



CF42 Tandem Axle Chassis Dynamometer



**CF42 Chassis Dynamometers**

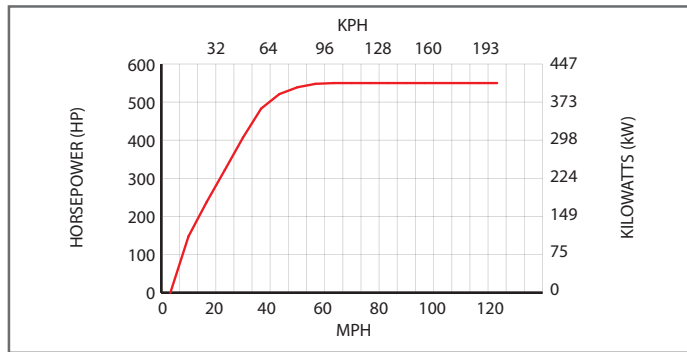
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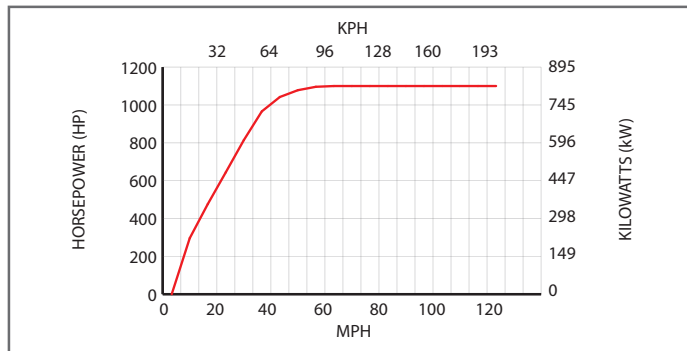
# CF42 Chassis Dynamometers

Power Test's CF42 chassis dynamometers are designed with reliable and repeatable testing in mind. Featuring larger rollers, heavier construction, greater operating speeds, higher load capacities, and an easy-to-use hand held control, this system provides the ultimate in accurate, repeatable test equipment. CF42 chassis dynamometers are built tough to give you years of dependable results and are available in single, tandem, and multi-axle configurations.

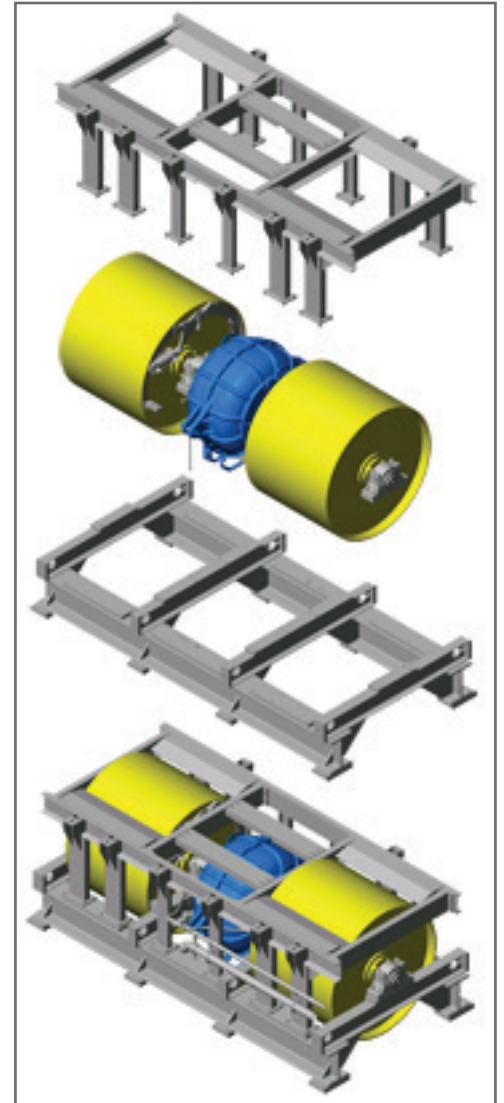
When interfaced with the diagnostic connection of electronically controlled engines, valuable engine data collection and engine performance results are combined into a simple to read and easy-to-understand performance report. Features offered only by Power Test ensure that our chassis dynamometer systems are an industry leading service tool.



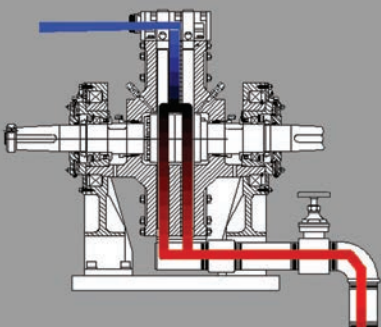
Single Axle Dynamometer



Tandem Axle Dynamometer



Single Axle Dynamometer



## 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 rotation. A controlled flow of water through the inlet manifold is directed to the center of the rotor in each absorber. 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. Through this transfer of energy, the water is heated and discharged.

