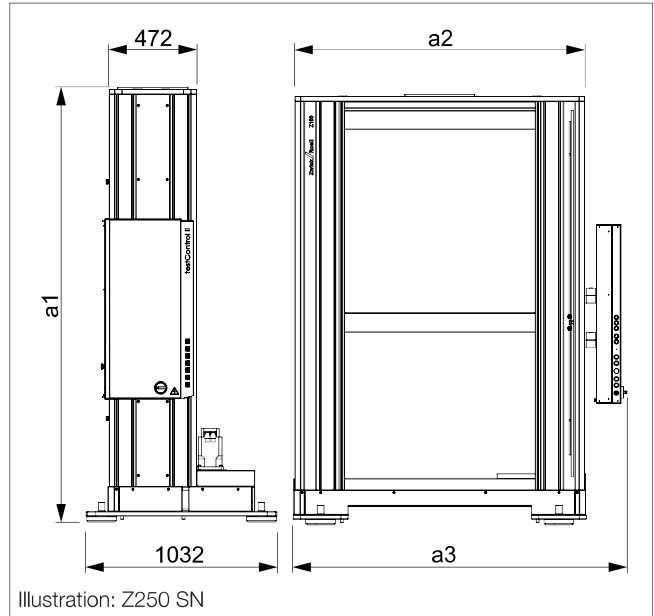


## Product Information

AllroundLine Z250 SN/SW/SH/SE materials testing machines



### General advantages of AllroundLine with Zwick testControl II electronics

#### Modern load-frame design

- Drive is via maintenancefree, digitally controlled AC drive technology, which in combination with the innovative motor feedback system ensures excellent constant velocity properties, even at very low speeds.
- Robust component dimensioning and precise crosshead guidance ensure high machine stiffness and prevent undesired mechanical influences on the specimen.
- CE-compliant protective panes with mechanical interlocks protect the operator from specimen fragments and pinching
- Reliable test results are ensured by secure and precise mounting of the extensometer to the machine.

#### High level of operator convenience

- Ergonomic operation is the key feature of the new AllroundLine machine. Easily adjustable crossheads make it possible to bring the test area to an ergonomic height.
- The testing system's modular features, such as a second test area or the plug and T-slot system, make the workstation comfortable for the tester. Only one machine is required to quickly and easily accommodate the test task at hand.

- Base design features damping elements with leveling facility plus space for lift truck access - easily adapted to suit the installation site.

#### 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

### AllroundLine Z250 SN/SW/SH/SE materials testing machines

Data	Value
<b>Load frame</b>	
Finish	RAL 7021 and RAL 7038
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
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
Electrical connections	400V +/-10% (3Ph, N, PE)

\* 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 Zwick testing software, 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

## Product Information

### AllroundLine Z250 SN/SW/SH/SE materials testing machines

Type	Z250 SN	Z250 SW	Z250 SH	Z250 SE	
Item number	1031325	1035023	1035024	1032996	
<b>Load frame</b>					
Test load $F_N$ in tensile / compression direction	250	250	250	250	kN
Height ( $a_1$ )	2340 ... 2360	2340 ... 2360	2840 ... 2860	3140 ... 3160	mm
Width ( $a_2$ )	1200	1600	1200	1200	mm
Width with electronics console ( $a_3$ )	1420	1820	1420	1420	mm
Depth	1032	1032	1032	1032	mm
Test area width <sup>(1)</sup>	640	1040	640	640	mm
Test area height <sup>(2)</sup>					
P 1: upper, crosshead top	1675	1615	-	-	mm
P 2: lower, crosshead top	1715	1655	-	-	mm
P 3: lower, crossh. bottom	1655	1595	2260	2560	mm
P 4: upper & lower, with additional crosshead	1540	1440	2175	2475	mm
Overall weight with electronics	1500	2100	1455	1510	kg
Noise level at maximum test speed	70	70	70	70	dB (A)
<b>Drive system</b>					
Crosshead speed up to 110% of test load ( $v_{min}$ ... $v_{Nom}$ )	0,00005 ... 600	0,00005 ... 600	0,00005 ... 600	0,00005 ... 600	mm/min
Increased crosshead return speed (at reduced force)	1000	1000	1000	1000	mm/min
Drive system's travel resolution	0,19227	0,19227	0,19227	0,19227	nm
<b>Power ratings</b>					
Power rating	6	6	6	6	kVA

<sup>(1)</sup> Test area width: Clearance between the profiles.

