



# Techno Process Eqpts (I) P Ltd



**DISTILLATION COLUMN** : Hindustan Petroleum –Vishak refinery. 35M long EPC : **TECHNIP** Inspn : TUV/Toyo.

## COMPANY PROFILE

An



OHSAS 18001

Company



**INDIA's LARGEST TEFLON** coated Separator.



**HEAT EXCHANGERS** : Engg: Foster Wheeler Paradip Refinery.



8.0M Ht x 8.5M Wide x 24M Lg – 250MT **Pressure Vessel**



Claus Reaction **FURNACE** for Black & Veatch.

Tel : + 91 22 7148 1000 Fax : + 91 22 7148 1099 E-mail : [tpeho@technoprocess.com](mailto:tpeho@technoprocess.com)



## **INDEX**

Appendix		Description
Annexure-I	-	Introduction
Annexure- II	-	ISO 9001 : 2008, ISO 14001 & OHSAS 18001 ASME U, U2 Certificates.
Annexure- III	-	Infrastructure
Annexure – IV	-	Work Experience
Annexure – V	-	Product Catalogues



# Annexure I

<h2>Introduction</h2>
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## **INTRODUCTION**

Techno Process Equipments (India) Pvt Ltd is a ISO 9001 certified , ASME U stamp company run by highly experienced technocrats catering to the requirements of critical equipments for the Oil refineries, Petrochemical, Fertilizer and Steel Industries.

The company was established in 1981 & has fully equipped medium size fabrication and machine shop with a handling capacity of 650 MT, length 90M & height of 13.5M. It's nearness to Mumbai/ Dahej makes it easily accessible by sea.

The range of equipments designed and manufactured are,

1. Shell and Tube Heat Exchangers
  - a) U Tube
  - b) Straight Tube
  - c) Finned Tube
  - d) Floating Head Type
  - e) Shells with flexible elements.  
Condensers, Evaporators, Reboilers, etc.
2. Pressure Vessels
  - a) High Pressure Vessels (Thickness upto 250mm)
  - b) LPG, NH<sub>3</sub>, CO<sub>2</sub>, Cl<sub>2</sub>, etc. Storage Vessels under CCE.
  - c) Boilers & Pressure Vessels under IBR.
  - d) Reactors (Internals coils, Limped coils)
3. Distillation Columns.
4. Agitators
5. Steel plant equipments like  
Scrubbers, Charge distributers for Furnace feed / Dust collection systems & Recuperators for waste heat recovery.
6. Shop fabricated Heaters / Incernerators / Stacks / Helical coils ....  
Fired Heater Repairs in Refinery turnarounds.

Contd...



We have all the Oil refineries , Major Petrochemical /Chemical plants & Steel Industries in India as our clients.

### **ENGINEERING CONSULTANTS / LSTK CONTRACTORS**

We are working with consultants like Engineers India Ltd, Lurgi, UHDE, Akerkvaerner , Jacobs, Bechtel –India / UK /Houston , Foster Wheeler – Houston / Singapore / UK , John Brown- UK , Raytheon E&C – The Hague , Haldor Topose - Denmark etc.

**LSTK Contractors** such as Toyo Engineering, Technip, Petrofac –Sharjah, Daelim ,ICB Technimont , Black & Veach, Snamprogetti , Samsung Engineering ...

We manufacture our products under Inspection Agencies such as Lloyds Register, Bureau Veritas ,Det Norkse Veritas , TUV ... generally as ASME, TEMA, PD5500, API, EJMA, ISO, Indian standards .....

We fabricate from a range of materials in ferrous/non ferrous.  
Ferrous materials include Carbon steels, Stainless steels, Cr-Mo steels etc...  
Non Ferrous include Aluminium, Aluminium Bronze, Cupro Nickel, Monel, Titanium & other Nickel alloys.



## **COMPANY DETAILS.**

### **ENGINEERING & ADMINISTRATION OFFICE**

#### **CORRESPONDENCE ADDRESS**

ADDRESS : Techno Process Equipments (India) Pvt Ltd.  
R261,MIDC Rabale, Thane Belapur Road,  
Navi Mumbai. 400 701. India.

