C184-E056B

SHIMADZU
Excellence in Science

Gas Chromatograph

Nexis GC-2060



NEW

Nexis™ GC-2060

The Next Industry Standard

01 Innovations Crafted Through Generations

02 Benchmark in Analytical Efficiency

03 Versatility Without Limits



Movie

ANALYTICAL INTELLIGENCE

Analytical Intelligence represents Shimadzu's innovative approach to automated analytical instrument optimization. This concept encompasses a suite of systems and software designed to emulate the decision-making process of expert operators. It autonomously assesses the instrument status, helps to give actionable feedback and where it can it fixes problems. By bridging the gap between varying levels of user expertise and instrument familiarity, Analytical Intelligence significantly enhances the reliability of your data.

Innovations Crafted Through Generations

Built on 70 years of technological expertise, the Nexis GC-2060 is Shimadzu's flagship GC and a new benchmark for the industry. It pairs proven reliability with ongoing innovation to boost throughput, reduce downtime, and provide laboratories with a trusted partner now and well into the future.

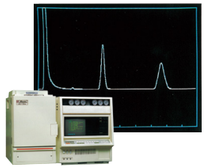
Evolution



1956

The Origin of Shimadzu GC

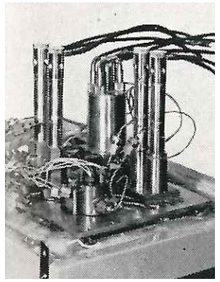
Commercialized just four years after the introduction of gas chromatography, the GC-1A established the design foundations of Shimadzu gas chromatographs and helped drive advances in the petroleum industry.



1986

Real-Time Display of Chromatograms

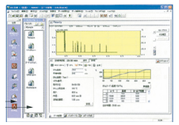
Shimadzu was among the first to use a microprocessor and color CRT display in gas chromatographs, enabling real-time instrument status and display of chromatograms for immediate monitoring and faster decisions.



1963

Multi-Detector Support

Seven years after launching the GC-1A, Shimadzu introduced six detectors and enabled simultaneous multidetector operation, a development that allowed laboratories to adapt to evolving analytical demands.

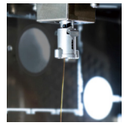


2000

Workstation Ready

As personal computers became standard in laboratories, Shimadzu introduced GCsolution™—an advanced workstation that delivered seamless, continuous analysis along with automated compound identification and quantitation, resulting in a dramatic increase in productivity.

Innovation



2017

Tool-Free Maintenance and Oven Light

Shimadzu introduced ClickTek™ for one-click column installation and a heat-resistant oven light for clear interior visibility. Together, they simplify routine maintenance.

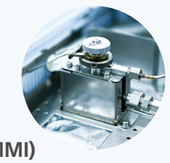
2024

Reduced Costs and More Efficient Operations

Eco Idling analyzes system usage patterns and automatically recommends the most efficient idle and run settings, resulting in measurable energy savings, lower operating costs, and clearer insight into overall efficiency.



2026 Meet the Nexis GC-2060



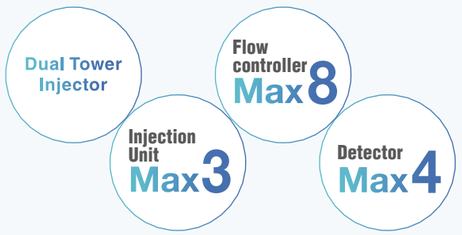
Broaden Analytical Capabilities: Multi-Mode Injection Unit (MMI)

The new MMI supports split/splitless, programmable temperature vaporization, direct injection, large-volume injection, thermal desorption and extraction modes. This expanded range of injection modes provides greater application flexibility and streamlines operation for even the most challenging samples.



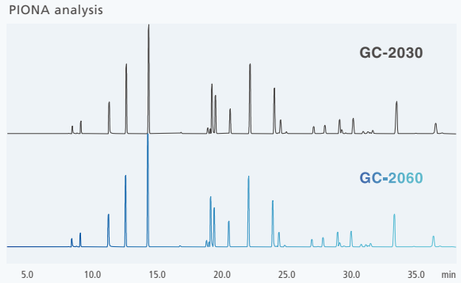
Detectors with Unmatched Sensitivity and Stability: Next-Gen FID & TCD

A complete redesign of the FID and TCD results in industry-leading sensitivity and long-term stability. The Nexis GC-2060 can also be configured with ECD, FPD, FTD, BID, and other detectors, providing the flexibility to support a broad range of applications.



A GC Crafted to Expand with Your Needs

The Nexis GC-2060 supports up to two injectors, three injection units and four detectors simultaneously. This flexibility allows one system to handle multiple applications with ease while saving valuable bench space and maximizing versatility.



Immediate Performance Right Out of the Box

Highly compatible with existing methods and consumables, the Nexis GC-2060 integrates seamlessly into your existing workflow, allowing your lab to begin using the system immediately under familiar conditions with minimal revalidation.

Benchmark in Analytical Efficiency



Overcoming Barriers to Analytical Efficiency

Common GC limitations can slow operators and reduce throughput. The Nexis GC-2060 overcomes these bottlenecks with targeted innovations that maximize uptime, simplify workflows, and directly elevate your lab's efficiency, productivity, and profitability.



