

INCH-POUND

A-A-59860
2 February 2010
SUPERSEDING
MIL-DTL-2G
29 September 2006

COMMERCIAL ITEM DESCRIPTION

VALVES, CYLINDER, GAS
(FOR COMPRESSED OR LIQUEFIED GASES)

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) provides the acquisition requirements for the purchase of cylinder valves for use with compressed gas cylinders containing liquefied or non-liquefied compressed gases or mixtures.

2. **CLASSIFICATION.** The valves shall be classified by the following styles, classes, outlet connection numbers, and inlet sizes:

2.1 **Style.** The valve shall be one of the styles listed below (see 7.3(c)).

- Style I - Compression packed.
- Style IIA - O-ring (low-pressure*).
- Style IIB - O-ring (high-pressure).
- Style IV - Diaphragm seal.
- Style V - Medical post.

*Style IIA low-pressure O-ring valves are rated up to 500 psig. A style IIB high-pressure O-ring valve, of the appropriate class (see 2.2), is required for applications using an O-ring valve, where the cylinder's marked operating pressure exceeds 500 psig.

2.2 **Class.** The valve shall be one of the classes listed in table I (see 7.3(d)).

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: STDZNMGT@dla.mil or Defense Supply Center Richmond (DSCR), ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at <https://assist.daps.dla.mil/>.

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TABLE I. Class designations.

| Class | Valve design service pressure ¹ rating (psig) | Max. marked cylinder service pressure (psig) |
|-------|---|---|
| 05 | 0 - 500 at 70 °F (21.1 °C) | 500 (3450 kPa) |
| 30 | 0 - 3000 at 120 °F (48.9 °C) | 2400 (16550 kPa) |
| 40 | 3001 - 4000 at 120 °F (48.9 °C) | 3000 (20680 kPa) |
| 55 | 4001 - 5500 at 120 °F (48.9 °C) | 3600 (24820 kPa) |
| 75 | 5501 - 7500 at 120 °F (48.9 °C) | 6000 (41370 kPa) |

¹ The pressure rating of the outlet connection as specified in CGA V-1.

2.3 Outlet connection numbers. The valve outlet shall be one of the following designations, as specified in CGA V-1, "Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections", (see 7.3(e)):

| | | | | |
|-----|-----|-----|-----|-----|
| 200 | 330 | 540 | 670 | 890 |
| 240 | 346 | 577 | 677 | 910 |
| 280 | 347 | 580 | 680 | 920 |
| 296 | 350 | 590 | 705 | 930 |
| 300 | 500 | 621 | 820 | 940 |
| 320 | 510 | 660 | 870 | 950 |
| 326 | | | | |

2.4 Inlet sizes. The valve inlet's size shall be one of the following sizes as specified in CGA V-1 (see 7.3(f)):

- Inlet size 3 - 3/8-18NGT.
- Inlet size 4 - 1/2-14NGT.
- Inlet size 6 - 3/4-14NGT.
- Inlet size 8 - 1-11 1/2-NGT.

3. SALIENT CHARACTERISTICS

3.1 Design and construction requirements. The valve's design and construction shall be in accordance with CGA V-9, "Compressed Gas Association Standard for Compressed Gas Cylinder Valves".

3.1.1 Materials. As specified in CGA V-9, all materials in contact with the gas shall be physically and chemically compatible with the products for which the valve is designed.

3.1.1.1 Components. Used, rebuilt or remanufactured components, pieces, and parts shall not be incorporated in the valves.

3.2 Performance requirements. The valve's performance shall be in accordance with the performance requirements specified in CGA V-9.

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3.3 Marking. Unless otherwise specified, valves shall be marked in accordance with CGA V-9 (see 7.3 (g)). In addition, when specified by contract, the valve body shall be permanently marked, using one of the methods specified in CGA V-9, with the appropriate nomenclature to indicate the valve's intended gas service. The contracting agent shall provide the required nomenclature.

3.4 Pressure relief device. Unless prohibited or not required (see tables II and III), all valves shall be supplied with a safety device known as a pressure relief device (PRD). This safety device shall be one of the types listed in table II, and conform to the design and performance requirements specified in CGA S-1.1, "Pressure Relief Device Standards Part 1 - Cylinders for Compressed Gases", and CGA S-7, "Method for Selecting Pressure Relief Devices for Compressed Gas Mixtures in Cylinders", (see 7.3(h)).

TABLE II. PRD designations.

| PRD # | CGA S-1.1 | Type and description |
|-------|-----------|--|
| 0 | - | None required |
| 1 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 1800 psig (12400 kPa) |
| 2 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 2015 psig (13890 kPa) |
| 3 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 2265 psig (15620 kPa) |
| 4 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 2400 psig (16550 kPa) |
| 5 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 3000 psig (20680 kPa) |
| 6 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 3500 psig (24130 kPa) |
| 7 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 4000 psig (27580 kPa) |
| 8 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 4500 psig (31000 kPa) |
| 9 | CG-1 | Rupture disk PRD-Service (cylinder) pressure of 6000 psig (41350 kPa) |
| 10 | - | Prohibited ¹ |
| 11 | CG-2 | Fusible plug PRD for service (cylinder) pressures through 500 psig (3450 kPa), 165 °F (74 °C) nominal |
| 12 | CG-3 | Fusible plug PRD for service (cylinder) pressures through 500 psig (3450 kPa), 212 °F (100 °C) nominal |
| 13 | CG-4 | Combination rupture disk and fusible plug PRD for service (cylinder) pressures of 1800 psig (12400 kPa) through 2265 psig (15616 kPa), 165 °F (74 °C) |
| 14 | CG-5 | Combination rupture disk and fusible plug PRD for service (cylinder) pressures of 1800 psig (12400 kPa) through 2265 psig (15616 kPa), 212 °F (100 °C) |
| 15 | CG-7 | Spring loaded, reseating PRD ² --Service (cylinder) pressure 225 psig (1550 kPa) |
| 16 | CG-7 | Spring loaded, reseating PRD--Service (cylinder) pressure 240 psig (1653 kPa) |
| 17 | CG-7 | Spring loaded, reseating PRD--Service (cylinder) pressure 260 psig (1790 kPa) |
| 18 | CG-7 | Spring loaded, reseating PRD--Service (cylinder) pressure 300 psig (2066 kPa) |
| 19 | CG-7 | Spring loaded, reseating PRD--Service (cylinder) pressure 400 psig (2755 kPa) |

¹ The use of PRDs is prohibited in certain gas service applications by 49 CFR 173.301.

