

AUTOMATED TORSION BENCH DRIVETWIST



Automated torsion bench DRIVETWIST

Automated torque tester for repeatable testing and high accuracy



Automated torsion bench up to 24Nm

Manual command through motor panel or automated using the material testing software

Spring torsion test, material testing, component testing,...

Graphing mode, automated calculations, customer reports and complete tracability

The DriveTwist model is a automated torque test bench for all static torque measurement. It offers high accuracy, repeatable testing and large versatility for torsion applications. It's specially designed to determine the torsion properties of components subjected to twist loading in service. Thanks to its motorized command, set the speed of your test protocol and perform your torsion test without the influence of the operator.

The DriveTwist suits a large board of applications: **spring torsion test, material testing, component testing, rotary actuators for rotation, torsional stiffness.**

The test bench is designed with a horizontal rigid baseplate, precision-engineered with a linear guidance system, which ensures the fine precision displacement of the measuring platform. The platform combines a torque reaction sensor and an accurate encoder which measures the angular displacement. Platens are pre-designed to allow attachment of component or test specimen to the mounting base plate. In addition, ANDILOG offers a wide range of standard grips or can advise and design per specifications dedicated fixture to reply to your samples shapes.

The motor command and measurement acquisition is done through the DriveTouch controller, which includes the latest advanced technologies. Thanks to its ability to read simultaneously data from two sensors, the DriveTouch controller measures data from the static torque transducer and from the rotary encoder.

Two working modes are available:

- Control manually the motor through the command, usually used for adjustment
- Automated your test thanks to the material **software CALIFORT**. Usually used to setup complex test protocol and sequenced testing applications (pre-load, automatic return, cycles, multi-stages...), to save data&curves for a full tractability and with reports edition.

Determine the torque characteristics and mechanical performance of your sample, with the DriveTwist torque test bench, a complete and advanced measuring solution..

Automated torsion bench DRIVETWIST

Sensors

The torque test bench DriveTwist is designed to include two high accurate sensors: torque and angular displacement. Those two sensors are perfectly aligned to ensure the quality of measurements in the axis of the sample.

Reaction Torque Sensor : the most sensible part of the torsion tester. Available in six different capacities, to choose from 0.35Nm up to 24Nm and equipped with our SPIP plug and play technologies. So the DriveTwist torque test bench offers the flexibility of having several torque sensors and one dedicated test bench in order to cover a large range of applications and capacities. With an accuracy of 0.5% of the full scale of the torque sensor, it is recommended to use them in their 10% to 90% range.

Angular displacement : Measurements are done through a rotational encoder, with a high resolution of 0.1° . Mounted directly on the sample rotational axis for an accurate angular movement.



Controller DRIVETOUCH

The controller includes a motor command and a measurement screen.

