FEATURES:

- DETECTS ALPHA, BETA AND GAMMA RADIATION
- NEX-ABG-9TT – TEST & TREAT
  - BIOLOGICAL SENSORS
  - OXIDATION REDUCTION POTENTIAL (ORP)
  - TOTAL ORGANIC CARBON (TOC)
  - TREATMENT OF ISOTOPES & BIOLOGICAL CONTAMINATION
  - ON-BOARD COMPUTER
  - PORTABLE OR INSTALLED
  - REAL TIME CONTINUOUS WATER MONITOR
  - HIGH SENSITIVITY
  - NO REAGENT TANKS TO FILL; NO WASTE STREAM
  - EASY CALIBRATION
  - ALARMS – AUDIO / VISUAL
  - 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-ABG-9TT monitor on your water inlet pipe to automatically and continuously monitor drinking water 24/7 for any radioactive contamination. The NEX-ABG-9TT monitors & treats radionuclide & biological contamination.

Facilities with multiple water inlets may wish to install multiple NEX-ABG-9TT

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.
TEST & TREAT
DRINKING WATER SAFETY SYSTEM

Model ~ NEX-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-ABG-9TT 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-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-ABG-9TT system is a Test & Treat system removing biological contaminations and reducing radioisotopes.

DESCRIPTION:
Model Nex-ABG-9TT monitor is a radiation detection & treatment 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 operation 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 photomultiplier tubes.
2. Gamma Scintillation detector has a sensitive 2” diameter crystal.
   - OXIDATION REDUCTION POTENTIAL (ORP)
   - TOTAL ORGANIC CARBON (TOC)
TEST & TREAT
DRINKING WATER SAFETY SYSTEM
Model ~ NEX-ABG-9TT

PROTECT VULNERABLE –
HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES

FLOW PATH ~~ NEX-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

NEX-ABG-9TT TEST & TREAT

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US NUCLEAR CORP
DATA:-Analysis-Display-Data Stored Flash Drive Archive

**Nex-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-ABG-9TT Electronics:**
- 11” W x 11” W x 14” H - **Weight:** 12 lbs

**Dimensions NEX-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.

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**NEX-ABG-9TT ELECTRONICS**
# TEST & TREAT
## DRINKING WATER SAFETY SYSTEM
### Model ~ NEX-ABG-9TT

**PROTECT VULNERABLE – HOSPITALS – SCHOOLS – GOVERNMENT FACILITIES**

<table>
<thead>
<tr>
<th>DETECTION EXAMPLES</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><strong>Alpha U-238</strong></td>
<td>U-238</td>
<td>3,000 pCi/l</td>
<td>5&quot; dia. Dual PM Tube crushed scintillation bed of crystals</td>
<td>3--6 mo</td>
<td>Replace particulate filter cartridge</td>
</tr>
<tr>
<td>30 min</td>
<td>25,000 pCi/l 3,000 pCi/l</td>
<td>2 x 10⁶ pCi/l</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>24 hr</td>
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<tr>
<td><strong>Beta K-40</strong></td>
<td>K-40</td>
<td>30,000 pCi/l</td>
<td>5&quot; dia. Dual PM Tube 1000 ml chamber</td>
<td>3--6 mo</td>
<td>Replace particulate filter cartridge</td>
</tr>
<tr>
<td>30 min</td>
<td>30,000 pCi/l 10,000 pCi/l</td>
<td>2 x 10⁶ pCi/l 1100 cm² Beta Scintillator</td>
<td></td>
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</tr>
<tr>
<td>24 hr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gamma Co-58</strong></td>
<td>Co-58</td>
<td>30,000 pCi/l</td>
<td>Standard: Single Channel Energy Analyzer Optional: Multi-Channel Analyzer</td>
<td>3--6 mo</td>
<td>Simple MCA check</td>
</tr>
<tr>
<td>30 min</td>
<td>20,000 pCi/l 5,000 pCi/l</td>
<td>2 x 10⁶ pCi/l 75x75mm NaI(Tl) Crystal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 hr</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>OPTIONS:</td>
<td>LOWER LIMIT</td>
<td>TOP OF RANGE</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>DETECT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tritium</td>
<td>20,000 pCi/l</td>
<td>1 x 10⁶ pCi/l</td>
<td>Crushed scintillation bed of crystals</td>
<td></td>
<td>Replace ion exchange cartridge</td>
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<tr>
<td>Radon</td>
<td>100 pCi/liter</td>
<td>2000 pCi/liter</td>
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<td></td>
<td>Clean or replace vapor trap</td>
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<tr>
<td>PRE-CONDITION</td>
<td></td>
<td></td>
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<tr>
<td>Expel Radon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clean or replace vapor trap</td>
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### FEATURES ~ NEX-ABG SERIES COMPARISON

<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-ABG-9TT All-in-One</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read–Out Units (Typical)</td>
<td>Bq/m³ pCi/l</td>
<td>Bq/m³ pCi/l</td>
<td>Bq/m³ pCi/l</td>
<td>BIO – ppm RAD - Bq/m³ or pCi/l</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 Data Logger</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>Assisted Calibration</td>
<td>N/A</td>
<td>Optional</td>
<td>Included</td>
<td>Included</td>
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<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>Included</td>
<td>Included</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>
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<tr>
<td>Portable Version</td>
<td>NEX-BETA-ABG-P</td>
<td>Optional WIN-W Data Logger Software for PC users</td>
<td>Optional Overhoff Networking Overview (ORO)</td>
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<tr>
<td>Installed Version</td>
<td>NEX-BETA-ABG</td>
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