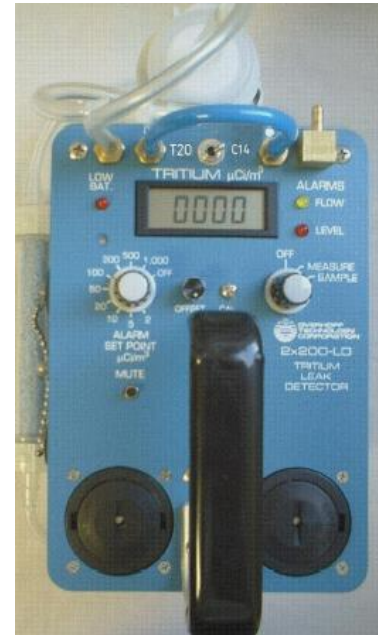


Tritium – C-14 Survey Meter

Model - TriCair A, B, Select

FEATURES:

- C-14 and T₂O MODES - TWO CHANNEL MEASUREMENT, SWITCH SELECTABLE
- HIGH SENSITIVITY – TO 5 μ Ci/m³ (0.5 DAC) H-3
- FAST RESPONSE – 15 SECOND TIME CONSTANT
- RESPONSE TO RADON – SUPPRESSION CIRCUIT ENSURES NOISE FREE OPERATION
- NO ZERO DRIFT – BETTER THAN 1 μ Ci/m³
- RAPID WARM UP – LESS THAN 30 SECONDS
- BATTERY POWER
- PORTABLE / DIGITAL READ OUT



APPLICATION:

The required radiological protection for Tritium compounds is different than that for Carbon-14. The presence of Tritium in the working environment may be an indication of a leak in the containment. Knowing this, the user of the TriCair **A, B, Select** can rapidly locate the point of release and more efficiently secure the source of leak.

DESCRIPTION:

The TriCair **A, B, Select** can be configured as “sniffer” to provide real-time indication of C-14 And T₂O concentrations allows the user to quickly Identify airborne presence of these 2 low energy Beta emitters. The TriCair **A, B, Select** Tritium and C-14 Detector has the unique ability to monitor for Tritium compounds and airborne C-14 in real time while providing gamma compensation. The two measurement channels, ¹⁴CO₂ and ³H appear on a single digital display.

SENSITIVITY:

The sensitivity of the TriCair **A, B, Select** is better than 5 μ Ci/m³ (0.5 DAC) for T₂O. The sensitivity to C-14 is better than 6 μ Ci/m³.

RADON INTERFERENCE, NOISE RESPONSE:

Unambiguous measurement of very low Tritium and C-14 levels requires a monitor that can ignore ambient Radon. The TriCair **A, B, Select** incorporates a Radon suppression circuit and therefore produces accurate and drift-free readings.

FAST RESPONSE:

Exceptionally rapid response is due to its unique ability to ignore Radon. The instrument has an electronic time constant of only 10 seconds, a pneumatic time constant of about 12 seconds, for an overall time constant of only 15 seconds. Meter readings will reach 90% of final value with 30 seconds to a step response of aspirated Tritium or C-14.



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

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Tritium – C-14 Survey Meter

Model - TriCair A, B, Select

FAST WARM UP, NO ZERO DRIFT:

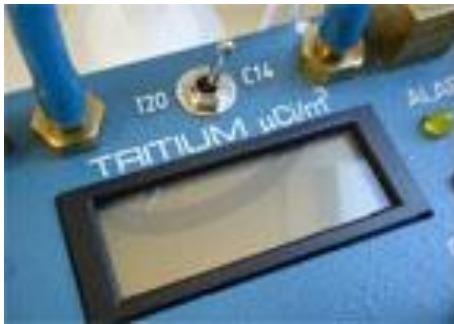
After applying power, the initial transient “warm up” drift effects take less than a minute. Long term drifts have been eliminated and manual zero adjustments are no longer required.

