



Helium shortage is a thing of the past.



Laboratory benchtop system

Introducing GRS:

Gas recycling/purification system for helium and other gases (Ne, Kr, Xe, N₂)

Available Q4 2022

Save money by recovering and purifying wasted gas from your analytical instruments or other devices!

Features

- **Save money**, reduce your helium bill and eliminate the problem caused by market price volatility
 - One cylinder can last up to 5 years*
- **Prevent costly shutdown** due to lack or limited helium availability
- **Purity guaranteed**, Real-time helium quality monitoring with ASDevices patented capillary plasma detector
 - Automatic system purge to vent away noble gas accumulation such as argon, neon, krypton and xenon
- **Safer operations**, reduce cylinder manipulation and associated health and safety risks.
- **High purity**, up to 9N purity with ASDevices Pure patented technology.
- **Compatible** with any process or laboratory analytical systems.
 - Optimized for ASDevices GC platforms, extend the purification system lifetime with analytes by synchronizing helium recovery with analyte retention time.
- **Optional purification step** to remove noble gases such as neon, argon, krypton and xenon
- Standard system designed for up 1000 ml/min (other flow available on request).
- **One technology, two versions:** Benchtop or 19" rackmount
- **Other compatible gases:** neon, krypton, xenon and nitrogen



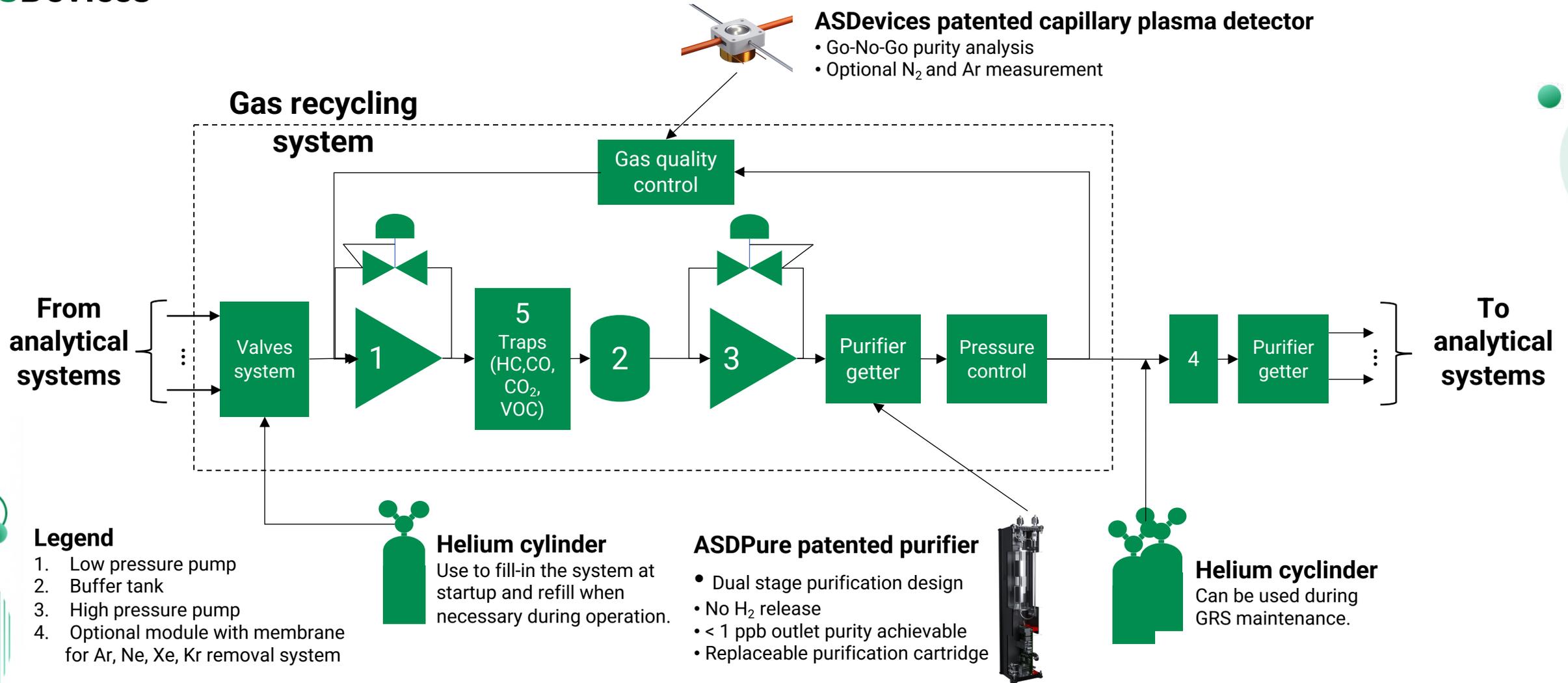
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Typical applications

