

ZwickMaterials Testing

Product Information

Materials testing machine with ball lead screw drive Z330E / Z330RED



Figure: Zwick Z330E with hydraulic grips

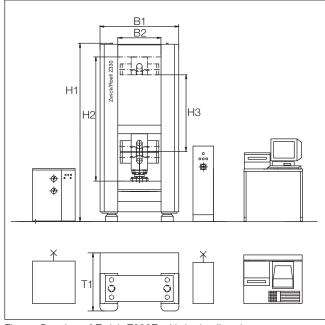


Figure: Drawing of Zwick Z330E with hydraulic grips

Key benefits

- These electro-mechanical materials testing machines are fitted with a ball lead screw drive.
- Wide measuring range allows precise determination of even small test loads without re-tooling.
- Long travel combined with comparatively low buildheight provides trouble-free specimen clamping and user-friendly testing over a wide range of specimen lengths.
- Low-maintenance, pre-stressed ball lead screws ensure accurate, long-term tensile and compression testing.

Z330RED compact version

- The Z330RED is a variant of the Z330E with fixed lower test area. The package includes a stable base with levelling damper units.
- A cost-effective alternative to the Z330E for applications not requiring a large test area.

Further advantages and features

- The load frame is robust and extremely stiff.
- Standard tests using Zwick *testXpert*® software require only single-button operation.
- Modular design throughout the system allows the entire Zwick accessory range to be used, including a wide variety of extensometers, specimen grips and other test tools.
- Should new test requirements arise, additional test tools (e.g. calibration blocks) are easily installed via a T-slot or screw system.
- Can be tailored to customers' specific requirements (e.g. test area dimensions, test devices, specimen grips, test speed ranges, testing software).



