



U.S. Department  
of Transportation

Pipeline and  
Hazardous Materials  
Safety Administration

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

IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0356/S-96, REVISION 15

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<sup>1</sup> and the United States of America<sup>2</sup> for the transport of radioactive material.

1. Source Identification - Eckert & Ziegler Isotope Products Model HEG-XXX Series (A3000, A3000-1, A3015, A3015-1, A3023, A3024-1, A3024-2, A3024-3, and A3024-4), where XXX represents the radionuclide mass number.
2. Source Description - Cylindrical double encapsulations made of Type 304 or 304L stainless steel and fusion welded. Approximate external dimensions are 6.4 mm (0.25 in.) in diameter and 15.9 mm (0.625 in.) in length (Models A3000 and A3000-1); 6.0 mm (0.236 in.) in diameter and 8.0 mm (0.315 in.) in length (Models A3015 and A3015-1); 6.0 mm (0.236 in.) in diameter and 12.0 mm (0.473 in.) in length with one end having an internal 3-48 thread (Model A3023); and 6.0 mm (0.236 in.) in diameter and 10.0 mm (0.394 in.) in length (Models A3024-1, A3024-2, A3024-3, and A3024-4). Construction shall be in accordance with attached Isotope Products Laboratories Drawing Nos. 3000 (Sheet 3 or 4 of 10), 3015 (Sheet 3 or 4 of 8), 3023 (Sheet 3 of 7), or 3024 (Sheet 4 or 5 of 8).

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<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

**CERTIFICATE USA/0356/S-96, REVISION 15**

3. Radioactive Contents - The sources described by this certificate are authorized to contain any one of the following radionuclides in the chemical form identified and limited to the activity shown:

<u>Radionuclide</u>	<u>Form</u>	<u>Activity GBq (Ci)</u>	
Na-22	NaCl in gold or ceramic	3.7	(0.10)
Co-57	CoCl <sub>2</sub> or CoO in ceramic or Co metal plated on Ni foil	11.1	(0.30)
Co-58	CoCl <sub>2</sub> or CoO in ceramic	11.1	(0.30)
Co-60	CoCl <sub>2</sub> or CoO in ceramic or 1 mm x 1mm Ni clad Co	22.2	(0.60)
Ge-68	GeO <sub>2</sub> in silver	1.9	(0.05)
Ba-133	BaSO <sub>4</sub> in ceramic	3.7	(0.10)
Cs-137	CsCl in gold or Cs in ceramic	22.2	(0.60)
Eu-152	Oxide in gold or ceramic	0.74	(0.020)
Ra-226	RaSO <sub>4</sub> in gold or ceramic	1.9	(0.05)
Cf-252	Oxide in metal or ceramic	0.037	(0.001)
Actinides*	Oxides in gold or ceramic	1.9	(0.05)

\*(Isotopes of Ac, Th, Pa, Np, U, Pu, Am, and Cm only)

4. Management System Activities - Records of Management System activities required by Paragraph 306 of the IAEA regulations shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on May 31, 2029. Previous editions which have not reached their expiration date may continue to be used.

**CERTIFICATE USA/0356/S-96, REVISION 15**


This certificate is issued in accordance with paragraph(s) 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the March 29, 2024 petition by Eckert & Ziegler Isotope Products, Valencia, CA, and in consideration of other information on file in this Office.

Certified By:

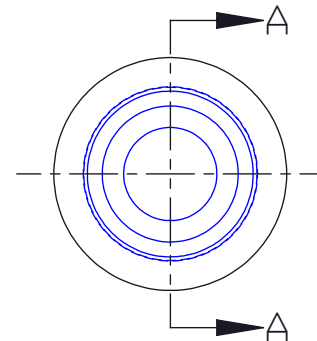
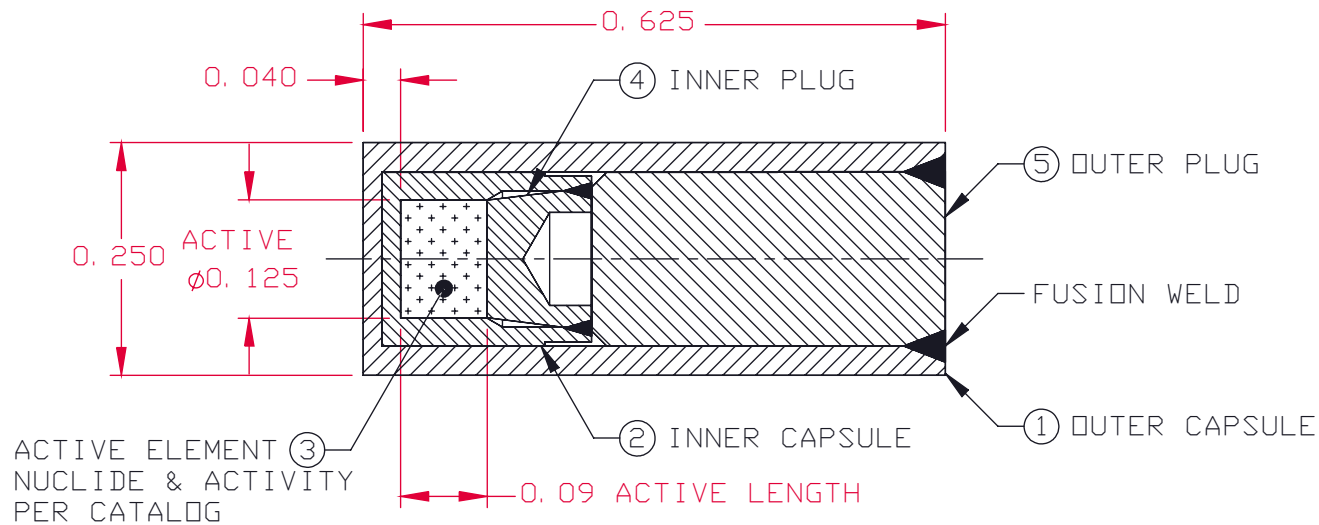


May 16, 2024

(DATE)

 William Schoonover  
Associate Administrator for Hazardous  
Materials Safety

Revision 15 - Issued to extend the expiration date.



SECTION A-A

SECTION A-A

3. IDENTIFY PART NUMBER
2. ALL CAPSULES AND PLUGS ARE MADE FROM 304 OR 304L STAINLESS STEEL AND THE ACTIVE ELEMENT IS CERAMIC
1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND FUSION WELD AS REQUIRED

NOTES: UNLESS OTHERWISE SPECIFIED

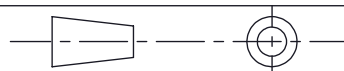
P/N A3000 ASSEMBLY, MODEL 225 POINT SOURCE

Eckert & Ziegler  
Isotope Products  
Valencia, California 91355

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES

FRAC- TION	TOLERANCES ON DECIMAL			ANGLE
	X	XX	XXX	
±1/64	±.1	.01	.002	±.5°

THIRD ANGLE PROJECTION



DESIGN  
EZ/DI

DRAWING TITLE  
MODEL 225 POINT SOURCE

SCALE  
NONE

SERIES TITLE  
INDUSTRIAL SOURCES, HIGH INTENSITY  
GAMMA AND NEUTRON

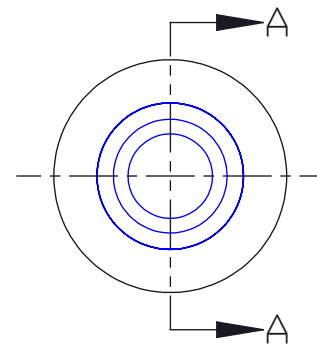
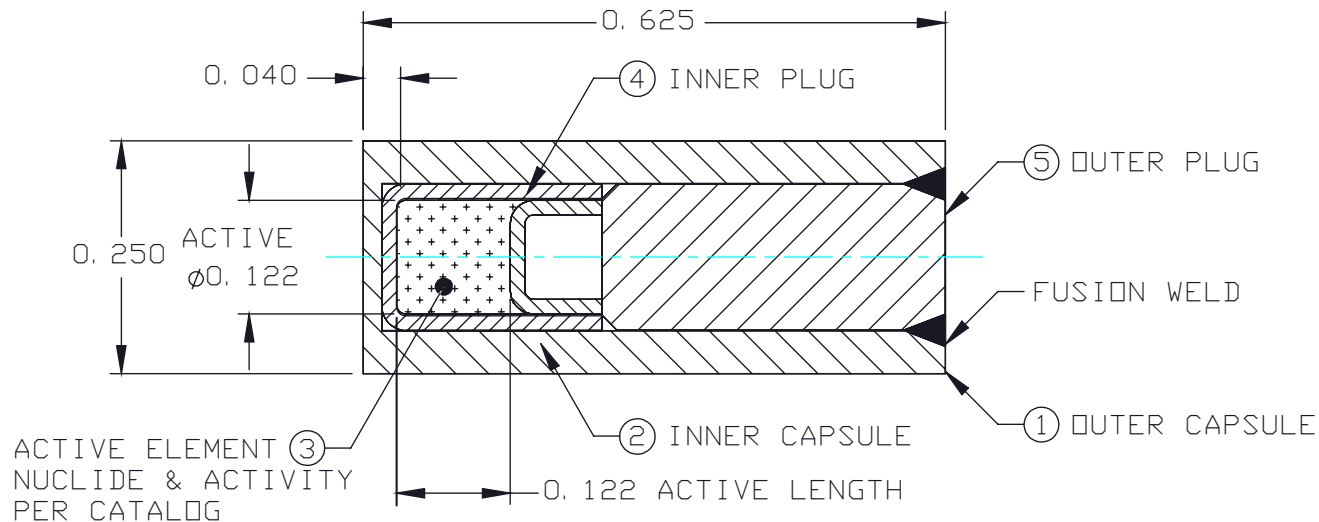
SIZE  
A

