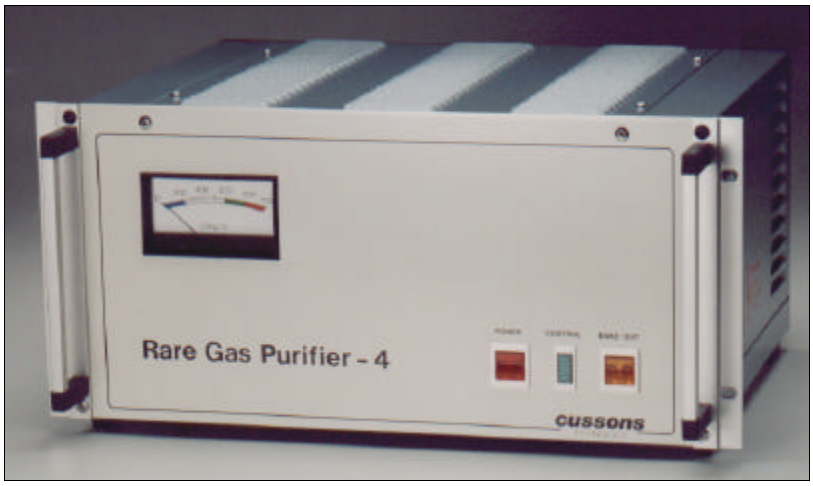
cussons
TECHNOLOGY



P9230

RARE GAS PURIFIER RGP-4

FEATURES

- Excellent purification of commercial grade rare gases, impurities reduced to less than 1 vpm
- Simple to operate, low cost, fully automatic, factory pre-set system
- Rapid warm-up time
- Lightweight, robust, compact, 19" rack mounting
- Unaffected by ambient temperature variations
- Long life reagent tubes

APPLICATIONS

- Purification of helium or argon carrier gases for gas chromatography.
- Purification of helium for low temperature epitaxial growth of single crystal silicons.
- Purification of helium or argon for oxidation or diffusion systems in semi-conductor manufacture.
- Purification of rare gases for use in lamp and valve manufacture.
- Purification of helium glove box atmospheres.

DESCRIPTION

The Cussons/BOC Rare Gas Purifier, RGP-4, has been developed from a family of rare gas purifiers originally designed by BOC. For normal flow rates of 10 litres/minute the RGP-4 will reduce the impurities (typically 30 vpm) of commercial rare gases (argon, helium, krypton, neon, and xenon) down to a level of less than 1 vpm in total. Depending on flow rate the RGP-4 in normal use is on average capable of continuous operation for in excess of two years before it becomes necessary to replace the reagent tubes. The RGP-4 is of a standard size (19") suitable for rack or bench mounting, and specifically made for laboratory or process work.

The purification system consists of a furnace in which a titanium getter tube at 700°C removes oxygen and nitrogen by chemical reaction and a copper oxide tube at 450°C which removes hydrogen, hydrocarbons and carbon monoxide, again by chemical reaction. Automatic temperature control of the furnace is provided with a 0 to 1000°C meter included to monitor temperature.

External to the furnace is a molecular sieve operating at ambient temperature which removes carbon dioxide and moisture by physical adsorption. A band heater has been fitted to the molecular sieve to enable regeneration in situ.

TECHNICAL SPECIFICATION

Impurities removed:	Oxygen, Nitrogen, Hydrogen, Hydrocarbons, Moisture, CO, CO_2
Power requirements:	210 to 250V AC 1100 W or 100 to 130V AC 1100 W
Gas connections:	¼" outside diameter "Swagelok Quick Connect" couplings
Pressure requirements:	450 mbar to 17 bar
Maximum recommended flow rate:	10 litres per minute
Minimum recommended flow rate:	25 millilitres per minute
Furnace temperature:	675 to 725°C
Outlet gas purity:	Less than 1 volume per million impurities
Cabinet dimensions:	Suitable for 19" rack or bench mounting 490 x 230 x 400mm
Weight:	14 kg

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