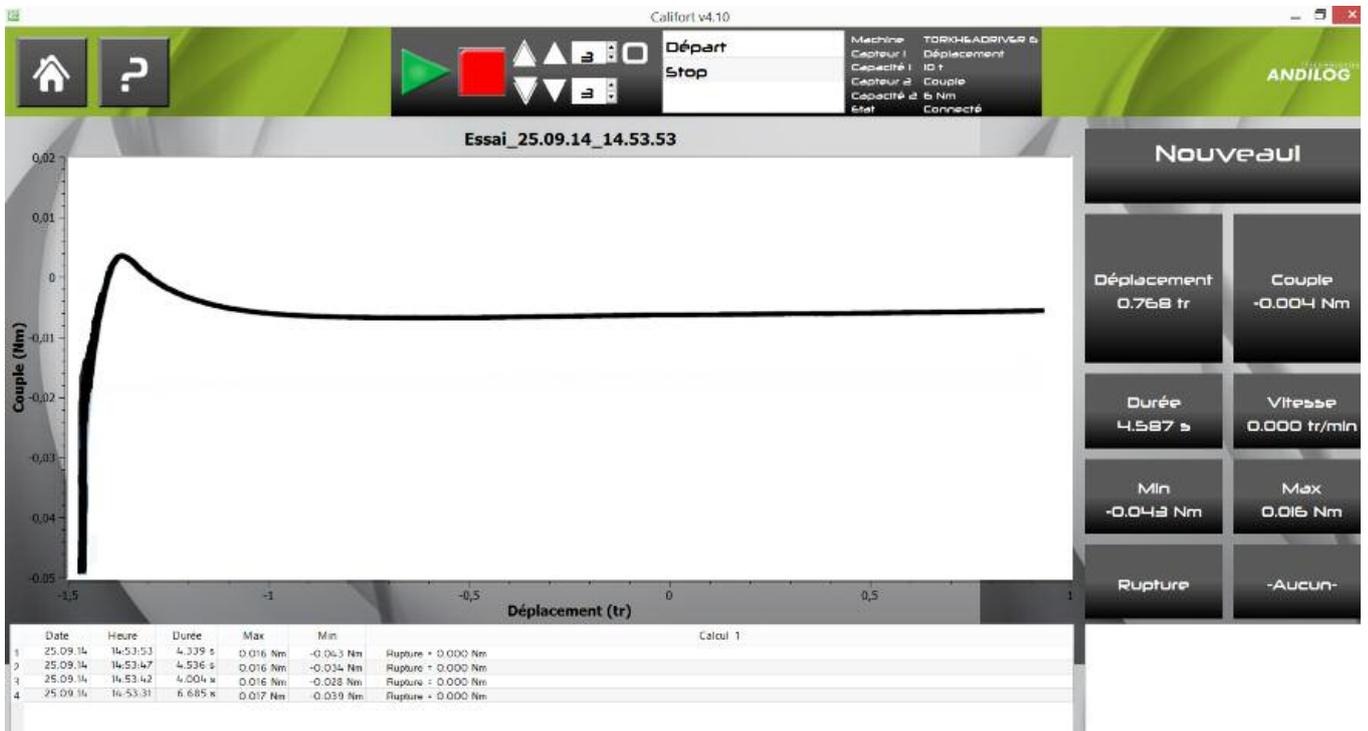
Fine positional adjustments and the first runs can be done manually through the motor command. The display shows in real time the speed and angular displacement. Also the command includes low and high speed (adjustable) keys.

The measurement advanced touch screen interface allows a user of the torque tester without software, for a manual testing setup. The console shows in real time and simultaneously the torque and angle measured values. Thanks to its live graphing mode, you can pre-view your graphical results and calculations. Nevertheless the DriveTwist controller includes also TTL inputs/outputs allowing a connection with a programmable logic controller.



Califort – the Material testing software

Califort provides you an immediate solution ready to use, load a test configuration and measure !



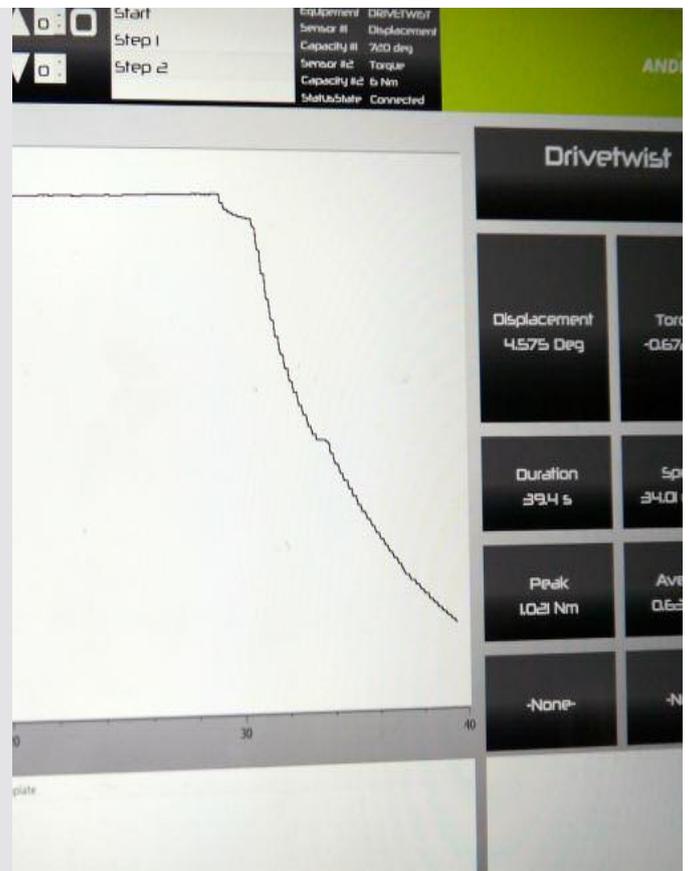
Simple operation

Simple and intuitive

Simply press the green arrow and your tests and measurements start. There is no easier way to begin. User has access to the most important data of his measurement and a limited access to the test configurations.

