



UNIQUE CHEMPLANT EQUIPMENTS

• A member of J. B. Patel Group of Companies •



**innovative  
ENGINEERING**

**WORLD-CLASS SYSTEMS, TURNKEY PLANTS AND  
CODED PROCESS EQUIPMENT**



One-stop-shop for design and manufacturing of coded process equipment and plants for global clients. Since 1981.

AN ASME **U, U2, R & NB** CERTIFIED COMPANY  
ALSO AVAILABLE WITH **PED** CERTIFICATION

**HTRI**



## OUR VALUE PROPOSITION

# Passion to Excel

**At Unique Chemoplant Equipments, we have a unique 'innovative engineering' culture that combines our process engineering expertise with passion for solving complex problems. Since 1981**

To consistently design and supply a range of complex process equipment that have stood the test of time for over 30 years in a variety of applications and industries, it takes more than mere engineering capabilities. It takes single-minded focus to excel. It takes passion. At Unique Chemoplant Equipments, these qualities help us engineer solutions that go beyond client expectations. And it is this passion to excel that has made us the leading provider of chemical plants and equipment in India and abroad.

## WORLD-CLASS SOLUTIONS

Having worked with hundreds of demanding global and Indian clients since 1981, we understand chemical process engineering matters. Our deep knowledge and experience helps in solving most complex engineering problems and create coded process equipment. We follow a concept-to-commissioning approach that allows us to deliver standards-based products and solutions.

Among our products and solutions include:

- **Customized Products:** We supply of a variety of custom-designed chemical process equipment including Reaction Vessels, Agitators, High Pressure Autoclaves, Hydrogenators, Pressure Vessels, Heat-Exchangers, Tall Vertical Columns among others.
- **Specialised Products:** We supply specialized and proprietary products like Rotary Vacuum Paddle Dryers, Spherical Paddle Chopper Dryer, Autoclaves with quick opening doors, Rotocone Vacuum Dryer, Conical Screw Dryer, Ribbon Blender, Co-Axial Contra-Rotating Mixers and Silicon-Carbide Heat Exchangers.
- **Solutions:** We also supply world-class systems and skids, and turnkey plants, including detailed process engineering, design engineering and supply of equipment, structurals, piping and instrumentation.



For many of our clients, we serve as a one-stop-shop for all their design, engineering, manufacturing, fabricating and commissioning needs of plants and coded process equipment

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## PRODUCTION FACILITIES

Our processes are calibrated to produce equipment conforming to international Codes & Standards such as ASME/TEMA/PED 5500/API 620/API 650/DIN/EEUA Handbook / EJMA. Our systems and facilities are certified for ISO 9001-2008, ASME U, U2, R and NB stamp. We have executed jobs for European market with CE Marking meeting PED requirements. We offer jobs under third-party acceptance including Lloyds, TUV, Jacobs H&G, BVIS, AKER, SAIPEM and TCS.

We use industry-standard design technologies such as Pv-Elite, CodeCalc, Micro-protol (EU Research), CEASER, HTRI, Autocad, Solid Edge, Mechcal among others for faster product design and development. Our production facilities house Plasma Arc Cutting equipment, plate bending, dish-end forming, machining, mechanical & electro-chemical polishing, non-destructive testing, liquid penetrant testing,

magnetic particle inspection, ultrasonic thickness gauging, paint thickness measurement, and surface roughness measurement technologies.

These tools and technologies combined with the deep knowledge of our experienced engineers, help us design and supply some of most sophisticated equipment required in the process industry. For instance, we have in-house capabilities to supply equipment up to 6000 mm in diameter and 30 meters in single piece length. Our vessels can have shell thickness of up to 80 mm and are capable of working under pressures ranging from full vacuum to 130 Kg/Cm<sup>2</sup>(g). We have created products using a variety of materials including, Stainless Steel, Duplex Steel, Super Duplex, Alloy Steel, Carbon Steel, Hastelloy, Inconel, Monel, Nickel, Copper, CuproNickel, Aluminum, Aluminum-Bronze and Titanium in bare and explosion-bonded constructions.



## INDUSTRY EXPERTISE

# Versatility at Work

**Our products and solutions have proven themselves across a wide range of industries and in testing conditions. We built them that way in our ASME U, U2, R & NB Stamp certified shops**

Just as no two applications are the same, no two industries are similar either. To be able to design quality products and solutions for a wide range of industries requires more than thorough know-how. It requires versatility. Of people, processes and production capabilities.

## CAPABILITY AND RELIABILITY

At Unique Chemoplant Equipments, we understand the specific requirements of the process industry. We

take great pride in our versatility and our ability to develop quality designs and equipment for a variety of industries. Our experienced professionals focus on developing equipment that maximize operating efficiencies.

Our coded process equipment have stood the test of time in chemicals, petrochemicals, steel, power, aviation, Pharmaceuticals, water, dye intermediates and pigments and other process industries.

### CHEMICAL INDUSTRY

Since 1981, we have designed and supplied coded process equipment to help our clients build world-class chemical plants. We have provided turnkey plants including detailed process engineering, equipment, structurals, piping and instrumentation.

### PETROCHEMICAL INDUSTRY

Making equipment that meet stringent safety standards for hazardous and severe service requires thorough process understanding. Our equipment in oil & gas industry have stood the test of time.

### POWER INDUSTRY

Whether it is pressure vessels, air receivers, de-aerators and storage tanks, or piping including cooling water lines, our proven solutions for the power industry have earned us wide acclaim.

### STEEL

We have been a dependable partner for steelmakers for providing reformers, heat recovery equipment, bins, silos and hoppers, gas seals and scrubbers.



