



Enriching Lives

# KIRLOSKAR PUMPS AND VALVES FOR STEEL INDUSTRY



**KIRLOSKAR BROTHERS LIMITED**  
Established 1888  
A Kirloskar Group Company



## Comprehensive Fluid Handling Solutions

### ABOUT KBL

Kirloskar Brothers Limited (KBL) is a world-class pump manufacturing company with expertise in the 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 large 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 hydro-turbines.

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 for Integrated

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

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 150-year-old leading pumps

### 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

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 pre-assembled 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

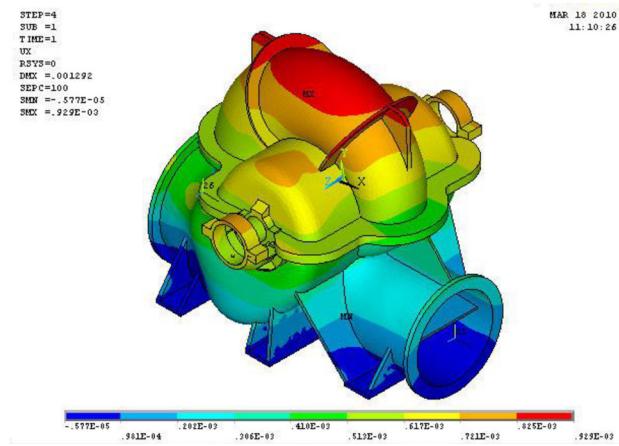
Sump model testing and actual scaled down model

Executing large turnkey projects from concept to commissioning

Service network - 24x7

## Design and Engineering Analysis Software at KBL

- Pro-E 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 & Ansys Maxwell software for electromagnetic analysis for electric motor design

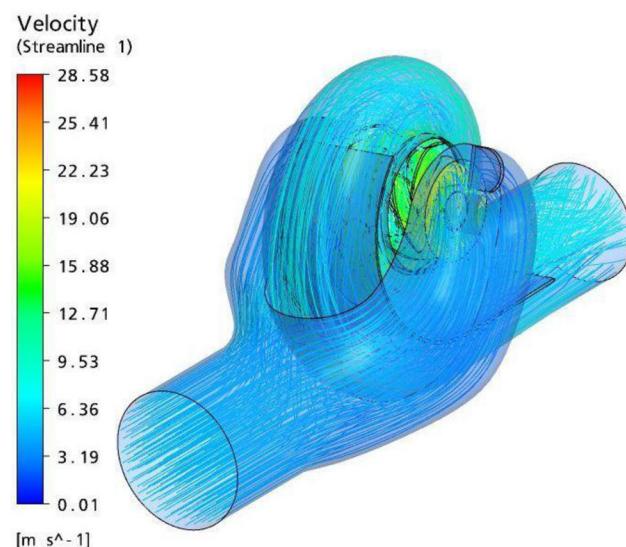


## Innovation, Research Engineering and Development - a constant process at KBL

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

## 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) Accredited



One of Asia's Largest Hydraulic Research Centres (HRCs) for testing pumps at duty conditions up to 10,000 kW motor and with discharge up to 75,000 m<sup>3</sup>/hr

## Infrastructure

- One of Asia's largest Hydraulic Research Centre (HRC) for testing pumps at duty conditions up to 10,000 kW (motors of 550 V and 3.3/6.6/11/13.2 kV) and discharge up to 75,000 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.





# VARIOUS APPLICATIONS IN STEEL MANUFACTURING PROCESS

## KIRLOSKAR PUMPS IN IRON ORE MINES

### Applications:

1. De-Watering open cast Mines
2. Dust removal of Iron Ore
3. Beneficiation

### Suitable Pump Model:

1. RKBK/MLA
2. DBxe/GK/KPD
3. UP/SCT/DSM
4. KPDS/SHS/NS

## KIRLOSKAR PUMPS IN SINTER PLANT /PELLET PLANT/DRI PLANT

### Applications:

1. Dust removal at sinter collecting station
2. Dust Removal Plant for Pushing Emission Control System
3. Dust Removal Plant for charging Emission Control System

