



Enriching Lives



**KIRLOSKAR  
SOLIDS HANDLING  
PUMPS  
TYPE SHL**



**KIRLOSKAR BROTHERS LIMITED**

# KIRLOSKAR SOLIDS HANDLING PUMPS-TYPE SHL

## Description

### Range :

Delivery size 250 mm to 900 mm  
Capacity upto 13000 m<sup>3</sup>/hr  
Head upto 82 m  
Max. permissible solid size upto 300 mm  
(Solid size will vary depending on the model)

### Applications :

For handling liquids with solids in suspension, sludges or pulpy material in Paper Industries, Sewage or waste with soft solids in suspension, Viscous liquids or powdered material slurries, Contaminated process liquids like sugar factory waste, trade liquors, etc.

### Constructional features :

SHL are horizontal shaft, single stage, single suction pumps with back pull-out type design. These pumps operate at 50 Hz and 60 Hz.

### Casing :

End suction with vertical delivery, high efficiency volute type to pass any solid that passes through the impeller and provides smooth unobstructed flow. Delivery flange and feet are cast integral with the casing. A large inspection opening is provided on casing throat and on suction cover.

### Impeller :

Single suction type enclosed impeller dynamically balanced. Semi-open impeller on request.

### Shaft :

Shaft is supported by two bearings. Shaft in stuffing box area is protected by a shaft sleeve.

### Stuffing box :

Standard stuffing box sealing is grease. Optional sealing by water. Gland packed without cooling upto 90 deg C and with cooling upto 140 deg C. Mechanical seal arrangement possible.

### Bearings :

Standard : Spherical Roller Bearing at DE, Cylindrical roller bearing at NDE.  
Standard lubrication is grease and optional is oil.

### Direction of rotation :

Clockwise viewed from driving end.

### Drive :

These pumps are suitable for coupling with electric motor or I.C. engine directly or through belt drive. Vertical pumps can be driven through Cardan Shafts. Cardan Shafts can be provided with protection cover if required.

### Flanges :

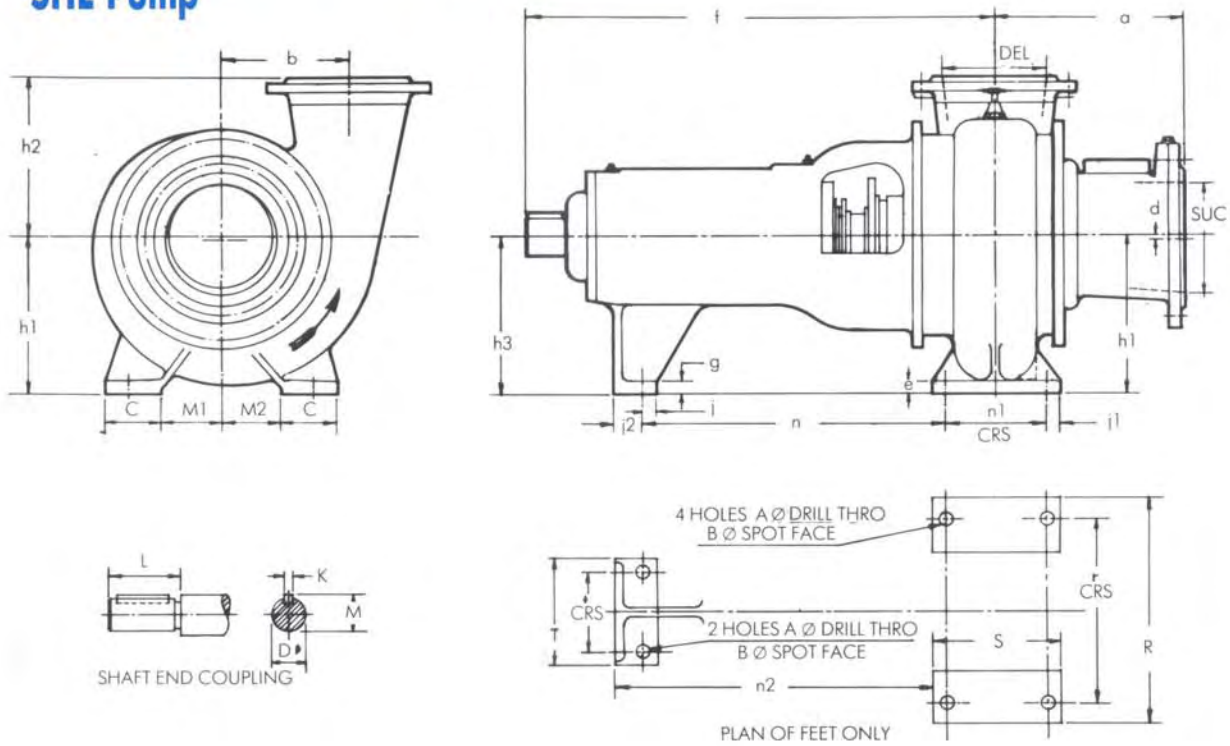
Standard drilling to DIN 2533 ND 16  
Optional drilling to ASA/BS/IS

