Parker Balston Hydrogen Generators

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Parker Balston Hydrogen Generators

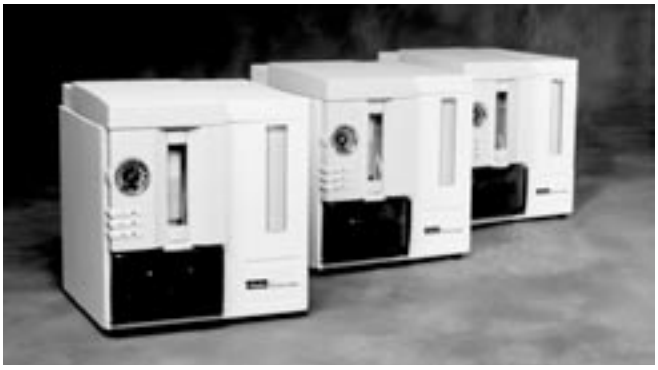
- Safe - produce only as much gas as you need
- Simple annual maintenance - no desiccants
- Produces a continuous supply of 99.99999% pure hydrogen at 100psig
- Ideal for fuel and carrier gas applications
- Certified for laboratory use by CSA, UL, IEC 1010, and CE

Parker Balston Hydrogen Generators are an excellent source of ultra high pure (UHP) hydrogen for a wide range of laboratory applications. They eliminate the need for expensive, dangerous, high pressure cylinders of hydrogen in the laboratory. Generator flow capacities up to 300mL/min of UHP are available.

The Parker Balston Hydrogen Generators are compact benchtop units designed for use in the laboratory or the field. They are suitable for use with gas chromatographs as a fuel gas for Flame Ionization Detectors (FID), as a reaction gas for Hall Detectors, and as a carrier gas to ensure absolute repeatability of retention times. They are compatible with Trace Hydrocarbon Analyzers and air pollution monitors and ensures the lowest possible background noise. They are also a suitable supply of hydrogen for hydrogenation reactions.

How They Produce Hydrogen

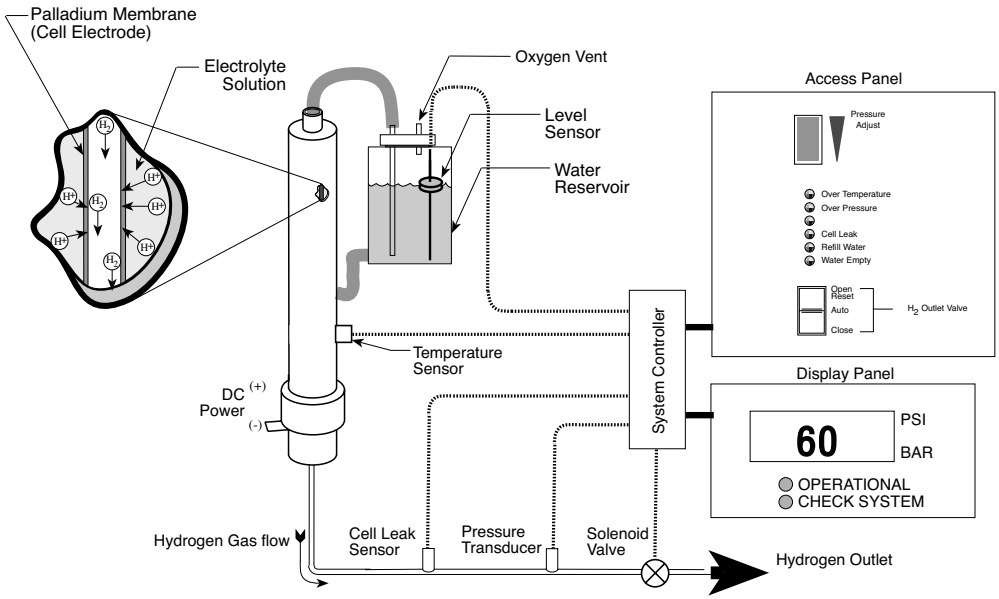
The Parker Balston Hydrogen Generators produce hydrogen by electrolytic dissociation of water. The resultant hydrogen stream passes through a palladium membrane to assure carrier grade purity. Only hydrogen and its isotopes can penetrate the palladium membrane guaranteeing the purity of the output gas is consistently 99.99999+% pure, refer to **Diagram 1**.



