Factory Piping & Equipments Erection Services

As a Piping Contractors We Provide Complete Utility Piping Turnkey Solutions from

- Concept.
- Designing and Detailing of Utility Piping Systems.
- Procurement of Pipes, Fittings, Valves, Pumps & Accessories
- Fabrication of Utility Piping.
- Erection of Utility Pipelines.
- Testing and Commissioning of Utility Pipelines.

Due to its Extensive Field Experience in Industrial Plants We Consult Clients with our Best Technical Skills for Efficient use of Utility Systems for Heating and Cooling Systems for Processes Which Are Cost Effective.

We have Gain Appreciation from our Clients for our Technical Skills, Quality Work, Delivery of Projects Within Stipulated Time which is done by us with Proper Management Systems.

Piping Design Services:

- **Transindia Piping Engineering team offers wide range of piping design services for Industrial projects like:**
- Preparing Piping material specifications
- Preparing Piping GA drawings.
- Equipment modeling
- 3D Piping models with clash detections.
- Generating piping isometrics.
- Preparing piping BOQ, piping support drawing, tie-up points
- Stress analysis

We Undertake Utility Piping Contracts for Following:

1. Compressed Air Piping.
2. Cooling Tower Piping.
3. Chilling Plant Piping.
4. Steam Boiler Piping.
5. Thermic Fluid Heater Piping.
6. Hot Water Generator Piping.
7. Waste Heat Recovery Unit Piping.
8. Waste Heat Recovery Boiler Piping.
9. Air Preheater Ducting.
10. Fuel Oil Piping.
11. Gas Piping
12. uPVC, CPVC, HDPE, PP Drain Piping

a) Compressed Air Piping

Compressed Air Piping Layout Includes

- Design of Compressed Air Piping for Whole Plant with Proper Flow of Air with Proper Pressure with Minimum Pressure Loss, Moisture Free Air to Increase the Life of Equipment's and Machineries where Air will be used.
- Designing of Piping Layout for compressed air distribution system for Distribution of Air Flow to Various Locations of Plant with Minimum Pressure Loss and Even Flow of air to Equipment's and Machines Requiring Air.
- Design and Fabrication of Centrifugal Compressors Piping, Rotary Screwed Compressors Piping, Positive Displacement Compressors Piping, Reciprocating Compressor Piping, Blowers Piping.
- Design and Fabrication of Air Dryer Piping for Air Dryer with Bypass System for Removing Moisture Contents from Air to give Clean and Dry Air Which Enhances the Life of Compressed Air Piping as well as Machineries and Equipment's where Air Will Be Used.
- Design and Fabrication of Compressed Air Receiving Tank Piping / Compressed Air Storage Tank Piping.
- Design of Layout of Air Piping is done with Minimum Pressure Loss in Air Piping Leading to Good Performance and Proper Flow of Volume of Air and Air Pressure Required for Machineries and Equipment's
- Designing and Fabrication of Compressed Air Manifold Piping Systems / Compressed Air Distribution Header for Connections of Multiple Air Compressors,

Even Distribution of Air in Various Location of Plants with Proper Flow and Temperature.

- Installation of Pressure Regulator with Filter and Lubricators, Moisture Separators for Removal Moisture content in air which indirectly Increases the Performance of Compressors and Equipment connected with Air Piping.
- Installation of Automatic Drain Valves in Air Compressors, Receiving Tanks for Removal of Water from them to revent its Entering in Air Piping.
- Installation of Safety Valves.
- Fabrication of Frames for Compressors.
- Calculation of Pipe Sizing Based on Velocity and Pressure Drop and Proper Flow.
- Calculation of Pipe Wall Thickness as per ASME Standards.
- Selection of Compressed Air Manifold Pipe Size / Compressed Air Header Pipe Size.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Piping Material such as Pipe, Fittings, Valves used for Fabrication of Compressed air Piping are of Standard Companies.
- Design and Fabrication of Supports for Compressed Air Piping Systems to Support Dead Weight of Pipe, Fittings, Valves, Air to avoid Sagging of Pipe During Sustain and Operating Conditions, The Distance Between the Supports are Selected as per Piping Engineering Standards.
- Piping Material Take off (MTO)/Bill of Material (BOM).
- Fabrication of Compressed Air Piping is Carried out as per General Engineering Standards and Practices.
- Pipeline Erection for Compressed Air.
- Pneumatic Testing of Compressed Air Piping for Leak Test Compressed Air Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.
- Commissioning of Compressed Air Piping.

b) Cooling Tower Piping

* Cooling Tower Piping Layout Includes :

Cooling Tower Water Distribution System : Designing of Cooling Tower Piping Layout for Cooling Tower Water Distribution Systems for Whole Plant to Various Locations of Plant with Even flow of Cooling Water and Its Proper Distribution, Fabrication of Piping for Cooling Tower Water Distribution Systems.