### Suitable Pump Model:

1. RKBK/MLA
2. DBxe/GK/KPD
3. UP/SCT/DSM
4. KPDS/SHS/NS

## KIRLOSKAR PUMPS IN RMH/ COKE OVEN

### Applications:

1. Quenching Pump
2. HPLA pump
3. Flushing Liquor pump
4. Tar transfer Pump
5. Cooling water

### Suitable Pump Model:

1. RKB
2. UP/SCT/DSM
3. KPDS/SHS//NS
4. GK/KPD/GKP/SHM

## KIRLOSKAR PUMPS IN COKE OVEN BY PRODUCT PLANT

### Applications:

1. Condensate Pump
2. Ammonia Coal water pump
3. Slop Pump/Solar Oil Pump
4. Tar transfer Pump
5. Drain water Pump

### Suitable Pump Model:

1. RKBCV/BHRC
2. GK/KPD/GKP/SHM
3. UP/SCT/DSM
4. KPDS/SHS//NS

## KIRLOSKAR PUMPS IN BLAST FURNACE -1

### Applications:

1. Cooling water Pump
2. Emergency furnace cooling
3. GCP cooling water pump
4. Drain Pump

### Suitable Pump Model:

1. DBxe/GK/KPD/GKP/SHM
2. UP/SCT/DSM/VT pump
3. NS/KPDS/SHS

## KIRLOSKAR PUMPS IN BLAST FURNACE-2

### Applications:

1. Filter Back Wash Pump
2. Slag Granulation pump
3. Scale Pit Pump
4. Fume flushing pump

### Suitable Pump Model:

1. KPD/GKP/SHM
2. UP/SCT/DSM/VT pump
3. NS/KPDS/SHS

## KIRLOSKAR PUMPS IN SMS (BOF/CCP/CASTER)

### Applications:

1. Booster
2. Cooling pump
3. De-scaling
4. Scale pit
5. Acid Handling Pump
6. Lance Cooling pump
7. Spray water
8. Waste water Transfer

### Suitable Pump Model:

1. DBxe/GK/KPD/GKP/SHM
2. UP/SCT/DSM/VT/LLC
3. NS/KPDS/SHS

## KIRLOSKAR PUMPS IN PLATE MILL

### Applications:

1. Re-circulation pump
2. De-scaling
3. Scale pit
4. Furnace Oil pump
5. Booster
6. Waste water Transfer

### Suitable Pump Model:

1. DBxe/GK/KPD/GKP/SHM
2. UP/SCT/DSM/VT/LLC
3. NS/KPDS/SHS

## KIRLOSKAR PUMPS HSM

### Applications:

1. High pressure feed pump
2. De-scaling
3. Scale pit
4. Booster
5. Waste water Transfer

### Suitable Pump Model:

1. DBxe/GK/KPD/GKP/SHM
2. UP/SCT/DSM/VT/LLC
3. NS/KPDS/SHS

## KIRLOSKAR PUMPS IN CPP

### Applications:

1. Cooling Water Pump
2. Auxiliary Cooling Water Pump
3. Ash water Pump
4. DM Water Plant
5. BFP & CEP

### Suitable Pump Model:

1. KPD/GKP/SHM
2. UP/SCT/DSM/VT pump
3. NS/KPDS/SHS
4. RKBCV/BHRC

# KBL PRODUCT RANGE

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## DBxe - END SUCTION PUMP



### RANGE

- Delivery size: 32 to 150 mm
- Capacity: Up to 550 m<sup>3</sup>/hr
- Head: Up to 100 m
- Working Pressure: 16 kg/cm<sup>2</sup>
- Temperature: Up to 90°C

### FEATURES

- The casing has axial suction and top centre line delivery with self venting design
- Comply to minimum efficiency index (MEI) as per EN 16480 std.
- Shaft is fully protected from the liquid being handled

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## GK - END SUCTION PUMP



### RANGE

- Delivery Size: 65 to 125 mm
- Capacity: 20 to 450 m<sup>3</sup>/hr
- Head: Up to 60 m
- Working Pressure: Up to 16 Bar
- Temperature: Up to 90°C

### FEATURES

- Highly Energy Efficient
- Pump with mechanical seal & gland packing arrangement
- Sealing/Flushing water not required
- Self-venting Design
- Mechanical Design comply to ISO 5199 Std.