Califort's menus have been redesigned for an ergonomic and easier user experience, which minimized the training time on how to use the equipment.

Califort software offers and ensures integrity and traceability of your results, thanks to the password protection access, or automatic backup by examples.



Califort – the Material testing software

We take you through the easy process of setting your tests

The Califort software uses simple tools to define your test protocols. Setting your test is done sequentially and has an intuitive flow. The test configuration is guided by a step by step process, and no programming knowledge is required.

By following the simple sequences of the various stage of defining your test, you quickly build advanced multi-stage test routines. Choose among the following available parameter to customize your test:

- Type of data to graph
- Calculations to display: maximum, average, break, elongation,...
- The Multi-stages of your test (start, return condition, preload, speed, direction, pause time, ...)
- Number of cycles and conditions
- The conditions for success measures

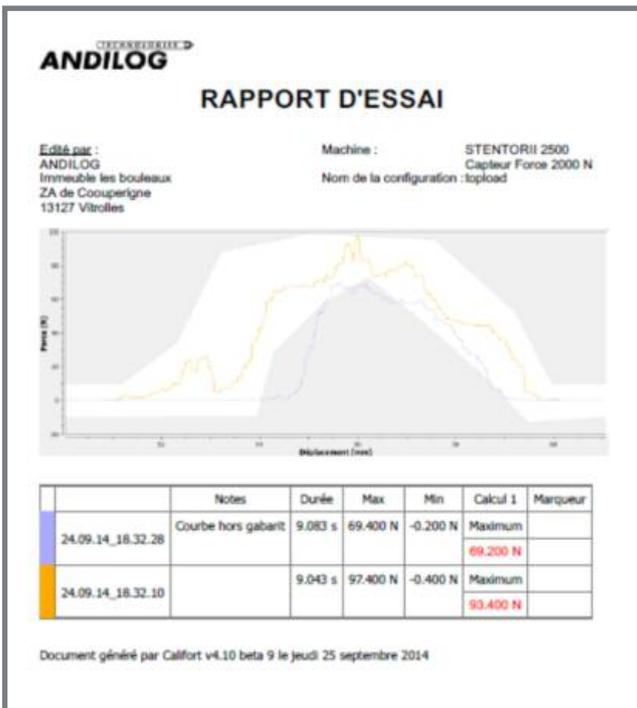
The screenshot shows the 'Equipement' (Equipment) configuration screen. It includes fields for 'Machine' (STENTORII 2500) and 'Capteur' (2000.00 N). Below are options for 'Axe X' (Déplacement) and 'Axe Y' (Force), each with a sign inversion checkbox. A 'Pilotage' checkbox is checked, and a unit dropdown is set to 'mm/min'. The 'Unités affichées' (Displayed units) section shows 'Effort' in 'N', 'Déplacement' in 'mm', and 'Temps' in 's'. At the bottom, there are buttons for 'Calculs', 'Début / fin test', 'Séquences', and 'Cycles'.

