DAVIS & SHIRTLIFF
know H_2Ow through experience

WATER PUMPS
BOREHOLE SERVICE
SWIMMING POOLS
WATER TREATMENT
GENERATORS
SOLAR EQUIPMENT
IRRIGATION

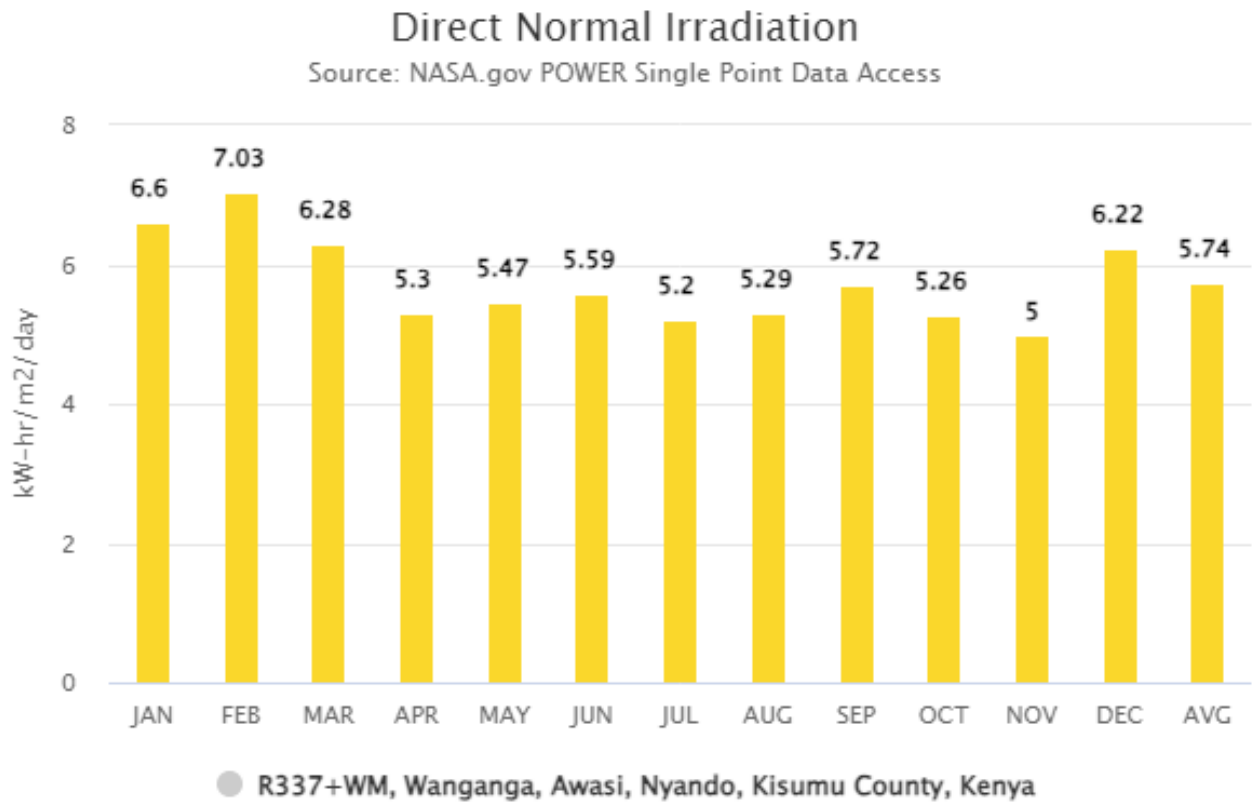
{REFNUM}
Thu, 24-Aug-23

Thursday, 24th Aug 2023
Test
James Muigai
R337+WM, Wanganga, Awasi, Nyando, Kisumu County, Kenya
james.muigai@yahoo.co.ke
254723378853
Please make sure that you add the customer to your customer list before saving your project. This will allow you to create another project for that customer easily in the future. Once done, you can proceed to save your project.

