Offshore Pedestal Mounted Crane (Deck Crane) Floating Vessel Cranes Railway Wagon Mounted Cranes Davits & Jib Cranes Truck Mounted Cranes



4 decades of designing, manufacturing, erecting & commissioning of cranes.

Robust Lifting Solutions Engineers

Corporate Office:

A-8, Shriram Industrial Estate, Wadala (W), Mumbai - 400031 INDIA

Tel.: + 91-22- 40865000 Fax: + 91-22-24165911 E-Mail: sales@rainaengineers.com

Design Office:

Pune Office:-Plot no.4, 105-106 Ramtekdi Industrial Area, Hadapser, Pune- 411013

Patansai Factory:

At & Post –Patansai, Taluka-Roha, Dist-Raigad - 402106 INDIA

Pen Factory:

Opposite Pen Railway Station Mumbai – Goa Road, Dist-Raigad - 402107 INDIA





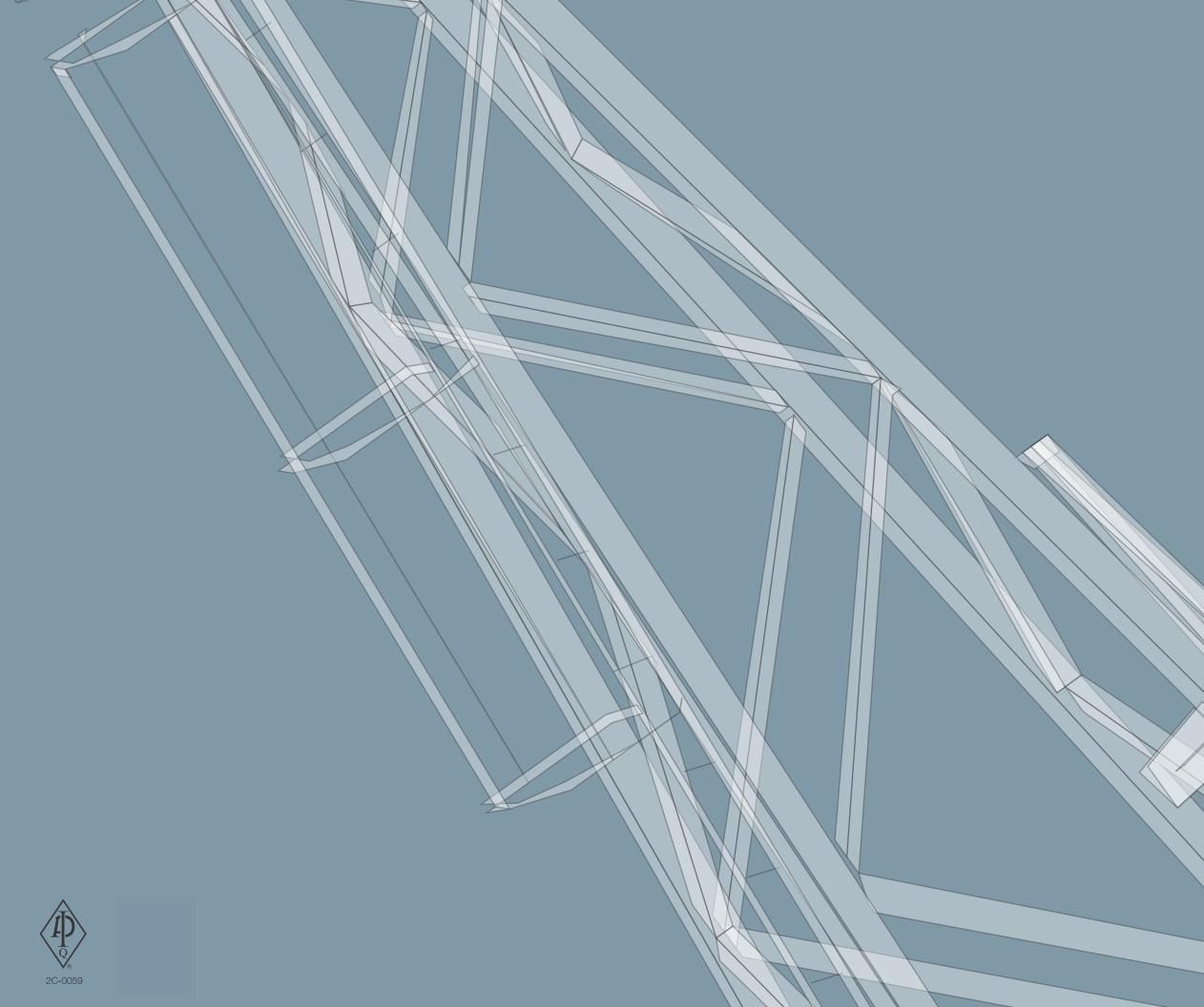
www.rainaengineers.com

Product specifications and prices are subject to change without notice or obligation.

