



Pavement

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Testing Equipment for  Construction Materials

HUMBOLDT

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HR-2850

HR-2800

Hand-Held Core Drill (only), 120V 60Hz— HR-2800

The HR-2800 Core Drill is available alone or in the HR-2850 kit with the optional, anchor-bolt base. The Core Drill provides a powerful 3-speed motor and comes standard with all fittings, including a 360° repositionable side, t-handle for support. It can be used with drill bits of up to 3" diameter in the hand-held mode, or up to 4" diameter with the optional stand. Includes positioning level on top of drill.

Standard hand-held package includes:

- Powerful 3-speed gear box
- Repositionable side, t-handle

Core Drill with Base Stand, 120V 60Hz— HR-2850

The HR-2850 Core Drill combines the HR-2800 Hand-held, electric motor drill, described above with the optional, anchor-bolt base. The base is roughly 6" x 9" with a 31" tall column. It features a smooth gear action and a dumb bell handle for ease of use in tight areas. The drill features a hand rest on the back/top of the drill to ease drilling operations. And, the stand's locking collar holds the drill firmly for accurate drilling.

HR-2800	
Motor	1500 watta
Bit Capacity	3-4"
Speeds (3)	900
	2000 4000
Auger Capacity	NA



HR-2508

Gas-Powered Core Drill— HR-2508

Handheld, Portable, Ultra Lightweight Core Drilling Machine, Gasoline powered; just add gasoline and water and start drilling! Perfect for road, bridge and fencing contractors. For fast, economic drilling—either vertical or horizontal—of concrete/asphalt and/or auger drilling into soil. One-person drilling, easy-to-handle, 22 lbs. overall weight. Quick set-up, easy-to-use, reliable. Honda 31cc, 4-cycle gasoline engine, high performance water swivel, Bit Locator. Accepts up to 6" diameter bits. Shipping wt. 40 lbs. (18kg)

Features include:

- Designed for concrete/asphalt surfaces
- Minimize drilling time with gasoline power
- Easy-to-use and quick to set up
- One-person, handheld, core drill machine
- 31 cc, gasoline powered engine - 4 cycle
- 7" bit diameter capacity
- Vertical or horizontal drilling
- Heavy-duty, quad precision ball bearing gear box


HR-2508	
Motor	31cc, 4-cycle
Bit Capacity	6"
Auger Capacity	NA



HR-2500

Electric Core Drill, 120 60Hz— HR-2500 Core Drill, 230 50/60Hz— HR-2500.4F

This core drill provides a flexible, multi-purpose vacuum/anchor bolt drilling system. It can be used for almost all applications involving floor, wall and ceiling placements, as well as hard-to-reach places. Includes a two-speed (350-900 RPM), 3.5 HP 20 amp heavy-duty motor, waterproof switch box, built-in water swivel, continuous duty oil-less vacuum pump, filter, hose, quick connections and has a 12-inch bit diameter capacity. The drill's 6" wheels provide easy maneuvering and its 10" (254mm) wide base is a vacuum pad anchor with more than 1000 pounds of vacuum force that solidly grips the drilling surface within seconds making it the ideal drill stand for floors, walls, ceilings, as well as, pavement. Requires water supply, if none is available order HR-2516 portable water pressure tank separately.

Shipping wt. 85 lbs. (38.5kg) 

Standard package includes:

- 3.5 HP Milwaukee electric drill motor with 2-speed gear box
- Water swivel
- Drill Stand with combination vacuum pad/anchor bolt base
- Large (6") rubber wheels

HR-2500	
Horse Power	3.5
Motor: Volts/Amps	115/20
Cycle	50/60
Bit Capacity	12"
Auger Capacity	NA
Column Dimensions	2.5" x 35"
Carriage Travel	22"



HR-2503E



HR-2701



HR-2600

Gas-Powered Core Drill— HR-2503E

This core drill reduces job costs through the faster drilling speeds gained from the use of a gas-powered motor. This drill can be wheeled into place easily when mounted on its heavy-duty, sturdy platform or can also be mounted to a trailer, pickup or van.

