Enriching Lives

# VISION 2020

**KIRLOSKAR BROTHERS LIMITED** will be
One of the most admired engineering companies in the world

cascade


**KIRLOSKAR BROTHERS LIMITED**
A Kirloskar Group Company

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OUR COMPANIES

| United Kingdom | U.S.A. | South Africa | India | The Netherlands |
|---|---|---|---|---|

# Concept

What is a vision statement? Described as the future position of a company, a vision statement outlines the milestone that the company is looking to achieve. A vision is not just a strategic plan, it is a statement which in a few words articulates where the company is heading towards and what it wants to achieve. Unlike the core ideology of the company, the visionary goal is selected and is in line with the ultimate objectives of the company.

Our Vision 2020 is that “Kirloskar Brothers Limited will be one of the most admired engineering companies in the world”. This vision takes into consideration a number of factors including attributes such as quality of products, leadership, innovativeness and global footprint of the company. We, as a company, have to look at achieving these milestones and taking steady steps towards this goal.

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# Foreword

Engineering companies, especially the ones that are more than 100 years old, have immense knowledge and experience. It is this repository of knowledge, backed with excellent product innovation strategies, which I believe will propel KBL into the ranks of the most admired companies in the world. The global vision of the company is unique because it balances the core purpose and values of the company with strategies that help it adapt to the rapidly-changing world.

I believe that the envisioned future holds a great deal of promise and we have what it takes to become the global powerhouse and one of the most admired engineering companies in the world in the next few years.

One of the most crucial components of this process would be the international business. Opportunities in international market are substantial compared to Indian market. KBL as a company has the required expertise and wherewithal to create success stories when it comes to providing international standard pumping solutions to our overseas customers.

**Sanjay Kirloskar**
Chairman and Managing Director,
Kirloskar Brothers Limited

# Editor's Word

**Sanjeev Kumar**
Head, Marketing
Kirloskar Brothers Limited

The acquisition of Rodelta Pumps International in the Netherlands in July 2015 is evidence to the fact that KBL has been moving steadily on the path of being a global manufacturing leader. This issue of Cascade is dedicated to the company's Vision 2020 which is to become "One of the most admired companies in the world". It showcases the company and the management's efforts in India as well as globally to achieve this goal.

This edition carries a brief about Project Quantum, the two year transformation strategy which defined our global Vision for 2020 by focusing on "One KBL" way of working. Moreover, it also showcases some of the important wins such as the reception of the Indian Design Mark for LLC pumps. These wins for the company not only indicate the quality standards of the company but also foretell a stronger global future for the company.

# Index


"Leadership is the capacity to translate vision into reality."

**Warren Bennis**

## PROJECT QUANTUM

The quote by Warren Bennis captures the essence of Project Quantum, KBL's two-year transformation which had kicked off in June last year.

The first phase was initiated with the objectives of:-

- Defining the company's Global Vision for 2020 that focused on "One KBL" way of working.
- Charting the International Strategy Roadmap across entities with emphasis on focused opportunity spaces and geographies.
- Restructuring the organization to match strategic priorities and drive higher accountability.
- Rejuvenating the business of our domestic after-sales division through Go-To-Market (GTM) processes.

During this phase, the company finalized the stated Vision 2020, successfully aligned the strategy roadmap and restructured the organization to match the strategy. Critical functions such as product portfolio management, sales & operations planning, export and India sales excellence cells were created to streamline the operations locally and globally. The focused and systematic Go-To-Market initiatives for the domestic after-sales business resulted in record growth for the division over the previous years.

The second phase of the program kicked off in February 2015 with the following objectives:-

- Rolling out the "One KBL" Go-To-Market Transformation across all 8 regional offices to enable effective management of business with scale and drive best salesforce practices globally.
- Improving the small and medium pumps' on-time delivery performance at Kirloskarvadi by dealing with all stages of the process – from foundry to packing – and enforcing promised delivery date adherence as the key metric.
- Streamlining the product offerings to improve our plant performance as well as present a more unified product portfolio to the market.

The early results from Project Quantum's second phase are already visible, both in terms of improvement in on-time delivery performance and vendor performance as well as the diversification of risk through reduced dependence on project sectors.

## SUCCESS STORY

# AT THE FOREFRONT OF PUMPING RELIABLE SOLUTIONS

*Kirloskar Ebara Pumps Limited (KEPL) manufactures the first-ever BB1 Pump for Reliance Industries Limited in Gujarat.*

Reliance Industries Limited (RIL), Hazira Manufacturing Division in Gujarat (India) manufactures various polymers, polyesters, fibre intermediates and other petrochemical. It has a feeder plant called "Naphtha Cracker". The output from this plant is subsequently used as feed stock for other plants so as to get the end products. The breakdown of this feeder plant would mean shutdown of subsequent plants, resulting in heavy monetary losses for every hour of down time. In this Naphtha Cracker plant, RIL has a quench system for which they use quench water circulation pumps. The company decided to replace these pumps during their planned shutdown of approximately 4 weeks starting from end of September 2014.



### The Challenge

Though KEPL model of BB2 type pump was able to meet requirement, RIL specifically wanted BB1 type pump. Although it had the required design and capabilities, KEPL was yet to manufacture BB1 type pump.

RIL wanted replacement of three pumps with the following requirements:

- They wanted a new pump with wider flow range of 1300 $m^3$/hr. to 1800 $m^3$/hr. as per the plant load.
- It had to be accommodated on the existing foundation and base plate, without any major modification of base plate, Suction-Discharge pipeline and motor position.
- The installation of pumps had to be done with minimum site work so as to achieve the target of erecting the equipment within 2 days of start of the shutdown.
- They required axially split-case pump like the existing one because it was easier to maintain.
- "Reliable" and "Energy Efficient" pumps meeting a wide spectrum of duty conditions to enable the process requirement with carefree operations..

On order finalization, pumps were required by end of September 2014 to 1st week of October 2014. This meant that from drawing board to pattern development and performance testing, the pumps were required in less than 3½ months, the manufacture of which usually takes 12 months.

### The Solution

To win this order and deliver it within time, a Cross Functional Team (CFT) was formed at KEPL. This included application engineering, design engineering and marketing teams that worked on the preliminary solutions. The senior team members of KEPL assured RIL that their team was taking on calculated challenges.

Post this, the CFT visited the existing site, and noted the exact dimensions and constraints to deliver a customized solution. An action plan was prepared to execute this project, and was shared with RIL senior management.

The team ensured that there was prompt resolution of technical queries by RIL's various teams working on this project. The firm and confident proposal of KEPL to execute this project boosted the confidence of RIL, giving them the green signal to go ahead with the project.

All the three pumps were delivered at site within the committed timeline. There were no modifications done at site and the erection and commissioning was done as per the shutdown schedule.

Behind this success is KEPL's reliability and its capability to develop world-class products at an astonishing speed while ensuring the faith and trust of its customers. With a firm belief in the company's expertise, RIL too avoided extensive controls and detailed inspections. This, in turn, made product development smoother and faster, while benefitting the customer.



# ENERGY SAVING
# TECHNOLOGY FOR AN EFFICIENT FUTURE

*Kirloskar Corrocoat Private Limited (KCPL) has been providing Pump Efficiency Improvement Coatings & Refurbishment services using its Glass Flake Coating Technology since 1993.*

KCPL's Glass Flake Coating technology reduces the amount of frictional losses in the hydraulic passages of a pump, while pumping fluids. Efficiency improvement is achieved either by reduction in power consumption or by increase in the flow or head.

Energy conservation measures are taken seriously by most governmental and private organisations. This is done in an attempt to reduce $CO_2$ emissions, thus helping a global cause. The Bureau of Energy Efficiency (BEE) is a government-appointed authority to monitor and guide energy conservation measures. As part of its activity, BEE conducts annual competitions amongst organisations and winners are judged by the amount of savings and measures they have implemented in a particular year.

