

MIL-V-25675E

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Superseding

MIL-V-25675A

12 January 1962

MILITARY SPECIFICATION

VALVES, CHECK, MINIATURE, HYDRAULIC, AIRCRAFT AND MISSILE

This specification is mandatory for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

- * 1.1 This specification covers hydraulic spring-loaded, normally closed check valves for use in type I (-65° to +160° F), type II (-65° to +275° F), or type III (-65° to +450° F) aircraft and missile hydraulic systems having operating pressures not exceeding 3,000 pounds per square inch (psi).

2. APPLICABLE 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:

SPECIFICATIONSFederal

PPP-B-566	Boxes, Folding, Paperboard
PPP-B-591	Boxes, Fiberboard, Wood-Cleated
PPP-B-601	Boxes, Wood, Cleated-Plywood
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	Box, Fiberboard
PPP-B-676	Boxes, Set-Up, Paperboard

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-H-6083	Hydraulic Fluid, Petroleum Base, for Preservation and Testing
MIL-T-6845	Tubing, Steel, Corrosion-Resistant (304), Aerospace Vehicle Hydraulic Systems, 1/8 Hard Condition
MIL-F-8815	Filter and Filter Elements, Fluid Pressure Hydraulic, line, 15 Micron Absolute, Type II Systems
MIL-H-8890	Hydraulic Components, Type III (-65° to +450° F), General Specification for

FSC 1650

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STANDARDSMilitary

MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of US Military Property
MS24423	Valve, Check, Miniature, Hydraulic, Aircraft and Missile, -65° F to +450°F, 3,000 PSI, Flareless Tube
MS24593	Valve, Check, Miniature, Hydraulic, Aircraft and Missile, -65° F to +450° F, 3,000 PSI, Flared Tube

(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.)

2.2 other publications. - The following document forms a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids shall apply.

Uniform Classification Committee

Uniform Freight Classification Rules

(Application for copies of the above publication should be addressed to the Uniform Classification Committee, 202 Chicago Union Station, Chicago, 111. 60606.)

3. REQUIREMENTS

- * 3.1 Qualification. - The valves furnished under this specification shall be products which are qualified for listing on the applicable Qualified Products List at the time set for Opening of bids (see 4.3 and 6.3).
- * 3.2 General. - The requirements of MIL-H-8890 shall apply as requirements of this specification, with the exceptions and additions specified herein. When the two specifications conflict, this specification shall govern.
- 3.3 Design and construction. - The valves shall be designed and constructed in accordance with this specification and MS24423 or MS24593, as applicable (see 6.2).
- 3.3.1 Materials. - All metals used shall be corrosion resistant and shall be compatible with the hydraulic fluid approved by the procuring activity.
- * 3.3.1.1 Aluminum alloys. - Aluminum alloys shall not be used in the construction of check valves conforming to this specification.

3.4 Performance. -

3.4.1 Immersion. - Valves containing nonmetallic materials shall conform to all performance requirements specified herein after being immersed for 72 hours in a hydraulic fluid approved by the procuring activity at a temperature of 450° ~~+5~~° F (see 4.5.4).

3.4.2 Proof pressure. - The valve shall withstand a proof pressure of 4,500 +150, -0 psi at 450° F in both the free- and reverse-flow directions when tested as specified in 4.6.2.

3.4.3 Surge flow. - The valve shall sustain no damage to the poppet, spring, or any other part when subjected to 25 cycles of flow surge operation. Each cycle shall consist of subjecting the valve from 0 to proof pressure for 5 seconds in the free-flow direction, then suddenly to 3,000 psi pressure for 5 seconds in the reverse-flow direction (see 4.6.3).

3.4.4 Leakage. - When held in the horizontal or vertical position, the leakage rate of the valve shall not exceed the values specified in table I (see 4.6.4).

TABLE I. Leakage

Pressure (psi)	Maximum leakage rate (cc per 30 minutes)
5	I 1.5
1,000	None
1,500	None
3,000	None

* 3.4.5 Checking the and cracking pressure. - The checking time of the valve shall not exceed 1.5 second. The cracking pressure shall be not less than 2 psi nor greater than 8 psi (see 4.6.5),

3.4.6 pressure drop. - When tested as specified in 4.6.6, the pressure drop through the valve shall not exceed 15 psi.

3.4.7 Environmental conditions. - The valve shall withstand operating temperatures ranging from -65° to +450° F without detrimental effect (see 4.6.7).

3.4.8 Endurance. - When tested as specified in 4.6.8, the valve shall operate without malfunction through 50,000 impulse cycles at the rate of 30 to 100 cycles per minute at a temperature of 450° F.

3.4.9 Burst pressure. - When tested as specified in 4.6.9, the valve shall withstand a burst pressure of 7,500 psi.

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3.4.10 Vibration. - When tested as specified in 4.6.10, the valve shall operate without malfunction or mechanical failure.

3.4.11 Flexural strength. - When tested as specified in 4.6.11, the valve shall withstand flexing at high temperature without detrimental effect.

