

cerTEST-W

Type 5413-5322/.. and
5413-5312/..

Testing device for indicating torque/angle wrenches

cerTEST-W is a testing device for fast and precise testing of indicating torque/angle wrenches.

The compact dimensions and its line-independent battery operation enable it to be used directly on the assembly line with mobile testing device Type 5413-5322/...

The stationary testing device Type 5413-5312/.. is designed for grid-bound use.

- Automatic testing of torque/angle wrenches in accordance with the requirements of ISO 5393, VDI/VDE 2647 and VDI/VDE 2645 Part 2 up to 300 N·m with the mobile testing device
- Manual testing of torque/angle wrenches in accordance with the requirements of ISO 5393, VDI/VDE 2647 and VDI/VDE 2645 Part 2 up to 200 N·m
- Automatic testing of torque/angle wrenches in accordance with the requirements of ISO 5393, VDI/VDE 2647 and VDI/VDE 2645 Part 2 up to 800 N·m with the stationary testing device (equipment variant)
- CEUS software platform

Description

The testing device consists of a mobile base unit with wrap-around casing, which holds the drive for the swiveling arm, the hybrid joint simulator, the electronic measurement and control system, a hydraulic unit and, on the mobile testing device, the accumulator.

As an evaluation and operating unit, an optional rotating and tilting industrial PC system with a touchscreen and fold-out keyboard or a notebook on an optional notebook mount is used.

The torque wrenches to be tested are mounted horizontally with the exchangeable swiveling arm with sliding wrench support and coupled to the joint simulator via exchangeable square adapters as specified in DIN 3121.

In order to meet the requirements for a test of the torque/angle wrenches influenced by the possible presence of an extension on the drive side, the joint simulation technology is vertically adjustable to include extensions as well.



cerTEST-W mobile with optional industrial PC (IPC)

The joint simulator with built-in torque and angle sensors and the hydraulic brake system enable an exact simulation of the joint hardnesses required for testing to ensure compliance with standards. This allows torque wrenches to be tested consecutively in different joint simulations as often as required and the gathered data to be documented.

The mobile testing device can be operated via a cord to the power grid, as well as line-independently via a built-in, rechargeable battery.

The stationary testing device is designed for grid operation.

Application

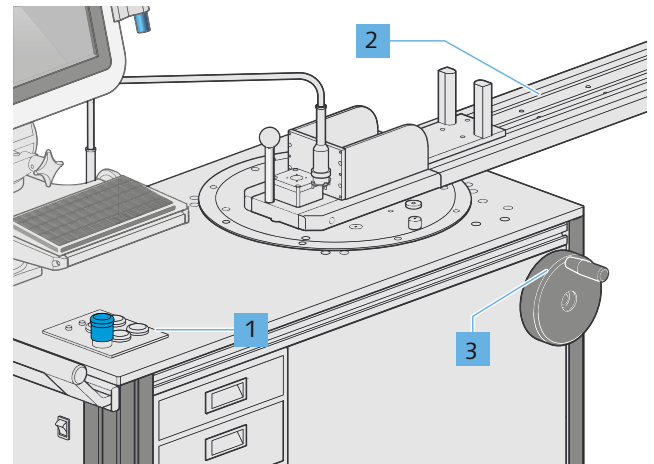
The tool to be tested or a corresponding test specification is selected or set in the Windows CEUS software via the evaluation unit, and the test program/test procedure is started.

During automatic testing of torque/angle wrenches, the swiveling arm is moved – with repeated “ratcheting” or repositioning included – and the joint hardness is simulated with the integrated joint simulator.

During manual testing of torque wrenches the joint simulator is locked, and the load is applied to the wrench through the swiveling arm.

The testing device is controlled by the integrated electronic measurement and control system, so that fast automatic tests with cyclic load application are possible.