KCPL's clients in the private, State Government & PSUs, including Navaratna companies have been participating in the competitions and have been winning prizes at the national level. One of the key contributing measures in the award-winning achievement is energy savings that is achieved by Kirloskar Corrocoating of their pumps.

Every year KCPL saves over 133,000 MW of power by the jobs that it does for its various clients. This reduces about 66500 tonnes of $CO_2$ emissions. Power saved is power generated. The Green Power generated comes at a cost of approximately INR 1.83 per kW – which is the lowest cost of power generation.

The best part about KCPL's Green Power is the fact that investment by a client is not mandatory to get the benefits. This is illustrated beautifully by Solapur Municipality Corporation, wherein KCPL had to utilise its refurbishment expertise and hydraulic coating expertise to service back into prime operating life the12-year-old vertical turbine pumps. KCPL executed the job through its Build-Transfer concept, sharing the revenue on the basis of power saved by Kirloskar Corrocoat coatings.

Linde, the leaders in air separation, were convinced of the power saving potential of Kirloskar Corrocoat and have implemented it at all their locations across India.

The company will be working with its customers and striving to increase the Green Power that it can help produce. This will help in achieving a higher reduction in $CO_2$ emissions.

# ENGINEERING
# CUSTOMER - FOCUSED SOLUTIONS


*Kirloskar Corrocoat Private Limited (KCPL) prides in engineering customer-focused solutions.*

KCPL was the pioneer in introducing glass flake coating technology in India– a high performance long life solution to control corrosion. Over the past twenty years, the company has effectively complemented the technology with its **Adaptive Application Ability™** to engineer solutions for the specific problems faced by its customers.

KCPL's resource mobilization and project management skills have helped many customers remove a key bottleneck in the critical path of the PERT charts of their large scale complex projects. This has earned the admiration of customers who have reposed their faith by repeat investments in Kirloskar Corrocoat Solutions. Thanks to its reliability, the company today has a sizable customer base comprising of India's blue chip corporate like Reliance Industries. Lanco, Linde, JSW Steel & Power, Hindalco (Carbon Black), Reliance Power, Adani, Essar, etc.

The latest entrant to KCPL's customer base is Coastal Energen, Tuticorin. The power producer started commercial production recently, and had to take the shortest possible shutdown to attend to a nagging problem – frequent coating failure in the condenser circuit pipelines. When it came to choosing a vendor to deliver a reliable coating job to be executed on war footing basis – they had only one choice - KCPL.

KCPL has honed its cost engineering skills to ensure that even clients with the smallest job sizes are capable of benefitting from KCPL's finesse.

Moreover, the company has excelled in multiple roles. After being well entrenched in the critical capital equipment coatings market for twenty years, KCPL has now set foot into the highly competitive high volume Marine Coatings Business - ruled for long by many manufacturers engaged in supply alone. KCPL has bagged its first order worth INR 30 million from Mumbai Port Trust, for above ground pipe external coating at its Mumbai jetty. By becoming one of the few manufacturers to do a supply and apply job in this market, KCPL will be attempting to change the rules of the game that the customers would eagerly look forward to. The company will be showcasing its top class resource mobilization & project management skills in this project to win over the customer's admiration.

By 2020, the most important deliverable in KCPL's balance sheet could be its huge customer base and winning the customer's trust and admiration.

# IMPACT OF GO-TO-MARKET (GTM) STRATEGY IN SOUTHEAST ASIA

*Thailand and Indonesia were chosen as the countries for implementing the Go-To-Market Strategies.*

## Thailand

Thailand was identified as the pilot country to prepare and deploy the Go-To-Market (GTM) strategies. The consultant from BCG (Boston Consulting Group) was stationed in Thailand for 4 months. Having already defined Vision 2020 and with understanding of the strategic focus, the objective was to analyze the potential in the opportunity spaces in Water and Industry sectors.

A thorough market map, that clearly indicated the key customers and business segments, was drawn in the first month.

In the second month, customer interviews were conducted to determine the ability to win orders. This is also the time when the Annual Operating Plan (AOP) started to take shape.

The third month saw the introduction of the sales strategies where dealers were given hands-on training. All the elements of the AOP were nearly completed with initiatives and branding requirements clearly defined. Post the finalization of AOP, the GTM strategies were deployed and the weekly meetings began.

## Indonesia

The AOP for Industry and Water sector have been updated in new formats emphasizing on segments, opportunity spaces and specific AOP & LRP (Long Range Plan) actions to achieve Vision 2020. Realizing the crucial role of the channel partners going forward, one-to-one meetings with them were held across Indonesia to bring them on a common platform. Further, potential parties were finalized for appointment as stockist. Competency mapping of partners was prepared considering important factors - geographical reach, infrastructure, finance, business model, network, product and market knowledge, strengths and weaknesses and training needs. Through mapping, bottlenecks were identified and actions to overcome them were devised.

## Impact of the project:

The immediate impact seen in 6 months from GTM deployment was clearly defined opportunity spaces with details of customers, size of the business opportunities, and adherence to beat plan (sales managers and dealers). In addition to this, the sales funnel for water and industry in Thailand and action plan to register opportunities in sales funnel and convert them into business was identified.

# KBL ACQUIRED RODELTA PUMPS

*Kirloskar Pompen B.V, a 100% subsidiary of Kirloskar Brothers International (KBI) completed the acquisition of Netherlands-based Rodelta Pumps International.*

Rodelta Pumps is engaged in manufacturing of API and Non-API Pumps for Oil & Gas, Pulp & Paper, Water, Chemical and various other applications since 1946.

With the local manufacturing, complementary products, product technology, anticipated synergies and qualified manpower, KBL Group is primed to provide its customers with new technology and engineering solution. Speaking about the new development, Varinder Dhoot, Managing Director, Kirloskar Pompen BV said; "Acquisition of Rodelta Pumps International will not only give fillip to KBL Group's desire to offer world-class products and technology in the global markets, but also strengthen our plans to offer localized packages and services through manufacturing plants in each geography that we operate in. We expect a significant growth in our group business in Europe, Middle East and West Asia, especially in the Oil & Gas and the Chemicals segments".

Rodelta Pumps International BV manufactures pumps and components at Hengelo, the Netherlands. The company has been supplying pumps to various industries for more than 60 years. Rodelta operates in industrial markets such as Water Treatment, Drinking Water, Paper & Pulp, Oil & Gas, Chemicals & Hydrocarbon Processing. Furthermore, Rodelta also supplies client-specific engineered products to many other related industries, including Pharmaceutical, Power and Food & Beverage. Rodelta's manufacturing facility is ISO 9001 & ISO 14001 certified and also has approvals/ certifications from a number of major EPC contractors and end-users.

# INDUSTRY SECTOR:
# NEW PRODUCT MARKETING INITIATIVES

*With big demands, there are big challenges. To stay on top of the business, KBL has come up with a slew of products in the industry sector which have been marketed to a number of key industries across India and in the world.*

**The article is a focus on the marketing initiatives undertaken for three new pumps in the market.**



## i-CAN Series of Pumps

Designed to dramatically reduce maintenance time and cost of ownership, the sealless and glandless mono-block design of i-CAN pump enables it to cater to industries like ice-making plants, cold storage, air-conditioning plants, dairies and some small scale industries involved in refrigeration-related businesses.

### Marketing Initiatives: Promotion in Refrigeration Market

To tap the refrigeration (liquid ammonia transfer) and cold storage market, KBL conducted a field study to identify the OEM. The team studied the entire cold storage plant and also conducted a customer study to understand the market. One of the key marketing initiatives that were done to create awareness about cold storage in Disha, Gujarat, was the road show. This was done particularly for awareness in the potato cold storage sector. Additionally, a seminar was conducted for 80 potential customers.

The annual potential for i-CAN pumps in the sector is approximately 200 pumps with a target of 50% market share. This makes it one of the high potential sectors in the market.