R/5.1/18,Rev.3,Date:01.10.2018

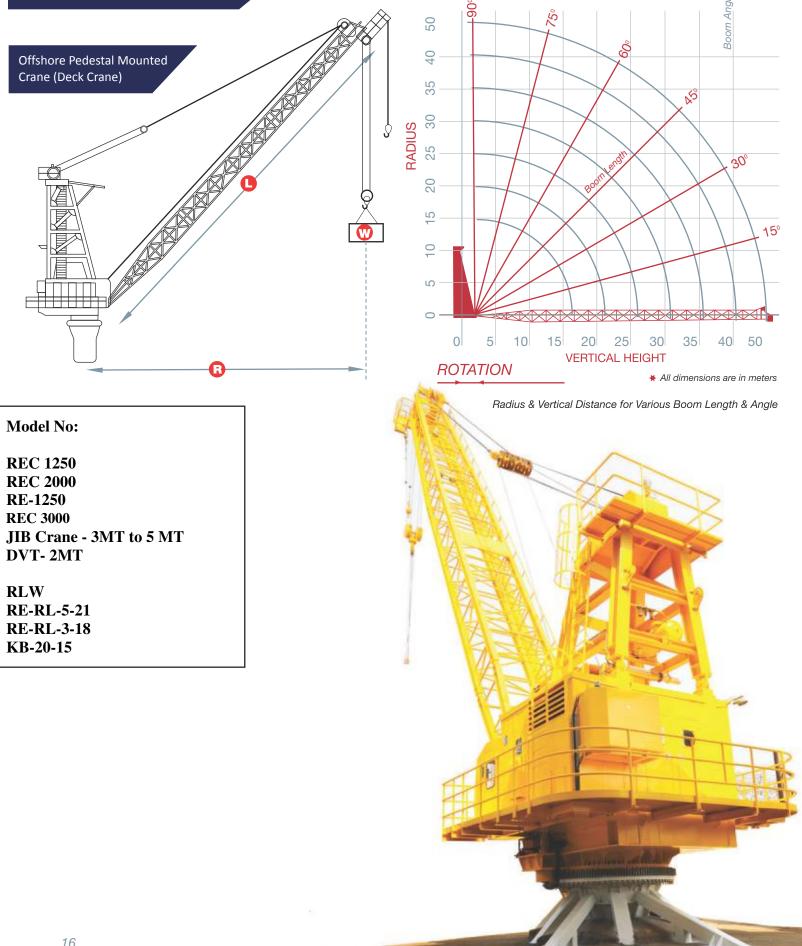


Offshore Pedestal-mounted Cranes (Deck Cranes) Floating Vessel Cranes Railway Wagon Mounted Cranes Davits & Jib Cranes Truck Mounted Cranes



