



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0331/S-96, REVISION 8**

East Building, PHH-23
1200 New Jersey Avenue SE
Washington, D.C. 20590

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and United States of America² for the transport of radioactive material.

1. Source Identification - Gammatron Model AN-HP source capsule.

2. Source Description - Either a:

Cylindrical double encapsulation made of ARMCO 17-4 (USN N05500) stainless steel and inert gas welded. Approximate exterior dimensions are either 12.7 mm (0.5 in.) in diameter and 12.7 mm (0.5 in.) in length; or 12.7 mm (0.5 in.) in diameter and 19.0 mm (0.75 in.) in length; or 15.9 mm (0.625 in.) in diameter and 15.9 mm (0.625 in.) in length; or 19.0 mm (0.75 in.) in diameter and 50.8 mm (2.0 in.) in length; or 26.7 mm (1.05 in.) in diameter and 109.2 mm (4.3 in.) in length. Construction shall be in accordance with attached Gammatron Drawing Nos. A-2002, A-2004, A-2006, A-2008, or A-2012; or,

Cylindrical double encapsulation made of Type 304 stainless steel (inner encapsulation) and MP35N alloy (outer encapsulation) and heliarc seal welded. Approximate exterior dimensions are either 26.7 mm (1.05 in.) in diameter and 109.2 mm (4.3 in.) in length or 31.24 mm (1.23 in.) in diameter and 57.15 mm (2.25 in.) in length. Construction shall be in accordance with attached Gammatron Drawing Nos. A-2012 or A-2014.

Capsules constructed in accordance with Gammatron Drawing No. A-2012 may be up to an additional 31.75 mm (1.25 in.) in length.

Capsules constructed in accordance with Gammatron Drawing No. A-2014 may be up to an additional 25.4 mm (1.0 in.) in length.

3. Radioactive Contents -

For the ARMCO 17-4 (USNN0550) stainless steel capsules, no more than either 0.74 TBq (20.0 Ci) of Americium-241 or 0.0185 TBq (0.5 Ci) of Californium-252. The Am-241 is in oxide form and may be mixed with beryllium. The Cf-252 is in the form of metal pellets or a wire.

For the Type 304 stainless steel/MP35N capsules, no more than 0.74 TBq (20.0 Ci) of Americium-241. The Am-241 is in oxide form and is mixed with beryllium.

4. Quality Assurance - Records of Quality Assurance activities required by paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.

5. Expiration Date - This certificate expires on November 30, 2014.

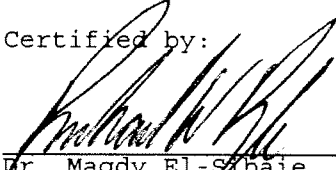
¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

² Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

CERTIFICATE USA/0331/S-96, REVISION 8

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the October 07, 2009 petition by Gammatron, Houston, TX and in consideration of other information on file in this Office.

Certified by:

