



SHAKTI PRESSURE BOOSTER & SELF PRIMING PUMPS



SH Pumps | SJP Pumps
CRP Pumps - 50Hz



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SH SERIES

DESCRIPTION



INTRODUCTION

The Shakti SH, SHI, SHN pumps are non-self priming, horizontal, multistage centrifugal pumps.



Pumps and motor are integrated in a compact and user friendly design fitted to a base plate making the pumps suitable for installation in compact systems.

SH, SHI, SHN pumps have many incorporate advantage such as those mentioned below.

Worldwide usage

- Different voltage and frequency combinations.
- State-of-the-art shaft seal materials (silicon carbide SiC-G) offering these benefits :
 - high wear resistance and long operating times
 - reduced risk of sticking if the liquid contains glycol
 - improved dry-running properties due to the graphite content of the SiC.

Electro-coated cast iron parts

- High corrosion resistance.
- Better efficiency because of smooth surfaces.

Customized solutions

- Motor adaptation

Materials

SH: Chambers and all moving parts in contact with the pumped liquid are made of stainless steel. Discharge chamber, suction chamber and base plate are painted non-gloss black.

SHI, SHN: Discharge chamber, suction chamber, base plate and all parts in contact with the pumped liquid are made of stainless steel. The pump is CE-marked.

APPLICATIONS

The SH, SHI, SHN pumps are designed for small domestic and industrial systems.

- Fluid transfer and circulation of liquids within light industry and farming
- Pressure boosting in single-pump and multi pump booster systems
- Domestic water supply
- Cooling systems
- Air-conditioning systems

TECHNICAL DATA

Flow, Q	-	Max. 14 m ³ / hr
Head, H	-	Max. 58 m
Liquid Temp.	-	0°C to 90°C
Operat. Pres.	-	Max. 6 bar

PUMPED LIQUIDS

SH: Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibers.

SHI, SHN: Thin, clean, slightly aggressive and non-explosive liquids without solid particles or fibers.

OPERATING CONDITIONS

Liquid temperature range: 0 °C to +90 °C
Max. ambient temperature: +55 °C.

The maximum operating pressure depends on the temperature of the pumped liquid. See the table.

Max. inlet pressure:	1 MPa (10 bar)	0.6 MPa (6 bar)
SH, SHI, SHN 2 SH, SHI, SHN 4	0 °C to +40 °C	+41 °C to +90 °C
SH, SHI, SHN 8 SH, SHI, SHN 12	0 °C to +55 °C	+56 °C to +90 °C

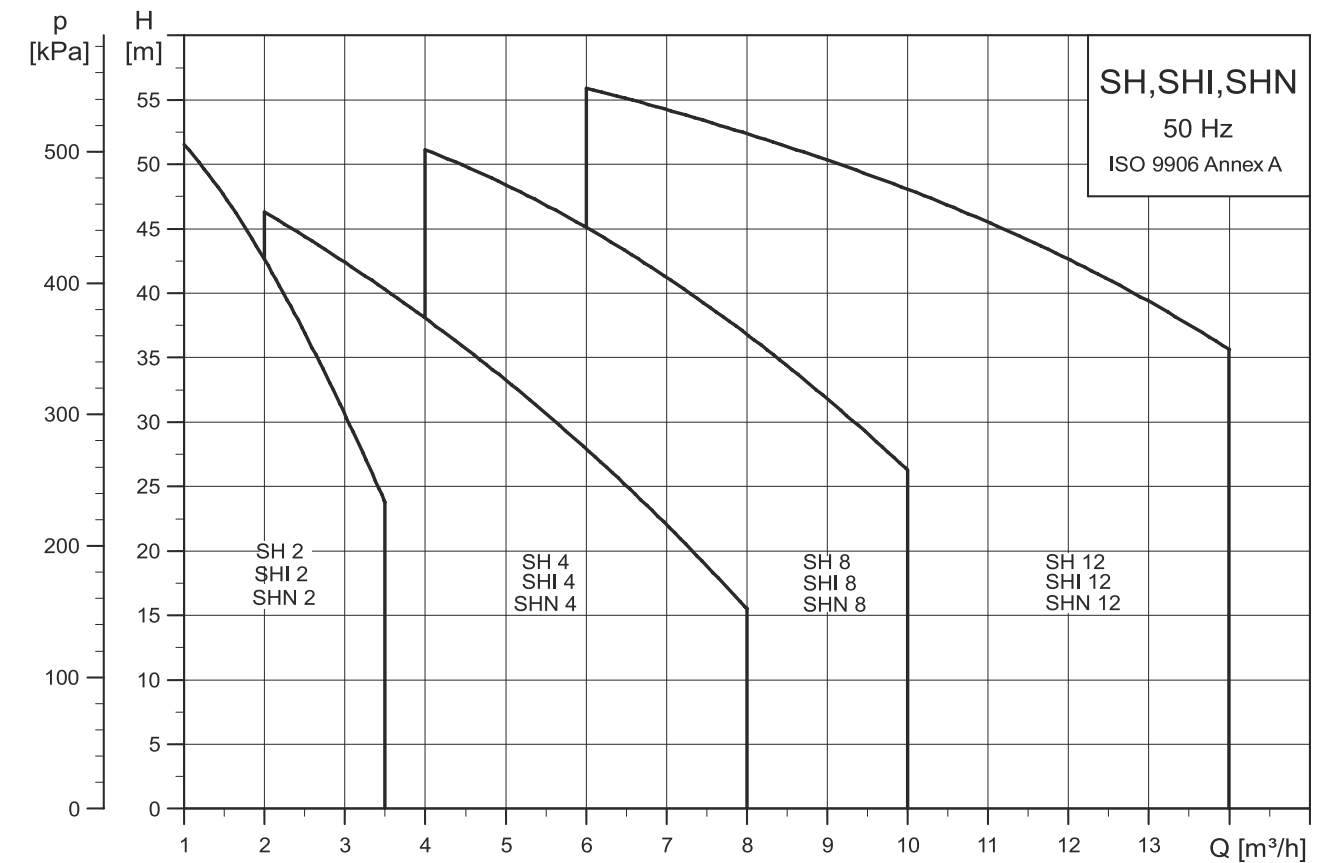
Min. inlet pressure: According to the NPSH curve plus a safety margin of 0.5 m.

Max. inlet pressure: Limited by the max.operating pressure.

DESCRIPTION

PERFORMANCE RANGE

SH, SHI, SHN



CONSTRUCTION

SH, SHI & SHN 2
Section drawing

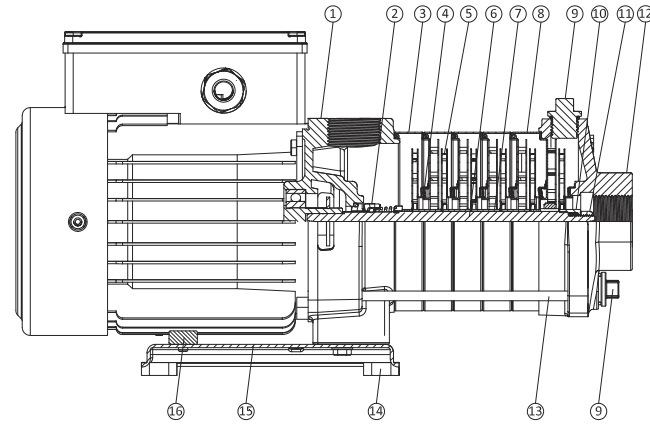


Fig. 1 SH, SHI & SHN 2 with SMG 71 motor

Pos No	Description	Pos No	Description
1	Discharge Chamber	9	Plug
2	Mechanical Seal	10	Spline Clamp
3	Chamber Complete	11	Lock Nut
4	Neckring	12	Suction Chamber
5	Impeller	13	Tie Rod
6	Pump Shaft	14	Rubber Pad
7	Spacing Sleeve	15	Base Plate
8	Middle Chamber Complete	16	Rubber Supporter

