Direct DC Solar Pump

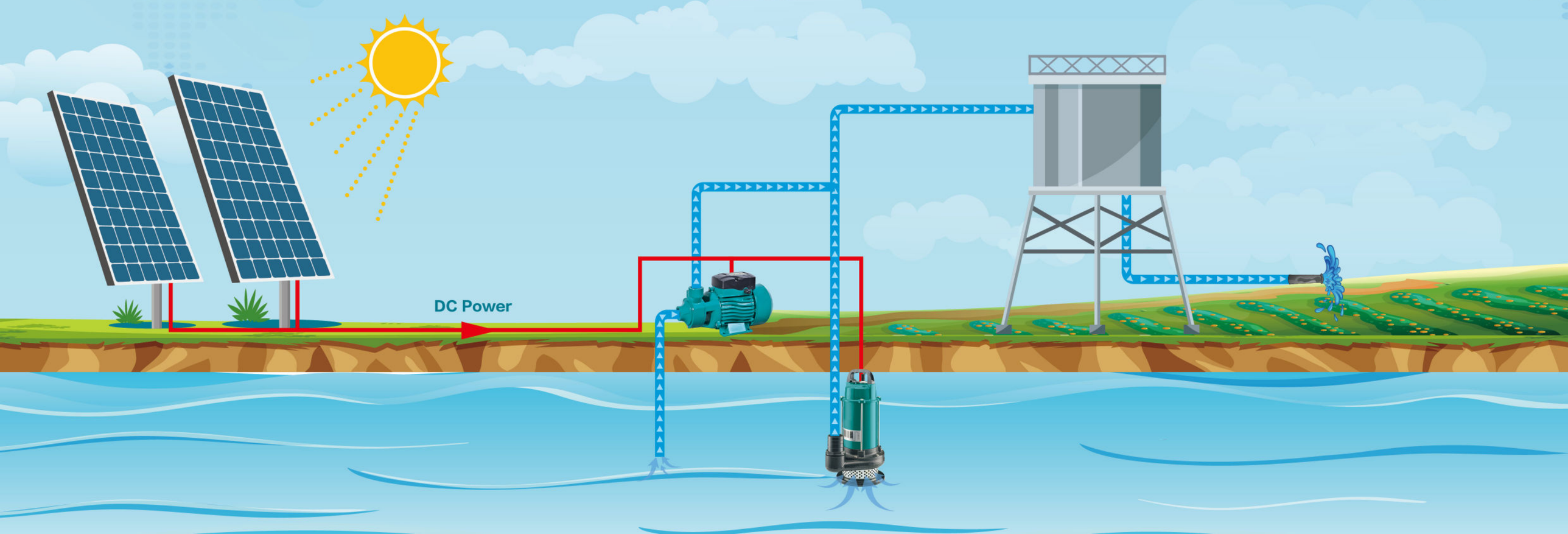
- **No Need Pump Controller**
- **Get Large Flow With Few Solar Panel**
- **High Efficiency**

Application

Take place of AC pump or engine pump to save total cost.

Irrigation: Transfer water from nearby water sources such as lake, rivers to irrigate the crops.

Livestock, Garden Fountains, Home Supply: Provide water supply with a cost-effective and easy way.



DCP Series

Direct DC Peripheral Solar Pump

DCP18-12V
DCP37-24V

DCP55-48V

Application

- Transfer clean water or other liquids similar to water in physical and chemical properties
- No electricity area's domestic water lifting
- Off grid solar irrigation system

Features

- Brass impeller
- 100% Copper winding
- DC Brush motor
- Work without controller
- Can be powered by battery & solar power directly

