

INCH-POUND

MIL-DTL-24402/1A

11 February 2014

SUPERSEDING

MIL-F-24402/1(SH)

3 April 1990

DETAIL SPECIFICATION SHEET

FILTER HOUSINGS, HYDRAULIC, SINGLE-ELEMENT

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-24402.

CLASSIFICATION. Filter housings covered by this specification sheet shall be designated using part or identifying numbers (PINs) as follows:

<u>M</u>	<u>24402</u>	<u>/1</u>	<u>N</u>	<u>B</u>	:	<u>WXYZ</u>
Prefix to indicate a military specification	Specification number	Applicable specification sheet	Type	Element size		Indicator form

Examples: M24402/1RB-M90 is a single-element housing with bypass relief designed for a Size B element and equipped with a mechanical pop-up indicator which actuates at 90 lb/in² differential.

M24402/1NC is a non-fatigue rated, single-element housing without bypass relief designed for a Size C element and provided without a differential pressure indicator.

FILTER ASSEMBLY TYPE. The filter assembly type shall be designated by one of the following letters to indicate whether or not a bypass relief is installed:

N - No bypass relief.
R - Bypass relief installed.

ELEMENT SIZE. The element configuration and size shall be indicated by one of the following letters:

B - Size B in accordance with SAE-J2321/2 as identified by PIN J2321/2-7-F.
C - Size C in accordance with SAE-J2321/3 as identified by PIN J2321/3-C10-F.

DIFFERENTIAL PRESSURE INDICATOR FORM. This dash number suffix is included in the part number when the filter assembly is to be acquired or used with a specific type of differential pressure indicator. See MIL-DTL-24402/5 for indicator dash numbers. For logistic support purposes, assemblies will be acquired and stocked without differential pressure indicators. In such cases, indicators will be ordered separately using the part number shown on MIL-DTL-24402/5.

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PART NUMBER CROSS REFERENCE. [Table I](#) provides a cross reference between old (MIL-F-24402D and earlier) and new part numbers.

TABLE I. Cross reference of part numbers.

New part numbers		Old part numbers	
(Fatigue rated) ^{1/}	(Non-fatigue rated) ^{1/}	(Fatigue rated) ^{2/}	(Non-fatigue rated) ^{2/}
M24402/1NB	-	M24402-1N-BP-3	M24402-1N-BP-0
-	M24402/1NC	M24402-1N-CP-3	M24402-1N-CP-0
M24402/1RB	-	M24402-1R-BP-3	M24402-1R-BP-0
-	M24402/1RC	M24402-1R-CP-3	M24402-1R-CP-0
NOTES: ^{1/} If a differential pressure indicator is to be acquired with the filter assembly, add the appropriate indicator dash number suffix from MIL-DTL-24402/5. ^{2/} Add E, G, or M depending on the form of differential pressure indicator acquired with the filter assembly, as follows: E - Electrical with mechanical pop-up indicator. G - Gauge type indicator. M - Mechanical pop-up indicator.			

SUBSTITUTION OF ASSEMBLIES. Assemblies with new fatigue rated part numbers may be substituted for all assemblies with old part numbers as shown in [table I](#). Assemblies with new non-fatigue rated part numbers may only be substituted for assemblies with non-fatigue rated part numbers as shown in [table I](#). Only assemblies with old fatigue rated parts numbers may be substituted for assemblies with new fatigue rated part numbers. Assemblies with old fatigue rated and non-fatigue rated part numbers may be substituted for assemblies with new non-fatigue rated part numbers as shown in [table I](#).

REQUIREMENTS.

- a. Configuration. The filter assemblies shall meet the dimensional requirements shown on [figure 1](#) for filter housings with Size B elements installed and [figure 2](#) for filter housings with Size C elements installed.
- b. Maximum rated operating pressure. The filter assemblies shall have a maximum rated operating pressure of 3,000 lb/in².
- c. Rated flow capacity. The filter assemblies with Size B elements installed shall have a rated flow capacity of 50 gallons per minute. The filter assemblies with Size C elements installed shall have a rated flow capacity of 25 gallons per minute.
- d. Performance.
 - (1) Bypass relief requirements. Type R assemblies shall have bypass relief valve settings as specified in [table II](#).

