

2013-2014

FORNEY



FORNEY

**TESTING EQUIPMENT FOR CONCRETE
AND HEAVY BUILDING CONSTRUCTION MATERIALS**

Se Habla Español

On parle Français

نحن نتكلم العربية



CELEBRATING 100 YEARS 1916 - 2016



- AASHTO** American Association of State Highway and Transportation Officials
www.transportation.org
- ACI** American Concrete Institute, www.concrete.org
- ARTBA** American Road & Transportation Builders Association, www.artba.org
- ANSI** American National Standards Institute, www.ansi.org
- AREMA** The American Railway Engineering and Maintenance-of-Way Association
www.arena.org
- ASCC** American Society of Concrete Contractors, www.ascconline.org
- ASCE** American Society of Civil Engineers, www.asce.org
- ASTM** American Society for Testing and Materials, www.astm.org
- BSI** British Standards Institution, www.bsigroup.com
- CSA** Canadian Standards Association, www.csa.ca
- EN** European Committee for Standardization
www.cen.eu
- FHWA** Federal Highway Administration, www.fhwa.dot.gov
- NAPA** National Asphalt Pavement Association, www.hotmix.org
- NCAT** National Center for Asphalt Technology
www.eng.auburn.edu/center/ncat
- NCMA** National Concrete Masonry Association, www.ncma.org
- NPCA** National Precast Concrete Association, www.precast.org
- NRMCA** National Ready Mix Concrete Association, www.nrmca.org
- NSSGA** National Stone, Sand & Gravel Association, www.nssga.org
- NSSN** National Search Engine for Standards Network, www.nssn.org

Making
the **World**
a **safer**
place

Customer Service



FORNEY
making it easy
making it personal



INTERNATIONAL

+724 346 7400
+800 367 6397*
8:00 a.m. to 5:00 p.m. Eastern Standard Time

USA

+724 346 7400
+800 367 6397*
8:00 a.m. to 5:00 p.m. Eastern Standard Time

FAX

+724 346 7408
+866 836 7639*

EMAIL

sales@FORNEYonline.com

WEB

www.FORNEYonline.com

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Testing Machines



COMPRESSION

FLEXURE

TENSION

Testing

in the 21st Century

FORNEY is the leading designer and manufacturer of equipment for the Construction Materials Testing industry (CMT). Constant research and constant innovation since the 1950s is the basis of our leadership.

Reliability is the foundation of our reputation and our leadership. FORNEY's policy of uncompromising quality has sustained civil engineering projects around the world.

The FORNEY name "defines" the testing industry. Working with DOTs, universities, and government regulators, FORNEY designed all the major developments in the industry.

FORNEY gives you:

- Unmatched engineering technology
- Uncompromised quality
- Unparalleled customer support

FORNEY is headquartered in Seven Fields, PA, USA with sales and service networks worldwide.



FORNEY Machine Brochure,
1950s



FORNEY Headquarters, Seven Fields, PA

A Machine for all Specimens

Concrete must be tested at every step of the construction process — from mix design to core sampling — all defined by ASTM, AASHTO, BS, and EN. Most tests are performed on hardened concrete cubes and cylinders. There is a FORNEY testing machine for every type of specimen. Choose from our range of machines or work with our engineers to design one for your unique application.

