

Submitted for recognition as an American National Standard

**Disposable Hydraulic Filter Element—190 L/min Flow,
21 MPa Collapse Pressure, Filtration Ratio = 75 at 7 µm**

Foreword—The following document numbering convention was established to accommodate currently used military part numbers:

In the part number, “J2321/2” is used rather than “J2321-2” to more clearly indicate that the part number is defined in SAE J2321-2 and not in the SAE J2321 General Specification.

1. Scope—This specification sheet establishes requirements for a high collapse pressure configuration filter element of a specific configuration with a minimum filtration ratio of 75 for particles larger than 7 µm when designed and tested in accordance with SAE J2321 and this specification sheet.

1.1 Part or Identifying Number—Filter elements can be identified and ordered using part identifying numbers as follows:

J2321/2–7–X

J2321/2	Specification Sheet Number (SAE J2321-2) see the Foreword
–7	Dash No. for Filter Rating (see 1.1.1)
–X	O-ring Material (see 1.1.2)

EXAMPLE—J2321/2–7–F is for a 7 µm element supplied with a fluorocarbon O-ring.

1.1.1 FILTRATION RATIO—(Currently only the following rating is covered.)

–7 = Minimum Filtration Ratio of 75 for particles greater than 7 µm(c)

1.1.2 SEAL MATERIAL—The O-ring to be supplied with the element shall be of the size specified in Figure 1 and with material as designated as follows:

No designation = Supplied without O-ring
F = Fluorocarbon rubber per SAE AS3209–224
N = Nitrile rubber per AMS-P-83461/1–224
X = Seal material as designated by purchaser

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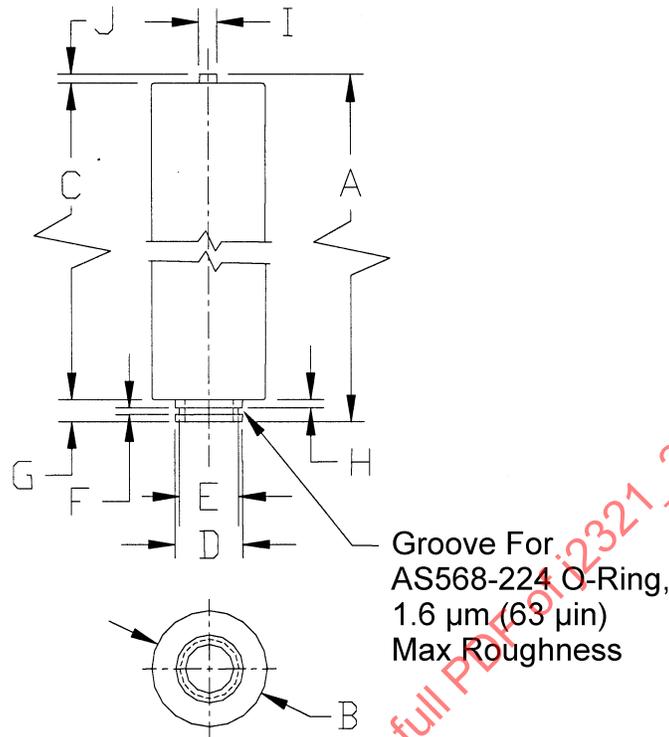


FIGURE 1—SAE J2321-2 FILTER ELEMENT

2. References

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue of the applicable publication, or its replacement shall apply.

2.1.1 SAE PUBLICATIONS—Available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001. Telephone: (724) 776-4970, Web address: <http://www.sae.org>.

SAE J2321—Ship Systems and Equipment—General Specification for Filter Elements—Hydraulic and Lube Oil Service

SAE AMS-P-83461/1—Packing, Preformed, Petroleum Hydraulic Fluid Resistant, Improved Performance at 275 Deg F (135 Deg C) Sizes and Tolerances

SAE AS568—Aerospace Size Standard for O-rings

SAE AS3209—Packing, Preformed – AMS 7276, “O”-Ring

SAE AS4716—Aerospace Standard, Gland Design, O-Ring and Other Elastomeric Seals

2.1.2 ISO PUBLICATIONS—Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10028-8002. Web address: <http://ansi.org>.

ISO 12103-1—Road vehicles—Test dust for filter evaluation—Part 1: Arizona test dust

3. Requirements

3.1 Design, Materials, and Testing—Design, materials, and testing shall be in accordance with the general specification, SAE J2321 and the requirements of this specification sheet.

3.2 Configuration and Dimensions—The element configuration and dimensions shall be in accordance with Figure 1 and Tables 1A and 1B. The element O-ring gland shall be in accordance with SAE AS4716 for an AS568-224 O-ring with no back-up ring.

TABLE 1A—DIMENSIONS OF FILTER ELEMENTS (A THROUGH E)

	A (REF)	B Min	B Max	C Min	C Max	D Min	D Max	E Min	E Max
Inch	12.316	3.344	3.406	11.37	11.45	1.988	1.990	1.748	1.750
Milli-meter	312.83	84.94	86.51	288.80	290.80	50.50	50.55	44.40	44.45

TABLE 1B—DIMENSIONS OF FILTER ELEMENTS (F THROUGH J)

	F Min	F Max	G Min	G Max	H Min	H Max	I Min	I Max	J Min	J Max
Inch	0.188	0.198	0.646	0.666	0.235	0.265	0.485	0.515	0.235	0.265
Milli-meter	4.78	5.03	16.41	16.91	5.97	6.73	12.32	13.08	5.97	6.73

3.3 Rated flow—Rated flow with a petroleum base fluid with a viscosity of 68 mm²/s (68 cSt) shall be 190 L/min (50 gpm).

3.4 Dirt Holding Capacity—The apparent dirt holding capacity when tested with ISO 12103-1 A3 Medium Test Dust shall be 50 g at rated flow to a differential pressure not exceeding 200 kPa (29 lb/in²) when tested with a fluid with a viscosity not less than 15 mm²/s (15 cSt).

3.5 Filtration Ratio—The minimum filtration ratio for the multi-pass test shall not be less than 75 for particles 7 μm and larger with an ingestion rate of 3 mg/L.

3.6 Terminal Pressure Drop for Determining Filtration Ratio—The element shall be tested at rated flow with 15 mm²/s fluid at differential pressures to 1600 kPa (232 lb/in²).

3.7 Clean Element Pressure Drop—The pressure differential across a clean element at rated flow with 68 mm²/s (68 cSt) fluid shall not exceed 200 kPa (29 lb/in²).

3.8 Collapse Pressure—The element shall withstand a minimum collapse pressure of 21 MPa (3045 lb/in²).

3.9 Reverse Flow Pressure—The element shall withstand a minimum differential pressure of 140 kPa (20 lb/in²) in the reverse flow direction.

3.10 Flow Fatigue Cycles—The element shall be subjected to 45 000 flow fatigue cycles at a differential pressure of 700 kPa (100 lb/in²) followed by 5000 cycles at a differential pressure of 2.0 MPa (290 lb/in²).

3.11 Media Migration/Vibration Testing—When subjected to media migration/vibration testing, media migration and built-in contamination shall not exceed 5.0 mg.

3.12 Magnetic permeability—Unless specifically waived by the procuring activity, the relative magnetic permeability shall be less than 2.0.

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4. **Notes**—This section contains information of a general or explanatory nature that may be helpful but is not a requirement of the specification.
- 4.1 This part number is intended to replace military part number M24402/4 Size B. The M24402/4 Size B element has a higher collapse pressure of 27.6 MPa (4000 lb/in²) and a lower efficiency.

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