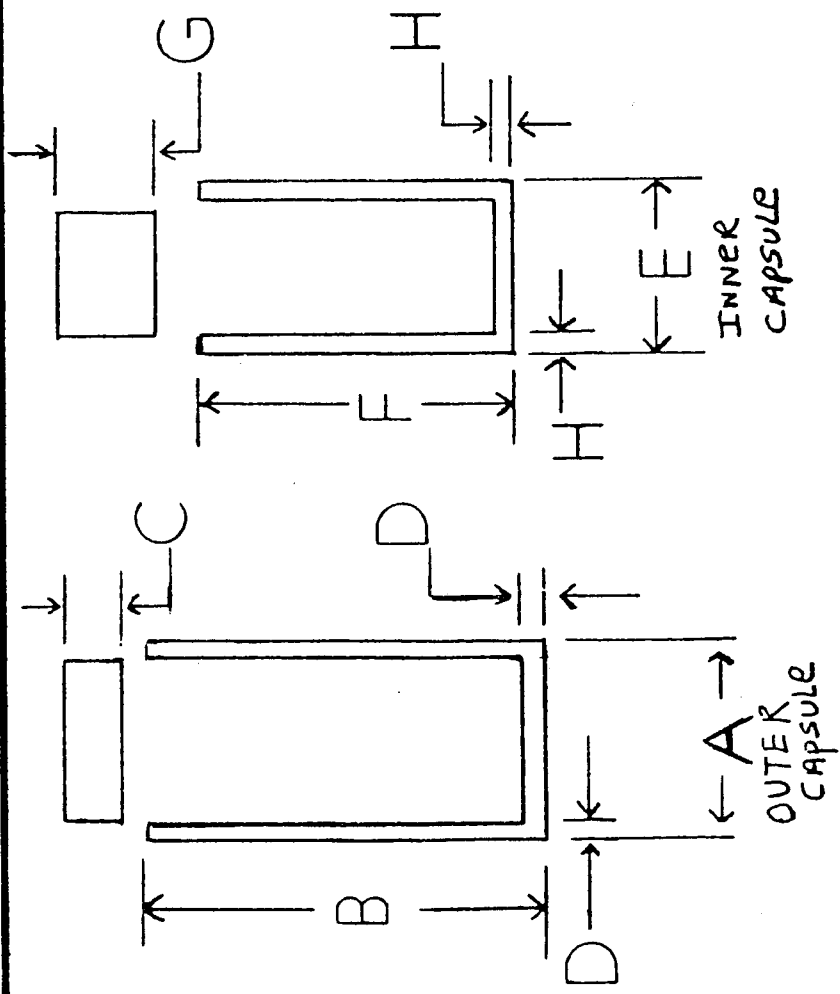


Dr. Magdy El-Sibaie
Acting Associate Administrator for
Hazardous Materials Safety

OCT 28 2009

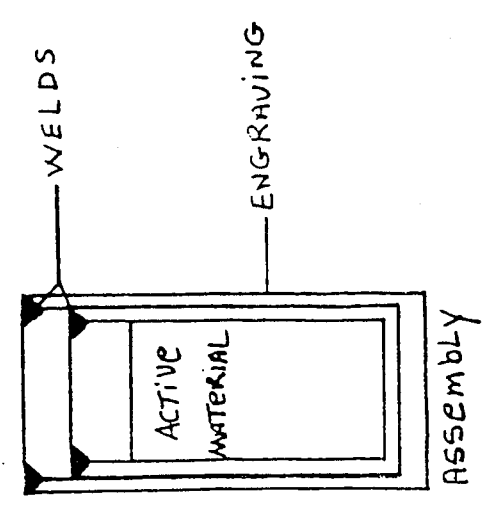
(DATE)

Revision 8 - Issued to extend the expiration date.



- A 0.500 ± .005
- B 0.500 ± .010
- C 0.060 MINIMUM
- D 0.040 MINIMUM
- E 0.420 MAXIMUM
- F B. MINUS D AND C
- G 0.100 MINIMUM
- H 0.030 MINIMUM