² A spring loaded, reseating PRD (CG-7) is also known as a pressure relief valve (PRV).

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7.2 Sources of documents.

7.2.1 CFR and FAR. Copies of CFR and FAR may be obtained from the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Electronic copies of CFR documents may be obtained from <http://www.gpoaccess.gov/cfr/>. Electronic copies of FAR documents may be obtained from <http://www.arnet.gov/far/>.

7.2.2 CGA standards. Copies of CGA standards may be obtained from the Compressed Gas Association, 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923. Electronic copies of CGA standards may be obtained from <http://www.cganet.com/>.

7.3 Ordering data. The acquisition order should specify the following information:

- a. CID document number, revision, and CID PIN (see table III).
- b. Intended gas service.
- c. Valve style (see 2.1).
- d. Maximum marked cylinder service pressure (see table I).
- e. Outlet connection number (see 2.3).
- f. Inlet size (see 2.4).
- g. When valve body marking shall be other than specified by CGA V-9 (see 3.3).
- h. PRD type (see 3.4).
- i. When the spring tension adjustment for a PRD is required to be different than that normally specified (see table II).
- j. When the optional vibration testing specified in CGA V-9 is required (see 3.5).
- k. When additional endurance testing (5,000 cycles) is required (see 3.5).
- l. Preservation, packing, and marking (see 6.1).
- m. Cylinder diameter or actual dip tube length when a dip tube is required (see table III).
- n. When dip tube is required to be assembled to valve (see table III).
- o. When a metal outlet cap or plug, with chain and retaining ring is required or when a disposable plastic dust cap or plug is required (see table III). Note: All valves (with non-pin indexed outlets) may require a cap or plug.
- p. When a handwheel is not required (see table III).
- q. When a wrench or key is required (see table III).
- r. When a strainer is required (see table III).
- s. When chrome plated valves are not required for medical valve applications (see table III).

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7.4 Subject term (key word) listing.

Compression packed
Diaphragm seal
Dip tube
Eductor tube
Fusible plug
Inlet
Outlet
Pressure relief device
Rupture disk
Medical
O-ring

7.5 Cross-reference data. Table III contains cross-reference data for valves previously specified by MIL-DTL-2G and its associated specification sheets, including the individual specification sheet numbers and valve type designators. This information has been included for continuity and to facilitate the transition to this document.

TABLE III. PIN designation and cross-reference data for valves.