CYLINDERS

CUBES

BEAMS

BRICKS

BLOCKS

PAVERS

CABLES

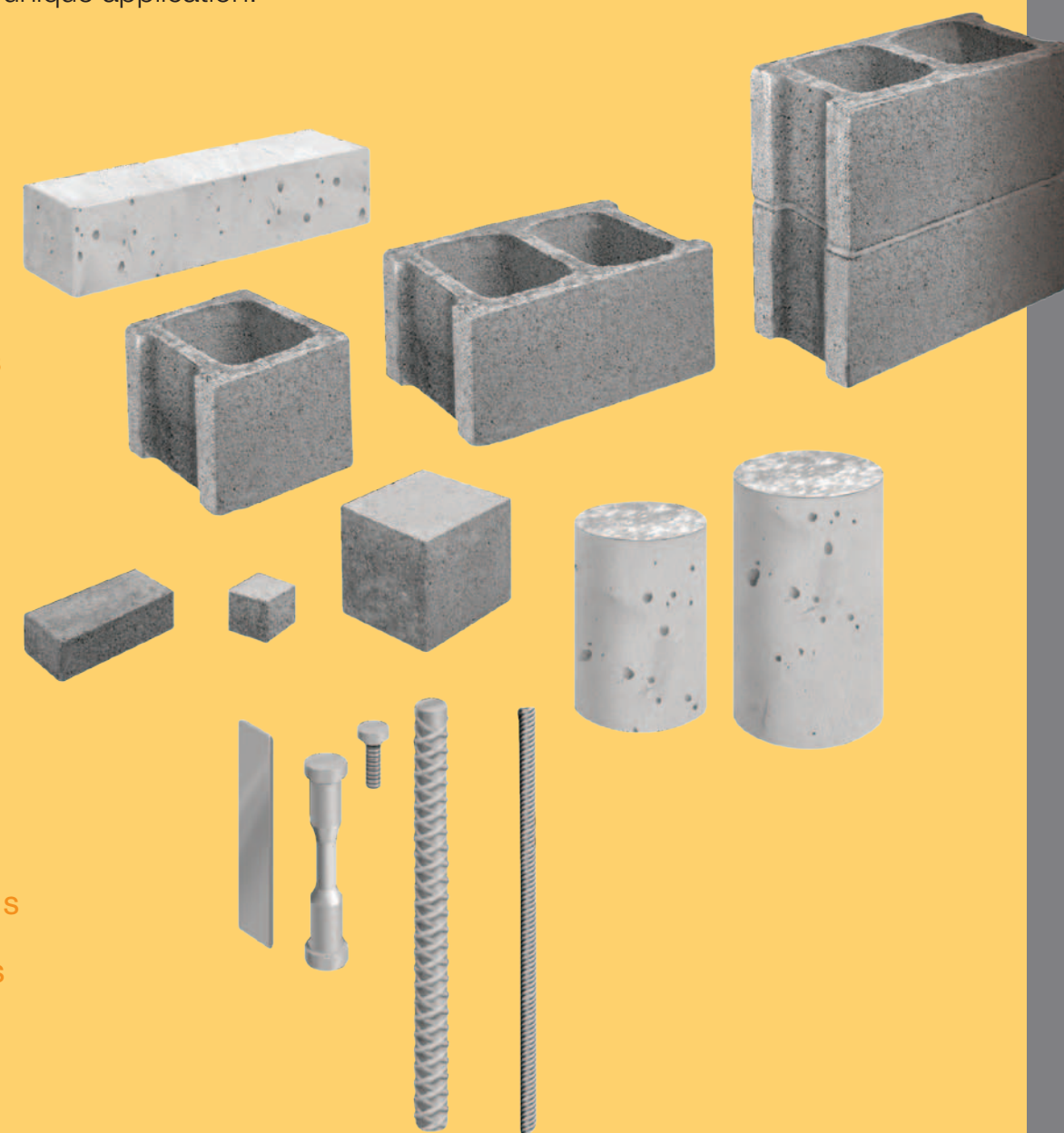
REBARS

BRIQUETTES

FASTENERS

FLATS

STRANDS



PRECASTERS

READY-MIX

Who uses FORNEY concrete testing machines?

CIVIL ENGINEERS

STATE DOTs

UNIVERSITIES

PRIVATE LABS



Repeatable and precise results

Frames that exceed ACI requirements coupled with sophisticated machine design ensure continued and repeatable results over years and years of use.

Safety of men and machines

The safety of all lab technicians and service personnel is paramount. A FORNEY machine is designed with the operator in mind — novice or experienced, male or female.

Easy to use

Ergonomic design and thoughtful details ensure easy testing, even for new operators. Accessibility to frequently maintained parts ensures faster servicing, often eliminating the need for outside service contractors.

Customer support

At all levels of ownership, a FORNEY customer is supported with 24-hour troubleshooting advice, starting with FORNEY's trained and experienced sales professionals. Modern computer systems keep the global network in touch and working smoothly. Professionals need downloadable instruction manuals, shipment tracking, and solid technical advice.

Why do professionals choose FORNEY?

FORNEY Complete Range of
Testing Machines

	Capacity in Compression		Cylinder				Cube			Brick	Beam	Block		Part Number
	lbf	kN	2x4"	3x6"	4x8"	6x12"	2"	6"	8"	2x4x8"	6x6x20"	12x16x8"	In Prism	
			Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	Values in psi (MPa)	
Standard Series	250,000	1,100	32,813 (226)	14,583 (101)	19,894 (137)	8,842 (61)	25,772 (178)	6,944 (48)	3,906 (27)	7,813 (54)	2,500 (17.24)	—	—	F-250
	325,000	1,500	32,813 (226)	14,583 (101)	25,836 (178)	11,495 (79)	25,772 (178)	9,028 (62)	5,078 (35)	9,375 (65)	—	—	—	F-325
	450,000	2,000	32,813 (226)	14,583 (101)	35,810 (247)	15,916 (110)	25,772 (178)	9,944 (69)	7,031 (48)	9,375 (65)	—	—	—	F-450
	650,000	3,000	32,813 (226)	14,583 (101)	51,725 (357)	22,989 (159)	25,772 (178)	9,944 (69)	10,156 (70)	9,375 (65)	—	—	—	F-650
High Stiffness Series	300,000	1,334	32,813 (226)	14,583 (101)	23,873 (165)	10,610 (73)	25,772 (178)	8,333 (57)	4,688 (32)	9,375 (65)	—	—	—	FHS-300
	400,000	1,779	32,813 (226)	14,583 (101)	31,831 (219)	14,147 (98)	25,772 (178)	9,944 (69)	6,250 (43)	9,375 (65)	—	—	—	FHS-400
	500,000	2,224	32,813 (226)	14,583 (101)	39,789 (274)	17,684 (122)	25,772 (178)	9,944 (69)	7,813 (54)	9,375 (65)	—	—	—	FHS-500
	600,000	2,669	32,813 (226)	14,583 (101)	47,746 (329)	21,221 (146)	25,772 (178)	9,944 (69)	9,375 (65)	9,375 (65)	—	—	—	FHS-600
	700,000	3,114	32,813 (226)	14,583 (101)	55,704 (384)	24,757 (171)	25,772 (178)	9,944 (69)	10,938 (75)	9,375 (65)	—	—	—	FHS-700
Metric Series	250,000	1,100	32,813 (226)	14,583 (101)	19,894 (137)	8,842 (61)	25,772 (178)	6,944 (48)	3,906 (27)	7,813 (54)	2,500 (17.24)	—	—	F-1100 kN
	325,000	1,500	32,813 (226)	14,583 (101)	25,863 (178)	11,495 (79)	25,772 (178)	9,028 (62)	5,078 (35)	9,375 (65)	—	—	—	F-1500 kN
	449,618	2,000	32,813 (226)	14,583 (101)	35,779 (247)	15,902 (110)	25,772 (178)	9,944 (69)	7,025 (48)	9,375 (65)	—	—	—	F-2000 kN
	674,427	3,000	32,813 (226)	14,583 (101)	53,669 (370)	23,853 (164)	25,772 (178)	9,944 (69)	10,538 (73)	9,375 (65)	—	—	—	F-3000 kN
Flexural Testers	30,000	133	9,549 (66)	4,244 (29)	2,387 (16)	—	7,500 (52)	—	—	—	2,500 (17.24)	—	—	LA-270
Block Testers	450,000	2,002	32,813 (226)	14,583 (101)	35,810 (247)	15,916 (110)	25,772 (178)	9,944 (69)	—	9,375 (65)	—	2,344 (16)	—	FHS-401
	500,000	2,224	32,813 (226)	14,583 (101)	39,789 (274)	14,684 (122)	25,772 (178)	9,944 (69)	—	9,375 (65)	—	2,604 (18)	2,604 (18)	FHS-502
	600,000	2,669	32,813 (226)	14,583 (101)	47,746 (329)	21,221 (146)	25,772 (178)	9,944 (69)	—	9,375 (65)	—	3,125 (22)	3,125 (22)	FHS-602
	700,000	3,114	32,813 (226)	14,583 (101)	55,704 (384)	24,757 (171)	25,772 (178)	9,944 (69)	—	9,375 (65)	—	3,646 (25)	3,646 (25)	FHS-702*
	800,000	3,559	32,813 (226)	14,583 (101)	63,662 (439)	28,294 (195)	25,772 (178)	9,944 (69)	—	9,375 (65)	—	4,167 (29)	4,167 (29)	FHS-803
High Capacity Testers	800,000	3,559	32,813 (226)	14,583 (101)	63,662 (439)	28,294 (195)	25,772 (178)	9,944 (69)	12,500 (86)	9,375 (65)	—	4,176 (29)	—	LT-808
	1,000,000	4,448	32,813 (226)	14,583 (101)	79,577 (549)	35,368 (244)	25,772 (178)	9,944 (69)	15,625 (108)	9,375 (65)	—	5,208 (36)	—	LT-810
	1,500,000	6,672	32,813 (226)	14,583 (101)	119,366 (823)	53,052 (366)	25,772 (178)	9,944 (69)	23,438 (162)	9,375 (65)	—	5,208 (36)	—	LT-815
Universal Testers	See page 28 for Complete Universal Series													