### Promotion in Paint Industry (Solvent Plant)

The paint industry needs approximately 90 i-CAN motor pumps for solvent transfer application. To enter the segment, KBL conducted meetings with Nerolac paints, Mumbai. The meetings have recently shaped up with some positive developments. To understand the industry, a factory study was carried out along with the mapping of the end-to-end processes by KBL. This helped in understanding the scope of the product in the solvent sector.

The factory study was followed by technical discussions with the top management. This resulted in the approval of the KBL-make pumps and the i-CAN motor pumps will soon be used in a project in Gujarat.

## Magnetic Drive Pumps – Romak


Technologically advanced magnetic drive pumps, Romak, comprises of permanent magnets and is used by Process industries to handle various types of clear/ clean chemical liquids without any suspended particles.

These pumps have been given for trial at Nerolac paints. Also, these pumps have been installed at Coromandel International Ltd. on a trial basis for handling Ammonium Sulphate solution.



## Air Cooled Thermic Pumps (AT pumps)

There has been a technology shift where the conventional thermic fluid application pumps (jacketed pumps) have been replaced with Air Cooled Thermic pumps. There are several benefits of using these pumps.

**Benefits**

- With air cooled themic pumps, cooling water circulation is not required.
- There is no requirement of jacketed pumps.
- The AT pumps are compact and not bulky unlike the conventional jacketed pumps.

# USING STATE-OF-THE-ART TECHNOLOGY TO OPTIMIZE WATER UTILIZED FOR IRRIGATION

*Faced with increasing problem of unpredictable monsoon, with less than normal rainfall on the one hand and excessive flooding on the other, farmers need to be supported by a sustainable solution.*

Even today most of farmers in India wait for the monsoon to irrigate their crops, reducing their capacity to a basic two crop cycle. In states where irrigation by pumps has been initiated, the productivity of the farmers has gone up allowing them to take three and often four crops from the same tract of land.

Examples of gainful farming are many and some of our neighbours in the South East Asian Region have seen the benefit accruing from technology intensive irrigation. In fact, Cambodia has reached its level of abundance of rice on the back of Kirloskar pumps that have been irrigating the lands for over two decades.

Sound pumping solutions have changed the face of grain imports in several countries and it is important to use these as models and learn from them. According to Stockle, irrigation allows land to be, on average, twice as productive as rainfed land. Even though only 16% of the world's croplands are irrigated, and those irrigated crops produce more than 36% of the world's food. However, the goal is to be able to irrigate more crops while using the same percentage of freshwater, and minimizing the impact of irrigation on the environment.

To achieve this goal, irrigation infrastructure must be extended and implemented into more crop areas, a larger source of freshwater must be obtained or created, and more efficient and sustainable models of irrigation must be developed.

Developing appropriate irrigation models depends heavily on the location of the planned irrigation—several factors for sustainable farming, to be kept in mind are, the quality of the region's soil, water availability, the shape of its landscape, and the type of crop being planted.

Cost of irrigation for a hectare of land can be between $300- $2000 depending on the quantity of water to be moved and the distance it has to travel. And this expense is often justifiable purely by the definite change in the economic situation of the local people and the incremental changes in cropping pattern.

It is a foregone conclusion that the governments have looked at new and innovative ways to ensure availability of water to the farmer. The most obvious solution lies in keeping the fresh water from emptying into the ocean. Schemes that will divert water into manmade channels may provide part solution and will be welcome by all, if it does minimal damage to the environment.

Concrete Volute Pump

Kirloskar Brother Limited provides solutions in the form of Concrete Volute pumps that can move rivers, to solar pumping solutions for small farm holdings. KBL provides technology on demand. With the 'triple A' motto of “Appropriate, Adaptable and Affordable” technologies, KBL has a stable of pumps for all requirements related to irrigation. A state art integrated plant at Kirloskarvadi and six other manufacturing facilities in India and seven facilities overseas ensures a continuous turnaround of technologies to keep up with the latest in the world. KBL has a market reach that is enviable in the space of irrigation. Having successfully done projects on African, Asian as well as European soil, KBL has unparalleled experience in the field. With Sardar Sarovar Narmada Nigam project on the Saurashtra Branch Canal, KBL is also credited with efficiently moving the largest amount of water to irrigate 150 thousand acres of land and provide drinking water to over 30 million people.

Vertical Turbine Pumps at Benban, Egypt

KBL's Vision 2020 defines the intention of the organization to be one of the most admired engineering companies in the world. This vision will be a reality as the organization believes in embracing change as a way of growth, evolving new methods and adapting new technologies to ensure continuing relevance in the globe.

A part of this vision is the knowledge of optimal water management in today's world. It remains true that using “State-of-the-Art Technology” is the only way we can optimize water utilized for irrigation.

# FORAY INTO INTERNATIONAL NUCLEAR PROJECT

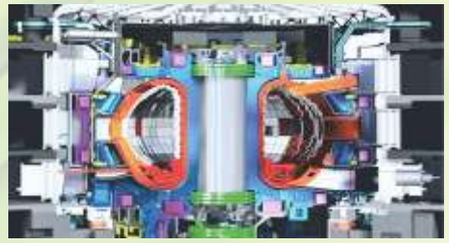
*Kirloskar Brothers Limited (KBL) received the order of 45 pump-sets, 13 vertical turbine pumps and 32 horizontal pumps for a prestigious project of ITER through L&T Chennai.*

ITER (International Thermonuclear Experimental Reactor) is a Tokamak fusion experimental reactor with superconducting magnets and other systems that enables the generation of fusion power continuously. Its plasma volume will be close to the size of future commercial reactors. This reactor will produce fusion energy unlike fission reaction in conventional nuclear power plants.

ITER site is located at Cadarache in South France. The project aims to make the long-awaited transition from experimental studies of plasma physics to full-scale electricity-producing fusion power plants.

The project is funded and run by seven member entities — the European Union, India, Japan, China, Russia, South Korea and the United States of America.

ITER India's scope includes Cooling Water Systems consisting of Component Cooling Water System (CCWS), Chilled Water System (CHWS) and Heat Rejection System (HRS). ITER India is located at the Institute for Plasma Research (IPR), in Gandhinagar, Gujarat, India.



*ITER principal of heat removal using KBL pumps*

The importance of Thermonuclear energy:

- No carbon emissions: The only by-products of fusion reactions are small amounts of helium, an inert gas that does not contribute to atmospheric pollution.
- Abundant fuels: Deuterium can be extracted from water while tritium is produced from lithium, which is found in the earth's crust. Fuel supplies will therefore last for millions of years.
- Energy efficiency: One kilogram of fusion fuel can provide the same amount of energy as 10 million kilograms of fossil fuel.
- Reliable power: Fusion power plants should provide a base load supply of large amounts of electricity, at costs that are estimated to be broadly similar to other energy sources.

In addition to supplying various pump sets, KBL conducted an engineering study i.e. CFD analysis and physical model study of sump of Hot Basin and Cold basin. The company also performed thermal analysis of hot basin which involved state-of-the-art advanced engineering analysis.

Being the first-of-its-kind project, this project will establish the credibility of KBL for such critical projects in future.

# SUCCESS STORY
# FOR SPP PUMPS MENA LLC, EGYPT

Motor Driven UL Listed fire-fighting pump supplied to a resort

*SPP Pumps MENA LLC has been successful in getting various orders for the value-added products and services.*

SPP MENA has received an important order from a private investor in Agriculture sector, “Lehaa Group”, to conduct an “Energy Audit” on the irrigation pumping equipment at their Toshka Farm. It was a challenging task especially on the intake pumping system because of the complexity that existed at site. However, SPP MENA conducted an extensive energy audit of the existing system. The data obtained from the audit was compiled, analyzed and energy-efficient pumping solutions were recommended. The detailed presentation, given to the Lehaa management, was appreciated, and the customer was happy to see significant reduction in the energy expenses once the new system, recommended by the company, was implemented.