* 3.4.12 Repeated assembly. - The valve shall be subjected to and meet the requirements of the repeated assembly test as specified in 4.6.12.

3.5 Hydraulic line dimensions. - Dimensions of hydraulic lines shall be as specified in table H.

TABLE II. Hydraulic line dimensions

Valve size	Tube OD (inch)	Tube length (inch)
-4	1/4	u
-5	5/16	15
-6	3/8	16-1/2
-8	1/2	19-1/2
-10	5/8	13-1/2
-12	3/4	23
-16	1	21

3.6 Weight. - The weight of the valve shall be in accordance with MS24423 or MS24593, as applicable.

3.7 Identification of product. - Equipment, assemblies, and parts shall be marked for identification in accordance with MIL-STD-130.

3.8 Workmanship. - All details of workmanship shall be of sufficiently high grade to insure proper operation and service life.

4. QUALITY ASSURANCE PROVISIONS

* 4.1 Responsibility for inspection. - Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

* 4.2 Classification of inspections. - The examination and testing of valves shall be classified as follows:

- (a) Qualification inspection (4.3)
- (b) Quality conformance inspection (4.4)

4.3 Qualification inspection. -

4.3.1 Qualification test samples. - The qualification test samples shall consist of two valves. Samples shall be identified with the manufacturer's own part number and any additional information required by the letter of authorization (see 6.3).

4.3.1.1 Minimum clearance test sample. - One test sample shall be assembled of parts selected so that the clearance with regard to linear and diametral tolerances between moving and nonmoving members, conducive to malfunctioning at extreme temperatures, will be not less than 100 nor greater than 110 percent of the minimum design clearance permitted by the manufacturers drawings. For cases of sliding seals where packing friction would influence the performance of the valve, such as pistons operated by springs, the maximum packing friction anticipated shall be induced in the test sample. This may be accomplished by the use of high-swell packings, combined with the use of high-swell fluid during the immersion in the hydraulic fluid (see 4.5.4). This sample shall be marked "MIN."

4.3.1.2 Maximum clearance test sample. - The second test sample shall be assembled of parts selected so that the clearance with regard to linear and diametral tolerances between moving members, conducive to malfunctioning as a result of wear associated with prolonged operation, will be not less than 90 nor greater than 100 percent of the maximum design clearance permitted by the manufacturer's drawings. This sample shall be marked "MAX."

4.3.2 Qualification required. - Prior to actual procurement, the product that this specification covers shall pass the qualification inspection specified herein. If the product is later modified in any way, the modified form shall be subjected to and shall pass the same qualification tests.

* 4.3.3 Tests. - Qualification inspection shall consist of the examination and tests specified under 4.6 and shall be performed in the order listed in table III on the two test samples.

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TABLE III. Qualification inspection tests

Maximum clearance test sample			Minimum clearance test sample		
Order of test	Test	Para * ref.	Order of test	Test	Para. ref.
1	Examination of product	4.6.1	1	Examination of product	4.6.1
2	Proof pressure	4.6.2	2	Leakage (qualification inspection)	4.6.4.1
3	surge flow	4.6.3	3	Proof pressure	4.6.2
4	Repeated assembly	4.6.12	L	High temperature functioning	4.6.7.3
5	Leakage (qualification inspection)	4.6.4.1	5	Repeated assembly	4.6.12
6	Operational tests	4.6.5			
7	Pressure drop	4.6.6			
8	Environmental tests	4.6.7			
9	Endurance	4.6.8			
10	Vibration	4.6.10			
11	Flexural strength	4.6.11			
12	Burst pressure	4.6.9			

*

4.4 Quality conformance inspection. - The quality conformance inspection shall consist of the individual tests.

4.4.1 Individual tests. - Each valve shall be subjected to the following examination and tests, as specified under 4.6:

- | | |
|--|-----------|
| (a) Examination of product | (4.6.1) |
| (b) Proof pressure | (4.6.2) |
| (c) Leakage (quality conformance inspection) | (4.6.4.2) |
| (d) Cracking pressure | (4.6.5.2) |

4.5 Test conditions. -

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4.5.1 Test fluid. - The hydraulic fluid used during the qualification inspection and quality conformance inspection tests shall be as specified by the procuring activity. The fluid shall be continuously filtered through a MIL-F-8815 filter during these tests.

4.5.2 Temperature. - Unless otherwise specified herein, the tests shall be performed at a room temperature of 70° to 90° F and an oil temperature of 70° to 110° F.

4.5.3 Valve axis position. - Unless otherwise specified herein, tests may be made with the valve axis in either of the following positions:

- (a) Horizontal
- (b) Vertical - The inlet port shall be so positioned that the force of gravity will act with the valve checking action (that is, direction of flow is up).

4.5.4 Immersion. - Prior to performing any of the inspections, except examination of product, valves containing nonmetallic materials shall be immersed in hydraulic fluid (see 4.5.1) for a period of 72 hours at a temperature of 450° ~~45~~ F. All internal parts shall be in contact with the fluid during this period. After immersion, the valve shall remain in the fluid at normal room temperature until ready for tests. The valve shall not be exposed to air for more than 24 hours between tests.