## Cut-Sectional View





# General Dimensions / Mounting Details SHL Pump

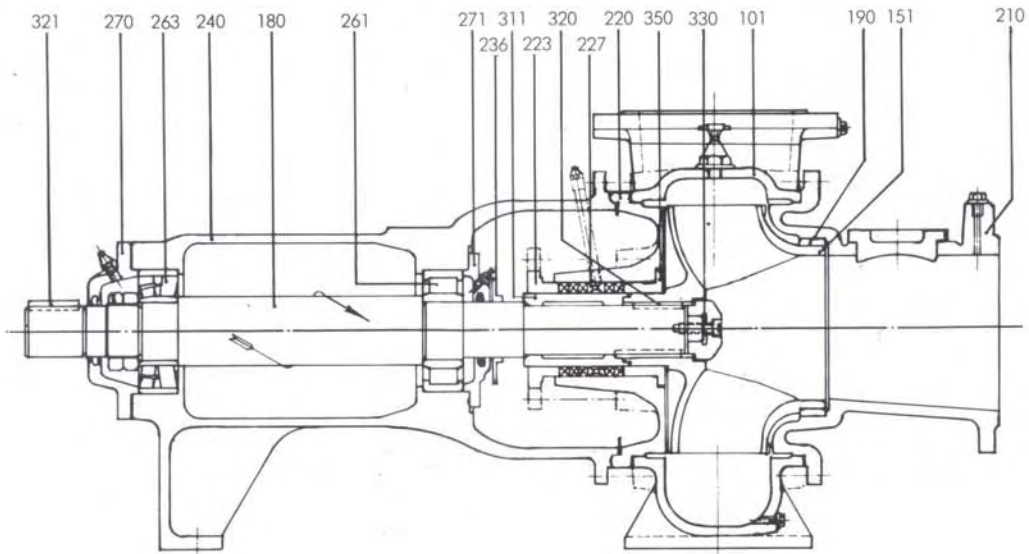


## Dimensions

SR NO.	PUMP TYPE	SUC	DEL	a	b	c	g	a	f	h1	h2	K	L	M	DØ	m1	m2	n	n1	n2	d	r	R	S	T	f	AØ	BØ	i	i1	i2	h3	APPROX Wt. IN Kg.
1	SHL 250/40	250	250	450	275	125	20	25	1170	350	350	22	140	87	80	150	150	720	250	755	10	450	550	300	280	200	23	41	40	25	60	350	450
2	SHL 250/50	250	250	450	325	125	20	25	1170	400	400	22	140	87	80	200	200	720	250	755	5	550	650	300	280	200	23	41	40	25	60	350	600
3	SHL 300/55	300	300	450	365	120	20	25	1170	450	425	22	140	87	80	225	225	720	250	755	20	600	700	350	280	200	23	41	40	50	60	350	700
4	SHL 350/65A	350	350	500	415	150	30	40	1300	525	500	22	130	90.4	85	275	275	850	350	860	20	750	850	450	400	300	30	54	50	50	60	425	1020
5	SHL 350/65B	350	350	500	415	150	30	40	1300	525	500	22	130	90.4	85	275	275	850	300	860	20	750	850	450	400	300	30	54	50	50	60	425	1020
6	SHL 350/80	350	350	520	485	150	30	40	1300	600	580	22	130	90.4	85	320	320	850	300	860	20	750	950	450	400	300	30	54	50	50	60	450	1700
7	SHL 400/70	400	400	550	535	150	30	40	1300	700	650	22	130	90.4	85	450	450	850	330	860	20	1040	1200	450	400	300	30	54	50	60	60	500	1000
8	SHL 400/85	400	400	600	600	150	35	45	1400	750	700	32	180	127.4	120	450	450	950	380	950	20	1040	1200	500	500	400	40	67	60	60	60	500	1800
9	SHL 450/110	450	450	600	670	175	35	45	1400	800	750	32	180	127.4	120	425	425	950	380	1000	20	1040	1200	500	500	400	40	67	60	60	110	550	3500
10	SHL 500/100	500	500	750	690	175	35	45	1400	900	850	32	180	127.4	120	475	475	950	460	990	25	1140	1300	600	500	400	40	67	60	70	110	650	2700
11	SHL 550/130	550	550	800	825	200	50	50	1600	1000	900	40	250	169.4	160	550	550	1000	460	1040	25	1340	1500	600	600	450	45	75	60	70	110	700	4700
