05g enclosure background emissions

System Design & Features

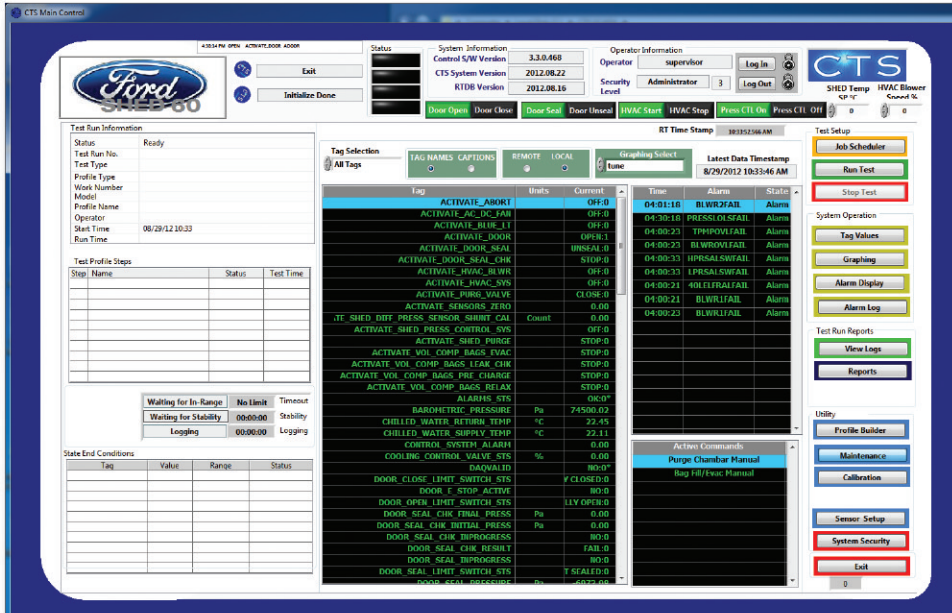
- > Fully welded stainless steel construction to meet LEV testing
- > Multiple vehicle door configurations available
- > Inflatable seal system for sealing main vehicle door
- > Zero leakage butterfly valve for purge air
- > Volume compensation using impermeable bags
- > Temperature compensated flow meter for volume determination
- > Bottom discharge air handler for uniform underbody airflow
- > Standard regulation and user defined temperature profiles
- > Interface with all major HFID analyzers



(Over for more information)

Control System

- > PLC or PC based control systems available
- > Cascade PID control for enclosure temperature vs time profile runs
- > Multiple PID sets for optimum temperature control throughout the temperature profile
- > Monitoring of system safeties
- > Audible and visual annunciation of alarms
- > Manual over-ride for all critical functions



Software

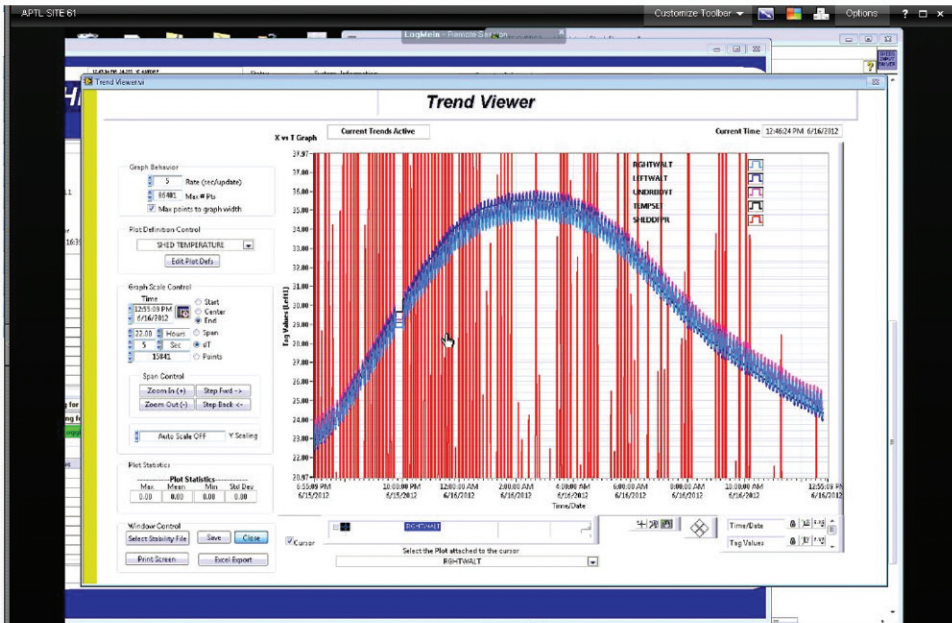
The testing software is based on Microsoft WINDOW 7 operating system and programmed using National Instruments LabView®. The automatic test system software following functions:

Editing

- > Allowing users to define test programs for all relevant test regulations.

Monitoring

- > Automatic monitoring of temperature tolerance band during a test.
- > Automatic recording of all control tolerances.
- > Automatic recording of initial and final test step parameters.
- > Automatic plotting of test temperature set points, actual values, temperature deviation and test temperature tolerance band.



Computations and Report Generation

Automatic calculation of Total HC change during each test step and report generation.

Built-In Calibrations and Maintenance Routines

- > Calibration of all sensors.
- > Calibration of SHED Volume.
- > Bags Leak check routine.
- > Door Seal Check routine.
- > Background emissions determination.
- > Retention check routine



Bringing the Desired Climate to Your Doorstep

Climatic Testing Systems

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