



# SOLAR PUMPS

DC SURFACE



## CONTENT

---

DESCRIPTION	PAGE NO.
INTRODUCTION	01
SELECTION & SIZING	02
IDENTIFICATION	03
SOLAR PUMP CONTROLLER SPECIFICATION	04
CHANGE OVER SWITCH	05
DCSMP SERIES	
10 DCSSUP 300/500	06
8 DCSSUP 500	07
11 DCSMP 600	08
2 DCSMP 600	09
15 DCSMP 900	10
15 DCSMP 900*	11
38 DCSMP 1800	12
48 DCSMP 2700	13
30 DCSMP 2700	14
88 DCSMP 4800	15
53 DCSMP 4800	16
39 DCSMP 4800	17
146 DCSMP 6750	18
67 DCSMP 6750	19
48 DCSMP 6750	20
101 DCSMP 9000	21
67 DCSMP 9000	22
DCSCRI SERIES	
13 DCSCRI 1800	23
15 DCSCRI 2700	24
11 DCSCRI 2700	25
35 DCSCRI 4800	26
26 DCSCRI 4800	27
21 DCSCRI 4800	28
45 DCSCRI 6200	29
34 DCSCRI 6200	30
27 DCSCRI 6200	31
65 DCSCRI 8200	32
44 DCSCRI 8200	33
36 DCSCRI 8200	34
99 DCSCRI 14000	35
76 DCSCRI 14000	36
59 DCSCRI 14000	37
130 DCSCRI 18000	38
97 DCSCRI 18000	39
78 DCSCRI 18000	40
130 DCSCRI 24000	41
104 DCSCRI 24000	42

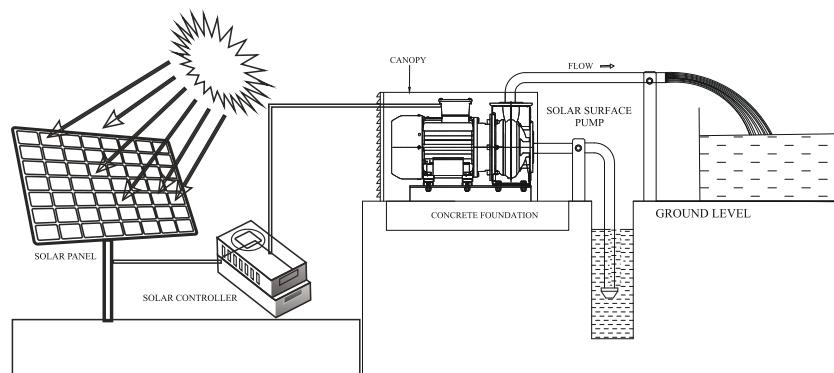
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 1. INTRODUCTION

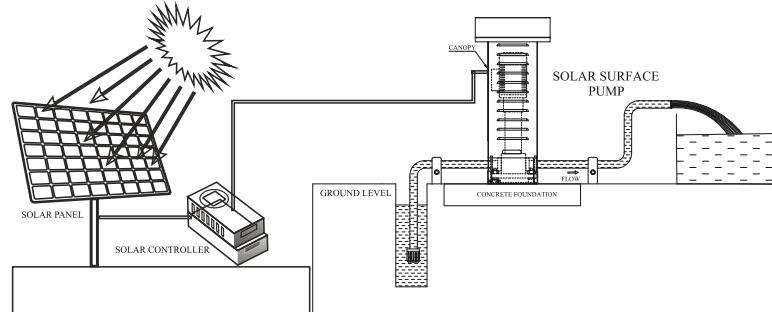
Shakti solar powered pump is a powered by solar energy. A solar powered irrigation pump consists one or more solar panels (also known as solar modules or solar plates.) a pump (mostly a centrifugal pump), electronic controls or a controller device to operate the pump, the required hardware and in some cases other items like inverter, batteries etc. On a simpler note, solar powered pumps are like traditional electric pump with the only exception that it uses solar energy instead of fossil fuel or electricity. A solar powered pump can be cost-effective, environment-friendly and low-maintenance solution for meeting water requirements for irrigation, community water supply, livestock and other purposes.

A solar powered pump works like any other available and commonly used water pumps. The main difference is solar powered pumps run on solar energy and does not require any fuel (diesel, kerosene, gas, etc.) or external source of electricity (from an electricity company) to deliver water.

#### Solar Pump Monoblock System



#### Solar Pump SCRI System



**Fig. 1 Schematic illustration of Solar Powered Pumping System**

Sunrays fall on the solar photovoltaic (PV) modules (a combination of multiple photovoltaic cells) and produce direct current (DC). If the pump requires alternating current (AC), the DC current produced by solar PV panels is converted to AC through an inverter before being fed to the motor of the pump.

**Shakti Solar Surface Pump set consists of following parts:**

- Solar Structure :** The solar structure is a set of solar modules which are to be connected in series and possibly strings of modules connected in parallel to get the required power to operate the pump.
- Controller :** The controller is an electric device that matches the power output from the solar Structure to the pump motor and regulates the Operation of the pump according to the input energy from solar array.
- Solar Surface Pump :** The solar surface pump comprises of the motor which drive the movement (Prime mover) of pump impeller which moves the water under pressure.

#### Shakti Solar Surface Pumps

A surface pump installed in the open by the side of a water sources, for example an open well, lake or canal. The pump remains out of the water, and generally the motor and the pumps can be seen separately. Surface pumps are usually easy to install and maintain. Surface pumps can also be feasible options in cases where the water table is within a depth of up to 7 meters and an open water source is available.

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SELECTION & SIZING

#### Minimum inlet pressure - NPSH

Calculation of the inlet pressure "H" is recommended when...

- The liquid temperature is high
- Water is drawn from depths
- The inlet conditions are poor
- The flow is significantly higher than the rated flow
- Water is drawn through long pipes

#### Calculation of maximum suction lift for water in open systems

To avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump. The maximum suction lift "H" in metres head can be calculated as follows:

$$H = p_b \times 10.2 - \text{NPSH} - H_f - H_v - H_s$$

$p_b$  = Barometric pressure in bar. (Barometric pressure can be set to 1 bar). In closed systems,  $p_b$  indicates the system pressure in bar.

NPSH = Net Positive Suction Head in metres head. (To be read from the NPSH curve at the highest flow the pump will be delivering).

$H_f$  = Friction loss in suction pipe in metres head. (At the highest flow the pump will be delivering.)

$H_v$  = Vapour pressure in metres head. (To be read from the vapour pressure scale. " $H_v$ " depends on the liquid temperature " $T_m$ ").

$H_s$  = Safety margin = minimum 0.5 metres head.

If the "H" calculated is positive, the pump can operate at a suction lift of maximum "H" metres head.

If the "H" calculated is negative, an inlet pressure of minimum "H" metres head is required.

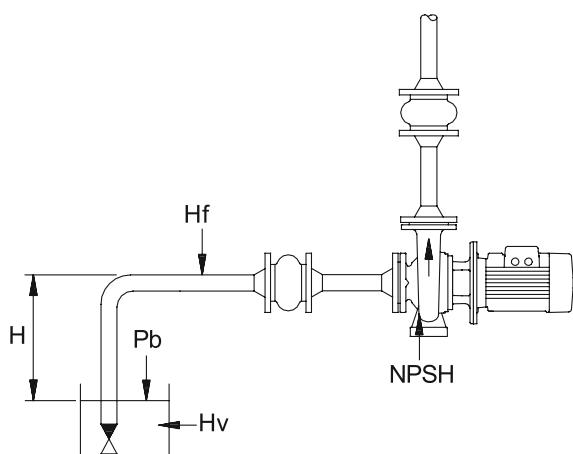


Fig.- 10 Schematic view of open system with Solar Surface Pump

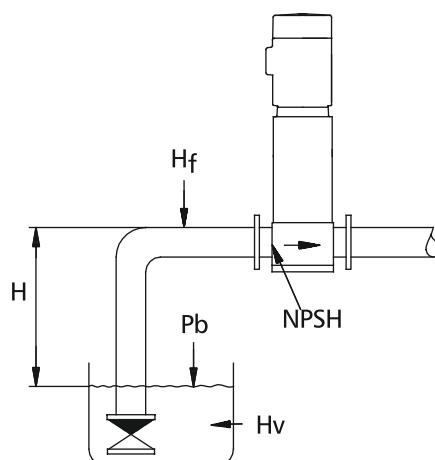


Fig.- 11 Relation between liquid temperature and vapour pressure

**Note:** In order to avoid cavitation never, select a pump whose duty points lies too far to the right on the NPSH curves. Always check the NPSH value of the pump at the highest. possible flow.

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

---

### IDENTIFICATION

#### DCSMP SERIES

Type designation

30 - DCSMP - 2700

Disc. ( $\text{m}^3/\text{hr.}$ )

\_\_\_\_\_

Solar Surface pump

\_\_\_\_\_

Input Power (Watts)

\_\_\_\_\_

#### DCSCRI SERIES

Type designation

15 - DCSCRI - 2700

Disc. ( $\text{m}^3/\text{hr.}$ )

\_\_\_\_\_

Solar Surface pump

\_\_\_\_\_

Input Power (Watts)

\_\_\_\_\_

- \* Note: 1. Input Power at Motor End.
- 2. Do not operate pump above its recommended duty head,

The high Efficient Motor is designed according to the permanent magnet principle with separate electronics unit. The Motor speed range is 1000-3600 RPM depending on pump load. The permanent magnet motor featuring a consistent higher efficiency within power range compared to a conventional asynchronous motor.

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR PUMP CONTROLLER SPECIFICATION

#### OVERVIEW

The controller starts the pumps slowly and adjust its speed according to pumping load and power available from solar array.

Power output from the solar array is optimally matched to the load by maximum power point tracker(MPPT) throughout all conditions.

The Shakti Solar controller is designed with the high standard of reliability expected of Shakti products. The controller attempts to control the pump and motor to deliver water even under adverse conditions, reducing output as necessary to protect the system components from damage, and only shutting down in extreme cases.

CONTROLLER CODE	DESCRIPTION	VFD Voltage Range (Vdc)		VFD Maximum Current (Amp.)	Efficiency %
		Min (V)	Max (V)		
9000029204	SOLAR CONT.3P,20-100VDC,(300/500WATT)	25	100	10	95
9000024063	SOLAR CONT.DC 300-500WATTS	35	125	10	97
9600000065	SHAKTI SUD 1P,12A,300VDC/245VAC,0.75/1HP	30	300	10	92
9600000001	SHAKTI SUD 1P,12A, 180 VDC,1HP	70	180	12	92
9600000002	SHAKTI SUD 1P,12A, 360 VDC,2HP	90	360	12	93
9600000003	SHAKTI SUD 3P,12A, 450 VDC,3HP	200	450	12	95
9600000004	SHAKTI SUD 3P,12A, 720 VDC,5HP	200	720	12	97
9600000021	SHAKTI SUD 3P,20A, 450 VDC,7.5HP	200	450	22	97
9600000022	SHAKTI SUD 3P,20A, 720 VDC,10HP	200	720	22	97
9000023556	SOLAR CONT.DC-SHAKTI-03P-38A (12.5-25HP)	250	780	38	97

#### DESCRIPTIONS AND FEATURES

The Shakti Solar controller continuously monitors system performance and incorporates a number of features for pump system protection. In the event of a fault, the Shakti Solar drives will indicate the type of fault through the displays.

The Shakti Solar drives system is optimized for pumping under adverse input power conditions unique to solar arrays.

- Internal diagnostics will tolerate a lower input voltage.
- Whenever possible, the controller attempts to regulate the pump load in a manner that optimizes for maximum power transfer from the solar array.

An easy to use interface is provided to enhance configurability and enable remote system monitoring.

- A three-digit seven-segment display provides a detailed indication of system status.
- A small keypad offers flexibility for selection of user options.
- A continuous data connection for remote telemetry is made available via an RS-485 port. (Optional)

#### PROTECTION FEATURES

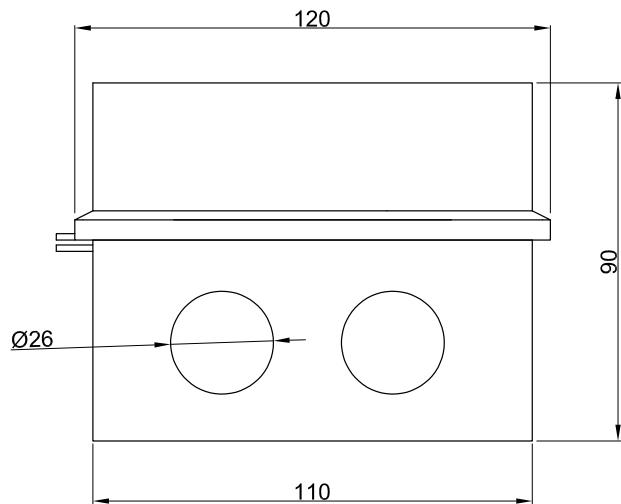
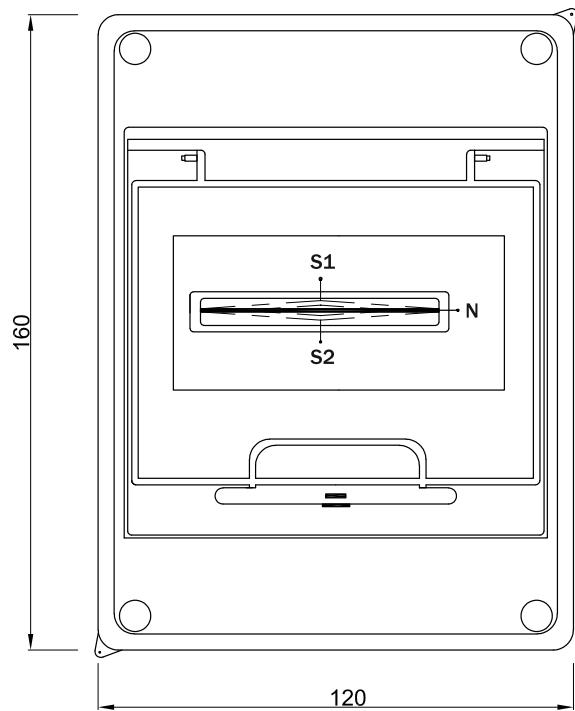
- Dry run Protection      ➤ Overload Protection    ➤ Open Circuit Protection
- Short Circuit Protection    ➤ Over Heat

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### CHANGE OVER SWITCH

A change-over switch is a dual input single output device, which is used to change the input power source to the controller. It is generally used with controllers/drives which have options to run from solar as well as from grid. There are three operative positions in change-over switch corresponding to S1, S2, (Up and Down) & N (Middle). In case of S1 and S2 positions the corresponding sources are connected to output whereas and in N position none of the sources are connected to output. Conventionally the name of the sources is marked in S1 and S2 position for convenience of the user. These change-over switches are provided in a dust and rainproof boxes.

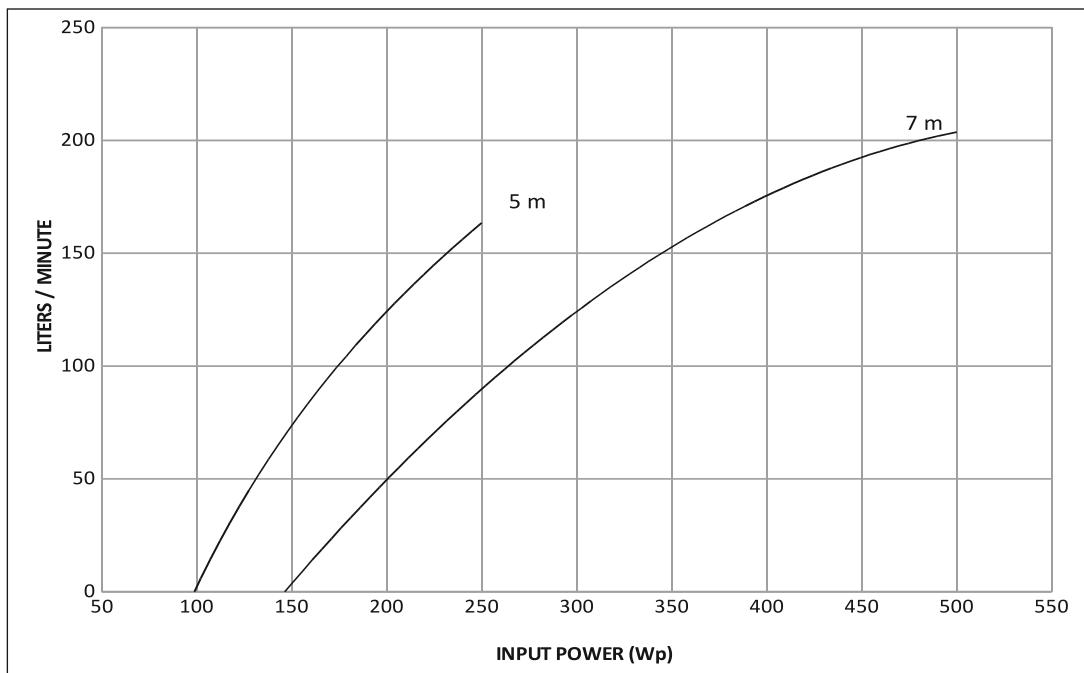
Note: It should be noted that while changing the power source through changeover the N position should be used until the display of the controller turns off. This intermediate use of N position avoids inrush currents through the changeover switch & improves its life.



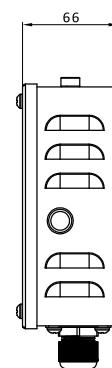
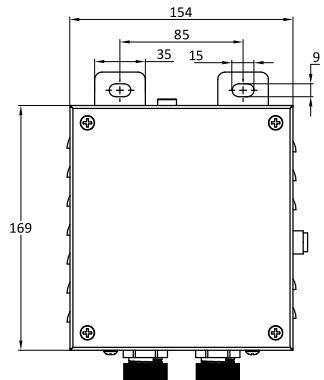
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 10 DCSSUP 300/500

PUMPSET CODE : 9500001534  
 DISCHARGE (LPD) : 67200/72750  
 DISCHARGE (LPW) : 224/145.5  
 DUTY HEAD : 5/7 METER

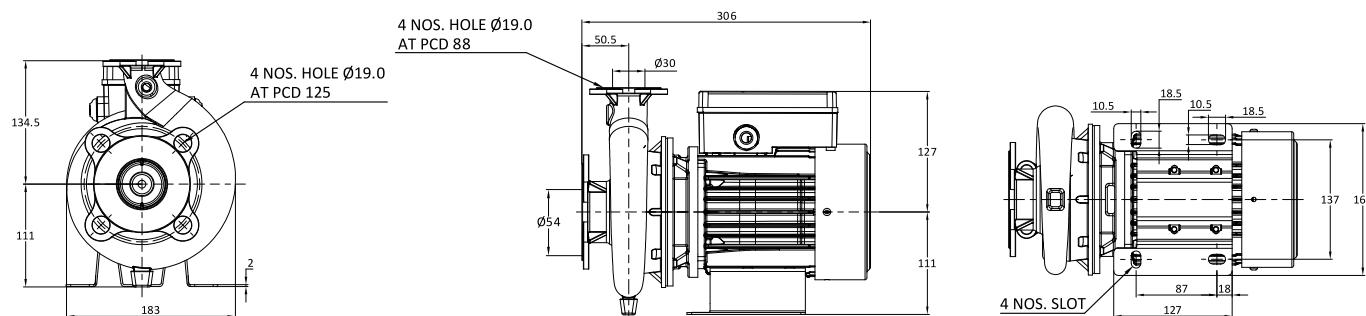


SOLAR CONT. 3P, 20-100VDC,  
 (300/500 WATT)  
 9000029204



A	INPUT POWER (Wp)						
	500	450	400	350	300	200	150
HEAD (m)	FLOW IN LPM						
7	205	192	175	150	125	55	0
B	INPUT POWER (Wp)						
	250	200	175	150	125	100	
HEAD (m)	FLOW IN LPM						
5	155	128	108	80	35	0	

