



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

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0462/S-96, REVISION 8**

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

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

1. Source Identification - Eckert & Ziegler Isotope Products Models 3021-1 (formerly 3021), 3021-2 and 3027.
2. Source Description - Cylindrical double (Model 3021-2) or triple (Models 3021-1 and 3027) encapsulations made of either Type 304 (Models 3021-1 and 3021-2) or Type 316 (Model 3027) stainless steel and fusion seal welded. Approximate outer dimensions are 12.7 mm (0.5 in.) in diameter and either 12.7 mm (0.5 in.) (Models 3021-1 and 3021-2) or 19.1 mm (0.75 in.) (Model 3027) in length. The inner encapsulation of the Models 3021-1 and 3027 is a QSA Global, Inc. (formerly AEA Technology QSA, Inc. and Amersham) Model X.1. Construction shall be in accordance with attached Eckert & Ziegler Isotope Products Drawing No. 3021-REG, Rev. B, Sheet 1 of 2 (Model 3021-1) or Sheet 2 of 2 (Model 3021-2) or Isotope Products Laboratories Drawing No. 3027, Rev. C, Sheet 3 of 7 (Model 3027).
3. Radioactive Contents - No more than 1.48 GBq (40.0 mCi) of Americium-241 for the Models 3021-1 and 3027. No more than 3.7 GBq (100.0 mCi) of Americium-241 for the Model 3021-2. The Am-241 is in the form of an oxide mixed with beryllium powder (Models 3021-1 and 3027) or in the form of an oxide mixed with beryllium powder as a compressed powder pellet (Model 3021-2).
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 applicable requirements of Subpart H of 10 CFR 71.

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<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/0462/S-96, REVISION 8**

5. Expiration Date - This certificate expires on November 30, 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 November 07, 2016 petition by Eckert & Ziegler Isotope Products, Valencia, CA, and in consideration of other information on file in this Office.

Certified By:

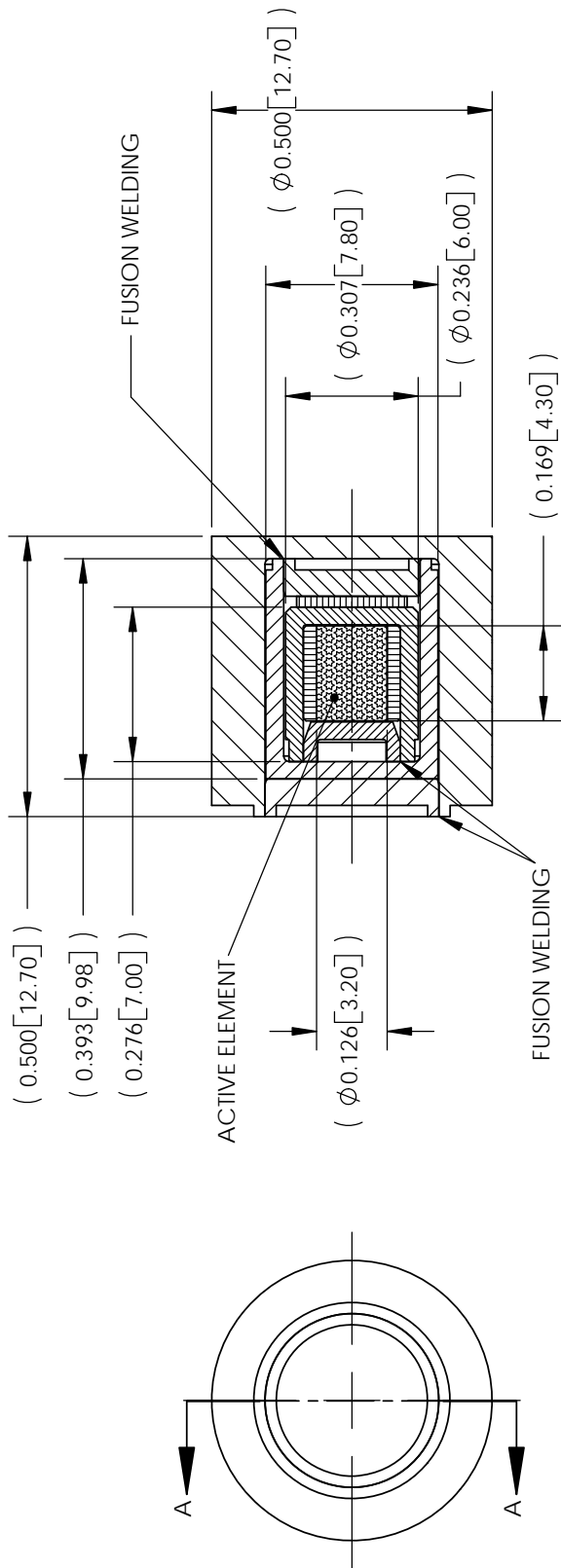


**Dec 08 2016**

(DATE)

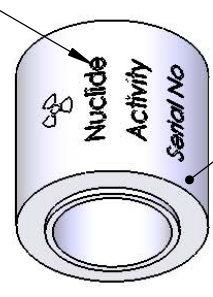
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William Schoonover  
Acting Associate Administrator for Hazardous Materials Safety

Revision 8 - Issued to extend the expiration date.



