



SF-Powermark Performance Engine Dynamometer

The SF-Powermark engine dynamometer showcases a rugged, nickel bronze alloy power absorption unit with a 2 in (5 cm) stainless steel diameter main shaft for maximum durability and long life, even in the most demanding testing conditions. The Powermark was designed to test very high-output engines used in motorsports competition, up to 2500+Hp at speeds up to 15,000 RPM.

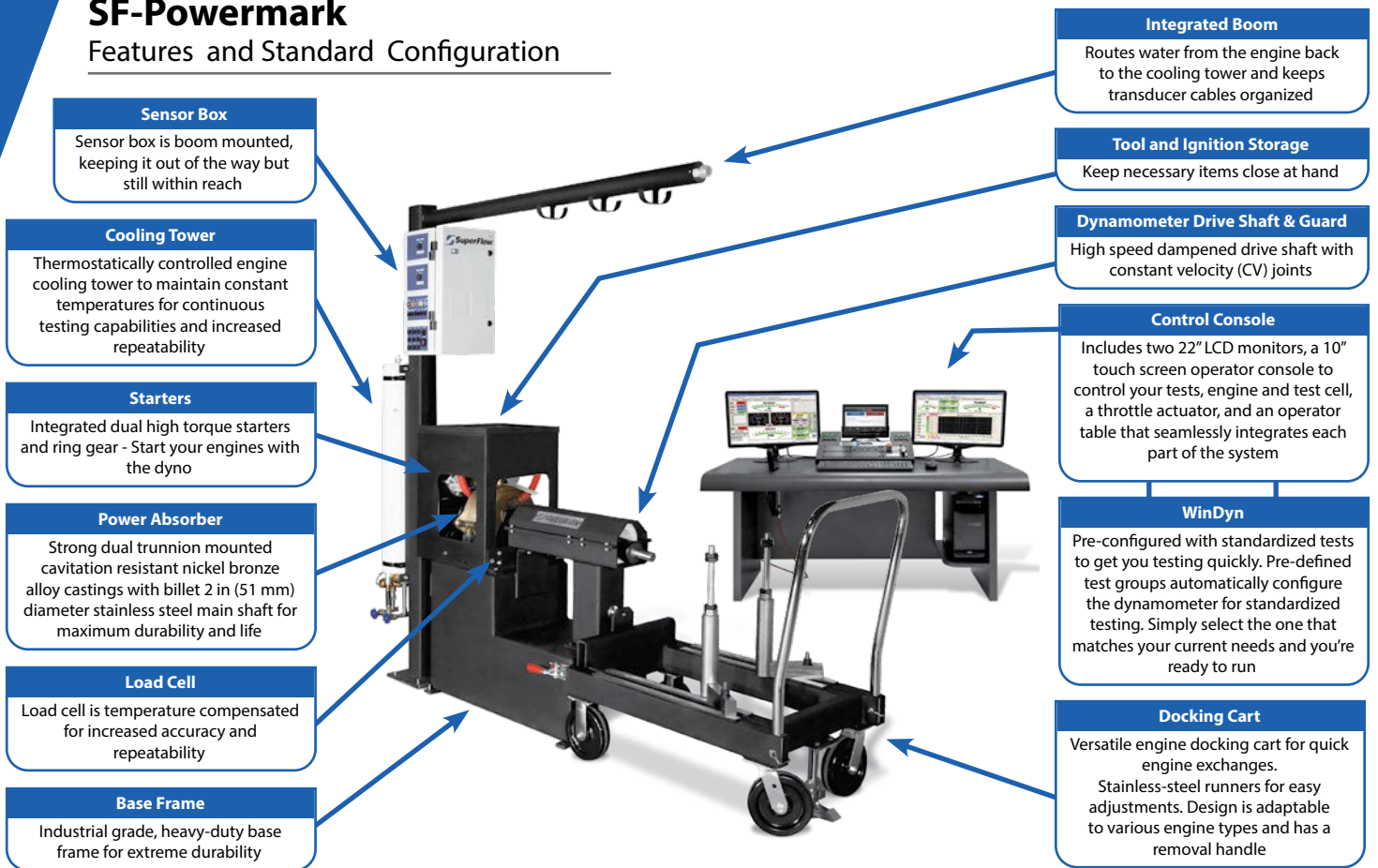
This heavy-duty, high-capacity water brake engine dyno will perform accurate, repeatable, automated engine tests with rapid testing throughput. The versatility and durability of the SF-Powermark makes it the dyno of choice for drag racing, circle track, large cubic inch marine applications, or any other application requiring both high speed power and lower speed torque absorption.



