U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0331/S-96, REVISION 7**

**400 Seventh Street, S.W.
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 Agency[1] and United States of America[2] 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 regulations[1] 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, 2009. On December 31, 2006, this certificate supersedes all previous revisions of USA/0331/S-96.

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[1] "Regulations for the Safe Transport of Radioactive Materials, 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 7

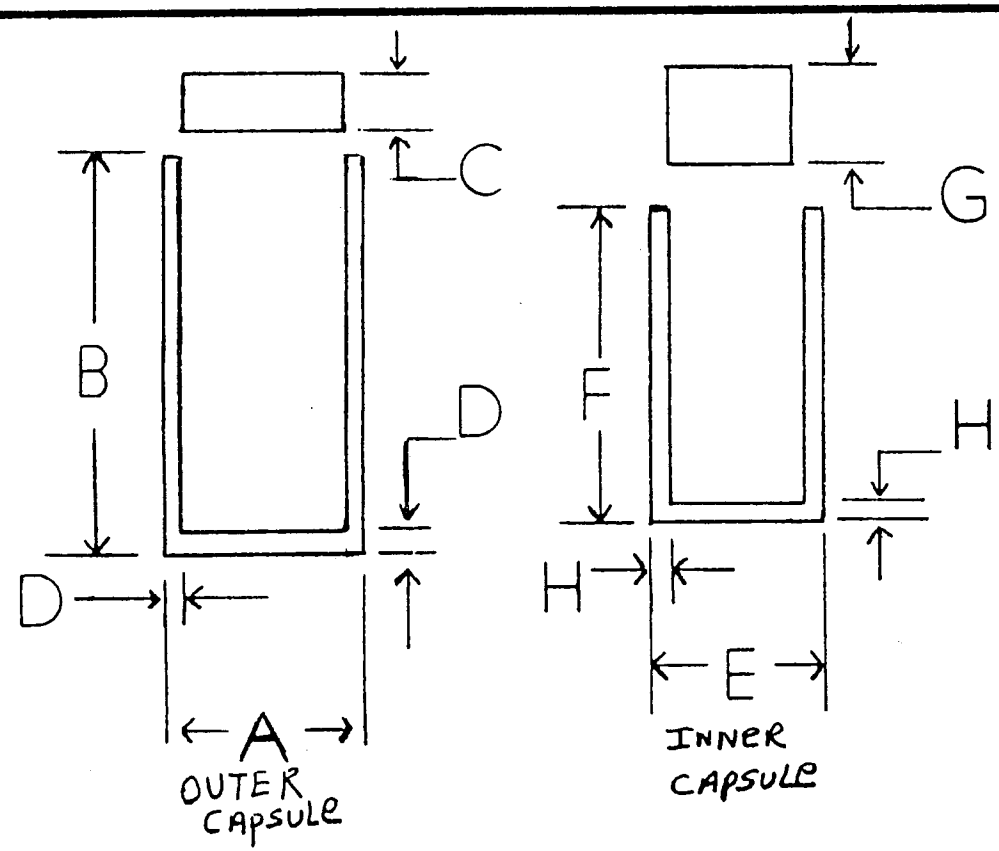
This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the August 31, 2006 petition by Gammatron, Houston, TX and in consideration of other information on file in this Office.

Certified by:

Robert A. McGuire
for Associate Administrator for Hazardous Materials Safety

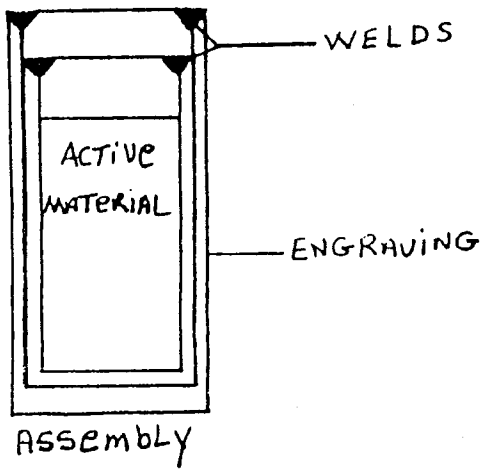
OCT 23 2006
(DATE)

Revision 7 - Issued to add capsules constructed of Type 304 stainless steel and MP35N alloy.



