

KIRLOSKAR BROTHERS (THAILAND) LIMITED

YOUR SUSTAINABLE PUMPING SOLUTION PARTNERS

Our Group Company









Visit us: www.kirloskarthailand.com





Corporate Profile

Established 1888 | Incorporated 1920

Core Business : Centrifugal Pumps, Valves, Hydro Turbines, Pumping Projects

Kirloskar Brothers Limited (KBL) is a pump company involved in engineering, design and manufacturing of systems for fluid management. Established in 1888 and incorporated in 1920, KBL is the flagship company of the \$2.5 billion Kirloskar Group. KBL is a global market leader in fluid management.

KBL acquired famous pump brands like SPP Pumps UK and Rodelta Pumps from The Netherlands as well as started a joint venture cooperation with Ebara, Japan since 1988 under Kirloskar Ebara Pumps.











Kirloskar Group Joint ventures and Subsidiaries



Kirloskar Toyota (1995)

Textile machinery and auto transmission components



Kirloskar Chillers (1995)

Large air-conditioning systems on turn key basis



Toyota Kirloskar Motors Ltd. (1997) Light motor vehicles Second largest manufacturer of utility vehicles in India



Denso Kirloskar (1998)

Engine radiators



Toyoda Gosei (1998) Non-metallic auto components such as steering wheels, dashboards, etc.



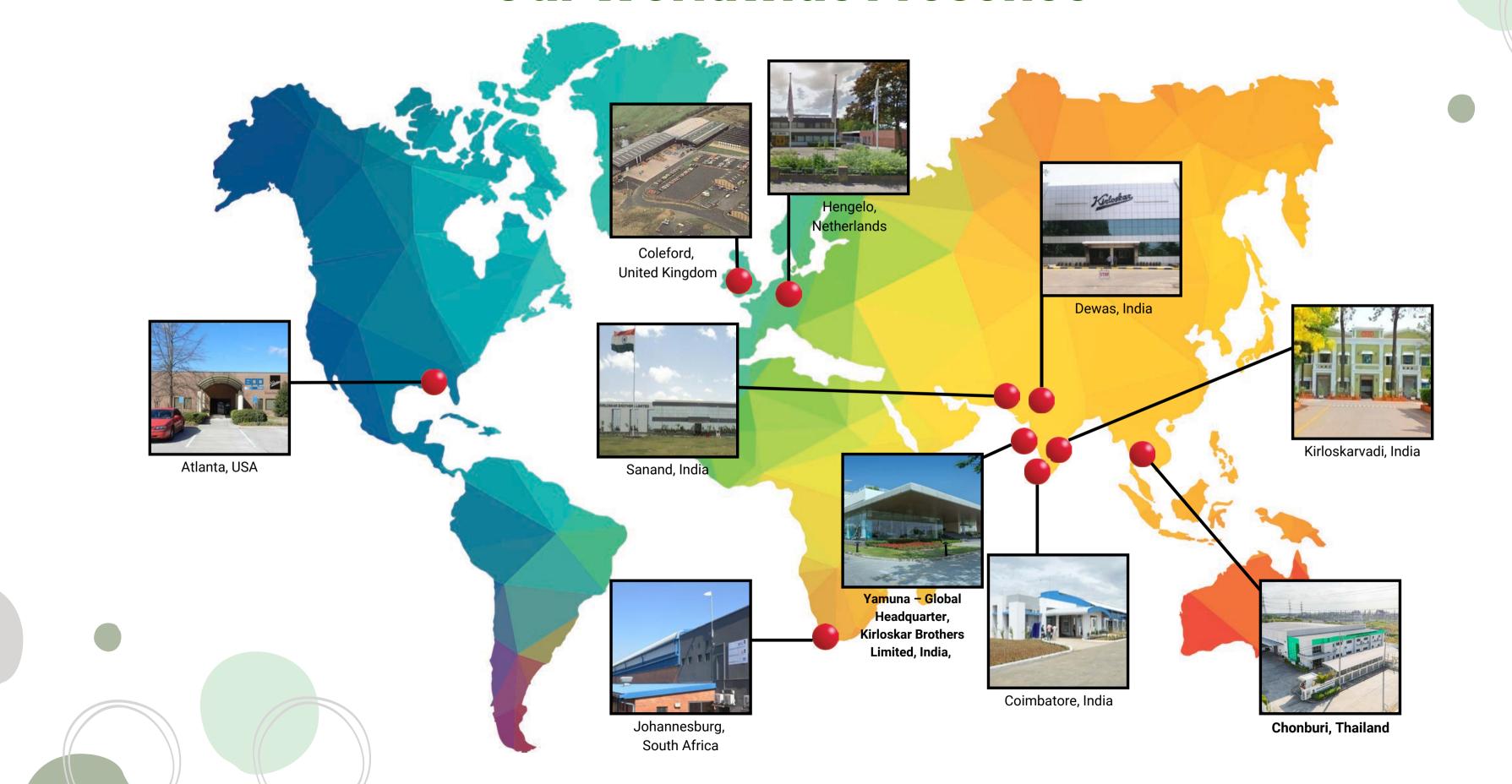
Kirloskar Tsusho (1998)

Steel supply to car companies and ancillaries



Toyota Kirloskar Auto Parts (2002) Metallic auto components such as transmissions, steering gears, front and rear axles

Our Worldwide Presence



Kirloskar's Journey

1888 1903 1920 1927 1940 1941 1946 1958 India's 1st iron plough **Established** Incorporation of India's 1st centrifugal India's 1st electric Divested machine tool Divested electric Divested Kirloskar Brothers compressors design design and motor design and pump motor Ltd. production to form production to form and production to Mysore Kirloskar form Kirloskar India's 1stmachine tool lathe Kirloskar Electric Ltd. Pneumatic Ltd. Ltd. Divested diesel engine design and production to form Kirloskar Oil Engines Ltd.