Features include:

- a 17 HP gas-powered, electric-start drill head with electric start, with 8" bit capacity
- Accurate and easy drill positioning and easy movement of platform with its 4" Delrin wheels
- Dead-weight base no anchor bolts required

Standard package includes:

- Drill Stand
- 17 HP gasoline-powered, electric-start engine
- Variable RPM (300-1500 bit RPM)
- Water Swivel

HR-2503E	
Horse Power	17
Cycle	4
Bit Capacity	8"
Auger Capacity	NA

Gas-Powered Core Drill— HR-2504

Gas-powered core drill that offers all the features of the HR-2503 above and adds up to 16" bit capacity.

HR-2504	
Horse Power	17
Cycle	4
Bit Capacity	16"
Auger Capacity	NA

Hitch-Mounted Core Drill— HR-2700

This hitch-mounted system provides a mobile system, which provides fast set-up and drilling while ensuring consistent quality. Setup minimizes time required to do jobs reducing job costs.

Features include:

- 15 HP gas-powered, electric-start drill head with electric start, with 16" bit capacity
- Accurate drilling with easy positioning and alignment of drill head
- Positioning arm swings 180° in semi-circle
- Multi-jointed arm allows drilling anyway within the arc of trailer-hitch mount
- Stand-alone, gasoline-powered system—no additional power supplies needed
- Easy, one-person mounting or removal using machine's own drill caddy

Standard package includes:

- Drill Head with up to 16" bit capacity
- Flexible position receiver mount bracket
- Drill Caddy
- Variable RPM (300-1500 bit RPM)
- Water Swivel
- Drive Shaft Stabilizer System

HR-2700	
Horse Power	15
Cycle	4
Bit Capacity	16"
Auger Capacity	NA

Hitch-Mounted Core Drill— HR-2701

Hitch-mounted core drill rig that offers all the features of the HR-2700 above and adds auger capability up to 8".

HR-2701	
Horse Power	15
Cycle	4
Bit Capacity	16"
Auger Capacity	8"

Trailer-Mounted Core Drill— HR-2600

This complete stand-alone core drill rig offers field independence, versatility, dependability, and easy single-person operation. Provides mobile yet very stable drilling platform, which extends bit life. Provides exceptional solution for remote locations.

Shipping wt. 2000 lbs. (907kg)

Features include:

- 17 HP gasoline-powered drill head with electric start, with 16" bit capacity and a 24" travel;
- Variable drill head positioning system, which allows drill head movement of approx. 43" side-to-side and 12" fore and aft for accurate hole placement;
- Hydraulic-assisted machine lift for single-handed removal and replacement of drill;
- Lockable, weather-resistant toolbox;
- 200-gallon water tank and 12 VDC water pump;
- 5' x 8' steel-construction trailer, equipped with electric brakes and pre-wired for brake and tail lights.

HR-2600	
Horse Power	17
Cycle	4
Bit Capacity	16"
Auger Capacity	NA
Carriage Travel	24"

Trailer-Mounted Core Drill— HR-2601

Stand-alone core drill rig that offers all the features of the HR-2600 above and adds auger capability up to 8".

HR-2601	
Horse Power	17
Cycle	4
Bit Capacity	16"
Auger Capacity	8"
Carriage Travel	24"



Be advised that Core Drill Bits have 1/8" walls and produce a core 1/4" smaller than the OD of the Drill Bit.



Professional Quality Diamond Drill Bits

Professional-Quality, Diamond Drill Bits are designed for use-specific applications and available for use with either concrete or asphalt. Drill bits are available in a multitude of sizes (see chart on right). These drill bits have a total segment height of .320" (8.128mm), a diamond depth of .250" (6.350mm) and a segment base of .070" (1.778mm). The standard bit length is 13" (330.200mm) and the integral thread adapter is 1-1/4" – 7 thread.

