ElectroMech

Solutions | Service | Satisfaction

Crane Solutions for Oil & Gas Industry

Equipped to Excel

ElectroMech is a USD 100 million, multinational group in Material Handling with its global headquarters in Pune and having a presence in 60 countries. We have manufacturing plants in the UAE, Indonesia and Saudi Arabia with the Global Design & Development Centre and Asia's largest overhead crane manufacturing facility in Pune, India.

We are an innovation-led, customer-centric, technology-driven, fast-progressing global group, which offers advanced Material Handling Solutions to a wide spectrum of industries for the most challenging applications. Our customers across the world rely on us for our design capability, high manufacturing standards and service excellence.

We are serving clients from various sectors such as automotive, railways, shipbuilding, aerospace, energy, metal, nuclear, defence, heavy engineering, process plants, food & beverages, pharmaceuticals, construction, infrastructure, warehousing and logistics.

Exploring technology, ensuring higher reliability

It is our endeavour to maximise value to our customers in terms of cost of ownership, high reliability, high safety and ultimately higher productivity. ElectroMech has always prided itself on being at the forefront of adopting the best that technology has to offer. Our range of offerings is continuously evolving to ensure that our customers get the best possible solution – be it advanced safety features or a completely customised EOT crane solution.

Far-reaching solutions

As a result of adopting world-class technology, our equipment can be seen operating flawlessly at diverse locations. ElectroMech supplies a variety of cranes and hoists in capacities ranging from 80kg to more than 300t across various industry verticals.

Versatility, safety, convenience and peace of mind are the standard features of any ElectroMech equipment, a fact attested by several repeat orders from major industrial groups all over the world.

The infrastructure

ElectroMech's headquarters and main manufacturing plant are in Pirangut, near Pune, India. Spread over 140,000sq.m, this plant is one of the single largest dedicated overhead crane manufacturing facilities in Asia.

Our manufacturing techniques are industry-leading, from CNC plasma cutting machines for the crane girders to shot blasting and a dedicated paint booth for finished crane components. Our quality management systems have been certified by Bureau Veritas for the latest ISO 9001:2015 requirements. Additionally, we have been also certified with ISO 14001:2015 Environment Management Systems and ISO 45001:2018 Occupational Health and Safety Management Systems.

Benchmark services

Our partnership with our customers does not end with the commissioning and installation of equipment but goes on to help them with ongoing care, repairs and modernisation of their hoisting solutions (irrespective of the manufacturer). These services are offered in the most cost-effective manner.

Beyond cranes - Sustainability

Not only are our products energy-efficient but we also lay great emphasis on using energy-efficient processes and equipment in our own manufacturing plants across the world. Our main manufacturing plant in India uses solar energy meeting almost 50% of our energy needs.

Other initiatives such as using advanced techniques for shot blasting and painting, ensuring the use of lead-free paints, proper circulation of fresh air, treating effluents properly before discharging them, and tree plantation are a few other steps to reduce our carbon footprint.

Certified with

Explosion Protected Hoists & Cranes

Solutions for safe area & hazardous area

- Electric Wire Rope & Chain Hoists
- Jib Cranes
- Wall Travelling Cranes
- Single Girder Overhead Cranes
- Single Girder Suspension Cranes
- Double Girder Overhead Cranes
- Semi-gantry Cranes
- Gantry/Goliath Cranes
- Customised Solutions
- Stacker Cranes
- Shaft/Tunnel Mucking Systems

Introduction and Principle

Introduction

Explosive atmospheres may occur in industries such as chemicals or petrochemicals. Every electrical equipment used in a potentially explosive atmosphere must be constructed in such a way that it does not become a source of ignition. In order to avoid serious injuries and damage to materials and the environment, safety regulations, laws, decrees and standards have been established in most countries.

As the laws regarding the occurrence of explosions and the measures taken to prevent them are based on similar principles everywhere, currently the aim is to harmonise regulations regarding conformity at an international level. Here, we are mainly referring to the European explosion protection directives that are largely equivalent to the international IECEx regulations.

