FACILITY DRINKING WATER SAFETY MONITOR

Model Series - NEX-BETA-ABG SERIES
NEX-BETA-ABG ~ NEX-BETA-ABG-9 ~ NEX-BETA-ABG-9TT

PROTECT VULNERABLE – HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

FEATURES:

- DETECTS ALPHA, BETA AND GAMMA RADIATION
- NEX-BETA-ABG-9TT – TEST & TREAT
  - BIOLOGICAL SENSORS -
  - OXIDATION REDUCTION POTENTIAL (ORP)
  - TOTAL ORGANIC CARBON (TOC)
  - TREATMENT OF ISOTOPES & BIOLOGICAL CONTAMINATION
- ON-BOARD COMPUTER - NEX-BETA-ABG-9 & NEX-BETA-ABG-9TT
- NEX-BETA-ABG SERIES
  - PORTABLE OR INSTALLED
  - REAL TIME CONTINUOUS WATER MONITOR
  - HIGH SENSITIVITY
  - NO REAGENT TANKS TO FILL; NO WASTE STREAM
  - EASY CALIBRATION
  - PREVENT ACUTE HEALTH EFFECTS; REDUCE RISK OF CHRONIC EXPOSURE
  - MEASURES AT OR BELOW EPA/DHS PAG LEVELS

Protective Action Guideline Levels and Military Drinking Water Limits

NOTE:

- TA MAKES THE WORLD’S ONLY PAG-LEVEL WATER MONITORS
- ALSO DETECTS SOME ISOTOPES DOWN TO LOWEST EPA LEVELS

APPLICATION:

Install Nex-Beta-ABG series monitors on your water inlet pipe to automatically and continuously monitor drinking water 24/7 for any radioactive contamination. The NEX-BETA-ABG-9TT monitors & treats radionuclide & biological contamination.

Facilities with multiple water inlets may wish to install multiple Nex-Beta-ABG

Specifically designed to protect populations vulnerable to contaminants, such as in hospitals, schools, and government facilities. Very few cities or water wholesalers monitor water continuously for radiation.

ALTERNATIVE USES:

- Monitor Liquid-Waste-Stream from plant or laboratory to maintain regulatory compliance.
- If water source is river or reservoir the particulate pre-filter with its own RAD Detector is recommended.

TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY
7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)
tagold@nwc.net WWW.TECH-ASSOCIATES.COM

TICKER UCLE
FACILITY
DRINKING WATER SAFETY MONITOR

Model Series - NEX-BETA-ABG SERIES
NEX-BETA-ABG ~ NEX-BETA-ABG-9 ~ NEX-BETA-ABG-9TT

PROTECT VULNERABLE –
HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

PROBLEM:
Drinking water sources are vulnerable to accidental or knowing contamination by individuals, groups, industry, medical labs, terrorists, and from naturally occurring radioactive materials (NORM). As yet very few water districts have real-time radiation monitors in place to protect the water and the public.

SOLUTION:
- For the first time in a Continuous Real Time monitor the Nex-Beta-ABG series solves this problem by continuously monitoring water using ultra-sensitive, radiation detectors.
- The information from these detectors is analyzed and displayed in units of picoCuries per liter.
- Monitors drinking water against most radioactive contaminants except H-3, C-14, S-35, Fe-55.

Nex-Beta-ABG-9 & Nex-Beta-ABG-9TT:
- The count times are user settable. Calculations are automatically updated every 2 minutes, every hour and every day. Measurements of radiation concentration are logged 24 hr/day, 7 day/week in. The longer update times correspond with greater precision and increased sensitivity.
- Sensitivities in the daily updates meet or exceed the DHS PAG (Protective Action Guideline Levels) for drinking water.
- The Nex-Beta-ABG-9TT system is a Test & Treat system removing biological contaminations and reducing radioisotopes.

DESCRIPTION:
Model NEX-BETA-ABG Series monitors are radiation detecting water monitor/controllers for measuring of Alpha, Beta & Gamma emitting radio nuclides. The electronics are microprocessor with LED/LCD display. The system is covered by TA’s full one year warranty. On-site service contracts available in many areas.

The Alpha, Beta flow cell & Gamma detector are easily changed via disconnect fittings. All connections are sealed against leaks. The standard water moving system is based on a high precision pump. It has a 10 liter per minute capacity. System can also be operated using city water pressure in which case no pump is required.

A wide range of pump capacities are available to meet users’ specific needs. The system detectors and electronics are ruggedly built. It comes complete with all cabling tubing and connectors in place and is ready to operate. 115 Volt 60Hz is standard; 220 Volt 50/60 Hz or battery operations are optional.