Edit your test reports

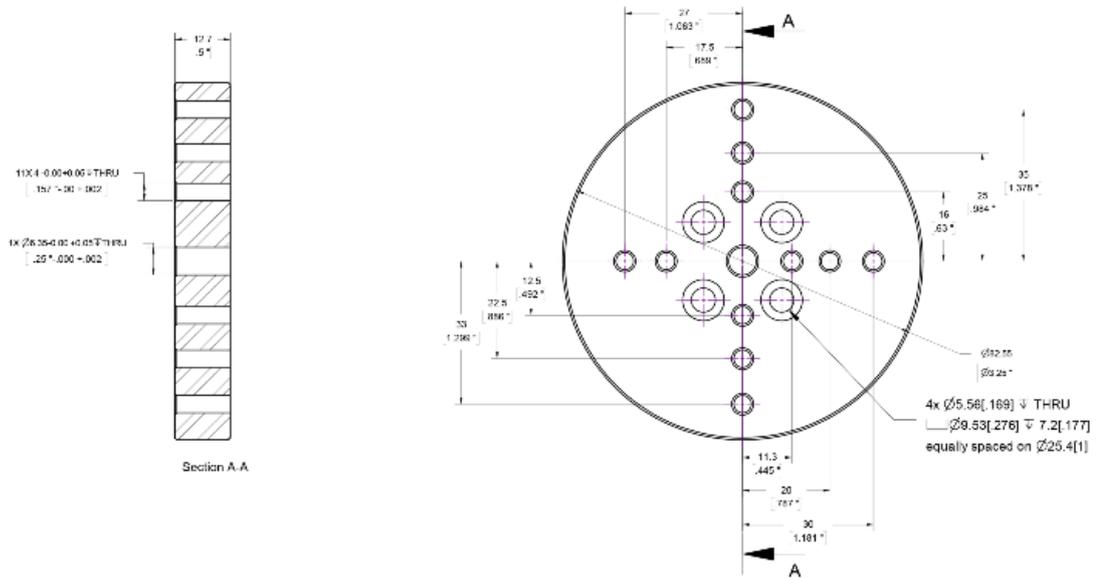
At the end of the test, Califort allows you to analyze your results and create test reports, including curves, and list of calculations.

Reports can be edited through Microsoft Word or PDF format. Use the wizard to create your custom reports by including your own logo and company details.

Raw data are also available, for further investigation or simply to export them on a table spreadsheet.



Drawing of the standard platens



Technical details

MECHANICAL

Max capacity

Maximum space between platens

Minimum speed

Maximum speed

Overall dimension
L x P x H

Weight

Supply voltage

DRIVETWIST 12

12 Nm

100 in-lb

200 mm

7.8 in

0.1 tr/min

36 °/min

4.5 tr/min

1620 °/min

483 x 203 x 254mm

19 x 8 x 10 in

15 kg

33 lb

220V

110 V

DIRVETWIST 24

24 Nm

200 in-lb

200 mm

7.8 in

0.1 tr/min

36 °/min

4 tr/min

1440 °/min

483 x 203 x 254mm

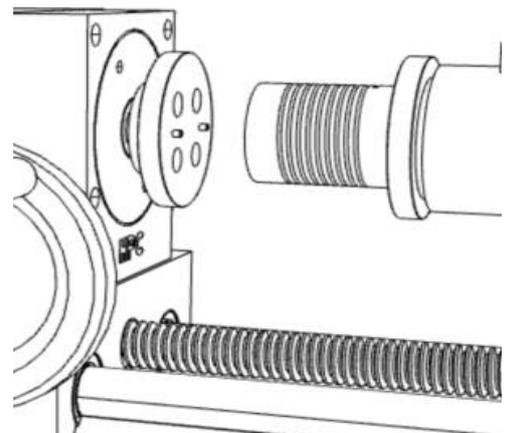
19 x 8 x 10 in

16 kg

35 lb

220V

110V



FEATURES

Torque sensor capacities

Force accuracy

Force resolution

Force Units

Overload protection

Displacement accuracy

Displacement resolution

Displacement units

Speed units

Data sampling

Display

Manual command

Computer command

Baud rate

Minimum requirements

DRIVETWIST

0.35 Nm, 1 Nm, 3 Nm, 6 Nm, 12 Nm, 24 Nm / 50 in-oz, 160 in-oz, 400 in-oz, 1,000 in-oz, 100 in-lb, 200 in-lb

0.5% FS

1 / 10 000

Nm, mNm, inoz, inlb, ftlb

Up to 200% of the sensor full scale

0.5% of the reading

0.1°

Degree, Revolution

Tr/min, °/s

1 000 Hz

In real time torque and rotational displacement

Through the motor command on the DriveTouch controller

Through the command included with the Califort software

Adjustable from 100Hz to 1000Hz

Windows Vista, Windows 7, Windows 8, Microsoft Word or Open Document for report edition, screen 1024 x 768

General working conditions:

- Working Temperature: 10°C to +35°C

- Humidity: normal condition for laboratory or industrial

- The material testing equipment should be used on a flat, stable and not subject to vibration environment

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AUTOMATED TORSION BENCH DRIVETWIST



ISO 9001 : 2008
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