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## KPD - END SUCTION PROCESS PUMP



### RANGE

- Delivery Size: Up to 350 mm
- Capacity: Up to 1550 m<sup>3</sup>/hr
- Head: Up to 225 m
- Working Pressure: 16 - 25 Bar
- Temperature: - Up to 350°C

### FEATURES

- Horizontal and single stage
- Top center line delivery
- Oil lubricated bearings
- API flushing plan

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## GK(P) - END SUCTION PROCESS PUMP



### RANGE

- Delivery Size: Up to 150 mm
- Capacity: Up to 500 m<sup>3</sup>/hr
- Head: Up to 150 m
- Working Pressure: 16 - 25 Bar
- Temperature: Up to 180°C

### FEATURES

- End-suction centrifugal process pump
- Back pull out design
- Top centerline discharge with foot mounted as well as centerline volute casing

# KBL PRODUCT RANGE

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## SHM/SHL - SOLID HANDLING PUMP



### RANGE

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- Delivery Size: Up to 200 mm
- Capacity: Up to 800 m<sup>3</sup>/hr
- Head: Up to 90 m
- Working Pressure: Up to 16 Bar
- Temperature: - Up to 140°C

### FEATURES

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- Solid size up to 105 mm
- Gland packed/mechanical Seal
- Available in vertical execution

## KWLC - VERTICAL INLINE LONG COUPLED PUMP



### RANGE

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- Delivery size: up to 200 mm
- Discharge Capacity (Q): 550 m<sup>3</sup>/hr (150 LPS)
- Total Head: 52 m
- Working Pressure: 16 Bar (varies as per suction pressure)
- Temperature: maximum Up to 90°C

### FEATURES

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- Vertical inline long coupled through axially split rigid coupling
- Suction and Delivery nozzles are cast integral with volute and are in-line. Suction and delivery flanges are cast integral
- Volute is designed with smooth fluid flow passages.

## UP/UPL/UPH/UP(T) - SPLIT CASE PUMP



### RANGE

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- Delivery Size: From 50 mm to 1200 mm
- Capacity: Up to 25,000 m<sup>3</sup>/hr
- Head: Up to 160 m
- Temperature: - Up to 90°C

### FEATURES

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- Gland packed/mechanical seal
- Good suction performance and low NPSH
- Vibration-free performance
- Low NPSHR

## SCT - SPLIT CASE PUMP



### RANGE

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- Delivery Size: Up to 250 mm
- Capacity: Up to 1100 m<sup>3</sup>/hr
- Head: Up to 115 m
- Orientation: Horizontal/Vertical

### FEATURES

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- Pump axis horizontal or vertical
- Gland packed/mechanical seal
- Low NPSHR

## KBL PRODUCT RANGE

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### DSM/DSMT - SPLIT CASE PUMP



#### RANGE

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- Delivery Size: From 50 mm to 150 mm
- Capacity: Up to 470 m<sup>3</sup>/hr
- Head: Up to 180 Metres
- Temperature: Up to 90°C

#### FEATURES

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- Gland packed/mechanical seal
- Good suction performance and low NPSH
- Vibration free performance

### RKB/RKBF/RKBK - MULTI-STAGE PUMP



#### RANGE

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- Delivery Size: Up to 250 mm
- Capacity: Up to 850 m<sup>3</sup>/hr
- Head: Up to 850 m
- Working Pressure: 40 to 64 Bar
- Temperature: Up to 140 °C

#### FEATURES

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- Gland packed/Mechanical seal
- Ring section diffuser casing
- Stuffing box cooling for high temperature applications
- Available in vertical configuration

### NS - NON-CLOG SUBMERSIBLE PUMP



#### RANGE

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- Delivery Size: Up to 300 mm
- Capacity: Up to 1800 m<sup>3</sup>/hr
- Head: Up to 90 m
- Max permissible solid size up to 300 mm

#### FEATURES

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- Non-clog two vane or single vane enclosed impeller