Closed Loop Cooling Tower Piping : Designing and Fabrication of Closed Loop Cooling Tower Piping System with Installation of a Throttle Valve at the End of Piping for Throttling of Cooling water for Proper Flow of Cooling water in Piping System.

Cooling Tower Circulation Pump Piping : Fabrication of Frame for Circulation Pump, Designing of Cooling water Circulation Pump Piping Layout while Considering Important Aspects for Pump Piping to Avoid Pump Cavitation and Better Fluid Flow, Designing and Fabrication of Circulation Pump Suction Piping, Designing and Fabrication of Circulation Pump Discharge Pipeline, Designing of Piping Layout for Multiple Circulation Pump Connections, Installation of Strainers, Throttle Valves, Non Return Valves (NRV) with Proper Selection of their Materials and Grade.

Cooling Tower Manifold Piping Systems / Cooling Tower Distribution Header : Designing and Fabrication of Cooling Tower Manifold Piping Systems / Cooling Tower Distribution Header for Multiple Connections of Cooling Tower, Distribution of Cooling water to Various Locations of Plant for Proper Flow and Even Distribution of Cooling water with Cost Saving for Clients.

Cooling Tower Piping Connections : Designing and Fabrication of Inlet and Outlet Cooling Tower Connections Piping Layout for Process Equipment's with Installations of Throttling Valves.

Cooling Tower Water Fill up : Fabrication of Fill up Pipeline for Cooling Tower for Fill up of water with Installation of Automatic Valve for Automatic Filling of Water in Cooling Towers during Low level of Water in Cooling Tower.

- Calculation of Pipe Sizing Based on Velocity and Pressure Drop and Proper Flow.
- Calculation of Pipe Wall Thickness as per ASME Standards.
- Selection of Manifold Pipe Size for Cooling Towers / Cooling Tower Header Pipe Size.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Piping Material such as Pipe, Fittings, Valves used for Fabrication of Cooling Tower Piping are of Standard Companies.
- Design and Fabrication of Supports for Cooling Tower Piping Systems to Support Dead Weight of Pipe, Fittings, Valves, Water to avoid Sagging of Pipe During Sustain and Operating Conditions and Distance Between the Supports Are Selected as per Piping Engineering Standards.
- Piping Material Take off (MTO)/Bill of Material (BOM).
- Fabrication of Cooling Tower Piping is Carried out as per General Engineering Standards and Practices.

- Pipeline Erection for Cooling Tower.
- Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.
- Commissioning of Cooling Tower Piping

c) Chilled Water Piping

Chilled Water Piping Layout Includes :

Chilled Water Distribution System : Designing of Piping Layout for Chilled Water distribution system for Whole Plant with Proper Distribution and Flow of Chilled Water to Various Locations of Plant, Fabrication of Chilled Water Distribution System.

Chilled Water Closed Loop Piping : Designing and Fabrication of Chilled Water Closed Loop Piping System with Installation of a Throttle Valve at the End of Piping for Throttling of Chilled Water for Proper Flow of Chilled Water in Piping System.

Chilled Water Circulation Pump Piping : Fabrication of Frame for Circulation Pump, Designing of Chilled Water Circulation Pump Piping Layout while Considering Important Aspects for Pump Piping to Avoid Pump Cavitation and Better Fluid Flow, Designing and Fabrication of Circulation Pump Suction Piping, Designing and Fabrication of Circulation Pump Discharge Pipeline, Designing of Piping Layout for Multiple Circulation Pump Connections, Installation of Strainers, Throttle Valves, Non Return Valves (NRV) with Proper Selection of their Materials and Grade.

Chilled Water Manifold Piping Systems / Chilled Water Header : Designing and Fabrication of Chilled Water Manifold Piping Systems / Chilled Water Header for Multiple Connections of Chilling Plant, Distribution of Chilled Water to Various Locations of Plant for Proper Flow and Even Distribution of Chilled Water with Cost Saving for Clients.

Chilled Water Piping Connections : Designing and Fabrication of Inlet and Outlet Chilled Water Piping Connections Piping Layout for Process Equipment's with Installations of Throttling Valves.

Chilling Plant Water Fill up : Fabrication of Fill up Pipeline for Chilling Plant for Fill up of water with Installation of Automatic Valve for Automatic Filling of Water in Chilling Plants during Low level of Water in Chilling Plant.

- Calculation of Pipe Sizing Based on Velocity and Pressure Drop and Proper Flow.
- Calculation of Pipe Wall Thickness as per ASME Standards.