CAGE CODE  
32993

REVISION  
L

DRAWING NUMBER  
3000

SHEET  
3 OF 10



SECTION A-A

3. IDENTIFY PART NUMBER
2. ALL CAPSULES AND PLUGS ARE MADE FROM 304 OR 304L STAINLESS STEEL AND THE ACTIVE ELEMENT IS CERAMIC
1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND FUSION WELD AS REQUIRED

SECTION A-A

NOTES: UNLESS OTHERWISE SPECIFIED

P/N A3000-1 ASSEMBLY, MODEL 225 POINT SOURCE

Eckert & Ziegler

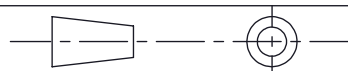
Isotope Products

Valencia, California 91355

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES

FRAC- TION	TOLERANCES ON DECIMAL			ANGLE
	X	XX	XXX	
$\pm 1/64$	$\pm .1$	$.01$	$.002$	$\pm .5^\circ$

THIRD ANGLE PROJECTION



DESIGN  
EZ/DI

SCALE  
NONE

SIZE  
A

DRAWING TITLE  
MODEL 225 POINT SOURCE

SERIES TITLE  
INDUSTRIAL SOURCES, HIGH INTENSITY  
GAMMA AND NEUTRON

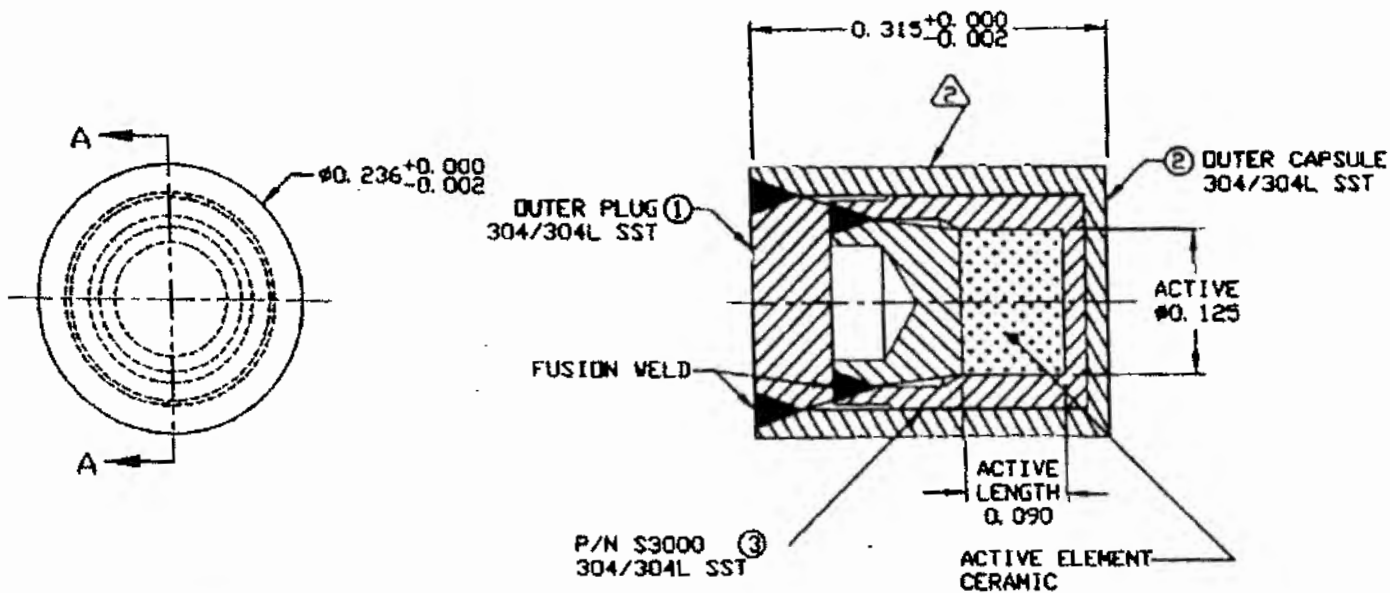
CAGE CODE  
32993

REVISION  
L

DRAWING NUMBER  
3000

SHEET  
4 OF 10

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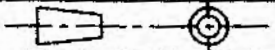


