AMERICAN™ AIRWORKS
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COMPASS™

Personal Alert Safety System (PASS)

Product Specification Sheet

I. Purpose

To establish minimum standards for a PASS device integrated into an SCBA.

II. Approvals

A. COMPASS shall be certified as an SCBA accessory by the National Institute for Occupational Safety and Health (NIOSH) under Title 42, Part 84 of the Code of Federal Regulations.

B. COMPASS shall be certified as compliant with all appropriate performance requirements of the National Fire Protection Association's 2002 edition of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services.*

C. COMPASS shall be certified as compliant with all performance requirements of the National Fire Protection Association's 1998 edition of NFPA 1982, *Standard on Personal Alert Safety Systems (PASS).*

D. COMPASS shall be certified as intrinsically safe meeting ANSI/UL, Standard 913, latest edition for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, Division I, Groups A, B, C, D, E, F, and G; Class II; and Class III Hazardous (Classified) Locations.

III. Configuration

A. The device shall be mounted on the left shoulder strap of the SCBA.

B. The device shall be constructed of a material that will withstand a drop of 30 feet onto concrete without breakage. The device shall be automatically activated upon the activation of the SCBA cylinder valve. The device's activation shall be by means of a pneumatic poppet valve pushing a mechanical switch. SCBA air shall not pass through the device.

C. The device shall be removable from the SCBA, allowing the SCBA to be used without the PASS device. However, COMPASS shall not be certified as a stand-alone PASS device.

D. The electronics compartment and battery compartment shall be water-tight to a minimum depth of 1 meter.

E. The dimensions of COMPASS shall be 2.83” x 4.82” x 2.72”.

F. The weight of COMPASS (with battery) shall be approximately 18.7 oz.

IV. Visual Display

The device shall have two horizontal rows of high-intensity LEDs. One row of lights shall be green and the other red. Under normal operation (sensing mode), the green lights shall flash. In a pre-alarm condition (after 17-20 seconds of no motion) the green and red lights shall automatically flash in alternation. In full alarm mode (after 10 seconds of no motion during pre-alarm), only the red lights shall automatically flash. In low battery condition, the amber LED shall automatically flash (see section VI).

V. Alarm

A. The device shall have two audible piezoelectric alarms mounted on the sides of the unit. The alarms shall emit two ascending tones when the device is activated and two descending tones when the device is deactivated. When the SCBA is pressurized, COMPASS shall not be able to be deactivated, but shall be able to be reset by pressing the red button two distinct times within two seconds. When the SCBA’s air has been bled off, COMPASS shall be able to be deactivated by pressing the red button two distinct times within two seconds.

B. Pre-alarm signal

1. After 17-20 seconds of no motion, the pre-alarm shall automatically activate.

2. The pre-alarm shall be comprised of three ascending sound pressure levels from 80 dBA minimum to 100 dBA maximum.

3. The pre-alarm frequency range shall be 1000-2000 Hz.

4. Motion by the user during pre-alarm shall reset the device.

C. Alarm signal

1. The alarm shall have a sound pressure level of 95-105 dBA at 3 meters for the first 4 hours in alarm mode and 95 dBA minimum at 3 meters after a minimum of 1 hour in low battery condition.The frequency range shall be 1000–4000 Hz.

2. The alarm may be activated manually by pressing and holding the red reset button for approximately 4 seconds.

VI. Battery

A. COMPASS shall utilize a 9-volt battery.

B. There shall be a separate battery compartment to prevent damage if the battery leaks. The battery compartment shall be accessible by removal of Phillips screws. The battery compartment shall be water-tight to a minimum depth of 1 meter.

C. The device shall have an amber light and an audible alarm that shall warn the user of a low battery condition.

    1. The audible alarm shall emit one beep every 15 seconds.

    2. The visual alarm shall incorporate an amber LED which flashes 2 times per second.

D. The battery life shall be a minimum of 100 hours in sensing mode and a minimum of 4 hours in alarm mode before the low battery warning.

VII. Instruction Card or Booklet

An instruction card or booklet shall be provided with each COMPASS. Instructions shall contain complete installation (if purchased as a kit) and operation procedures.

VIII. Warranty

COMPASS shall carry a warranty of not less than three years.

IX. Options

COMPASS shall have an optional remote back-mounted alarm available.