



Enriching Lives

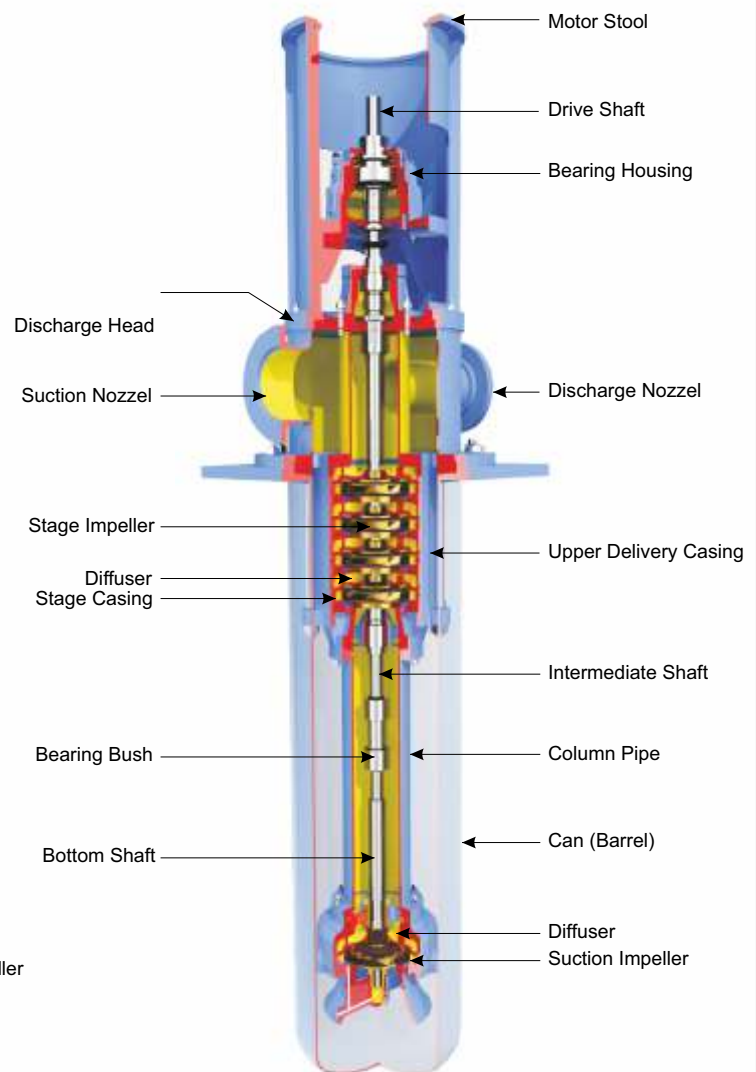
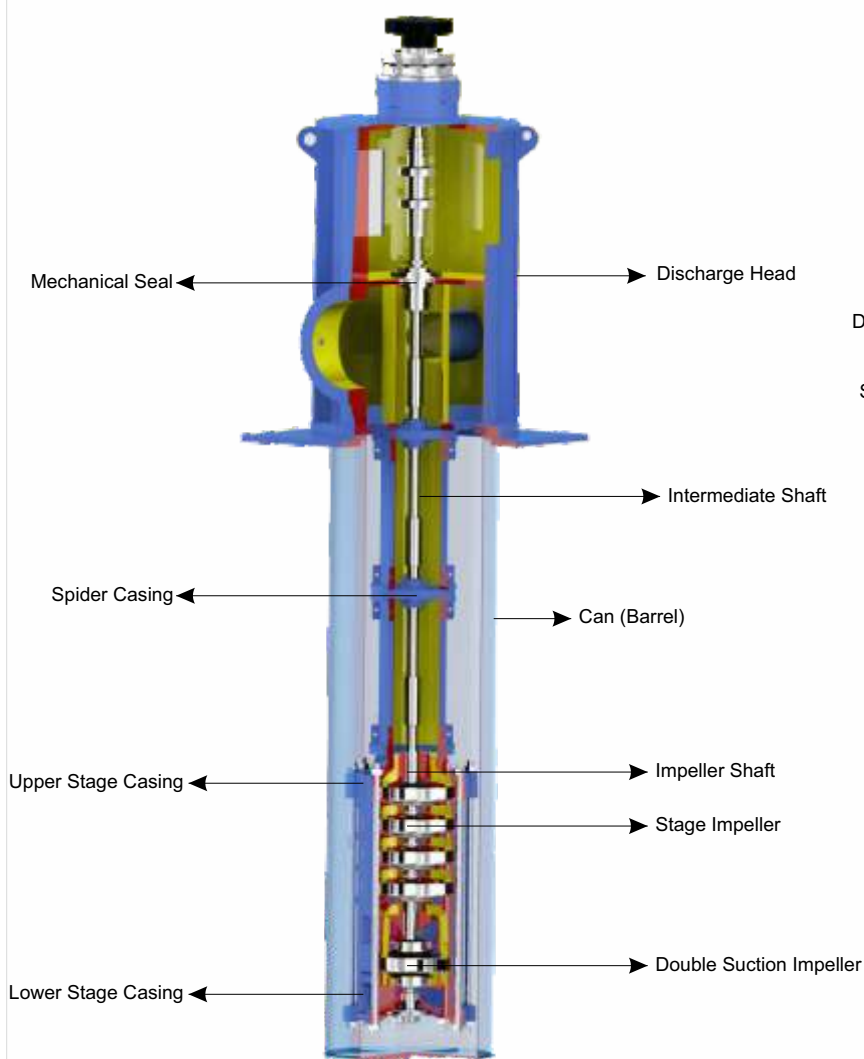


CONDENSATE EXTRACTION PUMPS

BHRC / RKBCV

KIRLOSKAR BROTHERS LIMITED

A Kirloskar Group Company



RANGE

Delivery size : Up to 500mm
 Capacity : 10m³/hr to 2200m³/hr
 Head : 3m to 380m
 Speed : 1800 rpm

Suitable for liquid Temperature : Up to 120°C
 Depending on Pump size

Sealing Arrangement :
 Gland packing or with mechanical seals

Flanges Drilling Standard:
 Flanges can be as per DIN, ISO or
 as per ASME standard

APPLICATIONS

Handling Steam Condensate in various power Plant,
 Handling Steam Condensate in industrial plant

FEATURES

Design

Vertical Can (Barrel) - type ring-section pump. Suction & stage Impellers are radial flow type design. Pump can be single or multistage. Pump can be either with Single or Double Suction Impeller to have lower NPSHR

- ✍ Pumps with axial thrust balancing arrangement.
- ✍ Pumps are with antifriction type axial thrust bearings with oil sump lubrication / grease lubrication.
- ✍ Pumps are with segmental pad type thrust and plain radial bearings with oil sump lubrication.
- ✍ Pumps are with Can (Barrel) for standard pump suction and discharge nozzle with above the ground floor for special arrangement suction nozzle can be below the installation floor as per the site layout.
- ✍ Pumps supplied with cardan shaft/flexible tubular shafts as an option.
- ✍ Pumps provided with reverse rotation protection device.
- ✍ Hydraulic design constantly being updated through our research and development work to meet high efficiency and low NPSHR requirements.

Diffuser

A diffuser with integral cast vanes.

Suction Bell/Bell Mouth

Designed for smooth inflow of condensate with minimum entry losses.

Shaft

Made of high tensile strength steel or chrome steel, In the shaft seal area the shaft is provided with a replaceable shaft sleeve.

Column Pipe

Fabricated column pipes to house the line shaft bearings and direct the condensate from pump unit to the discharge head.

Transmission Bearings

Cutless bearings are of natural rubber / Synthetic rubber / Elastomeric with outer shell of brass or suitable material. Carbon filled Teflon bearings or carbon with outer steel shell can also be provided.

Axial Thrust Bearings

Tilting pad type or anti-friction type to absorb residual hydraulic axial thrust and weight of rotor assembly. Bearing lubrication with either oil or grease. Thrust bearing arrangement available either independently in pump and in motor or combined in motor.

Nozzle position

Suction and Discharge nozzle horizontal, above the installation floor. If required suction nozzle can be below the floor level.

Can (Outer Shell)

Fabricated 'Can' made out of steel is connected to the discharge head. Length of the 'Can' depends upon the NPSHA at site.

Non-Reverse Ratchet

Non reverse ratchet (optional) to prevent the reverse rotation.

Motor Stool

Rigid construction to ensure vibration-free operation.

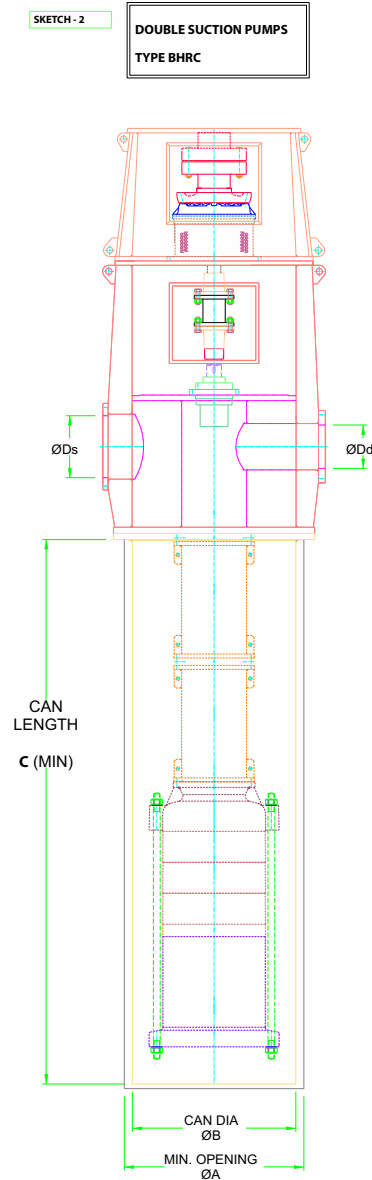
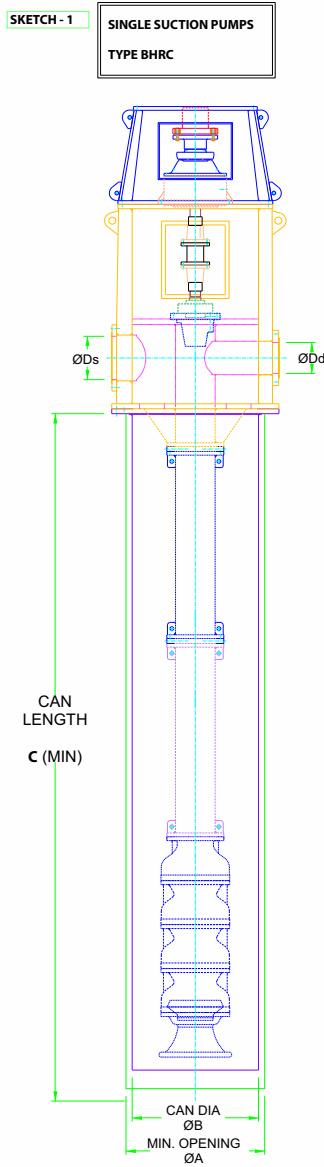
Coupling

For pump and prime mover flexible or rigid type as per requirement. For line shaft threaded or muff type as per requirement.

Drive

Electric motor with vertical solid shaft as standard arrangement. Alternative thrust bearing housed in the motor. The motor is arranged on motor stool above the pump. Drive can be turbine as per requirement.

GENERAL DIMENSIONS



UTABLE - 1

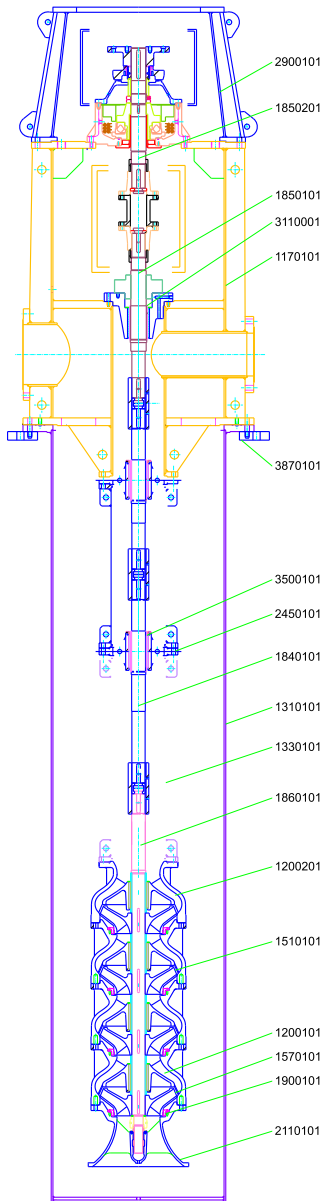
DIMENSION FOR DOUBLE SUCTION PUMPS						
Pump Type	Min Opening ØA	CAN Diameter ØB	CAN Length		Suction Size ØDs	Delivery Size ØDd
			C-Max	C-Min		
BHRC28M	750	650	*5000	2000	200/250	150/200
BHRC28D	1000	900	*5000	2000	300/350	250/200
BHRC35S	1000	900	*6000	2000	300/350	250/200
BHRC42S	1200	1000	*6000	3000	400/500	350/300
BHRC7	1400	1300	*6000	3000	500/600	350/400
MNCV 37-20	1000	850	*6000	1000	300	200

UTABLE - 2

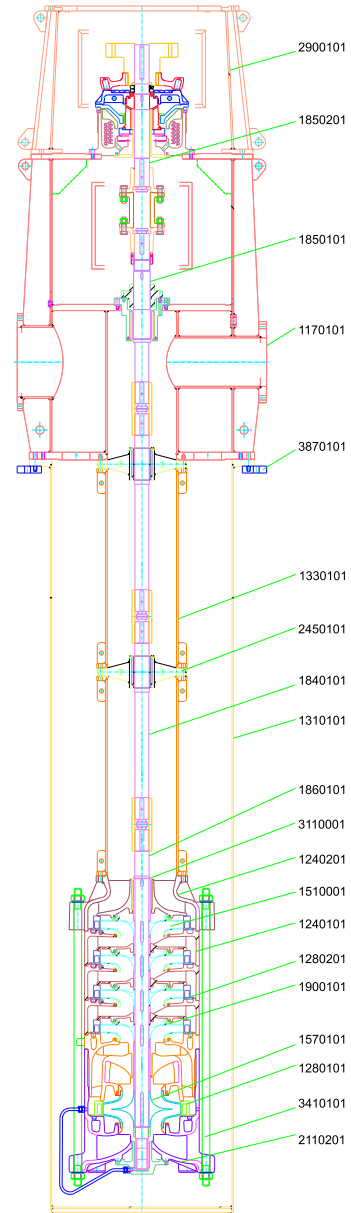
DIMENSION FOR SINGLE SUCTION PUMPS						
Pump Type	Min Opening ØA	CAN Diameter ØB	CAN Length		Suction Size ØDs	Delivery Size ØDd
			C-Max	C-Min		
BHRC28	1000	800	*5000	2000	300/250	250/200
BHRC35	1000	800	*5000	2000	300/350	250/200
BHRC42	1200	1000	*6000	2500	400/500	350/250

CROSS SECTIONAL DRAWING

SKETCH - 3
SINGLE SUCTION PUMP
TYPE BHRC



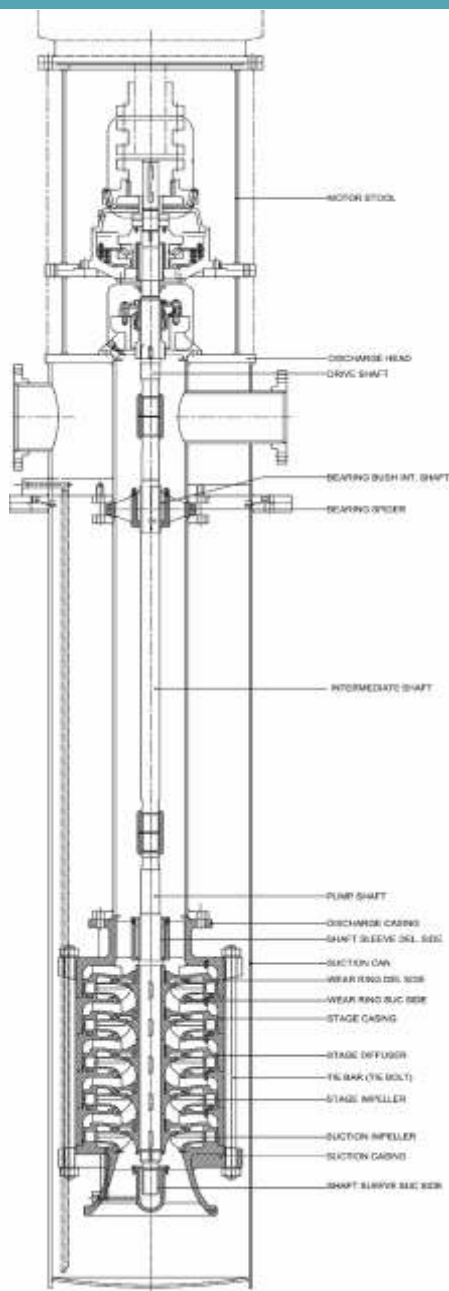
SKETCH - 4
DOUBLE SUCTION PUMP
TYPE BHRC



MATERIAL OF CONSTRUCTION FOR CONDENSATE PUMP

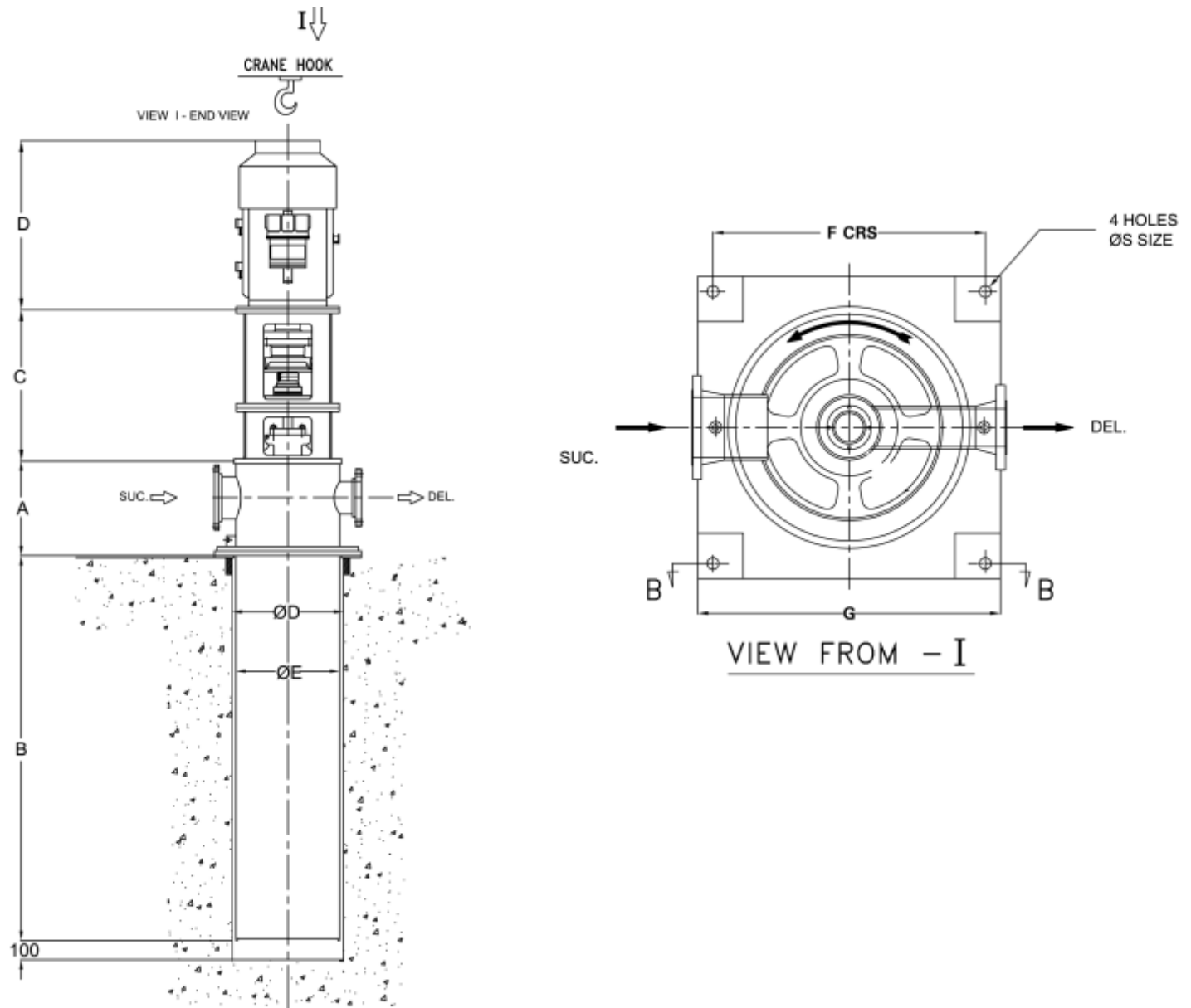
PART NO.	DESCRIPTION	MATERIAL SPECIFICATION		
		CAST STEEL	CAST IRON	BRONZE
1070101	DISCHARGE CASING	CAST STEEL		
1170101	DISCHARGE HEAD	CARBON STEEL		
1310101	CAN	CARBON STEEL		
1330101	COLUMN PIPE	CARBON STEEL		
1200101	PUMP BOWL	CAST STEEL	CAST IRON	
1240101	STAGE CASING	CAST STEEL		
1240201	UPPER STAGE CASING	CAST STEEL		
1280101	SUCTION DIFFUSER	CAST STEEL	CAST IRON	
1280201	STAGE DIFFUSER	CAST STEEL	CAST IRON	
1570101	SUCTION IMPELLER	CHROMIUM STEEL	CAST IRON	BRONZE
1510101	STAGE IMPELLER	CHROMIUM STEEL	CAST IRON	BRONZE
1840101	INTERMEDIATE SHAFT	CHROMIUM STEEL		
1850101	HEAD SHAFT / DRIVE SHAFT	CHROMIUM STEEL		
1860101	PUMP SHAFT	CHROMIUM STEEL		
1900101	WEAR RING SUCTION AND DEL SIDE	SS-316		
2110101	BELL MOUTH	CAST IRON		
2110201	SUCTION CASING	CAST STEEL	CAST IRON	
2450101	BEARING SPIDER	CARBON STEEL	CAST STEEL	
2900101	MOTOR STOOL	CARBON STEEL		
3110101	SHAFT SLEEVE (D.S.) AND (P.S.)	CHROME STEEL		
3410101	TIE BAR (TIE BOLT)	HIGH TENSILE STEEL	CARBON STEEL	
3500101	BEARING BUSH (INT SHAFT)	ELASTOMER TYPE	CARBON	
3870101	SOLE / BASE PLATE	CARBON STEEL		

CROSS SECTIONAL DRAWING - RKBCV



MATERIAL OF CONSTRUCTION FOR CONDENSATE PUMP				
PART NO.	DESCRIPTION	MATERIAL SPECIFICATION		
1070101	DISCHARGE CASING	CAST STEEL		
1170101	DISCHARGE HEAD	CARBON STEEL		
1310101	CAN	CARBON STEEL		
1330101	COLUMN PIPE	CARBON STEEL		
1200101	PUMP BOWL	CAST STEEL	CAST IRON	
1240101	STAGE CASING	CAST STEEL		
1240201	UPPER STAGE CASING	CAST STEEL		
1280101	SUCTION DIFFUSER	CAST STEEL	CAST IRON	
1280201	STAGE DIFFUSER	CAST STEEL	CAST IRON	
1570101	SUCTION IMPELLER	CHROMIUM STEEL	CAST IRON	BRONZE
1510101	STAGE IMPELLER	CHROMIUM STEEL	CAST IRON	BRONZE
1840101	INTERMEDIATE SHAFT	CHROMIUM STEEL		
1850101	HEAD SHAFT / DRIVE SHAFT	CHROMIUM STEEL		
1860101	PUMP SHAFT	CHROMIUM STEEL		
1900101	WEAR RING SUCTION AND DEL SIDE	SS-316		
2110101	BELL MOUTH	CAST IRON		
2110201	SUCTION CASING	CAST STEEL	CAST IRON	
2450101	BEARING SPIDER	CARBON STEEL	CAST STEEL	
2900101	MOTOR STOOL	CARBON STEEL		
3110101	SHAFT SLEEVE (D.S.) AND (P.S.)	CHROME STEEL		
3410101	TIE BAR (TIE BOLT)	HIGH TENSILE STEEL	CARBON STEEL	
3500101	BEARING BUSH (INT SHAFT)	ELASTOMER TYPE	CARBON	
3870101	SOLE / BASE PLATE	CARBON STEEL		

GENERAL ARRANGEMENT DRAWING - RKBCV



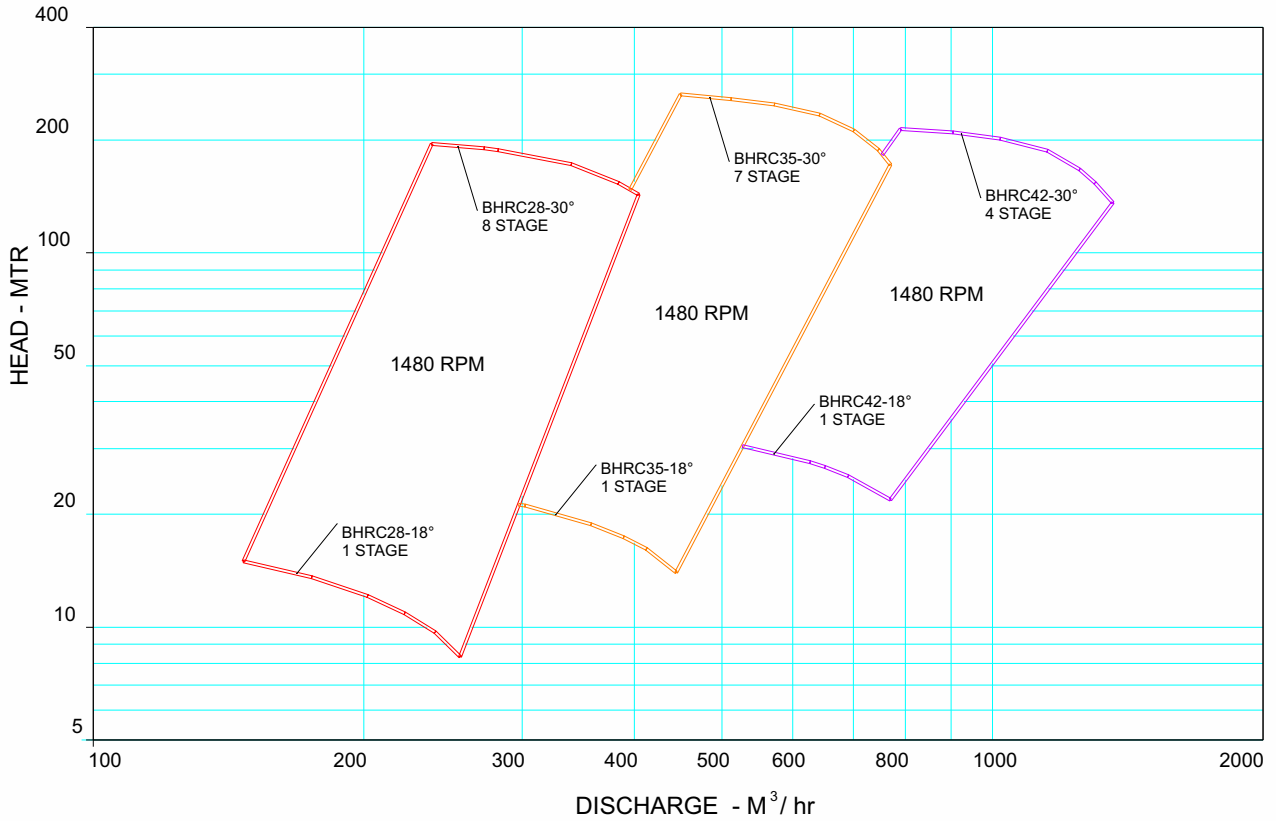
PUMP TYPE	SUC (mm)	DEL (mm)	A (mm)	B (mm)	$\varnothing D$ (mm)	$\varnothing E$ (mm)	F (mm)	G (mm)	$\varnothing S$ (mm)	C (mm)	D (mm)
RKBCV 50/15 E/L	100	65	390	**	400	350	490	550	27	*	*
RKBCV 65/19 E/L	125	100	450	**	500	450	600	660	27	*	*
RKBCV125/27	200	150	483	**	600	535	700	760	27	*	*
RKBCV 125/30	200	150	483	**	660	596	750	830	27	*	*

MATERIAL STANDARDS

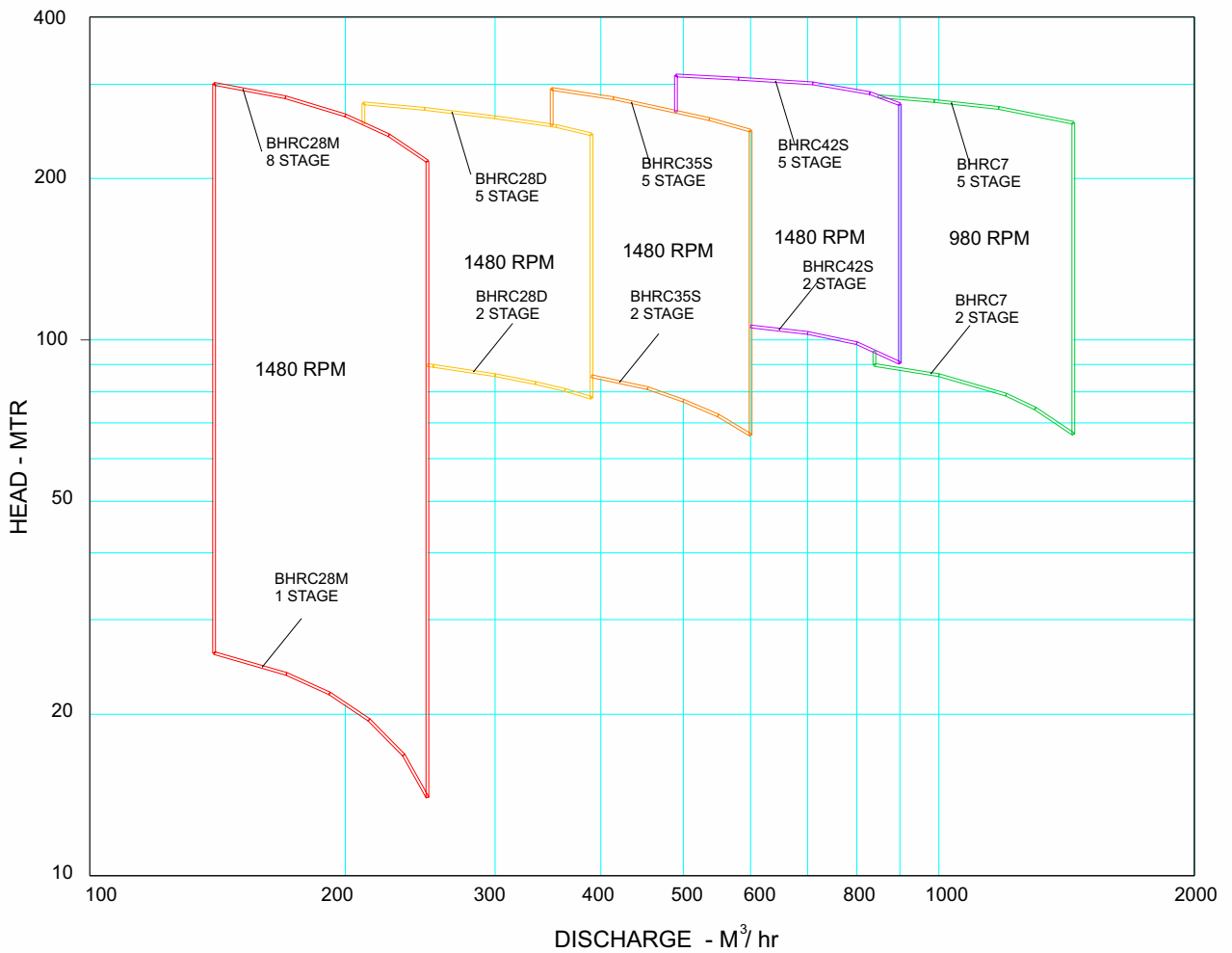
Material Type	Indian Standard (IS)	American Standard (ASTM)	DIN
Cast Iron			
Cast Iron	IS 210 Gr. FG 260	ASTM A48 Class 40	(0.6025)DIN 1691 GG25
Spheroidal Graphite Cast Iron			
SG Iron (Ductile Iron)	IS 1865 Gr 400/15	A536, 60-40-18	(0.7040)DIN1693 GGG40
SG Iron (Ductile Iron)	IS 1865 Gr 500/7	A536, 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 Stainless Steel			
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 Stainless Steel Round Bar Material			
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

FAMILY CURVE OF BHRC SINGLE SUCTION PUMPS AT 50 HZ

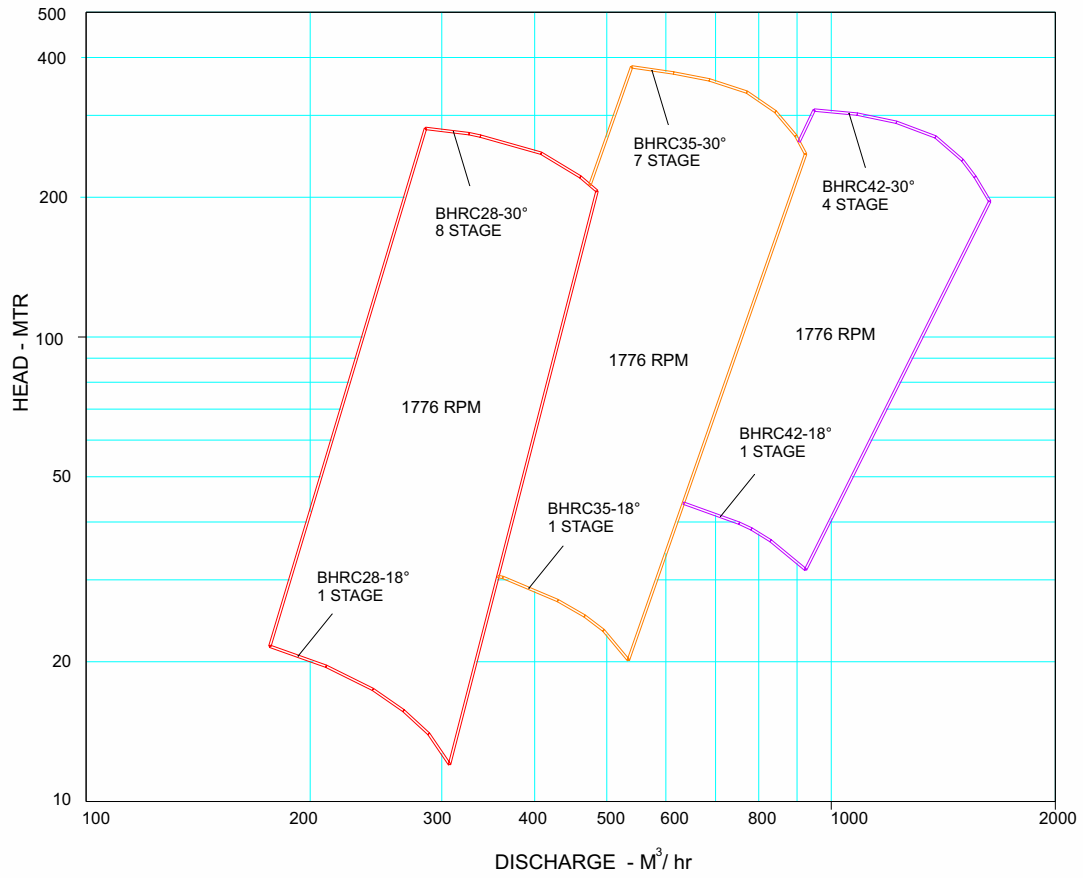


FAMILY CURVE OF BHRC DOUBLE SUCTION PUMPS AT 50 HZ

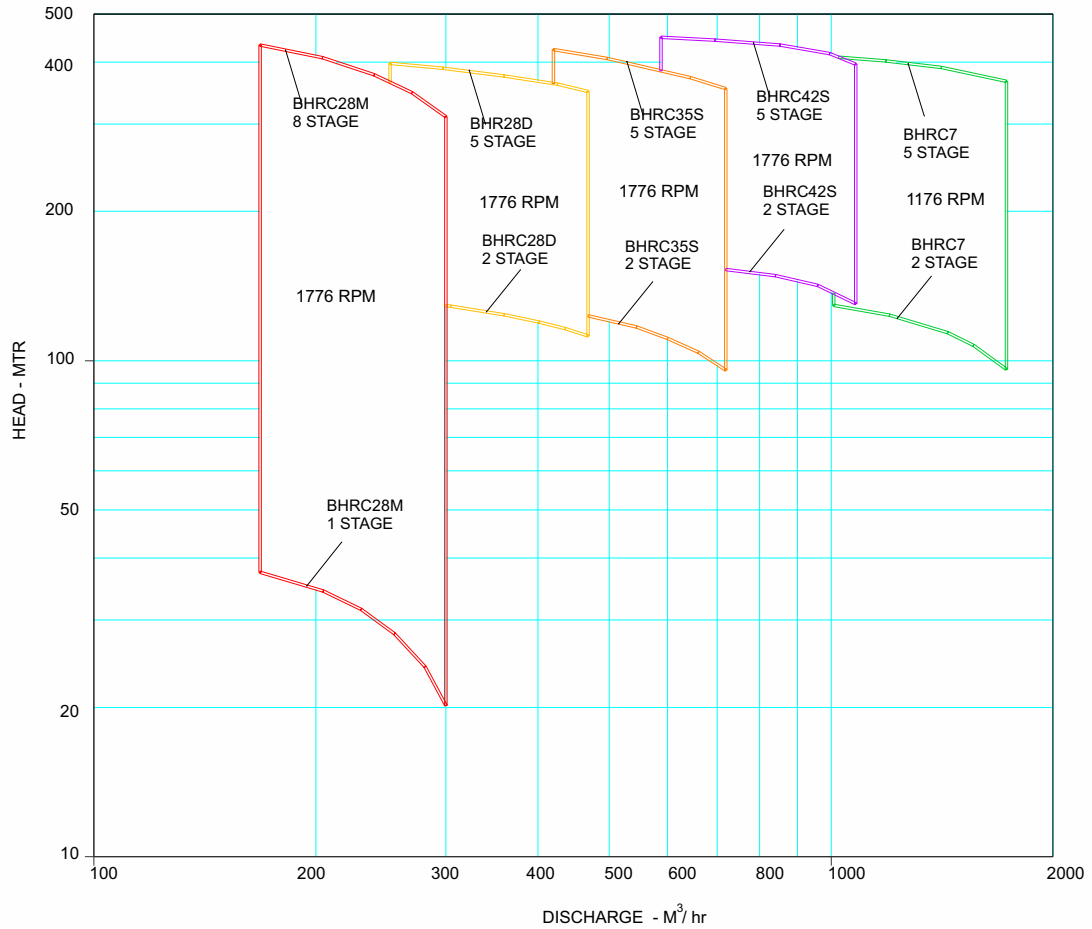


FAMILY CURVES

U FAMILY CURVE OF BHRC SINGLE SUCTION PUMPS AT 60 HZ

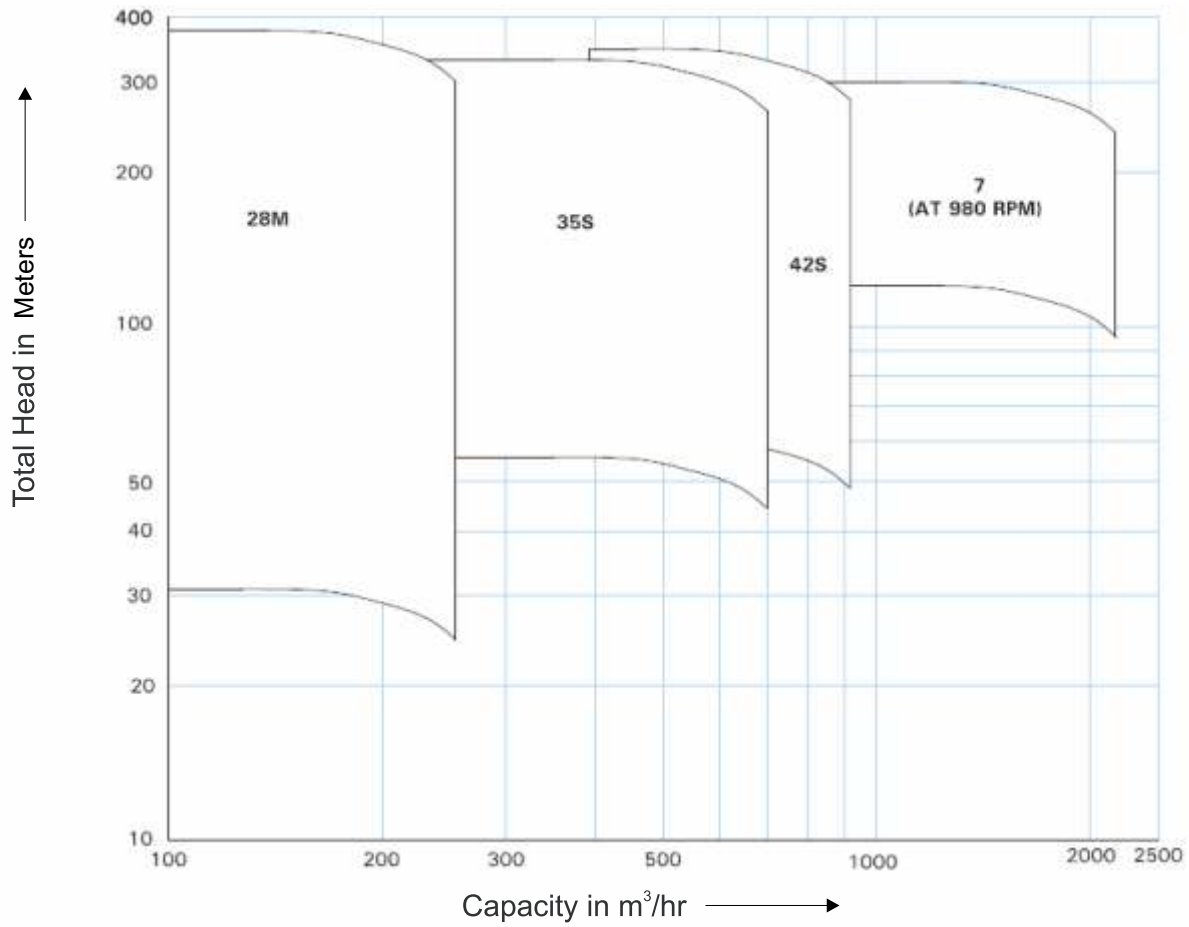


U FAMILY CURVE OF BHRC DOUBLE SUCTION PUMPS AT 60 HZ

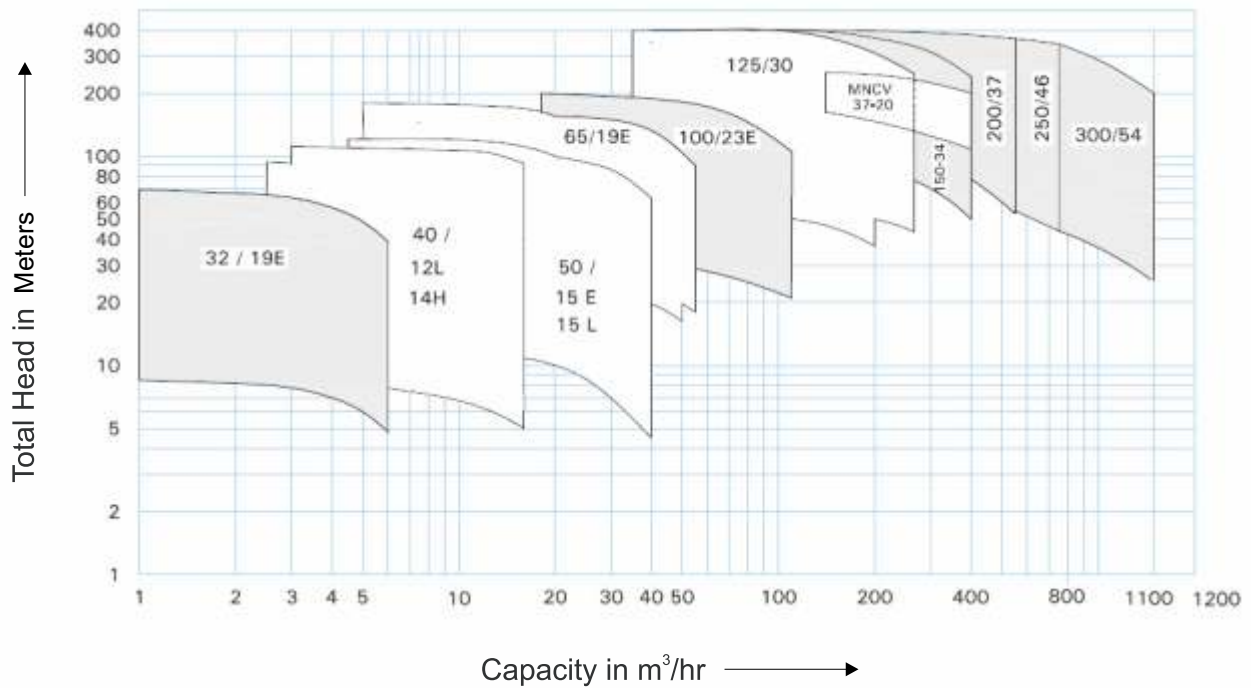


FAMILY CURVES

Family Curve of BHRC at 1450 rpm



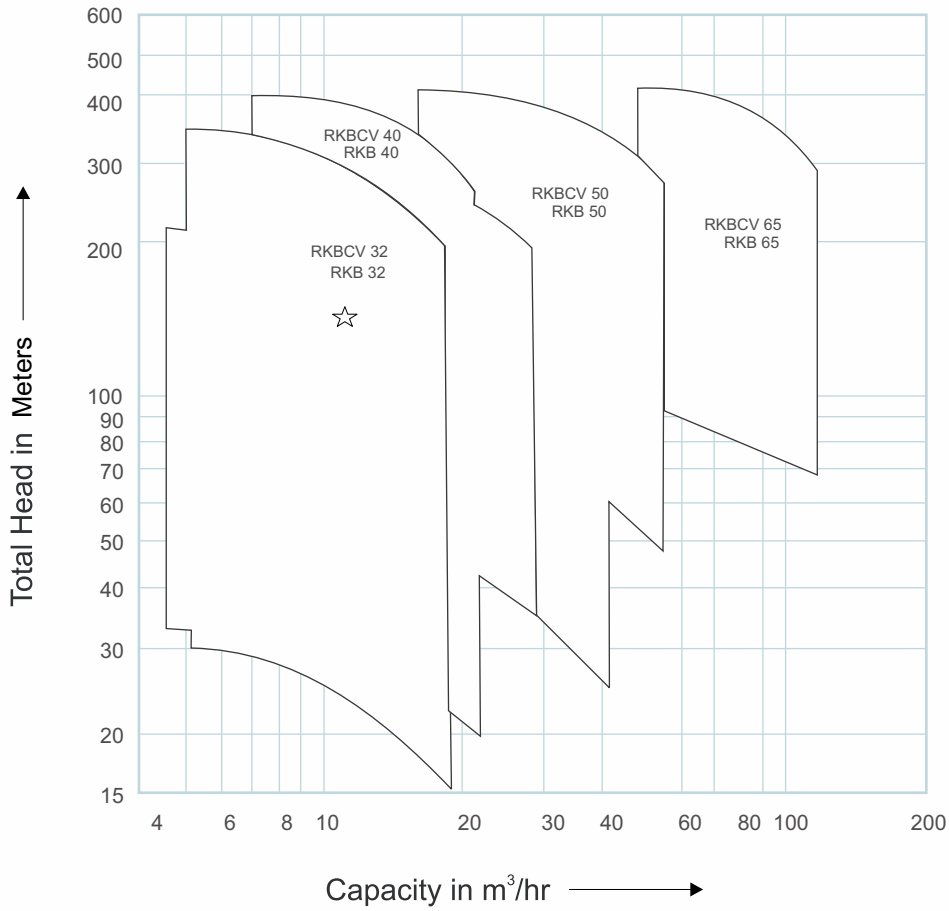
Family Curve of RKBCV and MNCV at 1450 rpm



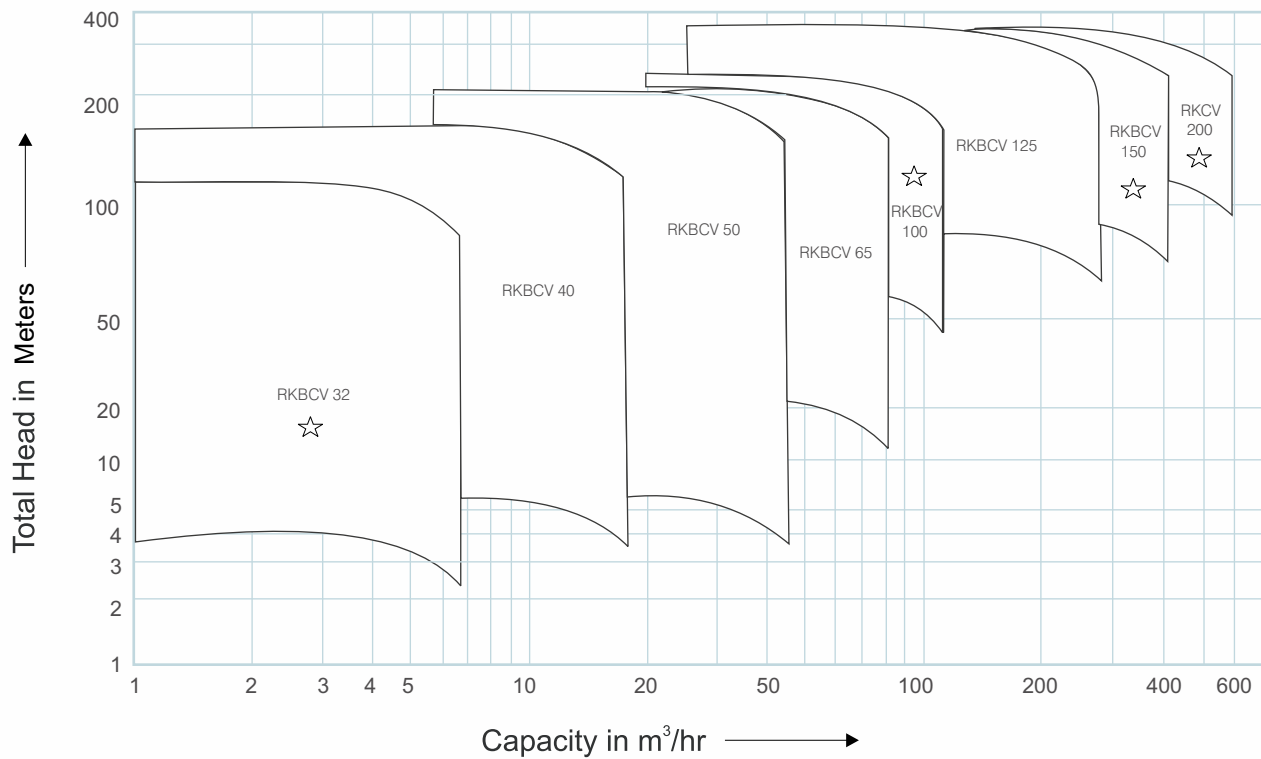
□ Will be developed against specific order

FAMILY CURVES

Family Curve of RKBCV at 2900 rpm



Family Curve of RKBCV at 1800 rpm



☆ Will be developed against specific order

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 m³/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

KIRLOSKAR BROTHERS LIMITED

A Kirloskar Group Company

Registered Office: Udyog Bhavan, Tilak Road , Pune 411002. Tel: +91(20)24440770
Global Headquarters: "Yamuna", Survey No. 98/(3.7), Baner, Pune 411045. Tel: +91(20)27214444
Email: marketing@kbl.co.in, Website: www.kirloskarpumps.com, CIN No.: L29113PN1920PLC000670

OUR COMPANIES