Maintenance Downtime



Complexity of Sample Preparation



Gas and Power Management



Training Costs for Better GC Skills

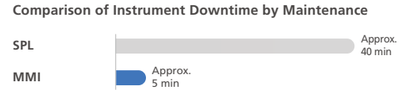
Movie

Comparison of Maintenance Time Between MMI and Conventional SPL

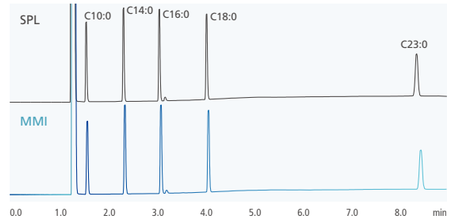
Multi-Mode Injection Units: The Near Zero-Maintenance Downtime Injection Units

The Nexis GC-2060 MMI supports split/splitless, programmable temperature vaporization (PTV), direct, large-volume injection (LVI), and thermal desorption/extraction injections in a single module. This innovative design preserves data compatibility with the conventional split/splitless injection unit (SPL), allowing you to expand capabilities without revalidating existing methods.

High Performance with Minimal Downtime



Contaminated samples often mean frequent liner swaps. In addition, slow injection unit temperature changes can cost valuable time. Shimadzu's proprietary injection unit insulation delivers excellent temperature stability plus rapid heating and cooling, cutting wait times and keeping your lab running efficiently.



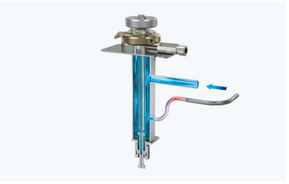
Chromatogram Comparison of FAME (Fatty Acid Methyl Esters)



SPL (Heating)



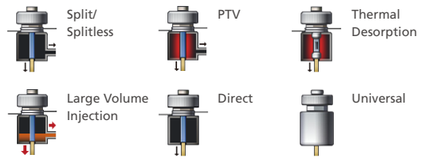
MMI (Heating)



MMI (Cooling)

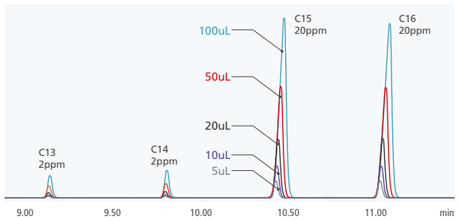
Flexible Injection Modes and Seamless Method Transfer

An intuitive software interface lets users switch instantly between split/splitless, PTV, large-volume injection, thermal desorption/extraction (TD/TE), and direct modes. A built-in universal mode streamlines method transfer from other brands or legacy instruments, minimizing revalidation and downtime.



Large-Volume Injection (LVI) Simplifies Complex Workflows

The LVI mode in the MMI concentrates samples in the injection unit, eliminating complex sample preparation steps. The bundled calculation tool speeds up method optimization, allowing users to reach the best conditions faster and more efficiently.



Chromatogram Under Large-Volume Injection (C13, C14, C15, C16)

Revolutionizing Efficiency through Detector Precision

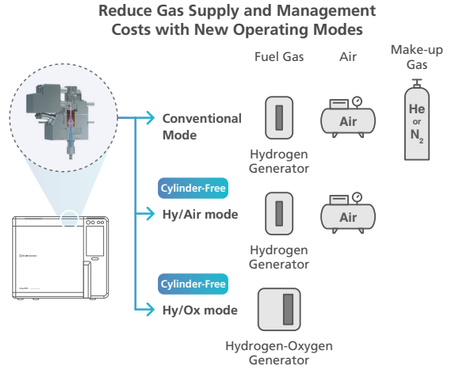
Industry-Leading Sensitivity, Linearity, and Stability

Next-Gen Flame Ionization Detector (FID)

The redesigned FID in the Nexis GC-2060 reaches a minimum detectable level of 1.0 pg C/s. In addition, it is the world's first multi-mode FID (MMF)* equipped with Hy/Ox and Hy/Air modes, which allow flexible selection of detector gases, as well as Shimadzu's proprietary Jetanizer™ and Polyarc™ modes.

*Hy/Ox, Jetanizer, and Polyarc modes are optional
*Hydrogen cylinders may also be used instead of a hydrogen generator in all modes except Hy/Ox mode.

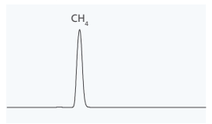
Reduce Gas Supply and Management Costs with New Operating Modes



FID Jetanizer Mode:
Compact Methanizer for CO and CO_2 detection

In Jetanizer Mode, carbon dioxide (CO_2) and carbon monoxide (CO) are catalytically converted to methane, enabling highly sensitive detection from sub-ppm levels up to 100%.

