INCH-POUND

A-A-59440C
21 May 2012
SUPERSEDING
A-A-59440B
31 January 2006

COMMERCIAL ITEM DESCRIPTION
COCK-VALVES AND VALVES, GENERAL REQUIREMENTS FOR

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

1. SCOPE. This commercial item description (CID) covers the general requirements for cock-valves and valves. Requirements for specific cock-valves and valves are covered in the individual CID specification sheets. Cock-valves and valves covered by this CID are intended for commercial/industrial applications.

2. CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN). This CID uses a classification system which is included in the PIN as shown in the following example (see 7.1).

AA59440	/01	-	001
CID number	Applicable CID spec sheet (two digits)		Dash number (see applicable CID spec sheet)

3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Cock-valves and valves supplied to this CID shall be as specified on the applicable CID specification sheet.

3.2 CID specification sheet. The family of cock-valves and valves shall be in accordance with the requirements specified herein and the applicable CID specification sheet. In the event of a conflict between this general CID and the applicable CID specification sheet, the latter shall govern.

3.3 Pressure and temperature rating. All items within this CID shall meet the pressure rating in pounds per square inch gauge (psig) and temperature rating in Fahrenheit, in accordance with table I. These items are for use where pressures do not exceed 150 psig (10.34 bar) for water, oil and gas (WOG) at 150°F (66°C) and steam at 351°F (177°C). A-A-59440/1 and A-A-59440/2 are for nonflammable applications only.

3.4 Design and construction. Cocks or valves supplied under this CID shall be made of the materials specified under the salient characteristics in their respective slash sheet. When specified, one or both end connections shall be of the compression type.

Comments, suggestions, or questions on this document should be addressed to: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to FluidFlow@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.daps.dla.mil.

3.5 Applications. Table I, gives information on the applications and rated working pressures for each A-A-59440 slash sheet.

TABLE I. Application and rated working pressures. 1/ 2/

CID	Steam		Water, oil, gas (WOG)	
	Pressure psig (bar)	Temperature °F (°C)	Pressure psi (bar)	Temperature °F (°C)
A-A-59940/01			150 (10.34)	150 (66)
A-A-59940/02			150 (10.34)	150 (66)
A-A-59940/03			50 (3.45)	150 (66)
A-A-59940/04	150 (10.34)	351 (177)		
A-A-59940/05	150 (10.34)	351 (177)		
A-A-599400/6			125 (8.62)	150 (66)
A-A-59940/07			150 (10.34)	150 (66)
A-A-59940/08			50 (3.45)	150 (66)
A-A-59940/09	125 (8.62)	351 (177)		

1/ Temperatures are in Fahrenheit.
2/ Metric equivalents are given for information only.

3.6 Dimensions and configurations. Dimensions and configurations shall be as specified in their respective slash sheet.

3.6.1 Wrenching. The valve bodies shall be provided with hexagonal wrenching surfaces.

3.6.2 Handles. Handles for the cocks or valves shall be of the materials specified in their respective CID slash sheet.

3.6.3 Material. Material shall be as specified in the CID slash sheet.

3.6.4 Finish. Finish shall be as specified in the CID slash sheet.

Caution: No lead is permitted. Cadmium shall not be used in potable water, potable steam and not to be used in oxygen systems.

3.6.5 Threads.

3.6.5.1 Screw threads. Screw threads shall be in accordance with FED-STD-H28.

3.6.5.2 Pipe threads. The threads of the cocks or valves shall be in accordance with ASME B1.20.3 and ASME B1.20.5 as specified in their respective CID slash sheet.

3.6.5.2.1 Threads. Threads are dryseal NPTF-1 in accordance with ASME B1.20.3. NPTF-1 dryseal threads are designed to seal pressure tight joints without sealant compound. ASME B1.20.3 explains the engineering principle and engineering design. Each of the letters in the symbol “NPTF-1” has a definite significance as follows:

N = National (American) Standards.
P = Pipe.
T = Taper.
F = Fuel and Oil.
1 = Specific inspection of root and crest truncation is not required.

3.7 Plugs and stems. Plugs and stems shall be made of the materials defined in their respective slash sheet. The ports in the plugs shall be either round, oval or flat-way except that in no case shall the flow area through the port be less than the area of the adjacent flow passages.

3.7.1 Spring-adjusted plugs. Spring-adjusted plugs shall have the ability to hold tight against the seat by a spring in accordance with the respective CID slash sheet.

3.7.2 Screw-adjusted plugs. Screw-adjusted plugs shall be secured by means of a slotted-head brass screw, a brass nut, or in accordance with the respective slash sheet, in such a manner as to eliminate the tendency of the screw or nut to be loosened by the operation of the plug. The fit of the screw or nut shall be sufficiently tight to prevent loosening by vibration or operation.

