



## “Infrastructure boom in India and global market will accolade the great future for the pump industry ”

India has a thriving domestic Pumps, valves industry, which had its beginnings in the 19<sup>th</sup> century, and you are one of the pioneer into pumps, valves industry which our country always has a big pride of it. **ENGINEERING REVIEW is in talkswith Mr.Srivastava for acquiring the current scenario of Indian pumps & valves industry.**

# Personal Interface

**Q. Indian Pumps industry, which has undergone a radical shift in its paradigm thinking, the industry is now recognised as a provider of low-cost high quality lean manufacturing solutions, Please brief us about recent initiatives undertaken in Pumps, valves space? Which are your focus areas?**

Kirloskar Brothers Limited has been associated with the manufacture and supply of Pumps with the required prime mover in India and Abroad for a long time. In its endeavor to increase its market share, Kirloskar Brothers Limited has incorporated value-added services along with the manufacture and supply of pumps and have moved from being only a Pump Manufacturer to a company providing Pumping Solutions including EPC contract of pumping system. In this journey, the company has passed through various stages and has excelled in operation at each of the stage before upgrading itself to the next stage.

**Pump Manufacturer:**

KBL initially started Manufacturing Pumps in its works and supplying Pumps and associated prime movers to its customer base.

**Product Supply:**

By developing and upgrading to our requirement, the company created a base of reliable suppliers. With this base, the company started offering the associated electro mechanical equipments such as Hydraulic Operated Discharge Butterfly Valve , Rubber Expansion Joints , Instrumentation and control panel s along with the Pumps and drive motor to the satisfaction of the customers.

**Electro-Mechanical Packages:**

By providing techno-commercial and cost effective solutions and by adding the expertise in sump model studies, Pump Model

studies control and instrumentation, KBL, over a period of time, started providing customers, Control Instrumentation, communication system Cables, Cranes and in-house piping along with the Product Supply components.

**Civil and Piping:**

By identifying strategic partners for Civil and Piping activities, Kirloskar Brothers Limited started providing Concept-to-Commissioning solutions including civil works for pump houses and cross country pipelines as an added service to various customers.

**System Supply:**

With the help of our experience and by necessary Technology upgradation, the company then started providing customers with cost effective Pumping Solutions. During this period, the company also started functioning as an EPC contractor ensuring the client's project objectives are satisfied. In our journey towards becoming a complete “Water Management” company and to consolidate our position as a major EPC contractor, Kirloskar Brothers Limited



Mr.Srivastava - Director Kirloskar Brothers Ltd.

has initiated numerous steps. With all above initiatives and efforts KBL is recognised as a reputed EPC contractor in the field of infrastructure project in India and abroad.

**Q. What are the growth opportunities for Pumps, valves industry in India? Being the key player how do you plan to position your company in pumps, valves sector?**

With the infrastructure boom in India and other parts of the world, the pump industry's future is looking bright. Where ever the construction is there, you need water and to get the water at the location, you need pumps. In India itself there are about 500 pump companies. But the prominent ones are only few.

*Continue on page no : 50*



*Continue from page no : 48*

In pump sector we are number 1 in the country. We command a huge market share where engineering pumps which technology is required. As far as Indian standard is concerned, India is shoulder-to-shoulder in development of technology with the world pump industry.

**Just to quote few examples that KBL has achieved :**

- One of the largest Canned Motor Pump of 200 KW
- Sodium pump for NPCIL
- Compact off-shore Fire Fighting pump system
- Large Concrete Volute Pumps
- Critical pumps like CW pumps, Condensate extraction pump etc.
- Largest test facilities for pump testing in Asia
- Worlds largest pumping system at Sardar Sarovar Narmada Nigam Limited project (SSNNL)

Also, the quality, efficiency and reliability level of Indian pumps is definitely at par with World standards Important industry trends such as better water management and conservation, waste water reclamation and reuse, combined cycle power generation, paper recycling etc. coupled with ever-tightening environmental norms, promise a reasonably good potential for pump companies to play a vital role in the 21<sup>st</sup> century in the history of mankind. Since last year, due to the huge demand, we doubled our capacity and this year again we are doubling it up. We are currently manufacturing 4-5 lakhs domestic pumps annually. In engineered pumps sector, we are making more than 1000 annually and industrial pumps more than 50,000. And if you look at the total it is more than 5 lakhs units per annum.

