

Lever Arm Creep Testing Machines Series CTM 10 – 50 kN

This machine has been designed for determining the creep strength of materials according to the strain-time (standard tests) or with optional accessories according to the load-time (relaxation tests) method. The constant load application is done through a lever arm system with the gravity of dead weights.

The specimen placed within the furnace of the testing machine is subjected to a constant tensile load, whereby the extension undergone by the test piece due to the heating up is recorded as a function of the time. The specimen is introduced into the machine in a vertical position and is gripped at both ends by means of specimen holders (adapters). The upper pull-rod is fixed to the lever where from one end of the lever arm the loading shackle is suspended to the dead weights.

The lever ratio being 1:25. The nulling (zeroing) of the load train mass is provided by adjustable counter balance. The lever arm includes hardened vee-block design providing low stress and minimum deflection, resulting in a maximum linear knife edge contact with four-position knife edge for easy rotation and replacement of worn edges. The rotatable knife edge with 4 balancing edges provides 4 times the life.

The lower end of the loading shackle is provided with a damper in order to prevent the shackle with the weights from being dropped abruptly at fracture of the specimen. Shocks which could be transmitted to the vicinity of the creep tester are therefore completely absorbed. The machine is equipped with upper elastic hinge and adapters with spherical seat to accommodate the pull-rods for optimized alignment according to ASTM E292 and other international standards.



Motorized Lever Arm Drive System

Designed to adjust automatically the lever arm to the horizontal position by using proximity switches ensuring a precise lever arm ratio and precise constant load on the specimen (draw head assembly).

Control and Data Acquisition System

This system provides the creep testing machine with the capability of automatically step loading the specimen without operator intervention and data acquisition of extensometer and / or other measuring channels (option) at various temperatures.

Option for Load-Time Method (Relaxation Test)

Accessories including loading shackle with load cell for force data acquisition.

w+b Materials Testing Systems

Specifications

Accuracy	In accordance with ISO 7500-1 and EN 10002-2, Grade 1.
Control	2-Point Automatic Adjustment
Tests	Standard Strain-Time - Standard Test Option Load-Time - Relaxation Test
Lever Arm Ratio	25 : 1
Weights	in Steps for 25 N loads (corresponding weight of 1 N)
Spindle Stroke	Standard: 150 mm. Others available upon request.
Power Requirements	230 V, 50 Hz. with High Temperature Furnace 3 x 400 V, 50 Hz.

Type CTM		50
Test Load Static max.	kN	10, 20, 30, 50 (depending on weights ordered)
Test Speed	mm/min	2.88
Spindle Stroke (Kh)	mm	150
Vertical Test Space max. (Ph)	mm	600
Space between Columns (LW)	mm	440 x 440
Column Diameter (Sd)	mm	60
Working Height (A)	mm	800
Width (B)	mm	1616
Depth (T)	mm	1140
Height (H)	mm	2100
Weight	kg	900
Frame Stiffness	kN/mm	150

