Corporate Presentation
Corporate Profile

<table>
<thead>
<tr>
<th>Established</th>
<th>1888</th>
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<tbody>
<tr>
<td>Incorporated</td>
<td>1920</td>
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Core business: Centrifugal Pumps, Valves, Hydro Turbines, Pumping Projects

Summary financials (FY: 2013-14)

<table>
<thead>
<tr>
<th>Revenues</th>
<th>USD 449 Million</th>
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<tbody>
<tr>
<td>Net worth</td>
<td>USD 166 Million</td>
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</table>

‘Yamuna’ – Global Headquarters Kirloskar Brothers Limited, India, LEED Certified Platinum Rated Green Building

Leader in fluid handling and one of the largest manufacturers and exporters of centrifugal pumps
Fluid Handling Solutions

- Pumps up to 22 MW
- Head up to 1200 m
- Flow up to 120,000 m³/hr
- Valves up to 5000 mm
- Hydro turbines up to 25 MW
- Turnkey and EPC pump projects
- Hydro power projects
- Low Tension (LT) induction motors up to 315 frame
- Lowest Life Cycle Cost LLC™ pumps world-wide

Vertical Turbine Pump
Product Range

Over 75 types of Pumps

Head up to 1200 m (4000 Ft)

Flow up to 120,000 m³/hr (528,000 US GPM)

EPC capabilities
Domestic Subsidiaries

KIRLOSKAR BROTHERS LIMITED

The Kolhapur Steel Limited
- Large alloy steel castings foundry
- Single piece casting of 14 tonnes
- 600 tonnes / month capacity
  www.kolhapursteel.com

Karad Projects and Motors Limited
- Stators, rotors and electric motors
- Electric motor stamping
  www.kpml.co.in

Kirloskar Systech Limited
- Provider of Information Technology Services
- Focused engineering data for internal and external customers
- Patents and IP creation
  www.kirloskarsystech.com
International Subsidiaries

KIRLOSKAR BROTHERS INTERNATIONAL B.V.

SPP Pumps Limited
United Kingdom

- Leading market presence in Fire Pump Packages business
- Lowest life cycle cost pump range
- R&D, manufacturing and test facilities in UK
- Auto prime pump packages
  www.spppumps.com

Kirloskar Pompen BV
The Netherlands

- Sales and packaging of centrifugal pumps and valves for European markets
  www.kirlsokar.eu
International Subsidiaries

KIRLOSKAR BROTHERS INTERNATIONAL B.V.

Kirloskar Brothers (Thailand) Limited
Thailand

- Sales and packaging of centrifugal pumps and valves for South East Asian markets
- Manufacturing and Sales of high head Multi-Stage pumps, Rubber lined slurry pumps and white metal lined bearings

Braybar Pumps Limited
South Africa

- Leading American pump Packager
- Booster and HVAC Packages

Syncroflo Inc
The United States of America

www.syncroflo.com
Subsidiaries and Joint Ventures

Core Competencies

• Energy efficiency coatings
• Sea water application
• Single point solution provider

Key Market Segments

• Infrastructure and Ports • Water
• Oil and Gas • Power

Kirloskar Corrocoat Private Limited

www.kicopl.com

Corrocoated Casing, Impeller and Pipe
Subsidiaries and Joint Ventures

Core Competencies

- Centrifugal pumps as per API 610
- Multistage Boiler feed pumps
- Steam turbines and Turbo-gensets
- Hydraulic Power Recovery Turbine (HPRT)

Key Market Segments

- Oil and Gas
- Power

www.kepl.in.net

Manufacturing Facility

Manufacturing Facility
Manufacturing Facilities in India

- **Industrial and Engineered Pumps**
  - Kirloskarvadi, Western India

- **Agricultural and Domestic Pumps**
  - Dewas, Central India

- **Domestic Pumps**
  - Kaniyur, Southern India

- **Submersible Pumps**
  - Sanand, Western India

- **Valves**
  - Kondhapuri, Western India
Manufacturing Facilities outside India

