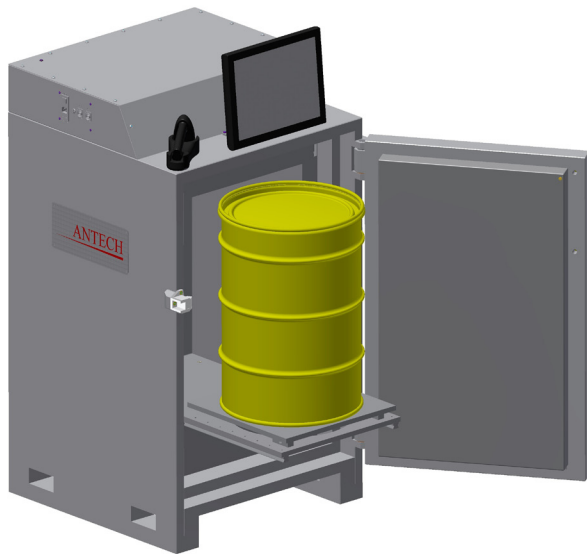


# G3321-200- VLLW



## DESIGN FEATURES

- Simplicity of use
- Safe operation
- High detection sensitivity
- Rapid and accurate waste measurements
- Identification & segregation of VLLW
- Radioactive waste fingerprints
- Built in weigh scale
- Touch screen PC

## Introduction

The ANTECH G3321 VLLW Segregated Waste Drum Monitor is designed to measure low density radioactive waste generated in nuclear facilities and to segregate VLLW from LLW contained in 200 litre drums.

The ability to measure and segregate VLLW (very low level waste) from LLW (low level waste) brings significant cost savings as the storage, handling and disposal costs of VLLW are much less than the equivalent costs for LLW.

The Segregated Waste Drum Monitor is designed for simplicity of use, safe operation and high detection sensitivity to facilitate rapid and accurate waste measurements for the identification and segregation of VLLW.

The G3321 measures gamma ray emitting low-density radioactive waste in bags, boxes and drums up to a drum

volume of 200 litres (55 US gallons). Six plastic scintillator detectors provide the gross gamma ray measurement with  $4\pi$  coverage to allow fast, accurate measurements. In order to confirm radioactive waste fingerprints and identify individual radionuclides, the G3321 also incorporates a high efficiency sodium iodide spectroscopic scintillation detector in the measurement chamber to detect the radionuclides present in the waste and to confirm the waste fingerprint. A built-in weigh scale allows the specific activity of the sample to be determined in units of Bq/g or pCi/g. An embedded microprocessor performs data acquisition, background discrimination and system diagnostics.

The results are displayed via a software interface on a local laptop PC or on an optional built-in touch screen PC. When LLW is measured the G3321 generates the waste manifest for LLWR (Drigg Form D4) as a PDF document. The software provides 60 configurable protocols (waste fingerprints) for the material to be assayed, with associated detection limits. An audible alarm and warning light indicate if the selected predetermined clearance level is exceeded. An Ethernet connection allows remote data processing and analysis.

## Features

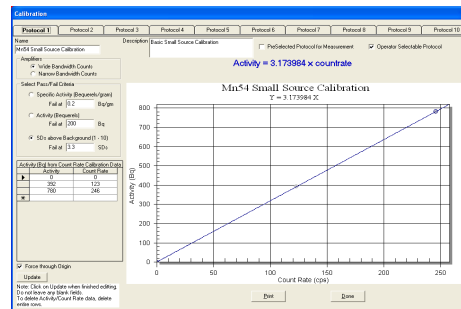
- Plastic scintillator configuration provides  $4\pi$  coverage
- Spectroscopic sodium iodide detector for isotope identification and fingerprint confirmation
- Up to 60 configurable measurement protocols (waste fingerprints)
- Normalisation check source to confirm spectroscopic detector energy scale calibration and overall measurement performance
- Optional bar code reader for drum ID input
- Continuous automatic background determination and averaging
- Simplified drum and sample loading using an extending shelf
- Lead (38 mm) and steel (12.5 mm) shielded chamber to reduce background count rate

## Benefits

- Identifies VLLW waste for segregation and cost effective disposal
- Verifies uncontaminated waste can be cleared as free-release waste rather than LLW, considerably reducing disposal costs
- Verifies that items to be removed from controlled areas are free from contamination and can be safely handled
- When LLW is measured the G3321 generates the waste manifest for LLWR as a PDF document (Drigg Form D4)
- Password protected system and configuration menus provide extra security



G3341 Bulk Laundry Monitor



Screen images from the Segregated Waste Drum Monitor



G3301 Waste Bulk Monitor

## Specification

<b>External dimensions (H x W x D)</b>	1520 mm x 920 mm x 1060 mm (60 in x 36.2 in x 41.8 in)	
<b>Internal dimensions (H x W x D)</b>	1050 mm x 650 mm x 850 mm (41.4 in x 25.6 in x 33.5 in)	
<b>Weight</b>	4120 kg (9064 lb)	
<b>Operating temperature</b>	5-40 °C	
<b>Network connection</b>	Ethernet	
<b>Weigh scale range</b>	0-200 kg (0-440 lb)	
<b>Shielding</b>	38 mm (1.5 in) lead, 12.5 mm (0.5 in) steel	
<b>Chamber capacity</b>	580 L (21.46 cu ft)	
<b>Detectable activity range</b>	137Cs	120 Bq in chamber
	60Co	55 Bq in chamber
<b>Minimum detectable activity (typical)</b>	137Cs	120 Bq (3.24 nCi)
	60Co	55 Bq (1.49 nCi)
<b>Specific activity typically detected at 3.3 standard deviations for wastes of 1.5 kg or more</b>	137Cs	0.08 Bq/g
	60Co	0.04 Bq/g
<b>Power supply</b>	110 - 240 VAC, 50-60 Hz	
<b>Power consumption</b>	< 200 W (including PC)	
<b>Analysis software</b>	Windows operating platform, ANTECH MasterWCDM user interface	
<b>Plastic Scintillator Detectors</b>	6 panels providing 4 π detector coverage	
<b>Spectroscopic Scintillation Detector</b>	Sodium Iodide	
<b>Normalisation check source</b>	Eu-152 point source 37 kBq (1 microCi)	