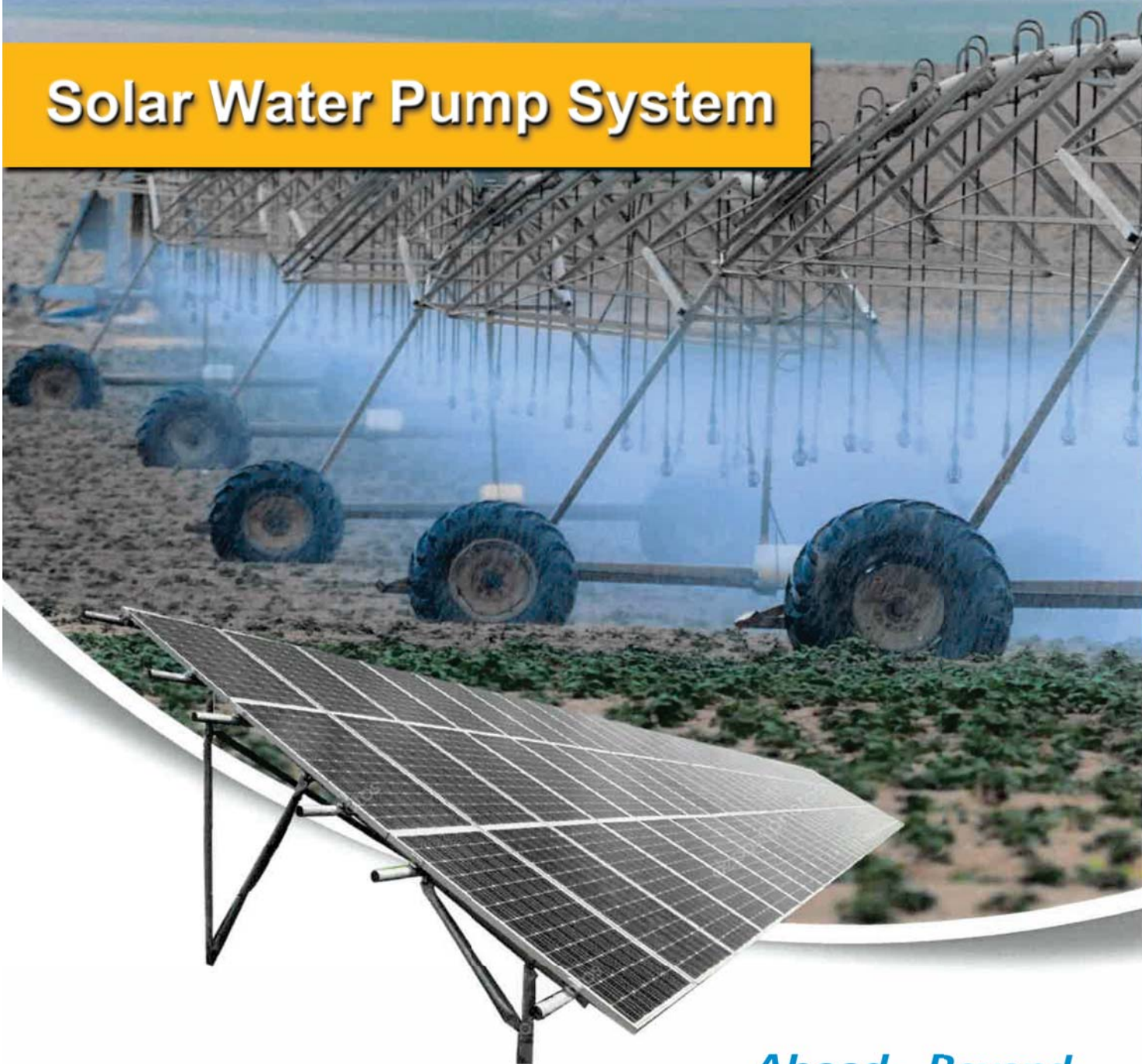




EBARA PUMP

Quality since 1912

Solar Water Pump System

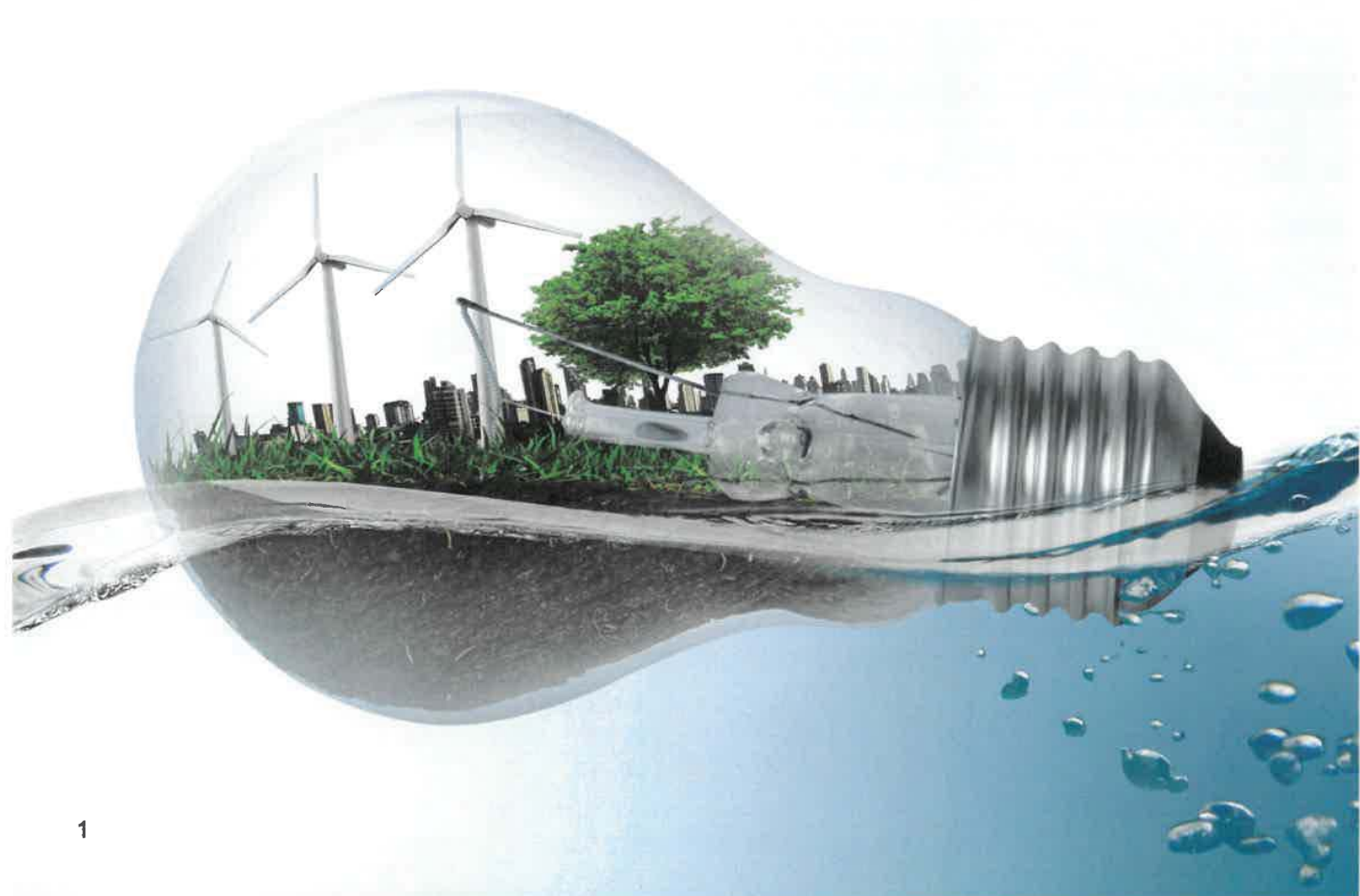


Ahead  Beyond

SW300P/310P/320P/330P

Characteristics

- ▶ Positive tolerance to ensure higher output
- ▶ Excellent performance under weak light conditions.
- ▶ Modules withstand extremely (temperature, load and impact)TUV certification.
- ▶ All modules combination and packing through stepping current to keep effectively reduce mismatch loss within.
- ▶ 100% EL test to keep higher quality.



