



AEROSPACE STANDARD	AS8712™	REV. A
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Valve; Air Relief, Low Pressure		

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1. SCOPE:

1.1 Scope:

This specification covers the requirements for one type of low-pressure relief valve for use in pressurized shipping containers.

1.2 Classification:

Air relief valves shall be one of the following sizes, as specified (see 6.2):

Size A - 3/8-inch external pipe thread pressure port

Size B - 1/2-inch external pipe thread pressure port

2. APPLICATION DOCUMENTS:

- 2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

Federal

NN-P-515	Plywood, Container Grade
PPP-B-585	Boxes, Wood, Wirebound
PPP-B-601	Boxes, Wood, Cleated-Plywood
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	Box, Fiberboard
PPP-T-60	Tape, Pressure Sensitive Adhesive, Waterproof - for Packaging and Sealing

Military

MIL-P-116	Preservation, Methods of
MIL-E-5272	Environmental Testing, Aeronautical and Associated Equipment, General Specification for
MIL-C-5501	Caps and Plugs, Protective, Dust and Moisture Seal
MIL-P-5516	Packings and Gaskets, Preformed, Petroleum Hydraulic Fluid Resistant
MIL-P-7105	Pipe Threads, Taper, Aeronautical National Form, Symbol ANPT, General Requirements for
MIL-S-7742	Screw Threads, Standard, Optimum Selected Series: General Specification for
MIL-P-7936	Parts and Equipment, Aeronautical, Preparation for Delivery
MIL-L-10547	Liners, Case, and Sheet, Overwrap, Water-Vaporproof or Waterproof, Flexible
MIL-C-52078	Cap-Plug, Cap, and Plug; Protective, Plastic, Dust and Moisture Seal
MIL-D-70327	Drawings, Engineering and Associated Lists

STANDARDS

Military

MIL-STD-8	Dimensioning and Tolerancing
MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of US Military Property
MIL-STD-143	Specifications and Standards, Order of Precedence for the Selection of
MS33586	Metals, Definition of Dissimilar

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS:

3.1 Preproduction:

This specification provides for preproduction inspection (see 4.3).

3.2 Data:

Unless otherwise specified in the contract or order, no data are required by this specification or any of the documents referenced in section 2 (see 6.2).

3.3 Materials:

Materials and processes used in the manufacture of low-pressure air relief valves shall conform to applicable Government specifications. Materials and processes conforming to contractor's specifications may be used provided the specifications are released by the procuring activity and contain provisions for adequate tests. The use of contractor's specifications shall not constitute waiver of Government inspection. The use of leather is prohibited.

3.3.1 Metals: All metals used in the construction of the valve shall be corrosion resistant or shall be suitably protected to resist corrosion. The use of dissimilar metals, as defined by MS33586, shall be avoided whenever practicable. The use of magnesium or any alloy thereof is prohibited.

3.3.2 Nonmetals: When utilized, nonmetallic parts, such as packings, gaskets, and valve seats, shall conform to MIL-P-5516.

3.3.3 Castings: Castings, when used, shall be clean, sound, and free from blowholes, porosity, cracks, and other defects.

3.3.4 Selection of materials: Specifications and standards for necessary commodities and services not specified herein shall be selected in accordance with MIL-STD-143, except as provided in 3.3.4.1 and 3.3.4.2.

3.3.4.1 Standard parts: Standard parts (MS and AN) shall be used wherever they are suitable for the purpose, and shall be identified on the drawing by their part numbers. In the event there is no suitable corresponding standard part in effect on date of invitation for bids, commercial parts may be used, provided they conform to all requirements of this specification.

3.3.4.2 Commercial parts: Commercial utility parts, such as screws, bolts, nuts, and cotter pins may be used, provided they possess suitable properties and are replaceable by the MS or AN parts without alteration, and provided the corresponding MS or AN part numbers are referenced in the parts list and, if practicable, on the contractor's drawings.

3.4 Design:

The valve shall be so designed as to be capable of being installed in or removed from the receptacle shown on figure 1 by use of standard hexagonal deep socket wrenches. No part of the valve shall be such as could cause interference with installation and removal; or change the pressure relief setting upon installation.

3.5 Construction:

The valve shall be so constructed that it will withstand the strains, jars, vibrations, and other conditions incident to shipping, storage, and service usage.

3.6 Interchangeability:

All parts having the same manufacturer's part number shall be directly and completely interchangeable with each other with respect to installation and performance. Changes in manufacturer's part numbers shall be governed by the drawing number requirements of MIL-D-70327.

3.7 Screw threads:

All screw threads shall be in accordance with MIL-S-7742.

3.7.1 Locking of parts: All internal and external threaded parts shall be positively locked.

3.7.2 Pipe threads: Pipe threads shall be in accordance with MIL-P-7105.

3.8 Lubrication:

The valve shall operate satisfactorily without the use of lubricants.

3.9 Performance:

3.9.1 Static pressure leakage: The valves shall not leak under a pressure of 5 ± 0.1 psi, when tested as specified in 4.6.2.

3.9.2 Dynamic cracking pressure: Dynamic cracking pressure is the minimum pressure at which air flows through the valve at a rate of approximately 0.1 cfm. The valves shall meet the following requirements when tested as specified in 4.6.3, 4.6.3.1, and 4.6.3.2.

3.9.2.1 Dynamic cracking pressure at room temperature: Dynamic cracking pressure shall be not more than 11 psi or less than 9 psi.

3.9.2.2 Dynamic cracking pressure at high and low temperature: Dynamic cracking pressure shall be not more than 18 psi or less than 9 psi, when tested at 160° and -40°F.