blower which can supply/remove enough gas mixture to maintain desired cleanroom class. For example, if class **100** is needed and internal particle counter confirms that there are only 50 ppm in the hypoxic environment, unit **115** will run at the lowest, most energy-saving mode until 100 ppm level is reached, provided the temperature and humidity comply with the application.

First anteroom **103** having flap door **106** and hood **121** above the perforated ceiling is also equipped with a standard airshower feature provided by clean-air supply unit **119** able to provide large quantities of filtered air. A blower of unit **119** takes in ambient air, filters it through a HEPA filter and supplies it through duct **120** under hood **121**. From hood **121** clean air at high velocity goes through perforated ceiling **122**, removing dust particles from the clothes of personnel entering hypoxic cleanroom **101**. Of course, the airshower works only when somebody is entering system **100**.

After the airshower procedure is completed, airtight door **105** may be opened and a worker may enter second anteroom **102** and further cleanroom **101** through flap door **104**. Airtight door **105** has pressure-relief valves **118** installed preferably in its lowest portion. This will allow the regulation of pressure inside cleanroom **101** from normal atmospheric pressure outside the cleanroom to a higher positive pressure level required by application. The number of anterooms and their door design may vary depending on application.

For a cleanroom class **100** and lower applications, special hollow floor panels should be installed inside enclosure **101**, made of ceramic or metal with a perforated upper side for collecting recycling gas mixture. These panels must be sealed from outside the structure with outlets hermetically connected to conduits **111** and **117**. Perforated gas-distributing ceiling **114** together with a perforated gas-distributing floor will create a turbulence-free vertical laminar flow of hypoxic gas mixture inside cleanroom **101**.

Unit **115** is also equipped with a gas-cooling device and, if required by application, also with a humidifier. Both devices are regulated manually or by a computerized control unit (not shown) receiving data from temperature and humidity tranducers located inside the hypoxic cleanroom. An oxygen transducer may regulate performance of unit **107**, if necessary.

A big advantage of this system is that we can provide any flow capacity required by cleanroom applications using recirculation unit **115**, however, its filter does not have to be changed for years. Most conventional cleanroom systems require filters to be changed once a week or once a month, which interrupts the production process, and most of these filters are very large and expensive structures installed on the top of a cleanroom behind a ceiling and are designed to separate large quantities of dust from an ambient air. The invented system requires only small, inexpensive (mostly tubular-type) HEPA filters which can be changed in seconds. Actually, any conventional cleanroom air-supply equipment may be employed as a unit **115**, with the only differences being that it has to draw air from the cleanroom, and their large filters will last for many years without exchange.

Hypoxic cleanroom system **100** can comply with classes **100**, **10** or lower and is perfect for production and packaging of sensitive electronic components, implants, blood products, medications, biological and chemical research, processing and/or storage of oxygen-sensitive and corrosive materials, etc.

What is claimed, is:

1. A system for providing a clean oxygen-depleted environment, said system comprising:

a hypoxic chamber having internal environment therein containing a gas mixture which is cleaner and lower in oxygen content than air outside said chamber, and an entry communicating with said internal environment;

an oxygen-extraction device having an inlet taking in an intake gas mixture and first and second outlets, said first outlet transmitting a first gas mixture having a higher oxygen content than the intake gas mixture and said second outlet transmitting a second gas mixture having a lower oxygen content than the intake gas mixture;

said inlet of said oxygen-extraction device having gas-recycling conduit communicating with said internal environment and taking in internal gas mixture from said internal environment, and providing said internal gas mixture for mixing with ambient air intaken outside said chamber and forming said intake gas mixture;

a filtering device communicating with said second outlet and said internal environment and taking in said second gas mixture from said second outlet for cleaning from airborne particles to desired proportions, said second gas mixture being transmitted after cleaning to said internal environment;

said second outlet communicating with said internal environment and transmitting said second mixture to said internal environment so that said second mixture mixes with the air in the internal environment;

said first outlet transmitting said first mixture to a location where it does not mix with the air in the internal environment.

2. The invention according to claim **1** and

said internal environment having oxygen content ranging from 0.01% to 17%.

3. The invention according to claim **1** and

said oxygen-extraction device employing gas-adsorption technology and said gas-recycling conduit being not a part of said system,

said intake gas mixture is ambient air intaken outside said chamber.

4. The invention according to claim **1** and said hypoxic chamber being made of modular wall and ceiling panels having airtight connections to each other and the floor under the chamber;

said hypoxic chamber having none, one, two or three anterooms isolated from chamber and each other by soft flap doors in rigid frames or by rigid airtight doors.

5. The invention according to claim **1** and said chamber having gas collecting structure inside for collecting and transmitting said internal gas mixture back into said oxygen-extraction device through said gas-recycling conduit.

6. The invention according to claim **1** and said system having gas-recirculation device intaking internal gas mixture from said chamber, filtering and releasing this gas mixture back into said chamber, creating purified environment inside said chamber said purified environment being in compliance with the cleanroom classes from 0.1 to 100,000 for cleanroom applications.

7. The invention according to claim **6** and said gas-recirculation device having climate control feature allowing to monitor and regulate temperature and humidity of the internal gas mixture inside said chamber.

8. A hypoxic system for providing a clean low-oxygen atmosphere for industrial and non-industrial applications comprising:

a chamber comprising a door and wall structure defining a closed space which is accessible through the door,