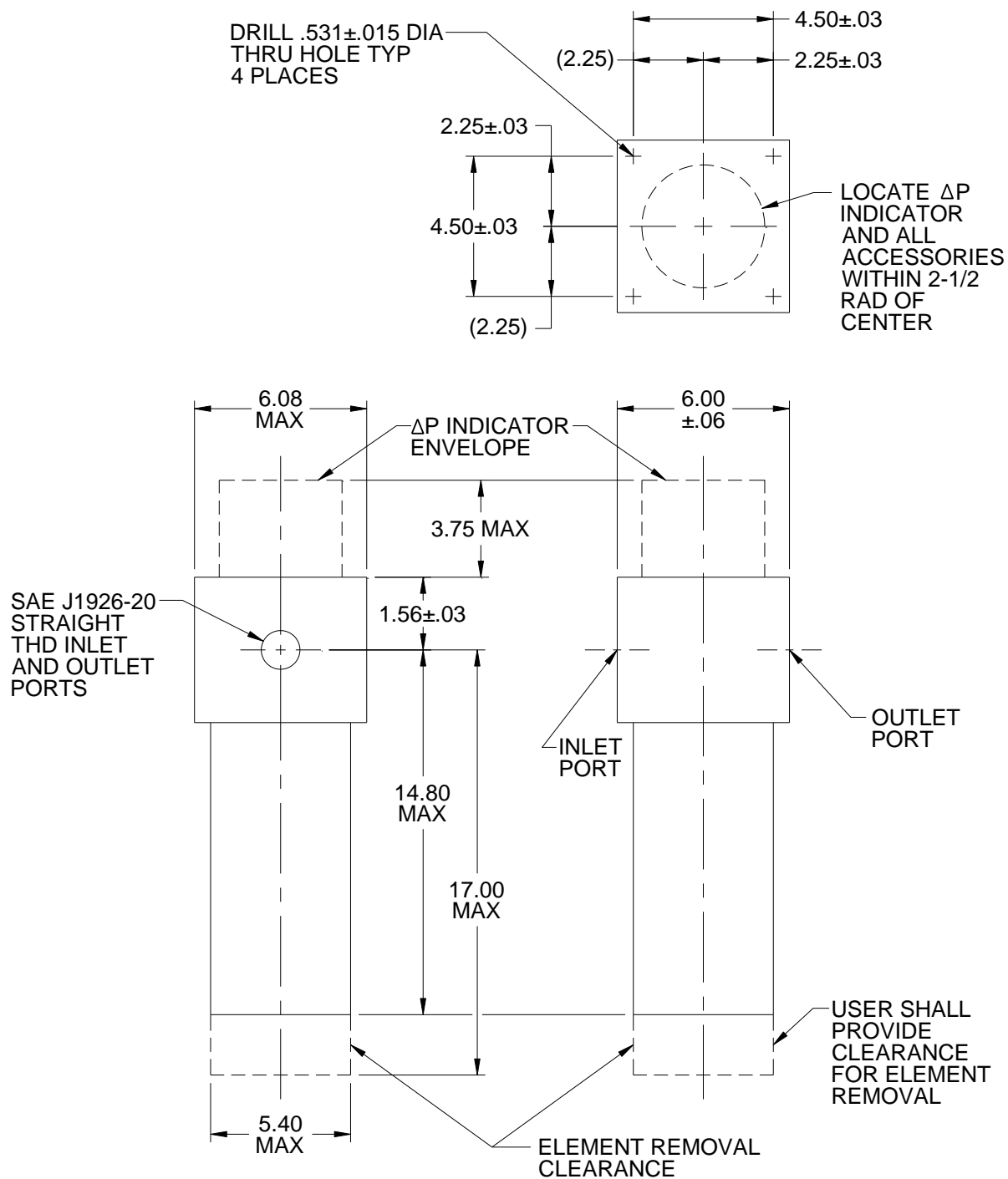
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TABLE II. Bypass relief valve setting.