Identification Codes

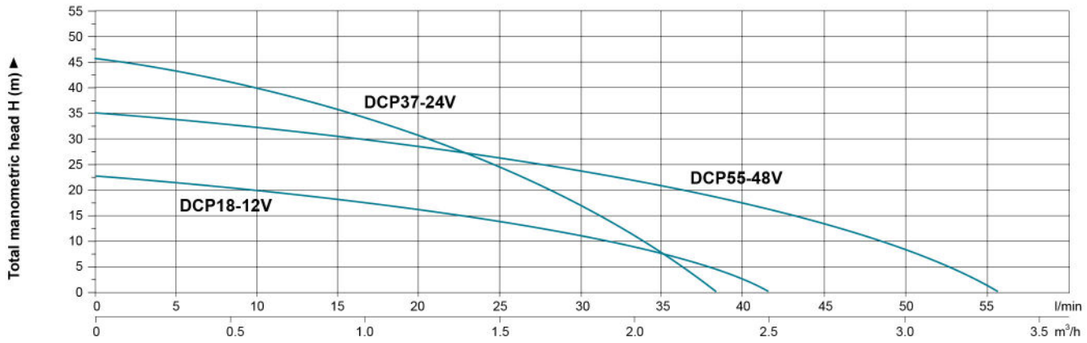
DC P 18 - 12V

- 12V — Minimum DC Voltage
- 18 — Rated power: 180W
- P — Peripheral Pump
- DC — Direct DC Pump

Technical Data

Model	Output Power		DC Voltage Range	Recommended Solar Panel	Max. Current	Max. Suction	Inlet/Outlet	Max. Flow	Max. Head
	kW	HP							
DCP18-12V	0.18	0.25	12~24 V	180Wx2 In parallel	20 A	8 m	1" x 1"	2.5 m^3/h	23 m
DCP37-24V	0.37	0.5	24~48 V	330Wx2 In parallel	20 A			2.3 m^3/h	46 m
DCP55-48V	0.55	0.75	48~72 V	180Wx4 In series	10 A			3.3 m^3/h	35 m

Hydraulic Performance Curves

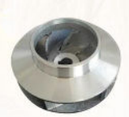


Remarks: Hydraulic performances are based on strong light intensity period during the day.
Hydraulic performances are tested with recommended solar panel.

QDX Series

Direct DC Submersible Pump

1.1kW Impeller



1.3kW Impeller

Application

- Transfer clean water or other liquids similar to water in physical and chemical properties.
- Transfer light sewage water (Only 1.3kw model)
- No electricity area's domestic water lifting
- Off grid solar irrigation system

Features

- Aluminum impelle
- Cast iron pump body
- 100% Copper winding
- DC Brush motor
- Work without controller
- Can be powered by battery & solar power directly

Identification Codes

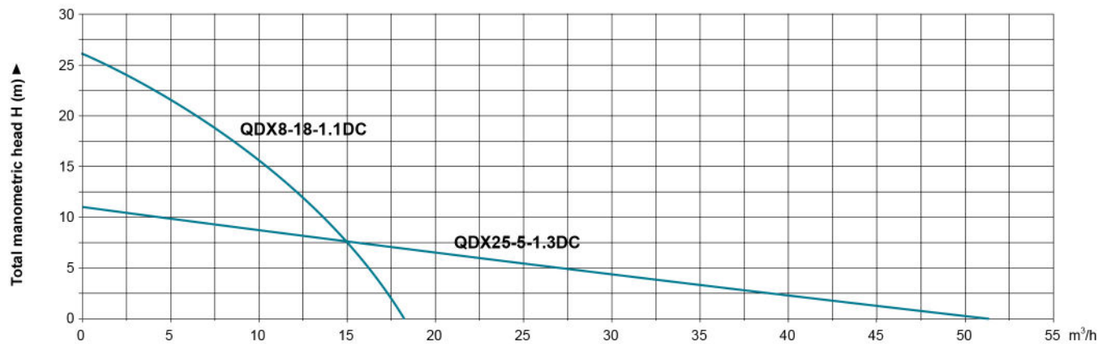
QDX 8 - 18 - 1.1 DC

- DC — Direct DC pump
- 1.1 — Rated power (kw)
- 18 — Rated head (m)
- 8 — Rated flow (m^3/h)
- QDX — Submersible Pump