USE THIS DRAWING WITH SPECIFICATION
SHEET SS 2002

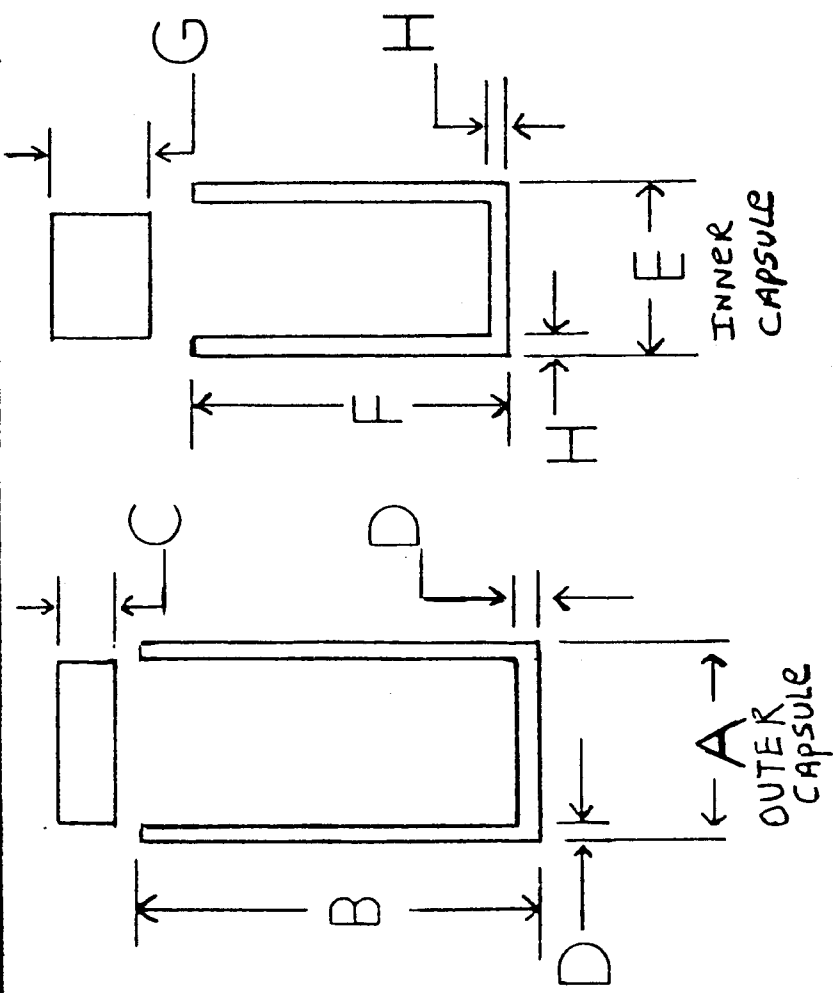


GAMMATRON

SCALE: NONE
DATE: 4/84
APPROVED BY
DRAWN BY DCJ

ANL-HHP

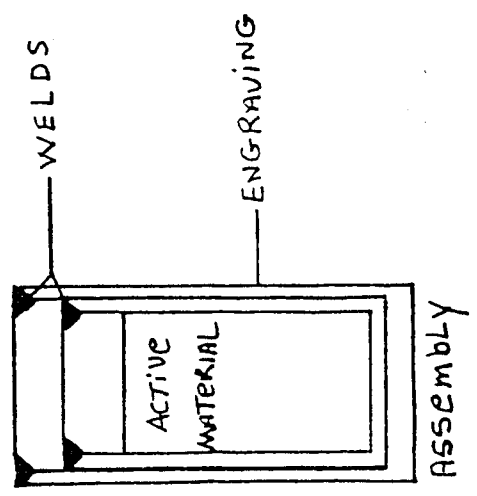
PHYSICAL SIZE — 0.5 X 0.5
DRAWING NUMBER
A — 2002



A	0.500 ± .005
B	0.750 ± .010
C	0.060 MINIMUM
D	0.040 MINIMUM
E	0.420 MAXIMUM
F	B MINUS D AND C
G	0.250 MINIMUM
H	0.030 MINIMUM

USE THIS DRAWING WITH SPECIFICATION SHEET SS 2004

Up to .250 may be added to dim. B for threaded extension to aid in handling. ¼-20 Thds Typ



