

GGG-M-125/10A
September 20, 1982
SUPERSEDING
GGG-M-125/10
March 28, 1975

FEDERAL SPECIFICATION

RESPIRATOR ASSEMBLY: HELMET WITH POWERED AIR-PURIFYING UNIT

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

The complete requirements for procuring the respirators described herein shall consist of this document and the issue in effect of GGG-M-125/GEN.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the specific requirements for a powered air-purifying respirator assembly, designed to deliver to the wearer a supply of positive pressure air having particulate matter no greater than 0.3 microns in diameter.

1.2 Classification. Respirators covered by this specification shall be of one type.

2. APPLICABLE DOCUMENTS

Latest issue of GGG-M-125/GEN and documents referenced therein and the additional documents specified herein.

3. REQUIREMENTS

3.1 Approval and certification. (See GGG-M-125/GEN).

3.2 Design. The powered air-purifying respirator assemblies shall be powered by vehicle generators 12 volts direct current (vdc) or 24 vdc or line voltage source 115 volts alternating current (vac). The system shall be capable of removing all particular matter larger than 0.3 microns in diameter, and all toxic vapors by employing appropriate filters and cartridges.

3.3 Principal parts. Respirators (see figure 1) shall consist of the following parts where required:

- a. Air purifier and chemical cartridge (see 3.3.1 and 3.3.1.1).
- b. Blower/motor subassembly (see 3.3.2).
- c. Breathing tube (see 3.3.3).
- d. Protective helmet with shroud (see 3.3.4).
- e. Cover shields (see 3.3.5).

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3.3.1 Air purifier. The air purifier shall remove at least 99.97 percent of the particulate matter larger than 0.3 microns in diameter by the centrifugal method.

3.3.1.1 Chemical cartridges. When specified (see 6.2), the outlet end of the cleaning assembly shall be fitted with a chemical cartridge to remove various organic vapors and mist specified in 30 CFR, part 11.

3.3.2 Blower/motor subassembly. The design of the motor-operated blower assembly shall meet the requirements specified in 30 CFR, part 11.

3.3.3 Breathing tube. Unless otherwise specified (see 6.2), 7 feet of flexible 1-1/4 inch inside diameter rubber or vinyl-clad tubing (steel helix reinforced) shall be supplied to connect the air cleaner subassembly to the helmet. The ends of the tubing shall be fitted with suitable fittings for attachment to the helmet and the air cleaner subassembly.

3.3.4 Helmet with shroud enclosure. Each helmet respirator assembly shall incorporate an impact protective helmet with a detachable shroud (see 3.3.4.1). The shroud shall be sealed to the helmet in a manner to prevent penetration of airborne particulate matter, vapors, and gases into the helmet with shroud enclosure. The helmet shall meet the impact and penetration resistance requirements specified in ANSI Z89.1. The helmet shall be equipped with a face shield which can be opened during the wearing of the respirator to permit access to the face, eyes, nose, and mouth. The face shield, when closed, shall be sealed to the helmet in a manner to prevent penetration of airborne particulate matter, vapors, and gases into the helmet with shroud enclosure. Face shields shall be free of visible distortion as specified in GGG-M-125/GEN. The outside surface of the face shield viewing area shall be capable of being protected with a replaceable cover shield to prolong the useful life of the viewing area (see 3.3.5). The helmet respirator assemblies shall incorporate a head suspension system which is adjustable and fits all head sizes and shapes in accordance with ANSI Z89.1. When worn, the helmet respirator assembly shall accommodate the use of glasses, ear plugs, or communication equipment. The communication equipment shall not violate the seal of the respiratory-inlet covering. The helmet respirator assembly shall have an internal air distribution system for proper ventilation within the helmet, face shield, and shroud enclosure.

3.3.4.1 Shroud enclosure. A shroud shall consist of one or more layers of a suitable material(s). The shroud shall cover the neck and may cover the upper part of the respirator wearer's chest and back. The shroud shall be easily removed and replaced on the helmet.

3.3.4.2 Air distribution system. The air distribution system shall distribute air within the helmet, face shield, and shroud enclosure for proper ventilation with the air flow rate and the noise level meeting the requirements given in 30 CFR, part 11.

3.3.5 Cover shield. Unless otherwise specified (see 6.2), 200 self-adhering transparent sheets, a metal screen or other suitable material which does not interfere with the vision of the wearer shall be furnished (at the contractor's option). The protective screen shall attach over the outside surface of the viewing area of the helmet face shield.

