

Large Filter Test System 500 – 2000 CFM

HDT Global's Applied Research Center was established in 2003. The center works closely with the U.S. Army Research Development and Engineering Command Edgewood Chemical and Biological Center (ECBC) to design and develop improved CBRN filtration media, filters and filter systems, including testing on the M61 Joint Service General Purpose Mask (JSGPM) gas mask filter. HDT's Applied Research Center also leverages our capabilities and expertise to work with industrial and commercial customers.

TEST SERVICE CAPABILITIES

- Low Flow Rate Test System, up to 30 CFM (up to 50 m³/h)
 - Four laboratory test hoods capable of testing both adsorbent and individual protection (IP) filters
 - Capable of running two adsorbent samples simultaneously in each hood depending on test conditions
 - Detection capabilities include:
 - Four gas chromatographs (GC's) with flame ionization, flame photometric and electron capture detectors
 - Five infrared detectors
 - Mask cartridge testing up to 75 liters per minute, 2.65 CFM (up to 4.5 m³/h)
 - Larger flow rate filter testing, M18 at 10 CFM (17 m³/h) and M12 at 12 CFM (20.4 m³/h)
- Medium Flow Rate System, 30 CFM to 500 CFM (51 m³/h to 849.5 m³/h)
 - Capable of testing M48, M49, and M98 filters
 - Accommodates odd-shaped or custom-sized filters up to 24" x 24" (61 x 61 cm)
- High Flow Rate System, 500 CFM to 2,000 CFM (849.5 m³/h to 3398 m³/h)
 - Used to measure lot acceptance data for HDT Chem-X[®] filters
 - Accommodates odd-shaped or custom-sized filters up to 24" x 24" (61 x 61 cm)



Medium Filter Test System 50 – 500 CFM



Tube Testing Equipment for Filtration Media

HDT APPLIED RESEARCH CENTER

Filter Design and Testing from 2 to 2,000 CFM



CHEMICALS WE CAN TEST

- Sulfur Dioxide
- Ammonia
- Formaldehyde
- Cyclohexane
- Dimethyl Methylphosphonate (DMMP)
- Chlorine Dioxide
- Volatile Organic Compounds (VOCs)
- Solvents
- Nitrogen Dioxide
- Nitric Oxide
- Ethylene Oxide

HDT has developed a relative humidity (RH) control system that greatly reduces RH variability typically found in other currently available RH control systems. HDT's system assists in the delivery of more accurate test results. HDT's experience allows data validation through the use of material and energy balances as well as Temperature, Pressure, Dew Point, and Flow Measurements.

HDT delivers a full interpretation of all test data in a professional quality, presentation-ready, analysis report.

FILTER DESIGN SERVICES

- Low cost rapid prototyping and filtration performance simulation models that include
 - Adsorption Equilibrium
 - Mass Transfer Rates
 - Chemical Reaction Rate
 - Axial Dispersion
- Bring HDT your application and we will provide a solution

LABVIEW LAB AUTOMATION SERVICES

- HDT proprietary data acquisition and control code developed using National Instruments LabVIEW software
- Custom designed to meet individual laboratory business needs with easily configurable software and hardware
- Automated control of all flow streams; air, challenge chemicals, and RH control. Communication interface software has already been developed for common control devices such as Brooks mass flow controllers.
- Real time plots of all measured parameters and functional combinations of parameters displayed for operator inspection

HDT Global

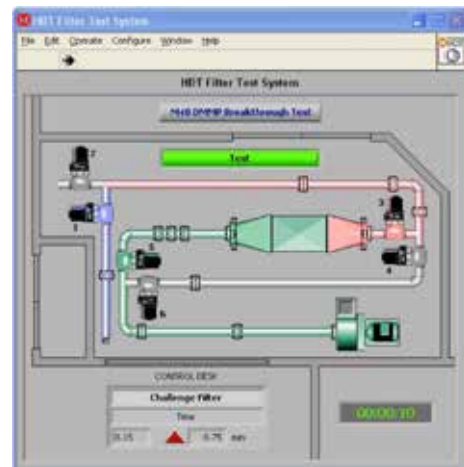
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Small Test Hood with Dual Tube Test Capability



M61 Filter Installed in Lab Test System



LabVIEW Front Panel – Colors Indicate Air Stream States, e.g., Pink = Chemically Contaminated Air