* 4.6 Inspection methods. -

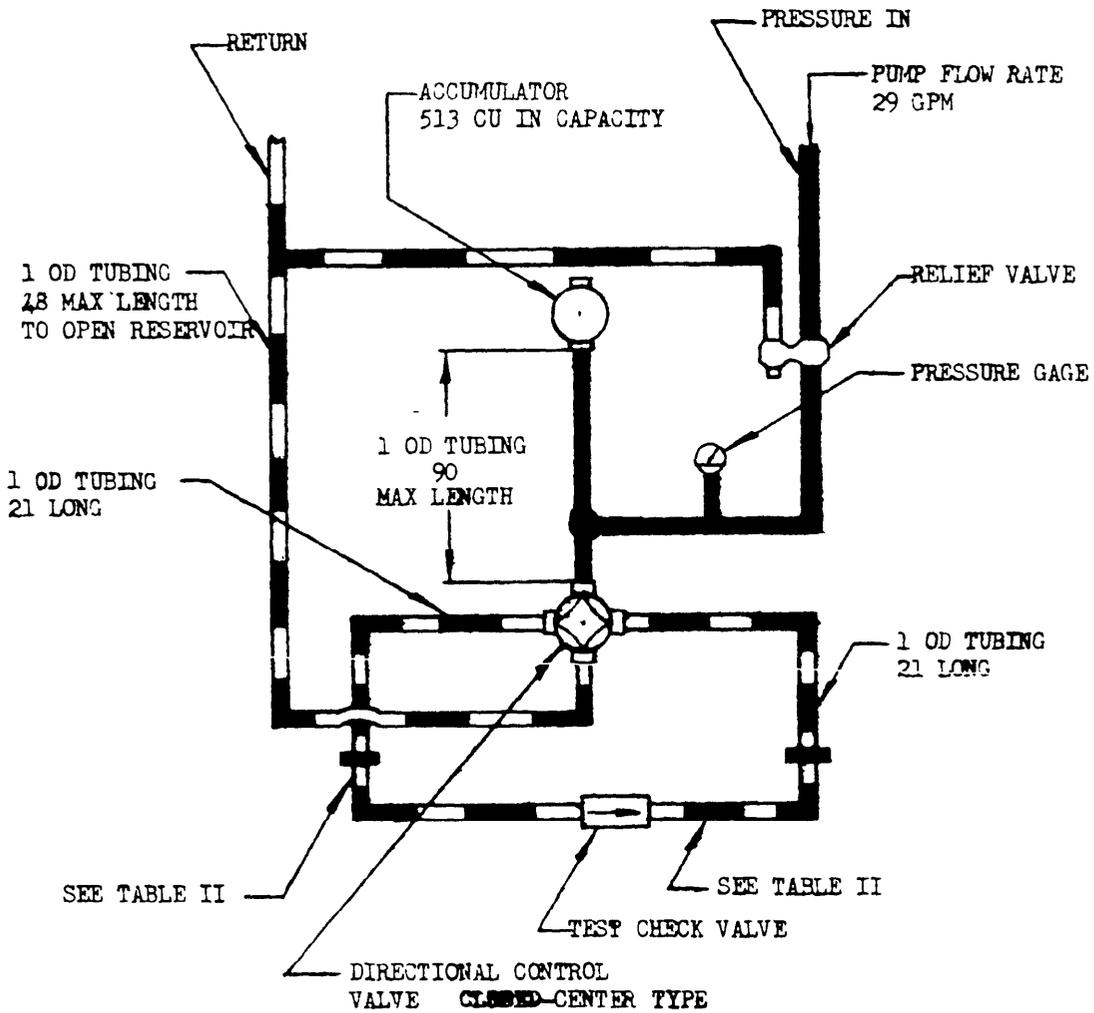
4.6.1 Lamination of product. - The valves shall be examined to determine compliance with the requirements of this specification and the applicable MS standard with respect to materials, dimensions, weight, marking, and workmanship.

* 4.6.2 Proof pressure. - For qualification inspection, this test shall be performed at 450° ~~45~~ F. After a minimum soaking time to permit the valve to reach this temperature, a proof pressure of 4,500 +150, -0 psi shall be applied in both the free- and reverse-flow directions at least 2 successive times in each direction and held 2 minutes for each pressure application. For the reverse-flow direction, the poppet shall be unseated between applications of the proof pressure. There shall be no external leakage, no detrimental distortion, nor permanent set. For Quality conformance inspection, this test shall be made at room temperature.

