

## **RESPIRATORY DEVICES**

### **ABSTRACT**

A respiratory device having an air exchange unit and exhaust unit, integrated or embedded onto the respiratory mask is disclosed. The air exchange unit provides filtered air for the user and allows the expended air to exit. The exhaust unit vents the mask as heat and humidity build up within the mask. A fan in exhaust unit draws filtered air flow into the relative closed area of mask through the air exchange unit and pump out exhaust expired air of the relative closed area of mask through the exhaust unit. The speed and amount of air flow may be regulated by controlling the fan through suitable control signals. The air exchange unit and exhaust unit may work jointly or independently to provide purified air and regulate the temperature and humidity within the mask.

Figure 1 accompanies the abstract.