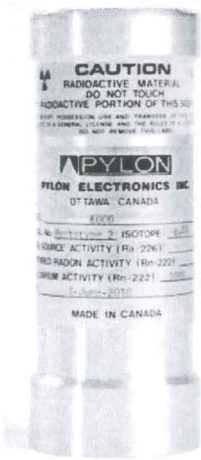




Licensing Justification Amendment Request

MC# 586614

dtd.
3/24/15
ML15120A515



The unit comprises a radium source (Ra-226) sealed within high efficiency scintillation cell. This generates radon (Rn-222) and daughter gases which generate alpha particles. Efficiency is $74.5 \pm 2\%$ when used with the Pylon AB6A. It reproduces the counting characteristics of a typical gas sample in an AB6A 600A or 600P detector cell such as the plateau shape and count rate, thus permitting accurate instrument alignment and calibration. A calibration certificate is supplied stating the total alpha activity and is accurate to $\pm 4\%$. No radioactive material leaves the 6000 check source.

Technical Specifications

GENERAL

Source Nuclide:	Ra-226
Source Nuclide Activity:	18.5 Bq (500 pCi)
Alpha activity:	52 Bq (1419 pCi) 3150 dpm
Loaded Activity Tolerance:	$-10 / +25\% ^1$
Calibration Accuracy:	$\pm 4\% ^{2,3}$
Scintillator:	ZnS(Ag)
Primary Construction Material:	Aluminum

ENVIRONMENTAL

Operating Temperature Range:	-20 to +40 °C (-4 to +104 °F)
Storage Temperature Range:	-20 to +50 °C (-4 to +122 °F)
Relative Humidity Range:	0 to 90 % (Non-Condensing)

DIMENSIONS

Diameter:	6.1 cm (2.4 in.)
Height:	15.5 cm (6.1 in.)
Weight:	226 g (0.5 lb.)

¹ Loaded activity tolerance: -10 to +25% of nominal value. E.g., If 3150 dpm is the specified nominal activity, the actual loaded activity will be between 2835 dpm and 3937.5 dpm.

² Calibration accuracy of the loaded activity. E.g., If the nominal activity is 3150 but the loaded activity is 3500 dpm, the calibration accuracy is $3500 \text{ dpm} \pm 140 \text{ dpm}$.

³ At a 1σ Confidence Level.

Ordering Information:

Model 6000 Source: Order part number 7100210.

Values are nominal and based on new units. Specifications subject to change without notice. Trademarks are the properties of their respective holders. All Rights Reserved.

Handwritten signature and date: 6/15/15

Michelle M. Hammond, M.Sc., RSP

Contact a Representative

Pylon Electronics Inc. 147 Colonnade Road Ottawa, ON K2E 7L9 Canada	T: 613.226.7920 F: 613.226.8195 E: instrument@pylonelectronics.com www.pylonelectronics.com
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Datasheet: DS134 Rev 2

PUBLIC

- ☐ Immediate Release
- ☒ Normal Release

NON-PUBLIC

- ☐ A.3 Sensitive-Security Related
- ☐ A.7 Sensitive Internal
- ☐ Other:

Reviewer: *Handwritten signature* Date: *6/15/15*

Handwritten notes:
No Reg 155b
Vol. 3 Rev. 1
Section 5.1.1
Calibrate 3 Ref Standards
May be licensed w/o SS? D
if meets criteria
L 100 pCi

PYLON AB6A

Check Source

The reliable, versatile, and user-friendly solution for a wide variety of radiation monitoring applications.



We understand that reliable radon detection is not a luxury - it is an absolute necessity.

The Check Source is a radon reference source that is used on our next generation laboratory-grade instrument, the Pylon AB6A Portable Radiation Monitor, for the setup and verification of the operation of the AB6A for measurement.

Every bit as reliable as our previous check sources, it has been designed to match the specifications of the AB-5 check source to maintain compatibility.

Backed by over 30 years of radon and thoron detection and measurement expertise, superior engineering, and world-class customer service, the Pylon AB6A and check source provide radon measurement verification you can depend on.