Actual products may differ from images shown

SF-Powermark

Features and Standard Configuration



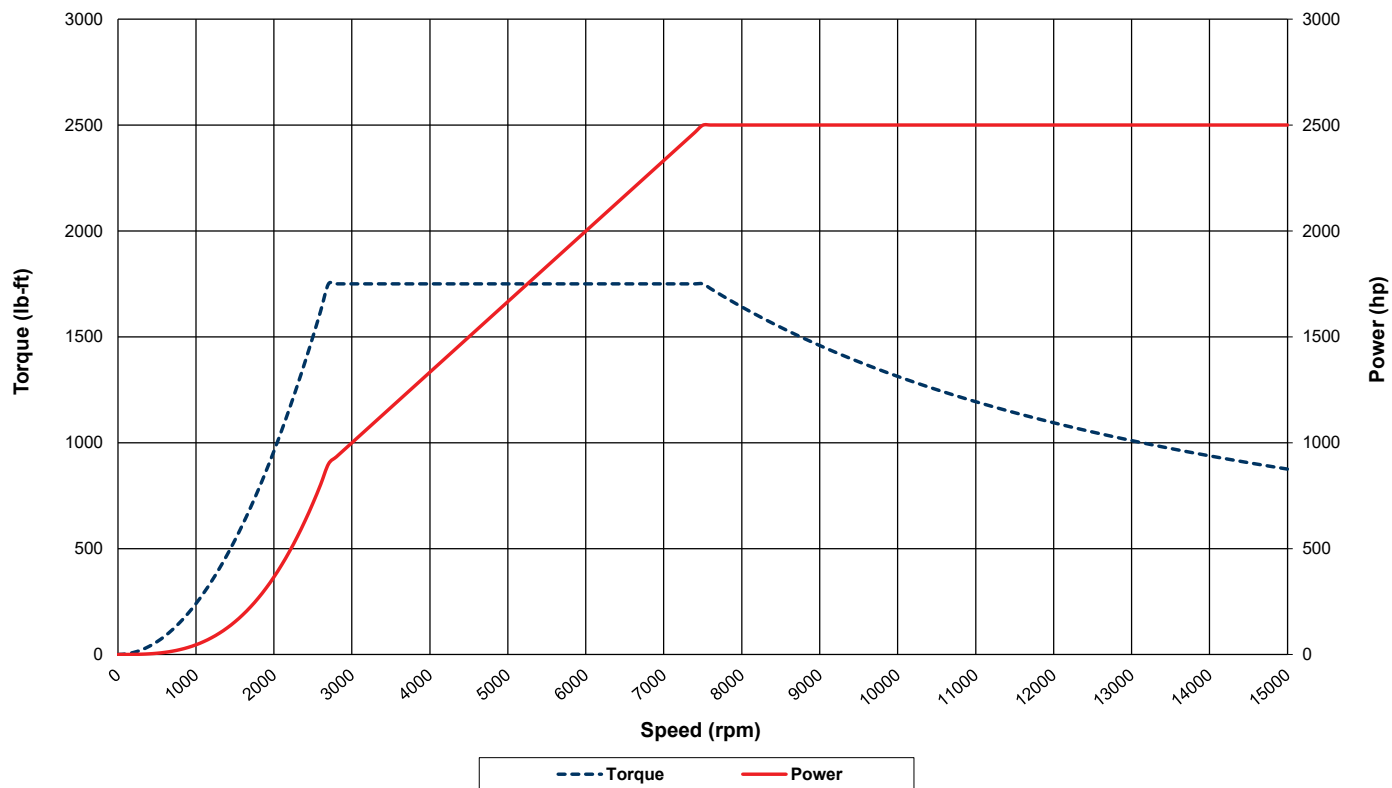
The Powermark dynamometer is built with integrated starters which eliminates the need for a bell-housing or engine mounted starter. A special compliant driveshaft that absorbs the torsional vibrations of the engine allows for coupling to the dynamometer directly to the engine's crankshaft or flywheel. The driveshaft's 4.5 in (114 mm) constant velocity (CV) joints ensure smooth power transfer.

