

Schwartz Engineering & Design

PFD Microphone's 33 Global Variables

Updated on 14 October 2009 by DMS

Geometry

- X, Y, Z dimensions of detection chamber
- Shape of detection chamber
- Distance from laser to detector
- Shape and size of injection nozzle
- Position of nozzle with respect to laser beam
- Shape and size of exhaust inlet
- Position of sound input aperture
- Shape and size of sound input aperture
- Position of sound output aperture
- Shape and size of sound output aperture

Materials

- Q of detection chamber shell
- Sound absorptive liner/surface covers
- Pop screen

Laser

- Frequency
- Stability/variability
- Power
- Beam diameter
- Beam shape

Photo Detector

- Sensitivity/gain
- Bandwidth
- Frequency response
- Dynamic range
- Noise floor (self noise)
- Rise time

Smoke or Vapor

- Particle size
- Uniformity
- Reflectivity/absorption
- Density
- Flow rate
- Laminar vs. turbulent stream

Annular Air

- Flow rate
- Turbulence
- Quantity