ELITE SERIES

LOAD FRAMES



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Humboldt's Elite Series Load Frames provide the materials testing lab with a choice of three, highly-versatile and precision-built loading systems covering a range of testing applications. The HM-5030 is the workhorse of the group, capable of handling any testing need up to 50kN or 11,000 lbf. The HM-5020 is a machine designed specifically for triaxial testing and other testing requirements up to 15kN or 3,000 lbf. and, the HM-5040, is a heavy-duty machine capable of handling testing requirements up to 100kN or 22,000 lbf.

These machines provide four (4) integral and independent data acquisition channels, which can be utilized in stand-alone configurations or accessed through a LAN-networked computer using Humboldt's Next Software.

Elite Series load frames are built with durable, high-quality components and feature the use of a stepper motor, precision gears and gear box to ensure smooth and reliable operation, as well as precise results.

In stand-alone mode, these load frames provide a 7" (178mm) touch-screen controller. These new waterproof, touch screens provide colorful, at-a-glance monitoring of testing functions without the use of a computer. Operators can see all the data in several formats at the machine while the test is running. Data can then be downloaded later to a computer in the lab, in the next room or at a different location, while also providing report generation capabilities from within Humboldt's NEXT software or our enhanced test-specific modules.

NOTES

Elite Series load frames are sold as load frames only though shown here with typical triaxial setups.



HM-5035 MASTER LOADER PLUS

Load capacity	15000 lbf (68KN)
Speed Range Testing: Fast Approach:	0.00001– 2.20000 in/min (0.00001–55.00000 mm/min)
Data channels	4
Platen Size / Travel	10" (254mm) / 4" (101mm)
Data storage	1000 tests and up to 3000 readings per test
Clearance, vertical	44" (1118mm)
Clearance, horiz.	21" (533mm)
Voltage	110/220V 50/60Hz. 5.0 amps

Humboldt's New HM-5035.3F Master Loader Plus is ideal for just about any application from road construction to high-volume commercial and educational laboratories, which require higher loading capacities up to 15000 lbf (68KN), such as those involving larger sized samples and samples comprised of of aggregate/asphalt/soil or mixtures. It's wider stance and large vertical and horizontal clearances allows it to accommodate much larger samples. Its heavy-duty design and precise stepper-motor control provide a stable platform for years of reliable service allowing the HM-5035.3F to perform any tests required up to its load capacity of 15000 lbf (68KN). Like all Elite Series load frames, the HM-5035.3F is built around Humboldt's integral, 4-channel data logger with touch-screen control, which allows the load frame to be used as a standalone device capable of full test control and data logging. It can also be controlled by a networked computer.

Master Loader Plus, 110/220V 50/60 HzHM-5035.3F

Shipping wt. 725 lb (329kg)



HM-5020 TRIAXIAL LOADER

Load capacity	3000 lbf (15kN)
Speed Range Testing: Fast Approach:	0.00001 – 2.00000 in/min (0.00001 – 50.80000 mm/min) 2.25 in/min (57.1 mm/min)
Data channels	4
Platen Size / Travel	10" (254mm) / 4" (101mm)
Data storage	1000 tests and up to 3000 readings per test
Clearance, vertical	27" (686mm)
Clearance, horiz.	11" (286mm)
Voltage	110/220V 50/60Hz. 5.0 amps

A small-footprint, triaxial-specific load frame that provides the versatility, precision and durability found throughout Humboldt's Elite Series load frames.

The HM-5020 Triaxial Loader has been specifically designed to handle triaxial testing applications, including: UU, CU and CD triaxial and UC. From educational institutions and consulting firms to high-volume commercial labs and construction projects, the Triaxial Loader can handle any application with ease. Its heavy-duty design and precise stepper-motor control provide a stable platform for years of reliable service allowing the HM-5020 to perform any tests required up to its load capacity of 3000 lbf (15kN).

