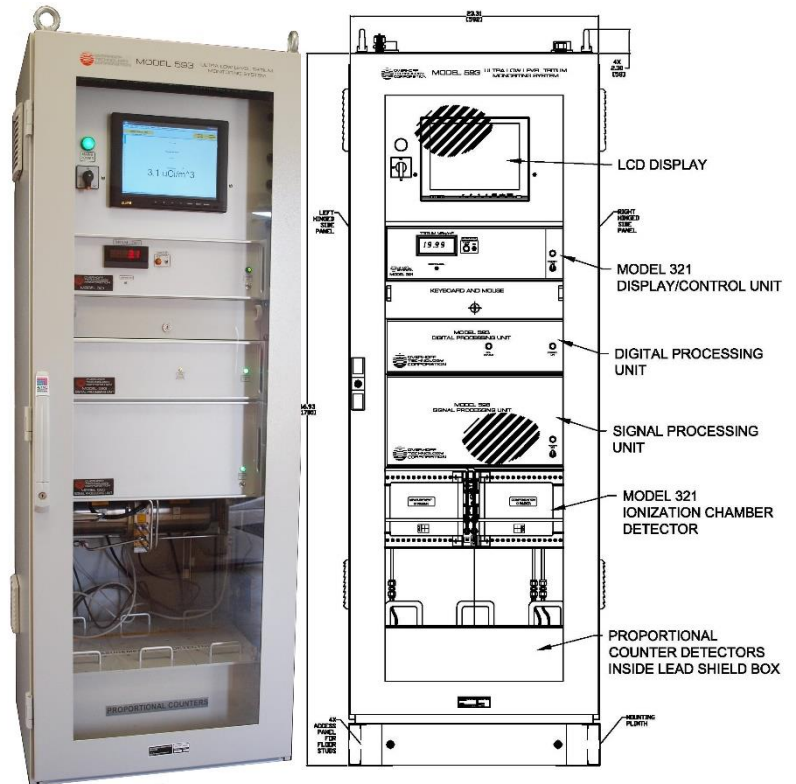


# ULTRA-SENSITIVE TRITIUM IN WATER MONITOR

Model – 1925-PR & Model – 1925-PR-SEA

## FEATURES:

- HIGH SENSITIVITY – 18,000 pCi/L IN 24 HOURS
- DETECTS TRITIUM IN WATER BELOW EPA DRINKING WATER STANDARD OF 20,000 pCi/L
- FULLY AUTOMATED, REAL-TIME AND CONTINUOUS OPERATION
- INCLUDES HYDROGEN SEPARATOR TO SEPARATE HYDROGEN (TRITIUM) FROM WATER
- TRITIUM IS DETECTED BY HIGHLY-SENSITIVE DUAL PROPORTIONAL COUNTERS
- NO WASTE GENERATED
- REQUIRES P-10 GAS
- INTEGRATED COMPUTER WITH CUSTOM SOFTWARE AND LARGE LCD DISPLAY
- MODEL 1925-PR-SEA INCLUDES SAMPLE PREPARATION AND ROBUST PLUMBING TO WITHSTAND SALT WATER.



## APPLICATION:

An ultra-sensitive, fully-automated and real-time instrument used to monitor Tritium in water below the EPA drinking water standard of 20,000 pCi/L.

## DESCRIPTION:

Detecting Tritium in water at low levels on a real-time, continuous basis is extremely difficult considering Tritium's weak Beta emissions and shielding from the water itself.

**SOLUTION:** The 1925-PR includes a hydrogen separator to separate hydrogen (Tritium) from the water. With this separation hydrogen gas can then be measured by highly, sensitive, shielded dual proportional counters.

An optional ionization chamber detector is offered to extend the measurement range (high-end range) and to provide a quicker response time at higher Tritium levels.

## SENSITIVITY:

Sensitivity is to 18,000 pCi/L in 24 hours.

## FULLY-AUTOMATED, REAL-TIME OPERATION:

Exceptionally rapid response is due to its unique ability to ignore Radon. The instrument has an electronic time constant.

## NO WASTE GENERATED:

No liquid scintillant is required and no mixed waste is generated. The proportional counting detectors only require a tank of P-10 gas for operation.



**TECHNICAL ASSOCIATES  
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**OTCQB-UCLE**

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Model – 1925-PR & Model – 1925-PR-SEA

## SPECIFICATIONS:

### DETECTION:

RANGE	4.5 Decades (Proportional Detectors only), or 6.5 Decades with Ionization Detector
SENSITIVITY	18,000 pCi/L in 24 hours
DISPLAY	10" Color Touch-Screen LCD
MEASUREMENT, INTERFACE OUTPUTS	i) 0 - 10 V, linear ii) Ethernet
PROPORTIONAL COUNTERS	Balanced pair of copper clad acrylic counter tubes, 1.5 liters total volume each, surrounded by 1" of lead shielding
IONIZATION CHAMBER	Dual 2L ionization chambers on one axis with sample flow through both for differential tritium measurement

### ELECTRONICS:

ALARMS, MALFUNCTION	i) instrument air low flow ii) P-10 gas low iii) chamber or power supply malfunction iv) oxidizer temperature v) low sample flow
ALERT CONDITIONS	Background high level, tritium loss of signal, background loss of signal, tritium low counts, and background low counts
ALARM CONDITIONS	i) Tritium alert level ii) Tritium high level
ALARM INTERFACE	i) fail safe relay closures ii) Ethernet

