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Our ref PGuide; SWP, DC Borehole pumps

Date November, 2018

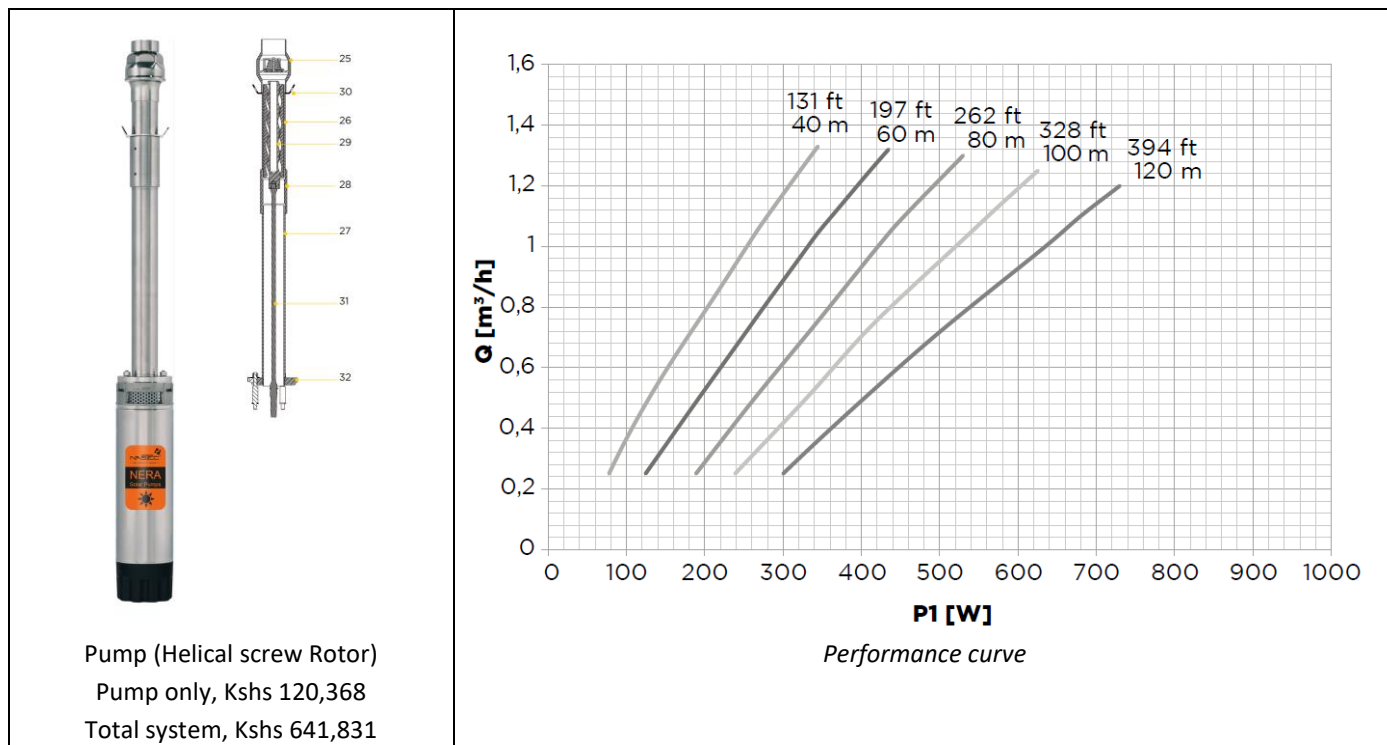
Solar PV Submersible Water Pumps (DC)

Our DC solar pumps for boreholes incorporate built-in electronics inside the motor which has the following advantages

