

Product Information

Table-top machines Z030 up to Z100 of the Allround-Line



Z100 TEW mit laserXtens HP

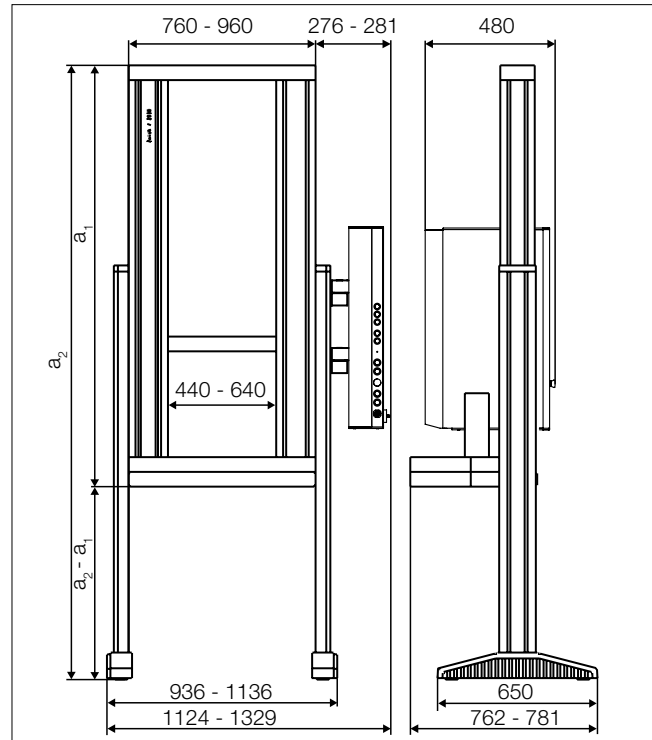


Illustration: Z030 / Z050 TH (with upright profile)

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 <i>testControl II</i> plus: Activation of four additional slots, for <i>testControl II</i> 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 <i>testXpert® II</i> and is processed in real-time.	057860
Display remote control for <i>testControl II</i> 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	Z030 TH	Z030 TE	Z030 THW	Z030 TEW	Z050 TH	Z050 TE	
Item number	056782	056784 ⁽¹⁾	056783	056785 ⁽¹⁾	056787	056789 ⁽¹⁾	
Load frame							
Test load F_N in tensile / compression direction	30	30	30	30	50	50	kN
Test area width	440	440	640	640	440	440	mm
Height of the lower test area, without accessories	1355	1755	1325	1725	1355	1755	mm
Height of the upper test area, without accessories (supplem. crosshead required)	1400	1800	1365	1765	1400	1800	mm
Height without leg profiles (a_1)	1714	2114	1714	2114	1714	2114	mm
Height with leg profiles (a_2)	1829 ... 2694	2229 ... 3094	1829 ... 2694	2229 ... 3094	1829 ... 2694	2229 ... 3094	mm
Width without leg profiles	760	760	960	960	760	760	mm
Width with leg profiles (and electronics console)	936 (1124)	936 (1124)	1136 (1324)	1136 (1324)	936 (1124)	936 (1124)	mm
Depth without leg profiles ^{(3) (4)}	618	618	618	618	618	618	mm
Depth with leg profiles ⁽³⁾	730	730	730	730	730	730	mm
Overall weight with electronics console, without leg profiles	240	260	300	340	240	260	kg
Noise level at maximum test speed	67	67	67	67	61	61	dB(A)
Drive system							
Crosshead speed up to 110% of test load ($v_{min} \dots v_{Nom}$)	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 1000	0.0005 ... 600	0.0005 ... 600	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	1000	1000	mm/min
Drive system's travel resolution	0.0068	0.0068	0.0068	0.0068	0.0041	0.0041	μm
Power ratings							
Electrical connections ⁽²⁾	230	230	230	230	230	230	V
Power rating	2	2	2	2	2.3	2.3	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.

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Type	Z050 THW	Z050 TEW	Z100 THW	Z100 TEW	
Item number	056788	056790 ⁽¹⁾	056791	056792 ⁽¹⁾	
Load frame					
Test load F_N in tensile / compression direction	50	50	100	100	kN
Test area width	640	640	640	640	mm
Height of the lower test area, without accessories	1325	1725	1355	1755	mm
Height of the upper test area, without accessories (supplem. crosshead required)	1365	1765	1400	1800	mm
Height without leg profiles (a_1)	1714	2114	1769	2169	mm
Height with leg profiles (a_2)	1829 ... 2694	2229 ... 3094	1884 ... 2694	2284 ... 3094	mm
Width without leg profiles	960	960	960	960	mm
Width with leg profiles	1136	1136	1136	1136	mm
(and electronics console)	(1324)	(1324)	(1329)	(1329)	mm
Depth without leg profiles ^(3,4)	618	618	707	707	mm
Depth with leg profiles ⁽³⁾	730	730	781	781	mm
Overall weight with electronics console, without leg profiles	300	340	450	470	kg
Noise level at maximum test speed	61	61	73	73	dB(A)
Drive system					
Crosshead speed up to 110% of test load ($v_{min} \dots v_{Nom}$)	0.0005 ... 600	0.0005 ... 600	0.0001 ... 1500	0.0001 ... 1500	mm/min
Accuracy of the set speed	0.05	0.05	0.05	0.05	% of set speed
Increased crosshead return speed (at reduced force)	1000	1000	2500	2500	mm/min
Drive system's travel resolution	0.0041	0.0041	0.0052	0.0052	μm
Power ratings					
Electrical connections ⁽²⁾	230	230	400	400	V
Power rating	2.3	2.3	6	6	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; 400 V +/-10% (3Ph, N, PE), 50/60 Hz.

⁽³⁾ Inclusive electronics console.

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