# **ENGINEERING STRENGTH**



PUMPING SOLUTIONS FOR MARINE AND DEFENCE EXCELLENCE





#### Comprehensive Fluid Handling Solutions

#### **ABOUT KBL**

Kirloskar Brothers Limited (KBL) is a world-class pump manufacturing company with expertise engineering and manufacturing of fluid management systems. Established in 1888 and incorporated in 1920, KBL is the mother company of the Kirloskar Group. KBL provides complete fluid management solutions for infrastructure projects in the areas of water supply, power plants, irrigation, building & construction, oil & gas industry and marine & defence. KBL manufactures industrial, agriculture and domestic pumps, valves and hydroturbines.

Over the years, KBL has developed innovative products, which have enabled it to carve a niche globally. It is a global conglomerate and is equipped with the best technologies in the world. It is also India's largest centrifugal pump manufacturer with nine manufacturing facilities in India along with other international subsidiaries and operations in the Netherlands, South Africa, Thailand, the United Kingdom and the United States of America. KBL has over 16,000 channel partners globally and is supported by best-in-class Pan-India network of authorised service and refurbishment centres.

KBL is the first Indian pump manufacturing company to be certified Why KBL?

Optimised pumping solutions across market segments from concepts to commissioning

Largest manufacturer and exporter of centrifugal pumps from India

Provider of energy efficient pumping solutions to core sectors

State-of-the art integrated manufacturing facilities

Manufacturer of the largest pumps by size and horsepower in India

Commands the highest market presence amongst pump manufacturers in India

Pioneer manufacturer of centrifugal pumps in India

for Integrated Management System, (ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018).

Its factories deploy Total Quality

Its factories deploy Total Quality Management tools using the European Foundation for Quality Management (EFQM) model.

# In India, subsidiaries and joint ventures include:

- Kirloskar Ebara Pumps Limited (KEPL) manufactures API, Non-API pumps and steam turbines.
- The Kolhapur Steel Limited (TKSL) is a notable foundry facility with an in-house pattern shop.
- Kirloskar Corrocoat Private Limited (KCPL) is the leading solution provider in long-term corrosion protection and energy conversion.
- Karad Projects and Motors Limited (KPML) specializes in electric component manufacturing, particularly in the production of stampings, stators, rotors, AC rotating machines and aluminium die-cast connecting rods.

# International, subsidiaries and joint ventures include:

• SPP Pumps Limited, United Kingdom is a 140-year-old leading pumps manufacturer of centrifugal pumps and associated systems, a global principal in the design,

- supply and servicing of pumps, renowned fire pump packages and high-quality equipment for a wide range of applications and industry sectors. It is the largest pump manufacturer in the United Kingdom.
- SyncroFlo, Inc., United States of America manufactures preassembled pumping systems and provides solutions for HVAC systems, fire protection and turf irrigation.
- Rodelta Pumps International is a Dutch pump manufacturing company that offers products for flood control, irrigation, drinking water, wastewater, pulp & paper, power, chemical, oil & gas and general industries.
- Kirloskar Brothers Thailand Limited (KBTL), Bangkok is the Thailand Board of Investment (BOI) promoted headquarters and assembly plant of the KBL Group companies for the ASEAN and East Asia regions.
- Braybar Pumps (Pty) Limited, Republic of South Africa is engaged in the manufacturing and sales of high-head multi-stage pumps, rubber-lined slurry pumps and metal-lined bearings.

