



PYLON ELECTRONICS INC.

INSTRUMENT MANUFACTURING

PRODUCT CATALOGUE

REVISION 6

PYLON ELECTRONICS INC.

147 Colonnade Road,

Ottawa, Ontario K2E 7L9

Canada

TEL.: (613) 226-7920

FAX (613) 226-8195

EMAIL: instrument@pylonelectronics.com

Visit us @ www.pylonelectronics.com



TABLE OF CONTENTS

GENERAL INFORMATION	3
WARRANTY STATEMENT	4
REPAIR AND SERVICE POLICY	5
POWER CORD POLICY	6
PRODUCT OFFERING LIST	7
MONITORING UNITS	7
MONITORING UNIT OPTIONS/ACCESSORIES	8
<i>AB-4 Optional Accessories</i>	8
<i>CRM Optional Accessories</i>	8
<i>Pylon Scintillation Detectors</i>	9
<i>AB-5 Detectors And Probes</i>	9
<i>AB-5 System Options And Accessories</i>	11
Data Processing.....	11
Pumps.....	12
Flowmeters.....	12
Chargers.....	13
Miscellaneous Spares.....	14
Consumables.....	15
RADON, THORON AND OTHER SOURCES	16
SERVICE AND CALIBRATION	20
MANUALS	23
POSSIBLE APPLICATIONS FOR PYLON SYSTEMS	26
1.0 WATER DEGASSING SYSTEM	26
2.0 SOIL MEASUREMENT SYSTEM	28
3.0 CONTINUOUS PASSIVE RADON DETECTING SYSTEM	29
4.0 CONTINUOUS ACTIVE AND GRAB SAMPLING DETECTING SYSTEM	31
5.0 CONTINUOUS ACTIVE SUBPICOCURIES RADON DETECTING SYSTEM	33
6.0 AB-5 WORKING LEVEL MEASUREMENT	34
7.0 MODEL WLx WORKING LEVEL MEASUREMENT SYSTEM	36
8.0 MODEL CRM-1 RADON LEVEL MEASUREMENT SYSTEM	37
9.0 MODEL CRM-2 RADON LEVEL MEASUREMENT SYSTEM	38
SUPPLEMENTARY INFORMATION	40
1.0 WLx SYSTEM	40
2.0 AB-5/AB-5R SYSTEM	41
3.0 WLx/AB-5	41



GENERAL INFORMATION

All shipments are F.O.B. Ottawa, Ontario, Canada.

Note: Unless otherwise requested and paid for by either the Distributor and/or Customer, all orders are shipped without insurance. Any claims for compensation for shipping damage must be made to the Carrier. Pylon will not be held responsible for any damage incurred during transport. Should any shipment become damaged, the cost of any repairs, calibrations, return shipping, etc. will remain the responsibility of the Distributor and/or Customer.

It should be noted that, on uninsured shipments, the Carrier will only accept responsibility for a small percentage of the value of the goods being shipped should any damage arise during transport.



WARRANTY STATEMENT

PYLON ELECTRONICS INC. products are warranted against defects in material and workmanship for a period of one year from the date of shipment. Our warranty obligation is limited to the repair of products or parts thereof which, on our examination, prove to be defective during the warranty period.

PYLON ELECTRONICS INC. repairs are warranted against defects in material and workmanship for a period of 90 days from the date of shipment. Our warranty obligation is limited to the repair of the unit returned prepaid, to our factory and which on our examination prove to be defective, during the warranty period. Equipment which has worked performed under Warranty will be returned to the Distributor and/or Customer freight prepaid.

The warranty shall not apply to any equipment which has been subject to accident, incorrect wiring not of our own or operation not in accordance with manufacturer's written instructions.

This warranty is given by PYLON in lieu of all other warranties arising in law or otherwise in respect of the goods, and this Company shall not be liable under any circumstances for consequential damage.

Note: All product(s) **must** be returned prepaid, to our factory.

All warranty claims shall be addressed to:

Pylon Electronics Inc.
147 Colonnade Road,
Ottawa, Ontario K2E 7L9
Canada

Phone: (613) 226-7920
Fax: (613) 226-8195
Email: instrument@pylonelectronics.com



REPAIR AND SERVICE POLICY

All equipment shipments being returned for either Repair and/or Service work must be returned prepaid, to our factory at the following address:

Pylon Electronics Inc.
Instrument Manufacturing Division
147 Colonnade Road,
Ottawa, Ontario K2E 7L9
Canada

Phone: (613) 226-7920
Fax: (613) 226-8195
Email: instrument@pylonelectronics.com

Any brokerage fees associated with the return of equipment being sent in for Repair and/or Service will remain the responsibility of the Distributor and/or Customer and will be charged back to the Distributor and/or Customer at cost.