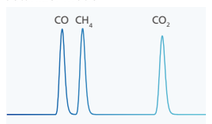
Conventional FID Mode
(No Response to CO and CO_2)



Convert to Jetanizer Mode by simply replacing the FID Jet

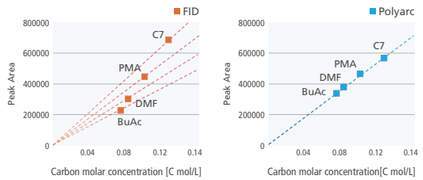


Jetanizer mode



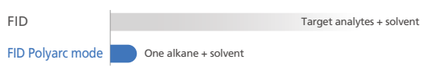
FID Polyarc Mode:
Quantify Multiple Compounds with a Single Calibration Curve

In Polyarc Mode, a uniform FID response across diverse organic compounds enables quantification with a single calibration curve, reducing calibration effort and standard preparation.

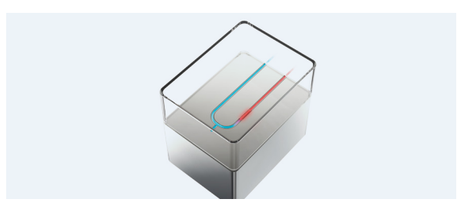


Relative Response Comparison Between FID and FID Polyarc Mode

Number of standards required for calibration curve preparation

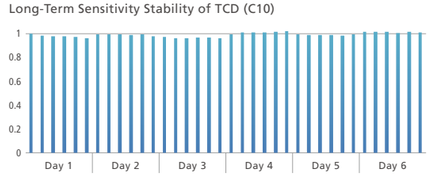


Next-Gen Thermal Conductivity Detector (TCD)



The redesigned TCD uses single-filament technology to dramatically reduce start-up time. With industry-leading sensitivity and excellent linearity, it stabilizes quickly and delivers accurate, repeatable results for a variety of gas and inorganic analyses.

Long-Term Sensitivity Stability of TCD (C10)



Comparison of TCD sensitivity stabilization time after startup

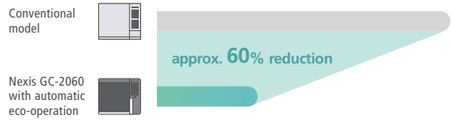




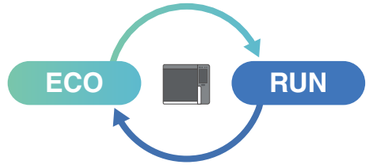
Eco Idling — The Next Standard for GC Standby

The Nexis GC-2060 is equipped with an "Automatic Eco-Operation" function that learns analytical patterns from operating history and performs optimal eco-friendly operation. The system delivers maximum performance during analysis and automatically switches to energy-saving (Eco Idling) mode during standby. In addition, the software displays the amount of gas and power savings, CO_2 emissions reductions, and cost savings.

Power consumption comparison

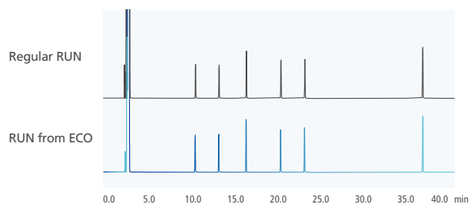


Fully Automatic Operation



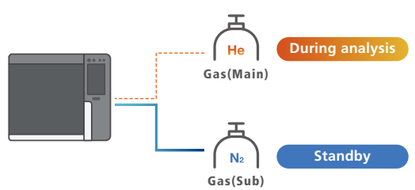
Once the initial settings are made, no manual action is required to switch to Eco Idling mode. Analysis can start directly from Eco Idling, and the system automatically returns to Eco Idling after completion.

Energy-Saving Mode Without Compromising Analytical Performance



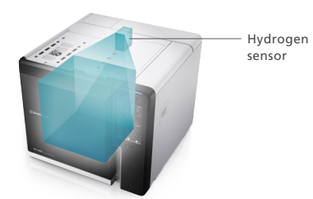
The system delivers the same analytical performance as during a regular run. In addition, the transition from Eco Idling to analysis-ready status is completed in just a few minutes.

Additional Cost-Saving Solutions



Gas Selector

Automatically switch from helium to nitrogen or hydrogen when idle to significantly reduce helium use and lower running costs.



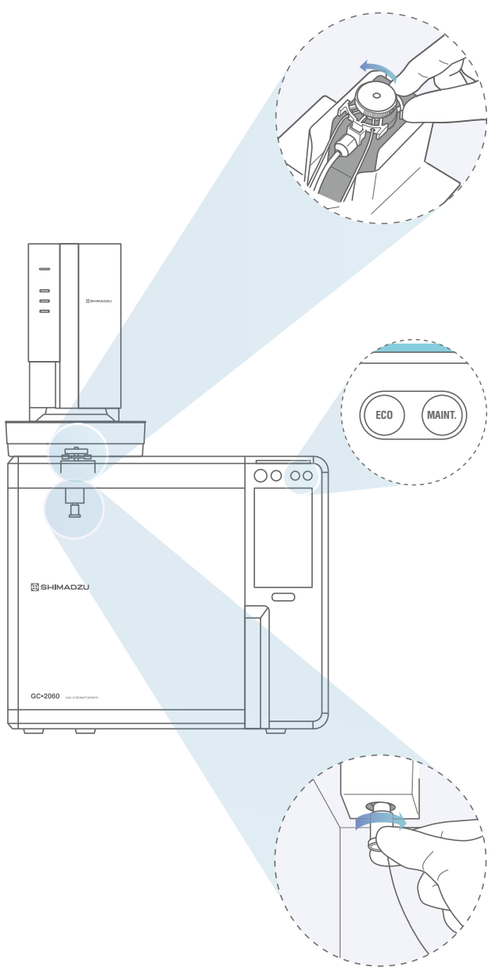
Hydrogen Carrier Gas Ready

Supports hydrogen carrier gas with a built-in hydrogen sensor for safe operation. Take advantage of hydrogen's faster diffusion to shorten analysis times and increase throughput.