Technical Data

Model	Output Power		DC Voltage Range	Recommended Solar Panel	Max. Current	Discharge	Max. Flow	Max. Head
	kW	HP						
QDX8-18-1.1DC	1.1	1.5	110~150 V	330Wx4 In series	10 A	2"	18 m^3/h	26 m
QDX25-5-1.3DC	1.3	1.8	150~200 V	330Wx5 In series	10 A	3"	51 m^3/h	11 m

Hydraulic Performance Curves



Remarks: Hydraulic performances are based on strong light intensity period during the day.
Hydraulic performances are tested with recommended solar panel.

High Efficiency Solar Module 180W 330W

Features

High Efficiency
MWT back contact cell and modules with busbar-free design and higher efficiency

Superior Warranty
The only single-glass module with 30-year power warranty by LLOYD'S & PICC worldwide

High ROI
Higher return on investment with higher power output

High Reliability
Conductive back sheet 2D encapsulation without soldering, resulted lower degradation under multiple extreme testing condition

Aesthetic Design
Busbar-free design, unique and graceful finger pattern on the solar cell surface, customized pattern design also available

Lead Free
Eco-friendly PV design achieves Lead-free without soldering materials

High Efficiency Solar Module

Spec \ Model	Unit	Electrical Characteristics at Standard Test Condition(STC)		Electrical Characteristics at Nominal Module Operating Temp. (NMOT)	
		SPP180N60H	SPP330N60H	SPP180N60H	SPP330N60H
Max. Power (Pm)	W	180	330	133.39	248
Power Tolerance	W	0 ~ +5W		-	
Max. Power Voltage (Vmp)	V	19.9	32.5	17.1	29.8
Max. Power Current (Imp)	A	9.09	10.15	7.69	8.32
Open Circuit Voltage (Voc)	V	23.6	40	17.4	36.6
Short Circuit Current (Isc)	A	9.79	10.58	7.61	8.69
Module Efficiency	%	18%	19.30%	-	

STC: AM=1.5, Irradiation 1000W/m^2,Module Temperature 25℃
NMOT: Irradiation 800W/m^2,Ambient temperature 20℃ , Wind Speed 1m/s. Ask LEO for whole solar module catalogue, If you need other power.

Temperature Coefficient

Spec \ Model	SPP180N60H	SPP330N60H
Nominal Module Operating Temperature	45 ± 2℃	43 ± 2℃
Temperature coefficient of Pmax	–0.36%/℃	–0.36%/℃
Temperature coefficient of Voc	–0.32%/℃	–0.28%/℃
Temperature coefficient of Isc	0.06%/℃	0.06%/℃

Operating Conditions

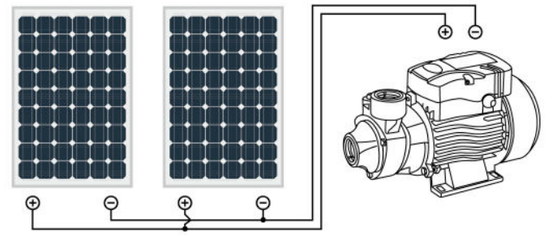
Spec \ Model	SPP180N60H	SPP330N60H
Max System Voltage	1500V(TUV)	
Max Fuse Rated Current	15A	
Operating Temperature Range	–40℃ +85℃	
Mechanical Load	5400Pa (front) /2400Pa (rear)	
Max Allowable Hail Load	ϕ 25mm hail, from 1m of distance at 23 m/s	