GAMMATRON

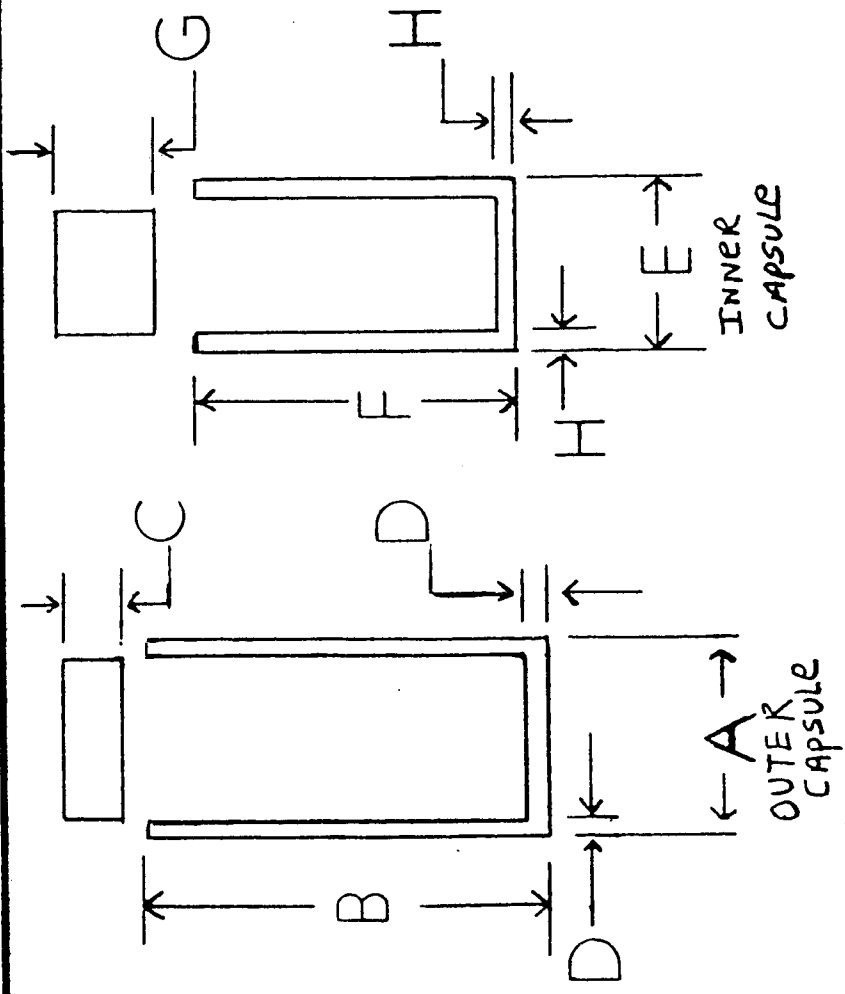
SCALE: NONE
DATE: 4/784

APPROVED BY
DRAWN BY DCJ

ANL-HP

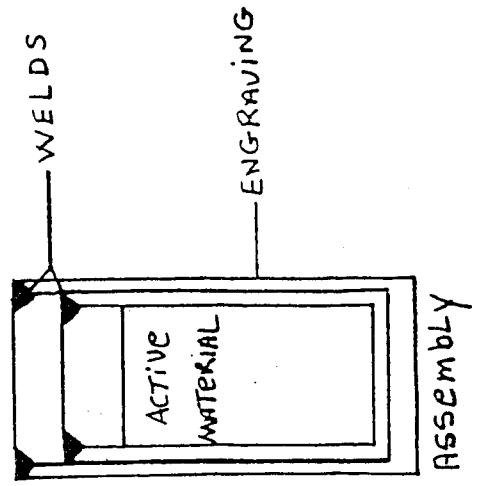
PHYSICAL SIZE — ½"X3/4"

DRAWING NUMBER
A — 2004



- A $0.625 \pm .005$
- B $0.625 \pm .010$
- C 0.080 MINIMUM
- D 0.060 MINIMUM
- E $0.500 \pm .005$
 $.000$
- F B MINUS C AND D .50 TYP.
- G 0.150 MINIMUM
- H 0.040 MINIMUM

USE THIS DRAWING WITH SPECIFICATION SHEET SS 2006
 Up to .800 may be added to Dim B for threaded extension.
 3/4 -12 Thd .800 Long Typical