Incorporation of Kirloskar Ebara Pumps Limited Kirloskarvadi (KEPL)

1988



Incorporation of Kirloskar Ferrous **Industries Limited**

(KFIL)

1994

Acquired SPP Pumps UK

2003



JV with Corrocoat, UK

2006

Acquired Aban Constructions Pvt. Ltd.

Acquired The Kolhapur Steel Limited

2007

Established Kolhapur manufacturing **Facility**

Incorporation of Kirloskar **Brothers** International B.V. Incorporation of Kirloskar **Brothers**

Europe B.V.

2008

Incorporation of Kirloskar **Brothers** Thailand Ltd.

Acquisition of **Braybar Pumps** South Africa

2010

facility

Coimbatore manufacturing Facility established a first all women manufacturing

2011

Acquired SyncroFlo Inc. USA & RodeltaPumps International B.V. The Netherlands

2014/15







KBTL Profile

Registered companies in Thailand since 2008

Core Business: Fluid management and engineered pumping solutions by various types of pumps and pumping systems in Thailand and Southeast Asia such as Indonesia, Singapore, Vietnam, Laos, Malaysia, etc.

Our head office is located at 50 Sukhumvit 21 Road (Asoke), GMM Grammy Place Office Building, 18 FL., Unit 1805, Khlongtoey-nua, Wattana, Bangkok 10110 Thailand.

Factory at Amata Nakorn Industrial Estate (Phase 8), 700/711 Moo 1, Phan Thong, Phan Thong, Chonburi 20160 Thailand.

Kirloskar Brothers (Thailand) Limited (KBTL) is the BOI promoted head quarter and assembly plant for the KBL Group of companies for the East Asia region based in Amata Chonburi for Kirloskar, SPP, Rodelta, Syncroflo and KEPL.

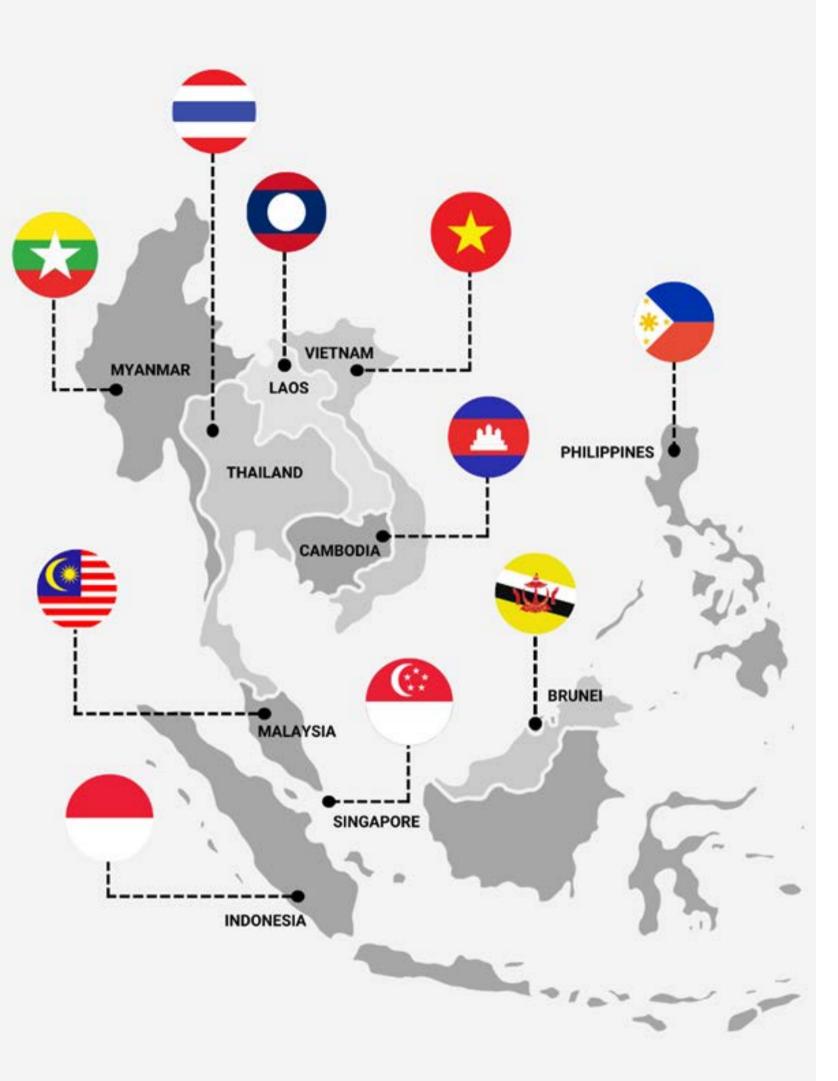












Kirloskar Brothers Thailand Regional Setup

Including subsidiary SPP Pumps Asia & Singapore

Thailand

- Kirloskar Brothers Thailand Bangkok HQ for the ASEAN region for Kirloskar and SPP.
- SPP Pumps Asia Bangkok

Kirloskar Brothers Thailand – Manufacturing Amata Chonburi common factory for all group brands:

- Kirloskar
- SPP
- Rodelta









SyncroFlo Malaysia

SPP Pumps Asia – Representative Office Malaysia KL

Singapore

• SPP Pumps Singapore

Indonesia

• SPP Pumps Asia - Representative Office Indonesia Jakarta

Further we have an extensive dealer network throughout the Asian Region



Values

- Developing and working with mutual trust
- Building and nurturing teamwork
- Fairness, earnest and honest in dealing with all stakeholders
- Quality in everything we do including superior customer service (Delight)
- Commitment towards environment and sustainability

Vision

Kirloskar Brothers Thailand to be seen as the most innovative, sustainable and smart (AI / Industry 4.0) Pump Company in Southeast Asia through the relentless pursuit of both employee and customer delight to deliver pumping technology for a better future.