Industrial and Engineered Pumps

- Coleford, United Kingdom

Industrial Pumps

- Johannesburg, South Africa

Industrial Pumps

- Atlanta, United States of America

Packaged Pumping Systems

- Bangkok, Thailand

- Velsen Noord, The Netherlands

- Atlanta, United States of America
Research and Engineering Capabilities

- High performance and new product development
- Experimental Sump model studies
- Sump model studies using computational fluid dynamic (CFD) techniques
- Surge analysis
- Structural analysis
- Cavitation test analysis
- Transient analysis

Sump CFD Study

CFD analysis of Pump

Seismic analysis of Pump
Research and Engineering Capabilities

- Seismic analysis
- Thermal analysis
- Vibration analysis
- Fluid Structure Interaction
- Shock/Impact analysis
- Piping fluid flow analysis
- Electromagnetic field analysis

*Horizontal and Vertical Kaplan Turbine*

*Motor rotor efficiency improvement*
Manufacturing Capability

CNC vertical borer with milling spindle
Manufacturing Capability

- Fully automatic twin spindle, twin turret machine
- Horizontal machining centre
- Pattern manufacturing machine
- 4 Axis machine
Quality Assurance

Material Testing and Metrology

- Universal Testing Machine
- Fatigue Testing Machine
- Hardness Tester
- Portable co-ordinate measurement
- 3D scanning
- Spectrometer (computerised)
- Surface Finish Measuring Instruments

Non Destructive Testing Laboratory

- Radiography
- Ultrasonic Testing
- Magnetic Particle Testing
- Helium Leak testing
- Liquid Penetrant Testing
Quality Assurance

- Closed circuit NPSH testing capabilities
- Computerised data acquisition system
- Pump testing at duty conditions up to 5000 kW motor and discharge up to 50,000 m³/hr
- Physical Sump and Pump model study
- Built as per British Hydraulic Research Association
- Testing at 50 Hz and 60 Hz frequency covering all global supply voltages (3.3 to 13.2 kV)

*Hydraulic Research Centre (HRC)*
Customer Care

- 5 Authorised Refurbishment Centres, 467 Authorised Service Centres and 126 Authorised Service and Spares Dealers across the country
- 36 Global service contact points
- Reduction in lead time through Smart planning at works
- Reduction in order creation time and empowerment of sales force through CRM 7.1

Kirloskar Authorised Refurbishment Centre, Jamshedpur

SPP MENA Service Centre, Egypt
Certifications And Approvals

- ASME : N, NPT and MO Certification
- QMS ISO 9001-2008
- QMS ISO 9001-2008 : Project Management
- EMS ISO 14001
- OHSAS ISO 18001
- CE
- ATEX
- FM approved / UL Listed fire fighting packages
### Association with Governments

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<th>Cambodia</th>
<th>Egypt</th>
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Global Partnerships
World Class Customers
Market Oriented

“One stop shop for optimised pumping solutions from concept to commissioning across market segments”

BUILDING & CONSTRUCTION

INDUSTRY

CUSTOMER SERVICE & SPARES

IRRIGATION

DISTRIBUTION

POWER

GAS, OIL & DEFENCE

WATER RESOURCE MANAGEMENT
Business Verticals

Fluid Management for a Better Tomorrow
Building & Construction

Segments
- Hotels
- Hospitals
- Airports
- Metros
- Offices
- Schools

Applications
- Fire fighting
- Heating Ventilation and Air Conditioning (HVAC)
- Dewatering and Sewage
- Pressure boosting

*Burj Al Arab, United Arab Emirates*

*The Shard, United Kingdom*
Building & Construction

- Space saving up to 2 car parking with Vertical MSMO pumps
- Reduction in the downtime and Carbon footprint
- Reduction of pipeline and space saving with Suction Diffuser Valve and Triple Duty Valve with Lowest Life Cycle Cost Pumps (LLC™)
- Iconic buildings Installations:
  - The Shard, UK; Burj Al Arab, UAE; Sydney Opera House, Australia; The Gherkin, UK; Marina Bay Sands, Singapore

Containerised Fire Pump sets  Pump for HVAC System  Vertical Multi Stage Multi outlet Pump (MSMO)
Building & Construction

