



## Product Summary

- Self Contained 110V Fuel Atomization Verification System
- Clear-View Spray Observation Chamber with Spray Verification Impingement Plates
- Jet Engine Spray Manifold with Precision Variable Flow Control
- Instrumented with Fuel Delivery Pressure and Digital Fuel Flow Meters
- Integrated Fuel Spray Vacuum Capture / Drain System
- Shipped Ready to Operate

### **Students will learn: Fundamentals of fuel nozzle spray quality and understand numerous variables associated with requisite patterns and droplet sizes.**

#### *Description*

SprayView™ is an optional fuel spray testing system for the SR-30™ Gas Turbine Engine. It has been designed with a built-in engine spray manifold to allow MiniLab™ operators the ability to test the atomization characteristics of fuels before they are actually burned in the engine. Proper atomization is important for testing alternative fuel formulations such as bio-diesels. Improper spray patterns signify non-conforming fuel formulations and can cause engine damage.

The SprayView™ system also allows MiniLab™ operators to remove their actual SR-30™ Engine Fuel Spray Manifold and test it for proper operation. Injector nozzles can be inspected for any build-up of contaminants and can be conveniently cleaned for continued reliable performance when reinstalled on the engine.

SprayView™ features a clear view spray observation chamber allowing the operator to visually inspect the fuel spray pattern. Integrated impingement plates can be lined up under each spray nozzle to verify their spray integrity. The injected fuel is collected in a tank, which can be conveniently drained after the tests. An integrated spray throttling system allows the operator to vary the fuel spray to determine the optimum spray atomization “cloud” for a particular fuel.

#### *Details*

##### **Dimensions**

**SprayView™:** 29" x 22" x 63"H  
(74 x 56 x 160 cm)  
**As Shipped:** 35" x 28" x 69"H  
(89 x 71 x 175 cm)

##### **Weight**

**SprayView™:** 160 lbs (73kg)  
**As Shipped:** 225 lbs (102kg)

##### **Operating Panel**

Digital Fuel Flow Meter  
Analog Fuel Pressure Gauge  
Keyed Master Switch  
Test Chamber Vacuum Switch  
Fuel Pump Switch

##### **Operating Requirements**

Typical Laboratory Setting Power  
**Power:** 120V single-phase 60Hz 8  
Amp  
(220V 50Hz upon request)

#### *Experimental Opportunities*

SprayView™ is primarily offered as an accessory to the MiniLab™ Gas Turbine Power System. With the growing need to do more with existing equipment, the MiniLab™ Gas Turbine Power System finds itself being used by undergraduate students working to gain an understanding of the Brayton Power Cycle as well as researchers testing alternative fuel formulations for performance and emissions results. The ability to verify fuel integrity and to check an existing SR-30™ engine fuel manifold for potential fuel injector clogging contaminants are major considerations for using the SprayView™.

- Check spray pattern and integrity of various heavy fuel formulations.
- Verify proper operational integrity of in-service engine spray manifold.
- Integrating various atomization sensors such as lasers for advanced research.

#### *Purchase Specifications*

- An atomization system for testing heavy fuels.
- A see through spray observation chamber.
- Unit to include integrated spray verification-impingement plates.
- Built-in fuel throttle.
- Vacuum fuel collection system.
- Stainless steel fuel tank.
- Stainless steel cabinetry.
- Included engine spray test manifold.
- An electric fuel pump.
- A mechanical fuel pressure gauge.
- A digital fuel flow meter.
- Keyed master power switch.
- Built-in locking casters for easy portability.
- Fully assembled and ready to operate.
- Provided with a comprehensive Operator's Manual.



**SprayView™ has a free two year warranty on the entire system**  
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All SprayView™ specifications are subject to change