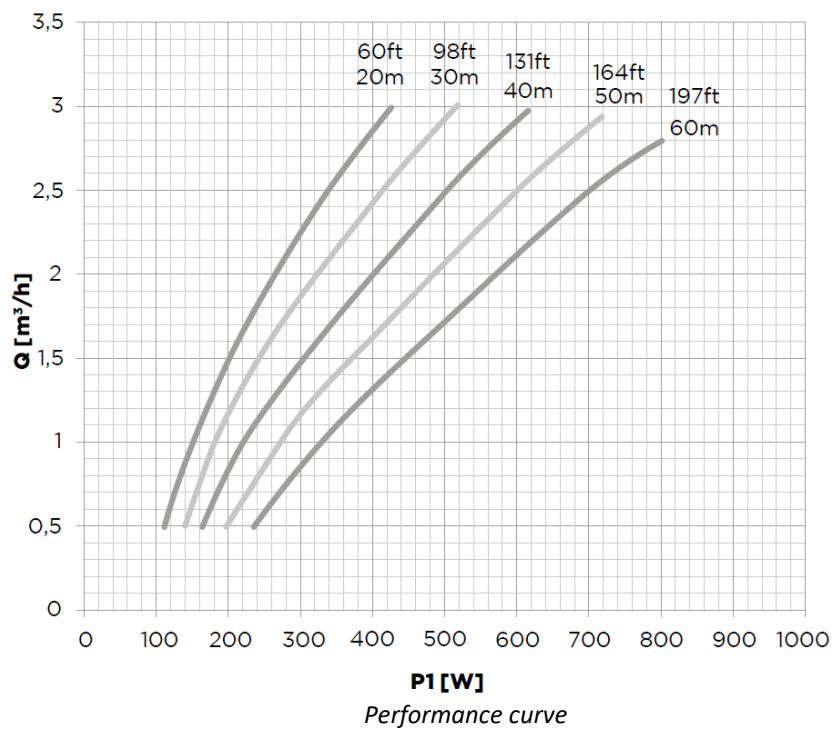
- Avoids the use of shielded cables and do not need output filters
- Are ideal solutions for any application in remote locations without surveillance and climatically adverse.
- Direct cooling by the water flow; leads to a low operating temperature which in turn leads to a longer life than an on-surface inverter affected by high temperature, humidity, dust and solar irradiation.

Below are some of the pumps available

1. NERA 01/02H

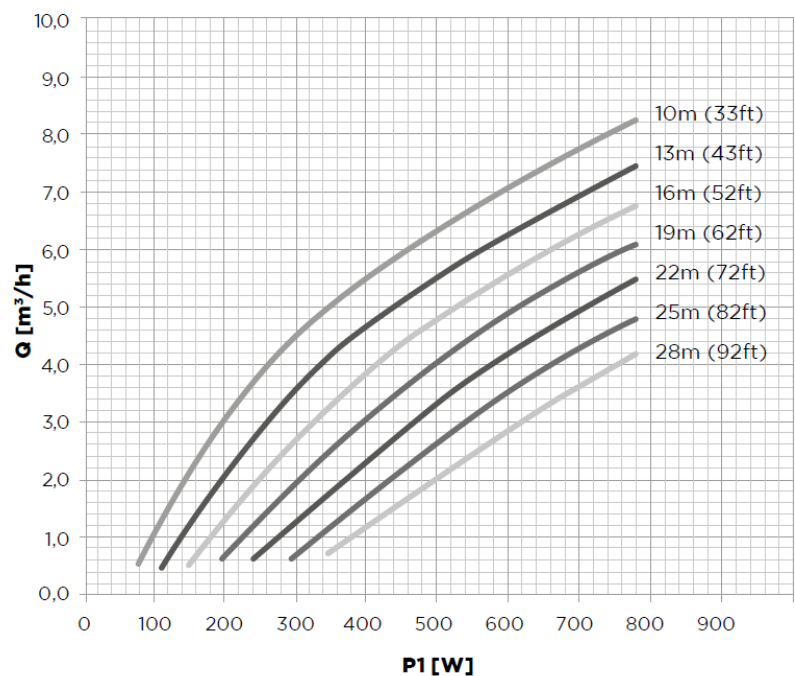
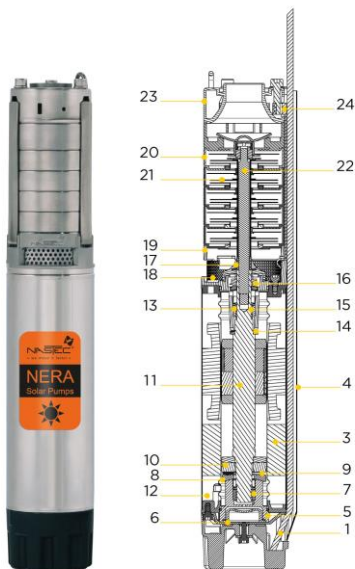