Note: PYLON ELECTRONICS INC. reserves the right to refuse any inbound shipment that arrives "Collect".



POWER CORD POLICY

Pylon provides power cords for electrical products for all North American orders. However, due to the wide variety of Power Cord Connectors in the international market, Pylon **does not** provide a Power Cord with International Instrument Orders. The Distributor and/or Customer is responsible for providing the appropriate power cord. The standard connector provided on all Pylon Power Supplies is an IEC type.



PRODUCT OFFERING LIST

PYLON INSTRUMENT MANUFACTURING

MONITORING UNITS¹

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6202049	AB-5	Portable Radiation Monitor complete with ABA adapter, built in sampling pump, long life gel battery and battery charger.
6243001	AB-5R	Ruggedized AB-5. As listed above with rugged aluminium case.
6204610	WLx	WLx Working Level Measurement System. Portable Working Level Measurement System complete with printer, PC software, RS-232 cable and universal power supply (110/220VAC).
6209700	AB-4	Radon Measurement System complete with passive detector cell, PC Software, tilt alarm, primary/secondary operating modes, RS-232 cable, modem capability and AC power supply/charger.
6209707	AB-4A	Radon Measurement System. As listed above with, in addition, internal printer, temperature, pressure and humidity sensing/recording module.
6243300	CRM-1	Continuous Radiation Site Monitor – Active Sampling.
6243400	CRM-2	Continuous Radiation Site Monitor – Passive Sampling.

¹ Quantity discounts are available for all monitors when quantities exceed 5 units. Contact Pylon for details.



MONITORING UNIT OPTIONS/ACCESSORIES

AB-4 OPTIONAL ACCESSORIES

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6209730		Internal Printer (Factory Installed).
6209660		Temperature, humidity and pressure sensing/recording module (Factory Installed).

CRM OPTIONAL ACCESSORIES

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6243640		External visible and audible alarm system (Includes alarm mast with mounting brackets, 25' alarm cable, visible alarm beacon and audible alarm siren).
6243360		4 – 20 mA current loop port (Factory Installed). (pCi mode only at present)
6243430		Visible Alarm Beacon.
6243440		Audible Alarm Siren.
6243450		6' Alarm Mast (with Mounting Brackets). [Originally Part Number 1112745.]
6243420		Alarm Cable (25' All Weather).
6243650		CRM Heater Option (Factory Installed).



PYLON SCINTILLATION DETECTORS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A201733	CPRD ²	Continuous Passive Radon Detector for AB-5 / AB-5R.
A204721	300A	Lucas Type Scintillation Cell for AB-5 / AB5-R. (Approximate volume 270 ml.)
A202019	110A	Lucas Type Scintillation Cell for AB-5 / AB-5R. (Approximate volume 153 ml.)
6243330	200A	Lucas Type Scintillation Cell for CRM-1.
6243350	200P ²	Lucas Type Scintillation Cell for CRM-2.
6209720	CPC ²	Lucas Type Scintillation Cell for Model AB-4.

² Includes single point Calibration and Certificate.

AB-5 DETECTORS AND PROBES

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A202041	AEP-47	Alpha Emitting Particulate Detector Assembly.
A202043	BEP-47	Beta Emitting Particulate Detector Assembly.
6200035	503	Sample Holder c/w Scintillation Disks.
A201650	WT-A	Wipe Test Alpha Detector Assembly.
6201622	WT-B	Wipe Test Beta Detector Assembly.
6201623	WT-AB	Wipe Test Alpha/Beta Detector Assembly.



AB-5 DETECTORS AND PROBES CONT'D

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A201680	PMT	External Photomultiplier Tube Assembly.
6202059	TEL ³	Trace Environmental Level Radon Detector c/w 110V Charger.
6202060	TEL ³	Trace Environmental Level Radon Detector c/w 220V Charger.
A201770	SA ³	Surface Alpha Contamination Detector Probe.
A201780	SB ³	Surface Beta Contamination Detector Probe.
A201750	SAB ³	Surface Alpha/Beta Contamination Detector Probe.
A201700	GB ³	Gamma and Beta Detector Probe Assembly.

³ Require an external Photomultiplier Tube Assembly sold separately. See part number A201680.