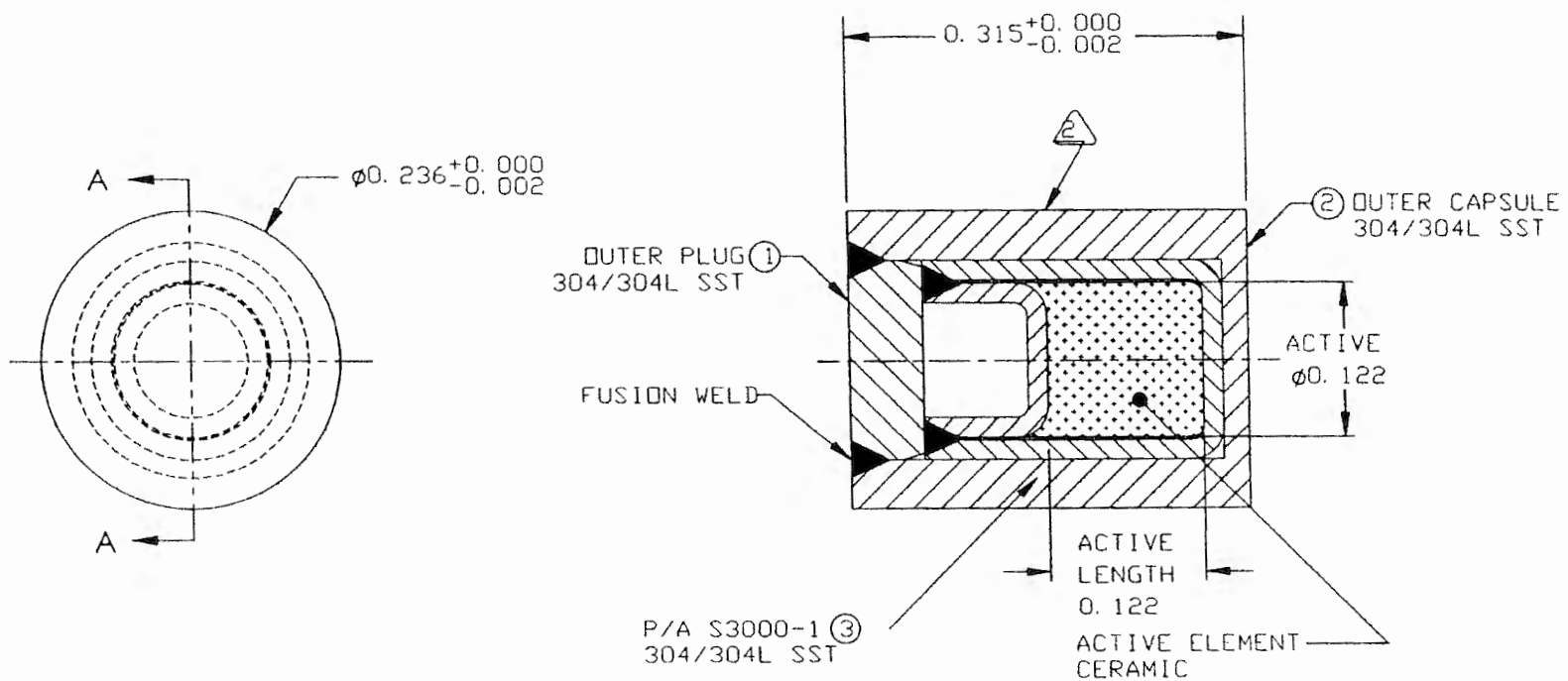
3. IDENTIFY PART NUMBER
- Ⓐ ENGRAVE CHARACTERS 0.060 HIGH x 0.003 DEEP MAXIMUM AS SHOWN  
IPL NUCLIDE ACTIVITY SERIAL NUMBER
1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND PER PROCEDURE

NOTES: UNLESS OTHERWISE SPECIFIED

SECTION A-A

P/N A3015 ASSEMBLY

 <b>Isotope Products Laboratories</b> An Eckert & Ziegler Company VALENCIA, CALIFORNIA 91355	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DESIGN EZ/BI	DRAWING TITLE SPECIAL 225 CAPSULE, GAMMA POINT SOURCE		
	TOLERANCES ON		SCALE NONE	SERIES TITLE INDUSTRIAL SOURCES, HIGH INTENSITY GAMMA AND NEUTRON		
	FRAC- TION ±1/64	DECIMAL X   .01   .002	ANGLE XXX   ± 5°	SIZE A	CAGE CODE 32993	REVISION G
THIRD ANGLE PROJECTION				DRAWING NUMBER	SHEET	
				3015	3 OF 8	