**Impact of the Project:**

Value-added services like Energy Audits could support the company’s esteemed customers in understanding the operational efficiency of the existing system and benefits of implementing energy-efficient pumping solutions. The Lehaa Group is inclined to accept and implement our recommendation.

In addition to this achievement, SPP MENA has also received prestigious orders for the supply of large Mixed Flow pump sets for irrigation projects and Process pumps for Salt & Mineral industry.

The company has successfully executed assembly, testing and packaging of UL listed fire-fighting pump sets, both engine driven and motor driven pumping units with controllers and allied accessories.

SPP MENA supplied horizontal Split casing pumping units for a HVAC project in Egypt.

UL Listed Diesel Engine Driven firefighting pump set for an industry - under testing

# "ETHICS"
# THE KEY TO AN ORGANIZATION'S SUCCESS


*An ethical organizational culture consists of leaders and employees adhering to a code of ethics. Organizational ethics express the values of an organization to its employees and to other entities irrespective of regulatory laws.*

Ethics are moral guidelines that define and govern behavior, be it of an individual or an organization. In a business, ethical standards and practices define acceptable conduct in business and underpin how the management takes decisions. Behaving ethically and adopting ethical decision-making practices is vital if the company wishes to thrive long-term.

Why Kirloskar Brothers Limited is an ethical organization?

Many business experts treat ethics like a sermon on the mount. Although it's hard not to preach a bit when it comes to ethics and morals, KBL has always tried to identify areas to reflect upon. In addition to recommendations on how to behave ethically. KBL considers eight elements that comprise the ethical framework of the organization. They are respect, honour, integrity, customer focus, result-oriented, risk taking, passion and persistence.

KBL Code of Ethics consists of a summary of core business values. These values are the foundation of the company and are directly responsible for its success, growth and widespread reputation in the years to come. The code of ethics endeavors to set the standards for the management, employees, suppliers/dealers and joint ventures/subsidiaries.

The best organizations always seize the opportunity to shape the future by influencing culture through the institutionalization of ethical values. By creating a values-based culture within the organization, society can be improved by positive influences that perpetuate outside the organization.

# TOWARDS MANUFACTURING EXCELLENCE


*Excellence in manufacturing will enable us to consistently manufacture defect-free products and the people who produce them become pivotal and key to organization's success.*

In today's competitive world, it is important to manufacture products with utmost care and sensitivity towards end user's expectations. As such, excellence in manufacturing will enable the company to consistently manufacture defect-free products and the people who produce them become pivotal and key to organization's success.

Our emphasis is directed towards "Do it right the first time" which is the key to sustainable results in long term. We focus on reducing in-process checks, reduce queuing/waiting time and thereby reduce costs. The company has laid the foundation of an initiative to improve the way people assemble the pumps, "Bodhi", a centre of assembly excellence, is the answer. KBL identified 10 best



were trained on all aspects of pump assembly; including the care to be taken during each step of building a world-class product with attention to details and record keeping. The training has already commenced and within a period of 6 to 8 months, these team members are expected to be equipped with all the resources, including relevant skills to further take the baton and train their remaining colleagues in the necessary skills, knowledge, awareness, and finer elements of world-class manufacturing. With well-trained people and organized process structure in place, KBL will be equipped to manufacture products with minimum efforts .

KBL is positive that this type of training will increase the involvement of all the team members and also increase their awareness about right practices which are to be followed in the shop in order to produce good quality products. Their ownership will increase and with that the overall working atmosphere would become conducive to excellence.

The immediate effect of this was defect-free products, on-time delivery, reduced costs, and minimal customer complaints. There was an also improvement in brand image and the result was a self-assured and competent workforce.

# (LLC)™ PUMPS SERIES RECEIVED THE PRESTIGIOUS "INDIA DESIGN MARK"


*To its array of achievements for various innovative and indigenously developed products, Kirloskar Brothers Limited has added yet another national-level recognition for its LLC Pumps series. KBL's LLC Pumps series has been granted the prestigious "India Design Mark" by the India Design Council.*

The India Design Mark is a design standard, a symbol that recognizes a design that is useful and responsible. It symbolizes product excellence in form, function, quality, safety, sustainability and innovation. It communicates that the product is usable, durable and aesthetically appealing while being socially responsible. There are three essential parameters that need to be fulfilled for participation. The product has to be: Made in India, Designed in India or Sold in India. The India Design Mark design standard is granted only after a diligent evaluation process that is aimed at identifying good design which exceeds the prescribed criteria of evaluation.

KBL's LLC™ pump is a result of an innovative product development process at KBL's 100+ year old Kirloskarvadi facility. Factors such as corrosion and natural erosion have been considered while designing the LLC™ pumping system. The objective behind the breakthrough technology of LLC™ pumps was to save additional energy costs and reduce the degradation cost. The cumulative reduction in energy consumption directly helped in cutting costs and therefore increased the overall profitability of an organization.

In pursuance of the National Design Policy announced by the Government of India, the Central Government had constituted the India Design Council on 2nd March 2009. The council was presided over by Mr. Anand Mahindra, Chairman and Managing Director of Mahindra & Mahindra and Prof. Pradyumna Vyas, Director of National Institute of Design, Ahmedabad who was its member secretary. The council is comprised of 22 eminent personalities from the fields of design, industry organizations and academia.

This award not just recognizes KBL's efforts to make its products more useful, but also motivates it to continue creating new, innovative and enriching products. The citation at the national level boosts our commitment towards the Make in India initiative by the government.

# AN ENGINEERING MARVEL: SCRIPTING THE HINDUJA SUCCESS STORY

India's largest vertical turbine pump successfully commissioned for one-of-the largest capacity off-shore circulating water system in the world

Kirloskar Brothers Limited (KBL) commissioned its largest ever vertical turbine pump for the prestigious project of 2 x 520 MW Vizag Thermal power project of Hinduja National Power Corporation Limited (HNPCL).

The Cooling Water (CW) system package for this project is one of the largest capacity off-shore sea water pumping systems in the world handling 50,550 liters of sea water per second. This system consists of 4 sets of large Vertical Turbine pumps, each with a flow capacity of 45,500 $m^3$/hr. driven by 4600 KW vertical electric motor.

KBL played a key role in conceptualizing this cost effective and innovative project.

These large pumps for sea water applications are manufactured in duplex stainless steel material of construction at Kirloskarvadi plant. Each pump is of 15 meters in suspension length and weighs 70 tons.

Overcoming the various challenges, KBL team successfully commissioned the 1st CW pump at project site in the last week of August 2015 and optimized the intake well dimension from 27m to 22m ensuring the perfect flow conditions to meet the requirements of seasonal tidal variations. There are two intake wells each housing 2 pumps.

| PUMP DETAILS ARE AS UNDER: | |
|---|---|
| PUMP MODEL | BHM 150 |
| LIQUID | SEA WATER |
| CAPACITY | 45,500 $M^3$/HR |
| HEAD | 27 MWC |
| SPEED | 330 RPM |
| MOTOR | 4600KW/11KV/18P/CACA |

Pumps are installed 700 meters inside the sea. These intake wells are connected with the shore with 30m wide approach jetty. Physical sump model study and CFD analysis for CW system was performed simulating the seasonal variations in tidal conditions of Bay of Bengal.

This project demonstrates the capability of KBL in successfully executing the project on a global scale. It is truly an "Engineering Marvel"!

# SPP PUMPS SECURES NEW FRAMEWORKS WITH UNITED UTILITIES

*SPP pumps, the leading global manufacturer of centrifugal pumps and systems, has been awarded a multi-year, multi-product framework with United Utilities Water Limited.*

The above project award was achieved following a detailed tender process. The contract covers the design, manufacture, supply, installation and commissioning of Lower Life Cycle (LLC) Split Case Pumps, LLC vertical Turbine Pumps and SPP's extensive end suction range. It follows on from a successful AMP5 framework for split case pumps.

