

- 505 Your Compressed Air: Fit To Breathe? F.S. Venable and E.D. Polick.
Natl. Safety News 89, 28-32 (April, 1964).

Use of compressed air systems for supplying breathing air has greatly increased in recent years due to the popularity of scuba diving, a sport which has gained over 3 million devotees. Along with the recreational uses of compressed air, there has been a steady growth of supplied-air breathing systems in industry resulting from the need for increased protection against highly toxic materials used in missile fuel units, atomic energy installations, and various chemical operations throughout industry. On the basis of studies of central compressed air systems and portable compressors of a representative variety of types, it is possible to draw reasonably valid conclusions concerning the factors affecting compressed air quality: (1) Centralized compressed air systems used to provide breathing air require careful selection of compression equipment and location. (2) Maintenance of compressors and filters must be of a high quality. (3) High-temperature shut-off or alarms to warn of overheating of the compressor are desirable. (4) System integrity must be preserved to avoid entrance of undesirable or toxic contaminants. (5) Supplied-air respirators obtaining air from such systems should not be used in environments immediately dangerous to life. (6) Portable compressors utilizing gasoline engines are more likely to recycle significant quantities of carbon monoxide from the engine exhaust, so their use is not recommended. If, however, they must be used, they should be provided with extensions to the exhaust stacks, crankcase vents, and compressor intakes; checked carefully for exhaust manifold leakage; and properly oriented with regard to wind direction. (7) Diesel-engine powered compressors have less serious exhaust-recycle problems, but engine exhaust stacks should be extended to prevent recycling insofar as possible. (8) Selection of compressor types favor the selection of rotary or rotary-screw types over piston or reciprocating types, although replacement of filters, compressor maintenance, and degree of compressor overheating remain important factors. (9) Age of the compressor unit is of less importance than the quality of maintenance of such units.

COMMUNITY AIR HYGIENE

- 506 Analysis by Ion Current. R.A. Morris, et al.
Instr. Control Systems 36, 108-111 (Nov. 1963).

Small concentrations of smokes, dusts, and other particulate matter produce a drop in ion current. By reacting the gas with a suitable reagent to form a smoke, and measuring the current decrease caused by the smoke, high sensitivity to specific gases and vapors is achieved. An ionization chamber can be used for the detection of airborne contaminants in the ppm range. The method consists of reacting the contaminant, or its pyrolysis products with another gas to form particles (smoke or mist), and observing the effect of the particles on the conductivity of the ion chamber.

-- APCA Absts.

- 507 United States Air Quality. R.I. Larsen.
Arch. Environmental Health 8, 325-333 (Feb. 1964).

Particulate pollutant parameters are given for 20 particles measured in United States urban air. Gaseous pollutant parameters are given for sulfur dioxide concentrations measured in Chicago, Cincinnati, Los Angeles, Nashville, New Orleans, Philadelphia, San Francisco, and Washington. Data for carbon monoxide and nitrogen

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