2. NERA 02/01H



Pump (Helical screw Rotor)
 Pump only, Kshs 120,368
 Total system cost, Kshs 520,611

3. NERA 06/04



Pump (Centrifugal Rotor)

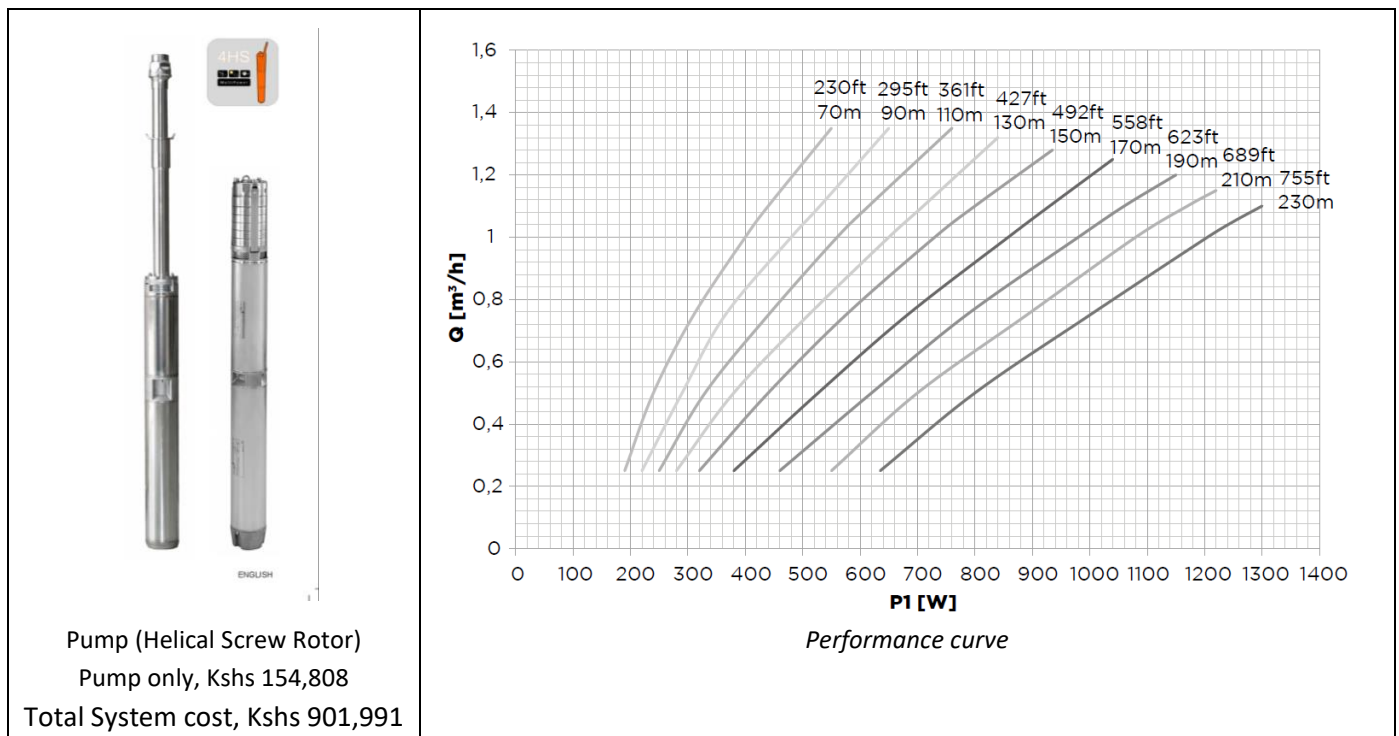
NERA 06/04 Sample Costing

System pricing is dependent on the proposed installation. Below is a sample costing of NERA 06/04.

