Avtron Dynamometers

avtronpower.com

AVTRON
POWER SOLUTIONS

Our Dynamometers

Unleash the Power of Precision with Our Dynamometers

Discover the next level of performance testing with our state-of-the-art dynamometers. Engineered for accuracy and reliability, our dynamometers provide comprehensive power measurement solutions for a wide range of agricultural and industrial equipment.

Whether you're conducting routine inspections, diagnosing faults, or validating engine performance, our dynamometers deliver precise, data-driven insights that empower your service department to excel. Elevate your service quality, build stronger customer relationships, and drive long-term success with our cutting-edge dynamometer technology.

Mobile Froment 515 Dynamometer

Product Knowledge

Froment 515 & 680 Dynamometer Data Sheet

What is a dynamometer and why use one?

A dynamometer is a tool for testing power and diagnosing faults on agricultural machinery equipped with a PTO.

- Highlights the need for maintenance and service
- Warranty and technical issues
- Enables detailed diagnostics
- True test of engine power
- Find intermittent faults quicker on load
- Save time for technicians diagnostics
- Maintain the performance of modern, sophisticated tractors

Test up to 680hp with either static or trailer mounted options

Dynamometer Features

Our dynamometers offer exceptional technical features, ensuring reliable and precise testing across a variety of agricultural machinery.

Froment 680
Dynamometer

1. Available to control with either a hand-held or for more in-depth testing use the DynaTest PC software.
2. Available as a static unit for workshop use or trailer-mounted for mobile use.
3. Supplied with all the necessary drive shafts to complement the dynamometer's performance.
4. Low maintenance and minimal calibration required.
5. It's a manoeuvrable, self contained, air-cooled unit with a minimal cool down period.
6. Low start-up torque means engines from as little as 10 hp or up to 680 hp can be tested.
7. Accurate fault finding and diagnostics within routine servicing schedules, pre-delivery inspections and warranty problems.
8. No need for the operator to have prior knowledge where maximum power and torque occur in the engines performance curve. Auto mode does the test for you with complete repeatability.
9. It only requires a single-phase mains supply at 50Hz, 220-240V. Other voltages or frequencies are available on request.
10. Three different speed ranges. Tractor power take off speed range 270-1250 rpm. Remove the gearbox for direct drive range of 480-2200 rpm (optional removal tool is available).
11. Five different test modes are standard: Automatic, Constant speed, Constant power, Direct load and Memory.
12. Inbuilt protection and detection keeps the user informed of dynamometer status.
13. Used by leading manufacturers, for the development of new products and the training of service and sales personnel.
14. Vertical hot air discharge with sliding cover for protection when not in operation.

SIGMA Control

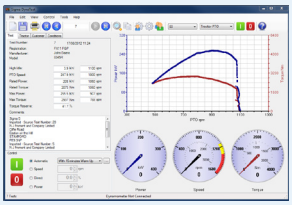
Introducing SIGMA, our leading dynamometer control system designed to deliver unmatched precision and performance. Engineered with cutting-edge technology, SIGMA provides seamless and accurate control for testing a wide range of agricultural and industrial equipment.

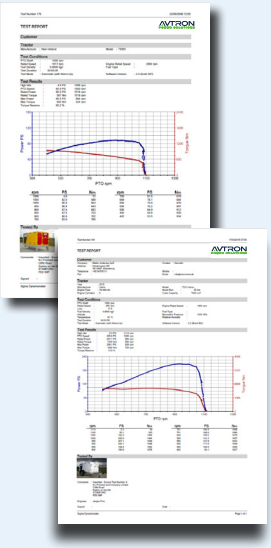
SIGMA Hand-held

The intelligent SIGMA Hand-Held provides a simple yet effective way of testing. The robust design can endure the harshest of environments and the simple user friendly interface gives the operator confidence when testing.