4.6.3 surface flow. - The setup for this test shall be in accordance with figure 1. The air precharge pressure for the accumulator shall be stabilized at 1,000 psi. The pump shall be set at a flow rate of 29 gpm. The flow through the valve shall then be reversed and the pressure maintained at 3,000 psi for a duration of 5 seconds. The surge flow pattern shall be repeated 25 times. When possible, the test valve shall be disassembled by conventional means and visually inspected prior to the test and again upon completion of the test. Damage to the spring, poppet, or any of the parts shall be cause for rejection. The following 4-point sequence shall total one complete cycle:

- (a) The directional control valve shall be in a neutral position to permit the buildup of rated hydraulic pressure in the accumulator.
- (b) The directional control valve handle shall be quickly actuated to permit flow through the check valve in the free-flow direction. The directional control valve handle shall be permitted to remain in this position until the hydraulic pressure drops to not more than the specified precharge in the accumulator.
- (c) The valve handle shall be returned to the neutral position to permit the buildup of the required rated hydraulic pressure.
- (d) The directional control valve handle shall be quickly actuated to permit reverse flow to the check valve. The valve handle shall be allowed to remain in this position for at least 5 seconds and then moved to the original neutral position.

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NOTE: HOSE SHALL NOT BE USED

DIMENSIONS IN INCHES

FIGURE 1. Surge flow test setup

4.6.4 Leakage. -

4.6.4.1 Leakage (qualification inspection). - This test shall be performed with the valve held in the horizontal position and repeated with the valve held in the vertical position as specified in 4.5.3. The valves shall be tested for leakage by applying the pressures specified in table I for a period of 30 minutes each. The leakage measurement period shall begin 2 minutes after application of the required pressure. All pressures specified in table I shall be applied in the direction of reverse flow and the valve poppet shall be unseated between pressure applications. The rates of internal leakage shall not exceed the amounts specified in table 1, and there shall be no external leakage throughout the pressure range except a slight wetting at seals insufficient to form a drop.

4.6.4.2 Leakage (quality conformance inspection). - These tests shall be performed with the valve held in the vertical position as specified in 4.5.3. Pressures of 5 psi and rated pressure shall be applied in the reverse-flow direction for 5 minutes each. The valve poppet shall be unseated between each pressure application. In each case, the leakage measurement period shall consist of the last 3 minutes of the 5-minute period. The rate of internal leakage shall not exceed the amounts specified in table IV. There shall be no external leakage throughout the pressure range other than a slight wetting insufficient to form a drop.

TABLE IV. Leakage rate for quality conformance inspection

Pressure (psi)	Maximum leakage rate (drops per minute)
5	1
1,000	None
1,500	None
3,000	None

4.6.5 Operational tests. - Operational tests shall consist of checking time and cracking pressure tests. These tests shall be performed within a temperature range of 70° to 110° F. When included as part of another test, the temperature specified for that particular test shall apply.

4.6.5.1 Checking time. - The valve shall be held in the vertical position as specified in 4.5.3. The valve poppet shall be mechanically actuated to its full-open position against a static head of fluid of 5 psi; it shall then be allowed to check before the static head of fluid decreases to 1 psi. The time between the release of the poppet and the cessation of fluid flow shall be in checking time and shall not exceed 1-1/2 seconds.

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4.6.5.2 Cracking pressure. - Gradually increasing pressure shall be applied at the valve inlet in the free-flow direction beginning with zero. Cracking pressure shall be observed and shall be not less than 2 psi nor greater than 8 psi. Cracking pressure is the pressure at which the poppet is unseated allowing flow equal to or exceeding 2 cc per minute through the valve in the free-flow direction.

4.6.6 Pressure drop. - The valve shall be installed 4-tube diameters downstream from a piezometer pressure pickup and 15-tube diameters upstream from a piezometer return pickup. A flowmeter shall be installed downstream from the return pressure-pickup. Pressure drop through the valve shall be measured at a flow equal to the rated flow. The temperature of the oil shall be maintained at 100° \pm 5° F. The pressure drop through the valve shall not exceed 15 psi. Any equivalent methods of measuring pressure drop will be acceptable.

4.6.7 Environmental tests. -

4.6.7.1 Low temperature. - The valve shall be connected to a static head of 1 to 3 feet of hydraulic oil in the reverse-flow direction. If the valve contains nonmetallic parts other than static seals, the arrangement shall be maintained at a temperature not warmer than -65° F for 72 hours. If all parts of the valve except static seals are metallic, this period may be reduced to 24 hours. After this period, the valve poppet shall be actuated mechanically at least twice. At the end of this test, the valve shall be subjected to and shall satisfactorily complete the leakage test specified in 4.6.4.2 and the operational tests specified in 4.6.5.

4.6.7.2 Intermediate temperature functioning. - The test arrangement shall be warmed rapidly from -65° F to a temperature of 450° F. The valve shall be actuated at increments of approximately 40° F to determine that the valve operates satisfactorily throughout the temperature range. These check tests shall be made without waiting for the temperature of the whole unit to stabilize.

4.6.7.3 High temperature functioning. - The temperature shall be maintained at 450° F for a period sufficient to allow all parts of the valve to stabilize at this temperature. With a head of 1 to 3 feet of hydraulic oil on the valve and with the valve in the reverse-flow direction, the poppet shall be actuated mechanically at least twice. At the end of this test, the valve shall be subjected to and shall satisfactorily complete the leakage test specified in 4.6.4.2 and the operational tests specified in 4.6.5.