Paramaters									
Location	R337+WM, Wanganga, Awasi, Nyando, Kisumu County, Kenya(-0.19519061091583012, 35.0641766153442)								
Required Daily Output	25 m³	Pipe Type		Motor Cable	m	Pipe Length & Inner Diameter	m, "	Head (TDH)	200m

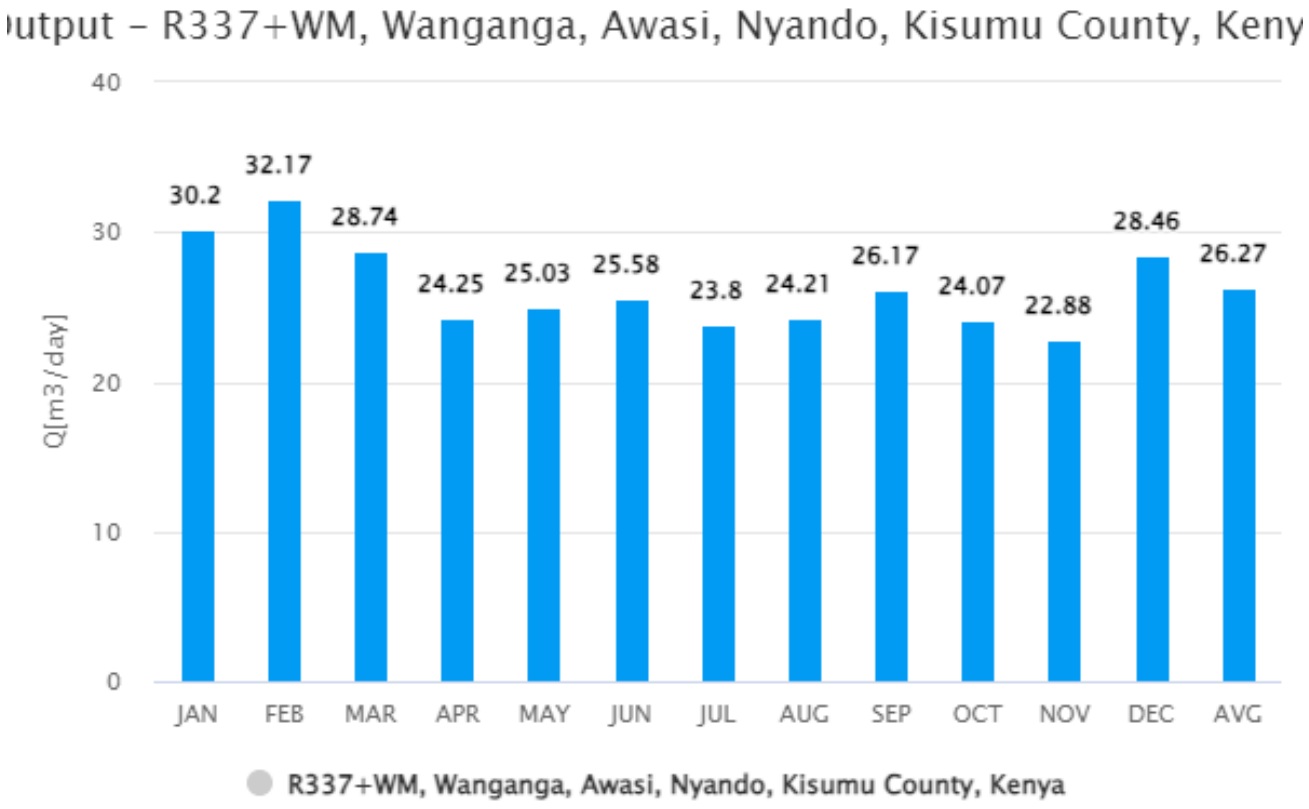
Product	**Quantity**	**Details**
Pump - DS 8/44	1	Suitability **90.6**%, Efficiency **51.13**%
Inverter - SV3/7.5T	1	
Panels - AS340	16 x 2	**2** string(s) each with **16** Solar panels.
Motor Cable	Length , Cross Sectional Area **4mm²**	
Other Accessories		
Water Level Switch / Well Probe	1	
Water Level Sensor Cable	2 Core x 1.0mm2, Length -	
PV Disconnect	1	DAYLIFF 4ST 1000V/32A PV Disconnect Switch
Earthrod c/w Clamp	1	
6mm² DC Cable for Earthrod	(As required)	
Daily output in average month - 26.27		

