

Higher Technical Institute
MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

**MEASUREMENT AND CONTROL OF
COMBUSTION AIR IN BOILER SYSTEMS**

BY:

NEOPHYTOU MARINOS

M/849

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**HIGHER TECHNICAL INSTITUTE
MECHANICAL ENGINEERING DEPARTMENT**

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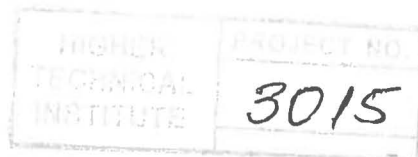
**Measurement and Control of Combustion
Air in Boiler Systems**

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BOILER SYSTEMS**

**By
NEOPHYTOU MARINOS**

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INTRODUCTION

Today boilers are widely used in industry for the production of steam for numerous purposes.

Boilers are simply one kind of heat exchanges that burn oil to produce the work needed to transform water into steam. In fact it is the most costly component of a central heating although is very simple in construction. It is just like two empty barrels one inside the other with water filling the space between them. The water is heated by burning a fuel, usually oil, in the inner barrel.

The combustion of oil i.e. the oil being mixed with air and ignited leads to air pollution and reduced efficiencies if for many reasons the boiler does not work smoothly.

To have smooth operation of the boiler, in one hand all its parts have to work properly and on the other hand the quality of oil has to be good to lead to good combustion with the best air fuel ratio.

In order to improve combustion and minimize emissions companies have develop a wide range of catalyst which are added to the fuel being burned in the boiler.

These additives have the function of improving the efficiency of boilers and reducing emissions at the same time, without taking any part in the reaction.

Having in mind that this project is not a kind of text book it has been avoided overwriting of excess theories, and great effort has been laid in the control of combustion air in boiler systems and on the additives which help the boilers efficiency.

By Neophytou Marinos

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