TELEPHONE : + 91 22 7148 1000  
FAX : + 91 22 7148 1099  
EMAIL : tpeho @ technoprocess.com

CONTACT PERSON : Amandeep Singh / G.Manjeshwar  
Executive Director General Manager - Mktg

\*\*\*\*\*

### **MAIN WORKS**

**WORKS** : Techno Process Equipments (India) Pvt Ltd.  
B-92, MIDC, Additional Ambernath.  
Ambernath (E) – 421 506  
Telephone: + 91 251 262 1434 / 1893  
e-mail: ambernath@technoprocess.com

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**WORKS** : Survey No. 297 , Bhadbhut Kasva Road ,  
District Bharuch – Gujarat – 392 130  
Telephone: + 91 264 227 6066 / 6161  
e-mail: bharuch@technoprocess.com

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## **EXISTING FACILITIES (SHOP)**

**Rolling capacity** : 3200 (Width) x 250mm (thk)

**Drilling capacity** : CS, SS, Non Ferrous

Chemical & Petrochemical Industries

Max Diameter : 3500 mm  
Max Hole Dia : 50 mm  
Max Thickness : 350 mm  
Min Hole Dia : 8 mm x 2750 Nos.

For Steel Plants

Max Size : 2000 x 3250  
Max Hole Diameter : 114 mm

**Machining Capacity** :

Max Tube Sheet Dia : 3500 mm  
Max Vessel/Exchanger Dia : 2250 mm  
Max Length : 4000 mm

**Cutting Capacity** :

Max thickness in Stainless Steel : 100 mm  
by Plasma cutting using Argon & N2 gas.

**Welding Technique** :

Submerged Arc Welding (SAW) : Semi- Automatic  
Shielded Metal Arc Welding (SMAW) : Manual  
Tungsten Inert Gas Welding (TIG) : Manual  
Gas Metal Arc Welding (MIG) : Manual  
Flux Core Arc Welding (FCAW) : Manual  
Strip cladding (EFSW) : Semi Automatic

We have installed Thyristor controlled Rectifiers to eliminate any fluctuations in voltage and current during welding.

Our welders are qualified for single side full penetration welding of radiographic quality.

**Metallurgy** :

- ❖ Low Temperature Carbon Steel
- ❖ CS for HIC /NACE Service
- ❖ **Low alloy steels** - Cr-Mo Steel
- ❖ **Stainless steels** –  
Austentic , Ferritic ,Duplex.

❖ **Non Ferrous**

Copper Alloys :  
Al Bronze, Cupro Nickel ...  
Nickel alloys : Monel , Inconel ...



**Cold Forming Capacity :**

1. Dish Ends  
Max Diameter : 12000 mm or more in Petals  
5000mm single pc.  
Max Thickness : 100 mm  
We have capability of forming all types of dish ends & cones including Crown & Petal construction.
2. Limped coils  
Max Diameter : 6500 mm
3. Coils  
Max Mean Coil Diameter : 6000 mm
4. Expansion Joints  
Single as well as multiple convolutions, as per  
Expansion Joints Manufacturers Association (EJMA)  
Only Thick wall bellow manufactured in-house
5. "U" Bends  
Hydrotesting jigs are for hydrotest after bending.
6. Fabricated Flanges  
Max Diameter : 4500 mm  
Max Thickness : 250 mm

**Heat Treatment :** 4000 x 4000 x 12000  
6000 x 6000 x 2000  
5000 x 5000 x 15000 or Modular Furnace of reqd size.

Heat Treatment also done by flue gas method & by Electric resistant method.

Larger equipment are Heat Treated in situ with Flue Gas method.

**Shot Blasting :** Inhouse

**Hydro Testing :** A bore well is installed for easy availability of clean water (Chloride content < 20 ppm) for Hydrotesting of Bulky Equipments.  
**DM water also available.**

