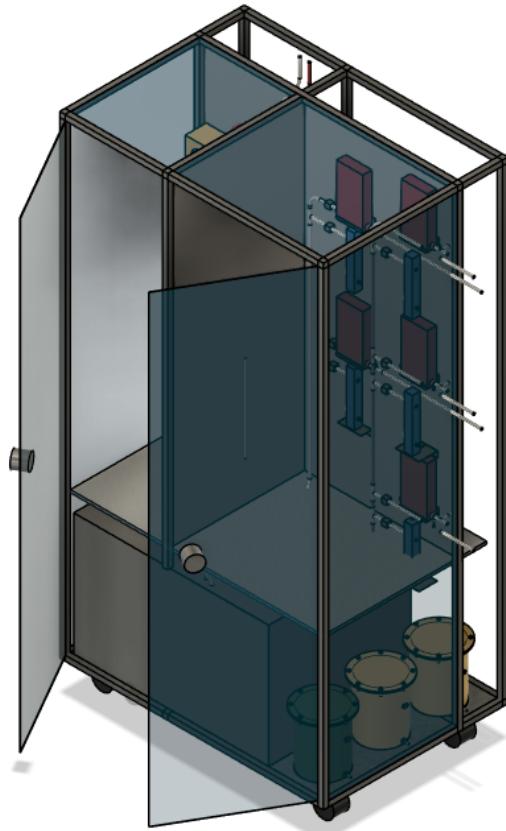




muvrlabs



Automated Filter Test Rig
ASTM D6646

Automated Filter Tester

Our automated filter tester is engineered to evaluate the accelerated hydrogen-sulfide breakthrough capacity of granular and pelletized activated carbon in full compliance with ASTM D6646, delivering precise, repeatable results through fully automated sequences. It integrates high-accuracy mass flow controllers, humidity and temperature regulation, and an electrochemical H₂S analyzer for end-to-end testing under controlled conditions. The system's custom SCADA interface, backed by an industrial SQL database, provides real-time monitoring, data logging, and one-click PDF report generation.

Introduction to ASTM D6646

ASTM D6646 is a standardized test method published by ASTM International for determining the accelerated hydrogen sulfide breakthrough capacity of granular and pelletized activated carbon. The procedure involves passing a humidified air stream containing 1 % by volume hydrogen sulfide through a known volume of activated carbon until a breakthrough concentration of 50 ppmV is detected in the effluent gas. From this, the H₂S adsorption capacity per unit volume of carbon at 99.5 % removal efficiency—expressed in grams of H₂S per cubic centimeter of carbon—is calculated. Primarily used to compare the relative performance of different carbon grades under controlled laboratory conditions, this method does not simulate field conditions encountered in odor control applications such as sewage treatment plants and pump stations. To ensure consistent mass transfer characteristics, the standard applies only to granular and pelletized activated carbons with mean particle diameters less than 2.5 mm

Key Features

> Full Automation

Custom test profiles with start/stop, auto-purge, and end-point shutdown.

> Humidity & Temperature

Built-in bubbler and temperature-controlled bath maintain $\geq 80\%$ RH at 25 °C throughout the test.

> Custom SCADA & Database

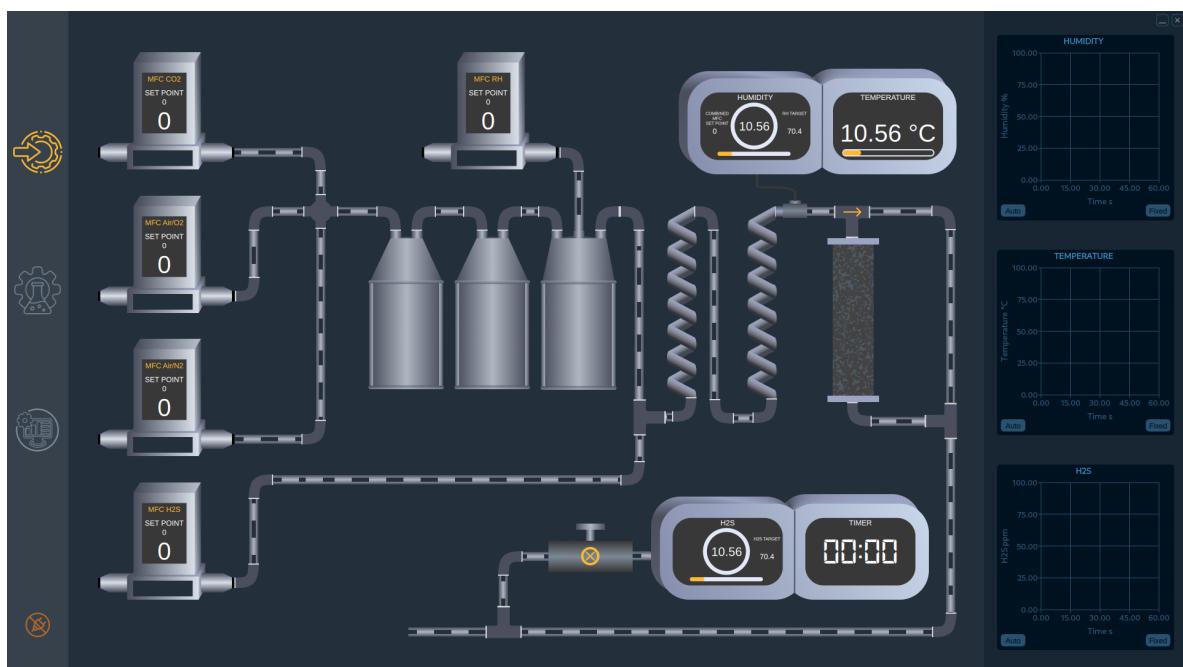
SCADA HMI with and Modbus RTU connectivity, real-time trending, alarm management, and industrial SQL (PostgreSQL).

> PDF Report Generation

Auto-formatted, one-click reports include breakthrough curves, test conditions, and sensor logs.

> Service & Support

12-month equipment warranty and on-site corrective maintenance



Technical Specifications

Component	Parameter	Range	Accuracy
MFC 1 (N ₂)	Flow rate (SLPM)	0.6 - 30	±1 % SP
MFC 2 (O ₂)	Flow rate (SLPM)	0.2 - 10	±1 % SP
MFC 3 (CO ₂)	Flow rate (SLPM)	0.2 - 10	±1 % SP
MFC 4 (N ₂)	Flow rate (SLPM)	0.2 - 10	±1 % SP
MFC 5 (H ₂ S)	Flow rate (SLPM)	0.1 - 5	±1 % SP
Humidity Control	RH (%)	5 - 95	±3 % RH
Humidity Sensor	RH (%)	0-100	±1.8 % RH
Temperature Sensor	Temperature (°C)	0-70	±0.5 °C

Contact

For quotations, demonstrations, or technical inquiries, please contact:

Muvrlabs Pvt Ltd

sales@muvrlabs.in | +91 9496826794 | www.muvrlabs.in