Robust Lifting Solutions

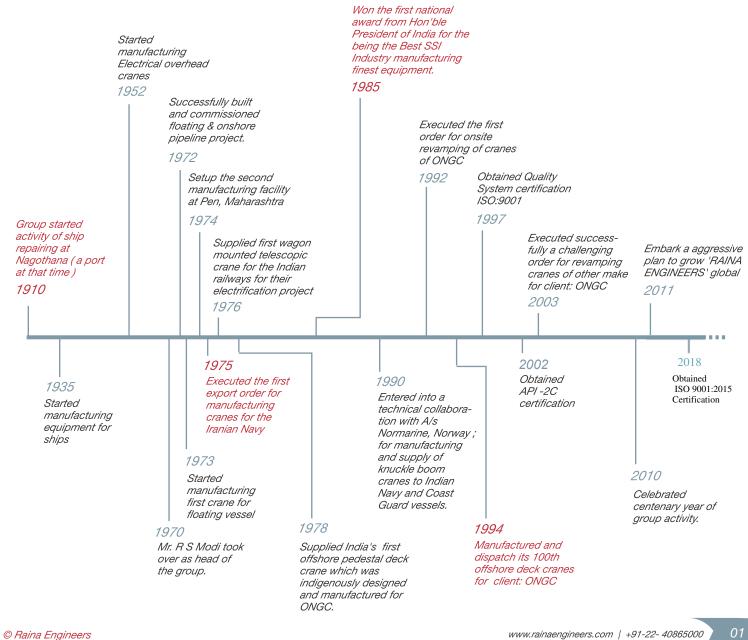
Technical Details



Raina Engineers

We are specialized in designing and manufacturing of many Hi-tech, complex and sophisticated equipment including special material handling equipment like Offshore Pedestal Mounted Crane (Deck Crane) for offshore oil platforms, Railway Wagon mounted cranes with telescopic boom, Ram Luffing Knuckle Boom Cranes for sea going vessels etc.

Journey so far..



RE-1250

REC 3000

RLW

KB-20-15



Mr. R. S. Modi being awarded by The President of India the first National Award

Profile - Mr R. S. Modi

Vision for innovation

Awarded by The President of India the first National Award

as the best industry in India for manufacturing finest equipment, meeting highest international Standards.

Mr. R. S. Modi - A Profile

Ramavatar Modi has been the Chairman and Managing Partner of Raina Engineers, the promoter of the company since 1995. He is also the Chairman of various group companies. During his tenure, the group revenue has grown 28 folds.

Mr. Modi received the Government of India's first national award for 'THE BEST SSI INDUSTRY' in the year 1985, chosen from 1.5 million industries. He has also won the State Government of Maharashtra's 'GAURAV CHIN' award. Mr. Modi is actively involved with an organization working for uplifting activities for tribals in backward areas of the state.

Mr. Modi is a double graduate and received his engineering degree in Mechanical and later in Electrical in the year 1964. He completed is Post Graduate Diploma in Business Management in the year 1967. He worked briey with an organization before joining the group in 1970.

Diesel Engine

In majority of offshore cranes, the prime movers are turbo charged or naturally aspirated diesel engines. The engine power depends upon the design and the type of hydraulic equipment used.

ENGINE MEETS EEMUA REQUIREMENTS

| Flame Arrestor | |
|------------------------|---------------|
| Spark Arrestor | DUAL STAR |
| Exhaust Gas Cooler | Hydraulic Sta |
| And other requirements | Air Starter |



Slew Ring Bearing

Designed for very high radial loads & complying with seawater environment

Safety

Crane cabin is equipped with all mandatory safety features

| VISUAL, AUDIBLE ALARM | SAFE LOAD |
|--------------------------|----------------|
| AND ENGINE STOP | Display of Loa |
| Low Lube oil pressure | Visual, Audibi |
| High Exhaust temperature | ·····, · ···· |

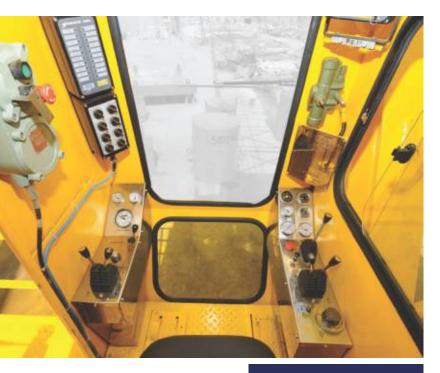
Engine Over speed

© Raina Engineers





All engines are load tested at engine manufacturers works in presence of both TPI and customer Representative prior to its usage in the crane



Alarms and Annunciation

INDICATOR (SLI)