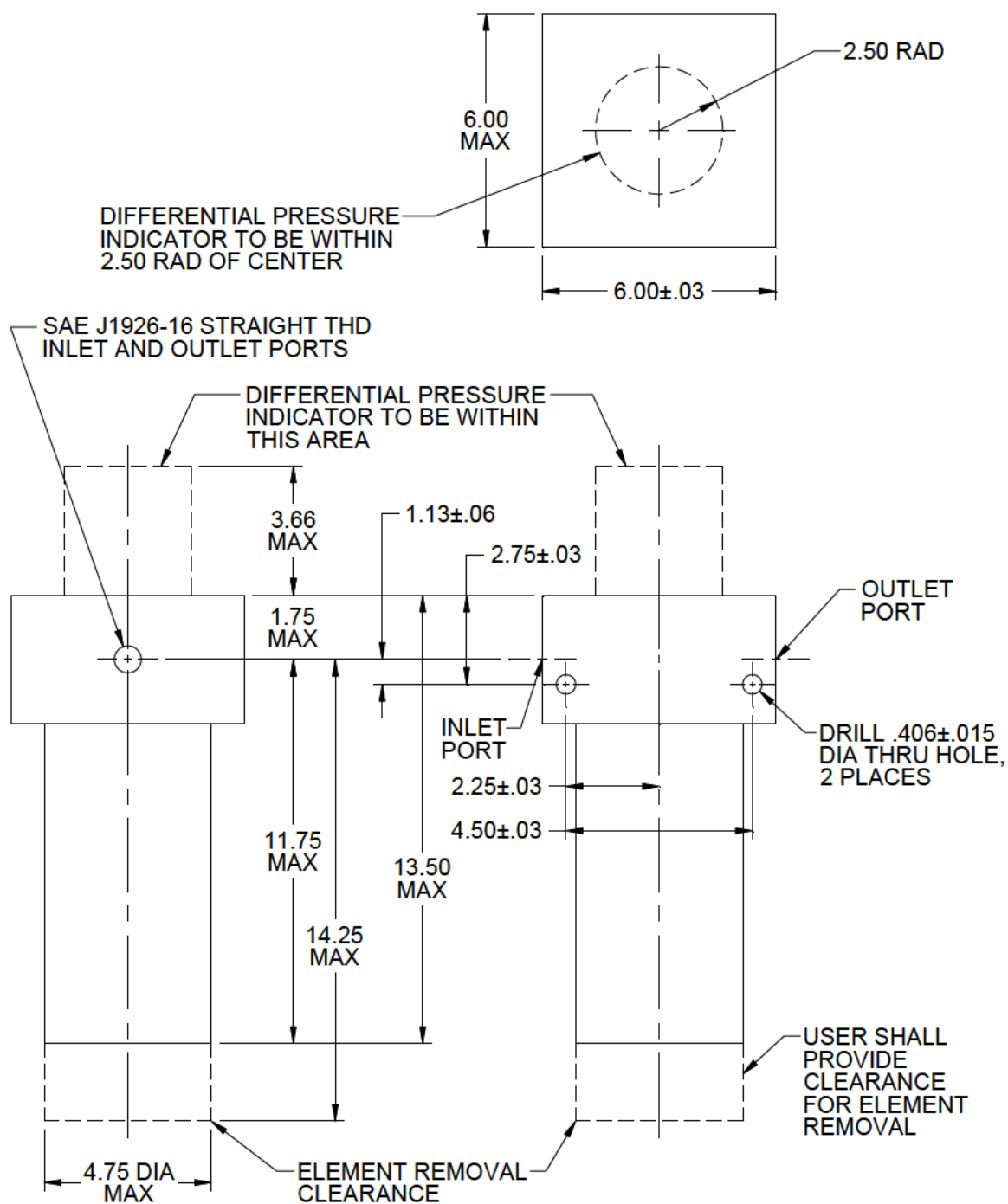
Test condition	Pressure (lb/in ²)	Test fluid temperature (°F [°C])	Leakage rate (ounces/min [mL/min])
			MIL-PRF-17331
(a) Cracking pressure			
(1) Qualification	150 minimum	104 (40) maximum	0.34 (10) minimum
(2) Conformance	Not more than 5 lb/in ² higher than the actual cracking pressure for the qualification assembly.	68 to 140 (20 to 60)	0.34 (10) minimum
(b) Full flow (qualification only)	200 maximum	104 (40) maximum	N/A
(c) Reseat pressure			
(1) Qualification	120 minimum	104 (40) minimum	0.07 (2) maximum
(2) Conformance	120 minimum	68 to 140 (20 to 60)	0.07 (2) maximum

- (2) Fatigue impulse rating. The filter assemblies with Size B elements shall have a fatigue impulse rating of 3,000 lb/in² in accordance with NFPA T2.6.1.
- (3) Proof pressure. The filter assemblies shall withstand a proof pressure of 4,500 lb/in².
- (4) Housing pressure drop. At the maximum rated flow with MIL-PRF-17331 fluid, the housing pressure drop with a minimum restriction dummy element installed shall be not greater than 25 lb/in² differential.
- (5) Burst pressure. The non-fatigue rated filter assemblies with Size C elements shall withstand a burst pressure of 7,500 lb/in² in accordance with NFPA T2.6.1.

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FIGURE 1. Single-element (size B) filter housing outline dimensions.

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FIGURE 2. Single-element (size C) filter housing outline dimensions.

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CHANGES FROM PREVIOUS ISSUE. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:

Navy – SH

Air Force – 99

Preparing activity:

Navy – SH

(Project 4330-2013-011)

Review activities:

Air Force – 84

DLA – CC

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 database at <https://assist.dla.mil>.