All measured values are displayed on screen during testing and are subsequently analyzed by the CEUS software, evaluated according to specifications and used to create the certificate.



cerTEST-W at a glance

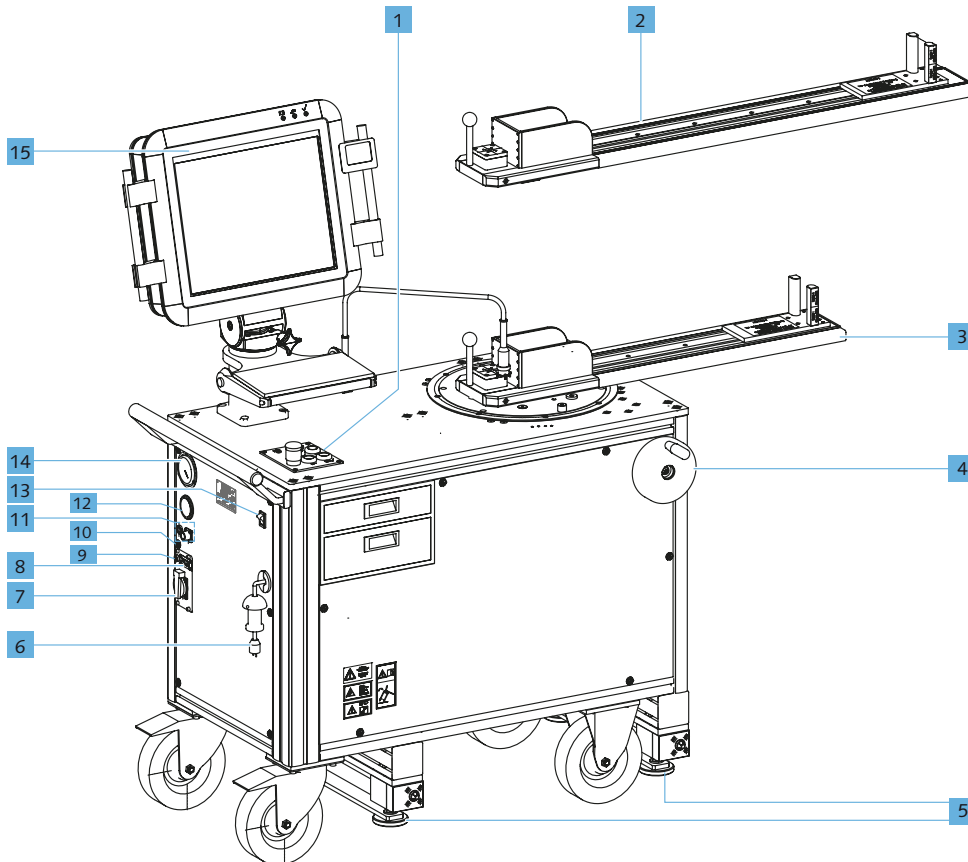
- 1 Operator control panel
- 2 Swivel arm
- 3 Height adjustment hand crank for joint simulator technology

Technical data

Maximum torque	300 N·m for the automatic test procedure 200 N·m for the manual test procedure
Swivel range	~220°
Maximum speed of rotation	2.5 rpm
Maximum wrench length	–
Minimum effective length	205 mm
Maximum effective length	740 mm (swiveling arm 740 mm) 1 050 mm (optional swiveling arm 1 050 mm)
Attainable measurement uncertainty for torque acc. to DIN EN ISO 51309	≤ 1 % of m.v.
Attainable measurement uncertainty and display deviation for angle of rotation (each)	≤ 1 °
Line voltage	230 V +/- 10%
Line frequency	50 Hz/60 Hz
Power consumption	approx. 0.5 kVA
Accumulator	24 V/40 Ah
Operating / Charging time for battery operation	8 hr/8 hr for battery operation
Recommended minimum charging time	1x weekly 14 hr
Degree of protection (DIN EN 60529) cerTEST-W	IP 50
Optional industrial PC (IPC)	IP 51
Protection class (DIN EN 61140)	I
Operating temperature range (nominal temperature range)	10 ... 35 °C
Storage temperature range	-20 ... 70 °C
Air humidity	max. 70%, non-condensing
Weight	approx. 410 kg