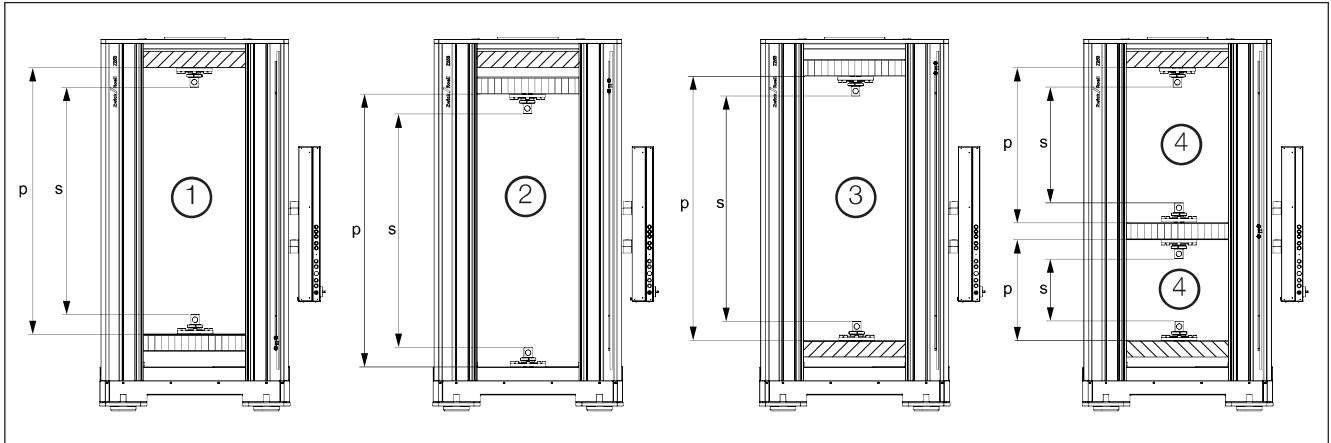
<sup>(2)</sup> Test area height: the max. distance of the moving crosshead to the upper, i.e. lower crosshead, without any mountings.

<sup>(1)(2)</sup> A description to these dimensions on next page.

## Product Information

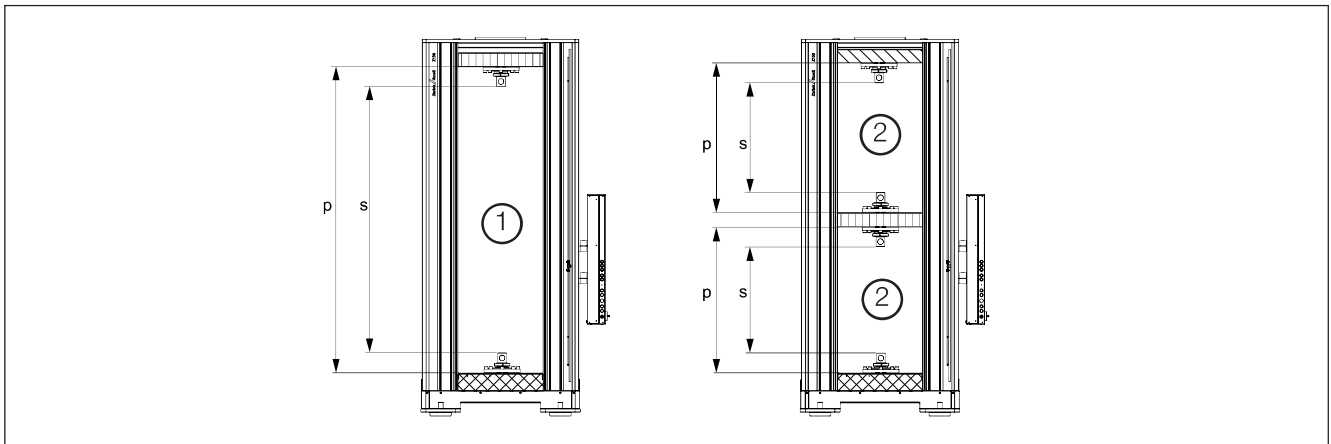
AllroundLine Z250 SN/SW/SH/SE materials testing machines

### Schematic showing SN/SW



- 1 Basic version P1: height-adjustable crosshead above moving crosshead (upper test area)
- 2 Basic version P2: height-adjustable crosshead above moving crosshead (lower test area), limited Fmax
- 3 Installation option P3: existing height-adjustable crosshead installed below moving crosshead (lower test area)
- 4 Version with additional crosshead P4: additional height-adjustable crosshead or mounting platform installed (upper and lower test areas)1)
- s Maximum moving crosshead travel s is calculated from the difference in test area height P (P1 to P4, see table „Technical data“) and the sum of the installed dimensions of all the accessories E:  $s = P - E$
- s1  $s = P1 - E$
- s2  $s = P2 - E$
- s3  $s = P3 - E$
- s4  $s = P4 - E$
- P Test area height P (P1 to P4, see table „Technical data“)

### Schematic showing SH/SE



- 1 Basic version P3: moving crosshead above nominal force capacity base crosshead (lower test area)
- 2 Version with additional crosshead P4: additional height-adjustable crosshead or mounting platform installed (upper and lower test areas)1)
- s Maximum moving crosshead travel s is calculated from the difference in test area height P (P3 to P4, see table „Technical data“) and the sum of the installed dimensions of all the accessories E:  $s = P - E$
- s1  $s = P3 - E$
- s2  $s = P4 - E$
- P Test area height P (P3 to P4, see table „Technical data“)

Legend	
	Adjustable crosshead
	Moving crosshead
	Additional, adjustable crosshead / mounting platform