

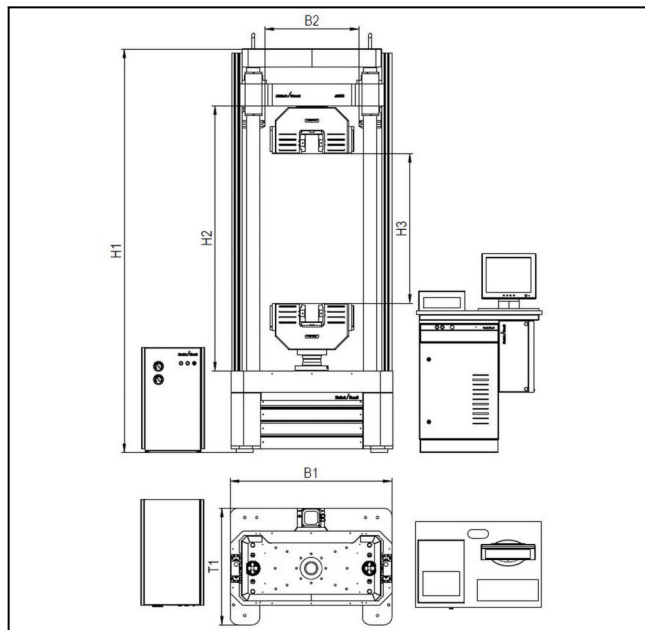
## Product Information

### Materials testing machine Z400E with testControl II

CTA: 66565 66566



Z600E with hydraulic grips



Drawing: Z600E with hydraulic grips

### Advantages and features

#### Modern load frame design

- The robust load frame with four hard chrome-plated guide columns and a solid base crosshead and moving crosshead offer excellent guidance properties and high degree of machine rigidity.
- The drive features maintenance-free, digitally controlled AC drive technology. This is combined with an innovative motor feedback system, allowing excellent constant speed characteristics to be achieved even at extremely low speeds.
- It is possible to test specimens and components with varying lengths thanks to the large test area, which at the same time features a low overall height.

#### Optimum operator convenience

- Ergonomics are top priority when it comes to operating the new materials testing machine.
- The machine is adjustable for optimum ergonomic configuration; modular design allows adaptation as and when required.
- The zero-backlash prestressed precision ball-screws with digitally controlled AC servo drive makes operation that is nearly service-free possible.

#### Innovative electronics

- The new testControl II measurement and control electronics provide the ideal basis for precise, reproducible test results.
- Impressive features include new drive technology, high measured-value acquisition rates, and a modular design (for more information, see page 2).

#### 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 Zwick software.
- Even after a product has been discontinued, spare parts remain available for a minimum of 10 years.

## Product Information

### Materials testing machine Z400E with testControl II

Description	Value
<b>Load frame</b>	
Finish	RAL 7011 iron gray and RAL 7038 Agate gray
Ambient temperature	+10 to +35°C
Humidity (non-condensing)	20 to 90 %
<b>Drive</b>	
Motor	AC servo-motor with concentrated windings, Hiperface® motor feedback system
Break for the motor fixture	Yes
Control, set value preselection	Digital (real-time Ethernet, EtherCAT®)
Controller/cycle time	Adaptive/1000 Hz
Repeat positioning accuracy on crosshead	± 0.5 µm
<b>Measurement and control electronics</b>	
Number of available slots for measurement and control modules	5 synchronized module bus slots, 1 synchronized PCIe slot <sup>1)</sup>
Force measurement	Class 0.5/1, depending on load cell, compliant to DIN EN ISO 7500-1, ASTM E4, JIS B7721
Calculated resolution (e.g., load cell in tensile/compression direction)	24 bit
Measurement value sampling rate, internal	400 kHz
Measurement value transmission rate to PC	500 Hz (optional 2000 Hz)
Zero-point correction	Automatic, at start of measurement
Measurement signal run-time correction for all channels	Yes
Interface to PC	Ethernet
Eco mode	Yes, automatic switch off of power section (time can be set)
CE conformity	Yes, according to Machinery Directive 2006/42/EC
<b>Rated values</b>	
Mains frequency	50/60 Hz
Electrical connection	400 V +/- 10 % (3 Ph, N, PE)
Power consumption	6,5 kVA

1) A high-quality DCSC measurement module is included in the scope of delivery (occupies one module bus slot).