* 4.6.8 Endurance. - Using a test setup similar to that shown on figure 2, the valve shall be subjected to 50,000 impulse cycles at the rate of 30 to 100 cycles per minute. The ambient and fluid temperature during this test shall be maintained at 450° \pm 10° F. Each cycle shall consist of flow through the valve at the rated flow capacity for the size, followed by a reversal of the direction of flow and application of the maximum rated pressure. During the 50,000 cycles, the peak pressure during the pressure application portion of each cycle shall be 150 \pm percent of 3,000 psi. The actual cycling rate, a picture of the impulse curve, and a schematic drawing of the test setup shall be included in the qualification test report.

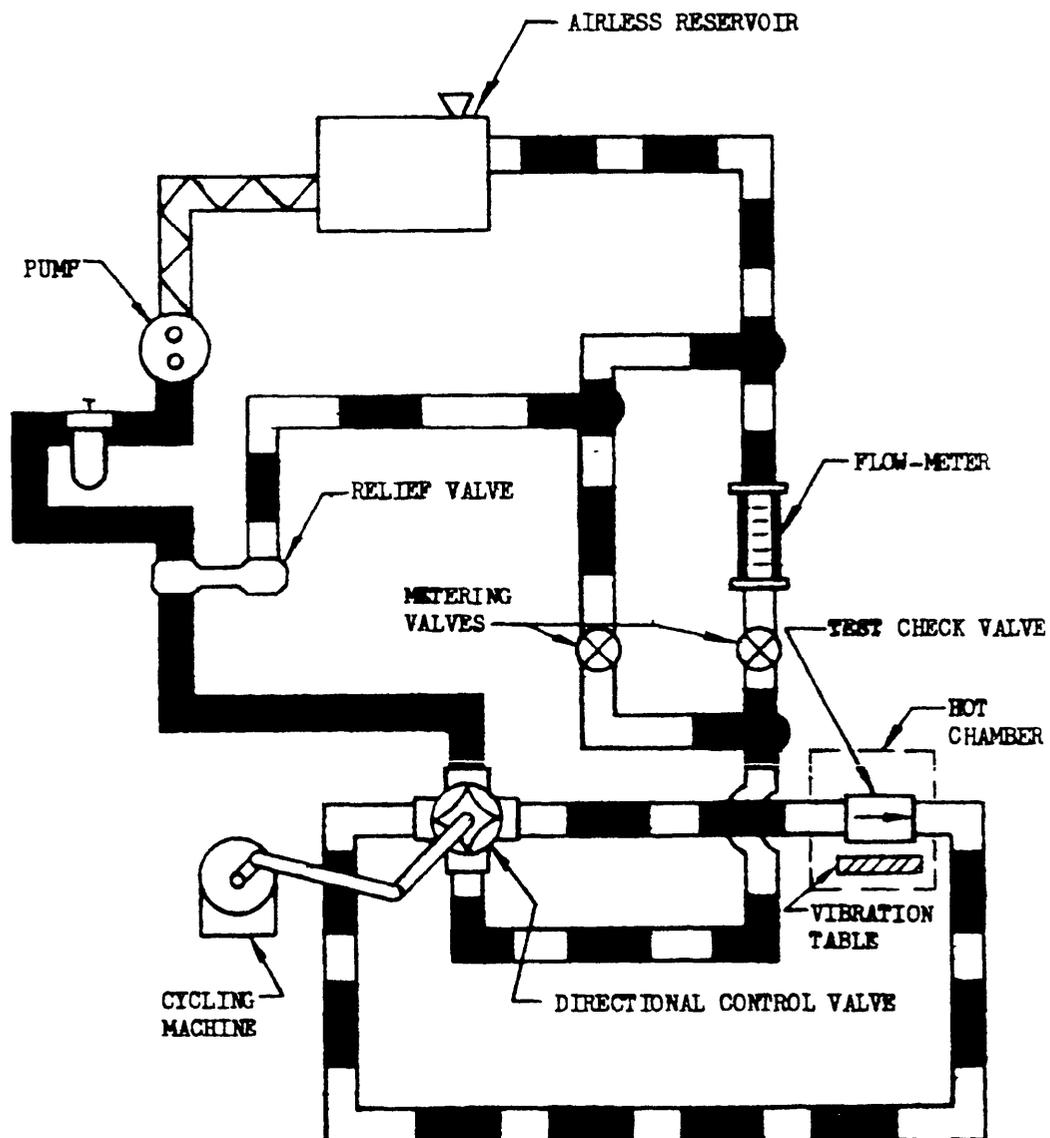


FIGURE 2. Typical setup for endurance test and vibration test

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4.6.8.1 Upon completion of the cycling, the leakage test (4.6.4.1) and the operational tests (4.6.5) shall be conducted at room temperature and the valve shall conform to the requirements specified therein.

