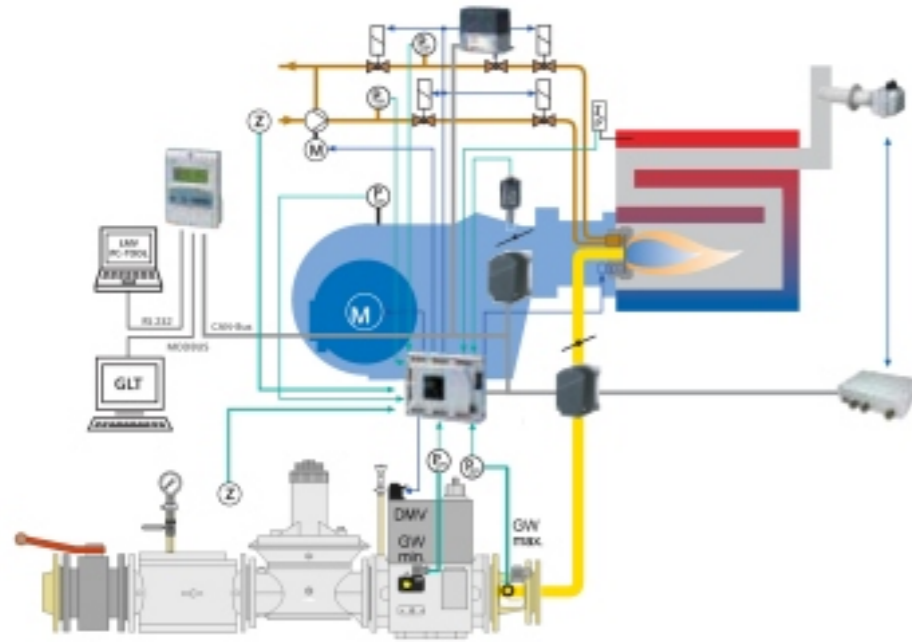


ADVANCED COMBUSTION MANAGEMENT

Thermax offers the latest in advanced combustion management using the following associated systems.

- Oxygen Trim Regulation
- Speed control system (VFD)
- Digital combustion manager With Electronic Compound Regulation



Oxygen Trim system offers

- Thermal efficiency improvement by 1% to 3% through reduction of excess air
- Lower pollution
- Close control of fuel air mixture throughout burner modulation range - excess air controlled 5% to 15%
- Neutralization of interference due to changes in air temperature, combustion chamber pressure, changes in flue calorific value

Speed Control system offers

- Energy conservation through blower motor speed control, reduced power consumption during burner turn down
- Noise reduction due to reduced fan speed, particularly at low operating loads
- In conjunction with O₂ regulation, superior air/fuel ratio control and optimal combustion results

Digital combustion manager with Electronic Compound Regulation offers

- A supervisory control system that ensures reliable and safe Oxygen control/Speed Control individually or a combination of both by Electronic Compound Regulation.

COMMITTED TO DELIVER INNOVATIVE ENERGY SOLUTIONS

In order to take advantage of future technical developments we reserve the right to modify the details given in this document



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Thermax Business Portfolio

Water & Waste Solutions

Air Pollution Control

Chemicals

Boilers & Heaters

Absorption Cooling

Captive Power



THERMAX

Cooling & Heating Division



THERMAX COMBUSTION SOLUTIONS

Improving your business is our business

Thermax offers products, systems and solutions in energy and environment engineering to industrial and commercial establishments around the world. Its business expertise covers heating, cooling, waste heat recovery, captive power, water treatment & recycling, air pollution control & waste management and performance chemicals.

Thermax brings to customers extensive experience in industrial applications and expertise through technology partnerships and strategic alliances.

Operating from its Head Quarters in Pune (Western India), Thermax has built an international sales & service network spread over South East Asia, Middle East Africa, Russia, UK and the US. It has a full-fledged ISO 9001, 2000 and ISO 14000 accredited manufacturing setup.

Cooling & Heating Division

Offers a wide range of steam boilers, thermal oil heaters, hot water generators and absorption based cooling solutions. It has expertise in a wide range of fuels - oil, gas, solid and agro - waste/biomass fuels. Supporting a broad array of industries to generate, transfer and conserve heat for a host of applications, the divisions products are exported to South East Asia, Middle East, Africa, Europe, CIS and SAARC.

FOCUS ON COMBUSTION SOLUTION

Having achieved considerable success in the areas of energy generation and conservation, we are now focusing on providing application specific combustion solutions to industries in India and abroad

In order to understand customer needs better, we offer energy audit and detailed engineering consultancy services. This focuses the users attention on energy conservation opportunities that can be implemented with our active involvement.