Electrical Characteristics

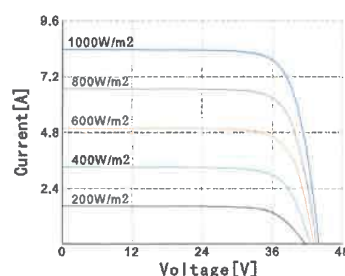
Model No.	SW300P	SW310P	SW320P	SW330P
Maximum Power (Pmax)	300W	310W	320W	330W
Max-power Voltage (Vmp)	36.8V	37.3V	38.1V	38.7V
Max-power Current (Imp)	8.15A	8.32A	8.40A	8.53A
Open-circuit Voltage (Voc)	45.2V	45.7V	46.0V	46.4V
Short-circuit Current (Isc)	8.51A	8.91A	8.98A	9.24A
Module Efficiency	15.46%	15.98%	16.49%	17.01%
Operating Temperature	-40°C~+85°C			
Maximum System Voltage	1000Vdc			
Maximum Series Fuse Rating	20A			
Power tolerance	0~+5W			

*STC condition : 1000 W/m², 1.5AM and 25°C cell temperature.

Temperature characteristics

NOCT	46°C±2°C
Temperature Co-efficient of Pmax	-0.398% / °C
Temperature Co-efficient of Voc	-0.34% / °C
Temperature Co-efficient of Isc	0.0576% / °C

I-V Curve



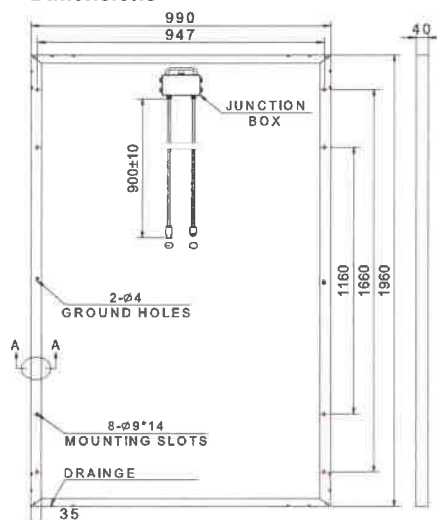
Mechanical characteristics

Model No.	SW300P/310P/320P/330P
Cell Type	Polycrystalline silicon 156.75*156.75mm
Cell Arrangement	72(6*12)
Dimensions	1960*990*40mm
Weight	22Kg
Front Cover	3.2mm tempered glass
Frame Material	Anodized aluminium alloy
Junction Box	IP65 rated
Output Cables	4mm ² , Length 1000mm
Connectors	MC4 comparable

Packing

Packing	20'GP	40'GP
Pieces per Carton	26	26
Carton/Pallet	1	1
Pallet/Container	10	22
Pieces/container	260	571

Dimensions



Solar Water Pump System



Product introduction:

Positioned in environmental-friendly and economical PV market, the product is applicable to PV pump system, replaces water storage with electric storage and without battery. The direct current generated by solar modules is input to the inverter and then converted into the alternating current to drive various pumps directly. Additionally, the output frequency is adjustable in real time according to sunlight intensity change.

Product features:

Maximizing power generation efficiency of solar modules with the use of advanced MPPT control technology. Adjusting water outflow of pumps quickly on basis of sunlight intensity change.

Automatic hibernation and wake up.

(1) Hibernate at high water level and wake up at low water level.

(2) Hibernate at sunrise and sunset and wake up at strong sunlight.

Under load protection and fault protection of water level sensor avoiding pumping off after water supply dries up.

TI DSP technology and infineon PIM designs, with functions of over current, over voltage and over temperature protection, built-in C3 filter, achieving reliable, automatic and unattended running.

