

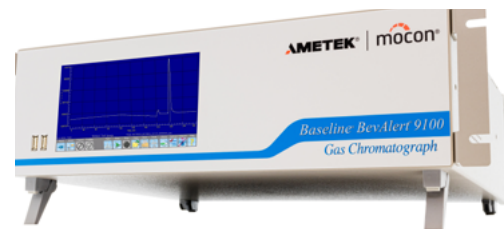
AIRBORNE MOLECULAR CONTAMINATION CLEANROOM MONITORING OF DETRIMENTAL GASES

Parts-per-billion detection utilizing gas chromatographs and hydrocarbon analyzers.

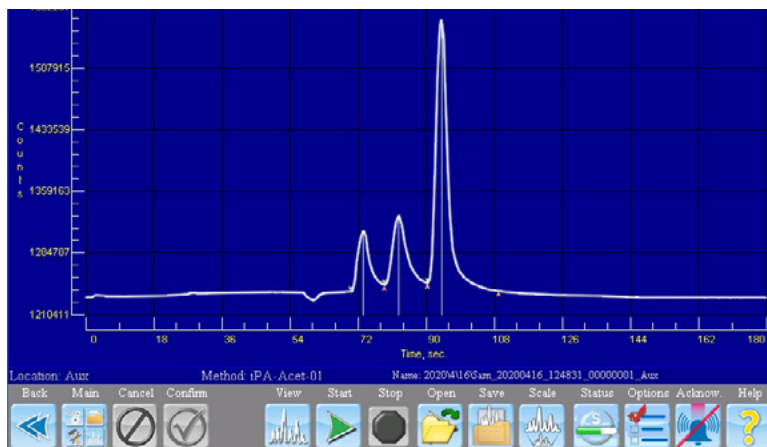


AMC VIA GAS CHROMATOGRAPHY

Airborne Molecular Contamination (AMC) can cause detrimental effects, both physically and electrically, during the production and processing of many sensitive products such as semiconductors, PCBs and optics. AMC may result from off-gassing of volatiles or direct contact with other materials. AMETEK MOCON offers the BASELINE® 9100 GC to monitor for various cleanroom solvents at low levels.



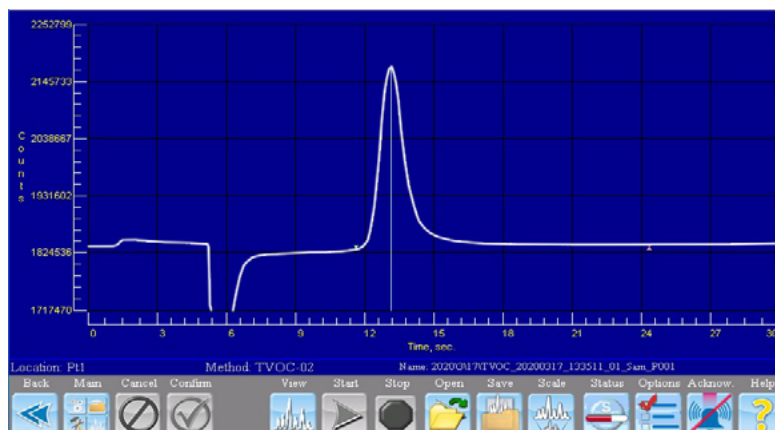
Isopropyl Alcohol (IPA) and Acetone in Air



Detector	Photoionization (PID) High Sensitivity PID (HS-PID)
Carrier Gas	UHP Nitrogen
Sample	Ambient Air
MDQ/LDL	PID: < 20ppb HS-PID: IPA < 5ppb, Acetone < 2ppb

The BASELINE 9100 GC configured for acetone and IPA is commonly used in chip manufacturer clean rooms to monitor specific AMCs. Sulfurs, ethanol, and other aromatic hydrocarbons such as BTEX can also be added to the application when necessary. Contact AMETEK MOCON to create an application to suit your needs.

Total Volatile Organic Compounds (TVOCs) in Air

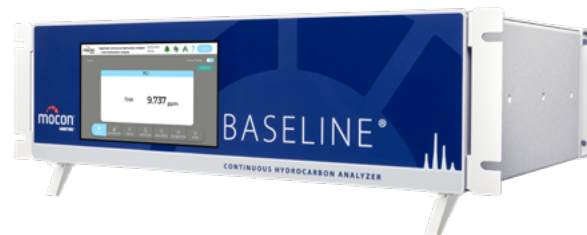


Detector	Photoionization (PID) High Sensitivity PID (HS-PID)
Carrier Gas	UHP Nitrogen
Sample	Ambient Air
MDQ/LDL	PID: < 1ppb HS-PID: < 0.05ppb (as benzene)

The BASELINE 9100 GC configured for TVOCs provides a rapid analysis of all ionizable gasses when identification of individual compounds is not required. This application can also be combined with specific organics (such as IPA and/or acetone) when a hybrid analysis is desired. TVOC content can be reported as any reference gas, such as acetone, isobutylene, or benzene.