Fire

- Loss Prevention Certification approvals
- International standards Pumps with FM/UL and NFPA 20 compliance
- Manufactured to the highest quality standards
- Fully tested at our facility with dedicated test laboratory

Marmaray Tunnel, Turkey fire protection for the rail tunnels
Customer Service & Spares

Toll Free: Customer Helpdesk

• Toll free No. 1800 - 10 – 34443
• 24 hours response time for queries, requests or complaints

SAP - CRM 7.1

• Designed to support Marketing, Sales and Customer Service departments in various activities

Quick Response (QR) Code

• Important instructions on assembly and maintenance of product by scanning QR code

QR Code
Customer Service & Spares

Authorised Refurbishment Centre

• Sustainable initiative to provide a competitive service advantage for service facilities and genuine spare parts for customers


Project Mithas

• A customer intimacy programme

Project Kuber

• Ensuring 4 weeks delivery time for spares

Tatkal Sewa (Rapid Call Service - RCS)

Pump Energy Audit

Authorised Refurbishment Centre, Bellary
Customer Service & Spares

• ISO 9001 certified regional service centres within UK
• Repair and reconditioning capacity at every facility
• Advanced diagnostics: Computerised Fluid Dynamics, surge, sump and piping analysis, and natural frequency analysis
• Experienced field service engineers for offshore rapid response, emergency repairs and planned maintenance

Regional Service Centre
Distribution

• Use of Information technology enabled systems (barcode) for tracking end users
• **Chhotu** – bottom of pyramid solution
• Innovation driven new variants
• Network of dealers, sub dealers and retailers across India
Gas, Oil & Defence

Oil & Gas

• Turnkey Projects & Firefighting solutions to offshore platforms
• LLC™ pumps critical applications in Fertilizer plants and Oil & Gas segment
• Firefighting & utilities applications for major refineries and petrochemical plants
• Vertical turbine pumps
• Electro-submersible pumps
• Niche non-hydrocarbon solutions
• All Non-API product range

Offshore Platform
Gas, Oil & Defence

- Over 450 pumps installed in more than 70 fields
- Dedicated expertise –
  - PD ISO/TS 29001:2007 approval
  - Pumped the first North Sea oil to shore
  - Upstream application for exploration and production
  - Downstream application for petrochemical and chemical

ConocoPhillips, Indonesia  BP, Caspian Sea
Gas, Oil & Defence

Marine & Defence

• Presence in projects of national interests like nuclear submarines, Indian naval warships
• Kirloskar systems installed in Shipyards and dry docks MDL, GRSE, Pipavav
• Unique solutions
  • Water Mist Firefighting system
  • Axial flow pumps, Containerised pumps
  • Jet propulsion pumps
  • High head pumps

 Indian Warship INS VIRAT
Industry

- Wide range of centrifugal pumps for utility applications
- Range of API and non API pumps for critical process applications
- Dewatering pumps for open cast mines, operates on negative suction
- Zero leakage seal less, glandless pumps for process and utility applications
- Association with globally reputed EPC contractors
- LLC™ pumps promoting sustainability
Industry

Process Pumps

- Corrosive & abrasive media handling pump - KPD / KPDS
  - Centrifugal Back Pull out Design
  - Steam jacketing arrangement
- Toxic & hazardous media handling pump- KCS / CAN
  - No seal – no leakage
  - No coupling, no alignment & no vibration problem
- Multistage pump- RKB
  - Hydraulic Balancing by balancing holes
  - Cooling arrangement
  - Can be supplied in vertical execution
Industry

Autoprime Pumps

- Vacuum assisted, self-prime pumps: ‘Autoprime’
- Medium head open set
- High flow and high head
- Groundwater control, flood relief, mine/wellpoint dewatering, marine ballasting, emergency service pumping

Autoprime

Prague, Czech Republic. City flood defences
Irrigation

- World’s largest pumping scheme at Gujarat
- Energy saving of 34.96 M unit per annum
- US patented siphon design.
- Drinking water to 4620 villages & towns and 30 million people in Saurashtra
- Innovative System Engineering in Godavari Lift Irrigation Scheme with reduction in number of pumping stations
- Reduction in motor rating by 7 MW resulting in saving of 24.74 M units (KW-Hr) per annum
Irrigation