Detectors in this system:
1. **Alpha-Beta Detector**: Consists of a light-tight detector assembly which interfaces with the sample via quick disconnect coax cables and medical grade hoses. The sample is viewed by a matched pair of 5” diameter photo-multiplier tubes.
2. **Gamma Scintillation detector** has a sensitive 2” diameter crystal.
3. **BioSensor for the Nex-Beta-ABG-9TT**.

The Alpha-Beta pulse analysis portion of this system conditions and analyzes the output from the photo-multiplier tubes by pulse height, duration and coincidence; thereby permitting the system to exclude most background and noise counts. Sensitivity is enhanced by the use of stochastic resonance plus high gain, low noise PM tubes and pre-amps.
FACILITY
DRINKING WATER SAFETY MONITOR

Model Series - NEX-BETA-ABG SERIES
NEX-BETA-ABG ~ NEX-BETA-ABG-9 ~ NEX-BETA-ABG-9TT

PROTECT VULNERABLE –
HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

FLOW PATH ~~~ NEX-BETA-ABG & NEX-BETA-ABG-9:

- Water Inlet port
- Pressure Regulator
- Particulate Pre-Filter (with optional additional Gamma Detector)
- Ultra Violet Sterilizer (Optional)
- Mass Flow Meter (Optional)
- Flow chamber with alpha-beta and gamma detectors
- Tested water is clean and returns to the drinking water line.
  - No liquid scintillate or reagents are added
  - No toxic or radioactive waste of any kind.

FLOW PATH
FLOW PATH ~ NEX-BETA-ABG 9TT (Test & Treatment System)

- Water Inlet port
- Optional Particulate Pre-Filter
- Pressure Regulator
- Bio Sensor
- Valve to Direct Clean or Dirty Water
- Ultra Violet Sterilizer for Dirty Water
- Valve to Direct Clean or Dirty Water
- Flow chamber with Alpha Beta & Gamma Detectors
- Valve to Direct Clean or Dirty Water
- Filter & Ion Exchange for Dirty Water
- Mass Flow Meter
- Tested & Treated Water is Clean & Returns to the Water Line.
  - No liquid scintillate or reagents are added
  - No toxic or radioactive waste of any kind.

FLOW PATH
FACILITY
DRINKING WATER SAFETY MONITOR

Model Series - NEX-BETA-ABG SERIES
NEX-BETA-ABG ~ NEX-BETA-ABG-9 ~ NEX-BETA-ABG-9TT

PROTECT VULNERABLE –
HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

DATA:
- Analysis
- Display
- Data Stored
- Flash Drive
- Archive

NexBeta-ABG-9 & NexBeta-ABG-9TT:
- The concentration and total activity released and MDA levels are continuously calculated and recorded.
- On Board Data Storage
- USB / Ethernet Ports
- Data can be saved to the optional flash drive in spreadsheet format.

SPECIFICATIONS:
- Alarms: Each alarm activates a relay. Relay alarms are available to the user.
- Sample temperature: measurements are most accurate in range 40º to 85º F. Instrument is still operational up to higher temperatures
- Optional: Cooler model Cool-33 for detector & sample is used in case of higher sample or ambient temperatures.

DIMENSIONS, WEIGHT, SHIPPING INFORMATION

NEX-BETA-ABG Lam-10 Electronics: 7" W x 10" H - Weight: 8 lbs
(Electronics may be positioned separate from detector)

Dimensions NEX-BETA-ABG Assembly: 10" H x 10" D x 29" W - Weight: 37 lbs
(excluding optional shielding)

NEX-BETA-ABG-9 & NEX-BETA-ABG-9TT Electronics: 11" W x 11" W x 14" H - Weight: 12 lbs

Dimensions NEX-BETA-ABG-9 or NEX-BETA-ABG-9TT Assembly: 10" H x 10" D x 29" - Weight: 45 lbs
(excluding optional shielding)

NOTE: Optional thin Lead Sheet for shielding can be shipped with or shipped separately. Overseas customers may wish to buy the lead sheet locally.
# FACILITY DRINKING WATER SAFETY MONITOR

Model Series - NEX-BETA-ABG SERIES

NEX-BETA-ABG ~ NEX-BETA-ABG-9 ~ NEX-BETA-ABG-9TT

PROTECT VULNERABLE – HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

## TECHNICAL ASSOCIATES
Division of OVERHOFF TECHNOLOGY

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)
tagold@nwc.net  WWW.TECH-ASSOCIATES.COM  Ticker UCLE

