JYOTILING

INDUSTRY PVT. LTD.

Jyotiling Industry Private Limited

"Building Beyond Expectations"

Leading Brand in Industrial Plants & Machineries in India

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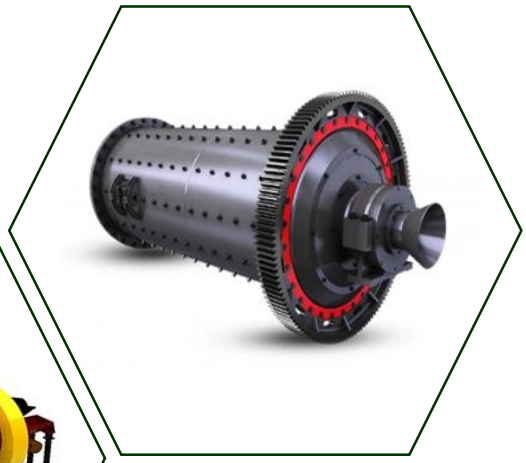
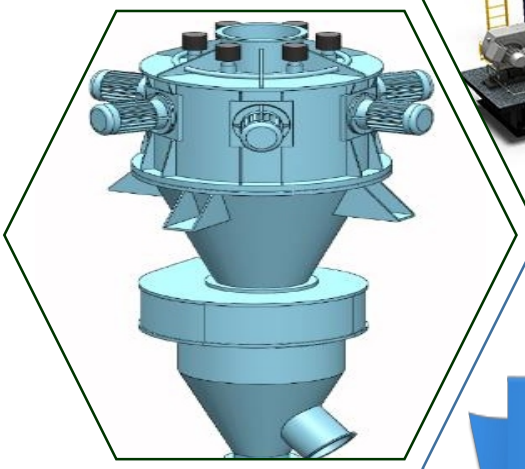
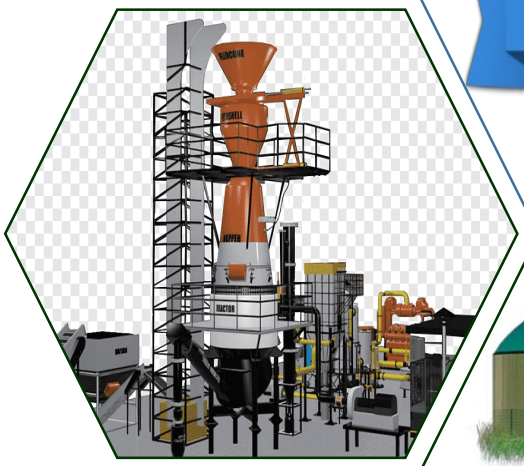




OUR PRODUCTS



About Us

We the ***"Jyotiling Industries Pvt. Ltd."*** located at Ahmedabad (Gujarat ,India) established are engaged in the manufacturing, of Municipal Solid Waste (MSW), Agriculture Waste, Industrial Waste, Power Plant, Rotary Dryers, Gasifier, Air Classifier, Waste Tyre Recycling Plant, Jaggery plant, Bio CNG Plant and Accessories. These products are appreciated by our clients for their quality and standards. The manufacturing process of these products is done under the strict supervision and guidance of our quality experts. We formulate these products using the top quality raw material which is sourced from the top vendors of the industry and test them on various parameters of quality.

We manufacture these products as per the needs and requirements of our clients. We manufacture these products which is done under the supervision of our highly talented professionals who study the market and find out the various needs and demands of our customers. The professionals manufacture these products as per the set international standards using the well-developed infrastructural unit. Our infrastructural unit is well-equipped with latest technology machines and tool which is upgraded from time to time.

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Vision & Mission

Our ***Vision*** is to be the best-in-class global design and technology solution provider with commitment to sustainability and excellence.