Mechanical Characteristics

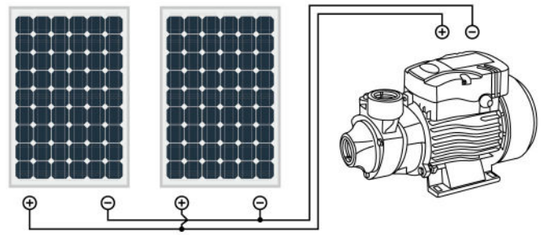
Spec \ Model	SPP180N60H	SPP330N60H
Solar Cell Encapsulant	EVA	
Juntion Box	IP68	
Colar Cell Array (Mono)	60 PCS(10x6)	36 PCS(4x9)
Glass Type	3.2mm High Transmittance Anti–reflective Coated Tempered Glass	
Cable	0.9m length 4mm^2	1m length 4mm^2
Frame	Anodized Aluminum Alloy / Silver	
Connector	MC4 Compatible	
Weight	11.5kg	19.5kg
Dimension (LxWxH)	1482x674x35mm	1680x1016x30mm
Package	30 pcs/pallet	31 pcs/pallet
40HQ Container	1350 pcs	924 pcs

Recommended Solar Panel Connection

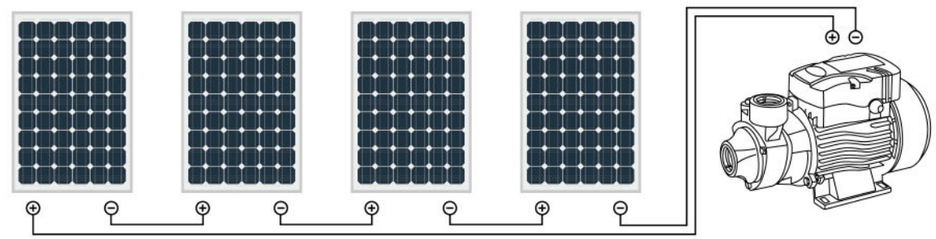
DCP18-12: 180W x 2 Connection in parallel



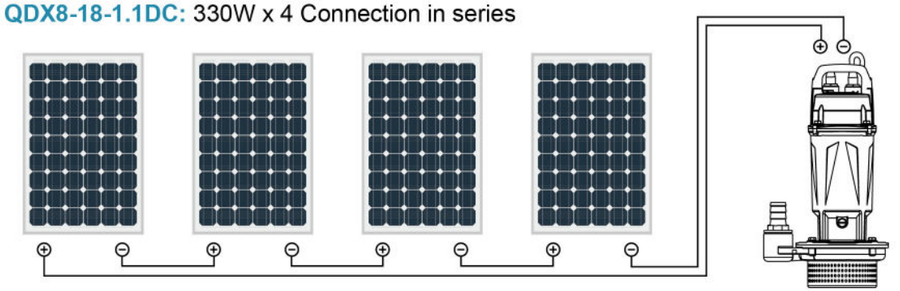
DCP37-24V: 330W x 2 Connection in parallel



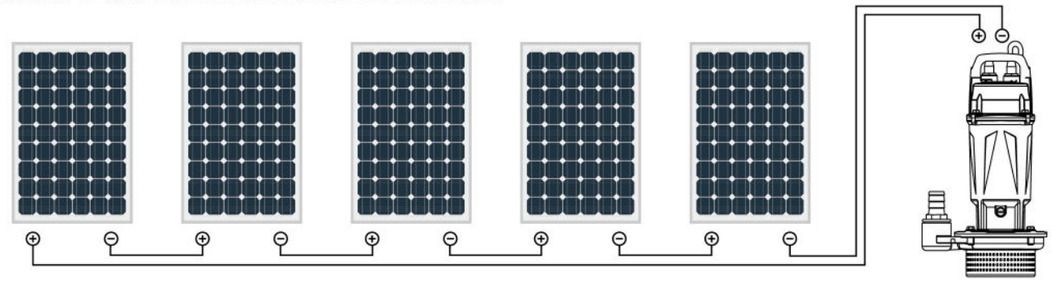
DCP55-48V: 180W x 4 Connection in series



QDX8-18-1.1DC: 330W x 4 Connection in series



QDX25-5-1.3DC: 330W x 5 Connection in series



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