Stuart Wallis, Sales Manager for SPP's Water Division, comments: “To get this framework is a prestigious win for SPP. It will allow us to continue to strengthen our relationship with United Utilities and its stakeholders, and build on the existing foundations laid with previous framework agreements”.

SPP products are of the highest specification, demanded now by one of the leading water companies in the world - ensuring benefits such as high efficiency, durability and standardisation. Delivering the best whole life cost solution for any application in which its products are used is fundamental to the way SPP does business.

# KSEBL'S SMALL HYDRO ELECTRIC PROJECT IN "GOD'S OWN COUNTRY"

*KBL-ARYACON Consortium received EPC order from Kerala State Electricity Board Limited (KSEBL), for the construction of 2 x 1.5 MW + 1 x 0.5 MW Adyanapara Small Hydro Electric Project (SHEP).*

This project is run of the river scheme having various components like intake weir, free flow tunnel, surge shaft, valve house, penstock, surface power house and tail race structure. It is built on Chaliyar river in Malabar region of Kerala.

Adyanapara SHEP is developed and owned by KSEBL, a state run power utility company. The project site is located about 50 Km from the Kozhikode city, a picturesque location famed for its coconut and rubber trees.

KBL's scope included design, engineering, manufacturing; testing, delivery, erection and commissioning of the complete electro-mechanical package. The company supplied 2 horizontal shaft Francis turbines each of 1500 KW capacity and 1 horizontal shaft Francis turbine of 500 KW capacity along with other electro mechanical equipment.

The company commissioned this project in July 2015 and finally dedicated it to the nation on 3rd September 2015. The hand-over ceremony was attended by Mr. Oommen Chandy, Hon'ble Chief Minister of Kerala, Mr. Aryadan Muhammed, Hon'ble Minister for Electricity, Mr. M. Sivasankar, CMD, KSEBL and other dignitaries.

Kirloskar Brothers Limited commissioned this prestigious project ahead of contractual completion date. This achievement has also won accolades for KSEBL officials. KBL received a memento from the Government of Kerala in appreciation of its efforts.

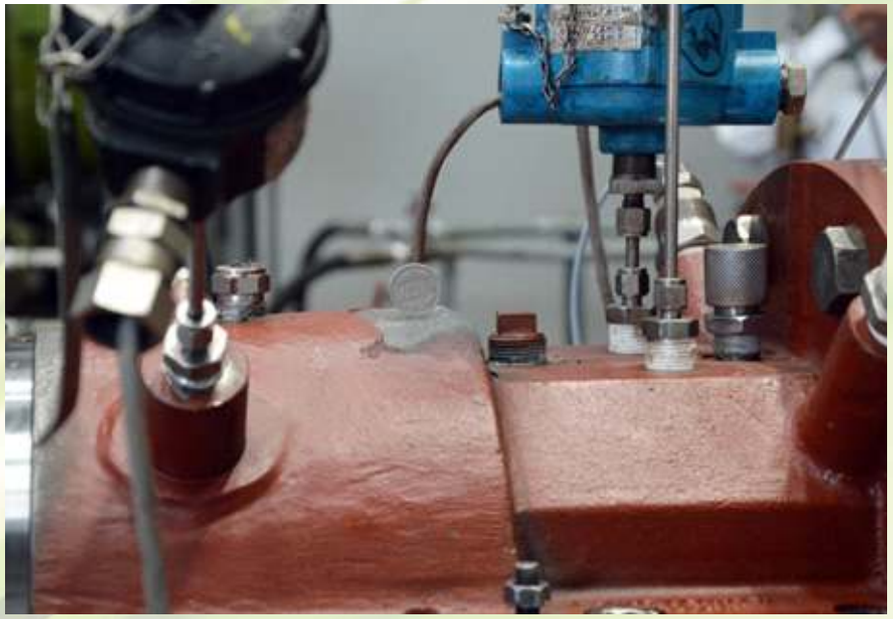
Speaking on the occasion, Hon'ble Chief Minister of Kerala Mr. Oommen Chandy mentioned that Adyanpara SHEP shall not only produce reliable, renewable and green power but also provide ample opportunity to develop eco-tourism. This is first project under Kerala Government's new initiative of Hydro tourism. It is an honour for KBL to be associated with this multipurpose green project.

This is the 2nd hydro project commissioned by KBL in Kerala after 2 x 2 MW Ranni Perunad SHEP near Kottayam which has been in operation for the past 2 years.

The company offers efficient "Water to Wire" solutions for the small hydroelectric projects covering all types of hydro turbines namely Francis, Kaplan and Pelton in both horizontal and vertical orientation. KBL has till date installed 36 small hydroelectric projects, thereby adding a capacity of more than 120 MW of green energy to the state and national grid.

## ARAMCO PUMP TESTING AT KEPL

*Kirloskar Ebara Pumps Limited (KEPL) conducted the performance testing for the API BB5 pump for the Luberef Refinery Expansion Project for Saudi Aramco, Kingdom of Saudi Arabia, ordered through Samsung Engineering Company Limited, Korea.*



KEPL conducted the performance testing for the API BB5 pump for the Luberef Refinery Expansion Project. The 150 X 100 KBDD 10 Stage (150 X 100 DCS 10 Stage) pump running at 4483 rpm with a 900 KW motor to drive it, had vibrations less than 3 mm per second RMS.

To feel the vibration levels on the pump, a coin was vertically kept on the bearing housing. The coin stayed on the housing without falling off for the entire four hour performance run test, validating the excellent reliability through such low levels of vibrations for KEPL-make pumps. This pump would now be dispatched to the site which will handle the High Pressure Lean Amine fluids.

# PENETRATING THE MARINE STRUCTURES & JETTY PIPELINE MARKET

*Kirloskar Corrocoat has entered the huge coating market of Corrosion Protection for Marine Structures & Jetty Pipeline that is exposed to the harsh marine environment.*

Mumbai Port has long been the principal gateway to India and caters to about 19% of Petroleum and Oil Products (POL) traffic handled by major ports. Butcher Island, also known as Jawahar Dweep, is used as an oil terminal by the Mumbai Port. It has jetties for tankers and various other infrastructures for offloading crude oil and for loading refined petroleum products. The island is restricted to port employees, and not open to the public. Construction of fourth oil jetty at Jawahar Dweep with draft 14.3 m to handle large oil tankers up to 80,000 DWT was done in 1984.

The unloading of such oil tankers is done through large diameter pipelines running over this jetty.

Kirloskar Corrocoat was successful in getting approval for its coating product system from the project consultant, with EIL winning the tender against stiff price competition from other reputed market players. The project scope includes – supply and application for 20,000 sq m surface area of cargo and service pipelines at Fourth Oil Berth, Marine Oil Terminal, Jawahar Dweep. The pipeline is supported by concrete beams of the jetty and runs 5-6 m above sea. For project execution, special scaffolding and high safety standards will be required. With this project - Kirloskar Corrocoat has entered the huge coating market of Corrosion Protection and this success will open doors for opportunities at various ports and terminals in the Oil & Gas industry as well as for offshore structures.

# AN ACCOMPLISHMENT IN PIPELINE COATING BUSINESS

*Kirloskar Corrocoat selected by Reliance Industries Limited for the biggest project in pipeline external coating at site.*

Reliance Industries Limited, a Fortune 500 (2013 rank #99) organization is involved in Refining & Petrochemicals. RIL's Jamnagar plant produces sweet, sour and a combination of both crudes. It is the world's largest and most complex refining complex set up in record time frame.