Precise control of the water equates to precise closed-loop load and speed control of the engine. SuperFlow designed an exclusive dual water valve strategy for the Powermark. Stainless steel absorber inlet and outlet valves with high speed stepper motors control the water flow in and out the Powermark's exclusive cross vented bronze rotors and stators. The dual valve control allows the water brake to respond quickly to abrupt load changes such as nitrous oxide "hit" or steep rise in engine volumetric efficiency (VE) from a turbo or supercharger and it increases overall system torque absorbing capacity.

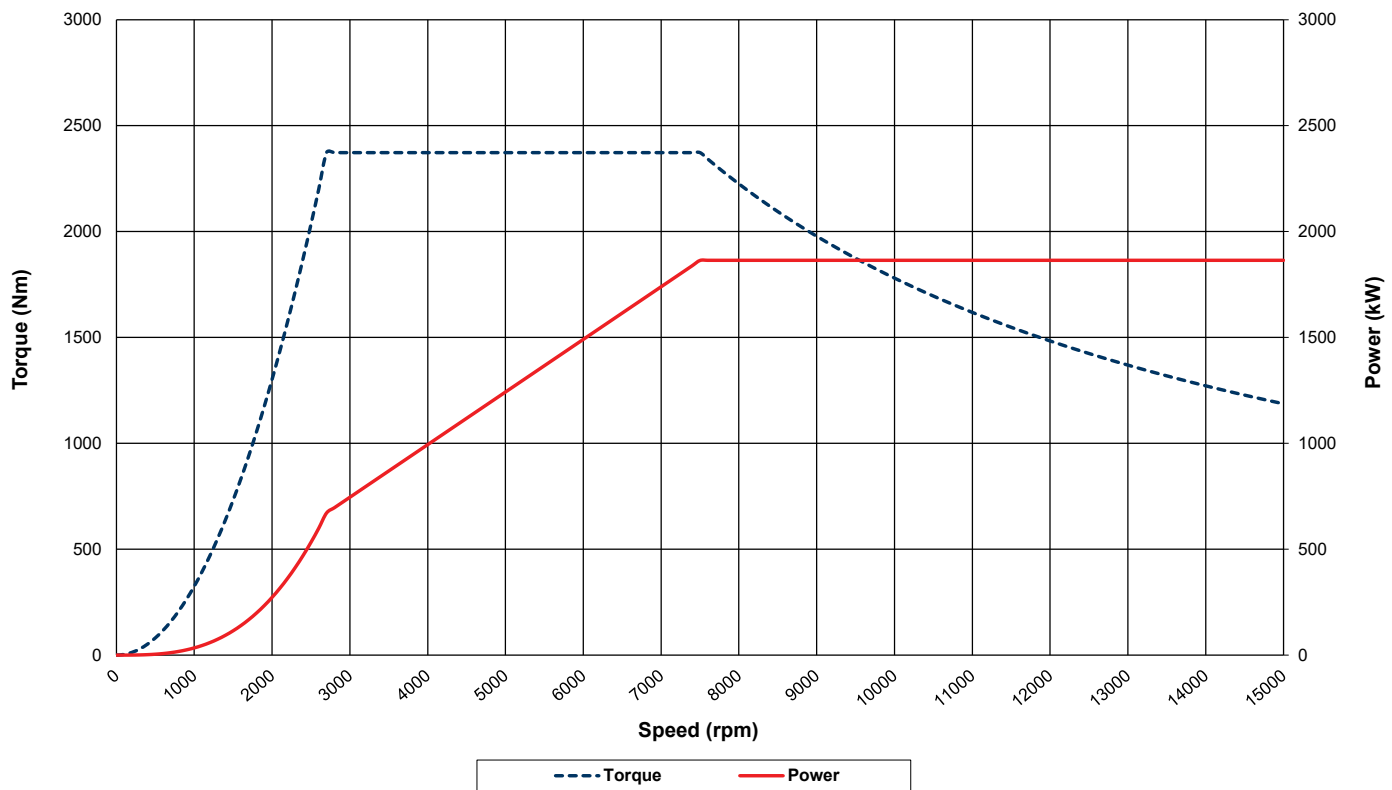
Features:

- Complete engine testing system includes dynamometer stand, engine docking cart, operator station & console, throttle control, thermostatically controlled engine cooling column, WinDyn data acquisition and software, Dynamometer PC, multiple monitors and color printer
- Durable industrial grade construction and components for reliable trouble free operation
- Test stand located large tool tray also convenient area to mount ECM/ignition systems
- Automated tests for simple operation and extreme repeatability
- Bi-directional operation - with unique cross vented rotor design for equal capacity in either direction
- Boom system to mount sensor box, manage sensor cables, weather station and mount the cooling column neatly in the test cell
- 139 data acquisition channels – user configurable to meet any application
- Pre-scripted standard tests like acceleration sweeps, step and steady state tests, and engine break-in test cycles
- Modular sensor box with expansion panel system to easily add sensors as testing needs change over the life of the dyno

SF-Powermark (US Customary)



SF-Powermark (S.I.)