• Changing economies in Lao PDR, from importer of rice to exporter of rice
• Over 7,000 pump sets working along river Mekong
• Dry season rice production has increased from 25,000 MT to 700,000 MT in Senegal
• Greening 150,000 hectares of deserts in Egypt with 100,000 pump sets working river Nile
• Solar Pumping System with patented solar Control Panel JALVERTER™
Power

• Primary and secondary heat transfer pumps for Nuclear Power applications

• N,NPT and MO certification from ASME, World’s 9th Pump company

• Concrete Volute Pumps with 99.95% reliability for intake and condenser cooling water system ideal for brackish and sea water application in power plants

• Largest circulating water system for 4000 MW thermal power plant – CGPL Mundra
Circulating water pump for one of the world’s largest offshore sea water pumping systems at Hinduja National Power Corporation Limited, Thermal Power Plant, Andhra Pradesh, India.

Largest circulating water system for thermal power plant – CGPL Mundra, Gujarat, India.
Power

Bechtel, USA

- Supplied 8 vertical mixed flow pump sets

2 x 800 MW Prairie State Energy Campus, Illinois, USA

568 MW Sandow 5 Texas, USA
Water Resource Management

- Lowest Life Cycle Cost (LLC)™ Pumps to Delhi Jal Board for promoting sustainability
- Pumps for Asian Development Bank / Jawaharlal Nehru National Urban Renewal Mission (JNNURM) scheme
- Commissioned Kaveri Phase IV project with 540 MLD capacity for Bangalore Water Supply and Sewage Board (BWSSB)
- Vertical turbine pumps for Engigas, Portugal
- 23 Vertical Turbine pump sets Suriname at 9 pumping stations for irrigation and dewatering

Ministry of Public works, Republic of Suriname
Water Resource Management

- Vertical Turbine Pumps, with 650 KW motor for Hunter Water Corporation, South Wales, Australia
- 15 Kirloskar Split Case pump sets of 1.5 / 2.7 MW in operation at Rand Water, Johannesburg, South Africa
- 3 Split Case pump sets, with 900 KW motor for Public Utility Board, Singapore
Water Resource Management

- High efficiency pumps, lower CO$_2$ emissions
- Engineered and manufactured to the highest standards

_South West Water, UK. Now saving £70,000 a year with Vertical Split Case Lowest Life Cycle Cost (LLC)™ pumps_
Valves

• Proven designs over last seven decades
• In-house research & development facilities equipped with various design software
• Manufacturing capability - 40 mm to 5000 mm with Pressure rating up to PN40
• ISO 9001, ISO 14001, OHSAS 18001, EnMS 50001 Certifications
• Statutory Compliance with CE Marking, FM Approval & UL Listing
• Only Indian Manufacturer to carry out flow test for 2200 mm BFV at 30000 m³/Hr for its flow characteristic
• 3800 mm Butterfly valve supplied for sea water application with Ebonite lining

Kinetic Air and Non Return Valves
Valves

- In house capability of special coating (Corrocoat)
- One stop shop offering wide variety of Valves as a package
- First Indian valve manufacturer to introduce Sluice Valves in Indian market
- Kinetic Air Valves as per IS 14845 & AWWA C512 designs
- 3800 mm size Butterfly Valve for power plant
- Product range for major industrial applications
- Availability through wide dealer and distributor network
- Prompt delivery

Largest Butterfly Valve (3800 mm)
Innovative Solutions

Lowest Life-Cycle Cost (LLC)™ Pumps

• Focus on wire to water efficiency over entire life cycle
• 2-3% efficiency rise over conventional pumps and sustained high efficiency throughout life cycle
• Increased emphasis over post installation cost
• Optimised mechanical design to reduce downtime
• Coating to enhance efficiency over conventional product

Lowest Life-Cycle Cost (LLC)™ Pump
Innovative Solutions

Solar Pumps

• Conversion of DC from Solar Panels to 3 phase AC with 97% efficiency through Solar Power Conditioning Unit (SPCU) Jalverter™