SH, SHI & SHN 4
Sectional drawing

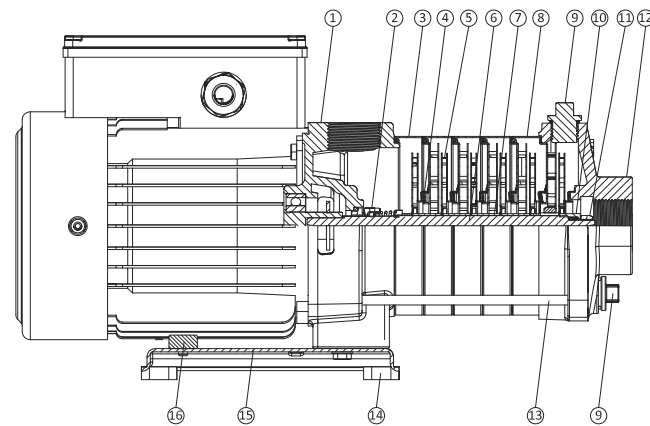


Fig. 2 SH, SHI & SHN 4 with SMG 80 motor

Pos No	Description	Pos No	Description
1	Discharge Chamber	9	Plug
2	Mechanical Seal	10	Spline Clamp
3	Chamber Complete	11	Lock Nut
4	Neckring	12	Suction Chamber
5	Impeller	13	Tie Rod
6	Pump Shaft	14	Rubber Pad
7	Spacing Sleeve	15	Base Plate
8	Middle Chamber Complete	16	Rubber Supporter

CONSTRUCTION

SH, SHI & SHN 8
Section drawing

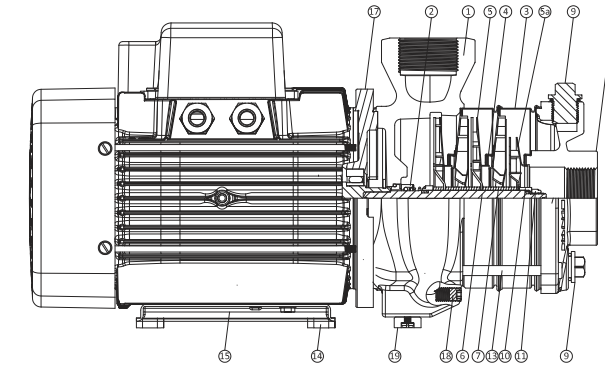


Fig. 3 SH, SHI & SHN 8 with SMG 80 motor

Pos No	Description	Pos No	Description
1	Discharge Chamber	10	Spline Clamp
2	Mechanical Seal	11	Lock Nut
3	Chamber Complete	12	Suction Chamber
4	Neckring	13	Tie Rod
5	Impeller	14	Rubber Pad
5a	Impeller Cutted	15	Base Plate
6	Pump Shaft	17	End Shield
7	Spacing Sleeve	18	Grub Screw
9	Middle Chamber Complete	19	Rubber Pad

SH, SHI & SHN 12
Section drawing

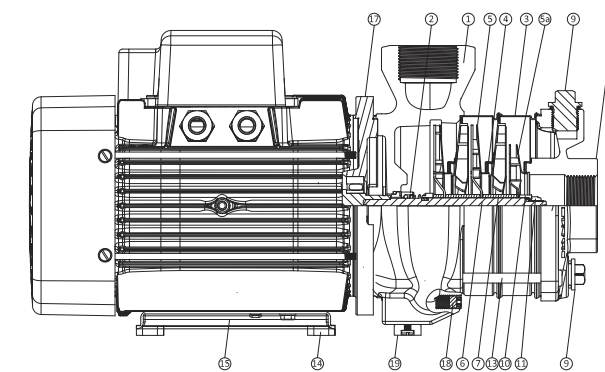


Fig. 4 SH, SHI & SHN 12 with SMG 90 motor

Pos No	Description	Pos No	Description
1	Discharge Chamber	10	Spline Clamp
2	Mechanical Seal	11	Lock Nut
3	Chamber Complete	12	Suction Chamber
4	Neckring	13	Tie Rod
5	Impeller	14	Rubber Pad
5a	Impeller Cutted	15	Base Plate
6	Pump Shaft	17	End Shield
7	Spacing Sleeve	18	Grub Screw
9	Middle Chamber Complete	19	Rubber Pad

MATERIAL OF CONSTRUCTION

Pos.no.	Description	Material	SH	SHI	SHN
1	Shaft Seal				
Motor parts					
2	Stop ring	Stainless steel	AISI 316	AISI 316	AISI 316
3	Stator housing	Silumin/composit (SMG71 & SMG80) Silumin (SMG90)			
4	Fan cover	Steel (SMG71 & SMG80) Composit PBT/PC (SMG90)			
5	Ball bearing				
6	Bearing cover plate	Stainless steel	AISI 304	AISI 304	AISI 304
7	Fan	Nylon 66			
8	Non drive end shield	Silumin			
9	Lip seal				
10	Spring				
11	O-ring	NBR rubber			
12	Gasket				
13	Terminal box cover				
14	Terminal box				
15	Shaft	Stainless steel	AISI 431	AISI 431	AISI 431
16	Stay bolt (SMG 90)	steel			
Pump parts					
17	Pump housing				
18	Discharge chamber	Cast iron / Stainless steel	CAST IRON	AISI 304	AISI 316
19	Chamber	Stainless steel	AISI 304	AISI 304	AISI 316
20	Suction chamber	Cast iron / Stainless steel	CAST IRON	AISI 304	AISI 316
21	Plug	Free cutting steel / stainless steel	AISI 304	AISI 304	AISI 316
22	Stay bolt	Galvanized steel			
23	Hexagon head screw				
24	Lock washer				
25	Gasket	Teflon	NBR	NBR	NBR
26	Bearing plate				
27	Neck ring	PTFE	PTFE	PTFE	PTFE
28	"Impellers SH,SHI,SHN 8 & 12: Ø130mm SH,SHI,SHN 4: Ø95mm SH,SHI,SHN 2: Ø90mm"	Stainless steel	AISI 304	AISI 304	AISI 316
29	Base plate	MS	AISI 304	AISI 304	AISI 304
30	Spacing pipe	Stainless steel	AISI 304	AISI 304	AISI 316
31	Retainer neck ring	Stainless steel	AISI 304	AISI 304	AISI 316
32	Clamp	Stainless steel	AISI 304	AISI 304	AISI 316
33	Lock nut	Stainless steel	AISI 304	AISI 304	AISI 316
34	Diverting disc	NR rubber			
35	Rubber pad	NBR			
36	Rubber Supporter	NBR			

CURVE CHARTS

CURVE CONDITIONS

The guideline below apply to the curves on the following pages.

- Tolerances according to ISO 9906, Annex A
- The **bold** curves state the recommended performance range
- The thin curves are only intended as a guide
- The curves must not be used as guarantee curves
- All curves are based on measurements at:
 - 1 x 230 V, 50 Hz
 - 3 x 400 V, 50 Hz
- When the motor is running at the lowest or highest rated voltage, the pump performance will usually vary by $\pm 0.5 - 1.0$ m at a given duty point
- Specific minimum performance requirements necessitate individual measurements

- The measurements have been made with airless water at a temperature of 20 °C (~70 °F)
- The conversion between head H (m) and pressure p_3