ad, SWL, Radius, Boom angle

le Alarm on overload

VISUAL AND AUDIBLE ALARM FOR

Low Water level

Low Diesel level

Low Hydraulic Oil level

Technical Details

Supplied more than **175 Offshore Pedestal Mounted Cranes**

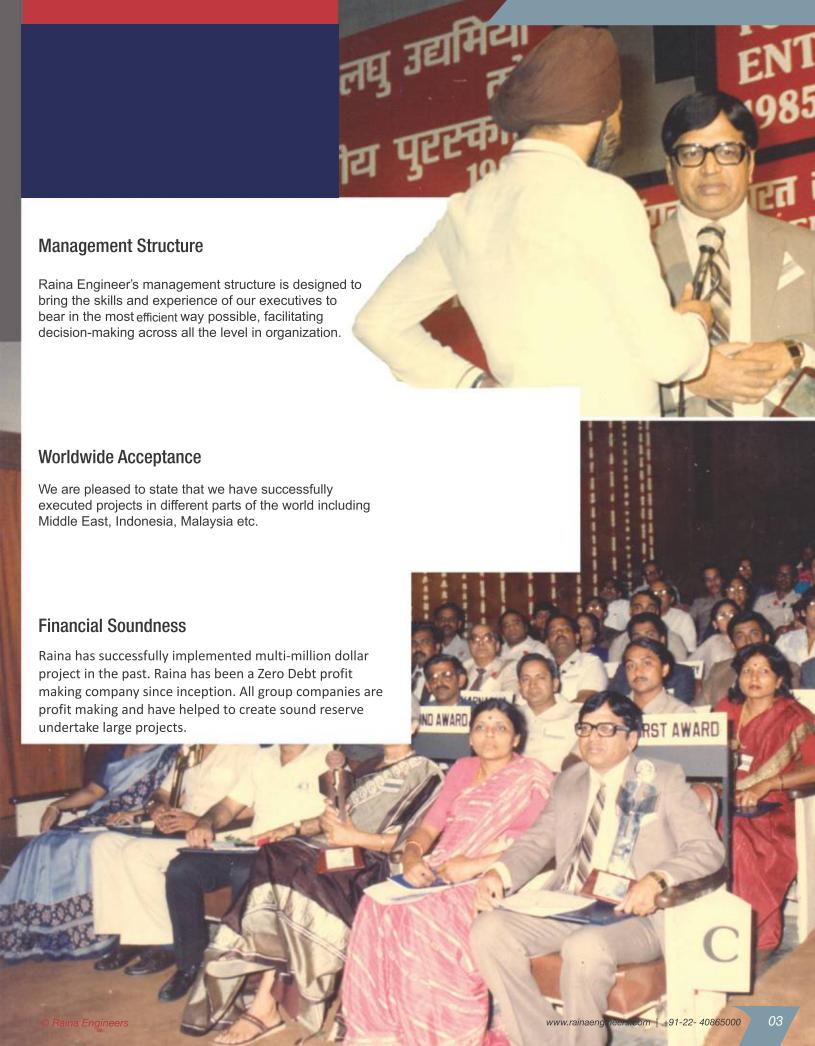
Build to perform

Our cranes require minimum maintenance, and minimum recurring spares.



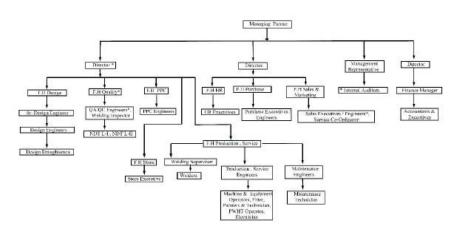
decision-making across all the level in organization.

We are pleased to state that we have successfully executed projects in different parts of the world including Middle East, Indonesia, Malaysia etc.





Annexure D: Organization Chart



Organizational Structure

Raina Engineers believes in a flat organization structure. Raina emphasis on having better coordination and timely spread of information among different departments. The top management is closer to the middle management which makes it easier for the upper management to communicate effectively to the lower level management. This gives Raina Engineers flexibility to adapt new innovation; empowerment to its employees; quicker implementation of policies in the organizations.



Reputed Clients

We have manufactured equipment under stringent inspection of many reputed inspecting agencies including the following agencies:

| INSPECTION AGENCIES | |
|------------------------------|---------------------------------|
| Lloyds Register of Shipping | Imperial Iraniar |
| Bureau Veritas | Mercantile Mar |
| American Bureau Of Shipping | Oil and Natural |
| Engineers India Ltd. | Certification Er |
| Det Norske Veritas | Germanisher L |
| Indian Register Of Shipping. | Warship Produ Govt. Of India |

CLIENTS FOR CRANES & OTHER EQUIPMENTS

| Oil and Natural Gas Corporation Ltd., India | Hyundai I |
|--|-------------|
| Larsen and Toubro Ltd., Mumbai | The Shipp |
| National Petroleum Construction Company , Abu Dhabi | Mazagoai |
| Reliance Petroleum Ltd. | Hindustar |
| PT Sempec Indonesia | Burn Star |
| British Gas E & P India Ltd.Mumbai | Indian Ra |
| Enron Oil & Gas Ltd. | Imperial II |
| | Indian Co |
| | |

Supplied Cranes for Indian Navy & Indian Coast guard

Supplied 25 railway wagon mounted cranes to Indian Railways

nian Navy

Marine Department

ural Gas Corporation Ltd.

n Engineers International Ltd.

er Lloyds Industrial Services.

oductive Superintendent, dia

Heavy Industries

pping Corporation of India Ltd.

an Dock Ltd.

an Shipyard Ltd.

ndard Company Ltd.

ailways

Iranian Navy

oast guard

Garden Reach Shipbuilders & Engineers Ltd.