Specifications

Power and Torque

- Absorber Type: Water brake, bi-directional
- Maximum Speed: 15,000 rpm
- Horsepower Capacity: 2,500+ hp (1,864+ kW)
- Torque Capacity: 1,750+ lb-ft (2,373+ Nm)

Water Requirements

- 10 gallons per minute (gpm) for each 100 hp (75.5 kW) produced by the engine at a minimum pressure of 60-90* psi (4.1- 6.2 bar)
*application specific

Typical Shipping Dimensions and Weights:

- 462 lb (210 kg) - 35 x 66 x 46 in (89 x 168 x 117 cm)
- 1,900 lb (862 kg) - 52 x 87 x 60 in (132 x 221 x 152 cm)

Stand Sensor Compliment Includes:

- **Temperature:**
 - (1) One: (16) Sixteen-channel thermocouple panel
 - (12) Twelve: Closed tip thermocouples, .125 in (.3175 cm) diameter x 4 in (101 mm) long probe with 5 ft. (152 cm) lead, 0° to 2,000°F (-17.8° - 1,093°C)
 - (12) Twelve: Swagelock fittings
 - (12) Twelve: 10 ft (3.048 m) extension cables
- **Pressure:**
 - (1) One: (10) Ten-Channel pressure panel
 - (3) Three: Transducers included standard (-15 to 150 psi, 1-10 bar)
- **Air / Fuel:**
 - (2) Two: Pre-configured analog inputs (Lambda/ AFR)
- **Fuel Flow:**
 - (2) Two: Fuel flow measurement turbines 2-80 gallons (7.5- 302 l) per hour (Gasoline) each
- **Air Flow:**
 - (1) One: Air flow measurement turbine 20 - 1,200 cfm (9 - 560 lps)