We are uncompromising when the safety of persons and machines in areas subject to explosion hazards is at stake. We offer the most reliable, comprehensive and complete programme of explosion-protected lifting, drive and control technology. Our product spectrum covers SWLs ranging from 125kg up to 150t **suitable for use in Zone1 and Zone2 as well as Zone 21 and Zone 22**.

ATEX

European Community has established the basis for uniform European explosion protection based on the ATEX product directive 94/9/EC (ATEX 95) and the ATEX user directive 1999/92/EC (ATEX 137).

The safety concept is applicable for both, manufacturing and operating, electrical and non-electrical equipment. Directive 94/9/EC from ATEX defines the properties required by the equipment for safe use in hazardous areas. This includes classification into equipment groups and categories, the respective conformity assessment procedures to be followed, manufacturers' responsibility including CE conformity marking, basic safety requirements for the development and manufacture of explosion protected equipment and recognised quality management measures to be implemented during production. ATEX directive 99/92/EC defines the obligations of users and employers for employees' protection in explosive areas. Inter alia, the user must assess risk and classify the potentially explosive areas into corresponding zones, so that the apparatus required by directive 94/9/EC can be used in safety.

Assessment of conformity in compliance with ATEX 95

Category 1 and M1	EC prototype test (III)	Production quality assurance (IV)		CE
		Product verification (V)		
	Individual verification (XI)			
Category 2 and M2	Electrical equipment or Internal combustion engine	EC prototype test (III)	Quality assurance of products (VII)	
			Conformity with prototype (VI)	
	Other apparatus	In-house production testing (VIII) and documentation at notified body		
	Individual verification (XI)			
Category 3	In-house production testing (VIII)			
	Individual verification (XI)			

The figures in brackets refer to the modules of directive 94/9/EC which define the procedures to be followed for meeting conformity.

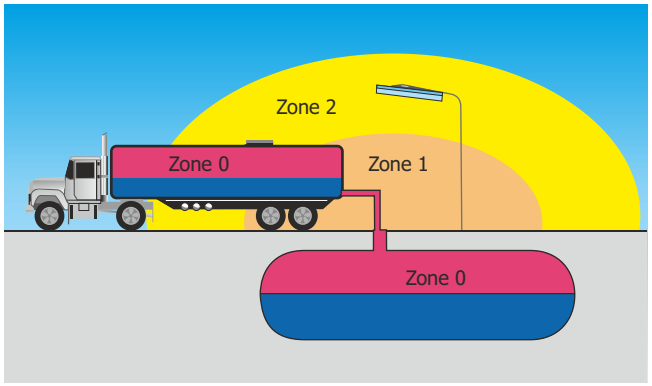
Examples for the classification of gases and vapours into groups and temperature classes

	T1	T2	T3	T4	T5	T6
I	Methane					
IIA	Acetone Ethane Ethyl Ethanoate Ammonia Benzol (pure) Ethanoic acid Carbon oxide Methane Methanol Propane Toluene	Ethanol i-Amyl acetate n-Butane n-Butyl alcohol	Benzene Diesel fuel Aircraft fuel Heating Oils n-Hexane	Acetaldehyde Ethyl ether		
IIB	Coal gas (lighting gas)	Ethylene				
IIC	Hydrogen	Ethylene				Carbon disulphide

Physical and technical principles

An explosion is a precipitate chemical reaction of combustible matter with oxygen, setting free high energy. In this connection, combustible matter may be gases, mists, vapours or dusts. An explosion can only take place if three factors come together: combustible matter (in suitable dispersion and concentration), oxygen (in the air) and a source of ignition (e.g. an electric spark). It is thus necessary to prevent ignition or reduce the effect of an explosion to an innocuous level.