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Assembly



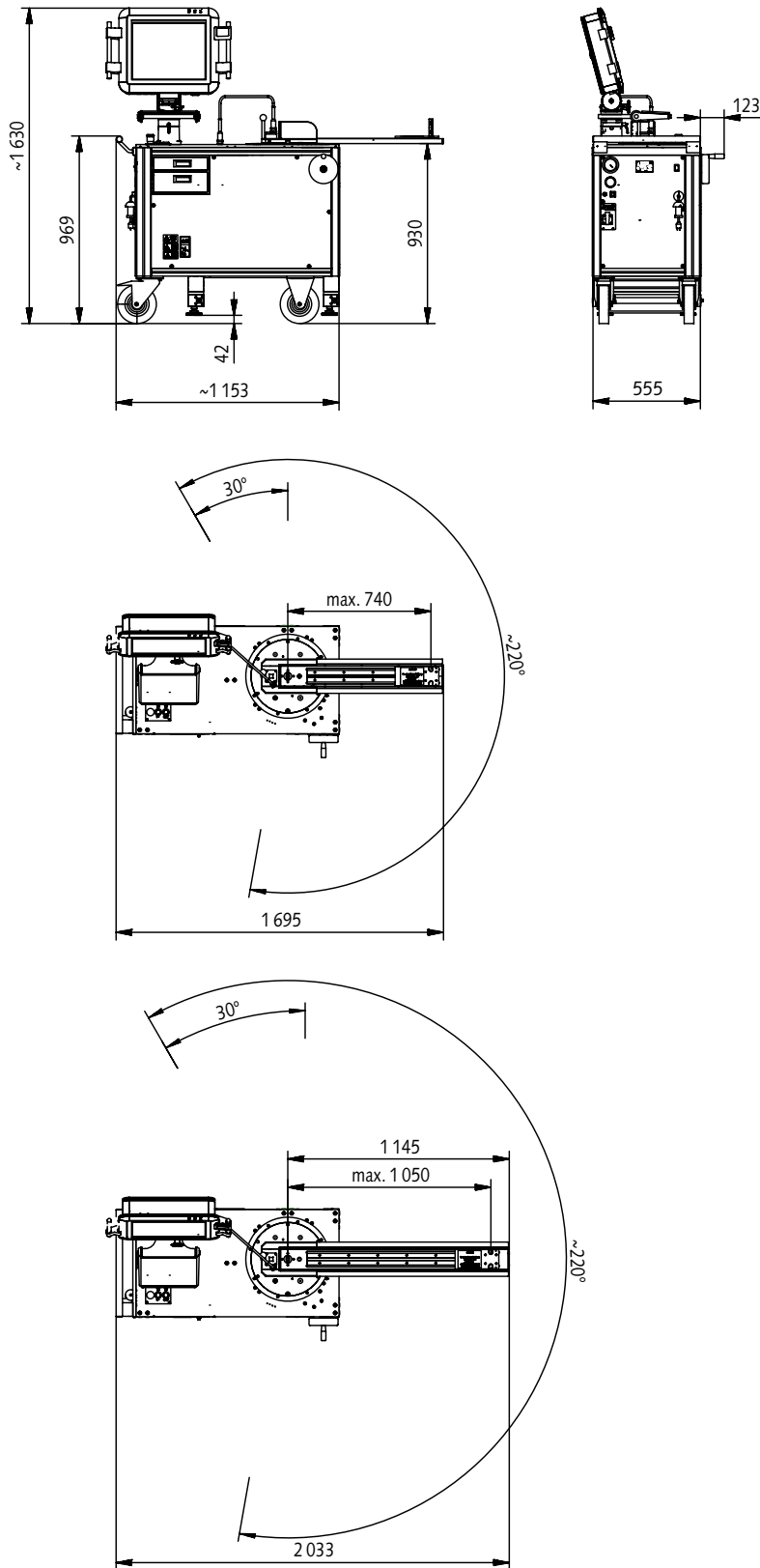
Assembly and connections

- | | |
|--|---|
| 1 Control elements | 9 Socket fuse (optional) |
| 2 Swiveling arm up to 1050 mm (optional) | 10 Connection for external sensors (optional) |
| 3 Swiveling arm up to 740 mm | 11 Connections for external simulators (optional) |
| 4 Height adjustment hand crank for joint simulator technology with foldable handle | 12 Voltage indicator for accumulator |
| 5 Four height-adjustable feet to stabilize the unit during operation | 13 Toggle switch, ON/OFF |
| 6 Power plug | 14 Manometer, hydraulic |
| 7 Socket (optional) | 15 Industrial PC (IPC) (optional) |
| 8 RS-232 interface (optional) | with optional fold-out keyboard and optional touchpad |