### DIMENSIONAL AND WEIGHT

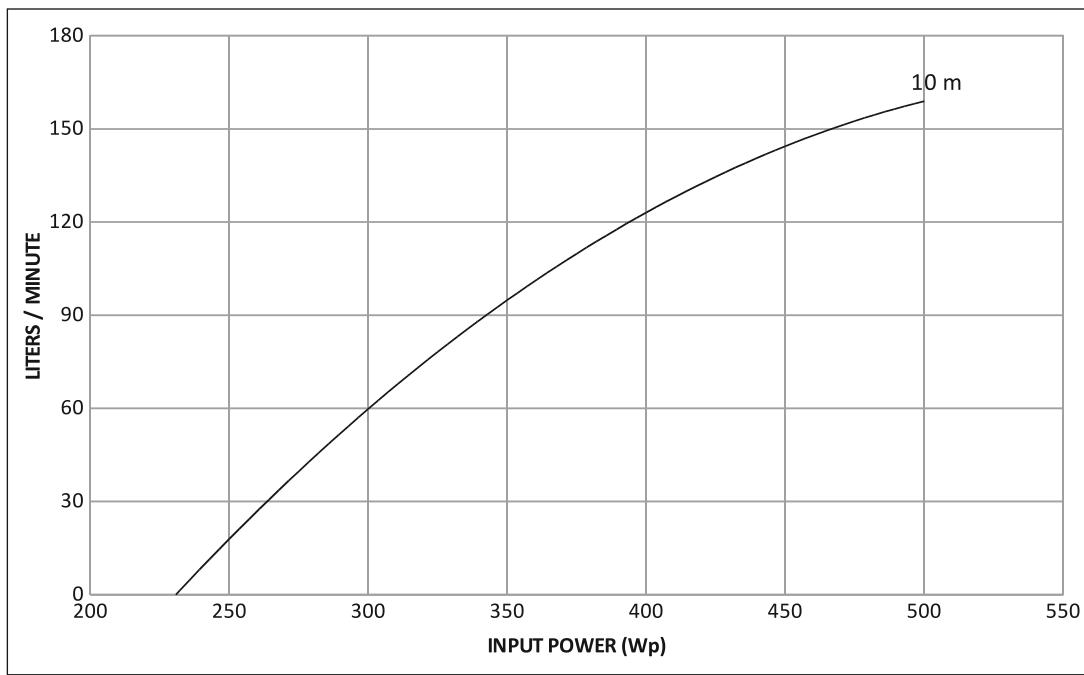


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
50 mm	50 mm

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

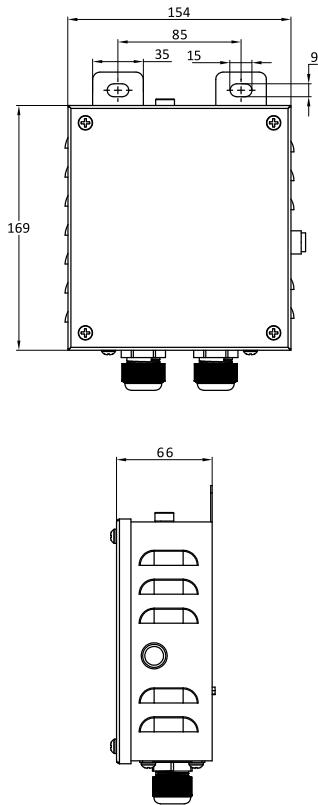
### SOLAR 8 DCSSUP 500

PUMPSET CODE : 9500000973  
 DISCHARGE (LPD) : 53250  
 DISCHARGE (LPW) : 106.5  
 DUTY HEAD : 10 METER

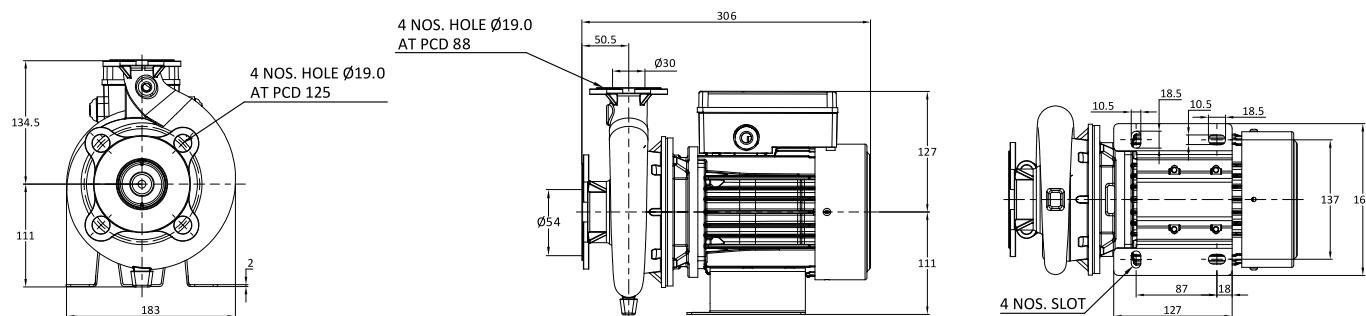


	INPUT POWER (Wp)					
	500	400	350	300	250	225
HEAD (m)	FLOW IN LPM					
10	158	124	99	56	12	0

SOLAR CONT. 3P, 20-100VDC,  
 (300/500 WATT)  
 9000029204



### DIMENSIONAL AND WEIGHT

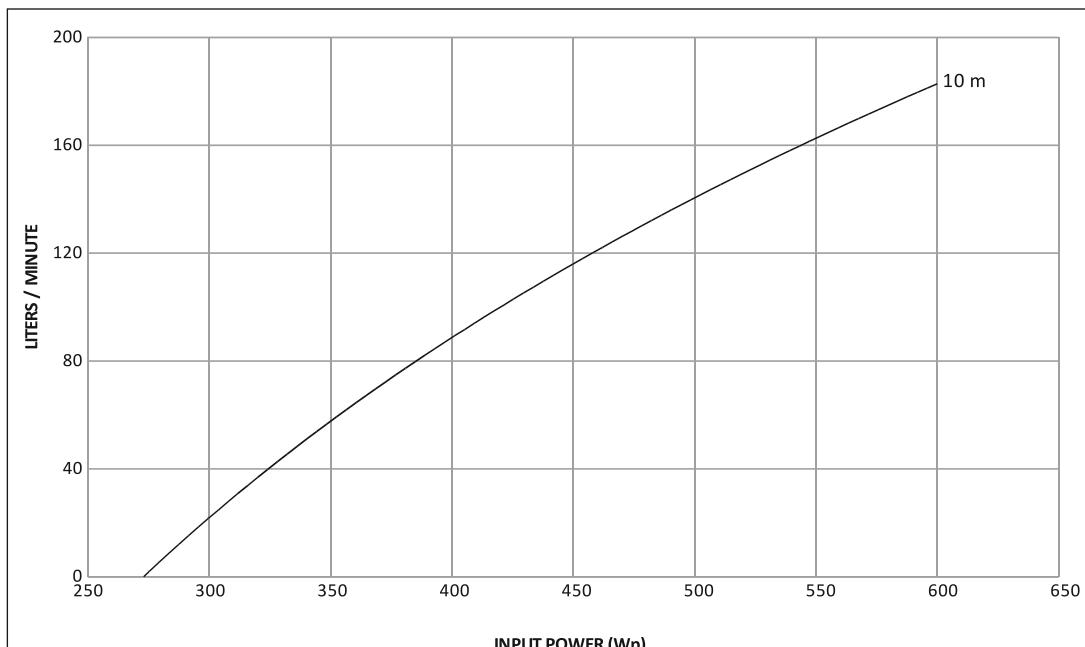


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
50 mm	50 mm

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

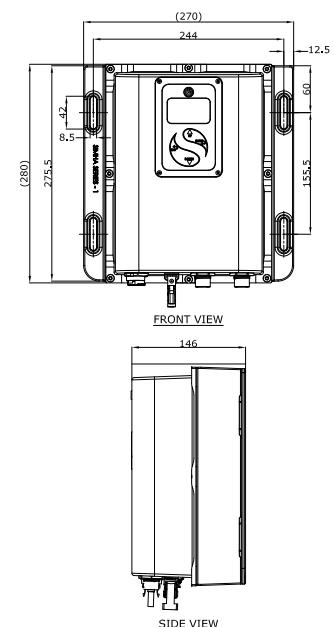
### SOLAR 11 DCSMP 600

PUMPSET CODE : 9500001623  
 DISCHARGE (LPD) : 55200  
 DISCHARGE (LPW) : 92  
 DUTY HEAD : 10 METER

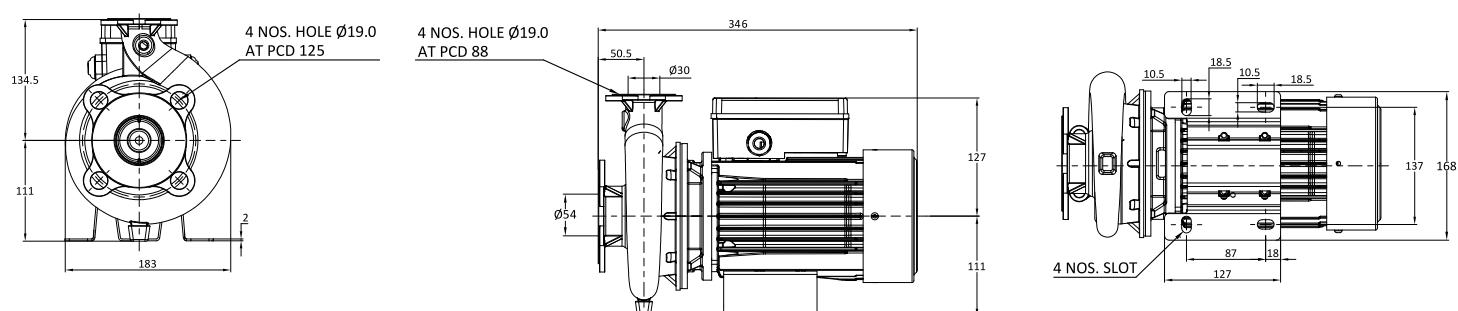


HEAD (m)	INPUT POWER (Wp)						
	600	550	475	400	350	300	275
FLOW IN LPM							
10	180	158	130	100	62	14	0

SHAKTI SUD 1P,12A,  
 300VDC/245VAC,0.75/1HP  
 9600000065



### DIMENSIONAL AND WEIGHT

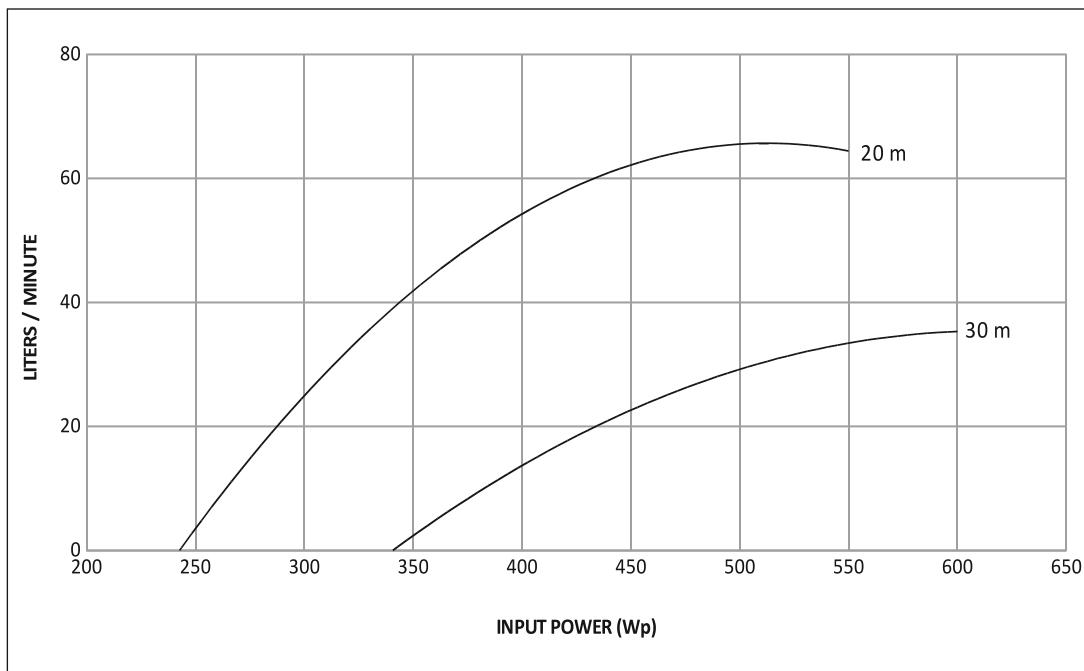


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
50 mm	50 mm

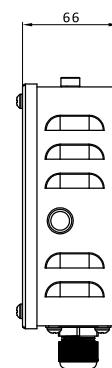
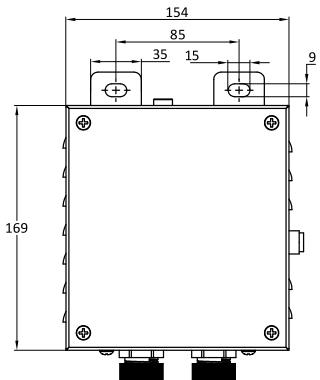
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 2 DCSMP 600

PUMPSET CODE : 9500001747  
 DISCHARGE(LPD) : 26400/10500  
 DISCHARGE(LPW) : 44/17.5  
 DUTY HEAD : 20/30 METER

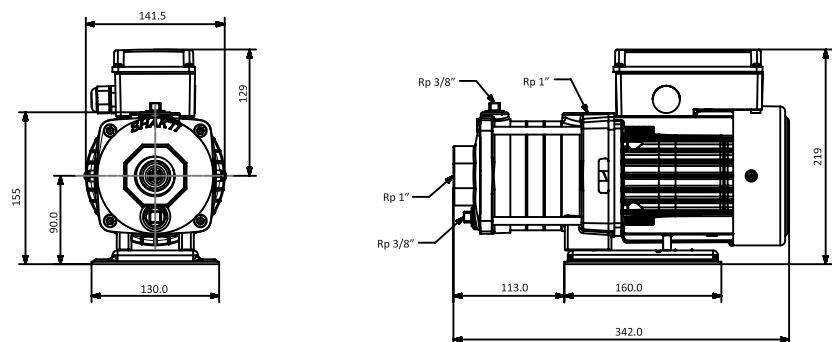


SOLAR CONT. 3P, 20-100VDC,  
 (300/500 WATT)  
 9000029204



A	INPUT POWER (Wp)				
	600	550	475	400	350
HEAD (m)	FLOW IN LPM				
30	37	31	25	18	0
B	INPUT POWER (Wp)				
	550	400	350	300	250
HEAD (m)	FLOW IN LPM				
20	65	52	40	32	0

### DIMENSIONAL AND WEIGHT

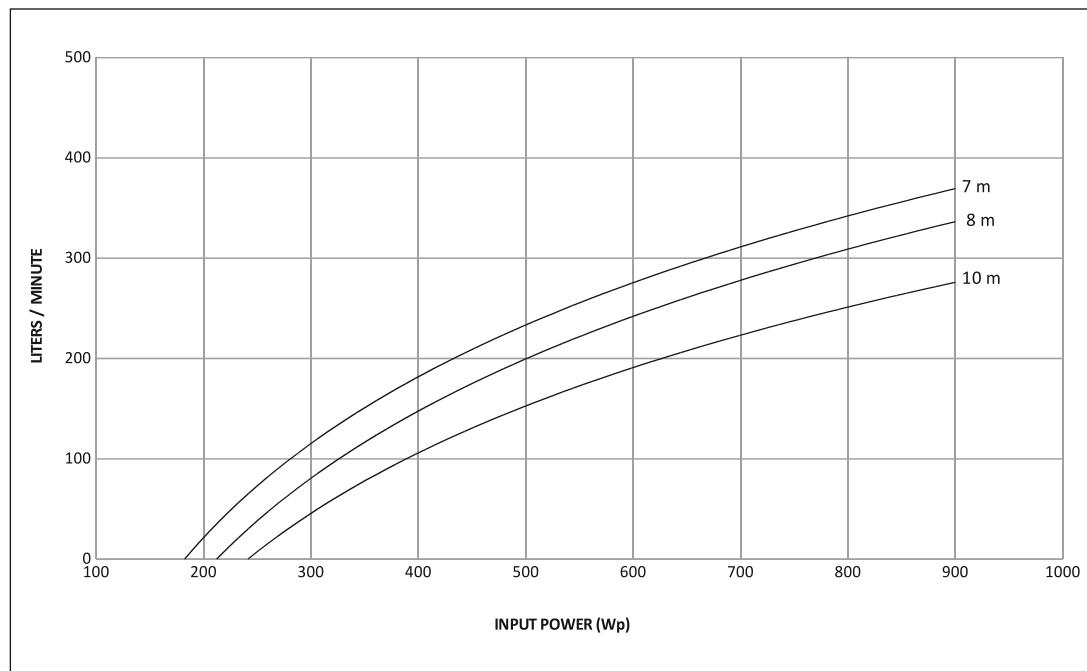


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
40 mm	40 mm

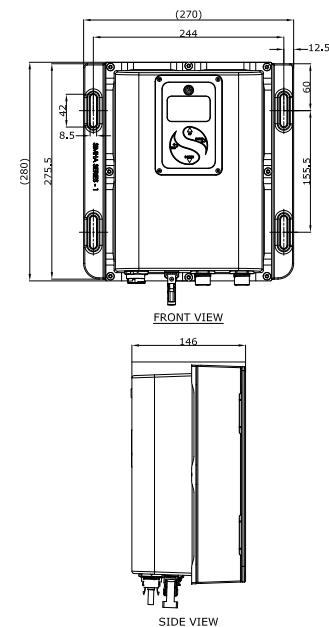
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 15 DCSMP 900

PUMPSET CODE : 9500001031  
 DISCHARGE(LPD) : 105300  
 DISCHARGE(LPW) : 117  
 DUTY HEAD : 10 METER

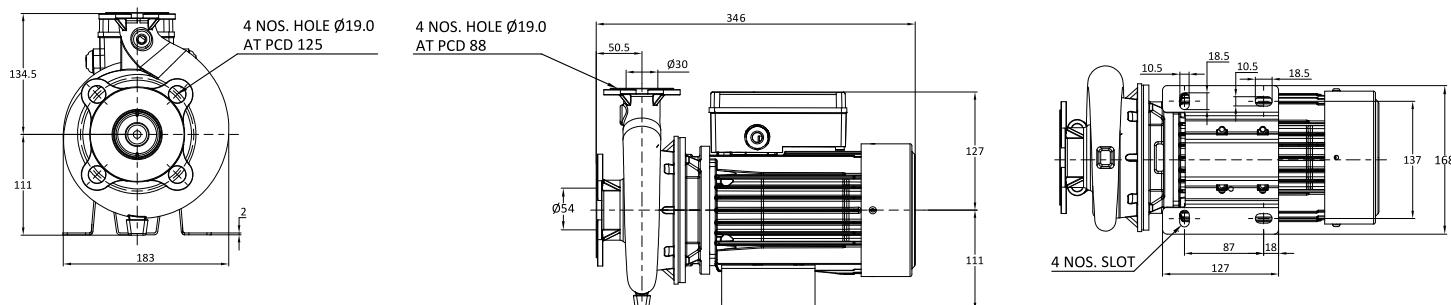


SHAKTI SUD 1P,12A,  
 180 VDC,1HP  
 9600000001



	INPUT POWER (W <sub>p</sub> )						
	900	700	550	300	250	200	150
HEAD (m)	FLOW IN LPM						
10	270	230	172	53	0		
8	338	288	215	66	35	0	
7	386	329	246	76	40	25	0

### DIMENSIONAL AND WEIGHT

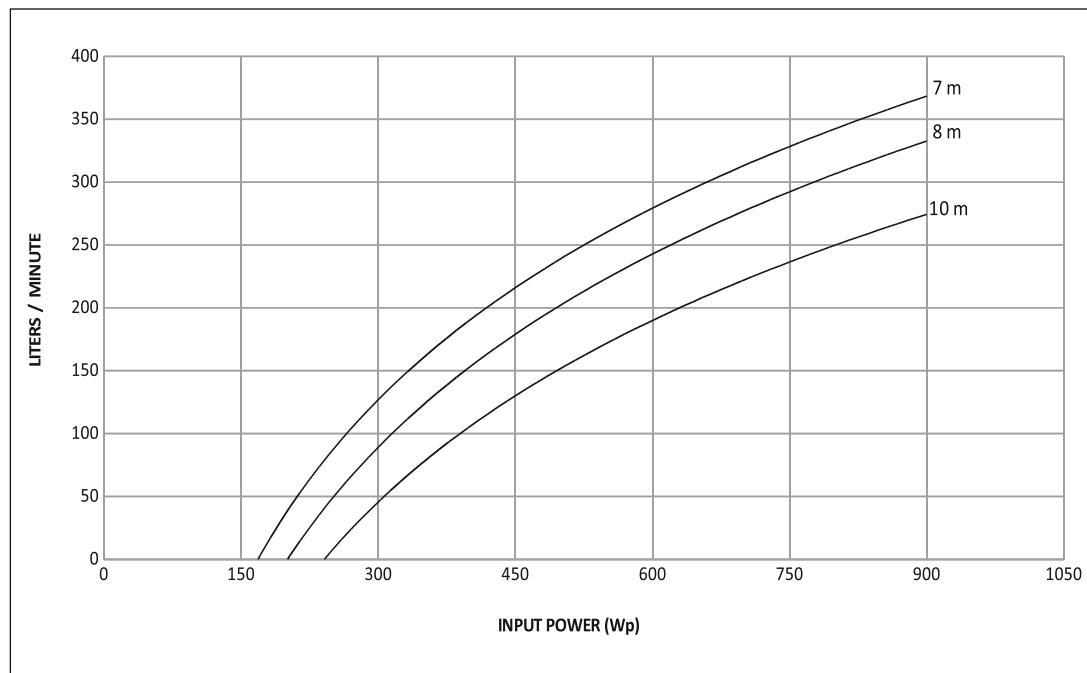


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
50 mm	50 mm

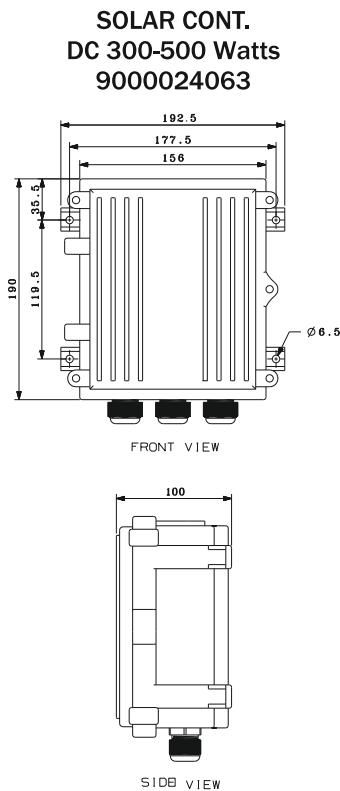
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 15 DCSMP 900\*

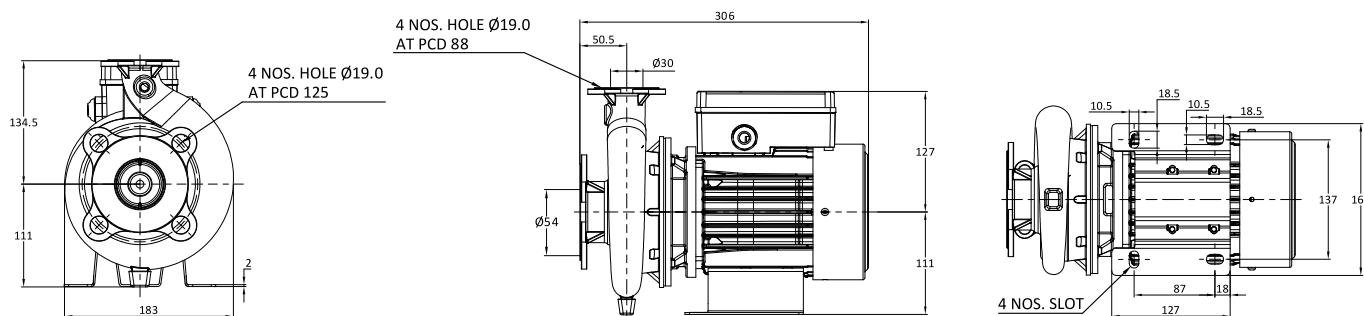
PUMPSET CODE : 9500001761  
 DISCHARGE(LPD) : 106200  
 DISCHARGE(LPW) : 118  
 DUTY HEAD : 10 METER



HEAD (m)	INPUT POWER (Wp)						
	900	750	550	450	250	200	150
10	265	236	183	136	0		
8	331	295	229	170	50	0	
7	379	337	261	194	70	30	0



### DIMENSIONAL AND WEIGHT

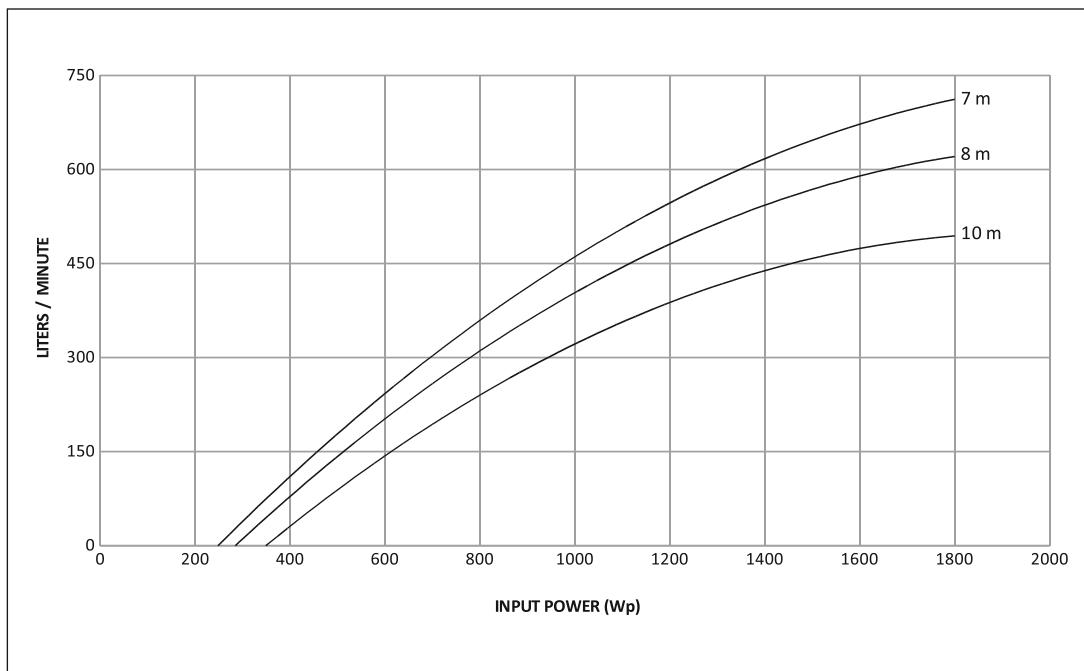


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
50 mm	50 mm

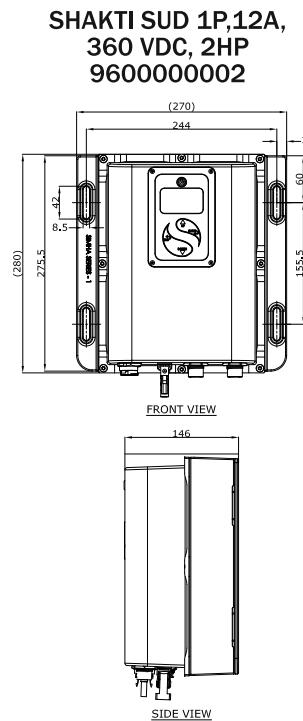
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 38 DCSMP 1800

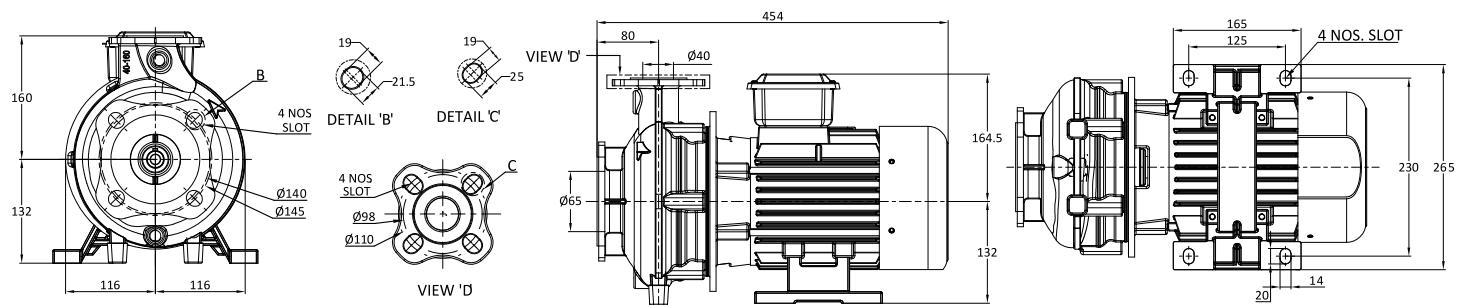
PUMPSET CODE : 9500001032  
 DISCHARGE(LPD) : 218700  
 DISCHARGE(LPW) : 121.5  
 DUTY HEAD : 10 METER



HEAD (m)	INPUT POWER (Wp)						
	1800	1450	1200	800	350	300	250
10	497	440	395	240	0		
8	621	550	494	300	60	0	
7	710	629	564	343	80	40	0



