SF-901 Engine Dynamometer Systems

**Specifications**

**Torque capacity**

- **Maximum absorber speed**: 10,000 RPM

**Fuel flow**

- 4" (10 cm) diameter turbine
  - **Range**: 0-800 lb/hr (100 g/s) x 0.1 ± 0.5% fs
- 6.5" (16.5 cm) diameter turbine
  - **Range**: 0-2,000 lb/hr (300 g/s) x 1, linearized

**Exhaust pressures**

- **Range**: 0-150 psi (0-1300 kPa) ± 0.15 psi, ±0.1% fs

**Temperatures**

- **Type K thermocouples, 8 input channels expandable to 16**:
  - 6-150°C (0-270°F), ±0.5°C

**Other**

- **Option**: HP 9800 Data Acquisition System

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**Engine Dynamometer Packages**

- **Pro**
- **Expert**
- **Basic**
- **Expert**

The SF-901 is available in three different packages:
- **Pro**: Upgrade includes Service equipment plus:
  - High-performance throttle body, additional fuel, air, temperature-compensated strain gauge bridge, Tachometer, on-board microcomputer system.
- **Expert**: Upgrade includes Sport equipment plus:
  - Additional eight exhaust-gas thermocouple channels, (four type-K thermocouples, CT-4000 load cell), (two F9400 size turbo manifolds)
- **Basic**: Upgrade includes Sport and Expert equipment plus:
  - 1000+ HP (745 kW) engine-testing system.

**Limited Warranty**

SuperFlow warrants that this SuperFlow product will perform as described in this brochure for a period of one year from the date of purchase. To request a copy of the limited warranty statement call SuperFlow at 719-471-1746.

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**Room plans**

Call SuperFlow for room plan drawings and documents on how to install the most from your test facility.
SuperFlow’s SF-901 is the most accurate, cost-effective engine dyno package available.

SuperFlow’s SF-901 series of engine dynamometers provide the most data per dollar spent. The SF-901 is a complete, integrated system that provides accurate, reliable data to evaluate your engine. It’s easy to set up and use, and performs many of its functions automatically.

Use an engine dyno as an evaluation tool
Use an engine dyno to measure power characteristics of your engine. It will tell you not only how much power, but where the power is in the speed range. For performing research and development, you can evaluate modifications minute-by-minute, as a complete system. For race engines, you can ensure that the engine is right before race on one day. Develop on the dyno, wherever the engine’s purpose, you can use the dyno to perform a quality audit. You ensure that the engine does what it’s programmed to do. It’s not just a number. Quantify the results of your modifications. Prove that you’ve built the engine you meant to build.

You can rely on a SuperFlow dyno
The SF-901’s heavy-duty construction and industrial grade components create a stable, reliable dyno that will last. Long-time SuperFlow has over 2,000 engine dynamometers in the field today, and over 20 years experience manufacturing airflow and engine-testing equipment. SuperFlow makes complete systems. You buy everything from one sup- plier, so there’s no finger-pointing. And, SuperFlow’s dedicated customer service department will help keep your dyno running, even after the standard one year warranty period.

The SF-901 is simple to set up and use
It’s easy to get good, reliable data with the SF-901. All the controls are at your fingertips. Once the engine is secured, even a beginner can be testing in a matter of minutes. SuperFlow’s SF-901 series of engine dynamometers provide the most data per dollar spent. The SF-901 is a complete, integrated system that provides accurate, reliable data to evaluate your engine. It’s easy to set up and use, and performs many of its functions automatically.

Comes with automatic test cycles
The SF-901’s power absorber allows you to run tests with the engine running at a constant speed, constant torque, or accelerating/decelerating at controlled rates up to 100 measured and calculated items at each test point.

Collects and corrects data automatically
Power and torque are continuously corrected to any standard you choose. Corrections are based on measured intake air temperature, barometric pressure and uncor- rected inputs of power, torque, and speed measured for real-time graphs of power and torque as you run your tests.

The SF-901 is simple to set up and use
It’s easy to get good, reliable data with the SF-901. All the controls are at your fingertips. Once the engine is secured, even a beginner can be testing in a matter of minutes. SuperFlow’s SF-901 series of engine dynamometers provide the most data per dollar spent. The SF-901 is a complete, integrated system that provides accurate, reliable data to evaluate your engine. It’s easy to set up and use, and performs many of its functions automatically.
SuperFlow’s SF-901 is the most accurate, cost-effective engine dyno package available.