**Maximum Dimensions :**

Max Weight of equipment 650 MT  
Max Diameter 13.5M



# **Annexure II**

**ISO 9001: 2008  
ISO 14001 & OHSAS 18001  
ASME U, U2, R Certificate**





# Annexure I I I

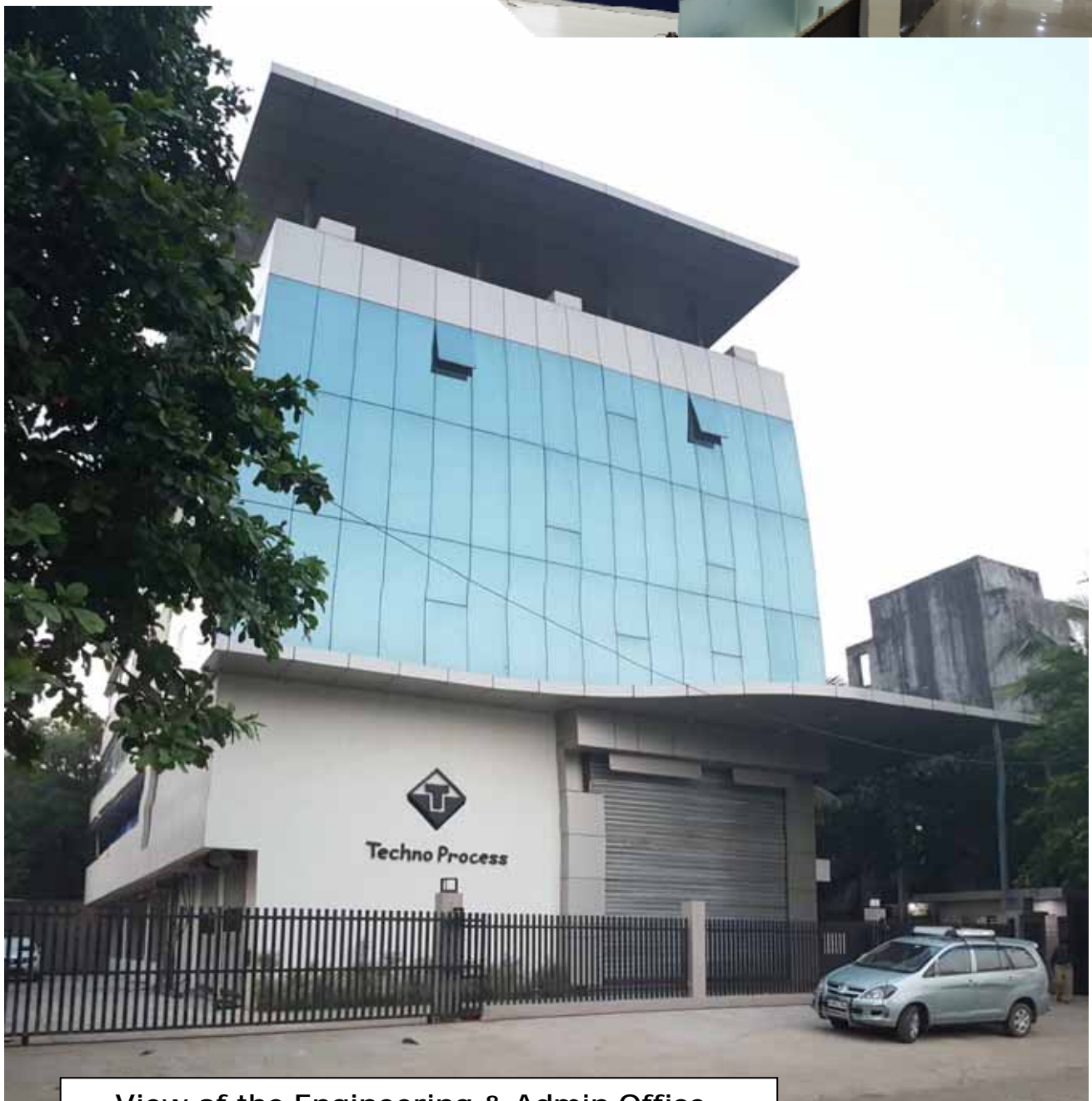
## Infrastructure

### CAPACITIES

	Ambernath	Bharuch
Max Dia	5.0M	13.5M
Max Thk	125mm	250mm
Max Length	45.0M	90.0M
Max Wt	250.0MT	650.0MT
QA Certs	ASME U,U2,R	ASME U, U2, R
	ISO 9001,14001 OHSAS 18001	ISO 9001,14001 OHSAS 18001