Monthly Irradiation Data



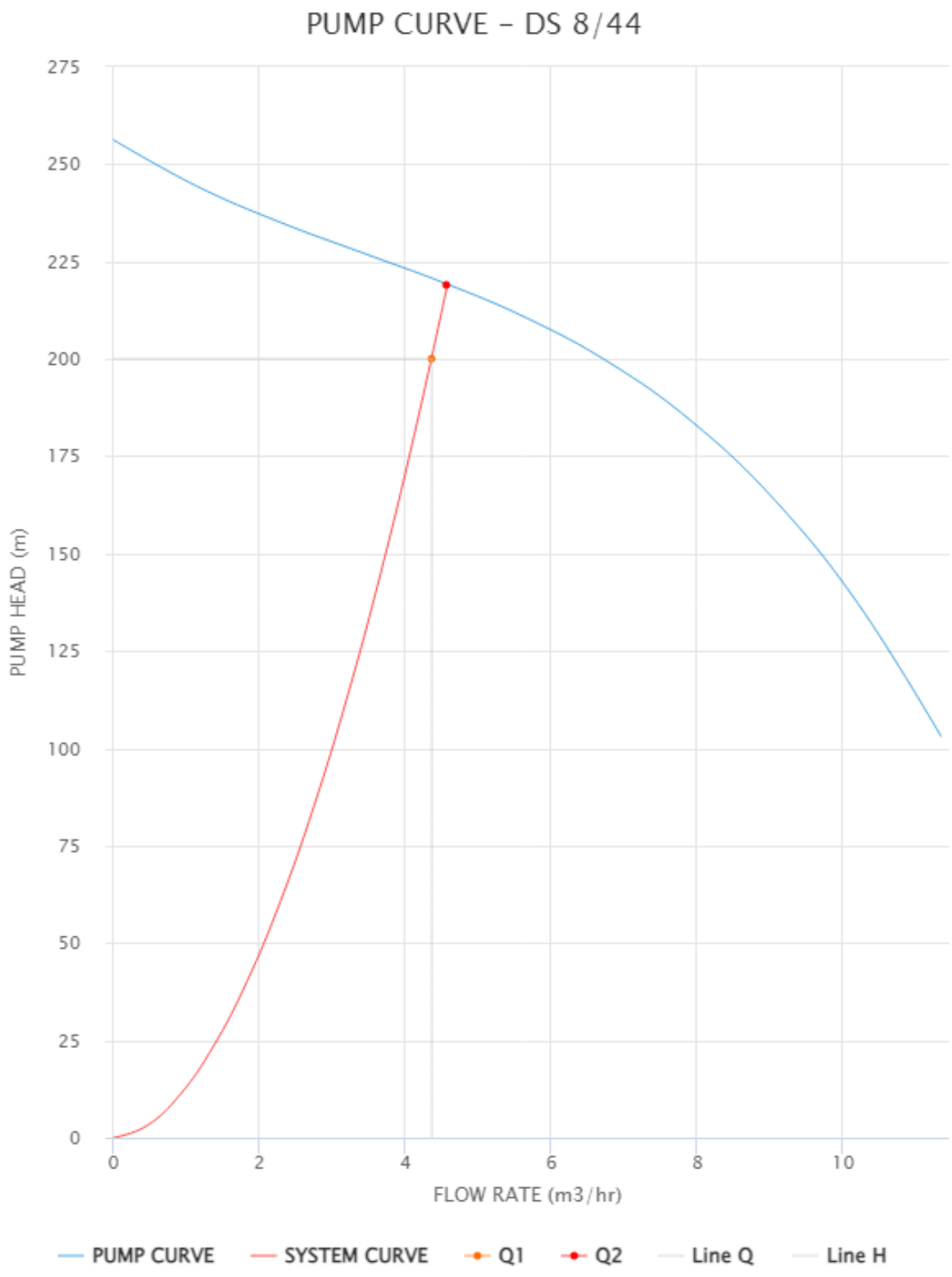
Irradiation [kWh/m²]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
	6.6	7.03	6.28	5.3	5.47	5.59	5.2	5.29	5.72	5.26	5	6.22	5.74