HOW TO READ THE CURVE CHARTS

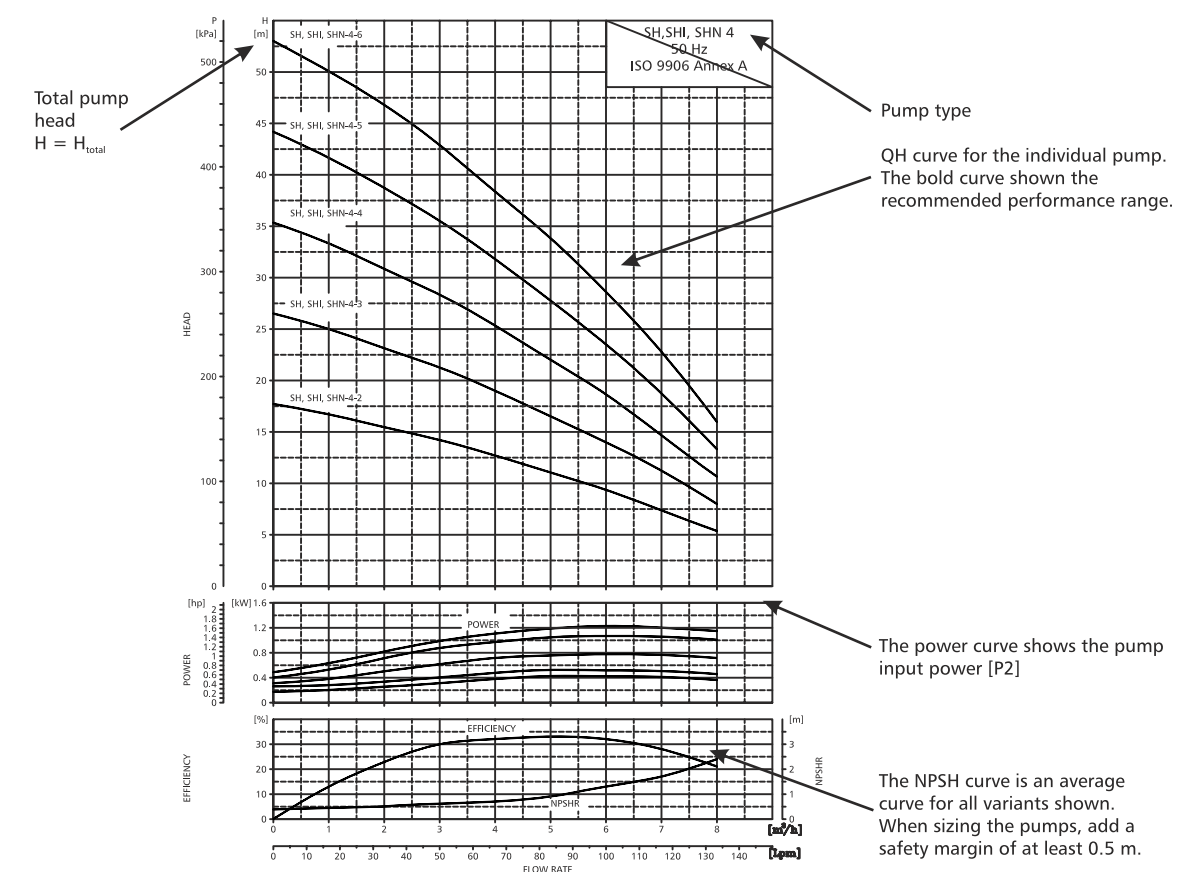
Curves

QH : Pump performance at actual speed.

P_2 : Pump input power.

Eta 1 : Total efficiency, i.e. pump with motor, is shown in the curve charts as Eta 1.

NPSH : Average values for all variants shown in chart 1. When sizing, make a safety allowance of at least 0.5 m.



PRESSURE BOOSTING PUMP 50 Hz - PERFORMANCE CURVE

TECHNICAL DATA

SH, SHI, SHN 2

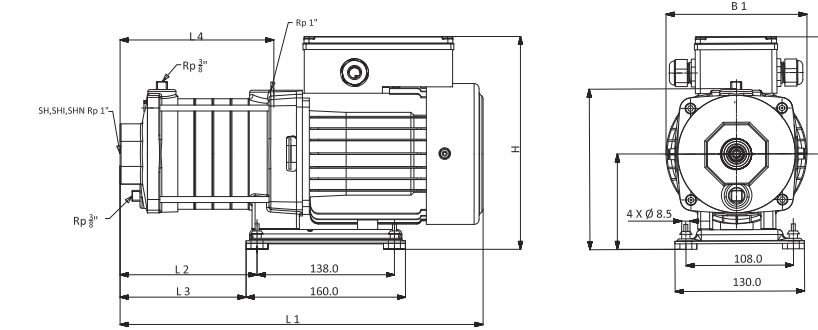
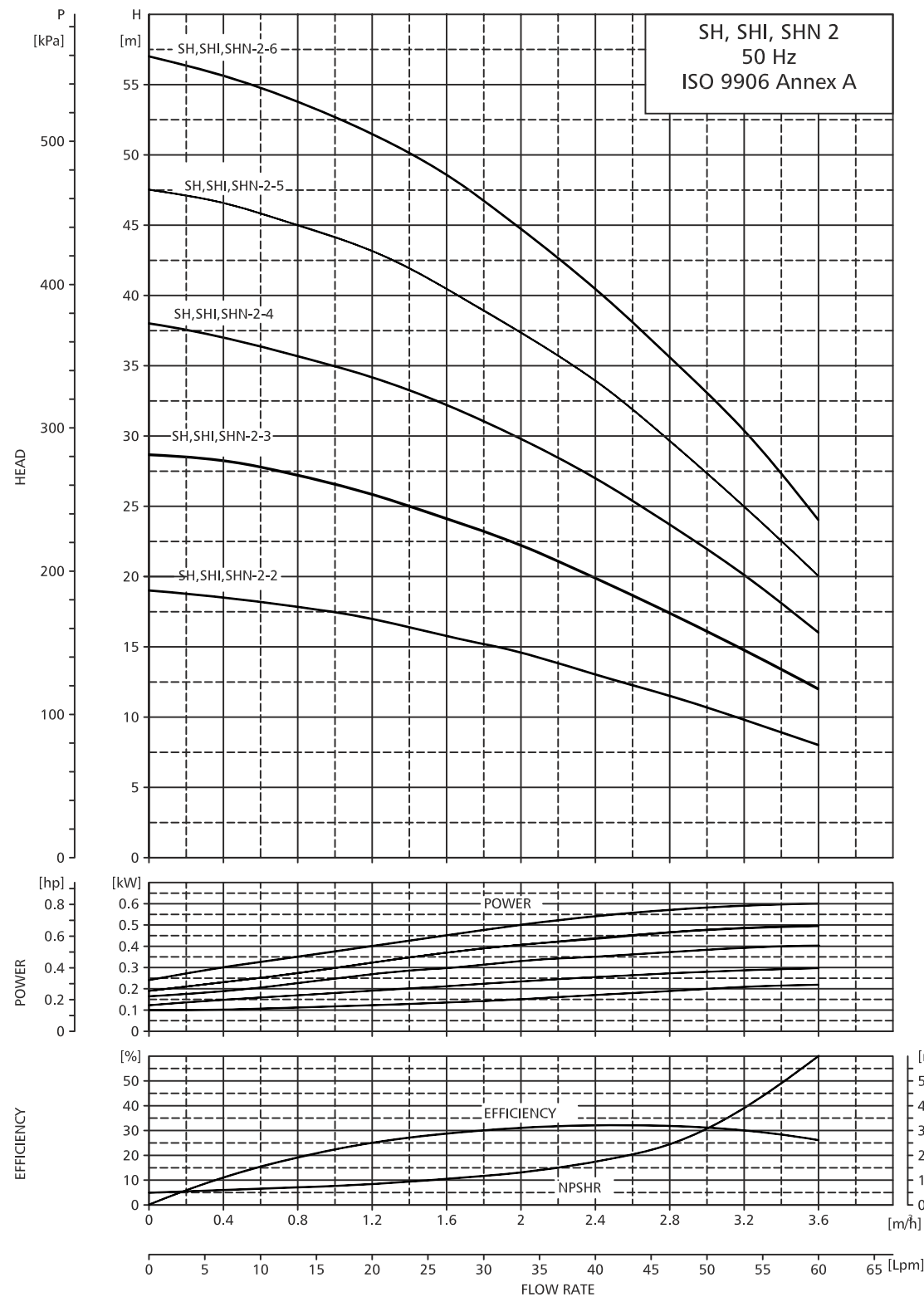


Fig.5 Dimensional sketches, SH,SHI,SHN-2

Performance Chart

Model	kW	HP	Phase	m ³ /hr Lpm	Head (mtr)								Suction pipe (Inches)	Delivery pipe (Inches)
					0	0.8	1.2	1.6	2	2.4	2.8	3.2		
SH,SHI,SHN 2-2	0.37	0.5	1 & 3	19	18	17	16	15	13	12	1	1		
SH,SHI,SHN 2-3	0.37	0.5	1 & 3	29	27	26	24	22	20	18	1	1		
SH,SHI,SHN 2-4	0.37	0.5	1 & 3	38	36	34	32	30	26	24	1	1		
SH,SHI,SHN 2-5	0.55	0.75	1 & 3	48	45	43	40	38	33	30	1	1		
SH,SHI,SHN 2-6	0.55	0.75	1 & 3	57	54	52	48	45	41	36	1	1		

Dimensions

Voltage (V)	Frequency (Hz)	Pump type	Motor type	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	B1 (mm)	B2 (mm)	H (mm)
1 X 200-240	50	SH,SHI,SHN 2-2	SMG 71	311	74	64	100	142	124	222
		SH,SHI,SHN 2-3	SMG 71	329	92	82	118	142	124	222
		SH,SHI,SHN 2-4	SMG 71	347	120	109	136	142	124	222
		SH,SHI,SHN 2-5	SMG 71	365	138	127	154	142	124	222
		SH,SHI,SHN 2-6	SMG 71	383	156	145	172	142	124	222
3 X 220-240 / 380-415	50	SH,SHI,SHN 2-2	SMG 71	311	74	64	100	142	124	222
		SH,SHI,SHN 2-3	SMG 71	329	92	82	118	142	124	222
		SH,SHI,SHN 2-4	SMG 71	347	120	109	136	142	124	222
		SH,SHI,SHN 2-5	SMG 71	365	138	127	154	142	124	222
		SH,SHI,SHN 2-6	SMG 71	383	156	145	172	142	124	222

