

PTD ENGINE DYNAMOMETER SYSTEM



PTD 211 Dynamometer System

PTD DYNAMOMETER SYSTEM

The PTD dynamometer system offers the proven reliability of Power Test dynamometers and accessories combined with a simplified version of our internationally-acclaimed PowerNet data acquisition and automated control package.

The PTD system contains everything required to perform repeatable engine certification. Our popular D-Series water brake dynamometer is combined with a base module, docking cart system, built-in engine starting, computerized data acquisition, throttle, and load controls, engine connections, and a cooling column.

The PTD dynamometer system is intended specifically for customers that require an affordable solution for testing and development of high speed diesel, gasoline, and alternative fuel engines.

Available in both 300HP (220kW) and 400HP (294kW) configurations and everything needed to begin engine testing, the PTD dynamometer system is a package that is ready to go to work.



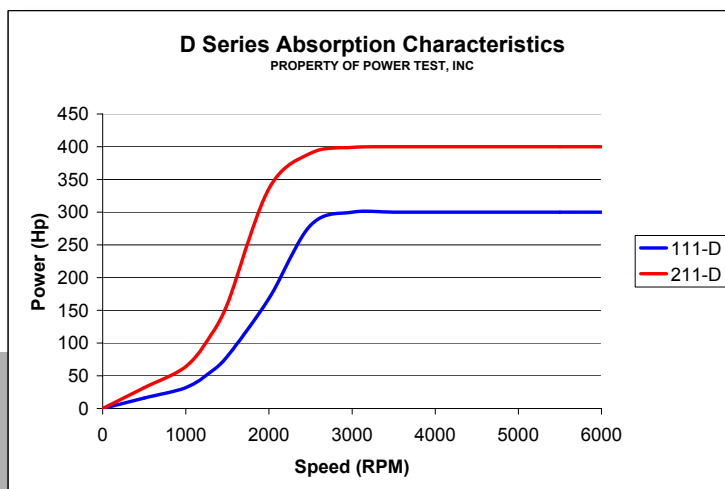
**D-111/211
Absorbers**

D Series Dynamometer

The PTD dynamometer system features our D-Series absorber, which utilizes our proven water brake technology for the ultimate in reliability.

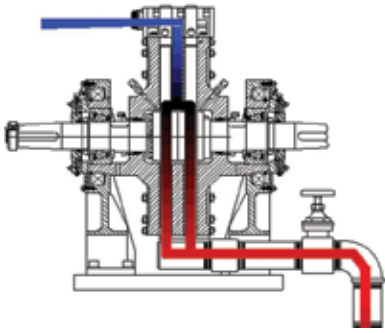
The D-Series can produce either 300 or 400 HP load from 1,600 through 6,000 rpm.

Power Test dynamometers feature inlet control. This allows for very low, minimal loads to be applied for high speed, low torque testing. This method of control also minimizes the amount of water consumed as compared to other styles of dynamometers. The PTD dynamometer system offers documented durability. Power Test has been an industry leader for more than 30 years. Now the equipment preferred by some of the largest engine manufacturers, distributors, and dealers worldwide is available in an affordable package designed specifically for the rebuilder.



111D/211D

- For testing electric motors, gasoline, and higher speed diesel applications.
- Power ranges from 20-400 HP.
- Speeds to 6,000 rpm.
- Alloy construction for reduced inertia.

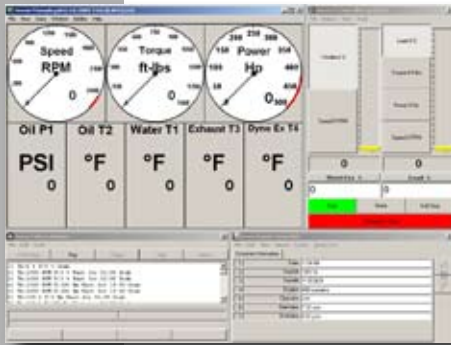


How A Water Brake Dynamometer Works

In the Power Test water brake dynamometer, water flow proportional to desired applied load is used to create resistance to the engine or motor. A controlled flow of water through the inlet manifold is directed at the center of the rotor in each absorption section. This water is then expelled towards the outside of the dynamometer body by centrifugal force. As it is directed outward, the water is accelerated into pockets on the stationary stator plates where it is decelerated. The continual acceleration and deceleration causes the applied load to the input device. Through this transfer of energy, the water is heated and discharged.