SuperFlow’s SF-901 series of engine dynamometers provide the most data per dollar spent. The SF-901 is a complete, integrated system that provides accurate, reliable data to evaluate your engine. It’s easy to set up and use, and performs many of its functions automatically.

**Use an engine dyno as an evaluation tool**
Use an engine dyno to measure power characteristics of your engine. It will tell you not only how much power, but where the power is in the speed range. For research and development, you can evaluate modifications one-at-a-time, or as a complete system. For race engines, you can ensure that the engine is right before race day. Develop on the dyno, wherever your engines are taken. Wherever your engine’s purpose, you can use the dyno to perform a quality test. You can specify the engine does what it’s supposed to do. If it’s not true, quantify the results of your modifications. From here you can build the engine you need for your application.

**You can rely on a SuperFlow dyno**
The SF-901’s heavy-duty construction and industrial grade components ensure that it will last. A long-time SuperFlow has over 1,000 engine dynamometers in the field today, and over 25 years experience manufacturing airflow and engineering equipment. SuperFlow makes complete systems. You buy everything from one supplier, which makes troubleshooting a complete system much easier. A dedicated service department will keep your dyno running and your tests proceeding. The SF-901 is simple to set up and use.

**The SF-901 is simple to set up and use**
It’s easy to get good, reliable data with the SF-901. All the controls are at your fingertips. Once the engine is installed, even a beginner can be testing in a matter of minutes.

**Comes with automatic test cycles**
The SF-901’s power absorber allows you to run tests with the engine running at a constant speed, constant torque, or accelerating or decelerating at controlled rates up to 2,000 RPM per second. Acceleration tests record data on the fly as your engine accelerates exactly as it would in the vehicle. Break-in and life-cycle tests proceed automatically under computer command. WinDyn comes with many pre-configured tests and speed ranges, along with the flexibility for you to design and manage your own tests.

**Collects and corrects data automatically**
Power and torque are continuously corrected to any standard you choose. Corrections are based on measured intake air temperature, barometric pressure and user-specified data. Dyno data is adjusted automatically for intake air density and barometric pressure.

**Precise airflow data allows you to determine engine volumetric efficiency, air/fuel ratio and BSAC.**
SuperFlow’s built-in oil drip pan and dual battery mounting rack.**
SF-901 Engine Dynamometer Systems

Torque capacity

<table>
<thead>
<tr>
<th>RPM</th>
<th>Torque lb-ft (N-m)</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1000</td>
<td>1000 (1350)</td>
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Specifications

**Sport**

- Operating concept and covers, engine stand with seat, SuperFlow SF-833 water-brake power absorber, 1000-lb cooling system.
- Standard equipment includes all of the following features:
  - Single unit of 14", 7 hp in Square Hub™ Blue fuel pump and magnetic, hydraulic, finger-actuated brake, variable vacum, and spring-loaded, full range of control of 1.5 to 70". Also a SuperFlow Noise-Damping System.
  - Eight fluid/air temperature sensors, eight fuel flow sensors: thermocouples included, WinDyn™ software, two days training and service.
- Upgrade includes all of the above and six additional channels.

**Expert**

- Upgrade includes all of the above and six additional channels.
- Additional thermocouples included, WinDyn™ software, two days training and service.

**Pro**

- Upgrade includes all of the above and six additional channels.
- Upgrade includes Sport equipment plus:
  - High-performance tunnel (5.5 ft), additional fuel measurement turbine (330-lbs/hr), airflow measurement turbine (330-lbs/hr), additional type-K thermocouples, CT-2800 computer system.

The SF-901 can measure:

- Engine speed, torque, test fuel flows, test air flows, all temperatures, exhaust gas temperatures, five liquid temperatures, all pressures, manifold pressure, barometric pressure, manifold vacuum, barometric pressure.
- Specific air consumption, volumetric efficiency, mechanical efficiency, and more.

Limited Warranty

SuperFlow warrants that this SuperFlow product will perform as described in this brochure for a period of one year from the date of purchase. To request a copy of the limited warranty statement call SuperFlow, 1-800-471-7701. The SF-901 is the most accurate, cost-effective dynamometer package available today. You get the most data per dollar spent. Fuel flow, air flow, and torque measurement systems are all carefully calibrated to provide the most accurate readings. The SF-901 is available in three different packages: Sport, Expert, and Pro. Its modular design allows you to add features at any time. See back cover for details.