<table>
<thead>
<tr>
<th>DETECT</th>
<th>PAG LEVEL</th>
<th>LOWER LIMIT of SENSITIVITY</th>
<th>TOP OF RANGE</th>
<th>SENSOR / METHOD USED</th>
<th>MAINTENANCE for finished water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>U-238</td>
<td>3,000 pCi/l</td>
<td></td>
<td>5&quot; dia. Dual PM Tube crushed scintillation bed of crystals</td>
<td>3--6 mo Replace particulate filter cartridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25,000 pCi/l</td>
<td>2 x 10^7 pCi/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,000 pCi/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beta</td>
<td>K-40</td>
<td>30,000 pCi/l</td>
<td></td>
<td>5&quot; dia. Dual PM Tube 1000 ml chamber</td>
<td>3--6 mo Replace particulate filter cartridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30,000 pCi/l</td>
<td>2 x 10^7 pCi/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10,000 pCi/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamma</td>
<td>Co-58</td>
<td>30,000 pCi/l</td>
<td></td>
<td>Standard: Single Channel Energy Analyzer Optional: Multi-Channel Analyzer</td>
<td>3--6 mo Simple MCA check</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20,000 pCi/l</td>
<td>2 x 10^7 pCi/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5,000 pCi/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPTIONS:</td>
<td>LOWER LIMIT</td>
<td>TOP OF RANGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DETECT</td>
<td>Tritium</td>
<td>20,000 pCi/l</td>
<td>1 x 10^6 pCi/l</td>
<td>Crushed scintillation bed of crystals</td>
<td>Replace ion exchange cartridge</td>
</tr>
<tr>
<td></td>
<td>Radon</td>
<td>100 pCi/liter</td>
<td>2000 pCi/liter</td>
<td></td>
<td>Clean or replace vapor trap</td>
</tr>
</tbody>
</table>

PRE-CONDITION

Expel Radon

Clean or replace vapor trap
## FACILITY

**DRINKING WATER SAFETY MONITOR**

Model Series - NEX-BETA-ABG SERIES

NEX-BETA-ABG ~ NEX-BETA-ABG-9 ~ NEX-BETA-ABG-9TT

PROTECT VULNERABLE –
HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

### FEATURES

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>NEX-BETA-ABG</th>
<th>NEX-BETA-ABG User’s PC</th>
<th>NEX-BETA-ABG-9 All-in-One</th>
<th>NEX-BETA-ABG-9TT All-in-One</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read–Out Units (Typical)</td>
<td>Bq/m³</td>
<td>Bq/m³</td>
<td>Bq/m³</td>
<td>BIO – ppm</td>
</tr>
<tr>
<td></td>
<td>pCi/l User Selectable</td>
<td>pCi/l User Selectable</td>
<td>pCi/l User Selectable</td>
<td>RAD - Bq/m³ or pCi/l User Selectable</td>
</tr>
<tr>
<td>Measures</td>
<td>Waterborne Concentration</td>
<td>Waterborne Concentration</td>
<td>Waterborne Concentration</td>
<td>Waterborne Concentration</td>
</tr>
<tr>
<td>Electronics</td>
<td>LAM-10 Ratemeter</td>
<td>User PC switches units, subtracts background data logging, electronic data transmissions</td>
<td>Calculations by embedded processor</td>
<td>Calculations by embedded processor</td>
</tr>
<tr>
<td>Software Functions</td>
<td>N/A</td>
<td>Optional WIN-W Data Logger Software for PC users</td>
<td>On board data logger</td>
<td>On board data logger</td>
</tr>
<tr>
<td>Data Logger</td>
<td>N/A</td>
<td>Optional</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Assisted Calibration</td>
<td>N/A</td>
<td>Optional</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Report Generator</td>
<td>N/A</td>
<td>Optional</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Advanced Data Analysis (for low radiation levels and long measurements)</td>
<td>N/A</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Available Options</td>
<td>N/A</td>
<td>Optional WIN-W Data Logger Software for PC users</td>
<td>Optional Overhoff Networking Overview (ORO)</td>
<td>Optional Overhoff Networking Overview (ORO)</td>
</tr>
<tr>
<td>Portable Version</td>
<td>NEX-BETA-ABG-P</td>
<td>Optional</td>
<td>NEX-BETA-ABG-9P</td>
<td>NEX-BETA-ABG-9TT Inline/Installed only</td>
</tr>
<tr>
<td>Installed Version</td>
<td>NEX-BETA-ABG</td>
<td>Optional</td>
<td>NEX-BETA-ABG-9P</td>
<td>NEX-BETA-ABG-9TT Inline/Installed only</td>
</tr>
</tbody>
</table>

TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY
7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)
tagold@nwc.net  WWW.TECH-ASSOCIATES.COM  TICKER UCLE