



Enriching Lives

## KIRLOSKAR PROCESS PUMP - GK(P)

ISO 2858 / DIN EN 22858 / ISO 5199



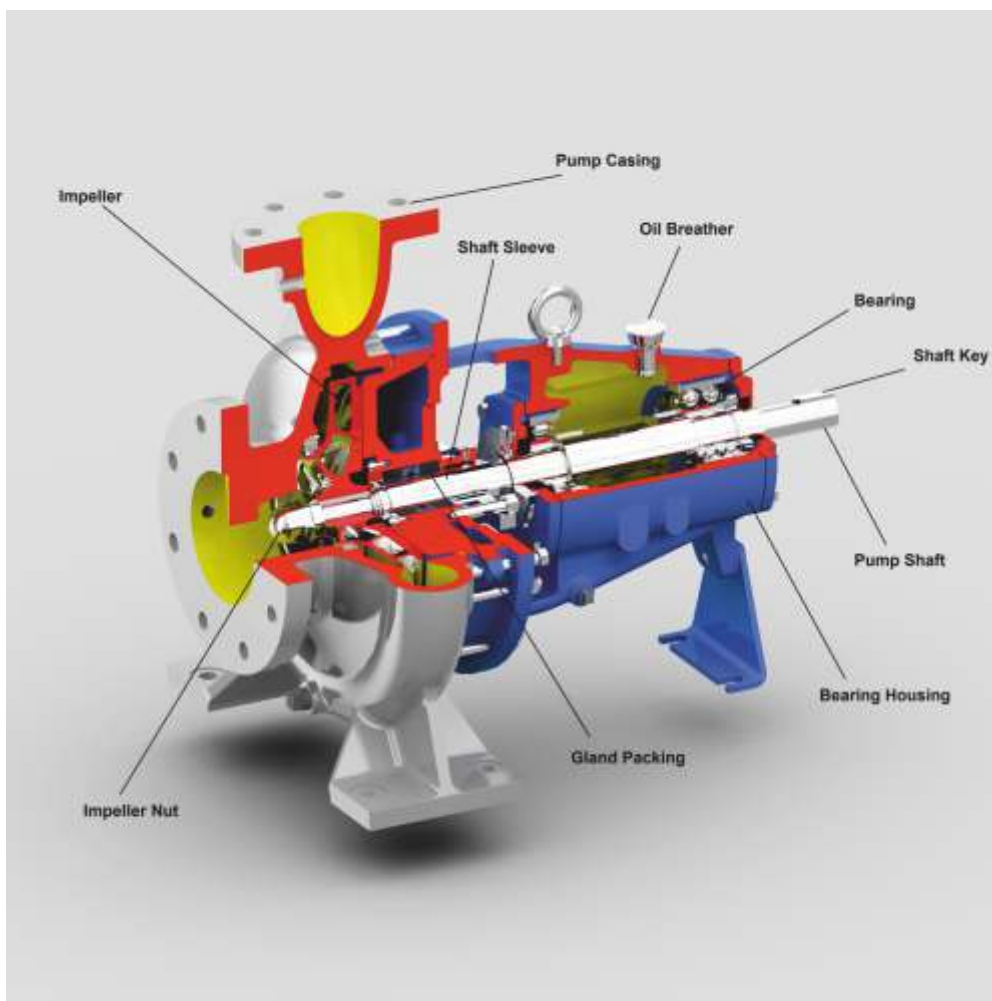
**KIRLOSKAR BROTHERS LIMITED**

Established 1888

A Kirloskar Group Company



## KIRLOSKAR PROCESS PUMP - GK(P)



### PERFORMANCE RANGE:

Discharge capacity (Q) :	Up to 500 m <sup>3</sup> /hr (at 1450 rpm)
Delivery head (H) :	Up to 150 m
Available nominal speeds (n) :	2900, 1450, 980 rpm at 50 Hz and 3500, 1750, 1150 rpm at 60 Hz
Max. operating pressure (P) :	16 bar (Suction pressure 5 bar)
Temperature range (t) :	-50 °C up to +350 °C
Pump Sizes (DN) :	25 mm to 150 mm

### APPLICATIONS:

- GK(P) pumps are used for handling various types of chemical liquids from various process industries.
- GK(P) pump is End suction centrifugal Process pump.
- Pump dimensions are fully confirming to ISO 2858/DIN EN 22858 and technically meeting requirements of ISO 5199

### COMPONENTS:

#### 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 integrally cast with casing

#### Impeller:

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

#### Shaft:

Shaft is supported between antifriction ball bearings. The shaft is critically machined and ground to maintain geometrical accuracies.

#### 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.

#### Bearing Housing:

Bearing housing supports shaft. Antifriction Ball and Roller Bearings are used to support the shaft in bearing housing

#### Direction of Rotation:

Clockwise when viewed from driving end.

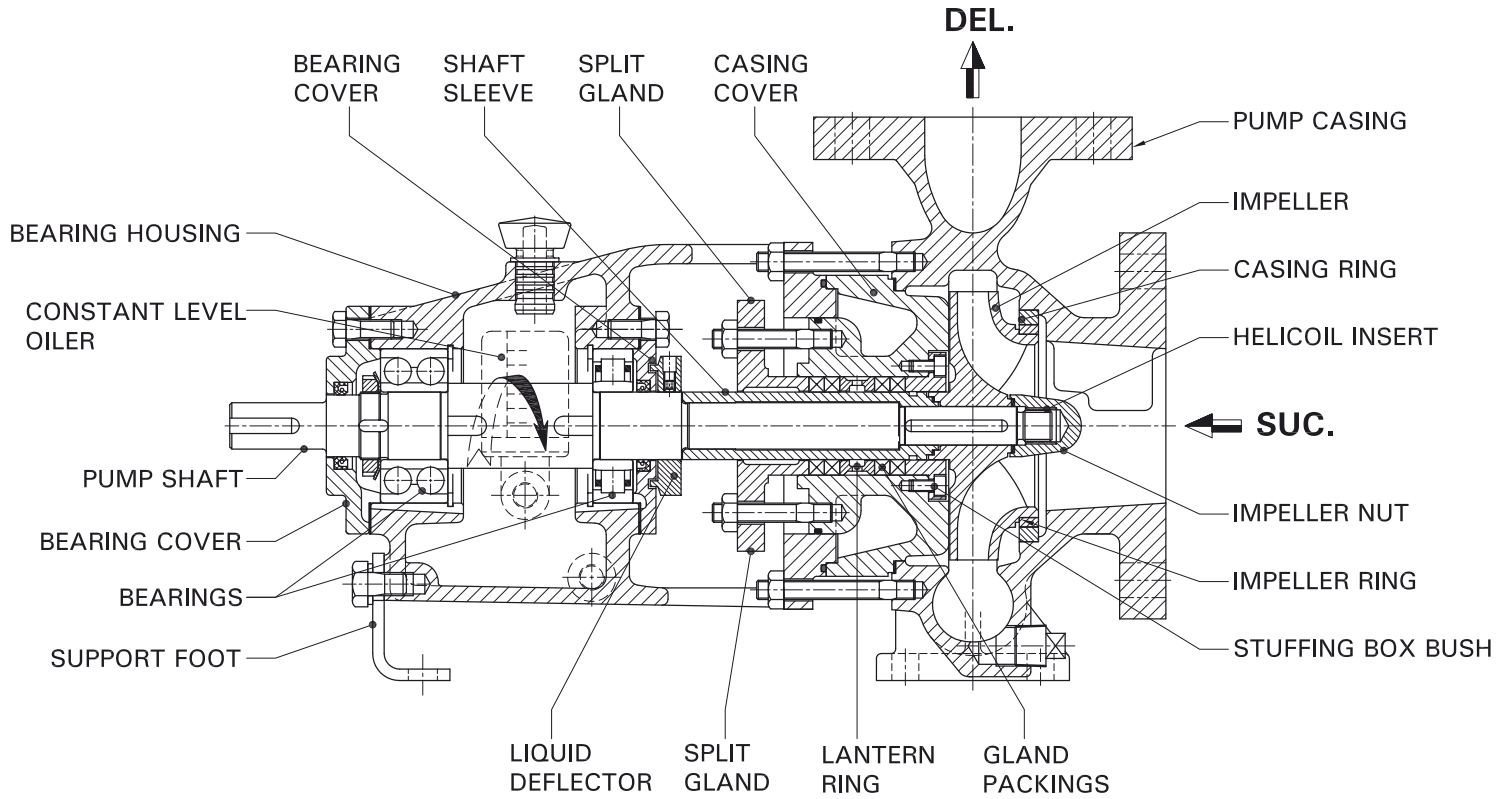
#### Drive:

Pumps can be driven by an electric motor or an engine.

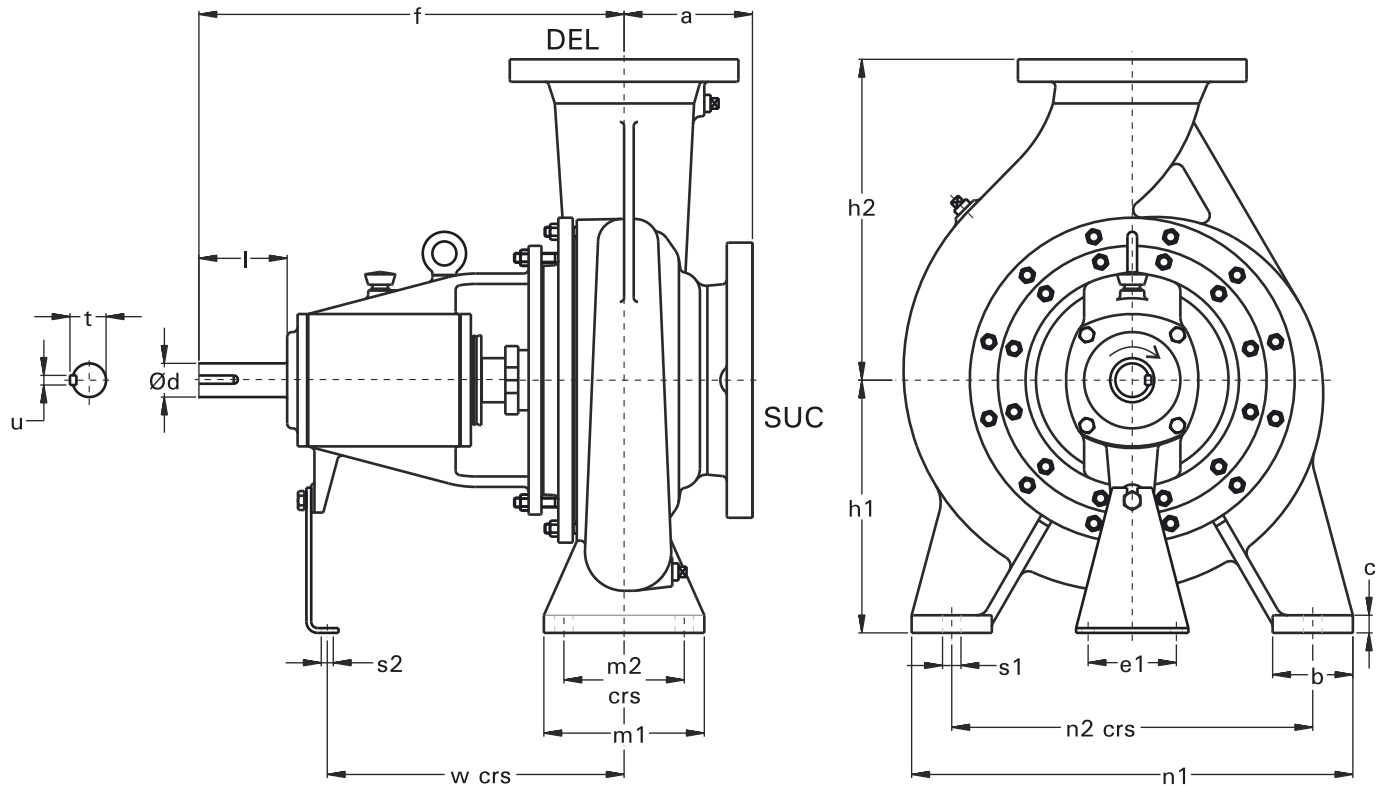
### CONSTRUCTIONAL FEATURES:

- Design is in compliance to ISO 5199.
- Wide range of hydraulics to meet the customer's requirements
- Back pullout design for ease and quicker maintenance.
- Enclosed impeller having smooth hydraulic passages for better efficiency.
- Modular design concept for maximum interchangeability of components among different pump models.
- Heavy duty construction for continuous operation.
- Available in variety of material of constructions for the liquid to be pumped.
- Availability of cooling jackets to cool stuffing box for liquids having temperature more than 105°C.
- Angular contact ball bearings to take Axial thrust.
- Roller bearing to take care Radial load.
- Positive locking of impeller on shaft with the help of impeller nut and helicoil insert.
- Labyrinth type metallic liquid deflector to protect bearings from ingress of process liquid, dust at non-driving end.
- Optional provision of bearing isolators at driving end and non driving end bearings.
- Available in soft gland packing as well as mechanical seal version in standard stuffing box bore and optional taper (conical) bore construction.
- Top centerline discharge with foot mounted as well as centerline mounted volute casing.
- Pump can be offered with all API seal flushing plans of mechanical seal flushing and pump cooling water pipings
- Flange drilling : As per ASME B16.5 class 150 FF optional class 300 and PN 16 and PN 25 as per DIN standard (Optional).

**CROSS-SECTION WITH MAJOR COMPONENTS:**



# GENERAL OUTLIVE DIMENSIONS OF GK(P) FOOT MOUNTED PUMPS:

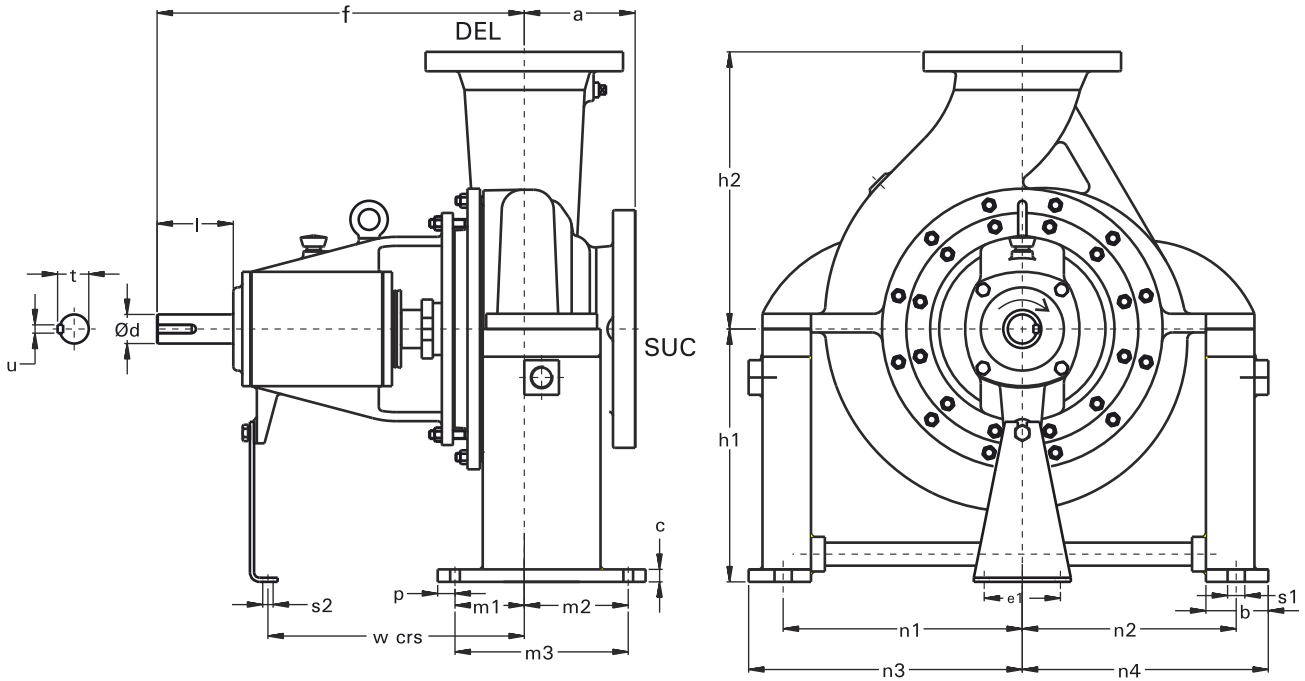


PUMP SIZE	DRIVING UNIT	PUMP DIMENSIONS						FOOT DIMENSIONS								SHAFT END																											
		DEL	SUC	a	f	h1	h2	b	c	m1	m2	n1	n2	w	s1	s2	e1	Ød	l	t	u																						
32/13	7	32	50	80	385	112	140	50	14	100	70	190	140	285	14	15	110	24	50	27	8																						
32/16,32/16A						132	160					240	190																														
32/20,32/20A						160	180					240	190																														
40/13		40	65	100		112	140	50	14	100	70	210	160									285	14	15	110	24	50	27	8														
40/16						132	160					240	190																														
40/20,40/20A						160	180					265	212																														
50/13		50	80	100		132	160	50	14	100	70	240	190																	285	14	15	110	24	50	27	8						
50/16,50/16A						160	180					240	190																														
50/20						160	200					265	212																														
65/13		65	100	100		160	180	65	14	125	95	280	212																									370	14	15	110	32	80
25/26A	180				225	320	250																																				
32/26	40	65	125	180	225	65	14	125	95	345	280	370	14	15	110	32	80	35	10																								
40/26				200	250					320	250																																
40/32				180	225					345	280																																
50/26	50	80	125	225	280	65	14	125	95	345	280									370	14	15	110	32	80	35	10																
50/32				160	200					280	212																																
65/16	65	100	100	180	225	65	14	125	95	320	250																	370	14	15	110	32	80	35	10								
65/20				200	250					320	250																																
65/26,65/26N	80	125	125	200	250	80	16	160	120	360	280																									370	18						
80/16				180	225					320	250																																
80/20				180	250					345	280																																
80/26	100	125	150	225	280	80	16	160	120	400	315	370	18	15	110	42	110	45	12																								
100/16				65	14					125	95																											320	250				
100/20	200	280	80	16	160	120	360	280	18																																		
65/32	65	100	125	225	280	80	16	160	120	400	315									370	18	15	110	42	110	45	12																
80/32				250	315					435	355																																
80/40,80/40N				280	355					400	315																																
100/26	100	125	140	225	280	80	16	160	120	400	315																	370	23	15	110	42	110	45	12								
100/32				250	315					400	315																																
100/40	280	355	100	18	200	150	500	400	18																																		
125/26	125	150	160	250	355	80	16	160	120	400	315																									370	23	15	110	42	110	45	12
125/32				280	355					100	18	200	150	500	400																												
125/40,125/40N	315	400	100	18	200	150	500	400	23																																		
150/32,150/32N	150	200	160	315	400	100	22	200	150	450	450	370	23	15	110	42	110	45	12																								
150/40				315	400					100	18									200	150	550	450																				

\* REFER ENGINEERING

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

**GENERAL OUTLINE DIMENSIONS OF GK(P) CENTER LINE MOUNTED PUMPS:**



PUMP SIZE	DRIVING UNIT	PUMP DIMENSIONS				FOOT DIMENSIONS																SHAFT END						
		DEL	SUC	a	f	h1	h2	b	c	m1	m2	m3	n1	n2	n3	n4	w	s1	s2	e1	p	Ød	l	t	u			
32/13	7	32	50	80	385	200	64	15	72	88	190	125	125	157	157	285	14	15	110	15	32	80	35	27	8			
32/16,32/16A												155	145	187	177													
32/20,32/20A												170	165	202	197													
40/13												135	125	167	157													
40/16		40	65	80	500	250	64	15	72	88	190	170	165	202	197	225	225	250	225	250	15	110	15	32	80	35	27	8
40/20,40/20A																												
50/13		50	80	100	500	250	64	15	72	88	190	170	165	202	197	280	280	280	280	280	15	110	15	32	80	35	27	8
50/16,50/16A																												
50/20		50	80	100	500	250	64	15	72	88	190	170	165	202	197	225	225	250	225	250	15	110	15	32	80	35	27	8
65/13																												
25/26A	7A	25	50	100	500	250	64	15	72	88	190	220	220	252	252	285	14	15	110	15	32	80	35	27	8			
32/26		32	50																							225	225	
40/26		40	65																							250	225	
40/32		40	65																							250	225	
50/26	50	80	125	500	250	64	15	72	88	190	210	175	242	207	280	280	280	280	15	110	15	32	80	35	27	8		
50/32																											280	280
65/16	7A/10*	65	100	100	500	250	64	15	72	88	190	210	175	242	207	280	280	280	280	15	110	15	32	80	35	27	8	
65/20																												250
65/26,65/26N	7A/10*	65	100	100	500	250	64	15	72	88	190	210	175	242	207	280	280	280	280	15	110	15	32	80	35	27	8	
80/16																												225
80/20	7A/10*	80	125	125	500	250	64	15	72	88	190	210	175	242	207	280	280	280	280	15	110	15	32	80	35	27	8	
80/26																												225
100/20	7A/10*	100	125	125	500	250	64	15	72	88	190	210	175	242	207	280	280	280	280	15	110	15	32	80	35	27	8	
65/32																												280
80/32	12	80	125	140	530	315	315	90	18	100	150	300	310	295	355	340	370	23	25	42	110	45	12	12				
80/40,80/40N																									365	365	365	365
100/26		100	125	140	530	315	315	90	18	100	150	300	310	295	355	340	370	23	25	42	110	45	12	12				
100/32																									280	280	280	280
100/40		100	125	140	530	315	315	90	18	100	150	300	310	295	355	340	370	23	25	42	110	45	12	12				
125/26																									315	315	315	315
125/32		125	150	160	530	365	400	450	18	100	150	300	310	295	355	340	370	23	25	42	110	45	12	12				
125/40,125/40N																									315	315	315	315
150/32,150/32N		150	200	160	530	365	400	450	18	100	150	300	310	295	355	340	370	23	25	42	110	45	12	12				
150/40																									355	315	400	360
150/40	150	200	160	530	365	400	450	18	100	150	300	310	295	355	340	370	23	25	42	110	45	12	12					
150/40																								385	345	430	390	

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

# MATERIALS

## MATERIAL OF CONSTRUCTION

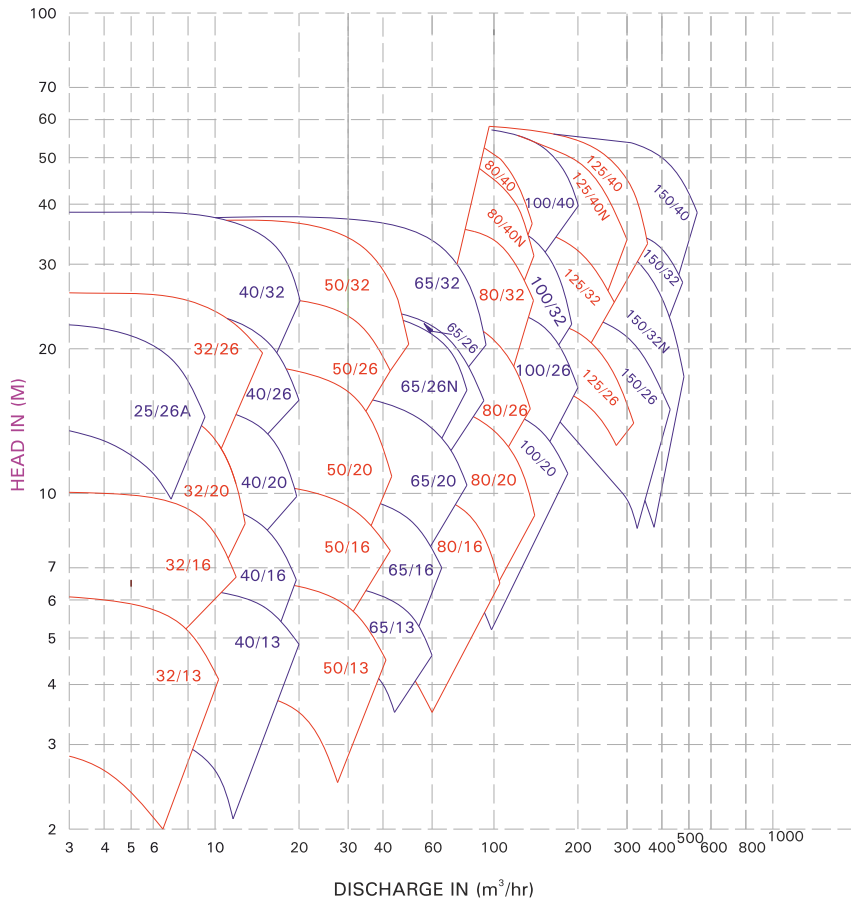
Component Description	Standard MOC	Option 1	Option 2	Option 3	Option 4	Option 5
Pump Casing	Cast Iron - IS 210-FG 260	Duplex ASTM A240M -UNS S31803	ASTM-A890/890M-CE3MN-5A Super Duplex (UNS 32760)	Alloy 20 ASTM B473 UNS8020-ALLOY20	ASTM A494 - Hastelloy B	ASTM A494 - Hastelloy C
Casing Cover	Cast Iron - IS 210-FG 260					
Pump 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-	MONEL BS3076-NA18 ( K-Monel 500)	
Bearing Housing	Cast Iron - IS 210-FG 260					

## MATERIAL STANDARDS - GENERAL INFORMATION

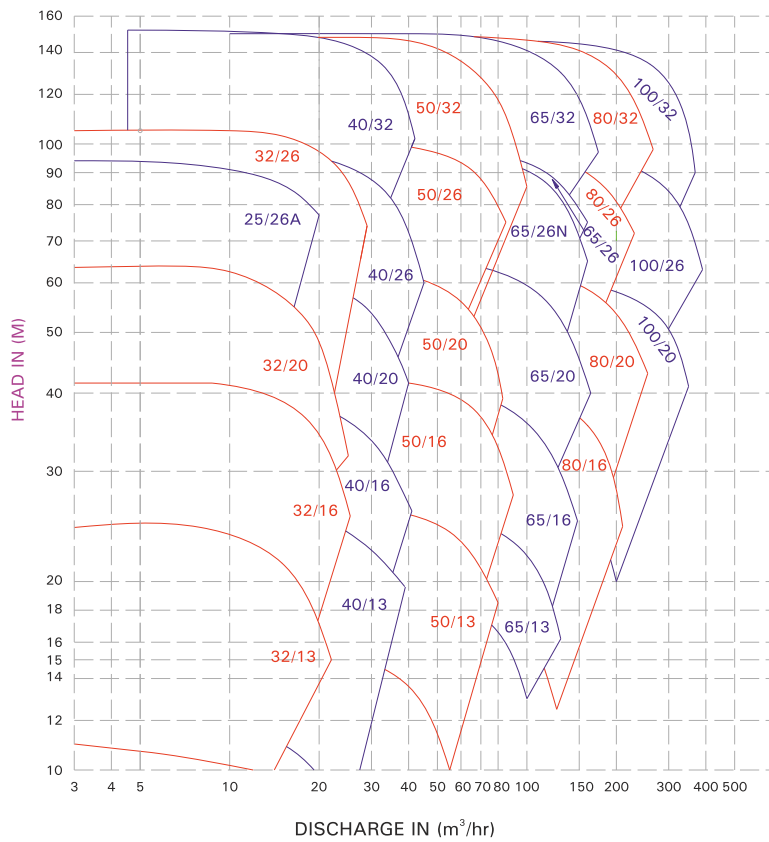
Material Type	Indian Standard (IS)	American standard (ASTM)	DIN
<b>Cast Iron</b>			
Cast Iron	IS 210 Gr. FG 260	ASTM A48 Class 40	(0.6025)DIN 1691 GG25
<b>Spheroidal Graphite Cast Iron</b>			
SG Iron (Ductile Iron)	IS 1865 Gr 400/15	A536, 60-40-18	(0.7040)DIN1693 GGG40
SG Iron (Ductile Iron)	IS 1865 Gr 500/7	A536, 65-45-12	(0.7050)DIN1693 GGG50
<b>Carbon steel</b>			
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
<b>Cast Steel Grades</b>			
Cast steel		ASTMA 216 Gr. WCB	1.0619(GS-C25)
<b>Cast Stainless Steel</b>			
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)
<b>Cast Chromium StainlessSteel</b>			
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)
<b>Chromium StainlessSteel Round Bar Material</b>			
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)
<b>Cast Duplex Steel</b>			
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
<b>Non Ferious Materials</b>			
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 :

### GK(P) PUMPS FAMILY CURVE AT 1450 RPM



### GK(P) PUMPS FAMILY CURVE AT 2900 RPM











## 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. As the market leader in fluid management, KBL provides complete fluid management solutions for large infrastructure projects in the areas of water supply, power plants, irrigation, oil & gas and marine & defence. We engineering and manufacturing 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 and expanded 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 BV (Kirloskar Pompen BV since June 2014), a joint venture between Kirloskar Brothers International BV 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. KBL has a joint venture company with Ebara Corporation, Japan since 1988 for the manufacture of API 610 standard pumps. Kirloskar Corrocoat Private Limited is joint venture cooperation with Corrocoat Ltd., UK since 2006. KBL acquired The Kolhapur Steel Limited in 2007 and Hematic Motors in 2010 (Now KPML). In 2014, KBL aquired SyncroFlo. Inc, the largest independent fabricator of commercial and municipal domestic water.

KBL has eight manufacturing facilities in India at Kirloskarvadi, Dewas, Kondhapuri, Shirval, Sanand, Kaniyur, Kolhapur and Karad. In addition, KBL has seven 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 plants of KBL are ISO 9001, ISO 14001 and OHSAS 18001 standards certified. They apply Total Quality Management tools using European Foundation for Quality Management (EFQM) model. The Kirloskarvadi plant of KBL is a state of art integrated manufacturing facility having one of Asia's largest hydraulic research centre with testing facility up to 5000 kW and 50,000 m<sup>3</sup>/hour.

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

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Distribution (Small Pumps) | Valves | Customer Service & Spares

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## KIRLOSKAR BROTHERS LIMITED

Established 1888

A Kirloskar Group Company

### Global Headquarters & Registered Office

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Website : www.kirloskarpumps.com | CIN No. L29113PN1920PLC000670.



#### OUR COMPANIES



United Kingdom



U.S.A.



South Africa



India



The Netherlands