To ensure this, equipment which is used in potentially explosive atmosphere must be designed, manufactured and of course marked in compliance with the relevant regulations (ATEX product directive 94/9/EC, IECEx regulations, etc.). Classification of devices into groups and categories according to ATEX product directives or in EPL according to IECEx standards results from their area of use or the safety level of protective measures and the frequency of occurrence of an explosive atmosphere. The highest possible risk potential must be taken into account when carrying out this classification. Only explosion protected equipment may be used in areas in which explosive atmospheres may occur in spite of all preventive measures. This equipment is produced in various types of protection in accordance with the corresponding construction regulations (series of standards IEC/EN 60079, IEC/EN 61241 and EN 13463). The type of protection applied by the manufacturer depends on the type and function of the equipment. All standardised types of protection within a category are equivalent. In the EG declaration of conformity included in the technical documentation the manufacturer confirms that the product meets the ATEX directives.



IEC/EN 60079 for equipment in areas subject to gas/dust explosion hazards

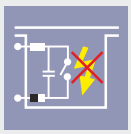
Ex d
flameproof enclosure
IEC 60079-1
EN 60079-1

Ex m
encapsulation
IEC 60079-18
EN 60079-18

Ex p
pressurised apparatus
IEC 60079-2
EN 60079-2

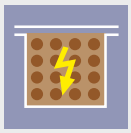
Ex op
optical radiation
IEC 60079-28
EN 60079-28

Ex e
increased safety
IEC 60079-7
EN 60079-7

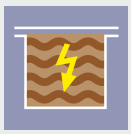


Ex I
intrinsic safety
IEC 60079-11
EN 60079-11

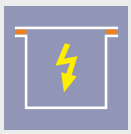
Ex n
Zone 2 equipment
IEC60079-15
EN 60079-15



Ex q
powder filling
IEC 60079-5
EN 60079-5



Ex o
oil immersion
IEC60079-6
EN 60079-6



Ex t
protection by housing
IEC60079-31
EN 60079-31

Typical crane features

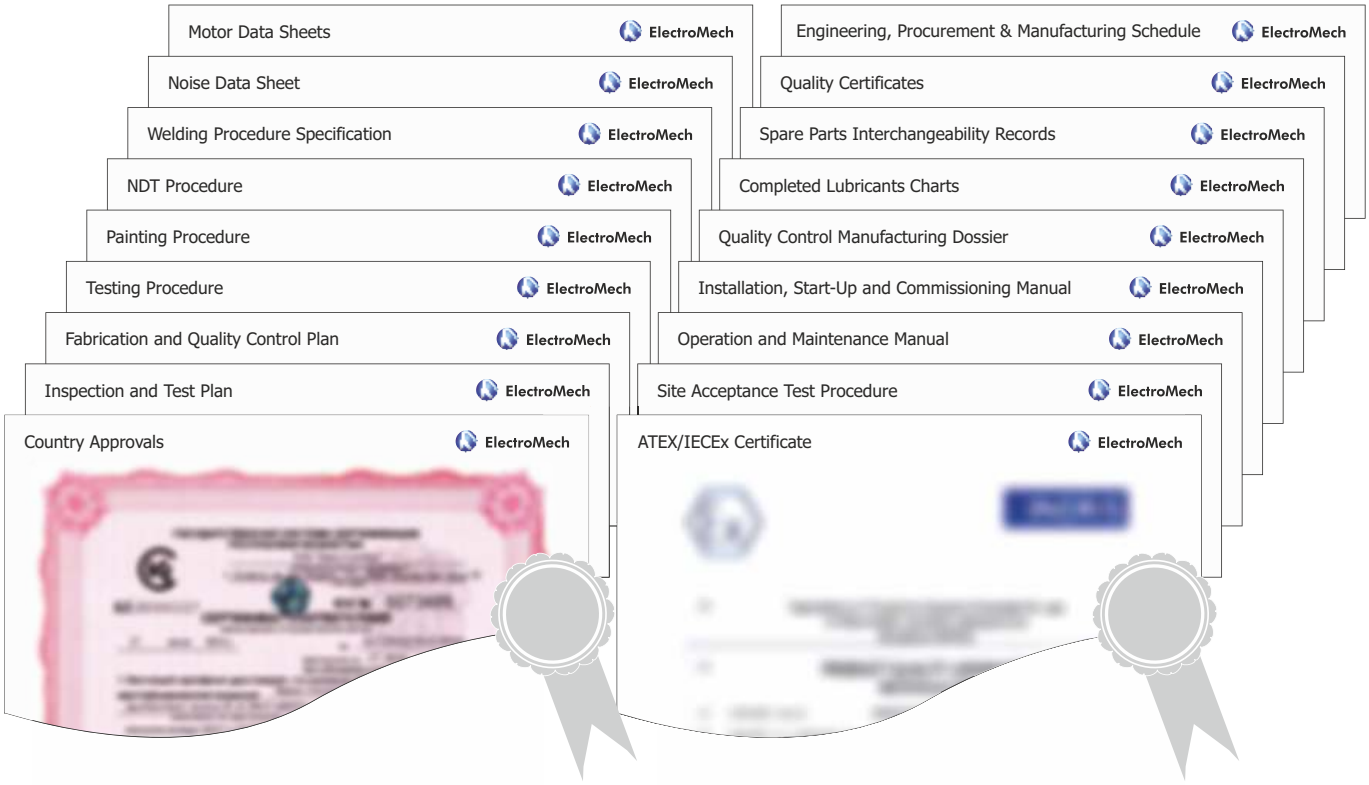
- Protection against overloading
- Asbestos-free brake linings
- Over-hoist & over-lower limit switches
- Anti-derailment device on crane and crab unit, non-sparking type
- Control panel mounted on crane bridge platform
- Travel and traverse limit switches with actuators for mounting on crane runway
- Bronze coated load hooks
- Aggressive environment paint systems
- Low and high ambient temperatures
- Increased enclosure protection
- Anti-condensations panel heaters
- Radio control
- Off-standard supply voltages

