

MIL-WATER SAFETY TEST SYSTEM ULTRA LOW RANGE

Model ~ SSS-22LRX

Meets New Requirements for Military Drinking Water
TB MED 577/ NAVMED P-5010/AFMAN 48-138_IP May 2010

FEATURES:

- MEETS EPA DRINKING WATER LEVELS FOR MANY ISOTOPES
- MEASURES ALL BETA EMMITTERS & LOW ENERGY GAMMA AND ALPHA EMITTERS
- The SSS-2LRX MEASURES TO:
 - 1000 pCi/l in 1 hour
 - 500 pCi/l in 3 hours
 - 200 pCi/l in 6 hours
- NEW STATISTICAL SIGNIFICANCE DISPLAY
- DUAL PM TUBE DESIGN
- WINDOW IS SETTABLE FOR ANY ISOTOPE ENERGY
- DATA ANALYSIS, ARCHIVE & RETRIEVAL
- USB PORT
- TRITIUM BELOW 10,000pCi/l
- PORTABLE
- AC / BATTERY WITH BUILT IN CHARGER
- IP65



**SSS-22LRX
Detector**



**PRS-7 Electronics
Bench Top**



**FM-9W Electronics
Wall Mount**

GAMMA BACKGROUND RADIATION REJECTION FEATURES:

COUNTING ASSEMBLY:

- Pulse rejection: excellent repeatability with energies outside adjustable energy analyzer window setting
- Fully light tight system
- Optional Lead shielding around detector

BUILT-IN COMPUTER:

- Data analysis, archive & retrieval & download
- Fail safe interlock to protect PM tubes
- Long counts for low level measurements
- Statistical significance display
- High transmission optical coupling to PM tubes

PM TUBE & PRE-AMP NOISE ELIMINATION:

- High quality PM tubes and preamps
- 3 Cell Cassette system for faster thru-put & easy comparison to calibration sample or to background
- Less wait time for phosphor



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

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Model ~ SSS-22LRX

DESCRIPTION

The **SSS-22LRX** Manual Liquid Scintillation Counting System accurately quantitatively measures Carbon-14, Tritium and most other radioactive materials.

Measures low levels of Tritium even below 20,000 pCi/l, which are Clean Drinking Water Levels.

Measuring Principal:

- The most sensitive method of detecting and quantitating Beta emitting isotopes is to intimately mix the sample with liquid scintillation fluor and count each individual scintillation event with a photomultiplier counter.
- An energy analyzer further selects the pulses and delivers the true signal.
- USB port for PC interface.
- Optional Hard copy printer.
- Detection cell optically coupled to selected photomultiplier tube.
- 3 Cell Cassette system for faster thru-put and easy sample comparison to calibration standard or to background.

DATA ANALYSIS AND PRESENTATION

Scintillation counts which are detected by PM tubes are processed by a fully adjustable single channel analyzer which is centered on the energy peak of the isotope being measured.

This deletes both higher energy pulses from background radiation and lower energy counts from the PM tube or circuit noise.

The pulses are then fed to a digital scaler and optional digital printer. (Thus allowing long count times for measurement of very minute samples as well as completely eliminating artifacts caused by ratemeter time constants.)

USB interface to most scientific or personal computers or data stations.

SPECIFICATIONS:

Count Times:	1 sec. thru 100,000 sec (approx. 30 hrs)
Voltage:	0-2000 Volts - fully user settable.
Readout:	Digital - 6 digit LCD,
Outputs:	USB Port
Power:	AC/Battery; High capacity battery and built-in charger
Optional:	Printer

TRITIUM SENSITIVITY

It is important to see down to the 500 to 1000pCi/l range.

Nuclear Power Plant ground water is typically in the 200 to 500pCi/l range.

We recommend our most advanced, top of the line LSC counter the SSS-LRX

The SSS-2LRX will measure down to

- 1000 pCi/l in 1 hour
- 500 pCi/l in 3 hours
- 200 pCi/l in 6 hours



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SPECIFICATIONS:

MODEL SUB-ASSEMBLY	SSS-22LRX ELECTRONICS	SSS-22LR ELECTRONICS	SSS-22LR DETECTORS
MODEL	FM-9W	PRS-7	DT-S-22LR
Dimensions:	10" L X 16" W X 18" H	9" L X 4" W X 6" H	26" L X 26" W X 6" H
Weight:	4 Kg (8lbs) w/bat	3 Kg (7lbs) w/bat	6.8 Kg (15 lbs)
Shipping Weight:	5 Kg	4 Kg	7.5 Kg
# of PM Tubes:	2	2	2
# of Amplifiers:	2	2	2
Coincidence Counting	Yes	Yes	Yes
Recommended:			Ultra Low level H-3, C-14, S-35
Capacity:	3 Samples	3 Samples	3 Samples

Sample Size: Accepts standard Liquid Scintillation cassettes 250 ml each cell.

Scintillation Fluors: Accepts most scintillation fluors. Perkin-Elmer Ultima Gold-LLT is recommended for H-3 counting

OPTIONS:

- Data logging software, Model # ORO-22P comes with data acquisition cable
- Set of 2 calibrated liquid standards, C-14 and H-3. User must mix TA solutions with liquid scintillant



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