### KPDS - SUMP PUMP



#### RANGE

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- Delivery Size: Up to 200 mm
- Capacity: Up to 750 m<sup>3</sup>/hr
- Head: Up to 150 m
- Temperature: Up to 90°C

#### FEATURES

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- Vertical submerged, single stage, single suction pump
- Vertical shaft arrangement
- Side discharge pump with space saving installation

# KBL PRODUCT RANGE

## SHS - SOLID HANDLING SUMP PUMP



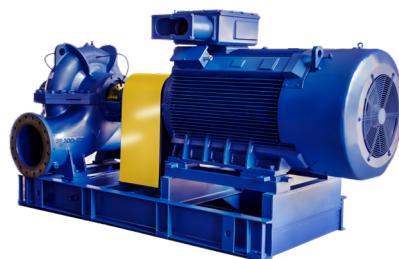
### RANGE

- Delivery Size: Up to 300 mm
- Capacity: Up to 1,500 m<sup>3</sup>/hr
- Head: Up to 90 m
- Temperature: Up to 90°C

### FEATURES

- Vertical submerged, single stage, single suction pump
- Vertical shaft arrangement
- Side discharge pump with space saving installation
- Suitable solid handling

## LOWEST LIFECYCLE COST (LLC™) PUMP - LLC SERIES



### RANGE

- Capacity: 4500 m<sup>3</sup>/hr
- Head: Up to 166 m
- Temperature: Up to 120°C

### FEATURES

- Mechanical seal
- Corrosion resistant shaft
- Reduces carbon footprint, lowest lifecycle cost
- Cost-effective solution
- Low energy consumption
- Externally removable bearing house

## FIRE FIGHTING PUMP



### RANGE

- Capacity: Up to 5000 US gpm
- Head: Up to 378 psi
- Shaft Sealing: Gland packed

### FEATURES

- Greater reliability when preventing property damage in case of a fire.
- All components within the pumps are independently approved and tested ensuring the product meets the expected high quality

## KIRLOSMART™ - REMOTE PUMP HEALTH MONITORING



### PARAMETERS THAT CAN BE MONITORED

• Pressure	• Voltage
• Flow	• Current
• Pump run hours	• Frequency
• Power	• Power Factor

### FEATURES

- Predictive maintenance alerts
- Alerts/alarms through push notifications, SMS & emails
- System diagnostics and assistance
- Communication mode selection (GPRS/Ethernet)
- Simple, plug and play

# KBL PRODUCT RANGE

## SLUICE VALVE - NRS & RS- OS&Y



### RANGE

- Size 50 to 1800 mm (2" to 72")
- Pressure up to PN 1.6 (conforming to IS 14846)
- Rating PN 16 (conforming to BS 5163)
- Temperature: Up to 100°C

### FEATURES

- Rigid and Sturdy Design
- Low Pressure Loss
- Rising Stem or Non-rising Stem Type
- Resilient Seated Valves Available
- Available in gland/glandless type design

## RESILIENT SEATED GATE VALVE - SLUICE/GATE VALVE



### RANGE

- Size: 50 mm to 1000 mm
- Pressure Rating: PN 10, PN 16
- End-connection flange drilling standard as per BS EN 1092 Part 2

### FEATURES

- Pocket-less design ensures minimal head loss across valve
- Assured leak tightness for long service life

## BUTTERFLY VALVE - SINGLE/DOUBLE ECCENTRIC



### RANGE

- Size: 80 to 3800 mm (3" to 152")
- Pressure: Up to PN 20
- Conforming to EN 593
- Temperature: Up to 100°C

### FEATURES

- Duo-eccentrically Mounted/ streamlined Disc
- Less Wear and Tear
- Self-cleaning and non-Jamming Seat Design
- Low Operating Torque
- Can be supplied with HOPD

## DUAL PLATE CHECK VALVE - NON-RETURN/CHECK VALVE



### RANGE

- Size: 80 mm to 1400 mm
- Pressure Rating: CL-125, CL-150, CL-250, CL-300
- End Connection: Doubled Flanged/Wafer

### FEATURES

- Lighter in weight and compact in size compared to conventional non-return valve