### Options

Description	Item number
Display-equipped remote control for testControl II (with specimen grips control)	<b>1008960</b>
Display-equipped remote control for testControl II (without specimen grips control)	<b>1008955</b>
2,000-Hz measurement value transmission: Increasing the measurement value transmission from 500 Hz to 2000 Hz. The measured values are transmitted and processed to testXpert II.	<b>057860</b>
Table mounting to electronics container with PC support	<b>1004700</b>
Mounting of makroXtens at the rear 90°, can be swiveled 45° at the rear to the left, sensor arm length 300 mm (standard)	<b>1007089</b>
Mounting of makroXtens at the rear 90°, can be swiveled 45° at the rear to the left, sensor arm length 450 mm (when mounting a safety device at the rear)	<b>1007092</b>
Protection for lead screws	<b>Acc. to load frame</b>

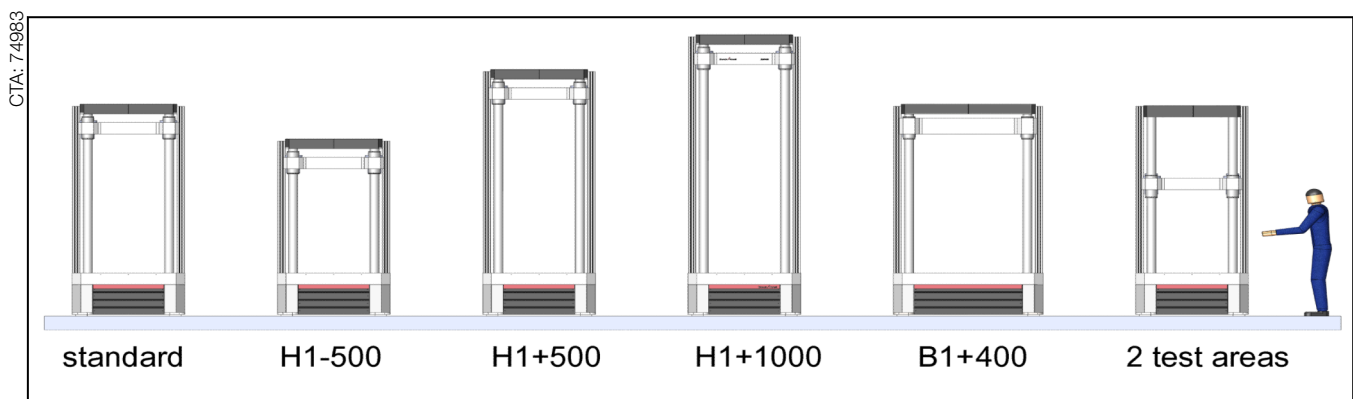
## Product Information

### Materials testing machine Z400E with testControl II

#### Product data

Type	Standard	H1 - 500	H1 + 500	H1 + 1000	B1 + 400	2 test areas	
<b>Item number</b>	<b>1007988</b>	<b>1013457</b>	<b>1013456</b>	<b>1013460</b>	<b>1013466</b>	<b>1005183</b>	
<b>Load frame</b>							
Test load $F_N$ in tensile and compression directions	400	400	400	400	400	400	kN
Number of guide columns	4	4	4	4	4	4	
Number of lead screw drives	2	2	2	2	2	2	
Rigidity of the load frame at $H_2 = 1000$ mm	511	511	511	511	469	511	kN/mm
Height - H1	3036	2536	3536	4036	3036	3010	mm
Width - B1	1120	1120	1120	1120	1520	1120	mm
Depth - T1	720	720	720	720	720	720	mm
Test area width - B2	660	660	660	660	1060	660/620	mm
Test area height - H2	2130	1630	2630	3130	2130	2130	mm
Test stroke - H3 (with hydraulic grips)	1400	900	1900	2400	1400	1400	mm
Weight without accessories	1800	1700	1950	2050	2650	2100	kg
with hydraulic grips	2200	2100	2300	2400	3000	2500	kg
Specific floor loading (with hydraulic grips)	2.6	2.9	2.9	2.9	3.6	3.0	kg/cm <sup>2</sup>
Noise level at maximum test speed	<75	<75	<75	<75	<75	<75	dB(A)
<b>Drive</b>							
Crosshead speed	0.00005 to 400	0.00005 to 400	0.00005 to 400	0.00005 to 400	0.00005 to 400	0.00005 to 400	mm/min
Increased crosshead return speed (at reduced force)	520	520	520	520	520	520	mm/min
Drive system's travel resolution	0.000124	0.000124	0.000124	0.000124	0.000124	0.000124	µm

#### Overview of load frame



**Comment:** For materials testing machines with side test area exist a separate product information.