



PILOT FUEL & CHEMICAL PROCESSING DEMONSTRATION

University of Dayton Experimental Facility for Testing (UDEFT)

DESCRIPTION

- Modular pilot scale chemical processing platform to test, demonstrate and advance new laboratory-proven processes to establish potential for commercialization
- Affordable solution for small and emerging businesses to transition chemical process technologies from R & D to demonstration
- Intermediate scale between lab and commercialization to demonstrate practicality and to provide critical design information for commercial systems
- Facility: 5000+ sq ft facility permitted for fuel storage and processing
- Process equipment includes:
 - Fixed-bed reactor with 4L catalyst volume; gas and liquid feed systems
 - Five high precision multi-head peristaltic pumps with flow rate of up to 15 GPH
 - Multiple 5 ft, 6 in ID liquid-liquid extraction columns; can be used in series, parallel or individually
 - Two 1,000 gallon fuel tanks; 1,000 gallon stainless steel tank for product collection
 - Ozone generation system, in-line ozone analyzer and ozone destruction unit
 - Flow, pressure, and temperature measurement instrumentation
 - Distillation column (planned 2019)



RECENT PROJECT

- UDRI/AFRL fuel desulfurization fit-for-purpose for use in ground equipment and vehicles
 - UDEFT was used to desulfurize 200 gallons of high sulfur Jet A using the newly developed fuel desulfurization technology

OTHER PROJECT CAPABILITIES

- Liquid fuels, biofuels, wastewater processing; liquid-liquid extraction; distillation; catalyst testing and evaluation



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