



# LSY SERIES

Solar Centrifugal Monoblock Pumps



*Infinite Solar Pumping Energy*



**SOLAR PUMP**

## Introduction

Existence of human life in rural India depends largely on the availability of clean water to people, livestock and crops. Farmers in rural India can only become prosperous if there is availability of clean water for their farms, homes and livestock. In many parts of India there is a shortage of reliable power for homes and irrigation of fields where **Lubi LSY** series of Solar Pumping systems can make a remarkable contribution.

The LSY Solar Pumping system offered by Lubi is a state of the art high technology product designed to provide a green and energy efficient solution for a reliable water supply where there is no access of clean water and electricity.

The LSY Solar Pumping system comprises of the following equipment.

- Solar centrifugal water pump
- Solar photovoltaic panels with mounting structure
- Automatic controller for the solar pump
- Cables and accessories.

## Applications

- Flood irrigation of small fields
- Drip irrigation for farms
- Cattle watering
- Water supply for small villages, schools, hospitals and homes.



## Features & Benefits

- Highly energy efficient centrifugal water pump with energy efficient inverter duty motor.
- High efficiency solar photovoltaic panels with a service life of minimum 20 years.
- Robust design Galvanized steel mounting structure for long life.
- High technology automatic controller with dynamic MPPT (Maximum Power Point Tracking) control method.
- The controller offers complete protection against under and over voltage and dry run protection for the pump.
- Highly efficient controller with a conversion efficiency of 98%.
- The controller is tropicalized to operate satisfactorily with an ambient temperature of up to 50°C
- Virtually no maintenance cost.
- Environmentally friendly air and noise pollution free solution.

### Range of Performance

Maximum flow	: 830 m <sup>3</sup> /day
Maximum head	: 47 metres.
Rating	: up to 10 HP

### Operating Conditions

Ambient temperature	: +50°C
Liquid temperature range:	0°C to +80°C
Water pH	: 6.5 - 8
Sand content	: 25 g/m <sup>3</sup>

### Type Keys

#### LSY

#### Type range

LSY = Solar centrifugal  
monoblock pump  
series

#### 05

#### Motor power

05 = 0.5 hp (0.37 kW)  
10 = 1.0 hp (0.75 kW)  
15 = 1.5 hp (1.10 kW)  
20 = 2.0 hp (1.50 kW)  
30 = 3.0 hp (2.20 kW)  
50 = 5.0 hp (3.70 kW)  
75 = 7.5 hp (5.50 kW)  
100 = 10 hp (7.50 kW)

#### 0700

#### Total solar panel Watt

0700 = 700 watt solar panel  
1200 = 1200 watt solar panel  
1600 = 1600 watt solar panel  
1800 = 1800 watt solar panel  
3000 = 3000 watt solar panel  
4800 = 4800 watt solar panel  
7000 = 7000 watt solar panel  
9000 = 9000 watt solar panel

### Minimum Cost of Ownership

Very often investment decisions for pumps are based only on the purchase cost of the pump. This initial purchase cost is a fraction of owning and operating a pump over its entire life span. The initial cost for diesel engine driven pumps is just 5% of the total life cycle cost with operation (energy) and maintenance cost contributing to 85% and 10% respectively.

Solar water pumping systems when compared to diesel engine driven pump sets are much higher in the initial purchase cost but over the life cycle of the solar pumping system they provide significant financial savings in terms of operation (energy) and maintenance costs. Typically when solar pumps are compared with diesel engine pumps they offer a breakeven in costs within 4 to 8 years depending on site conditions, installations cost, and model specification. After the breakeven, the solar pumping systems provide significant cost savings to the owners.

We have made a life cycle cost comparison of one of our 2 hp solar pumping system with a popular 5 hp diesel engine driven pump to show the savings that our solar pumping systems bring to our customers.