Application:

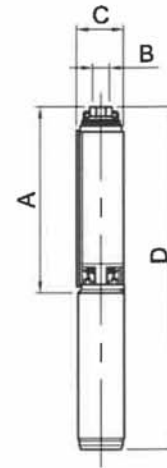
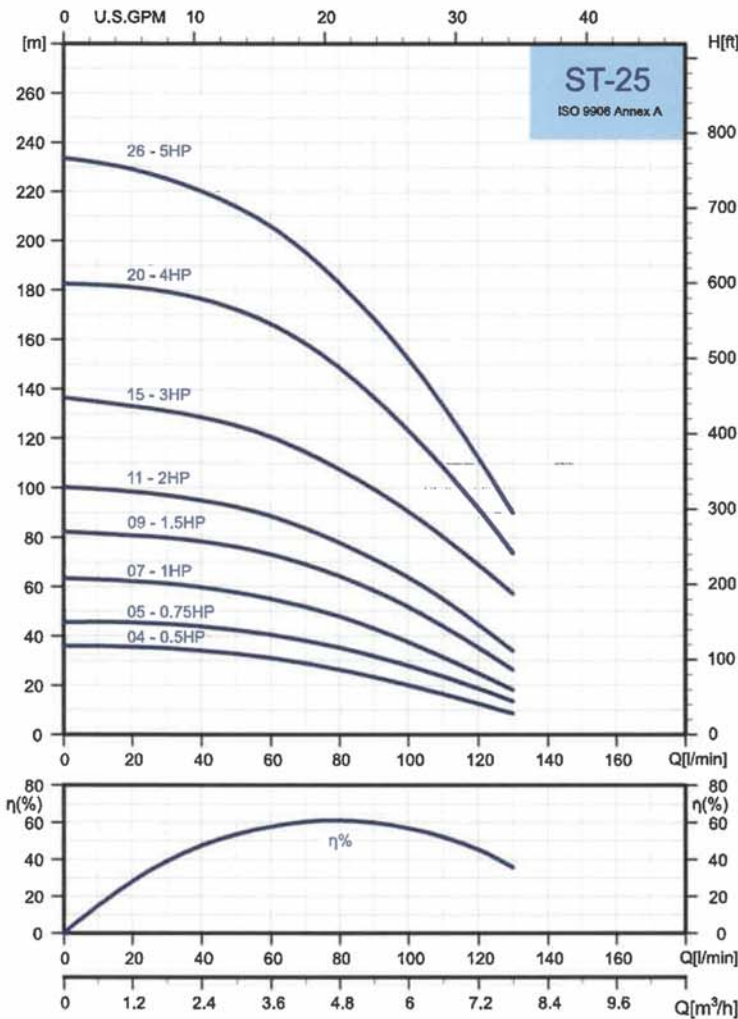
Mainly applied to industries of agriculture and forestry irrigation, desert control, grassland animal husbandry and municipal water.