| CID PIN | Former detail spec. number | MIL-DTL-2G designator | Outlet app. | Inlet size | Style | Class | PRD des. | DT ¹ | DC ² | WK ³ | Gas service | Remarks |
|-------------|----------------------------|-----------------------|-------------|------------|-------|-------|----------|-----------------|-----------------|-----------------|---|--|
| AA59860-001 | MIL-DTL-2/1 | V1-510-0 | 510 | 6 | I | 05 | 0 | | | X | Acetylene | Strainer may be required |
| AA59860-002 | MIL-DTL-2/1 | V1-510-0 | 510 | 6 | IIA | 05 | 0 | | | | Acetylene | Strainer may be required |
| AA59860-003 | MIL-DTL-2/2 | V2-510-0 | 510 | 8 | I | 05 | 0 | | | X | Acetylene | Strainer may be required |
| AA59860-004 | MIL-DTL-2/2 | V2-510-0 | 510 | 8 | IIA | 05 | 0 | | | | Acetylene | Strainer may be required |
| AA59860-005 | MIL-DTL-2/3 | V3-200-1 | 200 | 3 | I | 05 | 12 | | | X | Acetylene (10-ft ³ cylinders) | Valve configuration ⁴ , "MC tank" |
| AA59860-006 | MIL-DTL-2/3 | V3-200-1 | 520 | 3 | I | 05 | 12 | | | X | Acetylene (40-ft ³ cylinders) | Valve configuration ⁴ , "B tank" |
| AA59860-007 | MIL-DTL-2/5 | V5-346-2 | 346 | 6 | IIB | 30 | 14 | | | | Air for human respiration (non-medical) | Press. not specified ⁵ , 1800-2400 |
| AA59860-008 | MIL-DTL-2/5 | V5-346-3 | 346 | 6 | IIB | 30 | 1 | | | | Air for human respiration (non-medical) | |
| AA59860-009 | MIL-DTL-2/5 | V5-346-4 | 346 | 6 | IIB | 30 | 2 | | | | Air for human respiration (non-medical) | |
| AA59860-010 | MIL-DTL-2/5 | V5-346-5 | 346 | 6 | IIB | 30 | 3 | | | | Air for human respiration (non-medical) | |
| AA59860-011 | MIL-DTL-2/5 | V5-346-6 | 346 | 6 | IIB | 30 | 4 | | | | Air for human respiration (non-medical) | |
| AA59860-012 | MIL-DTL-2/6 | V6-590-2 | 590 | 6 | IIB | 30 | 14 | | | | Air (Oil tolerant; industrial) | Press. not specified ⁵ , 1800-2400 |
| AA59860-013 | MIL-DTL-2/6 | V6-590-3 | 590 | 6 | IIB | 30 | 1 | | | | Air (Oil tolerant; industrial) | |
| AA59860-014 | MIL-DTL-2/6 | V6-590-4 | 590 | 6 | IIB | 30 | 2 | | | | Air (Oil tolerant; industrial) | |
| AA59860-015 | MIL-DTL-2/6 | V6-590-5 | 590 | 6 | IIB | 30 | 3 | | | | Air (Oil tolerant; industrial) | |
| AA59860-016 | MIL-DTL-2/6 | V6-590-6 | 590 | 6 | IIB | 30 | 4 | | | | Air (Oil tolerant; industrial) | |
| AA59860-017 | MIL-DTL-2/7 | V7-240-0 | 240 | 6 | I | 05 | 0 | X ⁶ | | X | Anhydrous ammonia | Valve config. ⁷ ; dished head cyl. |
| AA59860-018 | MIL-DTL-2/8 | V8-240-0 | 240 | 6 | I | 05 | 0 | X ⁶ | | X | Anhydrous ammonia | 3/4" inlet, convex head cylinder |
| AA59860-019 | MIL-DTL-2/9 | V9-240-0 | 240 | 8 | I | 05 | 0 | X ⁶ | | X | Anhydrous ammonia | Valve config. ⁷ ; dished head cyl. |
| AA59860-020 | MIL-DTL-2/10 | V10-240-0 | 240 | 8 | I | 05 | 0 | X ⁶ | | X | Anhydrous ammonia | 1" inlet, convex head cylinder |
| AA59860-021 | MIL-DTL-2/11 | V11-580-2 | 580 | 6 | IIB | 30 | 14 | | | | Argon, helium, nitrogen, neon, and xenon (Inert - oil free) | Press. not specified ⁵ , 1800-2400 |
| AA59860-022 | MIL-DTL-2/11 | V11-580-3 | 580 | 6 | IIB | 30 | 1 | | | | Argon, helium, nitrogen, neon, and xenon (Inert - oil free) | |
| AA59860-023 | MIL-DTL-2/11 | V11-580-4 | 580 | 6 | IIB | 30 | 2 | | | | Argon, helium, nitrogen, neon, and xenon (Inert - oil free) | |
| AA59860-024 | MIL-DTL-2/11 | V11-580-5 | 580 | 6 | IIB | 30 | 3 | | | | Argon, helium, nitrogen, neon, and xenon (Inert - oil free) | |
| AA59860-025 | MIL-DTL-2/11 | V11-580-6 | 580 | 6 | IIB | 30 | 4 | | | | Argon, helium, nitrogen, neon, and xenon (Inert - oil free) | |
| AA59860-026 | MIL-DTL-2/14 | V14-510-14 | 510 | 6 | IIA | 05 | 16 | X | | | Butane, propane, butane-propane mixtures, MAPP Gas, and propylene | PRD start to discharge: 375psig Flow rating pressure: 480 psig Flow cap: not less than 360 cfm Max cap: 100#LPG (240# H ₂ O) |
| AA59860-027 | MIL-DTL-2/14 | V14-510-15 | 510 | 6 | IIA | 05 | 17 | X | | | Butane, propane, butane-propane mixtures, MAPP Gas, and propylene | |
| AA59860-028 | MIL-DTL-2/14 | V14-510-14 | 510 | 6 | IV | 05 | 16 | X | | | Butane, propane, butane-propane mixtures, MAPP Gas, and propylene | |
| AA59860-029 | MIL-DTL-2/14 | V14-510-15 | 510 | 6 | IV | 05 | 17 | X | | | Butane, propane, butane-propane mixtures, MAPP Gas, and propylene | |
| AA59860-030 | MIL-DTL-2/15 | V15-320-3 | 320 | 6 | IIB | 30 | 1 | | | | Carbon dioxide (Industrial; non-medical) | |
| AA59860-031 | MIL-DTL-2/15 | V15-320-4 | 320 | 6 | IIB | 30 | 2 | | | | Carbon dioxide (Industrial; non-medical) | |
| AA59860-032 | MIL-DTL-2/16 | V16-320-4 | 320 | 6 | IIB | 30 | 2 | | | | Carbon dioxide (Medical) | Chrome plated; outlet cap required |
| AA59860-033 | MIL-DTL-2/16 | V16-320-4 | 320 | 6 | IV | 30 | 2 | | | | Carbon dioxide (Medical) | Chrome plated; outlet cap required |
| AA59860-034 | MIL-DTL-2/17 | V17-940-4 | 940 | 4 | V | 30 | 2 | | | X | Carbon dioxide (Medical) | Pin-index outlet; chrome plated |
| AA59860-035 | MIL-DTL-2/18 | V18-350-2 | 350 | 6 | IIB | 30 | 14 | | | | Carbon monoxide | Outlet cap required |
| AA59860-036 | MIL-DTL-2/19 | V19-350-3 | 350 | 6 | IIB | 30 | 1 | X | | | Ethylene oxide-carbon dioxide mixture (Carboxide: 10% ethylene oxide, 90% carbon dioxide) | Sterilization / fumigation agent |
| AA59860-037 | MIL-DTL-2/19 | V19-350-4 | 350 | 6 | IIB | 30 | 2 | X | | | Ethylene oxide-carbon dioxide mixture (Carboxide: 10% ethylene oxide, 90% carbon dioxide) | |
| AA59860-038 | MIL-DTL-2/19 | V19-350-5 | 350 | 6 | IIB | 30 | 3 | X | | | Ethylene oxide-carbon dioxide mixture (Carboxide: 10% ethylene oxide, 90% carbon dioxide) | |

TABLE III. PIN designation and cross-reference data for valves - Continued.