## CAST STEEL GATE VALVE - SLUICE/GATE VALVE



### RANGE

- Class 150 Size 2" (50 mm) to 24" (600 mm)
- Class 300 Size 2" (50 mm) to 12" (300 mm)
- Conforming to BS 1414/API 600
- Temperature: Up to 475°C

### FEATURES

- Rigid and Sturdy Design
- Low Pressure Loss

## CAST STEEL GLOBE VALVE - GATE/GLOBE VALVE



### RANGE

- Class 150 and Class 300 Size 2" (50mm) to 8" (200 mm)
- Conforming to BS 1873
- Temperature: Up to 475°C

### FEATURES

- Rigid and Sturdy Design
- Low Pressure Loss

## CAST STEEL CHECK VALVE - NON-RETURN/CHECK VALVE



### RANGE

- Class 150 and Class 300 Size 2" (50mm) and 8" (200mm)
- Conforming to BS 1868
- Temperature: Up to 475°C

### FEATURES

- Rigid and Sturdy Design
- Low Pressure Loss

## FIRE SERVICE WATER CONTROL VALVES | VALVES



### RANGE

- Size: 2" to 16"
- Working Pressure: 175 PSI
- Operation: Hand wheel (OS & Y), Cap top (NRS)

### FEATURES

- Metal to metal seating for longer service life
- Rigid and sturdy design with minimum loss of head across the valve
- Accurate interchangeability of components.

## KBL PRODUCT RANGE

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### BHR/BHQ/BHM/BHK/BHMA/BHA - LARGE VERTICAL TURBINE PUMP

#### RANGE

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- Delivery Size: Up to 2200 mm
- Capacity: Up to 75000 m<sup>3</sup>/hr
- Head: Up to 240 Metres

#### FEATURES

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- Vibration-free performance
- Low submergence
- No priming required
- Direct drive/right angle gear drive
- Impeller pull-out/non-pull-out
- Bowl pull-out/non-pull-out

## MAJOR CUSTOMERS IN STEEL INDUSTRIES

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- Al Ghurair Iron and Steel
- AGSI
- Ajmal Steel
- Al Jazeera Steel
- Al Naser Industrial Enterprises
- Al Rostamani Euro Gulf steel
- Al Watania Steel
- AM/NS (ArcelorMittal and Nippon Steel)
- ARAB Steel
- Arabian Gulf Steel Industries LLC
- Arcelor Mittal
- Baku Steel Co Ltd
- Bashundhara steel
- Danieli
- Danieli Corus
- Emirates Steel industries
- Geo Steel
- Gulf Sponge Iron Co. LLC
- Gulf Steel Industries Co., Ltd.
- Hamriya Steel, Sharjah
- IIC steel plant
- JFE Steel
- Jindal SAW Gulf LLC
- Jindal Shadeed Iron & Steel
- Jindal Steel and Power Ltd.
- JSW Steel
- Milleniume steel
- Moon Iron & Steel Company
- Mukalla Iron & Steel Company
- NPSS
- POSCO
- Qatar Steel Company FZE
- Saudi Iron & Steel Co.
- SCAW Metal
- Shattaf Steel Ind. Co LLC
- Simec
- SMS Group
- Steel Authority of India Limited
- Steelmakers Gulf Inc
- Sun Metal Iron & Steel Company
- Tata Steel
- Taybah steel
- Thyssenkrupp
- Tiger Steel Industures



Enriching Lives

## KIRLOSKAR BROTHERS LIMITED

Established 1888

A Kirloskar Group Company

### REGISTERED OFFICE & GLOBAL HEADQUARTERS

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### OUR COMPANIES



BRAYBAR PUMPS (PTY) LTD  
Republic of South Africa



KARAD PROJECTS AND MOTORS LIMITED  
India



KIRLOSKAR BROTHERS (THAILAND) LIMITED  
Thailand



KIRLOSKAR CORROCOAT PRIVATE LIMITED  
India



KIRLOSKAR EBARA PUMPS LIMITED  
India



RODELTA PUMPS INTERNATIONAL B.V.  
The Netherlands



SPP PUMPS LIMITED  
United Kingdom



SyncroFlo, Inc.  
U.S.A.



THE KOLHAPUR STEEL LIMITED  
India