3.3.5.1 Cover and face shield cleaner. Unless otherwise specified (see 6.2), two 8-ounce bottles or one 16 ounce-bottle of cleaner, at the option of the manufacturer, shall be furnished with each respirator.

3.4 Sanitization. Helmet assembly, except the air cleaner and blower assembly, shall conform to the sanitizing requirement specified in GGG-M-125/GEN.

3.5 Spare parts. When specified (see 6.2), spare parts or accessories shall be furnished.

3.6 Interchangeability. Requirements in accordance with GGG-M-125/GEN.

3.7 Instructions. Requirements in accordance with GGG-M-125/GEN.

3.8 Marking. Requirements in accordance with GGG-M-125/GEN.

3.9 Workmanship. Requirements in accordance with GGG-M-125/GEN.

4. QUALITY ASSURANCE PROVISIONS

4.1 Quality assurance provisions shall be in accordance with the requirements of GGG-M-125/GEN and the additional requirements specified herein.

4.2 Examination. Respirators selected in accordance with GGG-M-125/GEN shall be examined to verify compliance with this specification and for the defects listed in table I.

TABLE I. Classification of defects.

Categories	Defects
Major:	
101	Respirator not in accordance with NIOSH/MSHA requirements.
102	Principal parts missing.
103	Breathing tube not the correct length.
104	Chemical cartridge missing when required.
105	Cover shields missing or not correct quantity when specified.
106	Face shield not as specified.
107	Spare parts missing when specified.
108	Instructions missing.
109	Marking not as specified.
110	Poor workmanship.

4.3 Tests. Respirators sampled in accordance with GGG-M-125/GEN shall be subjected to the following test:

- a. Cleaning and sanitization test (see GGG-M-125/GEN).
- b. Helmet impact and penetration tests (see GGG-M-125/GEN).
- c. Leakage test (see GGG-M-125/GEN).
- d. Lens test (see GGG-M-125/GEN).

5. PREPARATION FOR DELIVERY (In accordance with GGG-M-125/GEN).

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6. NOTES

6.1 Intended use. Respirator assemblies covered by this specification are intended to supply respirable purified air to the wearer of the helmet from an air purifier. The respirator assembly is intended to give protection to the wearer working in areas, such as grain warehouses, steel mills, field dusting, paint spray, and other areas where dusts, mists, and vapor hazards exist in concentrations that are not immediately dangerous to life or health. The air-purifying unit may be mounted on equipment, such as forklift trucks and bulldozers, and can operate off either 12 or 24 vdc or 115 vac electrical current respectively. Precautions should be taken to prevent exhaust gases from gasoline or diesel powered engines from entering the air intake of the air purifier.

6.2 Ordering data. Purchasers shall select the preferred options offered herein and include the following data in procurement documents:

- a. Title, number, and date of this specification.
- b. Title and date of general specification GGG-M-125/GEN.
- c. If chemical cartridge is required (see 3.3.1.1).
- d. If different length of tubing is required (see 3.3.3).
- e. If numbers of cover shields required are different (see 3.3.5).
- f. If quantity of cover and face shield cleaner is different (see 3.3.5.1).
- g. Level of packaging and level of packing required (see GGG-M-125/GEN).

MILITARY INTEREST:

CIVIL AGENCY COORDINATING ACTIVITY:

Custodians

GSA - FSS

TVA -

Army - EA

DCG

Navy - YD

Air Force - 99

PREPARING ACTIVITY:

Review Activities

Navy - YD

Army - MD, ME

Project No. 4240-0450

DLA - GS

User Activities

Navy - SH, CG, MC

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein.

NOTICE OF
VALIDATION

GGG-M-125/10A
NOTICE 1
17 August 1987

FEDERAL SPECIFICATION

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POWERED AIR-PURIFYING UNIT

GGG-M-125/10A, dated September 20, 1982, has been reviewed and determined to be valid for use in acquisition.

Custodians:

Army - EA
Navy - YD
Air Force - 99

Preparing Activity:

Navy - YD

Civil Agency Coordinating Activities:

GSA - FSS
TVA
DCG

Review Activities:

Army - MD, ME
DLA - GS

User Activities:

Navy - CG, MC, SH

AMSC N/A

FSC 4240

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