GAMMATRON

SCALE: NONE
 DATE: 4/84

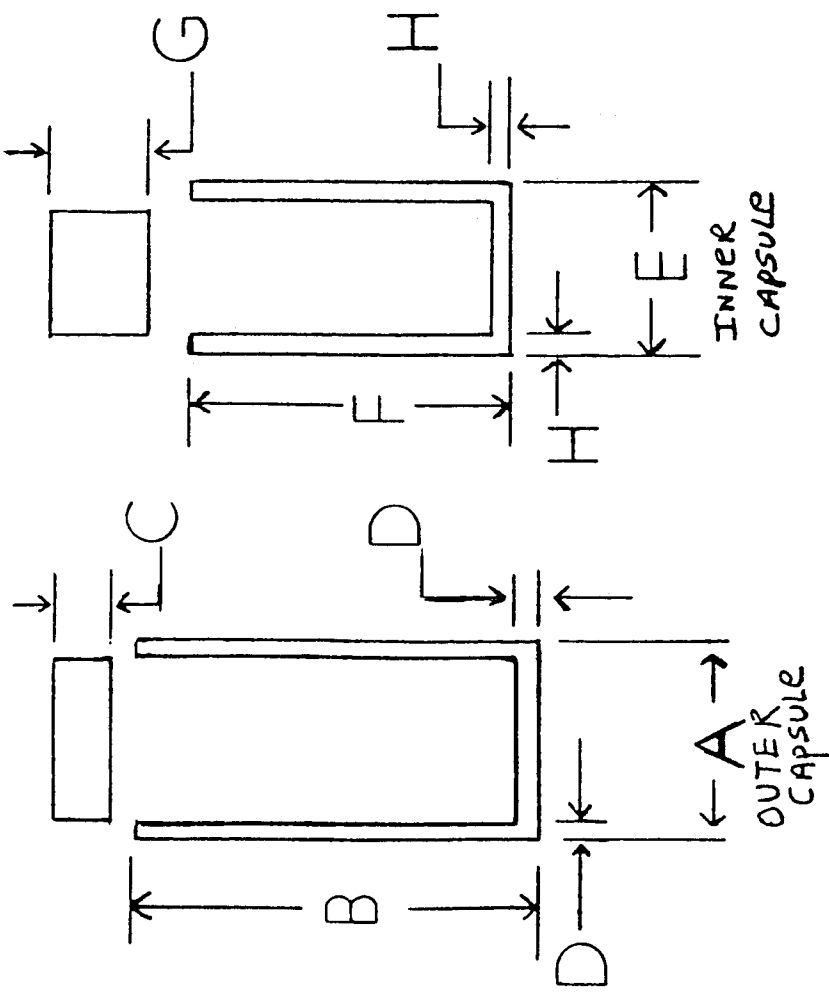
APPROVED BY

DRAWN BY DCJ

AN-HP

DRAWING NUMBER

PHYSICAL SIZE — 5/8"X5/8" — A — 2006



A .750 ± .005

B 2.00 ± .010

C 0.100 MINIMUM

D 0.060 MINIMUM

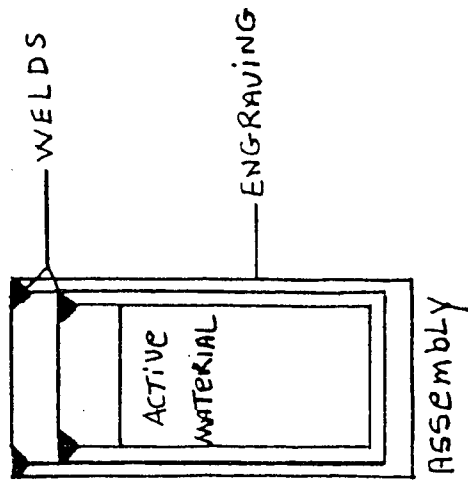
E .630 MAXIMUM

F B MINUS D AND C

G 0.200 MINIMUM

H 0.050 MINIMUM

USE THIS DRAWING WITH SPECIFICATION
SHEET SS 2008



GAMMATRON

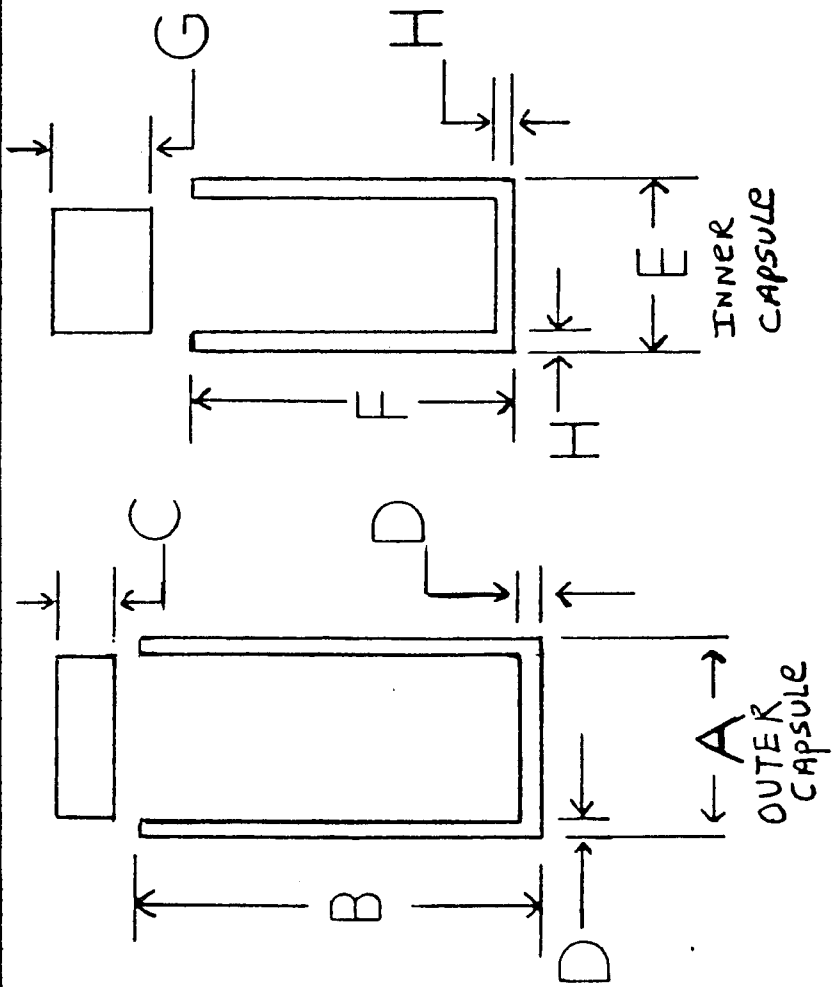
SCALE: NONE
DATE: 4/84

APPROVED BY
DRAWN BY DCJ