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

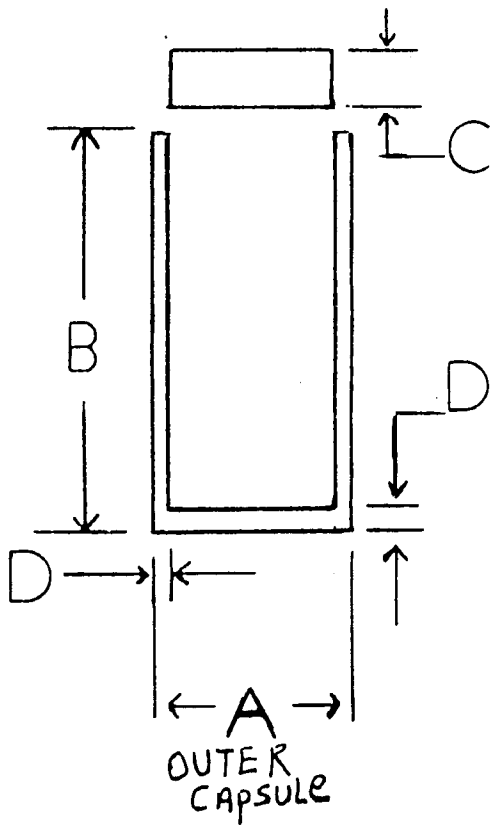
SCALE: NONE	APPROVED BY	DRAWN BY DCJ
DATE: 4/84		

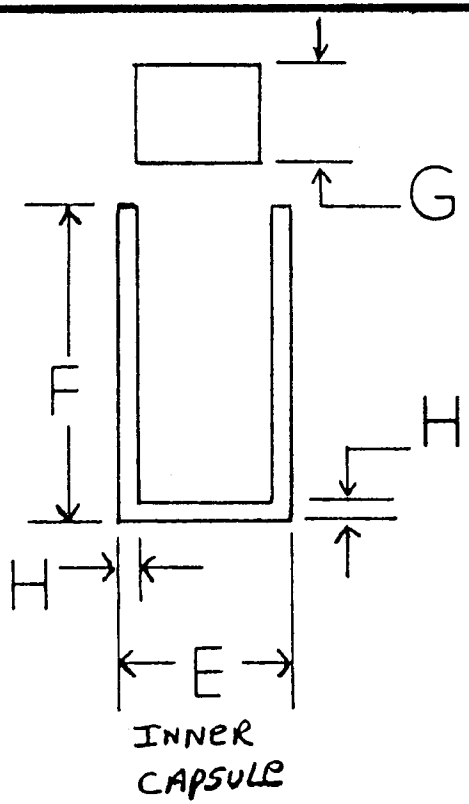
AN-HP

PHYSICAL SIZE — 0.5 X 0.5

DRAWING NUMBER A — 2002

NO. 185A-8½X11

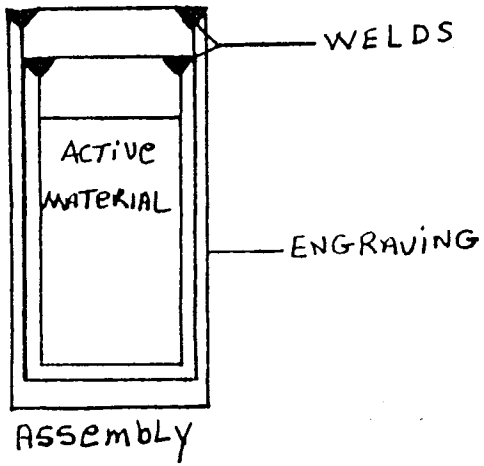




A	0.500 ± .005
B	0.750 ± .010
C	0.060 MINIMUM
D	0.040 MINIMUM
E	0.420 MAXIMUM
F	B MINUS D AND C
G	0.250 MINIMUM
H	0.030 MINIMUM

