

VEICHI

Solar Pump System



VEICHI

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Drive For Ever



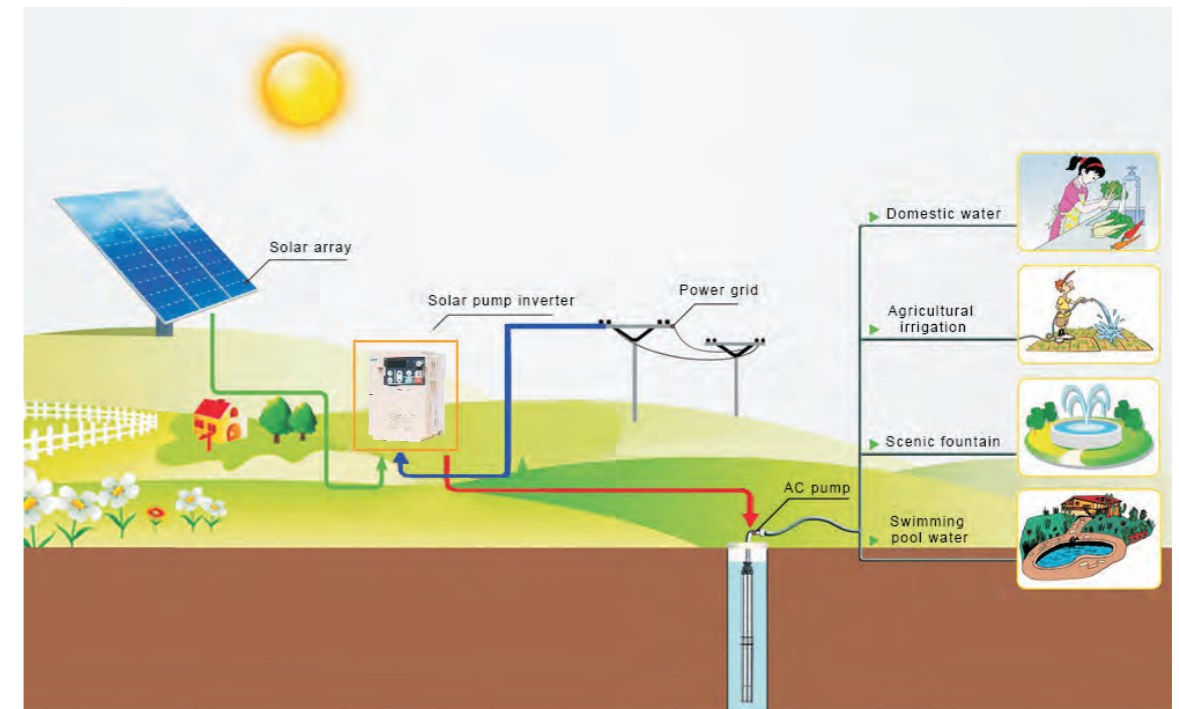
Shenzhen Veichi Electric Co., Ltd. is a high-tech enterprise that is professionally engaged in the development, manufacturing and marketing of industrial automation control products, and committed to becoming a global leading provider of industrial automation control products and system solutions.

The company owns powerful R&D team, relatively perfect production system, independent intellectual property and manufacturing bases in Shenzhen and Suzhou. To improve our R&D strength, we keep on introducing advanced overseas technology and broadening our partnerships with first-class universities and research institutions.

The main products of Veichi Electric include a variety of Variable Frequency Drive (VFD), Servo Drive System, Photovoltaic Inverter, PLC, HMI, automation equipment, etc, which are widely used in industries such as oil & gas, chemical industry, ceramic, crane & hoist, metallurgy, electrical cable and wire, plastic, print and package, textile, metal work and cable, coal mining and municipal engineering. Suitable solutions and products are always ready to meet the demands and improve comprehensive competitiveness of users.

With the spirit of "Innovation is the lifeblood of Veichi", we're committed to becoming one of the leading providers of electric drives, industrial control and green energy products. Veichi has set up more than 40 branch offices in China and dozens of partners in Asia, Europe and Africa. Veichi has been named Chinese Electric Industry's Top Ten National Brands, Chinese Electric Industry Top Ten Satisfying Brands and Top Ten National Brands of Inverter Industry. Veichi products have become the first choice of many enterprises.