Experience Effortless Control With an Intuitive Interface

Designed for Users of All Skill Levels



One-Touch Injection Unit Access

Standard ClickTek lets you open and close the sample injection unit tool-free by hand, making liner replacement quick, simple and safe.

Easy sTop

ANALYTICAL INTELLIGENCE

Press the MAINT. button and the GC automatically cools the injection unit, stops gas flow and enters a safe maintenance state. After maintenance, press the button again to restore normal standby — no complex procedures required.

ECO Button

Press the ECO button to enable Eco Idling mode, which automatically reduces gas flow and power. Press again to resume normal operation for tasks such as column conditioning. Simple to use, Eco Idling saves energy and lowers running costs.

Tool-Free Column Installation

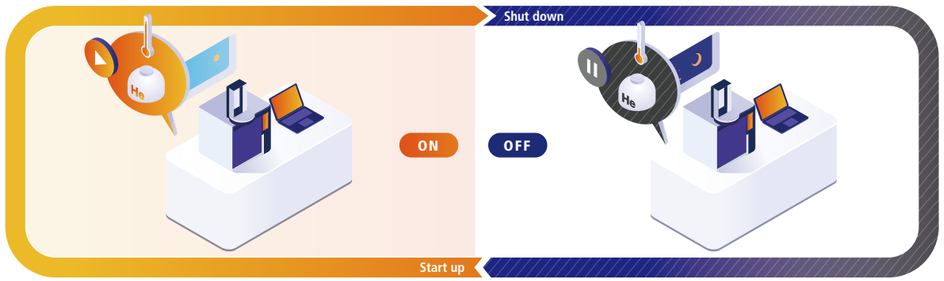
ClickTek* connector — the same reliable connector adopted with the Nexis GC-2030 — lets users quickly install columns tool-free by hand. A tactile click confirms secure locking, speeding column setup and reducing installation errors.

*Option

Automated GC Start and Stop

※ Integrated with Eco Idling for seamless energy-saving operation

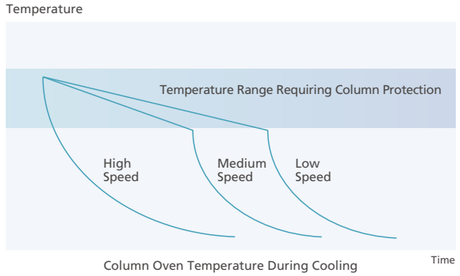
Nexis GC-2060 uses optimized sequences to automatically control gas flows and temperature for safe, unattended startup and shutdown. When idle, power and gas consumption are reduced, delivering greater cost savings than when using ECO Idling alone while also protecting the instrument.



Column Protection

ANALYTICAL INTELLIGENCE

Precise control of the oven cooling rate prevents thermal shock to GC columns, extending column lifetime and ensuring stable data quality. When connected to the optional Gas Selector and a standby gas cylinder, the system auto-switches when the main supply of carrier gas runs low, avoiding gas outages that can damage columns.



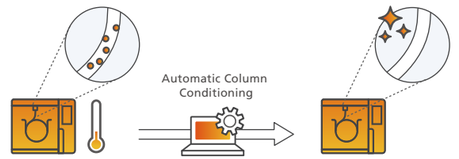
Column Oven Temperature During Cooling

Automated Column Conditioning — Clean Pilot

ANALYTICAL INTELLIGENCE

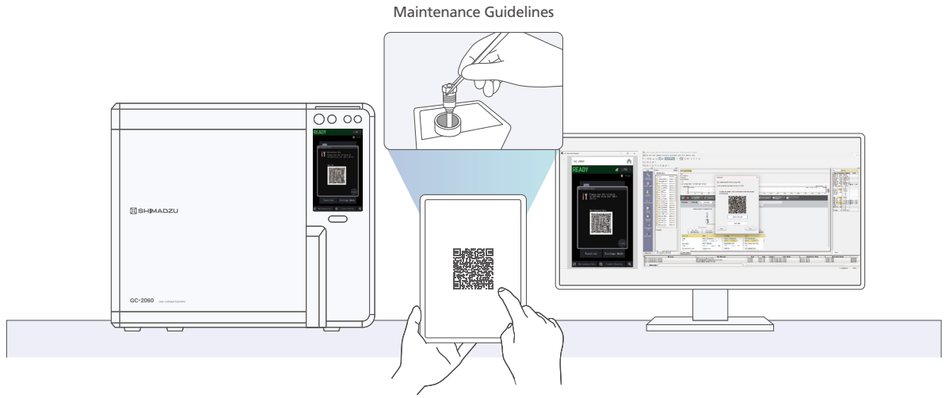
※ Integrated with Eco Idling for seamless energy-saving operation

At GC startup or the beginning of batch runs, baseline drift can occur. Clean Pilot rapidly and automatically conditions the column, reducing operator workload and ensuring more stable, reliable results.





