



Clean gas | Accurate analysis  
Easily installed

## Gas filters

Enhanced gas quality for maximum productivity

Gas filters are an essential part of your GC analysis as contaminants in gases can significantly impact the quality of results. Oxygen, hydrocarbons and moisture can lead to problems such as noisy baselines, moisture entering the GC column, excessive bleed and septa degradation. Even if carrier gas is of the highest quality, contaminants can be picked up from every part of the gas line. Therefore, a gas filter is needed to ensure that maximum productivity is achieved.

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### Clean gas

Gas filters are designed to provide fast stabilization times to reduce gas consumption, and provide clean gas to GC and GCMS systems.



### Accurate analysis

Inserting a gas filter in the gas line significantly reduces impurity levels, thus improving trace analysis.

### Easily installed

The gas filter system consists of two key parts: the filters and the connecting unit. The connecting unit has inlet and outlet connectors for the gas lines. The connecting unit can be bench or wall-mounted and is available in 1, 2 and 4 port configurations and for 1/4" and 1/8" gas lines.

## Enhanced gas quality for maximum productivity

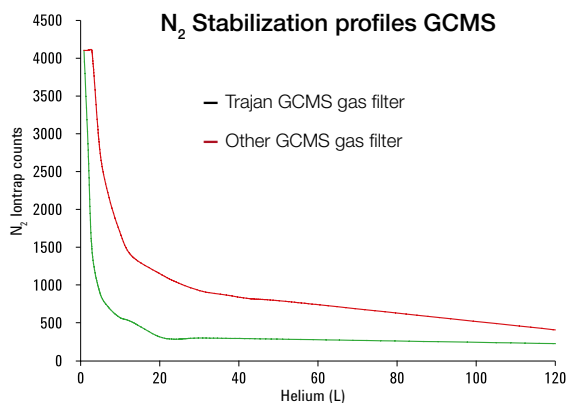


Figure 1 shows the fast stabilization rate (the  $N_2$  mass measured by mass spectrometry) of a GCMS after replacement of the filter.

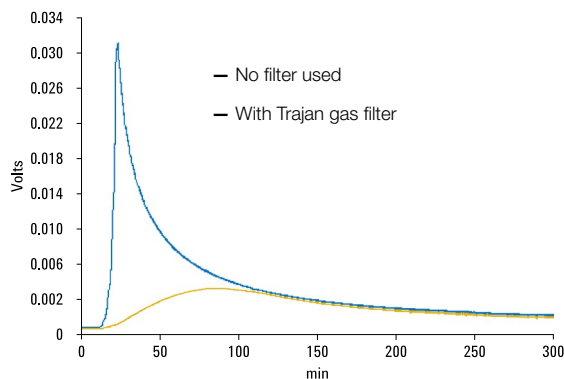


Figure 2 shows the difference in bleed levels of two GC columns due to moisture exposure with and without a filter when running a temperature program (50°C to 350°C, 20°C/min). When no filter is used, an extreme rise in the bleed profile is clearly visible due to moisture in the carrier gas. By using gas filters, a normal bleed profile is achieved with the removal of all moisture in the carrier gas.

### Gas filter selection guide

Technique	Recommended filter(s)	Advantages
GCMS	Carrier gas	High data accuracy, lower maintenance
GC column	Moisture and oxygen	Longer lifetime
Electron capture detectors (GC)	Moisture and oxygen	High sensitivity
Thermal conductivity detectors (GC)	Moisture and oxygen	High sensitivity, lower maintenance
Flame ionization detectors (GC)	Two hydrocarbon	High sensitivity
Photoionization detectors (GC)	Oxygen and hydrocarbon	High sensitivity

### Gas filter technical specifications

	Oxygen filter	Moisture filter	Hydrocarbon filter	Carrier gas filter
Function	Removes oxygen as well as traces of sulfur and chlorine compounds from the carrier gas	Removes water, oil and other foreign material from the carrier gas	Removes organic compounds from gas streams	Single combination filter; removes water, oxygen and organic compounds
Indicator color change	From green to gray	From green to pale brown	No indicator	Oxygen: from green to gray Moisture: from green to pale brown Hydrocarbons: no indicator
Capacity	150 mL oxygen	7.2 g water	Approximately 7 g, depending on impurities	100 mL oxygen, 1 g water, organics depending on impurities
Outlet concentration at operating flow of 1-10 L/min	<50 ppb	<0.1 ppm	<0.1 ppm	Oxygen <50 ppb Moisture <0.1 ppm Organics <0.1 ppm

## Big Trap gas filter

For bulk purification applications or where several instruments are plumbed from a single source, a Big Trap gas filter is an ideal solution. A one-piece heavy walled aluminium tube provides 750 cm<sup>3</sup> of capacity and a pressure rating up to 250 psig.

### Big Trap gas filter technical specifications

	Big Trap - Hydrocarbon	Big Trap - Moisture	Big Trap - Oxygen	Big Trap - Universal (suitable for helium, hydrogen and nitrogen)
Function	Removes organic compounds from gas streams	Removes water, oil and other foreign material from the carrier gas	Removes oxygen as well as traces of sulfur and chlorine compounds from the carrier gas	Removes oxygen, moisture, hydrocarbons, carbon dioxide and carbon monoxide
Capacity	80 g depending on impurities	130 g	3 L	A cumulative level of 100 µg/L of oxygen, moisture, hydrocarbons, carbon dioxide and carbon monoxide at a flow rate of 8 L/min
Efficiency	<15 ppb	<5 ppb	<1 ppb	<100 ppb



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Trajan is actively engaged in developing and delivering solutions that have a positive impact on human wellbeing. Our vision revolves around collaborative partnerships that improve workflows, delivering better results.