

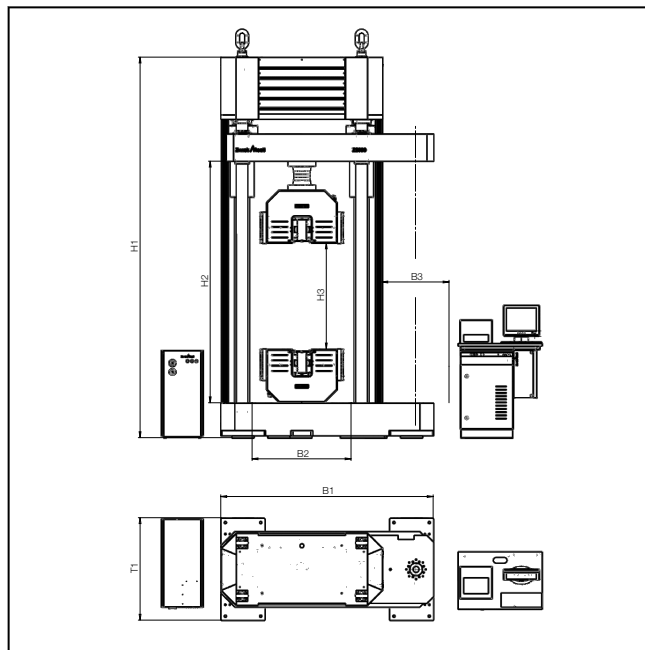
## Product Information

### Z2000ES / Z2500ES materials testing machines with side test-area

CTA: 198968 196424



Z2000ES with hydraulic grips



Drawing: Z2000ES 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.

#### Side test-area

The additional side test-area reduces the need for reconfiguration and re-equipping, saving costs:

- eliminates working time required for alterations to test arrangement
- test-arrangement alignment is preserved
- high level of operator safety and convenience is assured
- maximizes possible applications where space is limited

#### 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.

#### Optimum safety standards

- The statutory safety requirements of the EC Machinery Directive are implemented in all ZwickRoell testing machines and an EC Declaration of Conformity is provided.
- Only the latest safety technology and proven industrial components are used.
- A high level of safety is guaranteed for user, test results, specimen material and testing system.

## Product Information

### Z2000ES / Z2500ES materials testing machines with side test-area

Description	Value
<b>Load frame</b>	
Paint finish	RAL 7011 iron gray and RAL7038 agate gray
Ambient temperature	+10 ... +35 °C
Humidity (non-condensing)	20 ... 90 %
<b>Drive</b>	
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
<b>Measurement and control electronics</b>	
Number of slots available for measurement and control module	5 synchronized module bus slots, 1 synchronized PCIe slot <sup>1)</sup>
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
<b>Electrical supply data</b>	
Mains supply frequency	50/60 Hz
Electrical supply	400 +/- 10 % V, 3Ph/PE
Power consumption	6.5 - 24.5 (see product data p.3) kVA

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

### Options<sup>1)</sup>

Description
testControl II display-equipped remote control
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)
Leveling feet
Front/rear safety device
Lead-screw guard

1) See catalog for item numbers and further details

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Type	Z2000ES	Z2500ES	
Item No.	3003263	3005305	
<b>Load frame</b>			
Test force $F_N$ in tens./comp. direction			
Main test area	2000	2500	kN
Side test-area	600	600	kN
No. of guide columns	4	4	
No. of drive screws	2	2	
Stiffness of load frame at H2 = 1000 mm	1643	1643	kN/mm
Load-frame dimensions			
Height - H1	4310	4310	mm
Width - B1	1950	2405	mm
Depth - T1	1160	1160	mm
Dimensions of main test-area			
Height - H2	2836	2686	mm
Width - B2	1120	1120	mm
Dimensions of side test-area			
Height - H2	2836	2686	mm
Width - B3	750	750	mm
Test stroke - H3 (with hydraulic grips)	1200	1150	mm
Weight without attachments	14300	17000	kg
with hydraulic grips	17000	20600	kg
Specific floor loading (with hydraulic grips)	2.55	3.09	kg/cm <sup>2</sup>
Noise level at maximum test-speed	<70	<70	dBA
<b>Drive</b>			
Crosshead speed	0.0001 to 325	0.0001 to 275	mm/ min
Increased crosshead return speed (at reduced force)	400	350	mm/ min
Displacement resolution of drive	0.000154	0.000154	µm
Power consumption	24.5	24.5	kVA