3.8 Performance.

3.8.1 Seat test pressure. Each sample cock or valve shall be subjected to a seat pressure test using the pressure specified in table II. The following details shall apply:

a. During the test the cocks or valves shall be closed tightly.
b. Any internal leakage past the seat is not acceptable.
c. Spring key cocks or valves, any external leakage at the plug stem shall not exceed 2 cubic centimeters per hour.
d. Cocks or valves with screw stems and screw keys, there shall be no external leakage past the stem or plug at the specified seat test pressure (see table II).
e. The leakage limitations shall be attained with the plug or stem adjusted so that the maximum tangential force required to operate the cock or valve will not exceed an amount produced by normal manual application without the use of extension levers or special tools or wrenches.
f. The cocks or valves shall also be capable of b eing operated against the full working pressure applied to one side of the closed cocks or valves without the use of auxiliary levers or wrenches.

TABLE II. A-A-59440 test pressures. 1/

CID	Shell psig (bar)	Seat psig (bar)
A-A-59440/01	150 (10.34)	50 (3.45)
A-A-59440/02	150 (10.34)	50 (3.45)
A-A-59440/03	80 (5.52)	10 (0.69)
A-A-59440/04	300 (20.68)	150 (10.34)
A-A-59440/05	300 (20.68)	150 (10.34)
A-A-59440/06	125 (8.62)	125 (8.62)
A-A-59440/07	150 (10.34)	50 (10.34)
A-A-59440/08	80 (5.52)	10 (0.69
A-A-59440/09	250 (17.24)	125 (8.62)

1/ Metric equivalents are given for information only.

3.8.2 Shell test. Each sample cock or valve shall be subjected to a hydrostatic or pneumatic shell test using the pressure specified in table II. The following details shall apply:

a. Drain cocks or valves shall be tested at the inlet with the stem closed.
b. Other cocks or valves shall be tested with the plug or stem open and both ends closed.
c. The duration of the test on each sample shall be 30 seconds.
d. Any external leakage attributable to defects in castings or workmanship shall constitute failure of the test.

3.8.3 Seat test. Each sample cock or valve passing the shell test, shall be subjected to a seat test using the pressure for the seat test as specified in table II. The following details shall apply:

a. The test shall be either hydrostatic or pneumatic at the option of the supplier.
b. The test pressure shall be applied to one side of the plug or stem.
c. If no leakage is visible after the test pressure has been applied, the test may be discontinued.
d. If measurable leakage is visible during the initial observation period, the test shall be continued for a length of time sufficient to permit an accurate determination of the leakage rate.
e. For hydrostatic tests any leakage exceeding the maximum permissible rate specified in 3.8 shall constitute failure of the test.
f. For pneumatic tests, leakage exceeding a rate of 25 cubic centimeters per minute of free air at standard atmospheric conditions shall constitute failure of the test.
g. During the seat tests, the cocks or valves shall also be observed for leakage past the plug or stem, and any leakage exceeding the specified limits shall also constitute failure of the test.

3.8.4 Operating force. After the shell test, the full working pressure shall be applied to the inlet side of plug cocks or valves. The following details shall apply:

a. The cock or valve shall then be manually opened.
b. For the seat test, the plug or the stem of the cock or valve shall be manually closed before the seat test begins.
c. The need for applying levers, wrenches, or impact force to operating levers and handles to effect satisfactory operation shall constitute failure of the test.

3.9 Size. The tables for the individual types of cocks or valves found in their respective slash sheet, list the permissible variation in dimensions for each individual illustration. The external dimensions of the cocks or valves should not limit procurement unless the end applications restrict these dimensions, aside from the external dimensions of the cocks or valves.

3.10 Handles. Handles shall be as specified in the slash sheets and in accordance with the manufacturer's (MFR's) standard practice.

3.11 End connection. Cocks or valves shall be as specified in the slash sheets and in accordance with the MFR's standard practice.

3.12 Finish. After manufacturing all surfaces shall have the natural or machined, cast or forged finish normally produced by commercial manufacturing processes and techniques established as standard practice by the valve industry. Seating surfaces shall be finished as required to insure compliance with the performance tests in 3.6.

3.13 Marking. Cock-valves and valves supplied to this CID shall be marked with the MFR's standard commercial PIN. (NOTE: The part number marked on the unit pack shall be the CID PIN.)

3.14 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.15 Workmanship. Cock-valves and valves shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Market acceptance. The following market acceptance criteria are necessary to document the quality of the product to be provided under this CID:

a. The company producing the item must have been producing a product meeting the requirements of this CID for at least 5 years.
b. The company producing the item must have sold 2000 units meeting this CID in the commercial marketplace over the past 5 years.

6. PACKAGING. Preservation, packing, and marking shall be as specified by the contract or order.

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website http://www.epa.gov/osw/hazard/wastemin/priority.htm. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these shutoff cocks or valves to DLA Land and Maritime under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.4 Source of documents.

