

## § 74.5

which might then be lost to the weight measurement.

(iii) *Cassette*. The cassette shall enclose the capsule so as to prevent contamination and intentional or inadvertent alteration of dust deposited on the filter. The cassette must be easily removable without causing a loss or gain of capsule weight. The cassette shall be designed to prevent contaminants from entering or dust from leaving the capsule when it is not in use, and to prevent the reversal of airflow through the capsule or other means of removing dust collected on the filter.

(3) *Arrangement of components*. The connections between the cyclone vortex finder and the capsule and between the capsule and the ¼-inch (0.64 centimeters) (inside diameter) hose mentioned in paragraph (b)(5) of this section shall be mechanically firm and shall not leak at a rate of more than 0.1 liters per hour under a vacuum of 4 inches (10 centimeters) of water.

(4) *Clamping of components*. The clamping and positioning of the cyclone body, vortex finder, and cassette shall be rigid, remain in alignment, be firmly in contact and airtight. The cyclone-cassette assembly shall be attached firmly to a backing plate or other means of holding the sampling head in position. The cyclone shall be held in position so that the inlet opening of the cyclone is pointing perpendicular to, and away from, the backing plate.

(5) *Hose*. A 3-foot (91 centimeter) long, ¼-inch (0.64 centimeters) (inside diameter) clear plastic hose shall be provided to form an airtight connection between the inlet of the sampler pump and the outlet of the filter assembly. A device, capable of sliding along the hose and attaching to the miner's outer garment, shall be provided.

(c) *Battery charger*.

(1) *Power supply*. The battery charger shall be operated from a 110 (VAC) (nominal), 60 Hz power line.

(2) *Connection*. The battery charger shall be provided with a cord and polarized connector so that it may be connected to the charge socket on the pump or battery case.

(3) *Protection*. The battery charger shall be fused, shall have a grounded

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power plug, and shall not be susceptible to damage by being operated without a battery on charge.

(4) *Charge rates*. The battery charger shall be capable of fully recharging the battery in the pump unit within 16 hours.

### § 74.5 Tests of coal mine dust personal sampler units.

(a) The National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services, shall conduct tests to determine whether a CMDPSU that is submitted for approval under these regulations meets the requirements set forth in § 74.4.

(b) The Mine Safety and Health Administration (MSHA), Department of Labor, will conduct tests and evaluations to determine whether the pump unit of a CMDPSU that is submitted for approval under these regulations complies with the applicable permissibility provisions of 30 CFR 18.68.

### § 74.6 Quality control.

The applicant shall describe the way in which each lot of components will be sampled and tested to maintain its quality prior to assembly of each sampler unit. In order to assure that the quality of the CMDPSU will be maintained in production through adequate quality control procedures, MSHA and NIOSH reserve the right to have their qualified personnel inspect each applicant's control-test equipment procedures and records and to interview the employees who conduct the control tests. Two copies of the results of any tests made by the applicant on the CMDPSU or the pump unit thereof shall accompany an application provided under § 74.13 of this part.

## Subpart C—Requirements for Continuous Personal Dust Monitors

### § 74.7 Design and construction requirements.

(a) *General requirement*. Continuous Personal Dust Monitors (CPDMs) shall be designed and constructed for coal miners to wear and operate without impeding their ability to perform their work safely and effectively, and shall