Testing Machine capacity can sometimes exceed accessory capacity. If you have a special application that requires testing fixtures with additional capacity, please contact FORNEY.

This worksheet uses gross area calculations, taking into account any voids that construction block typically has. The psi shown here differs from a calculation using net area.
*FORNEY also offers a 3-block machine with 700,000 lbf capacity (FHS-703).

**THE BEST SELLER**

The F-250 performs equally well in a lab or at the construction site. It tests in the range of 2,500 to 250,000 lbf. Shown here with optional stand.

STANDARD COMPRESSION MACHINE F-450

Standard Series machines are economical, rugged, accurate, and dependable. This F-450 has a 450,000 lbf capacity.

**STANDARD COMPRESSION MACHINE F-650**

With a testing range of 6,500 to 650,000 lbf, the F-650 is a high-capacity machine that offers great versatility and dependable service.

**F-325 COMPRESSION TESTER**

The F-325 has 325,000 lbf capacity — that's 8% more than similar machines. You get more muscle for less money. Shown here with the TestPilot digital.



Standard Testers

250,000 to 650,000 lbf
1,000 to 3,000 kN

ACI 363R
ASTM C39, C140, C1314, E4
AASHTO T22
BS 1610, 1881

Designed, built, and sold by FORNEY.
These machines are ideal for the general lab because of their versatility.

Standard Testers have frames manufactured from solid steel into a one-piece, welded unit that exceeds ACI 363R recommendations. All machines in the series have Lexan fragment guard doors for enhanced safety.

Standard Features

- High pressure safety valve
- Cylinder platen assembly (6 inch/150 mm) mounted on top
- ¾ horsepower pump is standard, and machines are available with 110 or 220 VAC
- 24-month warranty on all frame components and 12-month warranty on electronics and hydraulics
- Choose digitals to suit — DR500, Co-Pilot, TestPilot, or VFD Automatic

FORNEY's Easy-Change Accessory System makes switching fixtures fast and easy. Accessories are available for testing a wide range of sample sizes, shapes, and types.

See FORNEY's range of digitals on Pages 34 – 37.

**STANDARD COMPRESSION MACHINE F-325**

F Series machines are economical, rugged, accurate and dependable. The F-325 tests in the range of 3,250 to 325,000 lbf.

Premium Testers

300,000 to 700,000 lbf
1,300 to 3,100 kN

ACI 363R
ASTM C39, C140, C1314, E4
AASHTO T22
BS 1610, 1881

FHS Series Compression Machines — for demanding testing environments

Premium Features

- **High Stiffness — 3X or 4X more rigid than conventional frames**
- **100% enclosed for maximum dust and sound control**
- Ergonomic design
- Maximum testing flexibility
- Full Lexan doors offer maximum visibility
- The FORNEY Easy-Change Accessory System makes switching fixtures fast and easy
- Rectangular platen offers greater testing flexibility
- Loading position and controls placed for operator comfort
- 24-month warranty on all frame components and 12-month warranty on electronics and hydraulics
- Piston over-extension proximity switch available

The complete range of FORNEY digitals is shown on Pages 34 – 37.

Designed with the
serious user in mind



PREMIUM TESTER FHS-400
This machine tests in the range of 4,000 to 400,000 lbf.



PREMIUM TESTER FHS-300
Tests in the range of 3,000 to 300,000 lbf. Change out accessories for low-strength specimens.



PREMIUM TESTER FHS-500
This versatile machine tests in the range of 5,000 to 500,000 lbf.

CENTERING BLOCK OPTION



PREMIUM COMPRESSION MACHINES

Equipped with our new VFD Auto package or one of our digital readouts, these machines offer unmatched performance and technology.

Automatic Machines

ASTM C39, C140, C1314, E4
AASHTO T22
BS 1610, 1881

Accuracy, repeatability, true automatic operation, and wireless transmission of data. What more could you want? How about complete data management and energy efficiency? The VFD Automatic has it all.

