

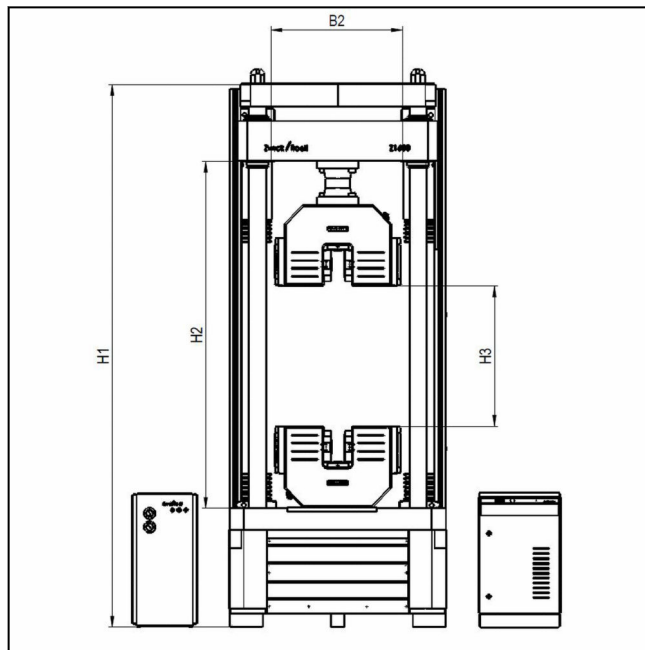
Product Information

Materials testing machine Z1600E with testControl II

CTA: 123154 123153



Z1600E with hydraulic grips



Drawing: Z1600E with hydraulic grips

Advantages and features

Modern load-frame design

- The robust load-frame features four hard-chromed guide-columns and massive base and moving cross-heads, ensuring excellent guidance properties and a high level of machine stiffness.
- Maintenance-free digitally controlled AC drive technology combined with an innovative motor feedback system allows excellent constant speed characteristics to be achieved even at extremely low speeds.
- The backlash-free pre-stressed precision ball-screws with digitally controlled AC servo drive allow virtually maintenance-free operation.
- The large test area combined with low overall height enables specimens and components with a wide range of lengths to be tested.
- The testing machine is positioned directly on the ground with no foundation.

Operator convenience

- Convenient operating height for specimen insertion with grips installed.
- testXpert III's intelligent test environment concept reduces set-up times and increases productivity.

Innovative electronics

- The new testControl II measurement and control electronics provide the ideal basis for precise, reproducible test results.
- Developed in-house by ZwickRoell, the electronics impress through maximum accuracy, high measured-value rates and flexible modularity.

Satisfying the most demanding safety requirements

- Compliance with the statutory safety requirements of the EC Machinery Directive is ensured in all materials testing machines, while an EC Declaration of Conformity accompanies every machine supplied.
- Only the latest safety technology and proven industrial components are used.
- The highest degree of safety for the operator, test results, specimen material, and testing system are guaranteed.

Future-proof

- Modular design means that the testing system can be re-equipped or upgraded whenever required.
- Moreover, testControl II control electronics are compatible with future-generation ZwickRoell software.
- Even after a product has been discontinued, spare parts remain available for a minimum of 10 years.

Product Information

Materials testing machine Z1600E with testControl II

Description	Value	
Load frame		
Paint finish	RAL 7011 iron gray and RAL7038 agate gray	
Ambient temperature	+10 ... +35	°C
Humidity (non-condensing)	20 ... 90	%
Drive		
Motor	AC servo motor with concentrated windings, Hiperface® motor feedback system	
motor holding brake	yes	
Control, set-value specification	digital (real-time Ethernet, EtherCAT®)	
Controller/cycle time	adaptive / 1000	Hz
Repeat positioning accuracy on crosshead	± 1.0	µm
Measurement and control electronics		
Number of slots available for measurement and control module	5 synchronized module bus slots, 1 synchronized PCIe slot ¹⁾	
Force measurement	Class 0.5 from 1% of Fmax / Class 1 from 0.2 % of Fmax, as per EN ISO 7500-1, ASTM E4, JIS B 7721	
Calculated resolution (e.g. load cell in tensile/compression direction)	24	bit
Measured-value sampling-rate, internal	400	kHz
Measured-value transmission rate to PC	500 (optionally 2000)	Hz
Zero-point correction	automatic, at start of measurement	
Measurement signal runtime correction for all channels	yes	
Interface to PC	Ethernet	
Eco mode?	yes, power unit automatically switched off (time adjustable)	
CE compliance?	yes, as per Machinery Directive 2006/42EC	
Electrical supply data		
Mains supply frequency	50/60	Hz
Electrical supply	400 +/- 10 %	V, 3Ph/PE
Power consumption	24.5	kVA

1) A high-quality DCSC measurement module for one load cell is included in delivery (occupies one module bus slot).

Options¹⁾

Description
Display-equipped remote control for testControl II
Measured-value transmission-rate increase from standard 500 Hz to 2000Hz
Add-on table unit for electronics cabinet, with CPU-holder
ZwickRoell extensometer attachment (see catalog)
Front/rear safety device
Lead-screw guard

1) See catalog for item numbers and further details

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Product data

Type	Z1600E	
Item No.	1022551	
Load frame		
Test load F_N in tensile/compression directions	1600	kN
Number of guide columns	4	
Number of lead screws	2	
Stiffness of load frame at $H_2 = 1000$ mm	2200	kN/mm
Height - H1	3969	mm
Width - B1	1620	mm
Depth - T1	1150	mm
Test area width - B2	980	mm
Test area height - H2	2590	mm
Test stroke - H3 (with hydraulic grips)	1048	mm
Weight without accessories	7615	kg
With hydraulic grips	9835	kg
Specific floor load (applied via the machine footprint), with hydraulic grips	3.2	kg/cm ²
Noise level at maximum test speed	<70	dBA
Drive		
Crosshead speed	0.00005 ... 350	mm/min
Increased crosshead return speed (at reduced force)	440	mm/min
Drive travel resolution	0.000167	μm