

Solar Water Pumping System

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Project Management Department

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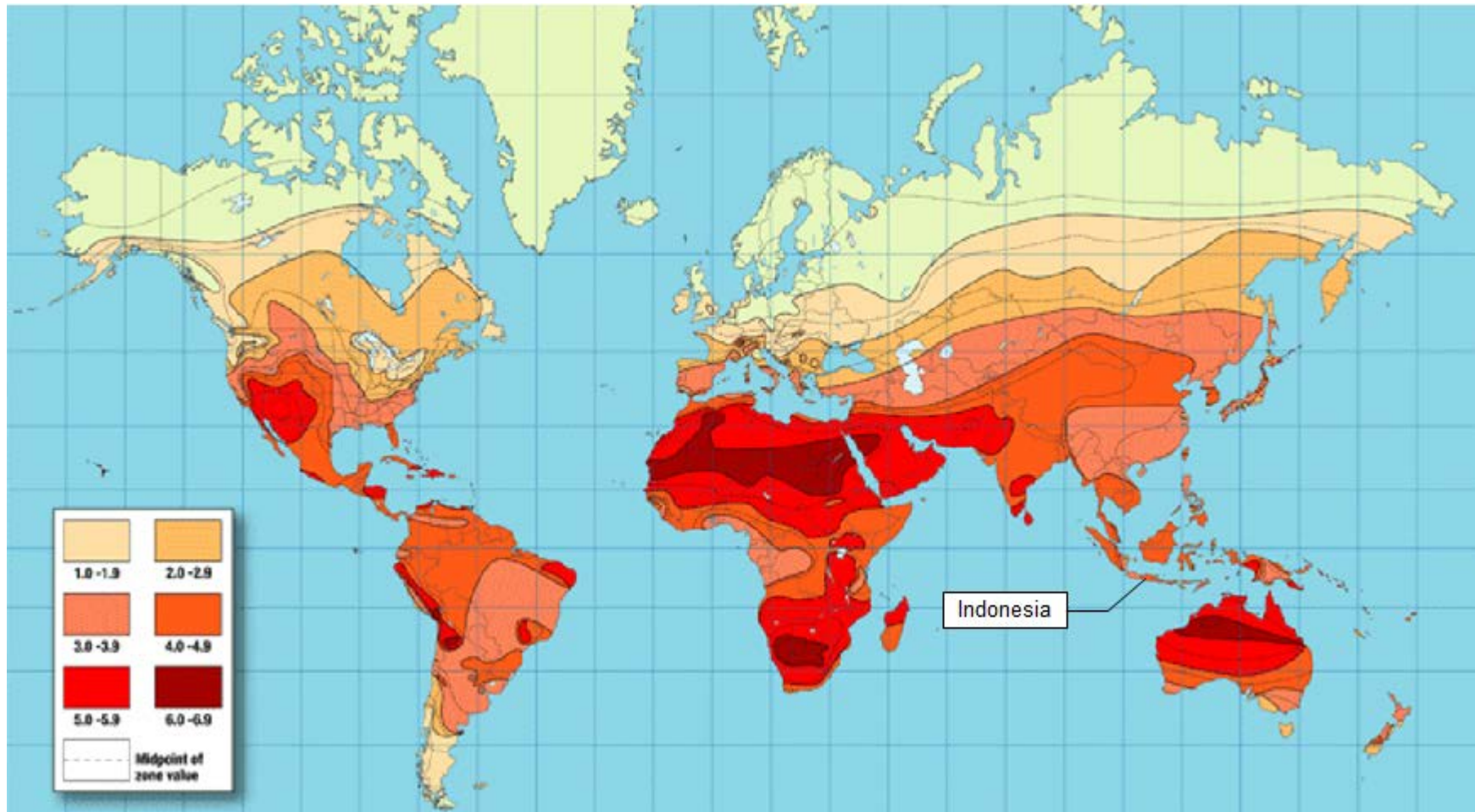
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Equivalent Sunshine Hours (ESH)

- Indonesia is in the high ESH area of the world.
- 5 hours of ESH in Indonesia.



