

EECPC CALIBRATION: ORDER THE RIGHT EQUIPMENT

APPLICATION NOTE EECPC-002

Calibration of the Engine Exhaust Condensation Particle Counter, EECPC, TSI model 3790, requires following the procedures described in Regulation 83.

The instruments needed to design the calibration bench are similar to standard particle instruments from TSI, with slight modifications for the electro spray aerosol generator.

- 3074B Pressurized Air Supply. This optional item is needed to assure that the pressurized air used in the bench is oil and particle free and dry.
- 3480 Electro spray Aerosol Generator (EAG)
 - The standard EAG needs to be modified by the manufacturer using the following parts to accomplish for higher capillary pressure drop operation
 - 2802014 Pressure Regulator 2 to 100 psi
 - 1702041 Gauge 0 to 15 psi
- 1050001 Dilution Bridge
- 3080N Electrostatic Classifier 3080 with nano DMA 3085
- 3708 Flow Splitter
- 4143 Mass Flow Meter
- Valve for adjusting make-up air flow
- 3001788 Conductive Tubing (fits 1/4" barb)
- 3001789 Conductive Tubing (fits 3/8" barb)
- 3068B Aerosol Electrometer

The Electro spray Aerosol Generator needs to be modified by the mentioned regulator and gauge to operate at elevated capillary pressure drop around 15 psi.

For generating emery oil aerosol for the calibration process see separate application note.



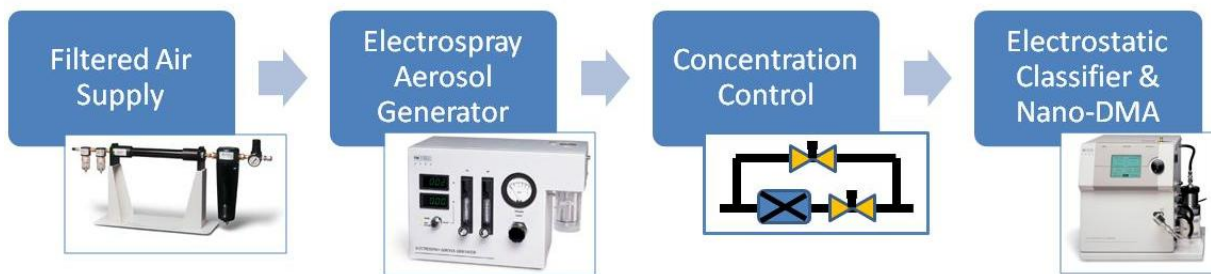


Figure 1: Aerosol Generation Part of the EECPC Calibration Setup

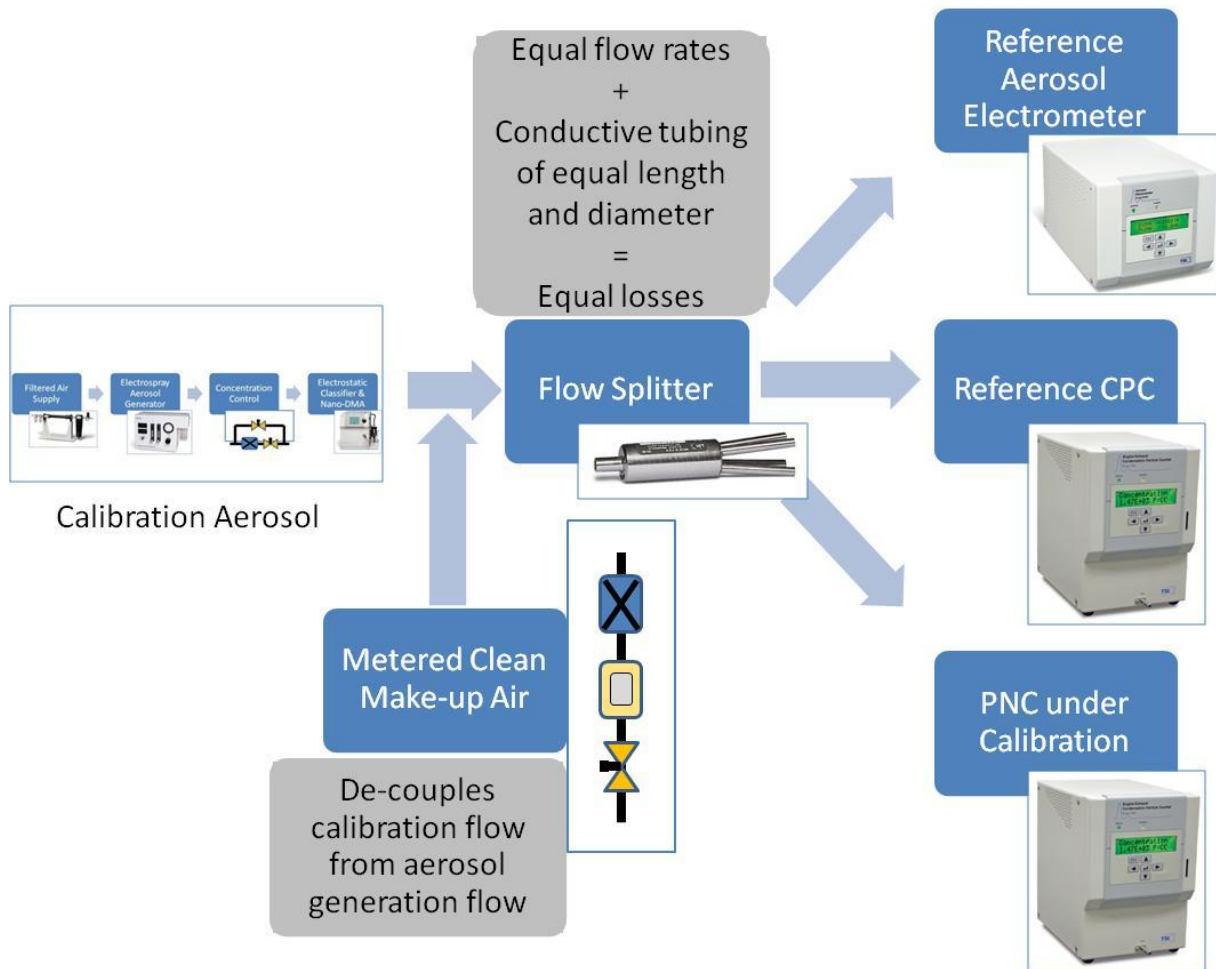


Figure 2: Schematic of the EECPC Calibration Setup



UNDERSTANDING, ACCELERATED

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