FORNEY's Automatic System carefully controls the test protocol, acquires and assimilates testing data, allows meaningful user input for additional results, and stores, prints, and transmits data to flash drive or network storage via Ethernet or Wi-Fi. Even send it to the "cloud"!

The Auto VFD Controller can be used with all FORNEY testing machines and can be retrofit to most conventional testing machines.

Full Range of Testing Protocols

- Cylinders — 2 x 4, 4 x 8, 6 x 12
- Cubes
- Beams
- Proppant cylinder fixtures

CONSOLE

A specially designed console houses the operator interface, hydraulic drive, pump control, and electronic system. Pre-piped and pre-wired, all the customer has to do is connect the hose to the load frame.

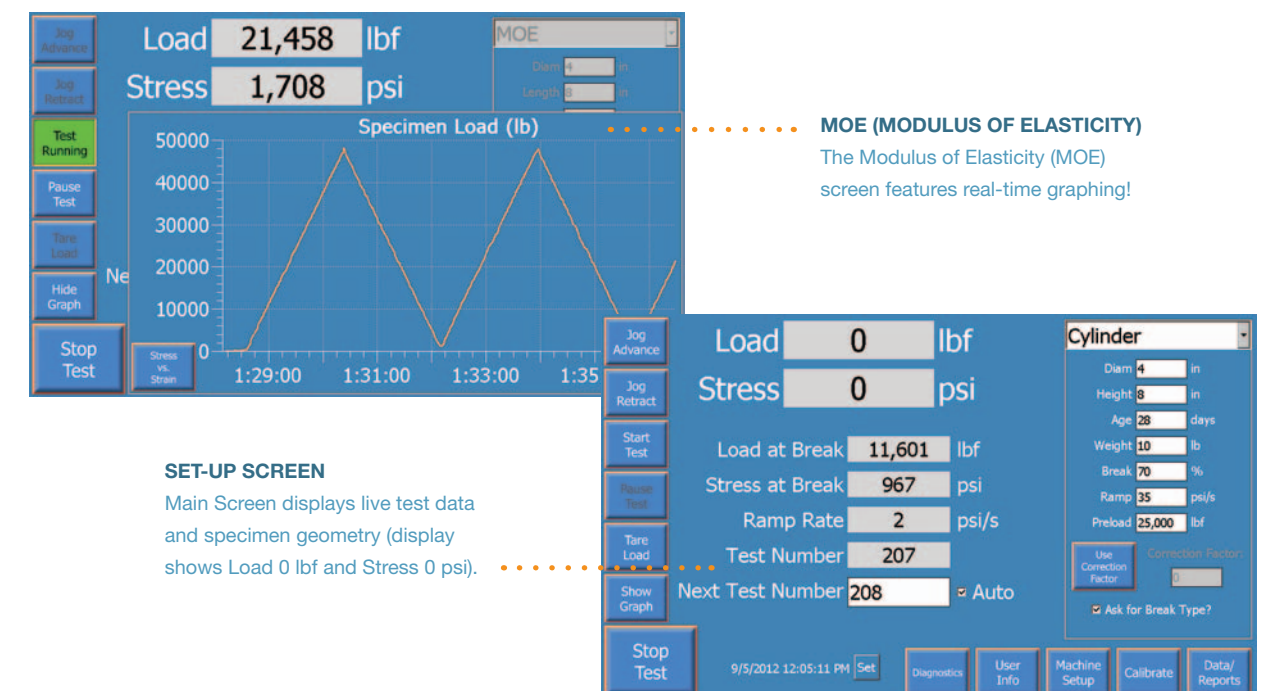
The energy-efficient hydraulic system eliminates excessive oil flow, reducing heat and greatly extending hydraulic system life.



FHS-400 WITH SEPARATE VFD AUTO CONSOLE

VFD Automatic System

The state-of-the-art Data Acquisition System gathers, stores, and transmits data. Operator interface is via a hardened touchscreen that displays configurable test set-up and results data — including live graphing.



INTEGRATED VFD PACKAGE

The VFD Auto can be used as an integrated unit in machines up to 400,000 lbf capacity.



VFD CONSOLE

Used with machines over 400,000 lbf capacity. Both the console and integrated VFD controllers are easy to retrofit to your existing machine.



Metric Machines



F-1100KN TESTING MACHINE
Tests in the range of 11–1,100 kN.
Shown here with optional 50mm
cube platen.

fully
welded
steel
frames

FORNEY Metric Compression Testing Machines feature fully welded steel construction for maximum rigidity. FORNEY Digital Readouts operate in English and Spanish. The TestPilot can be used on two compression frames, greatly expanding testing options.



F-1500KN TESTING MACHINE
Tests in the range of 15–1,500 kN.