3. IDENTIFY PART NUMBER

② ENGRAVE CHARACTERS 0.060 HIGH x 0.003 DEEP MAXIMUM  
AS SHOWN:  
IPL NUCLIDE ACTIVITY SERIAL NUMBER

1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING  
AND PER PROCEDURE

NOTES: UNLESS OTHERWISE SPECIFIED

A3015-1 ASSEMBLY

 **Isotope Products**  
Laboratories  
An Eckert & Ziegler Company  
VALENCIA, CALIFORNIA 91355

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES

DESIGN  
EZ/DI

DRAWING TITLE  
SPECIAL 225 CAPSULE,  
GAMMA POINT SOURCE

TOLERANCES ON			
FRAC- TION	DECIMAL		ANGLE
	X	XX	XXX
±1/64	±.1	.01	.002 ±.5°

SCALE  
NONE

SERIES TITLE  
INDUSTRIAL SOURCES, HIGH INTENSITY  
GAMMA AND NEUTRON

THIRD ANGLE PROJECTION



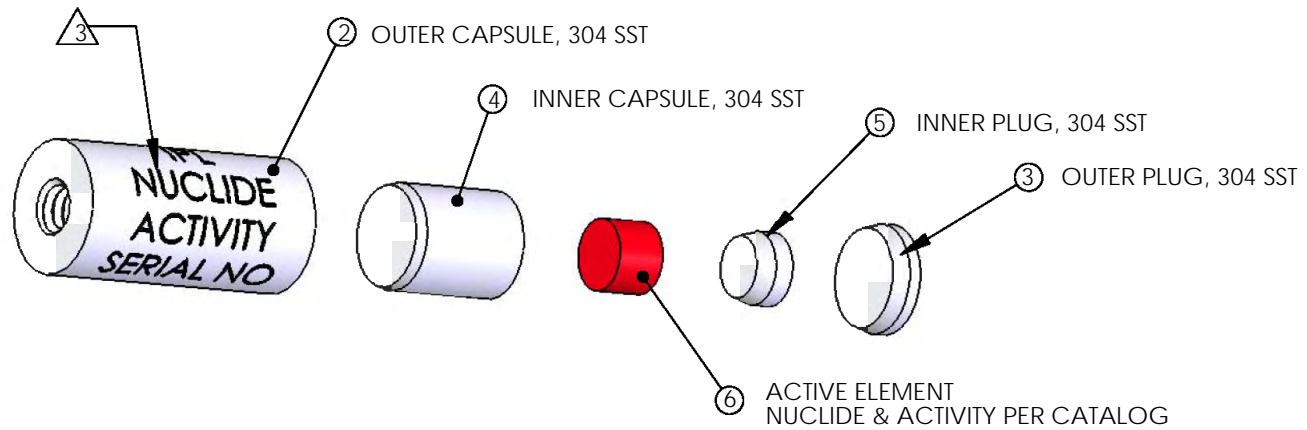
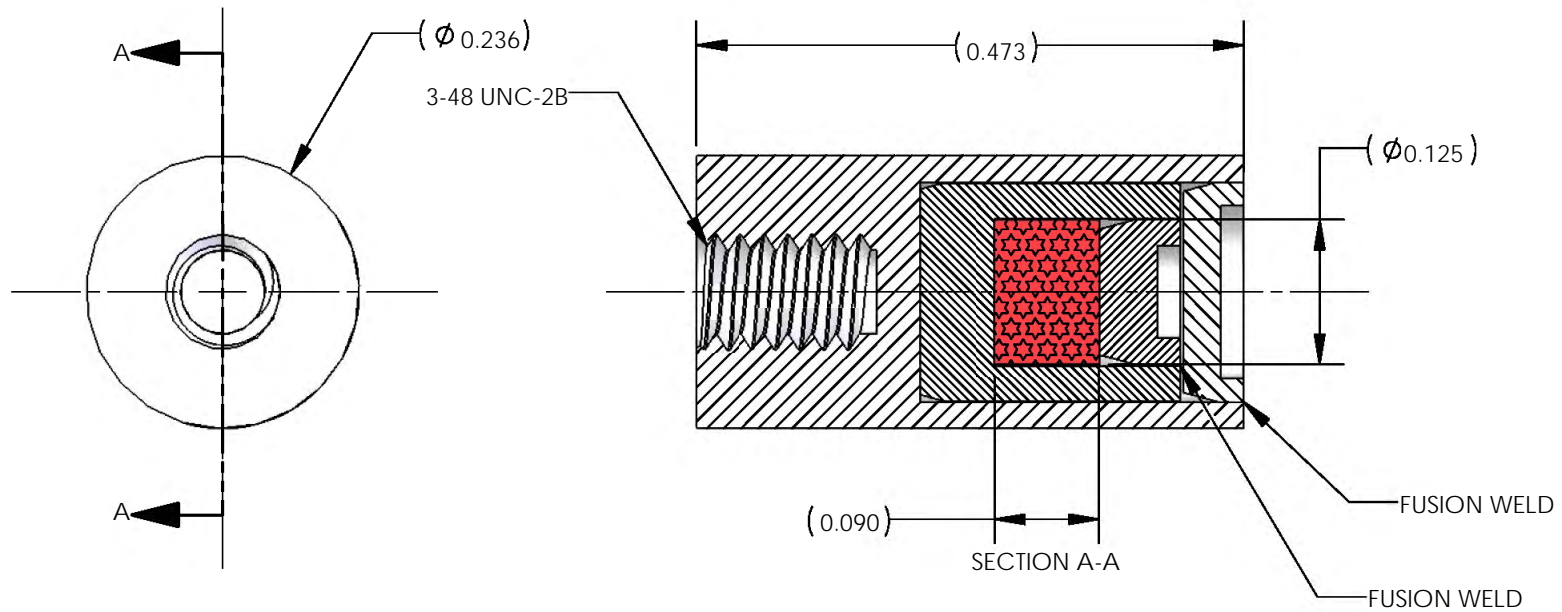
SIZE  
A