USE THIS DRAWING WITH SPECIFICATION SHEET SS 2004

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



GAMMATRON

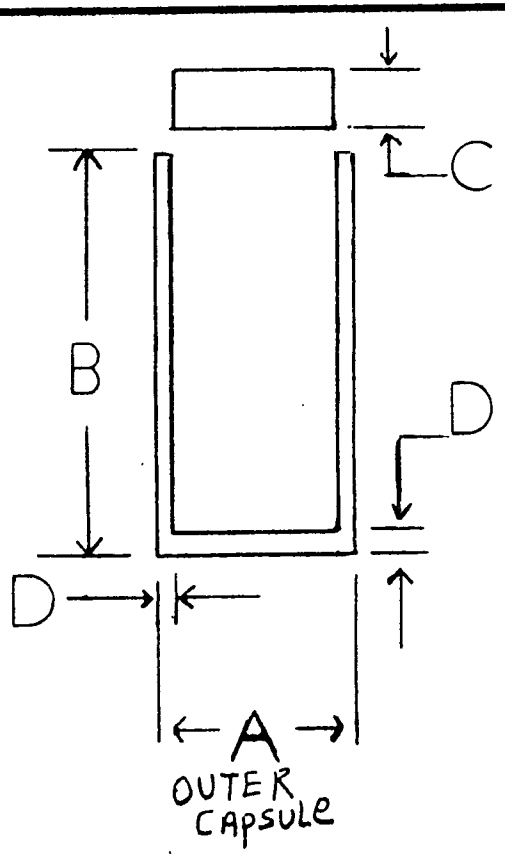
SCALE: NONE	APPROVED BY	DRAWN BY DCJ
DATE: 4/84		

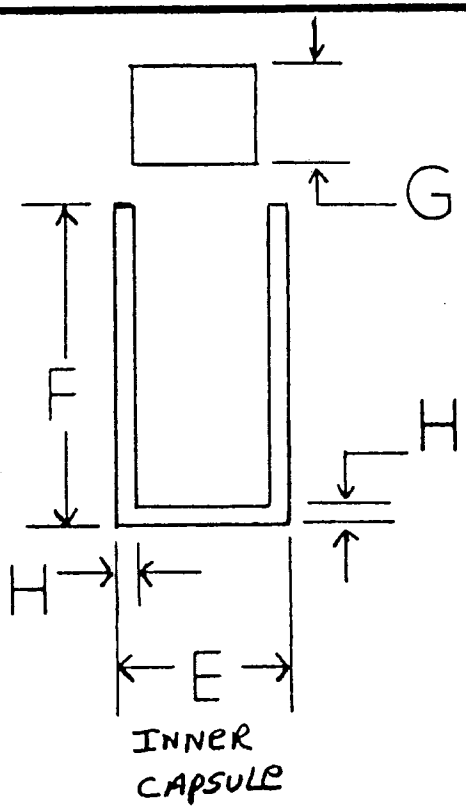
AN-HP

PHYSICAL SIZE — ½"X3/4"

DRAWING NUMBER A — 2004

NO. 1884-8½X11

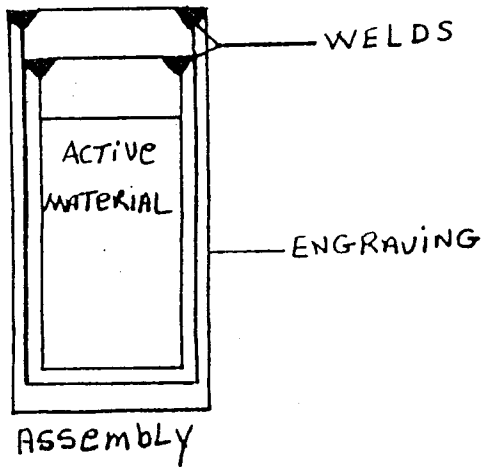




A	0.625 ± .005
B	0.625 ± .010
C	0.080 MINIMUM
D	0.060 MINIMUM
E	0.500 ± .005 / .000
F	B MINUS C AND D .50 Typ.
G	0.150 MINIMUM
H	0.040 MINIMUM