4.6.8.2 The temperature of the test setup shall then be lowered to not warmer than -65° F and the valve shall be soaked at this temperature for 5 hours. The valve shall then be subjected to and shall satisfactorily complete the leakage and operational tests specified in 4.6.4.1 and 4.6.5, respectively.

- * 4.6.9 Burst pressure. - Pressure shall be applied in the free-flowing directional with the outlet port plugged at a maximum rate of 25,000 psi per minute until the burst pressure of 7,500 psi is reached. The valve shall withstand this burst pressure for a period of 2 minutes. The valve shall not rupture under this pressure nor leak externally. The fluid temperature for this test shall be $450^{\circ} \pm 10^{\circ}$ F.
- * 4.6.10 Vibration. - The valve shall be installed in a test setup similar to figure 2. An optional flexible connection to the valve is allowable to prevent the fluid impulse from imposing a side load on the vibration table. The fluid temperature shall be $95^{\circ} \pm 15^{\circ}$ F. The valve shall be flow cycled at a rate of 17 to 20 cpm. Each cycle shall consist of flow through the valve at 3,000 psi at the rated flow capacity for the size, followed by application of 3,000 psi in the direction of checked flow. While the valve is being cycled in this manner, it shall be vibrated as outlined in table V. All measurements (frequency, acceleration, and displacement) shall be measured at the valve. There shall be no mechanical failure of parts resulting from this test. Following this vibration the valve shall be subjected to and shall pass the leakage test specified in 4.6.4.1.
- * 4.6.11 Flexural strength. - The valve shall be installed in a test setup similar to figure 3. The stress level in the tube shall be as indicated in table VI. The stress level measured shall include tensile bending stress plus the axial tension due to the applied working pressure of 3,000 psi. Measurement of the stress shall be obtained by placing two strain gages 180 degrees apart on the periphery of the tube in the plane of maximum stress. The center of the strain gage shall be placed within $3/16 \pm 1/64$ inch from the tail of the sleeve. During the test, a constant pressure of 3,000 psi shall be applied to both inlet and outlet side of the valve to eliminate side loads on the shaker table. The frequency of flexing may be any rate from 30 to 500 cycles per second. The valve shall be connected to the tubing using the torque values in table VII. The stress readings, temperature reading, and total duration of the test shall be conducted at $450^{\circ} \pm 10^{\circ}$ F. The valve shall be vibrated for 10,000,000 cycles and there shall be no mechanical failure of parts or leakage due to this test. Following this flexure strength test, the valve shall be subjected to and shall pass the surge flow test specified in 4.6.3.

For the test setup, the tentative length "L" shall be calculated using the following formula:

$$L = \sqrt{\frac{12 DE C}{S}}$$

in which

L = total length in inches
 D = displacement at center in inches
 E = modulus of elasticity (30,000,000
 for corrosion-resistant steel)
 C = one-half tube outside diameter (inches)
 s = stress in tube (see table VI) (at strain gage)

NOTE : Displacement (D) is a fiction of weight of the valve times acceleration imposed . Acceleration should be varied to obtain desired displacement (stress).

*

TABLE V. Sequence of vibration testing

First axis (horizontal)	Step 1	Survey for resonance for 30 minutes. The frequency of vibration shall be varied from 5 to 2,000 cps and back to 5 cps in accordance with the frequency-amplitude profile of vibration, Procedure XIV of MIL-E-5272, with one pass of scanning to be of 10 to 15 minutes duration with the most resonant frequency being noted.
	Step 2	Repeat step 1.
	Step 3	Repeat step 1.
	Step 4 (a)	Vibrate at most resonant frequency found in steps 1, 2, and 3 for a total of 100 minutes in accordance with the following schedule (NOTE: At each frequency used in the schedule the corresponding double amplitude or "g" loading shall be as specified in step 1). If no resonance is found, continue with the schedule with all vibration at 500 cps and 20 g.

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TABLE V. Sequence of vibration testing (continued)

	<p>Step 4 (b) After 50 minutes, change frequency to 110 percent of resonant frequency and interrupt flow cycling with pressure applied in the direction of checked flow (at valve outlet). The valve shall be subjected to and shall meet the requirements of 4.6.4.2. Again change frequency to 90 percent of resonant frequency with flow cycling interrupted with pressure applied in the direction of checked flow (at valve outlet). Without changing valve position, the valve shall be subjected to and shall pass the leakage test specified in 4.6.4.2.</p> <p>(c) Resume flow cycling, return to resonant frequency, and continue vibration to 100 minutes total elapsed time.</p>
<p>Second axis (horizontal-90 degrees to first)</p>	Repeat steps 1 through 4.
<p>Third axis (vertical-90 degrees to first and second) (allowing force of gravity to act opposite to the checking action).</p>	Repeat steps 1 through 4.

