



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0336/S, REVISION 13

East Building, PHH-23
1200 New Jersey Ave, SE
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 Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - Eckert & Ziegler Isotope Products (EZIP) Model Nos. XFB-3 and XFB-4.
2. Source Description - Both sources are a cylindrical disk single encapsulation constructed of Monel (Model No. XFB-3) or Type 304 or 304L stainless steel with fusion welds and a brazed-in-place beryllium window at one end. Approximate outer dimensions of the Model No. XFB-3 are 7.9 mm (0.312 in.) in diameter and 5.1 mm (0.2 in.) thick. Approximate outer dimensions of the Model No. XFB-4 are 10.8 mm (0.425 in.) in diameter and 5.0 mm (0.197 in.) thick. Construction of the Model No. XFB-3 shall be in accordance with attached EZIP Drawing Nos. 3204, Rev. N, Sheets 5 and 6 of 12; or Drawing Nos. 3204, Rev. O, Sheets 4 and 5 of 11; or 3205, Rev. N, Sheet 6 of 11; or 3205, Rev. O, Sheet 4 of 8. Construction of the Model No. XFB-4 shall be in accordance with attached EZIP Drawing No. 3233, Rev. A, Sheet 3 of 10.
3. Radioactive Contents - Each source described by this certificate is 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.

¹ "Regulations for the Safe Transport of Radioactive Material, 2018 Edition, No. SSR-6 (Rev. 1)" 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/0336/S, REVISION 13

<u>Radionuclide</u>	<u>Activity MBq (mCi)</u>	
Na-22	185	(5)
Fe-55	11,100	(300)
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)
Cd-109	11,100	(300)
Ba-133	3,700	(100)
Cs-137	11,100	(300)
Gd-153	55,500	(1,500)
Ra-226	1,850	(50)
Lanthanides*	18,500	(500)
Actinides**	11,100	(300)

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

** (Isotopes of Ac, Th, Pa, U, Np, 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 September 30, 2030. Previous editions which have not reached their expiration date may continue to be used.

CERTIFICATE USA/0336/S, REVISION 13

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 August 26, 2025 petition by Eckert & Ziegler Isotope Products, Valencia, CA, and in consideration of other information on file in this Office.

Certified By:

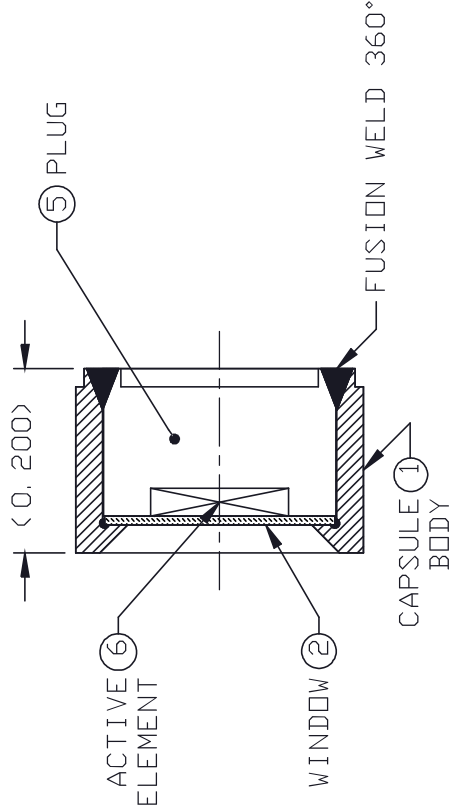
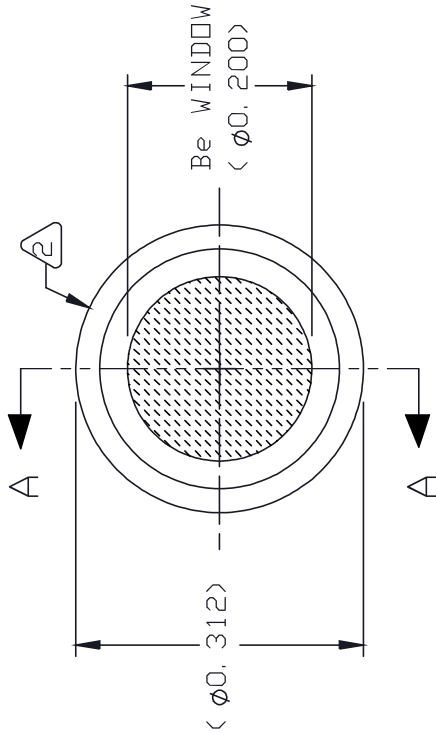