Weight

Pump type	Single phase			Three phase		
	Net wt. (kg)	Gross weight (kg)	Shipping volume (m ³)	Net wt. (kg)	Gross weight (kg)	Shipping volume (m ³)
SH,SHI,SHN 2-2	9.6	11.4	0.0187	11.1	11.8	0.0187
SH,SHI,SHN 2-3	9.6	11.4	0.0187	10.7	11.6	0.0187
SH,SHI,SHN 2-4	12.3	13.3	0.0187	11.0	11.7	0.0187
SH,SHI,SHN 2-5	12.3	13.3	0.0236	11.5	12.2	0.0235
SH,SHI,SHN 2-6	12.8	13.8	0.0236	11.8	12.5	0.0235

Electrical data

Voltage (V)	Frequency (Hz)	Pump type	Motor type	I _{in} [A]	I _{it} [A]	P ₁ [W]	P ₂ [W]	C [μF/V]
1 X 200-240	50	SH,SHI,SHN 2-2	SMG 71	3.4	18.0	624	370	15 / 450
		SH,SHI,SHN 2-3	SMG 71	3.4	18.0	624	370	15 / 450
		SH,SHI,SHN 2-4	SMG 71	3.4	18.0	624	370	15 / 450
		SH,SHI,SHN 2-5	SMG 71	4.0	18.0	890	550	15 / 450
		SH,SHI,SHN 2-6	SMG 71	4.0	18.0	890	550	15 / 450
3 X 220-240 / 380-415	50	SH,SHI,SHN 2-2	SMG 71	1.9 / 1.0	9.5 / 5.0	470	370	
		SH,SHI,SHN 2-3	SMG 71	1.9 / 1.0	9.5 / 5.0	470	370	
		SH,SHI,SHN 2-4	SMG 71	1.9 / 1.0	9.5 / 5.0	470	370	
		SH,SHI,SHN 2-5	SMG 71	2.3 / 1.3	11.5 / 6.5	710	550	
		SH,SHI,SHN 2-6	SMG 71	2.3 / 1.3	11.5 / 6.5	710	500	

PRESSURE BOOSTING PUMP 50 Hz - PERFORMANCE CURVE

TECHNICAL DATA

SH, SHI, SHN 4

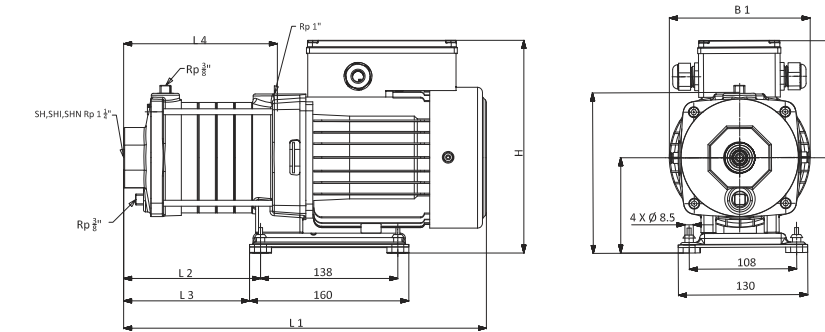
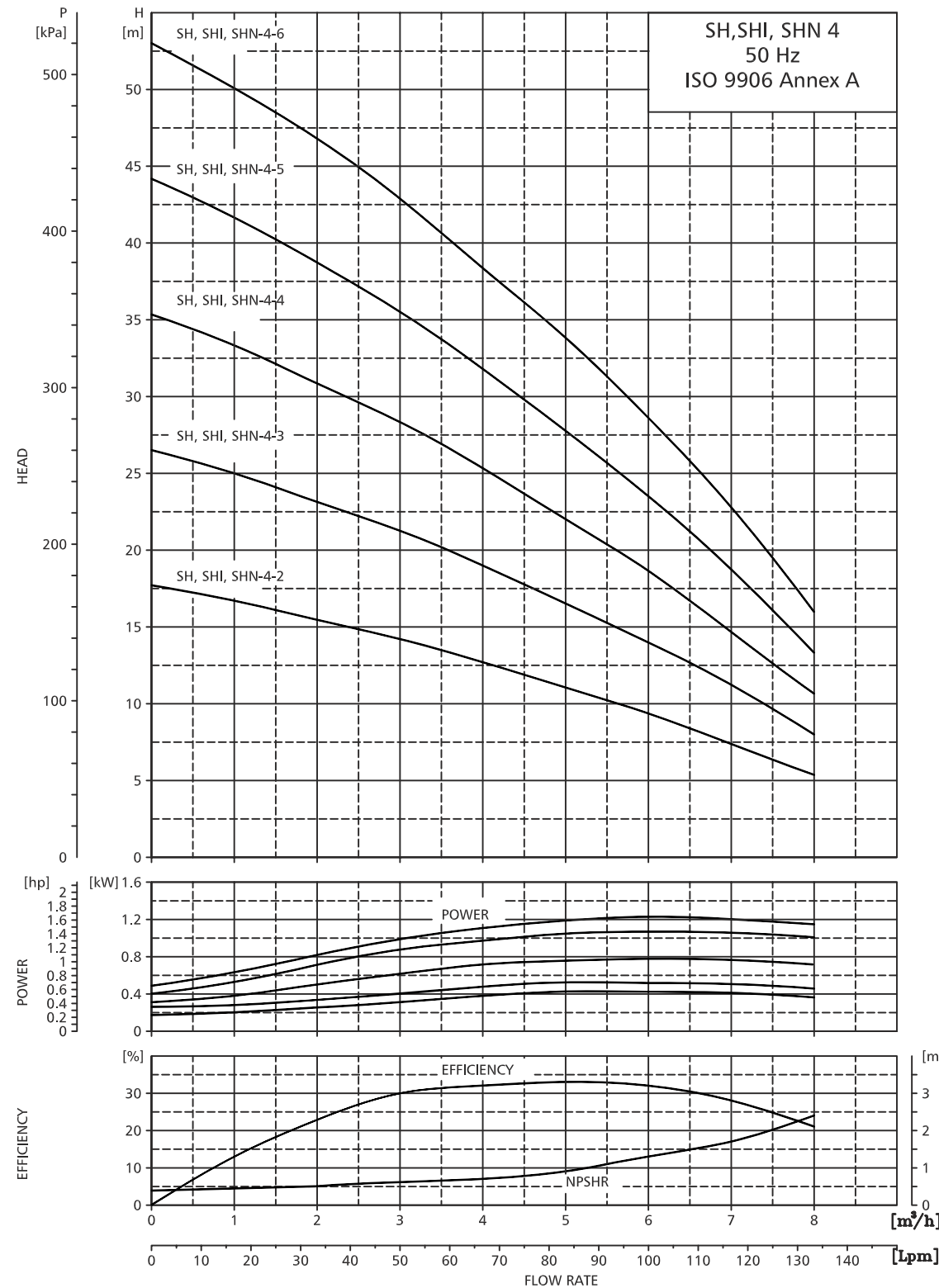


Fig.6 Dimensional sketches, SH,SHI,SHN-4

Performance Chart

Model	kW	HP	Phase	m ³ /hr Lpm	Head (mtr)								Suction pipe (Inches)	Delivery pipe (Inches)
					0	2	3	4	5	6	7	117		
SH,SHI,SHN 4-2	0.37	0.5	1 & 3	16	15	14	13	11	9	7	1 1/4	1		
SH,SHI,SHN 4-3	0.55	0.75	1 & 3	26	23	22	19	16	14	11	1 1/4	1		
SH,SHI,SHN 4-4	0.75	1.0	1 & 3	35	31	27	25	22	18	14	1 1/4	1		
SH,SHI,SHN 4-5	1.1	1.5	1 & 3	44	39	36	32	28	23	18	1 1/4	1		
SH,SHI,SHN 4-6	1.1	1.5	1 & 3	53	46	42	38	33	27	22	1 1/4	1		