*

TABLE VI. Fitting ends, tube material, pressures, and stresses

Corrosion-resistant steel tube (MIL-T-6845)				
For use with corrosion-resistant steel fitting ends, nuts, and carbon steel sleeves				
Tube OD (in.)	Dash size	Tube wall thickness (in.)	Working pressure psi	Stress level in tube for flexure test +0 % psi -10 % psi
1/4	-4	0.028	3,000	20,000
5/16	-5	.028	3,000	20,000
3/8	-6	.035	3,000	20,000
1/2	-8	.042	3,000	20,000
5/8	-10	.058	3,000	20,000
3/4	-12	.065	3,000	20,000
1	-16	.083	3,000	20,000

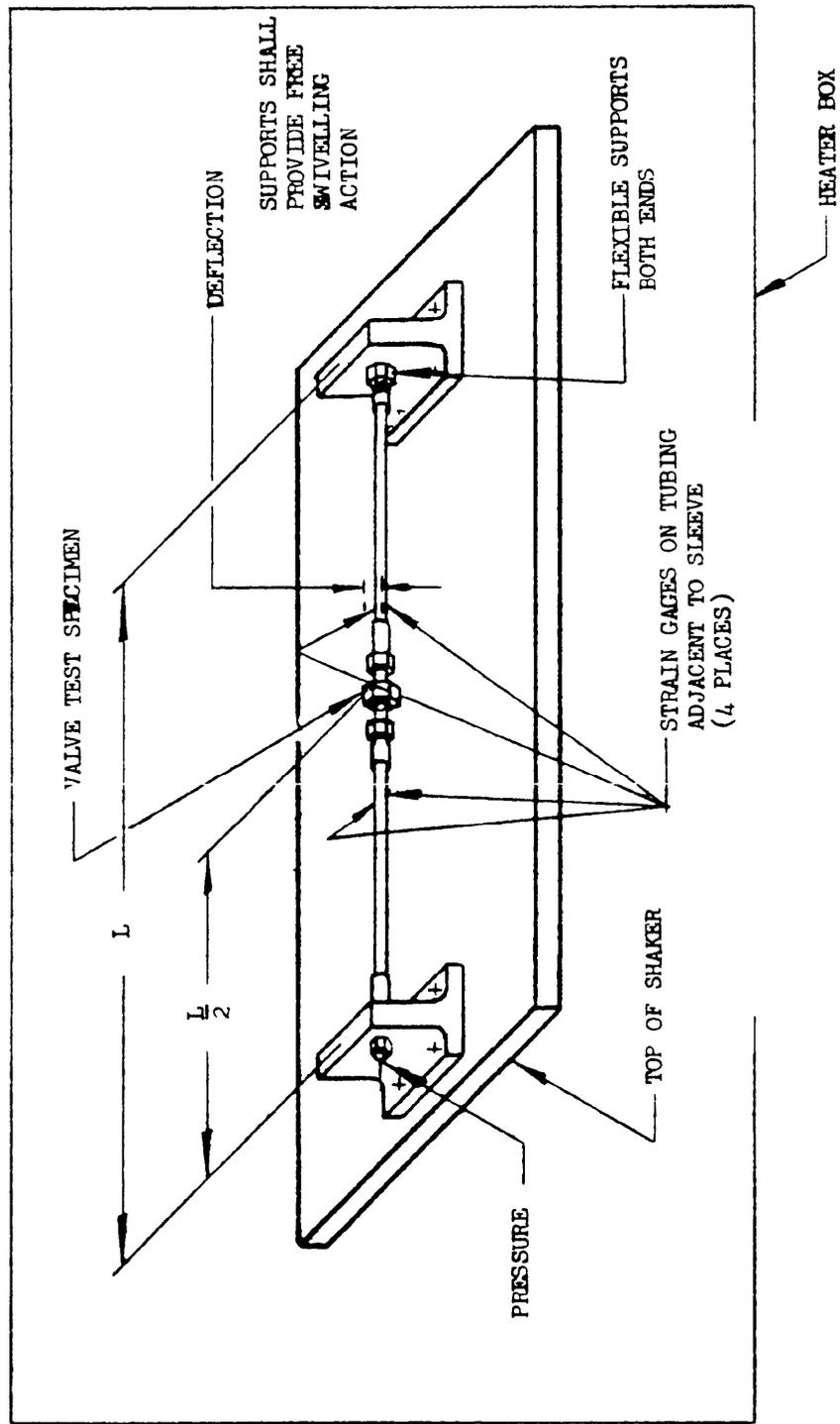


FIGURE 3. Flexural strength test setup

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* 4.6.12 Repeated assembly. - A tube, sleeve, and nut, flared or flareless, as applicable, shall be assembled to each end of the valve and disassembled eight successive times, using the torque values in table VII. The valve shall then be subjected to and shall satisfactorily complete the proof pressure test specified in 4.6.2.