William Quade
Acting Associate Administrator for
Hazardous Materials Safety

September 08,
2025

(DATE)

Revision 13 - Issued to endorse to 2018 edition of the IAEA Regulations for the Safe Transport of Radioactive Material, SSR-6 (Rev. 1) and to extend the expiration date.



SECTION A-A

2. REFER TO DETAIL DRAWING FOR ENGRAVING

1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING
BRAZE OR FUSION WELD AS REQUIRED.

NOTES: UNLESS OTHERWISE SPECIFIED (CONTINUED ON SHEET 6)

SEE NEXT SHEET FOR
ASSEMBLY DASH NUMBER

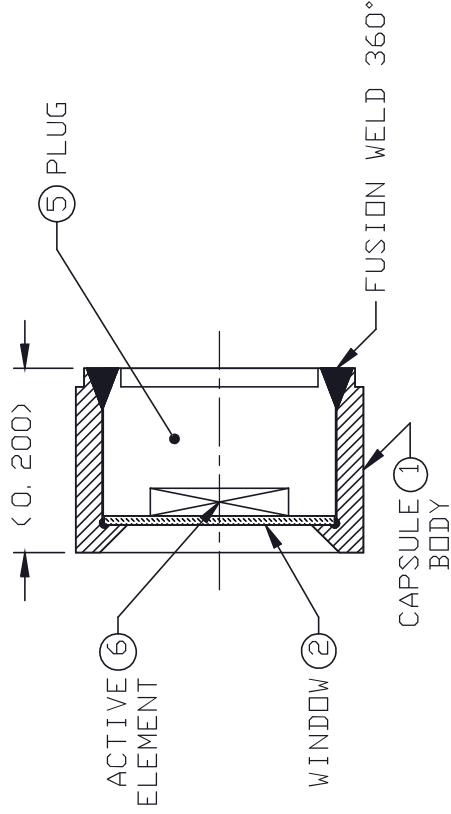
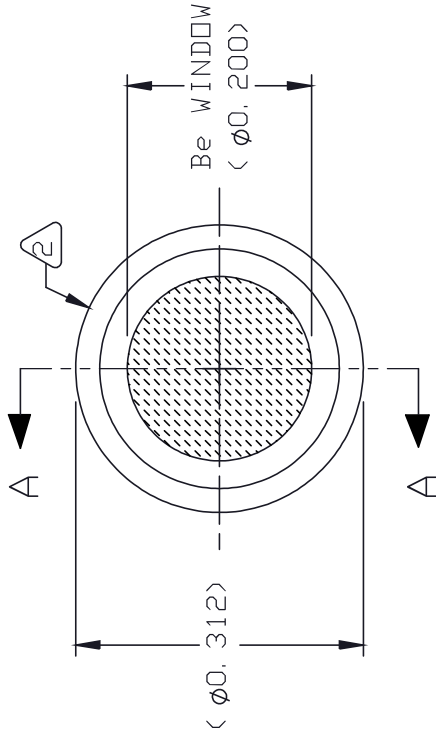
A3204-X ASSEMBLY

Eckert & Ziegler				DRAWING TITLE			
Isotope Products				MODEL 3204 XFB-3 SOURCE			
Valencia, California 91355				DESIGN JMD/RLT			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				SCALE		SERIES TITLE	
				NONE		GFS & XFB SOURCES (PHI & BFI)	
TOLERANCES ON				SIZE		CAGE CODE	
				A		32993	
THIRD ANGLE PROJECTION				REVISION		DRAWING NUMBER	
				N		3204	
				SHEET		5 OF 12	