- Selection of Chilled Water Manifold Pipe Size for Chilling Plants / Chilled Water Header Pipe Size for Chilling Plant.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Piping Material such as Pipe, Fittings, Valves used for Fabrication of Chilling Plant Piping are of Standard Companies.
- Design and Fabrication of Supports for Chilled Water Piping Systems to Support Dead Weight of Pipe, Fittings, Valves, Water Weight to avoid Sagging of Pipe During Sustain and Contracting Conditions, the Distance Between the Supports Are Selected as per Piping Engineering Standards.
- Piping Material Take off (MTO)/Bill of Material (BOM).
- Fabrication of Chilling Plant Piping is Carried out as per General Engineering Standards and Practices.
- Pipeline Erection for Chilling Plant.
- Hydraulic and Pneumatic Testing of Chilling Plant Piping for Leak Test Chilling Plant Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.
- Commissioning of Chilling Plant Piping.
- Cold Insulations for Chilling Plant Piping with Proper Thickness of Insulation.

D) Boiler Steam Piping

Steam Boiler Piping Layout includes :

Steam Piping Layout / Steam Distribution System : Designing, Fabrication and Erection of Steam Boiler Piping Layout / Steam Distribution System for Proper Distribution of Steam to Complete Plant with Efficient Use of Steam Energy where ever Required in Plant according to General Steam Engineering Standards and Practices.

Steam Manifold Piping System / Steam Distribution Header : Designing and Fabrication of Steam Manifold Piping Systems / Steam Distribution Header for Multiple Connections of Steam Boilers, Distribution of Steam to Various Locations of Plant for Proper Flow of Steam and Evenly Distribution of Steam to Various Locations of Plants with Efficient use of Steam and Cost Saving for Clients.

Steam Pressure Reducing Stations (PRS Station): Fabrication and Installation of Steam Pressure Reducing Station (Steam PRS Station) with Complete Installation of all

Accessories Required for Steam Pressure Reducing Station. We Can Also Fabricate the Steam PRS System at Site to Avoid Transportation Cost.

Steam Piping Connections : Design and Fabrication of Steam Piping Connections to Various Process Equipment's with Selection and Installation of Steam Valves,

Control Station Piping for Steam Boiler : Many Application Requires Automatic Control of Flow of Steam and Temperature Control for Processes. As per Applications and Customer Requirements We Design and Fabricate Control Station Piping for Steam Boiler with Bypass Piping System, Selection and Installation of Control Valve I.e. Solenoid Valve Pneumatically Operated, Digital Temperature Controller and Industrial Sensors.
When Controlling of Steam is Critical and Fine Tuning is Required for Flow and Temperature Control, We Design Control Station Piping System by use of Proportionate Switch for operating of Valve in percentage wise for Opening and Closing of Valves for Fine Control of Flow and Temperature for Processes.

Steam Trap Systems : Selection of Steam Traps as per its applications and Air Lock Removing Arrangement. Design and Fabrication of Steam Trap Piping with Steam Trap Bypass Piping for Proper Collection of Condensate and Efficient use of Steam Trap.

Condensate Return Piping : Designing and Fabrication of Condensate Return Piping for Efficient use of Condensate, As Utilization of Condensate as Boiler Feed Water Lowers the Use of Fuel Which Ultimately Increases the Efficiency of Boiler and Lowering the Fuel Cost.

Boiler Feed Water Piping : Fabrication of Frames for Boiler Feed Water Pump, Designing of Boiler Feed Water Pump Piping Layout with Considering Important Points while Designing Pump Piping Layout to avoid Cavitation and to Have Proper Flow, Designing and Fabrication of Pump Suction Piping, Designing and Fabrication of Pump Discharge Pipeline, Designing of Piping Layout for Multiple Pump Connections, Installation of Strainers, Throttle Valves with Proper Selection of their Materials and Grade.

Steam Tracing Systems : Designing and Fabrication of Steam Jacketed Piping / Steam Tracing Piping with Steam Tracing Manifold as Many Processes in Industries Required Steam Tracing in Process piping to Maintain Fluid in Liquid Form.

Boiler House Piping.

- Non IBR Steam Boiler Piping Systems doesn't come under Purview of IBR Piping (Indian Boiler Act).
- Calculation of Steam Pipe Sizing Based on Velocity and Pressure Drop.
- Calculation of Pipe Wall Thickness as per ASME/IBR Standards.

