

Product Information

AllroundLine Z250 SR Materials Testing Machine

CTA: 179306 179306



AllroundLine Z250 SR with makroXtens

Compact materials testing machine with one test area, including base

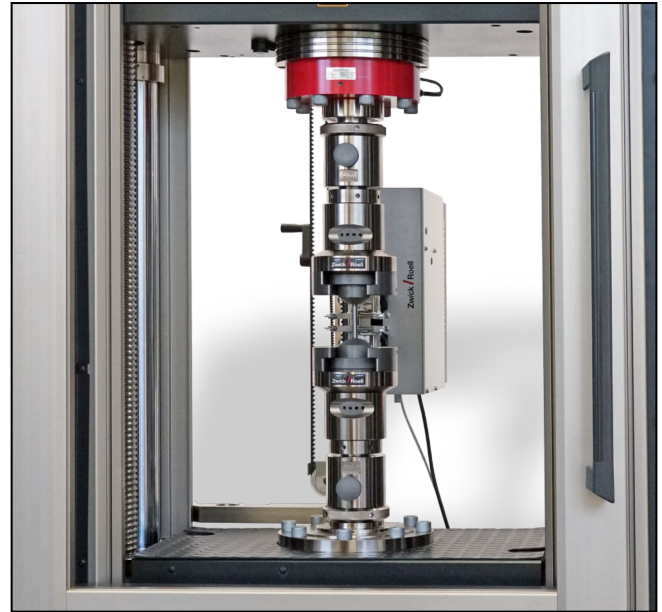
The Z250 SR is an AllroundLine materials testing machine with a fixed lower test area capable of being loaded to full capacity. The package includes a self-supporting base with leveling damping elements. The base increases the height of the materials testing machine by 505 mm and leaves free space for transporting the materials testing machine.

Modern load frame design

- 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.
- Precise crosshead guidance ensures high machine stiffness and prevents undesired mechanical influences on the specimen.
- CE-compliant protective panes with mechanical interlocks protect the operator from specimen fragments and pinching hazards.
- Robust and precise attachment of the extensometer to the machine ensures reliable test results.

Innovative electronics

The new testControl II measurement and control electronics provide the ideal basis for precise, reproducible test results. Impressive features include new drive



AllroundLine Z250 SR with makroXtens (detail view)

technology, high measured-value acquisition rates, and modular design.

Extremely operator-friendly

- This modular testing system with its plug and T-slot system provides a convenient working environment, enabling rapid, highly flexible adaptation to the current testing situation while using only one machine.
- The base features leveling damping units and clear space for a lift-trolley, allowing easy adaptation to suit the installation site.

Optimum safety standards

The statutory safety requirements of the EC Machinery Directive are implemented in all ZwickRoell testing machines and an EC Declaration of Conformity accompanies every machine. Only the latest safety technology and proven industrial components are used. An extremely 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, testControl II control electronics are compatible with future-generation ZwickRoell software. Even after a product has been discontinued, spare parts continue to be available for a minimum of 10 years.

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Technical data

Description	Value	
Type	Z250 SR	
Item No.	1035022	
Test load F_{\max}	250	kN
Test area		
Height	Maximum distance from the moving crosshead to the height-adjustable crosshead or base crosshead, without any accessories	
Lower test area	1360	mm
Width	640 ¹⁾	mm
Load frame		
Dimensions		
Height	2445 ... 2465	mm
Width	1200	mm
Width with machine electronics	1420	mm
Depth	1032	mm
Weight		
With machine electronics, approx.	1550	kg
Finish	RAL 7021 and RAL 7038	
Ambient temperature	+10 ... +35	°C
Relative humidity (non-condensing)	20 ... 90	%
Average noise level at v_{\max} measured at 1 m distance from the front of the machine	70	dB(A)
Drive system		
Motor	AC servo motor with concentrated windings, Hiperface® motor feedback system	
Control, set value preselection	Digital (real-time Ethernet, EtherCAT®)	
Crosshead speed v_{\min} ... v_{\max}	0.00005 ... 600	mm/min
Crosshead return speed, max.	1000 ²⁾	mm/min
Deviation from the set drive speed, max.	0.05	% of v_{actual}
Drive travel resolution	0.192273	nm
Positioning repeatability (without reversal of direction)	±2.0	µm
Controller	Adaptive	
Cycle time	1000	Hz
Power input specifications		
Version	4	kW
Power supply	400	V, 3Ph/N/PE
Permissible voltage fluctuation	±10	%
Power consumption (full load), approx.	6	kVA
Power frequency	50/60	Hz

1) Clearance between the profiles

2) Values apply to machines with the safety doors closed in automatic mode and to machines without safety devices. For machines with the safety door open, the speed is reduced to 600 mm/min.

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Description	Value
Machine electronics	
Number of available slots for measurement and control modules:	
Synchronized module bus slots	2 (expandable to 5) ¹⁾
Synchronized PCIe slots	1
Force measurement	Class 0.5/1, depending on load cell, compliant to DIN EN ISO 7500-1, ASTM E4
Measurement range	Up to 165% of Fmax
Calculated resolution (e.g., load cell in tensile/compression direction)	24 bit
Effective resolution in tensile/compression direction:	
DCSC module	19 bits (corresponds to $\pm 524,000$ points)
USC module	20 bits (corresponds to $\pm 1,000,000$ points)
Measured value recording rate	400 kHz
Measurement value transmission rate to PC	500 (optional 2000) Hz
Zero-point correction	Automatic, at start of measurement
Measurement signal, runtime correction	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/EG

¹⁾ A DCSC module is included in the scope of delivery (occupies one module slot).