Our ***Mission*** is to be the Leader in Waste Management Industries in India in terms of efficiency, asset quality, and profitability having strong liquidity

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Rotary Dryers

Types of rotary dryers

Based on the method of heat transfer, rotary dryers can be classified into:
Although there is an infinite variation of rotary dryers, which present characteristics suitable for drying, chemical reactions, mixing, solvent recovery, thermal decompositions, sintering and agglomeration of solids, the main types of rotary dryers include

1. Direct-heated rotary dryer
2. Indirect- Direct rotary dryer
3. Indirect rotary dryer
4. Indirect steam-tube dryer
5. Special type
6. Direct rotary kiln

Application

- Buildings & Constructions
- Food products
- Soil remediation
- Chemicals , Pigments , Starch Products, Pesticides and fertilizers
- Pond ash to fly ash
- Saw Dust, Salt Dryer
- Minerals, Lime stones
- Stones and Soil, Ores, hips, Coal, Iron-sulphate, filter cakes, sewage sludge Etc..

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Air Classifier

An air classifier is an industrial machine which separates materials by a combination of size, shape, and density. It works by injecting the material stream to be sorted into a chamber which contains a column of rising air.

Ideal For

- Carbon & Graphite Stone
- Ash to Fly ash
- Dyes & Pigments
- Dyestuffs-Fertilizers
- Aggregates
- Agricultural Chemicals
- Starch Products like Corn Starch
- Carbon Black
- Ceramics
- Clay
- Cosmetics

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Waste Tyre Recycling Plant

Pyrolysis is the chemical decomposition of organic materials by heating in the absence of oxygen or any other reagents, except possibly steam.

- Pyrolysis can be used to reprocess the tyres into fuel oil, fuel gas, solid residue (steel wire) and carbon black.
- The waste tyres are mainly composed of long chain of C-H molecules.
- Under normal process conditions the heat transfer will be done by radiation.
- The technology of pyrolysis, cracking, and monomerisation of used tyres is always a hot topic.

Benefits

- Recover energy and value from waste in form of fuel, steel wire and charcoal.
- Reduce tyre land pollution.
- Eco-friendly recycling of tyre.
- Commercially viable process.
- Product is used as substitute to LDO/furnace oil.
- Perfect solution for polymer waste management.
- Raw material available.

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Gasifier

What Is The Gasification System?

Gasification is process to gasified Coal , Biomass OR any Organic material.

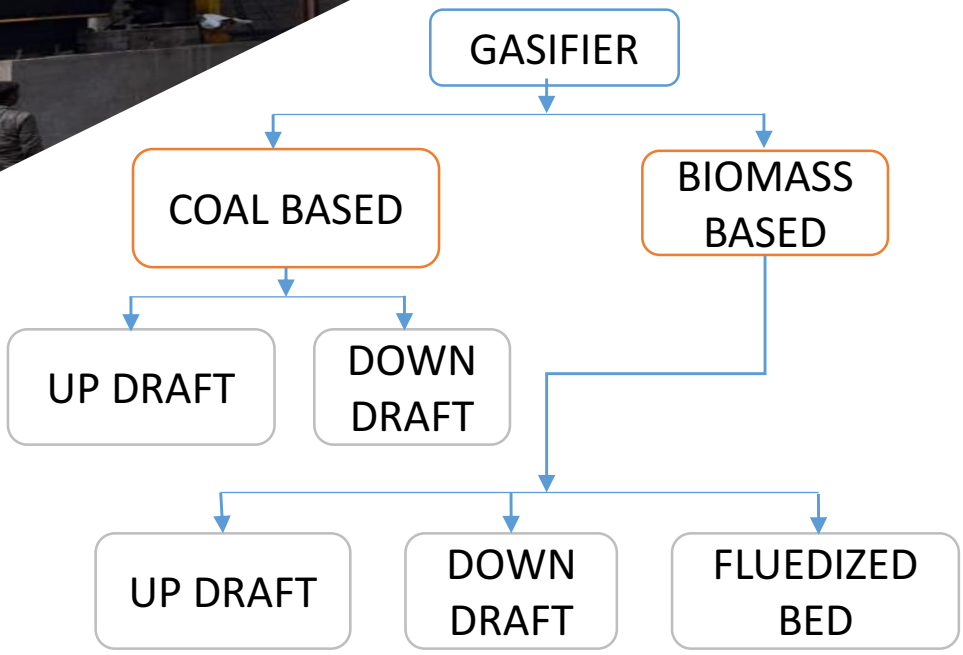
Gasification is chemical process in which coal burns partially with insufficient availability of Oxygen.

In gasification process steam to be charge with air in main reactor to slow down coal burning process & also increase H2 & CH4 in Producer gas.

