

Product Information

Table-top machines Z005 up to Z2020 of the Allround-Line



Z2020 TH

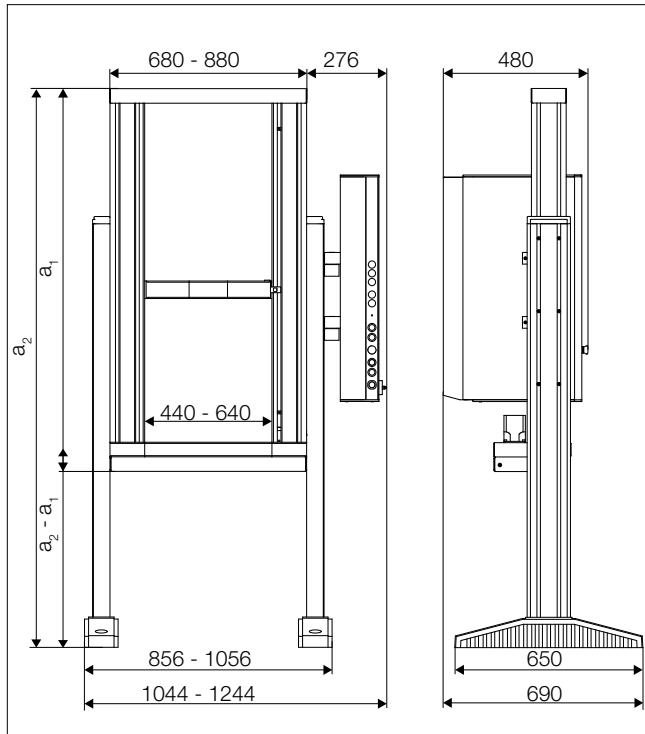


Illustration: Z005 / Z1010 / Z2020 TN (with upright profile)

General advantages of Allround-Line with Zwick testControl II electronics

Modern load-frame design

- Drive is via maintenance-free, digitally controlled AC drive technology, which in combination with the innovative motor feedback system ensures excellent constant velocity properties, even at very low speeds.
- The testing machines are equipped with a patented, flexurally stiff hollow profile with guide cylinder, while long crosshead guides with a large surface area provide extremely precise guidance. This combination minimizes undesirable mechanical influences on the specimen.
- Integral T-slots in the profile ensure flexible mounting options.

High level of operator convenience

- Ergonomics are top priority when it comes to operating the new Allround-Line machine.
- Adjustable for optimum ergonomic configuration; modular design allows adaptation as and when required.
- Adjustable upright profiles plus low base-height enable flexible adjustment of the working area, facilitating wheelchair-friendly operation.

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 high level of modularity (full details on Page 2).

Highest safety standards

Allround-Line guarantees a high degree of protection for user, test results, specimen material and testing system. Only the latest safety technology and proven industrial components are used, while all testing systems comply with the EC Machinery Directive.

Future-proof

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

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Data	Value
Load frame	
Finish	RAL 7021 black grey and RAL 7038 agate grey
Ambient temperature	+10 ... +35 °C
Air humidity (non-condensing)	20 ... 90 %
Drive system	
Motor	AC servo-motor with concentrated windings Hiperface® motor feedback system
Input signal, set-value preset	digital (real-time Ethernet, EtherCAT®)
Controller / Cycle time	adaptive / 1000 Hz
Positioning, repetition accuracy on the crosshead	± 2 µm
Measurement and control electronics	
Number of slots available for measurement and control modules	2 synchronized module bus slots (expandable to 6)* 2 synchronised PCIe slots
Force measurement	grade 0.5 / 1 see load cell, to DIN EN ISO 7500-1, ASTM E4, JIS B7721
Calculated resolution (for example in tensile / compression direction)	24 bits
Effective resolution in tensile / compression direction	20 bits (corresponds to ± 1.000.000 points)
Data acquisition rate, internal	400 kHz
Test data transmission rate to the PC	500 Hz (optional 2000 Hz)
Zero-point correction	automatically at measurement begin
Measurement signal runtime correction for all channels	yes
Interface for PC	Ethernet
Eco Mode	yes, power section automatically switched off (time adjustable)
CE conformity	yes, according to machine guidelines 2006/42/EG
Power ratings	
Mains frequency	50/60 Hz

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

testControl II - options, e.g.

Description	Item number
Option testControl II plus: Activation of four additional slots, for testControl II testing machines.	057983
2000 Hz Online test data transmission: Increasing the test data transmission from 500 Hz (standard) to 2000 Hz. The test data is transmitted to testXpert® II and is processed in real-time.	057860
Display remote control for testControl II for effective, ergonomic operation of the materials testing machine	057984

Options on request, e.g.