#### Our Strengths

Comprises one of Asia's largest Hydraulic Research Centers with state-of-the-art testing facilities

Manufacturer of large split case pumps

Manufacturer of large vertical turbine pumps

Manufacturer of concrete volute pumps

Manufacturer of large size valves

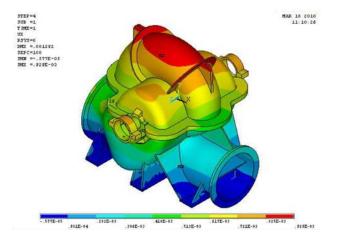
Sump model testing and actual scaled down model

Executing large turnkey projects from concept to commissioning

Service network - 24x7

## Design and Engineering Analysis Software at KBL

- Pro-E Wildfire for Solid modeling
- Pro-Mechanica (for preliminary structural analysis)
- ANSYS Mechanical and Hyper works for structural analysis
- ANSYS CFX and Fluent STARCCM for CFD analysis
- Surge analysis package (SAP)
- Turbo design-1 (for inverse design)
- JMAG software for electromagnetic analysis for electric motor design

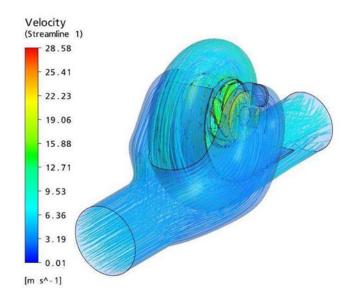


# Innovation, Research Engineering and Development - a constant process at KBL

Our products and solutions are conceptualised after exhaustive research and undergo a manufacturing process which is world class. We have been awarded 17 patents for innovative solutions including 2 from the United States.

# Well-equipped R&D Center

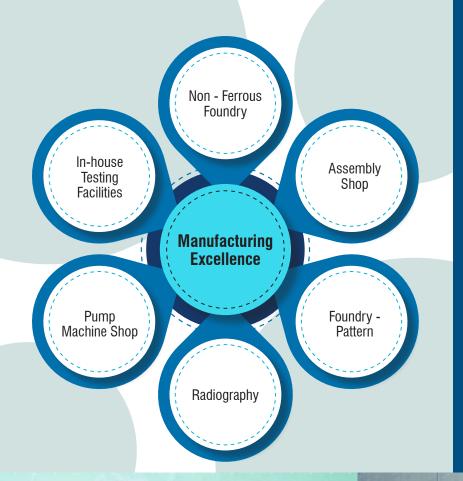
KBL's R&D facility is recognised by the Department of Science and Industrial Research (DSIR). The applied research work conducted in KBL has resulted in appropriate technology for development of many new series of pumps like horizontal split case, multistage, small end suction, large end suction, mixed flow pumps and many more to come. KBL has introduced India's first efficient pump to the more recent Solar motor pumps, Concrete volute pumps, metallic volute pumps, sodium pumps and magnetic drive pumps.



CFD analysis of split case pump

# Technical analysis performed at KBL

- Torsional analysis
- CFD analysis
- Surge analysis
- Sump model studies
- Structural analysis
- Cavitation studies
- Thermal analysis
- Transient analysis



# MANAGEMENT SYSTEM CERTIFICATE Contains in: This is to certify that the management system of Kirloskar Brothers Limited Yamuna, Survey no. 98 (2-7), Baner, Pune - 411014, Maharashtra, India and the site as a mentioned in the appendix accompanying this certificate has been found to conform to the Quality Management System standard. ISO 9001:2015 This certificate is valid for the following scope: Project Management Involving - Design, Engineering, Procurement, Supply, Installation, Continuction, Piping and Operation and Maintenance of; 1. Pumping Systems Including Electro-Mechanical Equipment, Control and Instrumentation for Various Types of Pumps Including Concrete Volute Pumps and Applications. Control and Instrumentation. 3. Water Treatment Plants. 4. Turnkey Fire-Fighting Systems. Secretarial Function: 1. Corporate Governance and Related Secretarial Functions. 2. Corporate Laws and Listing Regulations Compliances. 3. Investors' Relations.

