



KIRLOSKAR BROTHERS LIMITED

Enriching Lives

CONDITION MONITORING Intelligent Pumping Solutions

**Monitor your Pumping Systems
anyone...
anytime...
anywhere...**



INTEGRATED FLUID MANAGEMENT

KIRLOSKAR BROTHERS LIMITED (KBL)

- KBL, established in 1888 and incorporated in 1920, is the largest manufacturer and exporter of pumps and pumping systems in India and one of the global leaders in pump technology
- KBL manufactures centrifugal pumps from 0.1 kW to 26,000 kW and has suitable pumps for wide range of applications
- KBL has successfully executed numerous turnkey pumping solutions on EPC basis for power plants
- The core businesses of KBL are large infrastructure projects (water supply, power plants, and irrigation), project and engineered pumps, industrial pumps, agriculture and domestic pumps, valves, motors and hydro turbines
- KBL is an ISO 9001, ISO 14001 and OHSAS 18000 company with eight manufacturing plants worldwide
- KBL has one of Asia's largest Hydraulic Research Centres and Testing Laboratories
- KBL pumps are CE and Atex marked

REMOTE CONDITION MONITORING OF PUMPSETS

The condition monitoring system enables a person to view pump and process parameters via internet. The key features offered by the remote condition monitoring of pumpsets are:

- Monitoring of operational behaviour of the pump or pumping system
- Monitoring and analysis of faults
- Suggestions for tentative actions to be taken in case of faults
- SMS alerts and e-mails in case of faults with daily reports through e-mails for record and analysis

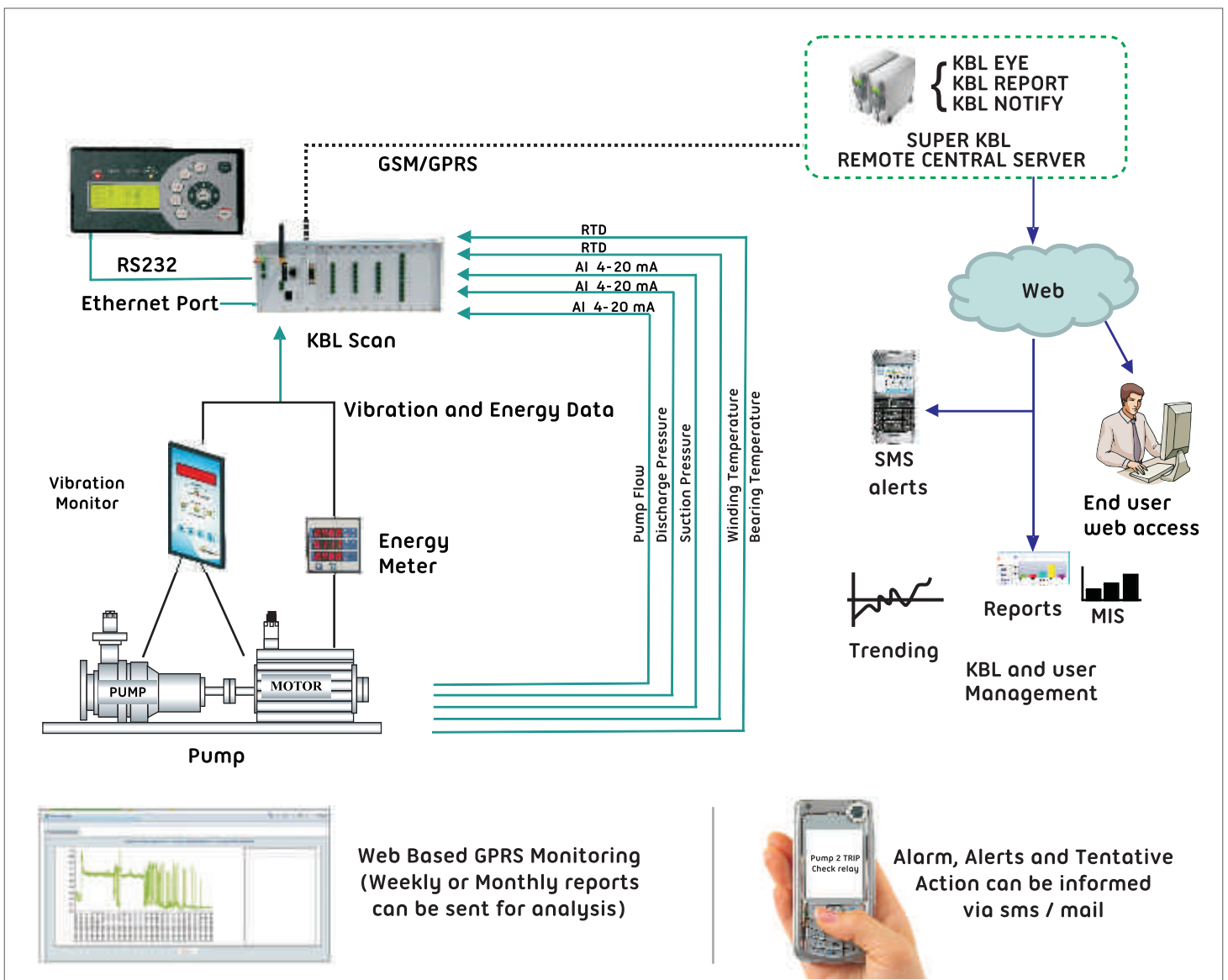
The condition monitoring system is very useful where pumps or pumping systems are catering to critical processes or applications. This is done by capturing data from pressure transmitter, flow meter, vibration sensors, bearing and winding temperatures and energy meters.

