

HIGH TEMPERATURE GAS FURNACE

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ABSTRACT

The very first section is introduction about this entire project. In this section, reader virtually all materials in use today have to be processed in one way or another to become the final product. One of the many processes may very well include the usage of a high temperature facility to heat it up to a higher temperature. One of the best examples is metals such as steel which has to be melted by heating it 1500°C before being processed to the required shape. The equipment that is usually used to provide these high temperatures are sometimes called ovens or furnaces. Ovens usually have lower operating temperatures, where else furnaces usually referred to facilities that operate at higher temperatures. Irrespective of type, ovens and furnace usually come in different types, sizes, operating parameters all for different applications.

Depending on the application, they are usually designed specifically for that purpose only. It is extremely rare to find furnaces and ovens with the exception of laboratory equipment to have more than one purpose or application. Major components of a furnaces and ovens are the control systems, heating systems and insulation systems.

In this report we shall show how we as a group designed and built a small scale furnace from scratch. It will contain the information and calculations on which we used to built the furnace, theory and also information of the process as a project. Also included is a section on how after construction, the furnace is utilized and the supporting equipment used to compliment the furnace such as molding melted metals.