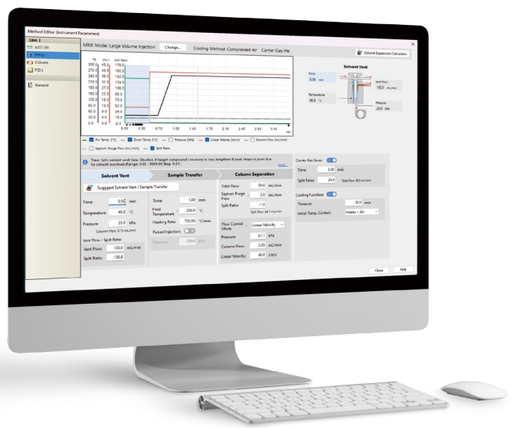
On-Demand Maintenance Support and Troubleshooting



Access step-by-step maintenance instructions and troubleshooting guides instantly from the system. Scan the QR code displayed on the GC panel to view procedure videos on your portable device or view the same content via Remote Display* on the PC connected to the GC. Fast and clear support is readily available even when network access is limited.

* An application for Windows® devices. Can be connected simultaneously with workstations such as LabSolutions™.

Intuitive Software Interface



The graphical user interface mirrors the instrument's flow path and layout, allowing gas flow and temperature settings to be visible at a glance. Clear visuals and familiar controls let users set parameters intuitively, avoiding confusion from vendor-specific terminology and operational differences. This simplifies the transition when migrating from legacy Shimadzu GC or third-party GC brands.

A Future-Proof Platform Crafted to Evolve

The Nexis series is Shimadzu's flagship GC platform, continually evolving through regular software and hardware updates. Like its predecessor, the Nexis GC-2030, the Nexis GC-2060 will receive regular updates, ensuring it remains a reliable partner as your laboratory and analytical requirements change.

2020

Gas Selector
- Helium shortage mitigation option
- Cylinder pressure detection with automatic switchover

2021

Clean Pilot — Automated column conditioning

Sample Navigator — Automatic sample injection sequence optimization

2022

2D Code Navigation — Built-in troubleshooting assistance

2023

Easy sTop — Automated injection unit maintenance

Remote Display
- Remote GC panel control
- Online Maintenance Help

2024

- Extended split ratio limit for SPL injection unit
- Higher sampling frequency for FID/TCD/ECD/FPD/FTD detectors

2025

Eco Idling — Smart gas and power management



Versatility Without Limits

Choose from a wide selection of sample preparation devices, injection units, and detectors to build a tailored Nexis GC-2060 configuration that meets your application requirements and maximizes analytical efficiency.

Precise and High-Performance Injection Units

Split/Splitless Injection Unit (SPL)*
Multi-Mode Injection Unit (MMI)
Direct Injection Unit (WBI)
Packed Column Injection Unit (SINJ)
On-Column Injection Unit (OCI)
Gas-Only Splitter (SPI)
*Inert-treatment option is available

Reliable and High-Performance Detectors

Next-Gen Flame Ionization Detector (FID)
Next-Gen Thermal Conductivity Detector (TCD)
Barrier-Discharge Ionization Detector (BID)
Flame Photometric Detector (FPD)
Electron Capture Detector (ECD)
Flame Thermionic Detector (FTD)
Mass Spectrometer (MS)

Expandability to Meet Diverse Laboratory Needs

Shimadzu's flagship GC, the Nexis GC-2060 is engineered for long-term scalability. Ongoing software updates and planned feature enhancements will keep the system current, meaning your lab will benefit from performance improvements throughout the instrument's lifetime.

Automated Pretreatment Systems

AOC-20 / AOC-30 / GI-30 / HS-20 NX Loop / Trap / HS-10 / TD-30 / AOC-6000 Plus

Columns

7-inch Standard Capillary Column / Packed Column

Options

Low-Temperature Control Solenoid Valve Set / Gas Switching Unit (Gas Selector) / Hydrogen Sensor / External Device Control Relay / Multi-Position Valve

Advanced Flow Technology (AFT)

Detector Splitting (2-way / 3-way Detector Splitter) / Backflush System

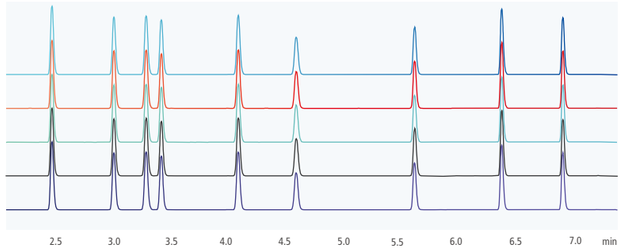
Seamless Integration with 3rd Party Autosamplers and Detectors

Nexis GC-2060 integrates with a wide range of 3rd party autosamplers, detectors, and software packages, allowing you to build systems compliant with standard methods and regulatory requirements.