Solar pump system



Zero carbon new energy system with the max investment value



It rises with the new century concept of sustainable development, which is highly respected by governments, to benefit the global areas lack of electricity and water. Solar pumps are the most attractive water supply method in the sunny areas today, especially in remote areas without electricity. Using the inexhaustible solar energy, the system automatically works at sunrise and stops at sunset and has no need of personal care, which is a perfect green energy system with economy, reliability and environmental benefits.

Solar pump system components



Solar modules



Solar pump drive




Solar pump





12 years product warranty


25 years warranty of linear performance



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High conversion efficiency
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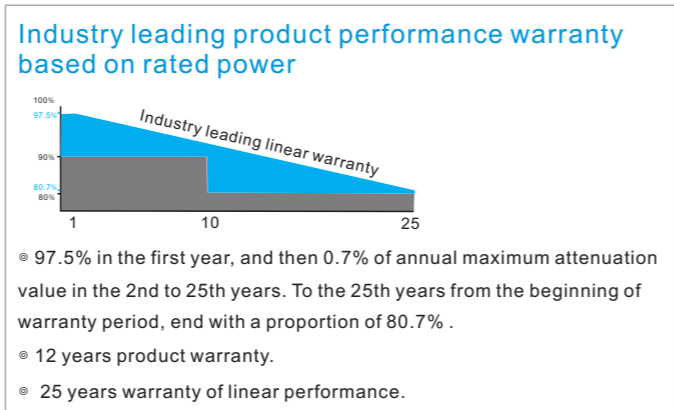
5 Watt positive tolerance
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Strong endurance capacity of wind and snow
- 

Excellent performance with poor light

Long-term stability quality

- ◉ World class manufacture of crystalline silicon PV module.
- ◉ The leading product capacity and photovoltaic technology.
- ◉ Adopt strict system of international standard quality management: ISO9001:2008 , ISO14001:2004 and ISO17025:2005.
- ◉ Perform harsh environment test (corrosion test of salt fog, ammonia and dust storms:IEC61701 , IEC62716 , DIN EN 60068-2-68) ***.
- ◉ Long-term reliability test.
- ◉ 2 times EL tests to ensure no cracked components.



Special five grating lines design

The unique battery design reduces battery's series resistance and shading area, and promotes the battery conversion efficiency. The stress distribution of the battery is more uniform, which reduces the risk of hidden cracks in the battery. The mechanical load performance is better, and the battery has better durability and higher reliability for a long time.

Reliable IP68 junction box

The junction box, with a safety degree of IP68, has an excellent waterproof performance and supports a full angle installation to prevent damages to the cable due to long time excessive bending. With high performance and low resistance, connector ensures the minimum loss of output energy .

Model	Peak power (Pmax)[Wp]	Peak power voltage (Vmp)[V]	Peak power current (Imp)[A]	Open circuit voltage (Voc) [V]	Short circuit current (Isc) [A]	Modules efficiency	Power error	Size (mm)	Weight (kg)	Maximum system voltage (V)	Fuse rating [A]
SZYL-P100-18	100	18.8	5.32	22.4	5.69	15%	0/+5	1010*660*35	7.88	DC1000	10
SZYL-P120-18	120	18.8	6.38	22.4	6.79	15.3%	0/+5	1190*660*35	8.8	DC1000	10
SZYL-P150-18	150	19	7.89	22.7	8.4	15.1%	0/+5	1480*670*35	12	DC1000	15
SZYL-P200-30	200	30.1	6.64	36.4	7.22	13.5%	0/+5	1500*990*35	17	DC1000	10
SZYL-P200-36	200	36.1	5.54	43.7	6.02	13.5%	0/+5	1500*990*35	17	DC1000	10
SZYL-P250-30	250	31.7	7.89	37.7	8.43	15.4%	0/+5	1640*990*40	17.7	DC1000	15
SZYL-P260-30	260	32	8.13	38.2	8.74	16%	0/+5	1640*990*35	17.7	DC1000	15
SZYL-P300-36	300	38.1	7.87	45.2	8.42	15.5%	0/+5	1960*990*40	23.3	DC1000	15