Dimensions

Voltage (V)	Frequency (Hz)	Pump type	Motor type	L1	L2	L3	L4	B1	B2	H
				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
1 X 200-240	50	SH,SHI,SHN 4-2	SMG 71	360	88	77	110	146	115	206
		SH,SHI,SHN 4-3	SMG 71	387	115	104	137	146	115	206
		SH,SHI,SHN 4-4	SMG 80	414	142	131	164	146	115	206
		SH,SHI,SHN 4-5	SMG 80	441	169	158	191	141	135	226
		SH,SHI,SHN 4-6	SMG 80	468	196	185	218	141	135	226
		SH,SHI,SHN 4-2	SMG 71	360	88	77	110	146	115	206
3 X 220-240 / 380-415	50	SH,SHI,SHN 4-3	SMG 71	387	115	104	137	146	115	206
		SH,SHI,SHN 4-4	SMG 80	414	142	131	164	146	115	206
		SH,SHI,SHN 4-5	SMG 80	441	169	158	191	141	135	226
		SH,SHI,SHN 4-6	SMG 80	468	196	185	218	141	135	226
		SH,SHI,SHN 4-2	SMG 71	360	88	77	110	146	115	206
		SH,SHI,SHN 4-3	SMG 71	387	115	104	137	146	115	206

Weight

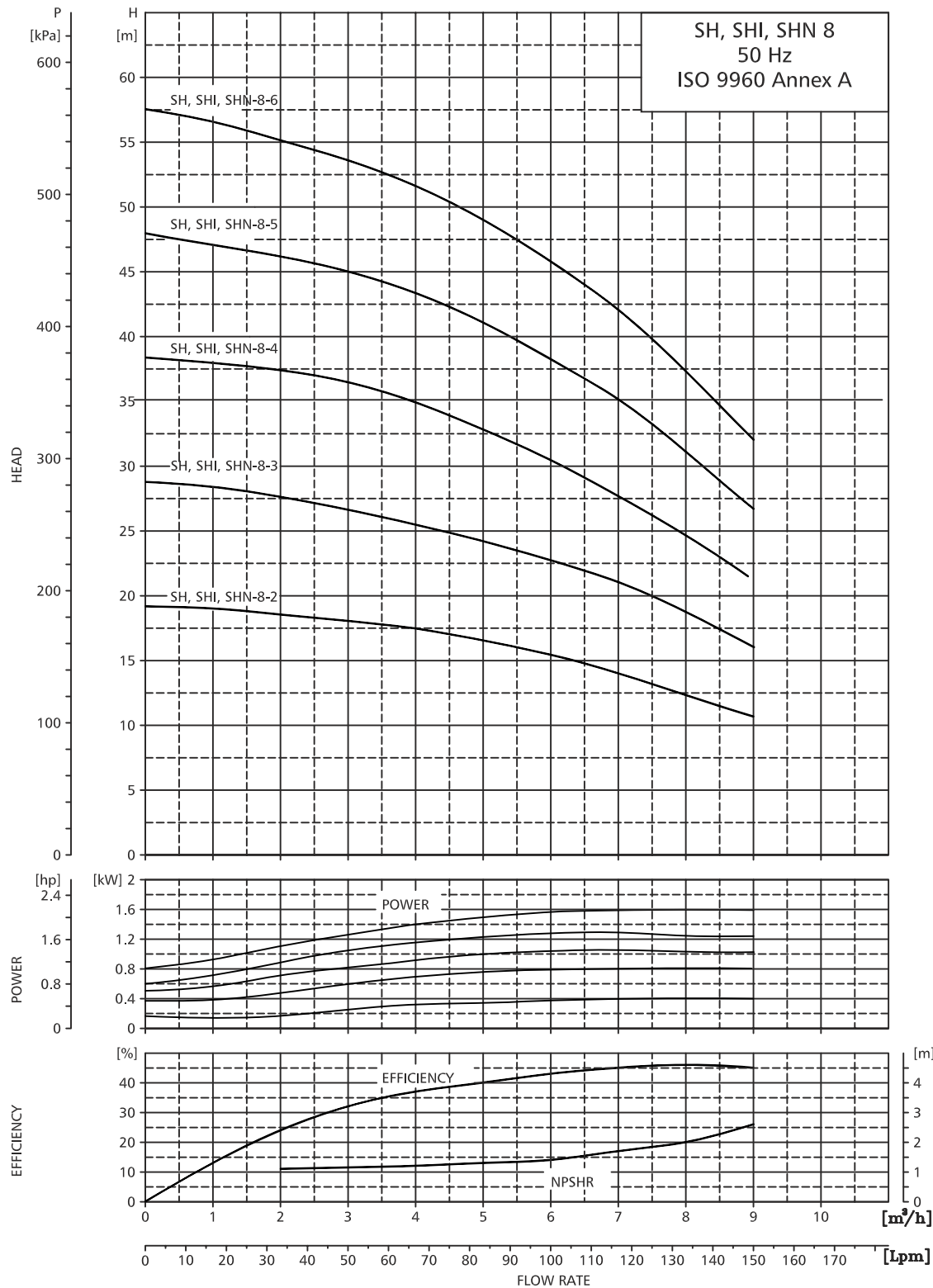
Pump type	Single phase			Three phase		
	Net wt. (kg)	Gross weight (kg)	Shipping volume (m ³)	Net wt. (kg)	Gross weight (kg)	Shipping volume (m ³)
SH,SHI,SHN 4-2	9.5	10.1	0.0187	9.6	10.3	0.0187
SH,SHI,SHN 4-3	10.9	11.6	0.0187	11	11.7	0.0187
SH,SHI,SHN 4-4	15.1	16.1	0.0235	15.1	16.1	0.0235
SH,SHI,SHN 4-5	15.3	16.3	0.0235	15.3	16.3	0.0422
SH,SHI,SHN 4-6	15.7	16.6	0.0235	15.7	16.6	0.0422

Electrical data

Voltage (V)	Frequency (Hz)	Pump type	Motor type	I _{v1}	I _{st}	P ₁	P ₂	C
				[A]	[A]	[W]	[W]	[µF/V]
1 X 200-240	50	SH,SHI,SHN 4-2	SMG 71	3.4	18	624	370	15 / 450
		SH,SHI,SHN 4-3	SMG 71	4.0	18	890	550	15 / 450
		SH,SHI,SHN 4-4	SMG 80	5.6	36	1080	750	25 / 450
		SH,SHI,SHN 4-5	SMG 80	7.4	36	1570	1100	25 / 450
		SH,SHI,SHN 4-6	SMG 80	7.4	36	1570	1100	25 / 450
		SH,SHI,SHN 4-2	SMG 71	1.9 / 1.0	9.5 / 5.0	470	370	
3 X 220-240 / 380-415	50	SH,SHI,SHN 4-3	SMG 71	2.3 / 1.3	11.5 / 6.5	710	550	
		SH,SHI,SHN 4-4	SMG 80	3.0 / 1.8	15.0 / 9.0	1375	1100	
		SH,SHI,SHN 4-5	SMG 80	4.6 / 2.6	23.0 / 13.0	1375	1100	
		SH,SHI,SHN 4-6	SMG 80	4.6 / 2.6	23.0 / 13.0	1375	1100	
		SH,SHI,SHN 4-2	SMG 71	1.9 / 1.0	9.5 / 5.0	470	370	
		SH,SHI,SHN 4-3	SMG 71	2.3 / 1.3	11.5 / 6.5	710	550	

PRESSURE BOOSTING PUMP 50 Hz - PERFORMANCE CURVE

SH, SHI, SHN 8



TECHNICAL DATA

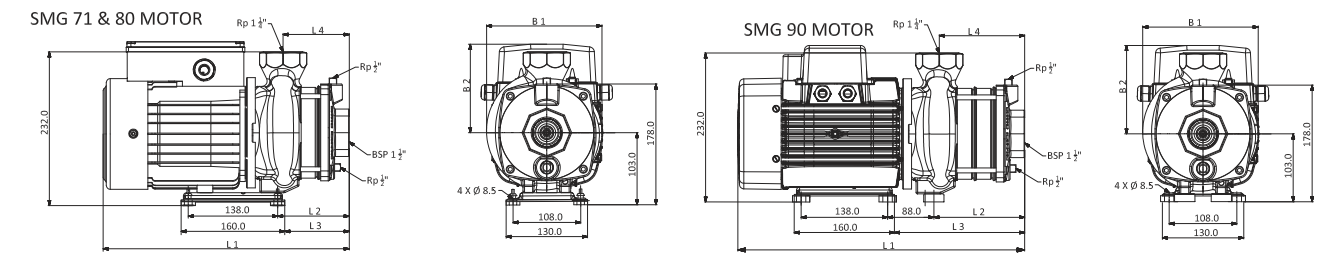


Fig.7 Dimensional sketches, SH,SHI,SHN -8

Performance Chart

Model	kW	HP	Phase	m³/hr Lpm	0	4	5	6	7	8	9	Suction pipe (Inches)	Delivery pipe (Inches)
SH,SHI,SHN 8-2	0.55	0.75	1 & 3	Head (mtr)	19	18	16	15	14	12	11	1 1/2	1 1/4
SH,SHI,SHN 8-3	0.75	1.0	1 & 3		29	26	24	23	21	18	16	1 1/2	1 1/4
SH,SHI,SHN 8-4	1.1	1.5	1 & 3		38	35	33	31	28	24	21	1 1/2	1 1/4
SH,SHI,SHN 8-5	1.5	2.0	1 & 3		47	43	41	38	35	31	27	1 1/2	1 1/4
SH,SHI,SHN 8-6	1.5	2.0	1 & 3		57	52	48	46	42	37	32	1 1/2	1 1/4

