



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai - 400076

PR NO.1000021523

Rfx NO.6100001076

Technical Specification

Computerized creep testing machine capacity 50kN

Sr	Description	Specifications
1.0	General Features	
1.1	Machine	Machine with loading frame & integral control cabinet
1.2	Capacity	50kN
1.3	Loading Frame	Free standing loading frame optimizes laboratory floor space Load will be applied to the specimen through a single –lever arm with lever arm made from solid block with the lever ratio of 20:1 and with a load accuracy of +/- 0.5% or better
1.4	Furnace	Furnace as per IS 1528 Part II:2011 Outer diameter: 400 mm to 450 mm Inner Diameter: 90 mm or above Height: 500 mm Single zone vertical cylindrical split type furnace hinged on the rear side of the machine to carry out the tests at high temperatures in the range 500 deg C to 1200 deg C with an accuracy of +/- 2 deg C. High precision and high accuracy controller with closed loop PID controller will be provided. Top and bottom finish insulation with low thermal conductivity vacuum cast ceramic fibre insulation to provide minimum heat loss, high temperature capability with high rigidity. Integrated temp control Algorithm for precise temp control Temperature Range: 500 deg C to 1200 deg C Digital display for temperature with 7 seg high intensity LED
1.6	Time Indication	Elapsed time is indicated by a digital time meter with a zero hour to full scale reading of 99999 hours with a resolution of 0.1 hour. The time meter has provision for manual reset to zero hour.
1.8	Spirit Level	Spirit level mounted on top of the lever arm to confirm horizontal Position of the beam periodically.
1.9	Operating Power	220V +/- 10Volts. 50Hz +/- 2 Hz
2.0	Motorized Draw Head Assembly	
2.1	Limit provision	Provision is made to prevent the draw head assembly from exceeding the limits during manual or automation operations
2.2	Manual Operation	Provision to manually operate the draw head motor, electrically to move it up & down.
2.3	De Clutching of Motor	Provision to de clutch the motor from the gear assembly

2.4	Coupling	Flexible coupling for stable, no jitter operation provided
2.5	Proximity Switch	Proximity switch for non contact sensing of lever arm position
3.0	Computerized data Logging	
	Data Logging System	Computerized Data logging system for continuous temperature and analysis of the data is provided through a computer-controlled data acquisition system Software features with graphical and report analysis facility Protection of the test control data and logged output data in case of computer failure is provided.
4.0	High Temperature Extensometer	High temperature extensometer sustaining up to 1100 Degree Accuracy: 0.001 mm Fixed Gauge Length: 25 mm Extension: 5 mm.
5.0	Final Specification draft	Capacity: 50 kN Operating Temperature: 1200 Degree High Temperature Extensometer: 1100 Degree G.L: 25 mm. Extension: 5 mm Operating Time: 100 Hrs.
6.0	Warranty	1 year
7.0	installation, commissioning & testing, Configuration, Training	Must be Included in price.
8.0	Additional Accessories and consumables (if any)	Must be Included in price.