AB-5 SYSTEM OPTIONS AND ACCESSORIES

DATA PROCESSING

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A201225	PPT-1	Portable Printer.
6250000	DTU	Data Transfer Utility Software. A Windows based software on a CD ROM. Note: This software is available for downloading on our website at no charge.
6250010	DA-2005	AB-5 Data Acquisition Package. Consists of a model CI-55 RS-232 computer interface, DTU software, and interconnection cable.
6215928	WG-1001	Water Degassing System without cells and water trap.
A215900	WG-1001A	Water Degassing System complete with five 300A cells but without water trap.
6215940	WG-1001B	Water Degassing System with water trap but without cells.
6215950	WG-1001C	Water Degassing System complete with five 300A cells and water trap.
A215402	154 ⁴	Vacuum Soil Probe.
1146001		Serial Communication Cable for CI-55 (AB-5).
1146002		Serial Communication Cable for AB-4.
1146003		Serial Communication Cable for WLx.

⁴ Requires a hand pump. See part number A202150.



PUMPS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A201317	VFP-10	High Volume Vacuum Pump - 0.1 - 10 lpm, 115V, 60Hz. Complete with Flowmeter.
A201323	VFP-20	High Volume Vacuum Pump - 0.1 – 10 lpm, 220V, 50Hz. Complete with Flowmeter.
A202150		Portable Hand Operated Vacuum Pump.
A200470		Spare Internal AB-5 Sampling Pump.

FLOWMETERS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6202007	VFA-21	0.06 - 0.50 lpm flowmeter.
6202008	VFA-22	0.15 - 1.00 lpm flowmeter.
6202009	VFB-65	0.20 - 4.00 lpm flowmeter.



CHARGERS ⁵

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
1162005	Rm-123	110V 60 Hz for EL/TEL Detectors
A206560	Rm-123A	220V 50 Hz for EL/TEL Detectors.
A202810	Rm-122A	110/220V 50/60Hz with BNC output connector for older version AB-5s.
A202830	Rm-126	110/220V 50/60Hz for AB-5s, WLxs and AB-4s.

⁵ See Power Cord Policy.



MISCELLANEOUS/SPARES

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A207810	Rm-107	AB-5 system carrying case.
6201357	ABA	Cell adapter for AB-5 monitor.
6201705		Coaxial cable for Model PMT.
1113173		In line Gelman Filter Holder, 25mm. For cells, 503, Rn-1025 & Th-1025.
1119024		Internal AB-5 battery.
A203540		Accessory kit for PMT-EL/TEL. Consists of PVC tubing, 600 ml drying column, filter holder & spare filters.
A205410		Accessory kit for Lucas Cells. Consist of PVC tubing, two male Swagelok connectors, filter holder & spare filters.
1112354		Male Swagelok connector, tube hose connector for cells, TEL & EL.
6243007		Digital Manometer for RN-150.



CONSUMABLES

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6245003		25 mm, 0.8 um membrane filters (100/pkg) for WLx, 503, etc. For use under standard environmental conditions.
6245004		25 mm, 0.5 um membrane filters (100/pkg) for WLx, 503, etc. For high performance use under non standard environmental conditions.
6245001		47mm, 0.8 um membrane filters (100/pkg) for AEP & BEP.
6245005		47mm filters (100/pkg) for CRM-1.
6245002		25mm glass fibre filters (100/pkg) for cells, 503, Rn-1025 & Th-1025.
1113273		ECR-5 ribbon cartridges for PPT-1 printer.
1113218		ECR-7 ribbon cartridges for AB-4 printer.
6243005		Paper rolls for PPT-1 printer (5 rolls).
6245200		Drierite, 8-10 mesh, 5 lb (2.25 kg) jar for TEL, EL & WG-1001.
6245100		PVC tubing, ¼" I.D., 20 ft (6.0 m) roll for cells, EL & TEL.



RADON, THORON AND OTHER SOURCES

NOTE: THESE SOURCES CONTAIN RADIOACTIVE MATERIALS. PYLON REQUIRES A COPY OF THE USER'S RADIOISOTOPE LICENCE PRIOR TO SHIPPING THESE PRODUCTS

TO FIELD CHECK THE MODEL AB-5 MONITOR

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A203552	3150A	Radon field check source. Nominal activity: 135 Bq (500 pCi) Rn ²²² .

TO FIELD CHECK THE MODEL WLx MONITOR

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6204619	WLx-Am	WLx check source. Includes a WLx mounting assembly & Americium-241 planchette source (Please refer Pylon part number 1121063).