Kirloskar Brothers Thailand Regional Setup

Including subsidiary SPP Pumps Asia & Singapore



- BOI Promoted facility
- Total floor area: 9,600 m²
- Assembly shop with crane capacity up to 15.000 kg
- Hydrostatic testing up to 120 bar
- Repair and Service Area
- Meeting and Training rooms
- Pump sets and UL / NFPA 20 Fire Pump Systems
- Spare part warehouse / on-stock pump program
- Certified welding, fabrication, machining
- Paint Booth and coatings
- Engineering & Design
- Testing pump sets in our test lab up to 500
 m3/h 250 kW



หนังสือรับแจ้งการประกอบกิจการในนิคมอุตสาหกรรม

ส่วนขยาย ครั้งที่ 2

Letter of Permission for Business Commencement in Industrial Estate

หนังสือรับแจ้งเลขที่ 2-11-1-304-00183-2564 ออกให้ ณ วันที่ 21 กุมภาพันธ์ 2565

ชื่อผู้ประกอบกิจการ บริษัท เคอร์ลอสการ์ บราเธอร์ส (ประเทศไทย) จำกัด KIRLOSKAR BROTHERS (THAILAND) LIMITED

รหัสประจำตัวผู้ประกอบกิจการ 01055501240750017 เลขประจำตัวผู้เสียภาษีอากร 0105550124075

เลขที่ 50 อาคารสำนักงานจีเอ็มเอ็ม แกรมมี่ เพลส ชั้น 18 ห้อง 1805 หมู่ที่ -ตรอก/ซอย - ถนน สุขุมวิท 21(อโศก) ตำบล/แขวง คลองเตยเหนือ อำเภอ/เขต เขตวัฒนา จังหวัด กรุงเทพมหานคร ที่อยู่สำนักงาน

ประกอบกิจการ ผลิต ประกอบ จำหน่าย ซื้อขาย นำเข้า และส่งออกปั๊มทุกประเภท และระบบวาล์ว

กำลังเครื่องจักรส่วนขยาย 114.70 แรงมา กำลังเครื่องจักรรวม 437.93 แรงมา จำนวนคนงานที่เพิ่มขึ้น จำนวนคนงานรวม 45 คน วันที่ยื่นคำขอแจ้งเริ่ม 21 กุมภาพันธ์ 2565 วันที่เริ่มประกอบกิจการ 1 มีนาคม 2565

เลขที่ <mark>700/711 หมู่ที่ 1 ตรอก/ชอย - ถนน - ด้าบล/</mark>แขวง พานทอง อำเภอ/เขต พานทอง <mark>จังหวัด</mark> ชลบุรี ที่อยู่สถานประกอบการ

นิคมอุตสาหกรรม อมตะซิตี้ ชลบุรี

แปลงที่ดินเลขที่ ประมาณ 3 ไร่ 2 งาน 28 ตารางวา

ประเภทหรือชนิดโรงงานลำดับที่

ทะเบียนผู้ประกอบอุตสาหกรรมเลขที่ 82110200225595 (น.71-2/2559-นอน.)

หนังสืออนุญาตให้ประกอบกิจการในนิคมอุตสาหกรรม 2-11-1-302-00117-2564 ออกให้ ณ วันที่ 7 มิถุนายน 2564

(นางสาววิชชุดา สีมาขจร) ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมอมตะชิติ์ ชลบุรี ปฏิบัติงานแทน ผู้วาการการนิคมอุตสาหกรรมแห่งประเทศไทย



หนังสือรับแจ้งนี้ใต้จัดทำด้วยวิธีการทางอิเล็กทรอนิกส์ สามารถตรวจสอบเอกสารผ่านทาง QR Code







KBTL Pump Performance Test Bed

- Horizontal Split Case Pump
- Multi- Stage Pump High Pressure Loop
- End Suction Pump
- Engine Driven Fire Pump
- Flow up to 500m³/hr.
- Pressure up to 100 bar
- Motor 250Kw





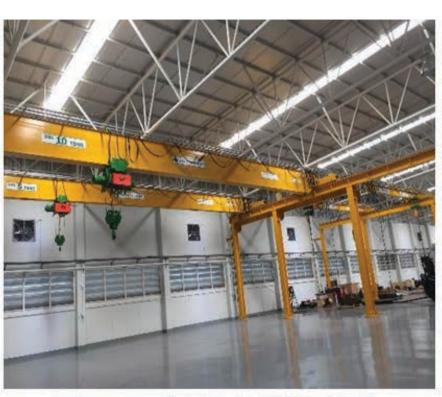
Lathe Machine



Drilling Machine



Slotting Machine



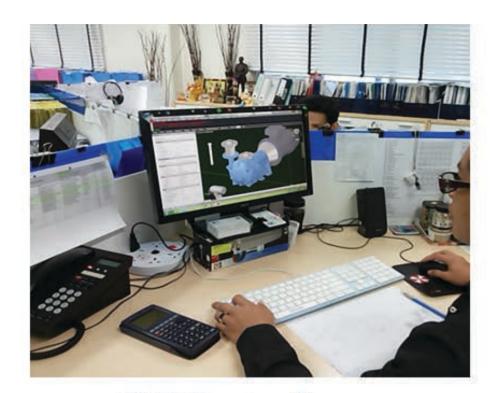
4 Cranes(10T/5T/2T/1T)



Sawing Machine



Forklift



CAD Design Team



Hydro-Test Repaired Pump



Pump Test Bed



Fabrication



Spare Parts Stock



Paint Booth



Vibration Meter



Induction Heater



Power Meter



Measuring instrument



US Flow Meter



Laser Alignment Kit

KBTL Quality in Everything we do



Focused continual improvement is essential to achieve our desired objectives

- Break-through improvement in Critical to Quality (CTQ) processes through AQIP (annual quality improvement plan)
- Skill enhancement of all team members Sound supplier base
- Achieve world class product performance & aesthetics
- Achieve customer delight (internal as well as external)
- Support to plant functions for achieving delivery performance on time in full (OTIF)
- Initiate projects for analyzing critical issues / complaints



This is a moment of great joy. The rescue mission to bring out the boys of the Wild Boars football team and their coach from the flooded Tham Luang caves was a complete success, accomplished on 10 July 2018.