CONTINUOUS HYDROCARBON MONITORING

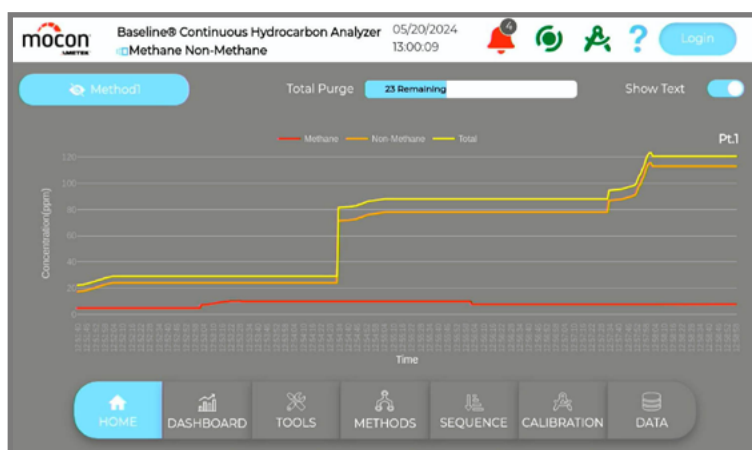
Very low levels of hydrocarbon impurities in air can leave residue on surfaces, meaning batch testing does not provide enough control or resolution to solve AMC problems as they occur. AMETEK MOCON offers the BASELINE CHA Hydrocarbon Analyzers to provide continuous hydrocarbon monitoring, total or methane/non-methane, at low parts-per-billion (ppb).



Methane/Non-Methane Hydrocarbons in Air



Detector	Flame Ionization (FID)
Carrier Gas	UHP H ₂ , Zero Air
Sample	Ambient Air
MDQ/LDL	< 30ppb

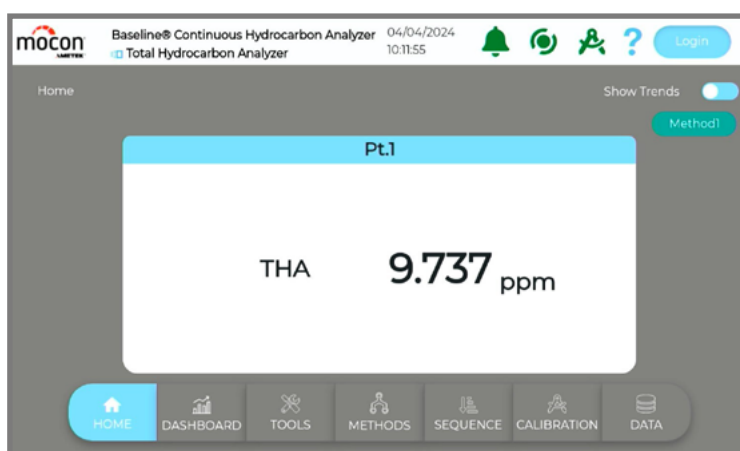


The BASELINE CHA Methane/Non-Methane analyzer uses a flame ionization detector (FID) in conjunction with an oxidation catalyst that oxidizes all hydrocarbons except methane. This produces a methane-only measurement which is then subtracted from the total concentration to determine the non-methane hydrocarbon reading. CHA Analyzers boast significant internal data storage and easily integrate with data analysis systems for documentation of Methane/Non-Methane levels.

Total Hydrocarbons in Air



Detector	Flame Ionization (FID)
Carrier Gas	UHP H ₂ , Zero Air
Sample	Ambient Air
MDQ/LDL	< 10ppb



The BASELINE CHA Total Hydrocarbon Analyzer is a versatile instrument for use in numerous applications ranging from parts-per-billion level detection for trace analysis in ultra-pure gases to %-level for process optimization or LEL monitoring. When very low-level total hydrocarbon detection is required, this is the analyzer of choice.

CUSTOM PROCESS GC APPLICATIONS



The applications shown in this brochure are common examples of the different analyses we have created for our customers. Contact us to discuss your detection needs. AMETEK MOCON will select the best detector for your application commonly utilizing Photoionization (PID), High-sensitivity Photoionization (HS-PID), Flame Ionization (FID) or Thermal Conductivity (TCD). Analytical arrangements typically involve a single-valve, two-column configuration, but may vary depending upon the application.



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MB-PROA-0164-Airborne Molecular Contamination-A044.1-0524-1.1

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