Clean. Engineering. Expertise.

MB-200-G-N-I

GAS PURIFICATION SYSTEM FOR 0_2, H_2O AND N_2REMOVAL

- Double reactor columns for continuous 24/7 operation (for H2O and O2)
- One reactor column for N2
- Optimum performance for attached enclosure volumes up to 5 m^3
- Removal of oxygen, moisture <1 ppm and Nitrogen <1 ppm
- Automated box pressure and regeneration control
- PLC with multi-color touch panel display
- Optional control and safety features available

INERTGAS TECHNOLOGY

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GAS PURIFICATION SYSTEM FOR 0_2, H_2O AND N_2REMOVAL

DESCRIPTION

The gas purifier unit MB-200-G-N-I is unique. It combines O_2/H_2O purification and N_2 purification. It has been specifically designed for both university and industrial applications, where it is necessary to remove the 3 gases from inert atmosphere (batteries research and production). Two reactor columns for purifying O_2 and H_2O allow continuous operation. One regenerable reactor column per line maintains ultra-low levels of oxygen and moisture in inert enclosures. One reactor column purifies N_2 thanks to high temperature Titanium reactor. The temperature control is integrated in the Siemens-PLC, which manages every function of the gas purifier unit.

COMMON SPECIFICATIONS

Operation principle	Closed loop recirculation
Recommended enclosure volume	Up to 5 m³
Working gas	Argon
Control unit	Siemens PLC
Display	Large color touch panel
Box pressure control	Automatic pressure control with foot switch (± 15mbar)
Vacuum pump*	Rotary vane pump with 17 m³/h (10 CFM)
Blower (50 Hz / 60 Hz)*	Frequency controlled up to 88 m³/h
Main and side piping	DN 40 ISO-KF
Main and control valves	DN 40 ISO-KF
Cooling water	2 bar (4 l/min at 10 °C, 10 l/min at 15 °C)
Electrical (FLA) (without options)	3L/N/PE, 400V, 50Hz, 25A
Size	1064 x 628 x 1808 mm (LxWxH)
Weight	420 kg
Optional feature	Moisture and oxygen analyzer
Optional feature	Solvent vapor removal
Optional feature	Regenerable solvent vapor removal
Optional feature	Recirculation chiller for optimal working environment (RCC)
Optional feature	Dry pump upgrade
Optional feature w/ MBRAUN glovebox	Automatic box purge unit
Optional feature w/ MBRAUN glovebox	Antechamber automatic pressure controlled
Optional feature w/ MBRAUN glovebox	Freezer and box cooling

TECHNICAL DATA

N2 PURIFICATION	
Attainable purity level	< 1 ppm N2 in Ar
Number of purification lines per purifier	1
Number of reactor columns per line	1
Number of reactor columns per purifier	1
Reactor column material	High temperature stainless steel
Reactor column loading	Titanium
Temperature control	Integrated PLC control from combined MB-200-G/Labmaster dp
Security system	Bypass-system using electro-pneumatic valves
Leak rate	10E-6 mbar l/s for purifier units and components
Regeneration	Not regenerable

TECHNICAL DATA

O2/H2O PURIFICATION	
Attainable purity level	Moisture < 1 ppm, Oxygen < 1 ppm
Number of purification lines per purifier	2
Number of reactor columns per line	1
Number of reactor columns per purifier	2
Reactor capacity per purification line*	
(O2) Oxygen	36 l
(H2O) Moisture	1350 g
Regeneration	Automatic regeneration sequence
Regeneration gas	N2/H2 mix. or Ar/H2 mix. (H2 2-5 %, optional H2>5%)

*Technical note: Dependent upon operating conditions.

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