TABLE		
X	MATERIAL	ACTIVE ELEMENT AND SIZE
0	304 SST	FOIL, Ag, UNTHREADED PLUG
1	304 SST	FOIL, Ni
2	304 SST	CANE, 0.125 DIA x 0.030 THK
3	304 SST	CANE, 0.187 DIA x 0.020 THK
4	304 SST	CANE, 0.210 DIA x 0.040 THK
5	304 SST	FOIL, Ag , THREADED PLUG
6	304 SST	FOIL, Pt CLAD Ni
10	MONEL	FOIL, Ag
11	MONEL	FOIL, Ni
12	MONEL	CANE, 0.125 DIA x 0.030 THK
13	MONEL	CANE, 0.187 DIA x 0.020 THK
14	MONEL	CANE, 0.210 DIA x 0.040 THK

NOTES: UNLESS OTHERWISE SPECIFIED (CONTINUED FROM SHEET 5)

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.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		THIRD ANGLE PROJECTION		
			DESIGN JMD/RLT	SCALE NONE	SIZE A
	FRAC- TION ±1/64	DECIMAL X XX ±.1 .01 .002	ANGLE XXX ±.5°	CAGE CODE 32993	REVISION N
				DRAWING NUMBER 3204	SHEET 6 OF 12



SECTION A-A

2. REFER TO DETAIL DRAWING FOR ENGRAVING

1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING
BRAZE OR FUSION WELD AS REQUIRED.

NOTES: UNLESS OTHERWISE SPECIFIED (CONTINUED ON SHEET 5)

SEE NEXT SHEET FOR
ASSEMBLY DASH NUMBER

A3204-X ASSEMBLY

Eckert & Ziegler Isotope Products Valencia, California 91355			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.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			DRAWING TITLE MODEL 3204 XFB-3 SOURCE		SHEET 4 OF 11
			DESIGN JMD/RLT		
TOLERANCES ON			SERIES TITLE GFS & XFB SOURCES (PHI & BFI)	DRAWING NUMBER 3204	REVISION □
FRAC- TION ±1/64	DECIMAL X ±.1	ANGLE xxx .01	SCALE NONE	CAGE CODE 32993	
THIRD ANGLE PROJECTION			SIZE A		
					

TABLE		
X	MATERIAL	ACTIVE ELEMENT AND SIZE
0	304 SST	FOIL, Ag, UNTHREADED PLUG
1	304 SST	FOIL, Ni
2	304 SST	CANE, 0.125 DIA x 0.030 THK
3	304 SST	CANE, 0.187 DIA x 0.020 THK
4	304 SST	CANE, 0.210 DIA x 0.040 THK
5	304 SST	FOIL, Ag , THREADED PLUG
6	304 SST	FOIL, Pt CLAD Ni
7	304 SST	FOIL, Ni

NOTES: UNLESS OTHERWISE SPECIFIED (CONTINUED FROM SHEET 4)

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	TOLERANCES ON					
	FRAC- TION ±1/64	DECIMAL X XX ±.1	ANGLE XXX ±.002	DESIGN JMD/RLT	SCALE NONE	SIZE A
				CAGE CODE	REVISION	DRAWING NUMBER
				32993	□	3204
						SHEET
						5 OF 11