- Selection of Manifold Pipe Size for Steam Boilers / Steam Distribution Header Pipe Size for Steam Boilers.
- Selection of Piping Materials and its Grades for Pipe, Fittings, Valves, Traps as per ASME/IBR Standards.
- Pipe, Fittings and Valve Material used for Fabrication of Steam Boiler Piping are of Standard Companies.
- Design and Fabrication of Rest Supports for Pressurized Hot Water Piping Systems to Sustain Dead Loads of Pipe, Fittings, Valves, Steam Weight While Distance Between the Two Supports Are Selected based on Piping Engineering Standards.
- Design and Fabrication of Shoe Supports for Free Movement of Pipe during Its Operating Conditions at High Temperature to provide Flexibility to Pipe, Avoid Stresses in Piping Systems.
- Wherever Applicable Expansion Loops Are Designed and Fabricated for High Temperature of Steam Piping to Provide Flexibility of Piping and to Sustain the Thermal Loads developed due to Stresses developed in Piping.
- Piping Material Take off (MTO)/Bill of Material (BOM).
- Fabrication of Steam Boiler Piping as per General Steam Engineering Standards and Practices.
- Erection of Steam Boiler Piping.
- Hydraulic and Pneumatic Testing of Steam Boiler Piping for Leak Test in Steam Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.
- Commissioning of Steam Piping.
- Hot Insulations for Steam Piping with Proper Thickness of Insulation for avoiding Heat Loss.

E) Thermic Fluid Heater Piping

- Thermic Fluid Heater Piping Systems doesn't come under Purview of IBR Piping (Indian Boiler Act).
- It's a Low Pressure Piping with High Output Temperatures with High Energy Output.

Thermic Fluid Heater Piping Layout for Plant Includes :

Thermic Fluid Heater Closed Loop Piping : Designing and Fabrication of Thermic Fluid Heater Closed Loop Piping System with Installation of a Throttle Valve at the End of Piping for Throttling of Thermic Fluid for Proper Flow of Thermic Fluid in Piping System.

Thermic Fluid Heater Balance Piping : Designing and Fabrication of Thermic Fluid Heater Balance Pipeline for Proper Flow of Thermic Fluid, Proper Heat Transfer to Process Equipment's and to obtain Proper Required Temperature for Process.

Thermic Fluid Heater Circulation Pump Piping : Fabrication of Frame for Circulation Pump, Designing of Thermic Fluid Circulation Pump Piping Layout while Considering Important Aspects for Pump Piping to Avoid Pump Cavitation and Better Fluid Flow, Designing and Fabrication of Circulation Pump Suction Piping, Designing and Fabrication of Circulation Pump Discharge Pipeline, Designing of Piping Layout for Multiple Circulation Pump Connections, Installation of Strainers, Throttle Valves, Non Return Valves (NRV) with Proper Selection of their Materials and Grade.

Thermic Fluid Heater Manifold Piping Systems/ Thermic Fluid Heater Distribution Header : Designing and Fabrication of Thermic Fluid Heater Manifold Piping Systems / Thermic Fluid Heater Distribution Header for Multiple Connections of Thermic Fluid Heater, Distribution of Thermic Fluid to Various Locations of Plant for Proper Flow and Even Distribution of Thermic Fluid with Providing Cost Efficient and Cost Saving for Clients.

Thermic Fluid Heater Piping Connections : Designing and Fabrication of Inlet and Outlet Thermic Fluid Heater Connections Piping Layout for Process Equipment's with Installations of Throttling Valves.

Control Station Piping for Thermic Fluid Heater : Many Application Requires Automatic Control of Flow of Thermic Fluid and Temperature Control for Processes. As per Applications and Customer Requirements We Design and Fabricate Control Station Piping for Thermic Fluid Heater with Bypass Piping System, Selection and Installation of Control Valves Electrically, Pneumatically Operated, Digital Temperature Controller and Industrial Sensors.
When Controlling of Thermic Fluid is Critical and Fine Tuning is Required for Control of Flow and Temperature, We Design the Control Station Piping System by use of Proportionate Switch for operating of Valve in Percentage Wise for Opening and Closing of Valves for Fine Control of Flow and Temperature for Processes I.e. Less Variation in Temperature.

Thermic Fluid Heater Charging Piping : Designing and Fabrication of Thermic Fluid Heater Charging Piping for Thermic Fluid Heater During Initial Stage for Filling of Top of Thermic Fluid in Piping Systems and During Operations of Piping Systems for Low Flow and Low Level with Installation of Strainers and Throttling Valve.

Thermic Fluid Expansion Tank Piping : Designing and Fabrication of Expansion Tank Piping for Thermic Fluid Heater with Designing of Expansion Tank Piping Layout with Considering Important aspects and Fundamentals for Proper Working of thermic Fluid Heater Expansion Tank.

Thermic Fluid Heater Nitrogen Blanking : To operate Thermic Fluid over 300oC, thermic Fluid System is Provided with a Nitrogen Blanking to Remove Oxidation and avoid Oxygen Contact with Thermic Fluid Oil, to avoid Formation of Carbon in Internal Thermic Fluid Heater Piping for Proper Heat Transfer, Installation of Necessary Accessories Required for Thermic Fluid Heater Nitrogen Blanking.

