

SF-902S Performance Engine Dynamometer

For more than four decades, the SuperFlow 900 series of dynamometers (SF-900, SF-901, SF-902) has served as the benchmark in the performance industry for conducting high-speed water brake engine dynamometer testing.

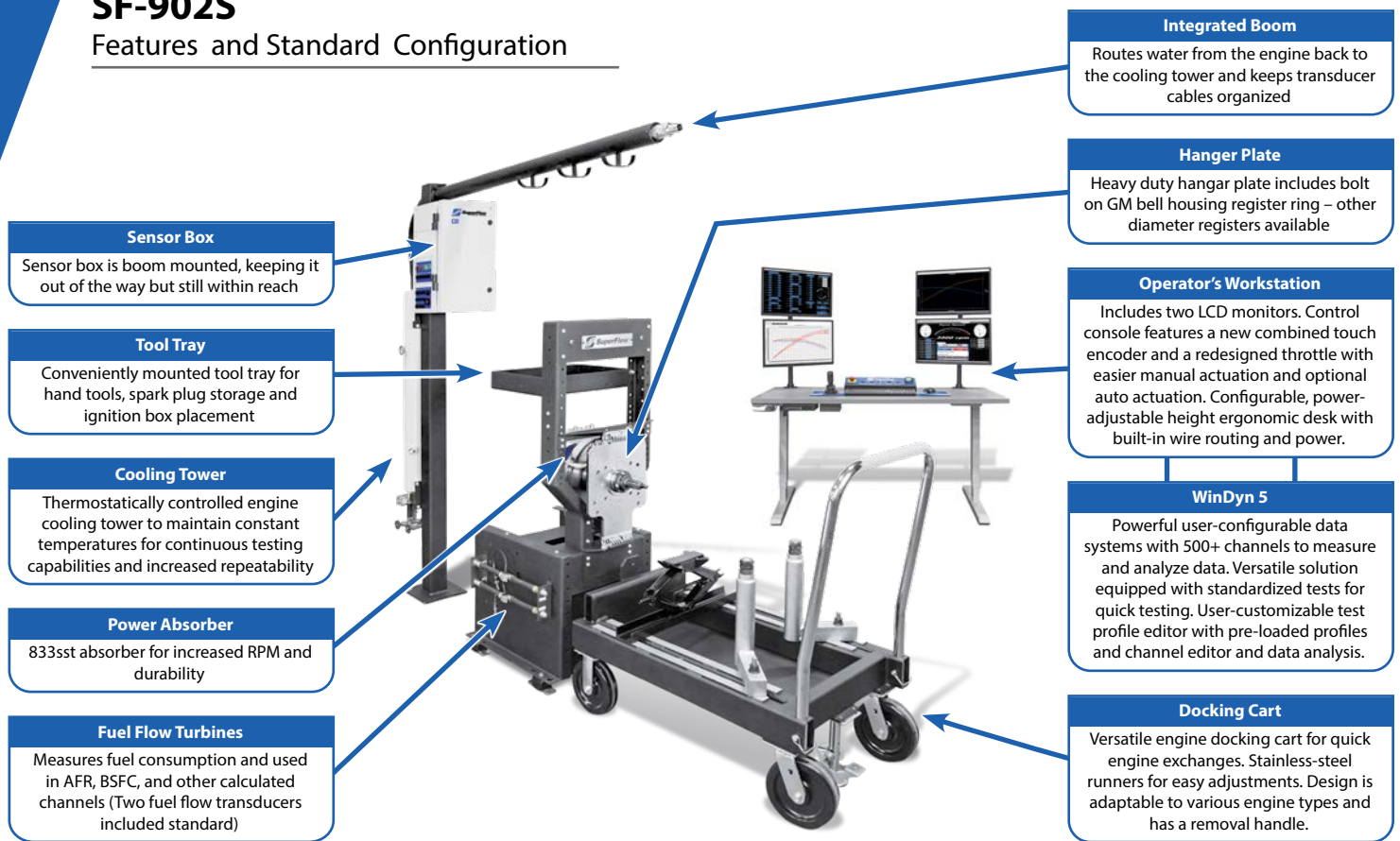
Our industry leading SF-902S is an ideal engine testing solution for OEM and high-performance automotive, marine, powersports, small aircraft and other high-speed engines. Designed to perform accurate and extremely repeatable performance tests for product development and engine calibration.