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

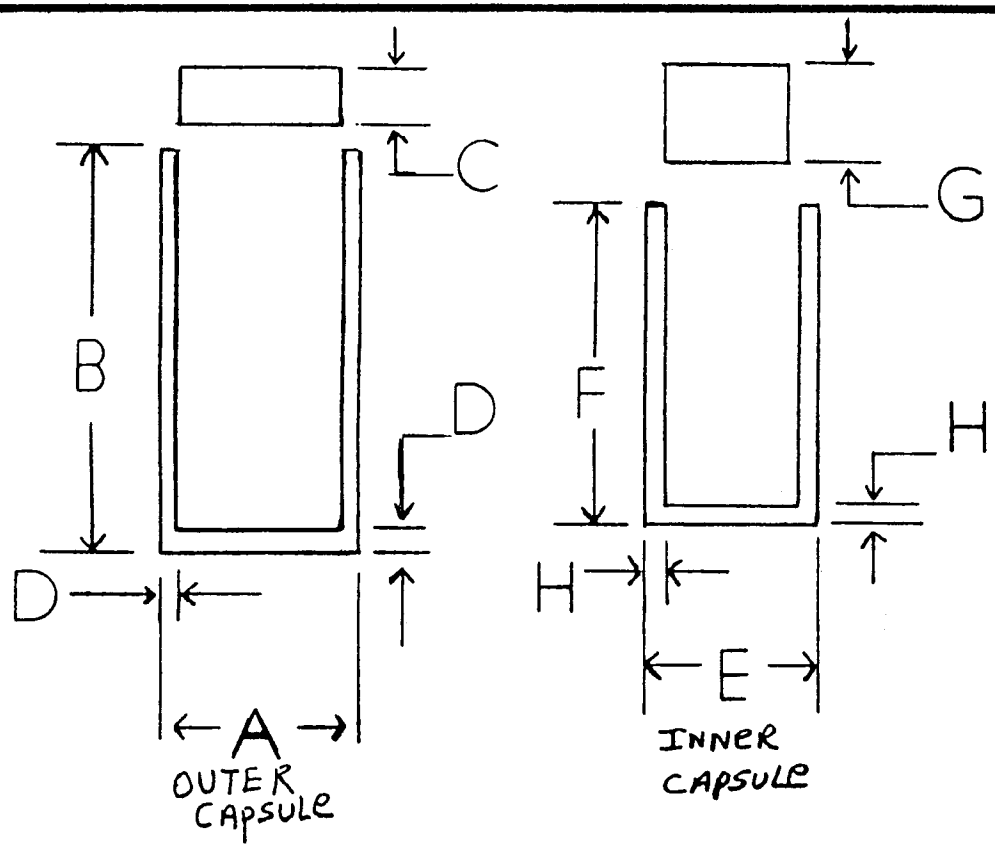
SCALE: NONE	APPROVED BY	DRAWN BY DCJ
DATE: 4/84		

AN-HP

PHYSICAL SIZE — 5/8"X5/8"