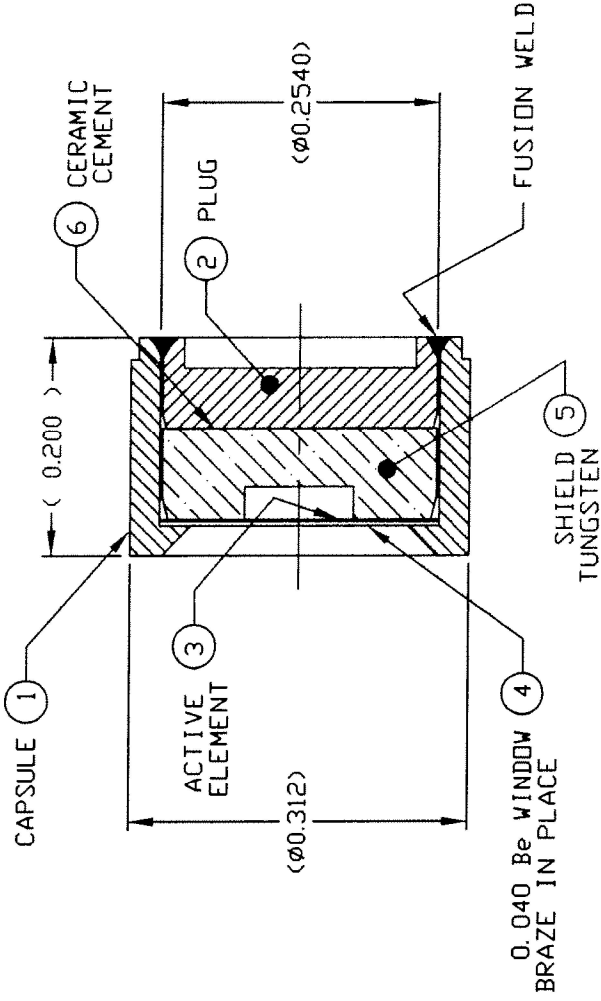
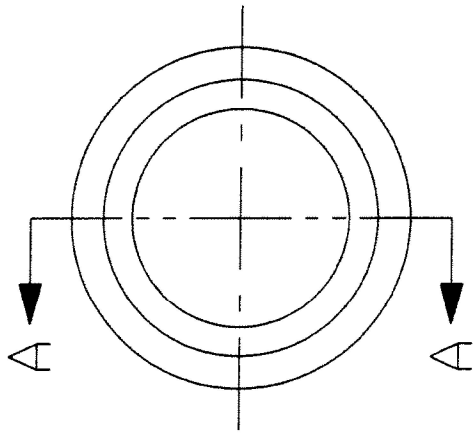


TABLE X

X	MATERIAL
0	304 or 304L STAINLESS STEEL
1	MONEL

SECTION A-A

TABLE Y

Y	ACTIVE ELEMENT AND DIMENSIONS
0	FOIL, 0.250 DIA x 0.005 THICK
1	CANE, 0.125 DIA x 0.030 THICK
2	CANE, 0.187 DIA x 0.020 THICK
3	CANE, 0.210 DIA x 0.040 THICK
4	CANE, 0.250 DIA x 0.040 THICK
5	CANE, 0.187 DIA x 0.040 THICK

2. INDIVIDUALLY PACKAGE AND IDENTIFY PART NUMBER THEREON
1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND BRAZE OR FUSION WELD AS REQUIRED
- NOTE: UNLESS OTHERWISE SPECIFIED

P/N: A3205-XY ASSEMBLY

Eckert & Ziegler
Isotope Products
 Valencia, California 91355

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
TOLERANCES ON			
FRAC- TION	DECIMAL	ANGLE	
$\pm 1/64$	$\pm .01$	$\pm .5^\circ$	