TO FIELD CHECK THE MODELS AB-4, AB-4A, & CRM MONITORS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6209710	4250A	Radon field check source. Nominal activity: 135 Bq (500 pCi) Rn ²²² .



TO FIELD CHECK LUCAS CELLS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6202054	RN-150-3	Radon source to dispense discrete radon gas samples for scintillation cell calibration. Nominal activity: 3.0 kBq (111 uCi) Rn ²²² . Supplied with a hand operated vacuum pump and absolute digital manometer.
6202055	RN-150-18	As above except with a nominal activity of 18 kBq (666 uCi) Rn ²²² .

TO FIELD CHECK THE MODEL AEP-47 DETECTOR

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A202047	RN-190-47-4	Radon progeny source. Nominal activity: 4,000 dpm/cm ² .
A202045	TH-190-47-4	Thoron progeny source. Nominal activity: 4,000 dpm/cm ² .
6202039	RN-190-47-20	Radon progeny source. Nominal activity: 20,000 dpm/cm ² .
6202038	TH-190-47-20	Thoron progeny source. Nominal activity: 20,000 dpm/cm ² .

TO FIELD CHECK MODEL 503 SAMPLE HOLDER

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
1121063	AM-241	Americium 241 planchette source. 85 mBq to 1147 mBq (5.0 to 31 nCi) Am ²⁴¹ . 25 mm diameter.



TO FIELD CHECK MODEL PMT-EL/TEL DETECTORS AND OTHER SMALL CHAMBERS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A206324	RNC	Flow through radon calibration source. Nominal activity: 74 kBq (2 uCi) Rn ²²² .

TO FIELD CHECK CHARCOAL CANISTER MONITORS

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
A206580	RGS-3-100	Radon gamma source 4" diameter. Nominal activity: 3.0 kBq (0.081 uCi) Rn ²²² .

RADON AND THORON GAS GENERATING SOURCES

RADON SOURCES - PASSIVE

Model 2000A Rugged passive Radon-222 Source. Ideal for calibration chambers. Available in various Customer requested activities.

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6203670	2000A-Custom	Rugged Radon-222 passive gas source. Maximum activity: 500 kBq (13.5 uCi) Rn ²²² .



RADON SOURCES - ACTIVE

Model Rn-1025 Radon flow through gas source. Ideal for calibration chambers.
Available in various Customer requested activities.

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6202074	Rn-1025-Custom-S	Rugged Radon-222 flow through gas source. Maximum activity: 2000 kBq (54 uCi) Rn ²²² .
6202075	Rn-1025-Custom-L	Rugged Radon-222 flow through gas source. Minimum activity: 2000 kBq (54 uCi) Rn ²²² ; maximum activity: 4070 kBq (110 uCi) Rn ²²² .

THORON SOURCES - ACTIVE

Model Th-1025 Thoron flow through gas source. Ideal for calibration chambers.
Available in various Customer requested activities.

<u>Part Number</u>	<u>Model</u>	<u>Description</u>
6202094	Th-1025-Custom-S	Rugged Thoron-228 flow through gas source. Maximum activity: 2000 kBq (54 uCi) Th ²²⁸ .
6202095	Th-1025-Custom-L	Rugged Thoron-228 flow through gas source. Minimum activity: 2000 kBq (54 uCi, Th ²²⁸ ; maximum activity: 4070 kBq (110 uCi) Th ²²⁸ .



SERVICE AND CALIBRATION

<u>Part Number</u>	<u>Description</u>
6200436	AB-5 Upgrade for older versions of the AB-5.
9000128	General Service (Repairs, etc.)
9000068	Service Assessment (Applies to AB-5, AB-5R, AB-4, WLx, CRM-1 and CRM-2)
9000076	AB-5 / AB-5R Operating Point Determination.
9000092	WLx Radon and Thoron Calibration
9000104	AB-5 / AB-5R and External PMT Operating Point Determination.
9000105	AB-5 / AB-5R and CPRD Calibration.
9000106	AB-5 / AB-5R and 110A Calibration.
9000107	AB-5 / AB-5R and 300A Calibration.
9000108	TEL Calibration.
9000109	EL Calibration.
9000110	AB-5 / AB-5R and AEP-47 Calibration. (Either Continuous or Quasi – each.)
9000111	AB-5 / AB-5R and WT-A Tuning.
9000112	AB-5 / AB-5R and WT-B Tuning.
9000113	AB-5 / AB-5R and WT-AB Tuning.
9000114	AB-5 / AB-5R and SA Tuning.
9000115	AB-5 / AB-5R and SB Tuning.



