

Gas Specific Purifiers and Contaminant Traps

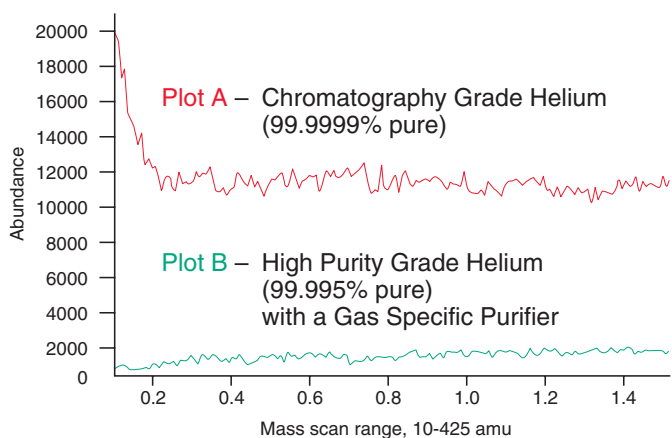
- Reduce gas impurities from high PPM to low PPB levels
- Decrease baseline noise and increase GC/MS sensitivity
- Replace three traps with one purifier



Description

Several types of contaminants are detrimental to GC performance – notably moisture, hydrocarbons, and oxygen. VICI Mat/Sen™ gas-specific purifier modules are designed to be placed in-line with the GC carrier or detector gas supply to remove these contaminants from the analytical gases prior to entering the GC. The modules dramatically reduce contaminant levels and absorb a greater variety of contaminants than other products.

Our successive bed format achieves the highest purity gas commercially available



Two very high capacity hydrocarbon and moisture sorbents at the inlet for effective contaminant removal

Unique proprietary broad spectrum sorbent material for multiple contaminant removal

Two oxygen scavenging materials for both high capacity and high efficiency O₂ removal

Multiple bed format to allow several step reduction in contaminants

Removal of H₂O, O₂, halocarbons, hydrocarbons, CO, CO₂, H₂, and sulfur containing compounds with a single purifier

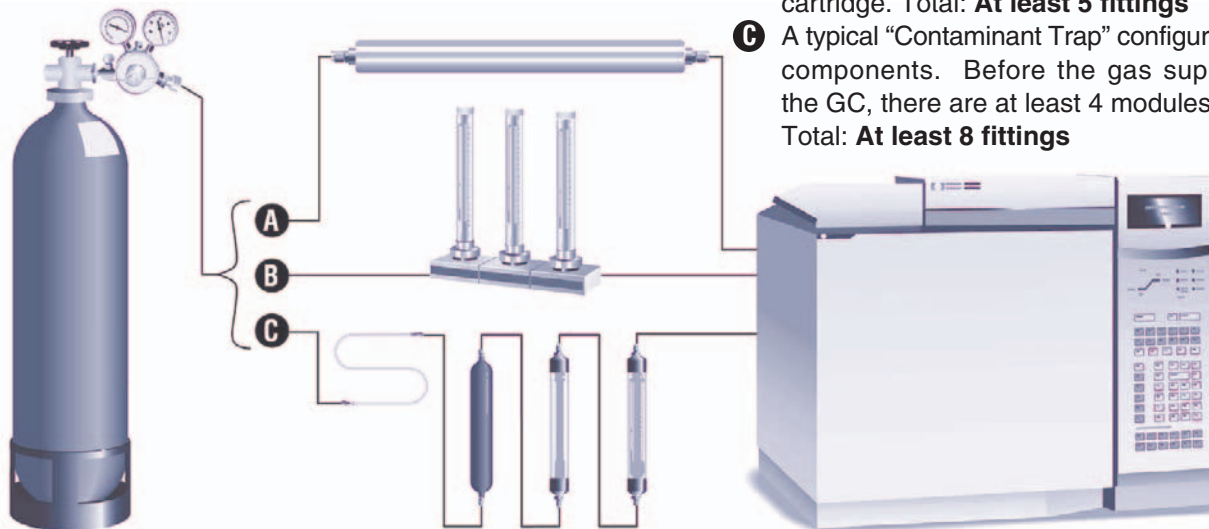
Very high efficiency sorbents at the outlet for trace contaminant removal



Performance is optimized by a multiple bed format. Each bed functions at a lower contaminant concentration, resulting in a series of contaminant concentration gradients across the length of the module. Advanced materials and design features guarantee that the modules will produce gases that are at least a factor of ten higher than a 99.9999% “chromatography grade” cylinder of gas when the purifier is supplied by a 99.995% cylinder. The cost difference between the two grades of gas will pay for the cost of the purifier several times over during its operating life.

Fittings: the Fewer the Better

Every connection in your gas delivery system has the potential for leaks; the more fittings you have, the greater the potential. In the illustration below, several gas purification options are depicted:



- A** The VICI Mat/Sen Gas Specific Purifier minimizes the number of fittings. Total: **2 fittings**
- B** The “Manifold System” has two compression fittings for the system and one organic O-ring seal for each cartridge. Total: **At least 5 fittings**
- C** A typical “Contaminant Trap” configuration has several components. Before the gas supply even enters the GC, there are at least 4 modules. Total: **At least 8 fittings**

Specifications

Length 52.3 cm (21")
 Diameter 3.8 cm (1.5")
 Maximum inlet pressure 6895 kPa (1000 psi)
 Maximum recommended flow 500 ml/min

Pressure drop, 827 kPa (120 psi) inlet,
 at a flow of 0 to 500 ml/min < 0.20 psi
 Compression end fittings 1/8" or 1/4"
 Shipping weight 1,300 g (3.04 lb)

Selection Guide and Ordering Information

Product Description	Product no.	Fitting	PPB at outlet, based on 50 PPM nominal inlet concentration level					
			CO	CO ₂	O ₂	H ₂ O	Sulfur compounds	NMHC*
Helium purifier	P-100-1	1/8"	<1	<1	<1	<1	<1	<3
	P-100-2	1/4"	<1	<1	<1	<1	<1	<3
Hydrogen purifier	P-200-1	1/8"	<1	<1	<1	<1	<1	<3
	P-200-2	1/4"	<1	<1	<1	<1	<1	<3
Nitrogen purifier	P-300-1	1/8"	<1	<1	<1	<1	<1	<3
	P-300-2	1/4"	<1	<1	<1	<1	<1	<3
Nitrogen purifier for LC/MS apps	P-310-1	1/8"				<25	<25	<25
	P-310-2	1/4"				<25	<25	<25
Purifier for nitrogen generators	P-350-1	1/8"				<25	<25	<25
	P-350-2	1/4"				<25	<25	<25
Air purifier	P-400-1	1/8"				<1		<3
	P-400-2	1/4"				<1		<3
Moisture trap	T-100-1	1/8"				<1		
	T-100-2	1/4"				<1		
Hydrocarbon trap	T-200-1	1/8"						<3
	T-200-2	1/4"						<3
Oxygen trap	T-300-1	1/8"			<1	<1		
	T-300-2	1/4"			<1	<1		
Sulfur trap	T-400-1	1/8"				<1	<1	
Methane purifier	P-500-1	1/8"	<1	<1	<1	<1	<1	<3

*NMHC = non-methane hydrocarbons

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