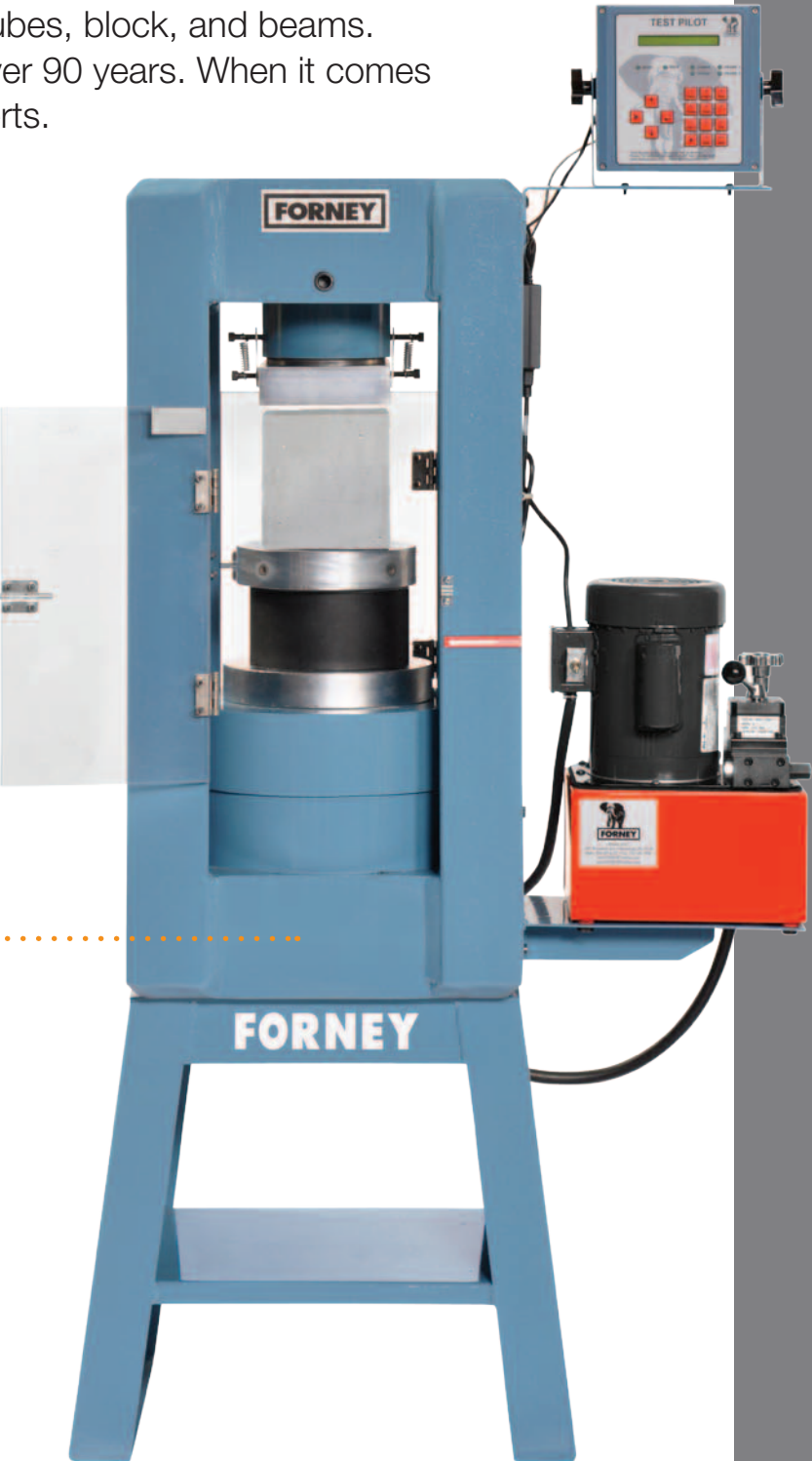


F-2000KN TESTING MACHINE
Tests in the range of 20–2,000 kN.

International Series Compression Testing Machines

FORNEY Metric Compression Testing Machines are built to exacting specifications. They test cylinders, cubes, block, and beams. FORNEY has been in business for over 90 years. When it comes to testing machines, we are the experts.

- 110 or 220 V, 50 or 60 Hz
- Separate console available
- Dual-range option available for testing as low as 1.3 kN
- International Sales and Service
- Speedy delivery
- Meets ASTM and BS standards



F-3000KN TESTING MACHINE
This machine tests in the range of 30–3,000 kN and is shown here with a TestPilot Digital. Its high capacity makes this a very versatile machine for laboratory use.

Capacity	
kN	lbf
1,100	250,000
1,500	335,000
2,000	450,000
3,000	660,000



450,000 lbf**1,779 kN****500,000 lbf****2,224 kN****600,000 lbf****2,668 kN**

ASTM C39, C140, C1314, E4
 AASHTO T22
 BS1610, 1881

FORNEY Block Testers have solid steel one-piece welded frames. In addition, it's important to have sufficient daylight for the sample; the Carrier Bracket (moves heavy platen in and out) must be sturdy and also move smoothly; and the Holding Stem must not only move the platen to the right level, but must also provide complete safety for the operator. FORNEY Block Testers have all these features, and many more.

CARRIER BRACKET**PLATENS**

The top platen is easily switched out with fixtures for a wide variety of test samples. Full-size masonry block samples (12 x 16 x 8 inches WLH) can be tested with or without grout filler.

Block Testers

FORNEY manufactures Block Testers to meet three important standards: ACI, ASTM, and FORNEY's own! FORNEY has been designing and manufacturing Block Testers for over 60 years, and the FORNEY Series is the largest in the industry.

Versatile

FORNEY Block Testers add extra functionality to a lab. They test:

- Single block
- 2-block in prism (502, 602 models)
- 3-block in prism (703, 803 models)
- High-strength cylinders (6 x 12 and 9 x 18 inches)

Frame is fully enclosed with Lexan doors for visibility and safety.

BLOCK TESTER FHS-502

The F-502 is the most popular block machine. It tests in the range of 5,000 to 500,000 lbf.



30,000 lbf
133 kN

ASTM C39, C78, C293, E4
AASHTO T22, T23, T97
BS1610, 1881, 1881:118
EN 12390-5, 1340:4

The FORNEY Beam Tester Series is specifically designed to test the flexure of beams and the compressive strength of all low-strength specimens. These machines are versatile and can be configured to suit any lab or field situation. Ideal for testing concrete used in highways and airport runways.



BEAM TESTER — DESKTOP MODEL

1 The “Desktop” Beam Tester is lightweight and features unique built-in handles. It is the only truly portable Beam Tester in the industry that meets ASTM code.

2 With the addition of a stand, the Beam Tester becomes a Laboratory Model. The controls are at a convenient working height, and it is bolted to the floor for added stability.

BEAM TESTER — LABORATORY MODEL

The Laboratory Model tests beams with either center point or third point loading. It can be used to test many other low-strength specimens using the FORNEY Easy-Change Accessory System.



