

## FULLY AUTOMATIC COMPRESSION MACHINE FOR ROCK CORE ELASTIC MODULUS TEST (HIGH STABILITY FRAME)

Standard: ASTM D7012

This advanced test system is specially built for automatic test & precise determination of intact rock core specimens elastic properties under uniaxial condition, fully compliant with ASTM D7012. By applying controlled axial loads and capturing axial and lateral strains, the system automatically measures Young's Modulus & Poisson's Ratio using high precision axial & lateral strain gauges.

Equipped with rigid loading frame, closed-loop control & high-resolution data acquisition, the machine measures accurate stress strain relationships of rock core. The integrated test software enables intuitive operation, real-time monitoring, and automatic calculation of elastic parameters. Combined with robust controller, smart control features and high-resolution data acquisition, the system ensures repeatable, standard-compliant and research-grade results across a wide range of rock types.

### Main Features :-

- Rigid high-stability compression frame ensures stability and minimal frame deformation during test.
- Precision-aligned platens with spherical seating for uniform loading.
- High-performance hydraulic system for smooth and accurate loading rates.
- Flexible Smart Controller enables multi-deformation capture based on different load settings.
- Closed-loop control ensures precise loading rates per ASTM D7012 requirements.
- Real-time stress-strain graph with automatic modulus and Poisson's ratio calculation.
- Supports multiple channels for axial & lateral strain gauges or displacement transducer input.
- Easy setting user-defined test parameters with preset templates according to ASTM D7012.
- Raw data export to Excel for reporting and further analysis of test results.

### Technical Specifications :

Model Number	NL 4000FCE / HSF2K	NL 4000FCE / HSF3K
Max. Vertical Clearance	375 mm	
Max. Horizontal Clearance	370 mm	420 mm
Capacity	2000 kN	3000 kN
Piston Ram Diameter	250 mm	295 mm
Piston Ram Travel	50 mm	
Compression Platen Dia.	295 mm	
Low Range Sensitivity	0 - 999 x 0.01 kN	
High Range Sensitivity	1000 - 2000 x 0.1 kN	1000 - 3000 x 0.1 kN
Product Dimension (WxDxH)	1165 x 510 x 1500 (mm)	1275 x 510 x 1545 (mm)
Packing Dimension (WxDxH)	1300 x 680 x 1550 (mm)	1410 x 700 x 1750 (mm)
Approx. Product Weight	1090 kg	1360 kg
Power	220~240 V, 750 W, 1 Ph, 50/60 Hz, 2.5 A	

### Optional Accessories :

Model Number	Accessories Description
NL 4000 X 002 - A 005	100mm Cube Lower Platen Piece
NL 4000 SG / 30L	Single Use Strain Gauge, Base Length 30mm
NL 4000 SG / 60L	Single Use Strain Gauge, Base Length 60mm