Certification and Documentation

Documentation

Documentation from ElectroMech meets and exceeds by far all the requirements of international project business. Even in the quotation stage, we assist you with all necessary documents and literature. In addition, you receive in-process documentation and extensive individual end-customer documentation.

During all phases of your project, we offer you comprehensive services relating to documentation, certification and approvals complying with international, country-specific regulations and specifications.



Solutions for LNG

When maintenance is performed on LNG tanks, 100 percent reliable technology is required. LNG is neither inflammable nor poisonous in its liquefied state and is thus relatively innocuous. However, if it evaporates, it is highly explosive. For this reason, the most stringent explosion protection regulations apply to the whole LNG terminal, including the crane technology. The LNG wire rope hoists and jib cranes from ElectroMech meet these requirements. The LNG hoists from ElectroMech have been designed especially for maintenance work in natural gas liquefaction plants (LNG). Thanks to their high-quality components and robust design, they are ideal for use near the coast in challenging climate conditions. The pumps that pump the liquid natural gas into a pipeline system at a temperature of –161°C must be lifted out of the tanks and be transported outside for maintenance. The extreme conditions prevailing in the tank necessitate special ropes, which are permanently connected to the liquid gas pump. When maintenance is required, these ropes are attached to the wire rope hoist by means of a rope clamp, so that no hook is necessary. All safety-relevant components are doubled. This means that the hoisting procedure proceeds without disruption even if a rope should break. One of the two wire rope hoists lift the pump and the second hoist runs alongside a dead rope as a backup. If the load rope should break during the hoisting procedure, the second wire rope hoist carries on hoisting. The shock-absorbing rocking suspension of the hoist cushions the impact of the abrupt load change. Thanks to their redundant design and rocking suspension, LNG wire rope hoists offered by ElectroMech are regarded as the safest hoists available in the market.

Oil & Gas

Over 250 cranes supplied to the Oil & Gas sector

ElectroMech is a multinational crane giant possessing strong experience in the Oil & Gas sector. Over the years, we have supplied more than 500 crane & hoist solutions to offshore rigs, petroleum refineries, gasification plants, jetty areas, oil exploration areas, petrochemical plants and allied machinery manufacturing factories. We have executed several international projects in the Middle East, Africa, South-East Asia and the Indian subcontinent.