### Technical Data

Model	Pump power		Solar panel	Flow range	Head range	Suction size		Discharge size	
	HP	kW	Total Watt	m <sup>3</sup> /day	Mtrs.	mm	Inch	mm	Inch
LSY-A005-28HL-0.7K	0.5	0.37	700	94 - 149	12 - 8	40	1½	40	1½
LSY-A005-12-0.7K	0.5	0.37	700	38 - 43	14 - 13	25	1	25	1
LSY-A010-17-1.2K	1	0.75	1200	159 - 205	12 - 10	50	2	50	2
LSY-A010-18-1.2K	1	0.75	1200	112 - 191	16 - 11	50	2	40	1½
LSY-A010-13-1.2K	1	0.75	1200	99 - 140	18 - 12	40	1½	40	1½
LSY-A010-14-1.2K	1	0.75	1200	42 - 65	27 - 21	32	1¼	25	1
LSY-A020-21-1.8K	2	1.5	1800	240 - 351	11 - 8	75	3	75	3
LSY-A020-16H-1.8K	2	1.5	1800	208 - 237	17 - 14	50	2	50	2
LSY-A030-42-3K	3	2.2	3000	225 - 332	16 - 11	75	3	75	3
LSY-A030-03-3K	3	2.2	3000	199 - 263	20 - 14	65	2½	50	2
LSY-A030-48-3K	3	2.2	3000	179 - 266	20 - 14	65	2½	50	2
LSY-A030-47-3K	3	2.2	3000	132 - 215	32 - 22	50	2	50	2
LSY-A030-1H-3K	3	2.2	3000	90 - 144	33 - 25	50	2	40	2½
LSY-A050-18-4.8K	5	3.7	4800	530 - 620	13 - 9	100	4	100	4
LSY-A050-16-4.8K	5	3.7	4800	305 - 470	20 - 14	75	3	75	3
LSY-A050-13-4.8K	5	3.7	4800	199 - 341	26 - 18	65	2½	50	2
LSY-A050-4A-4.8K	5	3.7	4800	160 - 391	27 - 18	65	2½	65	2½
LSY-A050-11H-4.8K	5	3.7	4800	90 - 147	40 - 29	50	2	40	2½
LSY-A075-27L-7K	7.5	5.5	7000	635 - 830	17 - 11	100	4	75	3
LSY-A075-26-7K	7.5	5.5	7000	440 - 632	26 - 18	75	3	75	3
LSY-A075-27H-7K	7.5	5.5	7000	440 - 632	26 - 18	100	4	75	3
LSY-A075-23-7K	7.5	5.5	7000	228 - 378	35 - 24	65	2½	50	2
LSY-A100-36-9K	10	7.5	9000	469 - 680	30 - 20	75	3	75	3
LSY-A100-37H-9K	10	7.5	9000	469 - 680	30 - 20	100	4	75	3
LSY-A100-33-9K	10	7.5	9000	200 - 414	47 - 32	65	2½	50	2

## Tracking System

Trackers allow Photovoltaic panels to follow the sun from sunrise to sunset. Tracking increases power production from PV modules by 30% or more, depending on tracker configuration

Fixed Mount structures are less expensive and tolerate higher wind loading. By fixing the modules due south/north, less water is pumped than a tracking system which orients the modules towards the sun as it arcs across the southern/northern sky. Tracking mount structures keep the modules at a 90 degree angle to the sun all day long. This provides more power to the pump over a longer period of the day, which produces 20 to 40 percent more water daily in the summer time.

Trackers offer a great advantage when pumping water. Our auto/manual trackers are known for their excellent reliability, robustness and long life, it has both seasonal tilt as well as azimuth rotation provision from east to west during day. Our trackers come with Galvanized coating and are highly recommended in all but the windiest locations. High winds can pull the array off the correct sun angle and will negatively affect power production if winds are consistent.

### Manual Tracking



### Advantages

- No any electronics for tracking.
- Generates 48% more power than static mounting structures.
- Less expensive & robust.
- Better wind load capacity.
- Require less space.

### Applications

- Solar water pumping where better output is required.
- Home/Village electrification.
- Power plants.

### Disadvantages

- Less performance.
- Not suitable for remote areas because manpower is required.

## Solar Module



## Fully Automatic 150MW Manufacturing Line



# Lubi Electronics

Sardar Patel Ring Road, Nr. Karai Gam Patia, Nana Chiloda, Dist. : Gandhinagar - 382 330. Gujarat, INDIA

WhatsApp : +91-9099 933 445 | Tel. : +91-79-6674 5300 | Fax : +91-79-6674 5599 | E-mail : lubi@lubielelectronics.com | Website : www.lubielelectronics.com