“Large Special Pumps like Concrete Volute Pumps, Tubular Concrete pumps will play major role in primary transfer; conventional pumps like Vertical turbine, mixed flow, Axial, Propeller, Horizontal split case and End suction pumps will find their use Lift Irrigation, Urban Water Supply schemes, etc. So also domestic and Agricultural pump will be necessary to fulfill the requirements of the last leg - end users. KBL's product range covers all the types of pumps. As far as our role in this sector is concerned we are a part of most of the major infrastructure projects are concerned. In this context KBL is eyeing for expansion in the water management business.

Sardar Sarovar Project is an interstate multi purpose project of irrigation, drinking water and hydro power.

**Q.As per your opinion what is the role of research & development in product performance? How do you score R&D in your company against all other functional heads?**

The most progressive pump industries in India are well equipped with their in-house Research and Development Centers for original product design and development. Most of the leading pump industry like KBL is having R&D centre recognized by Department of Science and Technology, Govt. of India. The important thing is that the industry has acquired an in-built capacity to manufacture large, complex and sophisticated pumps to indigenous design. Indian Pump Industry is poised to substantially improve export under present economic reform to strengthen Indian Economy. With focus on continuous improvement of products and systems by Research & Development coupled with latest manufacturing processes, KBL, Indian Pump Industry seems to have a very vital role to play in the future world scenario.

KBL is associated with pioneering work in several sectors of the industry, including its introduction of India's first energy efficient pump to the more recent solar voltaic pumping system, canned motor pumps concrete volute pumps, sodium pumps and magnetic drive pumps. It is the only pump manufacturing company in India to manufacture canned motor pumps for harsh and toxic chemicals and liquid sodium pumps for special applications. It is the only company in India to have designed, manufactured and commissioned pumping systems involving concrete volute pumps. It has also developed the capability to design and manufacture hydraulic turbines up to 10 Mw single unit and has successfully completed several small hydro-electric projects on turnkey basis.

Its pump designs are created at its Research and Development Center, which is equipped with modern workstations and mechanical and fluid analysis software. KBL has one of Asia's largest hydraulic research centers with testing facilities available up to 5000 Kw, 11Kv and discharge up to 13,850 litres per second and a Centralized Data Acquisition system. It undertakes sump model studies to ensure the satisfactory operation of pumps. Pumping Station Intake Studies

*Continue on page no : 52*

# Personal Interface



*Continue from page no : 50*

Analysis, using Computational Fluid Dynamic techniques for prediction of flow patterns, surge, structural and seismic analyses are also carried out. Decades of expertise acquired in this field is now reflected in most of the clients approving KBL sump designs based upon flow analysis provided by purely by CFD methods. It has a well-established testing laboratory for process pumps also. Extensive research work is carried out to establish the empirical relation between model pump performance and prototype pump performance. KBL design engineers are able to quickly modify established designs and meet the needs of their various customers by dint of data generated by such research

**Q. Indian market is price sensitive, what is your marketing strategy for India to counter this situation?**

Life Cycle Cost – while selecting pump and system. In simple terms, it is the cost to acquire, protect, repair and maintain equipment throughout its projected useful life. Hence, many other costs involved viz., cost of installation and commissioning, energy cost, operation cost, maintenance and repair cost, downtime cost and even hidden costs such as environmental cost and pre-commissioning disposal costs are also required to be addressed. Thus, additional parameters like efficiency, quality, reliability, simplicity of design and many more parameters are bound to become vital and will also be brought in the selection process. If price and efficiency can be seen as “coin of the realm”, I suggest engineers learn to look at the third side of the coin reliability. When they reach their decisions on which equipment to install. International pump community has already decided to bring this in the form of international Standard. The hydraulic institute of standards, USA, has published ‘Industries’ most complete and upto date Life Cycle Cost guide for pumping systems”, which will be most useful for manufacturers as well as users. I suggest this forum to come out with similar guidelines, particularly in Indian context, which is really the need of the hour. Pumps in today’s applications are expected to run intensively. Thus, “Operational Reliability” is a crucial factor. Thus technological advancement & reliability of the equipments are used as strategy adopted by KBL in price sensitive market for India.

**Q. What is your quality policy for the business?**

We have state of the art manufacturing facility and all the facility are under one roof i.e. , Research and Engineering , System Engineering, Procurement , Manufacturing –Pattern , Foundry , Machining , Testing , etc. We have Asia’s largest Pump testing lab wherein we can test pump capacity up to 50000 M3/hr and power up to 4 MW. We can offer pumps in various metallurgy suitable for sea water and other critical process application.

