

INCH-POUND

MS29521H
 23 September 2015
 SUPERSEDING
 MS29521G
 7 April 2009

DETAIL SPECIFICATION SHEET

DISK, VALVE

Inactive for new design after
 15 October 1998.

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

The requirements for acquiring the product described herein shall consist of this specification sheet and
 MIL-DTL-7899, "Valves, Check, Aircraft Fuel System".

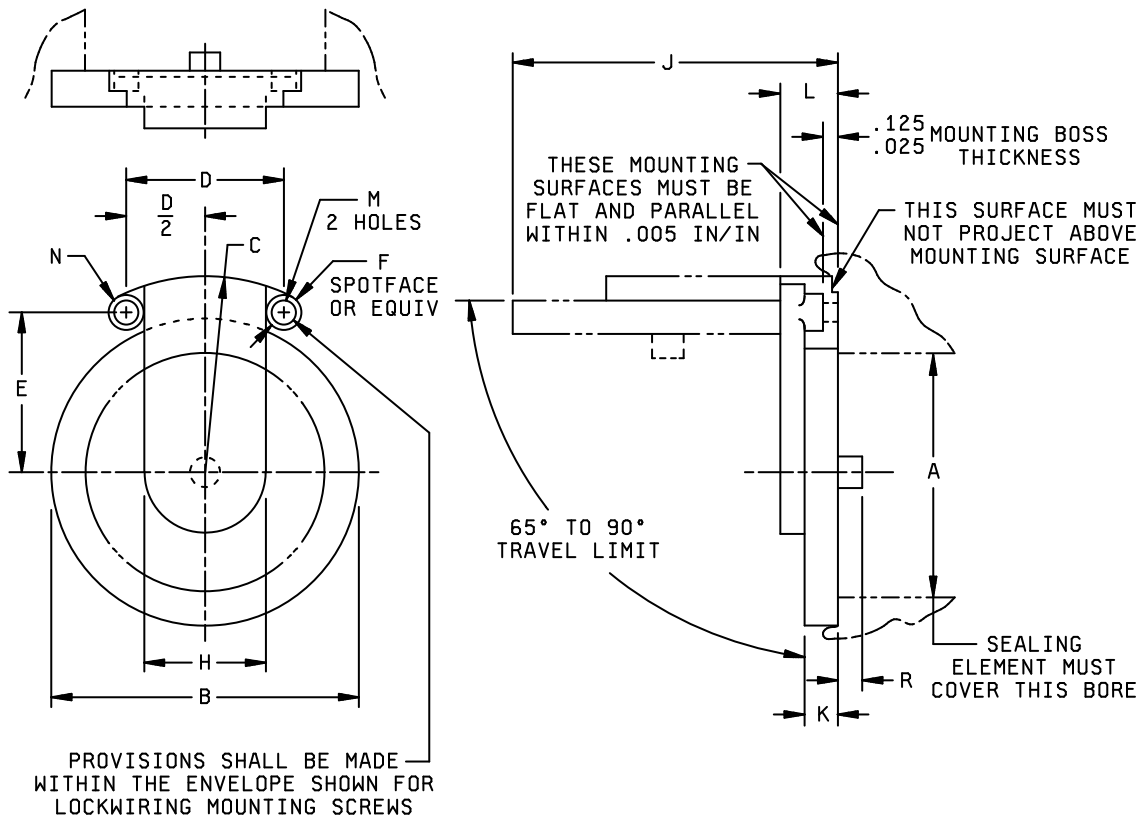


FIGURE 1. Disk, valve.

AMSC N/A

FSC 4820



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Dash number size	A diameter		B maximum diameter		C maximum radius		D		D/2	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
-12A	.561	14.249	.933	23.698	.767	19.482	.860	21.844	.4300	10.9220
-16	.792	20.117	1.183	30.048	.916	23.266	1.110	28.194	.5550	14.0970
-20	1.024	26.010	1.527	38.786	1.097	27.864	1.248	31.699	.6240	15.8496
-24	1.248	31.699	1.777	45.136	1.200	30.48	1.240	31.496	.6200	15.7480
-28	1.483	37.668	2.090	53.086	1.350	34.29	1.240	31.496	.6200	15.7480
-32	1.719	43.663	2.277	57.836	1.451	36.855	1.382	35.103	.6910	17.5514
-40	2.203	55.956	2.809	71.349	1.809	45.949	1.406	35.712	.7030	17.8562
-48	2.703	68.656	3.309	84.049	2.046	51.968	1.656	42.062	.8280	21.0312
-56	3.213	81.610	3.996	101.498	2.395	60.833	2.093	53.162	1.0470	26.5938
-64	3.711	94.259	4.496	114.198	2.667	67.742	2.313	58.750	1.1560	29.3624