- Calculation of Pipe Sizing Based on Velocity and Pressure Drop and Proper Flow.
- Calculation of Pipe Wall Thickness as per ASME Standards.
- Selection of Manifold Pipe Size for Thermic Fluid Heaters / Thermic Fluid Heater Distribution Header Pipe Size.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Material used for Fabrication of Thermic Fluid Heater Piping I.e. Pipe, Fittings, valves are of Standard Companies.
- Design and Fabrication of Rest Supports for Thermic Fluid Piping Systems for Sustaining of Dead Weights of Pipe, Fittings, Valves, Thermic Fluid Oil Weight while Distance Between the Two Supports Are Selected based on Piping Engineering Standards.
- Design and Fabrication of Shoe Supports for Free Movement of Pipe during Its Operating Conditions at High Temperature to provide Flexibility to Pipe, Avoid Stresses in Piping Systems.
- Wherever Required Expansion Loops Are Designed and Fabricated for High Temperature Thermic Fluid to Provide Flexibility to Piping and Sustain the Thermal Loads due to Stresses developed in Piping.
- Piping Material Take off (MTO) / Bill of Material (BOM).
- Fabrication of Thermic Fluid Heater Piping as per General Engineering Standards and Practices.
- Erection of Thermic Fluid Heater Piping.
- Pneumatic Testing of Thermic Fluid Heater Piping for Leak Test in Thermic Fluid Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.

- Commissioning of Thermic Fluid Heater Piping.
- Hot Insulations for Thermic Fluid Heater Piping with Proper Thickness of Insulation for avoiding Heat Loss.

F) Hot Water Generator Piping

- Hot Water Generator Piping Systems doesn't come under Purview of IBR (Indian Boiler Act).

Hot Water Generator Piping Layout Includes :

Hot Water Generator Distribution System : Designing of Piping Layout for Hot Water Generator Distribution System for Various Locations of Plant with Proper Flow and Maintaining Proper Pressure of Water, Fabrication of Piping for Hot Water Generator Distribution System.

Hot Water Generator Closed Loop Piping : Designing and Fabrication of Hot Water Generator Closed Loop Piping System with Installation of a Throttle Valve at the End of Piping for Throttling of Hot Water Generator for Proper Flow of Hot Water Generator in Piping System.

Hot Water Generator Balance Piping : Designing and Fabrication of Hot Water Generator Balance Pipeline for Proper Flow of Pressurized Hot Water, Proper Heat Transfer to Process Equipment's and to obtain Proper Required Temperature for Process.

Hot Water Generator Circulation Pump Piping : Fabrication of Frame for Circulation Pump, Designing of Hot Water Generator Circulation Pump Piping Layout while Considering Important Aspects for Pump Piping to Avoid Pump Cavitation and Better Fluid Flow, Designing and Fabrication of Circulation Pump Suction Piping, Designing and Fabrication of Circulation Pump Discharge Pipeline, Designing of Piping Layout for Multiple Circulation Pump Connections, Installation of Strainers, Throttle Valves, Non Return Valves (NRV) with Proper Selection of their Materials and Grade.

Hot Water Generator Manifold Piping Systems / Hot Water Generator Distribution Header : Designing and Fabrication of Hot Water Generator Manifold Piping Systems for Multiple Hot Water Generator Connections, Distribution of Hot Water Generator to Various Locations of Plant for Proper Flow and Even Distribution of Hot Water Generator with Cost Saving for Clients.

Hot Water Generator Piping Connections : Designing and Fabrication of Inlet and Outlet Hot Water Generator Connections Piping Layout for Process Equipment's with Installations of Throttling Valves.

Control Station Piping for Hot Water Generator : Many Application Requires Automatic Control of Flow of Hot Water Generator and Temperature Control for Processes. As per Applications and Customer Requirements We Design and Fabricate Control Station Piping for Hot Water Generator with Bypass Piping System, Selection and Installation of Control Valves Electrically, Pneumatically Operated, Digital Temperature Controller and Industrial Sensors.
When Controlling Fine Tuning is Required for Control of Flow and Temperature, We Design the Control Station Piping System by use of Proportionate Switch for operating of Valve in Percentage Wise for Opening and Closing of Valves for Fine Control of Flow and Temperature for Processes I.e. Less Variation in Temperature.

Water Generator Charging Piping : Designing and Fabrication of Water Charging Piping for Top of Water in Piping Systems of Hot Water Generator and During Operating Conditions of Piping Systems for Low Flow, Low Pressure, Low Level of Hot Water Generator to avoid Damage to Pressurized Hot Generator and Piping Systems of Whole plant, Installation of Strainers and Throttling Valve.