NERA 06/04 (Cetrifugal impeller; upto 4 M3/hr @ 28M when powered by 800 watts PV)	Size	Units	Qty	Unit cost (Kshs)	Total cost (Kshs)
Solinc Solar Panels (Vmp = 29.5 V, Voc = 36 V)	250	Watts	4	17,500	70,000
Roof Mounting	1	Watts	1000	12	12,000
DC Control box; Fuses and SPD (Surge protection device).	1	Way	1	17500	17,500
Solar cables	2 X 4	sq mm	60	167	10,020
NERA 02/01H submersible pump (with High efficiency encapsulated inverter)	4.00	M3/hr	1	97,121	97,121
Submersible Pump cable, 3G6	6	sq mm	28	900	25,200
SM: Stop Module (Optional)	12	Amps	1	19,631	19,631
Electrodes			2	2,000	4,000
Electrode cable	2 X 0.75	sq mm	120	60	7,200
Floatswitch for storage tank			1	2,500	2,500
Pump Adaptor	1.25	Inches	1	6,000	6,000
Borehole cover			1	40,000	40,000
UPVC pipes (3M) each Heavy duty	1.25	Inches	20	2,400	48,000
Class D PVC Airline pipe	25.00	mm	10	250	2,500
Surface Cables and other accessories	Lot		1	19,500	19,500
Transport & Installation	Lot		1	50,000	50,000
Sub total					431,172
VAT (on AC parts, Accessories & Installation)					32,784
Total					463,956