ISO 9001:2015

#### Testing Capabilities

Dye penetration test

Ultrasonic test

Magnetic particle test

Inhouse radiography

Non destructive testing facilities

National Accreditation Board for testing and Calibration Laboratories (NABL) Accreditated

# Infrastructure

- One of Asia's largest Hydraulic Research Centres (HRC) for testing pumps at duty conditions up to 5000 kW (motors of 3.3/6.6/11 kV) and discharge up to 50,000 m<sup>3</sup>/hr.
- Closed circuit NPSH testing capabilities
- Computerized data acquisition system
- Sump model study system
- Conceptualized and built under the guidance and supervision of British Hydraulic Research Association
- Non-destructive testing facilities comprising dye penetrate testing, magnetic particle testing, ultrasonic testing and radiography capabilities
- Material testing laboratory for conducting transverse compression and sheer hardness test and impact tests, spectrometer for chemical analysis of materials



## Foundry

The Kirloskarvadi foundry is equipped with a centralised pattern shop, mechanised sand processing system, automatic moulding machines and metal pouring system. There are independent units for cast iron, alloy steel and non-ferrous metals. The cast iron foundry is capable of producing a single casting weighing up to 8,000 kg and the steel foundry unit can produce castings of special alloy steels with acid pickling capability tailored to international standards. Total production capacity of foundries is 1,400 tons per month.





#### GOVERNMENT OF INDIA

#### MINISTRY OF DEFENCE

#### DIRECTORATE GENERAL OF QUALITY ASSURANCE

#### DIRECTORATE OF QUALITY ASSURANCE (WARSHIP PROJECT)

#### REGISTRATION CERTIFICATE

It is certified that M/s Kirloskar Brothers Ltd, Kirloskarwadi, Dist-Sangli, Pin-416308 after assessment of their Manufacturing capacity/ capability for defence items has been approved for Registration vide Registration No. LS: DDP: Gde I-0761(K) dated 14 Nov 2022 and CDB No. W2205564A dated 01 Dec 2022 as follows:

(a) As a developed source and has complete resources and is manufacturing following equipment/stores/items:

Supply order if executed	Specifications	MPC per shift	ie	y i	us o	aetaus	ana	clature	store(s)	S. No.
395.		er Annexure I	s pe	- 3					100	
		er Annexure I	s pe	2						

(b) Is an undeveloped source for manufacturing the following equipment/stores/items. (SO to be placed on such firms as per chapter 15.2.1(h) and 15.10.1 (a) & (b) of DPM 2009);

S. No.	Nomenclature and details of the store(s)	PC Per Shift	Specifications
		1	

No. of items for which registered : 06 Items only

Monetary limit per annum : R\$ 1948.44 Crore (R\$ One Thousand Nine Hundred Forty Eight Crore & Forty Four

Lakh Only)

Capability of Number of Shifts : 03 Shifts

Category of Registration : Design, Development & Production (DDP)

Grading of Manufacturer

This certificate is valid up to : 13 Nov 2027

This certificate is issued subject to conditions indicated overleaf.

c. hamalakkamas

(C Kamalakkannan) Rear Admiral ADGQA (WP)

Date: 18 Sep 2023

Control No. W2205564A



We supply high-performance centrifugal pumps that comply with the stringent requirements of major maritime classification societies, including ABS (American Bureau of Shipping), IRS (Indian Register of Shipping), DNV (Det Norske Veritas) and LRS (Lloyd's Register of Shipping). Our pumps are engineered to meet the demanding standards of marine applications, ensuring reliable operation, safety and long service life under challenging sea conditions. Each unit is thoroughly tested and certified in accordance with the relevant classification society's specifications, making them ideal for use on commercial vessels, offshore platforms and naval ships.

# **KEY HIGHLIGHTS**



# **Diversified product portfolio**

100+

100,000+

20+

**Products** 

SKU's

Industries



136+
Years of engineering excellence



1.1+ Million

Pumps manufactured every year



120+ Countries globally

Continents

Supported by best-inclass network of 650+ **Authorised Service Centres and 16,250+** Channel Partners.



Manufacturing Facilities (10 Domestic; 07 Overseas)

6,000 + Employee strength



# **E-Warranty Registration**

Register your Kirloskar pump for e-warranty to enjoy free, prompt service, genuine spare parts and exclusive discounts on extended warranty.



