# Hydrogen Generators for Fuel and Carrier Gas

- ▲ Eliminates dangerous and expensive hydrogen gas cylinders from the laboratory
- ▲ Exceeds OSHA 1910.103 and NFPA 50A safety requirements
- ▲ Safe - produces only as much gas as you need
- ▲ Unique electron beam palladium cell technology
- ▲ Produces a continuous supply of 99.99999+% pure hydrogen gas, ideal for carrier and fuel gas applications
- ▲ Compact and reliable - only one square foot of bench space required and designed to run continuously 24 hours/day - includes automatic water fill
- ▲ Simple annual maintenance, no desiccant cartridges
- ▲ Certified for laboratory use by CSA, UL, IEC 1010, and CE Mark


Model H2PD-300 UHP Hydrogen Generator

**Parker Balston® Hydrogen Generators** eliminate the need for expensive, dangerous, high pressure cylinders of hydrogen in the laboratory. It is no longer necessary to interrupt important analysis to change cylinders.

Generator flow capacities of up to 300 cc/min. of ultra high purity hydrogen are available.

**Parker Balston Hydrogen Generators** are compact benchtop units designed for use in the laboratory or in the field.

Hydrogen gas is produced by electrolytic dissociation of water. The resultant hydrogen stream then passes through a palladium membrane to assure carrier grade purity.

Only hydrogen and its isotopes can penetrate the palladium membrane; therefore, the purity of the output gas is guaranteed to be 99.99999+% consistently. This technology produces hydrogen at a guaranteed purity two orders of magnitude greater than desiccant or silica gel technologies.

**Parker Balston Hydrogen Generators** offer many special features to ensure safe and convenient operation. These features include smart-display technology system status at a glance and automatic water fill for endless operation.

## Applications

Gas Chromatographs

Emmissions Test Equipment

Hydrogenation Reactors

ICP-MS Collision Gas

Fuel Cells

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## Principal Specifications

| Hydrogen Generators | Models | Specifications |
|---|---|---|
| Hydrogen Purity | | 99.99999+% |
| Oxygen Content | | <.01 ppm |
| Moisture Content | | <1.0 ppm |
| Max Hydrogen Flow Rate | H2PD-150<br>H2PD-300 | 150 cc/min<br>300 cc/min |
| Electrical Requirements | | 120 VAC/60 Hz, 3.15 Amps |
| Hydrogen Outlet Pressure | | Adjustable, 0 to 60 psig |
| Certifications | | IEC 1010-1; CSA<br>UL 3101; CE Mark |
| Dimensions | | 12"w x 12"d x 22"h<br>(30cm x 33cm x 58cm) |
| Outlet Port | | 1/8" Compression |
| Shipping Weight | | 58 lbs (26 kg) |

## Ordering Information for assistance, call 800-343-4048, 8 to 5 Eastern Time

| Description | Model Number |
|---|---|
| Hydrogen Gas Generator | H2PD-150, H2PD-300 |
| Electrolyte Solution | 920071 |
| Pressure Regulator | W-425-4032-000 |
| Installation Kit | IK7532 |
| Preventative Maintenance Contract | PDH2-PM |
| Extended Support with 24 Month Warranty | H2PD-150-DN2, H2PD-300-DN2 |

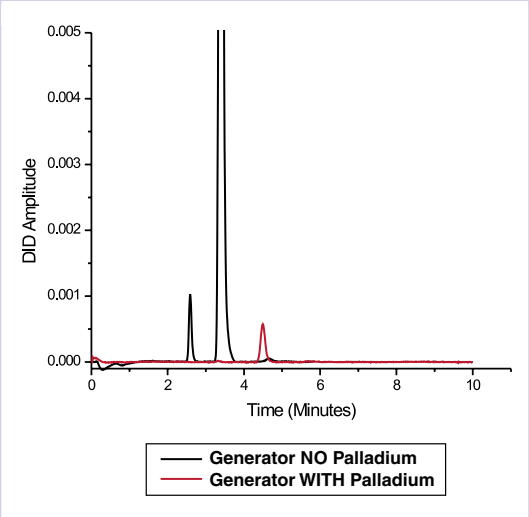
**The Parker Balston® Hydrogen Generator** is an excellent source of ultra pure, dry hydrogen for a wide range of laboratory uses. The generator is used extensively with Gas Chromatographs, as a fuel gas for Flame Ionization Detectors (FID), as a reaction gas for Hall Detectors, and as a carrier gas to ensure absolute repeatability of retention times. In high sensitivity Trace Hydrocarbon Analyzers and air pollution monitors, the hydrogen produced ensures the lowest possible background noise.

Other applications include using hydrogen for hydrogenation reactions and for FID's used in the analysis of engine gas emissions in the automobile industry.

In all applications the Parker Balston Hydrogen Generator sets the standard for safety, operational performance, and dependability.

**Simple Experimental: The two merged baselines in the right chromatogram were created using a Gow-Mac Gas Chromatograph Series 590 equipped with a (DID) discharge ionization detector with hydrogen separator. In creating both baselines (black and red) the gas sample is hydrogen from a hydrogen generator. Both generators are the same - as hydrogen gas is produced from water via electrolytic disassociation, but differ slightly as one generator incorporates a desiccant drying tube as a final purifier while the second generator has a palladium membrane as the final purifier.**

**The large black peak represents a combined 12 ppm concentration of oxygen and nitrogen, suitable for hydrogen fuel gas while the corresponding point in the red baseline represents a combined 12 ppb concentration of oxygen and nitrogen, suitable for either fuel or carrier gas.**



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