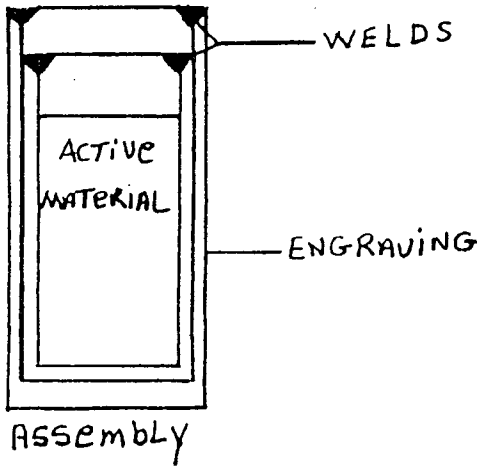
DRAWING NUMBER A — 2006

NO. 1084-8½X11



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

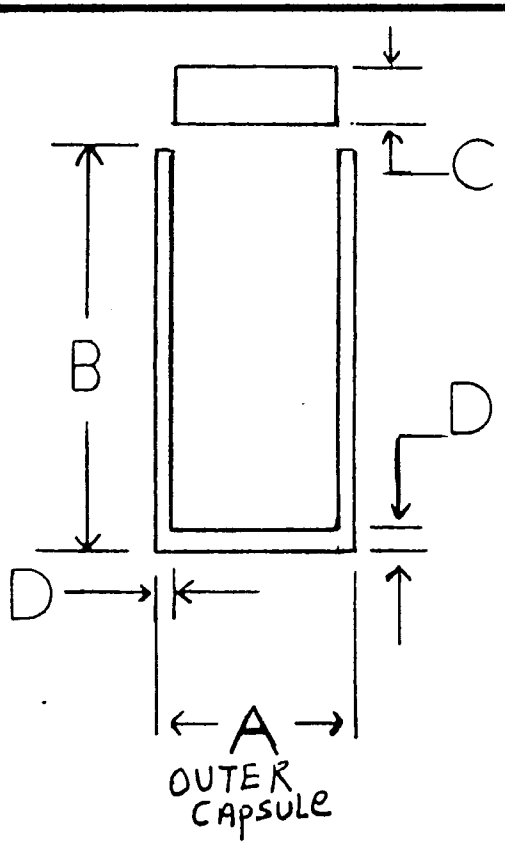
SCALE: NONE	APPROVED BY	DRAWN BY DCJ
DATE: 4/84		

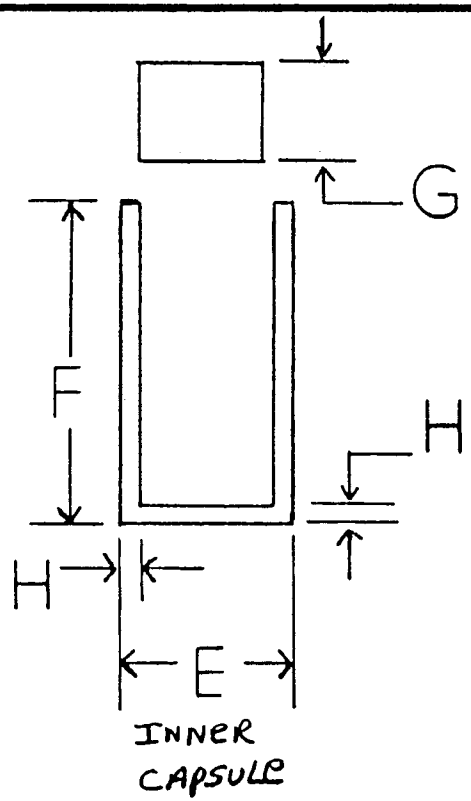
AN-HP

PHYSICAL SIZE — 3/4"X2"