Like all Elite Series load frames, the HM-5020 is built around Humboldt's integral, 4-channel data logger with touch-screen control, which allows the load frame to be used as a standalone device capable of full test control and data logging. It can also be controlled by a networked computer at any location with access to the network.

Triaxial Loader, 110/220V 50/60 Hz
HM-5020.3F

Shipping wt. 120 lb (54kg)



HM-5030 MASTER LOADER

Load capacity	11000 lbf (50kN)
Speed Range Testing: Fast Approach:	0.00001 – 2.00000 in/min (0.00001 – 50.80000 mm/min) 2.25 in/min (57.1 mm/min)
Data channels	4
Platen Size / Travel	10" (254mm) / 4" (101mm)
Data storage	1016 tests and up to 3000 readings per test
Clearance, vertical	40" (1000mm)
Clearance, horiz.	15" (381mm)
Voltage	110/220V 50/60Hz. 5.0 amps

Designed for applications requiring multi-purpose loading systems, such as road construction projects in either mobile or fixed labs, educational institutions and consulting firms, the HM-5030 Master Loader is ideal for just about any application from road construction to high-volume commercial and educational laboratories.

While the HM-5030 has been specifically designed for soil testing labs conducting multiple testing operations including: UU, CU and CD triaxial, UC, CBR and LBR. It is also perfect for running Marshall, Hveem, TSR and SCB asphalt tests as well. Its heavy-duty design and precise stepper-motor control provide a stable platform for years of reliable service allowing the HM-5030 to perform any tests required up to its load capacity of 11000 lbf (50kN).

Like all Elite Series load frames, the HM-5030 is built around Humboldt's integral, 4-channel data logger with touch-screen control, which allows the load frame to be used as a standalone device capable of full test control and data logging. It can also be controlled by a networked computer at any location with access to the network.

Master Loader, 110/220V 50/60 Hz
HM-5030.3F

Shipping wt. 300 lb (136kg)



HM-5040 GRAND LOADER

Load capacity	22000 lbf (100kN)
Speed Range Testing: Fast Approach:	0.00001 – 0.49999 in/min (0.00001 – 12.674 mm/min) 0.5 in/min (12.7 mm/min)
Data channels	4
Platen Size / Travel	10" (254mm) / 4" (101mm)
Data storage	1000 tests and up to 3000 readings per test
Clearance, vertical	44" (1118mm)
Clearance, horiz.	21" (533mm)
Voltage	110/220V 50/60Hz. 5.0 amps

The HM-5040 Grand Loader is ideal for just about any application from road construction to high-volume commercial and educational laboratories, which require higher pressure loading capacities up to 22000 lbf (100kN), such as those involving larger sized samples and samples comprised of rock and rock/soil mixtures. It's wider stance and large vertical and horizontal clearances allows it to accommodate much larger sample-size cells. Its heavy-duty design and precise stepper-motor control provide a stable platform for years of reliable service allowing the HM-5040 to perform any tests required up to its load capacity of 22000 lbf (100kN). Like all Elite Series load frames, the HM-5040 is built around Humboldt's integral, 4-channel data logger with touch-screen control, which allows the load frame to be used as a standalone device capable of full test control and data logging. It can also be controlled by a networked computer HM-5040 includes a storage base with casters.

Grand Loader, 110/220V 50/60 Hz
HM-5040.3F

Shipping wt. 725 lb (329kg)

ELITE SERIES
Soil Mechanics Equipment

Humboldt's Elite Series testing machines feature a 7", full-color touch-screen controller that provides you with full, graphical monitoring of all testing functions in stand-alone applications, while maintaining full PC control when desired. With Elite Series machines you can have full, finger-tip control and monitoring of all testing functions with the touch-screen controllers, found on our load frames, consolidation and direct-shear machines, as well as our other data acquisition loggers and controllers.

Elite Series machines provide at-a-glance monitoring of testing functions, in a real-time graphical display, without the use of a PC, building upon Humboldt's dedication to modular, stand-alone, data-acquisition.