12	SHL 600/130	600	600	850	850	200	50	60	1600	1050	950	40	250	169.4	160	650	650	1000	640	1060	25	1600	1700	800	600	450	45	75	60	70	130	750	4200
13	SHL 750/110	750	750	900	870	200	50	65	1600	1100	950	40	250	169.4	160	800	800	1000	640	1060	30	1800	2000	800	600	450	45	75	60	70	130	800	3800
14	SHL 750/150	750	750	950	800	200	50	65	1600	1175	1050	40	250	169.4	160	800	800	1000	640	1060	30	1800	2000	800	600	450	45	75	60	70	130	850	6800
15	SHL 900/110	900	900	1100	950	200	50	80	1600	1200	1000	40	250	169.4	160	800	800	1000	640	1060	30	1800	2000	800	600	450	45	75	60	70	130	900	4250
16	SHL 900/130	900	900	1100	1000	200	50	80	1600	1250	1080	40	250	169.4	160	800	800	1000	650	1055	30	1800	2000	800	600	450	45	75	60	75	130	970	7000

All dimensions are in mm.

## Cross Sectional View



PART NO.	NAME OF THE PART	PART NO.	NAME OF THE PART
101	Pump casing	261	Cylindrical roller bearing
151	Impeller	263	Spherical roller bearing
180	Shaft	270	Bearing cover (DE)
190	Casing ring	271	Bearing cover (NDE)
210	Suction cover	311	Shaft sleeve
220	Casing cover	320	Key for impeller
223	Gland	321	Key for coupling
227	Lantern ring	330	Impeller nut
236	Deflector	350	St. box bush
240	Bearing housing		

## Material of Construction

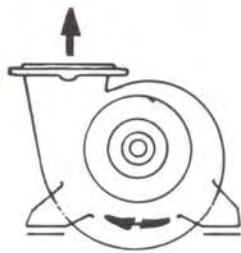
Pump Casing	CI	CI	NiCI	CF8M
Impeller	CI/Bronze	Ph.Br.	NiCI	CF8M
Casing Cover	CI	CI	NiCI	CF8M
Wearing Ring	CI/Bronze	Ph.Br.	NiCI	CF8M
Shaft	CS	CS	AISI 410	AISI 316
Shaft Sleeve	AISI 410H	AISI410H	AISI 410H	AISI 316
Gland	CI	CI	NiCI	CF8M
Lantern Ring	CI	CI	NiCI	CF8M

NiCI is Cast Iron with 1.5% Nickel  
H indicates hardened material.  
Other materials are also available.