Size		For Concrete*	For Asphalt**
Inches	mm		
1	25	HR-2530.1	H-2550.1
1.125	29	HR-2530.1125	HR-2550.1125
1.25	32	HR-2530.125	HR-2550.125
1.5	38	HR-2530.15	HR-2530.15
1.75	44	HR-2530.175	HR-2550.175
1.875	63	HR-2530.1875	HR-2550.1875
2	51	HR-2530.2	HR-2550.2
2.25	57	HR-2530.225	HR-2550.225
2.5	63	HR-2530.25	HR-2550.25
2.75	70	HR-2530.275	HR-2550.275
3	76	HR-2530.3	HR-2550.3
3.5	89	HR-2530.35	HR-2550.35
4	100	HR-2530.4	HR-2550.4
4.25	108	HR-2530.425	HR-2550.425
4.5	114	HR-2530.45	HR-2550.45
5	127	HR-2530.5	HR-2550.5
5.5	140	HR-2530.55	HR-2550.55
6	152	HR-2530.6	HR-2550.6
6.25	159	HR-2530.625	HR-2550.625
7	178	HR-2530.7	HR-2550.7
8	203	HR-2530.8	HR-2550.8
9	230	HR-2530.9	HR-2550.9
10	254	HR-2530.10	HR-2550.10
11	280	HR-2530.11	HR-2550.11
12	305	HR-2530.12	HR-2550.12
13	330	HR-2530.13	HR-2550.13
14	350	HR-2530.14	HR-2550.14

High-Performance, Small-Size Diamond Drill Bits

Professional Quality Diamond Drill Bits have a total segment height of .400" (10.160mm) (.300" (7.620mm) diamond depth and .100" (2.54mm) segment base. The standard bit length is 13" (330.200mm) and the integral thread adapter is 1-1/4" – 7 thread.

Size		Medium***
Inches	mm	
1/2	13	H-2570.5
5/8	17	HR-2570.625
3/4	19	HR-2570.75
7/8	22	HR-2570.875
1	28	HR-2570.1

*** For drilling cured concrete with medium to soft aggregates with or without steel reinforcement

Core Drilling Machine Accessories

Description	Models
Extension Rod, 9" (229mm); for drilling holes deeper than 12" (305mm)	HR-2510
Strap wrench, 18" (457mm) allows bit removal from drill spindle without damage to bit barrel	HR-2514
Angle drilling attachment for HR-2500. Tilts column to allow drilling from 90° to 45° angle from surface	HR-2515
Portable water pressure tank. Hand-operated. 4 gallon (15 liter), delivers water under pressure when water supply is not available.	HR-2516
Water Trapping Assembly, confines wastewater on surface and electric pump moves water into container	HR-2511
Diamond bit edge dresser	HR-2512
Replacement wheel for diamond bit edge dresser (HR-2512)	HR-2513

CoreSnap, 4"— HR-2554

CoreSnap, 6"— HR-2556

The CoreSnap allows you to remove a drilled sample from a roadbed at or below the tackline without prying or drilling completely through the old roadbed. The CoreSnap is placed down over a normally cut core and tighten the binding bolt with a 1/2"-drive socket/ratchet. A quick lateral motion of the handle breaks the core sample away from the older mat beneath, allowing the core to be removed easily.

* Concrete drill bits are for critically hard concrete with heavy steel reinforcement

** Asphalt drill bits are for asphalt and concrete with soft, abrasive aggregate



Shown with H-3221HA Horizontal Digital Gauge and cover removed.



H-3220A



H-2790

Benkelman Beam— H-3220A

The Benkelman Beam measures the deflection of a flexible pavement under moving wheel loads. Extremely accurate and easy to use. Direct-reading dial indicator eliminates need for conversion tables or field calculations. This pavement analysis tool provides the following features:

- Precision accuracy
- Easy to use on test site
- Lightweight, quick set-up
- Easy to transport, easy to store
- No need for conversions or field calculations

Dial indicator vibrator system assures accurate pavement measurements. Telescoping design adds convenience, reduces weight, and saves storage space. Lightweight aluminum construction.