Web based monitoring can be carried out for the following parameters:

- Flow
- Pressures
- Vibration
- Bearing temperature
- Voltage
- Current
- Energy consumption
- Winding temperature

BENEFITS OF THE SYSTEM

- Monitoring is possible at anytime by anyone and anywhere
- Alerts by SMS and e-mails can trigger early attention and rectification and results in lesser down time
- Weekly reports enable the user and KBL to analyze the overall health of the pumpsets and preventive maintenance can be planned accordingly
- Planning of spares requirement is possible based on these parameters
- Knowing the trends for fluid and energy consumption
- Onetime investment reduces operational costs
- Provides immediate knowledge of system performance
- Increases equipment life and reduces cost of repairs
- Improved process and plant reliability
- Reduces man-hours (labour costs) required for troubleshooting
- Provides considerable flexibility in the display and use of the diagnostic output
- Web based user configurable dashboard for live and trend data
- Integration with existing PLC and Automation system



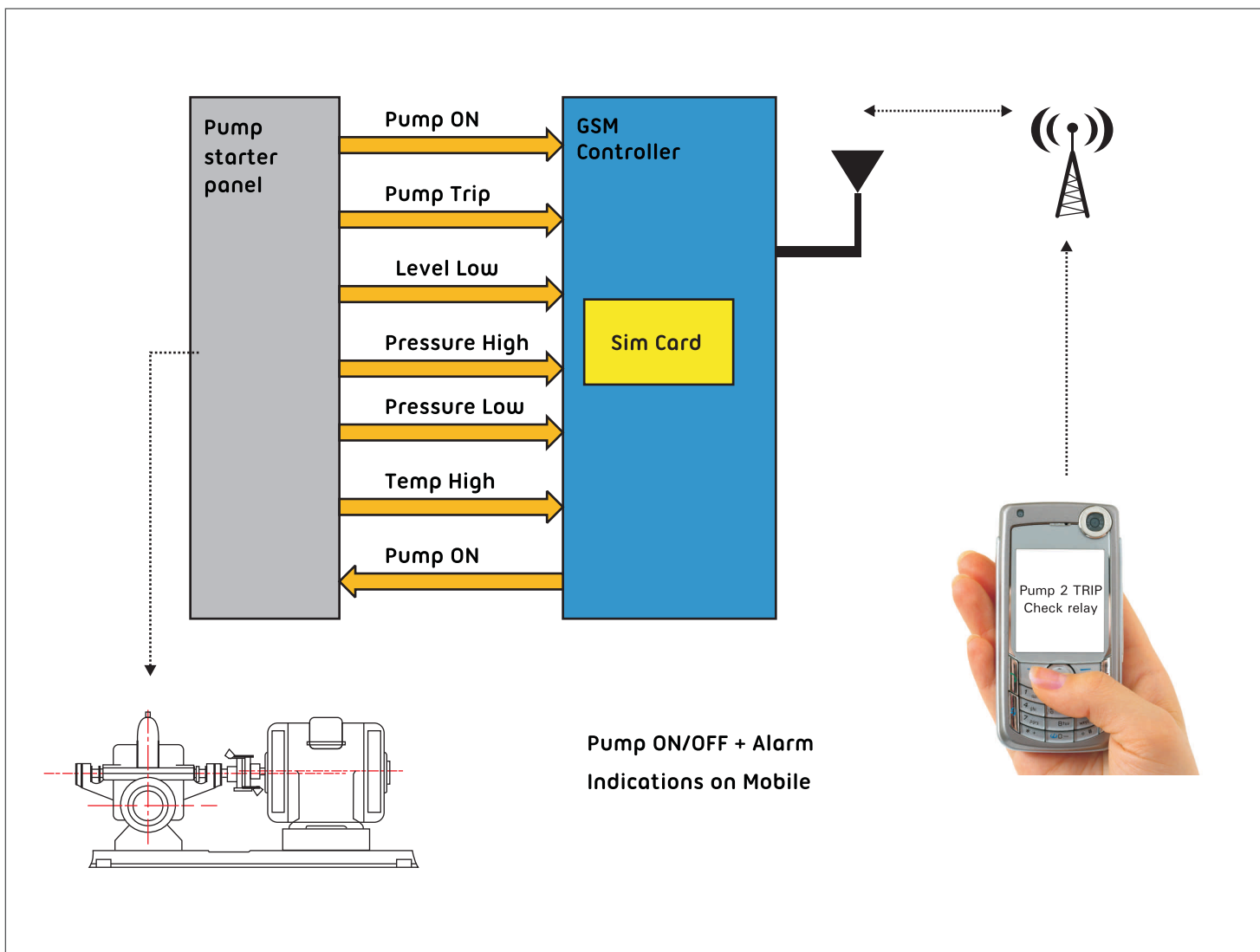
GSM BASED CONTROL AND ALARM SYSTEM

The key features:

- Eight different alarm inputs can be connected to the module. The unit needs to be connected with control or starter panel through potential free contacts
- For each input a pre-programmed SMS will be transmitted to five different mobiles numbers
- The pump can be put ON and OFF from mobile and six alarm inputs are available
- Compact and economical
- Easy to integrate

Applications:

- Fire fighting system
- Fully automated pumping system
- Pumps or pumping systems operating at remote location
- Systems catering to critical processes and application
- Tank filling system