SI20 series solar pump inverter

- ◉ **Clean energy:** inexhaustible energy supply, non-pollution, zero carbon dioxide emissions, actively contribute to curbing global warming.
- ◉ **Economic and affordable:** One-time investment to get long-term returns, and enjoy government subsidies.
- ◉ **Safe and reliable:** unattended, work at sunrise and stop at sunset.
- ◉ **Simple operation:** One key operation
- ◉ **Smart Internet of Things:** powerful GPRS Internet of Things, and users could master the system state at anytime and anywhere.
- ◉ **Personal customized:** special model supports ultra low input voltage of 30-300VDC with a specialized sine wave filter.
- ◉ **International standards:** in line with national standards, and access to CE certification.



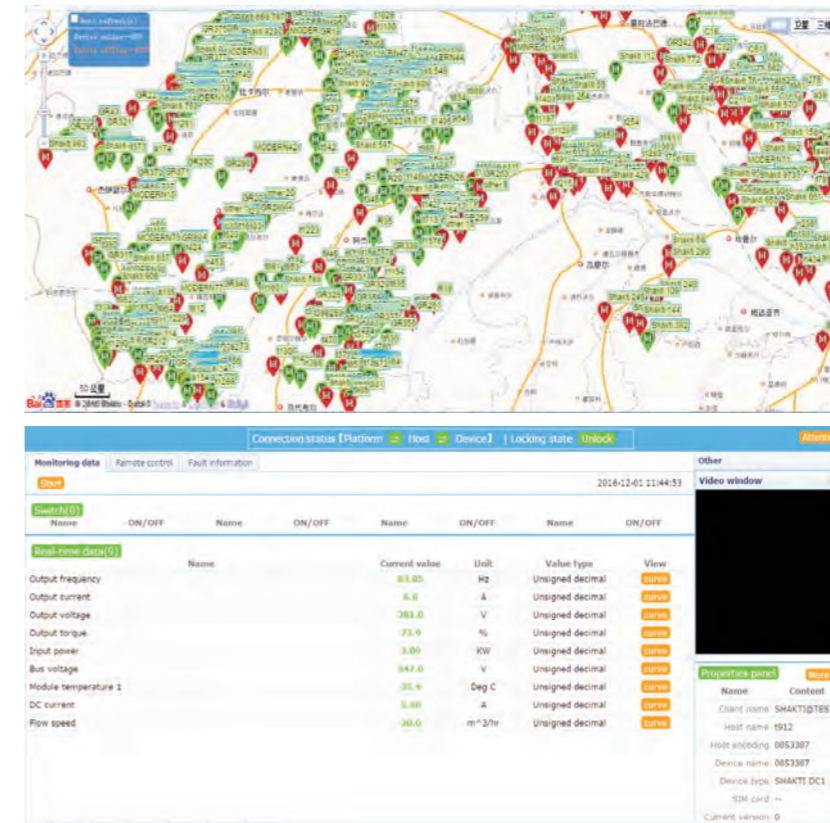
SI20-D0-1R5G special type of solar pump inverter

- © **Ultra low voltage:** With the incredible ultra low input voltage of 30VDC, 300W three-phase AC pumps could be driven perfectly, "a panel, a pump, will no longer be a dream."
- © **Super Compatibility:** Can drive three-phase AC AM and PMSM pumps.
- © **Ingenious design:** powerful Boost function and specialized sine wave output filter.
- © **Electrical parameters:** input power of 30-300V DC or 1 * 90-240V AC; maximum output power of 1.5kW, maximum output current of 10A, output voltage of 3 * 90-230V AC



The global cumulative online volume of more than 100000 units

Real-time monitoring, remote expert consultation, large data automatic calculation of the power generation and pumping capacity and other energy-saving status, PC support, mobile APP query.