How this episode came about was something beyond control and we were all caught by surprise. Search and rescue had to be put together on the spot, right there and then. It's now clear that everyone of us rose to the challenge, in dealing and adapting to the changing demands of the situation. All parts of society pulled together — government, private sector and the general public alike, mustering whatever resources at their disposal, be they physical labour, ideas, donations, and, even, in one case, the ultimate sacrifice of life itself. The group in danger themselves were taking good care of their fellow sufferers in the most admirable manner. The outpouring of sympathy and concern from all corners of the world in support of both the group and their rescuers, were overwhelming. The rescue mission, however hard and arduous it proved, has indeed given rise to something of great beauty whose value is truly beyond measure.

I owe my deepest thanks to every single individual and every single body having a part in this mission. Clearly, there are important lessons to be drawn from this experience. The application of good management, knowledge, and technical expertise in a manner suited to the demands of the situation, are essential keys to success in overcoming obstacles and finding solution, not only in this context but equally, in the great task of national development itself. These essential keys should of course be accompanied by personal qualities of caution, self-discipline, control, and the ability to give one's utmost in working with others. The basic human virtue of helping one another in a spirit of generosity and love, is in itself a power of formidable strength which can make humankind go on living together in an everlasting peace.

Vajiralongkorn 12 July, 2018

KBTL Corporate Social Responsibility

Tham Luang Cave Rescue







KBTL Corporate Social Responsibility

Monthly Good Cause

- Phantong communities
- Sawang Auttayan Rescue
- Phantong hospital
- Lorenzo home
- And many more.....



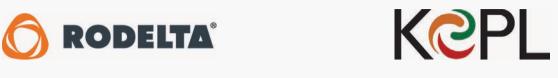
Our Brands & Products











Brand Origin

- India

Manufacturing

- India

Assembly/Packaging

- Thailand
- Europe

Standards

-ISO/ ANSI/ DIN -FM/UL

-N Stamp

Main Products

-End Suction

- -Split Case
- -Multistage
- -Vertical Turbine

-CVP

Brand Origin

- United Kingdom

Manufacturing

-India

-UK

-USA

Assembly/Packaging

- Thailand

- MF

Standards

-FM/ UL/ LPC/ NFPA20

Main Products

-End Suction

-Split Case

-Multistage

-Vertical Turbine

Brand Origin

- USA

Manufacturing

-USA

Assembly/Packaging

- Thailand

Standards

-FM/ UL/ NFPA20

Main Products

-End Suction

-Split Case

-Multistage

-Vertical Turbine

-Booster Pumps

Brand Origin

- Netherlands

Manufacturing

-Netherlands

Assembly/Packaging

- Thailand

Standards

-API

Main Products

-OH2

-OH5

-VS4

-VS5

-CVP

-Engineered Specialized Solutions

Brand Origin

-Ebara Japan (joint venture with Kirloskar)

Manufacturing

-India

Assembly/Packaging

- Thailand

Standards

-API

Main Products

-OH

-VS

-BB

-Steam turbines

-Hydraulic Power Recovery Turbine

Our Key Business

Large & Medium Flow pumping solutions for complex fluid management system

Small pumps for day-to-day use at households and farms.

Valves
for industrial and large-scale
applications

Hydel /PAT/PICO turbines



















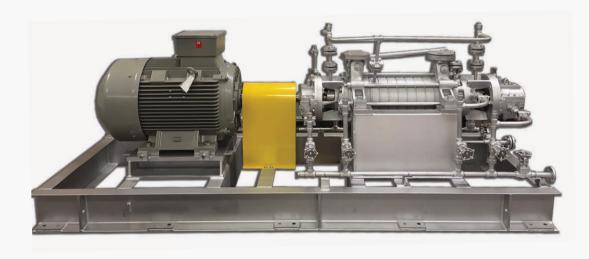
Products Assembled - Pump set



End Suction DB / Nowastream



KPD/ GK Process Pumps



RKB / KBSH Multistage







Fire Pump Standards



What is NFPA 20?

NFPA 20 (Standard for the Installation of centrifugal Fire Pumps) is the NFPA standard for fire pumps; fire pumps and pump groups, engine control systems and the necessary side elements to be used.



What is UL?

UL (Underwriters Laboratories) is an independent certification body that sets standards for product reliability and tests the reliability of products under these standards. UL 19000 certifies more than one product. More than 20 million UL-marked products of 7200 manufacturers are used including fire pumps and systems.

UL has been working on testing and reliability of products for over 100 years. All listed pumps are published in the online UL product guide.



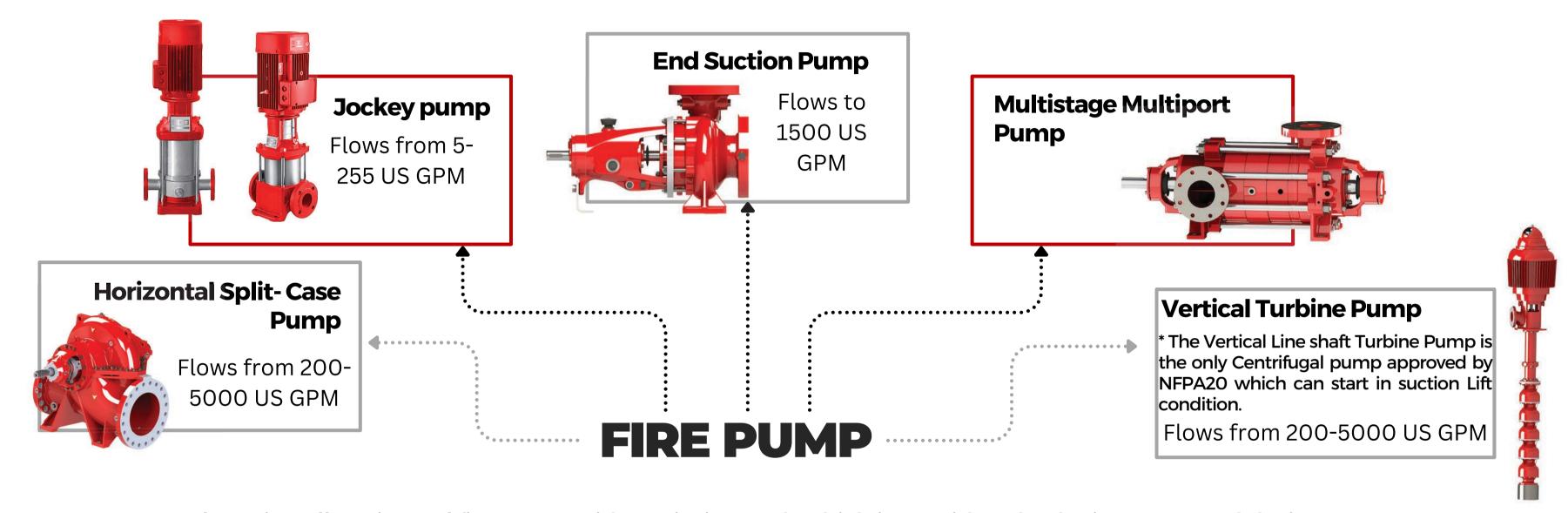
What is FM?