AN-HHP

PHYSICAL SIZE -- 3/4"X2"

DRAWING NUMBER
A-2008



A 1.050 \pm .010

B 4.300

C .200 MINIMUM

D .100 MINIMUM

E .850 MAXIMUM

F B MINUS D AND C

G 0.500 MINIMUM

H 0.060 MINIMUM

USE THIS DRAWING WITH SPECIFICATION SHEET SS 2012

NOTE: Dimension B may be increased by not more than 1.250" to allow for thread extension, hexs. or flats to aid in handling.

GAMMATRON

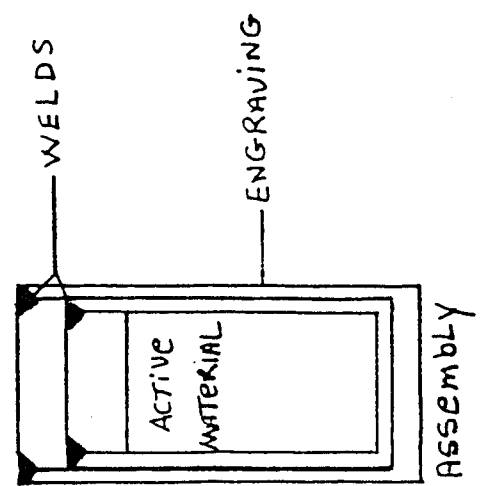
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DATE: 4/8/84

