



Avtron Dynamometers test tractors, combine and forager harvesters ensuring efficiency and peak performance are maintained at all times.

Construction

The frame of the dynamometer is constructed from 2mm, folded and welded 'Zintec' steel.

Recessed doors and panels allow easy access to the separate enclosures for control, power connections and maintenance. A lockable roller door provides access to the PTO input and shaft storage at the rear of dynamometer.

A 4 pole 2-bearing brushless alternator complete with fan assisted forced air cooling enables high-torque operation over a wide speed range.

The gearbox is custom made to Avtron specification from aluminium and has hardened steel helical gears. The gearbox is easily removed with the optional removal tool to enable engine speed testing.

Stainless steel strip load elements are force cooled by a cooling fan, exhausting vertically out of the top of the dynamometer. The air outlet is covered by a sliding door with an interlocking feature inhibiting load application and warning the operator if not fully open.

A stainless steel mesh screen on the outlet provides protection against access to hazardous parts to IP2X.

All electrical enclosures are to IP55.

Anti-condensation heaters are fitted to remove moisture and preserve the electronics from the dynamometer when not in use.

Mobile versions are supplied with a twin axle braked four wheel trailer with 4 stud 4.5J x 13 pressed wheels and tubeless 165R13C radial ply tyres with rubber trailing link independent suspension that can be towed behind a car or commercial vehicle.

The main chassis is constructed from formed 3mm and 5mm steel and the floor from 1.6mm steel. The whole chassis is hot dipped galvanised after fabrication.

Two prop stand jacks are provided at the rear of the trailer and a jockey wheel on the a-frame where an ISO 50mm ball coupling with hydraulic dampened overrun brake actuator is located and a manual hand brake which has an energy store to operate the auto reversing brakes.

Trailer lighting includes brake, tail, side marker, direction flashing, reversing and fog lights. Reflective triangles incorporated in the rear light combination units.

Static models are fitted with a heavy duty fork pocket constructed with a hot dipped galvanised base made from 3mm and 5mm steel.

Speed Range & Capacities

Froment 515 will test up to 515PS (380kW) and fully torque test a typical modern tractor up to 350PS (260kW).

Froment 680 will test up to 680PS (500kW) and fully torque test a typical modern tractor up to 500PS (370kW).

	Froment 515	Froment 680
Capacity (PTO Input - 270-1250rpm)		
Maximum Power	380kW (515PS) @ 1000rpm	500kW (680PS) @ 1000rpm
Maximum Torque	3170Nm @ 800rpm	4150Nm @ 800rpm
Continuous Speed	1000rpm	1000rpm
Max Overspeed (< 2 minutes)	1250rpm	1250rpm
Capacity (Direct Input - 480-2200rpm)		
Maximum Power	380kW (515PS) @ 1800rpm	500kW (680PS) @ 1800rpm
Maximum Torque	1790Nm @ 1400rpm	2340Nm @ 1400rpm
Continuous Speed	1800rpm	1800rpm
Max Overspeed (< 2 minutes)	2200rpm	2200rpm

Finish

High quality two-pack industrial acrylic paint system applied to an electro-plated zinc base and low-bake finish.

Standard colour is Basalt Grey (RAL7012). Other colours are available on request.

Auxiliary Supply

The fans and control circuit are powered from an external 13 or 16 amp single phase 220-240 Volt 50/60Hz supply.

An IEC 60309-2 plug is mounted in the control enclosure with a 10m lead.

Protection

A 220-240 Volt AC control circuit transformer provides isolation and operator safety.

The start and latching emergency stop buttons ensure the dynamometer will not automatically restart after shut down.

The fan motors are fully protected with fuses and overloads.

Thermal detectors are fitted to the alternator and load bank to protect against over heating.

On initial start-up the dynamometer performs a self-test to check all systems. If a fault is found this is displayed on the Hand-held.

Control Options

Hand-held

Load control is provided by a robust Hand-held. The 10m lead allows tests to be carried out in the tractor cab if required and the display provides a constant live data readout of power, torque and speed.