SERVICE AND CALIBRATION (CONT'D)

<u>Part Number</u>	<u>Description</u>
9000116	AB-5 / AB-5R and SAB Tuning.
9000117	AB-5 / AB-5R and GB Tuning.
9000118	AB-4 Operating Point Determination.
9000119	AB-4 and CPC Calibration.
9000120	CRM-1 Operating Point Determination.
9000121	CRM-2 Operating Point Determination.
9000122	CRM-1 and 200A Calibration.
9000123	CRM-2 and 200P Calibration.
9000124	WLx Radon Calibration.
9000125	WLx Thoron Calibration.
9000126	Cell Repair, Model 110A and 300A. (Re-coat, Replace Window and Service Valves)
9000127	Cell Repair, Model 110A and 300A. (Replace Window and Service Valves)

Notes:

- 1) All calibrations are traceable to NIST or the National Research Council of Canada (The Canadian equivalent of NIST).
- 2) A calibration certificate is provided with each calibration.



SERVICE AND CALIBRATION (CONT'D)

- 4) Special calibrations are available (e.g., multi point calibrations at various activity levels, single point calibrations at non-standard activity levels, calibrations of non Pylon equipment, spike exposures, etc.). Call for availability and quote.
- 5) Repair cost estimates will be provided.
- 6) Operating Point Determinations are provided with a Plateau Graph showing the optimum operating point.
- 7) All calibrations have a 4% nominal tolerance.



MANUALS

Pylon instruments are provided with a comprehensive instruction manual. Additional copies of the manuals may be purchased.

Note: Manuals are subject to change without notice. Pylon has made an effort to ensure that the material contained within our manuals, are both accurate and correct. However, Pylon will not be held responsible for any errors, omissions or damage that may result from the information contained within our manuals.

<u>Part Number</u>	<u>Title</u>
A900005	Model PMT-TEL Trace Level Radon Gas Detector Instruction Manual.
A900008	Model RNC Calibrated Radon Gas Source Instruction Manual.
A900020	Model RGS Radon Gamma Source Instruction Manual.
A900024	Model AB-5 Portable Radiation Monitor Instruction Manual.
A900026	Model AEP-47 Alpha Detector Assembly Instruction Manual.
A900027	Model WT-A, Model WT-B, Model WT-AB Wipe Test Assembly Instruction Manual.
A900028	Model PMT-SA, PMT-SB, PMT-SAB Surface Contamination Probe Instruction Manual.
A900029	Model GB Gamma-Beta Probe Instruction Manual.
A900030	Model RN-1025 Flow Through Radon Gas Source Instruction Manual.
A900031	Model TH-1025 Flow Through Gas Source Instruction Manual.



MANUALS CONT'D

<u>Part Number</u>	<u>Title</u>
A900034	Model RN-190 Radon Daughter Source Instruction Manual.
A900035	Model TH-190 Thoron Daughter Source Instruction Manual.
A900036	Model RN-150 Calibrated Radon Gas Source Instruction Manual.
A900037	Model WG-1001 Vacuum Water Degassing System Instruction Manual.
A900040	Model PPT-1 Portable Printer Instruction Manual.
A900042	Model 154 Vacuum Soil Probe Assembly Instruction Manual.
A900045	Model RN/TH-190 Radon/Thoron Daughter Source Instruction Manual.
A900057	Instructions For Using The Kusnetz Grab Working Level Method To Measure Radon Decay Products.
A900060	Model BEP-47 Beta Detector Assembly Instruction Manual.
A900069	Model 3150A, Model 4250A Radon Calibration Source Instruction Manual.
A900070	Model CPRD Continuous Passive Radon Detector Instruction Manual.
A900071	Model 110A, Model 300A Lucas Cell Instruction Manual.
A900079	Model WLx Working Level Measurement System Instruction Manual.
A900080	Model 2000A Passive Radon Gas Source Instruction Manual.
A900082	Model AB-4 Continuous Radon Measurement System Instruction Manual.



MANUALS CONT'D

Part Number Title

A900099 Model CRM-1 Continuous Radiation Monitor Manual.

A900100 Model CRM-2 Continuous Radiation Monitor Manual.

A900101 Model DA-2005 AB-5 Data Acquisition Package Manual.