| CID PIN | Former detail spec. number | MIL-DTL-2G designator | Outlet app. | Inlet size | Style | Class | PRD des. | DT ¹ | DC ² | WK ³ | Gas service | Remarks |
|-------------|----------------------------|-----------------------|-------------|------------|-------|-------|----------|-----------------|-----------------|-----------------|---|---|
| AA59860-039 | MIL-DTL-2/20 | V20-820-1 | 820 | 6 | I | 05 | 11 | | | X | Chlorine | 3/4-14NGT(C1)-1 inlet threads or -2, -3, -4, -5 optional; outlet cap required |
| AA59860-040 | MIL-DTL-2/21 | V21-820-0 | 820 | 6 | I | 05 | 0 | | | X | Chlorine (1-ton container) | 3/4-14NGT(C1)-1 inlet threads or -2, -3, -4, -5 optional; outlet cap required |
| AA59860-041 | MIL-DTL-2/22 | V22-660-13 | 660 | 6 | I | 05 | 15 | X | D | H | R-11 Trichlorofluoromethane | single flow cntrl, single outlet |
| AA59860-042 | MIL-DTL-2/22 | V22-660-14 | 660 | 6 | I | 05 | 16 | X | D | H | R-12 Dichlorodifluoromethane | single flow cntrl, single outlet |
| AA59860-043 | MIL-DTL-2/22 | V22-660-15 | 660 | 6 | I | 05 | 17 | X | D | H | R-13 Chlorotrifluoromethane | single flow cntrl, single outlet |
| AA59860-044 | MIL-DTL-2/22 | V22-660-16 | 660 | 6 | I | 05 | 18 | X | D | H | R-22 Chlorodifluoromethane | single flow cntrl, single outlet |
| AA59860-045 | MIL-DTL-2/22 | V22-660-17 | 660 | 6 | I | 05 | 19 | X | D | H | R-23 Trifluoromethane | single flow cntrl, single outlet |
| AA59860-046 | MIL-DTL-2/22 | V22-660-18 | 660 | 6 | I | 05 | 18 | X | D | H | R-31 Chlorofluoromethane | single flow cntrl, single outlet |
| AA59860-047 | MIL-DTL-2/22 | V22-660-19 | 660 | 6 | I | 05 | 19 | X | D | H | R-32 Difluoromethane | single flow cntrl, single outlet |
| AA59860-048 | MIL-DTL-2/22 | V22-660-20 | 660 | 6 | I | 05 | 16 | X | D | H | R-113 Trichlorotrifluoroethane | dual flow cntrl, single outlet |
| AA59860-049 | MIL-DTL-2/22 | V22-660-21 | 660 | 6 | I | 05 | 18 | X | D | H | R-114 Dichlorotetrafluoroethane | dual flow cntrl, single outlet |
| AA59860-050 | MIL-DTL-2/22 | V22-660-22 | 660 | 6 | I | 05 | 19 | X | D | H | R-115 Chloropentafluoroethane | dual flow cntrl, single outlet |
| AA59860-051 | MIL-DTL-2/22 | V22-660-13 | 660 | 6 | IIA | 05 | 15 | X | D | | R-123 Dichlorotrifluoroethane | dual flow cntrl, dual outlet |
| AA59860-052 | MIL-DTL-2/22 | V22-660-14 | 660 | 6 | IIA | 05 | 16 | X | D | | R-124 Chlorotetrafluoroethane | dual flow cntrl, dual outlet |
| AA59860-053 | MIL-DTL-2/22 | V22-660-15 | 660 | 6 | IIA | 05 | 17 | X | D | | R-125 Pentafluoroethane | dual flow cntrl, dual outlet |
| AA59860-054 | MIL-DTL-2/22 | V22-660-16 | 660 | 6 | IIA | 05 | 18 | X | D | | R-134a Tetrafluoroethane | dual flow cntrl, dual outlet |
| AA59860-055 | MIL-DTL-2/22 | V22-660-17 | 660 | 6 | IIA | 05 | 19 | X | D | | R-143a Trifluoroethane | single flow cntrl, single outlet |
| AA59860-056 | MIL-DTL-2/22 | V22-660-18 | 660 | 6 | IIA | 05 | 18 | X | D | | R-152a Difluoroethane | single flow cntrl, single outlet |
| AA59860-057 | MIL-DTL-2/22 | V22-660-19 | 660 | 6 | IIA | 05 | 19 | X | D | | R-227 Heptafluoropropane | single flow cntrl, single outlet |
| AA59860-058 | MIL-DTL-2/22 | V22-660-20 | 660 | 6 | IIA | 05 | 16 | X | D | | R-290 Propane | single flow cntrl, single outlet |
| AA59860-059 | MIL-DTL-2/22 | V22-660-21 | 660 | 6 | IIA | 05 | 18 | X | D | | R-401A (R-22/R-125/R-124) (53/13/34) | single flow cntrl, single outlet |
| AA59860-060 | MIL-DTL-2/22 | V22-660-22 | 660 | 6 | IIA | 05 | 19 | X | D | | R-401B (R-22/R-152a/R-124) (61/28/11) | single flow cntrl, single outlet |
| | | | | | | | | | | | R-402A (R-22/R-125/R-290) (38/60/2) | single flow cntrl, single outlet |
| | | | | | | | | | | | R-402B (R-22/R-125/R-290) (60/38/2) | dual flow cntrl, single outlet |
| | | | | | | | | | | | R-404A (R-125/R-143a/R-134a) (44/52/4) | dual flow cntrl, dual outlet |
| | | | | | | | | | | | R-500 (R-12/R-152a) (73.8/26.2) | dual flow cntrl, dual outlet |
| | | | | | | | | | | | R-501 (R-22/R-12) (75.0/25.0) | |
| | | | | | | | | | | | R-502 (R-22/R-115) (48.8/51.2) | |
| | | | | | | | | | | | R-503 (R-23/R-13) (40.1/59.9) | |
| | | | | | | | | | | | R-504 (R-32/R-115) (48.2/51.8) | |
| | | | | | | | | | | | R-505 (R-12/R-31) (78.0/22.0) | |
| | | | | | | | | | | | R-506 (R-31/R-114) (55.1/44.9) | |

