



Enriching Lives

MULTISTAGE DIFFUSER PUMP - RKBx



KIRLOSKAR BROTHERS LIMITED

Established 1888

A Kirloskar Group Company

ABOUT KBL

Kirloskar Brothers Limited (KBL) is a world-class Valve & 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 Valve & 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 140-year-old leading pumps 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.

Pumps | Valves | Hydro Turbines | Turnkey Projects

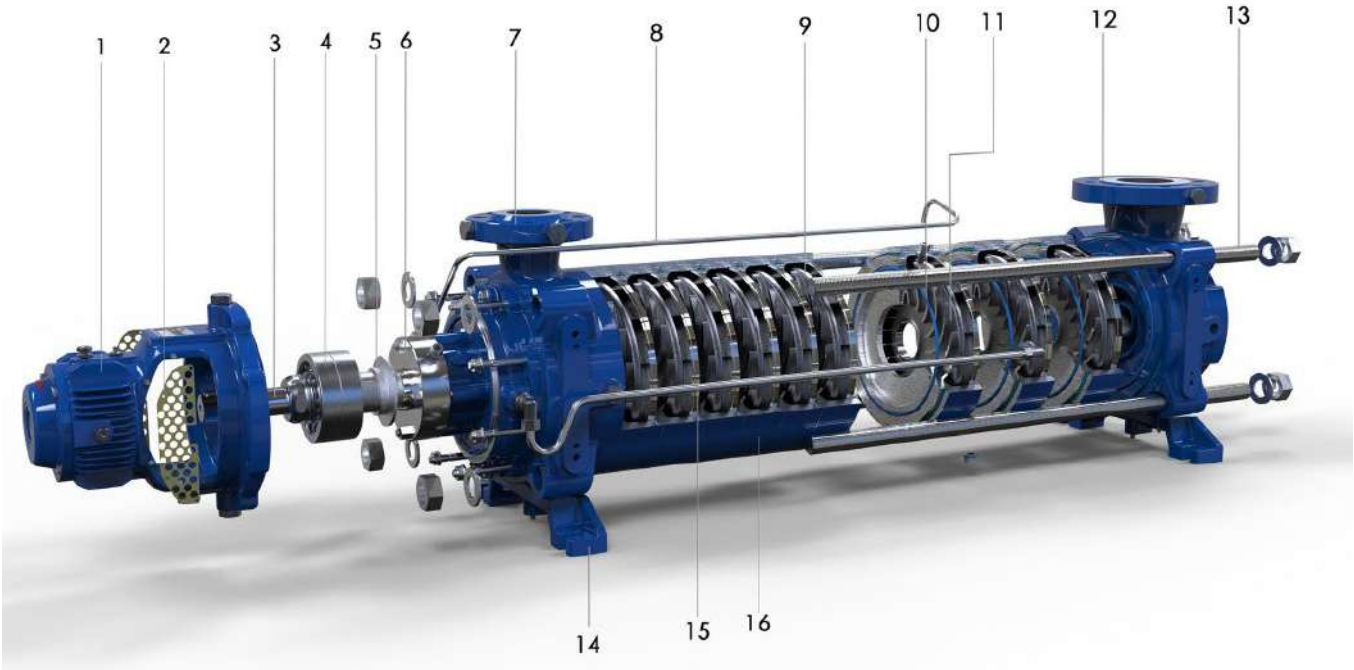
Water Resource Management | Irrigation | Power | Industry | Oil & Gas | Marine & Defence | Building & Construction | Distribution (Small Pumps) | Valves | Customer Service & Spares



Global Headquarter:
"Yamuna", Baner, Pune.



EXPLODED VIEW:



MAJOR COMPONENTS:

| | | | |
|----------------------------|--------------------|-------------------|--------------------------|
| 1 Bearing Housing | 5 Deflector | 9 Impeller | 13 Tie Rods |
| 2 Protection Guard | 6 Mechanical Seal | 10 O-ring | 14 Pump Foot |
| 3 Pump Shaft | 7 Discharge casing | 11 Diffuser | 15 Balancing Line |
| 4 Angular Contact Bearings | 8 Flush Line | 12 Suction Casing | 16 Return Channel Casing |

RANGE AND APPLICATION:

Specifications / Range:

- Discharge flange sizes: 50 mm and 65 mm
- Axial suction flange sizes: 100mm and 125 mm
- Flow rates up to 92 m³/hr at 50 Hz (3000 rpm)
110 m³/hr at 60 Hz (3600 rpm)
- Head up to 1000 m (50 Hz and 60 Hz)
- Efficiencies up to 80%
- Suitable for liquids up to 150° C (with cooling)
- Uncooled design up to 120° C (without cooling)

Typical applications:

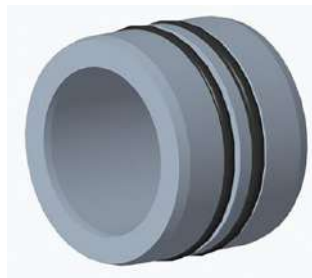
- Boiler feed pump for green energy plants
- Renewable energy
- Fossil power stations
- Biomass
- Geothermal
- Industrial high pressure-temperature water

FEATURES:

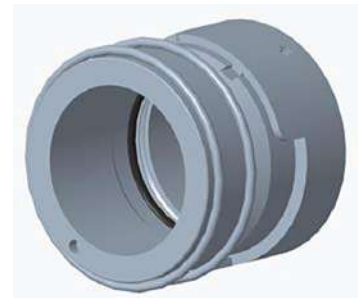
- Pump with optimum efficiency design.
- Design compliant with the ISO 5199 standard.
- Suction flange : ANSI B16.5 class 150 / 300 # (other flange ratings optional)
- Discharge flange : ANSI B16.5 class 600 / 900 # (other flange ratings optional)
- Axial suction flange and radial discharge flange as standard scope.
- Flexible discharge nozzle position. It can be oriented in any 90° positions.
- Impeller: First stage impeller designed for low NPSH. Rest stage impellers designed to have good efficiencies over operating range.
- Diffuser: Diffuser design reduces minimum radial loads and minimum flow requirements.
- Hardened interstage bush for the diffuser option.
- Casings are sealed with O-rings.
- Hardened wear ring for the stage and suction casing option.
- Grease lubricated angular contact thrust bearings at driving end.
- Medium lubricated carbon graphite suction and intermediate radial sleeve bearings.
- Bearing bracket – Modular design with VMS and BRTD provisions.
- Sealing:- standard: mechanical pusher seal, optional: cartridge or packed gland
- Self-regulating balancing system hydraulically compensate axial thrust and controls the balancing water rate.
- Design suitable for axial displacement due to thermal expansion.
- Direction of rotation clockwise viewed from driving end.



Diffuser

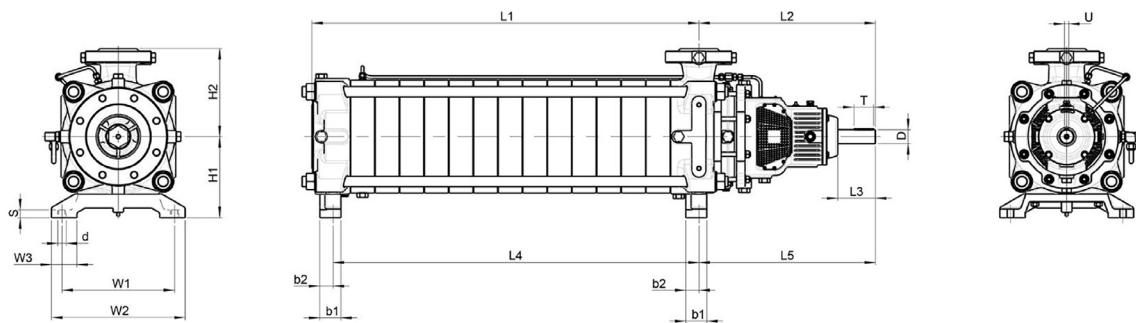


Sleeve bearing



Pusher seal

DIMENSIONS AXIAL SUCTION PUMP:



| Size | | DN ₁ | DN ₂ | L ₂ | L ₃ | L ₅ | H ₁ | H ₂ | W ₁ | W ₂ | W ₃ | b ₁ | b ₁ | s | d | D | t | U |
|---------|----|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----|----|----|----|
| RKBX-50 | mm | 100 | 50 | 501.5 | 107 | 501 | 215 | 220 | 320 | 380 | 72.5 | 60 | 38 | 25 | 18 | 40 | 43 | 12 |
| RKBX-65 | mm | 125 | 65 | 501.5 | 107 | 501 | 230 | 250 | 320 | 380 | 72.5 | 60 | 38 | 25 | 18 | 40 | 43 | 12 |

| Size | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---------|----------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|------|------|
| RKBX-50 | L ₁ | mm | 240 | 295 | 350 | 405 | 460 | 515 | 570 | 625 | 680 | 735 | 790 | 845 | 900 | 955 | 1010 | 1065 | 1120 |
| | L ₄ | mm | 175 | 230 | 285 | 340 | 395 | 450 | 505 | 560 | 615 | 670 | 725 | 780 | 835 | 890 | 945 | 1000 | 1055 |
| | W | kg | 206 | 226 | 245 | 264 | 283 | 302 | 321 | 343 | 362 | 381 | 398 | 417 | 436 | 456 | 475 | 494 | 513 |
| RKBX-65 | L ₁ | mm | 260 | 330 | 400 | 470 | 540 | 610 | 680 | 750 | 820 | 890 | 960 | 1030 | 1100 | | | | |
| | L ₄ | mm | 200 | 270 | 340 | 410 | 480 | 550 | 620 | 690 | 760 | 830 | 900 | 970 | 1040 | | | | |
| | W | kg | 234 | 263 | 293 | 322 | 352 | 381 | 411 | 444 | 471 | 500 | 530 | 559 | 589 | | | | |

FLANGE DRILLING STANDARD:

- **Suction flange:** ANSI B16.5 class 150 / 300 # (other flange ratings optional)
- **Discharge flange:** ANSI B16.5 class 600 / 900 # (other flange ratings optional)

NOZZLE POSITIONS:

Axial Suction



Axial

Radial Discharge



Radial Left

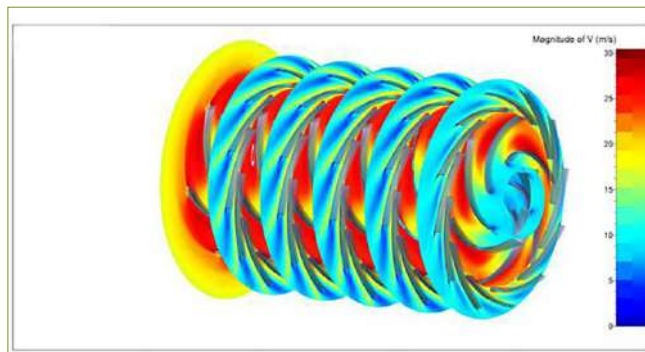


Radial Top



Radial Right

HYDRAULICALLY OPTIMUM DESIGN:



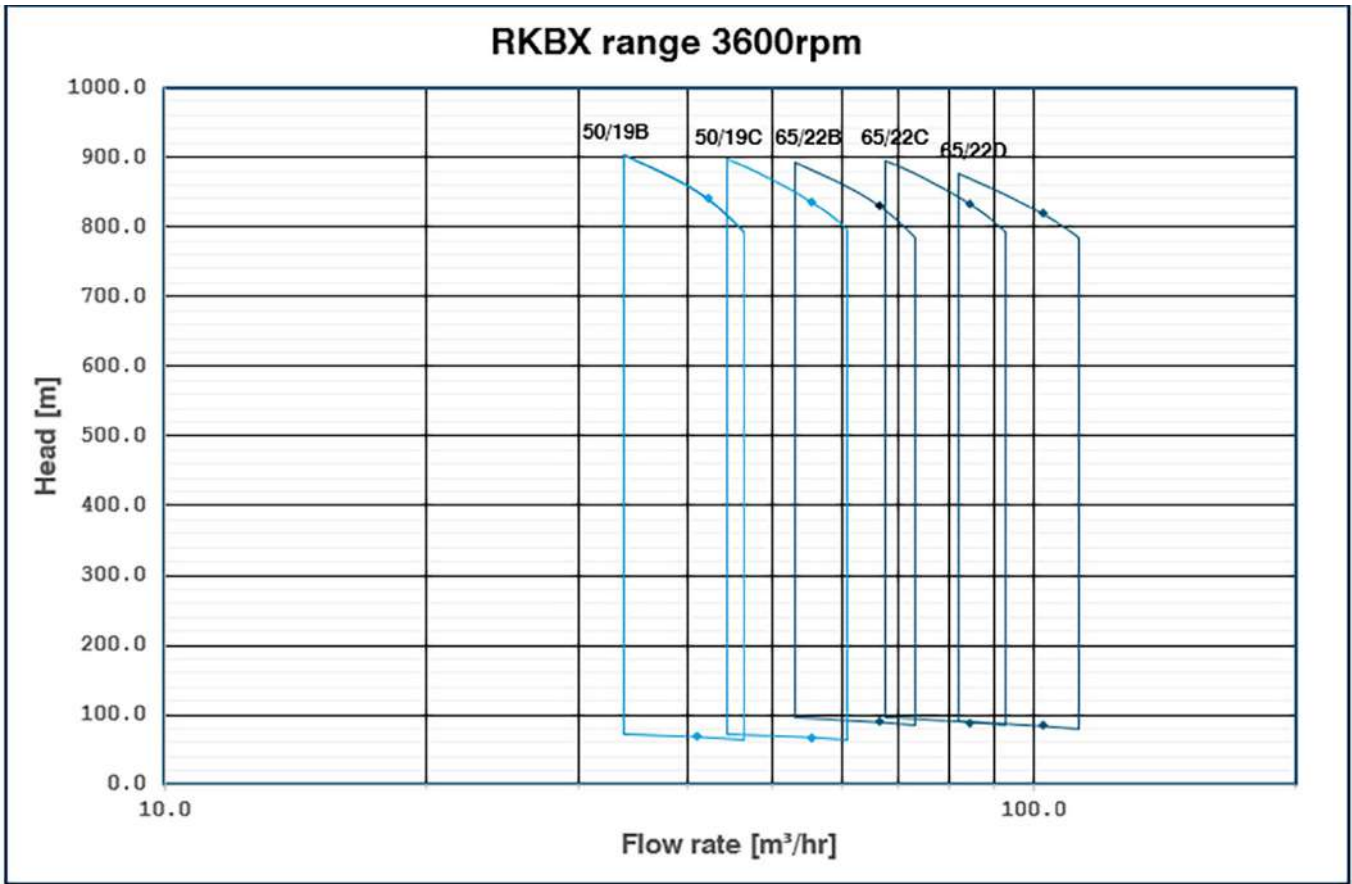
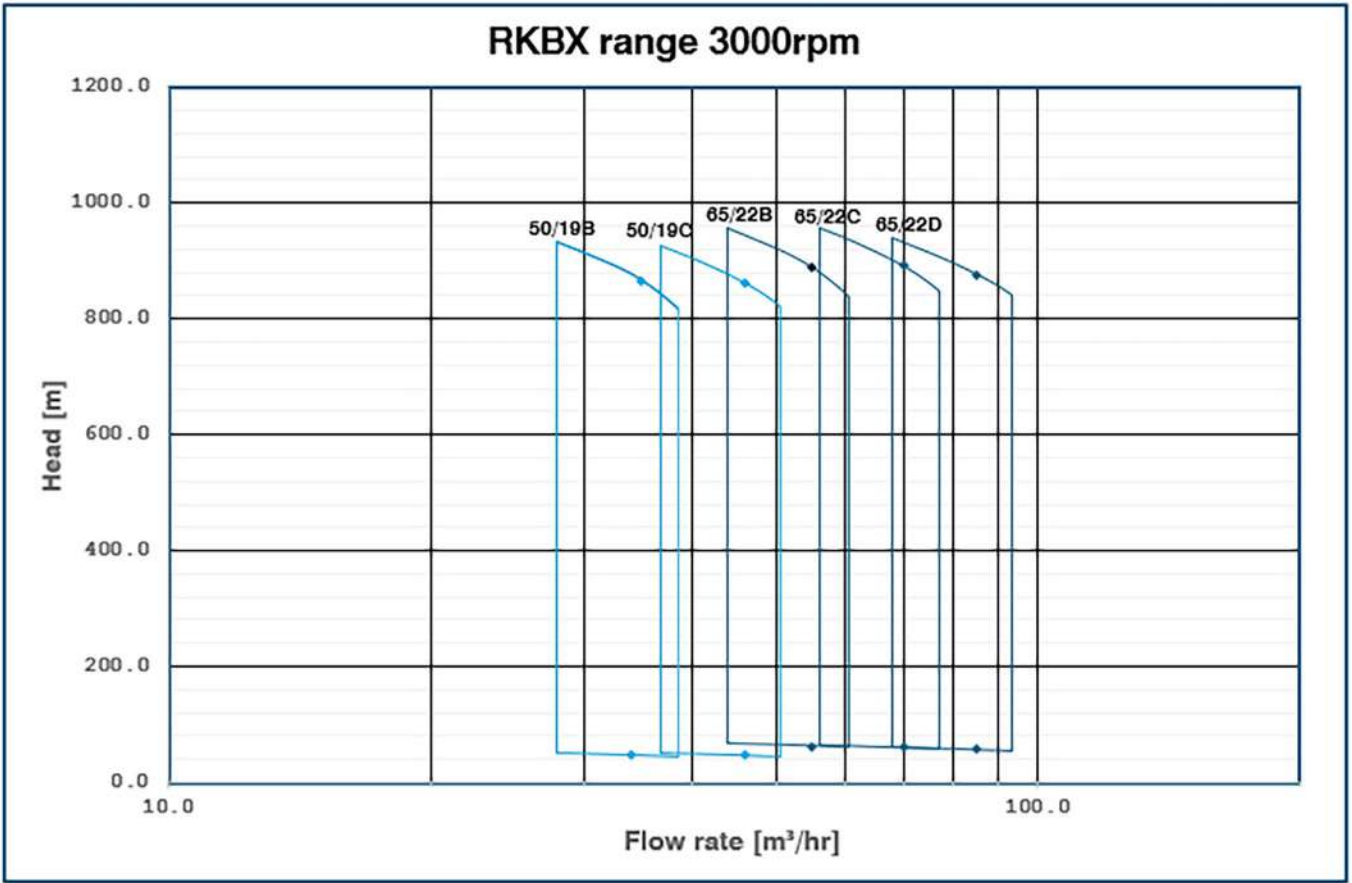
RKBx is the product developed by KBL incorporating the latest technological advancements. This innovative design not only ensures more efficient inflow but also contributes to the pump's optimal performance. Additionally, the RKBx casing & impeller have been fully optimized using specialized Computational Fluid Dynamics (CFD) tool.

| Standard accessories | Other accessories |
|---|---|
| <ul style="list-style-type: none">• Motor• Rigid Baseplate• Coupling• Coupling Guard• Provision for VMS & RTD | <ul style="list-style-type: none">• Pressure gauges• Temperature gauge• Auto recirculation valve• Conical strainer |

MAIN MATERIALS OF CONSTRUCTION:

| Suction casing, Discharge casing, Stage casing | Impeller, Diffuser | Shaft |
|--|--------------------------|----------------------------|
| ASTMA 216/216 M WCB ASTMA743/743M CA6NM | ASTMA 216/216 M WCB | ASTMA-276-410 (H&T) COND H |
| | ASTMA743/743M CA6NM | |
| | ST ST ASTMA351/351M-CF8M | |

FAMILY CURVES:



NOTES



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KIRLOSKAR BROTHERS LIMITED

Established 1888

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REGISTERED OFFICE & GLOBAL HEADQUARTERS

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For Business Inquiry, E-mail us at care@kbl.co.in

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