Exceptional Analytical Reproducibility

The AOC-30 liquid autosampler automates sample handling to reduce operator workload and deliver continuous, high-precision analysis beyond manual capability. Shimadzu's unique injection mechanism minimizes septum wear and injection unit liner contamination while maintaining excellent reproducibility.

Repeated Analysis of Grob Test Mixture (n = 10)



Analytes	Area RSD (%)	RT RSD (%)	RT (Δmin)
n-Decane	0.147	0.005	0.0001
n-Octyl alcohol	0.153	0.005	0.0002
2,6-Dimethyl phenol	0.151	0.006	0.0002
n-Undecane	0.158	0.004	0.0001
2,6-Dimethyl aniline	0.156	0.005	0.0002
Methyl n-nonanoate	0.137	0.004	0.0002
Methyl n-caprate	0.137	0.004	0.0002
Methyl n-laurate	0.136	0.004	0.0003
Dicyclohexylamine	0.134	0.004	0.0002



Pharmaceuticals

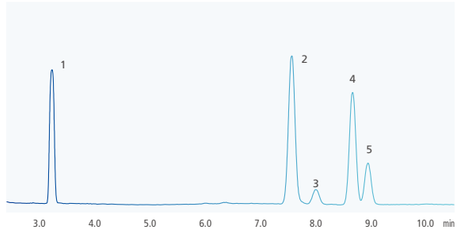
USP 467
Residual Solvent Analysis in Pharmaceuticals

Headspace sampling keeps the sample at a constant temperature and injects the vapor-phase components into the GC at a fixed volume. It is used to analyze the content and stability of residual solvents in solids and liquids. The HS-20 series' multi-functional, user-friendly design supports a wide range of analyses — from research to quality control.



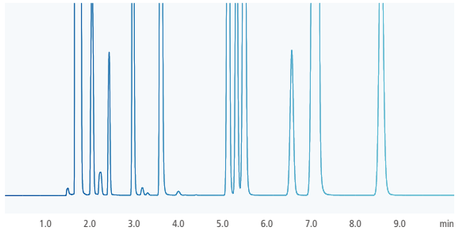
Nexis GC-2060 + HS-20 NX

USP 467 Class 2A – Procedure A (Water-Soluble)



1 1,1-Dichloroethane **2** 1,1,1-Trichloroethane **3** Carbon tetrachloride **4** Benzene **5** 1,2-Dichloroethane

USP 467 Class 2A – Procedure B (Water-Soluble)

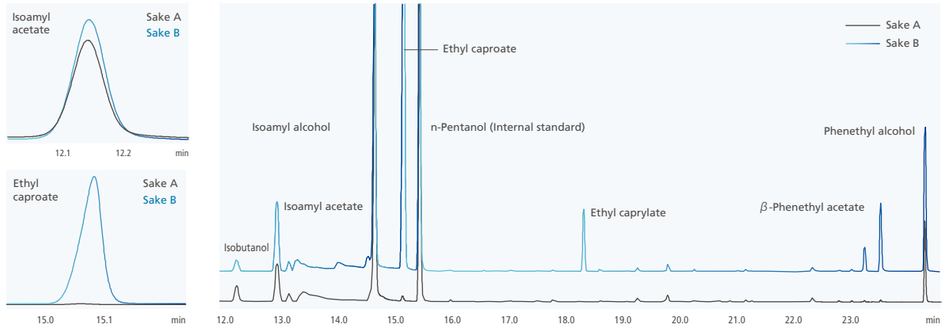


Food

Analysis of Odorous Compounds Using the Multi-Mode Injection Unit (MMI) and Thermal Desorption

MMI enables thermal desorption analysis without applying excessive heat to the sample during injection. By using a dedicated MonoTrap for extraction and concentration, even trace-level odorous compounds can be analyzed. This method allows for investigating the causes of odors by comparing different sample materials.





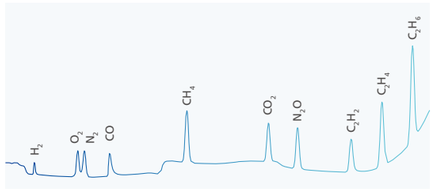
Comparison of Chromatograms of Aroma Components in Different Sake Samples During Heating

Energy

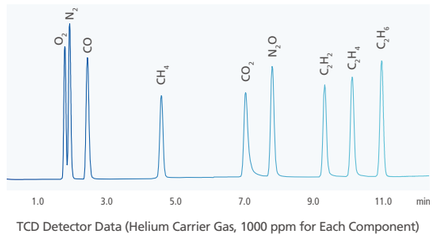
Dual-Line Gas Analysis Using the GI-30 Auto Gas Injector

The Nexis GC-2060 can be equipped with two GI-30 units to enable dual-line analysis.
This allows calibration curves for different concentration ranges to be created simultaneously, greatly reducing analysis time. Using separate columns for each line enables stable analysis even for components with significantly different concentrations. With the GI-30, precise measurements can be performed efficiently.