# Chassis Dynamometer Specifications

- |                       |   |
|-----------------------|---|
| Absorber              | <ul style="list-style-type: none"><li>• Non-ferrous water brake load absorbers.</li></ul>   |
| Controls              | <ul style="list-style-type: none"><li>• PowerNet CD data acquisition and control system.</li><li>• Ethernet-based communications included.</li><li>• Windows®-based PC and dynamometer controller.</li><li>• Wireless hand held controller.</li></ul> |
| Roll Specs            | <ul style="list-style-type: none"><li>• 40" (1016 mm) diameter.</li></ul>   |
| Wheelbase             | <ul style="list-style-type: none"><li>• 48"-78" (1219-1981 mm) accommodation.</li></ul>   |
| Maximum Speed         | <ul style="list-style-type: none"><li>• 120 mph (193 kph) continuous.</li></ul>   |
| Max. Power Absorption | <ul style="list-style-type: none"><li>• 550 hp (410 kW) Single axle.</li><li>• 1,100 hp (820 kW) Tandem axle.</li></ul>   |
| Axle Weight           | <ul style="list-style-type: none"><li>• 30,000 lbs. (13,636 kg) maximum per axle.</li></ul>   |
| Frame                 | <ul style="list-style-type: none"><li>• Precision ground, heavy duty structural steel.</li></ul>  |

*All specifications subject to change*



# Chassis Dynamometer Features

- Thick walled rollers that are precision machined, stronger and dynamically balanced.
- Easy access single point lubrication manifold simplifies maintenance and requires no tools.
- Available in Single, Tandem and Multi-Axle configurations.
- Pneumatic disc brakes which require less maintenance.
- Pneumatically-controlled water supply valve.

# Accessory Options

Power Test manufactures a complete line of chassis dynamometer accessories to fit your specific testing needs. Some of those accessories include exhaust hood, pressure and temperature sensor kits, fuel measurement system and smoke opacity meter.

# Designed To Meet Your Needs

Power Test has the knowledge and experience to design and manufacture custom chassis dynamometers to meet your specific needs. Many options are available including roll size, number of axles, weight capacity, power absorption, and the PowerNet CD control system.



## Testing Controls & Data Acquisition

### PowerNet CD - The Future of In-Frame Testing

The PowerNet CD data acquisition and control system is designed to take chassis dynamometer testing to the next level. PowerNet CD utilizes a networked computer system to provide automated, repeatable vehicle tests - all controlled from a rugged wireless hand held device operated from the driver's seat! With the PowerNet CD data acquisition and control system, vehicle and work order information can be entered, then the desired tests can be recalled and run. For diagnostic purposes, engine-specific software service tools may also be connected to perform cylinder cutouts, reset cruise limits and perform other engine tests.

### Standard ECM Interface

When connected to the system, electronically controlled engines can transmit valuable engine data, which is automatically merged with dynamometer information to be viewed, stored, reported and graphed. All of this information can be seen on the wireless hand held controller.

### The Wireless Hand Held Controller

Power Test's wireless hand held controller provides the ultimate in behind the wheel instrumentation and control. The touch screen interface device is all that is needed to perform



tests. From behind the wheel, the operator selects a test pattern to be run, engages the throttle, and literally watches the vehicle automatically run through the steps of a repeatable test.

## Flexible Testing Modes

### Setpoint Operation

- Allows the operator to enter a specific value for speed or horsepower on the hand held controller.
- Dyno load is automatically adjusted and maintained until the next value is entered.
- Increase or decrease these values incrementally or by entering the next numeric value.

### Pattern Run Mode

- Allows the operator to run a desired test cycle at the touch of a button, on the PowerNet hand held controller.
- Created on the Commander PC by selecting setpoints, the mode of operation, and entering the length of time each point is run, a pattern is constructed and it can easily be recalled and run from the hand held controller.

### Manual Operation

- Allows the operator to have complete control over the chassis dynamometer's applied load.
- The operator decides how much horsepower or speed should be reached by the engine and the duration of each test.

### Detailed Information Reporting with PowerNet CD

PowerNet CD provides colorful screen captures, easy-to-read performance reports, and graphical charts. Now results obtained during a vehicle test, combined with vehicle specific information, can be confidently presented as a final confirmation of quality assurance - all with just a few clicks of the mouse.



## 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](http://www.pwrtst.com) for more information.

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