During the gasification following chemical process done on shell temp 400˚C

UP Draft – 5 Lakh kg/ Cal to 110 Lakh kg/ Cal

Down Draft – 50 KW to 1000 KW.



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CAUSTIC RECOVERY PLANT

CHEMICALS INDIA
75 KLD

A Caustic Recovery Plant is typically a multiple effect evaporation plant which will re-concentrate the weak lye by heating it in exchanger and when it reaches evaporator vapour is released due to water evaporation that increases its concentration. This Process repeats itself by circulating in caustic recovery plant till the desired concentration reached. Textile Mills involved in mercerizing of (Yarn, Woven, Knitted, Denim) cotton use caustic (NaOH) in mercerizing machines. After process in mercerizing machine this dilute caustic soda solutions come out form mercerizing machines as drain. The density of drain caustic solution veries from 3% to 8% (31 to 87 gm/lt)). The drained weak lye also causes financial los not only by removal but also by process incurred to remove it, i.e. expense incurred in treating (neutralizing) at ETP as per pollution laws.

BENIFITS

1) The system re-concentrates weak caustic lye from 40 to 50 gm/ltr to 250 to 450 gm/ltr as required by the process viz. dry-in-wet or wet-in-wet mercerizing.
2) Fresh caustic process is required only for concentration variation and make-up.
3) Payback period of the Plant is less than 4 months for a Triple Effect Caustic Recovery plant with Surface Condenser and Thermo-compressor.
4) The energy of heating steam can be completely transformed into hot water. Hot Water is generated at:
   - The uncontaminated steam condensate from the first heat exchanger may be reused as boiler feed water.
   - At surface condenser hot water is generated by soft water feed to the surface condenser for cooling vapour of the last effect.
   - The result is eventually soft water of a high temperature, which saves cost in water softening before use in mercerizing machines .
   - Alkaline condensate is generated as the vapour condensate, which can be used as hot wash water in the mercerizing machines.
5) Financial savings in neutralizing agents and waste water treatment costs.

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AGITATED THIN FILM DRYER (ATFD)

Welcome to the world of Agitated Thin Film Dryer (ATFD) and other heat transfer equipments. Jyotiling Industries leads by virtue of superior engineering design capabilities, manufacturing excellence and a project based approach committed to deliver high performance total evaporation solution customized to our client requirement.

Jyotiling Industries offer ATFD as a single point solution for all kind of drying application. Our ATFD's are running smoothly for production and effluent purpose in chemical Pharma, Textile , Food and Beverage Industries.

OPERATING PRINCIPLE :

- ATFD stands for evaporation of water/solvents to make concentrated liquid to dry powder or flakes.
- ATFD is the ideal apparatus for continuous processing of concentrated material to dry solids. ATFD consist of cylindrical , vertical body with heating jacket and a rotor inside of the shell which is equipped with rows and pendulum blades all over the length of the dryer. The hinged blades spread the wet feed product in a thin film over the heated wall.
- The turbulance increases as the product passes through the clearance before entering calming zone situated behind the blades as the heat will transfer from jacket to main shell under the smooth agitation
  water/solvent will evaporate and liquid will convert to slurry, to cake or to dry powder or flex.
- The vapors produced rise upward, counter-curruently to the liquid and pass through Cyclone separator mounted of vapor outlet of ATFD.
- Further these vapor will be condensed in condenser and recovered as condensate. System will be Operated under vacuum for temperature sensitive products and atmospheric condition for normal drying.

APPLICATIONS :

ATFD systems are used in Pharma Industries, Textile Industries, Agro Chemicals Industries , Sugar Industries And Effluent Treatment Plant. Drying of products, Drying of concentrated liquid for salt recovery, Drying of Chemical and petro chemical products to recover the powder

ATFD SELECTION CRITERIA :

Ketav Consultant offers following basic models of ATFD's

Area (m^2)	Diameter(mm)	Total Heightr(mm)
3	400	3800
5	500	4750
10	710	6300
15	900	7700
20	1000	8300
25	1150	9100
30	1250	9700
40	1550	10750
50	1700	11550