With the SF-902S, you can test all the critical power characteristics of your engines and not only measure power, but also characterize it across the entire engine speed range. When performing research and development, you can evaluate modifications one at a time, or as a complete system. When fine-tuning race engines, you can ensure the engine is "right" before it leaves the shop. Develop and test on the dyno. Race at the track.

Actual products may differ from images shown

SF-902S

Features and Standard Configuration



The SF-902S houses an absorber designed for high RPM and maximum durability. Our exclusive, low-inertia absorber is made of a cavitation-resistant aluminum/bronze alloy, which has over 20 times the life expectancy of an all-aluminum absorber. It uses an outlet-control servo valve for the quickest response times. This is the fastest responding water brake absorber on the market.

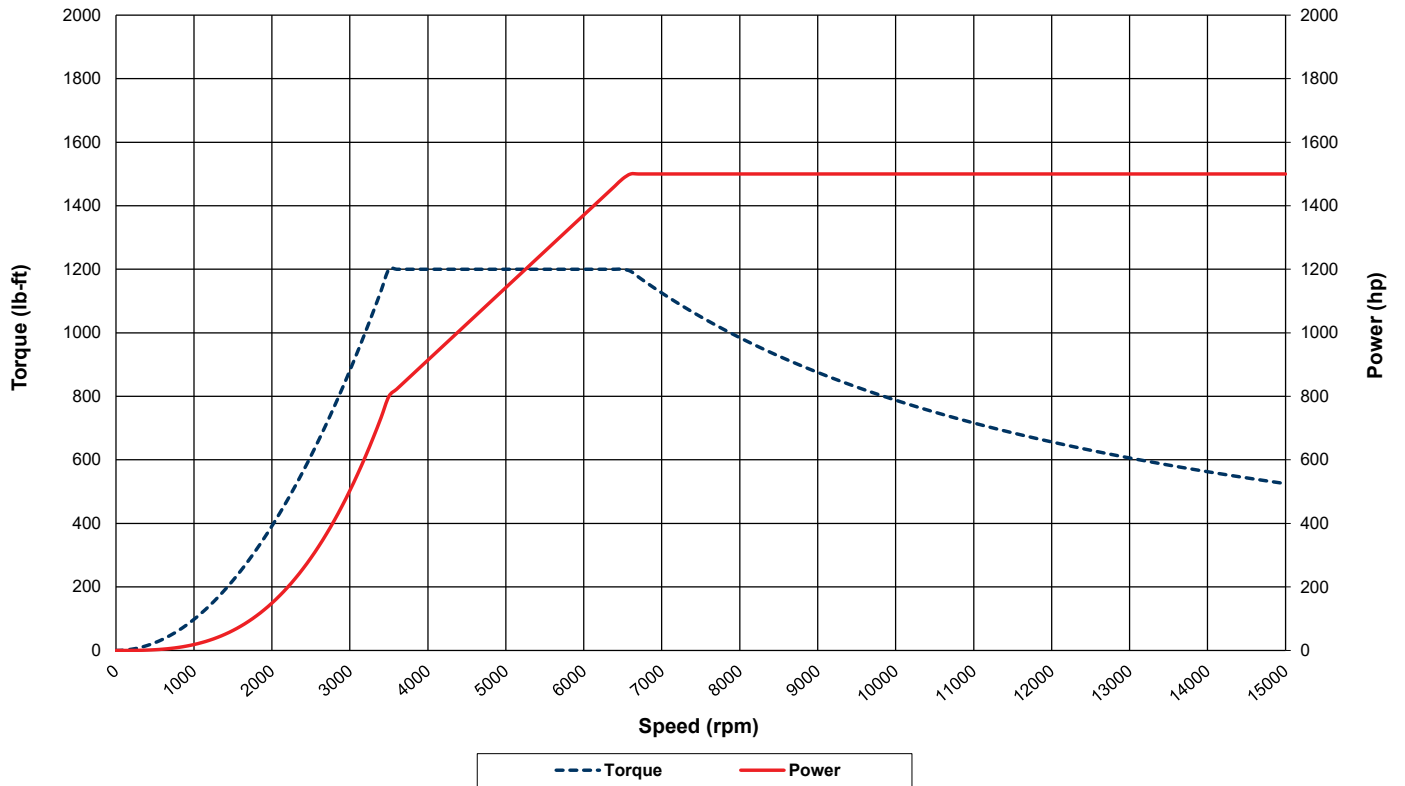
PTFE Teflon water seals and high speed ABEC 7 bearings allow the new absorber to run at high RPM for extended testing periods without issue. The stainless-steel trunnion and backing plate provide a 75% increase in resistance to cavitation compared to mild steel design of previous models.