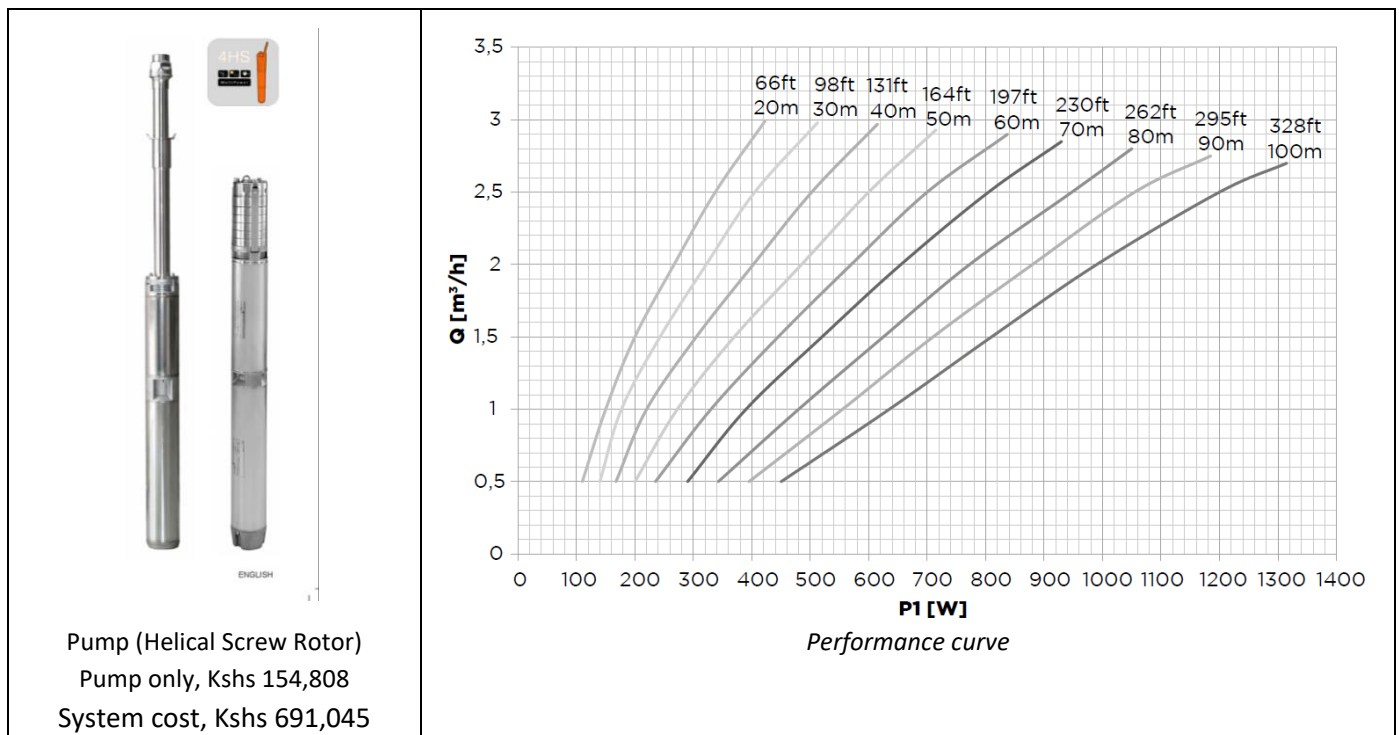
4. **4HS 01/03H MP**

Helical screw impeller; upto 1.1 M3/hr @ 200M when powered by 1300 watts PV



5. **4HS 02/02H MP**

Helical screw impeller; upto 2.7 M3/hr @ 100M when powered by 1300 watts PV.



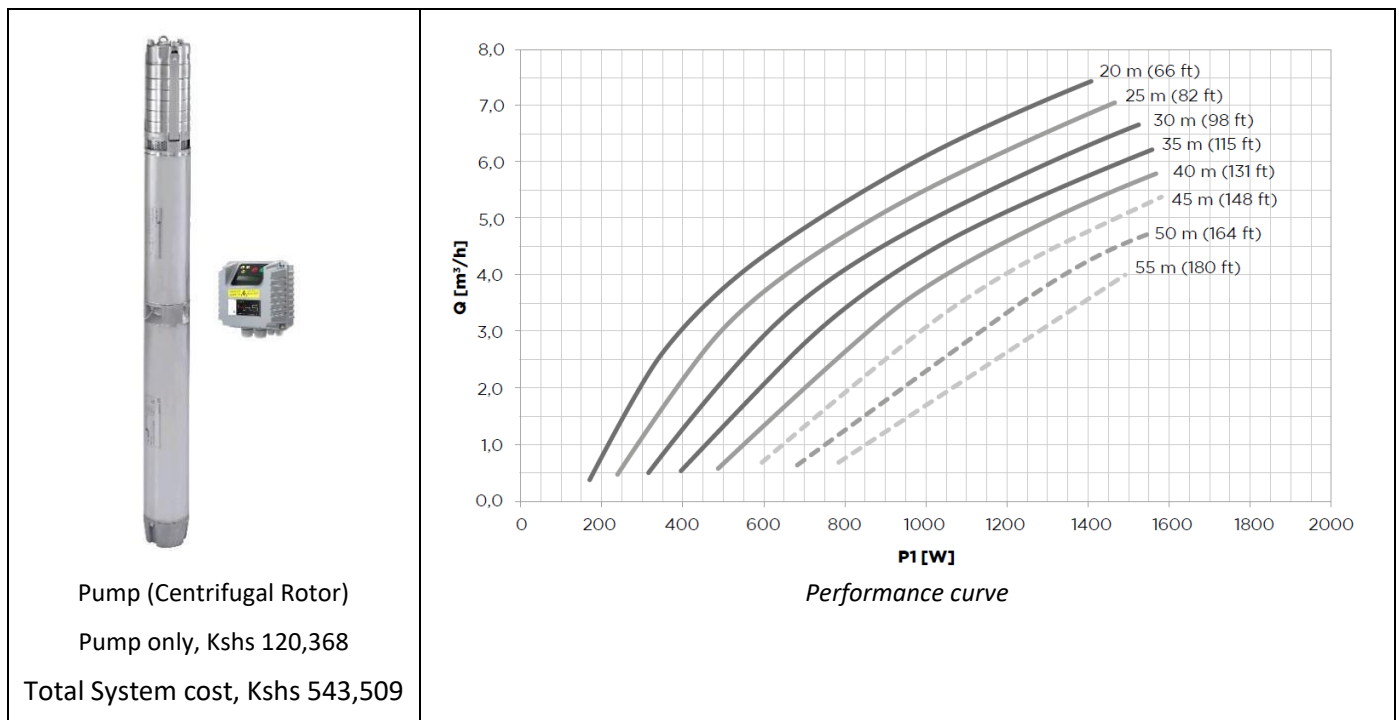
4HS 02/02H MP Sample Costing

System pricing is dependent on the proposed installation. Below is a sample costing of NERA 06/04.

