

# ROTARY REACTOR TUBE FURNACE - HTR



**The HTR rotating furnaces combine in a laboratory scale unit many of the advantages of a fluidised bed reactor with those of a rotary kiln.**

The sample is simultaneously heated and mixed under a controlled atmosphere. This overcomes the longer reaction times required in standard chamber or tube furnaces.

## STANDARD FEATURES

- | 1100°C maximum operating temperature
- | Developed in partnership with the Imperial College of Science & Technology, London
- | Carbolite Gero 301 controller, with single ramp to set-point & process timer
- | Heating is provided by long life, rapid heating, resistance wire elements mounted in rigid, half cylindrical vacuum formed insulation modules
- | Quartz reaction vessel included as standard
- | The fluted internal surface of the reactor ensures good mixing as the variable speed electric drive system oscillates the reactor tube through 315 °
- | A positive break safety interlock switch cuts power to the elements when the heating chamber is open
- | Gas enters the reactor through a flexible silicon rubber tube
- | A 30 mm flow meter calibrated for nitrogen is provided
- | A single seal gasket directs the reactor exhaust into a removable stainless steel exhaust box from where a gas outlet allows piping to an extraction system

## OPTIONS (*SPECIFY THESE AT TIME OF ORDER*)

- | Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- | Single or multiple flow meters calibrated for different gases

- | Hydrogen detectors & gas safety system
- | A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications
- | Optional inconel reactor

Content may be subject to modifications or corrections

## TECHNICAL DETAILS (MODELS)

	HTR 11/75	HTR 11/150
Max temp (°C)	1100	1100
Heat-up time (mins)	11	21
Max continuous operating temp (°C)	1000	1000
Cooling time with lid open (mins)	15	15
Dimensions: Reaction chamber dimensions (mm)	75 x 100	150 x 200
Dimensions: Reaction chamber capacity (ml)	50	700
Dimensions: Oscillation frequency per min	1 to 8	1 to 8
Dimensions: Rotation in each direction	315°	315°
Dimensions: External H x W x D (mm) lid open	480 x 1140 x 550	540 x 1300 x 900
Dimensions: External H x W x D (mm) lid down	800 x 1140 x 680	950 x 1300 x 900
Max power (W)	1500	3000
Holding power (W)	400	1000
Thermocouple type	K	K
Weight (kg)	40	95

### Please note

- Holding power is measured at continuous operating temperature

[www.carbolite-gero.com/htr](http://www.carbolite-gero.com/htr)