TABLE III. PIN designation and cross-reference data for valves - Continued.

| CID PIN | Former detail spec. number | MIL-DTL-2G designator | Outlet app. | Inlet size | Style | Class | PRD des. | DT ¹ | DC ² | WK ³ | Gas service | Remarks |
|-------------|----------------------------|-----------------------|-------------|------------|-------|-------|----------------|-----------------|-----------------|-----------------|---|---|
| AA59860-061 | MIL-DTL-2/23 | V23-300-1 | 300 | 6 | I | 05 | 0 ⁸ | | | X | Ethyl chloride (R-160) | No aluminum cylinders |
| AA59860-062 | MIL-DTL-2/24 | V24-510-1 | 510 | 6 | I | 05 | 11 | X | | X | Ethylene oxide | Specify cylinder diameter |
| AA59860-063 | MIL-DTL-2/26 | V26-590-2 | 590 | 6 | IIB | 30 | 14 | | | | Helium and nitrogen (Inert - oil tolerant) | Press. not specified ⁵ , 1800-2400 |
| AA59860-064 | MIL-DTL-2/26 | V26-590-3 | 590 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-065 | MIL-DTL-2/26 | V26-590-4 | 590 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-066 | MIL-DTL-2/26 | V26-590-5 | 590 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-067 | MIL-DTL-2/26 | V26-590-6 | 590 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-068 | MIL-DTL-2/27 | V27-280-2 | 280 | 6 | IIB | 30 | 13 | | | | Oxygen-helium mixture (Medical) (Helium not over 80%) | Chrome plated; outlet cap required |
| AA59860-069 | MIL-DTL-2/27 | V27-280-2 | 280 | 6 | IV | 30 | 13 | | | | Oxygen-helium mixture (Medical) (Helium not over 80%) | Pin-index outlet; chrome plated |
| AA59860-070 | MIL-DTL-2/28 | V28-890-2 | 890 | 4 | V | 30 | 13 | | | X | | |
| AA59860-071 | MIL-DTL-2/29 | V29-350-2 | 350 | 6 | IIB | 30 | 14 | | | | Hydrogen | |
| AA59860-072 | MIL-DTL-2/29 | V29-350-2 | 350 | 6 | IV | 30 | 14 | | | | | |
| AA59860-073 | MIL-DTL-2/37 | V37-326-4 | 326 | 6 | IIB | 30 | 2 | | | | Nitrous oxide (Medical) | Chrome plated; outlet cap required |
| AA59860-074 | MIL-DTL-2/37 | V37-326-4 | 326 | 6 | IV | 30 | 2 | | | | | |
| AA59860-075 | MIL-DTL-2/38 | V38-910-4 | 910 | 4 | V | 30 | 2 | | | X | Nitrous oxide (Medical) | Pin-index outlet; chrome plated |
| AA59860-076 | MIL-DTL-2/39 | V39-540-2 | 540 | 6 | IIB | 30 | 14 | | | | Oxygen (non-medical) | Press. not specified ⁵ , 1800-2400 |
| AA59860-077 | MIL-DTL-2/39 | V39-540-3 | 540 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-078 | MIL-DTL-2/39 | V39-540-4 | 540 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-079 | MIL-DTL-2/39 | V39-540-5 | 540 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-080 | MIL-DTL-2/39 | V39-540-6 | 540 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-081 | MIL-DTL-2/41 | V41-540-2 | 540 | 6 | IIB | 30 | 14 | | | | Oxygen (Medical) | Chrome plated; outlet cap required |
| AA59860-082 | MIL-DTL-2/41 | V41-540-2 | 540 | 6 | IV | 30 | 14 | | | | | |
| AA59860-083 | MIL-DTL-2/42 | V42-870-2 | 870 | 4 | V | 30 | 13 | | | X | Oxygen (Medical) | Pin-index outlet; chrome plated |
| AA59860-084 | MIL-DTL-2/43 | V43-660-12 | 660 | 6 | I | 30 | 10 | | | X | Phosgene (1-ton container) | Outlet cap and chain required |
| AA59860-085 | MIL-DTL-2/44 | V44-510-14 | 510 | 6 | IIA | 05 | 16 | | | | Butane, propane, butane-propane mixtures, MAPP gas, and propylene | PRD start to discharge: 375psig |
| AA59860-086 | MIL-DTL-2/44 | V44-510-15 | 510 | 6 | IIA | 05 | 17 | | | | | Flow rating pressure: 480 psig |
| AA59860-087 | MIL-DTL-2/44 | V44-510-14 | 510 | 6 | IV | 05 | 16 | | | | | Flow cap: not less than 720 cfm |
| AA59860-088 | MIL-DTL-2/44 | V44-510-15 | 510 | 6 | IV | 05 | 17 | | | | | Max cap: 200#LPG (480# H ₂ O) |
| AA59860-089 | MIL-DTL-2/46 | V46-590-2 | 590 | 6 | IIB | 30 | 14 | | | | | Sulfur hexafluoride |
| AA59860-090 | MIL-DTL-2/46 | V46-590-3 | 590 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-091 | MIL-DTL-2/46 | V46-590-4 | 590 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-092 | MIL-DTL-2/46 | V46-590-5 | 590 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-093 | MIL-DTL-2/46 | V46-590-6 | 590 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-094 | MIL-DTL-2/47 | V47-950-2 | 950 | 4 | V | 30 | 13 | | | X | Air for human respiration (Medical) | Pin-index outlet; chrome plated |
| AA59860-095 | MIL-DTL-2/48 | V48-346-2 | 346 | 6 | IIB | 30 | 13 | | | | Air for human respiration (Medical) | Chrome plated; outlet cap required |
| AA59860-096 | MIL-DTL-2/48 | V48-346-2 | 346 | 6 | IV | 30 | 13 | | | | | |
| AA59860-097 | MIL-DTL-2/50 | V50-330-12 | 330 | 6 | IV | 30 | 10 | X | | | Methyl bromide | Optional 1/2" NPT outlet |
| AA59860-098 | MIL-DTL-2/51 | V51-677-9 | 677 | 6 | IIB | 75 | 9 | | | | Argon, helium, nitrogen, neon, xenon and krypton (Inert-oil free) | 5501 - 7500 psig cylinders |