4HS 02/02H MP (Helical screw impeller; upto 2.7 M3/hr @ 100M when powered by 1300 watts PV)	Size	Units	Qty	Unit cost (Kshs)	Total cost (Kshs)
Solinc Solar Panels (Vmp = 29.5 V, Voc = 36 V)	250	Watts	6	17,500	105,000
Roof Mounting	1	Watts	1500	12	18,000
DC Control box; Fuses and SPD (Surge protection device).	1	Way	1	17500	17,500
Solar cables	2 X 4	sq mm	90	167	15,030
4HS 02/02H MP submersible pump (with High efficiency encapsulated inverter)	2.7	M3/hr	1	154,808	154,808
Submersible Pump cable, 3G6	6	sq mm	100	900	90,000
CM MultiPower PM (Optional)	12	Amps	1	28,241	28,241
Electrodes			2	2,000	4,000
Electrode cable	2 X 0.75	sq mm	100	60	6,000
Floatswitch for storage tank			1	2,500	2,500
Pump Adaptor	1.25	Inches	1	6,000	6,000
Borehole cover			1	40,000	40,000
UPVC pipes (3M) each Heavy duty	1.25	Inches	34	2,400	81,600
Class D PVC Airline pipe	25	mm	17	250	4,250
Surface Cables and other accessories	Lot		1	19,500	19,500
Transport & Installation	Lot		1	50,000	50,000
Sub total					642,429
VAT (on AC parts, Accessories & Installation)					48,616
Total					691,045