BEAM TESTER ACCESSORY MODEL

The Accessory Model is combined with the FORNEY F-250 testing machine and the exclusive TestPilot Digital Indicator. The TestPilot operates both frames so only one pump and one valve are needed — an economical choice. Combining the Accessory Model Beam Tester with another machine saves time because cylinder and beam accessories can be set up simultaneously — no time is wasted changing platens.

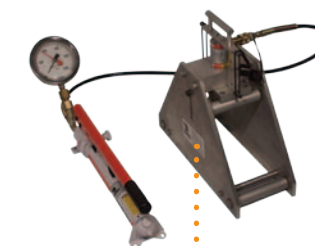
3 A FORNEY Beam Tester can also be an accessory model — frame only — and attached to any compression machine. This is an economical solution that covers several compression needs at all at once because one Digital is driving two frames!



BEAM TESTER EQUIPPED WITH 2-INCH CUBE ASSEMBLY

A quick and easy change of accessories allows 2-inch cubes to be tested — the Beam Tester's lower capacity is ideal for tests on mortar cubes as well as on other low-strength samples.

FORNEY Beam Testers can also be used to test many other low-strength samples, such as grout, pavers, cubes, and other materials with failure below 30,000 lbf. The large selection of accessories along with the FORNEY Easy-Change Accessory System makes accessory changing fast and safe.



MANUAL BEAM TESTER

This hand-operated pump is ideal for testing in areas where electricity is unavailable.

UNIVERSAL TESTER LT-1000 SERVO

With a capacity of 600,000 lbf (2,700 kN) in both compression and tension, this powerful machine can test No. 3–18 (10–55 mm dia) rebar.

ASTM E39 E4
ACI 363
BS 1610 1881

FORNEY Universal Testing Machines have solid welded steel frames and deliver superior distortion resistance and testing accuracy.

FORNEY Universal Testing Machines exceed ASTM and ACI specifications.

“Designed and built by FORNEY” — your assurance of quality and reliability.

Universal Testers

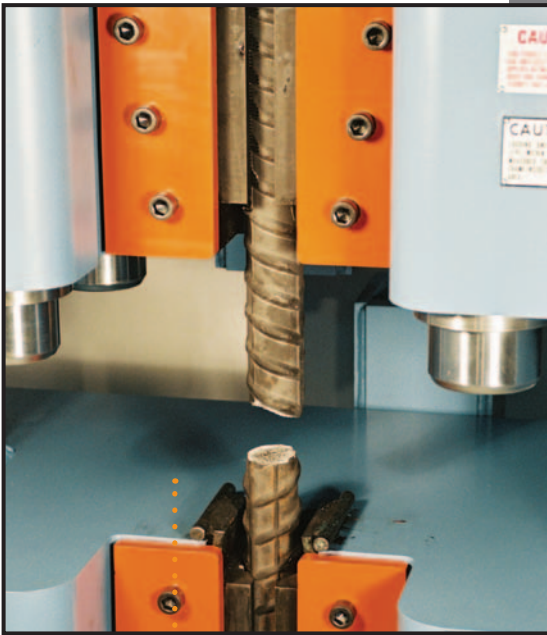
extra rigid frame

20,000 to 600,000 lbf
90 to 2,668 kN

FORNEY Universal Testers measure:

- Force
- Displacement
- Velocity
- Strain

FORNEY manufactures a variety of Universal Testing machines designed to test a wide array of specimens — cement briquettes, cubes and cylinders, rebar, rebar with joints or T-Caps, and other non-cement, non-metallic materials.



GRIPPERS

FORNEY Universal Testers pull a large variety of samples, such as this one-inch-diameter rebar (size: No. 8). FORNEY builds Universal Testers that can pull rebar in the ASTM range of No. 3 to No. 18. Grippers are available for pulling wire, rope, cable, briquettes, and other samples.

Type of Specimen	Values n lbf (kN)		Product Number
	Tension	Compression	
Cement Briquette and Cube Tester Flats and Rounds	20,000 (90)	60,000 (270)	LT-31
Cylinders, 2 in. Cube, Flexural Flats and Rounds 0.7 in. (20 mm)	60,000 (270)	60,000 (270)	LT-60
Rebar Tester up to 1.25 in. (32 mm) Manual Grip or Hydraulic Grip	120,000 (533)	120,000 (533)	LT-120
Rebar Tester up to 1.4 in. (35 mm) Manual Grip or Hydraulic Grip	200,000 (900)	400,000 (1,800)	LT-900
Civil Engineering and Metallurgical Applications — Hydraulic Grip	400,000 (1,800)	400,000 (1,800)	LT-950
Civil Engineering and Metallurgical Applications — Hydraulic Grip	600,000 (2,700)	600,000 (2,700)	LT-1000



Pipe Testers

30,000 to 500,000 lbf
133 to 2,224 kN

The FORNEY Pipe Tester Kit is the control unit for a test frame. The kit, plus a frame, which is often constructed by the customer himself, becomes a complete Pipe Tester.



CONCRETE PIPE
Pipe Tester Kits can be designed to test all sizes of concrete pipe.



PIPE TESTER FRAME
FORNEY manufactures a Pipe Tester frame to any requirement, and customers often make their own.

Pipe Tester Kits

Capacity	Product
300 – 30,000 lbf	PT-0015
600 – 60,000 lbf	PT-0030
1000 – 100,000 lbf	PT-0050
1500 – 150,000 lbf	PT-0100
2000 – 200,000 lbf	PT-0150
3000 – 300,000 lbf	PT-0200
4000 – 400,000 lbf	PT-0250
5000 – 500,000 lbf	PT-00715



PIPE TESTER KIT
The Pipe Tester Kit consists of a steel weatherproof cabinet, which houses the digital indicator, ¾ hp pump, and 5-gallon reservoir. Included with all kits are hydraulic ram and hoses and mounting cylinders. Lower capacity machines typically use a single ram, but a double ram is generally used for capacities of 200,000 lbf and higher. This Pipe Tester Kit is easy to retrofit.