Stand-Alone Control

In stand-alone applications, you will be able to run tests and display results while viewing tabulation, basic x-y graphs and instrument readings in real-time during the test, using user-defined basic data acquisition. Test data is stored in the device and can be downloaded to a USB drive via the machine's USB port or the data can be transferred to a networked computer. The USB port can also be used to power a wireless access point, which can provide a wireless hook-up with the PC, if no LAN is available.

Computer Control

Humboldt's Next, Basic software is included with all Elite Series machines. This software provides robust machine control, calibration, data acquisition and report generation for those using a computer to control various testing operations.

In addition, operators have the ability to view and control testing operations from a PC in the lab, in the next room or at a different location, while also providing report generating capabilities using Humboldt NEXT software test-specific modules.

So, whether you are controlling a single load frame, controlling multiple machines or even a complete geotechnical lab, Humboldt's NEXT Basic software, in conjunction with Humboldt's Elite Series machines provide a complete solution for the acquisition, recording and presentation of testing data in data tabulation and graphic chart formats.



HM-3000.3F Upgrade to HM-5030.3F	HM-5030U
HM-2900.3F Upgrade to HM-5020.3F	HM-5020U
HM-2450.3F and HM-2315 Upgrade to HM-5240.3F	HM-5240U
HM-2325A.3F Upgrade to HM-5320.3F	HM-5320U
HM-2330D.3F Upgrade to HM-5330.3F	HM-5330U
HM-2470.3F Upgrade to HM-5470.3F	HM-5470U
HM-2560.3F Upgrade to HM-5560.3F	HM-5560U
HM-2750A.3F Upgrade to HM-5750A.3F	HM-5750AU
HM-4469C Upgrade to HM-4470C	HM-4470U

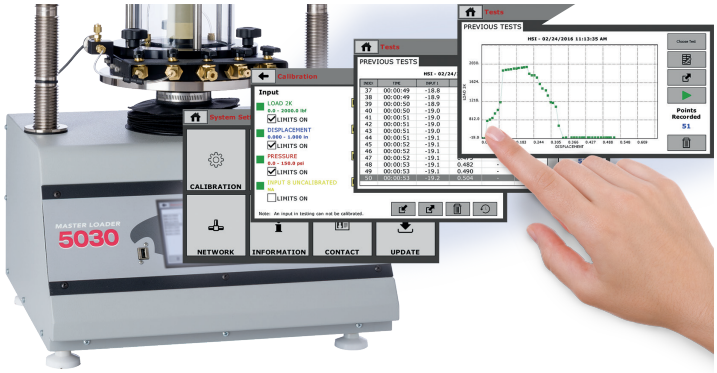
Upgrade your existing Humboldt Geotechnical Testing machines to Elite Series machines.



You can upgrade your existing Humboldt testing equipment to our Elite Series machines. These upgrades require your existing machine to be sent to Humboldt for a complete refurbishment and upgrade to the new equipment. Upgrades include the new 7", full-color touch-screen controller, and a new enclosure. Refer to the chart on the left for available upgrades.

(When upgrading machines, return transducers and load cells along with machine for recalibration.)

control and monitoring
of all testing functions





Choose:
Stand-Alone or Computer Control

NEXT Test-Specific Software Modules

Humboldt NEXT Basic software can be enhanced with the purchase of test-specific modules. These modules provide you with the following capabilities beyond the standard software included with your ELITE Series load frames.