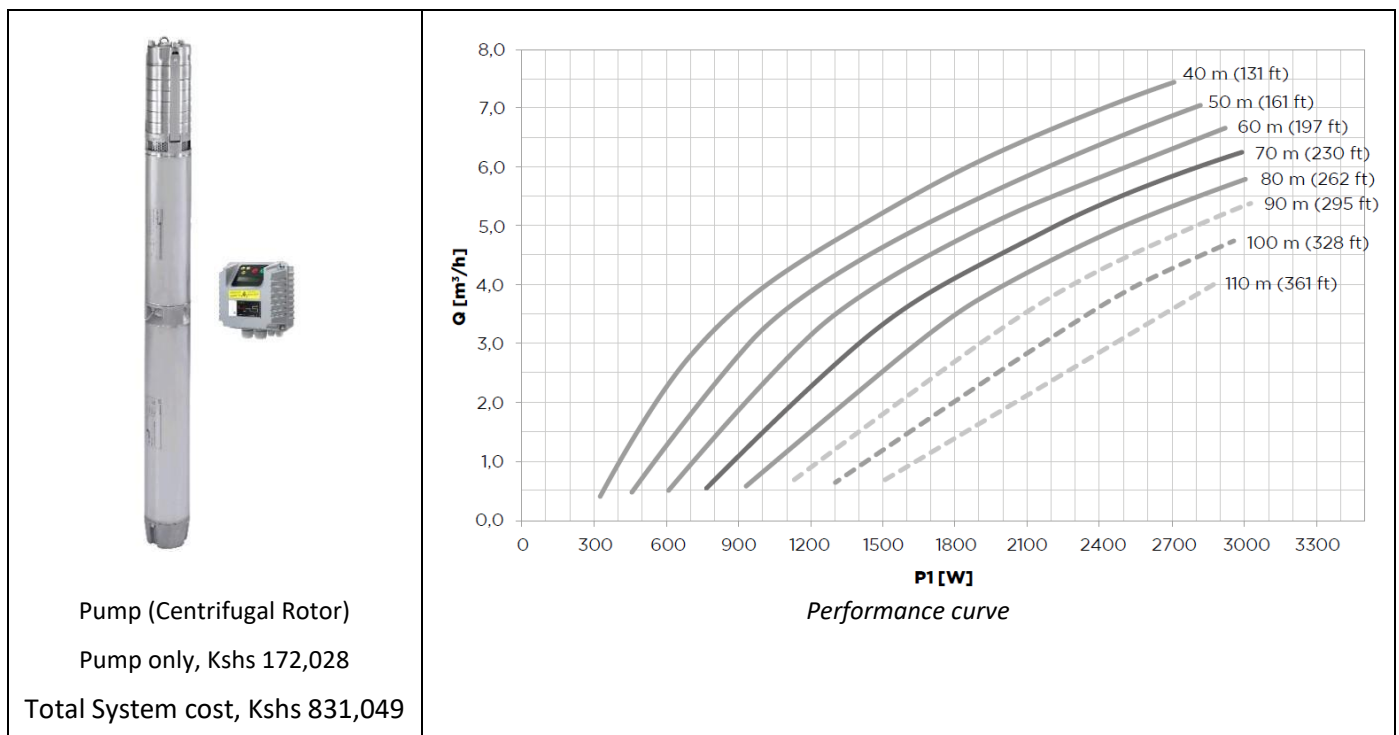
4HS 05/04 MP

Centrifugal impeller; upto 5 M3/hr @ 40M when powered by 1600 watts PV



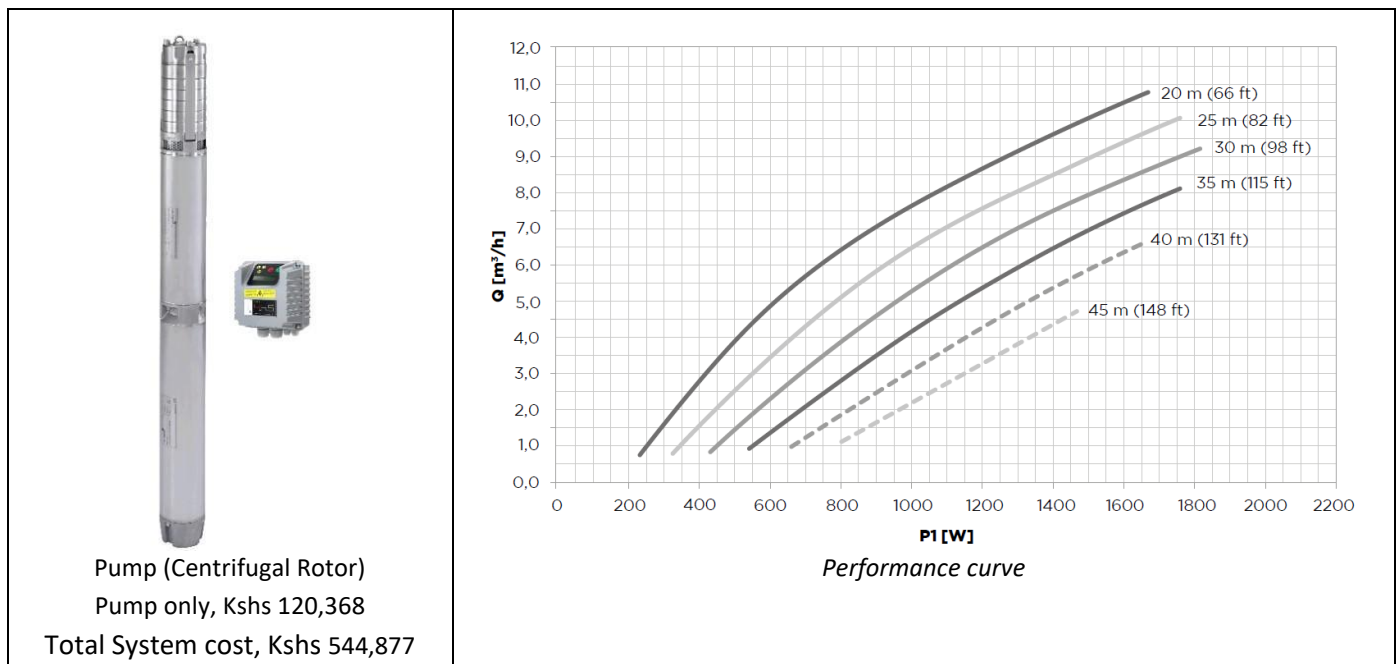
6. 4HS 05/08 MP

Centrifugal impeller; upto 5 M3/hr @ 80M when powered by 3000 watts PV