Our coded process equipment have stood the test of time in chemicals, petrochemicals, power, steel aviation, pharmaceuticals, dye intermediates and pigments, and water industries

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With Unique Chemoplant Equipments, you can expect:

- **Expertise:** Higher level of applications and solutions expertise
- **All-Stage Support:** Retrofitting a single area, plant renovation or a greenfield project
- **Innovative designs:** High reliability products that maximize process uptime
- **Cost-Effective:** Solutions at competitive costs
- **Quick turnaround:** Faster response on technical questions and quotations
- **On-time Delivery:** Anywhere in the world

## WINNING BUSINESS, EARNING TRUST

For over 30 years, we have been designing and supplying complete and world-class systems, plants and coded process equipment in our U, U2, R & NB Stamp certified shop. For over 30 years, we adapted to changing needs of our clients worldwide.

Yet, for over 30 years, our guiding principles have remained the same. Stay ahead of times and client will reward us with something far more precious than business. Trust.

### AVIATION INDUSTRY

Making an aeroplane is complex. But designing autoclaves for curing advanced composite components like wings and tail parts, is no less. Our equipment perform in demanding environment of the aviation industry.

### PHARMACEUTICALS

Our special plants and equipment for pharmaceutical, bio-processing, life sciences and other hygiene sectors meet C-GMP standards and stringent requirements of International regulatory bodies like USFDA, UKMCA and TGA.

### DYES AND PAINT INDUSTRY

While making intermediates, dyes and paint, preserving unit properties of products is important. Our technologies and equipment ensure colour consistency. Always.

### WATER

Whether it is building desalination plants to extract potable water from the sea to designing ultra pure water storage and distribution in hygiene industries, we understand water processing technologies.



## OUR OFFERINGS

# Products and Solutions

## PROCESS REACTION VESSELS

We provide a range of coded process reaction vessels including autoclaves, Hydrogenators, GMP reactors, and reactors for corrosive applications for a variety of applications. These equipment are offered in various materials of construction such as stainless steel, Duplex Steel, Alloy Steel, Carbon Steel, Hastelloy, Inconel, Monel, Titanium with Bare Metal and Explosion Bonded material. Some of them include:



An 81-ton, 5m dia, 13m long autoclave with quick opening door and inflatable seal for aviation composites



Alloy 20 extraction wash vessel with internal filters for ultra high performance polymer plant



10KL Hastelloy clad hydrogenation reactor



5KL high pressure batch reactor with internal cooling coil and jacket designed for 70kg/cm²/300°C

## HEAT EXCHANGERS/PRESSURE VESSELS/AGITATORS

We provide a range of special construction heat exchangers and agitators for a variety of applications.

- Custom-designed Agitators
- Pressure Vessels/ Tall Vertical Columns
- Heat Exchangers made of special alloys
- Silicon Carbide Exchangers



Process heat exchanger for Oil & Gas including thermal and mechanical design



Alloy 20 column fabricated under third-party inspection of Lloyds



Silicon Carbide tube heat exchanger offer very high heat transfer co-efficients and universal corrosion resistance



Alloy 904L process heat exchanger

## TURNKEY PLANTS, SYSTEMS & SKIDS

At Unique Chemoplants Equipments, we have been designing and supplying world-class systems, turnkey plants and coded process equipment to solve a range of process engineering challenges. We undertake design, detailed engineering and fabrication of complete process plants and systems on a turnkey basis including equipment, structurals, piping and instrumentation.

In addition to plants, we also provide a wide range of skids and systems.



# CUSTOM DESIGNED PRODUCTS

Besides coded products, we specialize in providing custom-designed products for a range of applications in a variety of material in bare and explosion-bonded constructions. We have supplied equipment to the European market with PED certification under third party inspection by Lloyds under module G & H. We also carry out fatigue analysis for equipment as per ASME Div II. Our six modern plants can accommodate equipment up to 6000 mm in diameter and 30 meters in single piece length, shell thickness of up to 80 mm and capable of working under pressures ranging from full vacuum to 130 Kg/cm<sup>2</sup>(g) and temperature of up to 600°C.



Carbon Steel Air Receiver, Supplied to European market with PED certification under module G



Carbon Steel Heat Exchanger supplied to ONGC, India



Carbon Steel Air Receiver, Supplied to European market with PED certification under third-party inspection of Lloyds under module G



Carbon Steel Boiler with U-Tube Heat Exchanger supplied to Arco Refinery

# GLOBAL CERTIFICATIONS & ACCREDITATIONS



# PRODUCTS AND SOLUTIONS

Unique Chemoplant Equipments, a J. B. Patel group company, is an end-to-end provider of world-class plants and coded process equipment for a range of process industries. Together with our group companies, we offer coded equipment conforming to ASME / TEMA / BS 5500 / API / E. E. U.A Handbook / EJMA standards.

## Process Reaction Vessels

- Process Reaction Vessels
- Autoclaves/Hydrogenators
- GMP Reactors
- Reactors for Corrosive Applications

## Heat Exchangers/Pressure Vessels/Agitators

- Custom-designed Agitators
- Pressure Vessels/ Tall Vertical Columns
- Heat Exchangers made of special Alloys
- Silicon Carbide Exchangers

## Dryers/Mixers

- Rotary Vacuum Paddle Dryers
- Rotocone Vacuum Dryers
- Conical Screw Dryers
- Spherical Paddle Chopper Dryers
- Ribbon Blenders

## Specialised Plant Equipment

- GMP Reaction & Distillation Systems for Bulk Drugs and Active Pharmaceutical Ingredients

In addition, we also undertake design, detailed engineering and fabrication of complete process plants and systems on a turnkey basis including equipment, structurals, piping and instrumentation.

Talk to us to find out what we can do for you.



**UNIQUE CHEMOPANT EQUIPMENTS**

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