Options

- Connections for external joint simulators
- Connections for external sensors
- Swiveling arm up to 1050 mm
- Equipment variant cerTEST-W 800 stationary
- Industrial PC (IPC)
- Notebook mount
- Electric motor drive
- Label printer
- Barcode scanner
- Special custom solutions

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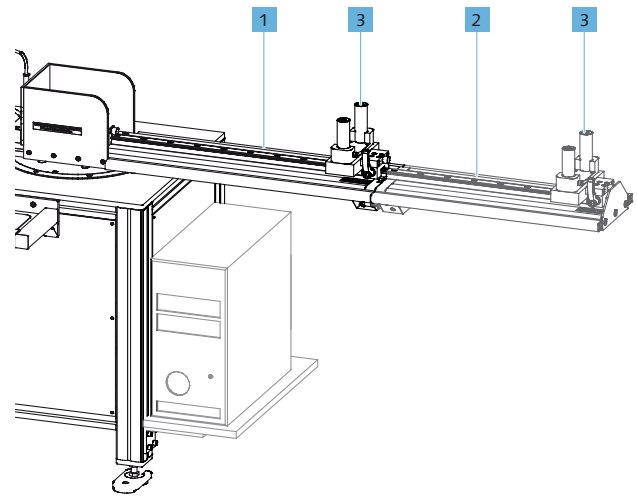
Device dimensions

This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

Equipment variant cerTEST-W 800 stationary

This testing device enables automatic testing of torque/angle wrenches (effective length up to 810 mm or 1 500 mm, respectively).

An optional desktop PC system is used as an evaluation and operating unit.