PowerNet LT

PowerNet LT is a complete monitoring and control package for dynamometers and engines. Power Test transforms a standard desktop computer and a specifically developed interface box into engine development and qualification tools. Featuring a condensed version of our PowerNet Windows®-based software, manual setpoint and fully automated tests are just a mouse click away.



With PowerNet LT, standard engine tests can be recalled from a file and by clicking on the start button an expert or a beginner can perform a test and achieve the same results. The automation of the engine throttle and the dynamometer load assure that every step of the test is performed correctly.

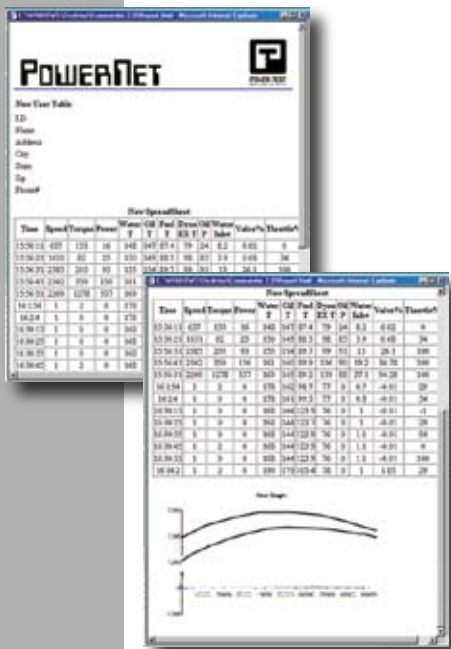
Included with the PowerNet LT package are sensors for engine, oil, fuel, and air temperature, as well as sensors for oil and fuel pressure. All sensors are enclosed in an industrial console and supplied with quick disconnects for rapid connection/disconnection. Information collected from these sensors along with torque, rpm, and power measurements from the dynamometer are all automatically recorded to the computer hard drive.



Through automated recording, verifiable test results are obtained. The PowerNet LT package assures that the data is true and accurate. Reports are easily produced that include your company logo, your specific workshop information, customer information, and the engine manufacturer's specifications, along with the actual dynamometer test results in table and graph formats. The included paragraph feature allows you to enter any notes or observations made during the test.

The included alarm feature provides visual displays and flashing warnings when a sensor exceeds the usual operation range. Whenever an alarm condition is reached, data is automatically recorded so that a determination of the trouble can be diagnosed.

The PowerNet LT software package may be used as supplied or you may easily change the sensor units, ranges, alarm values, and even the language of display if desired! Once changes have been made, they are stored to the system for future usage. Data that is saved to the hard drive may be recalled and printed at any time and may even be sent by e-mail.



A Complete System for Comprehensive Testing

The PTD dynamometer system is supplied complete with engine mounting and connection and cooling accessories. A universal engine cart capable of supporting and transporting engines of up to 1,500 lbs. running weight is supplied. The engine cart provides a rapid and efficient method of placing the engine in the proper position for testing. Screw jacks and load binders are a thing of the past.



Adapter plates are provided for quickly mounting the rear of the engine to the cart and an adjustable support allows the front of the engine to rest upon it. Once rolled into the test cell, the cart is easily guided into position and secured to keep it from rolling away. With these easy steps completed, the engine is ready to go.



With the engine in position, the flywheel connected to a guarded universal joint drive shaft with just a few bolts. Through the use of the drive shaft and the guided positioning of the engine on the cart, time spent connecting the engine is minimal.



Once in position and connected, the engine cooling column may be used to maintain jacket water temperatures on liquid cooled engines. The Power Test engine cooling column provides thermostatic control of the jacket water temperature to ensure that your engines do not overheat.

In addition to the components supplied with a standard PTD dynamometer system, Power Test manufactures a variety of accessories designed specifically to meet your engine testing needs, including:

Crankshaft Adapter Plates



Engine Mounted Dampeners



Charge Air Coolers



Power Test, Your Full Service Dynamometer Manufacturer

Power Test can provide facility design and installation of every dynamometer we sell. We also offer a complete line of support equipment, including ventilation systems, exhaust systems, auxiliary cooling systems, and water recirculation systems.

Contact your Power Test representative or visit our web site at www.pwrtst.com for more information.

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