VIBRATION MONITORING

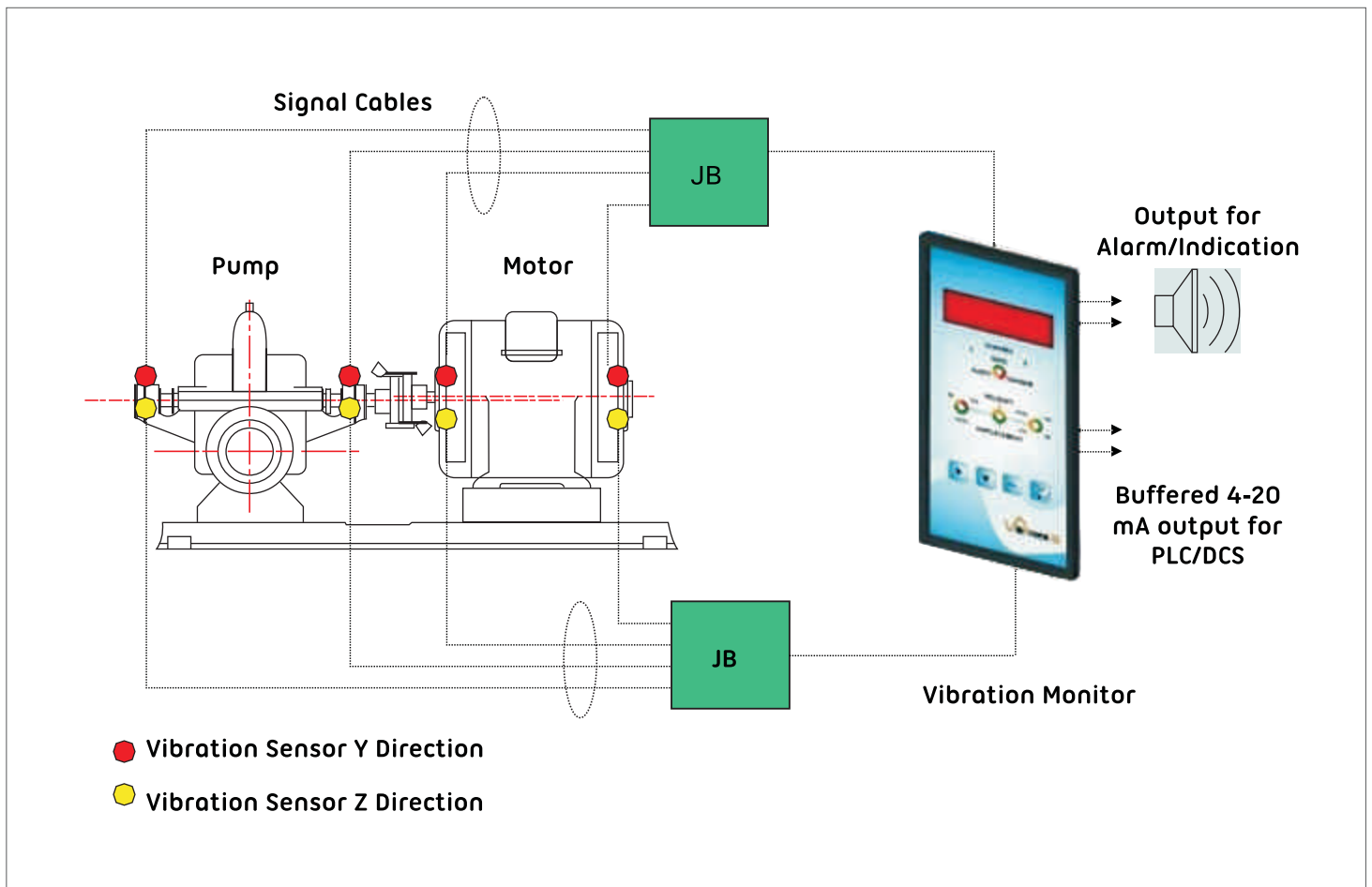
Measurements can be taken on pump and motor bearing casings with seismic or piezo-electric transducers to measure the casing vibrations and on the vast majority of critical machines with eddy-current transducers that directly observe the rotating shafts to measure the radial (and axial) vibration of the shaft. The level of vibration can be compared with historical baseline values such as former start-ups and shutdowns and in some cases established standards such as load changes to assess the severity.

The benefits:

- Early attention towards problems
- Less down time and can avoid further damages
- Increases productivity
- Enhances pump life

Reasons of increase in vibrations are:

- Overload
- Misalignments
- Low lubrication
- Worn out bearings
- Pump is running off duty parameters



BEARING AND WINDING TEMPERATURE MONITORING

The system is designed to monitor temperature of bearings in pumps and bearing and winding temperature of motors. It is the easiest, simplest and economical way to monitor the health of the pumps and motors. Early attention towards problems, lesser down time avoiding further damages, increase in productivity and pumpset life enhancement are few benefits of bearing and winding temperature monitoring.