	Solar Pumping System	Genset (Generator) Pumping System
Power source	Solar	Diesel fuel
Maintenance cost	Low	Low
Fuel cost	Free	High
Environmental impact	Few	High
Set-up cost	Middle	Low
Operation time	Daytime	24 hours
Payback year	4 to 6 years	-

Unit: US\$

Horsepower of pump	5HP
Consumption (kWh)	3.75
Operation hour (assumption)	5
Daily consumption (kWh)	18.75
Diesel fuel cost per kWh	0.35
Daily diesel fuel cost	6.56
Yearly diesel fuel cost	2,395.31

Economic Benefits of Solar Water Pumping System:

- The life time of PV modules can last for 25 years.
- The payback year is 4 to 6 years compared with the system with generator.
- Saving diesel fuel cost
- Easy to be installed and maintained
- Low maintenance cost
- High economic benefit in rural area



System Components

-  Solar modules
-  Solar pump inverter
-  Switch box
-  Rack

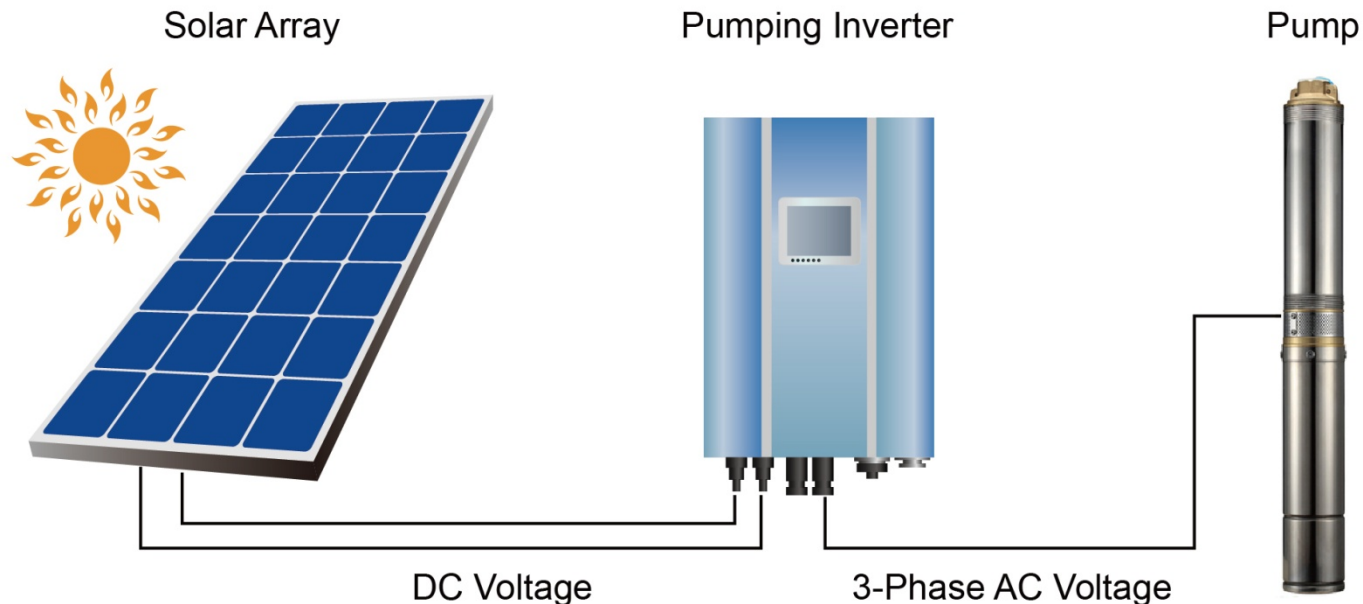
System Specification

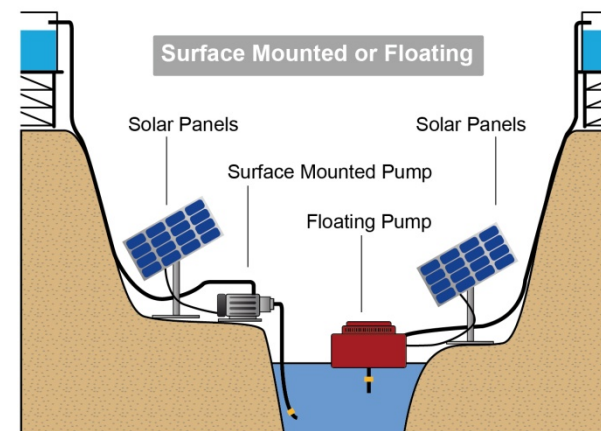
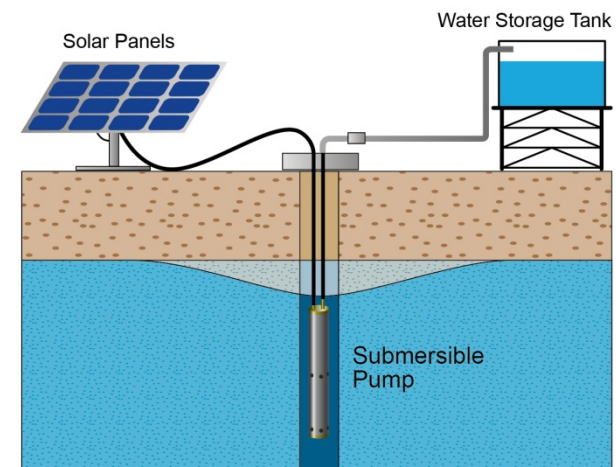
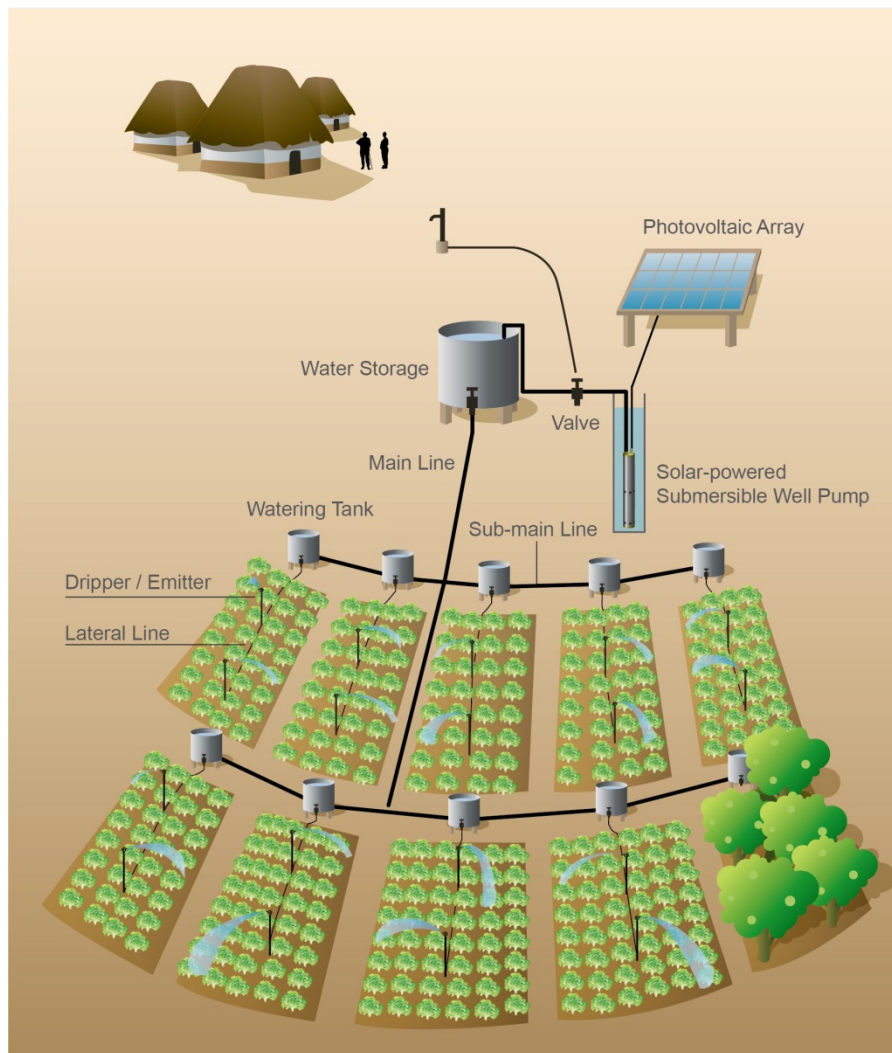
Model	ADSP3201	ADSP3202	ADSP3323	ADSP3305
Horsepower (HP)	1	2	3	5
Speed governing function	Y			
Frequency (Hz)	50 ~ 60			
Phase / Voltage	3P / 220V		3P / 380V	
Solar system (kW)	2.40	2.88	4.32	5.04
Maximal power output (kW)	1.5	2.2	3.75	5.5
Daily power output (kWh) (ESH=5)	9.6	11.5	17.2	20.1
Daily water output (m ³) (Head : 30 meters)	80 ~ 120	100 ~ 150	130 ~ 190	136 ~ 210

