

PS150 C

Solar-operated Submersible Pump System, 4" Centrifugal (C) Pump Unit

Characteristics

- lift up to 20 m
- flow rate up to 5 m³/h
- MPPT booster for solar-direct operation, Voc 50VDC
- simple installation
- maintenance-free
- high reliability and life expectancy
- cost-efficient pumping

Applications

- drinking water supply
- livestock watering
- pond management
- irrigation
- floating pump
- etc.

Components

Controller PS150

- controlling of the pump system and monitoring of the operating states
- mounted at surface (no electronic parts submerged)
- two control inputs for well probe (dry running protection), float or pressure switches, remote control etc.
- automatic reset 20 minutes after well probe turns pump off
- protected against reverse polarity, overload and high temperature
- speed control, max. pump speed adjustable to reduce flow rate to c. 30 %
- solar operation:
 - integrated MPPT (Maximum Power Point Tracking)
 - linear current booster
- battery operation:
 - low voltage disconnect and restart after battery has recovered
 - Battery high run function. Pumps only when charging current from the PV array is available. Cycling of battery is avoided and lifetime increased.
- max. efficiency 92 % (motor + controller)
- enclosure: IP 54 (sealed, weatherproof)

Motor ECDRIVE 200C

- brushless DC motor
- suitable for 12V and 24V operation
- no electronics inside motor
- water filled
- IP68, pressure balanced, max. submersion 250 m
- dynamic slide bearings, material: carbon/ceramic
- wetted material: stainless steel (AISI 316/304), POM, rubber, cable drinking water approved

Pump End (PE)

- high life expectancy
- non-return valve
- dry running protection (optional)
- material: stainless steel (AISI 304), rubber
- vertical or horizontal installation

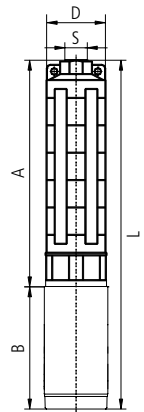
pump system		PS150 C
max. total dynamic head (TDH)	[m]	20
max. flow rate	[m ³ /h]	5.0
solar operation:	max. power voltage (Vmp)	> 17
	max. open circuit voltage (Voc)	50
	nominal voltage	12–24
battery operation:	nominal voltage [VDC]	12–24