POSSIBLE APPLICATIONS FOR PYLON SYSTEMS

This section provides recommendations for Pylon equipment to be used for certain applications.

1.0 WATER DEGASSING SYSTEM (WG-1001 SYSTEM)

1.1 Application

This system is designed to extract and measure radon gas from water samples. It can be used for water quality analysis from wells and natural springs. It can also be used to monitor run-off and process water from mining, excavation, and ore processing. In addition, it may be used in seismic prediction studies.

1.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
1	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
1	Water Degassing System without cells and water trap.	6215928
	OR	
1	Water Degassing System complete with five 300A cells but without water trap.	A215900
	OR	
1	Water Degassing System with water trap but without cells.	6215940
	OR	
1	Water Degassing System complete with five 300A cells and water trap.	6215950
	AND	
2	300A Cells	A204721



1.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 Printer.	A201225
1	Lucas Cells Model 110A.	A202019
1	Accessory Kit For Lucas Cells.	A205410
1	3150A Radon Field Check Source to align AB-5 at optimum operating point.	A203552
1	RN-150 Source to calibrate cells.	6202054 OR 6202055



2.0 SOIL MEASUREMENT SYSTEM (154 SYSTEM)

2.1 Application

This system is designed to extract and measure radon gas from soil samples. It is a useful tool for conducting geographical surveys of ground radon. These would be of interest to determine natural and anomalous distributions. It can be used to measure radioactive contamination resulting from industrial processes and during site preparation for building construction.

2.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
1	Vacuum Soil Probe Model 154.	A215402
	AND	
5	Lucas Cells Model 300A.	A204721
	AND	
1	Portable Hand Operated Vacuum Pump.	A202150

2.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 printer.	A201225
5	Lucas Cells Model 110A.	A202019
1	Accessory Kit For Lucas Cells.	A205410
1	3150A Radon Field Check Source to align AB-5 at optimum operating point.	A203552
1	RN-150 Source to calibrate cells.	6202054
		OR
		6202055



3.0 CONTINUOUS PASSIVE RADON DETECTING SYSTEM (BASIC CPRD SYSTEM) (For radon levels as low as 0.3 pCi/l)

3.1 Application

The CPRD system is a useful tool for the measurement of radon gas in ambient air. The CPRD is a low maintenance detector which uses the principle of passive diffusion as the sampling method. The system can be used for monitoring radon at radiation contamination and remediation sites, radon chambers, residential and commercial buildings, underground garages, and mines.

3.2 AB-5 Based System

3.2.1 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
1	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
1	Continuous Passive Radon Detector Model CPRD	A201733

3.2.2 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 printer.	A201225
1	Data Acquisition and Storage System DA-2005.	6250010
1	3150A Radon Field Check Source to align AB-5 at optimum operating point.	A203552



3.3 AB-4 Based System

3.3.1 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	Model AB-4 Continuous Passive Radon Measurement System. OR	6209700
1	Model AB-4A Continuous Passive Radon Measurement System.	6209707

3.3.2 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	Model CPC Cell	6209720
1	4250A Radon Field Check Source to align AB-4 at optimum operating point.	6209710



4.0 CONTINUOUS ACTIVE AND GRAB SAMPLING RADON DETECTING SYSTEM (LUCAS TYPE SCINT. CELL SYSTEM) (For radon levels as low as 0.3 pCi/l)

4.1 Application

The Lucas type cells manufactured by Pylon are equipped with valve type Swagelok quick-disconnect gas fittings. These enable the User to easily obtain grab samples and easily isolate the sample. The system will also operate in continuous mode when the pump is operated continuously. The system can be used for monitoring radon at radiation contamination and remediation sites, radon chambers, residential and commercial buildings, underground garages and mines. The system can also be used for laboratory work with radon.

4.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
1	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
5	Lucas Cells Model 300A.	A204721
	AND	
1	Accessory Kit For Lucas Cells.	A205410



4.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 printer.	A201225
5	Lucas Cells Model 110A.	A202019
1	Data Acquisition and Storage System DA-2005.	6250010
1	Accessory Kit For Lucas Cells.	A205410
1	Model VFB-65 flowmeter (0.2 to 4.0 lpm).	6202009
1	3150A Radon Field Check Source to align AB-5 at optimum operating point.	A203552
1	RN-150 Source to calibrate cells.	6202054 OR 6202055



5.0 CONTINUOUS ACTIVE SUBPICOCURIES RADON DETECTING SYSTEM (EL OR TEL SYSTEM) (for radon levels as low as 0.02 or 0.005 pCi/l respectively)

5.1 Application

The detectors in this system are highly sensitive and are used to detect extremely low levels of radon gas. The system can be used for monitoring radon at radiation contamination and remediation sites, radon chambers, residential and commercial buildings, underground garages, and mines. The system can also be used for laboratory work with radon.