• Pumps ranging from 0.5 HP to 100 HP

Grid-Solar Hybrid Controller

• This controller is programmed to utilise all available solar energy and meet balance from grid

Solar Surface Pumping System
Innovative Solutions

Fire Pump Monitoring

• Ensures fire pump is operational
• 100% Remote Monitoring of Pumps through Fire Eye

Condition Monitoring

• Efficiency degradation
• Bearing vibration
• Envelope acceleration
• Bearing element damage
• Bearing operating temperatures
• Acoustic monitoring and driver alignment
• Residual imbalance
• Cavitation
Innovative Solutions

Condition Monitoring

- Reduction in operating costs through early detection of system irregularities
Sustainability Report

• 11% reduction in water consumption over previous year
• 5% decrease in electricity consumption over previous year
• With addition of Sanand plant only 3% increase in CO$_2$ emission over previous year
• 38% of total energy requirement is met from renewable sources
• One of the two Indian companies to promote Integrated Reporting based on International Integrated Reporting Council (IIRC) framework

Renewable sources of Energy  |  Sustainability Report  |  Integrated Report
Sustainability Report

• 136.87 MW added to grid with commissioning of more than 30 hydro projects and installation of 68 hydro turbines resulting in 270,000 Carbon Emission Reduction (CER)
• 4 Sustainability Reports since 2009-10
• Encouragement towards energy conservation is appreciated through Kirloskar Group Energy Conservation Award (ENCON)
• Amongst first in India to report on sustainability under international integrated reporting council (IIRC) and under GRI G4
Corporate Social Responsibility (CSR)

Public utilities, medical facilities and cultural programmes

• Support to social welfare organisations for drinking water schemes and medical facilities in rural areas
• Promotion of cultural activities such as literature and arts
• Contributions to relief funds for natural calamities
• Sponsorships and aid for socially underprivileged and the physically handicapped
• Support for utility projects for Indian Armed Forces such as water purification plants at Army Camps

Winner of the Best Corporate Social Responsibility Practices Award, 2013
Corporate Social Responsibility (CSR)

Education and child welfare

- A number of developmental programs for education and child welfare

- **WaSH - Water, Sanitation and Hygiene**: A social initiative run by Kirloskar Foundation that aims to promote values of cleanliness, discipline and hygiene, amongst school children.

- Presently, WaSH Initiative is being implemented in 101 schools, reaching out to 29000+ school children.

*Children learning about WaSH*
Corporate Social Responsibility (CSR) Worldwide

- Listed in England's top 100 apprenticeship employers by City & Guilds and the National Apprenticeship service

- Work with the Hero’s First Foundation in the USA to raise money for war veterans which is donated to hospitals and skill building institutions

- Sponsor skill building programs in the Republic of South Africa

- 2% of average net profit for preceding 3 financial years are invested in CSR activities
Corporate Social Responsibility (CSR) Worldwide

SPP Pumps has been recognised as one of Thames Valley’s best Apprenticeship Employers in the regional final of the National Apprenticeship Awards 2013
## Websites

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Website Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIRLOSKAR BROTHERS LIMITED</td>
<td><a href="http://www.kirloskarpumps.com">www.kirloskarpumps.com</a></td>
</tr>
<tr>
<td>KIRLOSKAR BROTHERS POMPEN BV</td>
<td><a href="http://www.kirloskar.eu">www.kirloskar.eu</a></td>
</tr>
<tr>
<td>KIRLOSKAR SYSTECH LIMITED</td>
<td><a href="http://www.kirloskarsystech.com">www.kirloskarsystech.com</a></td>
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<tr>
<td>KIRLOSKAR CORROCOAT PRIVATE LIMITED</td>
<td><a href="http://www.kicopl.com">www.kicopl.com</a></td>
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<tr>
<td>THE KOLHAPUR STEEL LIMITED</td>
<td><a href="http://www.kolhapursteel.com">www.kolhapursteel.com</a></td>
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<td>KARAD PROJECTS AND MOTORS LIMITED</td>
<td><a href="http://www.kpml.co.in">www.kpml.co.in</a></td>
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<td>KEPL</td>
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