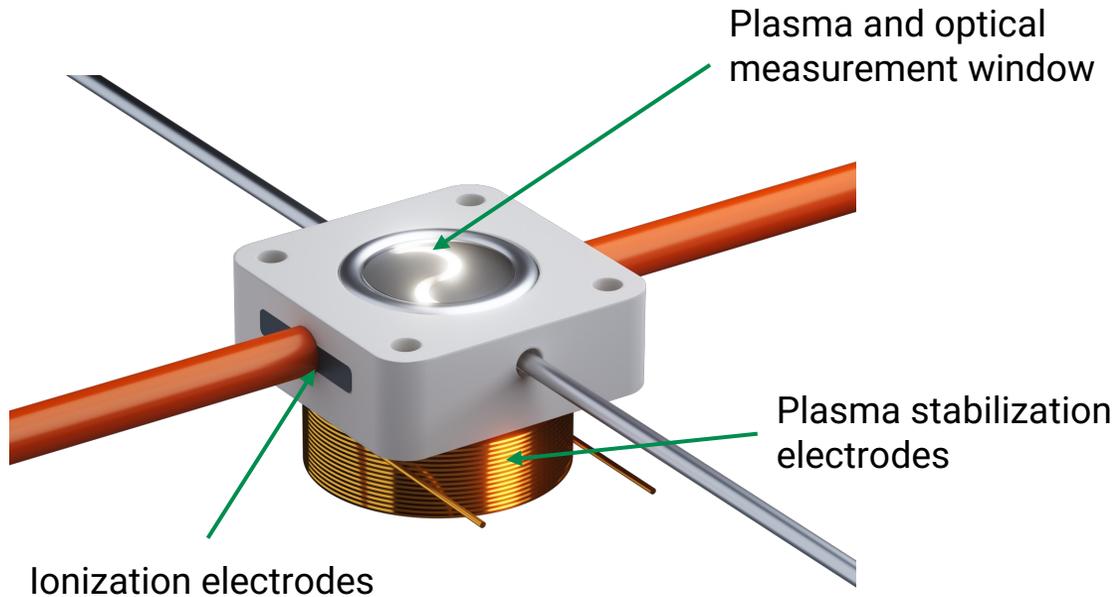
- Helium recycling for process or laboratory analytical instrument.
- Any system that uses helium or other compatible gases.
- Higher sample flow system available for applications such as Magnetic Resonance Imaging (MRI).

*System dependent

GRS - System block diagram



Patented capillary plasma detector



- Our patented technology is used to ionize the gas and monitor specific regions of the emission spectrum.
- The information is used as a Go-No-Go signal by the system to report gas purity.
- The signal is also used by the preventive maintenance algorithm.
- The same detector can also measure specific impurities such as N₂ and Ar.

Purification patented technology



Low temperature
getter to remove
residual H₂

High temperature
getter to remove H₂O,
H₂, O₂, N₂, CH₄, CO,
CO₂ and THC

Features

- Gases purified: Ar, He, Ne, Xe, Kr (N₂ is also an option)
- Impurities removed: H₂O, H₂, O₂, N₂, CH₄, CO, CO₂, hydrocarbons
- Achievable impurity level: < 1 ppb
- Lifetime at nominal flow: 2 years
- Dual heated getter technology to efficiently remove H₂
 - Our dual getter technology removes unwanted H₂ which is generated by hydrocarbon cracking and metal being operated at high temperature.