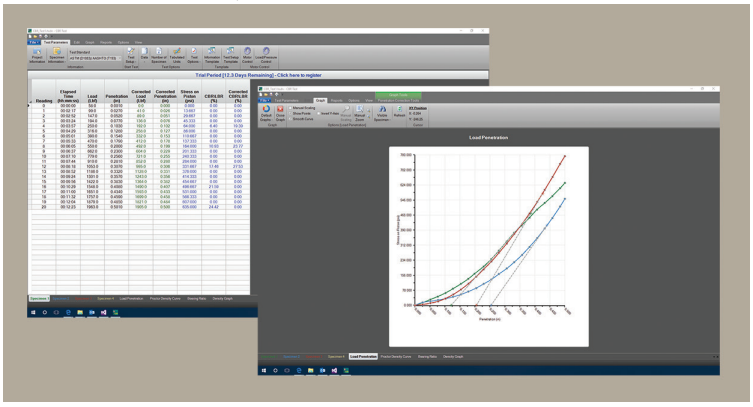
- Test-specific setup, which guides you through the process and includes selecting data collection parameters that best fit the specific test
- Input specific project information for each test, such as project name, client information, etc.
- All test-specific initial, intermediate, and final parameters required by ASTM and BS standards are dynamically calculated for you, based on your input of specimen information, such as size, weight, etc.
- Tabulated test data, graphs and all test-specific calculations are provided in real time, allowing you to monitor tests in process
- Generate test-specific reports that include all graphs and data presented in a project
- Simultaneously run multiple tests on one computer, involving any of the available NEXT modules and any compatible Humboldt equipment up to 255 device connections, which is up to 1020 inputs
- Create and store test-specific test setup templates for rapid setup of future tests
- Produce test-specific graphs, which allow you to draw construction lines to calculate angles and other test-specific parameters
- Automatically recover from a PC shutdown without loss of data
- All unit parameters can be adjusted individually
- Easily change between different test standards
- Access free, down loadable software upgrades for purchased modules
- Additional modules are available, please inquire

Consolidation Module	HM-5100SW
Direct Shear Module	HM-5700SW
CBR/LBR Module	HM-5001SW
Unconsolidated Undrained (UU) Module	HM-5002SW
Consolidated Undrained (CU) Module	HM-5003SW
Unconfined Compression (UC) Module	HM-5004SW
Consolidated Drained (CD) Module	HM-5006SW
Marshall Module	HM-5005SW
Permeability Module	HM-5007SW

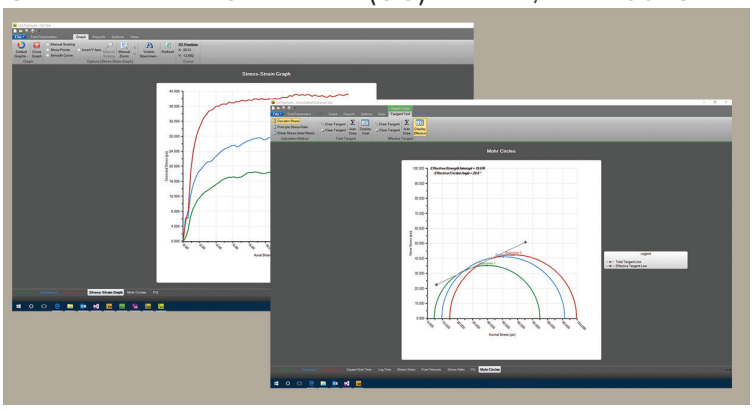
YOU CAN PURCHASE AND REGISTER YOUR SOFTWARE MODULES ONLINE!