### DIMENSIONAL AND WEIGHT

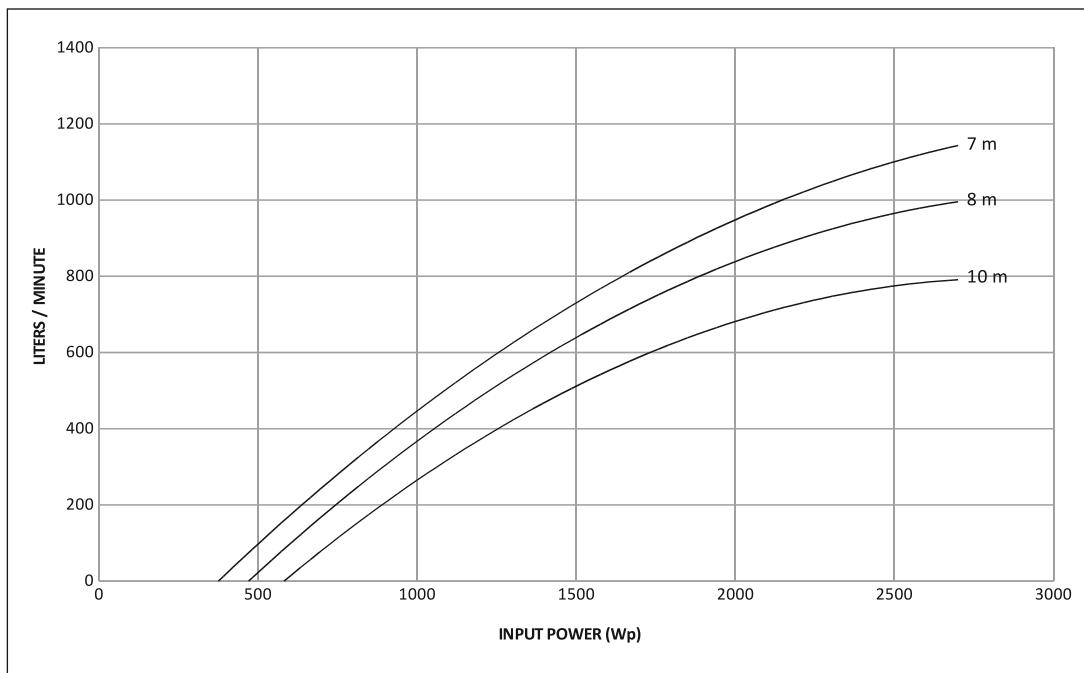


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
75 mm	65 mm

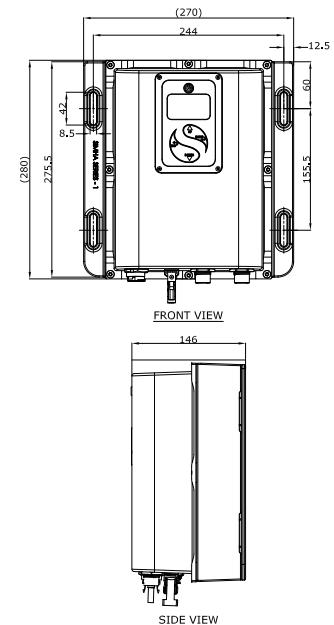
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 48 DCSMP 2700

PUMPSET CODE : 9500001034  
 DISCHARGE(LPD) : 334800  
 DISCHARGE(LPW) : 124  
 DUTY HEAD : 10 METER

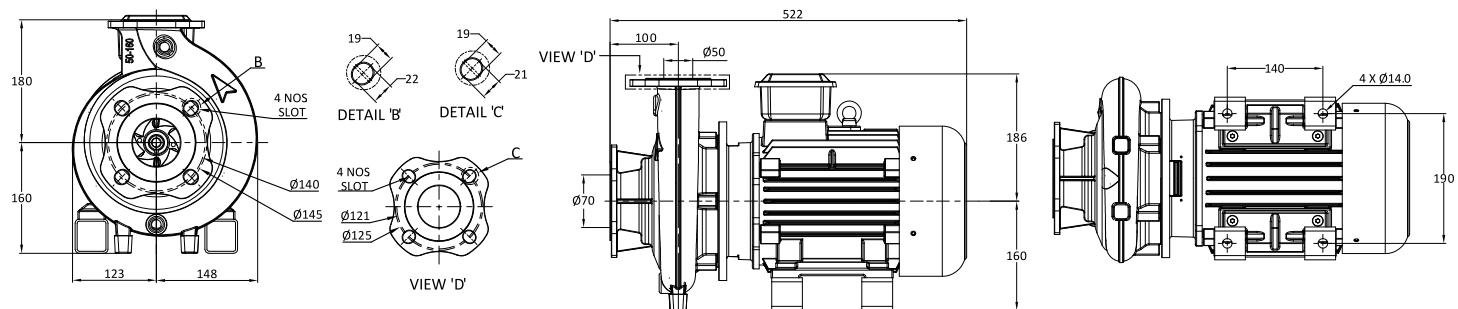


SHAKTI SUD 3P,12A,  
 450 VDC, 3HP  
 9600000003



HEAD (m)	INPUT POWER (Wp)						
	2700	2200	1650	1100	600	500	400
10	800	714	561	348	0		
8	1000	893	701	435	120	0	
7	1143	1020	801	497	200	100	0

### DIMENSIONAL AND WEIGHT

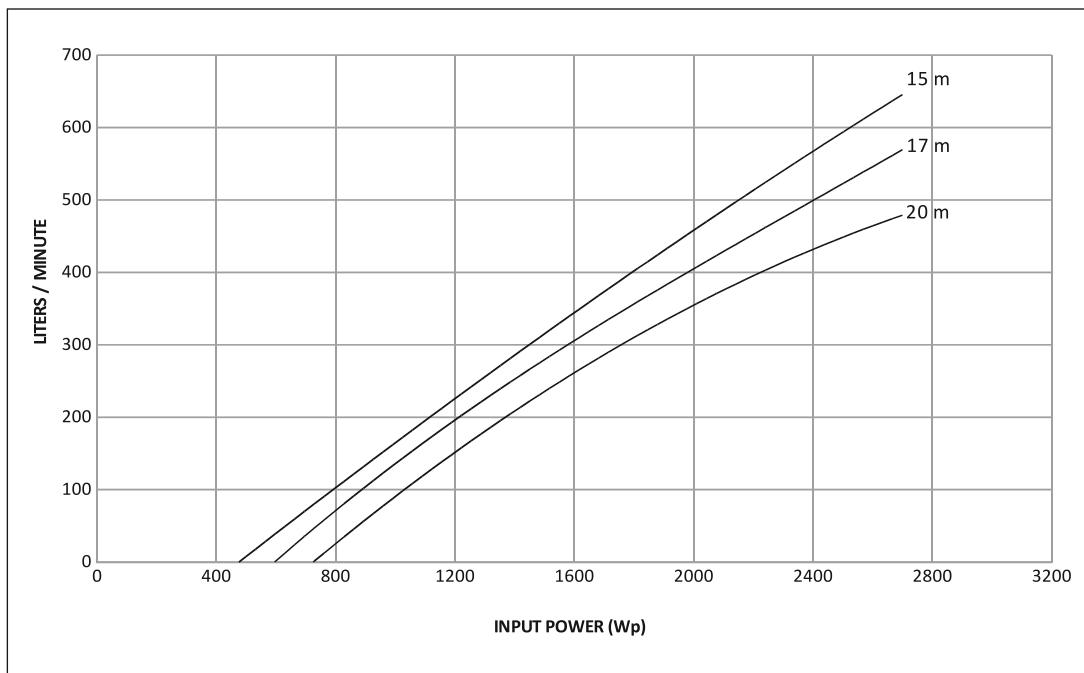


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
75 mm	75 mm

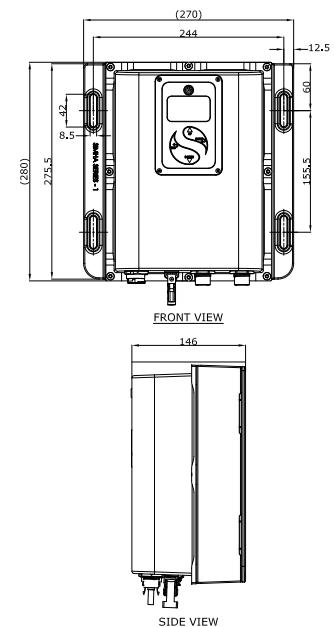
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 30 DCSMP 2700

PUMPSET CODE : 9500001038  
 DISCHARGE(LPD) : 166050  
 DISCHARGE(LPW) : 61.5  
 DUTY HEAD : 20 METER

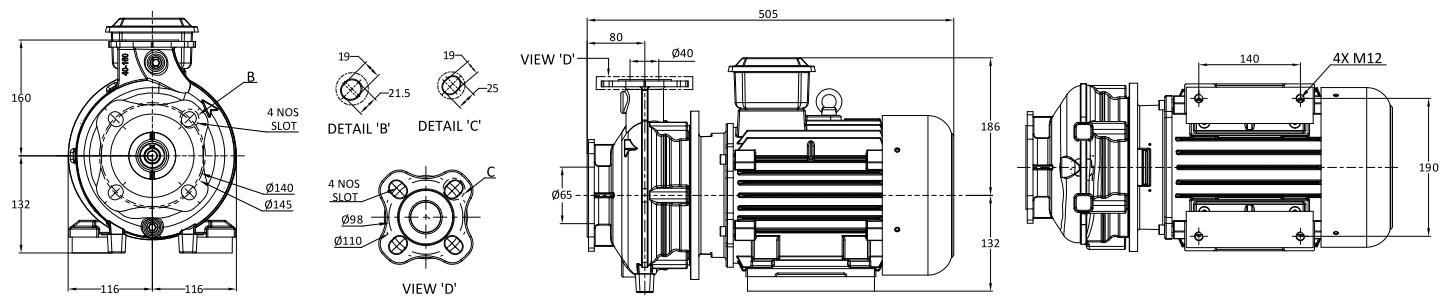


**SHAKTI SUD 3P,12A,  
450 VDC, 3HP  
9600000003**



HEAD (m)	INPUT POWER (Wp)						
	2700	2150	1600	1200	750	600	500
20	483	379	252	172	0		
17	568	446	296	202	55	0	
15	644	505	336	229	85	50	0

### DIMENSIONAL AND WEIGHT

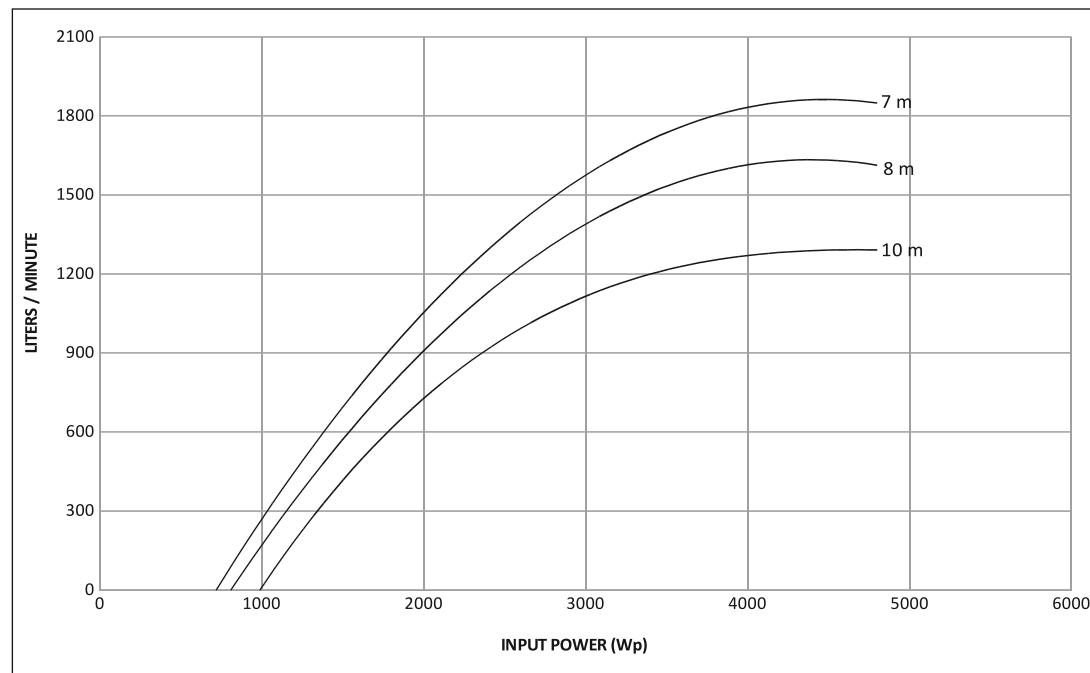


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
75 mm	65 mm

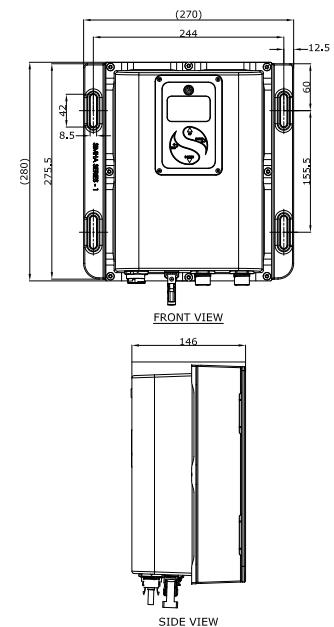
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 88 DCSMP 4800

PUMPSET CODE : 9500001066  
 DISCHARGE (LPD) : 645600  
 DISCHARGE (LPW) : 134.5  
 DUTY HEAD : 10 METER

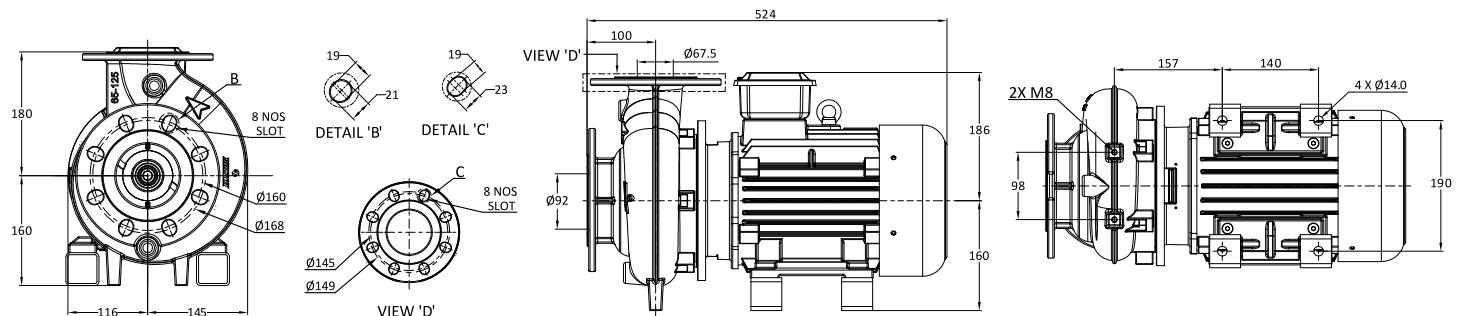


SHAKTI SUD 3P,12A,  
 720 VDC, 5HP  
 9600000004



HEAD (m)	INPUT POWER (Wp)						
	4800	3350	2400	1450	1000	800	700
10	1290	1200	898	400	0		
8	1613	1500	1123	550	150	0	
7	1843	1714	1283	650	250	80	0

### DIMENSIONAL AND WEIGHT

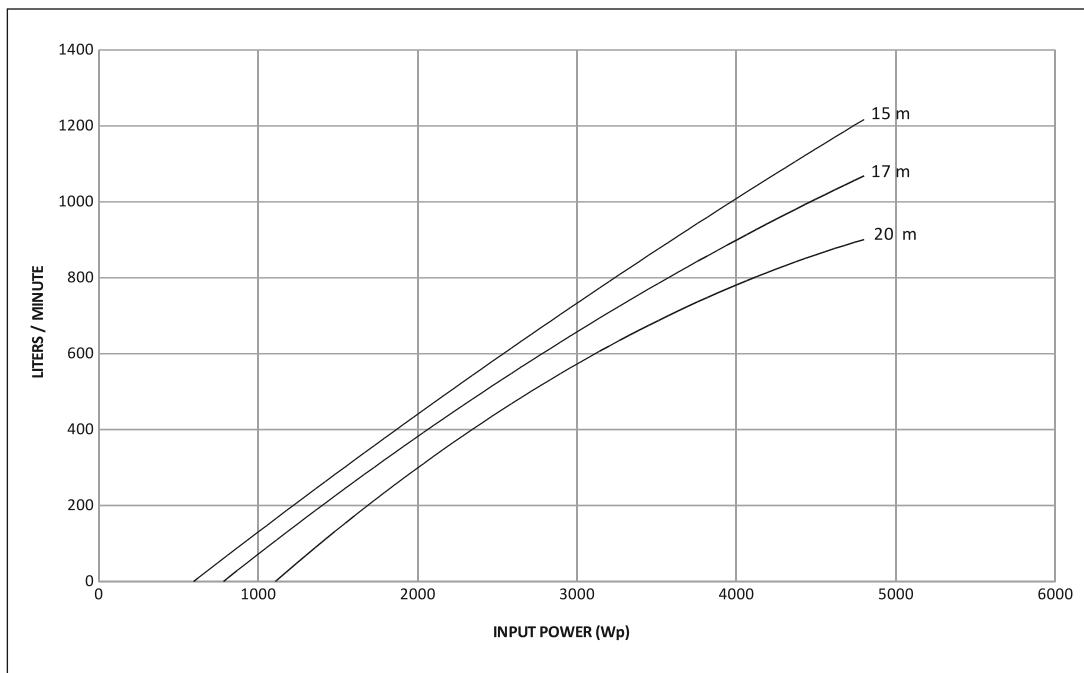


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
100 mm	100 mm

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

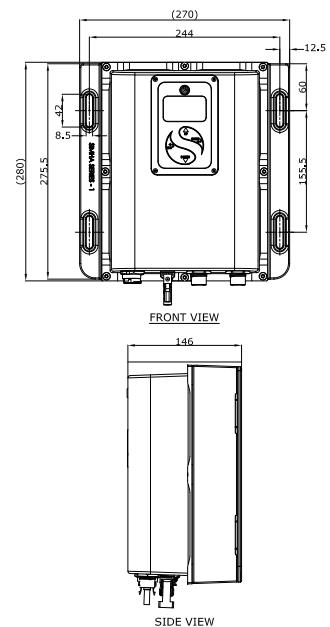
### SOLAR 53 DCSMP 4800

PUMPSET CODE : 9500001178  
 DISCHARGE(LPD) : 312000  
 DISCHARGE(LPW) : 65  
 DUTY HEAD : 20 METER

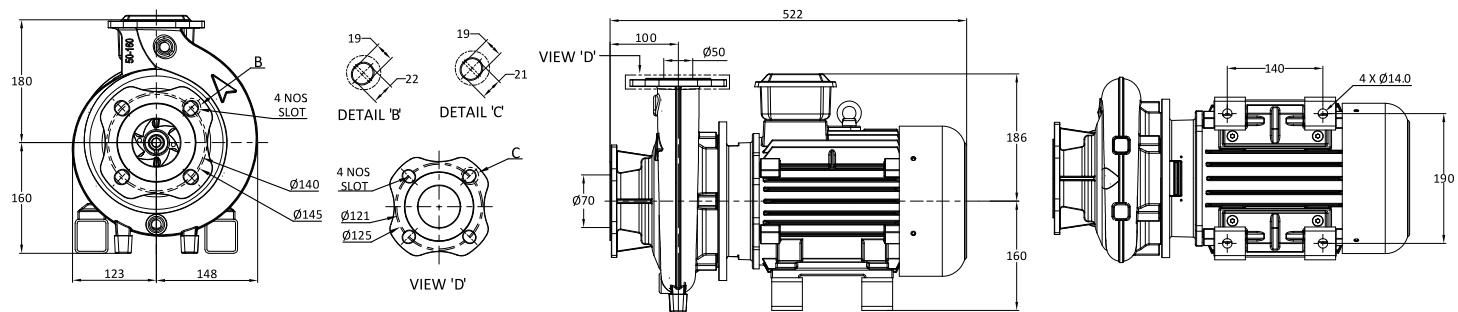


HEAD (m)	INPUT POWER (Wp)						
	4800	3500	2500	1600	1200	800	600
20	909	663	448	216	0		
17	1069	780	527	254	150	0	
15	1212	884	597	288	200	80	0

SHAKTI SUD 3P,12A,  
 720 VDC, 5HP  
 9600000004



### DIMENSIONAL AND WEIGHT

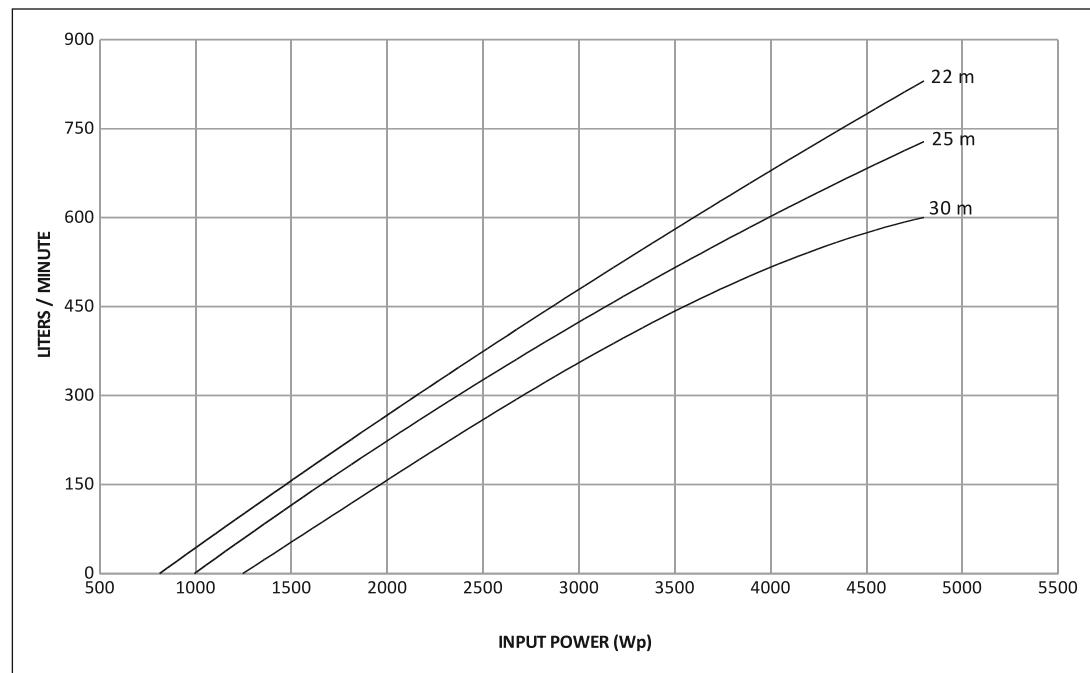


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
75 mm	65 mm

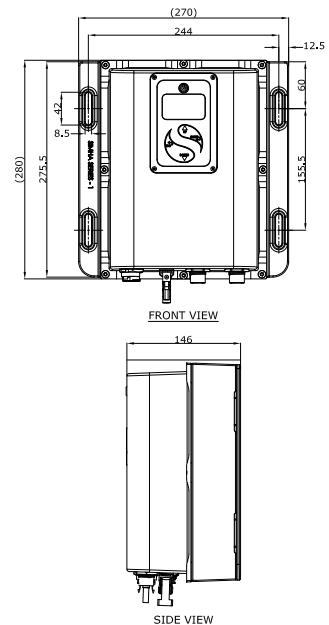
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 39 DCSMP 4800

PUMPSET CODE : 9500001187  
 DISCHARGE(LPD) : 201600  
 DISCHARGE(LPW) : 42  
 DUTY HEAD : 30 METER

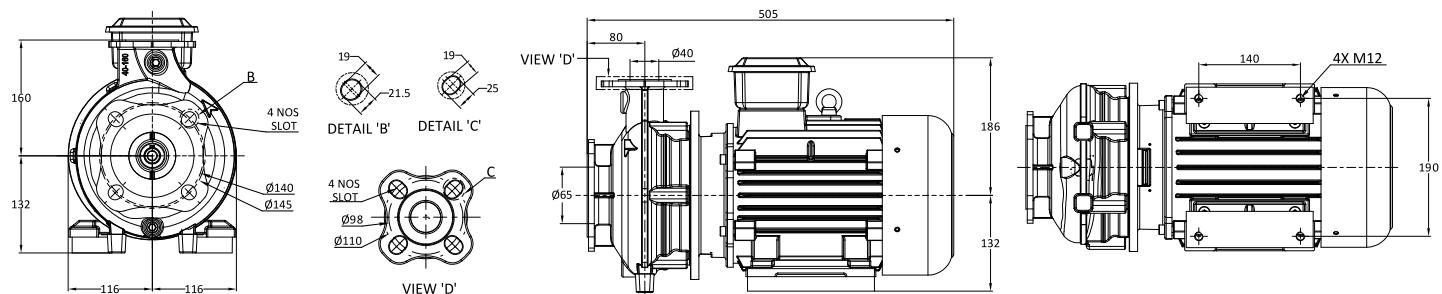


SHAKTI SUD 3P,12A,  
 720 VDC, 5HP  
 9600000004



HEAD (m)	INPUT POWER (Wp)						
	4800	3800	2800	2000	1250	1000	800
30	600	490	315	160	0		
25	720	588	378	210	70	0	
22	818	668	430	250	100	50	0