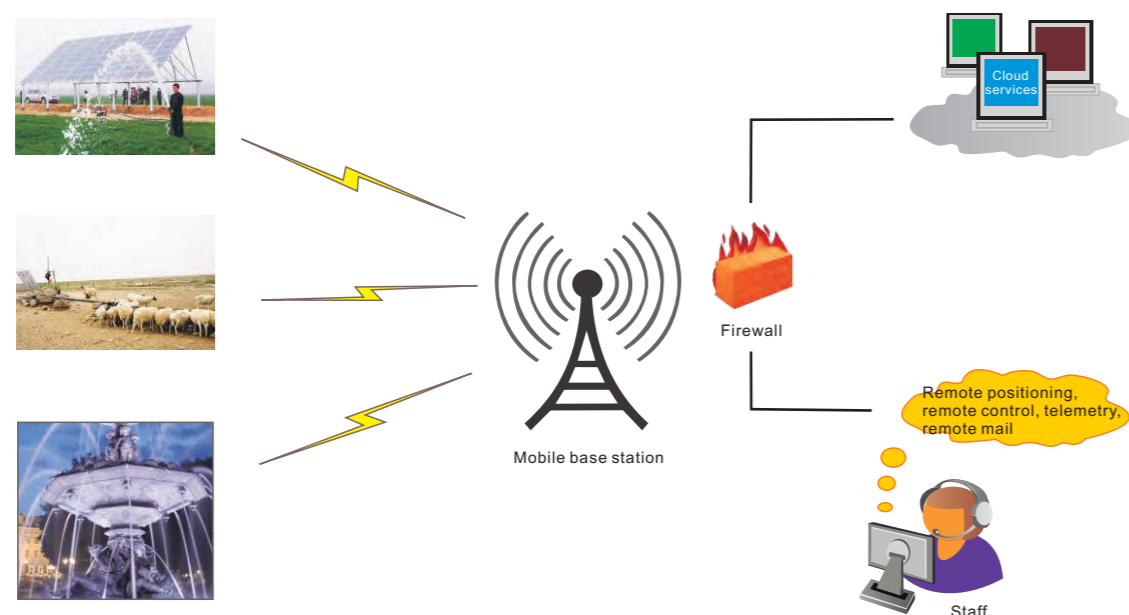


Solar pump drive model analysis

Model analysis of three phase AC PMSM pump drive				
Product model	Voltage level	Input power		Power range
		DC	AC	
SI20-D0-xxG	110V	30-300VDC	Single-phase 110VAC	Maximum power 1.5kW
SI20-D1-xxG	110V	90-400VDC	Single-phase 110VAC	0.75-1.5kW
SI20-D3-xxG	220V	150-450VDC	Single-phase 220VAC	0.75-4.0kW
SI20-D5-xxG	380V	250-780VDC	Three-phase 380VAC	0.75-30.0kW
SI20-T3-xxG	380V	350-780VDC	Three-phase 380VAC	37.0-200.0kW

Solar pump

Solar pump IOT monitoring system



Submersible pump (deep well pump) with its exceptional natural advantages, is widely used in water resources extraction situations, such as groundwater, deep well or rivers, which is the best choice of solar pump system.

Application environment

- Suitable for water pumping from deep well or water tank.
- Household, civil and industrial applications.
- Suitable for garden irrigation.

Application conditions

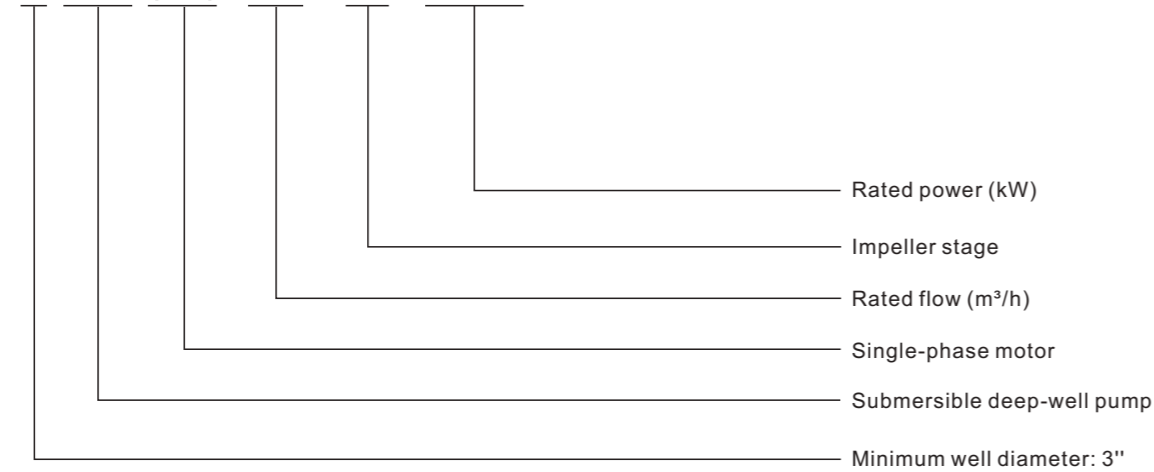
- The maximum water temperature :35°C.
- The maximum sediment concentration : 0.25%
- The maximum immersed depth : 80m.
- The minimum well diameter: 3".