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View of the Engineering & Admin Office  
Rabale – Navi Mumbai. INDIA





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**View of the Workshop at Bharuch**  
**650MT lifting / 250mm thk Bending**



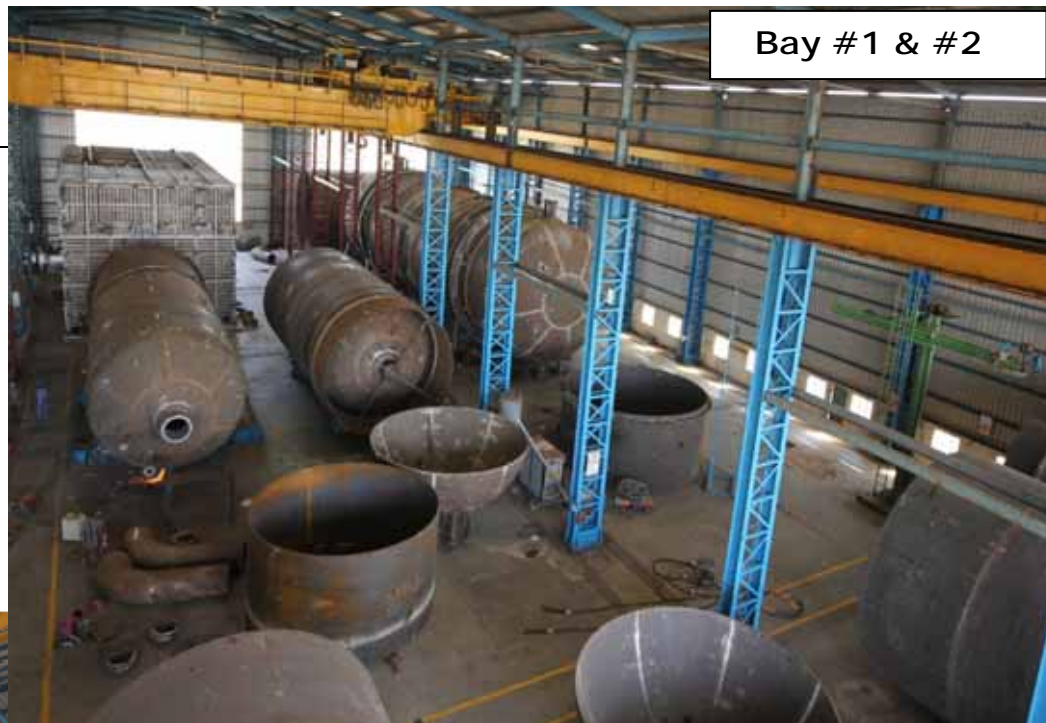


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## SHOP & YARD FACILITIES

Covered Shop Area = 10,000sqM  
Total Area: 265,000.0SqM

Plate Storage & Pre Fabn Bays #3 & #4



Bay #1 & #2



Mobile Cranes





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3200mm wide x 250mm thk  
Plate rolling machine



215mm x 1600mm ID  
Shell rolling - Bharuch



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Vertical Turning Lathe  
(VTL Machine) 3.5M Ht x 6.5M Dia:

CNC Drilling







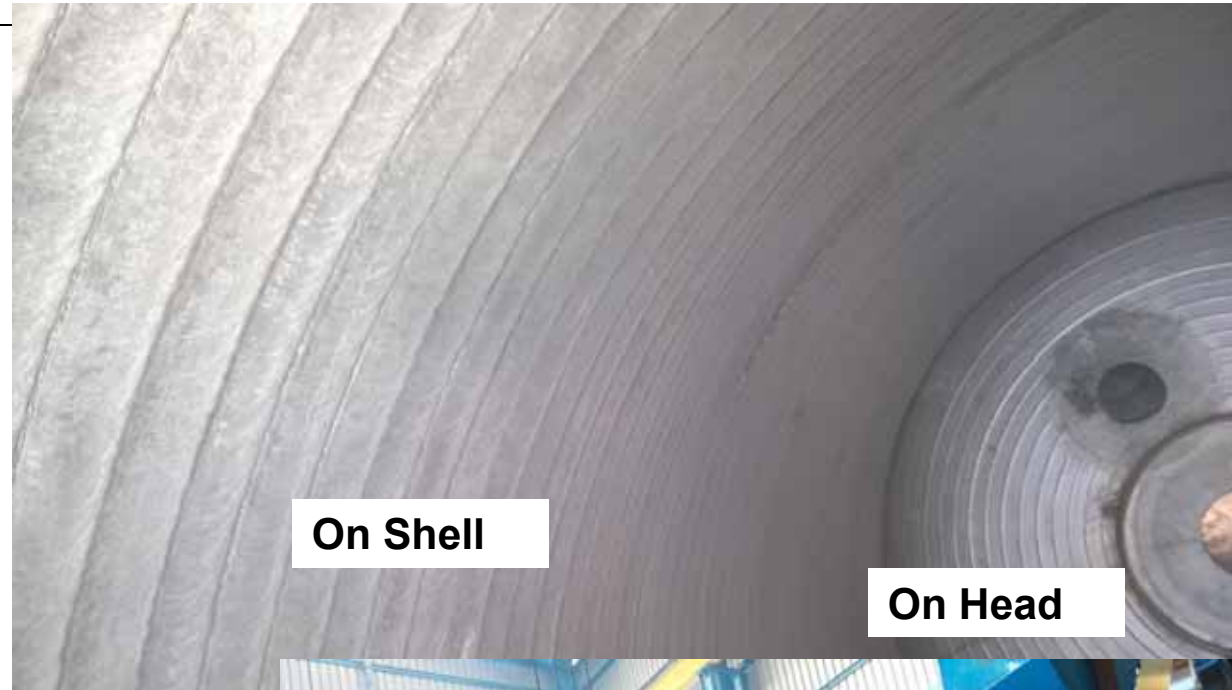
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## Strip Cladding (ESW)

### Welding Techniques adopted :

- ❖ Submerged Arc Welding (SAW)
- ❖ Shielded Metal Arc Welding (SMAW)
- ❖ Tungsten Inert Gas Welding (TIG)
- ❖ Gas Metal Arc Welding (MIG)
- ❖ Flux core Arc Welding (FCAW)
- ❖ Pipe WD inlay welding (GTAW)
- ❖ Electro slag Cladding (ESW)



Head being Strip clad  
on Welding positioner



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Destructive Testing Lab at Bharuch



Hydraulic Presses. : 250MT (B), 400MT (A), 750MT (R) , 1000MT (B), 1500MT (A)



12000mm Dia  
Crown & Petal  
Ellipsoidal Head  
formed inhouse



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## **Heat Treatment Furnances:**

Stress Relieving: 8.0M x8.0M x23.0M Lg

Normalizing: 4.5M x 7.0M x 7.0M



~5.0M Dia Ellipsoidal Head  
being Normalized.





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**5.0M Dia x 125mm thk  
Wt = 250.0MT**

**Shed Area :  
8000.0 sqM**





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## **PAINTING BOOTH**



View of Painting Booth @ Ambarnath. 6.0M Ht x 7.0 Wx 13.5M Lg





**View of Workshop at Ambernath – Single pc lifting 250.0 MT / 125thk**



**Proximity to Sea Port : View of Loading of 6.4M Dia vessel onto the ship**



# Annexure IV

<h2>Work Experience</h2>
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**APPROVED BY : END CUSTOMERS.**



إحدى شركات مؤسسة البترول الكويتية  
A Subsidiary of Kuwait Petroleum Corporation



إحدى شركات مؤسسة البترول الكويتية  
A Subsidiary of Kuwait Petroleum Corporation



We **Refine** Right



**IndianOil**



شركة أبوظبي للعمليات البترولية الجبرية (أدكو)  
Abu Dhabi Company for Onshore Oil Operations (ADCO)





**BLACK & VEATCH**



saipem



**FLUOR®**





# Annexure V

## Product Catalogues



250MT Vessel Duly Stress relieved being  
dispatched from our Bharuch Works.  
Client : Indian Oil Corporation Ltd. Inspn : DNV







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## **LARGEST DIA PRESSURE VESSEL OF PARADIP REFINERY**

**12.0M Crude Flash Drum - 580.0MT**  
Transported by Sea from **Dahej** to **Paradip**





**High Pressure Amine Absorber – ASME Sec VIII Div 2 Distillation Tower**  
– SA516 Gr70 , >4" thk. Inspn : DNV-GL. UT – TOFD /PA done in lieu of RT





Transportation in  
SINGLE Piece by Sea



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**COKER FRACTIONATOR TOWER** 4.5M dia x ~50.0M length

Licensors : Foster Wheeler – Houston. SA516 Gr 70 + SS410 Clad. with Internals

**Re run Column 8.0M Ht x 47.0M Lg- 250.0MT**

Project : Indian Oil - Paradip Refinery.