### PNEUMATIC SYSTEM:

HYDROGEN SEPARATOR	Separates inlet water into hydrogen (containing tritium) and oxygen; O <sub>2</sub> is mixed, diluted, and exhausted safely.
COUNTER GAS	P - 10 (90% Argon, 10% Methane) Supply pressure: 10-14 PSIG (69-97 KPa) Usage: 400cc per minute @ atmospheric pressure
SAMPLE FLOW SYSTEM	Brushless Dual Bearing Diaphragm Pump, flow rate 5 lpm typical
FLOW METER	P-10 Gas Flow & Instrument Air Flow Adjustable 0-500 cc/min, Manual set-point 400cc/min
MASS FLOW METER	Sample Flow, range 0-250 cc/min, electronically controlled set-point 200cc/min

### WEIGHT & DIMENSIONS:

DIMENSIONS	70.9" [1800mm] High x 23.3" [600mm] Wide x 23.3" [600mm] Deep floor mounted painted steel enclosure with polycarbonate window door and key locking latch on door. Rear hinged door and hinged side panels. IP-54, NEMA 13 Rated
WEIGHT	630 lbs (286 kg)
POWER	115/230V 50/60 Hz, 100 W max.
ENVIRONMENTAL	5° C to 40° C humidity 0 - 95 % R.H.



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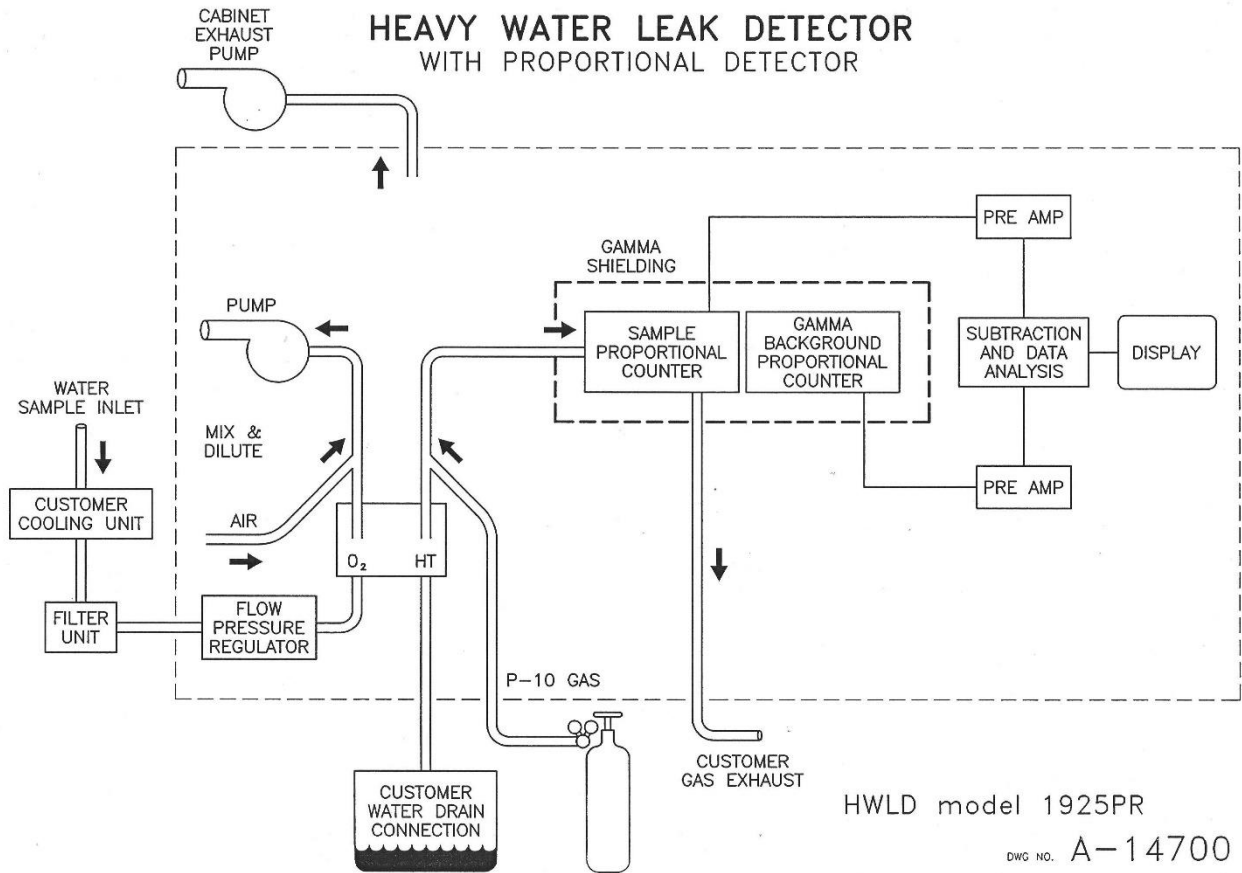
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Model – 1925-PR & Model – 1925-PR-SEA



Model 1925-PR Flow Path



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