Testing Equipment for Construction Materials

HUMBOLDT

HS-5001EZ-2 Nuclear Gauge

HS-5001EZ-2

Humboldt's New HS-5001EZ-2 reflects the latest in portable, electronic design for nuclear gauges, featuring a large, back-lit LCD display. Humboldt's New EZ-2 Moisture/Density Gauge is just that — easy. Easy-to-operate, easy-to-power and easy-to-service. The New EZ-2 gauge features a menu-driven control panel with easy-to-use, built-in test routines and auto features, making testing a quick and accurate operation. It also features our innovative trigger release handle that eliminates pinched fingers while providing smooth operation.

The New EZ-2's versatility allows it to measure density through direct transmission, backscatter, thin lift and trench modes, as well as providing moisture determinations. The gauge uses an advanced microprocessor-based technology to provide highly-accurate measurements of density and moisture that are automatically computed for direct readouts of wet density, dry density, moisture content, percent of moisture, percent of compaction (Proctor or Marshall), void ratio and air voids. The New EZ-2 Gauge complies with all pertinent standards: ASTM D6938, D2950, C1040 and AASHTO T310, T355 and is calibrated by the Five-block calibration method ASTM D7013, D7759.

Bright Menu Display

Direct Readouts

AA Batteries (1200hrs)

HS-5001EZ-2

NEW KEY FEATURES:

USB Port —
For fast, test download

Large Display —
Easily readable in bright sunlight
LCD-type, TFT; Normal black

Multi-Language —
Selectable: English, French, Spanish

Micro SD Card —
Auto storage of 2GB of test data, 250 tests per project

Real Time Clock (RTC) —
Multi-date/time formats

Temperature Sensor —
Auto recording of ambient temperature at test

3D Accelerometer —
Auto turn off upon motion (with movement of the gauge)

Power Source — 6 AA batteries

GPS—
Geographic coordinates and altitude information

QR-Code Driven App—
Capture and share data test results with anyone, anywhere

SPECIFICATIONS

Mechanical

Operating Temperature	14 to 158°F (-10 to 70°C) ambient, 347°F (175°C) Material Surface
Storage Temperature	-70 to 185°F (-55 to 85°C)
Humidity	98% without condensation, Rain-Resistant Construction
Vibration	0.1" (2.5mm) at 12.5 Hz
Materials	
Shielding	Tungsten Powder Alloy
Source Rod	440C Stainless steel, Induction, heat treated to 55 Rockwell C
Gauge Base	Computer-Machined 6061-T6 Aluminum, Hard-Coated and PTFE Impregnated
Post and Frame	Computer-Machined 6061-T6 Aluminum, Anodized for Anti-corrosion
Index Rod	7075 aluminum, Hard Coated and PTFE Impregnated
Top Shell	Injection-Molded Noryl with Integral Color
Bearing	Relieved Bronze with Neoprene Seals
Screws/Fittings	Stainless Steel and Brass

Measurement: Density at 125 pcf (2000 kg/m³)

Direct Transmission: 6" (150mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m³)	±0.5 (8)	±0.25 (4)	±0.13 (2)
Chemical Error, pcf (kg/m³)	±1.0 (16)	±1.0 (16)	±1.0 (16)
Surface Error, pcf (kg/m³)	-0.5 (8)	-0.5 (8)	-0.5 (8)
Backscatter, 3.5" (88mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m³)	±1.0 (16)	±0.5 (8)	±0.25 (4)
Chemical Error, pcf (kg/m³)	±2.5 (40)	±2.5 (40)	±2.5 (40)
Surface Error, pcf (kg/m³)	-3.0 (48)	-3.0 (48)	-3.0 (48)
Measurement: Moisture at 10pcf (160kg/m3)			
Measurement Depth: 4-8" (100-200mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m³)	±0.5 (8)	±0.25 (4)	±0.13 (2)
Surface Error, pcf (kg/m³)	-0.25 (4)	-0.25 (4)	-0.25 (4)

Dimensions/Weight

Gauge	
Dimensions (base)	15.75" x 8.66" x 5.5" (400 x 220 x 140mm)
Handle Height	18" or 21.5" (450 or 550mm)
Weight	30 lbs (13.6kg)
Reference Standard	
Dimensions	13.8" x 7.8" x 3" (350 x 200 x 75mm)
Weight	10 lbs (4.5kg)
Transit Case	
Dimensions	31" x 14" x 19.5" (787 x 356 x 495mm)
Weight	31 lbs (11.8kg)
Accessory Case (loaded)	
Dimensions	19.7" x 9.8" x 5" (500 x 250 x 125mm)
Weight	16 lbs (7.3kg)
Total Shipping Weight	90 lbs (41kg)

Radioactive Materials Data Needed for License Application

Radioactive Material	Chemical/Physical Form	Maximum Amount
Cesium-137	Sealed Source Humboldt 2200064	Not to exceed 11 millicuries per source
Americium-241:Be	Sealed Source Humboldt 2200067	Not to exceed 44 millicuries per source

Electrical

Displays	TFT, Normal Black, Sunlight Readable
Timer Stability	0.01%
Power Supply Stability	0.10%
Power Source	Six (6) alkaline AA-size batteries
Power Consumption	Active—0.9 - 24mA — Battery Life—1200 hours
Power Protection	Regulated Supplies—Short Circuit Proof
Low Battery Condition	LOBAT Alarm and Auto Shutoff for low and dead battery conditions
Battery Life	Remaining Battery Life Automatically Estimated at Power-up by activating TEST routine
Language	Selectable – English, French, Spanish
Microcontroller (MCU)	160MHz, 32 Bit
Real Time Clock (RTC)	Multi date/time formats
3D Accelerometer	Auto turn off on motion
Micro SD Card	Auto storage of 2GB of test Data - 250 tests per project
Shutdown	Auto/User selectable

Radiological

Gamma Source	
Material, Type and Amount	Cs-137, 370MBq (10mCi)
Special Form Registration	USA/0356/S-96 Rev 12
ANSI and ISO Class	ANSI 77C66535
Neutron Source	
Material, Type and Amount	Am-241: Be, 1.48GBq (40mCi)
Neutron Yield	70 Knps ±10%
Special Form Registration	CZ/1009/S-96 Rev 1
ANSI and ISO Class	ANSI 77C66545
Source	
Type	Sealed Source, Special Form
Housing	Stainless Steel, Double Encapsulated
Surface Dose Rates	18.7 mrem/hr Maximum (Neutron and Gamma)
Transit (shipping) Case	DOT 7A, Type A, Yellow II Label, 0.2 TI

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HUMBOLDT
NUCLEAR GAUGES

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