

# FORNEY TEST MACHINES

FW-30-VFD-MP-C-D AUTOMATIC R-VALUE COMPRESSION TEST MACHINE

## SPECIALITY COMPRESSION MACHINE

LOAD CAPACITY	FRAME	CONTROL SYSTEM
50,000lb	Standard (F)	VFD
TEST TYPES	TESTING MATERIALS	DESIGNED & BUILT BY FORNEY
Compression	Cylinders	Exceeds ACI Recommendations



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## GET A CONNECTED MACHINE AND SAVE \$1,500

### NATIVE TWO-WAY INTEGRATION WITH CMT SOFTWARE

Connected Testing Machines allow technicians to get more done faster with minimal human error through a two-way integration with ForneyVault. Resulting in 99.9%+ fewer manual errors, 66%+ increase in productivity, and 100% unalterable, unquestionable data.

- ▲ “One-touch” test starts and automatic controls
- ▲ Automatic preload calculations, notifications for individual and average low breaks and excessive variance, automatic data transfer, and more
- ▲ Pre-test “Smart Checks” to validate test parameters

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## HARDWARE

### FRAME

Designed and built by Forney.



The load frame is manufactured from structural steel angles welded to solid steel plate top and bottom crossheads. The hydraulic cylinder assembly is mounted to the top crosshead, with force applied downward. This design eliminates foreign material build-up around the piston cylinder area. The hydraulic piston is self-contained and can't be overextended – eliminating the need for an over-travel limit switch.

## MATERIALS

Prepare and test compacted soil specimens for Resistance R-Value, including exudation, specimen preparation, and automated R-Value test control.

## CONSOLE DESIGN

The electronic control cabinet houses the variable frequency drives, power supplies, E-Stop, and additional electrical equipment to control the load frame. It also includes the human-machine interface (HMI) and a hydraulic power unit with pumps, valves, and other necessary equipment, all mounted on an extruded aluminum post.

## ELECTRICAL

A PC-based system utilizes a variable-frequency drive to control the hydraulic pump motor. This maximizes efficiency, running the pump only at speeds necessary to achieve the desired pressure. This energy-efficient approach dramatically reduces heat build-up in the hydraulic system and greatly extends hydraulic component life.

Here are the main components of the system:

- ▲ Variable frequency drive (VFD)
- ▲ Position transducer enabling displacement control
- ▲ Windows-based touchscreen human-machine interface (HMI)
- ▲ Pressure transducer that provides pressure feedback
- ▲ E-stop PB
- ▲ Solenoid-operated dump valve

## SAFETY FEATURES

Several safety features are incorporated to protect both the operator and the testing machine:

- ▲ Maximum Capacity Protection: A high-pressure safety relief valve protects the hydraulic circuit and load frame from exceeding maximum capacity.

# SOFTWARE

## EASY AUTOMATIC TESTING

Push one button and the machine performs the complete test. Accurately controls the rate of load or rate of displacement at the desired setting; thus, there is no question about meeting ASTM (or other) specifications and ensuring repeatable results.

## DIGITAL CONTROL SYSTEM

Setup of testing protocol, real-time display of test data, and post-test data transfer is accomplished through the ForneyLink touchscreen HMI. The operator can navigate options for:

- ▲ Test Run
- ▲ Test Setup
- ▲ Machine Setup
- ▲ Calibration
- ▲ Reporting and Data Transfer
- ▲ Diagnostics

Provides simultaneous display of force, stress, and rate of load and displays a real-time graph of Load vs. Time. Standard functionality includes data collection by the ForneyLink HMI for printing and transfer.

## **REMOTE SUPPORT**

With a user-provided Internet connection (either Wi-Fi or Ethernet), all Forney VFD systems are capable of real-time, online support from the Forney Support Team for basic settings and test setup to advanced troubleshooting, fault finding, and software updates.

We offer unlimited Remote Technical Support for all Forney Testing Machines during the two-year warranty period.

For ForneyVault® subscribers, post-warranty remote technical support fees are waived for the life of your subscription.

Please refer any special requirements to a Forney sales representative.

**\* Specifications are subject to change without notice.**

## FACTORY INSTALLED OPTIONS

Voltage	110/220VAC Single Phase  The full load amperage for standard VFD Control Systems is less than 5A (115VAC single phase voltage). We recommend standard 15A or 20A circuits.
Displacement	Standard capability of this model

## SPECIFICATIONS

Load Capacity Range	300lbf - 50,000lbf
Vertical Opening	22.5"
Horizontal Opening	22"
Ram Diameter	2.56"
Piston Stroke	8"
Platen Hardness	60 HRC
Lower Platen Dimension	6.5" Diameter
Upper Platen Dimension	6.5" Diameter
Oil Reservoir Capacity	2 Gallons
Overall Width	43"
Overall Depth	17"
Overall Height	60"
Unit Weight	785lbs
Test Standard Ready	ASTM E4 ASTM D2844 AASHTO T190 CALTRANS CT301