* TABLE VII. Torque values (inch-pounds)

Dash No.	Flareless nuts	Flared nuts
-4	125 \pm 10	125 \pm 10
-5	180 \pm 10	180 \pm 10
-6	230 \pm 15	230 \pm 15
-8	450 \pm 20	450 \pm 20
-10	650 \pm 30	650 \pm 30
-12	900 \pm 45	900 \pm 45
-16	1,200 \pm 60	1,200 \pm 60

4.7 Packaging, packing, and marking. - Preparation for delivery shall be examined for conformance to section 5.

* 5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging. -

5.1.1 level A. - Unless otherwise specified (see 6.2), the valves shall be preserved and packaged in accordance with Method IA-8 of MIL-P-116. They shall be flushed with a rust-inhibiting compound conforming to MIL-H-6083. Each valve shall be sealed with a closure conforming to MIL-C-5501.

5.1.1.1 Intermediate containers. - Unless otherwise specified, 12 valves, preserved as specified in 5.1.1, shall be packaged in an intermediate container conforming to PPP-B-566 or PPP-B-676.

5.1.2 Level c. - The valves shall be afforded adequate protection against corrosion, deterioration and physical damage during shipment from supply source to the first receiving activity for immediate use. The manufacturer's commercial practice may be used providing the latter meets the requirements of this level.

5.2 Packing. -

5.2.1 Level A. - Valves preserved and packaged as specified in 5.1 shall be packed in shipping containers conforming to PPP-B-601, overseas type, and the plywood shall be surface tested insofar as practicable, containers shall be of uniform shape and size, of minimum cube and tare consistent with the protection required, and shall contain identical quantities of intermediate containers. The gross weight of each pack shall be limited to approximately 200 pounds.

5.2.2 Level B. - Valves preserved and packaged as specified in 5.1 shall be packed in shipping containers conforming to PPP-B-601 (domestic type) PPP-B-621 (class 1), PPP-B-636 (weather-resistant class), or PPP-B-591 (class II). Insofar as practicable, containers shall be of uniform shape and size, of minimum cube and tare consistent with the protection required, and shall contain identical quantities. Containers shall be closed and strapped in accordance with the applicable container specification on the appendix thereto.

5.2.3 Level C. - Valves preserved and packaged as specified in 5.1 shall be packed in domestic class or type shipping containers conforming to PPP-B-591, PPP-B-601, PPP-B-621, or PPP-B-636. Insofar as practicable, containers shall be of uniform shape and size, of minimum cube and tare consistent with the protection required, and shall contain identical quantities.

5.3 Marking - Interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129. The nomenclature shall be the nomenclature of the item as shown on MS24423 or MS24593, as applicable.

6. NOTES

* 6.1 Intended use. - The check valves covered by this specification are intended for use in controlling the flow of hydraulic fluid in type I, type II, or type III aircraft and missile hydraulic systems, thus providing a single standard for the entire temperature range of -65° to +450° F where the operating pressure does not exceed 3,000 psi.

* 6.2 Ordering data. - Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) The MS part number desired (see 3.3).
- (c) Applicable levels of preservation, packaging, and packing (see 5.1 and 5.2).
- (d) When level A preservation and packaging will be other than as specified in 5.1.1.

it 6.3 Qualification. - With respect to products requiring qualification, awards will be made only for products which are at the time set for opening of bids, qualified for inclusion in the applicable Qualified Products List whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Aeronautical Systems Division (ASNJP-20), Wright-Patterson Air Force Base, Ohio 45433, and information pertaining to qualification of products may be obtained from that activity.

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* 6.4 Marginal indicia. - The margins of this specification are marked to indicate where changes, deletions, or additions to the previous issue have been made. This is done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Figures are not so marked, Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content as written, irrespective of the marginal notations and relationship to the last previous issue.

* 6.5 International standardization agreement. - Certain provisions of this specification are the subject of international standardization agreement ASCC AIR-STD 17/15. When amendment, revision, or cancellation of this specification is proposed which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including department standardization offices, if required.

Custodians:

Army - AV
Navy - AS
Air Force - 11

Preparing activity:

Air Force - 11

Reject No. 1650-0065

Reviewer activities:

Army - AV, MI
Navy - AS
Air Force - 11, 71

international interest (see section 6)

FOLD

POSTAGE AND FEES PAID
DEFENSE SUPPLY AGENCY

~~OFFICIAL BUSINESS~~

Commander
Aeronautical Systems Division
Attn: ASNPS
Wright-Patterson AFB, Ohio 45433

FOLD

SPECIFICATION ANALYSIS SHEET

Form Approved Budget
Bureau No. 119-RO04INSTRUCTIONS

This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity.

SPECIFICATION

MIL-V-25675 Valves, Check, Miniature, Hydraulic, AC & Missile

ORGANIZATION

CITY AND STATE

CONTRACT NO.

QUANTITY OF ITEMS PROCURED

DOLLAR AMOUNT

\$

MATERIAL PROCURED UNDER A

 Direct Government Contract Subcontract

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID.

3. IS THE SPECIFICATION RESTRICTIVE?

 YES NO

IF "YES", IN WHAT WAY?

4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.)

SUBMITTED BY (Printed or typed name and activity)

DATE

DD Form 1426