Engineering : Foster Wheeler

Multiple pass Trays



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## **POLYMERIZER REACTOR**



**Inside Cladding  
Mechanical Polish  
finished.**



**200.0MT - Jacketed Clad Reactor for Opal- Dahej. /EPC: SAMSUNG /PMC: EIL/ Inspection : TUV/EIL.**



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### LARGEST TEFLON COATED EQUIPMENT IN INDIA.

Separators for LLPDE Project of IOCL –Panipat Refinery.

EPC: Engineers India Ltd / Licensor: Nova / PMC: Udhe

Empty Wt : ~145.0MT



Teflon Coating Baking  
Furnace 8.0Mx 8.0Mx 15.0M Lg



Top & Bottom Portion  
Hydro tested together



M.F.C. TRANSPORT PVT. LTD.

*Techno Process Equipments (India) Pvt Ltd*  
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**PTA Reaction Vessel** (SS316L)  
**6.2M Dia x 15.0M Lg- 60.0MT**  
Project : Reliance PTA Plant Dahej.





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**Distillation Columns & Pressure Vessels**

**HIC CS + Alloy 825 Clad with Internals.**

Client : ADCO / EPC : Punj Lloyd , Inspn : Intertek & ASME AIA



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**GUERBET  
REACTOR OH  
Drum**

Eqpt : Cat -IV  
Fatigue Loading

**SASOL ETO & GUERBET UNITS**

Project : Lake Charles Chemical

**Louisiana - USA**

**Licensors : Fluor**

**EPC : Tecnicas Reunidas -Spain**



ipments (India) Pvt Ltd



**SOUR WATER STRIPPER – 47.0M Lg**

Project : Atyrau Refinery - Kazakhstan

Inspn : TUV-SUD ,ASME U Stamped & GOST  
compliant.

[info@tup-india.com](mailto:info@tup-india.com)

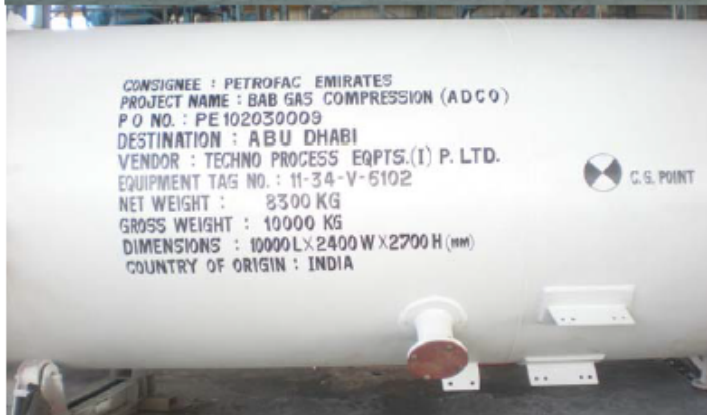






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### **Pressure Vessels (CS + HIC )**

**Client : ADCO ; EPC : Petrofac Emirates**

**PMC : VECO Mfg to ASME / ADCO & Shell Specs**



**DRIERS – 10 Nos. Pr Vessels with **Cyclic Loading** for Cracker Plant  
Reliance Petroleum; Inspn: Lloyds DEC: Technip –France**





## METHANOL DRUM –

~9.0M Ht & Width x 30.0M Lg  
Wt : 300.0MT

Project : Reliance  
– Jamanagar Refinery

Inspn : TUV ,  
Consultant : Linde

Large ODC Equipment being  
despatched via SEA.