We have a dedicated team of service experts across the world working under Cranedge. The team provides complete after-sales support even for other makes of cranes and possesses a large inventory of essential spares. It also helps in conducting safety audits, modernisation and training of operators.

32 ElectroMech cranes ensure smooth running of one of the world's largest Gasification plants

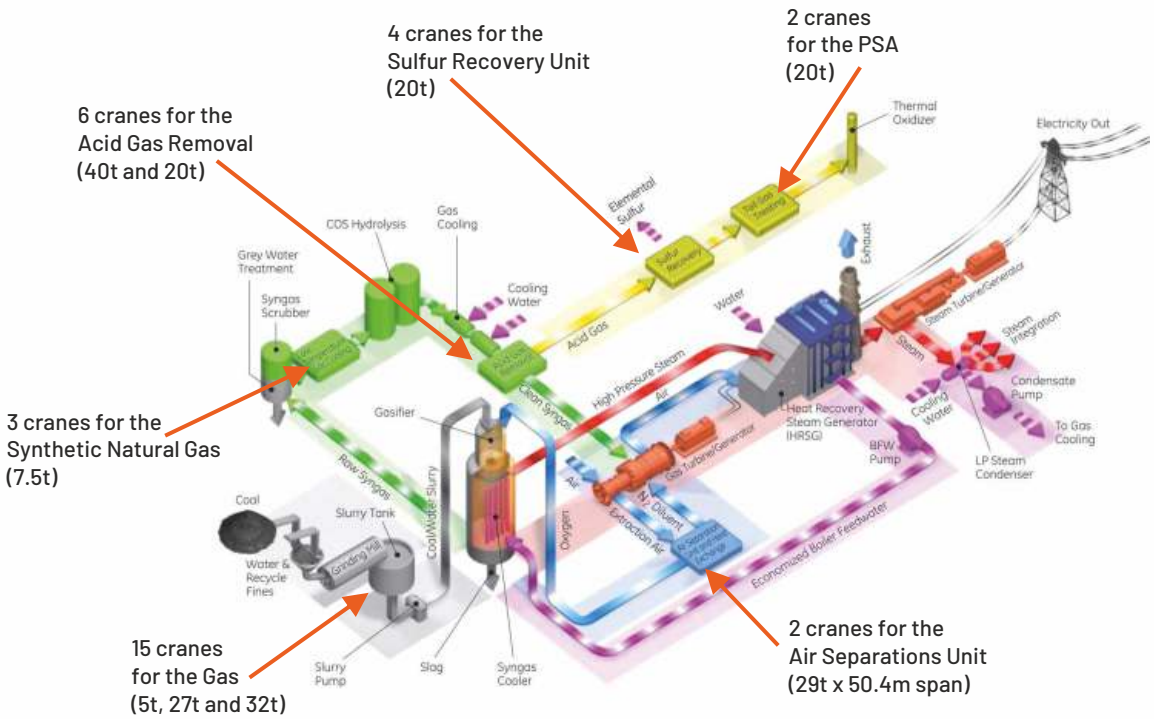


Image Courtesy:netl.doe.gov

EPC Registrations

BECHTEL · EIL · Enppi · GS · HYUNDAI · L&T Hydrocarbon Engineering · LOTTE E&C · Maire Tecnimont · Petrofac · posco · SAIPEM · SAMSUNG C&T · SAMSUNG ENGINEERING · TechnipFMC · TECNICAS REUNIDAS

IOC / NOC Registrations

ADNOC · Kuwait Oil Company · PERTAMINA · PTTEP · Qatar Petroleum · Reliance Industries Limited · SOCAR · Thaioil

Oil & Gas

Noteworthy projects executed by us

- 32 nos. of explosion-protected cranes for one of the world's largest gasification plants
- Hoists & EOT cranes for offshore rigs
- Hoists & jib cranes for LNG in-tank pump handling
- Hoists, jibs and EOT cranes for refineries
- 13 no.s of cranes support operations in the world's second-largest Paraxylene plant
- Customised lifting solutions for oil & gas
- Jib crane for jetty area
- Monorail hoists for linear density poly-ethylene plant
- EOT crane for flash gas compressor building
- Largest EOT crane ever installed in refineries in India at an ROGC plant
- Jib crane mounted atop the cryogenic storage tank
- Jib crane on Ethylene tank