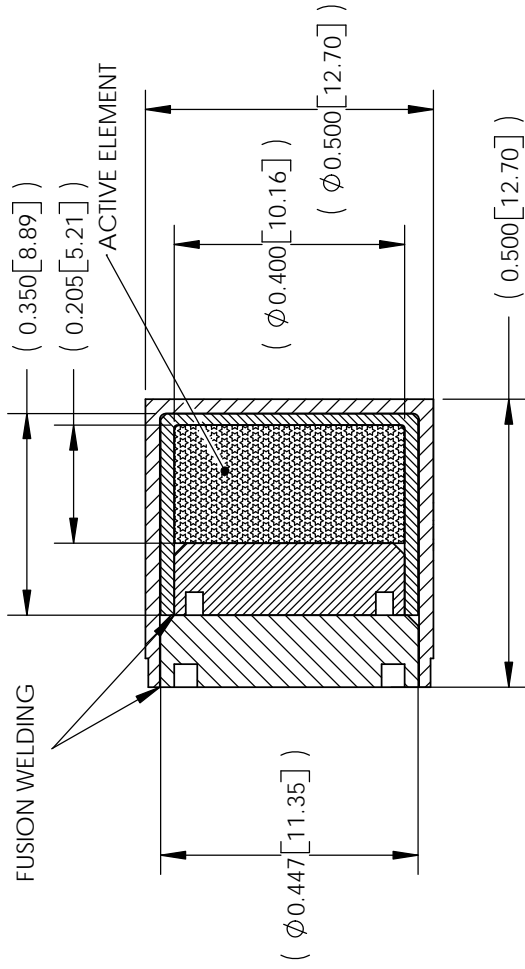
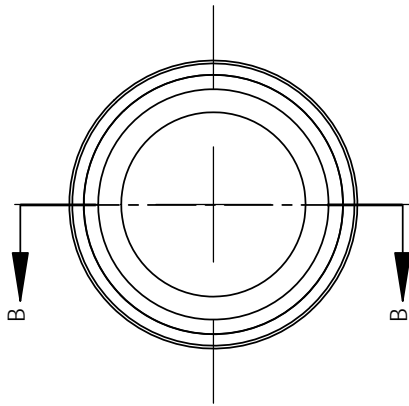
SECTION A-A

ENGRAVING LETTERS-1/16" HIGH  
 RADIATION SYMBOL OR THE WORD "Radioactive",  
 Nuclide,  
 Activity,  
 Serial Number



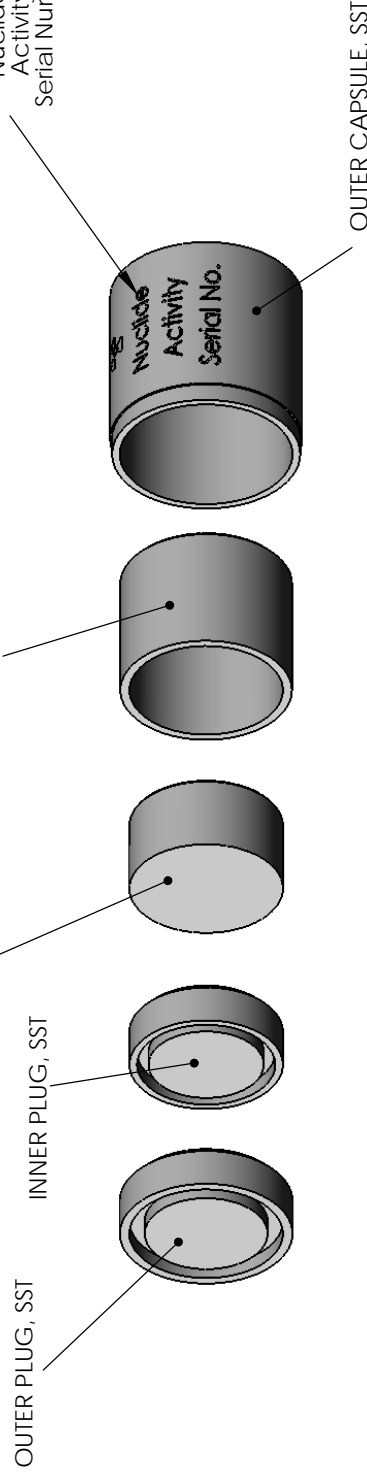
3. AEA X.1 INNER CAPSULE  
 2. ENGRAVED INFORMATION MAY BE ON THE SIDE OF THE CAPSULE OR ON THE WINDOW.  
 1. P/N A3021-1 WAS FORMERLY A3021.  
 NOTES: UNLESS OTHERWISE SPECIFIED