The key features:

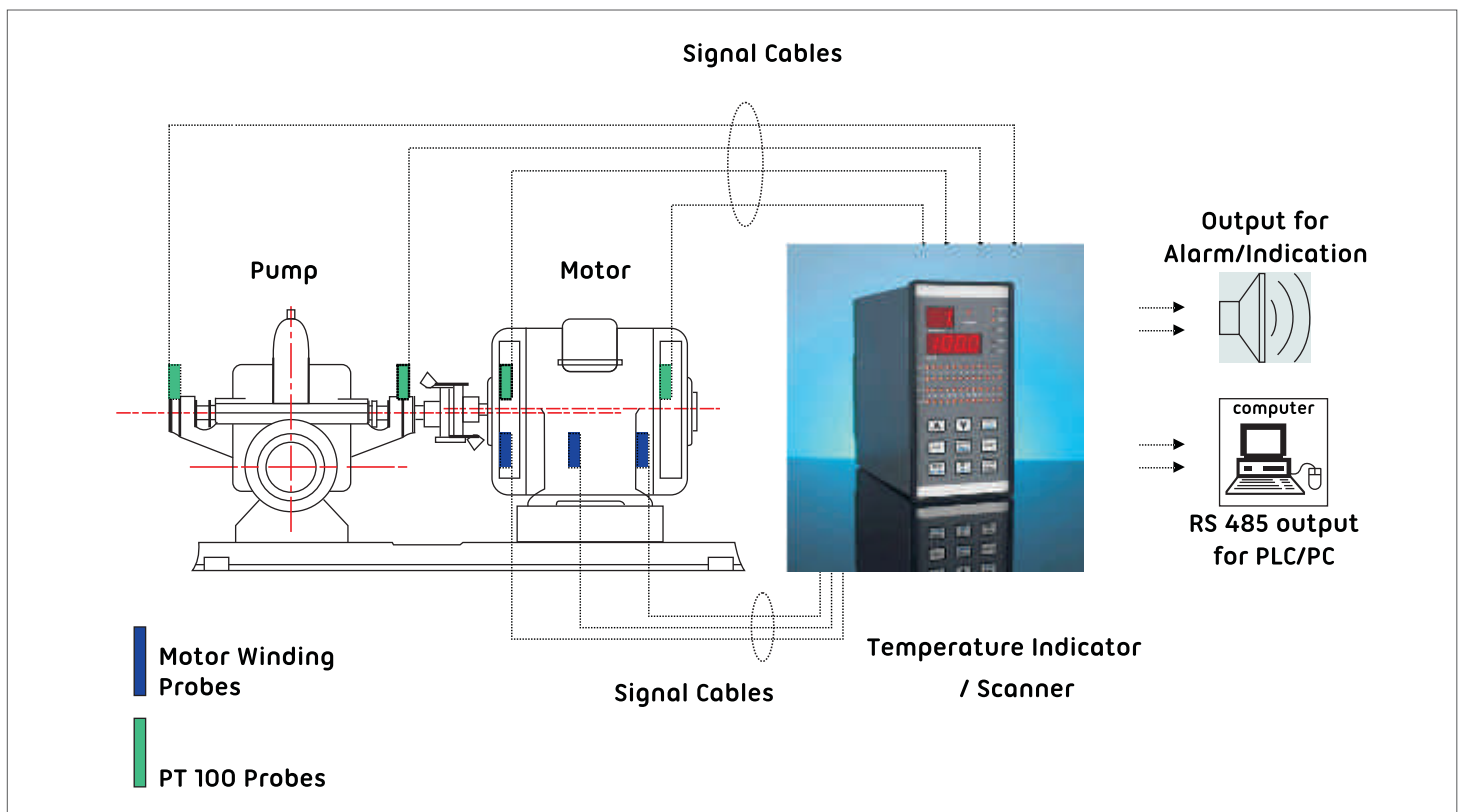
- Microprocessor based user friendly controller
- Continuous scans set temperature with actual temperature of each bearing and winding
- LED 7 segment scrolling display with indication of channel number
- Independent temperature alarm setting for each bearing and winding
- Separate indication for each bearing and winding alarm
- Wall mounted small panel
- Separate relay output for remote audio and visual indication
- RS 485 connectivity for hooking up with existing PLC / PC/ SCADA system



