

WHAT ARE ATMOSPHERE-SUPPLYING RESPIRATORS?

Atmosphere-supplying respirators provide clean breathing air from a source separate from the work area. These respirators protect wearers from many types of contaminants (particles, gases, and vapors). In some cases, they can also supply breathable air in places that do not have enough oxygen. Fit testing is required for respirators with a tight-fitting facepiece.*

Supplied-Air Respirators (SARs)

- Facepiece is connected to a separate source that supplies clean compressed air through a hose
- Available in demand, pressure-demand, and continuous-flow configurations
- Can be lightweight and used while working for long hours in environments not immediately dangerous to life and health (IDLH)



Example of an Open-Circuit SCBA



Example of an SCSR

Self-Contained Breathing Apparatus (SCBA)

- Used for entry into or escape from environments considered to be IDLH
- Two types: **Open-Circuit** and **Closed-Circuit**
- **Open-Circuit SCBAs**
 - User carries pressurized cylinder on back to supply breathing air
 - Supplies breathing air for 30-90 minutes
 - Exhausts exhaled air instead of recirculating it
 - Can be either continuous-flow (escape-only), demand, or pressure-demand configurations
- **Closed-Circuit SCBAs**
 - Approved for both entry and escape, or escape only
 - Rated for up to 4 hours of use
 - Recycles exhaled air, removing carbon dioxide and replacing oxygen
 - Closed-circuit escape respirators (CCERs) can be used to escape from IDLH environments
 - CCERs are sometimes referred to as self-contained self-rescuers (SCSRs), especially in mining

Combination SAR/SCBA Respirators

- Pressure-demand combinations, suitable for IDLH environments, can be used to enter confined spaces
- Has a self-contained air supply
- SCBA provides air if airline supply fails or becomes interrupted
- Generally used for entry into and escape from IDLH environments