TABLE III. PIN designation and cross-reference data for valves - Continued.

| CID PIN | Former detail spec. number | MIL-DTL-2G designator | Outlet app. | Inlet size | Style | Class | PRD des. | DT ¹ | DC ² | WK ³ | Gas service | Remarks |
|-------------|----------------------------|-----------------------|-------------|------------|-------|-------|----------------|-----------------|-----------------|-----------------|---|--|
| AA59860-099 | MIL-DTL-2/52 | V52-660-14 | 660 | 6 | I | 05 | 16 | X | D | H | Halon | Single outlet |
| AA59860-100 | MIL-DTL-2/52 | V52-660-16 | 660 | 6 | I | 05 | 18 | X | D | H | Halon-1202 | Single outlet |
| AA59860-101 | MIL-DTL-2/52 | V52-660-17 | 660 | 6 | I | 05 | 19 | X | D | H | (Dibromodifluoromethane) | Single outlet |
| AA59860-102 | MIL-DTL-2/52 | V52-660-18 | 660 | 6 | I | 05 | 18 | X | D | H | Halon-1211 | Dual outlet |
| AA59860-103 | MIL-DTL-2/52 | V52-660-19 | 660 | 6 | I | 05 | 19 | X | D | H | (Bromochlorodifluoromethane) | Dual outlet |
| AA59860-104 | MIL-DTL-2/52 | V52-660-14 | 660 | 6 | IV | 05 | 16 | X | D | | Halon-1301 | Single outlet |
| AA59860-105 | MIL-DTL-2/52 | V52-660-16 | 660 | 6 | IV | 05 | 18 | X | D | | (Bromotrifluoromethane) | Single outlet |
| AA59860-106 | MIL-DTL-2/52 | V52-660-17 | 660 | 6 | IV | 05 | 19 | X | D | | Halon-2402 | Single outlet |
| AA59860-107 | MIL-DTL-2/52 | V52-660-18 | 660 | 6 | IV | 05 | 18 | X | D | | (Dibromotetrafluoroethane) | Dual outlet |
| AA59860-108 | MIL-DTL-2/52 | V52-660-19 | 660 | 6 | IV | 05 | 19 | X | D | | | Dual outlet |
| AA59860-109 | MIL-DTL-2/53 | V53-660-2 | 660 | 6 | IIB | 30 | 13 | | | | Hexafluoroethane | Press. not specified ⁵ , 1800-2400 |
| AA59860-110 | MIL-DTL-2/53 | V53-660-3 | 660 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-111 | MIL-DTL-2/53 | V53-660-4 | 660 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-112 | MIL-DTL-2/53 | V53-660-5 | 660 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-113 | MIL-DTL-2/54 | V54-660-1 | 660 | 6 | I | 05 | 11 | | | X | Sulfur dioxide | Strainer may be required; For sulfur dioxide use ONLY |
| AA59860-114 | MIL-DTL-2/54 | V54-660-1 | 660 | 6 | IV | 05 | 11 | | | | | |
| AA59860-115 | MIL-DTL-2/55 | V55-540-2 | 540 | 4 | IIB | 30 | 14 | | | | Oxygen (non-medical) | Press. not specified ⁵ , 1800-2400 |
| AA59860-116 | MIL-DTL-2/55 | V55-540-3 | 540 | 4 | IIB | 30 | 1 | | | | | |
| AA59860-117 | MIL-DTL-2/55 | V55-540-4 | 540 | 4 | IIB | 30 | 2 | | | | | |
| AA59860-118 | MIL-DTL-2/55 | V55-540-5 | 540 | 4 | IIB | 30 | 3 | | | | | |
| AA59860-119 | MIL-DTL-2/55 | V55-540-6 | 540 | 4 | IIB | 30 | 4 | | | | | |
| AA59860-120 | MIL-DTL-2/56 | V56-680-8 | 680 | 6 | IIB | 55 | 6 ⁹ | | | | Argon, helium, nitrogen, neon, xenon, and krypton (Inert-oil free) | |
| AA59860-121 | MIL-DTL-2/56 | V56-680-10 | 680 | 6 | IIB | 55 | 7 | | | | | |
| AA59860-122 | MIL-DTL-2/56 | V56-680-11 | 680 | 6 | IIB | 55 | 8 | | | | | |
| AA59860-123 | MIL-DTL-2/57 | V57-621-8 | 621 | 6 | IIB | 55 | 6 ⁹ | | | | Helium and nitrogen (Inert-oil tolerant) | |
| AA59860-124 | MIL-DTL-2/57 | V57-621-10 | 621 | 6 | IIB | 55 | 7 | | | | | |
| AA59860-125 | MIL-DTL-2/57 | V57-621-11 | 621 | 6 | IIB | 55 | 8 | | | | | |
| AA59860-126 | MIL-DTL-2/58 | V58-677-9 | 677 | 8 | IIB | 75 | 9 | | | | Argon, helium, nitrogen, neon, xenon, and krypton (Inert-oil free) | |
| AA59860-127 | MIL-DTL-2/59 | V59-347-8 | 347 | 6 | IIB | 55 | 6 ⁹ | | | | Air | |
| AA59860-128 | MIL-DTL-2/59 | V59-347-10 | 347 | 6 | IIB | 55 | 7 | | | | | |
| AA59860-129 | MIL-DTL-2/59 | V59-347-11 | 347 | 6 | IIB | 55 | 8 | | | | | |
| AA59860-130 | MIL-DTL-2/60 | V60-500-2 | 500 | 6 | IIB | 30 | 13 | | | | Oxygen-helium mixture (Medical) (Helium over 80%) | Chrome plated; outlet cap required |
| AA59860-131 | MIL-DTL-2/60 | V60-500-2 | 500 | 6 | IV | 30 | 13 | | | | | |
| AA59860-132 | MIL-DTL-2/61 | V61-930-2 | 930 | 4 | V | 30 | 13 | | | X | Oxygen-helium mixture (Medical) (Helium not over 80%) | Pin-index outlet; chrome plated |
| AA59860-133 | MIL-DTL-2/62 | V62-350-2 | 350 | 6 | IIB | 30 | 14 | | | | Methane | |
| AA59860-134 | MIL-DTL-2/63 | V63-350-2 | 350 | 6 | IIB | 30 | 14 | | | | Natural gas | |

