

## Product Information

Table-top machines Z005 up to Z020 of the AllroundLine

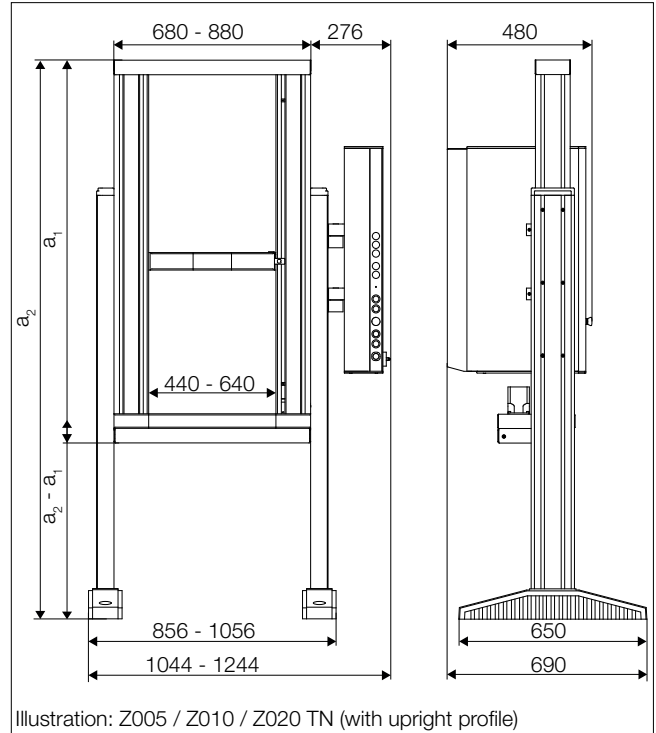


Illustration: Z005 / Z010 / Z020 TN (with upright profile)

### General advantages of AllroundLine 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 materials 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 AllroundLine 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

The statutory safety requirements of the EC Machinery Directive are implemented in all AllroundLine machines, which then receive the EC Declaration of Conformity. Only the latest safety technologies and proven industrial components are used. A very high level of safety is guaranteed for user, test results, specimen material and testing system.

### 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.

## Product Information

### Table-top machines Z005 up to Z020 of the AllroundLine

Data	Value
<b>Load frame</b>	
Finish	RAL 7021 black grey and RAL 7038 agate grey
Ambient temperature	+10 ... +35 °C
Air humidity (non-condensing)	20 ... 90 %
<b>Drive system</b>	
Motor	AC servo-motor with concentrated windings Hiperface® motor feedback system
Motor holding brake	yes
Input signal, set-value preset	digital (real-time Ethernet, EtherCAT®)
Controller / Cycle time	adaptive / 1000 Hz
Positioning, repetition accuracy on the crosshead	± 2 µm
<b>Measurement and control electronics</b>	
Number of slots available for measurement and control modules	2 synchronized module bus slots (expandable to 5)* 1 synchronised PCIe slot
Force measurement	grade 0.5 / 1 see load cell, to DIN EN ISO 7500-1, ASTM E4,
Calculated resolution (for example in tensile / compression direction)	24 bits
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
<b>Power ratings</b>	
Mains frequency	50/60 Hz

\* A high-quality DCSC 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: Expansion of electronics to 6 slots	<b>1008208</b>
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.	<b>057860</b>
Display remote control for testControl II for effective, ergonomic operation of the materials testing machine	<b>057984</b>

#### Options on request, e.g.

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

## Product Information

Table-top machines Z005 up to Z020 of the AllroundLine

Type Item number	Test load $F_N$ in tensile / compression direction	Test area width	Height of the lower test area, without accessories	Height of the upper test area, without accessories /supplem. crosshead (required)	Height without leg profiles (a <sub>1</sub> )	Height with leg profiles (a <sub>2</sub> )	Width without leg profiles	Width with leg profiles (and electronics console)	Depth without leg profiles <sup>(3)</sup> (4)	Depth with leg profiles <sup>(3)</sup>	Overall weight with electronics console, without leg profiles	Noise level at maximum test speed	Drive system	Crosshead speed up to 110% of test load ( $V_{min} \dots V_{Nom}$ )	Increased crosshead return speed (at reduced force)	Drive system's travel resolution	Power ratings	Electrical connections <sup>(2)</sup>	Power rating		
Z010 TEW 1004484 <sup>(1)</sup>	10	640	1755		1785	2094	2248 ...	3088	880	1056	(1244)	573	690	254	64	0.0005	... 2000	3000	0.63663	230	2
Z010 THW 1004482	10	640	1400		1415	1724	1878 ...	2518	880	1056	(1244)	573	690	232	64	0.0005	... 2000	3000	0.63663	230	2
Z010 TNW 1004480	10	640	1000		1015	1324	1538 ...	2118	880	1056	(1244)	573	690	210	64	0.0005	... 2000	3000	0.63663	230	2
Z010 TE 1004483 <sup>(1)</sup>	10	440	1785		1785	2084	2238 ...	3078	680	856	(1044)	573	690	207	64	0.0005	... 2000	3000	0.63663	230	2
Z010 TH 1004481	10	440	1430		1415	1714	1868 ...	2508	680	856	(1044)	573	690	185	64	0.0005	... 2000	3000	0.63663	230	2
Z010 TN 1004479	10	440	1030		1015	1314	1528 ...	2108	680	856	(1044)	573	690	163	64	0.0005	... 2000	3000	0.63663	230	2
Z005 THW 1004477	5	640	1400		1415	1724	1878 ...	2518	880	1056	(1244)	573	690	230	67	0.0005	... 3000	3000	0.95943	230	2
Z005 TNW 1004475	5	640	1000		1015	1324	1538 ...	2118	880	1056	(1244)	573	690	208	67	0.0005	... 3000	3000	0.95943	230	2
Z005 TE 1004478 <sup>(1)</sup>	5	440	1785		1785	2084	2238 ...	3078	680	856	(1044)	573	690	205	67	0.0005	... 3000	3000	0.95493	230	2
Z005 TH 1004476	5	440	1430		1415	1714	1868 ...	2508	680	856	(1044)	573	690	183	67	0.0005	... 3000	3000	0.95493	230	2
Z005 TN 1004473	5	440	1030		1015	1314	1528 ...	2108	680	856	(1044)	573	690	161	67	0.0005	... 3000	3000	0.95943	230	2

<sup>(1)</sup> Leg profiles are included in the scope of supply of this materials testing machine.

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

<sup>(3)</sup> Inclusive electronics console.

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

## Product Information

### Table-top machines Z005 up to Z020 of the AllroundLine

Type	Z020 TN	Z020 TH	Z020 TE	Z020 TNW	Z020 THW	Z020 TEW	
Item number	1004485	1004487	1004489 <sup>(1)</sup>	1004486	1004488	1004490 <sup>(1)</sup>	
<b>Load frame</b>							
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 /supplem. 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 <sup>(3,4)</sup>	552	552	552	552	552	552	mm
Depth with leg profiles <sup>(3)</sup>	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)
<b>Drive system</b>							
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
Increased crosshead return speed (at reduced force)	1500	1500	1500	1500	1500	1500	mm/min
Drive system's travel resolution	0.32495	0.32495	0.32495	0.32495	0.32495	0.32495	nm
<b>Power ratings</b>							
Electrical connections <sup>(2)</sup>	230	230	230	230	230	230	V
Power rating	2	2	2	2	2	2	kVA

<sup>(1)</sup> Leg profiles are included in the scope of supply of this materials testing machine.

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

<sup>(3)</sup> Inclusive electronics console.

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