High Capacity Testers

1,500,000 lbf
6,700 kN

The FORNEY High Capacity Series is specifically designed for research and production testing of high-strength materials. Available in two frame types, both have the highest level of rigidity and minimize frame elongation influence of testing parameters. They are ideal for research labs.



HIGH CAPACITY TESTER LT-8152
This design features solid steel side members and Lexan safety doors, plus extra height to accommodate taller specimens. Suitable for a wide range of high-strength specimens, this machine has a capacity of 1.5 million pounds of compressive force.



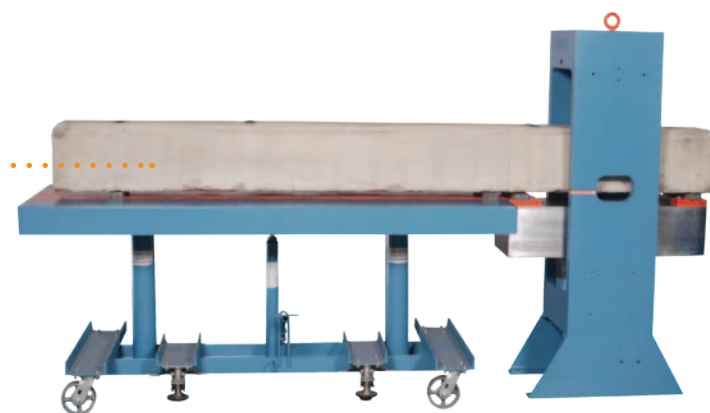
Special Testers

FORNEY engineers can adapt machines to meet your specific testing requirements. Working with professionals in **civil engineering**, **DOTs**, **universities**, **manufacturing sectors**, and **government agencies**, creative yet practical and cost-effective solutions to complex problems happen every day.

Custom designs for special applications

RAILROAD TIE TESTER

Using standardized testing protocols, the FORNEY Engineering Department frequently develops equipment tailored to customer specifications. One example is the Railroad Tie Tester for prestressed concrete railroad ties. Note the separate loading mechanism.



HIGH PRODUCTION TEST CELL

This FORNEY innovation facilitates speedy testing of samples and automated removal of debris — perfect for the facility in which high productivity is a primary focus.

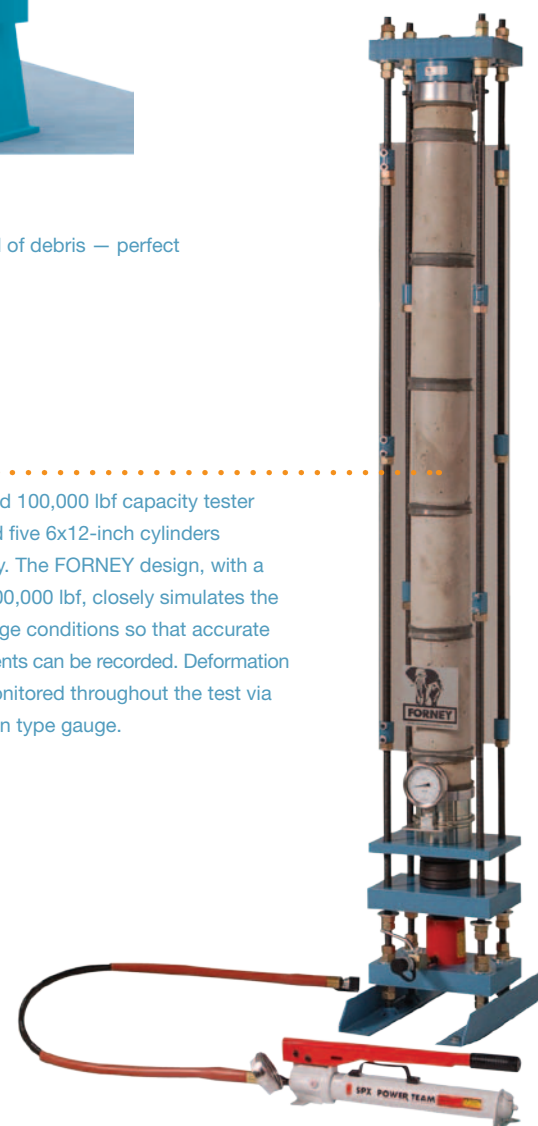


SPEEDLOADER — ROTARY

For production-line speediness, the Rotary Speedloader allows the operator to load a specimen while the current specimen is being tested. Designed to be used with the FHS Series and the unique FORNEY Beer Mug.

CREEP TESTER

This custom-designed 100,000 lbf capacity tester was designed to hold five 6x12-inch cylinders stacked longitudinally. The FORNEY design, with a range of 22,500 to 100,000 lbf, closely simulates the anticipated loading age conditions so that accurate long-term measurements can be recorded. Deformation of the cylinders is monitored throughout the test via a mechanical bourdon type gauge.



R-VALUE (STABILOMETER) TESTER

This custom-designed 60,000 lbf capacity tester was specifically designed with larger-than-standard opening to accommodate a Stabilometer. It is an economical solution to a common need.



REBAR WITH T-CAP TESTER

This custom-designed machine was adapted from a FORNEY Universal Tester with Extended Frame in order to test rebar with T-caps in tension. Working with a customer, the FORNEY engineers knew from the start that maintaining frame rigidity would be extremely important. Taking a normal frame and doubling its overall height requires more than simply stretching the drawings — a myriad of calculations go into creation of a custom-designed machine.



TestPilot Co-Pilot DR500 Automatic Systems

ASTM C39, C140, C1314, E4
AASHTO T22
BS 1881, 1881:118
EN 12390-3 679 12390-5 1340:4 12390-6



Automatic System

The VFD Automatic controller combines data management with superb operation. It can be used with all FORNEY testing machines, and can be easily retrofit to most conventional testing machines. Read more about it on Pages 20 and 21.