**Dryers – Cracker Plant**  
**7.1M Ht & Width x 20.0M Lg**  
**FEA Analysis for Cyclic Loading**  
**Hemispherical Heads.**  
**Engg : Technip, Inspn : Lloyds Register.**



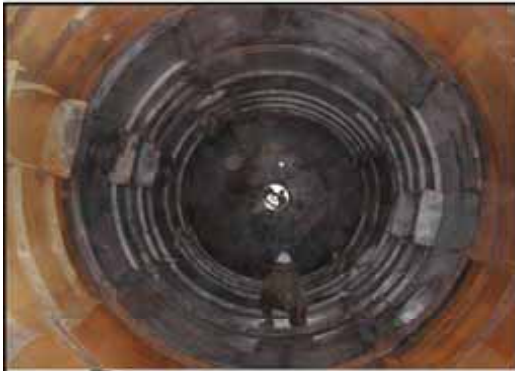
**Reliance Jamanagar Refinery**  
**Despatched via Sea from Dahej port.**



**SS304 Column for Cracker Unit**  
**Design Temp : -165 Deg C**  
Project : Opal - Dahej. **EPC Samsung**



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**HIC + SS316L**  
**CLAD COLUMN.**



HIC / NACE Clad Column duly Stress Relieved. 3.5M Dia X 37.0M Long [Inspn: EIL](#)



**Slurry Drums**– 12 Nos. for Reliance Jamanagar Refinery  
Engg : Foster Wheeler – UK, Inspn : Lloyds Register.



**SEA TRANSPORTATION**– Bharuch Works





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## **STEAM DRUM**

**Drum with Internals From Clark Reliance - USA. Inspn : Indian Boiler Reg.**  
**Client : Indian Petrochemical Corpn. Tested at 178.5 kg/cm<sup>2</sup>**

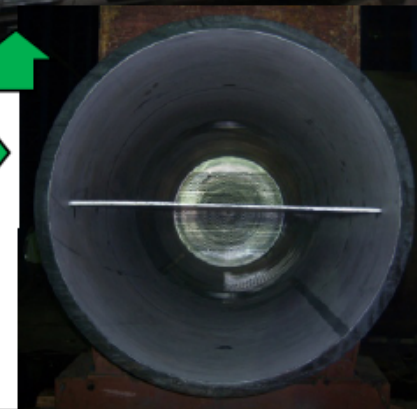
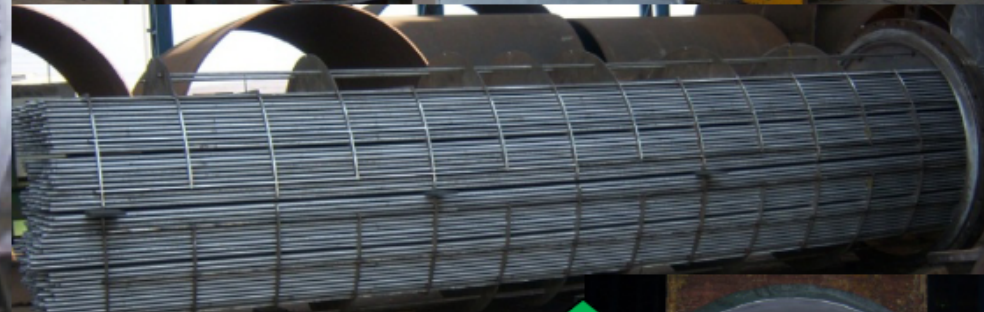






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**Tubesheet : 13+180 +13    Bundle : SS316L**

**Shell 68+6mm Clad with long baffle**

**TEMA : BGM    Wt : 50.0MT**

**SS316L Clad Heat Exchanger.**

**Inspn : TUV.**

**Client : Chemanol – Saudi Arabia.**

**Tested at 130.0 kg/cm2g.**





**Heat Exchangers:**  
**(9Cr 1/2 Mo & CS)**

**EPC : Tecnicas Reunidas**

**Customer : Star Refinery**

**Design : ASME / TEMA with**

**CE Marking**





## REACTOR PREHEATER

(TEMA Type: BEM) Flexible Tubesheet Design

3.0M Dia x 15.0M Lg - 125.0MT

Project : Indian Oil – Paradip Refinery

Licenser : Black & Veatch , Consultant : Foster Wheeler



**Techno Process Equipments (India) Pvt Ltd**

**An ISO 9001 Company. E-mail : [tpeho@technoprocess.com](mailto:tpeho@technoprocess.com)**





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## LOW ALLOY STEEL HIGH PRESSURE EXCHANGER