In addition to the water seals, high speed bearings and stainless-steel components the absorber in the SF-902S includes a Hall Effect speed sensor for improved RPM resolution. WinDyn pre-defined test sequences allow for standard tests at the push of a button for fast implementation. Live trace feature provides live data as a trace over a saved reference plot.

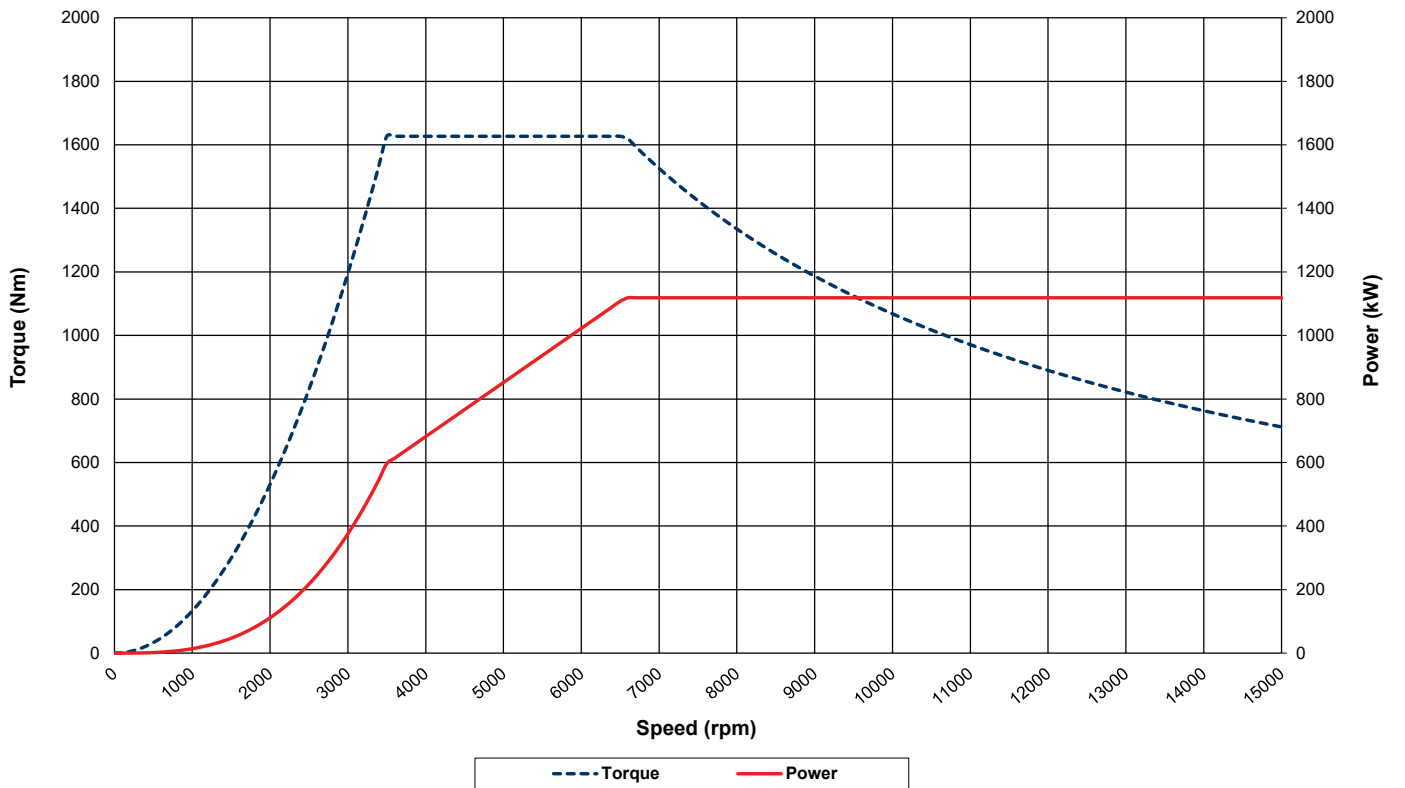
Features:

- Fully automated testing for simple operation for repeatability
- Space saving frame offers convenient tool tray and two stand mounted starter buttons to make lashing valves easy
- Control console to manage test, engine and test cell equipment all from the operator station
- 500 data acquisition channels – user configurable to meet any application
- Modular sensor box with expansion panel system to easily add sensors as your testing needs change
- Integrated boom assembly houses sensor box and cooling tower, plus cable stays to route transducer wires cleanly between the sensor box and the engine keeping test cell neat and organized

SF-902S (US Customary)



SF-902S (S.I.)



Specifications

Power and Torque

- Absorber Type: Water brake
- Maximum Speed: 15,000 rpm
- Horsepower Capacity: 1,500+ hp (1,119 kW)
- Torque Capacity: 1,200+ lb-ft (1,627 Nm)
- Test Engine Hp Range: 20 to 1,500+ hp with unique capacity valve system

Water Requirements

- 10 gallons per minute (gpm) for each 100 hp (75.5 kW) produced by the engine at a minimum pressure of 35 psi while free flowing (5 lpm per 10 kW at 2.4 bar)

Typical Shipping Dimensions and Weights:

- 65 x 88 x 69 in (165 x 224 x 176 cm)
- 1,568 lb (711 kg)

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

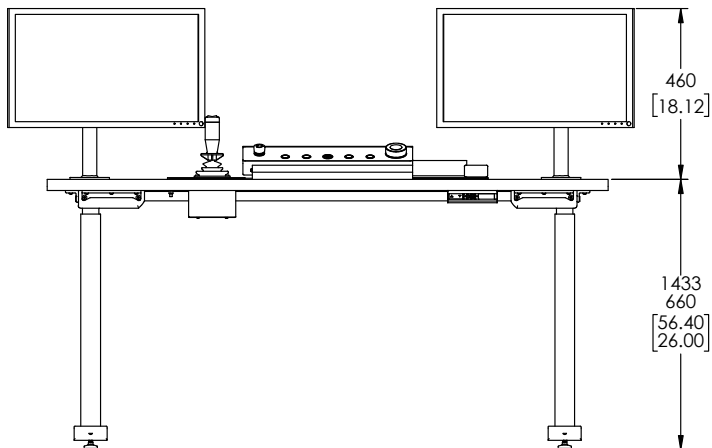
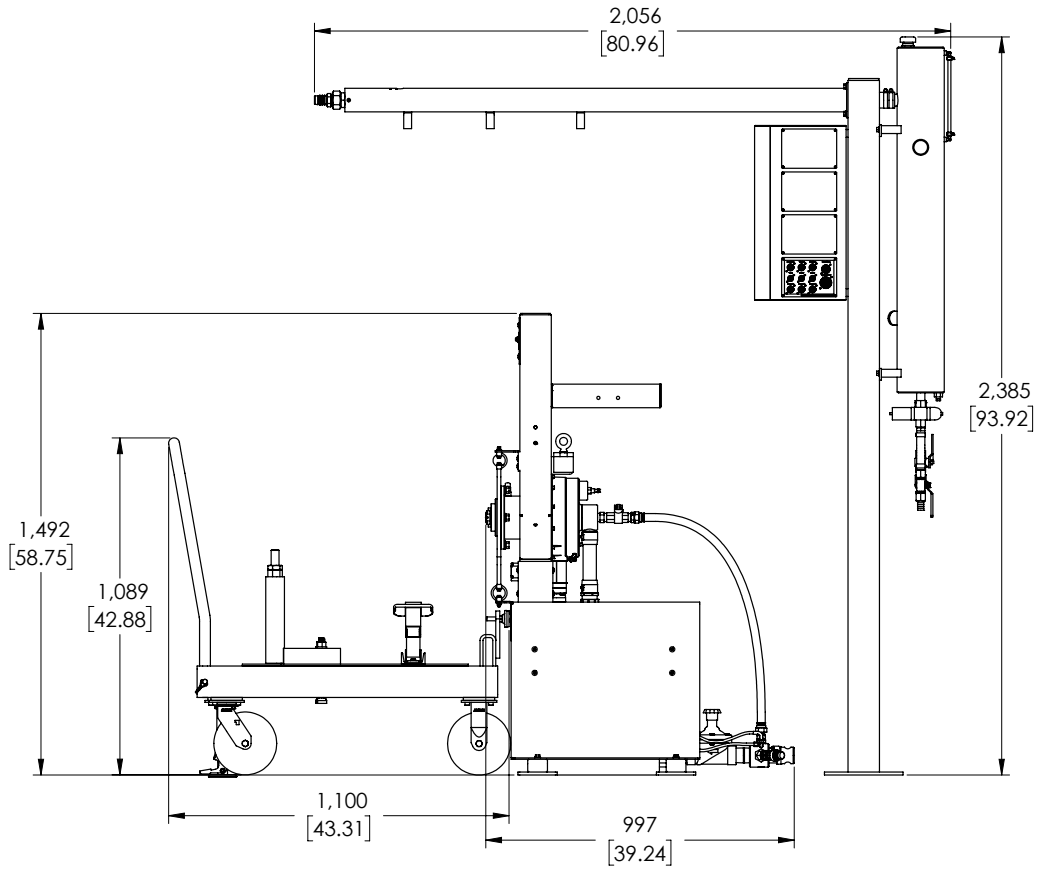
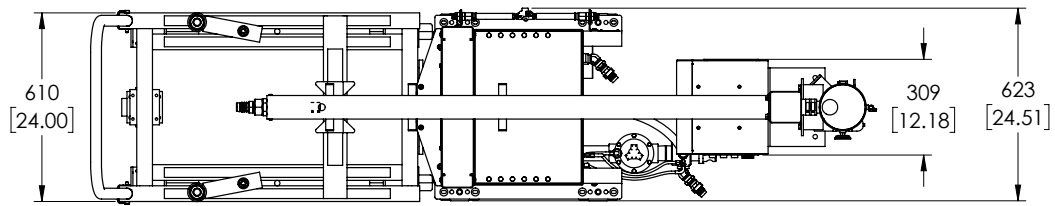
WinDyn® 5 Data Acquisition System

SuperFlow's advanced WinDyn 5 Data Acquisition System provides a wealth of pre-defined tests along with a user-friendly test editor to easily write custom tests. Standard tests can be performed and at part or wide open throttle. These include: controlled acceleration, controlled deceleration, step, steady-state, and track lap, break-in and mapping.