DRAWING NUMBER A- 2008

NO. 185A-8½X11

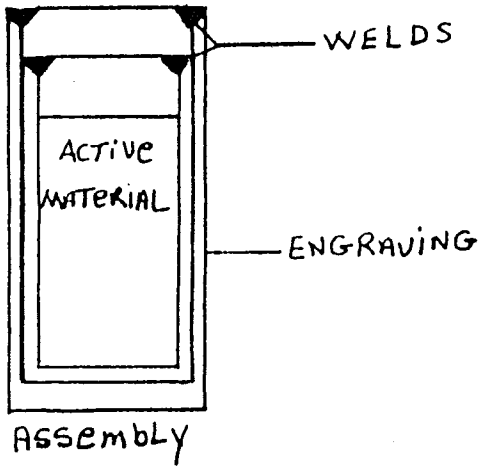




A	1.050 ± .010
B	4.300
C	.200 MINIMUM
D	.100 MINIMUM
E	.850 MAXIMUM
F	B MINUS D AND C
G	0.500 MINIMUM
H	0.060 MINIMUM

USE THIS DRAWING WITH SPECIFICATION SHEET SS 2012

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



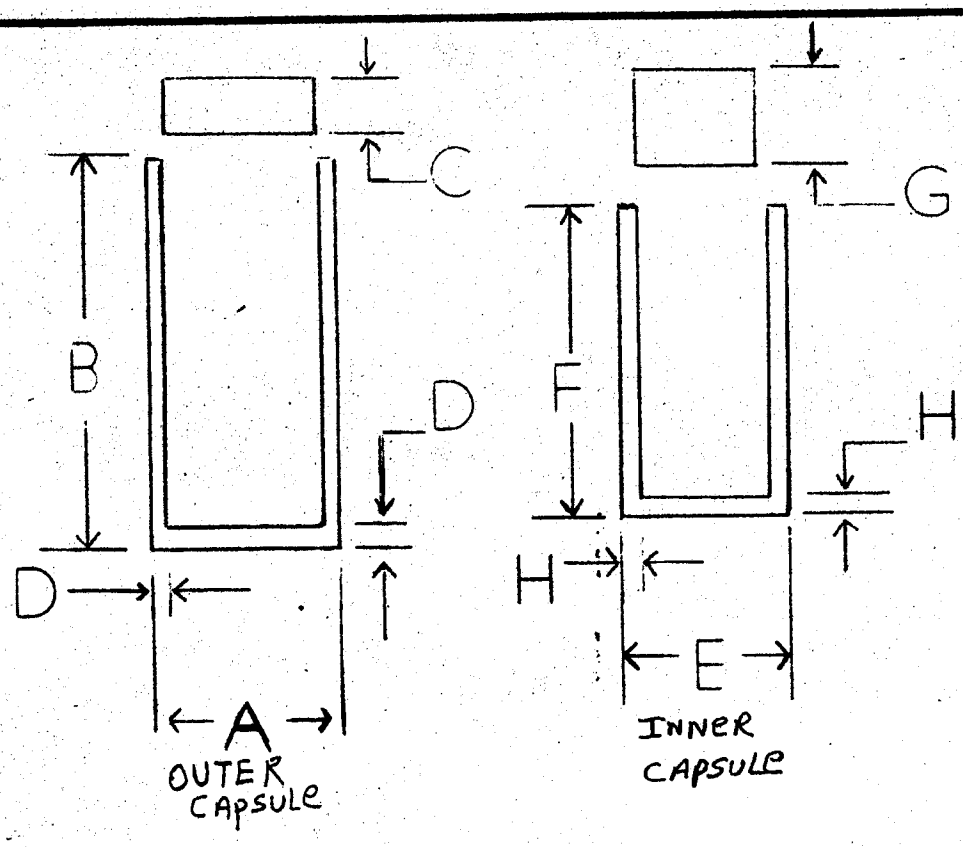
GAMMATRON

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

AN-HP

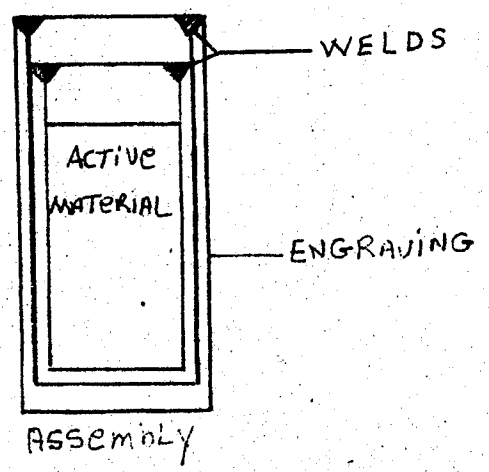
PHYSICAL SIZE — 1.050 Dia 4.30 Long	DRAWING NUMBER A — 2012

NO. 1664-8½X11



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	

AN-HP

PHYSICAL SIZE — 1.20" DIA / 2.25" LENGTH

DRAWING NUMBER A—2014

NO. 165A-6½X11