Temperature Indicator / Scanner



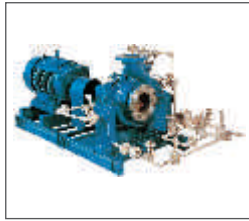
Bearing Temperature Sensor



PROCESS INDUSTRIES - CHEMICAL AND OTHER PROCESSES



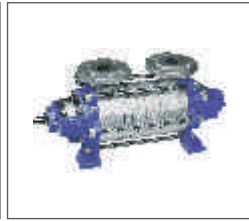
(CM) Canned Motor Pump



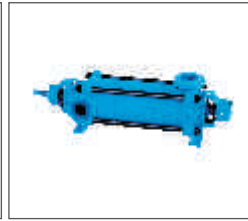
(KPD) Process Pump



(KPDT) High Temperature Process Pump



(CF) Multistage Process Pump



(RKB) Multistage Pump

STEEL AND POWER INDUSTRIES – UTILITY AND PROCESS



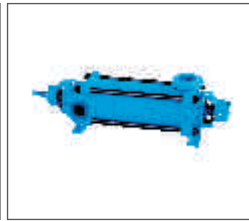
(BHR/BHM/BHQ) Vertical Turbine Pump



(BHRC) Condensate Extraction Pump



(UP/SCT/DSM/IHT) Split Case Pump



(RKB) Multistage Pump



(RKBCV/BHRC) Condensate Extraction Pump

TEXTILE INDUSTRIES



(CPHM) End Suction Pump



(KPD) Process Pump



(KPDS) Vertical Pump

FIRE FIGHTING APPLICATIONS

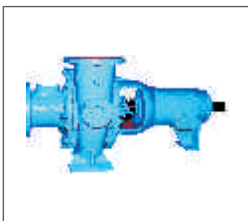


(RKB) Multistage Multioutlet Pump



(UP) Split Case Pump

MINING INDUSTRIES



(SHL) End Suction Pump



Autoprime



(RKBK) Multistage Pump



(SHM) End Suction Pump



(NS) Submersible Pump

HVAC SYSTEMS



(ILS) Inline Pump



(UP) Split Case Pump



(CPHM) End Suction Pump

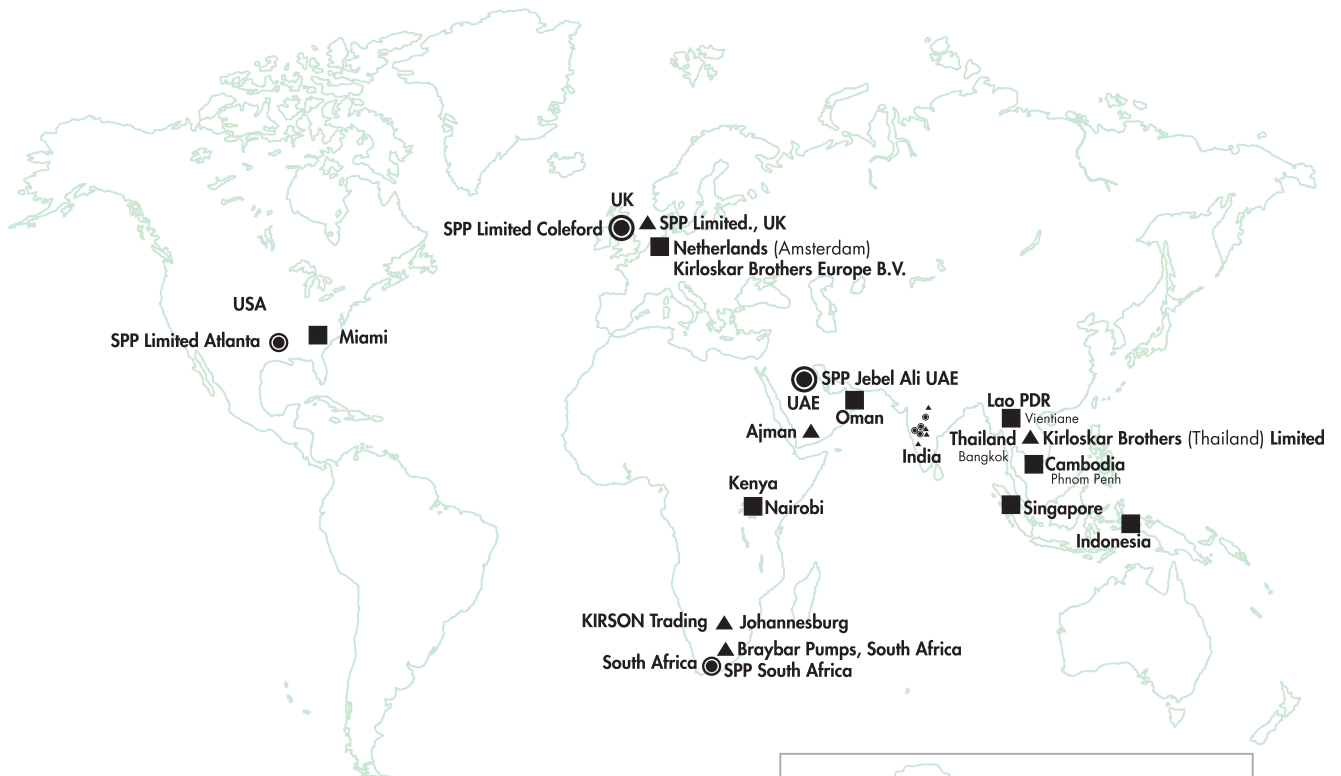


(CE) End Suction Pump