We have four manufacturing plants - Dewas we manufacture Agricultural and Domestic pumps at Kirloskarwadi – Large Vertical and Split Case pumps , Process pumps etc. and at Kondapuri we manufacture valves. All the plants are having ISO 1400 and 9001-2000 certification. We also got the ISO certification for project Management. We have over 3500 employee including the operators.

**Q. Please elucidate the export performance of Indian Pumps Industry? What is the demand scenario of Indian products in global market?**

“Power and Water are the two main segments, which are going to drive the global pump market, and KBL is already there in the big league having reached the top 15 pump companies in the world as per our vision. For the first time the company’s turnover has exceeded the Rs.15,000 million mark. The order board as on 1<sup>st</sup> April 2008 stands healthy at over Rs.40,000 million. Net Sales has achieved a growth of 15% over last year to reach Rs.15,251 million.

We were entrusted with prestigious orders from developed countries like Switzerland, Germany, France, Netherlands and the United Kingdom ; from Middle East countries like Saudi Arabia, Israel, Oman and Kazakhstan ; from our traditional South East Asian bastion nations like Thailand, Cambodia, Laos as well as Singapore. We received the first EPC / O&M order from Oman. This reference will showcase our expertise for turnkey projects - from concept to commissioning in International markets. A large order from Cambodia was executed and will further enhance our image in the region. We have executed our first Asian Development Bank funded project in South East Asia and received breakthrough in South Korea, Vietnam, Singapore and Australia. In Europe, we have created more than twenty references as brand Kirloskar with key End-users in UK, Netherlands, Greece, Portugal and Belgium. In Africa, new references created in Ghana,

*Continue on page no : 54*





*Continue from page no : 52*

Sudan and Morocco. Repeat orders are booked from countries in Latin America like Suriname. Our "Focus Africa" strategy is gaining further momentum with Indian government pledging five billion US dollars, which includes agriculture, water and sanitation as priority area. At global level, we are working on creating a global "Kirloskar Brand" in Africa, Europe, SE Asia, Middle East with Irrigation and Power sectors focus. In addition, global approvals and certifications, network, channels and offices with people recruited from different cultures and races are all giving us a global face that a top 15 league pump company of the world should possess. This brand creation, in years to come, will give our company comprehensive and sustainable growth from all feasible channels, business segments and alliances.

**Q. According you what are the factors affecting to Pumps business?**

Managing water resources has become increasingly difficult for India. India once had surplus of everything Wealth, water, food. Today, India has surplus of what the rest of world needs less. Water rationing would be the concept in the near future as the fresh water resources are fast depleting in the state. Proper and sufficient water distribution demands adequate piping infrastructure facilities. Thus comes, the role of the companies like KBL (Kirloskar Brothers Limited) to fulfill the infrastructure needs both for drinking and irrigational purposes.

With companies like Kirloskar Brothers Limited coming in the fore to propagate the water management is seen as early steps to conserve the precious water resources and meet the growing needs of water in the state. The company offers customized products and services to meet the customer requirements and excel in business areas like Fluid handling, Turnkey Fluid-Handling, Projects in Irrigation, Power, Process, Water Supply & Sewerage, and Turnkey Small Hydel Projects.

**Q. What are the key technological trends that are driving Pumps industry?**

The pumps and pumping system designed by us are state of the art technology with special emphasis on energy efficiency and reliability. Many software like CFD analysis are developed to predict the performance of pumps and sumps before it goes for the prototype manufacturing. Through Inverse design program we can improve the pump efficiencies of existing designs. By adopting the latest

technique we can optimize the power consumption by reducing the head requirement of the system. KBL is accepted worldwide for our energy efficient pumps. We work closely with giant EPC companies like Bechtel who are quite demanding on energy efficiency. Nuclear power projects are very particular about energy efficient pumps. Quite a few nuclear power projects are using our circulating water pumps which are highly energy efficient.

**Q. According to you what are the measures taken by Indian manufacturers in order to compete with global players?**

The market characterization of each segment is distinctly different from one another. Agri and domestic pump market is mostly a high volume, cost driven, retail market of pumps as consumer durables being reached to the customer almost 100% through dealer chain across the country. Whereas at the other extreme end lies the market of multi billion infrastructural pump projects like World's largest pumping scheme on Saurashtra branch canal originating from Sardar Sarovar Dam on Narmada, mega irrigation projects in Andhra Pradesh, etc. which require years of shoulder to shoulder work with the concerned government authorities to conceptualize and engineer the projects, and then take these to fructification.