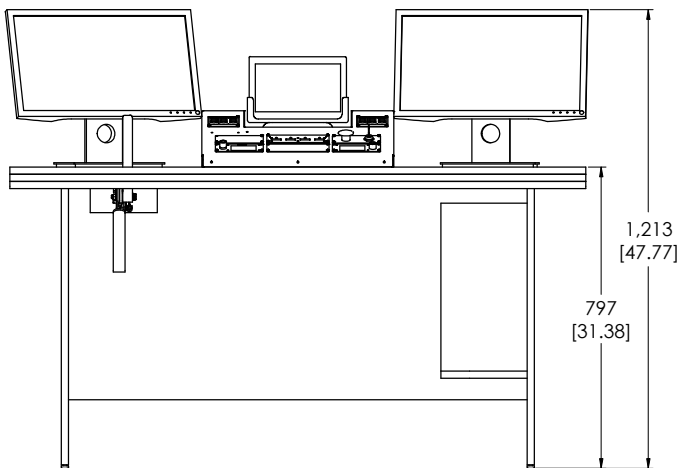
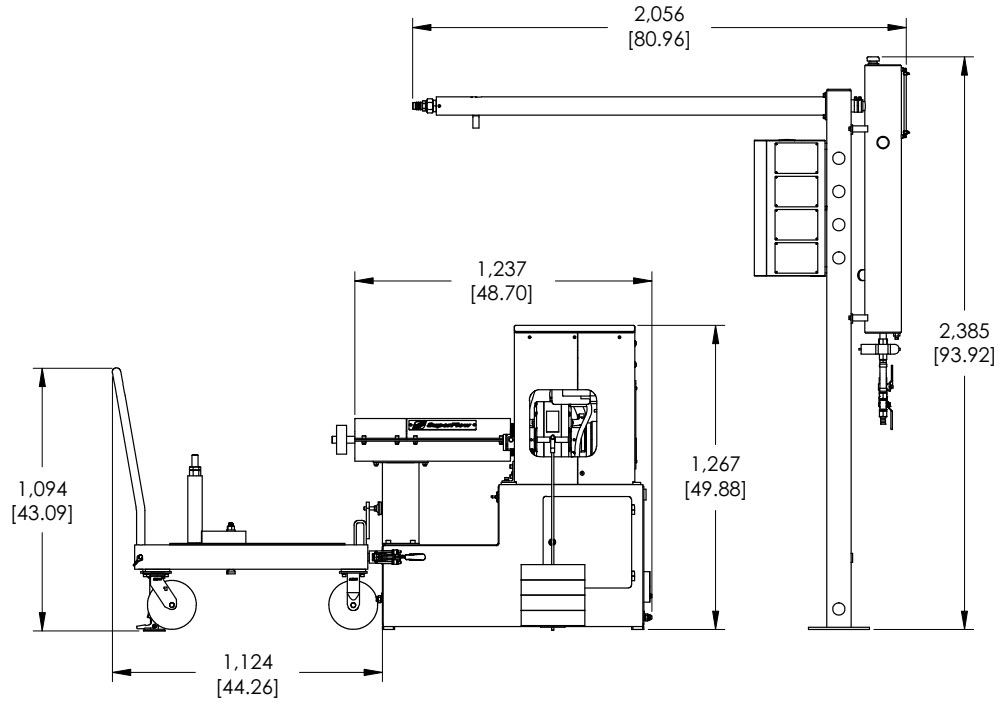
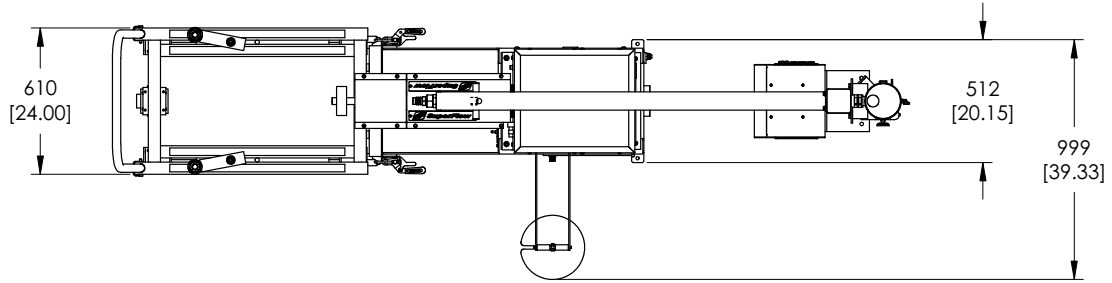
WinDyn

SuperFlow's WinDyn Software is the most feature-rich system available for dynamometers today. We've included all the tools you need to make a SuperFlow dynamometer a successful piece of your business. WinDyn is preconfigured with industry standard tests to get you up and running quickly. But, we didn't stop there... We've also developed powerful configuration and test editors that offer you complete, customized control of the dynamometer, the test cell and the tests you're running. WinDyn's available 76 measured channels and 35 calculated channels let you measure and analyze data to make your products better. Our advanced electronics sample data at rates between 1,000 and 2,500 Hz depending on the channel and display it at 100 lines per second so you're sure to see the entire picture. The built-in data analysis tools let you see data in a way that makes sense, and like the rest of WinDyn, data analysis is completely user-configurable should you choose. WinDyn comes pre-configured with standardized tests to get you testing quickly. Pre-defined test groups automatically configure the dynamometer for standardized testing. Simply select the one that matches your current needs and you're ready to run.

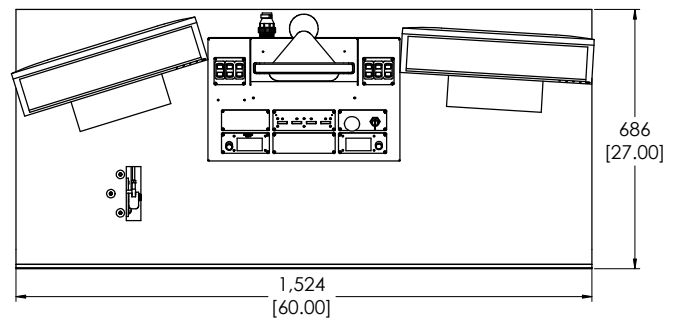


SF-Powermark - Tower - Engine Cart

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[in]



Control Console Table

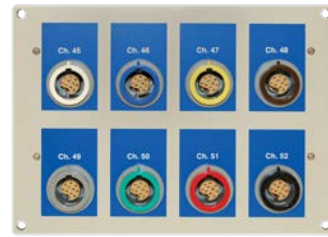


Typical Product Options



Additional Air Turbine Accessories

Additional air turbines in 4,6,9 in (10, 15, 23 cm) models available. Ceiling mount kit available (shown above).



