



Conmatic IMC Consolidation System HM-5475.3F

Conmatic IMC Soil Consolidation System

ASTM: D2435

The HM-5475.3F Conmatic IMC is an automatic controller for performing incremental consolidation tests. The Conmatic IMC allows consolidation, constant load tests to be run automatically, freeing up technicians for other tasks and reducing manpower requirements of the testing procedures by more than half. One Conmatic IMC automated system can replace the production of several manual machines—running incremental consolidation tests according to ASTM D2435 Method B, where successive load increments are applied through 100% primary consolidation.

Once a sample has been placed onto the test platform and the test conditions set, the Conmatic IMC performs all consolidation tests, including moving to the next stress level, without operator assistance. The system automatically moves through the different test parameters specified by the user with incremental consolidation tests typically being completed in 24 to 48 hours. Automated tests can be done with or without NEXT PC software. The Humboldt

NEXT software with the HM-5100SW Consolidation module uses sample deformation readings taken from the displacement transducer and load readings from the load cell to maintain a constant applied stress to the sample throughout the test. Testing data is recorded and displayed in real-time on the screen while test data is stored and calculations are performed automatically. Humboldt's NEXT software with the HM-5100SW Consolidation module provides:

- Live test data tabulation and live graphing capabilities (real-time)
- Complete test reporting including all calculations and graphs required for testing
- Review and exporting of tests using Microsoft Excel (CSV) format
- Smart Test Function: automatically picks up where it left off if the test was not finished due to unexpected events



NOTES

Includes Humboldt NEXT Software HM-5100SW Consolidation-specific Module

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	2 Channels
Logging speed	up to 50 readings per second
Multi-test storage	1000
Points per test	3000
USB port (front)	export data, import/export calibration data, WiFi
USB port (back)	provides external power for wireless access point
Ethernet connection	for network connectivity
24-bit differential analog to digital converter	4
Ambient temperature sensor	1
Firmware Update	Ethernet or flash drive



Specifications:	
Sample size	up to 4" (100mm)
Maximum load	3300lbf (10kN)
Clearance, vertical	8.25" (210mm)
Clearance, horizontal	7.75" (197mm)
Maximum piston travel	4.0" (100mm)
Dimensions (L x W x H)	12" x 12" x 30" (305 x 305 x 762mm)
ConMatic IMC System Requirements	
AC Supply	110/220 VAC 50/60 Hz 5 Amp
Air Supply	Clean and dry (air filter, water trap), minimum: 100psi (700kps) continuous air supply 10CFM (0.3m ³ /min)

The unique design of the Conmatic IMC system enables the user to connect multiple Conmatic IMC units to a single computer when connected via a LAN-network.

Computer Control

NEXT software and the enhanced Consolidation module, HM-5100SW, is included with the Conmatic IMC automated consolidation machine. This software provides robust machine control, calibration, data acquisition and report generation for those using a computer to control consolidation testing operations. In addition, operators have the ability to view and control testing operations from the controlling PC, while also providing report generating capabilities using the consolidation test-specific software module.

Whether you are controlling a single, or multiple machines, the HM-5475 Conmatic IMC, in conjunction with the NEXT testing software, provides a complete solution for the acquisition, recording and presentation of consolidation testing data in data tabulation and graphic chart formats.

- Machine control, and data acquisition via networked computer
- Provides the ability to use Humboldt's Next Software's, advanced test-specific modules
- Real-time graph chart and numerical display of tests via computer display
- Effective sampling rate of 50 readings per second
- Stores unlimited tests with up to 3000 points per test.
- Up to 255 individual tests can be run simultaneously from a single PC
- Provides advanced graphing capabilities
- Provides full-unit customization
- Reports can also be exported to Excel or a CSV file, if desired, and, we can provide custom integration/export solutions for LIMS, EQUIS, gINT, etc.
- Stand-Alone reports are available in Excel (CSV) format.

The HM-5475.3F ConMatic IPC includes:

(1) S-type load cell 2,250 lbs (10kN) with 0.75" adapter	HM-2300.20
(1) NEXT consolidation software module	HM-5100SW

Typical HM-5475.3F Consolidation Setup:

Part #	Description
HM-5470.3F	ConMatic IPC
Required Components, Order Separately	
HM-1220.XX*	Fixed ring consolidation cell

Additional Items Required	
PC computer	not supplied
Refrigeration Dryer	HM-4221
Desiccant Dryer, Silica Gel	HM-4222
Filter/Regulator	HM-4223
Consolidation Installation Kit	HM-4168
25' of 1/4" Tubing	HM-4196.25 (sold by the foot)
Filter Kit for Controller	HM-200926



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