DR500

The DR500 has a six-digit display and one channel. A tough and sturdy unit, easy to learn.

DR500

- Easy to use
- Economical

The DR500 is famous for its stable, drift-free readout and accurate calibration. The single-channel, 6-digit display offers a 16-point calibration feature. Accuracy: $\pm 0.5\%$ from 1% to full capacity. The DR500 will display live load with peak load captured at the end of each test.

Remember that older compression frames can be retrofitted with any new, up-to-date Digital Indicator.

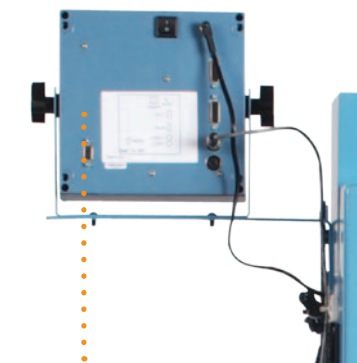
Digitals & Control Systems

FORNEY has a digital indicator for every application and price range. Options range from simple-function, easy-to-use "black box" types to sophisticated PC-based digital systems.



TESTPILOT

FORNEY's most versatile. Four channels allow two machine frames to be run with one Digital. It's ideal for retrofitting to your existing frame or when using a combo.



PLUG & PLAY

FORNEY's Co-Pilot and TestPilot are sophisticated instruments, yet are easy to use. The Power Connector, Computer Connector (RS232), LVDT, and Transducer are all conveniently located.

TestPilot

- Two load channels and two strain channels
- Multiple language options
- Download to a printer or to any PC

The TestPilot is a four-channel system that includes two selectable load channels to capture load data from one or two load frames; and two additional channels to capture data for strain and/or displacement commonly used when collecting data from compressometers or extensometers or other LVDTs.

Co-Pilot

- Two load channels
- English and Spanish
- Download to a printer or to any PC

The Co-Pilot has the same look and feel as the TestPilot and is a good choice for those who prefer to keep it simple. It has all the features needed for everyday testing.



CO-PILOT

Two channels and easy operation. Great for a lab that needs precision, but wants to keep an eye on budget.

FORNEY Digital

	TestPilot	Co-Pilot	DR500
Part Number	TA-1253	TA-1252	TA-1248
Number of Load Channels	2	2	1
Number of Encoder Channels	0	0	0
Number of Strain Channels	2	0	0
Load Units			
lb	Yes	Yes	Yes
kN	Yes	Yes	—
kg	Yes	Yes	—
Load Rate Units	Numerical and Rate Deviation Graphical Display		Yes — Lb/min
Kg/sec	Yes	Yes	—
Lb/sec	Yes	Yes	—
Kn/sec	Yes	Yes	—
Stress Units			
psi (Lb/in²)	Yes	—	—
MPa (N/mm²)	Yes	—	—
Ksc (Kg/cm²)	Yes	—	—
Stress Rate Units	Numerical and Rate Deviation Graphical Display	—	—
psi/sec	Yes	—	—
Kg/cm²/sec	Yes	—	—
MPa/sec	Yes	—	—
Display Peak Load	Yes	Yes	Yes
Display Peak Stress	Yes	—	—
Display Load Resolution	Selectable	Selectable	Selectable at Calibration
Printer (Serial or Parallel)	Download or Print	Download	—
Display X-Y Graph	Yes — Download	—	—
Auto Store	Yes	Yes	—
Tests Stored in Memory	500	500	None
Specimen I.D.	Yes — 0-999,999	Yes — 0-999,999	None
Auto-Increment Specimen I.D.	Yes — Numeric	Yes — Numeric	—
Does calculations and has extra data storage for the following specimen types			
Cylinder	Yes	—	—
Cube	Yes	—	—
Beam (center point)	Yes	—	—
Beam (3rd point)	Yes	—	—
Rebar	Yes	—	—
Block	Yes	—	—
Cross-sectional Area	Yes	—	—

	TestPilot	Co-Pilot	DR500
Specimen Weight	Yes	—	—
Specimen Age	Yes	—	—
Sample Break/Peak Sensitivity	Preset to 50% of Peak Load	Preset to 50% of Peak Load	Fixed
Print Options			
Current test	Yes	—	—
Stored tests	Yes	—	—
Selected test	Yes	—	—
X-Y Graph	Yes	—	—
Send stored tests (RS232)	Yes	Yes	—
Print Date/Time	Yes	Yes	—
Tension	Yes	—	—
Correction Factor (ASTM C39)	Yes	—	—
Perform Specimen Analysis	Yes	—	—
Negative Load Display	Yes	Yes	Yes
Capacity Range	7 Digits	7 Digits	0-99,999+0 placeholder
Accuracy	1% – Full Scale +/-0.5%	1% – Full Scale +/-0.5%	1% – Full Scale +/-0.5%
Linear Correction	5	5	16
A/D Counts	128,000	128,000	65,000
Calibration Units	All Available	All Available	Pounds
Languages	English + Spanish	English + Spanish	English
Auto Test Reset	Yes	Yes	—
Function Indicator Lights	Yes — 6	Yes — 4	—
Password Protection	Yes	Yes	—
Water/Dust Resistant Case	Yes	Yes	Yes
Simple Operation/Calibration	Yes	Yes	Yes
Channel Selection - Easy	Yes	Yes	—
Software Upload Capable	Yes	Yes	—
Numeric Keypad Calibration	Yes	Yes	Yes
Instruction and Calibration Manual Included	Yes	Yes	Yes
Warranty Period	Variable	Variable	Variable
Power Requirements	100-240 VAC, 47/63 Hz (9 VDC A 2.0 Amps)	100-240 VAC, 47/63 Hz (9 VDC A 2.0 Amps)	85-250 VAC, 50/60 Hz, 15 VA
Battery Backup - Memory	Yes	Yes	Yes