picture may differ from actual product

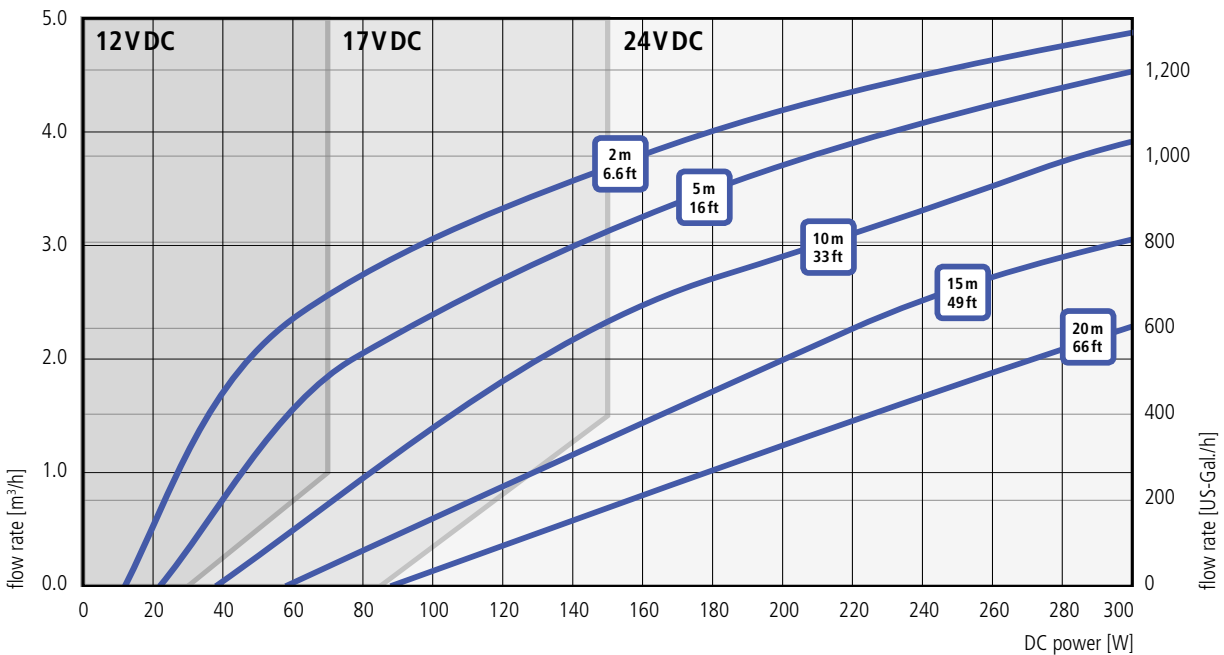
Dimensions and Weights

	dimensions					shipping dimensions			
	L	A	B	D	S	packaging	shipping volume	net weight	gross weight
	[mm]	[mm]	[mm]	[mm]	[in]	[mm]	[m³]	[kg]	[kg]
Pump Unit (PU) (motor + pump end)									
C-SJ5-8	593	408	185	100	G 1 ½	650×160×150	0.016	12.0	12.5
Controller									
PS150C						320×240×160	0.0123	1.2	1.8



System Performance

Solar generator: nominal voltage 12 to 24VDC, open circuit voltage max. 50VDC



Lift		Battery 12VDC or Solar-direct 65Wp					Battery 17VDC or Solar-direct 150Wp					Battery 24VDC or Solar-direct 300Wp				
		Current	Flow Rate min ⁻¹		Flow Rate 5h solar day		Current	Flow Rate min ⁻¹		Flow Rate 5h solar day		Current	Flow Rate min ⁻¹		Flow Rate 5h solar day	
[m]	[ft]	[A]	[l]	[US Gal.]	[m³]	[US Gal.]	[A]	[l]	[US Gal.]	[m³]	[US Gal.]	[A]	[l]	[US Gal.]	[m³]	[US Gal.]
2	6.6	5.2	40	10.6	12	3,200	8.0	64	16.9	19.3	5,100	12.5	82	21.7	24.6	6,500
3	10	5.3	36	9.5	11	2,900	8.0	61	16.1	18.2	4,800	12.5	79	20.9	23.8	6,300
4	13	5.4	32	8.5	9	2,500	8.2	58	15.6	17.8	4,700	12.5	77	20.3	23.1	6,100
5	16	5.3	26	6.9	8	2,100	8.4	57	15.1	17.0	4,500	12.5	75	19.8	22.3	5,900
6	20	5.1	24	6.3	7	1,900	8.5	56	14.8	16.7	4,400	12.5	73	19.3	22.0	5,800
7	23	4.3	13	3.4	4	1,000	8.6	53	14.0	15.9	4,200	12.5	70	18.5	20.8	5,500
8	26						8.7	50	13.2	15.1	4,000	12.5	68	18.0	20.4	5,400
9	30						8.8	46	12.2	13.6	3,600	12.5	67	17.7	20.1	5,300
10	33						8.6	44	11.6	13.2	3,500	12.5	65	17.2	19.7	5,200
12	40						8.5	37	9.8	11.0	2,900	12.5	60	15.9	18.2	4,800
14	50						8.4	26	6.9	7.9	2,100	12.5	55	14.5	16.7	4,400
16	53											12.5	50	13.2	15.1	4,000
20	66											12.5	42	11.1	12.5	3,300

Note: A solar tracking system will improve the daily output by 40–50%.
 PV modules underperform in high ambient temperature and due to dirt, manufacturer tolerances etc. Choose a 20–30% larger array to compensate these effects.