Kirloskar Corrocoat has a long and successful association with the RIL account, starting from 2006-08 in J2 Refinery project for pipeline internal and external coating for 2.5 lakh sq. m. and coatings of 87 pumps. This success ignited the customer confidence and they selected Kirloskar Corrocoat for the biggest project in pipeline external coating at site which has completed 3.5 lakh sq. m. starting from 2013. The project is still going-on. The Polyester and Vinyl ester glass flake coating products – Polyglass 100 and Polyglass VEF has been manufactured for this on-going project by the factory located at Kirloskarwadi and continues to be the flagship product in the Indian market.

# SPP PUMPS INVESTS IN DUTCH MARKET WITH NEW SALES ROLE

*SPP Pumps, the leading manufacturer of centrifugal pumps and systems, has appointed Mark Verweij to the newly created role of European Sales Manager for its specialist Dewatering Division.*

Mr. Verweij will be based near Rotterdam where he will bring his considerable pump industry and application experience to not only aid sales across Europe and support to distributors, but also for establishing a sales presence in Holland.

“I believe SPP Pumps as a company, with its knowledge of the market in both pumps and engineering, is capable of making a significant impact in Holland” commented Mark. “SPP's solutions in both water pumps and bespoke projects are unparalleled and I am excited at the prospect of building the business in both Holland and further afield.”

The SPP Pumps Dewatering Division offers a range of vacuum-assisted dry self-priming pumps, developed for rental organizations, contractors, utility companies, open cast mines and municipalities - all needing a durable solution.

Versatile, portable and lightweight, the range is deployed around the world for diverse, demanding applications including site dewatering, industrial sludge pumping, tank sediment cleaning, flood relief, wellpointing, and sewage over-pumping.

Duncan Jackson, the head of SPP Pumps Dewatering Division explains the company strategy behind the new appointment: “Holland has a lot of land that is below sea level so there is a market here that we want to focus on. Mark is an ideal fit to lead our sales strategy in Holland as he has great experience in the area”.

# INDIA WATER WEEK: INNOVATIVE SUBMERSIBLE SEWAGE PUMPS ON DISPLAY

*Kirloskar Brothers Limited was the Platinum Sponsor for the third edition of The India Water Week, organized by the Ministry of Water Resources, Government of India, in New Delhi.*

The theme of the India Water Week expo was "Water Management for Sustainable Development", and the key focus was on River Development and Ganga Rejuvenation. Ms. Uma Bharti, the Union Minister for Water Resources, River Development and Ganga Rejuvenation, inaugurated the exhibition.

The India Water Week – 2015 is a comprehensive conference and exhibition on solutions, services and technologies available for improvement of water management in all spheres of water usage. Through the Expo, the exhibitors get an opportunity to showcase their offerings to the high-level professional audience from across the country as well from all the other parts of the world.

The Kirloskar Brothers Limited (KBL) stall at the expo was inaugurated by Mr R. Sundar Rajan – Vice President, Engineering, Siemens Limited. KBL launched its innovative Submersible Sewage Pump at the expo. The KBL stall drew the attention of the visitors who were keen to understand how KBL products can help them manage their water resources better.

Commenting on the occasion, Mr. Rajan said: "*I am extremely delighted that as manufacturers, Kirloskar Brothers Limited have taken into consideration the customers' feedback to design this i-NS pump, which has unique features for improved reliability & performance. The innovative design of iCP Pump, which is a zero leakage pump without mechanical seal and gland packing, would be useful for DM water application in power plants".*

The Honourable Minister of Water Resources and River Development, along with Mr. A. B. Pandya, Chairman Central Water Commission (CWC), visited the KBL stall and keenly observed the new and sustainable products on display. The Minister was happy to know that Kirloskar Pumps are used for supplying water from the Narmada River to Bhopal.

Mr. Sundar Rajan & his team took keen interest in understanding the features introduced in KBL's Lowest Life Cycle Cost (LLC) range of Horizontal Split Casing and Vertical Turbine pumps for sustaining pump efficiency with respect to conventional Horizontal Split Case and Vertical Turbine pumps.

# ALL INDIA CHANNEL PARTNERS' MEET AT KBL

*All India + ISC channel partners meet was the first event in which dealers from all over India & from outside India were brought under one umbrella with the objective of exchanging thoughts.*

This event arranged at KBL, Pune on 24th & 25th August 2015, was attended by more than 120 channel partners from India and Indian sub-continent countries like Sri Lanka, Bangladesh, Nepal; and approximately 40 KBL officials from various sectors. The All India + ISC channel partners meet was formally inaugurated by CMD, Mr. Sanjay Kirloskar. In his speech, he discussed about VISION 2020 and talked about latest global acquisitions. He expressed satisfaction for involvement of Gen-Next dealers in steering their businesses, and suggested that the key to facing global competition was by understanding the customers.

The speech by Mr. Kirloskar was followed by a detailed presentation on Project Quantum by Mr. Aseem Srivastav. Later, Mr. Baban Pachkawade presented the way forward and explained how the channel partners are connected to this strategy. He explained how the company should work as a team to move towards achieving this VISION 2020. This was followed by the launch of the new system of dealers-Go To Market (GTM) by Mr. Sanjay Kirloskar.

Connoisseur Gen-Next dealers delivered germane presentations on various topics like growing business through sub-dealers and APOEM facility, Growing & Professionalizing Dealership, Market intelligence, and Market Effectiveness; which was followed by presentation on current economic scenario by a renowned economist. In the evening, the CMD felicitated top seven dealers, from various categories for FY14-15.

## Winners from various categories:

| Category | Winner |
|---|---|
| 1st rank for Order Booking (Value) in India for Financial Year 2014-2015. | M/s VIJAY ENGINEERING & MACHINERY COMPANY |
| 2nd rank for Order Booking (Value) in India for Financial Year 2014-2015. | M/s JAKSON & COMPANY |
| Best for maintaining Quality Management System in all India for FY2014-2015 | M/s S.RUDRARADHYA & CO |
| Top for Order Booking (Quantity) in North Zone for FY'2014-2015 | M/s JAKSON & COMPANY |
| Top for Order Booking (Quantity) in West Zone for FY'2014-15 | M/s VIJAY ENGINEERING & MACHINERY COMPANY |
| Top for Order Booking (Quantity) in East Zone for FY'2014-15 | M/s DEBSON PUMPS (P) LTD |
| Top for Order Booking (Quantity) in South Zone for FY'2014-15 | M/s BASIC ENGINEERS & TRADERS |

On 25th August, various sector heads presented business plans and key initiatives for further improvements. The close of the event saw sessions being conducted to get feedback from all channel partners and the information for further course of action being collated.

The All India + ISC Channel Partners' meet was a win-win event for KBL and channel partners who are working together to take this relationship to the next level. The event generated an exchange of ideas through various interactions with the aim of developing customer satisfaction and boosting the spirit of channel partners.

# PARTICIPATION IN THE FIRST-EVER IFAT EURASIA 2015


*With its goal to expanding the business in Turkey and aligning with the vision of the company, Kirloskar Pompen B.V. participated in the IFAT Eurasia show.*

Kirloskar Pompen B.V. (KPBV) has been actively making its presence in the Turkish market with the completion of projects with top EPC contractors in the Power segment. In addition, KPBV also entered into the Water and Irrigation market. The company has recently supplied the biggest Split case pumps (7.5 MW each) for an irrigation project in Turkey which are under installation.

KPBV participated in the first ever IFAT Eurasia held in Ankara, Turkey between April 16th-18th 2015. The exhibition was a great success for KPBV with the overwhelming response. The team from KBL, KPBV and our Turkish distributor were present at the exhibition. The main focus was to demonstrate the strengths of the company in area of engineered and special pumps.

Visitors from different segments like water authorities, irrigation department and private companies made their appearance at the Kirloskar booth. The products were appreciated and new leads were generated.

With sincere efforts made in the last couple of years, Kirloskar is now well known in the water and irrigation market. IFAT Eurasia 2015 has also provided a great platform for the KPBV to reach the right customers. Improved brand visibility will result in more opportunities in the irrigation and water sector in the Turkish market.