FM (Factory Mutual) is an independent technical entity that certifies performance of materials and systems by FMI (Factory Mutual Insurance), which insures private and major risks.

FM approval for fire pumps is given taking into consideration NFPA 20 requirements. However, as there are some requirements beyond NFPA20, FM approval is known as the highest-grade product quality approval, which is the most difficult condition between fire pumps and environmental approvals all approvals are published on the web site.



Fire pumps and System NFPA 20 / UL



Many places install Horizontal fire pump with a priming tank which is considered to be incorrect and deviates NFPA20 guidelines. Fire pumps shall be dedicated and listed for fire protection service.

We produce variety of FM approve and UL listed Fire Pump types viz- End Suction, Vertical Turbine, Horizontal Split case and Vertical inline Jockey pumps to cater customers Fire pump demands based on the site layout, property size and budget ranging from 200 Usgpm to 5000 Usgpm.



FM Approvals
1151 Boston Previdence Tumpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 P: 781-762-9375 www.fmapprovals.com

PRIVATE LABELER/TRADE AGENT AGREEMENT

Preject Identifier: 3045389

This Agreement is made by and between FM Approvals and SPP Pumps Limited, Theale Cross, Pincents Lane, Calcot, Reading, Berkshire, England (herein called the Original Equipment Manufacturer) and Kirleskar Brothers Ltd., Kirleskarvadi, Discrict Sangli, MH 416308, India (herein called the Private Labelen Trade Agent).

A Private Labeler agreement is used when any party, other than the Original Equipment Manufacturer (OEM), requests to label an FM Approved product with its own name or product number. A Trade Agent agreement is used when the activity applies to FM Approved product that is also ATEX-, IECEx- or CPD- certified. The Original Equipment Manufacturer (OEM) is making the below-described FM Approved product(s) marked or labeled with the Private Labeler/Trade Agent's identification as set forth in this Agreement, and will be included in the FM Approved Oulde / RoofNav as shown on attached Listing Sheet.

OEM		PRIVATE LABELER/TRADE AGENT		
FM Apprecals Project Identification Number/ATEX Cartificate Number	Model Code	Medil Cultr		
3041602	GR12C	BHR21C		
3041602	GT12A	BHR24A		
3041602	GR14C	BHR26C		
3041602	GTI2C	BER24C		
3041602	GR16C	BHR32C		

The following documents (herein called critical documents) are covered under this Private Labelet/Trade Agent Agreement:

"Trude Name" and "Referenced Project Identification Number"	Drawing Description or Tida	Drawing No.	Serbies
3041602	Nameplate - FM/UL	153E5NP002	0
5041602	Operators Instructions for BHR Vertical Turbine Fire Pumps	BHR/FU/VT_01	.0

Conditued on Page 2

6. J. Made Company Name	Kirinsker Brothers Ltd. Principle Labeller Credit Agent Company Name	FM Approvals (LLC/LAD) Healey M. Ziebes			
8. J. SLADE Signature	Abhijeet H. Pati		Ziabro	-	Signature
Approvals Margner - Fine Po	A ASSOCIATE Manager-POD	Tochnical Team Manager			Name
Theule Cross, Pincents Lone	Karloskar Brothers Ut The	April	18,	2012	Title
Calcot Reading England	Dich - sangali - India	972	1		Duto
April 16, 2012 Notices	April 16, 2012 Address				

KBL Group Fire Setup & Capabilities

FM/UL Listings are inspected regularly to assure compliance. All listing in the KBL Group are cross listed from SPP Pumps UK who has over 140 years experience in fire pump protection.

KBL Group cross listed the following brands whereby all engineering and final inspection and responsibilities is within SPP UK.