Dash number size	E		F		H (ref)		J max		K max	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
-12A	.440	11.176	.304	7.722	.550	13.97	1.086	27.584	.182	4.623
-16	.525	13.335			.806	20.472	1.337	33.960	.198	5.029
-20	.710	18.034			.940	23.876	1.704	43.282	.226	5.740
-24	.845	21.463			.930	23.622	1.968	49.987	.236	5.994
-28	1.025	26.035			.930	23.622	2.324	59.030	.249	6.325
-32	1.100	27.94			1.078	27.381	2.511	63.780	.267	6.782
-40	1.500	38.1			1.102	27.991	3.160	80.264	.287	7.290
-48	1.703	43.256			1.352	34.341	3.735	94.869	.307	7.798
-56	1.984	50.394			1.789	45.441	4.215	107.061	.327	8.306
-64	2.234	56.744			2.009	51.029	4.715	119.761	.347	8.814

FIGURE 1. Disk, valve – Continued.

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Dash number size	L max		M diameter		N minimum radius		R max		Rated flow GPM	Tubing size	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		Inch	mm
-12A	.282	7.163	.1495	3.7973	.152	3.861	.156	3.962	15	.75	19.05
-16	.335	8.509							30	1.	25.4
-20	.373	9.474							50	1.25	31.75
-24	.382	9.703							70	1.50	38.1
-28	.395	10.033					.219	5.562	100	1.75	44.45
-32	.470	11.938							130	2.	50.8
-40	.500	12.7							215	2.50	63.5
-48	.531	13.488							320	3.3	83.82
-56	.563	14.300							450	3.50	88.9
-64	.594	15.088							600	4.	101.6

NOTES:

1. Dimensions are in inches. Millimeters are given for general information only.
2. Tolerances for dimensions are as shown in the table below:

Decimal Places	tolerance	tolerance
	Inch	mm
.XXX	± .005	± 0.127
.XXXX	± .0025	± 0.0635

3. Referenced documents shall be of the issue in effect on date of invitation for bid.
4. For design features, this standard takes precedence over procurement documents referenced herein.

FIGURE 1. Disk, valve – Continued.

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Requirements

Intended use. These swing check, fuel valve elements are suitable for use with hydrocarbon fuels, Fuel vapors, and air and may be used in check valves MS21430, MS28882, and MS28884.

Requirements. The valve element, when mounted to a test fixture and discharging into an open tank, shall achieve the following performance:

- (1) Opening and closing pressure per MIL-DTL-7899.
- (2) Pressure drop at rated flow shall be less than 45 inches water.
- (3) Leakage: -32 and smaller – 0.5 cc per minute (max).
-40 and larger sizes – 1.0 cc per minute (max).

Materials. Materials shall comply to requirements listed in the procurement specification, MIL-DTL-7899.

Finish. Finish shall comply to requirements listed in the procurement specification, MIL-DTL-7899.

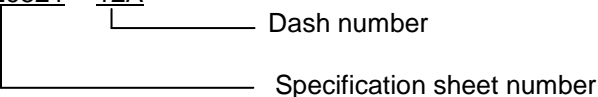
Qualification. Disk, valves furnished under this specification sheet shall be products which are qualified for listing on Qualified Products List, QPL-7899. An online listing of products qualified to this specification may be found in the Qualified Products Database (QPD) at <http://quicksearch.dla.mil>.

Marking.

- (1) Color identification: The component shall be color coded to indicate fuel use by means of a red color per SAE-ARP8615, "Fuel System Components: General Specification For".
- (2) Assembly date mark: The valve assembly shall be date marked, packaged, and stored per, SAE ARP5316, "Storage of Elastomer Seals and Seal Assemblies Which Include an Elastomer Element Prior to Hardware Assembly".

Valve characteristic: See figure 1.

Part or Identifying Number (PIN). The PIN is as follows:

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Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

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Changes from previous issue: The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Reference documents. This document references the following:

SAE-ARP8615, "Fuel System Components: General Specification For".
MIL-DTL-7899, "Valves, Check, Aircraft Fuel System".
MS21430, "Valve, Check, Fuel and Air, Poppet Type, Zero, Leak".
MS28882, "Valve, Fuel Check, Low Pressure, Gasket Seal Straight Thread Connection".
MS28884, "Valve, Fuel Check, Low Pressure, Flared Tube Connection".
SAE ARP5316, "Storage of Elastomer Seals and Seal Assemblies Which Include an Elastomer Element Prior to Hardware Assembly".
QPL-7899, "Valve, Check, Aircraft Fuel System".

CONCLUDING MATERIAL

Custodians:

Army – AV
Navy – AS
Air Force - 99
DLA - CC

Preparing activity:

DLA - CC

(Project 4820-2015-011)

Reviewer activities:

Air Force – 71
Navy – SA

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