## CONFERENCE ON VALVES AND PUMPS AT SRINAGAR


*A technical seminar at Srinagar was conducted on June 11, 2015 with a view to apprise various Government Departments of KBL capabilities and strengths and counter competitor's propaganda of monopolistic tactics.*

The technical seminar was attended by various departments such as PHE (Mechanical), Irrigation and Flood Control, Mechanical Engineering Department and Urban Environmental Engineering Department.


*A session was conducted by Mr. R. D. Mahind – VP & Head - Valve Sector who demonstrated KBL's latest product range, new development and how to avoid duplicate valves.*



## KEPL TEAM WAS NOMINATED FOR PARTICIPATION IN ICQCC


*Kirloskar Ebara Pumps Limited (KEPL), the sister concern of Kirloskar Brothers Limited was nominated by QCFI to participate at the "International Convention on Quality Convention Circle", 2015.*

KEPL continues to prove quality in engineering by bagging numerous awards and rewards at the Quality Circle Forum of India. In yet another milestone, KEPL, the sister concern of Kirloskar Brothers Limited was nominated by QCFI to participate at the "International Convention on Quality Convention Circle", 2015, to be held from 5th to 8th of October 2015 at Korea.

ICQCC is an annual convention organized by Asian countries showcasing the best international teams (called Quality Circles) by engaging them in a competition that is assessed by a team of experienced judges.

## WINNER AT CII - KAIZEN COMPETITION


*At the 10th edition of KAIZEN state level competition at Nashik, Maharashtra, the Kirloskar Ebara Pumps Limited (KEPL) team received the winner trophy under the "Large Scale" category.*

KAIZEN, a benchmark tool enhances the growth of an organization and improves the manufacturing culture. To create an awareness of KAIZEN practices in the industry, the Confederation of Indian Industry (CII) on 16th January 2015 organized the 10th edition of KAIZEN state level competition at Nashik, Maharashtra where the KEPL team received the Winner trophy under the "Large Scale" category.

This unique opportunity witnessed more than 90 participants under one roof and on a single day. This was truly an event which demonstrated how KAIZEN is being practiced in various industries. It also reflected how these organizations are implementing simple and superior ideas with ownership.



## NEWS ROOM

**Delta P**

### Kirloskar Brothers Ltd. exhibit at Achema 2015

India's leading company Kirloskar Brothers Limited (KBL), which specializes in fluid management, will showcase its solutions at **Achema 2015** to be held in Frankfurt am Main, Germany, from **15th to 19th June.** KBL's sister concern Kirloskar **Ebara Pumps** Ltd. (KEPL) as well as its 100% subsidiary **SPP Pumps** will also participate in the exhibition to showcase their expertise.

KBL is the flagship company of the US $ 2.1 billion Kirloskar Group and a global fluid management solutions provider and the largest manufacturer and exporter of centrifugal pumps and valves. KBL has a strong global presence with operations in Asia, Africa, Europe, Middle East and North America.

KBL leads the global fluid management segment with path-breaking innovations as well as highest standards of manufacturing and operations. All the manufacturing facilities at KBL are ISO 9001 & ISO 14001, OHSAS 18001, ISO 14000 Environment Standard certified. The factories deploy Total Quality Management tools using European Foundation for Quality Management (EFQM) model. KBL is the only pump manufacturing company in India and ninth in the world to be accredited with the N and NPT certification by American Society of Mechanical Engineers (ASME).

**Mr. Sanjay Kirloskar**, CMD, KBL said: "We are glad to be a part of world's most comprehensive and inspiring event for the chemical process industries. We are geared to showcase some of our most successful products like OH2 which caters to the process industry, Lowest Lifecycle Cost (LLC) ™ Pump, vertical turbine and multistage pump. Platforms like ACHEMA serve as perfect meeting point allowing us to connect with experts and executives across the industry sectors. KBL would like to partner with like-minded companies to explore new markets and opportunities and expand its reach and customer base."

**World Pumps**

### KBL to exhibit at ACHEMA 2015

11 June 2015

**Kirloskar Brothers Limited (KBL) will showcase its solutions at ACHEMA 2015 along with its sister concern Kirloskar Ebara Pumps Ltd. (KEPL) as well as its 100% subsidiary SPP Pumps.**

KBL leads the global fluid management segment with path-breaking innovations as well as highest standards of manufacturing and operations. All the manufacturing facilities at KBL are ISO 9001 & ISO 14001, OHSAS 18001, ISO 14000 Environment Standard certified. The factories deploy Total Quality Management tools using European Foundation for Quality Management (EFQM) model. KBL is the only pump manufacturing company in India and ninth in the world to be accredited with the N and NPT certification by American Society of Mechanical Engineers (ASME).

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Stefan Hell, 2014 Winner of Nobel Prize in Chemistry, will give the keynote speech at the Opening Session of ACHEMA 2015 on 15 June 2015, 11 am

# Kirloskarvadi: Kirloskar's heart and soul

Kirloskar Brothers and its industrial townships showed how industrialisation can grow hand-in-hand with civilisation

Before PM Narendra Modi popularised 'Make in India' concept, one visionary industrialist named Laxmanrao Kashinath Kirloskar made it a reality, and he did it even before India became India—more than a century back.

The journey, of course, wasn't a smooth one. He started manufacturing iron ploughs, but it took him 2 years to sell his first iron plough. And then his plant was forced to relocate from Belgaum as the civic body annexed its land. With the help from the King of Aundh, Laxmanrao Kirloskar developed one of India's first industrial townships Kirloskarvadi — now in the district of Sangli in Maharashtra.

### Kirloskarvadi

"Kirloskarvadi is my home," says a young engineer. This is not just an expression; this is what each and every employee believes in. The township, which is divided into residential area and manufacturing plant, has its own post office and a PIN code. The residential area is scenic with well-planned roads and greenery. The township has everything a resident can dream of — high school, junior college, town library, hospital and so forth. Kirloskarvadi also has several sports facilities, including a cricket club, tennis courts, golf course and an eight-lane swimming pool.

Kirloskarvadi is a global village where more than 3,000 people work, understand and grow as professionals and individuals."There are no limits of gaining expertise in this organisation," says Prakash Pudale, Associate Vice President and Head Operations - Kirloskarvadi, Kirloskar Brothers Ltd., and the third generation of his family to work with the company. "Every level of work involves its own opportunities and freedom. I have noticed a lot of changes within myself working with this organisation. The important aspect about working over here is we have to keep up with and acquaint ourselves with the changes happening around."

### State-of-the-art plant

The factory at Kirloskarvadi did more than just produce agri-pumps. Kirloskarvadi gave India's first branded iron plough. It also produced India's first diesel engine and electric motor. Today KBL is one of the India's largest manufacturers and exporters of pumps and has eight manufacturing plants: Kirloskarvadi, Dewas, Kondhapuri, Shirwal, Ahmedabad, Coimbatore, Kolhapur and Karad. Kirloskarvadiis regarded as the mother plant and produces one-third of all the KBL pumps.

"Our every offering is first developed here," explains Mr Pudale. "The first centrifugal pump in India, concrete volute pump, metallic volute pump and the first sodium pump were first developed at Kirloskarvadi.

The manufacturing plant in Kirloskarvadi is one of few to have a state-of-the-art integrated manufacturing facility under one roof with Ferrous and non-ferrous foundries. Kirloskarvadi has also one of Asia's largest hydraulic research centres with testing facility up to 5,000 kW and 50,000 m3/ hr.

### What makes Kirloskarvadi unique?

The uniqueness of this plant is it has all manufacturing facilities under one roof. It has a research and development centre along with design centre. It has all kinds of facilities to make different kinds of pumps, including the bigger machines which have 8-metre swing and 6-metre height. "I think very few companies have such manufacturing capabilities," says Mr Pudale. "We have a very efficient assembly line and encourage new development. The testing laboratory is well-equipped too."