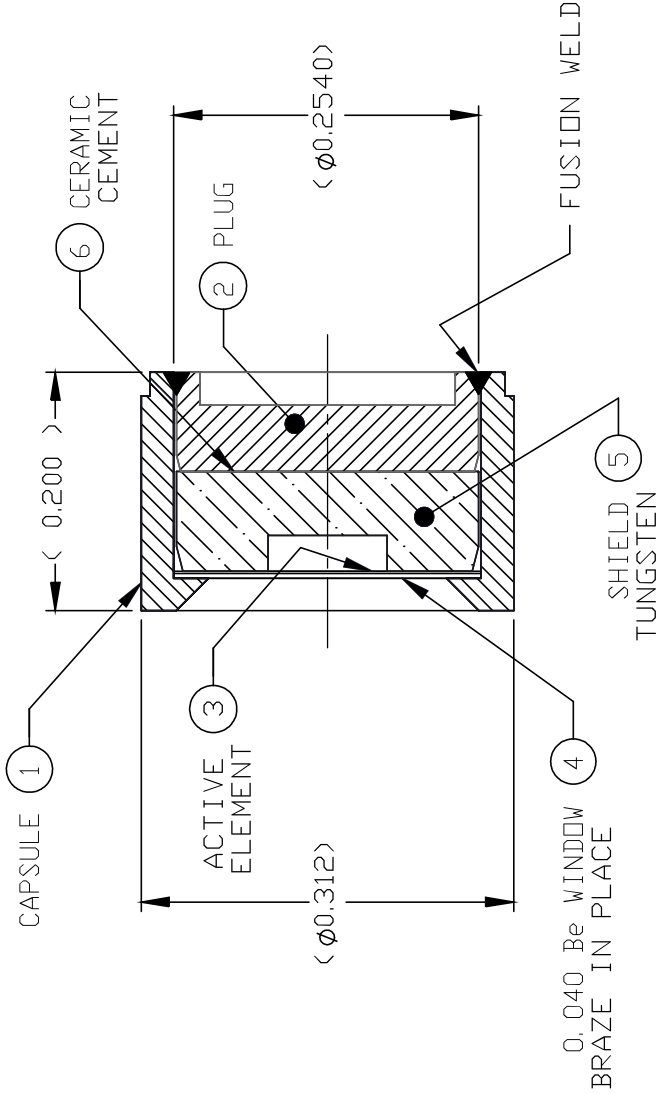
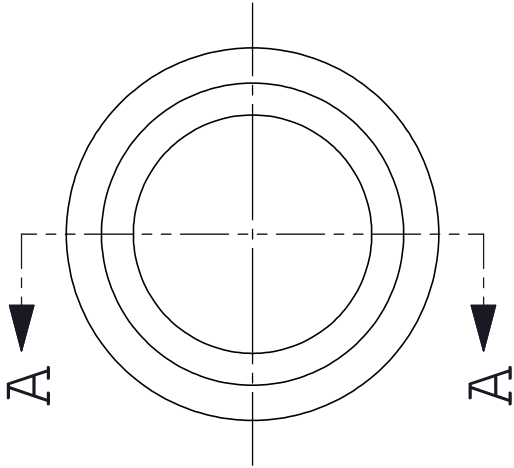


TABLE X	
X	MATERIAL
0	304 or 304L STAINLESS STEEL

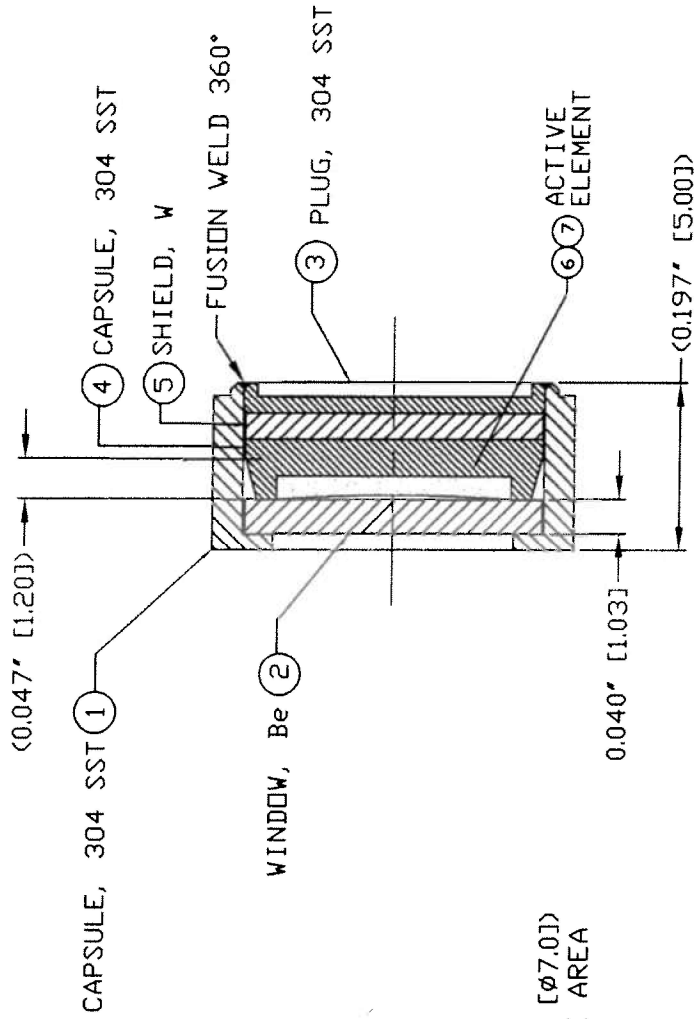
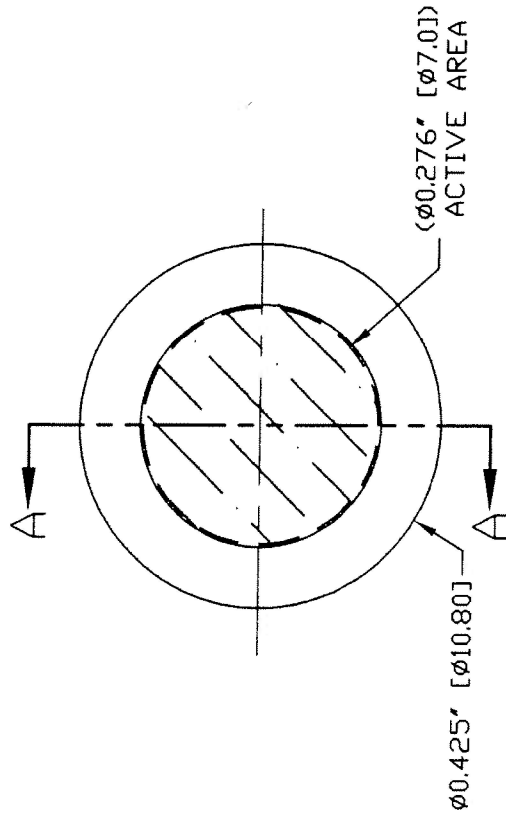
SECTION A-A

