

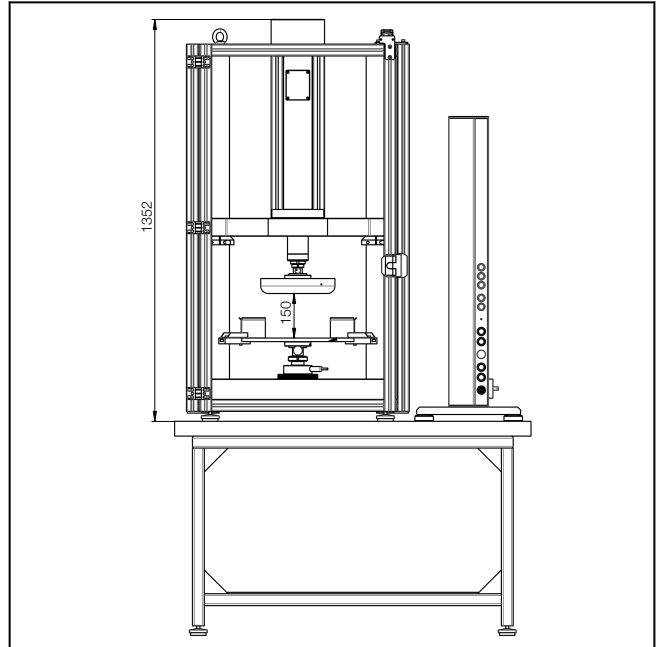
Product Information

Dynamic fatigue test bench for soft elastic foams

CTA: 131482 216687



Dynamic fatigue test bench 5 kN



Drawing: Dynamic fatigue test bench

Function description

Fatigue tests on flexible polymer foams are performed in accordance with the relevant standards, e.g. ISO 3385 and ASTM D3574, or as per automotive manufacturers' specifications.

The test consists of three parts.

- First the thickness and indentation hardness of a conditioned foam specimen are measured.
- Next comes the actual fatigue loading, which, depending on the specification, can comprise between 8,000 and 150,000 load cycles.
- In the next stage of the test the reduction in thickness and the indentation hardness loss are measured.

The test result provides information on the mechanical fatiguing of the foam, for example how fatigue occurs in a motor vehicle seat cushion during use. The key element of the test bench is an electro-mechanical testing actuator which generates the required load at speeds of up to 30m/minute. Built-in force measurement linked to the testControl measurement and control electronics ensures that the prescribed force limits are adhered to exactly during the test.

However, the test bench can do more than just run fatigue cycles. Equipped with the appropriate compression platens or indenters, it can also determine indentation hardness or compression stress value, effectively functioning as a testing machine.

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Technical data

Electro-mechanical testing actuator	EZ001	EZ005	
Fmax (tensile/compression)	1	5	kN
Test speed, max.	30.000	30.000	mm/min
	500	500	mm/s
Resolution of position	19.07	9.54	nm
Repetition accuracy of position	± 6	± 8	µm
Overall weight, ca.	220	395	kg
Piston stroke, max.			
standard	180	200	mm
alternative	380	400	mm
Ambient temperature	+10 ... +35	+10 ... +35	°C
Air humidity	20 ... 90	20 ... 90	%

Digital measurement and control electronics			
Acquisition rate, internal	400	400	kHz
Transmission rate to PC, adjustable	500 (optional 2000)	500 (optional 2000)	Hz
Electrical connections (PH, N, PE)	230 (50/60 Hz)	400 / 3 Ph (50/60 Hz)	V