Enriching Lives

KIRLOSKAR ROMAK PUMP - RMK

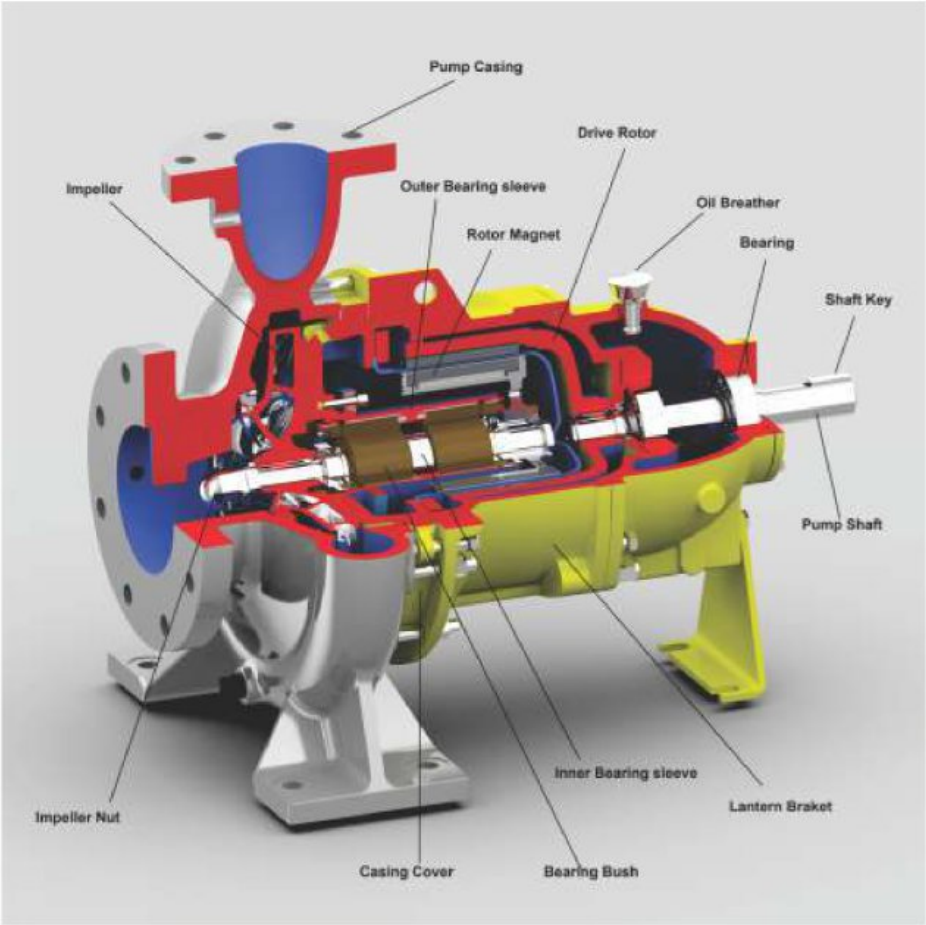
ISO 2858 / DIN EN 22858 / ISO 5199

KIRLOSKAR BROTHERS LIMITED

CE

A Kirloskar Group Company
Established 1888

MAGNETIC DRIVE PUMP TYPE - RMK



RANGE

Discharge capacity (Q)	:	Up to 300 m³/hr
Delivery head (H)	:	Up to 150 m (at 2900 rpm)
Available nominal speed (n)	:	2900, 1450, 980 rpm at 50 Hz and 3500, 1750, 1150 rpm at 60 Hz.
Max. operating pressure (P)	:	16 bar (25 bar) (Max. Suction pressure 5 bar)
Temperature range (t)	:	-50°C up to +180°C
Pump Sizes (DN)	:	32 mm to 100 mm
Total Number of Models	:	22

APPLICATIONS:

- RMK pumps are used for handling various types of Clear / Clean chemical liquids without any suspended particles from various process industries
- RMK pump is Magnetic Drive Pump comprising Permanent magnets.
- Pump dimensions are fully confirming to ISO 2858/DIN EN 22858 and technically meeting requirements of ISO 5199.
- Sealless pump.

DESIGN

Casing:
The casing has axial suction and top centre line delivery with self venting design. Smooth hydraulic passage ensures high efficiency. Delivery flanges and supporting feet are cast integral with the casing.

Impeller:
The impellers are of enclosed type. Hydraulic balancing of impellers is achieved by balancing holes or back vanes depending upon magnitude of hydraulic axial thrust. The impellers are statically and dynamically balanced.

Impeller Shaft:
Impeller shaft is supported between Plain Silicon Carbide bush bearings. The shaft is critically machined and ground to maintain geometric accuracies.

Pump Shaft (Drive Shaft):
Pump shaft is supported between antifriction ball bearings.

Wear Rings:
Replaceable wear rings are provided on Casing and Impeller.

Impeller Nut:
Impeller nut is positively locked on shaft with the help of Helicoil insert.

Plain Bearing Unit:
The Silicon Carbide Bush Bearings are used to take care of Radial and Axial thrust exerted on impeller. Bearing is lubrication with the help of same pumping liquid. These are mounted on Duplex material components as a standard scope.

Inner Magnet Ring & Outer Magnet Ring:
These are permanent magnets glued on steel metallic case.

Can:
Can made of Hastelloy material. Designed to with stand 24 bar hydro test pressure.

Impeller Rotor:
Impeller rotor houses inner magnet rings. After mounting inner magnet rings, Tube is welded to prevent magnet from getting contact of pumping liquid.

Drive rotor:
Drive rotor houses outer magnet rings.

Lantern Bracket and Bearing Housing:
Lantern bracket and Bearing housing combine supports Drive rotor assembly and Drive shaft. Antifriction Ball Bearings are Deep groove ball bearings which are available in 2 options of bearing lubrication
1. Oil lubricated 2. Pre-lubricated sealed bearings

Direction of Rotation:
Clockwise when viewed from driving end.

Drive:
Pumps can be driven by an electric motor.

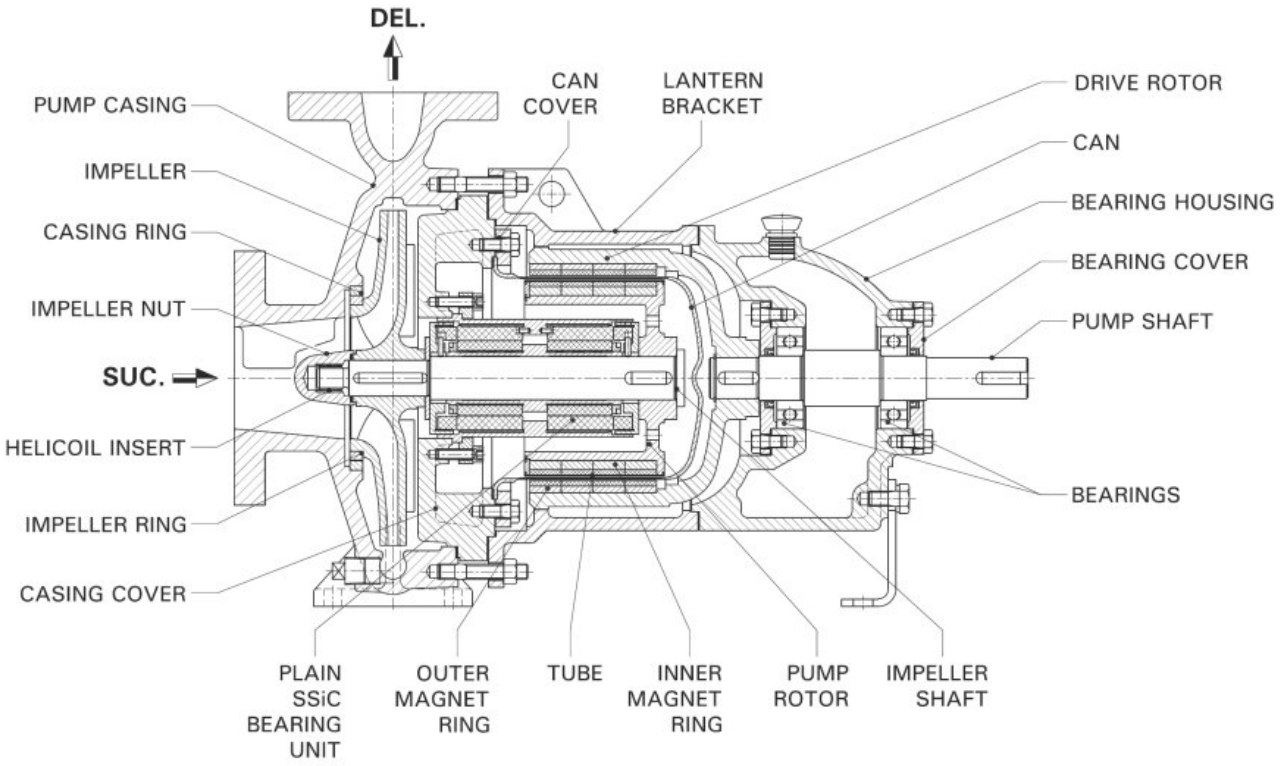
CONSTRUCTIONAL FEATURES

1. Centerline delivery with self venting
2. Back pullout type design
3. Designed for suction pressure 5 kg/cm^2
4. Flange drilling : ASME B 16.5 class 150 RF (std) and class 300 RF optional PN 16 and PN 25 as per DIN standard optional
5. Auxiliary tapping : NPT
6. Coupling : Flexible jaw type spacer coupling
7. Performance testing standard : ISO 9906 Gr.2B
8. Interchangeability of components among different pump sizes

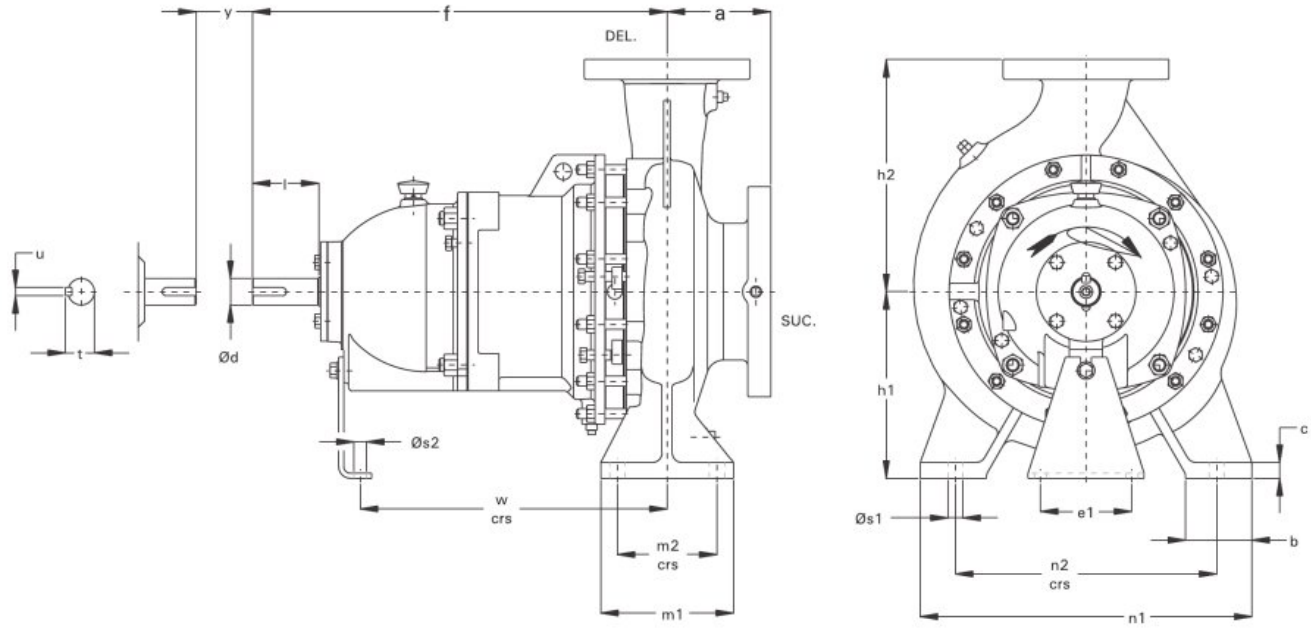
Features With Respect To Safety And Condition Monitoring

? Zero leakage
? One-piece Hastelloy C Can for Safety
? Liquid protected Magnets for longer performance.
? Lantern bracket drain connection for Leakage monitor
? Lantern bracket / Casing cover connection for Can / Liquid temperature monitor (Optional)

CROSS-SECTION WITH MAJOR COMPONENTS



GENERAL OUTLINE DIMENSIONS OF ROMAK PUMP



PUMP SIZE	PUMP UNIT	PUMP DIMENSIONS						FOOT DIMENSIONS										SHAFT END				
		DEL	SUC	a	f	h1	h2	b	c	m1	m2	n1	n2	w	Øs1	Øs2	e1	Ød	l	t	u	y
32/13	5.1	32	50	80	385	112	140	50	14	100	70	190	140	285	14	15	110	24	50	27	8	100
32/16	5.2					132	160					240	190									
32/20	5.3					160	180															
40/13	5.1	40	65			112	140					210	160									
40/16	5.2					132	160					240	190									
40/20	5.3			100		160	180					265	212									
50/13	5.1	50	80			132	160					240	190									
50/16	5.2					160	180					265	212									
50/20	5.3					160	200															
65/13	5.1	65	100			160	180	65		125	95	280	212									
32/26	7.3	32	50	100	500	180	225	65	14	125	95	320	250	370	14	15	110	32	80	35	10	140
40/26	7.3	40	65																			
40/32	7.4			125		200	250					345	280									
50/26	7.3	50	80	125		180	225					320	250									
50/32	7.4					225	280					345	280									
65/16	7.1	65	100	100		160	200					280	212									
65/20	7.2					180	225					320	250									
65/26	7.3			125		200	250	80	16	160	120	360	280		18							
80/16	7.1	80	125			180	225	65	14	125	95	320	250		14							
80/20	7.2						250					345	280									
80/26	7.3					225	280	80	16	160	120	400	315		18							
100/20	7.2	100	125			200	280					360	280									

Note: These are tentative dimensions. Certified dimensions shall be submitted against order.

MATERIALS

MATERIAL OF CONSTRUCTION

Component Description	Standard MOC	Option 1	Option 2	Option 3	Option 4	Option 5
Pump Casing	Stainless Steel ASTM A351 M - CF8M	ASTM-A890/890M CD4MCuN-1B Duplex	ASTM-A890/890M-CE3MN-5A Super Duplex (UNS 32760)	Alloy 20 ASTM B473 UNS8020-ALLOY20	ASTM A494 - Hastelloy B	ASTM A494 - Hastelloy C
Casing Cover	Stainless Steel ASTM A351 M - CF8M					
Wear Ring	Stainless Steel ASTM A351 M - CF8M					
Impeller Shaft	Stainless Steel ASTM A276 Type 316 and 316L	Duplex ASTM A240M -UNS S31803	ASTM-A276 UNS 32760 (UNS 32760)	Alloy 20 ASTM B473 UNS8020-ALLOY20	MONEL BS3076-NA18 (K-Monel 500)	
Plain Bearings	Silicon Carbide					
Magnets	Samarium Cobalt					
Can	Hastelloy C4					
Pump Shaft	Stainless Steel ASTM A276 Type 316 and 316L					

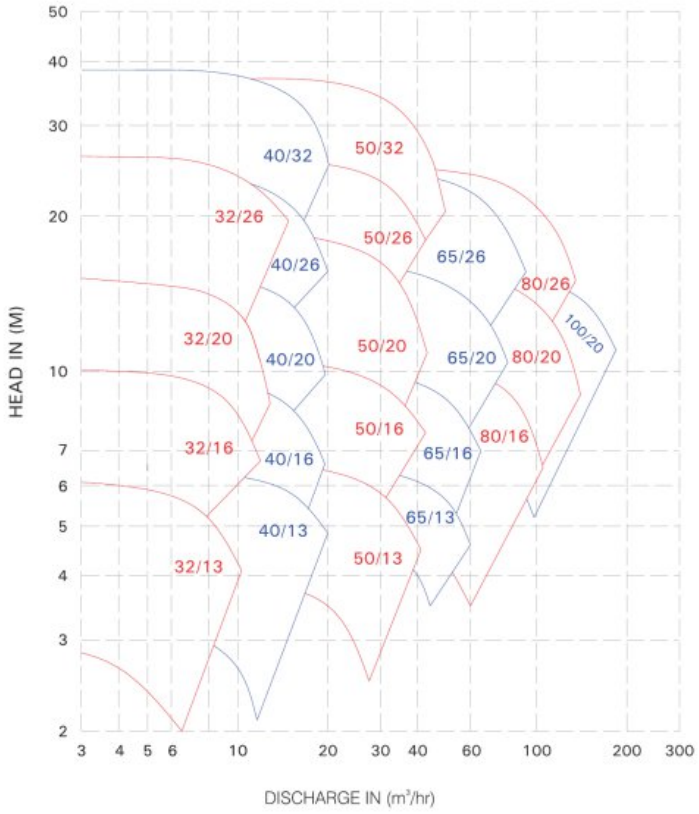
MATERIAL STANDARDS - GENERAL INFORMATION

Material Type	Indian Standard (IS)	American standard (ASTM)	DIN
Cast Iron			
Cast Iron	IS 210 Gr. FG 260	ASTM A48 Class 40	(0.6025)DIN 1691 GG25
Spheroidal Graphite Cast Iron			
SG Iron (Ductile Iron)	IS 1865 Gr 400/15	A536, 60-40-18	(0.7040)DIN1693 GGG40
SG Iron (Ductile Iron)	IS 1865 Gr 500/7	A536, 65-45-12	(0.7050)DIN1693 GGG50
Carbon steel			
Carbon steel (Wrought)	IS 1570 (part II) Gr. 40C8	ASTM A107 Gr. 1040	(1.1186)C40E/CK40
Carbon steel (Wrought)	IS 1570 (part II) Gr. 20C8	ASTM A107 Gr. 1020	(1.0402)C22
MS Steel	MS IS 2062 - Fe 410 W A	ASTM-A283 GR.D	DIN 1700 GR ST4-2 FABRICATED STEEL44
Cast Steel Grades			
Cast steel		ASTMA 216 Gr. WCB	1.0619(GS-C25)
Cast Stainless Steel			
Stainless Steel CF8M	IS 3444 Gr. 4	ASTMA 351 Gr. CF8M	1.4408(GX5CrNiMo19-11-2)
Stainless Steel CF8M	IS 3444 Gr. 4	ASTMA 743 Gr. CF8M	1.4408(GX5CrNiMo19-11-2)
Stainless Steel CF3M	IS 3444 Gr. 16	ASTMA 351 Gr. CF3M	1.4409(GX2CrNiMo19-11-2)
Stainless Steel CF3M	IS 3444 Gr. 16	ASTMA 743 Gr. CF3M	1.4409(GX2CrNiMo19-11-2)
Stainless Steel CF8	IS 3444 Gr. 1	ASTMA 351 Gr. CF8	1.4301(X5CrNi18-10)
Stainless Steel CF3	IS 3444 Gr. 15	ASTMA 351 Gr. CF3	1.4306(X2CrNi19 11)
Cast Chromium StainlessSteel			
Stainless Steel CA15	IS 3444 Gr. 10	ASTMA 217 Gr. CA15	1.4106&1.448(DIN17445 GX12Cr14)
Stainless Steel CA15	IS 3444 Gr. 10	ASTMA 743 Gr. CA15	1.4106&1.448(DIN17445 GX12Cr14)
Stainless Steel CA6NM	IS 3444 Gr. 24	ASTMA 487 Gr. CA6NM	1.4313&1.4317(GX5CrNiMo13-4)
Stainless Steel CA6NM	IS 3444 Gr. 24	ASTMA 743 Gr. CA6NM	1.4313&1.4317(GX5CrNiMo13-4)
Chromium StainlessSteel Round Bar Matterial			
Stainless steel 410	IS 1570 (part V) Gr. X12Cr12	ASTMA 276 type 410	1.4006(X10Cr13)
Stainless steel 420	IS 1570 (part V) Gr. X20Cr13	ASTMA 276 type 420	1.4021(X20Cr13)
Stainless steel 431	IS 1570 (part V) Gr. X15Cr16Ni2	ASTMA 276 type 431	1.4057(X20CrNi17)
Stainless steel 316	IS 1570 (part V) Gr. X04Cr17Ni12Mo2	ASTMA 276 type 316	1.4401(X5CrNiMo17122)
Stainless steel 316L	IS 1570 (part V) Gr. X02Cr17Ni12Mo2	ASTMA 276 type316L	1.4404(X2CrNiMo1810)
Cast Duplex Steel			
Duplex Steel 1A		ASTMA 890 Gr. CD4MCu	25Cr-5Ni-Mo-Cu
Duplex Steel 2A		ASTMA 890 Gr. CE8MN	24Cr-10Ni-Mo-N
Duplex Steel 3A		ASTMA 890 Gr. CD6MN	25Cr-5Ni-Mo-N
Super Duplex steel 4A		ASTMA 890 Gr. CD3MN	25Cr-7Ni-Mo-N
Super Duplex steel 5A		ASTMA 890 Gr. CE3MN	24Cr-10Ni-Mo-N
Non Ferious Materials			

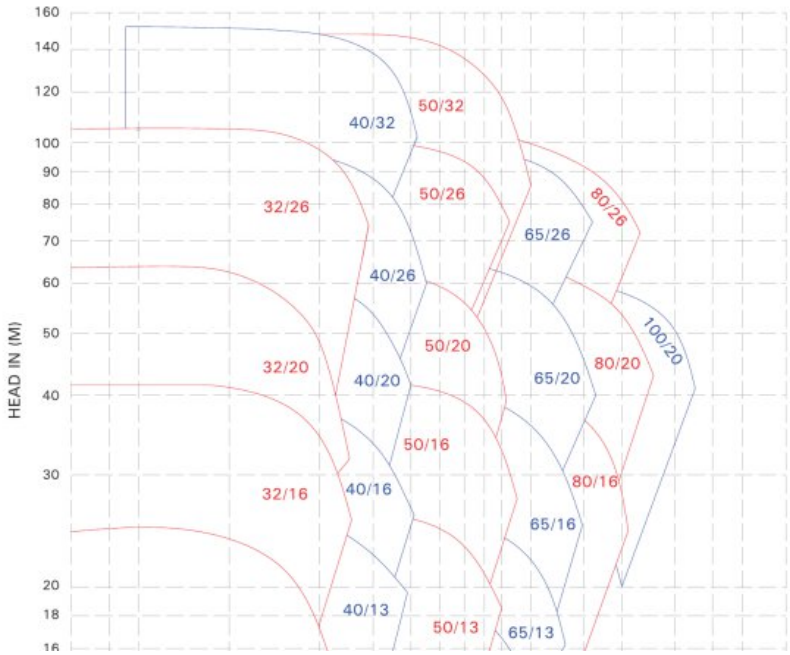
Bronze	IS 318 Gr. LTB2 (CuSn5Zn5Pb5C)	ASTMB 584 - C90500	DIN 1705 Rg 5
Phosphor Bronze	IS 28 Gr. 1 (CuSn11PC)		
Zinc Free Bornze	IS 28 Gr. 1 (CuSn10C)		

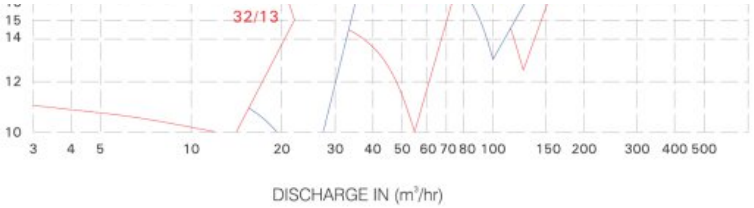
FAMILY CURVES

RMK PUMPS FAMILY CURVE AT 1450 RPM



RMK PUMPS FAMILY CURVE AT 2900 RPM




32/13
15
14
12
10
3
4
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10
20
30
40
50
60
70
80
100
150
200
300
400
500
DISCHARGE IN (m³/hr)

ABOUT KBL

Kirloskar Brothers Limited (KBL) is a world class pump manufacturing company with expertise in engineering and manufacture of systems for fluid management. Established in 1888 and incorporated in 1920, KBL is the flagship company of the $ 2.1 billion Kirloskar Group. KBL, a market leader, provides complete fluid management solutions for large infrastructure projects in the areas of water supply, power plants, irrigation, oil & gas and marine & defence. We engineer and manufacture industrial, agriculture and domestic pumps, valves and hydro turbines.

In 2003, KBL acquired SPP Pumps, United Kingdom and established SPP INC, Atlanta, USA, as a wholly owned subsidiary of SPP, UK to expand its international presence. In 2007, Kirloskar Brothers International B.V., The Netherlands and Kirloskar Brothers (Thailand) Ltd., a wholly owned subsidiary in Thailand, were incorporated. In 2008, KBL incorporated Kirloskar Brothers Europe B.V. (Kirloskar Pompen B.V. since June 2014), a joint venture between Kirloskar International B.V. and Industrial Pump Group, The Netherlands. In 2010, KBL further consolidated its global position by acquiring Braybar Pumps, South Africa. SPP MENA was established in Egypt in 2012. In 2014, KBL acquired SyncroFlo Inc., the largest independent fabricator of commercial and municipal domestic water booster pumps.

To further strengthen its global position, in 2015, Kirloskar Pompen B.V. acquired Rodelta Pumps International, The Netherlands.

KBL has joint venture cooperation with Ebara, Japan since 1988 for the manufacture of API 610 standard pumps. Kirloskar Corrocoat Private Limited is a joint venture cooperation with Corrocoat, UK since 2006. KBL acquired The Kolhapur Steel Limited in 2007 and Hematic Motors in 2010.

KBL has eight manufacturing facilities in India at Kirloskarvadi, Dewas, Kondhapuri, Shirwal, Sanand, Kaniyur, Kolhapur and Karad. In addition, KBL has global manufacturing and packaging facilities in Egypt, South Africa, Thailand, The Netherlands, United Arab Emirates, United Kingdom and United States of America. KBL has 12,700 channel partners in India and 80 overseas and is supported by best-in-class network of Authorised Centres and Authorised Refurbishment Centres across the country.

All the manufacturing facilities at KBL are certified for ISO 9001, ISO 14001, ISO 50001, BS OHSAS 18001 and SA8000. In addition, the Kirloskarvadi plant is also certified for N & NPT Stamp. KBL's corporate office in Pune is certified for ISO 9001 & Sa8000.

The factories deploy Total Quality Management tools using European Foundation for Quality Management (EFQM) model.
The Kirloskarvadi plant of KBL is a state-of-the-art integrated manufacturing facility having Asia's largest hydraulic research centre with testing facility upto 5000 kW and 50,000 m^3/hr.

KBL is the ninth pump manufacturing company in the world to be accredited with the N and NPT certification by American Society of Mechanical Engineers (ASME).

Pumps | Valves | Hydro Turbines | Turnkey Projects

Water Resource Management | Irrigation | Power | Industry | Oil & Gas | Marine & Defence | Building & Construction| | Distribution (Small Pumps) | Valves | Customer Service & Spares

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KIRLOSKAR BROTHERS LIMITED

A Kirloskar Group Company
Established 1888

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OUR COMPANIES

United Kingdom	U.S.A.	South Africa	India	The Netherlands