

Breathing Air Purification for the Transit Industry

Market Application Publication



In recent years, employers have become increasingly aware of their responsibility to comply with International Breathing Air Standards. The standards define the quality of breathing air that must be provided to operators working in contaminated environments. To ensure compliance to the OSHA (Occupational Health and Safety Administration) Standard in the United States and the CSA Z180.1 Standard in Canada, the installation and use of a properly sized compressed air breathing air purification system minimizes the risk by removing contamination to acceptable levels.

A USA transit authority recently came to a Parker domnick hunter distributor concerning problems with their current breathing air system. The system was used by their employees for protection during the spray painting and refurbishing of existing transit buses and subway cars. OSHA had been to their facility to examine their existing system and due to the condition of the purifier, an accurate air quality reading could not be obtained. Not only was this a problem for the transit authority, but employees using the system were also complaining of a strange taste and odor in the air they were breathing from the obsolete unit.

The Parker domnick hunter local distributor and Parker Purification, Dehydration and Filtration Regional Manager visited the site to review the problems resulting from the unmaintained system. The recommended and purchased solution was a Parker domnick hunter Model BA-DME060 Breathing Air Purification System.

Contact Information:

Parker Hannifin Corporation
**Purification, Dehydration and
Filtration Division**
New York, USA
T 716 686 6400 F 877 857 3800
Toll Free 1-888-587-9733

Sales Offices
North Carolina, USA
T 716 686 6400 F 877 857 3800
Toll Free 1-888-587-9733

Ontario, Canada
T 905 693 3000 F 866 958 1306
Toll Free 1-888-342-2623

www.parker.com/pdf



Features and Benefits:

- Provides air 1,000,000 times cleaner than the air we breathe
- 6 purification stages
- Use with any compressed air supply
- Integrated CO Monitor
- Complies with OSHA Grade D, NFPA-99, CSA Z180.1, European Pharmacopoeia and other International Breathing Air Standards



ENGINEERING YOUR SUCCESS.

The BA-DME Range (Incorporating CO or CO2 Reduction)

The BA-DME packages consist of several stages of contaminant removal. Inlet filtration combines to remove bulk water, particles and oil. The use of adsorption materials, namely activated desiccant and carbon, removes water vapor and oil vapor/odors respectively. The desiccant material is contained in a pressure swing adsorption dryer that delivers both a constant pressure dewpoint of -40°F (-40°C) and reduces the carbon dioxide levels.

Downstream of the desiccant dryer, a catalyst converts the carbon monoxide to carbon dioxide by catalytic conversion.

A final dust filter captures any particulates carried over from the adsorption materials.

Technical Specifications

MODEL	BA-DME060
Contaminant	
Water	14 ppm (= -72°F [-58°C] at atmospheric dewpoint)
Oil/lubricant	0.003 mg/m ³
Carbon Dioxide (CO ₂)*1	← 500 ppm
Carbon Monoxide (CO) *2	← 5 ppm
Nitrogen Oxides (NO + NO ₂)	← 2 ppm
Sulphur Dioxide (SO ₂)	← 1 ppm
Inlet Flow Rate (@ 100 psi g (7.0 bar g))*3	130 scfm*
Outlet Flow Rate (@ 100 psi g (7.0 bar g)) *3	104 scfm*
Maximum Operating Pressure	189 psi g (13 bar g)
Minimum Operating Pressure	58 psi g (4 bar g)
Maximum Recommended Operating Temperature	86°F (30°C)
Minimum Recommended Operating Temperature	35°F (1.5°C)

1. When challenged with 700 ppm at the inlet.
 2. When challenged with 65 ppm at the inlet.
 3. Referenced to 68°F (20°C) and 14 psi a (1 bar a).
- *Flow rates based on an inlet air temperature of 95°F (35°C).

The use of genuine Parker domnick hunter filter elements, desiccant and replacement components assures optimum system performance in every application.