CAGE CODE  
32993

REVISION  
G


DRAWING NUMBER  
3015

SHEET  
4 OF 8



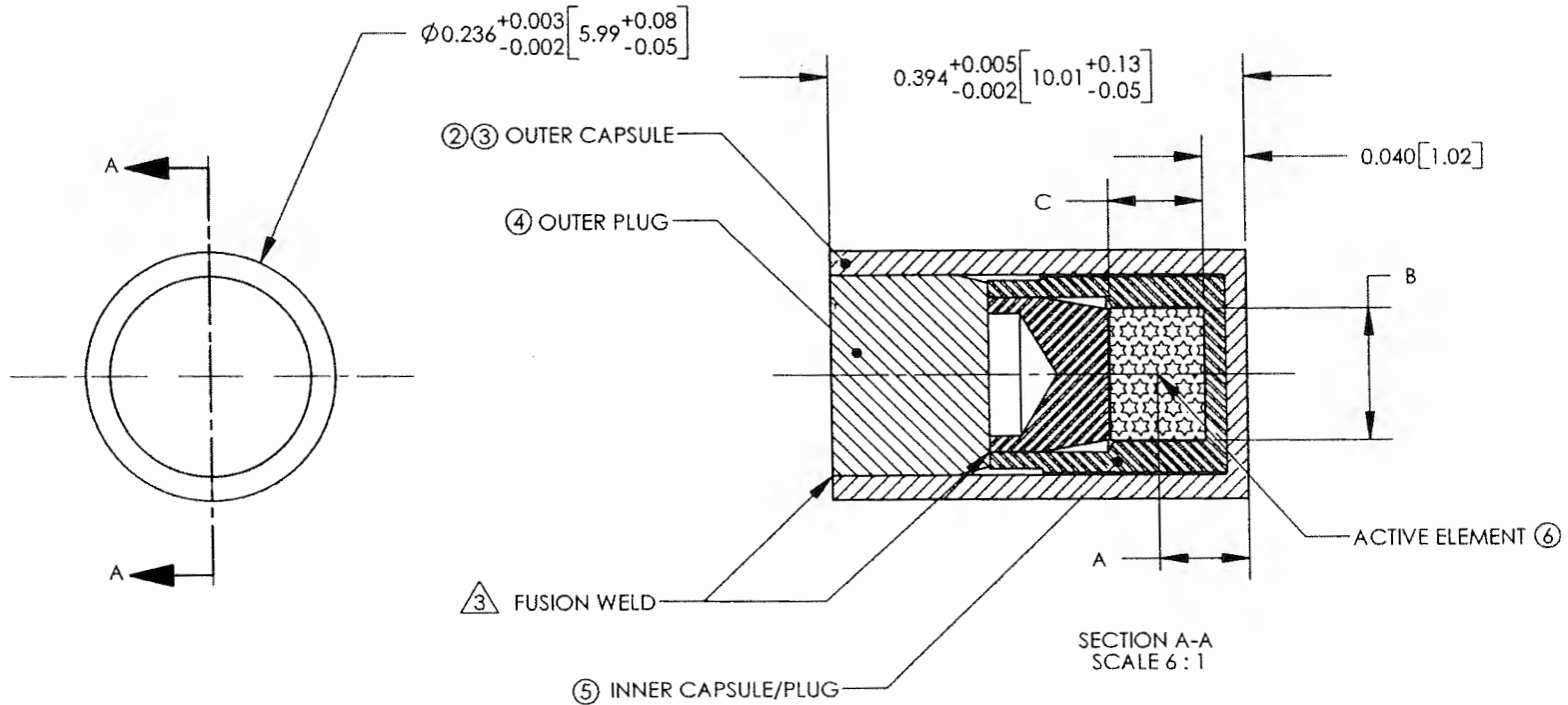
1. ENGRAVE CHARACTERS 0.060 HIGH X 0.003 DEEP MAX AS SHOWN (BLACK FILL)  
 IPL, NUCLIDE, ACTIVITY, SERIAL NO.  
 2. PACKAGE AND IDENTIFY PART NUMBER THEREON  
 1. ASSEMBLE PER ENGINEERING DRAWING  
 NOTES: UNLESS OTHERWISE SPECIFIED