TABLE III. PIN designation and cross-reference data for valves - Continued.

| CID PIN | Former detail spec. number | MIL-DTL-2G designator | Outlet app. | Inlet size | Style | Class | PRD des. | DT ¹ | DC ² | WK ³ | Gas service | Remarks |
|-------------|----------------------------|-----------------------|-------------|------------|-------|-------|------------------|-----------------|-----------------|-----------------|--|--|
| AA59860-135 | MIL-DTL-2/64 | V64-330-2 | 330 | 6 | I | 30 | 13 | | | X | Hydrogen chloride | |
| AA59860-136 | MIL-DTL-2/64 | V64-330-2 | 330 | 6 | IV | 30 | 13 | | | | | Stainless Steel composition Only |
| AA59860-137 | MIL-DTL-2/65 | V65-330-2 | 330 | 6 | I | 30 | 13 | | | X | Hydrogen sulfide | |
| AA59860-138 | MIL-DTL-2/65 | V65-330-2 | 330 | 6 | IV | 30 | 13 | | | | | Stainless Steel composition Only |
| AA59860-139 | MIL-DTL-2/66 | V66-590-2 | 590 | 6 | IIB | 30 | 14 | | | | Mildly oxidizing mixtures (5% to 23% Oxygen) | Press. not specified ⁵ , 1800-2400 |
| AA59860-140 | MIL-DTL-2/66 | V66-590-3 | 590 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-141 | MIL-DTL-2/66 | V66-590-4 | 590 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-142 | MIL-DTL-2/66 | V66-590-5 | 590 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-143 | MIL-DTL-2/66 | V66-590-6 | 590 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-144 | MIL-DTL-2/67 | V67-510-1 | 510 | 6 | I | 05 | 11 | | | X | Low pressure, flammable and toxic mixtures | Check the LC50 of the mixture ¹⁰ |
| AA59860-145 | MIL-DTL-2/67 | V67-510-1 | 510 | 6 | IIA | 05 | 11 | | | X | | |
| AA59860-146 | MIL-DTL-2/68 | V68-580-2 | 580 | 6 | IIB | 30 | 14 | | | | Inert-oil free mixtures (With less than 5% Oxygen) | Press. not specified ⁵ , 1800-2400 |
| AA59860-147 | MIL-DTL-2/68 | V68-580-3 | 580 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-148 | MIL-DTL-2/68 | V68-580-4 | 580 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-149 | MIL-DTL-2/68 | V68-580-5 | 580 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-150 | MIL-DTL-2/68 | V68-580-6 | 580 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-151 | MIL-DTL-2/69 | V69-330-12 | 330 | 6 | IV | 30 | 10 ¹¹ | X | | | Corrosive (acidic) mixtures | Optional 1/2" NPT outlet |
| AA59860-152 | MIL-DTL-2/70 | V70-350-2 | 350 | 6 | IIB | 30 | 14 | | | | High pressure, flammable and toxic mixtures | Check the LC50 of the mixture ¹⁰ |
| AA59860-153 | MIL-DTL-2/70 | V70-350-2 | 350 | 6 | IV | 30 | 14 | | | | | |
| AA59860-154 | MIL-DTL-2/71 | V71-660-2 | 660 | 6 | IIB | 30 | 14 | | | | High pressure, toxic and oxidizing mixtures | Press. not specified ⁵ , 1800-2400; Check the LC50 of the mixture ¹⁰ |
| AA59860-155 | MIL-DTL-2/71 | V71-660-3 | 660 | 6 | IIB | 30 | 1 | | | | | Check the LC50 of the mixture ¹⁰ |
| AA59860-156 | MIL-DTL-2/71 | V71-660-4 | 660 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-157 | MIL-DTL-2/71 | V71-660-5 | 660 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-158 | MIL-DTL-2/71 | V71-660-6 | 660 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-159 | MIL-DTL-2/71 | V71-660-2 | 660 | 6 | IV | 30 | 14 | | | | | Press. not specified ⁵ , 1800-2400; Check the LC50 of the mixture ¹⁰ |
| AA59860-160 | MIL-DTL-2/71 | V71-660-3 | 660 | 6 | IV | 30 | 1 | | | | | Check the LC50 of the mixture ¹⁰ |
| AA59860-161 | MIL-DTL-2/71 | V71-660-4 | 660 | 6 | IV | 30 | 2 | | | | | |
| AA59860-162 | MIL-DTL-2/71 | V71-660-5 | 660 | 6 | IV | 30 | 3 | | | | | |
| AA59860-163 | MIL-DTL-2/71 | V71-660-6 | 660 | 6 | IV | 30 | 4 | | | | | |
| AA59860-164 | MIL-DTL-2/72 | V72-670-12 | 670 | 6 | I | 30 | 10 | | | X | Fluorinating compound mixtures | PRD prohibited |
| AA59860-165 | MIL-DTL-2/72 | V72-670-12 | 670 | 6 | IIB | 30 | 10 | | | | | |
| AA59860-166 | MIL-DTL-2/72 | V72-670-12 | 670 | 6 | IV | 30 | 10 | | | | | |
| AA59860-167 | MIL-DTL-2/73 | V73-705-0 | 705 | 6 | IV | 05 | 0 ¹¹ | | | | Corrosive (basic) mixtures | |
| AA59860-168 | MIL-DTL-2/74 | V74-660-1 | 660 | 6 | IIB | 05 | 11 | | | | Low pressure, toxic and oxidizing mixtures | Check the LC50 of the mixture ¹⁰ |
| AA59860-169 | MIL-DTL-2/74 | V74-660-1 | 660 | 6 | IV | 05 | 11 | | | | | |
| AA59860-170 | MIL-DTL-2/75 | V75-577-8 | 577 | 6 | IIB | 40 | 6 ⁹ | | | | Oxygen (non-medical) | |
| AA59860-171 | MIL-DTL-2/75 | V75-577-10 | 577 | 6 | IIB | 40 | 7 | | | | | |

