BIP® Cylinder Technology

Never Worry About Gas Purity Again

Benefits
Never worry about gas purity again
Eliminate instrument downtime caused by carrier gas contamination
Eliminate purifiers or extend their lifetime 100-fold
Improve analytical performance
Improve productivity

Worry-Free Purity, Guaranteed

Air Products' revolutionary built-in-purifier technology delivers consistent, ultra-high-purity gas through a hassle-free purifying system contained within a compressed gas cylinder. By using the BIP system for your helium, nitrogen, and argon supply for gas chromatography and other specialized applications, you'll never need to worry about gas purity again.

Each BIP system delivers the highest purity gas available, without the inconvenience and uncertainty of an external purifier. Gases are guaranteed to contain less than 10 parts per billion (ppb) of oxygen and less than 20 ppb of water. Hydrocarbons and halocarbons have been shown to be less than 10 parts per trillion.

The Problem

Like most gas chromatographers and researchers, you rely on an external, in-line purifier train to protect your analytical instrumentation and data from contamination by a gas cylinder that might not meet specifications.

However, in-line purifiers require regular maintenance, increasing your workload and taking time from the research you really should be focusing on. If not maintained properly, in-line purifiers can add contaminants back to the carrier gas, adding further to your worries about gas purity.

In addition, because contaminant levels are known to increase as residual cylinder pressure drops, most chromatographers switch out cylinders before the gas supply is fully used as a precautionary measure.

The Solution

By using Air Products' patented* BIP cylinders, you can eliminate the costly, time-consuming maintenance required for in-line purifiers. In fact, you can eliminate your external purifier system altogether. Or you can keep your purifier system, but you will never have to replace it again. Either way, your productivity will improve. And you'll never have to worry about the purity of gas coming from the cylinder or instrument downtime caused by your carrier gas.

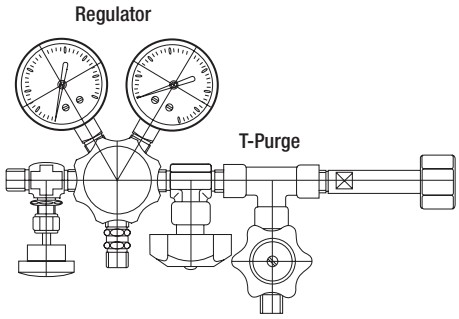
Also, because the BIP system is so effective in keeping gas impurity levels low, contamination levels do not increase as the residual cylinder pressure declines. The result—every BIP cylinder will provide up to 20 percent more usable gas product.

Additionally, researchers who have used the BIP technology have experienced improved analyses, more stable baselines, longer column life, lower baseline noise giving higher instrument sensitivity, and improved peak resolution.

*Patented in the United States, U.S. Pat. No. 5,409,526. Patent protection has also been sought in other countries of the world including several contracting states of the European Patent Convention (EP-0,591,840).

Recommended Control Equipment

The gas supply system for the BIP technology has been specially designed to ensure gas integrity is maintained through to the point of use. The integrated system consists of an analytical two-stage regulator and T-purge valve block. To ensure point-of-use purity, you need to connect the system to the cylinder and instrument and follow the purging instructions detailed on our web site (www.airproducts.com/bip). Select “How It Works” from the contents menu and the “View Graphic” button at the bottom of the page under “Safety Features.” To ensure an uninterrupted supply of gas while maintaining purity specifications, use our BIP Cylinder Automatic Changeover Panels.



Ordering Information for Recommended Equipment

Product Number	Max. Inlet Press. (psig)	Max. Outlet Press. (psig)	Capacity (scfh at Max. Del. Press.)	Relief Valve Setting (psig)	Inlet Gauge Range (psig)	Inlet Gauge Graduations (psig)	Delivery Gauge Range (psig)	Delivery Gauge Graduations (psig)	Number of Cylinders
E12-GC244D580	3,000	100	310	400	0–3,000	50	0–200	5	
E11-BCP120 (CGA)		100	200		0–4,000		0–300		2
E11-BCP140 (CGA)		100	200		0–4,000		0–300		4

Specifications for BIP Gases

	BIP Argon	BIP Helium	BIP+ Helium	BIP Nitrogen
O_2	< 10 ppb	< 10 ppb	< 10 ppb	< 10 ppb
H_2O	< 20 ppb	< 20 ppb	< 20 ppb	< 20 ppb
THC	< 100 ppb	< 100 ppb	< 100 ppb	< 100 ppb
N_2	< 5 ppm	< 5 ppm	< 1 ppm	—
Cylinder	A Steel	A Steel	A Steel	A Steel
Volume	337 ft^3	293 ft^3	293 ft^3	305 ft^3
Pressure	2640 psig	2640 psig	2640 psig	2640 psig
	Batch Certificate of Conformance	Batch Certificate of Conformance	Individual Certificate of Analysis	Batch Certificate of Conformance

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