### Pumping the power industry

Kirloskar Brothers is one of the leading names in manufacturing pumps used in power plants. Here are a few important pumps used in a power plant:

**Canned Motor Pumps**

- The highly reliable "Canned Motor Pumps" are used for pumping of toxic, hazardous liquids, high temperature, and high pressure services in nuclear power plant. These pumps come with no seal-no leakage and have no separate lubrication of bearing and no contamination of lubricant. Canned Motor Pump is a centrifugal pump with hermetically sealed electric motor mounted on single shaft thus eliminating the requirement of mechanical seal or other sealing device.

**Concrete Volute Pumps**

- Then there are "Concrete Volute Pumps (CVPs)" in which the casing and suction draft tube is cast in-situ concrete with rotating metallic part. These pumps are highly required in thermal and nuclear power plants because of their high reliability, design simplicity, superior operating performance, vibration-free equipment and low maintenance cost.

> We are on continuous path of improvement, and we will make this organisation globally admired as a best-in-class pump manufacturing facility.

Prakash Pudale, Associate Vice President and Head Operations - Kirloskarvadi, Kirloskar Brothers Ltd.

**Cannister Pumps**

- Condensate Extraction Pump series by Kirloskar is widely used for condensate extraction application in thermal and nuclear power plants. High efficiency and low NPSHR characteristics make CEP pumps the best suitable in these segments. Their hydraulic design is constantly updated through KBL's research and development to meet the ongoing requirements.

### Solar Pumping System

A solar pump uses power derived from sunlight that is converted into electrical power by solar PV modules, which give higher power output in the afternoons and lower power output in the mornings and evenings. Kirloskar "Solar Pumping System" and its automatic solar electric technology drives a standard induction motor AC pump set, with a triple mode maximum power point tracking feature. Under this, the pump, motor and solar modules are all made to run in the best frequency zone automatically. These pumps work on varying power input and give varying water output at a given pump head.

### KBL and innovation

The core businesses of KBL include large infrastructure, project and engineered pumps, industrial pumps, agriculture and domestic pumps, and valves and hydro turbines. The company is one of the market leaders in power sector, water resource management (water supply, sewage treatment and desalination), oil and gas, marine and defence and irrigation. KBL is also a leading name when it comes to innovation.

Most of these innovations are a result of the zeal of the employees and their commitment to the company."There are about 59 projects which come from the workers and young engineers," says Mr Pudale. "One good example is the KPD pumps with enclosed impeller which has zero set-up time. Our 32 models are covered in one set-up."

## Industrial Product Finder

### PROCESS PUMP, GK-P

**Kirloskar** Brothers Ltd (KBL), a global fluid management company, recently launched a technologically advanced GK-P Process Pump at ACHEMA, world's most-followed event for the chemical process industry held in Frankfurt, Germany. GK-P is a process pump used for handling various types of chemical liquids from various process industries. It is an end suction centrifugal process pump having discharge capacity up to 500 $m^3$/hr at 1450 rpm. With a size ranging between 25 mm to 150 mm, the pump can handle temperatures in the range of -50°C up to +350°C. The wide range of smooth hydraulics will meet the customers' requirements and promote better efficiency of the product. The back pull-out design will help in easy and quicker maintenance. Kirloskar Brothers Limited (KBL) is a global fluid management solutions provider and the largest manufacturer and exporter of centrifugal pumps and valves from India.

For further information contact:

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**Email: pune@kbl.co.in**

## Power Line

### KBL announces the launch of ROMAK pump at Achema, Germany

Kirloskar Brothers Limited (KBL) has announced the launch of its ROMAK pump at Achema, the world forum for chemical engineering and the process industry, held recently in Germany. ROMAK pumps are process pumps that can be used by process industries for handling different types of clean chemical liquids without any suspended particles. The pump size ranges from 32 mm to 100 mm and has a discharge capacity of up to 300 cubic metres per hour. It comprises permanent magnets and can handle temperatures from -50 °C to +180 °C.



## EPC&I


# KEPL TO DISPATCH API STEAM TURBINE TO IOCL

Kirloskar Ebara Pumps Limited (KEPL), a sister concern of Kirloskar Brothers Limited and leader in critical process pumps and API Steam Turbines, has successfully completed the testing of indigenously-developed API Steam Turbine 'K-TUR', which is being supplied to Indian Oil Corporation Limited, Vadodara facility as a driver for the Boiler Feed Water Pump. The test was conducted at KEPL Kirloskarvadi works in Maharashtra.

The test on this 340 kW steam turbine was conducted in accordance with the API 611 specifications. No Load Mechanical Run Test (NLMRT) is an hour long test of the steam turbine where the steam machine is run at its rated speed (measured in rpm i.e. revolutions per minute) and various parameters are monitored before the turbine is despatched to the customer.

K-TUR is among the most efficient single-stage steam turbines and is currently, available in three frames. The first one KT-B is for the power requirements up to 1 MW and the second frame KT-D is for the power requirements up to 3 MW. These K-TUR Drive Turbines are also available in Condensing and Back Pressure Configuration. The third frame KTBH is a high back pressure variant of the model which can generate powers up to 2200 kW.

Kirloskar Brothers Limited (KBL) is a world class pump manufacturing company with expertise in engineering and manufacture of systems for fluid management. Established in 1888 and incorporated in 1920, KBL is the flagship company of the $ 2.1 billion Kirloskar Group. KBL, a market leader, provides complete fluid management solutions for large infrastructure projects in the areas of water supply, power plants, irrigation, oil & gas and marine & defence. We engineer and manufacture industrial, agriculture and domestic pumps, valves and hydro turbines.

In 2003, KBL acquired SPP Pumps, United Kingdom and established SPP INC, Atlanta, USA, as a wholly owned subsidiary of SPP, UK to expand its international presence. In 2007, Kirloskar Brothers International B.V., The Netherlands and Kirloskar Brothers (Thailand) Ltd., a wholly owned subsidiary in Thailand, were incorporated. In 2008, KBL incorporated Kirloskar Brothers Europe B.V. (Kirloskar Pompen B.V. since June 2014), a joint venture between Kirloskar International B.V. and Industrial Pump Group, The Netherlands. In 2010, KBL further consolidated its global position by acquiring Braybar Pumps, South Africa. SPP MENA was established in Egypt in 2012. In 2014, KBL acquired SyncroFlo Inc., the largest independent fabricator of commercial and municipal domestic water booster pumps.

To further strengthen its global position, in 2015, Kirloskar Pompen B.V. acquired Rodelta Pumps International, The Netherlands.

KBL has joint venture cooperation with Ebara, Japan since 1988 for the manufacture of API 610 standard pumps. Kirloskar Corrocoat Private Limited is a joint venture cooperation with Corrocoat, UK since 2006. KBL acquired The Kolhapur Steel Limited in 2007 and Hematic Motors in 2010.

KBL has eight manufacturing facilities in India at Kirloskarvadi, Dewas, Kondhapuri, Shirwal, Sanand, Kaniyur, Kolhapur and Karad. In addition, KBL has global manufacturing and packaging facilities in Egypt, South Africa, Thailand, The Netherlands, United Arab Emirates, United Kingdom and United States of America. KBL has 12,700 channel partners in India and 80 overseas and is supported by best-in-class network of Authorised Centres and Authorised Refurbishment Centres across the country.

All the manufacturing facilities at KBL are certified for ISO 9001, ISO 14001, ISO 50001, BS OHSAS 18001 and SA8000. In addition, the Kirloskarvadi plant is also certified for N & NPT Stamp. KBL's corporate office in Pune is certified for ISO 9001 & SA8000.

They apply Total Quality Management tools using European Foundation for Quality Management (EFQM) model. The Kirloskarvadi plant of KBL is a state-of-the-art integrated manufacturing facility having Asia's largest hydraulic research center with testing facility up to 5000 kW and 50,000 $m^3$/hr.