FM / UL Listed Brands

- SPP USA
- SPP India
- Syncroflo USA
- KBL India

UL Listed Brands

KBTL Thailand

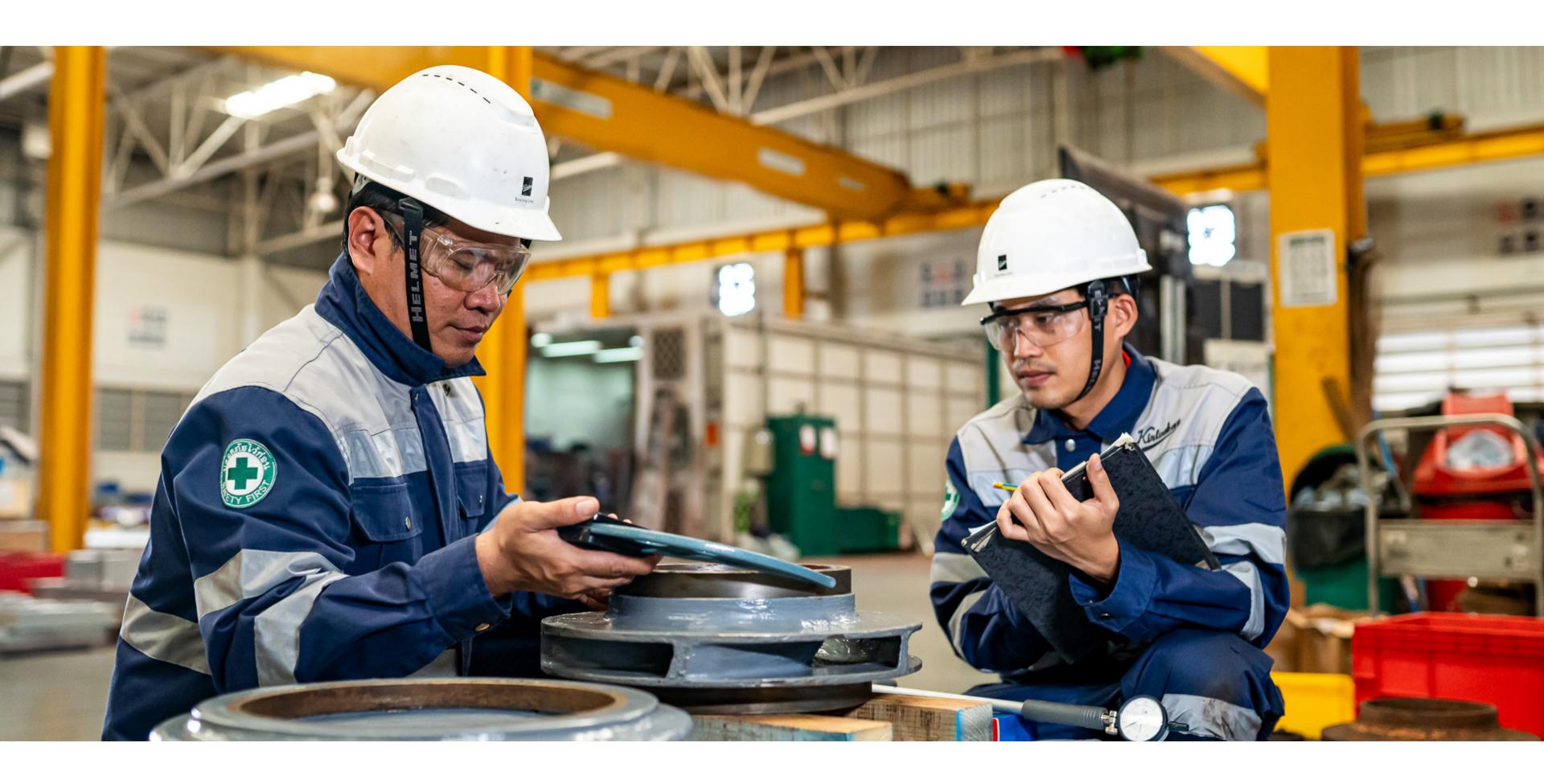


KBL Group Capable of Anything in Fire









Our Service Capabilities

In-House Services

- Pump Repair any brand, Static Pressure Test
- Performance Test, Failure Analysis Report
- Reverse Engineering with 3D printer
- Consignment stock , Upgrades, Training

