



U.S. Department  
of Transportation

1200 New Jersey Avenue, S.E.  
Washington, D.C. 20590

**Pipeline and  
Hazardous Materials  
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0515/S-96, REVISION 4**

This certifies that the sources described have 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 United States of America<sup>2</sup> for the transport of radioactive material.

1. Source Identification - Eckert & Ziegler Isotope Products source capsule Models 3201, 3202, and 3210.
2. Source Description - Cylindrical single encapsulations made of Type 304 or 304L stainless steel, with a 0.25 mm (0.010 in.) thick integral window at one end, and fusion seal welded. Approximate outer dimensions of the Models 3201 and 3202 are 7.9 mm (0.312 in.) in diameter and 5.1 mm (0.200 in.) in length. Approximate outer dimensions of the Model 3210 are 8.0 mm (0.313 in.) in diameter and 5.1 mm (0.200 in.) in length. Construction shall be in accordance with attached Eckert & Ziegler Isotope Products Drawing Nos. 3201, Rev. H, Sheet 4 of 8; 3202, Rev. I, Sheet 5 of 8; or Isotope Products Laboratories Drawing No. 3210, Rev. -, Sheet 1 of 1.
3. Radioactive Contents - The sources described by this certificate are authorized to contain any one of the following radionuclides limited to the activity shown. The radionuclides are in the form of chlorides, nitrates, or oxides in ceramic; oxides in gold or aluminum; or metal plated onto substrate. The Na-22 may also be in the form of NaCl in gold or ceramic. The Ge-68 may also be in the form of GeO<sub>2</sub> in silver. The Sr-90 may also be in the form of SrTiO<sub>4</sub> in silver. The Ba-133 may also be in the form of BaSO<sub>4</sub> in ceramic.

Radionuclide	Activity MBq	(mCi)
Na-22	185	(5)
Co-57	11,100	(300)
Co-58	11,100	(300)
Co-60	370	(10)
Ge-68	1,850	(50)
Sr-90	4,625	(125)
Ru-106	1,850	(50)
Ba-133	3,700	(100)
Cs-137	11,100	(300)
Ra-226	1,850	(50)
Lanthanides*	11,100	(300)
Actinides**	11,100	(300)

\* (Isotopes of Ce, Pr, Sm, Eu, Gd, Tm, and Yb only)

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

4. Quality Assurance - Records of Quality Assurance activities required by paragraph 310 of the IAEA regulations<sup>1</sup> 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.

<sup>1</sup> "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.

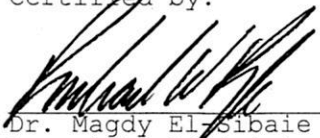
<sup>2</sup> Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

CERTIFICATE USA/0515/S-96, REVISION 4

5. Expiration Date - This certificate expires on January 31, 2021.

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 December 18, 2015 petition by Eckert & Ziegler Isotope Products, Valencia, CA, and in consideration of other information on file in this Office.

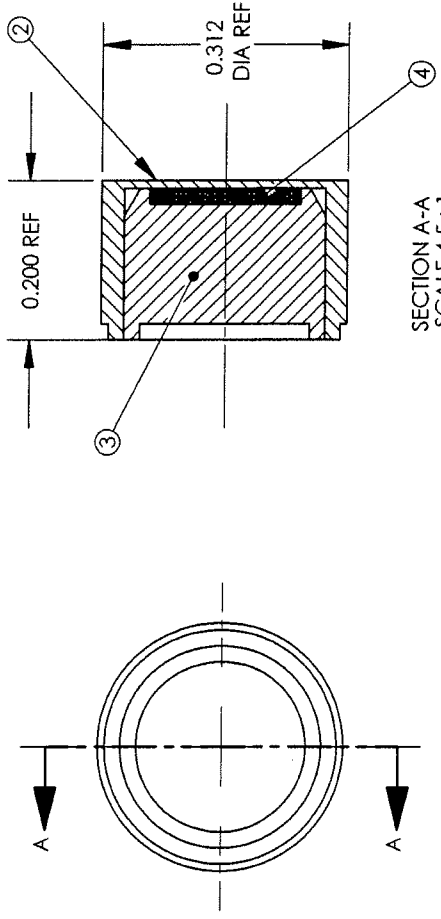
Certified by:

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

**JAN - 5 2016**

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(DATE)

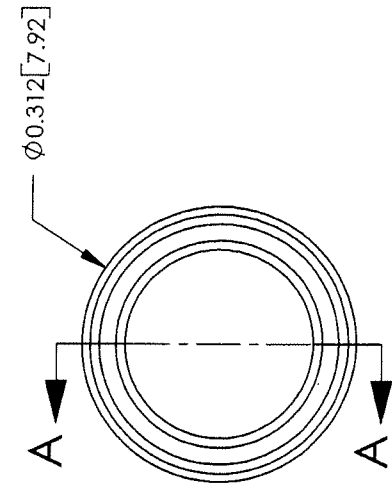
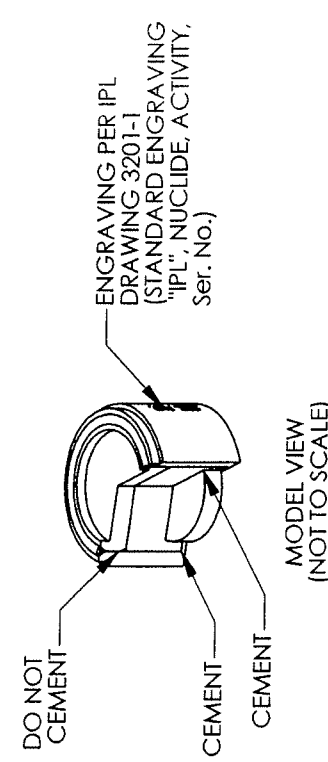
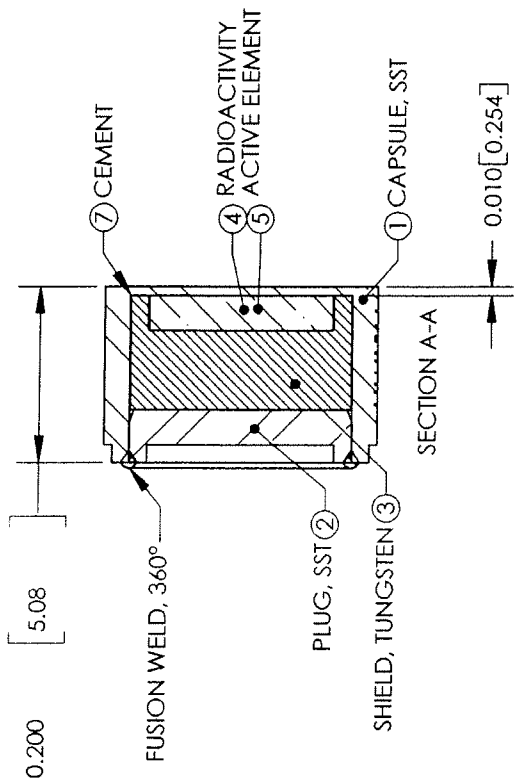
Revision 4 - Issued to extend the expiration date.



ITEM #	DESCRIPTION
2	CAPSULE BODY
3	PLUG
4	ACTIVE ELEMENT

1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND FUSION WELD AS REQUIRED.  
 NOTES: UNLESS OTHERWISE SPECIFIED

 Eckert & Ziegler Isotope Products VALENCIA, CALIFORNIA 91355	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH-SIZES. METRIC UNITS [mm] ARE IN MILLIMETERS.		DRAWN KP	TITLE MODEL 3201 PHOTON SOURCE	
	TOLERANCES (UNLESS OTHERWISE SPECIFIED) X.XXX ± .002 INCH ANGULAR TOLERANCE OF 0°-130° 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			ME/CHECKER EZ	
THIRD ANGLE PROJECTION			SCALE NONE	SIZE A	CAGE CODE 32993
THIS DRAWING IS THE PROPERTY OF ECKERT & ZIEGLER ISOTOPE PRODUCTS AND MAY NOT BE USED, REPRODUCED, PUBLISHED OR DISCLOSED TO OTHERS WITHOUT EXPRESS AUTHORIZATION BY ECKERT & ZIEGLER ISOTOPE PRODUCTS.			DRAWING NO. 3201		REV H
					SHEET 4 OF 8