Features Include:

- Robust enclosure and LCD display
- Five test modes including:
  - Automatic test: This allows you to run a consistent and repeatable test across the full power curve.
  - Constant speed: Set a speed and the SIGMA control system will adjust the load until the required speed is reached, then it will be maintained even as auxiliary loads change.
  - Direct load: Manually apply and remove load by pressing the '+' or '-' keys. You set the braking force directly for warming up or bedding-in an engine prior to a full performance test.
  - Memory: Pre-set and then apply a sudden step load change to check for governor response, instability or clutch slippage.
  - Constant power: Simulate working conditions by selecting any engine power value and SIGMA will endeavour to maintain this power irrespective of engine speed.
- USB-C connectivity for firmware updates





SIGMA DynaTest

SIGMA DynaTest for Windows™ replaces your dynamometer Hand-held. It provides all the necessary software and cables which are needed to convert your PC into a dynamometer controller.

Features Include:

- Display the dynamometer readings of Power, PTO and Engine Speed, and Torque
- View a summary of the test, including High Idle Speed, Maximum Power, Rated Power, Maximum Torque and Torque Rise
- Fully control your dynamometer. You can run an automatic test, manually select braking force or set constant power or PTO speed
- In automatic test mode, you can set an engine warm-up time of up to 30 minutes, before the test starts
- Save the test results including tractor and customer details, test conditions and your comments, so you can build your own test database
- Build your own customer and tractor registration libraries, to minimise data entry and provide better reporting
- Compare results from previous tests, both graphically and as tabular data. You can view this comparison on-screen, or print it out
- Export test data either as a text file for extended analysis using Excel, for example, or as a *.xml file which can be e-mailed and imported into another SIGMA DynaTest
- Search for previous tests, using the registration number, make, model, customer or test date
- Scroll through all saved tests or just look at tests on a particular model, for example
- Provide tractor engine data: a ratio and loss can be applied to the PTO instrumentation results to produce an engine power report
- Extend and personalise the built-in tractor library so you can add a new tractor model as soon as it is released
- Print comprehensive test reports
- Optional Bluetooth™ Connectivity

Dynamometer Models

Avtron Dynamometers are available in the following configurations:

Froment 515

Capacity (PTO Input - 270-1250rpm)	
Maximum Power	380kW (515PS) @ 1000rpm
Maximum Torque	3170Nm @ 800rpm
Continuous Speed	1000rpm
Max Overspeed (< 2 minutes)	1250rpm
Capacity (Direct Input - 480-2200rpm)	
Maximum Power	380kW (515PS) @ 1800rpm
Maximum Torque	1790Nm @ 1400rpm
Continuous Speed	1800rpm
Max Overspeed (< 2 minutes)	2200rpm

Specifications

- Static: (LxWxH) 2678mm x 1300mm x 1763mm - 1584kg
- Mobile: (LxWxH) 3860mm x 1828mm x 1796mm - 1904kg

Optional PTO Shafts

- 1 x 3/8” 6 spline
- 1 x 3/8” 21 spline
- 1 x 3/4” 20 spline
- 1 x 3/4” 6 spline

Optional Accessories

- DynaTest PC software
- Direct drive coupling
- Bluetooth Connectivity

Froment 680

Capacity (PTO Input - 270-1250rpm)	
Maximum Power	500kW (680PS) @ 1000rpm
Maximum Torque	3170Nm @ 800rpm
Continuous Speed	1000rpm
Max Overspeed (< 2 minutes)	1250rpm
Capacity (Direct Input - 480-2200rpm)	
Maximum Power	500kW (680PS) @ 1800rpm
Maximum Torque	2340Nm @ 1400rpm
Continuous Speed	1800rpm
Max Overspeed (< 2 minutes)	2200rpm

Specifications

- Static: (LxWxH) 2678mm x 1300mm x 1763mm - 1755kg
- Mobile: (LxWxH) 3860mm x 1828mm x 1796mm - 2075kg

Optional PTO Shafts

- 1 x 3/8” 6 spline
- 1 x 3/8” 21 spline
- 1 x 3/4” 20 spline
- 2 x 1/4” 22 spline
- 1 x 3/4” 6 spline

Optional Accessories

- DynaTest PC software
- Direct drive coupling
- Bluetooth Connectivity

Leading dynamometer control, automation and data acquisition

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