Scan here to know more about E-Warranty registration

# Why Our Pumps Are the Trusted Choice for Naval Ships, Submarines & Cargo Vessels Applications

When mission-critical systems are at stake, especially in defense and maritime sectors, choosing the right pump supplier is not just a technical decision it's a strategic one. Here's why industry leaders choose Kirloskar Brothers Limited (KBL)

#### **Engineered for Critical Operations**

Our pumps are specifically designed for high-stakes environments like **Naval Ships**, **Submarines** and **Cargo Vessels**, where performance under extreme conditions is paramount. Every product undergoes **extensive inspection and qualification**, meeting the most rigorous maritime and defense standards.

#### **Low Noise & Vibration Compliance**

In naval and submarine applications, stealth is key. Our pumps meet **stringent acoustic and vibration norms**, ensuring minimal detection risk and optimal performance in sensitive missions.

#### **Confidentiality Assured for Strategic Projects**

We operate under strict information security protocols, making us a trusted partner in **confidential and classified projects**. From design to delivery, we ensure IP and data protection at every stage.

# 100% Manufactured in India Proudly Make in India

All our pumps are 100% designed, developed and manufactured in India, supporting national initiatives like Make in India and Atmanirbhar Bharat. No dependency on foreign OEMs complete control, complete commitment.

#### **Full IP Ownership & Customization Freedom**

We retain full **Intellectual Property Rights**, allowing you complete freedom to modify, maintain, or scale solutions without third-party restrictions. Our in-house R&D ensures rapid response to any customization needs.

#### **Long-Term Service & Spare Parts Support**

We understand how crucial uptime is in maritime operations. That's why we offer robust aftersales service, spare support and maintenance solutions, even in challenging operating environments.

#### **Cost-Effective Without Compromising Quality**

We deliver high-quality, high-performance solutions at a **competitive cost**, thanks to efficient in-house manufacturing and lean engineering practices providing unmatched **value over the entire product lifecycle**.

#### A Partner You Can Trust for the Long Run

We don't just deliver pumps. We build partnerships with decades-long support, engineering collaboration and a shared commitment to excellence in critical marine operations.

# Kirloskar Pumps, Valves & **Hydro Turbines** • Delivery size up to 200 mm • Capacity up to 500 m³/hr • Head up to 150 metres INIL Type - Vertical Inline Pump • Delivery Size: upto 150 mm • Capacity: 500 m<sup>3</sup>/hr (500 TPH) · Head: 150 metres • Temperature: upto -120°C Type - Vertical Inline Monoblock Pump 150 m<sup>3</sup>/hr • Speed (Nominal): 2900 RPM at 50 Hz • Suction Pressure: Up to 12 Bar (subject to maximum working

Type - Vertical Inline Short Coupled Pump Type - Non-clog Submersible Pump



# **Technical Specifications**

## **Features**

- · Computer aided hydraulic
- The impellers are enclosed type
- Hydraulic balancing holes
- The high tensile steel shaft is rigid in design and accurately machined
- · Stuffing box is sealed by highly engineered mechanical seal
- · Air conditioning sea and chilled water
- · Fire fighting
- Transfer of fuel oil, light lube oil, diesel oil, etc.

**Applications** 

- Distilling plant feed systems
- · Portable water supply
- Design as per DME 465/NAVAL or MIL standards.
- · Mechanical seal: Cartridge type
- · Available with Mid and Bottom mounting version
- Compact and Sturdy design to withstand high Shock impact and vibration
- · Less installation space required being vertical construction
- The vertical shaft configuration promotes longer life of seal and bearings

- Bilge transfer
- · Ballast system
- · Fire fighting (Motor Driven)
- Main and Auxiliary engine cooling (FW/SW Cooling)
- Fuel Filling and transfer system
- · Waste water recycling
- Chilled water
- Refrigeration
- Delivery Size: up to 80 mm · Vertical inline short coupled design, saves space and • Discharge Capacity (Q): simplifies piping. Eliminates the need for coupling. · Total Head: 58 metres
  - · Mechanical seal as a standard scope of supply.
  - Easy maintenance/replacement of mechanical seal and pump internals without removing piping.
  - Enclosed type, dynamically balanced impeller ensures smooth operation of the pump.