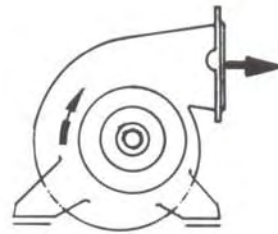
## Material Standards

Material	IS	Equivalent International Standards	
		BS	ASTM
Cast Iron (CI)	IS 210 (1978) Gr. FG 260	BS 1452 Gr. 250	ASTM-A 48 Cl 35
Carbon Steel (CS)	IS 1570 Gr. 40 C-8	BS 970 080 M 40	ASTM-A 107 Gr.1040
CF8M	IS 3444 Gr. 9	BS 1632 Gr. B	ASTM-A 351 Gr. CF8M
AISI 316	IS 1570 Gr. 05 Cr. 18	BS 970 316 S16	ASTM-A 276 Type 316
AISI 410		BS 970 410 S21	ASTM-A 276 Type 410
Bronze	IS 318 Gr. LTB 2	BS 1400 LG 2C	ASTM-B62, B 145 Alloy 4A
Phosphor Bronze (Ph. Br.)	IS 28 Gr. 1	BS 1400 PB 4	

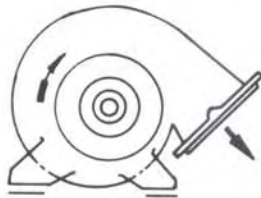
## Executions



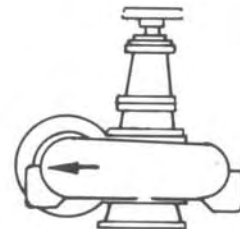
VERTICAL DELIVERY END



HORIZONTAL DELIVERY END



OBLIQUE DELIVERY END



VERTICAL

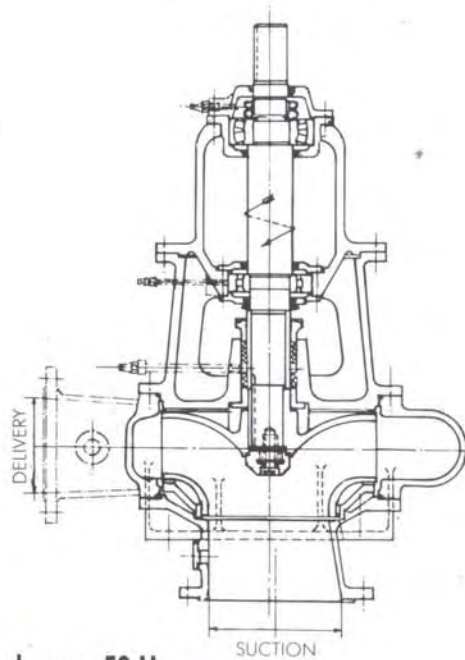


## Alternative Arrangements

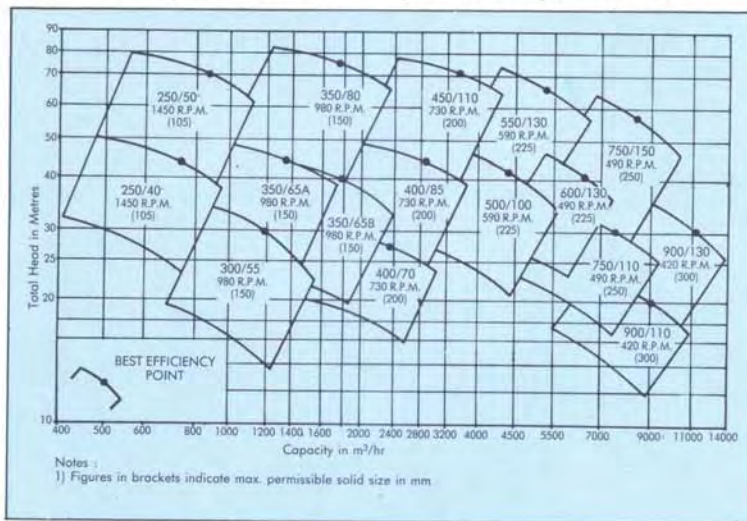
### SHL-V Pump with Cardan Shafting



## Vertical Execution



Family Curve of SHL Pump at Rated rpm - 50 Hz



As we are constantly endeavouring to improve the performance of our products/equipment we reserve the right to make alterations from time to time and as such our products/equipment may differ from that detailed in this publication. For latest information you may get in touch with our Regional Sales Offices.



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