



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 Agency¹ and United States of America² 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 GeO₂ in silver. The Sr-90 may also be in the form of SrTiO₄ in silver. The Ba-133 may also be in the form of BaSO₄ 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 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 in the United States exporting shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.

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.

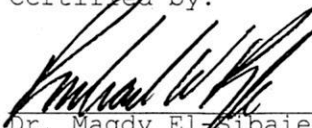
² Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

CERTIFICATE USA/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:

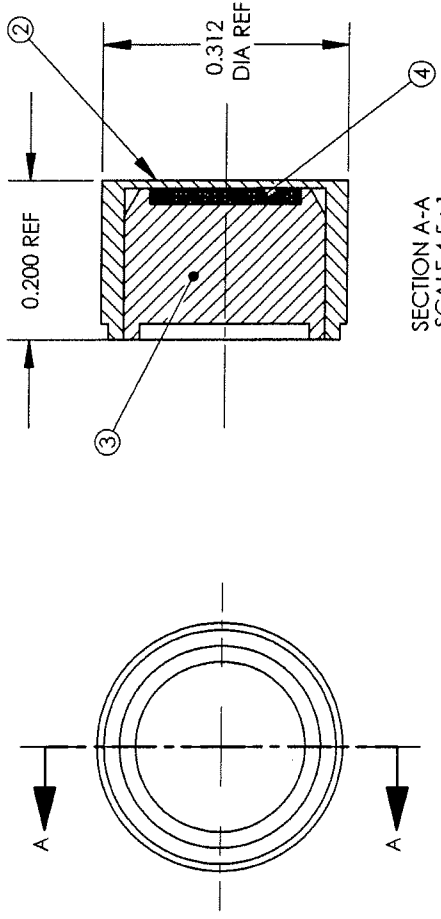


Dr. Magdy El-Sibaie
Associate Administrator for
Hazardous Materials Safety

JAN - 5 2016

(DATE)

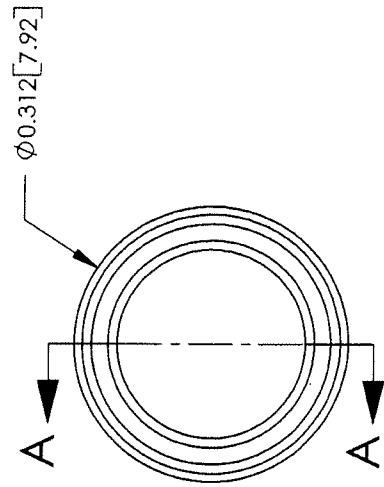
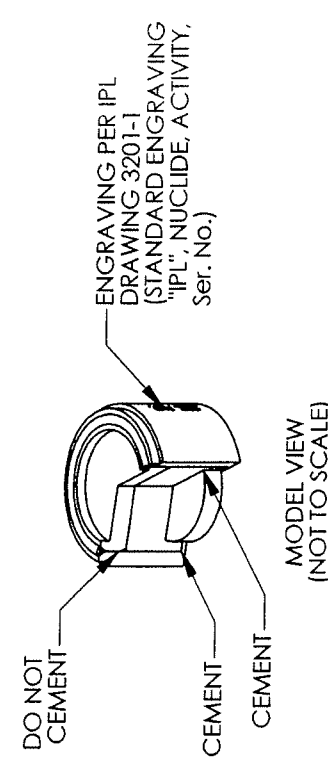
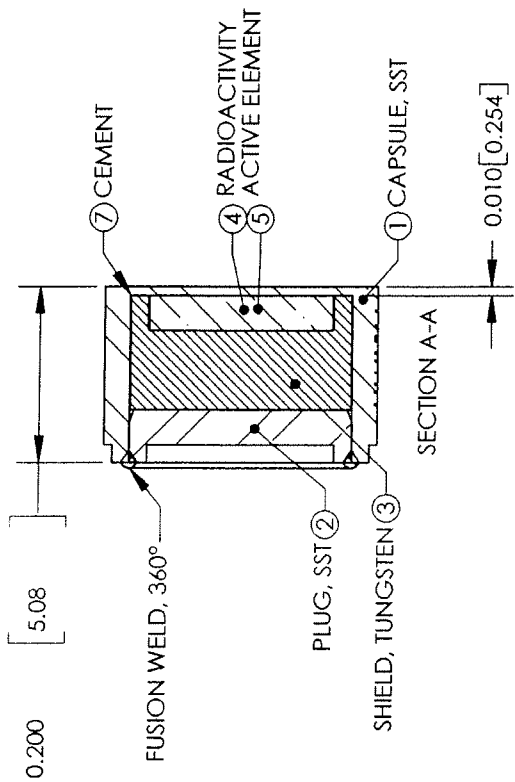
Revision 4 - Issued to extend the expiration date.



ITEM #	DESCRIPTION
2	CAPSULE BODY
3	PLUG
4	ACTIVE ELEMENT

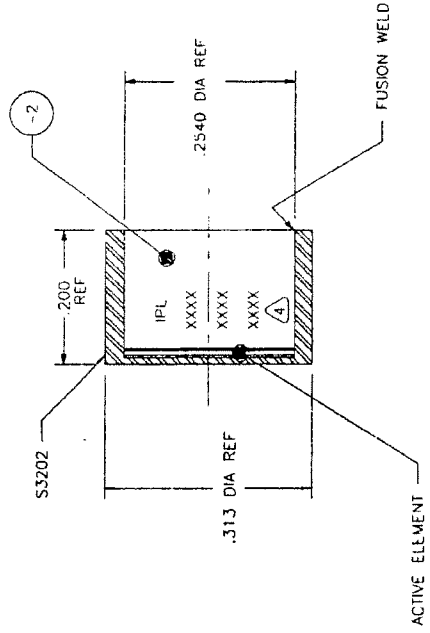
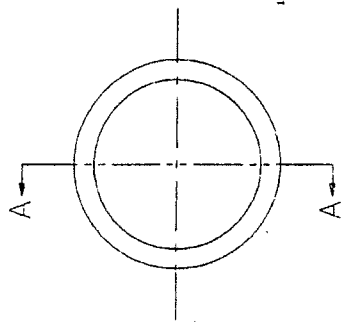
1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND FUSION WELD AS REQUIRED.
 NOTES: UNLESS OTHERWISE SPECIFIED

 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	SERIES TITLE GFS AND XFB SOURCES (PHI & BFI)
THIRD ANGLE PROJECTION		SCALE NONE		ENGINEER EZ	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.		SIZE A	DRAWING NO. 3201	REV H	SHEET 4 OF 8



1. ASSEMBLE PER ENGINEERING DRAWING
 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. 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	TITLE MODEL GFS-3 PHOTON SOURCE	
	THIRD ANGLE PROJECTION		ME/CHECKER EW	ENGINEER JMD	SERIES TITLE GFS AND XFB SOURCES (PHI & BFI)		
THIS DRAWING IS THE PROPERTY OF ISOTOPE PRODUCTS LABORATORIES AND MAY NOT BE USED, REPRODUCED, PUBLISHED OR DISCLOSED TO OTHERS WITHOUT EXPRESS AUTHORIZATION BY ISOTOPE PRODUCTS LABORATORIES.		SCALE NONE	SIZE A	CAGE CODE 32993	DRAWING NO. 3202	REV 1	SHEET 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



U.S. Department
of Transportation

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):

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