- · Air-conditioning
- HVAC
- Water Supply
- Hot Water up to 90°C
- · Drinking Water
- Cooling Water

• Delivery Size: Up to 300 mm • Capacity: Up to 1800 m³/hr

pressure is 16 Bar)

• Temperature: Maximum

Up to 90°C

• Working Pressure: 16 Bar (varies as per suction pressure)

- Head: Up to 90 metres
- Max permissible solid size up to 300 mm
- · Non-clog two vane or single vane enclosed impeller
- Permissible solid size up to
- · Gland packed/mechanical seal
- 50 Hz/60 Hz availability
- Raw Sewage Contaminated Effluents

• Screened Sewage

- Industrial Waste Water
- Storm Water
- · Trench and Tunnel Water
- Drain Water, Mine Water, etc.



• Temperature: 8°C to 90°C

- · Gland packed/mechanical seal
- 50 Hz/60 Hz availability
- · Good suction performance and low NPSH
- · Vibration free performance
- · Air-conditioning
- Primary and Secondary (HVAC)
- · Heating Ventilation
- Firefighting
- Mine Drainage
- Water Supply

8

Kirloskar Pumps, Valves Hydro Turbines
SCT Type - Split Case Pump
0

# Technical Specifications

#### **Features**

## **Applications**

- Delivery Size: Up to 250 mm
- Capacity: Up to 1100 m<sup>3</sup>/hr
- Head: Up to 115 metres
- Orientation: Horizontal/Vertical
- Pump axis horizontal or vertical
- Gland packed/mechanical seal
- 50 Hz/60 Hz availability
- Air-conditioning and Refrigeration System
- Fire Protection Systems and Mining
- Water/Liquids with Slight Impurities



**KPD**Type - End Suction Process Pump

- Delivery Size: Up to 350 mm
- Capacity: Up to 1550 m³/hr
- Head: Up to 225 metres
- Working Pressure: 16 25 Bar
- $\bullet$  Temperature:  $50^{\circ}C-350^{\circ}C$
- Horizontal and single stage
- Top center line delivery
- · Oil lubricated bearings
- API flushing plan
- Process
- · Air-Conditioning
- Distilleries
- Water Treatment Plants



KCS-CAN
Type - Canned Motor Pump

- Delivery size up to 250 mm
- Capacity up to 1000 m<sup>3</sup>/hr
- Head up to 135 metres
- Temperature from (-) 40°C
   to 270°C
- Working pressure up to 120 bar
- No seal-no leakage
- No coupling-no alignment and no vibration problem
- No anti-friction bearings
- Small and compact design, resulting in saving in installation space
- Easy maintenance and longer life
- Extremely low noise level
- Absolute safety from risks of fire, explosion and leakage
- Automatic thrust balancing

- · Contaminated effluents
- · Industrial waste water
- Storm water
- Trench and tunnel water
- Drain water
- · Saline water
- Drainage water
- Sewage water



**Ballast Pump**Type - Multistage Pump

- Delivery size: 100 mm
- Capacity: Series operation -60 m³/hr, Parallel operation – 152 m³/hr
- Head: Series operation 200m, Parallel operation – 90m
- Temperature: -2 to 32°C
- · Pump axis: Vertical
- Series and Parallel operation
- Mechanical seal
- 50 HZ

- Compact and Sturdy design to withstand high Shock impact and vibration
- Less installation space required being vertical construction
- Save floor space and reduce the amount of piping
- The vertical shaft configuration promotes longer life of seal and bearings
- Foundation grouting is not needed
- Quiet in operation

Ballasting and Deballasting



**MF**Type - Mixed Flow Pump

- Delivery Size: From 200 mm to 650 mm (8 to 26)
- Capacity: Up to 7000 m<sup>3</sup>/hr (30,820 US gpm)
- Head: Up to 30 metres (90 ft.)
- Temperature: 5°C to 140°C
- Orientation: Horizontal/Vertical
- Low head, high capacity pumps
- Gland packed/mechanical seal
- 50 Hz/60 Hz availability
- Option available in horizontal as well as vertical delivery position
- · Air-conditioning
- Drainage
- Dewatering
- Storm Water

# AUGMENTED REALITY: BUILDING THE FUTURE WE ENVISION

Augmented reality is a highly visual, interactive method of overlaying digital content and information onto the physical world as if they're there with you, in your own space.