Analog Panel

8 channel analog panel to integrate exhaust analyzers, lambda sensors and other devices with analog outputs. Select 0-1V, 0-5V, 0-10V, 0-20V or 0-30V



Blow-By-Sensor

Measures the volumetric flow of crankcase blow-by. Two sizes available: 0.4 to 16 ACFM and .25 to 10 ACFM. Select either analog or frequency output.



Optional Short Engine Mounts

Additional Docking Cart

Extra docking cart to save time between engine tests by pre-staging engines. Includes removable handle and two adjustable front engine supports. Engine mounts sold separately. Standard size is shown. Long version and HD Industrial engine size carts also available.



Additional CV Joints

Allows splined slip CV joint to stay with extra cart and/or flywheel and crank adaptors for faster unit under test changes.



AFR/LAMDA Sensor Kit

AFR/LAMDA sensor kits available. Kits available in 2-16 channels. Bosch LSU 4.2, 4.9 and OEM grade NTK type sensors available.



Flywheel and Crankshaft Adaptors

Adapts engine flywheel or crankshaft to dynamometer driveshaft CV joint. Universal flywheel adaptor with patterns to fit most domestic flywheel patterns. GM "Prostock" inertia crank adaptor and direct to crank buttons available in early Chevy, small ford and blank versions.



Engine Oil Cooler

Designed for oil cooling during endurance tests. Multi-pass water to oil heat exchanger with adjustable temperature control. Plumbing water and oil hoses not included.



Sensor Expansion Panels

The modular sensor box allows for additional sensor expansion panels. Pressure, analog and temperature panels are available. Extra pressure transducers are sold separately.



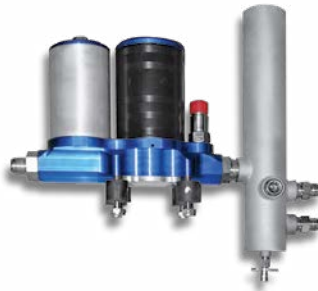
Fuel Canister

Designed to measure fuel consumption of fuel injected engines. Mid-flow unit available in 20 – 720 lb/hr (9 - 327 kg/hr). High-flow unit available in 30 -1070 lb/hr (14 - 485 kg/hr). Available for gas and alcohol.



Throttle Actuator

Electric throttle control provides automated testing from dynamometer control system. Upgrade from standard cable operated throttle. Linear actuator with push button span adjustment. High-speed rotary actuator also available.



2,000 hp (1,491 kW) Gasoline Fuel System

High Performance fuel pump - 1,200 lb/hr (545 kg/hr) /filter combo with two high flow fuel pressure regulators, accumulator tank, pressure bypass and vibration isolated mounting bracket.



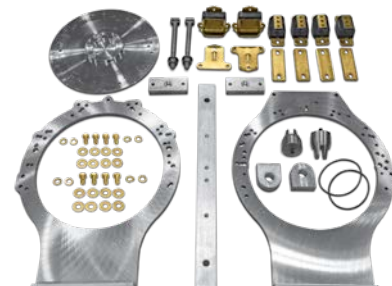
Throttle Box Joystick Control

Provides joystick control of throttle actuator switchable from manual and automated control.



Pressurized Cooling Columns

CT-700 Pressurized Cooling Column integrates seamlessly with boom assembly. Standard temperature range from 160° F - 230° F (71° C - 110° C). Rated for continuous duty testing up to 700 HP (522 kW). CT-300 hp (223.7 kW) version available for small engine testing.



Complete US Domestic V8 Engine Mount Kit

Includes multi-fit rear engine mounts, polyurethane engine and vibration mounts, and a universal flywheel adaptor. Kit components available individually and some may be used universally with other engines.



SuperFlow® is part of Power Test, LLC, an industry leader in the design, manufacture and sales of dynamometers, specialized test systems, and related data acquisition and control systems. Power Test, LLC, offers a portfolio of brands that have long been the standard bearer for quality in the testing industry. As your equipment testing partner for innovative products and comprehensive life-cycle services and support, we are dedicated to delivering an exceptional experience by offering specialized solutions to Make Your Testing Easy.

TEST WITH THE BEST™

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Solenoid Testers

Torque Converter Rebuilding Systems

Transmission Dynos

Valve Body Testers

Transmission Testers