We are proud of our associations

ABB
ADMA
ADNOC
AIR LIQUIDE
AkerSolutions
ARCHIRODON
Atlas Copco
BECHTEL
bp
CNPC
coperion
corus
Cummins
DANGOTE
FLUOR
amec foster wheeler
IMPREGILO
JACOBS
Lamprell
Linde
Maire Tecnimont
MITSUBISHI HEAVY INDUSTRIES
NPCC
PETRON
PETRONAS
Pyramid Engineers
QAFCO
RAS GAS II Project (?)
Reliance
Reliance Sibur
ROBT STONE
SAIPEM
SAMSUNG
SANDVIK
Schlumberger
Shell
SIEMENS
SOCAR POLYMER
sparrows
SUZLON
Technip

Customised Solutions Across Industries

ElectroMech's customised crane solutions are helping several manufacturing plants and infrastructure projects across the world to reduce human efforts, ensure safe handling and enhance productivity.

Various sectors which are benefited through the use of our solutions include

- Aerospace
- Automotive
- Bridges
- Cable Manufacturing
- Cement
- Chemicals
- Cold Storage & Perishables
- Construction
- Construction Equipment
- Container Yards
- Defence
- Electrical
- EPC Contractors
- FMCG
- Food & Beverages
- Galvanising
- General Engineering
- Glass Manufacturing
- Heavy Engineering
- Highways
- Hydro Power
- Infrastructure
- Logistics & Supply
- Manufacturing
- Medical Equipment
- Metro Rails
- Mining
- Mucking
- Nuclear Power
- Oil & Gas
- Paper & Packaging
- Pharmaceuticals
- Plastics
- Polyfilms
- Ports
- Precast
- Processing
- Railways
- Shipyards
- Steel / Metals
- Supply Chain Management
- Thermal Power
- Tunnel / Shaft
- Tyres & Tubes
- Warehousing
- Waste-to-Energy
- White Goods
- Wind Energy


ElectroMech


ElectroMech


ElectroMech

Expert Services

Services for safe and hazardous area cranes.

- Annual Maintenance Contracts
- Repairs, renovation, relocation
- One-time health check-up

cranedge

Services By ElectroMech

Ensure high crane uptime, high productivity and higher profitability.

ElectroMech is well-known for the most efficient services for all makes of Industrial Overhead Cranes. These services, available under the Cranedge brand, have become a benchmark in several parts of the world. Cranedge services focus on preventive maintenance to ensure high level of workplace safety and avoid production losses due to sudden crane failures. With this approach, ElectroMech is successful in ensuring nearly zero downtime of cranes.

Besides the existing customers of ElectroMech, our services are availed by customers using cranes of other makes as well. Our expertise, efficient service and ability to deliver required spares in the shortest possible time have earned us the loyalty of our customers.

Our experienced and trained teams are strategically located across the world and are supported by a strong logistics and inventory management system with quick access to spares.

Cranedge services cover almost all types of overhead cranes used in the safe zone as well as hazardous areas (oil & gas, chemicals, etc.). Availing our services means ensuring complete peace of mind while keeping your production unaffected due to non-availability of cranes at critical times. Moreover, the most important aspect assured by Cranedge services is SAFETY.

A World of Satisfaction

ElectroMech has earned a noteworthy reputation of being the most reliable name in the field of material handling systems through its products and prompt and efficient service. Our customers have been experiencing a world of delight and satisfaction.

Sturdy ElectroMech cranes operate year after year in extreme climatic conditions, irrespective of the sweltering heat of the deserts in the Middle East, or the biting cold of the mighty Himalayas. Our experience with cranes, which ranges right from small workshops to gigantic shipyards, expands our expertise. We are inspired to broaden it further to help us design advanced cranes for more critical applications.

Our happy customers are a source of satisfaction and insipration for us.

This is a pictorial representation and does not purport to be the political map.

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