



Direct/Residual Shear

HM-2700.3F, HM-2700A.3F, HM-2700D.3F

The Humboldt HM-2700 Series Direct/Residual Shear Machines are an economical choice for performing direct/residual shear tests utilizing the deadweight method. The HM-2700s come in three different configurations: a standard controller model; a controller with four analog instrumentation channel inputs, an RS232 Port and RS-485 Input and Output; and, a controller with four Digital instrumentation channel inputs, an RS232 Port and RS-485 Input and Output.

All models include the carriage, stand, vertical load hanger and a balanced lever loading arm with a 10:1 ratio that reduces the weight required to perform tests.

The microprocessor-based system features a stepper motor drive system, large display, touch-sensitive keypad and forward/reverse travel limit switches.

All models allow for rapid and easy manual adjustment of Shearing force speed rates. The maximum shear force is 5.0 kN, and, the maximum consolidation force is 10 kN. The carriage accepts shear box squares up to 100mm internal dimension. Forward and reverse measurements permit residual shear testing as standard. A built-in safety feature prevents the overloading of the load measuring system. Meets ASTM D3080, AASHTO T236 and BS1377 standards.



All Models Feature:

- Backlit LCD display
- Nonvolatile test data storage and instrument calibration
- Battery-backed real-time clock
- Auto conversation of instrument calibration between English or Imperial units and SI or metric units
- Test setup and selection via keypad
- Automatic triggering of test logging data
- View logged test data via the LCD display
- Logging rate as fast as 0.1 second/reading

Models A and D Feature:

- Models A and D feature four channels with real-time data acquisition
- Models A and D feature RS-232 interface for computer or printer.
- Windows-based software included for viewing and exporting test data into an Excel-format file with plug and play features.





Direct/Residual Shear

HM-2700.3F, HM-2700A.3F, HM-2700D.3F

Applicable Standards

ASTM: D3080
AASHTO: T236
BS 1377: 7

Specifications

Mechanical:

Dimensions (l x w x h)..... 40 x 10 x 45 inch
(1016 x 254 x 1143mm)
Shipping Weight..... 288 lbs. (131Kg)
Speed Range..... 0.00001 - 0.49999 inch/min
(0.00001 - 12.9999 mm/min)
Horizontal Movement 2 inch (50.4mm)
Vertical Load..... 2000 lbs. (10 KN)
Horizontal Shear Force..... 2000 lbs. (10 KN)

Electrical /Electronics

Voltage 110/220 VAC 50/60HZ
Current 6.5 Amps
Analogue to digital converter 16 Bit
Data storage..... 4000 Reading
Data collection rate 100 ms
Computer port RS232

Ordering Information

HM-2700.3F—Direct/Residual Shear, 110/220 VAC 50/60Hz

Includes:
Carraige, stand, vertical load hanger and balanced lever loading arm of 10:1 ratio that reduces weights required.

HM-2700A.3F—Analog Direct/Residual Shear, 110/220 VAC 50/60Hz

Includes:
Carraige, stand, vertical load hanger and balanced lever loading arm of 10:1 ratio that reduces weights required.

HM-2700D.3F—Digital Direct/Residual Shear, 110/220 VAC 50/60Hz

Includes:
Carraige, stand, vertical load hanger and balanced lever loading arm of 10:1 ratio that reduces weights required.

Shearbox Sizes and Accessories

Square

Sample Size	Shearbox	Cutter	Dolly/Tamper	Porous Plate
50mm	HM-2700.50S	HM-2702.50S	HM-2703.50S	HM-2704.50S
60mm	HM-2700.60S	HM-2702.60S	HM-2703.60S	HM-2704.60S
2.5"	HM-2700.25S	HM-2702.25S	HM-2703.25S	HM-2704.25S
4.0"	HM-2700.40S	HM-2702.40S	HM-2703.40S	HM-2704.40S

Round

Sample Size	Shearbox	Cutter	Dolly/Tamper	Porous Plate
50mm	HM-2700.50D	HM-2702.50D	HM-2703.50D	HM-2704.50D
60mm	HM-2700.60D	HM-2702.60D	HM-2703.60D	HM-2704.60D
2.0"	HM-2700.20D	HM-2702.20D	HM-2703.20D	HM-2704.20D
2.42"	HM-2700.24D	HM-2702.24D	HM-2703.24D	HM-2704.24D
2.5"	HM-2700.25D	HM-2702.20D	HM-2703.20D	HM-2704.20D
2.875"	HM-2700.2875D	HM-2702.2875D	HM-2703.2875D	HM-2704.2875D
4.0"	HM-2700.40D	HM-2702.40D	HM-2703.40D	HM-2704.40D



HUMBOLDT