### DIMENSIONAL AND WEIGHT

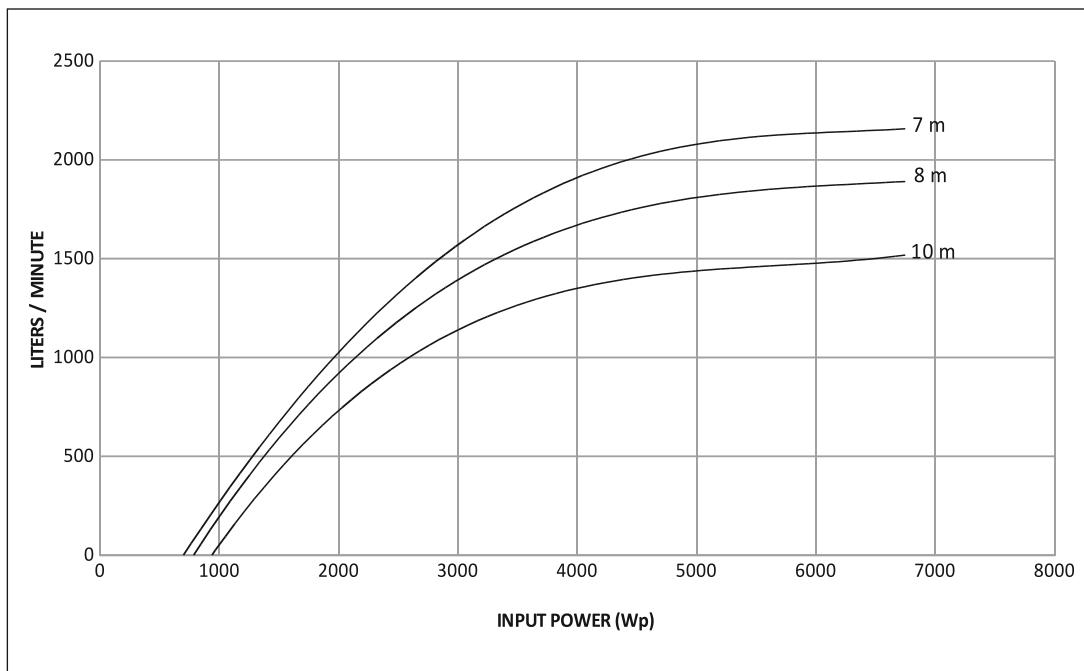


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
75 mm	65 mm

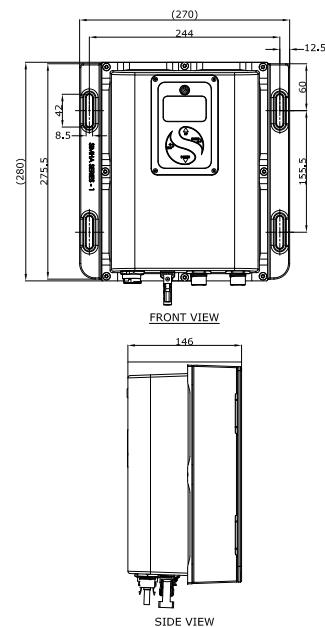
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 146 DCSMP 6750

PUMPSET CODE : 9500001325  
 DISCHARGE(LPD) : 901125  
 DISCHARGE(LPW) : 133.5  
 DUTY HEAD : 10 METER

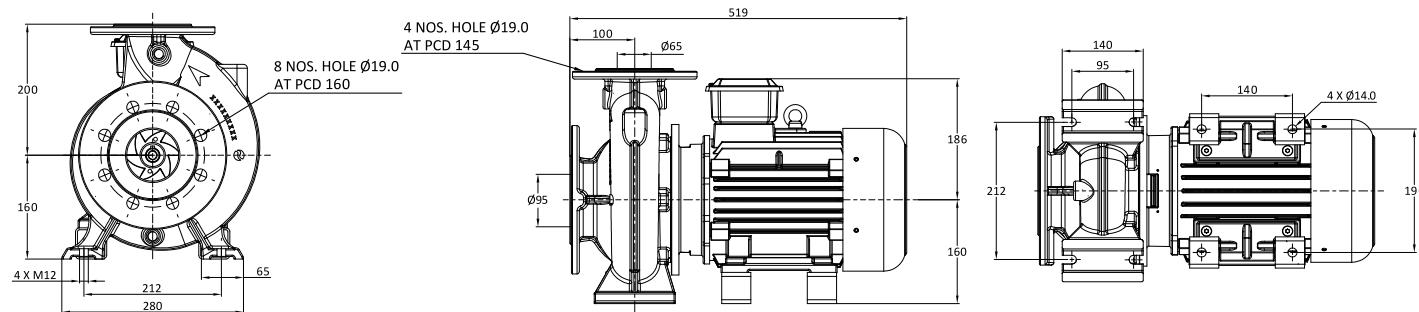


SHAKTI SUD 3P,20A,  
 450 VDC, 7.5HP  
 9600000021



HEAD (m)	INPUT POWER (Wp)						
	6750	5450	3400	1350	1000	800	700
10	1510	1480	1210	395	0		
8	1888	1850	1513	494	200	0	
7	2157	2114	1729	564	250	100	0

### DIMENSIONAL AND WEIGHT

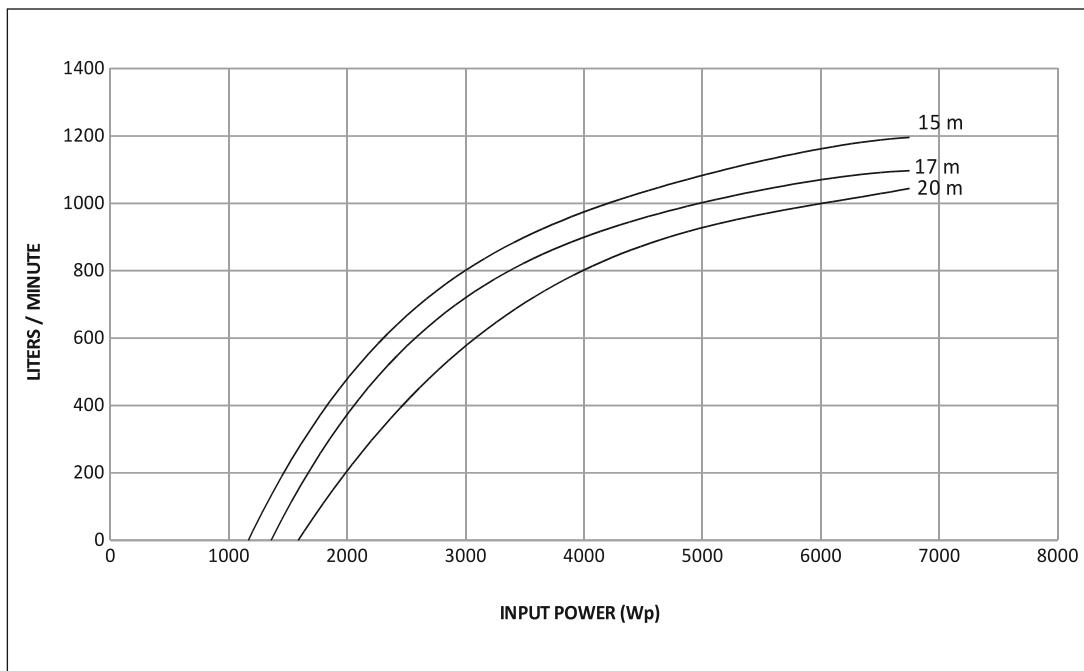


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
100 mm	100 mm

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

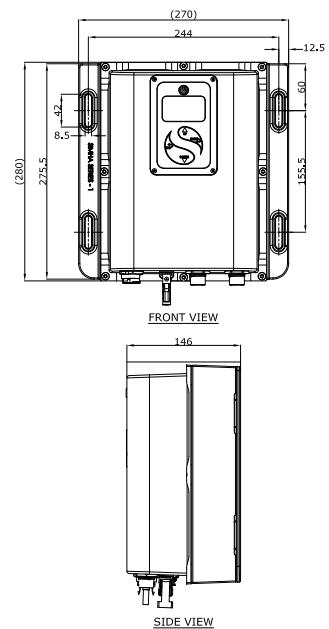
### SOLAR 67 DCSMP 6750

PUMPSET CODE : 9500001379  
 DISCHARGE(LPD) : 465750  
 DISCHARGE(LPW) : 69  
 DUTY HEAD : 20 METER

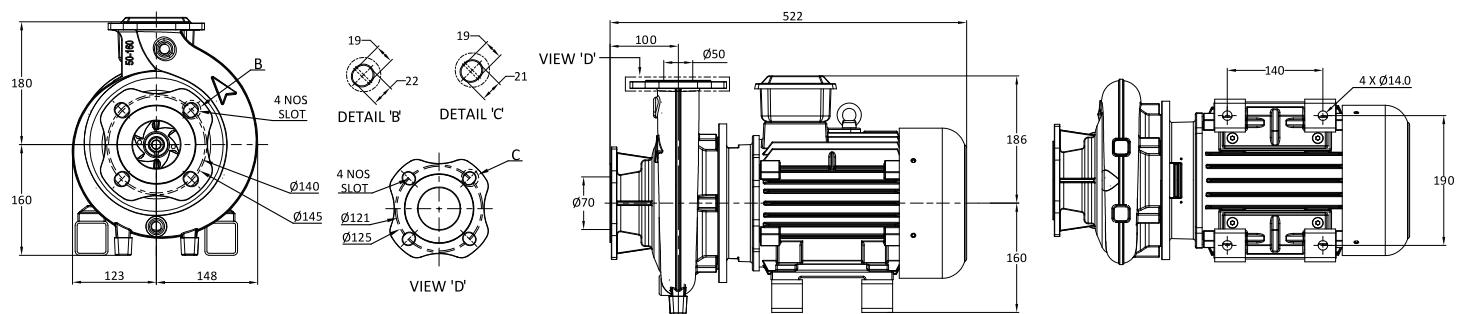


HEAD (m)	INPUT POWER (Wp)						
	6750	6100	4075	2700	1600	1400	1200
20	1032	1028	790	505	0		
17	1100	1070	920	620	200	0	
15	1200	1160	1000	700	300	180	0

SHAKTI SUD 3P,20A,  
 450 VDC, 7.5HP  
 9600000021



### DIMENSIONAL AND WEIGHT

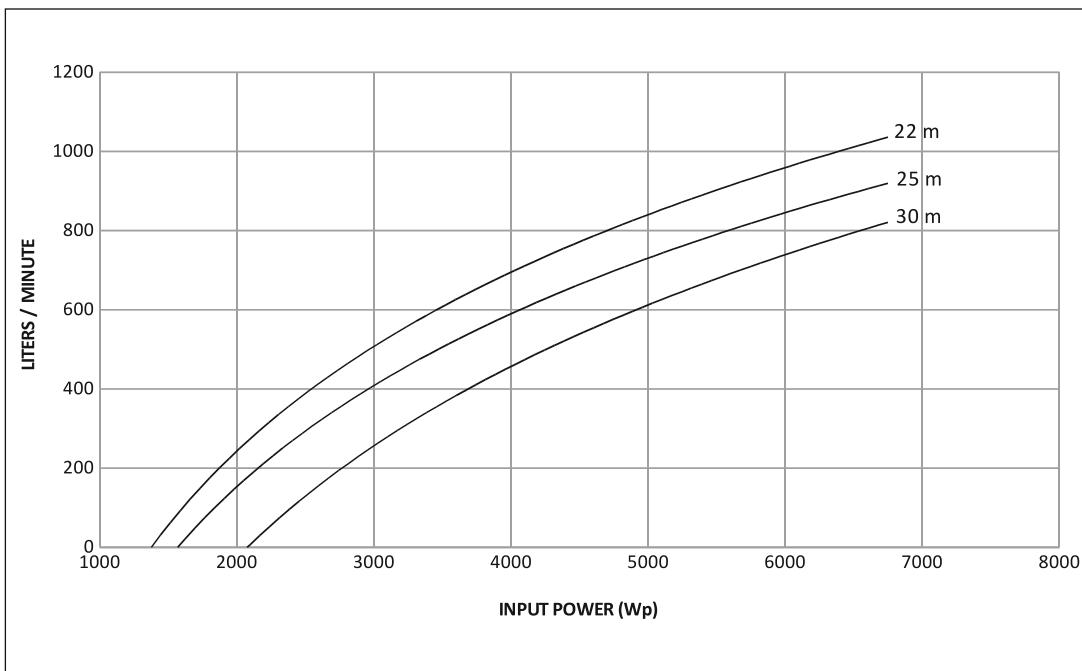


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
100 mm	75 mm

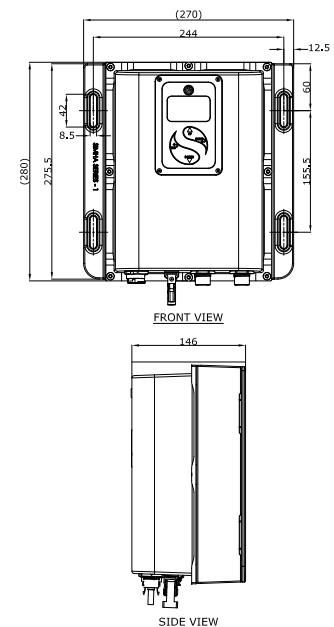
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 48 DCSMP 6750

PUMPSET CODE : 9500001392  
 DISCHARGE (LPD) : 297000  
 DISCHARGE (LPW) : 44  
 DUTY HEAD : 30 METER

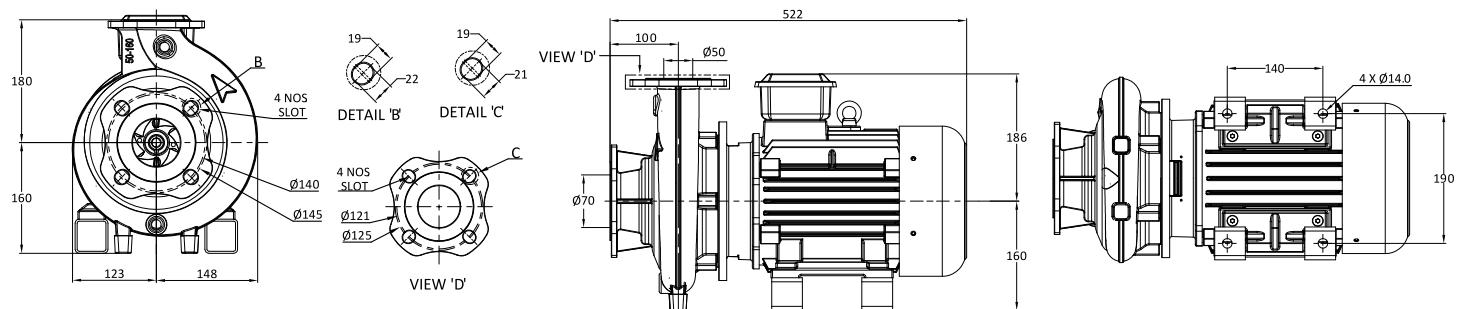


SHAKTI SUD 3P,20A,  
 450 VDC, 7.5HP  
 9600000021



HEAD (m)	INPUT POWER (Wp)						
	6750	5450	3350	2600	2200	1650	1500
30	800	685	350	190	0		
25	900	780	500	368	200	0	
22	1010	900	600	447	300	150	0

### DIMENSIONAL AND WEIGHT

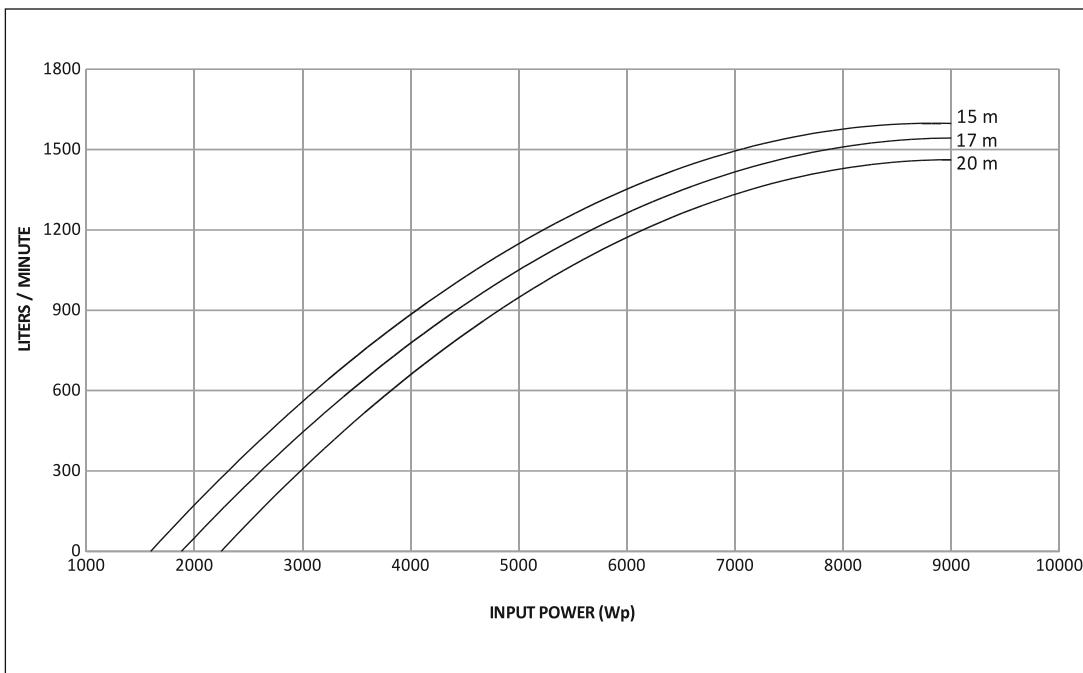


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
75 mm	75 mm

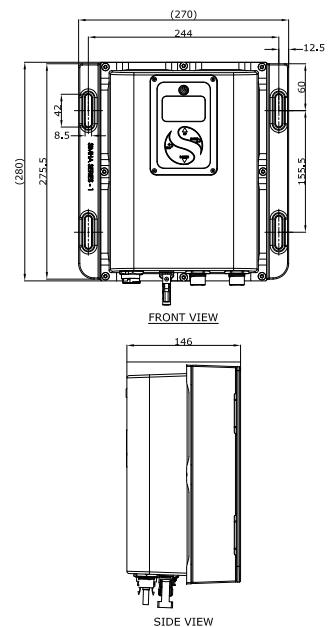
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### SOLAR 101 DCSMP 9000

PUMPSET CODE : 9500001414  
 DISCHARGE(LPD) : 639000  
 DISCHARGE(LPW) : 71  
 DUTY HEAD : 20 METER

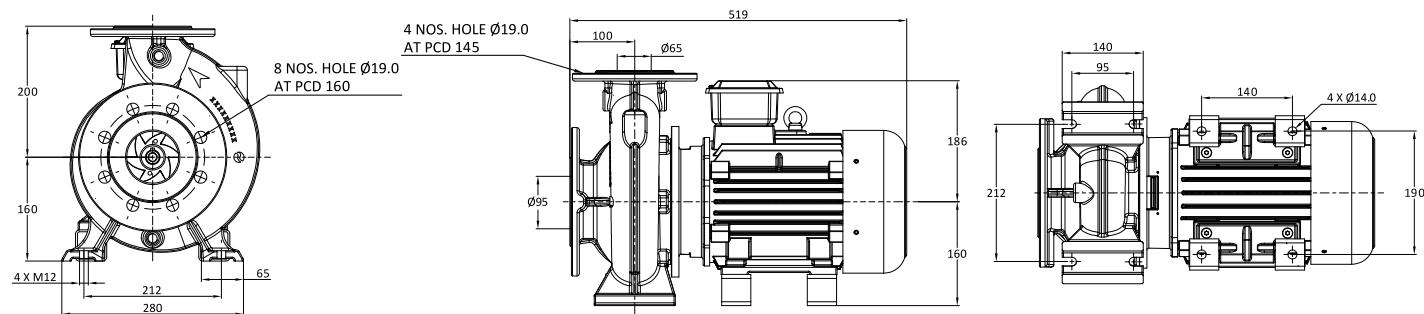


SHAKTI SUD 3P,20A,  
 720 VDC, 10HP  
 9600000022



HEAD (m)	INPUT POWER (Wp)						
	9000	6300	4500	3150	2300	2000	1600
FLOW IN LPM							
20	1465	1220	800	400	0		
17	1550	1300	900	550	200	0	
15	1600	1400	1000	650	300	150	0

### DIMENSIONAL AND WEIGHT

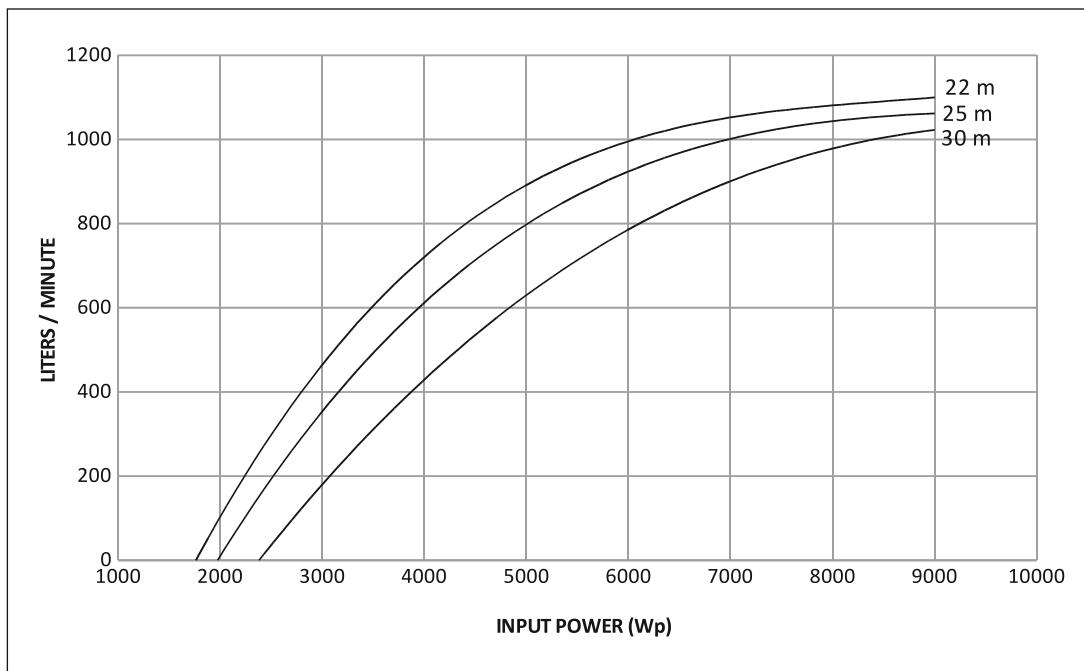


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
100 mm	100 mm

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

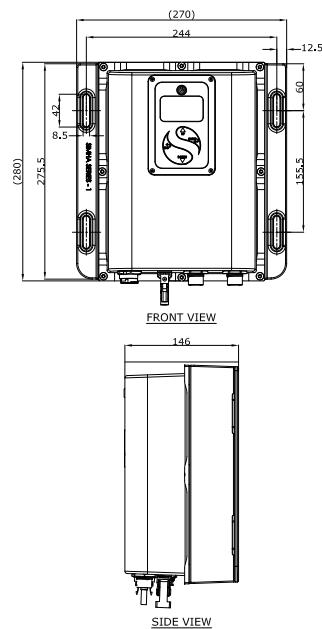
### SOLAR 67 DCSMP 9000

PUMPSET CODE : 9500001415  
 DISCHARGE(LPD) : 436500  
 DISCHARGE(LPW) : 48.5  
 DUTY HEAD : 30 METER

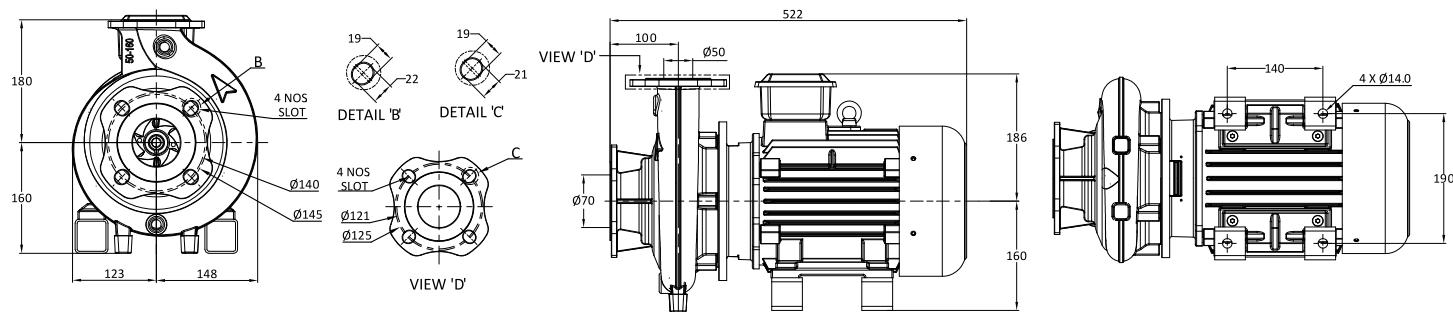


HEAD (m)	INPUT POWER (Wp)						
	9000	7200	5400	3600	2400	2000	1800
30	1020	930	680	350	0		
25	1060	1020	845	520	170	0	
22	1100	1060	940	630	250	130	0