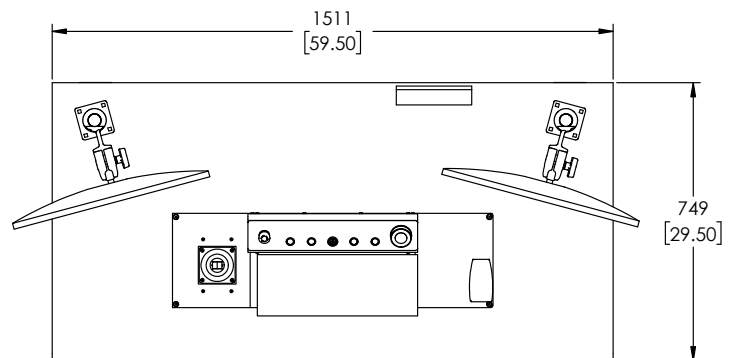


SF-902S - Tower - Engine Cart

mm
[in]



Control Console Table



Typical Product Options



Air Flow Measurement Turbine

Volumetric air flow measurement device in 4,6,9 in (10, 15, 23 cm) models available. Ceiling mount kit available (shown above).



Additional Docking Cart

Extra docking cart to save time between engine tests. Pre-stage one engine while another is being tested.



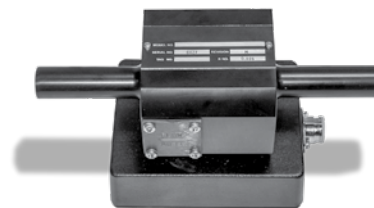
AFR/LAMDA Sensor Kit

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



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.



Drive Plate Assembly and Input Shaft

Standard drive adapter with 1-3/8" (3.5 cm) x 10 spline center hub. Standard and high torque models are available. Includes universal flywheel adapter. Tilton/QM racing clutch adapters also available.



Universal Engine Mount Kit

Includes polyurethane vibration mounts and adapters to mount the front of most US domestic V8 engines to the 902s engine docking cart. Components from kit can be used universally with other applications.



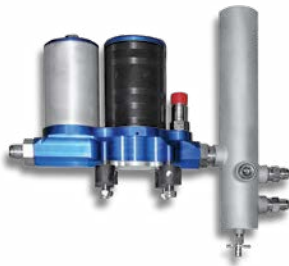
Engine Oil Cooler

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.



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.



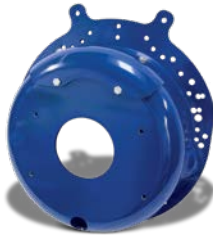
2,000 hp (1,491 kW) Gasoline Fuel System

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.



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.



Multi-Fit Bell Housing Assembly

For use with SuperStart. Drilled for SB Chevrolet, BB Chevrolet, GM (BOP) Buick, Olds, Pontiac and Cadillac, SB Ford, BB Ford (385 series engine) 429, 460, 351M and 400M, SB Mopar, LA engine series through R5 blocks, BB Mopar all RB Engines (KB, BAE, TFX, 383, 440, 426), Mopar 5.7 Hemi & Pro Stock Hemi.



SuperStart

Starter option for the SF-902S includes 8" spacer box and 2 high torque starters. Blank adapter rings and bell housing mounting plates available to adapt to any application. Includes sliding shaft and collar for multiple input shaft depths.



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.



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.



Rear Pump Drive Kit

Designed for Sprint car / Dirt LM engine testing. Drive pump from dyno input shaft. Includes pulleys, belt, and bracket.



Throttle Box Joystick Control

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



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™

Chassis Dynos

Flowbenches

DriveShaft Rebuilding Equipment

Engine Dynos

Solenoid Testers

Torque Converter Rebuilding Systems

Transmission Dynos

Valve Body Testers

Transmission Testers