www.humboldtmfg.com/elitenextsoftware

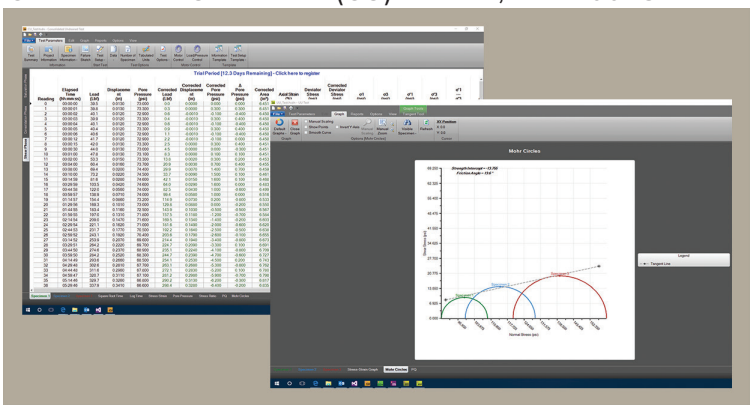
CBR/LBR Module, HM-5001SW



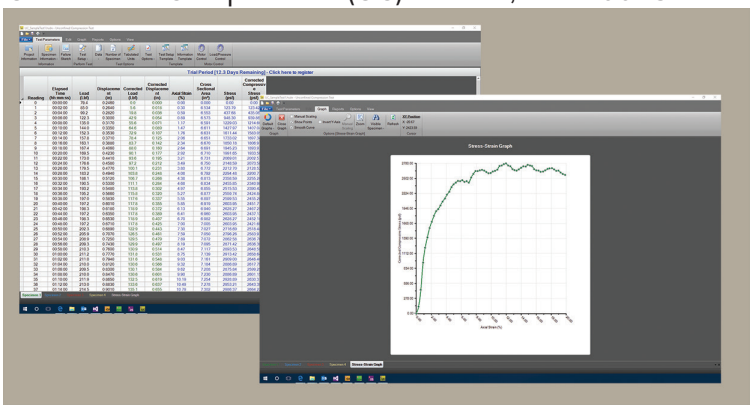
Unconsolidated Undrained (UU) Module, HM-5002SW



Consolidated Undrained (CU) Module, HM-5003SW



Unconfined Compression (UC) Module, HM-5004SW



Controller Specifications

Specifications for the touch-screen controller, instrumentation and data acquisition used with Humboldt Elite series load frames

Controller Specifications:	
Display (Resistive Touch)	7" (178mm) VGA (480 x 800)
Real-time test data	Graphic and tabulation
Processor	Dual 32-bit ARM
RAM	64MB
Memory, non-volatile	4GB
Analog to digital converter	24 bit
Data acquisition	4 Channels
Logging Rate	effective rate of 320 readings per second
Multi-test storage	1000
Points per test	3000
USB port (front)	export data, import/ export calibration data
USB port (back)	provides external power for wireless access point
Ethernet connection	for network connectivity
Emergency stop	Large button
24-bit differential analog to digital converter	4
Ambient temperature sensor	1
Limit switches	2
Firmware Update	flash drive

Typical Triaxial Test Setups with the HM-5030



Consolidated Drained and Undrained



Unconsolidated Undrained

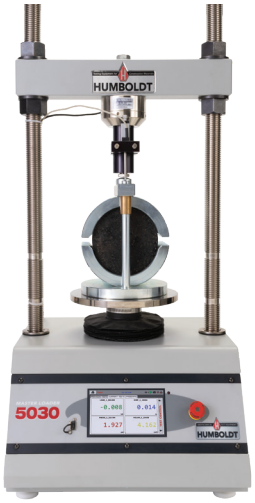


Unconfined Compression

Other Typical Test Setups with the HM-5030



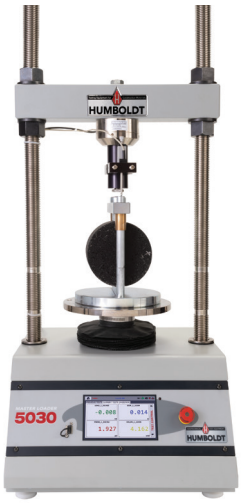
CBR/LBR



Marshall



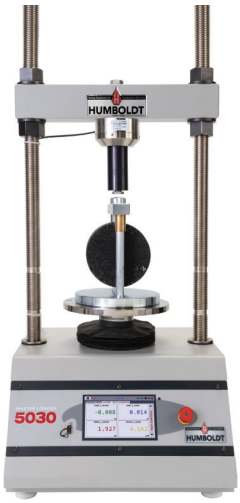
Semi-Circular Bending



IDEAL-CT



IDEAL-RT



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