**PROJECT : MSQ IOC MATHURA / DHD**

**SINGLE PASS AES TYPE WITH INCONEL EXPANSION BELLOW**

**70mm Thk LAS CONE / 65mm Thk SHELL / TS : 165mm**

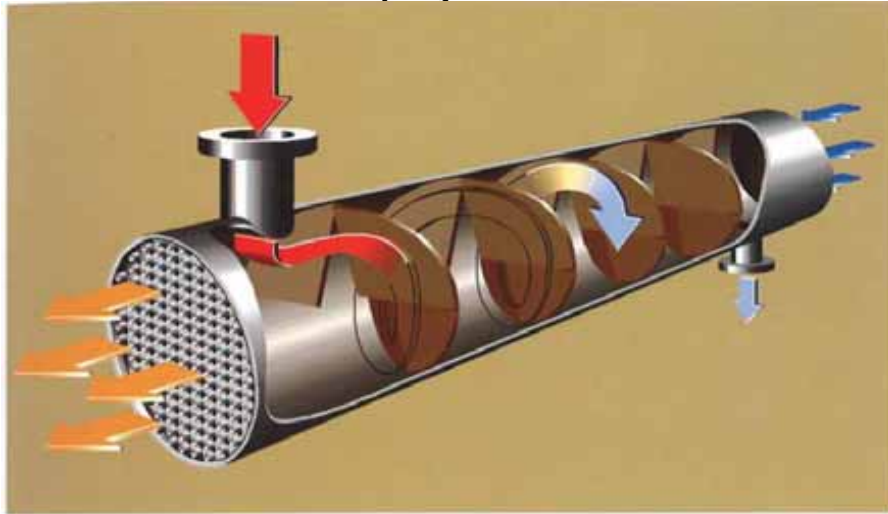
**Hydro Tested at 117 kg/cm<sup>2</sup>**

**PMC: Jacobs H&G LSTK: DAELIM Inspn: LLOYDS /IBR**





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**HELIXCHANGER®**  
Heat Exchanger

Lummus Technology  
& CB&I company



## HELIXCHANGER

Licensors : CB&I

Lummus Heat Transfer

Project : Coker Block,  
Chennai Petroleum.

PMC: Jacobs.

Inspn : TUV Nord / IBR / EIL

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**TEMA BEW / BEU**  
**Exchanger:**  
**Petrochemical Industries Corpn**  
– **Kuwait.**  
Inspn : BV.



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Condenser (TEMA Type: NKN)  
Refractory Lined  
3.5M Dia x 10.0M Lg - 65.0MT  
Project : Indian Oil – Paradip Refinery  
Licensor : Black & Veatch , Engg : Foster Wheeler



**High Pressure Heat Exchanger**

**DEU Type : Design Pr : 285 kg/cm<sup>2</sup>**

RCF Thal : HWP



**Heat Exchangers – 29 Nos.**  
**Owner : Reliance Jamangar Refinery**  
**Engg : Foster Wheeler / Inspn : Lloyds**  
**Additional Helium Leak Test for Hex in Hydrogen Service.**



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**Heat Exchangers: -24 Nos.**  
**(LAS/ CS & Duplex SS)**

**Max Area – 4648 SqM**

Customer : Reliance Industries

Engineering : Bechtel

Jamnagar Refinery – HNUU Plant

Thermal & Mechanical Design



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**9Cr ½Mo HP Steam Generator**  
**(TEMA Type: AKT)**  
**Consultant : Jacobs**  
**Inspn : Indian Boiler Regulation / TUV**





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## NON FERROUS HEAT EXCHANGERS.



1. Titanium Tube bundles with Brass baffles. Tubesheets : CS + Monel Clad. Inspection : Bax Counsel

2. Cupro Nickel Tube bundle Expansion under progress. T/S : 90/10 Cu Ni / Tubes : 70/30 Cu Ni. Inspn : Lloyds Register.

3. Titanium Tube bundles. Tubesheet : Al Ni Bronze Inspection : DNV.