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MILITARY STANDARD

COMPRESSORS: CONSTRUCTION, PAINT SPRAY, AND
GARAGE; CLASSIFICATION OF TYPES, CLASSES,
STYLES, GROUPS, AND CAPACITIES



|FSC 4310|

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MIL-STD-431D

**DEPARTMENT OF DEFENSE
Washington, DC 20301**

**COMPRESSORS: CONSTRUCTION, PAINT SPRAY, AND
GARAGE; CLASSIFICATION OF TYPES, CLASSES,
STYLES, GROUPS, AND CAPACITIES**

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2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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1. SCOPE

1.1 Scope. This standard reflects agreements of the Army, Navy, and the Air Force to limit the types, classes, styles, groups, and capacities of air compressors for construction, paint spray, and garage use to be procured for use by the respective military departments.

1.2 Application guidance. All construction, paint spray, and garage use air compressors procured after the effective date of this standard shall be of the types, classes, styles, groups, and sizes (capacities) listed in this standard. This standard does not apply to:

- a. Compressors already in the military supply system purchased prior to the effective date of this standard.
- b. Compressors for construction use in which continuing procurement by an activity of specific types and capacities not covered herein has been authorized as a means of effecting standardization and interchangeability of replacement parts.
- c. Self-propelled, tractor-compressor units.

1.3 Classification. Air compressors covered by this standard shall be of the following classifications (see 5.1):

Type I - Reciprocating.

Type II - Rotary.

Group a - Single stage.

Group b - Multi-stage.

Style A - Electric motor driven.

Style B - Gasoline engine driven.

Style C - Diesel engine driven.

Class 1 - Tank mounted.

Class 2 - Handtruck or wheelbarrow type mounted.

Class 3 - Caster mounted.

Class 4 - Skid mounted.

Class 5 - Trailer mounted.

Size - Capacity in cubic feet per minute (cfm) at specified discharge pressure in pound-force per square inch gage (psig) (see Table I).

(Example: size 250 = 250 cfm at 100 psig.)

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2. REFERENCED DOCUMENTS

2.1 Government documents. (Not applicable).

2.2 Other publications. The following documents form a part of this standard to the extent specified herein. Unless specified, the issue of this document which are Department of Defense (DoD) accepted shall be those listed in the issue of the DoD Index of Specifications and Standards (DODISS) specified in the solicitation. The issue of documents which have not been adopted shall be those in effect on the date of the cited DODISS.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME PTC 9 - Displacement Compressors, Vacuum Pumps and Blowers.

(Application for copies should be addressed to the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017.)

(Non-Government standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.

3. DEFINITIONS

3.1 Capacity. For purposes of this standard, the capacity of a compressor is defined as the volume rate of air flow compressed and delivered at the specified discharge pressure when the volume rate is expressed as conditions of total temperature, static pressure, and specified weight prevailing at the compressor inlet.

4. GENERAL REQUIREMENTS

4.1 Compressor capacity. Compressor capacities at specified discharge pressures shall be in accordance with table 1 and shall be as determined by the ASME PTC 9.

5. DETAILED REQUIREMENTS

5.1 Compressor classification. Air compressors covered by this standard shall be of the types, groups, styles, classes, and sizes (see 1.3) in accordance with table I and shall be under one of the following applications.

5.1.1 Construction application. Compressors under this application are used as portable sources of air supply in construction project.

5.1.2 Paint spray application. Compressors under this application are used as sources of air for spraying paint.

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5.1.3 Garage application. Compressors under this application are used in garage and shop work.

TABLE I. Compressor classification.

Size/Capacity (cfm)	Type	Group	Style	Class	Discharge pressure (psig)
<u>Construction Application</u>					
125	I, II	a, b	B, C	4, 5	100
250	I, II	a, b	B, C	4, 5	100
365	I, II	a, b	C	4, 5	100
600	I, II	a, b	C	4, 5	100
750	I, II	a, b	C	4, 5	100
<u>Paint Spray Application</u>					
1.5	I, II	a, b	A, B	1, 2, 4	50
2.7	I, II	a, b	A, B	1, 2, 4	80
15	I, II	a, b	A, B	1, 2, 4	80
30	I, II	a, b	A, B	1, 2, 4	80
75	I, II	a, b	A, B	1, 2, 4	80
<u>Garage Application</u>					
5	I, II	a, b	A, B	1, 2, 3	175
8	I, II	a, b	A, B	1, 2, 3	175
15	I, II	a, b	A, B	1, 2, 3, 4, 5	175
25	I, II	a, b	A, B	1, 2, 3, 4, 5	175

6. NOTES

6.1 Intended use. The intended use of this standard is to limit the types, groups, styles, classes, and sizes (capacities) of air compressors to be procured by the Army, Navy, and the Air Force.

6.2 Applicable specifications. The following military specifications shall conform to the classification specified in this standard.

- a. MIL-C-555 - Compressors, Air, Reciprocating and Rotary, Diesel Engine Driven.
- b. MIL-C-3925 - Compressors, Reciprocating and Rotary, Power Driven, Air, (Paint Spray Type).
- c. MIL-C-13874 - Compressors, Reciprocating and Rotary, Air, Electric Motor Driven.
- d. MIL-C-52980 - Compressor, Reciprocating and Rotary, Gasoline Engine Driven, Air.
- e. MIL-C-82086 - Compressor Units: Diesel Engine Driven (Commercial Type).

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6.3 Subject term (key word) listing.

Compressor, reciprocating
Compressor, rotary
Construction application
Diesel engine driven
Gasoline engine driven
Electric motor driven
Garage application
Paint spray application

6.3 Changes from previous issue. Vertical lines or asterisks are not used in this revision to identify changes with respect to the previous issue due to extensiveness of changes.

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