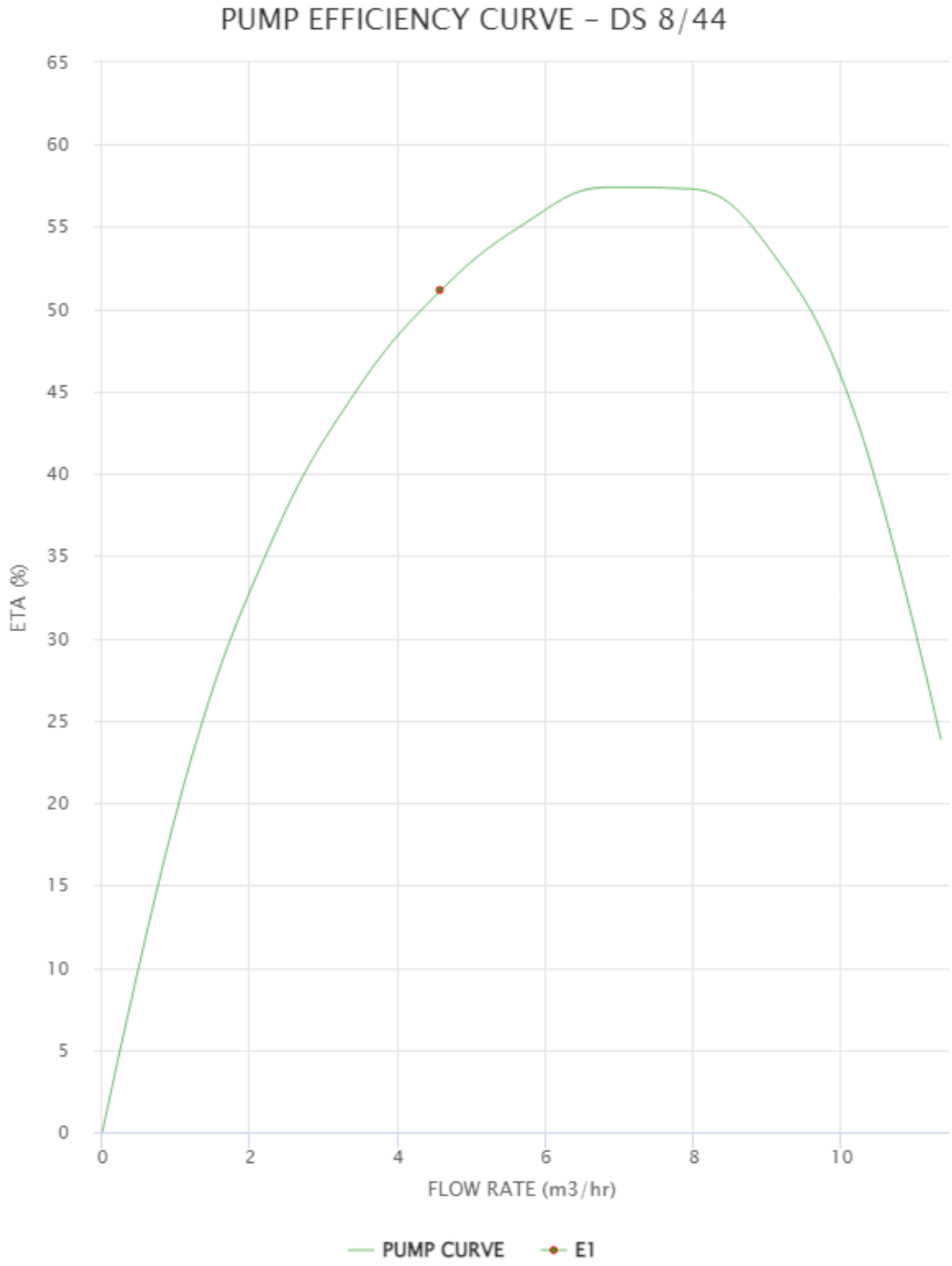
Monthly Output Data



Output [m³/day]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
	30.2	32.17	28.74	24.25	25.03	25.58	23.8	24.21	26.17	24.07	22.88	28.46	26.27

Pump & System Curves





DS 8/44

DAYLIFF DS submersible pumps are designed specifically for borehole supply applications. They are of multistage centrifugal impeller design and all parts are made from stainless steel with water lubricated rubber bearings. A submersible motor is fitted beneath the pump and suction is effected through a strainer between the pump and motor.