P/N A3023 GAMMA METRICS ASSEMBLY

 <b>Eckert &amp; Ziegler</b> Isotope Products VALENCIA, CALIFORNIA 91355	CAGE CODE 32993	DRAWING SIZE LETTER	DRAWN JMD/RLT	TITLE GAMMA METRICS		
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH SIZES. METRIC UNITS [mm] ARE IN MILLIMETERS.		ME/CHECKER SC	SERIES TITLE HIGH INTENSITY GAMMA AND NEUTRON SOURCES		
	TOLERANCES (UNLESS OTHERWISE SPECIFIED) X.XXX ± .002 INCH ANGULAR TOLERANCE OF 0°±30" X.XX ± .005 INCH FRACTIONAL DIMENSIONS ± 1/32" X.X ± .03 INCH REFERENCE DIMENSIONS () N/A X. ± .1 INCH SURFACE ROUGHNESS μINCH MAX		ENGINEER EZ	DRAWING NO. 3023		
			SCALE 6:1	REV B	SHEET 3 OF 7	



	A3024-1	A3024-3
A (CENTER OF ACTIVITY)	0.085[2.16]	0.085[2.16]
B (ACTIVE DIAMETER)	0.125[3.18]	0.125[3.18]
C (ACTIVE LENGTH)	0.090[2.29]	0.090[2.29]
ENGRAVING	STANDARD	CUSTOMER SPECIFIC



△ FUSION WELD AS REQUIRED 0.015 MINIMUM WELD DEPTH  
 2. PACKAGE AND IDENTIFY PART NUMBER THEREON  
 1. ASSEMBLE PER ENGINEERING DRAWING.  
 NOTES: UNLESS OTHERWISE SPECIFIED

A3024-1/ A3024-3 ASSEMBLY


**Eckert & Ziegler**  
 Isotope Products  
 VALENCIA, CALIFORNIA 91355

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH-SIZES, METRIC UNITS [mm] ARE IN MILLIMETERS.  
 TOLERANCES (UNLESS OTHERWISE SPECIFIED)  
 X.XXX ± .002 INCH ANGULAR TOLERANCE OF 0°±30'  
 X.XX ± .005 INCH FRACTIONAL DIMENSIONS ± 1/32"  
 X.X ± .03 INCH REFERENCE DIMENSIONS (I) N/A  
 X. ± .1 INCH SURFACE ROUGHNESS μINCH MAX  
 ALL DIMENSIONS ARE FINISHED DIMENSIONS