Air Lock Removing System : Designing of a System for Removing Air Lock in Piping Systems with Design and Fabrication of a Cylinder of Calculated Diameter and Length with Installation of Solenoid Valve, Low Level Switch for Air Lock Release in Piping Systems for Safety of Piping Systems and Hot Water Generator.

- Calculation of Pipe Sizing Based on Velocity and Pressure Drop and Proper Flow.
- Calculation of Pipe Wall Thickness as per ASME Standards.
- Selection of Manifold Pipe Size for Hot Water Generator.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Material used for Pipe, Fittings, Valves for Fabrication of Hot Water Generator Piping are of Standard Companies.
- Design and Fabrication of Rest Supports for Hot Water Generator Piping Systems to Sustain Dead Loads of Pipe, Fittings, Valves, Weight of Water with Distance Between the Two Supports Are Selected based on Piping Engineering Standards.
- Design and Fabrication of Shoe Supports for Free Movement of Pipe during Its Operating Conditions at High Temperature to provide Flexibility to Pipe, Avoid Stresses in Piping Systems.

- Wherever Required Expansion Loops Are Designed and Fabricated for High Temperature of Pressurized Hot Water for Providing Flexibility in Piping and to Sustain the Thermal Loads developed due to Stresses developed in Piping.
- Piping Material Take off (MTO)/Bill of Material (BOM).
- Fabrication of Hot Water Generator Piping is Carried out as per General Engineering Standards and Practices.
- Erection of Hot Water Generator Pipelines.
- Hydraulic and Pneumatic Testing of Hot Water Generator Piping for Leak Test in Hot Water Generator Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.
- Commissioning of Hot Water Generator Piping.
- Hot Insulations for Hot Water Generator Piping with Proper Thickness of Insulation for avoiding Heat Loss.

G) Fuel Oil Piping

- Fuel Oil Piping Are Designed to provide Reliable Fuels to Boilers, Generators, Furnaces, Ovens, Yarn Dyeing Machines and Other Firing Units to Develop Firing in Combustion Chambers.
- Fuel Oil Piping Layout includes Piping systems for Supply for Fuels such as Diesel Piping, LDO Piping, Furnace Oil Piping (F.O. Piping), Gas Piping.
- For Furnace Oil Piping Heat Tracing Systems is provided in Pipeline so as to Maintain the Viscosity of it otherwise it will Tends to get solidify at normal Temperature and Conditions Disturbing the Firing of Boilers, Generators, Furnaces, Ovens, Yarn Dyeing Machines and Other Firing Units.
- Heat Tracing Systems Are Provided by jacketed Piping with the use of Heating Fluid Flowing in Jacket of Furnace Oil Piping and Electrical Heaters (Tracer Heaters) wound around the Pipelines, Selection of this Heat Tracing Systems is done based on Economy Factor for Client whichever is Cost Saving.
- Fuel Oil Piping Systems Layout Are Designed in such way that Proper Flow is Maintained for Boilers, Generators, Furnaces, Ovens Yarn Dyeing Machines and Other Firing Units.
- Design of Ring Man Piping Systems for Fuel Oil for Ovens, Furnaces.
- Fabrication of Frames for Fuel Pumps.
- Calculations of Pipe Sizing for Fuel Oils Are Done with Providing Proper Flow Rate.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Piping Material such as Pipe, Fittings, Valves used for Fabrication of Compressed air Piping are of Standard Companies.

- Design and Fabrication of Supports for Fuel Oil Piping Systems to Support Dead Weight of Pipe, Fittings, Valves, Fuels to avoid Sagging of Pipe During Sustain and Operating Conditions with Distance Between the Supports Are Selected as per Piping Engineering Standards.
- Piping Material Take off (MTO)/Bill of Material (BOM).
- Fabrication of Fuel Oil Piping is Carried out as per General Engineering Standards and Practices.
- Pipeline Erection for Compressed Air.

- Pneumatic Testing of Fuel Air Piping for Leak Test Compressed Air Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.

- Commissioning of Fuel Oil Piping.

H) Heat Recovery / Heat Exchanger Piping

- Waste Heat Recovery / Waste Heat Recovery Boiler and Air Preheater Piping Systems doesn't come under Purview of IBR (Indian Boiler Act).

Waste Heat Recovery Unit / Waste Heat Recovery Boiler Closed Loop Piping : Designing and Fabrication of Waste Heat Recovery Unit / Waste Heat Recovery Boiler Closed Loop Piping System with Installation of a Throttle Valve at the End of Piping for Throttling of Hot Water for Proper Flow of Hot Water in Piping System.