#### **PURPOSE OF AUGMENTED REALITY**

Empowering service engineers with relevant information and to increase productivity, improve knowledge transfer, reduce service costs.

#### **BENEFITS**

- 3D animated step-by-step guided repair instructions
- Better information delivery
- · Modernized training methods and faster knowledge transfer
- First time right quick complaint resolution
- Enhanced customer experiences

#### **USE-CASES**



#### SERVICE

Service Manual & Instructions, Maintenance Work Instructions



#### **MANUFACTURING**

Operator and Assembly Work Instructions



#### **TRAINING**

Step-by-step operation and service instructions and SOP's



# SALES AND MARKETING

Virtual Product Demonstration



# **REFERENCE / INSTALLATION**



#### **INS RANA & INS RANJIT**

We successfully installed and commissioned 12 INIL pumps each for the Indian Navy's INS Ranjit and INS Rana, serving critical roles in the AC seawater and chilled water systems. Engineered for durability and consistent performance, our pumps help maintain the operational readiness of these esteemed naval platforms.



#### P15B PROJECT

(INS Visakhapatnam, INS Mormugao, INS Imphal and INS Surat)

We proudly supplied 136 pumps, including INIL, NS and DSM models, to the Indian Navy's INS P15B project, constructed by Mazagon Dock Shipbuilders Limited. These pumps serve a wide range of essential onboard applications, such as the main fire pump, seawater cooling, salvage, freshwater with hydrophore tank, diesel-driven fire pump and bulkhead ladder sprinkler system. Our pumping solutions support the operational backbone of India's next-generation guided missile destroyers.



#### P17A PROJECT

(INS Nilgiri, INS Himgiri, INS Taragiri, INS Udaygiri, INS Dunagiri, INS Vindhyagiri and INS Mahendragiri)

With pride and precision, we supplied 84 high-performance canned motor pumps to the prestigious Indian Navy's INS P17A project, build by Garden Reach Shipbuilders & Engineers and Mazagon Dock Shipbuilders Limited. Engineered for reliability in the most demanding marine environments, our innovative technology plays a vital role in supporting India's next-generation stealth frigates.



#### SURVEY VESSEL PROJECT

(INS Sandhayak, INS Nirdeshak, INS Ikshak and INS Sanshodhak)

We proudly supplied 20 NS pumps for salvage applications on the Survey Vessel built by Garden Reach Shipbuilders & Engineers, across 4 specialized shipsets. Designed for reliability in critical recovery and dewatering operations, our pumps play a key role in supporting the Indian Navy's underwater survey and rescue capabilities.



#### **SUBMARINE**

(Arihant Class Submarine)

With pride and precision, we delivered a custom-engineered Low Pressure Watermist Fire Suppression System and Ballast Pump for the Indian Navy's Arihant Class Submarine, designed for compact, high-risk marine environments, our systems enhance fire safety and buoyancy control in one of India's most advanced underwater platforms—reinforcing national defense capabilities through reliable, mission-critical technology.

"

EVERY PUMP, A PROMISE OF PERFORMANCE.

EVERY FREIGHT, A SYMBOL OF STRENGTH.

"



#### KIRLOSKAR BROTHERS LIMITED

Established 1888 A Kirloskar Group Company

#### **REGISTERED OFFICE & GLOBAL HEADQUARTERS**

"Yamuna", S. No. 98/(3-7), Plot No. 3, Baner, Pune - 411 045, Maharashtra, India.

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Website: www.kirloskarpumps.com | CIN No. L29113PN1920PLC000670

#### **OUR COMPANIES**





















Scan for more information