HTF - 540
High Temperature
F u r n a c e

ELTRA
Analysers made in Germany

- Temperature up to 1550°C
- Temperature stability ± 1°C
- Tube inner diameter 27mm
- Very fast heating up
- With platform for hot boats

HTF-540 high temperature furnace

Description

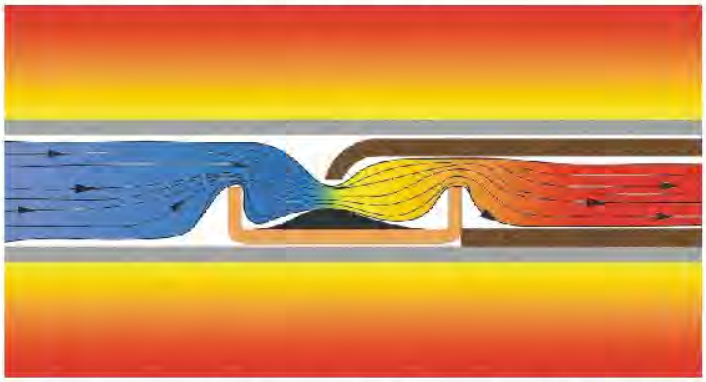
The temperature of this furnace is adjustable up to 1550°C. The combustion tube has an inner diameter of 27 mm and a hot zone of about 200 mm. The temperature, which is digitally displayed, can be adjusted with an accuracy right down to 1° C. The platform on the front-side of the furnace serves to carry samples for the analyses, as well as their hot remainders, once extracted from the furnace. Inside the furnace inlet there is gas supply jet, to ensure correct dosage of the combustion gas. On request, the HTF-540 can be supplied with a flow meter and adjustable restrictor for the adjustment of the inlet gas flow. At the furnace outlet there is dust trap, together with tube connection. A micro filter, made of fine stainless steel, is also available. A glass tube is connected at the furnace outlet, which can be filled with e.g. moisture absorber or any other absorber. The furnace´s robust housing, contains a built-in fan; thus ensuring low surface temperature, in order to prevent contact injuries.

Temperature adjustment

The HTF-540 employs Silicon carbide heating elements. Full electronic control includes current limitation during cold-start conditions to promote long element life. A separate sensor is used to monitor ambient temperature and provide data for automatic reference point compensation ensuring that furnace temperature is not affected by fluctuations of ambient temperature. The furnace requires approximately 10 to 15 minutes to reach operating temperature.

Combustion efficiency

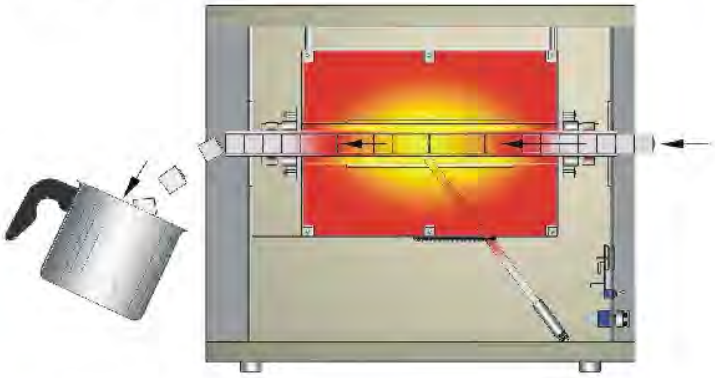
The design of the furnace boat stop ensures oxygen carrier gas penetrates into the crucible, ensuring efficient combustion. This design eliminates the need for fragile lances and honeycomb boat stops which tend to block easily with ash. Additionally the boat stop protects the combustion tube from the aggressive combustion products, thus extending the life of the tube.



The combustion tube is a simple straight ceramic tube that is robust and inexpensive to replace. The life expectancy of the tube is measured in thousands of analyses and not hundreds as is the case with other analysers. (protected by German utility model)

Preheating crucibles

The HTF-540 can be used for preheating of ceramic crucibles for induction furnaces. The crucibles have the standard size of 25mm (1") diameter and are used for combustion analysis of carbon and sulfur in solid materials. The preheating reduces the blank value of the crucibles.



This is important for analysis in the very low ppm range. The crucibles are inserted into the furnace tube and they remain preheated in the tube until needed. Each time a crucible is needed, a new one is inserted into the tube, and a preheated crucible falls out the other end of the furnace tube. The recommended preheating temperature is between 1250°C and 1350°C. For preheating crucibles the boat stop is removed.

A variety of combustion boats can be used in the HTF-540 including the reusable ceramic boats (L=57mm, W=22mm, H=13mm). Porcelain or quartz boats are also an option.

HTF-540 Specifications

Temperature range Room temperature to 1550°C adjustable	Display for set point and actual temperature Digital
Resolution 1°C	Combustion tube inner diameter 27 mm
Length of the hot zone approx. 20 cm	Power requirements 230 VAC +/-10% 50/60 Hz Maximum heat up current 20 A
Dimensions Width 33cm (13") Height 52cm (20.5") Depth 60cm (23.5") [1]	Weight 36 kg

1) Allow 15cm (6") access area behind the furnace.

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