Waste Heat Recovery Unit / Waste Heat Recovery Boiler Balance Piping : Designing and Fabrication of Waste Heat Recovery Unit Balance Pipeline / Waste Heat Recovery Boiler Piping for Proper Flow of Hot Water, Proper Heat Transfer to Process Equipment's and to obtain Proper Required Temperature for Process.

Waste Heat Recovery Unit Circulation Pump Piping : Fabrication of Frame for Circulation Pump, Designing of Hot Water Circulation Pump Piping Layout while Considering Important Aspects for Pump Piping to Avoid Pump Cavitation and Better Fluid Flow, Designing and Fabrication of Circulation Pump Suction Piping, Designing and Fabrication of Circulation Pump Discharge Pipeline, Designing of Piping Layout for Multiple Circulation Pump Connections, Installation of Strainers, Throttle Valves, Non Return Valves (NRV) with Proper Selection of their Materials and Grade.

Waste Heat Recovery Unit Manifold Piping Systems / Waste Heat Recovery Boiler Manifold Piping Systems / Waste Heat Recovery Unit Distribution Header / Waste Heat Recovery Boiler Distribution Header : Designing and Fabrication of Waste Heat Recovery Unit Manifold Piping Systems / Waste Heat Recovery Boiler Manifold Piping Systems / Waste Heat Recovery Unit Distribution Header / Waste Heat Recovery Boiler Distribution Header for Multiple Connections of Waste Heat Recovery Units, Distribution of Hot Water to Various Locations of Plant for Proper Flow and Even Distribution of Hot Water with Providing Cost Saving for Clients.

Waste Heat Recovery Unit Piping Connections / Waste Heat Recovery Boiler Piping Connections : Designing and Fabrication of Inlet and Outlet Waste Heat Recovery Unit / Waste Heat Recovery Boiler Piping Connections Layout for Process Equipment's with Installations of Throttling Valves.

Control Station Piping for Waste Heat Recovery Unit / Waste Heat Recovery Boiler : Many Application Requires Automatic Control of Flow of Hot Water and Temperature Control for Processes. As per Applications and Customer Requirements We Design and Fabricate Control Station Piping for Waste Heat Recovery Unit with Bypass Piping System, Selection and Installation of Control Valves Electrically, Pneumatically Operated, Digital Temperature Controller and Industrial Sensors.
When Controlling Fine Tuning is Required for Control of Flow and Temperature, We Design the Control Station Piping System by use of Proportionate Switch for operating of Valve in Percentage Wise for Opening and Closing of Valves for Fine Control of Flow and Temperature for Processes I.e. Less Variation in Temperature.

Induced Draft Ducting : Designing and Fabrication of Ducting for Induced Draft from Furnace Chimney to Waste Heat Recovery Unit for Creating a Draft in Waster Heat Recovery Unit to Increase the Heat Transfer Efficiency in Waste Recovery Unit.

Water Generator Charging Piping : Designing and Fabrication of Water Charging Piping for Waste Heat Recovery Unit / Waste Heat Recovery Boiler and Charging of Water During Initial Stage for Filling of Water in Piping Systems and During Running Systems for Low Flow, Low Pressure, low Level of Hot Water to avoid Damage to Water Charging Piping for Waste Heat Recovery Unit / Waste Heat Recovery Boiler and Piping Systems of Whole plant, Installation of Strainers and Throttling Valve.

Air Lock Removing System : Designing of a System for Removing Air Lock in Piping Systems with Design and Fabrication of a Cylinder of Calculated Diameter and Length with Installation of Solenoid Valve, Low Level Switch for Air Lock Release in Piping Systems for Safety of Piping Systems and Waste Heat Recovery Unit.

Air Preheater : Design and Fabrication of Ducting for Air Preheaters to Various Locations of Plants.

- Calculation of Pipe Sizing Based on Velocity and Pressure Drop and Proper Flow.
- Calculation of Pipe Wall Thickness as per ASME Standards.
- Selection of Manifold Pipe Size for Waste Heat Recovery Unit / Waste Heat Recovery Boiler.
- Selection of Distribution Header for Waste Heat Recovery Unit / Waste Heat Recovery Boiler.
- Selection of Piping Material and its Grades for Pipe, Fittings, Valves as per ASME/ Standards.
- Material used for Pipe, Fitting, valves for Fabrication of Waste Heat Recovery Unit Piping / Waste Heat Recovery Boiler Piping are of Standard Companies.
- Design and Fabrication of Rest Supports for Waste Heat Recovery Piping Systems / Waste Heat Recovery Boiler Piping Systems for Sustaining of Dead Weights of Pipe, Fittings, Valves, Weight of Water. Distance Between the Two Supports Are Selected based on Piping Engineering Standards.
- Design and Fabrication of Shoe Supports for Free Movement of Pipe during Its Operating Conditions to provide Flexibility to Pipe and Avoid Stresses to be Developed in Piping Systems due to Temperature of Hot Water.
- Expansion Loops Are Designed and Fabricated Wherever Required to provide Flexibility in Piping Avoiding Stresses in Piping.
- Piping Material Take off (MTO) / Bill of Material (BOM).
- Fabrication of Waste Heat Recovery Unit Piping / Waste Heat Recovery Boiler Piping as per General Engineering Standards and Practices.
- Erection of Pipelines for Waste Heat Recovery Unit / Waste Heat Recovery Boiler.
- Hydraulic and Pneumatic Testing of Waste Heat Recovery Unit Piping / Waste Heat Recovery Boiler Piping for Leak Test in Hot Water Pipeline, Checking of Welding Leakages in Piping Weld Joints, Checking of Leakages in Flange Joints and Checking of Leakages in Threaded Connection.
- Commissioning of Waste Heat Recovery Unit Piping / Waste Heat Recovery Boiler.
- Hot Insulations for Waste Heat Recovery Unit Piping / Waste Heat Recovery Boiler Piping with Proper Thickness of Insulation for avoiding Heat Loss.