Client Experience SUDD ays Available

Supplied the first crane in the year 1977 to ONGC, for the first platform manufactured by **MDL**

Support

We are always available at back of your call. Our services response is unmatched by any of the competitors.

Lowest Ownership Cost

Our cranes require minimum maintenance, and minimum recurring spares.

Our cranes require minimum maintenance, and minimum recurring spares.



Quality

An independent QA/QC department setup, also reports directly to the Managing Partner of the Company. The QA/QC systems are well defined and laid out in our Quality Manual. This ensures that no compromise whatsoever is made in the quality of our equipments. The strong inspection department follows the stringent laid down quality plan, which is governed by international inspection agencies

Factory Acceptance Test of the cranes

Carried in front of the two TPI and Customer

- Live load test on moment counter balanced test bed
- Static load test considering dynamic factor
- Over load test
- Speed test of all motions
- All Safety instruments and equipment test
- Controlled lowering test
- Slew free (dampening and swinging of load)
- Painting inspection



Design

We have highly gualified and competent design engineers in our design department. The department is fully equipped with computer-aided designs and drawings, using latest software. The designs and drawings of our products are approved by reputed third party inspecting agencies. Our design department is constantly engaged in updating the designs, incorporating latest advance technology in all our products.

QUALITY INSPECTION

Material Identification

Fit-ups

Welds

Paints

Delivery

We have excellent track record in delivering the cranes in time. We have supplied several deck cranes meeting short delivery periods. We provide turnkey services right from the designing and engineering of the deck cranes upto installation and commissioning of the deck cranes on the platforms.



Training

Instructional training programs along with hands-on training are conducted in the factory at regular interval and at various levels in organization.

Multi-level crane operator's training is provided to all our crane operators to keep them upto date with latest developments.

Safety

Raina Engineers is committed to provide a safe and healthy place of work throughout all of our facilities and work sites and to make every effort towards reducing and decreasing any environmentally undesirable effects of our operations.



Stringent Quality Standards

All products manufactured by us, always will meet the required standards namely API 2C, NEC, NEMA, OSHA, AGMA, EEMUA, ISO 3046, APIRP2D, BS 5514, API Q1, AWS D1.1, EN 1834.1, Each product strictly undergoes all the stringent quality checks before being delivered to our customer. Our products have certified by many reputed international agencies including LRS, BV, ABS, DNV, EIL, John Brown.

CERTIFICATIONS

✤ API 2C Monogram:

Our facility is the **First in India** to have API 2C Monogram facility. API Monogram License No.: **2C-059**

Offshore Pedestal-mounted Cranes (Deck Crane)

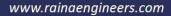
We have manufactured Pedestal deck cranes, slew ring bearing mounted, with capacity ranging from 5 MT to 50 MT and boom length up-to 60 meters. These cranes are completely enclosed and designed for long operational life, low operating costs and minimum maintenance requirements. They are made to withstand the harsh marine conditions and the subjected dynamic loading. All cranes are incorporated with various safety features viz. Hydraulic/ Electrical limit switches, Safe Load Indicators and engine monitoring system. The crane operation are very operator friendly, with the cabin designed to improve his lifting efficiency. Our deck cranes meet all the API-2C requirements and noise levels specified by our customers as per the specification. Our painting procedures and methods normally exceeds the customer specified requirements for painting.



Railway Wagon Mounted Cranes

The railway wagon mounted crane have a sleek design. The boom type is telescopic boom and the prime mover is diesel engine. The boom length and capacity can be designed to customer's requirement.





sales@rainaengineers.com



Floating Vessel Cranes

The prime mover for Floating vessel cranes can be diesel engine or electrical driven. The crane boom could either a lattice boom or a knuckle / straight Box boom type. They are made to withstand the harsh marine conditions and the subjected dynamic loading. All cranes are incorporated with various safety features viz. Hydraulic/ electrical limit switches, Safe Load Indicators and engine monitoring system. The crane operation are very operator friendly, with the cabin designed to improve lifting efficiency.