DESICCANT COLUMN:

A desiccant column prevents the Tritium oxide from entering the C-14 Ion chamber. The indicator type desiccant changes color from blue to pink when it is exhausted. Regeneration will restore the drying capacity.

GAMMA COMPENSATION:

The instrument has active gamma compensation with 2x2 ionization chamber geometry.



C-14 – T₂O Switch



Desiccant Cartridge

Model	Tritium	Inorganic Carbon-14	Organic Carbon-14
TriCair-A	T ₂ O	¹⁴ CO ₂	N/A
TriCair-B	T ₂ O	N/A	Organic C-14
TriCair-Select	T ₂ O	¹⁴ CO ₂	C-14 – is user selectable Organic C-14



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Tritium – C-14 Survey Meter

Model - TriCair A, B, Select

SPECIFICATIONS:

TRITIUM RANGE:	1.0 to 1999.9 $\mu\text{Ci}/\text{m}^3$, basic sensitivity of the order of 5 $\mu\text{Ci}/\text{m}^3$
CARBON-14 RANGE:	1.0 to 1999.9 $\mu\text{Ci}/\text{m}^3$, basic sensitivity of the order of 1.0 $\mu\text{Ci}/\text{m}^3$
DISPLAY:	0-19.999 digits, LCD panel meter
H-3 & C-14 MODES:	Two channel measurement, switch selectable
ACCURACY:	$\pm 10\%$ of reading, $\pm 2 \mu\text{Ci}/\text{m}^3$, whichever is greater
ZERO STABILITY:	$\pm 2 \mu\text{Ci}/\text{m}^3$ long term
NOISE:	$\pm 2 \mu\text{Ci}/\text{m}^3$, with 10 second time constant
GAMMA COMPENSATION:	Chamber pair mounted side by side reduces errors due to external Gamma radiation.
ALPHA PULSE SUPPRESSION:	Circuit provides recognition and cancellation of airborne Radon noise spikes 30 seconds to reach 90% of final reading
RESPONSE RATE ALARM:	<u>Acoustic:</u> 1. Ten position stepped attenuator set point for signal alarm: 2-1000 $\mu\text{Ci}/\text{m}^3$, steady tone. Off position included. 2. Low flow, intermittent tone. 3. Mute switch
ALARM:	Visual LED: Signal level: Red; Low Flow: Yellow; Low battery: Flashing Red
EXTERNAL CONNECTIONS:	Mini DIN plug for output signals and alarms
WARM-UP TIME:	Less than 5 minutes for high voltage power supplies to stabilize
ALARM SYSTEM:	Single alarm, with set point adjustable from 1 to 1000 $\mu\text{Ci}/\text{m}^3$
ION CHAMBER VOLUME:	Effective: 200 m^3 ; Port to Port: 660 cm^3
ENVIRONMENTAL:	Operating: 0° C to 50° C (32° F to 122° F) Humidity: 0-95% RH non-condensing
PHYSICAL CABINET:	19" Rack mount, aluminum extrusions front and rear panels
POWER:	115 VAC or 240 VAC 50/60 Hz
DIMENSIONS:	8.8" (223mm) H x 19.0" (483mm) W x 16.0" (406mm) D
WEIGHT:	40 lbs (18.2 kg)
FLOWMETER:	Nominally 1.5 - 2 lpm
PUMP:	Internal rotary vane pump.
FILTER:	HEPA in-line disposable cartridge
BATTERIES:	2 "D" NiMH. External jack for supplementary power input & charging
POWER CONVERTER:	100 - 240 VAC 50/60 Hz. 25A TO 3.3 Vdc @ 1.2 A 5.5 m O.D. x 2.1 mm I.D. Plug, center pin is positive
WEIGHT:	6.5 lbs (3.4kg)