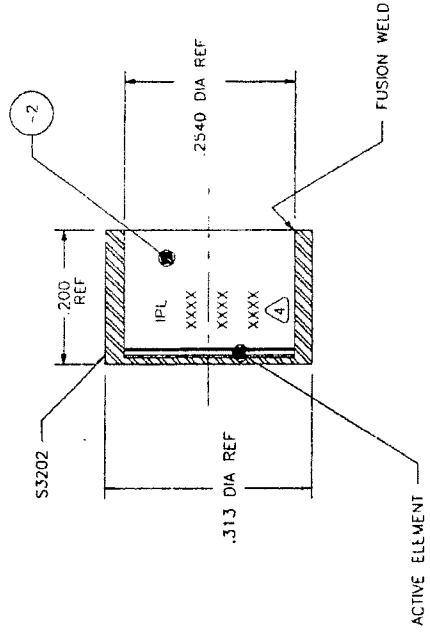
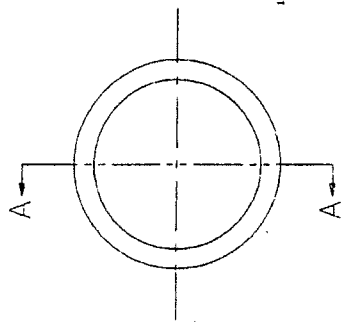


1. ASSEMBLE PER ENGINEERING DRAWING  
 NOTES: UNLESS OTHERWISE SPECIFIED

	<b>Eckert &amp; Ziegler</b> 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 RL T ME/CHECKER EW ENGINEER JMD		TITLE <b>MODEL GFS-3 PHOTON SOURCE</b>	
	THIRD ANGLE PROJECTION		SCALE NONE		SIZE A		SERIES TITLE <b>GFS AND XFB SOURCES (PHI &amp; BFI)</b>	

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CAGE CODE	DRAWING NO.	REV	SHEET
32993	3202	1	5 OF 8



3210 CAPSULE ASSEMBLY

SECTION A--A

ISOTOPE PRODUCTS LABORATORIES  
BURBANK, CALIFORNIA 91504

SCALE: NTS	DESIGNED: DFB/RLT
DATE: 09/17/93	REV/DWG: -
TITLE: CAPSULE ASSEMBLY, IPL MODEL GFS-3 WITH .010 WINDOW - PHOTON SOURCE	SHEET: 1 OF 1
SERIES: SERIES 3200 CAPSULE GFS & XFB SOURCES	DRAWING NUMBER 3210



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

**Pipeline and  
Hazardous Materials  
Safety Administration**

**CERTIFICATE NUMBER:** USA/0515/S-96, Revision 4

**ORIGINAL REGISTRANT(S):**

Ms. Frida Tan  
Regulatory Affairs Manager  
Eckert & Ziegler Isotope Products  
24937 Avenue Tibbitts  
Valencia, 91355  
USA

**REGISTERED USER(S):**

Ms. Elizabeth Foltz  
Manager, Global Radiation and Explosives Safety  
Halliburton  
3000 North Sam Houston Parkway, East  
Houston, 77032  
USA

Mr. Steve Woods  
Global Radiation and Explosives Safety  
Halliburton  
1015 W Bois D Arc Ave  
Duncan, OK 73536

Mr. Neil Walters  
Global Radiation and Explosives Safety  
Halliburton  
3300 N. Sam Houston Parkway East  
Houston, TX 77032

Ms. Jill Mead  
Global RSO  
Halliburton  
3000 North Sam Houston Parkway, East  
Houston, 77032  
USA