And midway lies the industrial pump market divided into water and process pumps being served by several niche products as well as value added packaged pumping systems. Naturally, marketing strategies for each of these segments can not be unique, and KBL deploys segment specific strategies to win over competition, with the main theme of its strategy revolving around being a friend-philosopher-guide to a customer.

**Q. How do you compare the Indian Pumps industry against the global industry?**

Beginning with three manufacturers in 1920, today there are more than 300 manufacturers of pumps scattered all over the country. These include small, medium and large units meeting the requirements within the country and for export market to some extent. There are more than 60 units in the organised sector with an installed capacity of around 7 lakh nos. per annum. The total production of pumps in the country is estimated to be around 10 lakh nos. per annum; of which more than 5 lakh nos. is contributed from the organised sector. The pumps that are manu-

*Continue on page no : 56*



Continue from page no : 54

factured in small-scale sector are mostly for agricultural and domestic use. The pumps manufactured by organised sector cater to agricultural, domestic, various industries and infra-structure. The Indian Pump Industry is matured enough to manufacture standard and sophisticated pumps. Their quality can be compared to many industrialized nations in the world.

The units in the organised sector and some of the SSI units have all essential facilities to design, manufacture and testing of pumps to meet international standards. Almost 95% of the applications and pumping requirements can be successfully developed and manufactured from India. As a country, India is having full potential to become a manufacturing hub and cater to the needs of Pumps and Valves world over; mainly in South East Asia and Middle East. Many international players have realized this strength of India's manufacturing base and considering for setting up their facilities in India, KSB, Grundfoss and Flowserve, to name a few. With focus on continuous improvement in Research & Development coupled with latest manufacturing processes, Indian Pump Industry seems to have a very vital role to play in the future world scenario.

**Q. How do you foresee the future of the Indian Pumps, valves industry?**

Both pumps and pumping systems have direct impact on energy conservation. Energy demand is on the increase and India's future totally depends upon how effectively we bridge the gap between demand and supply. It will be a happy situation if we are able to have surplus energy around us i.e. 'Power for all'. With the Present Installed Capacity of around 1,25,000 MW and Peaking shortage of 13500 MW, it is going to be a Herculean task. Since pumps consume 30% of the total power it is highly imperative to save energy if we cannot produce more.

Customers used to give a lot of importance for initial cost and technical parameters like speed, efficiency, NPSHR etc. resulting in overall cost of the pumping system. But now, users are increasingly becoming conscious about Life Cycle Costs (LCC) of the equipment over the expected service life time, which consists of sum of costs for purchase, installation, operation, maintenance, downtime loss as well as disposal including recycling. It is very clear that total initial cost is less than 1/5 of the Life Cycle Cost. The com-

ponents of Life Cycle Cost mentioned above gives one a greater understanding of need to dramatically reduce energy and maintenance costs. Reducing energy consumption and reducing its wastage also has important environmental benefits. Hence Life Cycle Cost Analysis is a management tool that can help users to minimize waste and maximize energy efficiency for many types of systems, including pumping systems. A guide to Life Cycle Cost (LCC) Analysis for Pumping Systems is developed by Hydraulic Institute and Europump to assist plant owners/operators in applying the LCC methodology to pumping systems.

**Q. Please elucidate the product portfolio of your company & do have any plans to launch new products in the market in near future?**

KBL manufacture roto dynamic pumps ranging from 0.1 KW to 12,000 KW (12 MW). Basically KBL have pumps for 95% application for various sector which includes Industry, water supply, irrigation, refinery, fire fighting and now KBL is focusing on infrastructure projects and fortunately, today, all the sectors are doing well unlike previous times. We enrich lives not only by providing our services and expertise in power and water sectors, but we care for your security against fire. We are India's first and only pump manufacturer to have launched Factory Mutual (FM) approved and Underwriters Laboratories (UL) listed fire fighting packaged pump sets in India, bringing best in class security and safety against fire to Indian industries and buildings. We are happy that a number of customers are choosing us for fire fighting pump sets of international standards. With our subsidiary, SPP Ltd., UK, we are one of the leading players in the world of FM approved & UL listed fire fighting pumping system manufacturers. On the product front, it is planning to move to value added packaged systems for expansion & growth.

**Q. What is your vision for your company?**

Growth and development has been a steady way of life for KBL, on the company front as well as on the region front. Pacing from 28th position in the world in pump manufacturing, it is now running at the 15th place aiming to be in the top 5 by 2015. "KBL shall be known globally as a reliable, innovative and cost effective solutions provider in Hydraulic machines and systems and in water business. It is through these small and big initiatives and lot of other projects, that KBL lives up to its sacred philosophy – Enrich Lives! "