Key Features

Accurate	Same geometry as 600A & 600P detector cells to provide similar counting characteristics on the radon monitor	Radiation Immunity	Immune to beta and gamma radiation
		Stable	Insensitive to temperature and humidity changes
Ease of Use	Attaches to the monitor PMT mount in the same manner as detectors	Safe	Radioactive material is sealed inside unit

Applications

When combined with the Pylon AB6A radiation monitor, the check source can be used for:

- AB6A monitor operating point setup
- AB6A monitor efficiency verification
- AB6A monitor counting operation verification



PUBLIC

- ☐ Immediate Release
- ☐ Normal Release

NON-PUBLIC

- ☐ A.3 Sensitive-Security Related
- ☐ A.7 Sensitive Internal
- ☐ Other: _____

Reviewer: _____ Date: _____

DECOMMISSIONING FINANCIAL ASSURANCE ANALYSIS

LICENSE: 11-35192-01

LICENSEE:

Anatek Labs, Inc.

DOCKET: 3038790

CONTROL: 587047 &586614

Isotope	Atomic Number	amount of unsealed byproduct material in millicuries	amount of sealed byproduct material in Curies	unsealed byproduct material / 10E3 Appendix B values	sealed byproduct material / 10E10 Appendix B values
H-3	1			0.00E+00	0.00E+00
Be-10	4			0.00E+00	0.00E+00
C-14	6			0.00E+00	0.00E+00
Cl-36	17			0.00E+00	0.00E+00
Ca-45	20			0.00E+00	0.00E+00
Mn-54	25			0.00E+00	0.00E+00
Fe-55	26			0.00E+00	0.00E+00
Co-60	27			0.00E+00	0.00E+00
Ni-59	28			0.00E+00	0.00E+00
Ni-63	28			0.00E+00	0.00E+00
Zn-65	30			0.00E+00	0.00E+00
Kr-85	36			0.00E+00	0.00E+00
Rb-87	37			0.00E+00	0.00E+00
Sr-90	28	0.001	0.002	1.00E-02	2.00E-06
Zr-93	40			0.00E+00	0.00E+00
Nb-93m	41			0.00E+00	0.00E+00
Tc-97	43			0.00E+00	0.00E+00
Tc-98	43			0.00E+00	0.00E+00
Tc-99	43			0.00E+00	0.00E+00
Ru-106	43			0.00E+00	0.00E+00
Ag-108m	47			0.00E+00	0.00E+00
Ag-110m	47			0.00E+00	0.00E+00
Cd-109	48			0.00E+00	0.00E+00
In-115	49			0.00E+00	0.00E+00
Sb-125	51			0.00E+00	0.00E+00
I-129	53			0.00E+00	0.00E+00
Cs-134	55			0.00E+00	0.00E+00
Cs-135	55			0.00E+00	0.00E+00
Cs-137	55	0.000		1.00E-07	0.00E+00
Ba-133	56			0.00E+00	0.00E+00
Ce-144	58			0.00E+00	0.00E+00
Pm-147	61			0.00E+00	0.00E+00
Sm-151	62			0.00E+00	0.00E+00
Eu-152	63			0.00E+00	0.00E+00
Eu-154	63			0.00E+00	0.00E+00
Eu-155	63			0.00E+00	0.00E+00
Gd-153	64			0.00E+00	0.00E+00
Tm-170	69			0.00E+00	0.00E+00
Tm-171	69			0.00E+00	0.00E+00
W-181	74			0.00E+00	0.00E+00
Pt-193	78			0.00E+00	0.00E+00
Tl-204	81			0.00E+00	0.00E+00

Po-210	84			0.00E+00	0.00E+00
Pu-238	94			0.00E+00	0.00E+00
Pu-239	94			0.00E+00	0.00E+00
Am-241	95	0.001	0.002	1.00E-01	2.00E-05
Cm-242	96			0.00E+00	0.00E+00
Cm-244	96			0.00E+00	0.00E+00
Cf-252	98			0.00E+00	0.00E+00
Ra-226	88	0.001	0.002	1.00E-01	2.00E-05
Any alpha not listed		0.003	0.006	3.00E-01	6.00E-05
Any except alpha				0.00E+00	0.00E+00
			Totals	5.10E-01	1.02E-04

DECOMMISSIONING FINANCIAL ASSURANCE AMOUNT:

\$0

\$0

TOTAL FINANCIAL ASSURANCE REQUIRED:

\$ 0

COMMENTS:

Amendment adding material

DATE: June 16, 2015

REVIEWER:

MMH