SHAKTI SUD 3P,20A,  
 720 VDC, 10HP  
 9600000022



### DIMENSIONAL AND WEIGHT

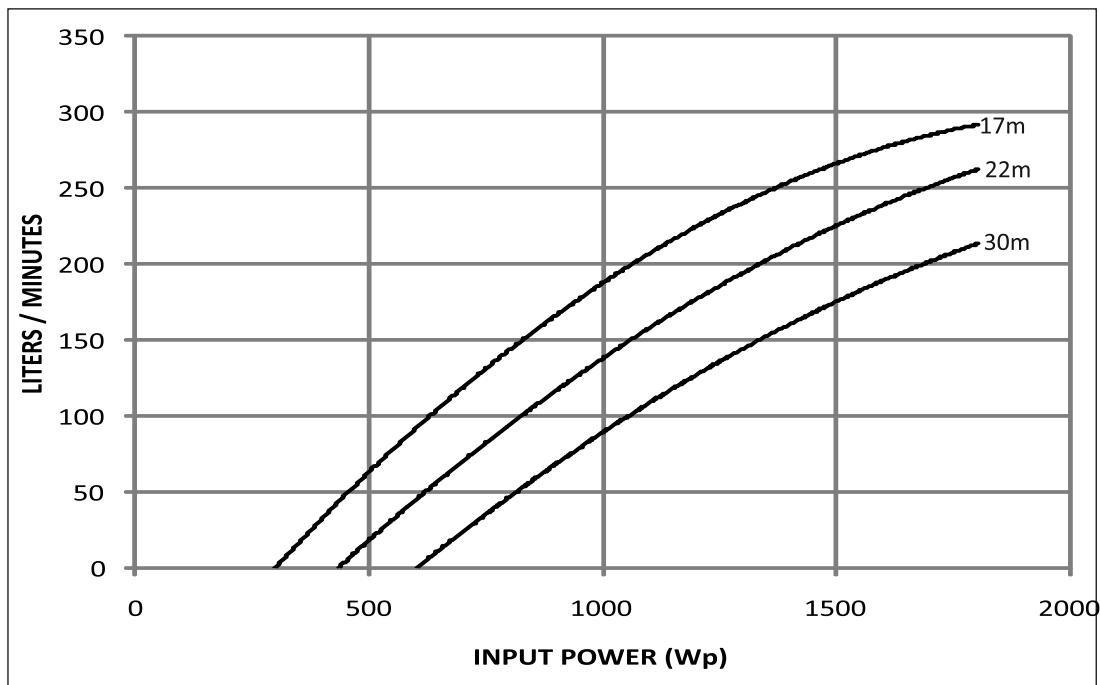


Recommended suction and delivery pipe size	
Suction flange size	Delivery flange size
100 mm	75 mm

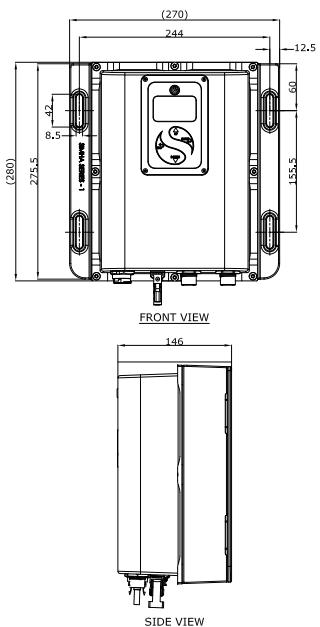
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 13 DCSCRI 1800

Pumpset Code : 9500000911

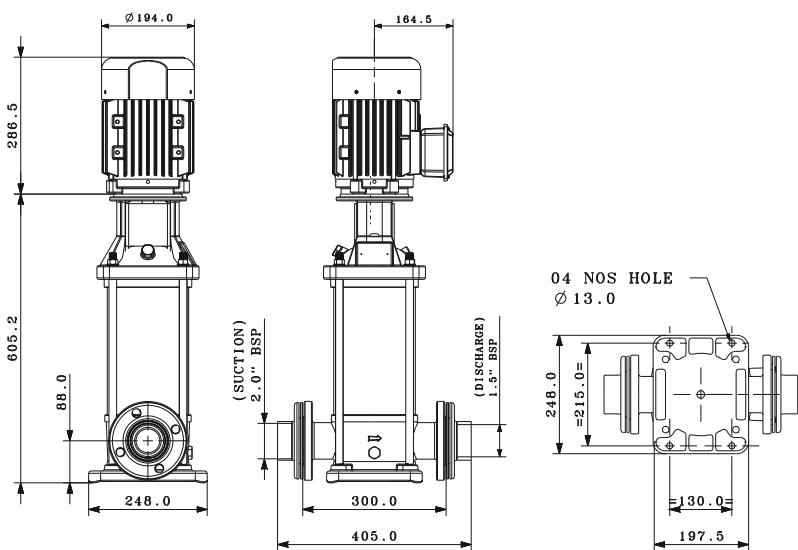


**SHAKTI SUD 1P,12A,  
360 VDC, 2HP  
9600000002**



HEAD(m)	INPUT POWER(Wp)						
	1800	1600	1400	1200	600	400	300
HEAD(m)	FLOW IN LPM						
30	214	191	158	130	0		
22	260	238	216	181	30	0	
17	295	275	250	225	100	26	0

### DIMENSIONAL AND WEIGHT

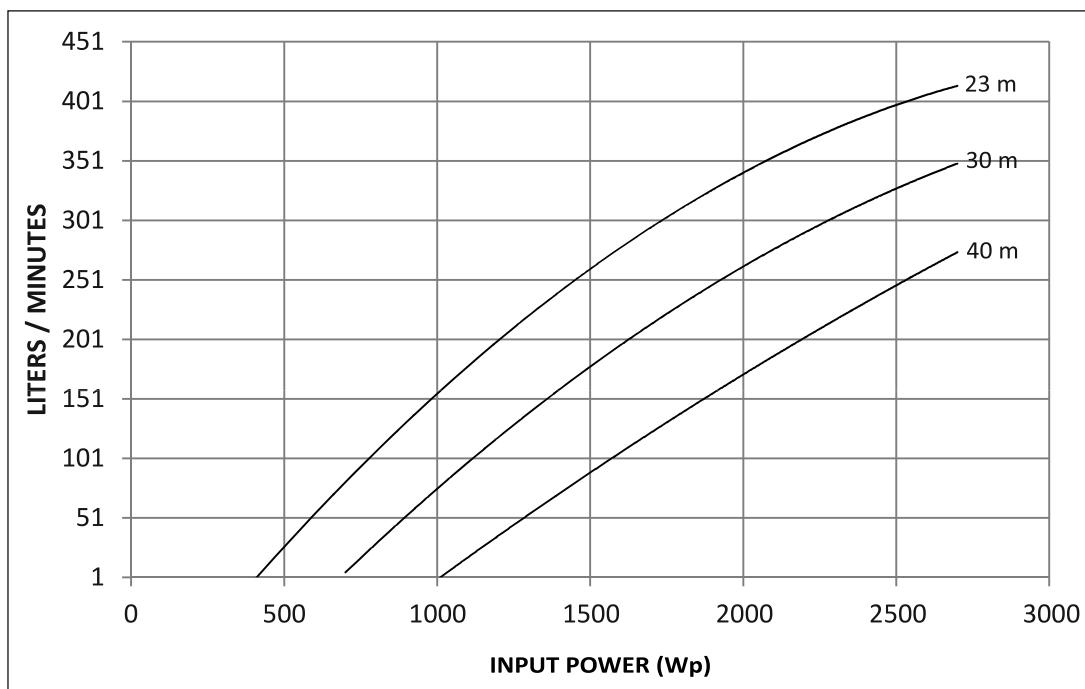


Recommended suction and delivery pipe size		
Suction flange size 50 mm	Delivery flange size 40 mm	Approx. Wt. [kg] 265.0

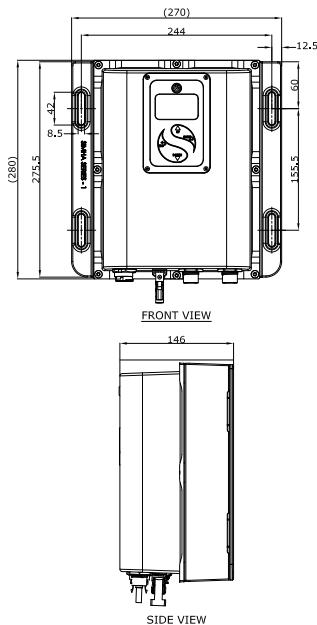
## **INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS**

15 DCSCRI 2700

Pumpset Code : 9500000963

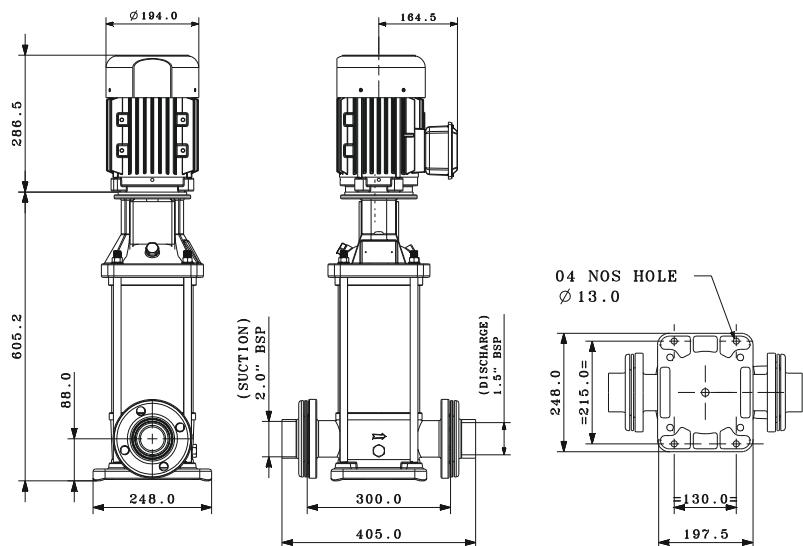


**SHAKTI SUD 3P,12A,  
450 VDC, 3HP  
9600000003**



	INPUT POWER(Wp)						
	2700	2400	2100	1800	1000	700	400
HEAD(m)	FLOW IN LPM						
40	272	235	190	135	0		
30	352	314	272	232	83	0	
23	414	390	355	306	166	72	0

## **DIMENSIONAL AND WEIGHT**

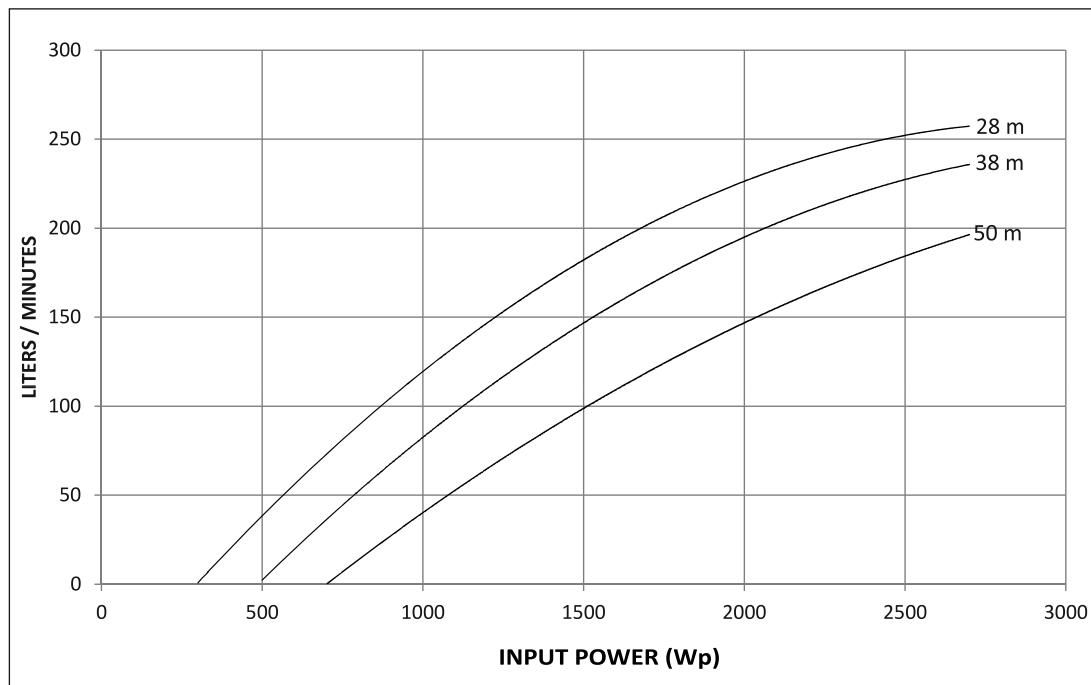


Recommended suction and delivery pipe size		
Suction flange size	Delivery flange size	Approx. Wt. [kg]
65 mm	65 mm	265.0

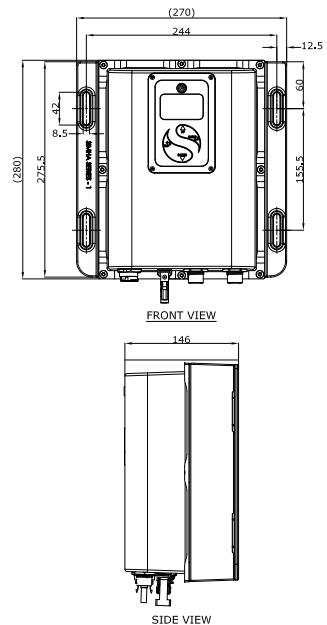
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 11 DCSCRI 2700

Pumpset Code : 9500000898

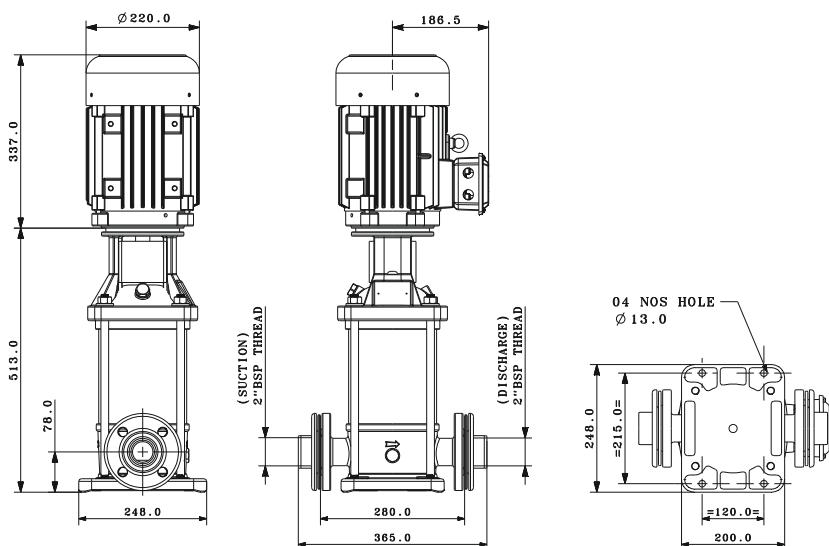


**SHAKTI SUD 3P,12A,  
450 VDC, 3HP  
9600000003**



	INPUT POWER(Wp)						
	2700	2400	2100	1800	700	500	300
HEAD(M)	FLOW IN LPM						
50	196	178	156	128	0		
38	238	220	200	180	39	0	
28	260	248	229	210	85	30	0

### DIMENSIONAL AND WEIGHT

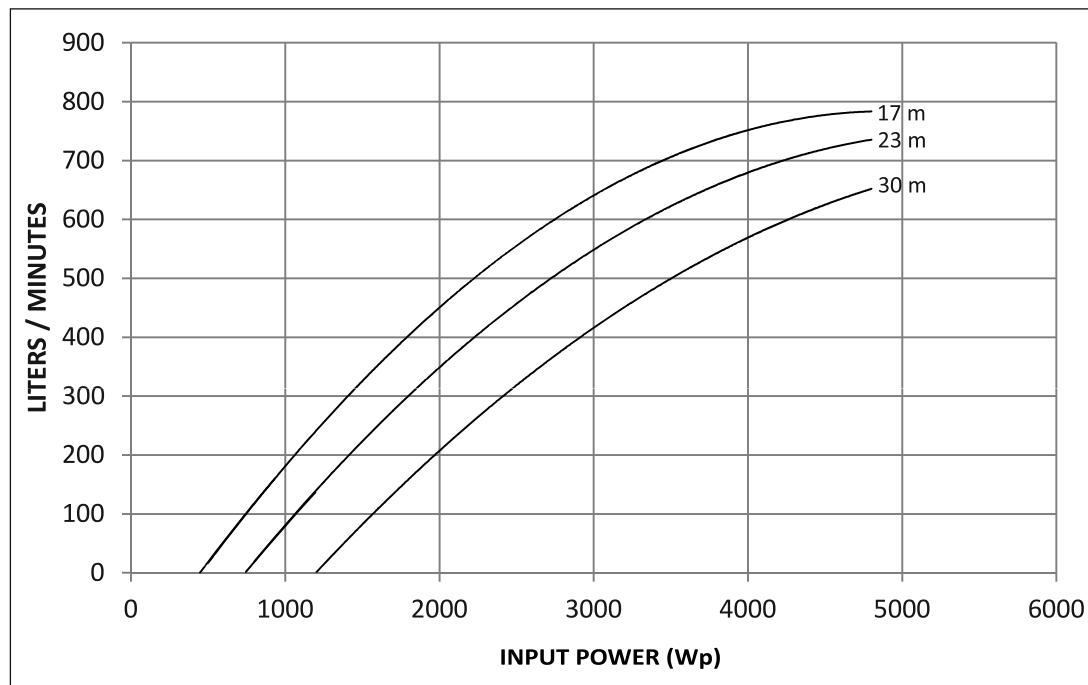


Recommended suction and delivery pipe size		
Suction flange size 50 mm	Delivery flange size 50 mm	Approx. Wt. [kg] 55.0

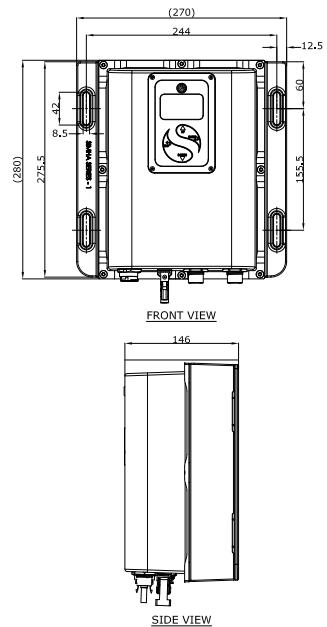
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 35 DCSCRI 4800

Pumpset Code : 9500000908

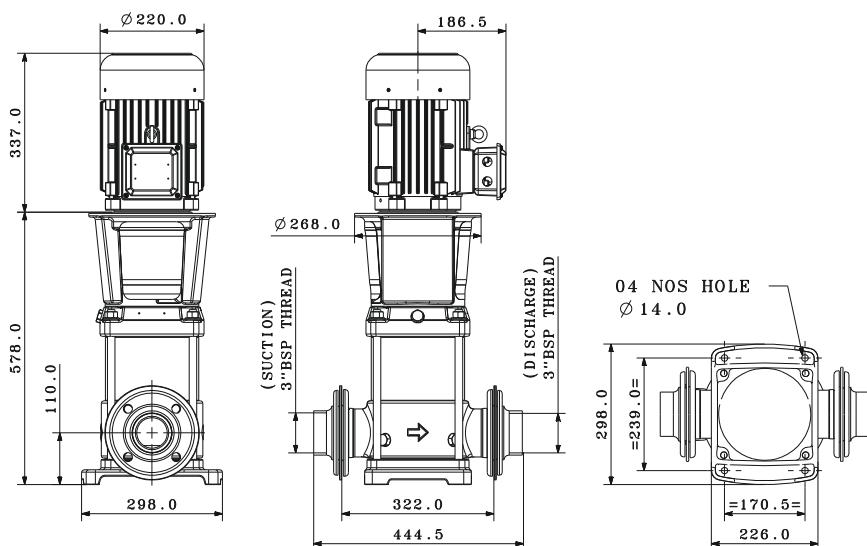


SHAKTI SUD 3P,12A,  
720 VDC, 5HP  
9600000004



	INPUT POWER(Wp)						
	4800	4200	3600	3000	1200	800	500
HEAD(M)	FLOW IN LPM						
30	655	587	516	418	0		
23	742	692	632	545	165	0	
17	795	757	710	630	282	107	0

### DIMENSIONAL AND WEIGHT



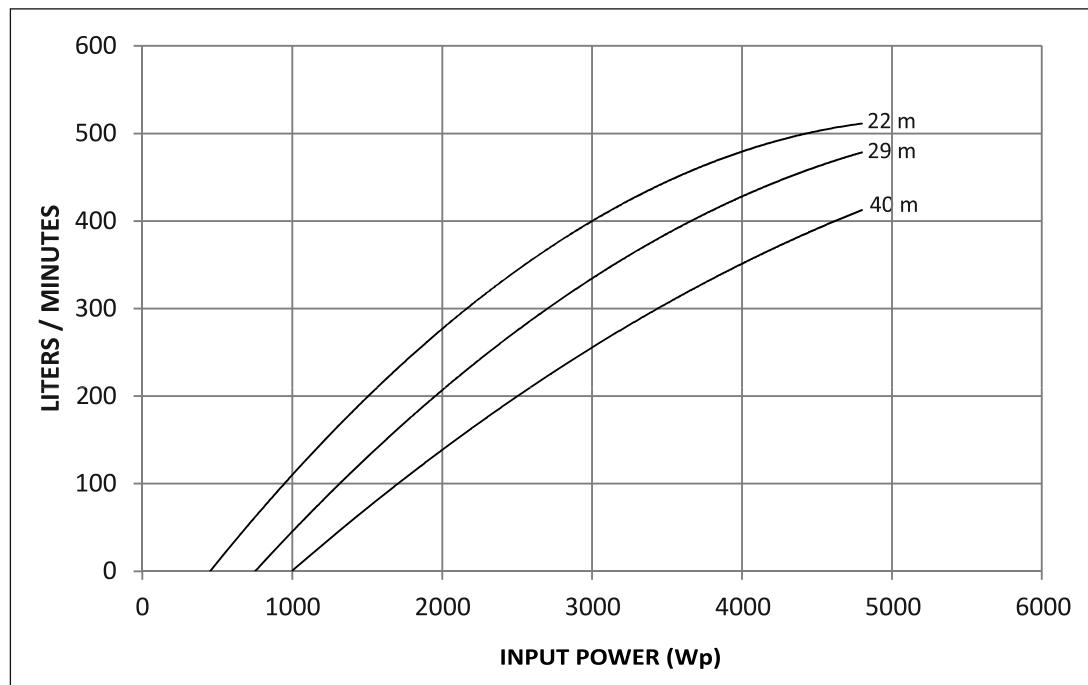
Recommended suction and delivery pipe size

Suction flange size	Delivery flange size	Approx. Wt. [kg]
80 mm	80 mm	97.0

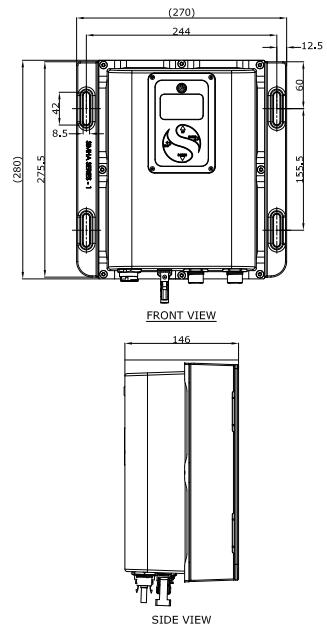
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 26 DCSCRI 4800