Order dial gauge separately. AASHTO T256.

Specifications

Main Body	Aluminum with black finish 55" (1397mm)
Probe Beam	Telescopes into body, aluminum 8 ft. (2.4m)
Probe Fulcrum	Provides lever ratio of 2:1, ball pivot bearing
Vibrator System	Assures measurement accuracy. Operating switch mounted on top of instrument section. Requires 4 "D" size batteries
Dial Indicators	Ordered separately. Compensated for direct reading
Leveling Wheel	Adjusts beams to proper elevation
Overall Length	With beam fully extended 12 ft. (3.7m).
Shipping Weight	40lbs. (18kg)

Horizontal Digital Indicator— H-3221HA

Now you can get a horizontal-reading, digital gauge for use with the H-3220A Benkelman Beam. No more laying on the ground to read a dial indicator. We've also redesigned the gauge cover on the beam, so that you can now store the new digital gauge mounted to the Benkelman Beam, speeding set up and keeping the gauge and beam together, eliminating the chance of forgetting the gauge. Horizontal Digital Indicator: 1.0" range x 0.001" resolution. Designed for use with the Humboldt H-3220A Benkelman Beam. The gauge's 2:1 logic ratio allows it to provide direct readings of Benkelman Beam results without manual computations. Can be read in inches or metric units.

Vertical Dial Indicator, 1" range x 0.002" divisions — H-3222

Vertical Dial Indicator, 25mm range x 0.02mm divisions— H-3222M

High-Low Detector (Rolling Straight Edge)

High-Low Detector, 10 ft. (3m) Span— H-2790

High-Low Detector, 12 ft. (3.7m) Span— H-2791

High-Low Detector, 16 ft. (4.9m) Span— H-2792

Used to measure planeness of pavement surfaces, such as highways, airport runways, bridge decks, etc. Requires only one operator to detect, register, and dye mark high and low areas that need to be ground down or filled.

- Easy-to-use
- One-person operation
- Vertical sweep vertical indicator

Operator has full view of variations which are magnified 16 times, on a vertical scale graduated in 1/8" (1mm) increments, so that magnified readings range up to 1/4" (6.4mm), high or low. The 16 ft. long model incorporates aluminum reinforcing riveted along both sides of the frame for added support and rigidity.

Specifications

Frame	Rectangular aluminum
Wheels	One front, one rear for support, with one indicator wheel, center. Provision to check wheel alignment. Precision ball bearings, neoprene tires. Scraper blades keep wheels clean to maximize accuracy. Includes wheel stands for stabilizing during calibration, transport, and storage.
Dye	Bright orange, 12 oz. (340g) aerosol can. Non-clogging, contains no fluorocarbons. Mounts beside indicator wheel.
Steering Handle	T-type with button for discharge of dye
Scale	Vertical with large pointer, magnifies variations 16x, mounted above indicator wheel
Graduations	1/8" or 1mm
Readings	Magnified, High or Low Range: 0 to 1/4" (6.4mm),
Weights	H-2790: 140 lbs. (64kg) H-2791: 220 lbs. (100kg) H-2792: 414 lbs. (188kg)

