

CONCRETE COMPRESSION TESTER



The Concrete Compression Tester TTC-Series is designed to accurately determine the compressive strength of concrete specimens, a critical parameter in construction, civil engineering, and material testing. Precise compression testing plays a key role in verifying the structural performance of concrete used in buildings, bridges, roads, and other infrastructure projects. Reliable measurement ensures that materials meet required safety and quality standards before and during construction.

Torontech's TTC-Series Concrete Compression Testers are engineered for durability, precision, and consistent performance. The machines are built to handle high-load testing conditions while maintaining stable and repeatable results. Designed for long-term use, they are well suited for laboratories, quality control facilities, and academic environments where dependable testing accuracy is essential.

The TTC-Series is available in multiple load capacities, allowing users to select a configuration that matches their testing requirements. This flexibility makes the series suitable for a wide range of concrete strength evaluations, from routine quality checks to demanding structural testing applications. By combining robust construction with precise load application, the TTC-Series delivers reliable compression testing for concrete and related materials.

Key Highlights

- Designed for accurate compressive strength testing of concrete
- Supports consistent and repeatable results under high load conditions
- Suitable for construction, civil engineering, and material testing use
- Built for long-term laboratory and academic operation
- Available in multiple load capacity options to suit different testing needs

APPLICATIONS

Applications and Industries

Concrete Compression Testers are used in a wide range of applications, including the testing of concrete cubes, cylinders, and blocks. These machines are vital for:

- Construction companies
- Quality control laboratories
- Universities and research institutes
- Government agencies overseeing public infrastructure

ASTM C39 and EN 12390-4 Standards

All TTC-Series Concrete Compression Machines from Torontech adhere to international testing standards, ensuring reliable and accurate results. The ASTM C39 standard defines the testing procedures for cylindrical concrete specimens, ensuring uniformity and consistency in compressive strength tests.

Meanwhile, the EN 12390-4 standard specifies the requirements for compression machines used in testing hardened concrete, providing guidelines for design, precision, and accuracy.

With the TTC-Series Concrete Compression Testers, you benefit from advanced features like long-lasting construction, high precision, and competitive pricing. Whether you are performing routine concrete testing or require precise results for critical infrastructure projects, Torontech's solutions are designed to meet your needs efficiently.

Usage

Primarily designed for testing the compression strength of materials such as brick, stone, cement, and concrete, this machine is also suitable for evaluating the compressive performance of other materials.

FEATURES

Mechanical Structure:

The TTC-Concrete Compression Testing machines features a bottom-cylinder design and integrated oil source. The upper and lower pressure plates are crafted from 40Cr quenched material, while the columns are made from high-performance steel with a chrome-plated and polished surface, ensuring both beauty and rust resistance.

The oil cylinder utilizes special technology, including honing processing and gap sealing, providing exceptional sealing performance and a long service life. It is equipped with a high-precision all-digital servo valve and an high-pressure oil pump, ensuring low noise and stable operation. The oil source is constructed from steel plate with a spray-coated surface, and the marble countertop can accommodate a computer and printer, keeping the area clean, tidy, and space-efficient.

Measurement and control system

The control and measurement system incorporates advanced techniques from current pressure testing machine controls, utilizing a high-precision, fully digital servo closed-loop control and measurement system.

This system enables functions such as equal load rate loading, equal stress rate loading, and test force retention, ensuring high control accuracy and reliability. It features multiple layers of protection, providing safety measures against overload, overcurrent, overvoltage, undervoltage, overspeed, and testing machine limits.

Equipped with specialized measurement and control software, the system performs statistical analysis and processing of test data. During testing, the computer displays force and time parameters in real time, along with a dynamic display of the test curve, and can output the test curve and report.

Utilizing advanced multi-threading technology for data collection, the system ensures fast rates, strong stability, and automatic anti-interference processing of sensor data, preventing control failures due to accidental data acquisition issues.

The system offers a powerful report editing function, allowing users to compile test reports according to their requirements and output various results. Data can also be saved in Excel format for easy editing. Through database management, all test data and curves are automatically saved, with features for curve amplification, comparison, and traversal, providing a robust foundation for laboratory networking.

The software is designed for the English Windows platform, featuring a user-friendly interface and convenient operation. It supports various test standards for sintering ordinary brick, cement, concrete, mortar, and rock compression, displaying test force and loading speed data in real time and drawing time/test force curves.

The software uses an open database structure, compatible with ACCESS and Excel for experimental database communication, and includes a database interface for localized network connection with the laboratory, facilitating test data management.

Post-test, the system can automatically analyze and statistically evaluate the results, offering three modes: automatic test, automatic pressure holding, and manual output for result analysis. It can analyze and print force-time curves as needed. The software also includes a result reproduction function, allowing users to reopen and reanalyze historical test data at any time.

TECHNICAL SPECIFICATIONS

TTC-Series Concrete Compression Testing Machine Configuration	
Item	Qty
Main Machine	One
Machine safety cover	One
Sample height pad	8 pcs
Control system	One
Lenovo Computer	One

TTC-Series Concrete Compression Testing Machine Configuration	
Item	Qty
Color Ink Jet Printer	One

Technical Parameters	TTC-1000	TTC-2000	TTC-3000
Max. Test Force	1000kN 225K lb.f	2000kN 450K lb.f	3000kN 675K lb.f
Accuracy	Class One		
Test force Measurement Range kN	4%-100%FS		
Test Force Indicating Error	≤ indicating value ±1%		
Test Force Resolution	0.01kN		
Hydraulic Pump Pressure Rated	25MPa		
Upper Pressure Plate Size	Φ290mm		450×450mm
Lower Pressure Plate Size	265×265mm		450×450mm
Compression test space	-	-	300mm
Column distance	365mm		-
Maximum distance between upper and lower pressure plates	250mm		-
Piston Diameter	φ320mm		φ400mm
Piston Stroke	100mm		
Weight	1150kg		2000kg
Voltage	380V, Three Phase, 50Hz, 5kW		



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