MOTOR

The pump is coupled to a sealed liquid cooled 2-pole asynchronous squirrel-cage motor constructed of stainless steel. All single phase motors are supplied complete with purpose designed control boxes, while Three phase motors require a remote starter. A DAYLIFF Electronic Pump Controller is recommended for comprehensive pump control including wireless low level, motor overload and irregular power supply protection. Note that due to the low starting torques of submersible motors it is recommended that DOL starters are used for all motor sizes.

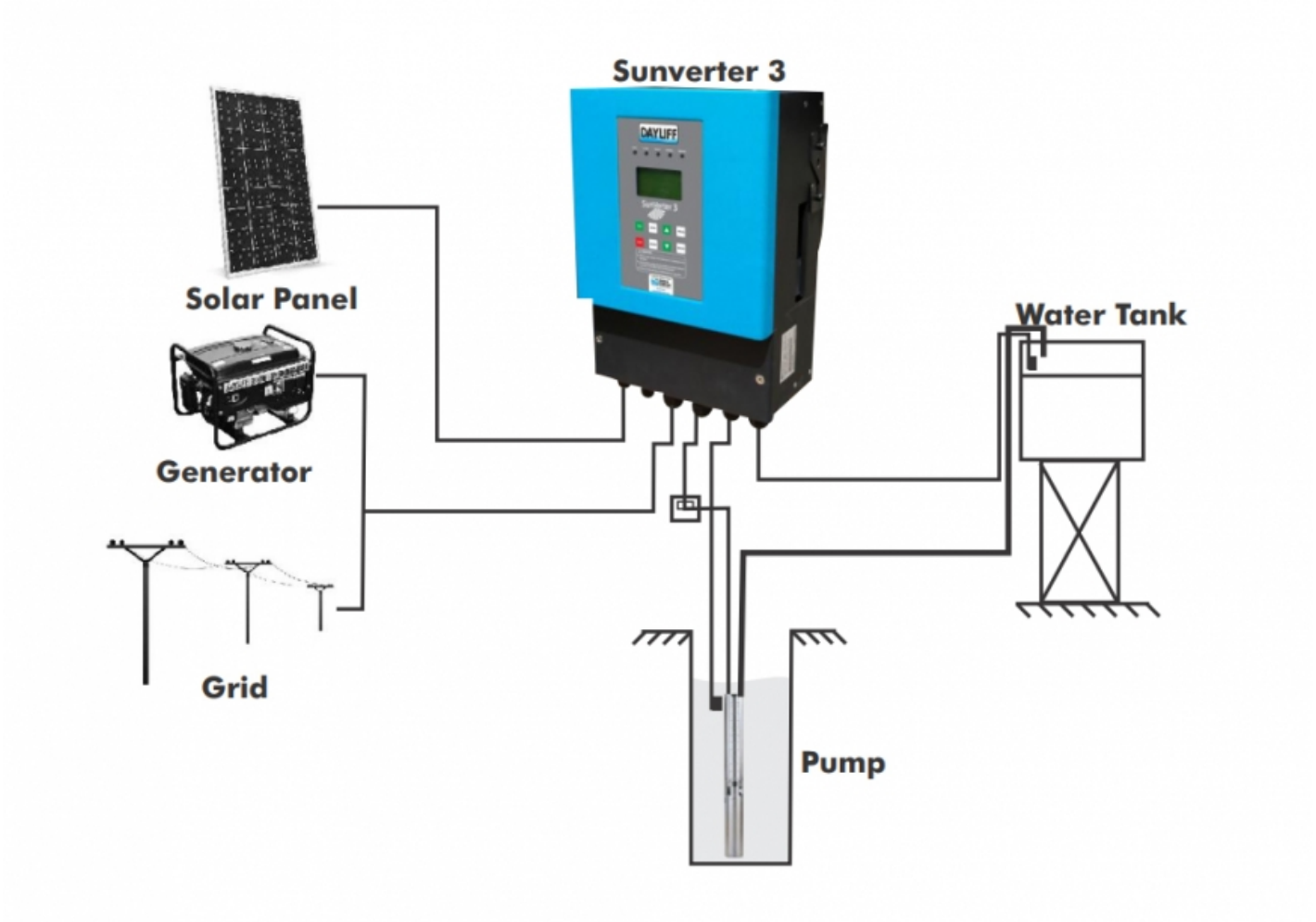
Enclosure Class: IP68
Insulation Class: F
Speed:2900rpm