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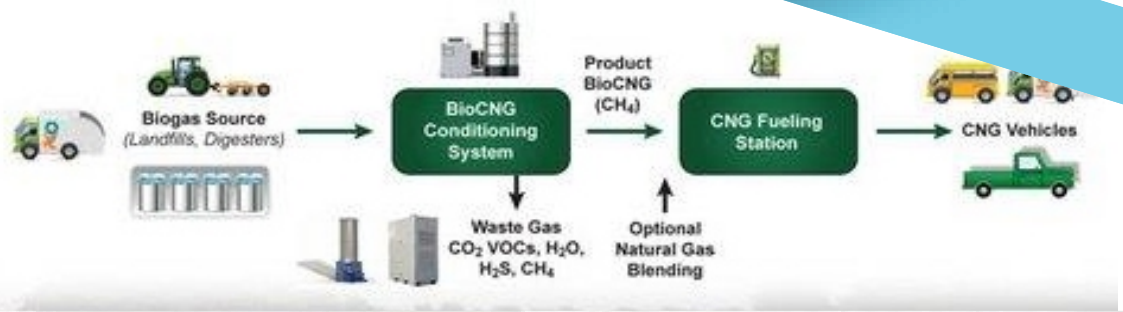
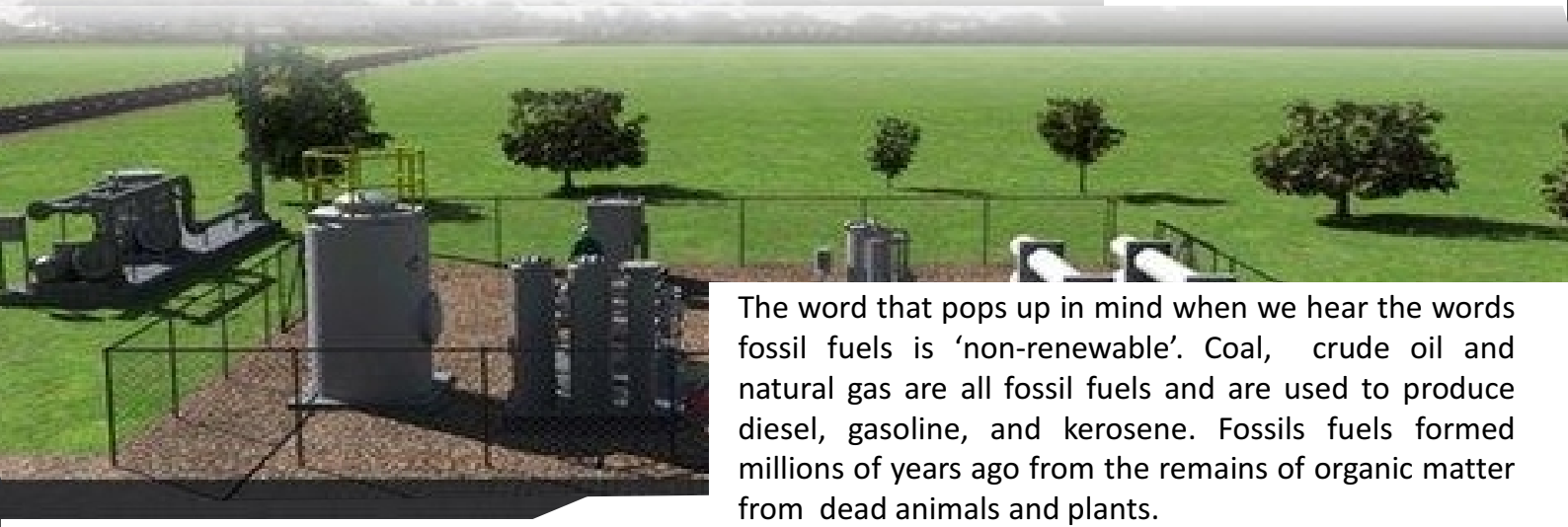
Bio-CNG Plant





The word that pops up in mind when we hear the words fossil fuels is 'non-renewable'. Coal, crude oil and natural gas are all fossil fuels and are used to produce diesel, gasoline, and kerosene. Fossils fuels formed millions of years ago from the remains of organic matter from dead animals and plants.

As fossil fuel resources are finite and are among the biggest contributors to climate change, it is critical that we meet our energy needs from renewable resources. India's renewable energy resource potential is significant, with solar, wind, biomass, and small hydropower representing the technologies having the largest potential. Among all, biomass warrants special attention. All the living matter present on earth derived from growing plants including algae, trees, and crops or from animal manure is called biomass.