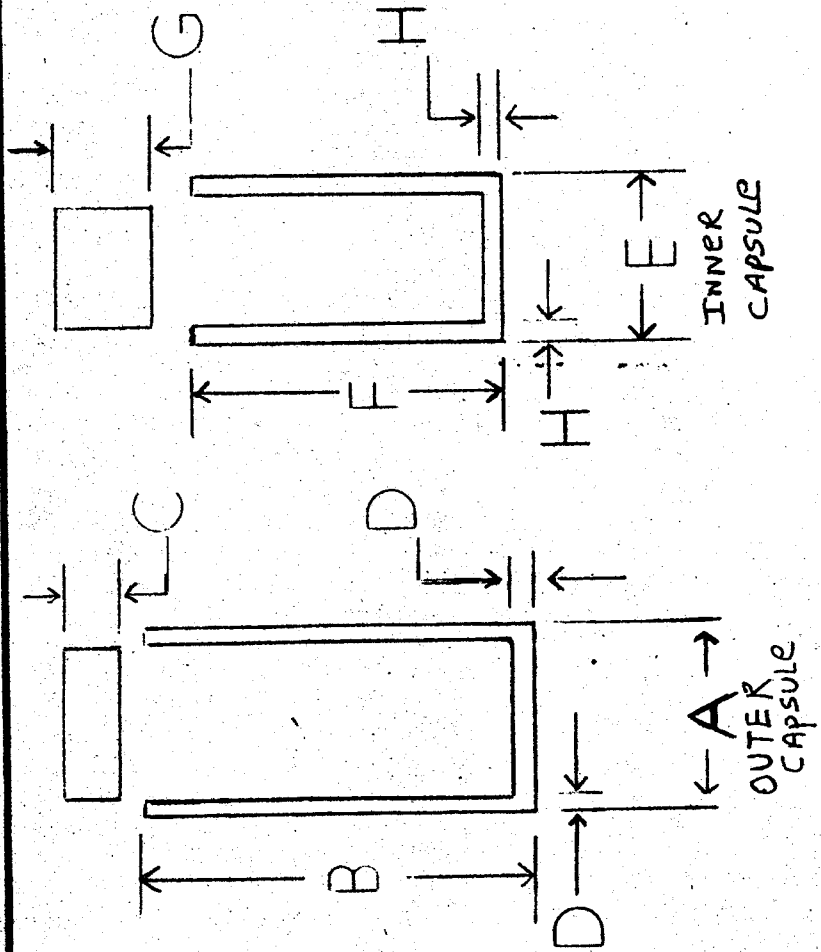
APPROVED BY
DRAWN BY DCJ

AN-HP

PHYSICAL SIZE — 1.050 Dia — 4.30 Long

DRAWING NUMBER
A-2012





A 1.2" MINIMUM

B 2.25"

C 0.200" MINIMUM

D 0.100" MINIMUM

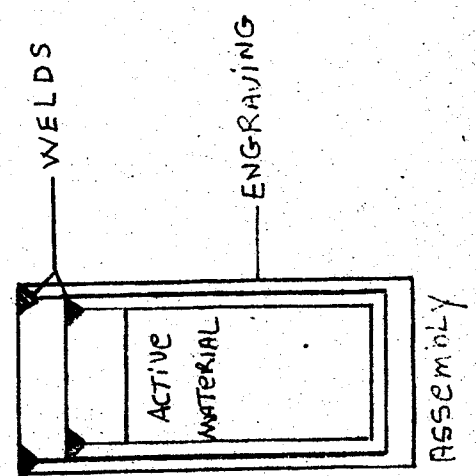
E 0.995"

F 1.75" MAXIMUM

G 0.150" MINIMUM

H 0.075"

NOTE: DIMENSION B MAY BE INCREASED BY NOT MORE THAN 1.0" TO ALLOW FOR THREADED EXTENSIONS, HEXES, OR FLATS TO AID HANDLING.



GAMMATRON

SCALE: NONE	APPROVED BY	DRAWN BY	DC
DATE: 08/2006	C. GALLAGHER		
ANN-FHP			
PHYSICAL SIZE		1.20" DIA	DRAWING NUMBER
		2.25" LENGTH	A-2014



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**Pipeline and
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Safety Administration**

CERTIFICATE NUMBER: USA/0331/S-96, Revision 8

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