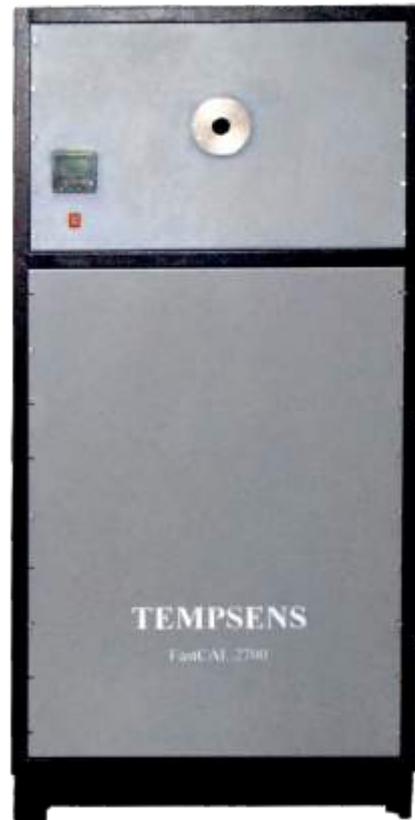


## FASTCAL 2700

## 500 to 2700°C

FastCAL 2700 is a high temperature blackbody source with a capacity to produce high temperature using high emissivity emitter (graphite tube) and at the same time stabilize at the required temperature within a few minutes. It is mainly used to calibrate non-contact temperature sensors. Step change in temperature is achievable within seconds. The graphite tube has an emitter diameter of 25mm (1.00") and an emissivity of +0.99. Target temperature is sensed by a non contact temperature sensor/Pyrometer which gives a feedback to PID controller to regulate the cavity temperature precisely to the desired set points. Remote set point is achieved via RS-232 C communication port.

All safety features to protect equipment and operator are easily accessible.

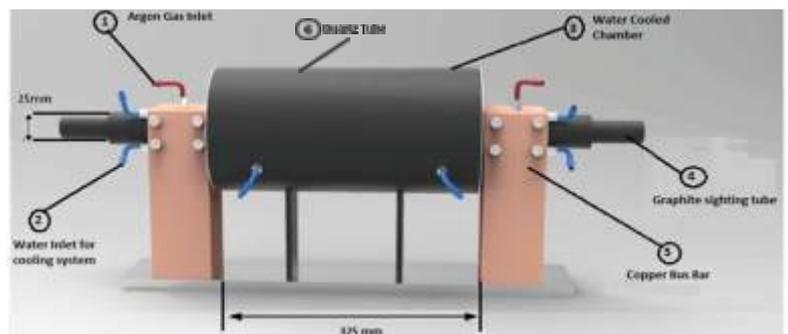


## ASSEMBLY

FastCAL 2700 heating element assembly utilizes two water cooled copper bus bars between which the heating element is mounted. Water cooling of the bus bars is necessary to maintain physical integrity.

FastCAL 2700 has movable copper bus bar which can be used for replacement of graphite cavity. As graphite is easily oxidized, so inert gas is purged into each side of tubular assembly, part of which eventually exist as a purging shield at the both end. Purge gas is also routed into the graphite felt and graphite top insulation which surrounds the outside of the tubular heating element.

It is enclosed in a transparent quartz tube that is hanged on both ends. A re-circulation cooling system is recommended to minimize contamination of the system and conserve cooling system.



## SAFETY INTERLOCK FEATURES

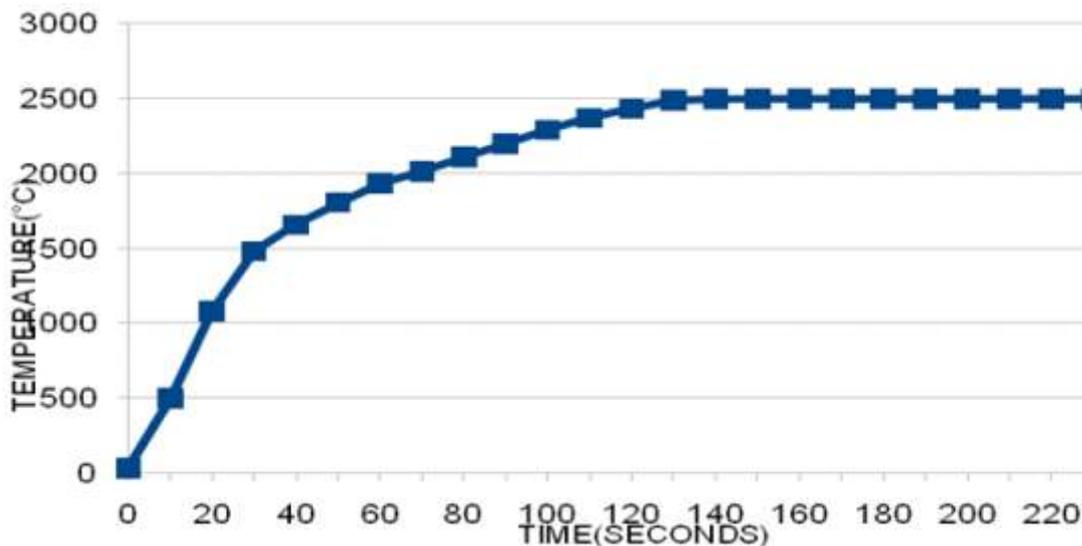
System will switch off in case of

- Water flow failure
- Increase in water temperature
- Argon gas flow failure
- Over current

## TECHNICAL SPECIFICATIONS

Temperature Range	500°C to 2700°C
Wavelength	1000 nm or 1600 nm (Pyrometer)
Accuracy	± 0.3 % of the reading with full span of pyrometer
Temperature Resolution	0.1°C
Emissivity	0.99
Cavity	Graphite Dual cavity blackbody, one cavity is control and one cavity for measurement
Heating Aperture	25mm
Cooling	Water cooled, recommended re-circulation system, flow rate 25LPM. All units include water cooled reflector around the blackbody to reduce the heat load to the room. A Chiller unit will be provided with the system.
Purge Gas	Argon gas flow with 7-10 LPM respective
Heating Time	Approx 5 Minute from 500 to 2700°C
Safety Interlocks	Cooling water over temperature, Low purge gas flow, low cooling water flow rate, over current and over temperature protection.
Controlling Sensor	Pyrometer
Method of Control	PID controller Eurotherm make 3504 (Option - HMI & Data Logging)
Remote Controller	Set Point control and temperature monitoring by RS-232
Ambient Temperature	10°C to 50°C
Power	440V,Single Phase AC 50/60 Hz 50 KW
Dimension	1700mm(H) x 900mm(W) x 1200mm(D)
Weight	300 Kg

## WARM-UP TIME OF FASTCAL 2700



Tempsens Instruments (I) Pvt. Ltd. U# II

A-190, Road No.5, M.I.A., Udaipur-313003 (Rajsthan) INDIA

Ph.:+91-294-3052900, Fax.:+91-294-3052950

Email: info@tempsens.com