- Supplementary crossheads for the additional second test area
- CE-compliant electrically lockable safety shields
- Mounting platforms
- Leg profiles

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Type Item number	Load frame	Test load F_N in tensile / compression direction	5 440	5 440	5 440	5 640	5 640	10 440	10 440	10 640	10 640	kN mm
Z010 TEW 056774⁽¹⁾	Height of the lower test area, without accessories	1030	1430	1785	1000	1400	1030	1430	1785	1000	1400	1755 mm
Z010 THW 056772	Height of the upper test area, without accessories / supplement, crosshead required)	1015	1415	1785	1015	1415	1015	1415	1785	1015	1415	1785 mm
Z010 TNW 056770	Height without leg profiles (a_1)	1314	1714	2084	1324	1724	1314	1714	2084	1324	1724	2094 mm
Z010 TE 056773⁽¹⁾	Height with leg profiles (a_2)	1528 ... 2108	1868 ... 2508	2238 ... 3078	1538 ... 2118	1878 ... 2518	1528 ... 2108	1868 ... 2508	2238 ... 3078	1538 ... 2118	1878 ... 2518	2248 ... 3088 mm
Z010 TH 056771	Width without leg profiles	680	680	680	880	880	680	680	880	880	880	880 mm
Z010 TN 056765	Width with leg profiles (and electronics console)	856 (1044)	856 (1044)	856 (1044)	1056 (1244)	1056 (1244)	856 (1044)	856 (1044)	1056 (1044)	856 (1044)	1056 (1044)	1056 mm
Z005 THW 056767	Depth without leg profiles ⁽³⁾ ⁽⁴⁾	573	573	573	573	573	573	573	573	573	573	573 mm
Z005 TNW 056764	Depth with leg profiles ⁽³⁾	690	690	690	690	690	690	690	690	690	690	690 mm
Z005 TE 056768⁽¹⁾	Overall weight with electronics console, without leg profiles	161	183	205	208	230	163	185	207	210	232	254 kg
Z005 TH 056766	Noise level at maximum test speed	67	67	67	67	67	64	64	64	64	64	64 dB(A)
Drive system												
Z005 TN 056763	Crosshead speed up to 110% of test load ($V_{min} \dots V_{Nom}$)	0.0005 ... 3000	0.0005 ... 3000	0.0005 ... 3000	0.0005 ... 3000	0.0005 ... 3000	0.0005 ... 2000	0.0005 mm/min				
Accuracy of the set speed												
	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	% of set speed
Increased crosshead return speed (at reduced force)												
	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	mm/min
Drive system's travel resolution												
	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0068	0.0068	0.0068	0.0068	0.0068	μm
Power ratings												
Electrical connections ⁽²⁾												
	230 2	230 2	230 2	230 2	230 2	230 2	230 2	230 2	230 2	230 2	230 2	V kV/A
Power rating												

⁽¹⁾ Leg profiles are included in the scope of supply of this testing machine.

⁽²⁾ Power supply: 230 V +/-10% (1Ph, N, PE), 50/60 Hz.

⁽³⁾ Inclusive electronics console.

⁽⁴⁾ Inclusive base support (60 x 30 mm rectangular tube) with 210 mm front overhang.

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Type Item number	Z2020 TN 056775	Z2020 TH 056777	Z2020 TE 056780 ⁽¹⁾	Z2020 TNW 056776	Z2020 THW 056779	Z2020 TEW 056781 ⁽¹⁾	
Load frame							
Test load F _N in tensile / compression direction	20	20	20	20	20	20	kN
Test area width	440	440	440	640	640	640	mm
Height of the lower test area, without accessories	1030	1430	1785	1000	1400	1755	mm
Height of the upper test area, without accessories /supplm. crosshead required)	1015	1415	1785	1015	1415	1785	mm
Height without leg profiles a ₁	1314	1714	2084	1324	1724	2094	mm
Height with leg profiles a ₂	1528 ... 2108	1868 ... 2508	2238 ... 3078	1538 ... 2118	1878 ... 2518	2248 ... 3088	mm
Width without leg profiles	680	680	680	880	880	880	mm
Width with leg profiles (and electronics console)	856 (1044)	856 (1044)	856 (1044)	1056 (1244)	1056 (1244)	1056 (1244)	mm
Depth without leg profiles ⁽³⁾⁽⁴⁾	552	552	552	552	552	552	mm
Depth with leg profiles ⁽³⁾	690	690	690	690	690	690	mm
Overall weight with electronics console, without leg profiles	165	187	209	212	234	256	kg
Noise level at maximum speed	61	61	61	61	61	61	dB(A)
Drive system							
Crosshead speed up to 110% of test load (v _{min} ... v _{Nom})	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 1000	mm/min
Accuracy of the set speed	0.05	0.05	0.05	0.05	0.05	0.05	% of set speed
Increased crosshead return speed (at reduced force)	1500	1500	1500	1500	1500	1500	mm/min
Drive system's travel resolution	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	μm
Power ratings							
Electrical connections ⁽²⁾	230	230	230	230	230	230	V
Power rating	2	2	2	2	2	2	kVA

⁽¹⁾ Leg profiles are included in the scope of supply of this testing machine.

⁽²⁾ Power supply: 230 V +/-10% (1Ph, N, PE), 50/60 Hz.

⁽³⁾ Inclusive electronics console.

⁽⁴⁾ Inclusive base support (60 x 30 mm rectangular tube) with 210 mm front overhang.