Flowrate and Effective Area Measurements of the 9H Fuel Nozzle

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The effective flow areas of several production and prototype 9H fuel nozzles were measured in an experimental facility located at the GT AE Combustion Lab. The existing GE 9H flow stand located at the Ga. Tech AE Combustion Lab was modified to include a dedicated pressure regulation system and a non-critical orifice flow measurement system so that the nozzle effective area could be determined. The flow measurement system included data acquisition hardware and software and all necessary pressure and temperature measurement devices. A photograph of this facility is shown in Fig. 1.

Figure 2 is an example of the processed data, all of which has been delivered to the customer.
Figure 2: Production nozzle effective area for various nozzle configurations.