Function Diagram



ZBH4N 4" 60Hz Technical Data

Technical Data - 4" 60Hz															
Type	Volts	Freq.	Thrust Load	Output HP	Output KW	S.F.	Full Load Amps	Locked Rotor Amps	Maximum (S.F.Load) Amps	Efficiency %	Power Factor %	Speed min-1	Run Capacitor µF	Start Capacitor µF	Starting Method
	V	HZ	N	HP	KW	-	Amps	Amps	Amps	%	%	min-1	µF	µF	-
Three Phase 3-Wire	220	60	1500	0.5	0.37	1.6	2.9	14.6	3.4	55	68	3470	-	-	-
			1500	0.75	0.55	1.5	3.6	19.5	4.2	61	72	3470	-	-	-
			3000	1	0.75	1.4	4.2	25.5	4.9	66	78	3460	-	-	-
			3000	1.5	1.1	1.3	5.4	34.2	6.2	70	81	3440	-	-	-
			3000	2	1.5	1.25	7.2	47.8	8.1	72	81	3440	-	-	-
			4000	3	2.2	1.15	10.6	68.6	11.1	74	77	3450	-	-	-
			6500	3	2.2	1.15	10.6	68.6	11.2	74	77	3440	-	-	-
			6500	5	3.7	1.15	17	106.1	17.9	78	77	3440	-	-	-
			6500	7.5	5.5	1.15	24.9	164.5	27.7	78	77	3450	-	-	-
	380	60	1500	0.5	0.37	1.6	1.7	8.4	2	55	68	3470	-	-	-
			1500	0.75	0.55	1.5	2.1	11.3	2.5	61	72	3470	-	-	-
			3000	1	0.75	1.4	2.4	14.7	2.9	66	78	3460	-	-	-
			3000	1.5	1.1	1.3	3.1	19.7	3.6	70	81	3440	-	-	-
			3000	2	1.5	1.25	4.2	27.6	4.7	72	81	3440	-	-	-
			4000	3	2.2	1.15	6.1	39.6	6.4	74	77	3450	-	-	-
			6500	3	2.2	1.15	6.1	39.6	6.5	74	77	3440	-	-	-
			6500	5	3.7	1.15	9.8	61.3	10.4	78	77	3440	-	-	-
			6500	7.5	5.5	1.15	14.4	95	16	78	77	3450	-	-	-
Single Phase 3-Wire	220	60	1500	0.5	0.37	1.6	4.9	20.8	6.3	55	71	3470	0	59-71	CSIR
			1500	0.75	0.55	1.5	6.9	28	8.5	55	73	3480	0	86-103	CSIR
			3000	1	0.75	1.4	8.5	34	10.2	59	74	3470	0	105-126	CSIR
			3000	1.5	1.1	1.3	9.2	37.6	11.2	65	86	3460	10	105-126	CSCR
			3000	2	1.5	1.25	11.8	48	13.7	68	89	3480	20	105-126	CSCR
			3000	3	2.2	1.15	15.4	64.8	16.3	70	93	3490	35	205-250	CSCR



Single Phase Motor Dimensions				
Pump Type	Dimensions(mm)			
	A	B	C	D
ST-2504	247	RPINPT 1 1/2"	98	593
ST-2505	272		98	637
ST-2507	320		98	700
ST-2509	370		98	775
ST-2511	419		98	859
ST-2515	518		98	1013
ST-2520	679		98	1286
ST-2526	864		98	1547

Three Phase Motor Dimensions				
Pump Type	Dimensions(mm)			
	A	B	C	D
ST-2504	247	RPINPT 1 1/2"	98	577
ST-2505	272		98	618
ST-2507	320		98	685
ST-2509	370		98	750
ST-2511	419		98	824
ST-2515	518		98	958
ST-2520	679		98	1195
ST-2526	864		98	1481

Selection Chart

PUMP TYPE	STAGES	MOTOR		Q=DELIVERY														PUMP	ELECTRO PUMP	
				l/min	0	40	50	60	70	80	90	100	120	140	Net Weight(kg)					
		KW	HP	m³/h	0	2.4	3.0	3.6	4.2	4.8	5.4	6.0	7.2	8.4	Single phase	Three phase				
				H=TOTAL HEAD IN METERS																
ST-2504	4	0.37	0.5	36		33	31	29	27	23	20	12		2.4	9.7	9.1				
ST-2505	5	0.55	0.75	46		42	40	38	35	32	28	19		2.6	10.8	10				
ST-2507	7	0.75	1.0	63		58	55	52	48	43	37	25		3.1	11.9	11.3				
ST-2509	9	1.1	1.5	82		76	73	69	64	58	52	35		3.5	13.5	12.4				
ST-2511	11	1.5	2.0	100		92	88	84	78	71	64	45		3.9	15.4	13.9				
ST-2515	15	2.2	3.0	136		125	121	115	107	100	90	69		4.7	18.7	16.3				
ST-2520	20	3	4.0	183		172	166	158	148	137	122	92		5.8	25.2	21.0				
ST-2526	26	3.7	5.0	234		214	206	196	183	169	152	112		8.1	30.8	27.6				

*All specifications and dimensional details subject to change without notice.



EBARA Pumps Malaysia Sdn Bhd
 6, Jalan TP3, UEP Subang Jaya Industrial Park,
 47620 Subang Jaya, Selangor, Malaysia.
 Tel : 03-8023 6622 Fax : 03-8023 9355
 Email : sales@ebara.com.my
 Website : www.ebara.com.my



Approval No.0048594
 Approval No.0049022

Authorised dealer: