

KIRLOSKAR BROTHERS LIMITED

# KIRLOSKAR CENTRIFUGAL PUMPS-TYPE CPHM

# Description

### Range:

Delivery size up to 150 mm Capacity up to 470 m<sup>3</sup>/hr Heads up to 150 metres

### Application:

For continuous service in pumping or turbid water upto 3000 ppm. Ideally suitable in circulating systems in industry, irrigation, sprinkler system, booster service, fire fighting, air-conditioning etc. (- 30°C to 100°C).

#### Constructional features:

Pumps are as per DIN 24256 and ISO 2858. The design is of back pull out type. Large variety of models are available to operate at 1450 rpm and 2900 rpm.

The casing has axial suction and top centre line delivery. Smooth hydraulic passages ensure high efficiency.

### Impeller:

The impellers are of enclosed type. Hydraulic balancing of impellers is achieved either by back vanes or by balancing holes. The impellers are statically and dynamically balanced. Reliable fixing of the impeller on shaft is achieved by using helicoil insert under impeller

### Shaft:

The shaft is supported by two antifriction bearings to take residual axial thrust and prevent axial float or radial run out. It is fully protected from the liquid handled by means of a shaft sleeve and gaskets between impeller nut, impeller hub and shaft sleeve.

### Stuffing box :

The stuffing box is sealed by gland packing or by mechanical seal. Conversion from gland packing to mechanical seal is achieved by changing some standardised parts. Re-machining of stuffing box is not necessary.

### Bearings:

The bearings are grease lubricated.

#### Direction of rotation:

Clockwise viewed from driving end.

#### Drive:

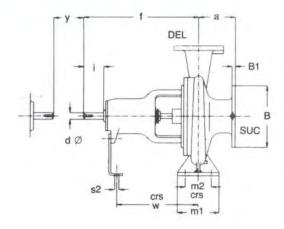
Pumps can be driven by electric motor or engine.

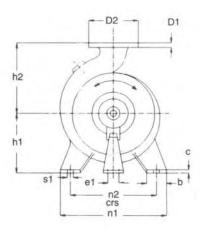
### Flanges:

Standard Drilling as per ND 16 DIN 2533 (Cast Iron-Raised face)

Optional **DIN ND 10, ND 25** ASA 150 BS 10 Table F DIN 2543 (Steel-Plain face) BS 4504-16 bar or 25 bar

# **General Dimensions/Mounting Details**



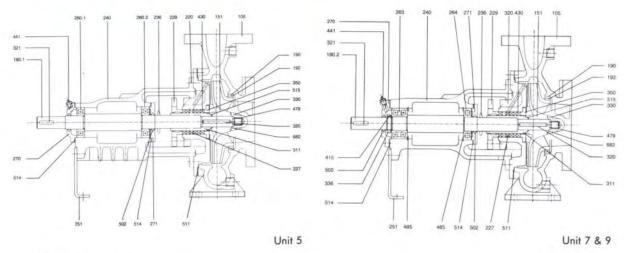


## **Dimensions**

PUMP	DRIVING		PUMP DIMENSIONS				FOOT DIMENSIONS I SHAFT END						TEND	)				NGE ND-16		NET. WEIGHT										
SIZE	UNIT	DEL	SUC	a	f	h1	h2	Ь	c	ml	m2	nl	n2	w	sī	s2	el	dØ	1	+	U	у	D2	DI	В	B1	kg.			
32/13						112	140					190	140														33			
32/16		32	50		132	160																	140	18	165	20	34			
32/20						160	180					240	190														40			
40/13				80		112	140					210	160														33			
40/16		40	65			132	160					240	190		200	, de	20.4			201	,		150	18	185	20	36			
40/20	5				385	160	180	50	14	100	70	265	212	285	14	15	110	24	50	27	8	100					41			
50/13						132	160					240	190														36			
50/16		50	80	100			180																165	20	200	22	39			
50/20						160	200					265	212														45			
65/13		65	100			160	60 180 65		125	95	280	212										185	20	220	24	59				
32/26		32	50																				140	18	165	20	76			
40/26				100		180	225					320	250							- 19							76			
40/32		40	65		500	200 2	250					345	280	14						70			150	18	185	20	87			
50/26						180	225	65	14	125	95	320 345	250		14												76			
50/32		50	80	125		225	280						280										165	20	200	22	102			
65/16						160	200																				65			
65/20	7	65	100	100			180	225					280	212	370		15	110	32	80	35	10	140	185	20	220	24	67		
65/26						200	250 80	80 16	16	160	120	360	280		18												82			
80/16										180	225	65	14	100	30	370	250		14											
80/20		80	125	125	125	125		180	250	03	14	125	95	345	280										200	22	250	26	99	
80/26							225	The second second	90		1/0	100	400	315		18												90		
100/20		100	125			200	280	80	16	160	120	360	280										220	24	250	26	119			
65/32		65	100			225	280					100	215										185	20	220	24	124			
80/32		80	125	125		250	315	lane.				400	315										200	20	050	24	154			
80/40		80	125			280	355	80	16	160	120	435	355	370	18								200	22	250	26	114			
100/26					140 530	225	280					400	215														133			
100/32	9	100	125			250	315					400	315			16	110	10	110	4E	10	140	220	24	250	26	165			
100/40	7			140		530	280	355	100	18	200	150	500	400		23 15	15	110	42	110	45	12	140					134		
125/26						250	355	80	16	160	120	400	400 315		18								250				152			
125/32		125	150			280	355		10				370	370										26	285	26	180			
125/40						315	315 400 100	100	18	200	150	500	400		23	3											221			
150/32		200	150	160		315	400		22														285	26	340	30	221			

All dimensions are in mm

# Cross Sectional View Unit 5, 7 & 9



Typical Drawing

# Interchangeability Chart for CPHM Pumps:

	9															P	UMF	SIZE	S														
DESCRIPTION	PART NO	32/13	40/13	50/13	65/13	32/16	40/16	50/16	32/20	40/20	50/20	65/16	80/16	65/20	80/20	100/20	32/26	40/26	50/26	65/26	80/26	40/32	50/32	100/26	125/26	65/32	80/32	100/32	125/32	150/32	80/40	100/40	125/40
CASING	105	i	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
IMPELLER	151	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23 24 25 26 27 28 29					30	31	37		
CASING COVER	220		1	1			2			3		-	4		5				6			7		- 8				9				10	
IMPELLER RING SUC.	192	1	2	3	4	1	2	3	2	2	3	5	11	10	6	12	7	8	9	9	6	7	16	14	15	13	13	14	14	17	18	12	.14
IMPELLER RING DEL.	193																					7	16			13	13	14	14	17	14	14	14
CASING RING SUC.	190	1	2	3	4	1	2	3	2	2	3	5	11	10	6	12	7	8	9	9	6	7	17	15	16	13	13	15	15	18	19	14	15
CASING RING DEL.	191									7				7	17		1	13	13	15	15	18	15	15	15								
GASKET FOR CASING COVER	511	1				2 3				3	2 3				45			5	-				5		6								
SUPPORT FOOT	251		1	2	3	2			3	3		4		3		5	3 5 6					5	6	5 6 5 6 7 8				7	7 8				
STUFFING BOX BUSH	350		1												2						3												
LANTERN RING	227		1						2										3														
DEFLECTOR	236		1					2 -										3															
IMPELLER NUT	330		1							2										3													
GASKET FOR SLEEVE	515		1							2									3														
GASKET FOR IMPELLER NUT	682		. 1							2										3													
STUFFING BOX PACKING	430		1												2						3												
BEARING HOUSING	240		1							2										3													
BEARING COVER D.E.	270					1											8	2										- 3	3				
BEARING COVER NDE.	271					- 1											- la	2										- 2	3				
GASKET FOR BRG. COVERS	514					1												2					-	3									
PUMP SHAFT	180					- 1											3	2		1				3									
SHAFT SLEEVE	311					-1							2											3									
DEEP GROOVE BALL BRG.	260					1																											
DOUBLE ROW ANGULAR	263											1									2												
CONTACT BALL BRG.	1																				1												
CYLINDRICAL ROLLER BRG.	264							1										2															
SPLIT GLAND	229	1						2									3																
MECHANICAL SEAL COVER	231	1							2										3														
FELT RINGS DE & NDE.	502	1								2										3													
GREASE NIPPLE	441	1						1										1															
LOCK WASHER	415												1										1										
LOCK NUT	336												1										1										
HELICOIL LOCK INSERT	479		1							1									1														

# **Material of Construction**

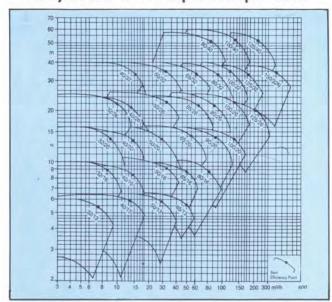
Casing	CI/SGI	CI/SGI Bronze	CI/SGI	CI/SGI	CI/SGI	Cast Steel	CI/SGI	CF8M
Casing Cove	rCl	CI/Bronze	CI/SGI	CI/SGI	Cļ/\$Gl	Cast Steel	CI/SGI	CF8M
Impeller	CI/ACI	Bronze/ZFB	Ph. Br.	CI	Cast Steel	Cast Steel	CF8M	CF8M
Wear Ring	CI/ACI	Bronze	Ph. Br.	CI	AISI 410H	AISI 410H	CF8M	CF8M
Shaft	CS/St. St.	CS/St. St.	CS/St. St.	CS/St. St.	CS/St. St.	CS/St. St.	CS/St. St.	St. St.
Shaft sleeve	AISI 410H	AISI 410H	AISI 410H/ Ph. Br.	AISI 410H	AISI 410H	AISI 410H	AISI 316	AISI 316
Lantern Ring	CI/St. St.	Bronze	Ph. Br.	CI	CS	CS	AISI 316	AISI 316
Gland	CI	CI	CI	CI	CI	Cast Steel	CI	CF8M

Other materials are also available

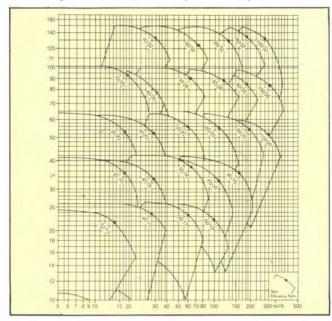
# **Material Standards**

		Equivalent Intern	national Standards
Material	- IS	BS	ASTM
Cast Iron (CI)	IS 210 (1978) Gr. FG 260	B.S. 1452 Gr. 250	ASTM-A 48 CL 35
S.G. Iron (SGI)	IS 1865 (1974) Gr. SG 500/7	B.S. 2789 SNG 500/7	ASTM-A 536 60-40-18 & 65-45-12
Austenitic Cast Iron (ACI)	IS 2749 Gr. AFG Ni 15 Cu 6 Cr. 3	B.S. 3468 AUS 101 Gr. B	ASTM-A-436 Type 1
Carbon Steel (CS)	IS 1570 Gr. 40 C-8	B.S. 970 080 M 40	ASTM-A 107 Gr. 1040
CF8M	IS 3444 Gr. 9	B.S. 1632 Gr. B	ASTM-A 351 Gr. CF8M
AISI 316 (St. St.)	IS 1570 Gr. 05 Cr. 18 Ni 11 Mo 3	B.S. 970 316 S16	ASTM-A 276 Type 316
AISI 304 (St. St.)		B.S 970 304 S 15	ASTM-A 276 Type 304
AISI 410 (St. St.)		B.S. 3100 410 S 21	ASTM-A 276 Type 410
Bronze	IS 318 Gr. LTB2	B.S. 1400 LG2C	ASTM-B 62, B 145 Alloy 4A
Phosphor Bronze (Ph. Br.)	IS 28 Gr. 1	B.S. 1400P.B. 4	
Zinc Free Bronze (ZFB)		B.S. 1400 Gr. CT1	
Cast Steel		B.S. 1504-101A	ASTM-A:216 74 d Gr. WCB

### Family curve of CPHM Pump at 1450 rpm - 50 Hz



Family curve of CPHM Pump at 2900 rpm - 50 Hz



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