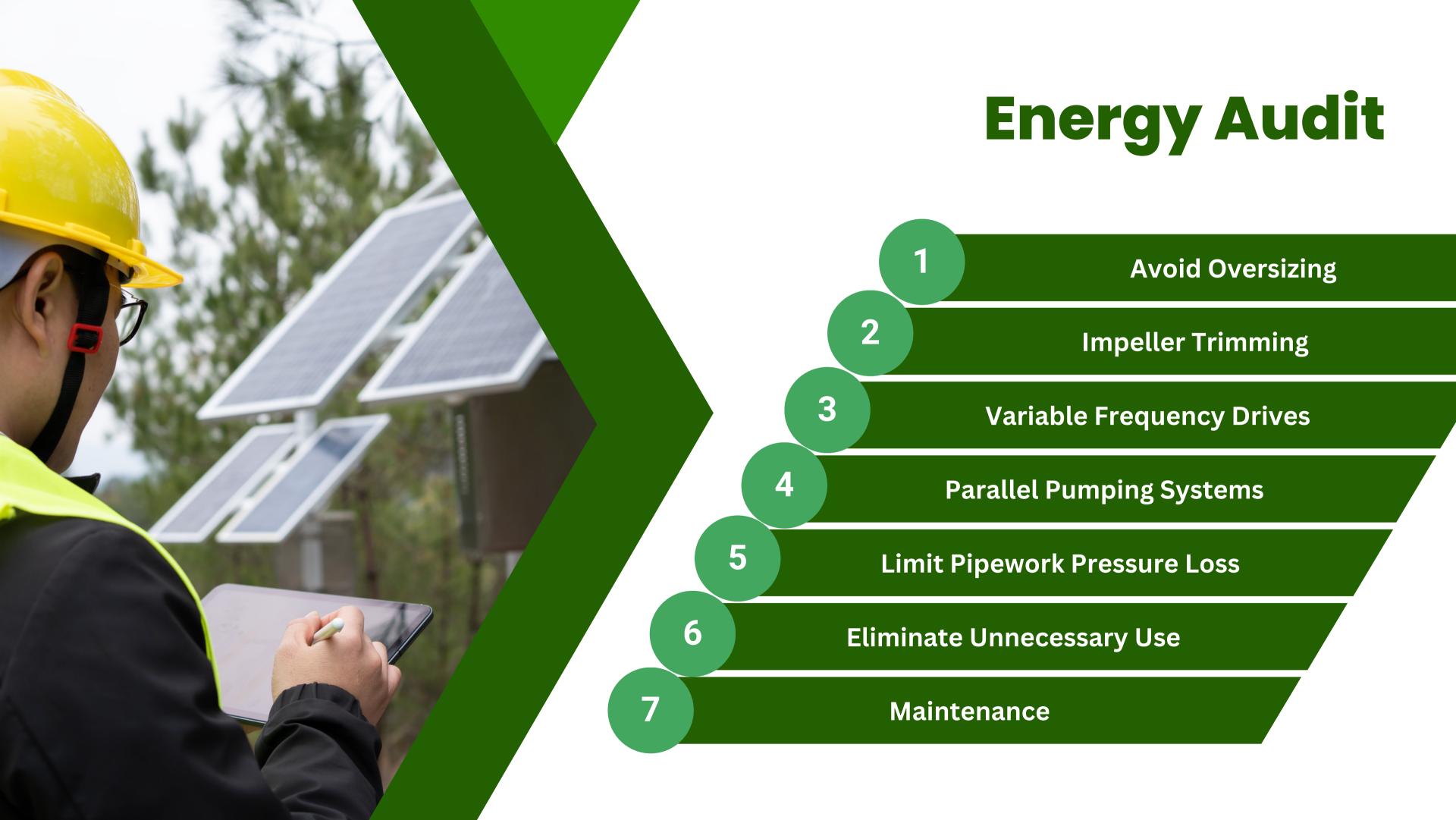
After Sales Service

- After sales market, AI Remote Services
- Spare parts and management of spares, Service
- Overhaul contracts, 24/7 Arrangements

Site Service

- Pump Installation/ Removal, Pump Alignment
- Pump Commissioning, Site Performance Test,
 Pump Inspection & MTBF
- Supervision, Site training, Energy Audits





IoT Solutions











Dashboard

- Customized to meet your requirement
- Real time derate factor analysis
- Export summery report in CSV, PDF
- Checklist NFPA25 and installation equipment



Security

- Secure data storage
- Power backup system for 25 hours
- Gateway UL certify
- Gateway management cloud based
- · Historical data trending
- Update as always security path
- Secure environment



Flexibility

- 24/7 monitoring
- Remote monitoring
- 4G. WIFI, LAN
- Always updated new version
- Seamless update version
- Site-specific fee



Notification

- Instant alerts
- Unlimited receivers
- Predictive maintenance
- Customize calculation and alarm setting

Corrosion Protection





Without Blygold



With Blygold

Blygold helps to corrosion protect your HVAC equipment against corrosion and efficiency improvement coatings for centrifugal pumps to prevent high energy bills, maintenance costs and early replacement.

- HVAC Coil Coating (RTPF)
- Microchannel Coationg
- Finned Tube Coating
- Tube Sheet & Waterbox Cladding
- Cabinet & Casing Coating
- Refurbishment & Rejuvenation
- Pump Coatings for Efficiency Improvement







Vith Blygold

KBTL World Class Customers

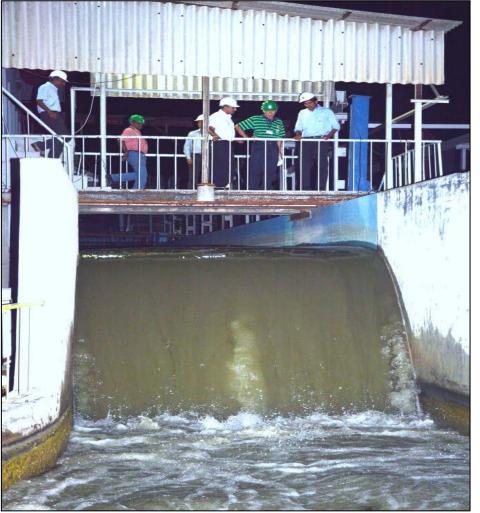




Bangkok Metropolitan Administration

Visit to Kirloskar Pumps Factory in India for Concrete Pump Prototype Testing, Sump Model Testing and Pump Witness Test







Project : **600 MW Mae Moh CFP Lampang**, Thailand

Owner : Electricity Generating Authority of Thailand (EGAT)

Turnkey EPC/Client : Marubeni Corporation turkey EPC / Black & Veatch Corporation

Circulating Water Pump 3.0 Units

Pump Type : VT Pump/BHQ Series

Flow : 27,800 m3/hr

Head : 24 meter
Speed : 421 rpm
Motor rating : 3,300 kW

Auxiliary Service Water Pump 2.0 Units

Pump Type : Vertical Turbine

Flow : 5,565 m3/hr

Head : 28 meters

Speed : 740 rpm

Motor rating : 575 kW



Project : **1300 MW South Bangkok CCPP Project** (Thailand)
Owner : Electricity Generating Authority of Thailand (EGAT)

Turnkey EPC/Client : Marubeni Corporation (Japan) turkey EPC JV Siemens (Germany)

Circulating Water Pump 5.0 Units

Pump Type : VT Pump/BHQ Series

Flow : 18,900 m3/hr.

Head : 21 meter
Speed : 375 rpm
Motor rating : 2,650 kW

Make Up Water Pump 2.0 Units

Pump Type : Vertical Turbine

Flow : 1,800 m3/hr
Head : 16 meters
Speed : 740 rpm
Motor rating : 340 kW



Project: Khlong Bang Sue Drainage Pumping Station (Bang Sue) Thailand

Owner: Bangkok Metropolitan Administration (BMA)

EPC/Client : NAWARAT PATANAKARN PUBLIC CO. (Thailand)

Concrete Volute Pump 6.0 Units

Flow : 36,000 m3/hr.

Head : 15 meter
Speed : 325 rpm
Motor rating : 1,950 kW

Grand Opening by BKK Governor







Customer: LINDE THAILAND PUBLIC CO, LTD (formerly Thai Industrial Gases PLC.)