Pumpset Code : 9500000906

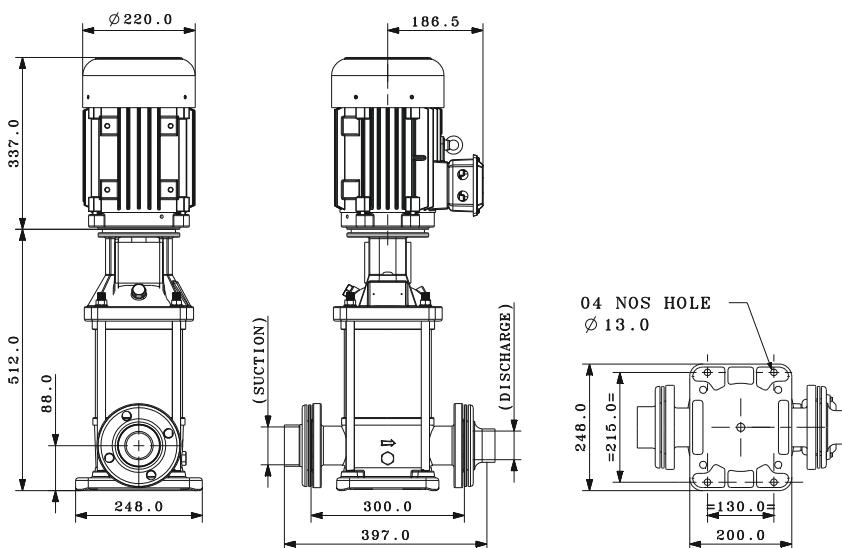


SHAKTI SUD 3P,12A,  
720 VDC, 5HP  
9600000004



	INPUT POWER(Wp)						
	4800	4200	3600	3000	1000	700	400
HEAD(M)	FLOW IN LPM						
40	415	365	312	260	0		
29	480	438	395	340	33	0	
22	515	485	450	404	126	25	0

### DIMENSIONAL AND WEIGHT

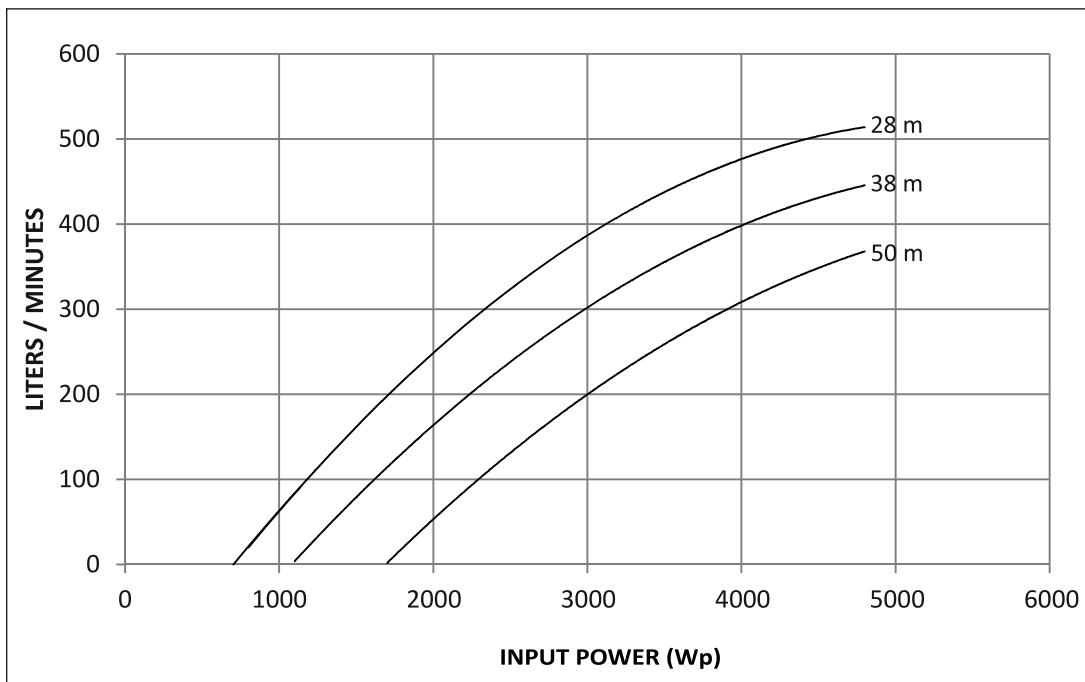


Recommended suction and delivery pipe size		
Suction flange size 80 mm	Delivery flange size 65 mm	Approx. Wt. [kg] 56.0

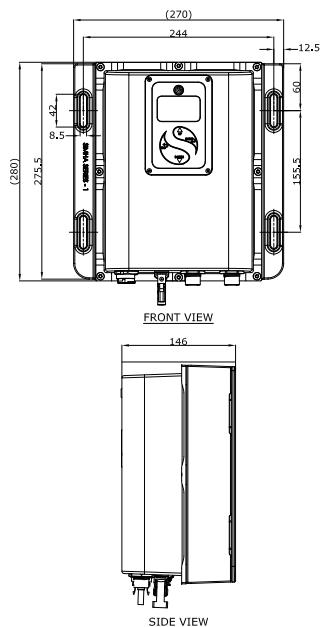
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 21 DCSCRI4800

Pumpset Code : 9500000900

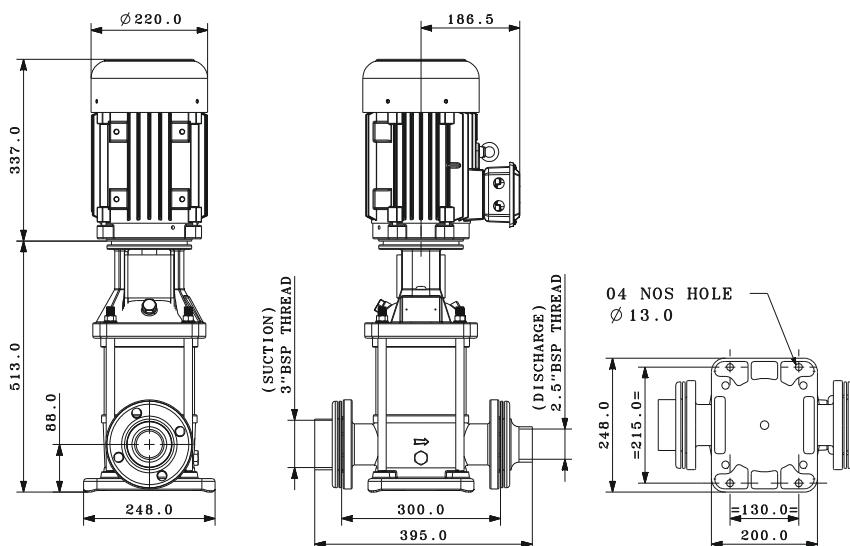


SHAKTI SUD 3P,12A,  
720 VDC, 5HP  
9600000004



HEAD(M)	INPUT POWER(Wp)						
	4800	4200	3600	3000	1700	1100	800
50	372	320	265	208	0		
38	446	417	355	305	120	0	
28	525	482	435	380	222	93	0

### DIMENSIONAL AND WEIGHT



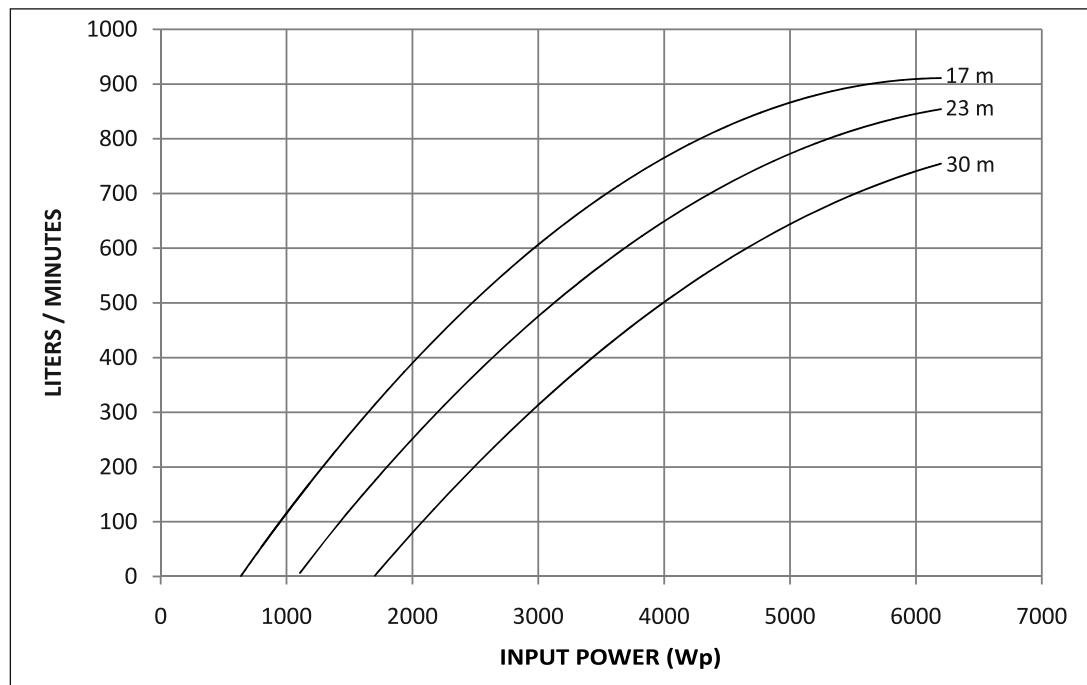
Recommended suction and delivery pipe size

Suction flange size 80 mm	Delivery flange size 65 mm	Approx. Wt. [kg] 66.0

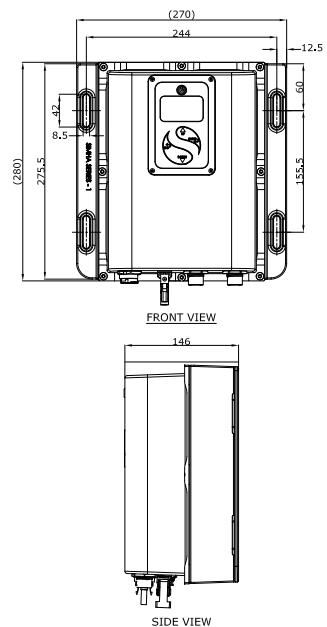
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 45 DCSCRI 6200

Pumpset Code : 9500000916

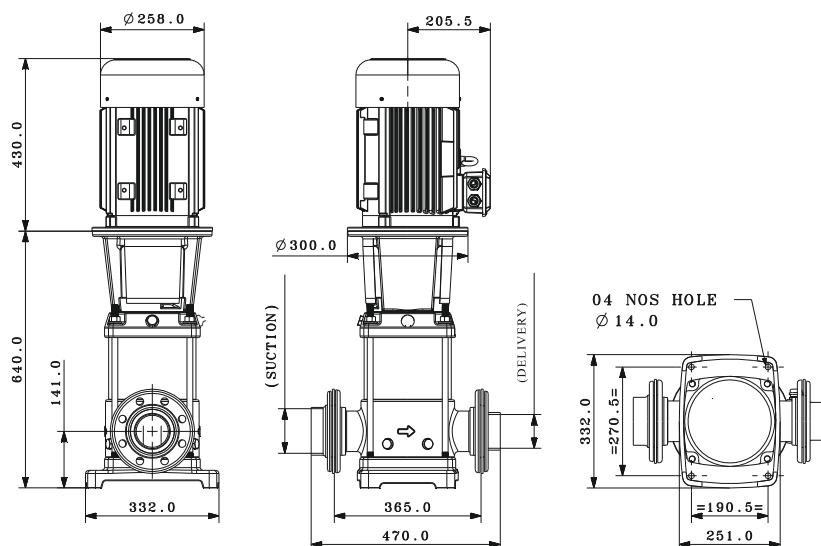


SHAKTI SUD 3P,20A,  
450 VDC, 7.5HP  
9600000021



	INPUT POWER(Wp)						
	6200	5500	4800	4000	1700	1200	800
HEAD(m)	FLOW IN LPM						
30	760	690	615	509	0		
23	868	805	741	646	222	0	
17	925	894	834	750	342	220	0

### DIMENSIONAL AND WEIGHT

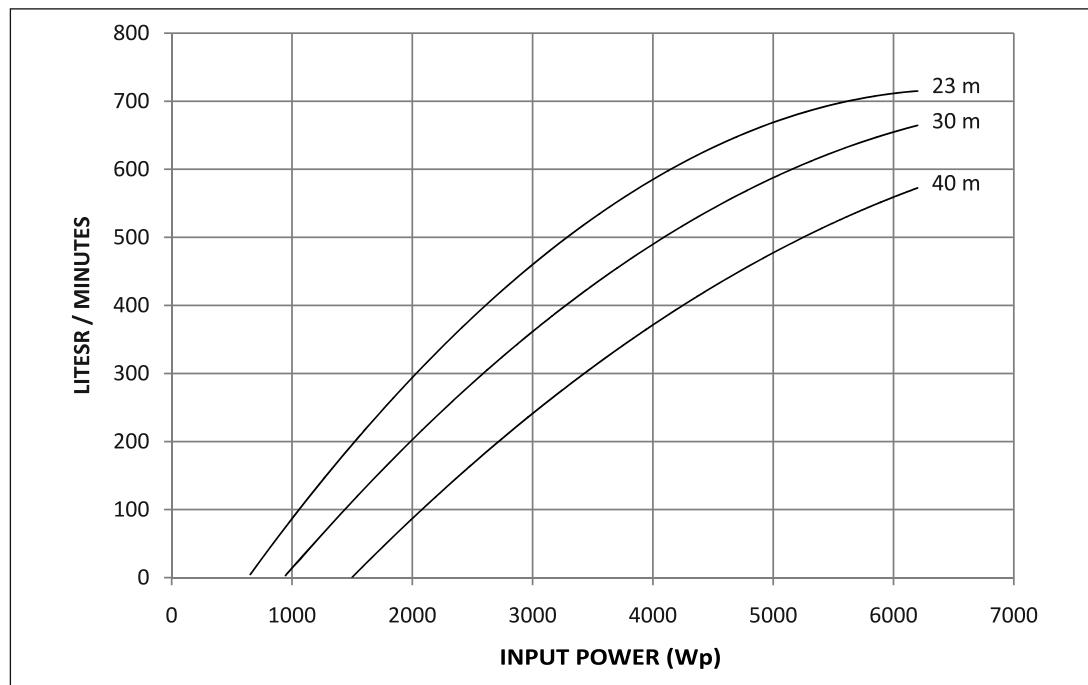


Recommended suction and delivery pipe size		
Suction flange size 100 mm	Delivery flange size 80 mm	Approx. Wt. [kg] 117.0

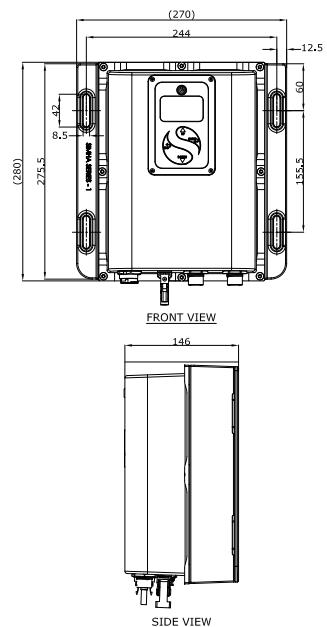
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 34 DCSCRI 6200

Pumpset Code : 9500000909

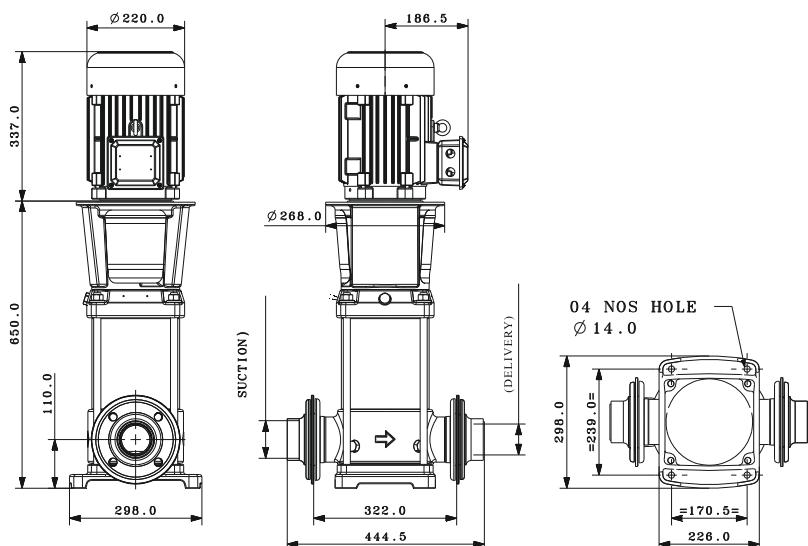


SHAKTI SUD 3P,20A,  
450 VDC, 7.5HP  
9600000021



	INPUT POWER(Wp)						
	6200	5500	4800	4000	1700	1100	800
HEAD(m)	FLOW IN LPM						
40	571	517	471	377	0		
30	665	613	557	493	172	0	
23	728	682	635	567	270	124	0

### DIMENSIONAL AND WEIGHT

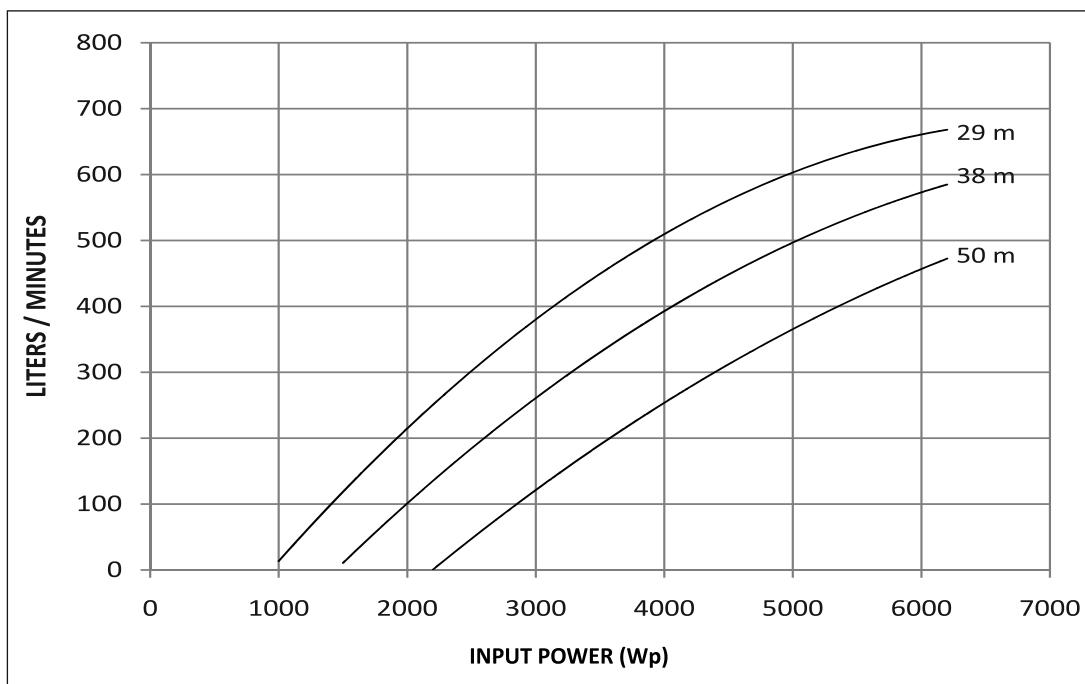


Recommended suction and delivery pipe size		
Suction flange size 80 mm	Delivery flange size 65 mm	Approx. Wt. [kg] 106.0

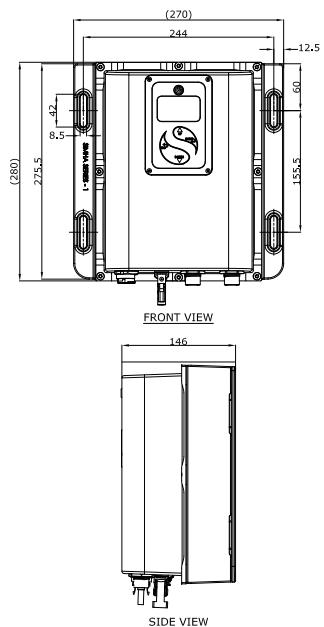
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 27 DCSCRI 6200

Pumpset Code : 9500000901

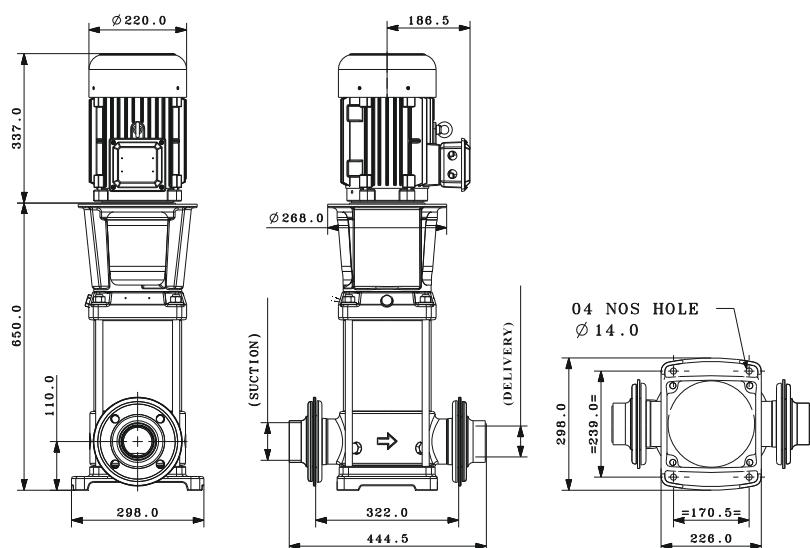


**SHAKTI SUD 3P,20A,  
450 VDC, 7.5HP  
9600000021**



	INPUT POWER(Wp)						
	6200	5500	4800	4000	2200	1500	1000
HEAD(m)	FLOW IN LPM						
50	473	414	342	256	0		
38	590	536	471	392	151	0	
29	677	633	577	504	270	123	0

### DIMENSIONAL AND WEIGHT

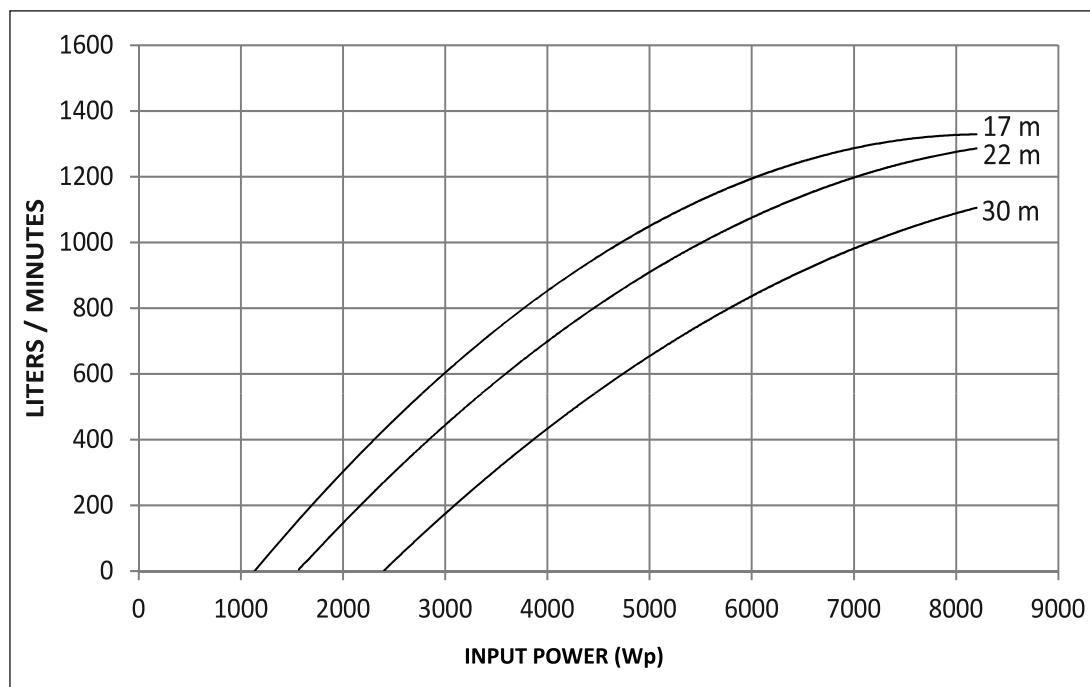


Recommended suction and delivery pipe size		
Suction flange size 80 mm	Delivery flange size 65 mm	Approx. Wt. [kg] 160.0

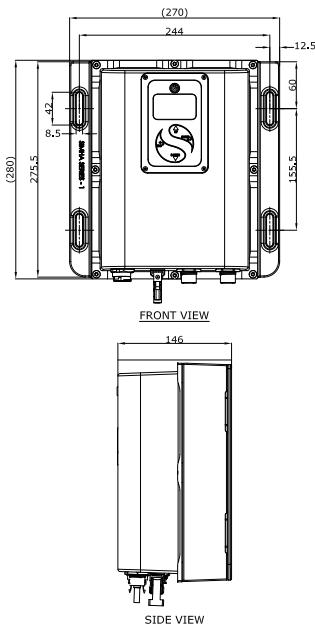
## **INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS**