BID Detector Data (Helium Carrier Gas, 10 ppm for Each Component)



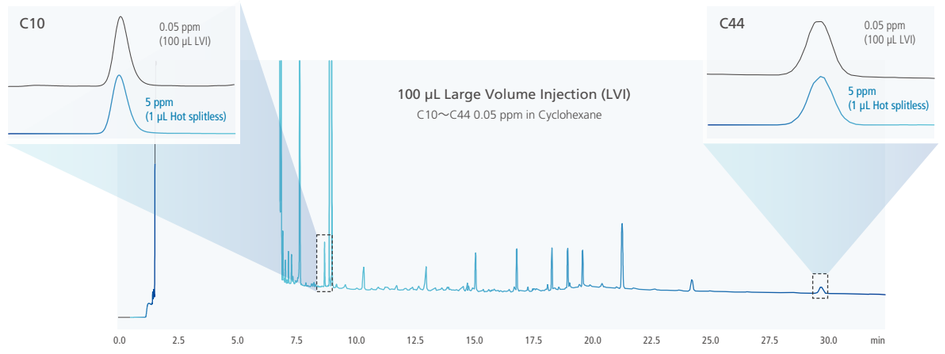
TCD Detector Data (Helium Carrier Gas, 1000 ppm for Each Component)

Environment

Large-Volume Injection Analysis of Environmental Volatile Components Using the Multi-Mode Injection Unit (MMI)

The MMI can heat samples at up to 1200 °C/min, enabling rapid thermal desorption. Large-Volume Injection (LVI) is also supported by handling evaporation internally within the injection unit. This allows analysis of trace VOCs, such as benzene and toluene, even at very low concentrations. By using LVI, high-sensitivity analysis can be achieved without lengthy preprocessing steps.





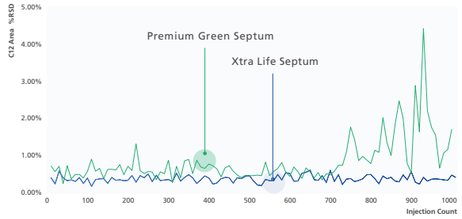
Tested & Proven Consumables

High-quality consumables are essential to obtain accurate analytical results and maintain productivity.
Our comprehensive range of consumables is designed to help your GC and GC-MS systems perform at their best, run after run.

Xtra Life Septum



Engineered for exceptional durability, the Xtra Life septum supports roughly 1000 consecutive injections — about ten times the typical lifetime — while maintaining consistent performance. In addition to enhancing throughput, it reduces maintenance requirements and lowers operating costs.



Comparison of C12 Area Reproducibility Between Xtra Life Septum and Premium Green Septum After 1000 Consecutive Injections