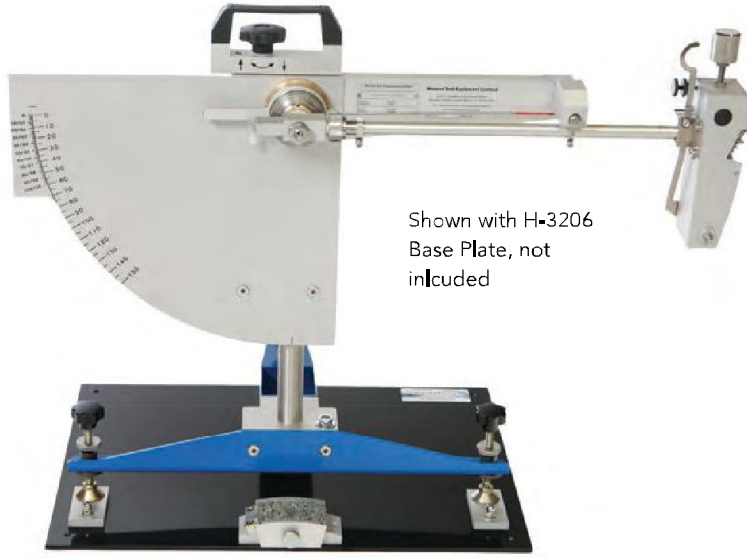
Bell/Buzzer Indicator— H-2790B

Sounds simultaneously with visual indicator, 9V DC battery

Aerosol Dye, 12 Pack— H-2790D

12 pack of 16oz. (454g) spray cans





Shown with H-3206 Base Plate, not included

H-3204



H-3205.3F

Portable Skid Resistance Tester— H-3204

Measures friction (skid resistance) on flat, cambered, or gradient road surfaces. Originally developed by the Transport and Road Research Laboratory of Great Britain.

- Compact, easily transported & used in the field
- Can be used in remote locations, independent of any vehicle
- Enclosed bearings & working parts for protection against wear and contamination
- Heavy-duty frame construction
- Adjustable feet on base

A pendulum arm, having a spring-loaded rubber slider on the pendulum foot. Device is placed on the portion of the road surface to be tested. It is then leveled, and the height of the center of suspension of the pendulum is adjusted to a fixed value which is read on a special gauge.

The pendulum is then released from its horizontal position, to swing down freely until the rubber slider contacts the test surface. As the slider travels across the surface for a fixed distance, the pendulum is slowed and a frictionally-constrained pointer affixed to the pendulum arm measures the highest point in the pendulum arc. The position of the pointer is then read on a measuring arc graduated from 0 to 150. Pointer readings indicate the resistance to skidding of the test surface. Dimensions (include carrying case): 31" x 25.5" x 9" (787 x 648 x 229mm). Complies with ASTM E303., BS EN 1097-8; BS 812 Pt 114. Shipping wt. 75 lbs. (34.0kg)

Accelerated Polishing Machine, 110/230V 50/60Hz— H-3205.3F

The Accelerated Polishing Machine polishes samples of aggregates, simulating actual road conditions, and is used in conjunction with the Portable Skid Resistance Tester to determine the Polished Stone Value for aggregates used in road surfaces, and gives a measure of the resistance to skidding. Fourteen specimens are clamped around the "road wheel" of the polishing machine, and subjected to two stages of polishing by a loaded rubber tire. First by corn emery, and secondly by emery flour. Use of the Accelerated Polishing Machine and the Skid Resistance Tester in road construction has had a major influence in reduction of accidents.

The H-3205 features:

- Heavy welded steel mainframe, standing in adjustable pads
- Digital display preset timer and revolution counter.
- Specimens are easily affixed and removed from testing wheel
- Water gravity fed from high level tank through calibrated flowmeter.
- Used abrasive and water collected in removable tray.
- Loaded tire raised and lowered to the running surface by mechanical lifting device.
- Easily removed covers and guards protect operator during testing and safety switch ensures removable safety covers are in place.
- Comes with four molds and two mold plates.

Complies with BS 812 Pt 114 EN 1097-8. Dimensions: 32"x 32"x 48" (82 x 82 x 123cms) Shipping Weight: 440lbs (200kg).

H-3204 Accessories	Model
Rubber Slider, 1-1/4", for lab use	H-3207
Rubber Slider, 3", for field use	H-3208
Laboratory Base Plate	H-3206