OPERATING CONDITIONS
Pumped Liquid: Thin, clean chemically non-aggressive liquids without solid particles or fibres.
Max. Liquid Temperature: DS wet end-50°C
Max. Water Depth: 300m-6", 200m-4"
Min. Borehole Diameter: 110mm-4", 150mm-6"

PUMP DATA

Model	Motor Dia (")	Motor		Full Load Current (A)		Start Current (A)		Dimensions (mm)					Weight (kg)	
								A		B		C		
		kW	HP	1x240	3x415	1x240	3x415	1x240	3x415	1x240	3x415		1x240	3x415
DS 8/10	4	1.5	2	11	4.4	41	19	1015	970	393	348	622	20	27
DS 8/15	4	2.2	3	16	5.9	50	26	1245	1225	413	393	832	23	34
DS 8/25	4	4	5.5	-	10	-	56	-	1866	-	614	1252	-	64
DS 8/30	4	5.5	7.5	-	14	-	70	-	2160	-	698	1462	-	68
DS 8/44	4	7.5	10	-	17.4	-	84	-	2848	-	778	2070	-	84
DS 8/50	4	7.5	10	-	17.4	-	84	-	3067	-	764	2303	-	88
DS 8/66	6	11	15	-	26	-	125	-	4130	-	730	3400	-	120

SV3/7.5T



Dayliff Sunverter 3 is the latest update of the established Sunverter range of advanced AC/DC inverters specially designed for solar-powering AC motors in various water pumping applications. As well as a general upgrade of the electronics and functionality an important new feature is hybrid capability that enables concurrent operation with direct AC power from mains or generator supply while prioritising solar supply. It is adaptable to all AC motor types and can be retro fitted to existing AC supply installations in solarisation projects. Particular features include;

- Hybrid capability with the option of DC solar power, generator or mains grid power inputs
- Patented MPPT (Maximum Power Point Tracking) capability providing fast response, good stability and up to 99% efficiency.
- Fully automatic operation with up to 8 years storage capacity of operating data.
- Supports motor soft start and gives full motor protection
- User friendly LCD display interface with comprehensive display information
- Integral remote monitoring and control capability activated by installing a registered Sim Card with data plan or alternatively signing up to the unique iDayliff Service
- Strong IP65 rated enclosure for enhanced component protection

CONTROLLER FUNCTIONALITY
The controller offers the following control functions:

- Settable minimum and maximum frequency and open circuit voltage.
- Display of operating parameters including frequency, voltage, amperage, input power and pump speed.
- Display of historical data including energy generation, maximum power and operating times.
- Protection against over and under voltage, over current, system overload and module over temperature.
- Fault detection with error code display.
- Selectable hybrid modes that prioritise solar supply as well as maximise output through optimal blending of both power supplies