5.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
1	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
1	Model PMT External Photomultiplier Assembly.	A201680
	AND	
1	Accessory Kit For PMT-EL/TEL.	A203540
	AND	
1	Model TEL Trace Environmental Level Radon Detector (For radon levels as low as 0.005 pCi/l).	6202059 OR 6202060

5.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 printer.	A201225
1	Data Acquisition and Storage System DA-2005.	6250010
1	Model RNC Flow Through Radon Source for TEL.	A206324



6.0 AB-5 WORKING LEVEL MEASUREMENT

6.1 Application

These systems have high sensitivity and low susceptibility to plate out which allows the system to make grab sample measurements in low particulate level environments as well as normal particulate level environments. The Operator can use the data obtained to determine the working level.

6.2 AEP-47 Based System

6.2.1 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
1	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
1	AEP-47 Alpha Detector Assembly (For very accurate continuous or quasi-grab working level measurements).	A202041
	AND	
1	Model VFA-22 flowmeter (0.15 to 1.0 lpm).	6202008
	AND/OR	
1	Model VFB-65 flowmeter (0.2 to 4.0 lpm).	6202009

6.2.2 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 printer.	A201225
1	Data Acquisition and Storage System DA-2005.	6250010
1	47 mm, 0.8 um pore membrane filters.	6245001
1	RN-190-47-4000 dpm/cm ² .	A202047
	AND/OR	
1	TH-190-47-4000 dpm/cm ² .	A202045
	AND/OR	
1	Americium Planchette Source.	1121063



6.3 Model 503 with VFP-10 or VFP-20 Pump Based System

6.3.1 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	AB-5 Radiation Monitor.	6202049
	OR	
1	AB-5R Ruggedized AB-5 Monitor.	6243100
	AND	
1	Model 503 Sample Holder C/W Scintillation Disks (For fast and accurate high flow Grab Working Level measurements).	6200035
	AND	
1	High Volume Vacuum Pump VFP-10 (For 110V Applications).	A201317
	OR	
1	High Volume Vacuum Pump VFP-20 (For 220V Applications).	A201317

6.3.2 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	PPT-1 printer.	A201225
1	Data Acquisition and Storage System DA-2005.	6250010
1	47 mm, 0.8 um pore membrane filters.	6245001
1	RN-190-47-4000 dpm/cm ² .	A202047
	AND/OR	
1	TH-190-47-4000 dpm/cm ² .	A202045
	AND/OR	
1	Americium Planchette Source.	1121063



7.0 MODEL WL_x WORKING LEVEL MEASUREMENT SYSTEM

7.1 Application

The energy discrimination feature of this system allows continuous monitoring of the working level. The system measures and controls all the necessary parameters and automatically calculates the working level.

7.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	Model WL _x System.	6204610

7.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	25 mm, 0.8 um pore membrane filters.	6245003
1	RN-190-47-4000 dpm/cm ² .	A202047
	AND/OR	
1	TH-190-47-4000 dpm/cm ² .	A202045
	AND/OR	
1	Model WL _x -Am WL _x Check Source.	6204619



8.0 MODEL CRM-1 RADON LEVEL MEASUREMENT SYSTEM

8.1 Application

Pylon's new Model CRM-1 provides a solution for the unattended Continuous Monitoring and Measurement of Industrial Process Exhaust Gas which are suspected to contain radioactive materials.

Housed in a rugged, weather resistant, stainless steel chassis, the Model CRM-1 is well suited for use in industrial environments. Applications include, but are not limited to, process monitoring, radioactive site clean up, petrochemical applications and more.

8.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	Model CRM-1 System.	6243300

8.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	CRM Heater Option for extended low temperature operation (Factory Installed).	6243650
1	4 - 20 mA Current Loop Communications Port (Factory Installed).	6243360
1	External Visible and Audible Alarm Kit.	6243640
1	Model 200A Cell.	6243330
1	4250A Radon Field Check Source to align CRM-1 at optimum operating point.	6209710



9.0 MODEL CRM-2 RADON LEVEL MEASUREMENT SYSTEM

9.1 Application

Area monitoring and measurement of Radiation levels in both indoor and outdoor work areas has always been an issue of concern for both the Employer and the Workers who work in potentially radioactive sites.