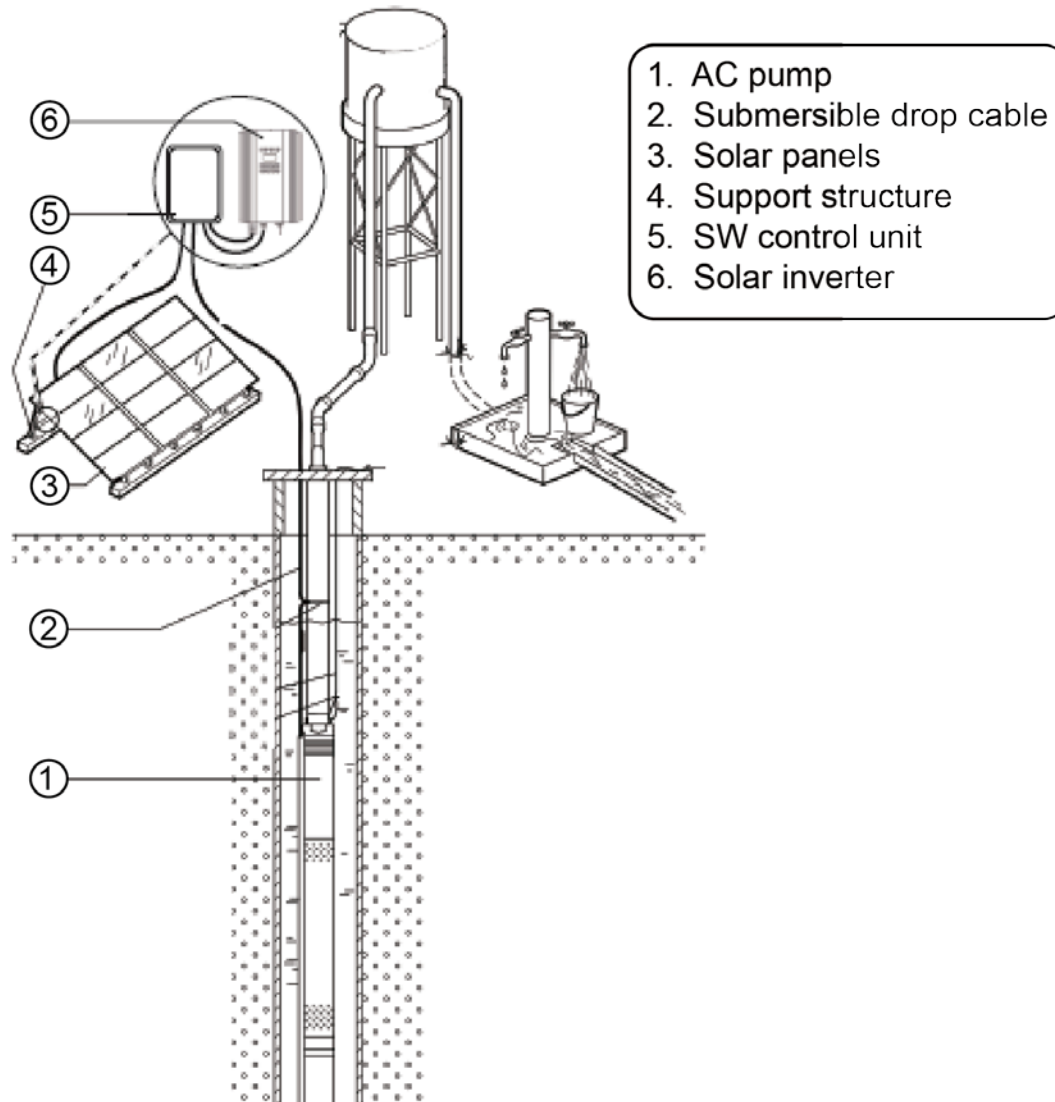
System Specification

Model	ADSP1201	ADSP1202	ADSP1203	ADSP1205
Horsepower (HP)	1	2	3	5
Speed governing function	N			
Frequency (Hz)	50 ~ 60			
Phase / Voltage	1P / 220V			
Solar system (kW)	2.16	3.36	5.04	6.72
Maximal power output (kW)	1.0	2.0	2.5	5.0
Daily power output (kWh) (ESH=5)	8.6	13.4	20.1	26.8
Daily water output (m ³) (Head : 30 meters)	80 ~ 120	100 ~ 150	130 ~ 190	136 ~ 210

- Generally, the pumping system is AC type, not DC type which can connect with solar system.
- Low system construction and maintenance costs
- High efficiency with smart control function (speed governing and rated speed running) - which is for three-phase type of pump only.
- High reliability with complete protection









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