Bio-Gas to Bio-CNG

Biogas consists mainly of methane (CH4, 55-65%) and carbon dioxide (CO2, 35-45%) and the calorific value of biogas is ~19500 KJ/Kg. Methane is a valuable form of gas, as it is an efficient energy carrier with a wide range of uses. The amount of CO2 that is produced corresponds to the amount of CO2 captured when the biomass was created, making biogas carbon neutral.

Why Bio-CNG?

Bio-CNG contains about 92-98 % of methane and only 2-8 % carbon dioxide. The calorific value of Bio-CNG is about 52,000 kilojoules (kJ) per kg, which is 167 % higher than that of biogas.1 The high methane content and calorific value combined with the low quantity of moisture, hydrogen sulphide and impurities makes Bio-CNG an ideal fuel for automobiles and power generation. The low emission levels of Bio-CNG also make it a more environment-friendly fuel than biogas.

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HAG System

HAG-System

Hot Air Generators are used in various Industrial Processes for the purpose of Heating and Drying (Moisture Removal) of the material being processed. They are designed as per the Heat Output required for the process and the desired Temperature that is necessary to ensure that the material is moisture free.

Salient Features Of Hot Air Generators:

Type – Direct and Indirect Design
Fuel Option- Oil/ Gas / Dual Fuel Burner
Fully Automatic – Simple And Safe operation.
Type Of Burner- On/Off. High/Low and Stepless Modulation through PID Control.
Packaged And Compact Model
Robust Construction and Easy Maintenance
Horizontal / Vertical down fired / Vertical up fired construction.
Design to suit hot air recirculation for improved efficiency
Thermal Efficiency greater than 99 per cent.

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Ball Mill

Ball mill is a type of grinder used to grind or blend materials for use in mineral dressing processes, paints, pyrotechnics, ceramics, and selective laser sintering.

It works on the principle of impact and attrition: size reduction is done by impact as the balls drop from near the top of the shell.

A ball mill consists of a hollow cylindrical shell rotating about its axis. The axis of the shell may be either horizontal or at a small angle to the horizontal. It is partially filled with balls. The grinding media are the balls, which may be made of steel (chrome steel), stainless steel, ceramic, or rubber. The inner surface of the cylindrical shell is usually lined with an abrasion-resistant material such as manganese steel or rubber lining. Less wear takes place in rubber lined mills. The length of the mill is approximately equal to its diameter.

In case of continuously operated ball mill, the material to be ground is fed from the left through a 60° cone and the product is discharged through a 30° cone to the right. As the shell rotates, the balls are lifted up on the rising side of the shell and then they cascade down (or drop down on to the feed), from near the top of the shell. In doing so, the solid particles in between the balls and ground are reduced in size by impact.

Advantages

1. It produces very fine powder (particle size less than or equal to 10 microns).
2. It is suitable for milling toxic materials since it can be used in a completely enclosed form.
3. Has a wide application.
4. It can be used for continuous operation.

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Municipal Solid Waste Management

Municipal solid waste, commonly known as trash or garbage (US), refuse or rubbish (UK) is a waste type consisting of everyday items we consume and discard. It predominantly includes food wastes, yard wastes, containers and product packaging, and other miscellaneous inorganic wastes from residential, commercial, institutional, and industrial sources. Examples of organic wastes are newspapers, clothing, food scrapes, boxes, disposable tableware, office and classroom paper, furniture, wood pallets, rubber tires, and canteenor cafeteria wastes. Municipal solid waste does not include industrial wastes, agricultural wastes, and sewage sludge. The collection is performed by the municipality within a given area. They are in either solid or semisolid form.

Municipal solid waste treatment plant is a solid waste disposal facility consisting of different devices and combining with different sorting methods to separate useful resources out from the municipal solid waste. After processed by the MSW treatment plant, the municipal solid waste can be divided into different parts according to different raw materials, which can be further processed into valuable products by related machines. In a word, the plant can not only remove waste pollution and improve the environment but also create great profits and drive the economy.