Dimensions

Voltage (V)	Frequency (Hz)	Pump type	Motor type	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	B1 (mm)	B2 (mm)
1 X 220-240	50	SH,SHI,SHN 8-2	SMG 71	352	56	45	74.5	183	117
		SH,SHI,SHN 8-3	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 8-4	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 8-5	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 8-6	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 8-2	SMG 71	352	56	45	74.5	183	117
3 X 220-240 / 380-415	50	SH,SHI,SHN 8-2	SMG 71	352	56	45	74.5	183	117
		SH,SHI,SHN 8-3	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 8-4	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 8-5	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 8-6	SMG 90	465	151	228	139.5	189	189

Weight

Pump type	Single phase			Three phase		
	Net wt. (kg)	Gross weight (kg)	Shipping volume (m³)	Net wt. (kg)	Gross weight (kg)	Shipping volume (m³)
SH,SHI,SHN 8-2	15	17	0.0422	15	17	0.0422
SH,SHI,SHN 8-3	17	19	0.0422	17	19	0.0422
SH,SHI,SHN 8-4	19	21	0.0422	19	21	0.0422
SH,SHI,SHN 8-5	28.8	31.6	0.0422	20	22	0.0422
SH,SHI,SHN 8-6	28.8	31.6	0.0422	25	27	0.0422

Electrical data

Voltage (V)	Frequency (Hz)	Pump type	Motor type	I _{1N} [A]	I _R [A]	P ₁ [W]	P ₂ [W]	C [μF/V]
1 X 220-240	50	SH,SHI,SHN 8-2	SMG 71	4.0	18.0	890	550	15 / 450
		SH,SHI,SHN 8-3	SMG 80	5.6	36.0	1080	750	25 / 450
		SH,SHI,SHN 8-4	SMG 80	7.4	36.0	1570	1100	25 / 450
		SH,SHI,SHN 8-5	SMG 90	9.8	50.0	2140	1500	50 / 450
		SH,SHI,SHN 8-6	SMG 90	9.8	50.0	2140	1500	50 / 450
		SH,SHI,SHN 8-2	SMG 71	2.3 / 1.3	11.5 / 6.5	710	550	
3 X 220-240 / 380-415	50	SH,SHI,SHN 8-3	SMG 80	3.0 / 1.8	15.0 / 9.0	980	750	
		SH,SHI,SHN 8-4	SMG 80	4.6 / 2.6	23.0 / 13.0	1500	1100	
		SH,SHI,SHN 8-5	SMG 90	6.2 / 3.4	31.0 / 17.0	1800	1500	
		SH,SHI,SHN 8-6	SMG 90	6.2 / 3.4	31.0 / 17.0	1800	1500	

PRESSURE BOOSTING PUMP 50 Hz - PERFORMANCE CURVE

TECHNICAL DATA

SH, SHI, SHN 12

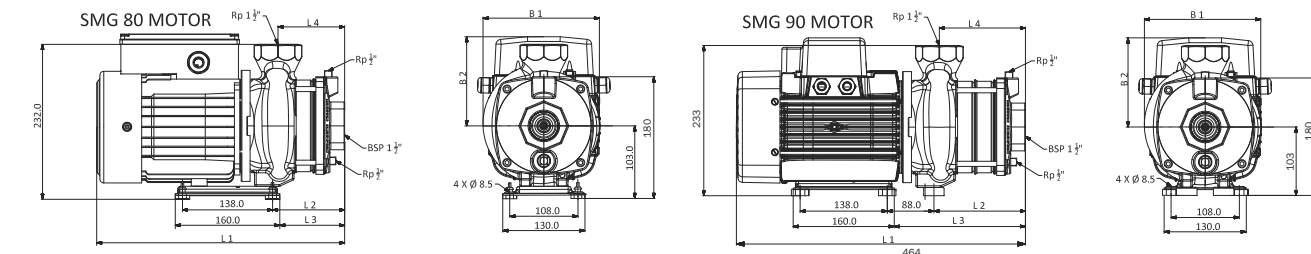
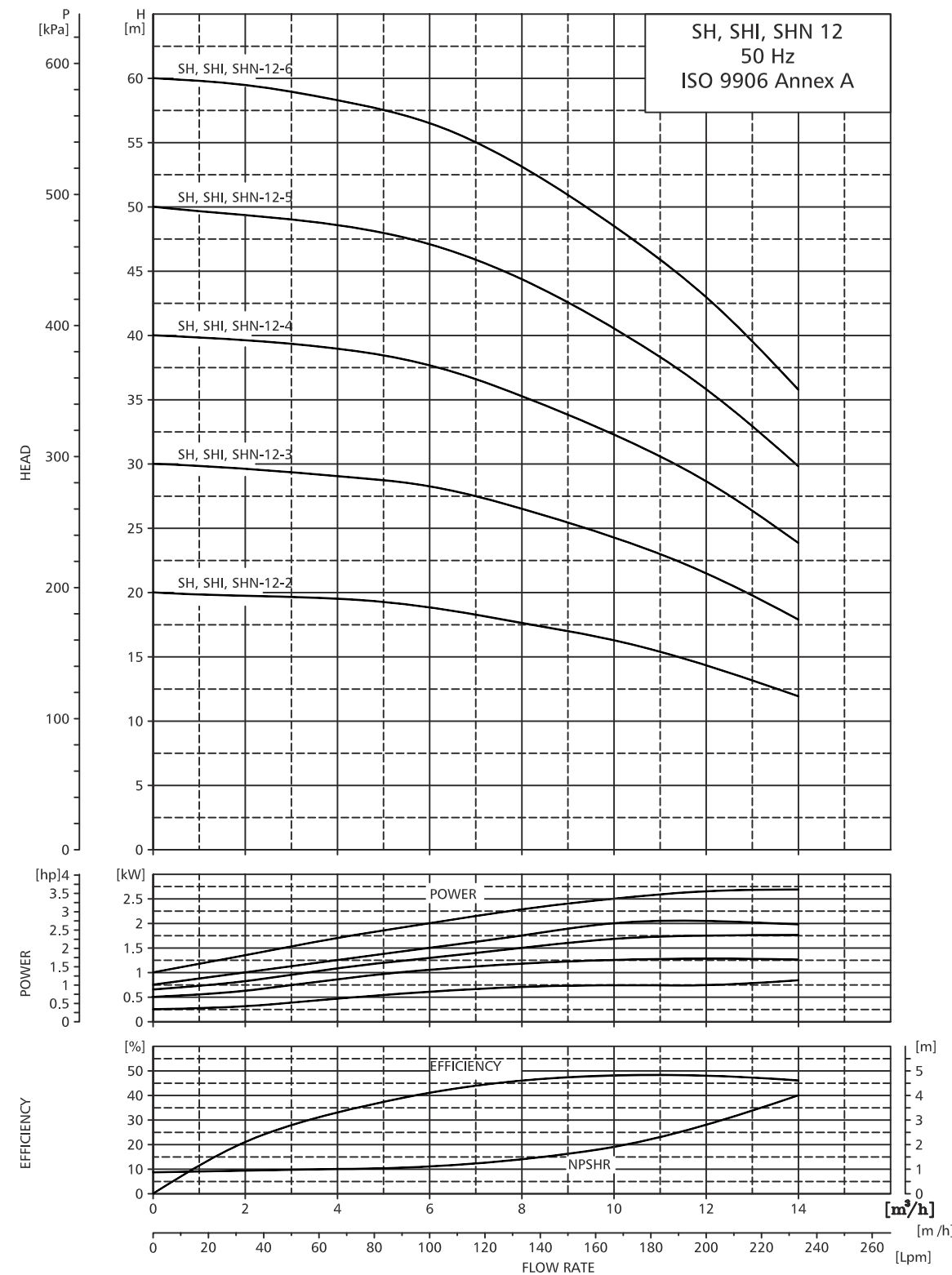