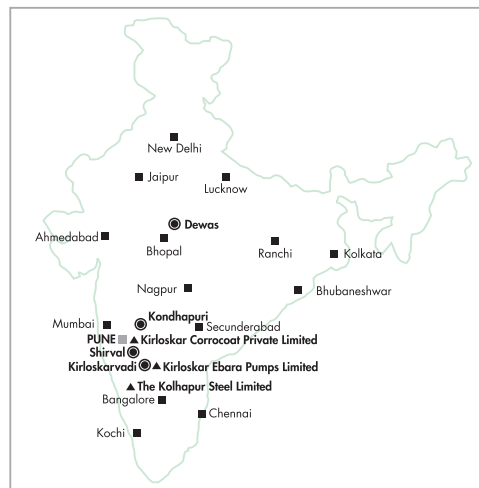


(IL) Vertical Inline Pump

OUR GLOBAL PRESENCE



- Manufacturing Facilities
- Regional Sales Offices
- ▲ Subsidiaries and Joint Ventures
- Global Headquarter KBL



As we are constantly endeavoring to improve the performance of our products/equipment, we reserve the right to make alterations from time to time and as such our products/equipment may differ from that detailed in this publication. For latest information you may get in touch with our Regional Sales Offices.



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Pumps | Valves | Motors | Hydro Turbines | Turnkey Projects

KIRLOSKAR BROTHERS LIMITED

Corporate & Marketing Office : "Yamuna", Survey No. 98 / 3 to 7 Baner, Pune - 411 045 Maharashtra, (India)
 • Phone: +91 - 20 - 2721 4444 • E-mail : kblin@kbl.co.in • Web Site : www.kbl.co.in

Works: India: Kirloskarvadi, Shirwal, Kondhapuri, Dewas

Overseas: Ajman, Cairo, Johannesburg, Nairobi, Phnom Penh, Miami, Vientiane, Bangkok, Amsterdam, Dakar
 Regional Sales Offices: India: Ahmedabad, Bangalore, Bhubaneswar, Kolkata, Chennai, Jaipur, Kochi, Lucknow, Mumbai, Nagpur, New Delhi, Pune, Ranchi, Secunderabad