

CHAMBER & FURNACE

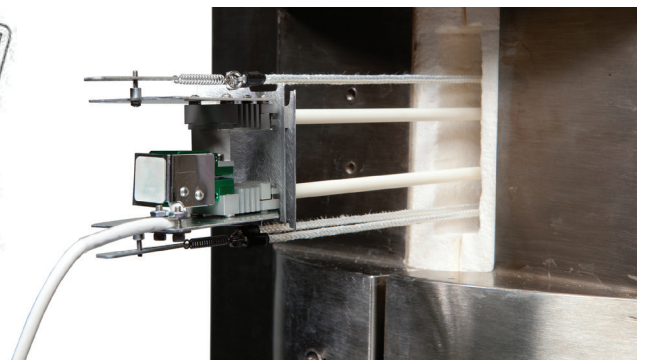
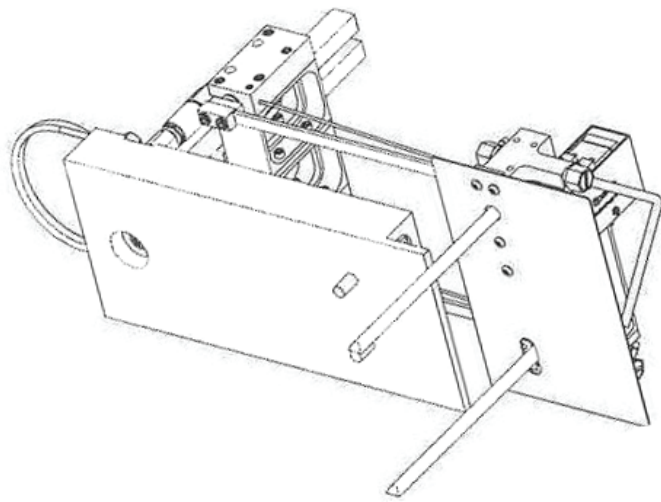
Furnace & High Temperature Extensometer

The Tinius Olsen high temperature furnace provides a means of performing tensile tests within a temperature range of ambient to 1200°C (2200°F). The furnace is supported on a frame post located behind the columns of the testing machine. When the furnace is not in use, it can be pushed aside and clear of the operating area.

The furnace has a high quality rigid stainless steel outer case with a polished finish. Rigidity is most important to prevent the insulation cracking in service and to allow high temperature extensometers to be mounted directly on the furnace case. Additionally, the furnace features water-cooled mounting adaptors so that no heat is transferred to the loadcell, which could adversely affect the operation and calibration of the loadcell measurements.

The control system is based on a Eurotherm 2408 digital temperature controller, providing four-segment programmability, a single type 'K' thermocouple and all connecting cables. This is all housed in a standard 19in desktop console.

The three-zone furnace is provided with the additional heating tiles and control capability to allow much improved thermal uniformity over the specimen gage length.



TECHNICAL DATA

Type of furnace	Vertical three-zone split tube furnace
Furnace bore	The furnace end insulation discs are bored out to 30mm diameter. The heating chamber has an internal diameter of approximately 90mm
Heated length	300mm over three zones
Heating elements	Spiral wire coils embedded in vacuum formed ceramic fibre half cylinders
Overall external dimensions	480mm high x 255mm diameter
Temperature control	Each zone controlled by a Tinius Olsen advanced set point programming temperature controller with 20 free-format segments. Scrolling text provides additional information of current status to the user. RS232 digital communications facility is included
Temperature sensors	Type 'N' thermocouples
Safety switch	A safety switch cuts power to the elements when the furnace is opened
Power supply	220-240V
Energy rating	2.5kW (nominal)
Temperature uniformity	+/-5°C or better over a length of 200mm at temperatures above 650°C. Figures based on measurements taken with an empty heating chamber and all holes insulated