I) Gas Piping

* Oxygen, Nitrogen, LPG, Methane Gas piping with SS316 Tube with Fittings & Cylinder Rack

* Gas Detection System, Gas Monitoring System including Panels & Purification Hub

J) uPVC/HDPE/PP Piping for Drainage

* Raw Water Piping – uPVC or PP Pipelines with accessories .

* Level Control System with Pumps & Over head Tank

* HDPE Drain Piping with Clean Room Trap Fixing & Pipe Supports

Equipments Installation & Commissioning

- Erection of Chemical Plant Machinery Equipment's for Chemical Plants, Pharmaceuticals Plants, Confectionary Plants, Biscuit Manufacturing Plant, Dairy Industries, Bakery Industries and Many Other Industries.
- Erection of Static Equipment's and Rotating Equipment's as per Equipment Layout.
- Erection of Process Equipment's as per Process Equipment Layouts.
- Erection of Equipment's such as Reactors, Kettles, Pressure Vessels, Holding Tank, Storage Tanks, Fuel Storage Tanks, Heat Exchangers, Condenser's, Re-boilers, Vessels, and Many Other Chemical equipment's for Chemical Plants, Pharmaceuticals Plants, Oil Distillation Plants and Engineering Industries.
- Erections of Reactors, Cookers, Holding Tanks, Syrup Reactors, Syrup Holding Tanks, Votator, Storage Tanks for Food and Liquid Storages, Vessels and Many Other Food equipment's for Food Industries such as Confectionary Plants, Biscuit Manufacturing Plant, Dairy Industries, Bakery Industries and Many Other Food Industries.
- Erection of Chemical Process Pumps such as Centrifugal Pumps, Lobe Pumps, Positive Displacement Pumps, Gear Pumps along with Design and Fabrication of Frames for Pumps,
- The Erection of Following equipment's is done with all Technical aspects for Erection of equipment's

  - Proper Nozzle Orientation for Proper Operations and Stress Free Piping.

  - Proper Spacing for Operations and Maintenance of Process Pumps.

  - Proper Spacing for Operations and Maintenance of Process Equipment's.

  - Proper Supporting of Saddles of equipment's for Stress Relief in equipment's During its Operating Conditions.

  - Proper Spacing for Removal of Coil Bundles for Heat Exchangers, Condensers and other Heat Exchanger equipment's.

- - Installation of Utility Equipments, Process Equipments, Plant Furniture, Electrical Panels, DG Set, Transformers as Per Equipment Layouts.
- Erection of House Centrifugal Air Compressors, Rotary Screw Compressors, Positive Displacement Compressors, Blowers, Air Compressors, Blowers, Compressed Air Dryer,

Compressed Air Receiving Tank, Compressed Air Storage Tank in Compressor House as per Compressor Equipment Layout with Fabrication of Frames for Compressors.

- Erection of Utility Pumps such as Centrifugal Pumps, Lobe Pumps, Positive Displacement Pumps, Gear Pumps along with Design and Fabrication of Frames for Pumps,
- Erection of Cooling Towers and Erection of Chilled Water Equipment with Fabrication of Frames for Cooling Towers and Chilled Water Equipment.
- Erection of Fuel Storage Tanks, Hot Water Storage Tanks.

Validation & Documentation

We do not limit ourselves to controlling final project quality, but also works to guarantee it from the previous phases until the final handover to the user. As an integral part of project development, we execute a complete commissioning and qualification plan, with full documentation that ensures final product quality.

Maintenance & Training

1. We provide maintenance and training along with trained manpower for factory-oriented equipment, machinery, and process.
2. Training of the people on-site, for which we provide the personnel.