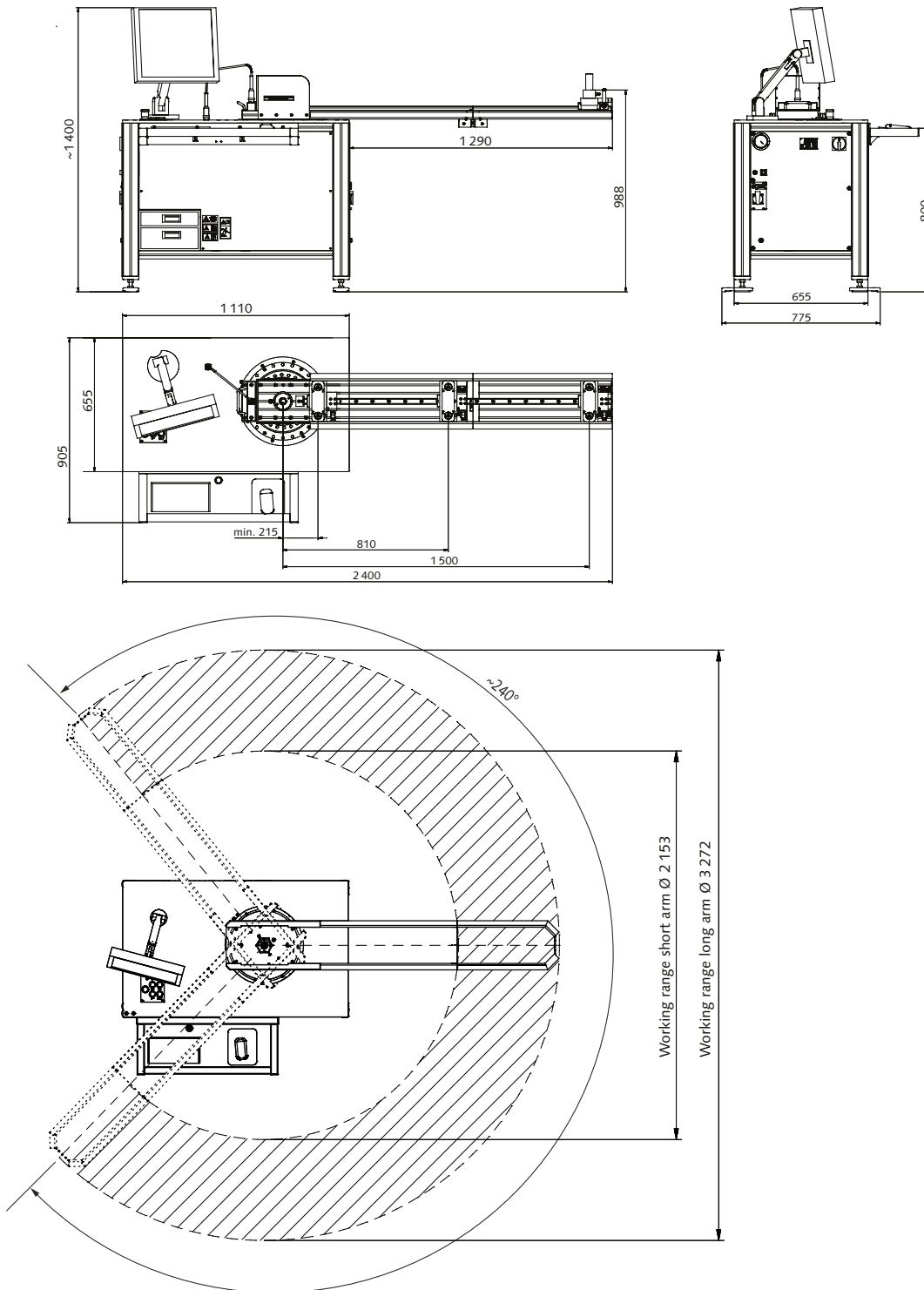
cerTEST-W 800 stationary with swiveling arm extension

- 1 Swiveling arm for wrenches with an effective length of up to 810 mm
- 2 Swiveling arm extension for wrenches with an effective length of up to 1500 mm
- 3 Wrench cradle with wrench support and height-adjustable wrench rest

Technical data

Maximum torque	800 N·m for the automatic test procedure
Swivel range	~240°
Maximum speed of rotation	2.2 rpm
Maximum wrench length	–
Minimum effective length	~215 mm (standard swiveling arm)
Maximum effective length	810 mm (standard swiveling arm) 1500 mm (with swiveling arm extension)
Attainable measurement uncertainty acc. to DIN EN ISO 51309	≤ 1%
Line voltage	230V +/-10%
Line frequency	50 Hz / 60 Hz
Power consumption	approx. 0.5 kVA
Degree of protection (DIN EN 60529) cerTEST-W	IP 50
Optional industrial PC (IPC)	IP 51
Protection class (DIN EN 61140)	I
Operating temperature range (nominal temperature range)	10 ... 35°C
Storage temperature range	-20 ... 70°C
Air humidity	max. 70%, non-condensing
Weight	approx. 450 kg

5413-5322_003-358e-12.20



Device dimensions and working range

5413-5322_003-358e-12.20

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