Fig.8 Dimensional sketches, SH,SHI,SHN -12

Performance Chart

Model	kW	HP	Phase	Flow Rate							Suction pipe (Inches)	Delivery pipe (Inches)
				0	4	6	8	10	12	14		
SH,SHI,SHN 12-2	0.75	1.0	1 & 3	0	67	100	133	166	200	233	1 1/2	1 1/2
SH,SHI,SHN 12-3	1.1	1.5	1 & 3	20	20	18	17	16	14	12	1 1/2	1 1/2
SH,SHI,SHN 12-4	1.5	2.0	1 & 3	30	29	28	27	24	22	18	1 1/2	1 1/2
SH,SHI,SHN 12-5	2.2	3.0	1 & 3	40	38	37	35	32	28	24	1 1/2	1 1/2
SH,SHI,SHN 12-6	2.2	3.0	1 & 3	50	47	46	44	41	36	30	1 1/2	1 1/2
				60	58	56	53	48	43	36	1 1/2	1 1/2

Dimensions

Voltage (V)	Frequency (Hz)	Pump type	Motor type	L1	L2	L3	L4	B1	B2
				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
1 X 220-240	50	SH,SHI,SHN 12-2	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 12-3	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 12-4	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 12-5	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 12-6	SMG 90	465	151	228	139.5	189	189
3 X 220-240 / 380-415	50	SH,SHI,SHN 12-2	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 12-3	SMG 80	385	88.5	77.5	107	183	177
		SH,SHI,SHN 12-4	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 12-5	SMG 90	465	151	228	139.5	189	189
		SH,SHI,SHN 12-6	SMG 90	465	151	228	139.5	189	189

Weight

Pump type	Single phase			Three phase		
	Net wt. (kg)	Gross weight (kg)	Shipping volume (m³)	Net wt. (kg)	Gross weight (kg)	Shipping volume (m³)
SH,SHI,SHN 12-2	17	19	0.0422	17	19	0.0422
SH,SHI,SHN 12-3	19	21	0.0422	19	21	0.0422
SH,SHI,SHN 12-4	26	28	0.0422	24	26	0.0422
SH,SHI,SHN 12-5	27	29	0.0422	27	29	0.0422
SH,SHI,SHN 12-6	28.5	30.7	-	28.2	30.5	0.0422

Electrical data

Voltage (V)	Frequency (Hz)	Pump type	Motor type	I _{1n}	I _{rt}	P ₁	P ₂	C
				[A]	[A]	[W]	[W]	[μF/V]
1 X 220-240	50	SH,SHI,SHN 12-2	SMG 80	5.6	36	1080	750	25 / 450
		SH,SHI,SHN 12-3	SMG 80	7.4	36	1570	1100	25 / 450
		SH,SHI,SHN 12-4	SMG 90	9.8	50	2140	1500	50 / 450
		SH,SHI,SHN 12-5	SMG 90	13.4	50	3000	2200	50 / 450
		SH,SHI,SHN 12-6	SMG 90	13.4	50	3000	2200	50 / 450
3 X 220-240 / 380-415	50	SH,SHI,SHN 12-2	SMG 80	3.0 / 1.8	15.0 / 9.0	980	750	
		SH,SHI,SHN 12-3	SMG 80	4.6 / 2.6	23.0 / 13.0	1500	1100	
		SH,SHI,SHN 12-4	SMG 90	6.2 / 3.4	31.0 / 17.0	1800	1500	
		SH,SHI,SHN 12-5	SMG 90	8.3 / 4.8	41.5 / 24.0	2715	2200	
		SH,SHI,SHN 12-6	SMG 90	8.3 / 4.8	41.5 / 24.0	2715	2200	

PUMP LIQUIDS

PUMP LIQUIDS

Thin, non-explosive fluids, not containing solid particles or fibers. The fluids must not chemically attack the pump materials.

When pumping fluids with a density and/or viscosity higher than those of water, oversized motors must be used, if required.

Whether a pump is suitable for a particular fluid depends on a number of factors of which the most important are the chloride content, pH value, temperature and content of chemicals and oils.

Please note that aggressive fluids (for instance seawater and some acids) may attack or dissolve the protective oxide film of the stainless steel and thus cause corrosion.

LIST OF PUMPED LIQUIDS

A number of typical fluids are listed below.

Other pump version may be applicable, but those stated in the list are considered to be the best choices.

The table is intended as a general guide only and cannot replace actual testing of the pumped fluids and pump materials under specific working conditions.

PUMP LIQUIDS	SH	SHI, SHN	ADDITIONAL INFORMATION	NOTES
Water				
Boiler Feed Water	CQOE	CQOE		
Condensate	CQOE	CQOE		
Cooling & Cutting Lubricants	CQOE	CQQV		a
Groundwater	CQOE	CQOE	< 300 ppm chloride	
Demineralised Water		CQOE		
District Heating Water	CQOE	CQOE		
Oil-containing Water	CQQV	CQQV		
Softened Water	CQOE	CQOE		
Swimming Pool Water, Chlorinated	CQOE	CQOE	40 °C, 150 ppm chloride < 2 ppm free chloride"	

The list should, however, be applied with some caution as factors such as concentration of the pumped fluid, fluid temperature or pressure may affect the chemical resistance of a specific pump version.

Safety precautions must be made when pumping dangerous fluids.

Notes

a	May contain additives or impurities which can cause shaft seal problems.
b	The density and viscosity may differ from those of water. Consider this when calculating motor and pump performance.
c	In order to avoid corrosion, the fluid must be free of oxygen, flammable or combustible fluid.
d	safety precautions must be considered to ensure safe handling of flammable fluids. Handling the fluid above the flashpoint and/or boiling point will require the greatest restrictions. A seal-less pump may be required. Contact Shakti.
e	Risk of crystallization/precipitation on the shaft seal.
f	If oil residues are present, EPDM cannot be used.

PUMP LIQUIDS

PUMP LIQUIDS	SH	SHI, SHN	ADDITIONAL INFORMATION	NOTES
Fuels				
Diesel Oil	CQQV	CQQV		d
Jet Fuel	CQQV	CQQV		d
Kerosene	CQQV	CQQV		d
Petrol	CQQV	CQQV		d
Biodiesel	CQQV	CQQV		d
Naptha	CQQV	CQQV		d
Mineral Oils				
Crude Oil	CQQV	CQQV	< 20 °C	a,b,d
Mineral Lubricating Oil	CQQV	CQQV		b,d
Mineral Motor Oil	CQQV	CQQV		b,d
Coolants				
Ethylene Glycol	CQOE	CQOE	< 50 °C	a,b
Glycerine (Glycerol)	CQOE	CQOE	< 50 °C	a,b
Hydrocarbon Based Collent	CQQV	CQQV	50 °C	b,d
Potassium Acetate (Inhabited)	CQOE	CQOE	< 20 °C	a,b,c,e
Potassium Formate (Inhabited)	CQOE	CQOE	< 20 °C	a,b,c,e
Propylene Glycol	CQOE	CQOE	< 50 °C	a,b
Synthetic Oils				
Synthetic Lubricating Oil	CQQV	CQQV		b,d
Synthetic Motor Oil	CQQV	CQQV		b,d
Silicon Oil	CQQV	CQQV		b
Cleaning				
Alkaline Degreasing Agent	CQOE	CQOE	<60 °C	a,f
Soap (Salt of Fatty Acids)	CQQV	CQQV	<80 °C	a
Vegetable Oils				
Corn Oil	CQQV	CQQV		a,b
Olive Oil	CQQV	CQQV		a,b
Peanut Oil	CQQV	CQQV		a,b
Rape-seed Oil	CQQV	CQQV		a,b
Soya Oil	CQQV	CQQV		a,b