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The content of the columns	Model	Z330E	Z330RED
Number of lead columns (Number of lead columns (Number of drive columns (ball lead screws) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Fmax [kN]	330	330
Number of drive columns (ball lead screws) 2 2 2 2 2 2 2 2 2	[lb]	74000	74000
Stiffness of load frame Crosshead deflection and elongation of lead screw drive approx. [kN/mm] 450	Number of lead columns	4	4
Crosshead deflection and elongation of lead screw drive approx. [kN/mm] 450 450 including load cell, hydraulic grips and drive approx. [kN/mm] 200 200 200 200 200 200 200 200 200 20	Number of drive columns (ball lead screws)	2	2
including load cell, hydraulic grips and drive approx. [kN/mm] 200 200 Dimensions of load frame H1 - Height [mm] 2600 2600 B1 - Width [mm] 1145 1145 T1 - Depth [mm] 845 845 Base - 505 Dimensions of test area H2 - Height [mm] 1800 1550 B2 - Width [mm] 630 630 Test stroke max. without tools / specimen grips [mm] 1630 1380 H3 - with hydraulic grips 8595 (including load cell) [mm] 1115 865 H4 - with wedge grips 8590 (including load cell) [mm] 835 560 Test speed [mm/min] 0,001 - 250 0,001 - 250 Weight without tools / specimen grips (with electronics) [kg] 2000 1700 with specimen grips [kg] 2000 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [µm/Impuls] 0,0035 0,0035 Position accuracy [µm] 0,5349 039754 Item no. I central test area	Stiffness of load frame		
Dimensions of load frame	crosshead deflection and elongation of lead screw drive approx. [kN/mm]	450	450
H1 - Height [mm] 2600 2600 2600 B1 - Width [mm] 1145 1145 1145 T1 - Depth [mm] 845	including load cell, hydraulic grips and drive approx. [kN/mm]	200	200
B1 - Width [mm]	Dimensions of load frame		
T1 - Depth [mm]	H1 – Height [mm]	2600	2600
Base	B1 – Width [mm]	1145	1145
Dimensions of test area H2 - Height [mm]	T1 - Depth [mm]	845	845
H2 - Height [mm]	Base	_	505
B2 - Width [mm] 630 630 Test stroke max.	Dimensions of test area		
Test stroke max. without tools / specimen grips [mm] 1630 1380 H3 – with hydraulic grips 8595 (including load cell) [mm] 1115 865 H4 – with wedge grips 8520 (including load cell) [mm] 835 560 Test speed [mm/min] 0.001 – 250 0.001 – 250 Weight without tools / specimen grips (with electronics) [kg] 2000 1700 with specimen grips [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [µm/lmpuls] 0.0035 0.0035 Position accuracy [µm] 0.5 0.5 Item no. 035349 039754 (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	H2 – Height [mm]	1800	1550
without tools / specimen grips [mm] 1630 1380 H3 – with hydraulic grips 8595 (including load cell) [mm] 1115 865 H4 – with wedge grips 8520 (including load cell) [mm] 835 560 Test speed [mm/min] 0.001 – 250 0.001 – 250 Weight without tools / specimen grips (with electronics) [kg] 2000 1700 with specimen grips [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [µm/Impuls] 0.0035 0.0035 Position accuracy [µm] 0.5 0.5 Item no. 1 central test area • 035349 • 039754	B2 – Width [mm]	630	630
H3 – with hydraulic grips 8595 (including load cell) [mm] 1115 865 H4 – with wedge grips 8520 (including load cell) [mm] 835 560 Test speed [mm/min] 0.001 – 250 0.001 – 250 Weight without tools / specimen grips (with electronics) [kg] 2000 1700 with specimen grips [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [μm/lmpuls] 0.0035 0.0035 Position accuracy [μm] 0.5 0.5 Item no. (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Test stroke max.		
H4 – with wedge grips 8520 (including load cell) [mm] 835 560 Test speed [mm/min] 0.001 – 250 0.001 – 250 Weight	without tools / specimen grips [mm]	1630	1380
Test speed [mm/min] 0.001 - 250 0.001 - 250 Weight 2000 1700 without tools / specimen grips (with electronics) [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [µm/lmpuls] 0.0035 0.0035 Position accuracy [µm] 0.5 0.5 Item no. 0.35349 • 039754 1 central test area • 035349 • 039754 (BYC-F0330EN.R04-001) (BPC-F0330ER.R04)	H3 – with hydraulic grips 8595 (including load cell) [mm]	1115	865
Weight 2000 1700 without tools / specimen grips (with electronics) [kg] 2000 1700 with specimen grips [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [μm/lmpuls] 0.0035 0.0035 Position accuracy [μm] 0.5 0.5 Item no. 035349 • 039754 1 central test area (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	H4 – with wedge grips 8520 (including load cell) [mm]	835	560
without tools / specimen grips (with electronics) [kg] 2000 1700 with specimen grips [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [µm/lmpuls] 0.0035 0.0035 Position accuracy [µm] 0.5 0.5 Item no. 035349 • 039754 (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Test speed [mm/min]	0.001 - 250	0.001 - 250
with specimen grips [kg] 2600 2300 Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [μm/lmpuls] 0.0035 0.0035 Position accuracy [μm] 0.5 0.5 Item no. * 035349 • 039754 1 central test area (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Weight		
Specific floor loading [kg/cm²] 4 4 Resolution of crosshead travel [μm/lmpuls] 0.0035 0.0035 Position accuracy [μm] 0.5 0.5 Item no. • 035349 • 039754 (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	without tools / specimen grips (with electronics) [kg]	2000	1700
Resolution of crosshead travel [µm/Impuls]	with specimen grips [kg]	2600	2300
Position accuracy [µm] 0.5 0.5 Item no. • 035349 • 039754 1 central test area (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Specific floor loading [kg/cm²]	4	4
Item no. • 035349 • 039754 (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Resolution of crosshead travel [µm/Impuls]	0.0035	0.0035
1 central test area • 035349 • 039754 (BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Position accuracy [µm]	0.5	0.5
(BXC-F0330EN.R04-001) (BPC-F0330ER.R04)	Item no.		
	1 central test area	• 035349	• 039754
2 test areas 1 • 019214		(BXC-F0330EN.R04-001)	(BPC-F0330ER.R04)
*****	2 test areas ¹	• 019214	
(BXC-F0330EN.K04-001)		(BXC-F0330EN.K04-001)	

Environmental conditions	
Operating temperature [°C]	+10 +35
Storage temperature [°C]	-25 +55
Humidity range (not condensing) [%]	< 90
Electrical connection	
Mains voltage 3 Ph/N/PE ²³ [V]	400
Mains frequency [Hz]	50 / 60
Drive power	
without specimen grips [kVA]	6
with hydraulic grips [kVA]	9
Fuse [kW]	16
Noise level at 1m distance [dB(A)]	< 65
Color coating of rack	RAL 7011 (iron gray), RAL 7038 (agate gray)

¹ With 2 test areas the height of the test area, the crosshead travel and the weight changes

 $^{^2}$ Three phase AC motor (L1, L2, L3), neutral wire N, protective earth PE $^3<\pm$ 10 % related to the mains voltage