FEDERAL STANDARD

FED-STD-H28 - Screw-Thread Standards for Federal Services

COMMERCIAL ITEM DESCRIPTIONS

A-A-59440/1 - Cock-Valve, Center Drain, Internal Seat or External Seat, 150 psi, Brass, Non-Flammable Liquid or Gas, NPTF-1 Threads
A-A-59440/2 - Cock-Valve, Drain, with Hose Bib, 150 psi, Non-Flammable Liquid or Gas, NPTF-1 Threads
A-A-59440/3 - Cock-Valve, Drain, Spring Key, Brass, 50 psi, Water, Oil, and Gas (WOG), NPTF-1 Threads
A-A-59440/4 - Cock-Valve, Drain, Ground Key, 150 psi, Brass, Steam Pressure, NPTF-1 Threads
A-A-59440/5 - Cock-Valve, Drain, Ground Key, Bib Nozzle 150 psi, Steam Pressure, Brass, NPTF-1 Threads
A-A-59440/6 - Cock-Valve, Plug, Three-Way, Threaded Type, Brass, 125 psi, NPTF-1 Threads, Water, Oil, and Gas (WOG)
A-A-59440/7 - Valve, Shut-Off, Screw Stem, Threaded Type, 150 psi, Brass, Water, Oil, and Gas (WOG), NPTF-1 Threads
A-A-59440/8 - Cock-Valve, Shut-Off, Screw Stem, Threaded Type, 50 psi, Brass, Water, Oil and Gas (WOG), NPTF-1 Threads
A-A-59440/9 - Cock-Valve, Plug, Ground Key, Threaded Type, Brass, 125 psi Steam, NPTF-1 Threads

(Copies of these documents are available online at https://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

FEDERAL REGULATIONS

FAR - Federal Acquisition Regulation (FAR)

(Copies of these documents are available online at https://www.acquisition.gov/comp/far/index.html or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C 20401.)

Other Publications

ASME INTERNATIONAL

ASME B1.20.3 - Dryseal Pipe Threads (Inch)
ASME B1.20.5 - Gaging for Dryseal Pipe Threads (Inch)

(Copies of these documents are available online at http://www.asme.org or from the ASME International, Three Park Avenue, New York, NY 10016-5990.)

7.5 Ordering data. The contract or order should specify the following:

a. CID document number, revision, and CID PIN.

b. Product conformance provisions.

c. Packaging requirements.

7.6 Government users. To acquire information on obtaining these cock-valves and valves from the Government inventory system, contact DLA Land and Maritime, ATTN: DLA Land and Maritime Call Center (–NAB), PO BOX 3990, Columbus, OH 43218-3990, or telephone (614) 692-2271 or (614) 692-3191.

7.7 Supersession data. Table III specifies the supersession data.

TABLE III. Supersession data.

CID	Superseded MS sheet
A-A-59940/01	MS35782
A-A-59940/02	MS35783
A-A-59940/03	MS35784
A-A-59940/04	MS35785
A-A-59940/05	MS35787
A-A-59940/06	MS35932
A-A-59940/07	MS35934
A-A-59940/08	MS35930
A-A-59940/09	MS35931

7.8 Supersession data for nonstandard information type II style C and style D. The following information was carried over from MIL-C-1203 for type II, style C and style D. This information will have to be ordered as nonstandard parts since the manufacturers do not have these parts as off the shelf parts.

7.8.1 Nonstandard parts. No MS standards exist for the following cocks.

7.8.1.1 Type II, style C cocks. Two-way, two-port plug, 90° turn, square head with removable lever handle.

a. 150 psig (10.34 bar) WOG at 150°F (65.6°C).
b. Test pressures:
   (1) Shell: 150 psig (10.3 bar).
   (2) Seat: 50 psig (3.45 bar).

7.8.1.1.1 Handle. Malleable iron.

7.8.1.2 Type II, style D cocks. Two-way, two-port plug, 90° turn, fixed lever handle, stop-and-waste.

a. 150 psig (10.34 bar) WOG at 150°F (65.6°C).
b. Test pressures:
   (1) Shell: 150 psig (10.3 bar).
   (2) Seat: 50 psig (3.45 bar).

7.8.1.2.1 Handle. Material in accordance with the manufactures standard practice. Lever handles on two-way plug cocks shall be designed to be in-line with the port.

7.8.1.3 Nonstandard parts thread types. Type II style C and style D cocks shall be furnished with either Dryseal (NPTF-1 (see 3.6.3.2)) or standard (NPT) taper pipe threads conforming to ASME STD B1.20.1 For type II, style C and style D cocks the nominal sizes of the end connections shall be from 1/2-inch through 2-inch.

7.9 Intended application. The drain cocks specified herein are intended for use in the automotive field for drainage of radiators, tanks, and similar components. Shutoff cocks are used for gauging stations, fuel lines, air vents, oil lines, and similar applications.

7.10 Key words.

Automotive
Brass
Check
Drainage
Radiator
Relief
Swing
Trap

7.11 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

MILITARY INTERESTS

Custodians:
Army – AR
Navy - SH
Air Force – 99
DLA – CC

Review activities:
Army - AT, AV, CR4, GL, MI
Navy – AS, MC, SA
Air Force – 71

CIVIL AGENCIES AND COORDINATING ACTIVITIES:

GSA – FSS

Preparing activity:

DLA - CC

(Project 4820-2011-030)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organization and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.daps.dla.mil.