Housed in a rugged, weather resistant, stainless steel chassis the Model CRM-2 is ideally suited to many applications including, but not limited to: Area Monitoring , Mine Area Monitoring and Radioactive Site Clean Up. An optional visible beacon and audible alarm system will activate once a user defined Radon level set-point is exceeded.

9.2 Recommended Equipment

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	Model CRM-2 System.	6243400

9.3 Optional Equipment, Accessories, Spares

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>
1	CRM Heater Option for extended low temperature operation (Factory Installed).	6243650
1	4 - 20 mA Current Loop Communications Port (Factory Installed).	6243360
1	External Visible and Audible Alarm Kit	6243640
1	Model 200P Cell.	6243350
1	4250A Radon Field Check Source to align CRM-2 at optimum operating point.	6209710



NOTES ON POSSIBLE APPLICATIONS FOR PYLON SYSTEMS

Please note that the AB-5 (and AB-5R) is a very versatile monitor that can perform a wide variety of measurements using the vast selection of available detectors and probes. The measurement taken depends only on the detector or probe selected by the Operator. This flexibility provides the Operator with a cost effective solution by allowing for the purchase of only 1 AB-5 (or AB-5R) monitor which, when used with the appropriate detectors and probes, can perform any specified measurement.



SUPPLEMENTARY INFORMATION

1.0 WLx SYSTEM

The WLx is a newer generation instrument. The WLx is a complete Working Level Measurement System. The WLx System uses internationally proven and recognised alpha particle detection technology.

The alpha detector is a high quality silicon, solid state particle detector. The rugged solid state detector allows identification of the energy of the alpha particles being detected which permits spectroscopic analysis of the Total Potential Alpha Energy in units of Working Levels (WL). It automatically measures and calculates Rn WL, Th WL, as well as the atomic concentrations of all Rn and Th progenies. In addition, it calculates the relative uncertainty of all the above results.

The WLx is provided with over 30 different methods of analysis. These methods are based on internationally accepted scientific methods from authorities including Dr. Thomas, Dr. Tsivoglou, Dr. Kusnetz, Dr. Bigu, Dr. Rolle. The WLx and its pre-programmed methods have been tested at the Environmental Measurement Laboratory in New York (US DOE Laboratory) and at Canmet RTTF, Elliot Lake, Ontario, Canada (Radon/Thoron Testing Facility), Natural Resources Canada Ministry. The end-user may modify any of the methods provided.

The WLx System is used by many Governmental Agencies including the U.S. Department of the Interior, Bureau of Mines, Denver Research Center in Colorado USA; the International Atomic Energy Agency in Vienna, Austria; and by many of the US Department of Energy facilities.

Each new WLx unit is factory calibrated for Radon Working Level measurements prior to delivery. A Thoron Working Level calibration is also available at an extra cost.



2.0 AB-5/AB-5R SYSTEM

The AB-5/AB-5R uses internationally proven and recognised photomultiplier (PMT) technology which detects photons given off by the various detection materials. The alpha detection material used is Silver Activated Zinc Sulfide. The beta and gamma detection materials used are BC-400 plastic scintillator and Sodium Iodine crystals, respectively.

The AB-5/AB-5R when equipped with the appropriate accessories can then be used to monitor Radon (Rn) gas, Thoron (Th) gas, Rn WL, Th WL, Rn in water or in soil. The AB-5/AB-5R systems can analyze very high concentrations of radon (e.g., 3.7×10^8 kBq/m³ / 10,000,000 pCi/l) and trace levels as low as 0.18 Bq/m³ (0.005 pCi/l). In addition, the system offers an excellent linearity over a wide range of activity levels. The AB-5/AB-5R systems, when equipped with the appropriate accessories can also be used for Contamination Monitoring with Surface Probes or for Wipe Tests Counting.

The AB-5/AB-5R system is simply unparalleled and has no equal in the world. Pylon's AB-5 and accessories are used by Governments and Industrial users in virtually every industrialised country of the world.

The optimum operating point is determined for each new AB-5/AB-5R unit prior to delivery.

3.0 WLx/AB-5

The capabilities of the WLx can be expanded by connecting the pulse output of the AB-5/AB-5R to the pulse input of the WLx. This allows the WLx to also report additional information like Rn gas concentrations and secular equilibrium factor to form a complete radon gas and Radon/Thoron progeny counting system.

The WLx performs all the calculations and there is practically no set-up.