TABLE Y	
Y	ACTIVE ELEMENT AND DIMENSIONS
0	FDIL, 0.250 DIA x 0.005 THICK
1	CANE, 0.125 DIA x 0.030 THICK
2	CANE, 0.187 DIA x 0.020 THICK
3	CANE, 0.210 DIA x 0.040 THICK
4	CANE, 0.250 DIA x 0.040 THICK
5	CANE, 0.187 DIA x 0.040 THICK

2. INDIVIDUALLY PACKAGE AND IDENTIFY PART NUMBER THEREON
1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING AND BRAZE OR FUSION WELD AS REQUIRED
- NOTE: UNLESS OTHERWISE SPECIFIED

P/N: A3205-XY ASSEMBLY

 Eckert & Ziegler Isotope Products Valencia, California 91355		DRAWING TITLE MODEL XFB-3 CAPSULE WITH TUNGSTEN SHIELD				DESIGN EZ/DI			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TOLERANCES ON		ANGLE		SERIES TITLE INDUSTRIAL SOURCES, GFS AND XFB			
		FRAC- TION ±1/64	DECIMAL X ±.1	XXX .01	±.5°	SCALE NONE			
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		THIRD ANGLE PROJECTION							
									
		CAGE CODE 32993		REVISION □		DRAWING NUMBER 3205		SHEET 4 OF 8	



SECTION A-A

4. PACKAGE AND IDENTIFY PART NUMBER THEREON.
 3. METRIC DIMENSIONS [mm] ARE IN MILLIMETERS
 2. FUSION WELD AS REQUIRED.
 1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING
- NOTES: UNLESS OTHERWISE SPECIFIED

P/N A3233 ASSEMBLY

Eckert & Ziegler
Isotope Products
 Valencia, California 91355

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCH-SIZES		DRAWN		TITLE	
TOLERANCES		DI	24 JUN02	CESIO XFB SOURCE	
XXXX ± .002 INCH	(UNLESS OTHERWISE SPECIFIED)	WE/CHECKER		DRAWING NO.	
XXX ± .01 INCH		KP	24 JUN02	3233	
XX ± .1 INCH	ANGULAR TOLERANCE OF 0°±30'	ENGR	24 JUN02	REV	
FRACTIONAL DIMENSIONS ARE FINISHED DIMENSIONS	± 1/16	EZ		A	
ALL DIMENSIONS ARE FINISHED DIMENSIONS		SCALE	SIZE	SERIES TITLE	
THIRD ANGLE PROJECTION		NONE	A	INDUSTRIAL SOURCES,	
				GFS AND XFB	
				SHEET	
				3 OF 10	



U.S. Department of
Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

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

CERTIFICATE NUMBER: USA/0336/S-96

ORIGINAL REGISTRANT(S) :

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Washington, DC, 20585
USA