



HUMBOLDT




HS-5001EZ Nuclear Gauge

HS-5001EZ

Humboldt's HS-5001EZ Moisture/Density Gauge is just that — easy. Easy to operate, easy to power and easy to service. The EZ 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 EZ's versatility allows it to measure density through direct transmission and backscatter modes, as well as including thin lift and trench modes, as well as 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 EZ 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.



-  **EZ Menu-Driven**
-  **Direct Readouts**
-  **AA batteries (1400hrs)**



HS-5001EZ



Easy to Operate—

Humboldt's HS-5001EZ Moisture/Density Gauge is just that— easy to operate. The EZ 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.



Easy to Power—

The EZ is powered by six standard AA alkaline batteries, which provide up to 1400 hrs of service. No chargers are needed and you can buy batteries almost anywhere, including the corner convenience store.



Easy Self Repairs—

The EZ gauge also uses a modular design, which allows it to be serviced in the field, if ever necessary. With this gauge, you don't have to send it back to the factory for repairs, we'll send you the necessary components and walk you through many of the repair procedures if assistance is needed.

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/m ³)	±0.5 (8)	±0.25 (4)	±0.13 (2)
Chemical Error, pcf (kg/m ³)	±1.0 (16)	±1.0 (16)	±1.0 (16)
Surface Error, pcf (kg/m ³)	-0.5 (8)	-0.5 (8)	-0.5 (8)
Measurement Depth: 2 to 12" (50 to 300mm)			
Backscatter, 3.5" (88mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m ³)	±1.0 (16)	±0.5 (8)	±0.25 (4)
Chemical Error, pcf (kg/m ³)	±2.5 (40)	±2.5 (40)	±2.5 (40)
Surface Error, pcf (kg/m ³)	-3.0 (48)	-3.0 (48)	-3.0 (48)
Measurement Depth: 3.5" (88mm)			
Moisture at 10pcf (160kg/m ³)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m ³)	±0.5 (8)	±0.25 (4)	±0.13 (2)
Surface Error, pcf (kg/m ³)	-0.25 (4)	-0.25 (4)	-0.25 (4)
Measurement Depth: 4-8" (100 to 200mm)			

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

Display:	4 lines x 20 alphanumeric w/ backlit liquid crystal display
Timer Stability:	0.01%
Power Supply Stability:	0.10%
Power Source:	Six alkaline AA-size batteries
Power Consumption:	6.5mA — Battery Life—1400 hours
Power Protection:	Main Batteries—Circuit Breaker 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

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 UN3332
Housing:	Stainless Steel, Double Encapsulated
Surface Dose Rates	18.7 mrem/hr Maximum (Neutron and Gamma)
Transit (shipping) Case	USA DOT 7A Type A, Yellow II, 0.2 TI



Humboldt Scientific, Inc.
www.humboldtscientific.com
 2525 Atlantic Avenue
 Raleigh, North Carolina 27604 U.S.A.

1.800.537.4183 Voice:
 1.919.833.3190
 Fax: 1.919.833.5283
 email: hsi@humboldtmfg.com