TABLE III. PIN designation and cross-reference data for valves - Continued.

| CID PIN | Former detail spec. number | MIL-DTL-2G designator | Outlet app. | Inlet size | Style | Class | PRD des. | DT ¹ | DC ² | WK ³ | Gas service | Remarks |
|-------------|----------------------------|-----------------------|-------------|------------|-------|-------|----------|-----------------|-----------------|-----------------|--------------------|---|
| AA59860-172 | MIL-DTL-2/76 | V76-296-2 | 296 | 6 | IIB | 30 | 14 | | | | Oxidizing mixtures | Press. not specified ⁵ , 1800-2400 |
| AA59860-173 | MIL-DTL-2/76 | V76-296-3 | 296 | 6 | IIB | 30 | 1 | | | | | |
| AA59860-174 | MIL-DTL-2/76 | V76-296-4 | 296 | 6 | IIB | 30 | 2 | | | | | |
| AA59860-175 | MIL-DTL-2/76 | V76-296-5 | 296 | 6 | IIB | 30 | 3 | | | | | |
| AA59860-176 | MIL-DTL-2/76 | V76-296-6 | 296 | 6 | IIB | 30 | 4 | | | | | |
| AA59860-177 | MIL-DTL-2/77 | V77-660-13 | 660 | 6 | I | 05 | 15 | | | X | Methyl chloride | Strainer may be required; For methyl chloride use ONLY |
| AA59860-178 | MIL-DTL-2/77 | V77-660-14 | 660 | 6 | I | 05 | 16 | | | X | | |
| AA59860-179 | MIL-DTL-2/77 | V77-660-16 | 660 | 6 | I | 05 | 18 | | | X | | |
| AA59860-180 | MIL-DTL-2/77 | V77-660-13 | 660 | 6 | IV | 05 | 15 | | | | | |
| AA59860-181 | MIL-DTL-2/77 | V77-660-14 | 660 | 6 | IV | 05 | 16 | | | | | |
| AA59860-182 | MIL-DTL-2/77 | V77-660-16 | 660 | 6 | IV | 05 | 18 | | | | | |

¹ Dip tube (DT): An "X" in this column indicates the valve has a dip tube, also known as an eductor tube (see 7.3(m) and 7.3(n)).

² Disposable cap (DC): A "D" in this column indicates the valve may require a disposable outlet cap or plug (see 7.3(o)).

³ Wrench or key (WK): An "X" in this column indicates there is no handwheel and the valve requires a wrench or key (see 7.3(p) and 7.3(q)) to be operated. An "H" indicates that there is a handwheel, but a wrench or key may still be required.

⁴ Valve configuration: The centerline of the inlet shall meet the centerline of the stem at an angle of 50° and shall meet the centerline of the outlet at an angle of 40° in a common geometric plane.

⁵ When the cylinder service pressure is not specified, a combination PRD (CG-4 or CG-5, depending on desired yield temperature) shall be supplied with a rupture disk having a burst range between 2700 and 3000 psig. This device shall be utilized only on cylinders of 1800 to 2400 psig rating.

⁶ Unless otherwise specified, this valve shall be supplied with a dip tube for 15.00" diameter cylinders (see 7.3(m)).

⁷ Valve configuration: The centerline of the outlet shall meet the centerline of the valve body at an angle of 34° to 40° in a common geometric plane.

⁸ A PRD is not required for this application, but if a PRD is used a #11 (CG-2) PRD shall be specified (see table II).

⁹ This valve is not for use on cylinders with a service pressure rating of 3500 - 3600 psig, and shall only be furnished with a rupture disk with a burst range of 5250 - 5833 psig (36200 - 40127 kPa).

¹⁰ If the LC50 of the mixture is equal to or less than 200 ppm, a PRD is prohibited. If the LC50 is greater than 200 ppm and contains a hazard zone A component, then no PRD is required; but if a PRD is used, it shall be a CG-4 (PRD #13).

¹¹ The PRD for this valve depends on the composition of the corrosive (acidic or basic) mixture. It shall be in accordance with CGA S-7, CGA S1.1, and 49 CFR, "Transportation".

A-A-59860

MILITARY INTERESTS:

Custodians:

Army - AT

Navy - SH

Air Force - 68

DLA - GS

Review Activities:

Army - AV

Navy - AS, MC

CIVIL AGENCY
COORDINATING ACTIVITY:

GSA - FAS

Preparing Activity:

DLA - GS7

(Project 8120-2009-005)

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