65 DCSCRI 8200

Pumpset Code : 9500000923

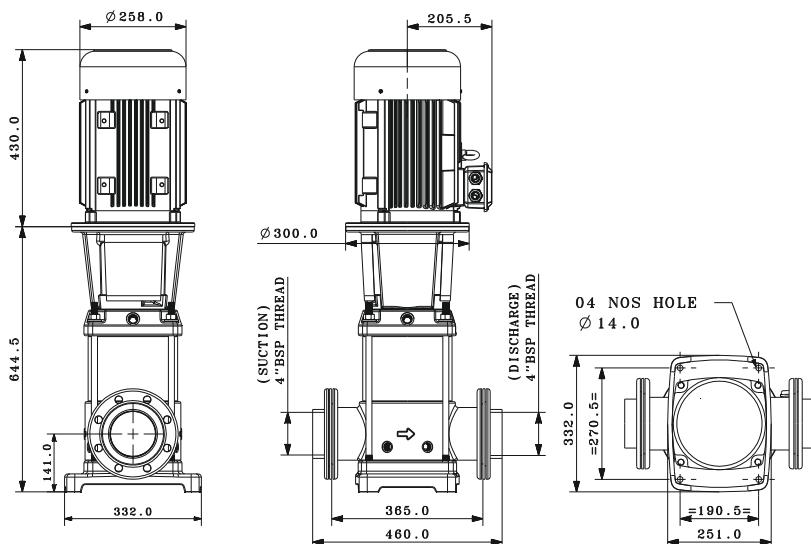


**SHAKTI SUD 3P,20A,  
720 VDC, 10HP  
9600000022**



	INPUT POWER(Wp)						
	8200	7200	6200	5200	2400	1600	1100
HEAD(m)	FLOW IN LPM						
30	1111	1000	860	705	0		
22	1300	1200	1094	955	290	0	
17	1350	1285	1200	1070	520	89	0

## **DIMENSIONAL AND WEIGHT**

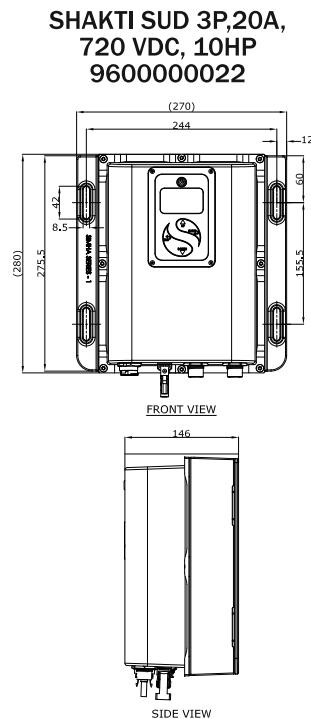
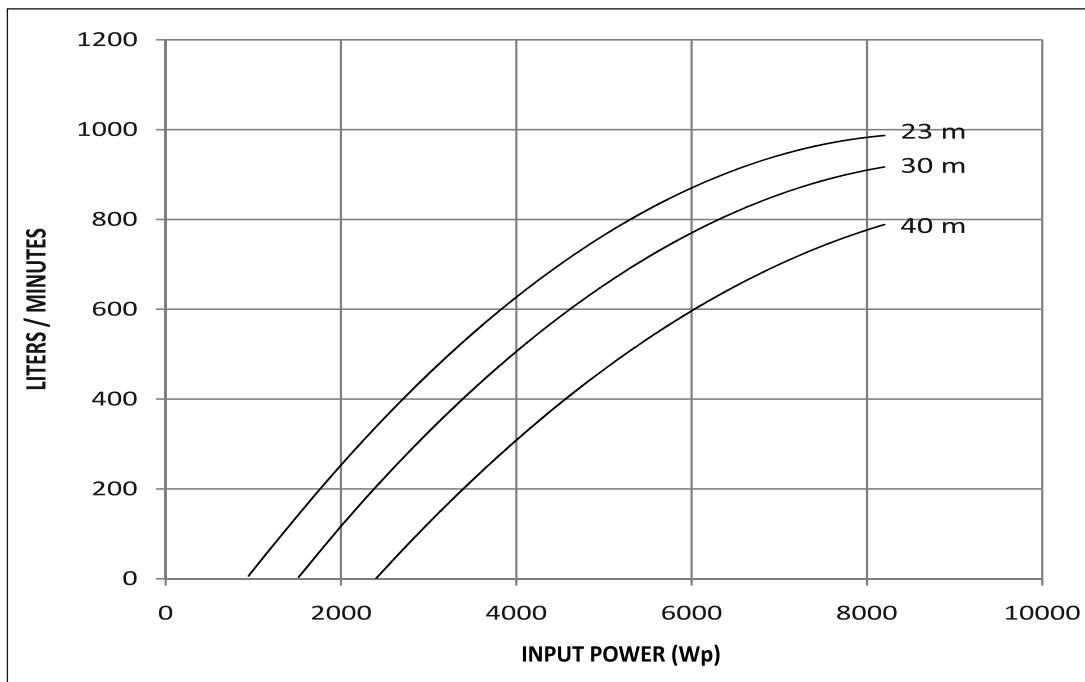


Recommended suction and delivery pipe size		
Suction flange size	Delivery flange size	Approx. Wt. [kg]
100 mm	100 mm	265.0

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

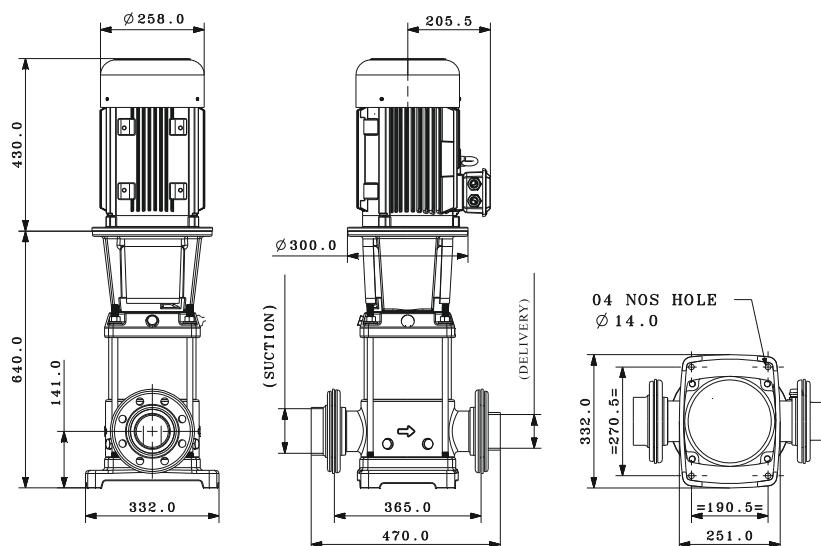
### 44 DCSCRI 8200

Pumpset Code : 9500000917



	INPUT POWER(Wp)						
	8200	7200	6200	5200	2400	1600	1100
HEAD(m)	FLOW IN LPM						
40	791	716	613	501	0		
30	927	862	780	677	239	0	
23	991	953	880	790	318	228	0

### DIMENSIONAL AND WEIGHT

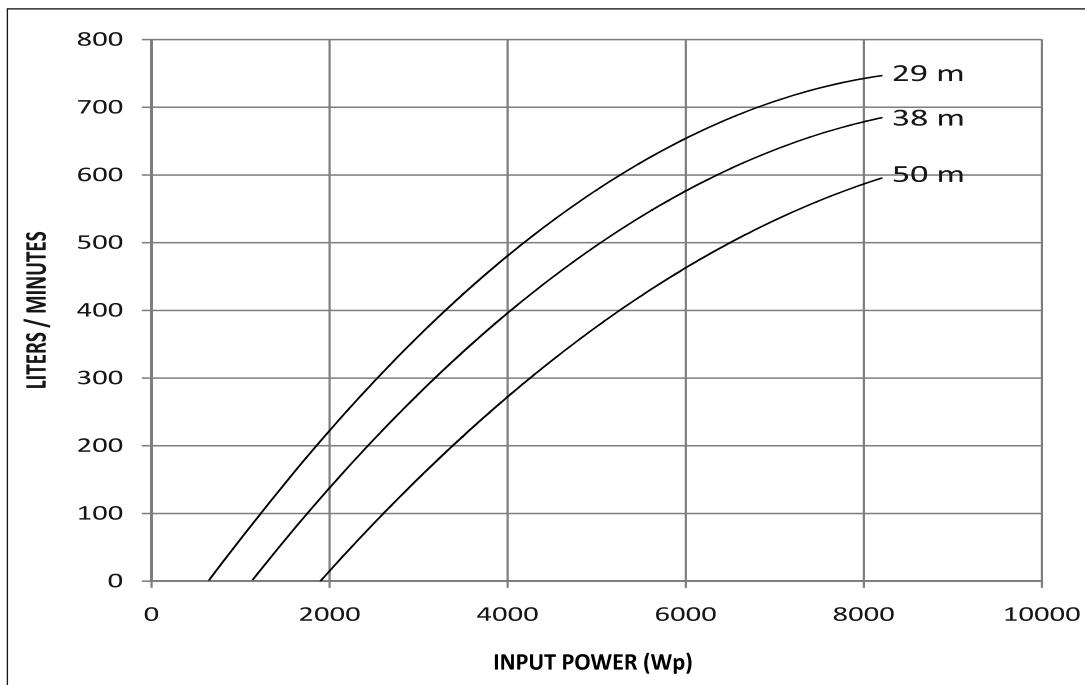


Recommended suction and delivery pipe size		
Suction flange size 100 mm	Delivery flange size 80 mm	Approx. Wt. [kg] 117.0

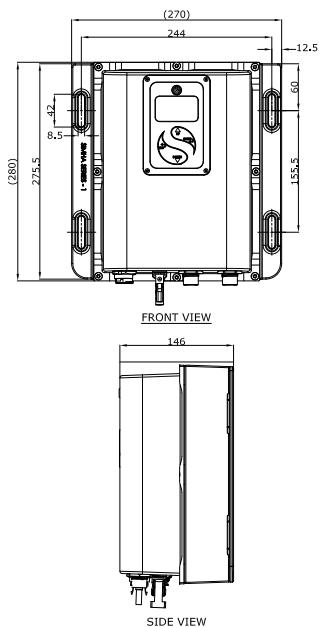
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 36 DCSCRI 8200

Pumpset Code : 9500000910

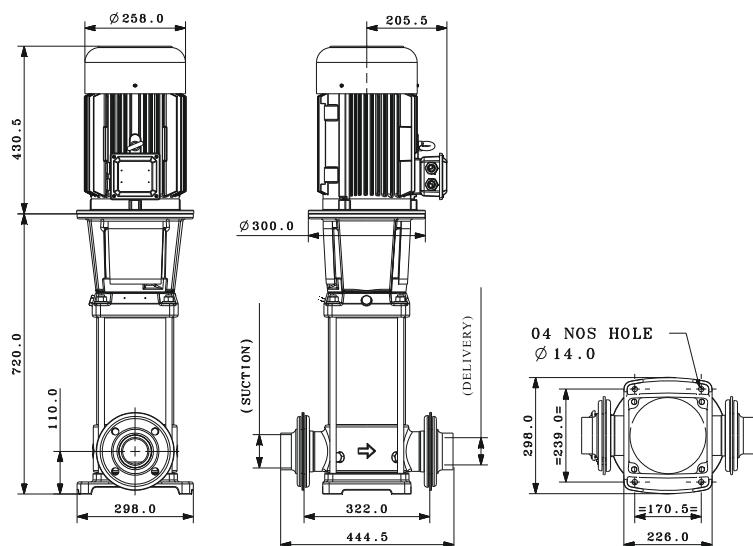


**SHAKTI SUD 3P,20A,  
720 VDC, 10HP  
9600000022**



	INPUT POWER(Wp)						
	8200	7200	6200	5200	1900	1200	900
HEAD(m)	FLOW IN LPM						
50	597	543	477	397	0		
38	691	641	585	515	139	0	
29	760	711	653	590	243	99	0

### DIMENSIONAL AND WEIGHT

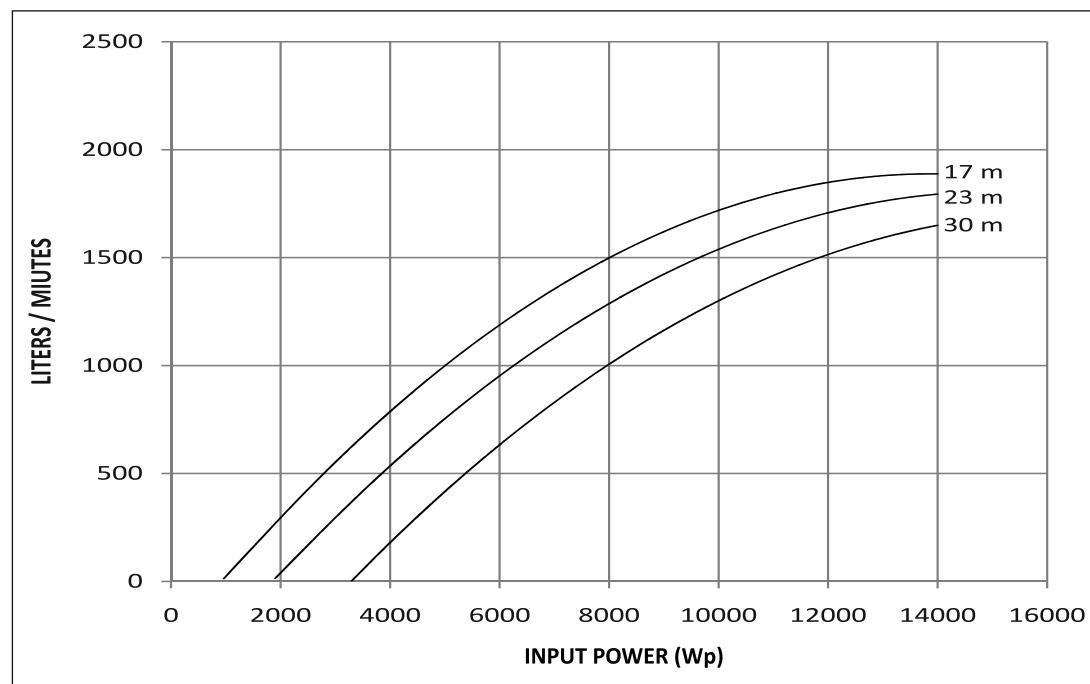


Recommended suction and delivery pipe size		
Suction flange size 80 mm	Delivery flange size 65 mm	Approx. Wt. [kg] 115.0

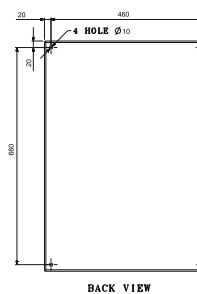
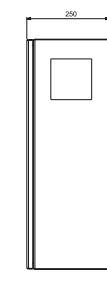
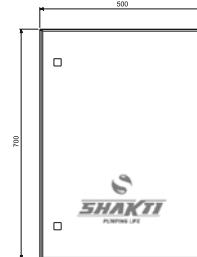
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 99 DCSCRI 14000

Pumpset Code : 9500000930

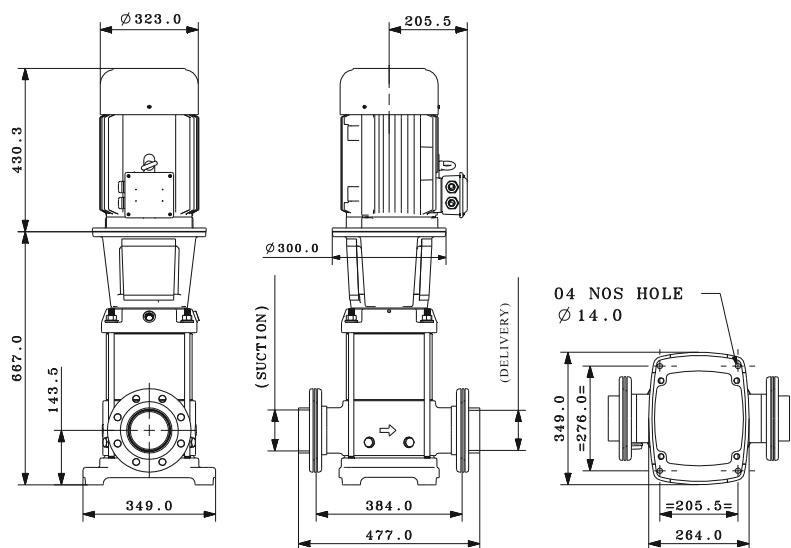


SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556



HEAD(m)	INPUT POWER(Wp)						
	14000	12000	10000	8000	2900	2000	1400
<b>FLOW IN LPM</b>							
30	1650	1520	1281	1020	0		
23	1830	1665	1520	1290	480	0	
17	1935	1813	1665	1500	705	467	0

### DIMENSIONAL AND WEIGHT

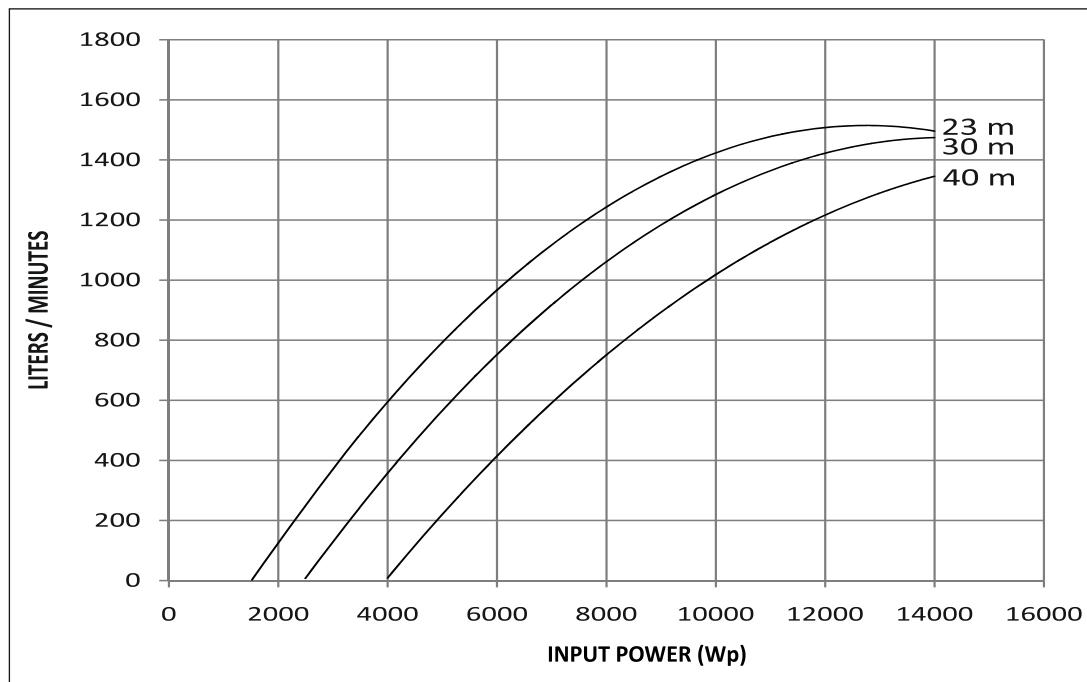


Recommended suction and delivery pipe size		
Suction flange size 100 mm	Delivery flange size 100 mm	Approx. Wt. [kg] 197.0

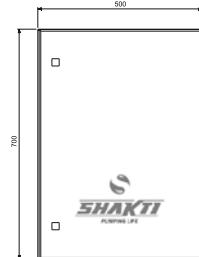
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 76 DCSCRI 14000

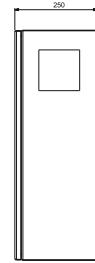
Pumpset Code : 9500000924



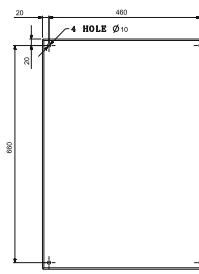
**SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556**



FRONT VIEW



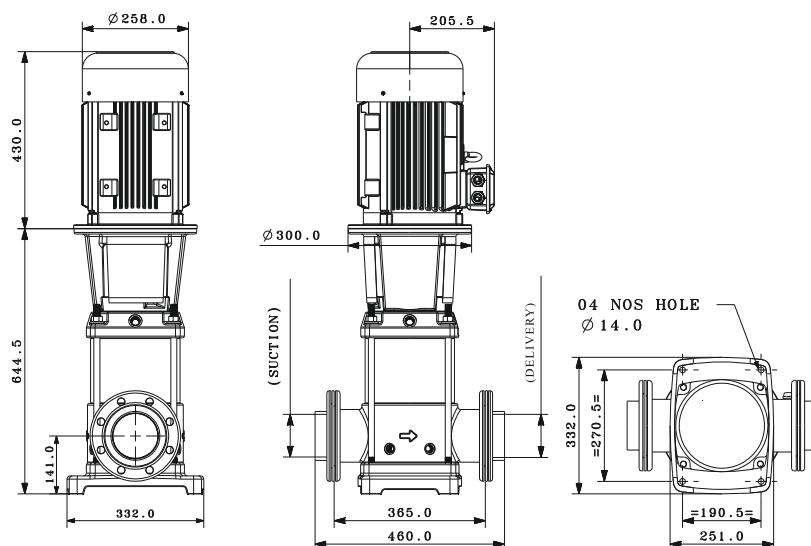
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	14000	12000	10000	8000	4000	2700	1900
HEAD(m)	FLOW IN LPM						
40	1370	1170	1020	780	0		
30	1490	1410	1270	1050	435	0	
23	1535	1475	1390	1230	675	365	0

### DIMENSIONAL AND WEIGHT

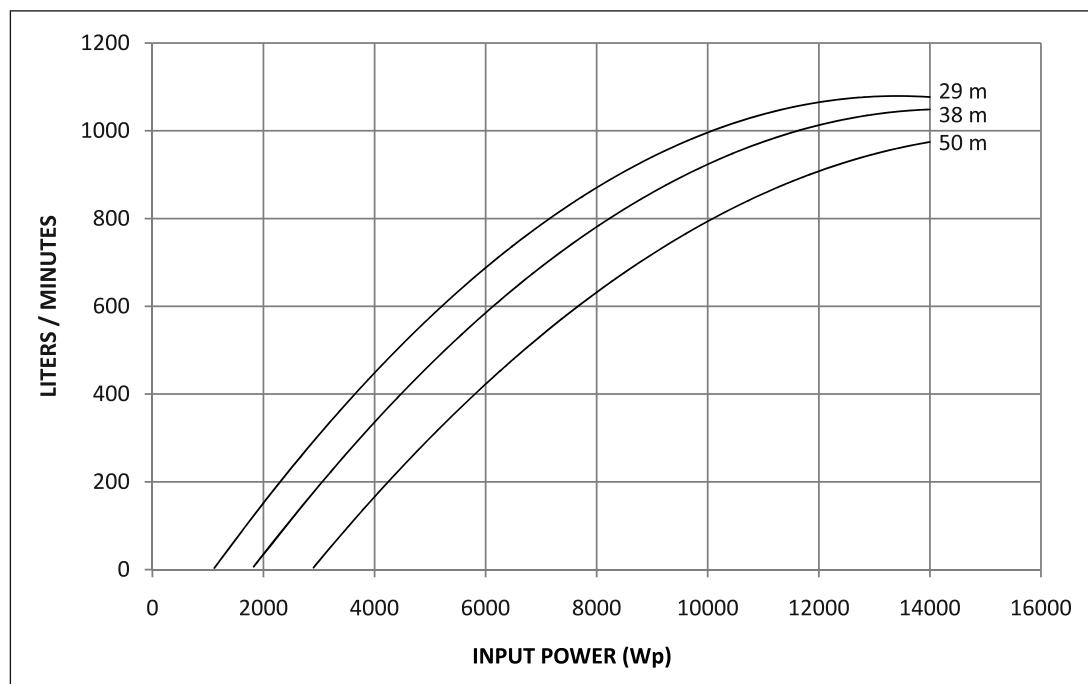


Recommended suction and delivery pipe size		
Suction flange size 100 mm	Delivery flange size 100 mm	Approx. Wt. [kg] 157.0

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 59 DCSCRI 14000

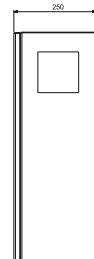
Pumpset Code : 9500000918



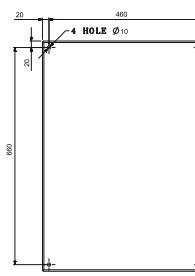
SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556