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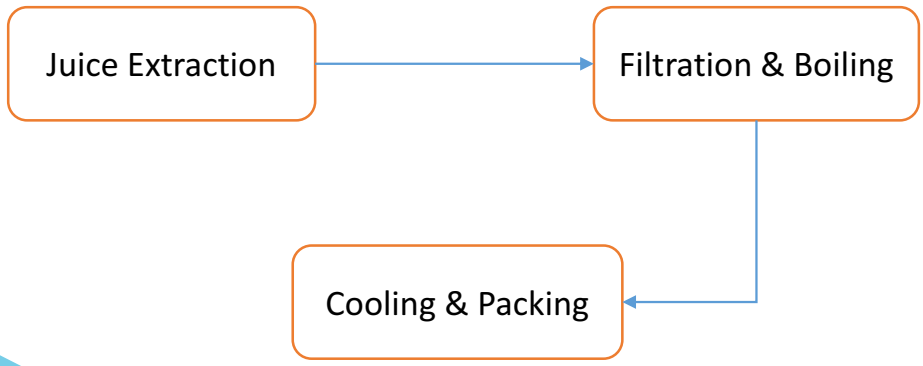
Jaggery Plant

Jaggery making is a simple process comprising crushing of sugarcane for juice extraction, filtration and boiling of juice for concentration and then cooling and solidifying to give jaggery blocks. The juice is extracted in conventional crusher; this is then filtered and boiled in shallow iron pans. During boiling chemical bleaching agents or natural vegetable items like Bhindi (Lady finger) are added to clean the juice and the extraneous matter is constantly removed to give a bright golden colour. The boiled juice is then left to cool in iron/ Aluminum pots to form the jaggery blocks. The size of these moulds is specific and depends on the weight of the block of jaggery varying from 1kg onwards. The blocks are packed in jute cloth and dispatched.



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Engineering, Procurement, Construction & Commissioning (EPCC)

Engineering

JIPL's engineering is a successful coordination of specialized discipline engineers, experienced project management and diverse project engineers. We build upon your current Concept, Pre-FEED design, Basic Design Package, or Front Engineering and Design (FEED) to create an efficient, effective, integrated and optimized final engineering design package ready for Construction. Designs are prepared and delivered through specifications, design bases, drawings, data sheets, calculations, models, and reports. Deliverables cover all components of the project including: Process, Facilities, Machinery, Civil, Structural, Architectural.

Procurement

JIPL conducts its global procurement practice in accordance with the highest ethical standards while establishing, maintaining and executing a well-planned strategy, organization, and procedures. DTMEPL's knowledge of the market, along with its history of relationships with all major suppliers, yields a great benefit to projects and Clients at a reduced cost to the Owner.

Construction

Construction is the last stage of project execution before final commissioning and its inherent complexities require a team's full attention and unwavering diligence to ensure its safe and acceptable completion. From the first site survey to the last bolt installation, DTMEPL will work alongside you and as your project advocate to ensure all contractors and subcontractors are performing at the highest capabilities. DTMEPL will manage all construction activities either directly or through a vetted and experienced Construction Contractor. Our team is versed in dealing with the inevitable construction issues that arise and will seek swift and effective solutions.

Commissioning

Project commissioning is the process of assuring that all systems and components of the project are designed, installed, tested, operated, and maintained according to the operational requirements of the Owner. The main objective of commissioning is to affect the safe and orderly handover of the unit from the Constructor to the Owner, guaranteeing its operability in terms of performance, reliability, safety, and information traceability. Additionally, when executed in a planned and effective way, commissioning normally represents an essential factor for the fulfilment of schedule, costs, safety, and quality requirements of the project.

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Thermic Fluid Heater

"Thermic Fluid Heaters are heating equipment, used in industry where heat transfers are primary need of process instead of pressure."

Heat transfer oil are most efficient and highly effective equipment used in process heating which uses high viscous oil as a heating medium

A thermic fluid heating system generally used in a system where the pressure is not desired in a process and temperature requirement is higher and using the boiler for high-temperature services may increase the cost of a project.

Industrial Applications of Thermic Fluid Heaters
Thermic fluid systems can be used to generate heat in various process industries, such as:-

- Food processing industries
- Rubber and plastics industries
- Publishing and print industries
- Metal fabrication and finishing plants
- Paper industries
- Textile industries
- Natural gas processing plants
- Crude oil extraction and processing industries.
- Chemical Industries
- Plywood and Laminates
- Confectionery

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