Making our world more productive



Cooling Water Pump 2.0 Units

Pump Type : Horizontal Split case

Flow : 1,955 m3/hr. Head : 39 meter

Motor rating/Speed : 275 kW / 994 rpm





Customer: INDORAMA PETROCHEM LIMITED RAYONG, THAILAND

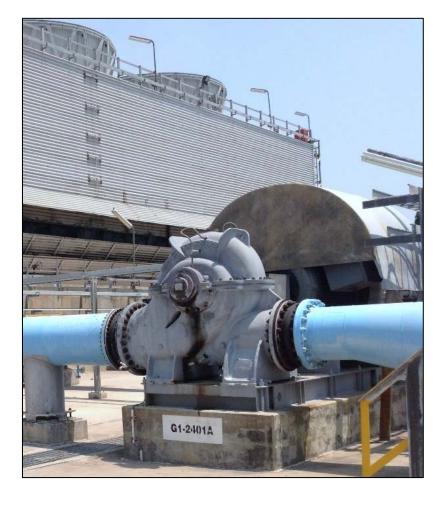
Cooling Water Pump 5.0 Units

Pump Type : Horizontal split case

Flow : 6,000 m3/hr Head : 35 meter

Motor rating/Speed : 950 kW / 746 rpm







Project: 150 MW Glow Power Plant, Map Ta Phut, Rayong (Thailand)

EPC: Doosan Heavy Industries & Const. Co., Ltd, (South Korea)

Customer: Glow Energy Public Co. Ltd (ENGIE)



Circulating Water Pump 2.0 Units

Pump Type : VT Pump (BHM85M)

Flow : 15,000 m3/hr Head : 15 meter

Motor rating/Speed : 875 kW / 490 rpm

Condensate Extraction Pump2.0 Units

Pump Type : VT Canister (BHRc28D)

Flow : 341 m3/hr Head : 200 meters

Motor rating / Speed : 300 kW / 1480 rpm



Project : 3x18 MW Thermal Power Plant, Sangatta (Kalimantan east)

EPC Contractor: PT Punj Lloyds Indonesia

Owner : PT Citra Kusuma Perdana (Indonesia)

Circulating Water Pump 4.0 Units

Pump Type : Horizontal Split Case

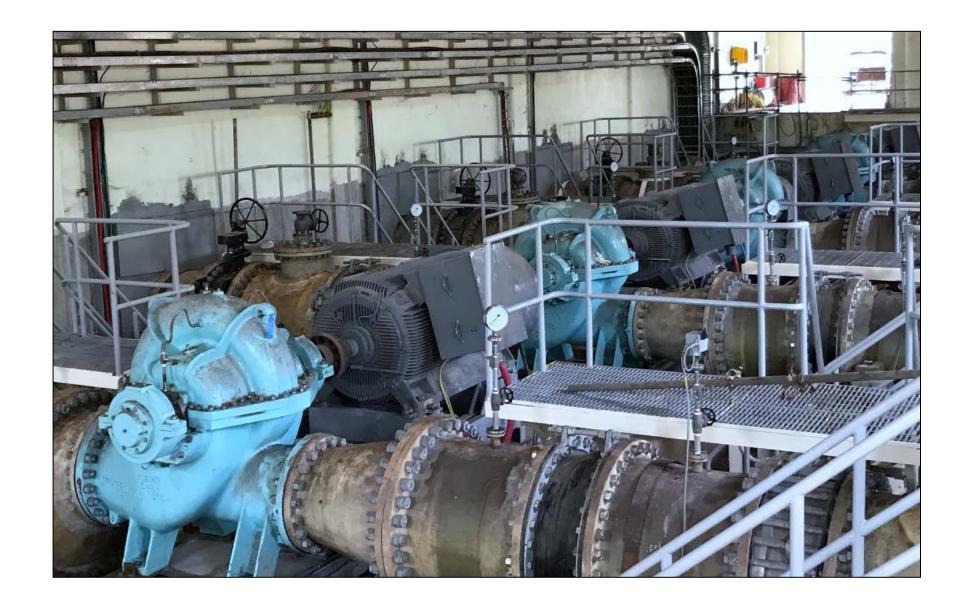
Flow : 4,800 m3/hr
Head : 35 meter
Speed : 980 rpm
Motor rating : 650 kW

Make Up Water Pump 2.0 Units

Pump Type : Vertical Turbine

Flow : 600 m3/hr
Head : 10 meters
Speed : 1,480 rpm
Motor rating : 30 kW

Total Pumps installed in Power plant : 32 Pump sets





Project: Drainage pumping station Ekkamai

Owner: Bangkok Metropolitan Administration (BMA)

Circulating Water Pump 6.0 Units

Pump Type : Vertical turbine type

(special design for under water operation)

Pump model : BHQ50

Motor rating : 130KW, IP67 rating motor

(Special design for under water operation)





Provincial Water Authority - Pattaya







Including subsidiary SPP Pumps Asia



SPP make Horizontal & End Suction Pumps (50 Units) are in operation at **NTS Tata Steel**





Kirloskar makes KPD and SCT Pumps (150Units) are in operation at **Thai Rayon, Angthong.**



Project : MRT PINK & YELLOW LINE PROJECTS in BANGKOK THAILAND

Owner : Mass Rapid Transit Authority of Thailand (MRT)

Turnkey EPC/Client : Sino-Thai Engineering & Construction Public Company Limited



Vertical Turbine pump 108 Units

Pump Type : BHR series

Model Name : BHR 24A

Flow : 750 USGPM

Pressure : 120 to 125 psi

Speed : 1500 rpm

Drive : Electric Motor

Model Name : BHR 21C
Flow : 750 USGPM
Pressure : 120 to 125 psi
Speed : 1760 rpm

Drive : Diesel Engine 98 HP

Horizontal split case 6.0 Units

Pump Type : FR series Flow: 750 – 2,500 USGPM Pressure: 105 to 150 psi

Speed: 3000 rpm / 2100 - 3000 rpm

Drive: Electric Motor 75 – 300 HP /Diesel Engine 83 – 3600 HP





THANK YOU

YOUR SUSTAINABLE PUMPING SOLUTION PARTNERS

Visit us: www.kirloskarthailand.com

Email: ask@kirloskar.co.th

