LIQ-X- (H3) Series ~ Low to High Level Models ~ LIQ-X- (H3) LO ~ LIQ-X- (H3) M ~ LIQ-X- (H3) HI

FEATURES:

- ON-BOARD COMPUTER
- REAL TIME AUTOMATIC
- CONTINUOUS MONITORING
- NOT INFLUENCED BY OTHER NUCLIDES
- NO LIQUID SCINTILLANT REQUIRED
- EASY CALIBRATION
- SENSITIVE TO 20 μCi/l TRITIUM OR UP TO 30 Ci/l OR MORE
- NEW STATISTICAL SIGNIFICANCE DISPLAY
- DATA ARCHIVE & DATA RETRIEVAL
- USB / ETHERNET PORTS
- BENCH TOP OR OPTIONAL: CART MOUNT
- OPTIONAL: REMOTE READ OUT
- IP32 ELECTRONICS
- IP66 DETECTOR



COMPLIES WITH RELEVANT SECTIONS OF ANSI 42.17A & N42.18





- MONITOR HEAVY WATER LEAKS IN CANDU TYPE REACTORS
- MONITOR LABORATORY OR PLANT LIQUID WASTE STREAM.
- THORIUM REACTOR RESEARCH
- FUSION REACTOR RESEARCH

DESCRIPTION:

This system consists of a small light tight detector assembly which is interfaced with the sample via male 1/4' pipe fittings with the readout and processor assembly via two BNC connectors.

The sample is passed through an optional filter holder with filter elements and thence to the detector assembly, where it is viewed by a matched pair of photo multiplier tubes.

The table top or rack mounted processor and display portion of this system conditions and analyzes the output from the photo multiplier tubes by pulse height and coincidence, thereby permitting the system to eliminate counting most background (noise) counts.

LIQ-X (H3) includes unique statistical Significance Display.

- This function rates strength of the data preventing most false positives or negatives:
 - Significance: HIGH, LOW, or NOT SIGNIFICANT.



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LOW END SENSITIVITIES				
LIQ-X-H3-LO - LOW Activity Mode	LIQ-X-H3-M - MID Activity Mode	LIQ-X-H3-HI - HIGH Activity Mode		
30 μCi/l in 2 minutes	5 mCi/l in 2 seconds			
20 μCi/l in 30 minutes	1 mCi/l in 10 seconds			
10 µCi/l in 2 hours	0.2 mCi/l in 2 minutes			
Display update every 2 minutes	Display update every 1 to 3 seconds			
RANGE	RANGE	RANGE		
10 μCi/l – 500 μCi/l	0.2 mCi/l – 10 mCi/l	10 mCi/l – 3 Ci/l		
		100 mCi/l – 30 Ci/l		

FOR LOW LEVEL TRITIUM MONITORING PLEASE SEE MODEL ~ NEX-TRITIUM

SPECIFICATIONS:			
Display Update:	User Adjustable		NEX-TRITIUM LOW Activity
Tritium Sensitivity:	See chart above		2.0 uCi/l in 2 minutes
Range: FLOW RATE:	OPTIONAL : Other ranges higher or lower.		0.5 µCi/l in 20 minutes
Minimum:	1 ml/min		0.2 μCi/l in 3 hours
Maximum:-	100 ml/min Standard: < 90°F (liquid); OPTIONAL - to 115° Detector: < 90°F OPTIONAL - to 115°F Readout: < 115°F		0.1 µCi/l in 48 hours
Sample Temperature:			0.02 µCi/l in 7 days
Ambient Temperature:			
Lead Shielding:	OPTIONAL 1" thick or 2" thick		Display update every 2 minutes
DIMENSIONS:	Detector: Electronics:	4'' Dia x 19" Long 10" H x 16" L x 19" W	
WEIGHT (Standard Unit):	Detector Housing: Electronics Housing:	20 lbs. 40 lbs.	
Shipping Weight:	90 lbs.		
1" Shielding:	65 lbs.		
Display:	5" color monitor		

2 minutes



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OPTIONS:

• Enhanced LIQ-X (H3)

➢ 4 Decades

- 10⁻³ Ci/l to 10 Ci/l
- Remote readout via Ethernet
- Network reporting & communication via the ORO overdrive software.
- Cart Mounted
- Filter holder
- Filter elements

TRITIUM IN WATER ~ COMPARISON MODELS

TRITIUM IN WATER AND LIQUID MONITORS				
MODEL and TYPE		LEVEL		
INDUSTRIAL LE				
LIQ-X (H3) HI-	FRESH WATER	HI LEVELS		
LIQ-X (H3) MID-	FRESH WATER	MID TO HIGH		
LIQ-X (H3) LO-	FRESH WATER	LOW TO MID		
HIGH ENVIRONMENT				
NEXTRITIUM-H2O -	FRESH WATER	LOW		
NEXTRITIUM-SEA -	SEA WATER	LOW		
NEXTRITIUM ENHANCED - FRESH WATER		VERY LOW		
WITH TEMP CONTROL + COC				
TRIMARAN-H20 -	FRESH WATER	EXCEPTIONALLY LOW		
	054 144 755			
I RIMARAN-SEA -	SEA WATER	EXCEPTIONALLY LOW		
WITH PRE-FILTER ETC				



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IF YOU HAVE TRITIUM IN WATER & OIL MIXTURES: WE RECOMMEND THIS STRATEGY FOR MEASUREMENT OF TRITIUM

STRATEGY

Tritium is radioactive hydrogen, and hydrogen atoms regularly jump or exchange between different adjacent molecules.

In a mixture of normal water mixed with tritiated oil, both components will, over time, share the Tritium equally.

In LIQUID Samples, this allows a separation strategy, in which we,

- 1. Pull a sample from the mixture
- 2. Run this sample through a oil-water separator
- 3. Collect the relatively clean water
- 4. Pull this water into the SSS-33M81 tritium measurement flow cell
- 5. Get a good reading
- 6. Without contaminating or degrading the cell

In **GASEOUS** Samples, the same principles apply.

- 1. A vapor separation system is utilized.
- 2. A <u>PTG-9</u> Tritium Measurement Ion Chamber is used to make the measurements.

PLEASE CONTACT US WITH INFORMATION ON YOUR SITUATION. WE WILL ADVISE &/OR QUOTE ON A SUITABLE SYSTEM TO OBTAIN YOUR OBJECTIVE.



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LIQ-X SYSTEM





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