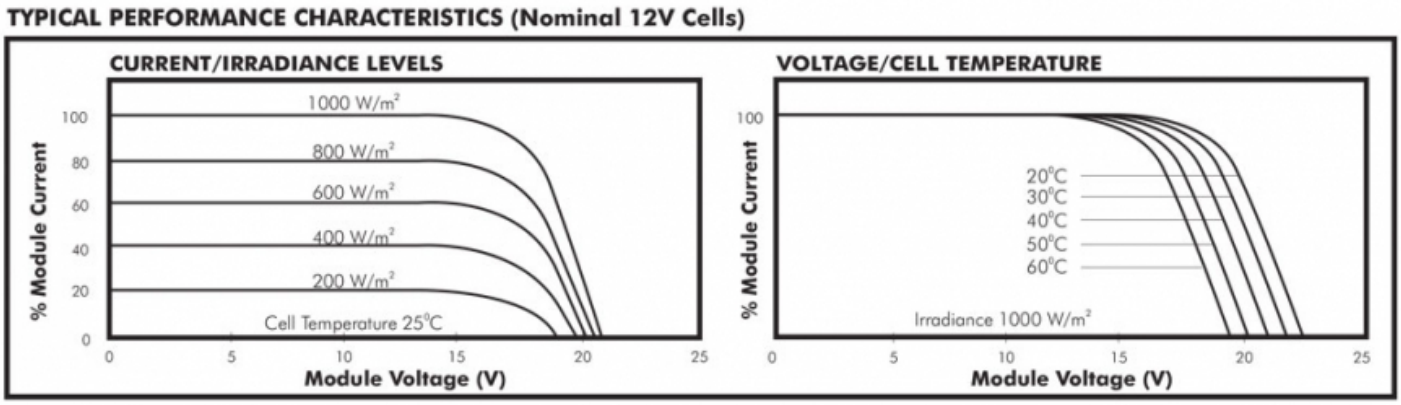
INSTALLATION
Dayliff Sunverter 3 controllers are surface mounted and should be provided with a housing for water and heat protection. They must also be provided with a circuit breaker between the PV modules and controller. Due to the high operating voltages proper earthing is essential, which must be done by a qualified electrician. As a rule, all PV powered solar pumping systems should be provided with a solar module array with a nominal output about 30% greater than the motor size. In hybrid applications, higher array MPP voltage is specified to allow achievement of larger solar supply share of hybrid power supply. The arrays should be wired in a combination of series and parallel connections to ensure that the correct voltage is available into the inverter. It is important that the connection arrangement is approved by the pump supplier.

OPERATING CONDITIONS
Enclosure Class: IP65 Ambient
Temperature: -20°C to 60°C
Relative Humidity: 0-95%
Frequency: 0-60Hz

Model	Motor Rated Power (kW)	Rated Voltage	Output Current (A)	Max DC Input Voltage VDC	MPP Voltage VDC, Solar	MPP Voltage VDC, Hybrid	Dimensions (mm)	Weight (kg)

H	W	D								
SV3/1.5M	1.1	1x240V	8.6	450	150-360	150-370	416	257	158	8.5
SV3/2.2M	1.5		11							
SV3/3.7M	2.2		17		310-360	324-370				
SV3/3.7T	3.7	3x415V	9	850	500-700	600-700	458	300	175	8
SV3/5.5T	5.5		13							
SV3/7.5T	7.5		18							11.5
SV3/11T	11		24							
SV3/15T	15		30							
SV3/18T	18.5		39							
SV3/22T	22		45							
SV3/30T	30		60	780	500-600		625	388	235	29
SV3/37T	37		84							
SV3/45T	45		98							

AS340



The heart of all effective photovoltaic systems is an efficient and reliable solar module and there are none better than Dayliff PV Modules. All are sourced directly from leading global PV module manufacturers who comply with the highest standards of quality and durability and offer the following features:-

- High efficiency multi/Mono crystalline solar cells with minimum 15% energy conversion rates to provide maximum power even at low irradiation levels
- High transmission rate tempered glass with an anti-reflection coating to increase the power output and provide mechanical strength.
- Multi function water proof junction box for easy connection.
- 25 year power output warranty.
- Global Certification.

Modules are sourced from world leading PV module manufacturers principally Yingli, Topray and Amerisolar who are all large scale vertically integrated manufacturers that process from silicon production to module assembly to ensure consistently high quality levels. Module types are recognised as quality products and are internationally certified by TUV Rheinland to ISO, CE and IEC standards as follows.

All Dayliff modules are manufactured to the highest standards and are guaranteed to provide reliable performance over long life spans. They are quality products in terms of both technology and performance and are ideal power sources for all types of solar applications.