FRONT VIEW



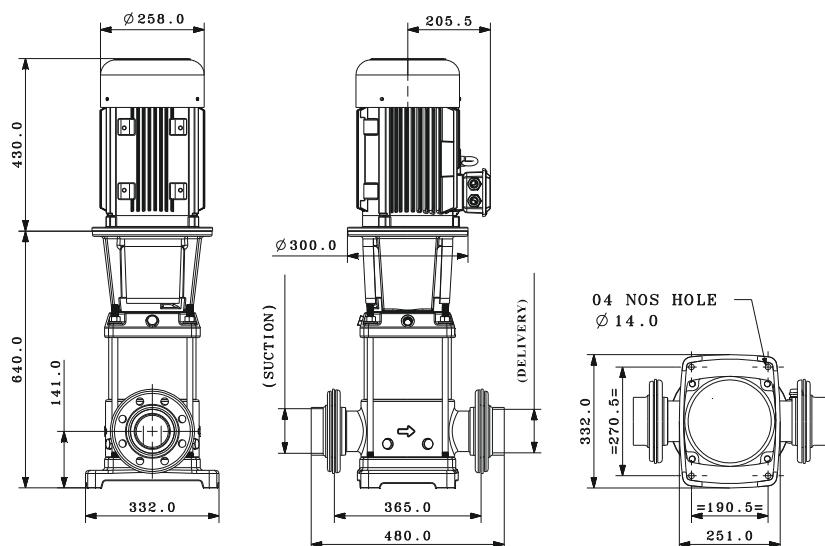
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	14000	12000	10000	8000	2900	2000	1400
HEAD(m)	FLOW IN LPM						
50	990	880	792	650	0		
38	1060	1000	916	784	216	0	
29	1092	1050	980	880	300	202	0

### DIMENSIONAL AND WEIGHT

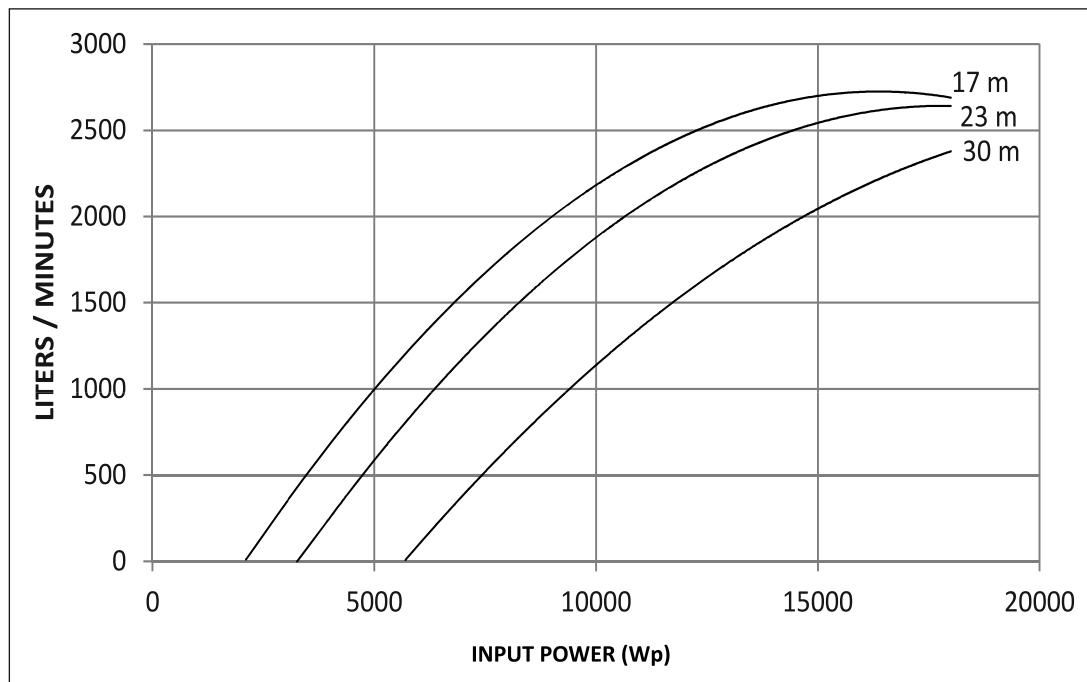


Recommended suction and delivery pipe size		
Suction flange size 100 mm	Delivery flange size 100 mm	Approx. Wt. [kg] 118.0

## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

**130 DCSCRI 18000**

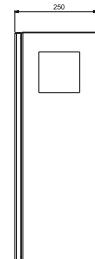
Pumpset Code : 9500000968



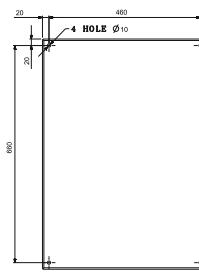
**SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556**



FRONT VIEW



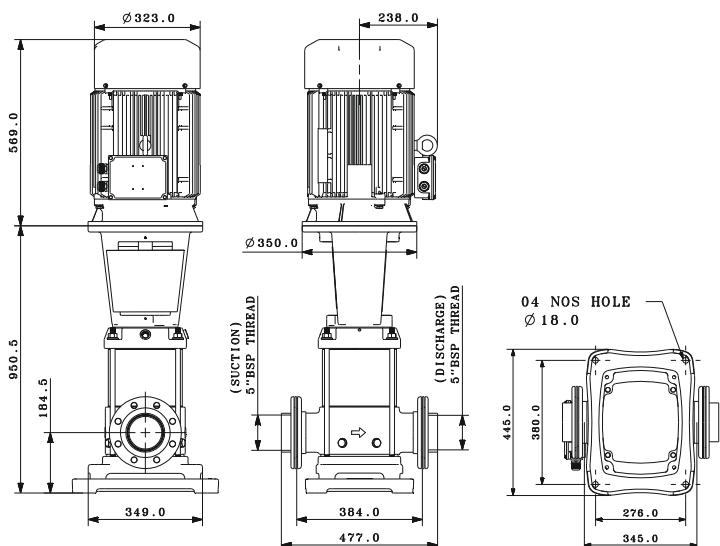
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	18000	16000	14000	12000	5700	3600	2600
HEAD(M)	FLOW IN LPM						
30	2400	2150	1860	1600	0		
23	2690	2575	2430	2170	975	0	
17	2750	2700	2610	2400	1310	700	0

### DIMENSIONAL AND WEIGHT

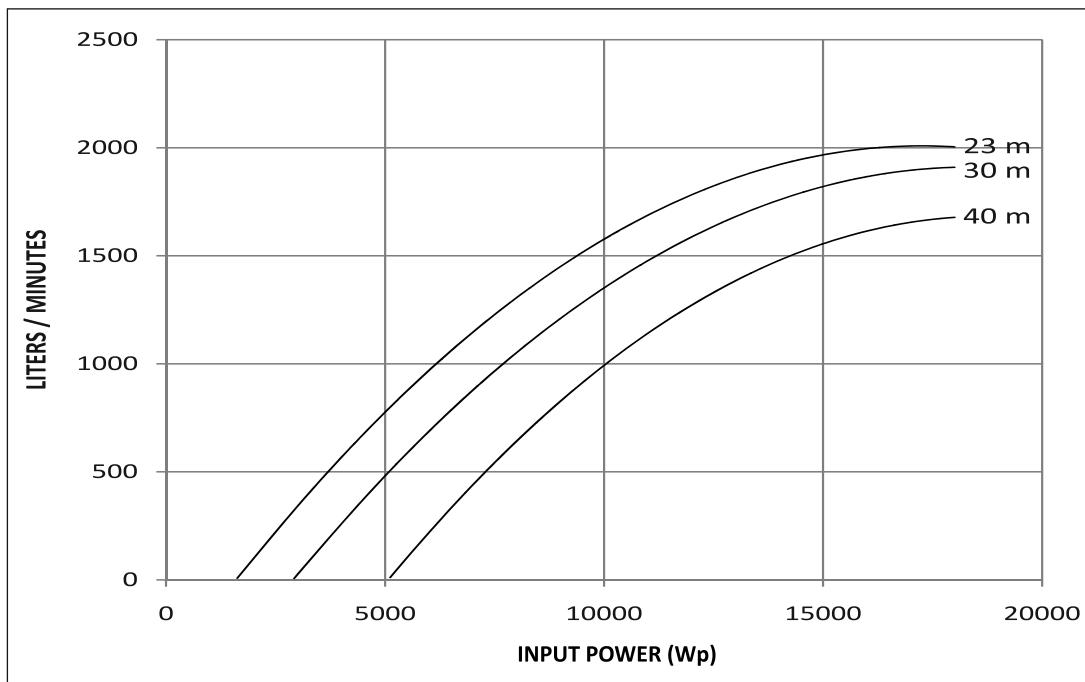


Recommended suction and delivery pipe size		
Suction flange size 125 mm	Delivery flange size 125 mm	Approx. Wt. [kg] 250.0

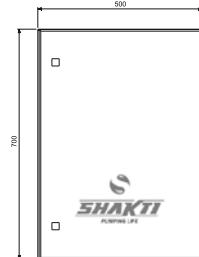
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 97 DCSCRI 18000

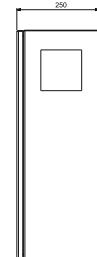
Pumpset Code : 9500000931



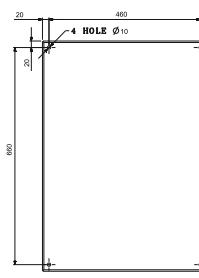
**SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556**



FRONT VIEW



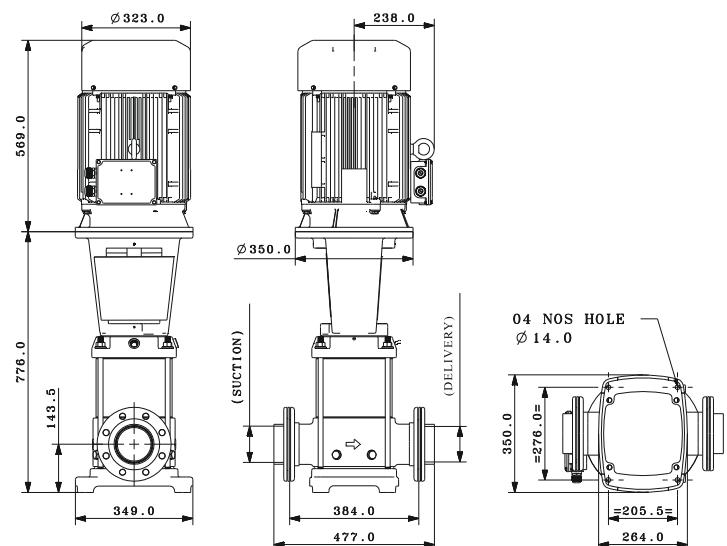
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	18000	15000	12000	9000	5200	3400	2300
HEAD(m)	FLOW IN LPM						
40	1710	1500	1250	900	0		
30	1955	1770	1536	1224	685	0	
23	2070	1900	1715	1440	960	540	0

### DIMENSIONAL AND WEIGHT

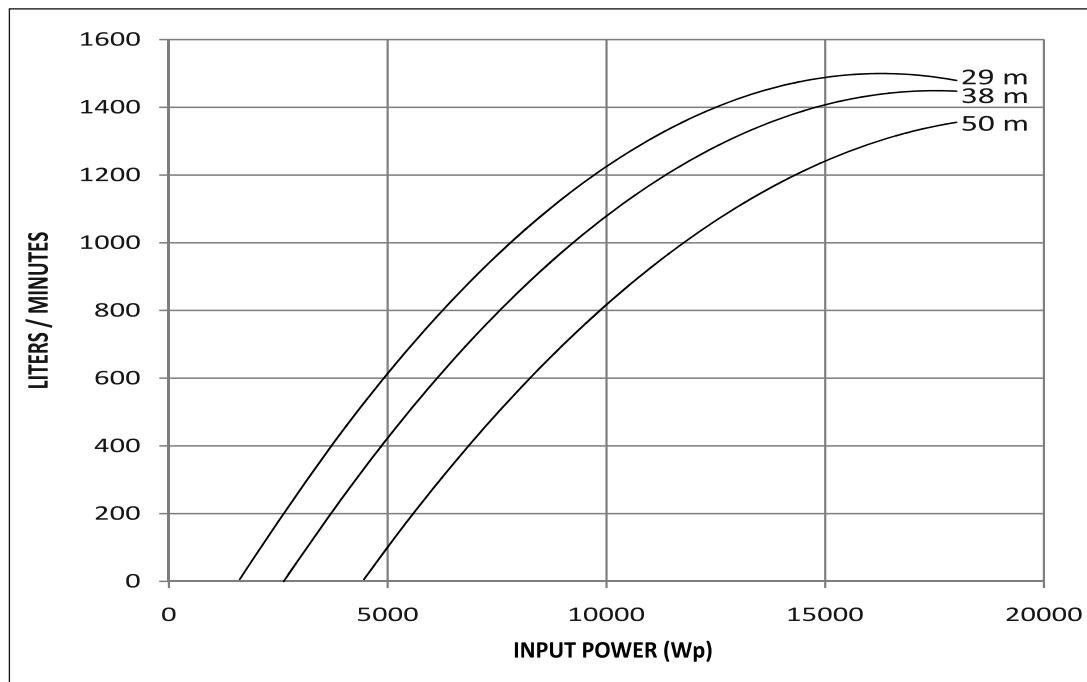


Recommended suction and delivery pipe size		
Suction flange size 125 mm	Delivery flange size 100 mm	Approx. Wt. [kg] 199.0

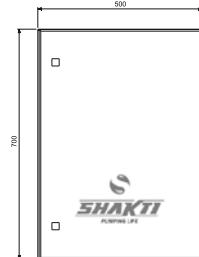
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

### 78 DCSCRI 18000

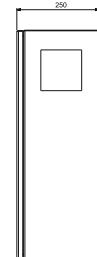
Pumpset Code : 9500000925



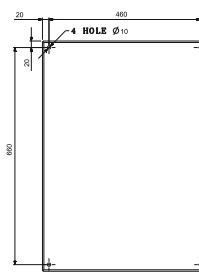
SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556



FRONT VIEW



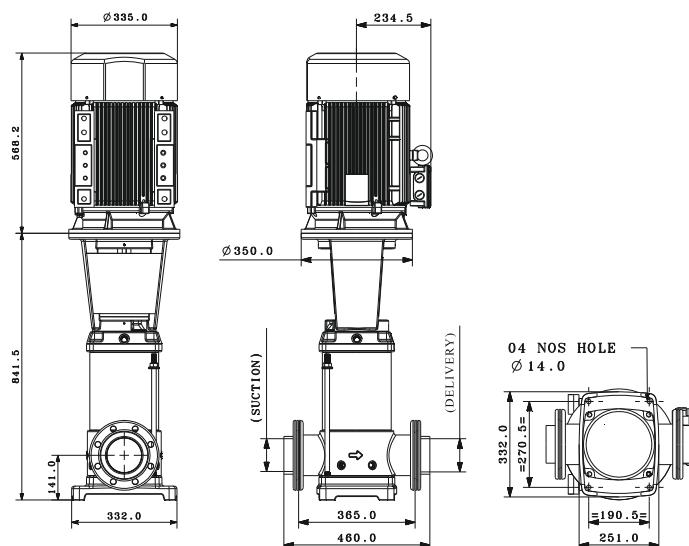
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	18000	15000	12000	9000	4500	2900	2000
HEAD(m)	FLOW IN LPM						
50	1380	1195	1020	735	0		
38	1473	1317	1220	1000	400	0	
29	1515	1440	1348	1155	560	320	0

### DIMENSIONAL AND WEIGHT

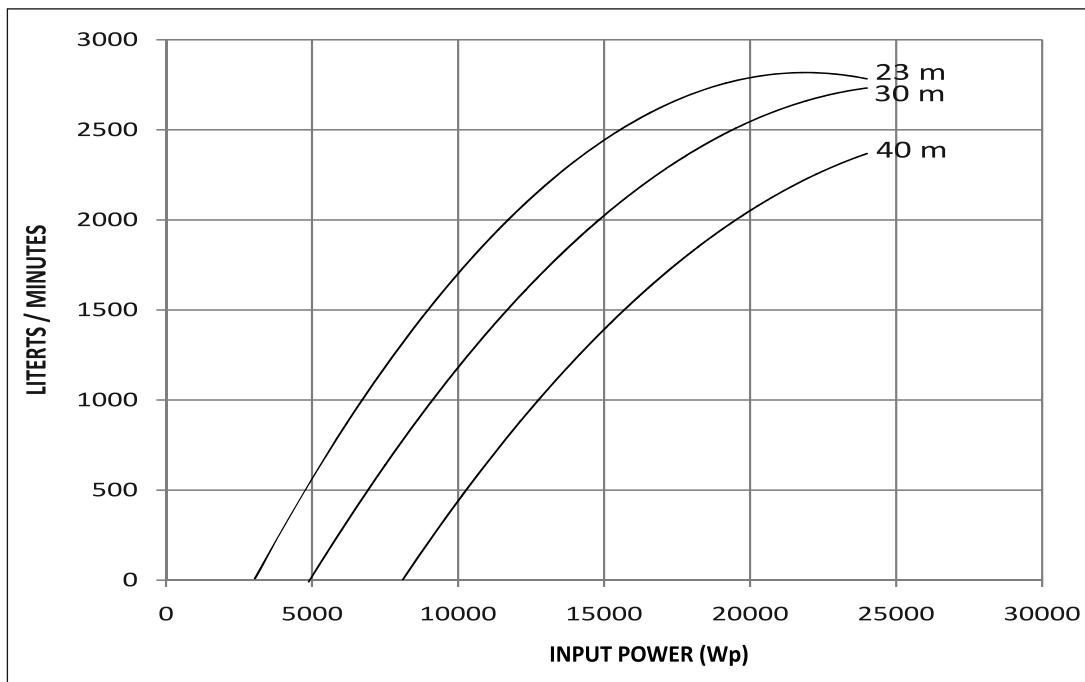


Recommended suction and delivery pipe size		
Suction flange size 100 mm	Delivery flange size 100 mm	Approx. Wt. [kg] 205.0

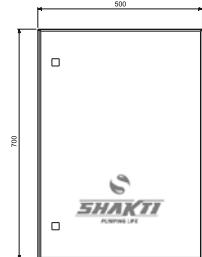
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

**130 DCSCRI 24000**

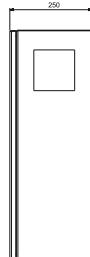
Pumpset Code : 9500000920



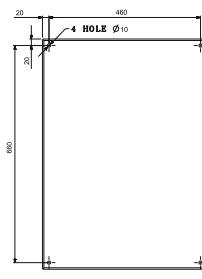
**SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556**



FRONT VIEW



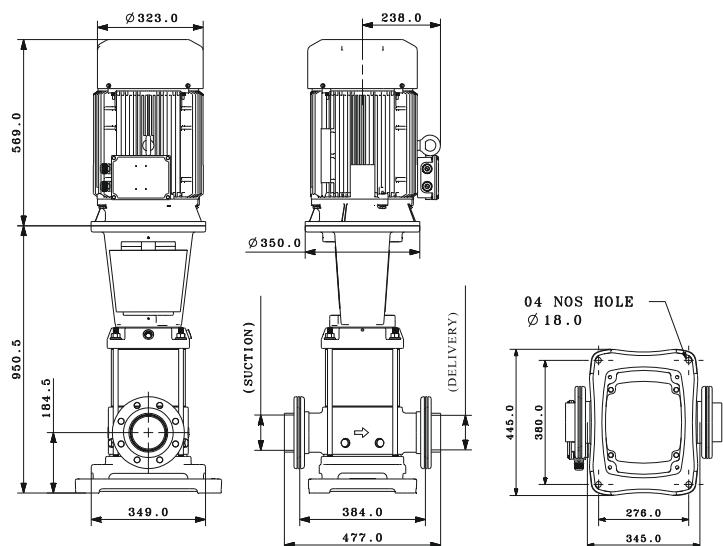
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	24000	21000	18000	15000	8100	5100	3600
HEAD(m)	FLOW IN LPM						
40	2380	2117	1845	1390	0		
30	2730	2650	2330	2005	850	0	
23	2830	2772	2660	2442	1305	815	0

### DIMENSIONAL AND WEIGHT

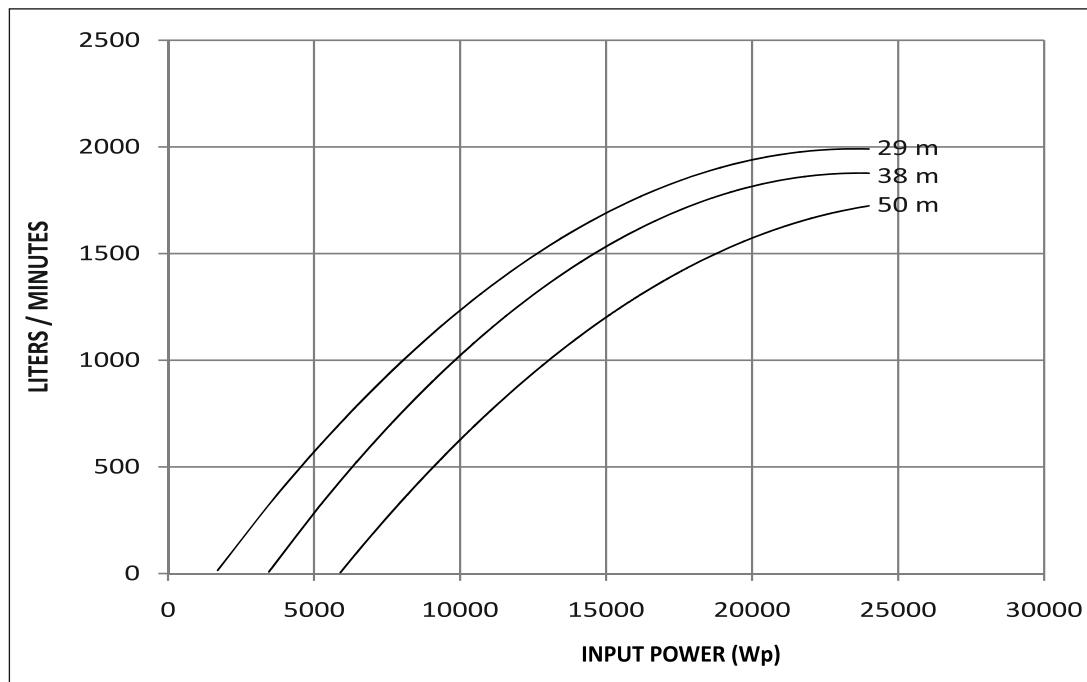


Recommended suction and delivery pipe size		
Suction flange size 125 mm	Delivery flange size 125 mm	Approx. Wt. [kg] 250.0

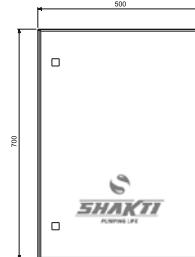
## INTRODUCTION OF SOLAR POWERED WATER PUMPING SOLUTIONS

**104 DCSCRI 24000**

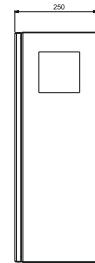
Pumpset Code : 9500000926



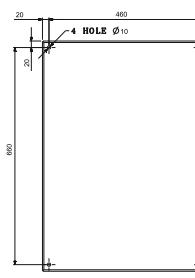
**SOLAR CONT. DC-SHAKTI  
-03P-38A (12.5-25HP)  
9000023556**



FRONT VIEW



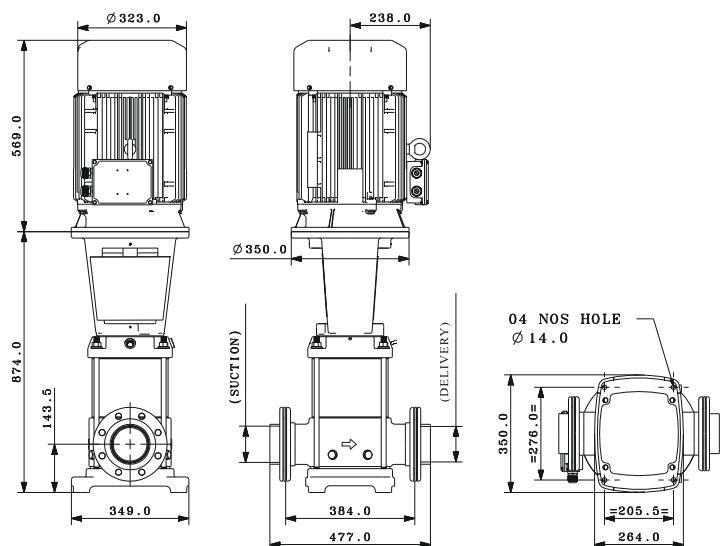
SIDE VIEW



BACK VIEW

	INPUT POWER(Wp)						
	24000	21000	18000	15000	5900	3900	2500
HEAD(m)	FLOW IN LPM						
50	1740	1600	1430	1230	0		
38	1930	1800	1660	1575	545	0	
29	2040	1940	1820	1658	800	515	0

### DIMENSIONAL AND WEIGHT



Recommended suction and delivery pipe size		
Suction flange size 125 mm	Delivery flange size 100 mm	Approx. Wt. [kg] 265.0



India : Toll Free No. 1800 103 5555      Other Countries : +91-7292 410500

## SHAKTI PUMPS (INDIA) LTD.

Sector - 3, Pithampur - 454774, Dist. - Dhar, (M.P.) - INDIA  
Fax: +91-7292 410645, E-mail: [info@shaktipumps.com](mailto:info@shaktipumps.com), [sales@shaktipumps.com](mailto:sales@shaktipumps.com),  
Visit us at : [www.shaktipumps.com](http://www.shaktipumps.com)