

1400'C Very High
Temperature Furnace



MODEL No. ALCOCK-HT-1250-3Z

ALCOCK HIGH TEMPERATURE FURNACE

CONSTRUCTION: The body of the furnace will be made of 3 mm MS sheet fitted on angle iron frame with suitable reinforcements. It will be a front loading furnace and inner chamber size (working volume) will be 900 H X 1200 W X 1200 D (mm) .Door opening will be such that hot face will never come in front of the operator .

HEATING ELEMENTS: Heating Elements will be Silicon Carbide Heating Elements with is voltage supplied by a multi point (at least 3 points) tap changing transformer and power controlled by a Thyristor with current control facility .Maximum Temperature attainable within the chamber will be 1250°C .

TEMPERATURE CONTROL : Temperature Control will be automatic by a PID type programmable temperature controllers and Over temperature controller (All Eurotherm make). Actual Power going to the furnace elements will be decided by the Microprocessor based PID controller working in conjunction with Silicon Controlled Rectifier (SCR)for smooth power control . 150 kW input power will be kept available through transformer at requisite voltage . . Available of enough power at the input will make recovery time after a fall of temperature very less. Also if the furnace is run with less power it will take more time to achieve the desired temperature which will take a toll on the life of the heating elements which are very sensitive .

INSULATION: High temperature ceramic fiber insulation modules and blankets will be provided for effective thermal insulation to reduce heat loss through furnace walls to a minimum. This will also create low thermal mass which will help to achieve quick temperature recovery .High Temperature Hot Face Bricks will be used at the first layer of Insulation.

CONTROL PANEL: It will comprise of the following

- Mains on/off MCB
- Indicating Lights
- 3Ammeter connected in primary of the transformer

- 1 Voltmeter with selector switch connected in primary of the transformer .
- Thyristor Power Control unit .(Eurotherm make)
- Temperature Controller (Eurotherm make, Model 2416)
- Over Temperature Controller (Eurotherm make)

Optionally Touch Screen (HMI) Panel can be provided.

ELECTRICAL POWER: Total connected load of the furnace will be not exceeding 150 kW , divided in 3 phases . Connection of Transformer and Thyristor will be as per following Diagram

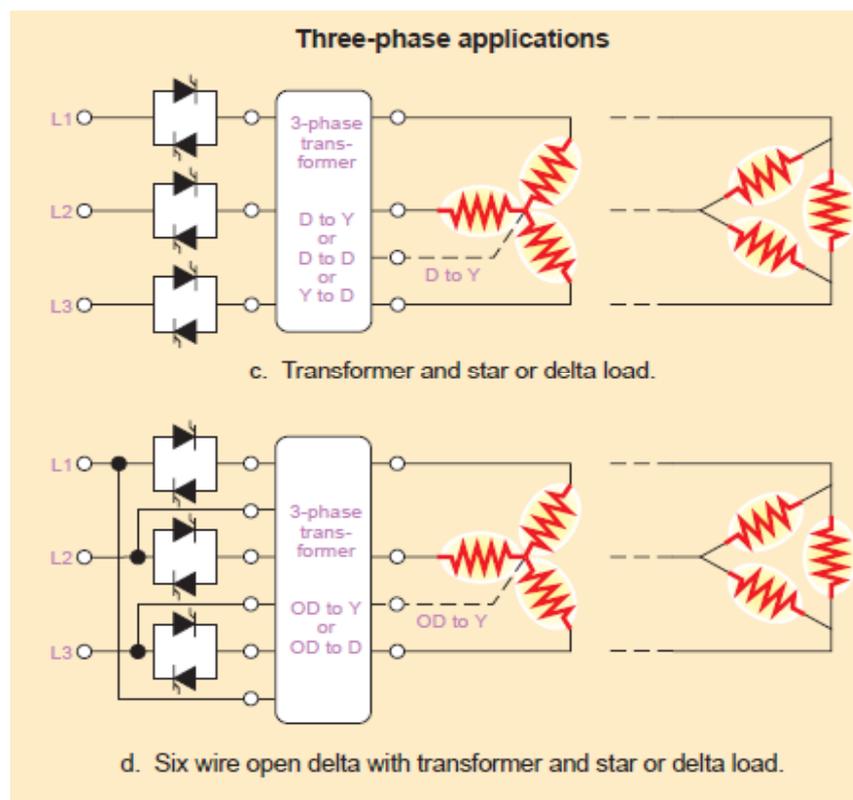


Fig. 59 Applications with thyristor (SCR) control.

The furnace is very suitable for most Heat Treatment operations .It has long life and very efficient Heat Management which causes just the optimum power to be used for a certain program .This causes not only less power consumption but also less carbon emission .Our clientele includes many Defence Factories , Nuclear Fuel Complex Hyderabad ,

DRDO Laboratories and production centres like IAF, Nashik, HAL Hyderabad & Bangalore and many other discerning customers.