

Tensile Test Furnaces

TMS Europe manufactures a range of material tensile testing furnaces, commonly used as creep test furnaces and stress rupture furnaces, and also produce a range of temperature control systems for these and other specialist applications.

We currently offer three design categories as standard models; cylindrical tube, split tube (half-shell) and split rectangular. In addition to our standard ranges, we can often manufacture bespoke units to spec. All our standard models are 3-zone to ensure good uniformity across the test sample, but we can also offer single zone models if required.

We do not supply mounting systems/test rigs, but the mountings of our furnaces are often compatible with existing equipment. Umbilical power connection assemblies and thermocouple leads are ordered separately.

Control systems with over-temperature protection are recommended if using these furnaces above 750°C, or if they will be left unattended (e.g. running over-night) to help comply with health and safety requirements.



Standard Models

UTFC - Universal Cylindrical Tube Furnaces



Our UTFC range of universal tube furnaces can be used in a vertical or horizontal position and have three separate heating zones to ensure good uniformity across the work piece. They are often used by laboratories for tensile testing of materials, as creep-test furnaces or stress rupture test furnaces. In most cases they are suitable for replacing units of other makes.



Each unit has three separately controllable heating zones, consisting of high-grade wire-wound heating elements. On the side of the casing is a terminal box for connecting to the elements and earthing the unit.

Most models have a small tube for a thermocouple embedded in the heating elements for over-temperature protection (which when used with the proper equipment ensures the elements don't over-heat). Therefore the units can last much longer and are less likely to fail during a test. The units have either three or four M10 threaded mounted rods on a PCD of 203mm \pm 3mm.

Model	Inside Diameter	Tube Length	External Body W / H (Approx.)	Mounting Rods	OTP Tube	Price
UTFC0	50mm	315mm	260mm / 350mm	4x M10	Y	£980
UTFC1	86mm	315mm	260mm / 350mm	3x M10	Y	£980
UTFC2	86mm	365mm	260mm / 390mm	3x M10	Y	£1,080
UTFC3	100mm	380mm	280mm / 400mm	4x M10	N	£1,080
UTFC4	120mm	380mm	330mm / 400mm	4x M10	N	£1,180

Optional Metal Mesh Protection Wrap +£20

Zones: 3
 Max Continuous Temperature: 1000°C
 Max Short Term Temperature: 1100°C (element over-temperature protection system is required)
 Mounting Rods: On a PCD of 203mm \pm 3mm
 Power Rating: UTFC0 : 750W per zone (2.25kW total at 240Vac)
 UTFC[1-4] : 1kW per zone (3kW total at 240Vac)
 Supply Voltage: 240Vac 50Hz

UTFS - Universal Split Tube Furnaces

Our UTFS range of universal split tube (half shell) furnaces can be used in a vertical or horizontal position and have three separate heating zones to ensure good uniformity across the work piece. They are often used by laboratories for tensile testing of materials, as creep-test furnaces or stress rupture test furnaces. In most cases they are suitable for replacing units of other makes.

On each side of the casing is a terminal box for connecting to the elements and earthing the unit. They have a small tube in each half for a thermocouple embedded in the heating elements for over-temperature protection (which when used with the proper equipment ensures the elements don't over-heat or burn-out). Therefore the units can last much longer and are less likely to fail during a test.



UTFS1 **£2,140**

Zones: 3
Max Continuous Temperature: 1000°C
Max Short Term Temperature: 1050°C*
(*element over-temperature protection system is required)
Inside Diameter: 130mm
Nominal Length: 430mm
External Body: 350x450mm (WxH)

Mounting Rods: Four M10 threaded mounted rods on a PCD of 310mm ±3mm
Power Rating: 1kW per zone (3kW total at 240Vac)
Supply Voltage: 240Vac 50Hz

UTFS1E **£3,200**

With side entry port for extensometer or other apparatus.

Zones: 3
Max Continuous Temperature: 1000°C
Max Short Term Temperature: 1050°C*
(*element over-temperature protection system is required)

Inside Diameter: 130mm
Nominal Length: 430mm
Side Entry Port: 40 x 90mm (WxH, at neck)
External Body: 350x450mm (WxH)

Mounting Rods: Four M10 threaded mounted rods on a PCD of 310mm ±3mm
Power Rating: 1kW per zone (3kW total at 240Vac)
Supply Voltage: 240Vac 50Hz



VRFS - Vertical Split Rectangular Furnaces

Our VRFS of vertical split rectangular furnaces have three separate heating zones to ensure good uniformity across the work piece. They are often used by laboratories for tensile testing of materials, as creep-test furnaces or stress rupture test furnaces.

These units are supplied with adjustable feet and terminal connections are at the rear.



VRFS1 **£3,200**

Zones: 3
Max Continuous Temperature: 1000°C
Max Short Term Temperature: 1050°C*
(*element over-temperature protection system is required)

Internal Dimensions: 140 x 190 x 310 mm (WxDxH)

Top Entry Diameter: 50mm
Bottom Entry Dimensions: 80 x 50mm (WxD)

External Dimensions (mm WxDxH):
Body only: 340 x 360 x 400
Extents: 340 x 400 x 420

Power Rating: 3.4kW
Supply Voltage: 240Vac 50Hz

VRFS1W **£3,400**

As VRFS1, but with side viewing windows of high temperature glass.

Window Dimensions: 100 x 15mm (WxH)

In addition to our standard range of tensile furnaces and we can often manufacture them to spec too. We do not supply mounting systems/test rigs, but can normally offer furnaces with compatible mounting for existing equipment. Umbilical power connection assemblies and thermocouple leads are order separately.

As is typical of these types of furnace, the outer surface may exceed 200°C during prolonged use. Some models have the option of a metal mesh protective wrapper to help mitigate against the risk of burns by accidental contact.

TMS Europe offers a range of control systems for use with our range of tensile test furnaces (used for creep test, stress rupture test, etc). Our standard 'MetTest' range provides precise and stable temperature control of 3 furnace zones. We can also provide bespoke solutions to meet your requirements, including phase-angle output, automatic 3-zone PID control, recording and LED bargraph power indicators.



TMS is a manufacturer of thermocouple temperature sensors, so can provide a complete system comprising furnace, temperature sensors and control system.

We can supply temperature sensors and instruments complete with calibration.



TMS Europe Ltd is a UKAS accredited calibration laboratory No. 0461. We are accredited for calibration on site and in our laboratory. See our Schedule Of Accreditation for full details of the extents of our ISO 17025 accredited calibration services.