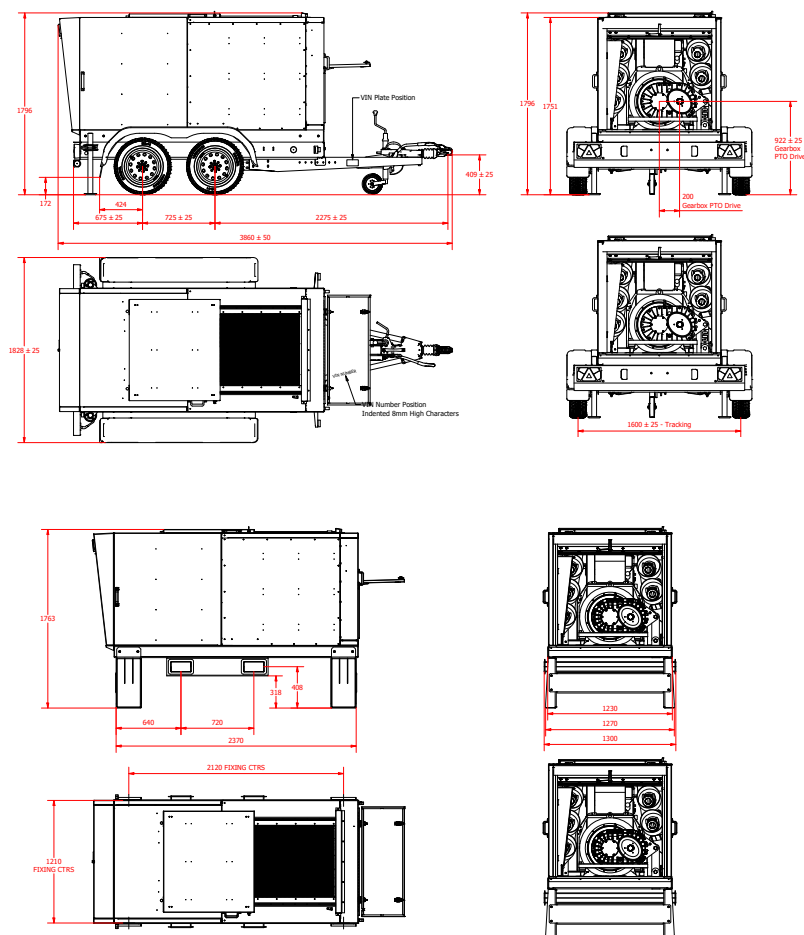
Five test modes are available, constant speed, constant power, direct load, memory and AutoTest which provides reliable and repeatable testing.

DynaTest PC Software

Addition of DynaTest PC software adds an engine warm up facility and two cyclic testing modes of power and engine speed. PTO and or Engine power can be displayed. Test results can also be saved to build a comprehensive test library which includes test criteria, tractor models and customer details. Test results can be compared and contrasted from previous tests in graphical and tabular format.

These results can then be printed or exported for further analysis.

An IEC 60309-2 plug and socket with



All dimensions are in millimeters.
Specifications subject to change without notice.

a three-position switch enables quick and easy connection.

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 (Froment SIGMA 680 only)
- 1 x 3/4" 6 spline

Optional Accessories

- DynaTest PC software
- Direct drive coupling
- Bluetooth Connectivity

Testing, Standards and Warranty

Functional operation and load tests are completed on all Avtron Dynamometers, before despatch, in line with our ISO 9001:2015 procedures.

Avtron Dynamometers comply with international standards and are CE marked to confirm compliance with both the EMC and Low Voltage Directives.

The equipment is covered by a 12-month warranty as detailed in our Conditions of Trade.

Weight and Dimensions

Mobile Froment 515 & 680

Length	3860mm
Width	1828mm
Height	1796mm
Weight	515 =1904kg 680=2075kg

Static Froment 515 & 680

Length	2678mm
Width	1300mm
Height	1763mm
Weight	515 =1584kg 680=1755kg