DRAWN  
 RLT  
 ME/CHECKER  
 LF  
 ENGINEER  
 RMD

TITLE  
 HEG SOURCE, 1cm LENGTH  
 SERIES TITLE  
 INDUSTRIAL SOURCES,  
 HIGH INTENSITY GAMMA AND NEUTRON

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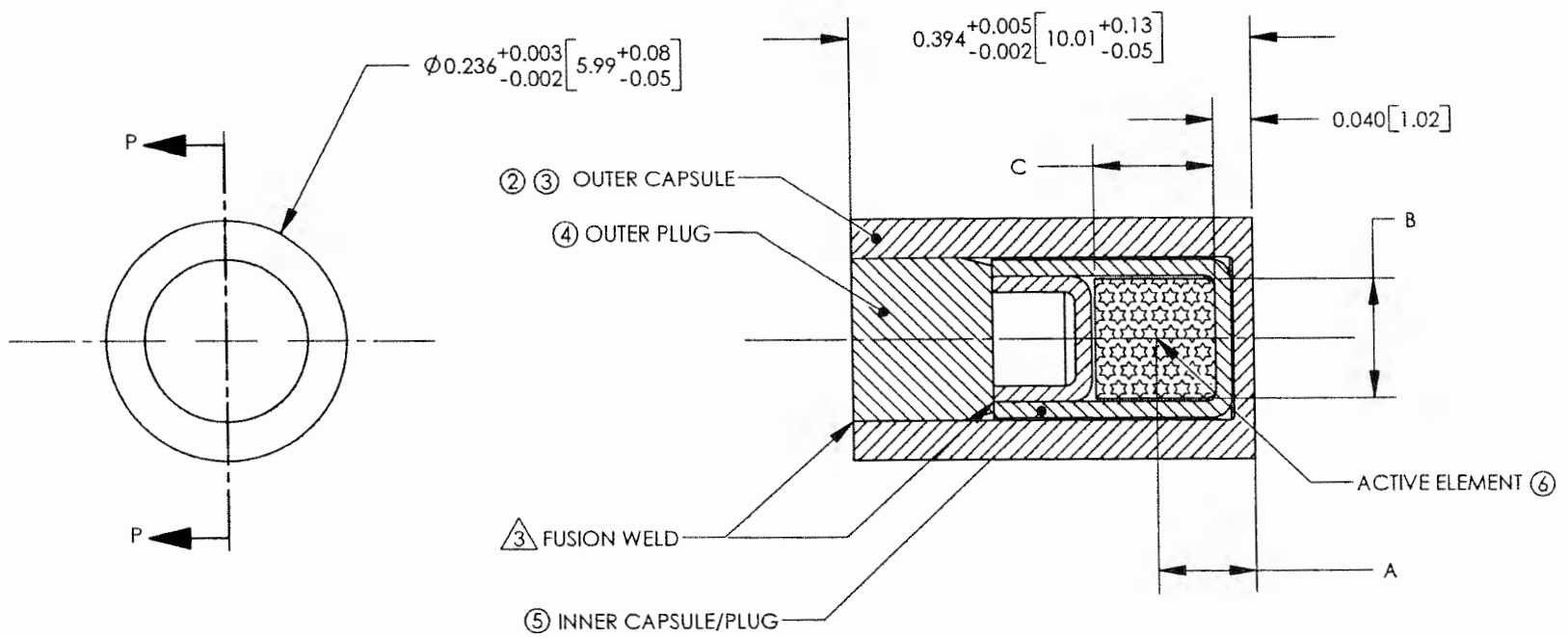
SCALE  
 NONE  
 SIZE  
 A

CAGE CODE  
 32993  
 DRAWING NO.  
 3024

REV  
 F

SHEET  
 4 OF 8

	A3024-2	A3024-4
A(CENTER OF ACTIVITY)	0.099[2.51]	0.099[2.51]
B(ACTIVE DIAMETER)	0.118[3.00]	0.118[3.00]
C(ACTIVE LENGTH)	0.118[3.00]	0.118[3.00]
ENGRAVING	STANDARD	CUSTOMER SPECIFIC



SECTION P-P  
SCALE 6 : 1

- 3. FUSION WELD AS REQUIRED 0.015 MINIMUM WELD DEPTH
  - 2. PACKAGE AND IDENTIFY PART NUMBER THEREON
  - 1. ASSEMBLE PER ENGINEERING DRAWING.
- NOTES: UNLESS OTHERWISE SPECIFIED

A3024-2/A3024-4 ASSEMBLY

<p><b>Eckert &amp; Ziegler</b> Isotope Products VALENCIA, CALIFORNIA 91355</p>	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH-SIZES. METRIC UNITS (mm) ARE IN MILLIMETERS.	DRAWN RLT	TITLE HEG SOURCE, 1cm LENGTH				
	TOLERANCES (UNLESS OTHERWISE SPECIFIED) X.XXX ± .002 INCH ANGULAR TOLERANCE OF 0°±30' X.XX ± .005 INCH FRACTIONAL DIMENSIONS ± 1/32" X.X ± .03 INCH REFERENCE DIMENSIONS (J) N/A X. ± .1 INCH SURFACE ROUGHNESS μINCH MAX ALL DIMENSIONS ARE FINISHED DIMENSIONS	ME/CHECKER LF	SERIES TITLE INDUSTRIAL SOURCES, HIGH INTENSITY GAMMA AND NEUTRON				
	THIRD ANGLE PROJECTION 	ENGINEER RMD	SCALE NONE	SIZE A	CAGE CODE 32993	DRAWING NO. 3024	REV F

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

**CERTIFICATE NUMBER:** USA/0356/S-96

**ORIGINAL REGISTRANT(S) :**

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Department of Interior  
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