THERMAL CHARACTERISTICS

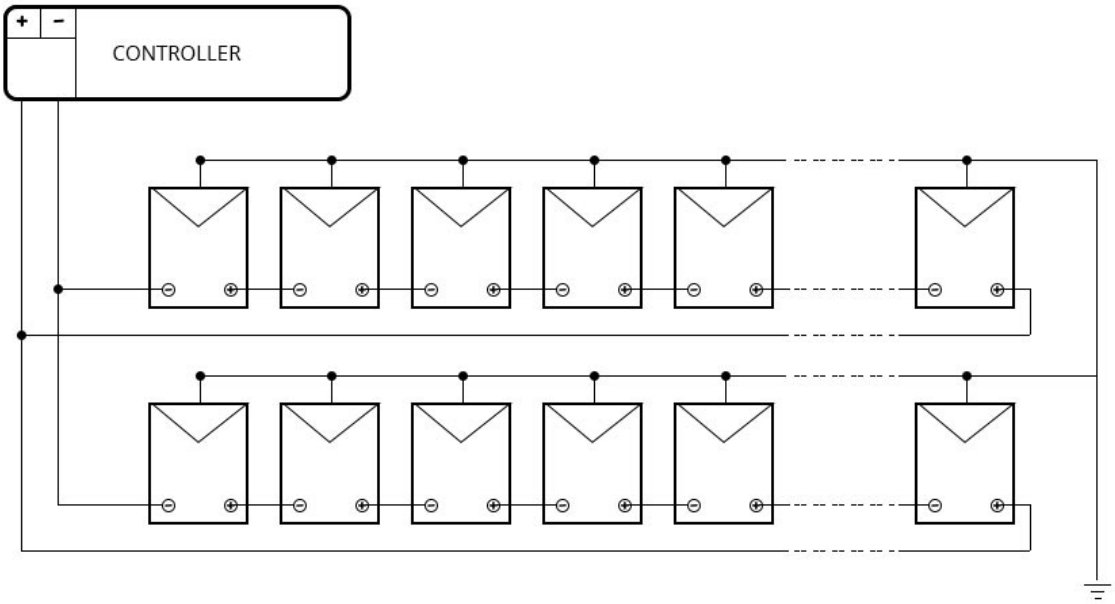
Nominal Operating Cell Temperature: 46+/-2°C
Temperature Coefficient Pmax: - 0.45%/°C
Temperature Coefficient Voc: - 0.37%/°C
Temperature Coefficient Isc: 0.06%/°C

ELECTRICAL DATA

Model	Rated Power (W)	Nominal Voltage (V)	Peak Voltage(V)	Open Circuit Voltage (V)	Short Circuit Current (A)	Number of Cells	Dimensions						Weight (kg)
SL20P	20	12	18	21.6	1.2	36	496	495	296	350	100	23	2
SL40P	40	12	18	21.6	2.5	36	665	665	316	516	100	25	4
SL50P	50	12	18	21.6	2.9	36	667	665	467	588	100	25	4
SL60P	60	12	18	21.6	3.7	36	689	667	467	665	100	25	5
TPS 125P	125	12	17.5	21.5	7.4	6	1179	664	899	626.4	140	35	9
TPS 150P	150	24	36	43.2	4.45	72	1486	664	1206	626.4	140	35	12
TPS 200P	200	24	36	44.5	5.6	144	1372	1002	1092	964	140	35	18
AS280P	280	24	31.8	39.0	9.48	60	1640	992	640	942	500	35	18
AS335P	335	24	37.5	46.1	9.44	72	1956	992	1556	942	200	35	21
YL400M	400	24	30.7	37.1	13.78	108	1722	1134	1300	1085	200	30	21
YL535M	535	24	41.5	49.4	13.76	144	2279	1134	1400	1084	400	35	29

Data is given at Standard Test Conditions: Irradiance 1000W/m² , spectrum AM 1.5 and 25°C cell temperature All modules Polycrystalline except when indicated 'Mono' for Monocrystalline

Wiring Diagram



16 panels by **2** string(s)

Scan with the Dayliff App