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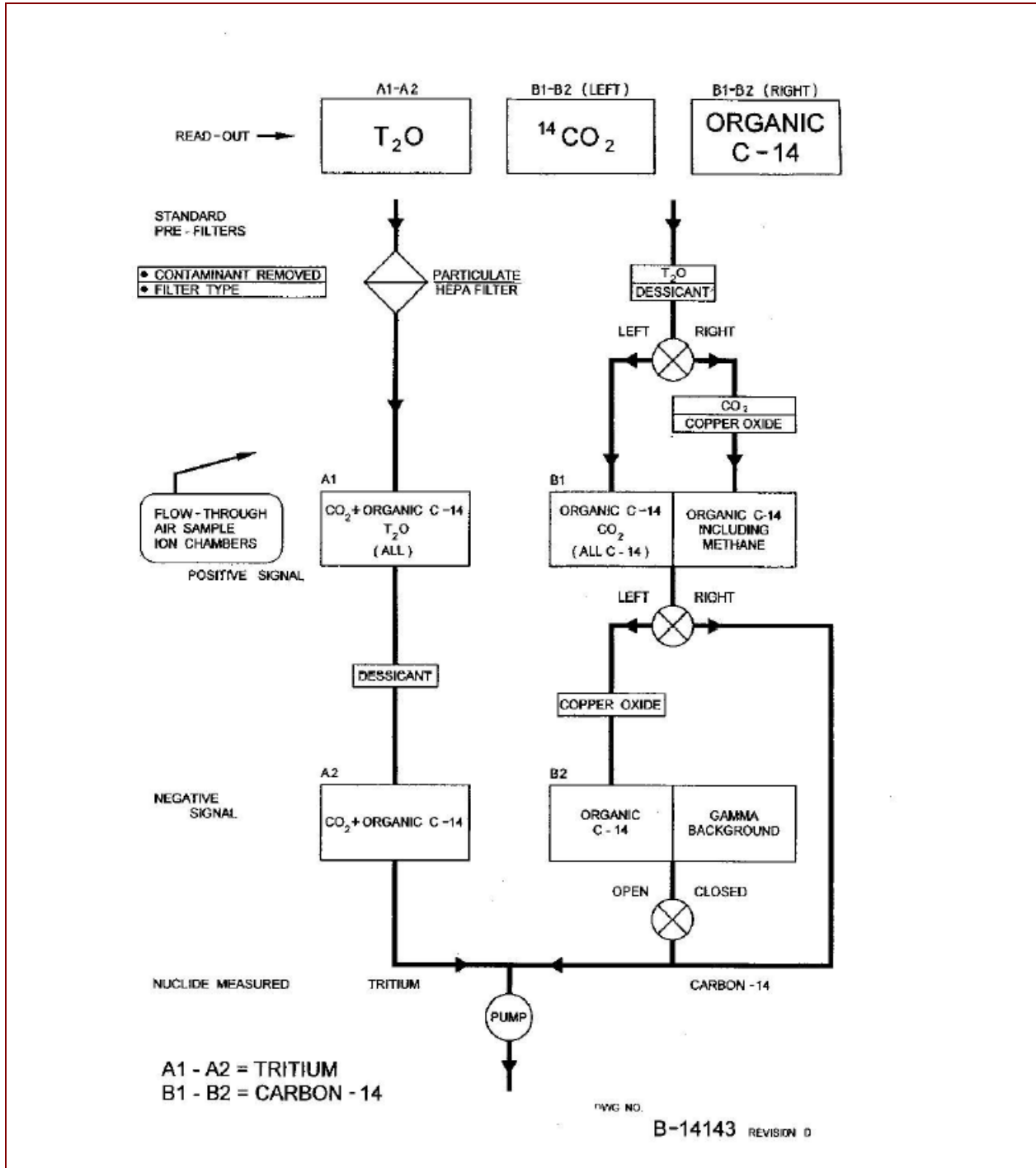
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Tritium – C-14 Survey Meter

Model - TriCair A, B, Select

DIMENSIONS: 7.6" (193mm) L x 5.2" (132mm) W x 6.9" (175mm) D excluding handle

DESSICANT COLUMN: Clear polycarbonate cartridge



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