Deactivated Liner

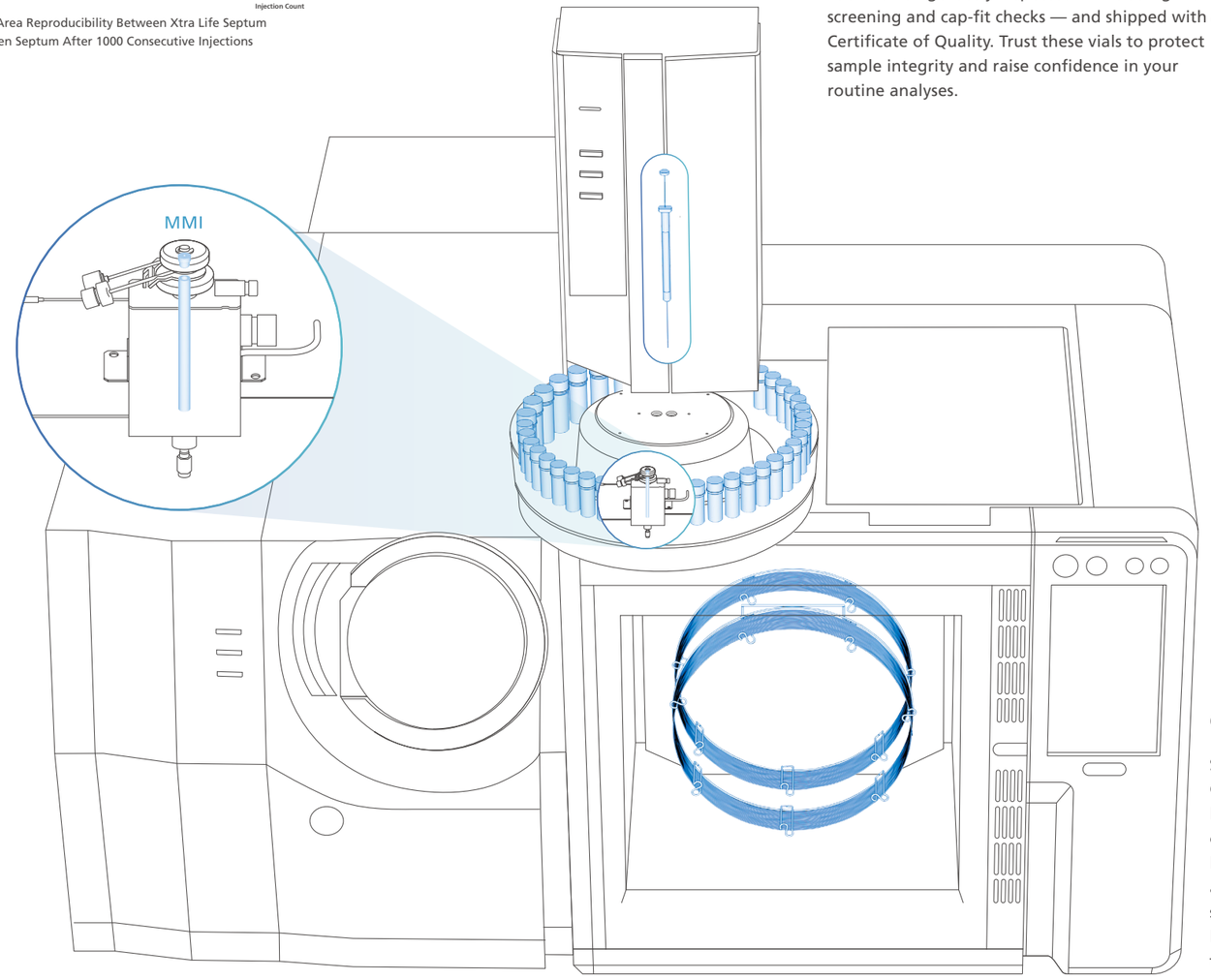


Both the liner and wool receive Xtra Inert treatment that minimizes adsorption of target analytes. Each item is blister packed to block contamination until the moment of use, ensuring clean, reproducible injections and longer component life.

Xtra Inert Deactivated Liner (for MMI)



The Xtra Inert deactivation process minimizes adsorption and degradation of target compounds, ensuring best-in-class robustness and run-to-run reproducibility. With its 78.5 mm length and 1/4-inch outer diameter, this liner fits many third-party GCs, allowing users to experience its superior performance across platforms.





Super-Clean Gas Filter

Protect your analyses by removing oxygen, moisture, and hydrocarbons from carrier and detector gas supplies. A clear inspection window lets you confirm replacement timing at a glance, and the tool-free cartridge change simplifies maintenance, resulting in greater uptime.

AOC-30 / AOC-20 Consumables

Xtra Life Microsyringe

This specially engineered titanium-alloy plunger provides superior flexibility that ensures reliable, long-term operation. It's ideal for routine use and especially well-suited for analysis of aqueous samples.



Shim-vial™ Vials

Each vial is rigorously inspected — including MS screening and cap-fit checks — and shipped with a Certificate of Quality. Trust these vials to protect sample integrity and raise confidence in your routine analyses.





Column

Shimadzu's extensive selection of GC capillary and packed columns lets you tailor separations for optimal resolution, sensitivity, and longevity for a variety of application requirements. Simply select the right stationary phase, length, inner diameter, and film thickness for your target analytes.

System

Dimensions and Weight

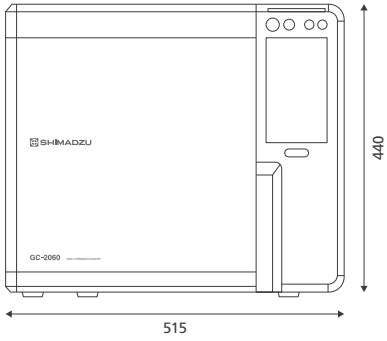
Height: 440 mm
Width: 515 mm
Depth: 525 mm
Weight: 34 kg

* Values for the SPL/FID model. Protruding parts are excluded.

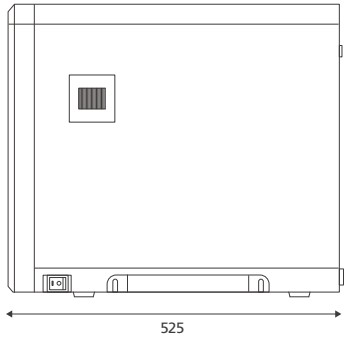
Certifications

- Safety Standards (IEC 61010-1, IEC 61010-2-010)
- CE Marking (EU Conformity)
- EMC (EN 61326-1)
- RoHS Compliance (EU RoHS, China RoHS)
- KC Mark (Korea EMC)

Front

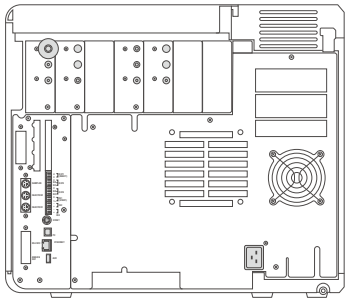


Right Side



(Units: mm)

Back



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Since 2010, Shimadzu Corporation has offered Eco-Products Plus products designed to achieve energy efficiency and resource conservation. In fiscal year 2024, these products reduced CO_2 emissions during the customer use phase by 71,390 tons, contributing to efforts to mitigate global warming.

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