<b>Eckert &amp; Ziegler</b> <b>Isotope Products</b> VALENCIA, CALIFORNIA 91355		TITLE <b>MODEL 3021 SERIES</b>	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH-SIZES. METRIC UNITS [mm] ARE IN MILLIMETERS.		DRAWN KP	ME/CHECKER EZ
THIRD ANGLE PROJECTION		ENGINEER EZ	SIZE A
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.		SCALE NONE	CAGE CODE 32993
SERIES TITLE <b>HIGH INTENSITY GAMMA AND NEUTRON SOURCES</b>		DRAWING NO. 3021-REG	REV B
SHEET 1 OF 2		SHEET 1 OF 2	



SECTION B-B

ENGRAVING LETTERS-1/16" HIGH  
RADIATION SYMBOL OR THE WORD "Radioactive",  
Nuclide,  
Activity,  
Serial Number

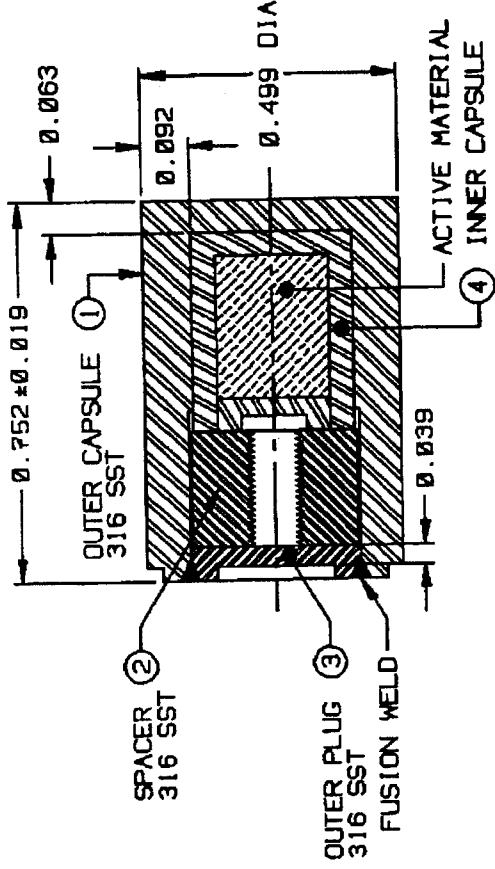
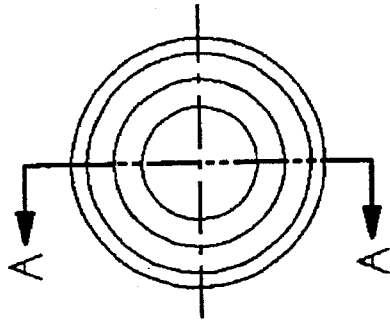


MODEL VIEW (NOT TO SCALE)

△ ENGRAVED INFORMATION MAY BE ON THE SIDE OF THE CAPSULE OR ON THE WINDOW.  
1. P/N A3021-2 WAS FORMERLY RFO885.  
NOTES: UNLESS OTHERWISE SPECIFIED



P/N A3021-2 AmBe SEALED SOURCE ASSEMBLY II

 <b>Eckert &amp; Ziegler</b> <b>Isotope Products</b> VALENCIA, CALIFORNIA 91355	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH-SIZES. METRIC UNITS [mm] ARE IN MILLIMETERS.		DRAWN KP	TITLE <b>MODEL 3021 SERIES</b>	
	THIRD ANGLE PROJECTION 		ME/CHECKER EZ ENGINEER EZ	SERIES TITLE <b>HIGH INTENSITY GAMMA AND NEUTRON SOURCES</b>	
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.			SCALE NONE	CAGE CODE 32993	DRAWING NO. 3021-REG
			SIZE A	REV B	SHEET 2 OF 2



SECTION A-A

P/N: A3027 ASSEMBLY

 <b>ISOTOPE PRODUCTS LABORATORIES</b> BURBANK, CALIFORNIA 91504	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DESIGN JMD/RLT	DRAWING TITLE AmBe NEUTRON SOURCE
	TOLERANCES ON DECIMAL XXX X .01 .002 ±.5°	THIRD ANGLE PROJECTION 	SCALE NONE	SERIES TITLE INDUSTRIAL SOURCE. HIGH INTENSITY GAMMA AND NEUTRON
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.		SIZE A	CAGE CODE 32993	REVISION C
			DRAWING NUMBER 3027	SHEET 3 OF 7



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Washington, D.C. 20590

**Pipeline and  
Hazardous Materials  
Safety Administration**

**CERTIFICATE NUMBER:** USA/0462/S-96, Revision 8

**ORIGINAL REGISTRANT(S):**

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

**REGISTERED USER(S):**

Mr. Henry Barnes  
Corporation Radiation Safety Officer  
Troxler Electronic Laboratories  
P.O. Box 12057  
3008 Cornwallis Road  
Research Triangle Park, 27709  
USA