Parker Balston Hydrogen Generators

	H_2-150	H_2-300
Physical Dimensions (W x D x H):	12" x 13" x 16.5 (27 x 36 x 42cm)	12" x 13" x 16.5" (27 x 36 x 42cm)
Weight:	58lbs (26kg)	58lbs (26kg)
Electrical Requirements:	120VAC/60Hz 220VAC/60Hz	120VAC/60Hz 220VAC/60Hz
Power Consumption:	300 Watts	300 Watts
Gas Characteristics Flow Rate:	150mL/min	300mL/min
Gas Purity:	99.99999+%	99.99999+%
Hydrogen Outlet Pres.:	Adjustable, 0-60psig	Adjustable, 0-60psig
Certifications:	IEC 101-1; CSA 1010, UL3101, CE	IEC 101-1; CSA 1010, UL3101, CE
Warranty:	2 years	2 years

Diagram 1 - Gas Flow Diagram for Model H_2-150 and H_2-300 Hydrogen Generators



Contact your Alltech office or distributor for current or local prices.

Benefits of Using a Generator

Consistent Gas Purity

Reproducibility of analytical testing depends upon the consistency of gas quality. Only when consistency of gas quality is established, can you be certain of the reproducibility of your results. The purity of compressed gas can vary from cylinder to cylinder. Contaminants from dirty or rusted cylinders can also outgas from the cylinder wall and contaminant your gas source. Parker Balston Hydrogen Generators produce and deliver hydrogen that has a very consistent purity. They also eliminate sources of outside contamination.

Convenience

A reliable gas source is necessary to ensure that gas is available on demand. Gas cylinders must be changed frequently, on a monthly, weekly, or even daily basis depending on your laboratory's rate of gas consumption. They require that you constantly monitor your gas management system or you may experience unexpected downtime as the result of an empty cylinder. Delivery delays or inflexible delivery schedules from the vendor can also result in downtime. Parker Balston Hydrogen Generators provide a compact, virtually maintenance free, safe source of ultra high purity (UHP) hydrogen. Their yearly maintenance usually takes less time than changing one gas cylinder reducing instrument downtime. They also eliminate the need for isolated storage areas for your gas source.

Safety Issues

Safety is an important consideration when selecting a gas source. High pressures gas cylinders must be handled with caution and care. A damaged cylinder can create major safety hazards such as asphyxiation, combustion, or explosion. A cylinder with a broken valve can turn into a projectile. These hazards can cause serious injury. Parker Balston Hydrogen Generators pose little safety hazard because they produce gas on demand at low pressure eliminating the hazards associated with cylinders.

Every Parker Balston Hydrogen generator is equipped with special features to ensure safe and convenient operation. These features include low water audible alarms to indicate when the reservoir requires filling and automatic shutdown to project the expensive laboratory equipment. The generators meet the strict, safety guideline of the National Fire Protection Agency (NFPA) and the regulation of the Occupational Safety and Health Association (OSHA – 1910.103). They are also certified for laboratory use by CSA, UL, IE 1010, and CE.

Dollars & Cents – Cost Considerations

Parker Balston Hydrogen Generators provide gas in a cost-effective manner, reducing the cost of gas per test and improving the operating efficiency of your facility. The cost of a gas cylinder is initially much less than the cost of a gas generator. However, in long-term costs, a gas generator is a more economical gas source than gas cylinders. A Parker Balston Hydrogen Generator is an unlimited supply of UHP gas that can be produced on demand. Cylinders have a finite life span and infinite cost. You must continually replace them.

Maintenance

Routine maintenance is quick and easy. The Models 75-32 and 75-34 generators require periodic filling of the water reservoir and changing the electrolyte solution once a year. The Model H2-500 requires periodic filling of the water reservoir and changing the deionizer bags every 6 months. Routine maintenance requires no factory servicing and can easily be performed by the user. Parker Balston offers service kits to help you maintain the quality of the gas produced by your hydrogen generator.

Application Guide

Use Parker Balston Hydrogen Generators anywhere you use high pressure gas cylinders. We offer models with capacity and purity specifications to satisfy almost any application. They are an excellent source of ultra pure, dry hydrogen for a wide range of laboratory uses. Other applications include using hydrogen for hydrogenation reactions and for FIS used in the analysis of engine gas emission in the automobile industry.

Pair your hydrogen generator with a zero air and/or nitrogen generator to fully automate your laboratory gas supply. We'll help you configure a suitable gas management system to meet your laboratory needs. Contact our Technical Support Staff for prompt, detailed information.

PARKER BALSTON HYDROGEN GENERATORS

Description	Part No.
Model H_2-150, 150mL/min	
110V North America	**80109**
220V North America	**80113**
220V Australia	**80125**
220V Europe	**80117**
220V United Kingdom	**80121**
100V Japan	**80549**
220V All Other Countries Not Specified*	**80827**
Model H_2-300, 300mL/min	
110V North America	**80112**
220V North America	**80115**
220V Australia	**80127**
220V Europe	**80119**
220V United Kingdom	**80123**
100V Japan	**80852**
220V All Other Countries Not Specified*	**80828**
Service Kits	
Electrolyte Solution for Models H_2-150 and H_2-300	**80133**

*Specify the destination of the unit when ordering.

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