PUMP LIQUIDS

PUMP LIQUIDS	SH	SHI, SHN	ADDITIONAL INFORMATION	NOTES
Oxidants				
Hydrogen Peroxide		CQQE	20 °C	
Salts				
Ammonium Bicarbonate	CQQE	CQQE	(20 °C, 15%), (60 °C, 30%)	b
Potassium Bicarbonate	CQQE	CQQE	(20 °C, 20%), (60 °C, 30%)	b
Sodium Carbonate	CQQE	CQQE	(20 °C, 20%), (60 °C, 30%)	b,e
Potassium Permanganete		CQQE	20 °C, 1%	
Sodium Nitrate	CQQE	CQQE	(20 °C, 5%), (60 °C, 30%)	b
Sodium Nitrite	CQQE	CQQE	(20 °C, 20%), (60 °C, 30%)	b
Sodium Phospate (mono)		CQQE	60 °C, 5%	b
Sodium Phospate (di)	CQQE	CQQE	(30 °C, 30%), (60 °C, 30%)	b
Sodium Phospate (tri)	CQQE	CQQE	(20 °C, 10%), (70 °C, 20%)	b,e
Sodium Sulphate		CQQE	60 °C, 30%	b,e
Sodium Sulphite	CQQE	CQQE	(20 °C, 1%), (60 °C, 20%)	b,e
Acids				
Acetic Acid		CQQE	20 °C, 5%	
Citric Acid		CQQE	20 °C, 1%	
Nitric Acid		CQQE	20 °C, 5%	b
Phosphoric Acid		CQQE	20 °C, 1%	a
Alkalies				
Ammonium Hydroxide	CQQE	CQQE	30 °C, 30%	
Calcium Hydroxide	CQQE	CQQE	30 °C, 5%	a
Potassium Hydroxide	CQQE	CQQE	(20 °C, 20%), (60 °C, 20%)	b,e
Sodium Hydroxide	CQQE	CQQE	(20 °C, 20%), (80 °C, 20%)	b,e

SJP SERIES DESCRIPTION



FEATURES

- Self-Priming Pump.
- Stable operation even in case of air pockets in the liquid.
- Built-in ejector, fitted with an ejector valve or a plug having two different setting possibilities (open and close) for maximum discharge, maximum efficiency etc.
- Easy installation.
- Dynamically balanced rotating parts to ensure minimum vibration during running.
- Replaceable wearing parts and hence longer life.
- Easy maintenance and spares availability.
- Automatic start/stop when equipped with Press control.
- Booster sets for small-scale water supply.
- Low Noise Level.

APPLICATIONS

- Wide variety of water supply & transfer duties in home.
- Used for agriculture, horticulture.
- Used for small scale service Industries.
- Gardening and hobby activities.



MATERIAL OF CONSTRUCTION

Part Name	Material
Motor Stool with Base Plate	Composite
Pump Sleeve	Stainless Steel
Impeller	Stainless Steel
Shaft	Stainless Steel 304
Ejector	Composite
Clamps	Stainless Steel 304
O-Rings	NBR Rubber
Seal Ring	PPE Composite
Bearing Plate	Stainless Steel 304

TECHNICAL DATA

Discharge	-	Up to 83 LPM
Head	-	Up to 40 m.
Ratings	-	1.0 HP to 2.0 HP
Operating Pressure	-	Up to 6 bar
Liquid Temp.	-	0°C to +40°C
Ambient Temp.	-	Maximum +40°C
Suction Lift	-	Maximum 8 M. including suction pipe Pressure loss at a liquid temp. of +20°C

DESCRIPTION

PERFORMANCE

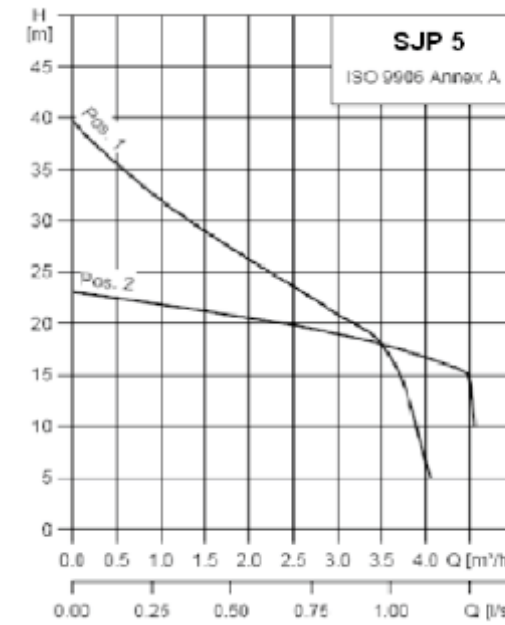
Approximate performance of "Self Priming Pump (SJP)" series 2 pole induction motor at rated voltage 50HZ, Single Phase and three phase A.C power supply.

PERFORMANCE CHART SJP

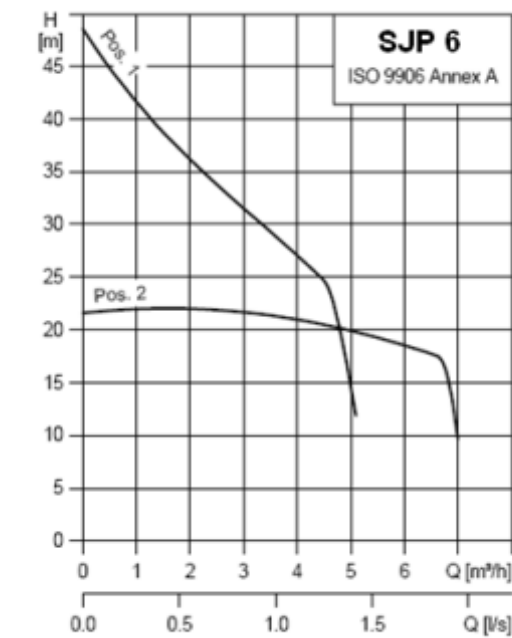
SR.NO.	MODEL	H.P.	TANK SIZE (l)	VALVE POSITION	CONNECTION (RP)	TOTAL HEAD IN METERS					
						40	30	25	20	15	10
						DISCHARGE IN LPM					
1	SJP 5	1.00	18,24,50	1	1	0	21	38	54	62	63
2	SJP 6	2.00		1		19	53	71	80	83	-

PERFORMANCE CURVE / TECHNICAL DATA

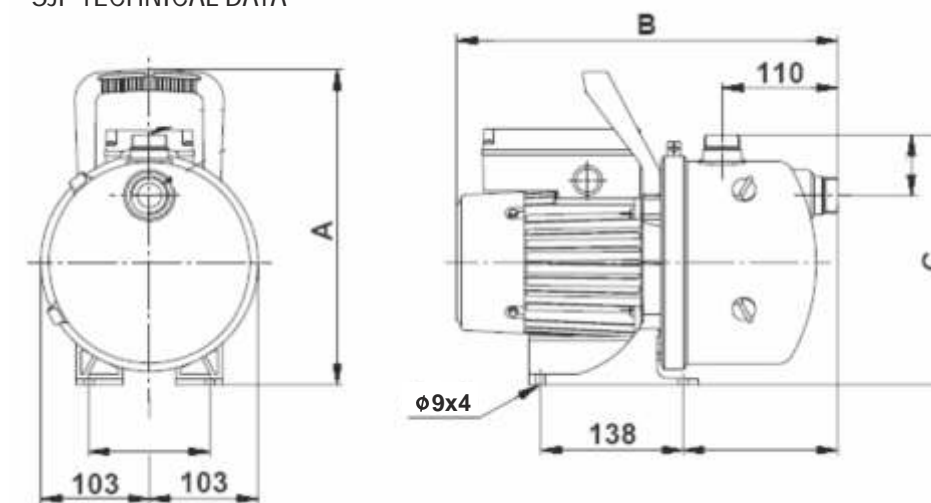
SJP 5 PERFORMANCE CURVE



SJP 6 PERFORMANCE CURVE



SJP TECHNICAL DATA



Pump type	Dimensions (mm)		
	A	B	C
SJP 5	298	412	234
SJP 6	300	430	240

CAUTIONS:-

- These Pumps are designed for pumping water and thin non-aggressive liquids, not containing solid particles or fiber.
- If the pump has been used for dirty liquids e.g., pool water, it must be flushed with clean water immediately after use.
- The pump should not be used for inflammable liquids like diesel, petrol or similar liquids.

CRP SERIES

DESCRIPTION



FEATURES:

- High quality die cast aluminum motor body
- Anti corrosive coated cast iron parts
- Built in winding protector
- Insulation class "B"
- SS Shaft
- Bronze Impeller
- Duty Cycle S1
- Double sealed ball bearings



APPLICATIONS:

- Domestic Water Supply
- Over head tanks
- Home pressure boosting
- Construction Site
- Gardens/ Fountains

CRP PERFORMANCE TABLE

SR. NO	MODEL	SUCTION & DELIVERY PIPE SIZE (MM)	H.P.	TOTAL HEAD IN METERS											
				6	10	12	18	20	24	30	36	40	50	60	
1	CRP-05	25X25	0.50	42	40	38	27	25	22	14	8				
2	CRP-10	25X25	1.00		58	54	45	40	35	31	25	24	14	6	