

# MB-200-G-N-I

GAS PURIFICATION SYSTEM FOR O<sub>2</sub>, H<sub>2</sub>O and N<sub>2</sub> REMOVAL



INERTGAS TECHNOLOGY

- Double reactor columns for continuous 24/7 operation (for H<sub>2</sub>O and O<sub>2</sub>)
- One reactor column for N<sub>2</sub>
- Optimum performance for attached enclosure volumes up to 5 m<sup>3</sup>
- Removal of oxygen, moisture <1 ppm and Nitrogen <1 ppm
- Automated box pressure and regeneration control
- PLC with multi-color touch panel display
- ECO Mode operation feature available
- Optional control and safety features available



# MB-200-G-N-I GAS PURIFIER **MBRAUN**

The gas purifier unit MB-200-G-N-I is unique. It combines O<sub>2</sub>/H<sub>2</sub>O purification and N<sub>2</sub> 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 reseach and production).

Two reactor columns for purifying O<sub>2</sub> and H<sub>2</sub>O 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<sub>2</sub> thanks to high temperature Titanium reactor. The temperature control is integrated in the Siemes-PLC, which manages every function of the gas purifier unit.

## MB-200-G-N-I TECHNICAL DATA:

### COMMON SPECIFICATIONS

Operation principle.....	Closed loop recirculation
Recommended enclosure volume.....	Up to 5 m <sup>3</sup>
Working gas.....	Argon
Control unit.....	Siemens PLC
Display.....	7" color touch panel
Box pressure control.....	Automatic pressure control with foot switch (± 15mbar)
Vacuum pump*.....	Rotary vane pump with 17 m <sup>3</sup> /h (10 CFM)
Blower (50 Hz / 60 Hz)*.....	Frequency controlled up to 88 m <sup>3</sup> /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 (LxWxH)
Weight.....	420 kg
Optional feature.....	Moisture and oxygen analyzer
Optional feature.....	ECO Mode
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

### N<sub>2</sub> PURIFICATION

Attainable purity level .....	< 1 ppm N <sub>2</sub> 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
Security system.....	Bypass-system using electro-pneumatic valves
Leak rate.....	10E-6 mbar l/s for purifier units and components
Regeneration .....	Not regenerable

### O<sub>2</sub>/H<sub>2</sub>O 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*	
(O <sub>2</sub> ) Oxygen.....	36 l
(H <sub>2</sub> O) Moisture.....	1350 g
Regeneration.....	Automatic regeneration sequence
Regeneration gas.....	N <sub>2</sub> /H <sub>2</sub> mix. or Ar/H <sub>2</sub> mix. (H <sub>2</sub> 2-10 %)

\*Technical note: Dependent upon operating conditions



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