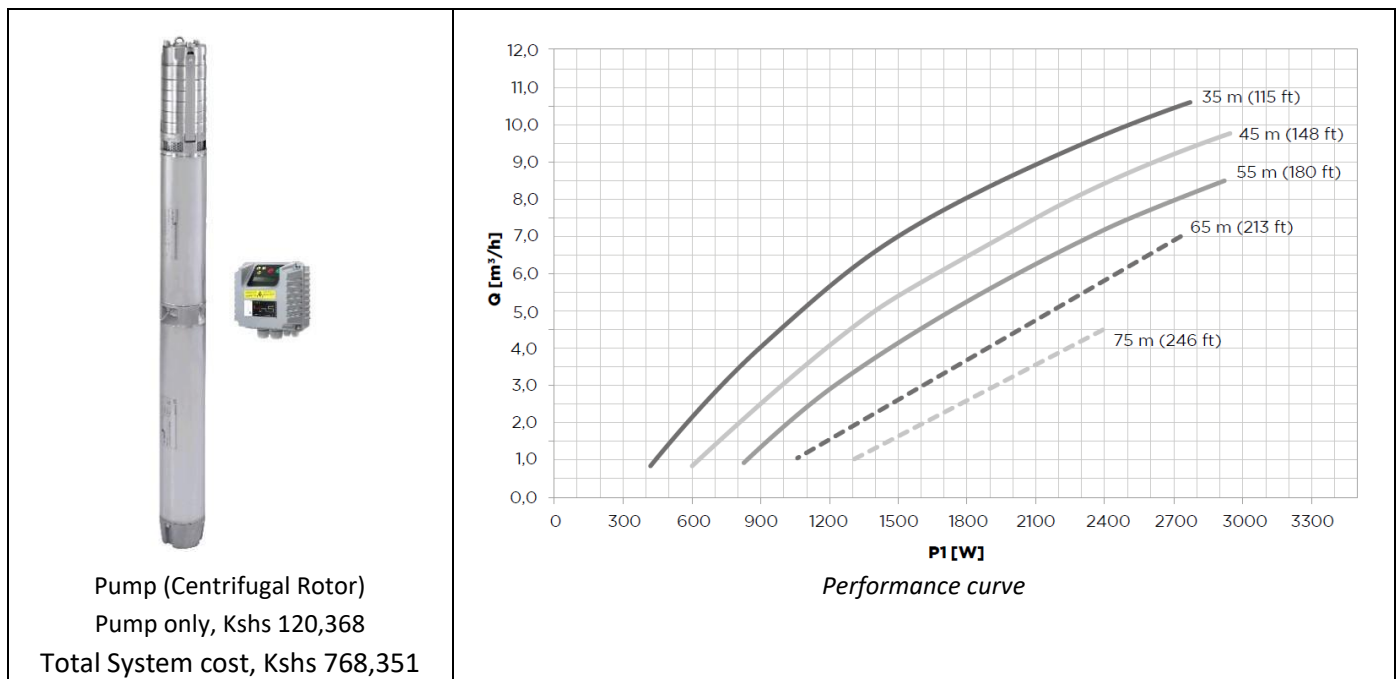
7. 4HS 08/03 MP

Centrifugal impeller; upto 8 M3/hr @ 30M when powered by 1800 watts PV



8. 4HS 08/05 MP

Centrifugal impeller; upto 8 M3/hr @ 50M when powered by 3000 watts PV



We **Warrant** our pumping systems for 2 years