Davits & Jib Cranes

The jib cranes capacity ranges from 2MT to 5 MT with fixed boom. These cranes capacity ranges from 2MT to 5MT with hydraulic or electrical drive. The crane could be either cabin operated or with the help of remote control. The cranes seek very low maintenance and have the lowest cost of ownership. All cranes are incorporated with various safety features viz. Hydraulic/ electrical limit switches, Safe Load Indicators and engine monitoring system.

Product Offering

Robust Lifting Solutions

Lowest Cost of Ownership of Our Cranes

Our cranes require minimum maintenance, and minimum recurring spares.

Product Philosophy Life cycle value Low operating cost Low maintenance cost Standardisation of equipment

ISO Certification

Raina has got its system certified in the year 1997. Bureau Veritas has certified our system in line with latest requirements of ISO 9001:2015

Towards TQM

Our Management focus is/TQM. We believes in setting a system for each and every department and action, those also which are not covered by the ISO/9001 requirements. A total quality management system will help us built better customer relationship and improve confidence of our employees.

Quality Management System

RAINA ENGINEERS has established the Quality Management System which fulfils the requirements of API Spec Q1 9th edition, June 2013 "Specification for Quality Management System Requirement for Manufacturing Organizations for the Petroleum and Natural Gas Industry" & ISO 9001:2015 Fifth edition "Quality Management Systems- Requirements"

Our facility is the First in India to have API 2C Monogram facility. API Monogram License No.: 2C-059

© Raina Engineers



QUALITY POLICY

We at RAINA Engineers are committed to design, development, manufacturing and servicing of offshore pedestal mounted cranes, jib cranes and davits meeting National and International standards and Customer requirements. We strive to achieve the best quality of our products and maximum customer satisfaction by;

- · Accomplishing quality objectives by implementing the quality management system effectively as per API Q1 9th edition and ISO 9001:2015
- Adopting the best manufacturing practices available globally.
- · Training our employees to attain the competency required to meet product requirements
- Ensuring safety for our product and personnel ٠
- Taking care of Nature, Environment and Social responsibility
- Complying with statutory and regulatory requirements

To continually improve effectiveness of quality management system.

For RAINA ENGINEERS (MANAGING PARTNER) DATE: 18-12-2017

CERTIFICATIONS

* ISO 9001:2015

Quality Management System

Awarded by Bureau Veritas Certification

www.rainaengineers.com

sales@rainaengineers.com

Infrastructure

ANDI to deliver lasting solutions

Infrastructure

205MM Spindle diameter floor type Horizontal Boring & Milling Machine - 'Schiess' the German Make

30 ft. Horizontal travel, 12 ft. vertical travel and 6 ft. spindle movements with Three Axis D.R.O. with 5 microns resolution along with 7*7ft. Rotary Table and with Taper threading facility.

Mumbai Office

We are centrally located at Mumbai, India's commercial capital. We have our Group Headquarters and Raina Engineers Corporate office at Mumbai. Both our manufacturing units are located within reach from our office

We are a financially strong, progressive company with quality workmanship, robust technology that designs, manufactures, sells and supports world class cranes in harsh marine environment.



Patansai Factory at a Glance

| AREA | | AREA | |
|---|--|---|---|
| a) Covered Area b) Open Area c) Shot Blasting and Painting Area | 50,000.00 Sq. Feet 40,00,000.00 Sq. Feet 5,000.00 Sq. Feet | a) Covered Area b) Open Area c) Shot Blasting and Painting Area | 10,000.00 Sq. Feet 1,00,000.00 Sq. Feet 6,000.00 Sq. Feet |
| MATERIAL HANDLING FACILITY | Upto 50 TONNE | MATERIAL HANDLING FACILITY | Upto 40 TONNE |
| SPECIAL FACILITY FOR LIVE LOAD | | SPECIAL FACILITY FOR LIVE LOAD | |
| Special ground embedded moment Testing of cranes counter balanced test rigs. | | Special ground embedded moment Testing of cranes counter balanced test rigs. | |
| RESIDENTIAL COMPLEX | | RESIDENTIAL COMPLEX | |
| Residential facilities are attached with factory premises for housing of staff and workers. | | Residential facilities are attached with factory premises for housing of staff and workers. | |
| CONNECTED LOAD | 500 HP | CONNECTED LOAD | 300 HP |
| MARKETING AND DESIGN CENTER | | MARKETING AND DESIGN CENTER | |
| Conveniently located at Mumbai & Pune. | | Conveniently located at Mumbai & Pune. | |

| NECTED LOAD | 500 HP | |
|-------------|--------|--|
| | | |





Pen Factory at a Glance