FUEL SCENARIO

Natural gas as an Alternative option

With soaring oil prices worldwide many users of heavy and light fuel oils have been looking at alternative options like Natural Gas. The reasons are many fold.

- Pollution issues associated with heavy and light oil firing
- Improvement in availability of Natural Gas
- Complete and efficient combustion with natural gas as the fuel
- No adulteration and pilferage in case of gaseous fuels
- No corrosion issues on the equipment parts that are generally associated with light and heavy oils because of presence of sulphur in these oils
- Lower maintenance and spares cost
- Lower power costs

OUR PROPOSITION

In this changing fuel scenario, we now offer retrofit kits for existing oil fired systems to convert them to gas fired systems. The table below specifies the various energy equipments that we can convert to gas firing.

| Equipment | Make | |
|--|---------|------------|
| | Thermax | Any Other |
| Smoke tube boilers | ✓ | ✓ |
| Reverse flue smoke tube boilers(shell & tube type) | ✓ | ✓ |
| Coil type thermal oil heaters (double jacketed) | ✓ | on request |
| Coil type thermal oil heaters (single jacketed) | ✓ | ✓ |
| High temperature thermal oil heaters/vaporisers | ✓ | ✓ |
| Coil type steam boilers (Non - IBR / IBR) | ✓ | ✓ |
| Hot water generators | ✓ | on request |
| Vapor absorption chillers (direct fired) | ✓ | ✓ |
| Waste incinerators (specific range) | ✓ | on request |
| Power and process boilers | ✓ | on request |

All retrofit kits are custom built and it is vital to evaluate the changes to be made to the cooling/heating equipment to ensure efficient, safe and trouble free operation.

The retrofit kits offered by Thermax are individually built to match internationally acceptable safety norms and follow EU Standards like EN 230, EN 267 and EN 676

Thermax's special strength lies in its ability to provide a wide range of different gas and dual fuel burners, gas trains and a fully advanced combustion management system designed to suit varied industrial processes.

BURNERS

Gas burners



Gas Burners with Low NOx option



Pressure Jet Dual Fuel burners

Light Oil/Gas Burners
Heavy Oil/Gas Burners



Steam / Air Atomized burners



Burners capable of using preheated air upto 250 Deg.C.



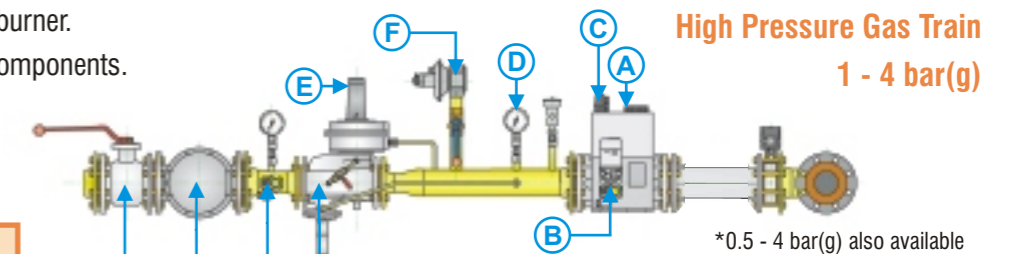
Thermax Jet Gas burners for coil type double jacketed unit



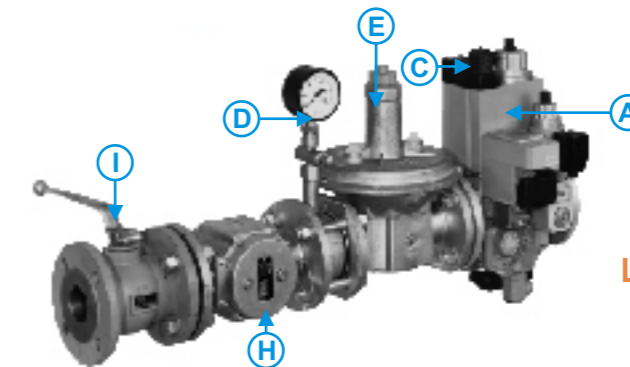
ACCESSORIES

GAS TRAIN

- Reducing and regulating the inlet pressure of the gas so that required amount of gas is allowed into the burner.
- Facilitate automatic operation of burner.
- Safeguard downstream burner components.



- A Duplex Shut off Valves
- B Leakage detection system > 1.2MW
- C Pressure Switch
- D Pressure gauges with push button valve
- E Pressure regulator
- F Safety relief valve
- G Safety Shut Off Valve
- H Filter
- I Isolation Valve



CONTROL PANEL

- Relay / PLC based
- Prewired & duly tested
- Dust & vermin proof
- Can be hooked up with existing main panel
- Powder coated
- Wall mounted / free standing
- Remote performance monitoring system Available on special request