Motor and pump

- Winding motor or full enclosed motor.
- Three phase: 380V-415V/50Hz.
- Single phase: 220V-240V/50Hz.
- The tube column design.
- The tolerance curve conforms to ISO9906.

Solar pump model analysis

3 XR (m) 1.8/ 10- 0.25



Constitution	Material
Pump shell	AIS1304SS
Guide housing	Castings-Cu ASTM280
Suction device	Castings-Cu ASTM280
Diffuser	PC
Impeller	POM
Pump shaft	①AIS1316SS ②AIS1304SS
coupling	①AIS1316SS ②AIS1304SS
Wear ring	AIS1304SS
Motor housing	AIS1304SS
Cover	Cast-Cu ASTM280
base	AIS1304SS
Mechanical seal	Special seal for deep well (carbon -SIC/TC)
Pump shaft	AIS1304SS-C1045
Bearing	NSK
Sealing lubricant	Food machinery and medicinal oils

Model		Power		Flow and corresponding lift															
1~220V/240V	3~380V/415V	kW	HP	Q m³/h 1/min	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6		
3XRm1.8/27-0.75	3XR1.8/27-0.75	0.75	1	H (m)	113	111	109	106	101	92	82	67	51	32					
3XRm1.8/37-1.1	3XR1.8/27-1.1	1.1	1.5		155	153	150	145	133	127	112	92	69	43					
3XRm1.8/47-1.5	3XR1.8/27-1.5	1.5	2		197	194	190	184	175	161	142	117	88	55					
3XRm2.5/28-1.1	3XR2.5/28-1.1	1.1	1.5		117	116	114	112	109	104	100	93	86	76	65	51	37		
3XRm2.5/36-1.5	3XR2.5/36-1.5	1.5	2		151	149	144	144	140	134	128	120	110	98	83	66	48		
3.5XRm3/20-1.1	3.5XR3/20-1.1	1.1	1.5		148	146	142	140	135	129	121	111	99	86	71	54	36		
3.5XRm3/26-1.5	3.5XR3/26-1.5	1.5	2		194	191	186	183	177	169	158	146	130	112	92	70	47		
4XRm2/16-0.75	4XR2/16-0.75	0.75	1		116	116	114	112	109	105	99	92	83	73	61	50			
4XRm2/22-1.1	4XR2/22-1.1	1.1	1.5		160	159	157	154	150	144	136	126	114	100	84	68			
4XRm2/28-1.5	4XR2/28-1.5	1.5	2		204	202	200	196	191	183	173	161	145	127	107	87			
4XRm2/38-2.2	4XR2/38-2.2	3.3	3		276	275	271	266	259	249	235	218	197	173	145	118			

Model		Power		Flow and corresponding lift											
1~220V/240V	3~380V/415V	kW	HP	Q m³/h 1/min	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6
3.5XRm4/20-1.5	3.5XR4/20-1.5	1.5	2	H (m)	118	115	112	108	104	99	92	81	70	55	35
4XRm3/17-1.1	4XR3/17-1.1	1.1	1.5		138	126	122	116	108	96	80	60	38		
4XRm3/21-1.5	4XR3/21-1.5	1.5	2		145	140	136	129	120	107	89	67	42		
4XRm3/30-2.2	4XR3/30-2.2	2.2	3		217	210	203	193	180	160	133	100	63		
--	4XR3/40-3	3	4		289	280	271	258	240	213	178	133	85		
4XRm4/17-1.5	4XR4/17-1.5	1.5	2		131	126	123	120	116	109	100	90	77	62	46
4XRm4/24-2.2	4XR4/24-2.2	2.2	3		186	178	174	169	163	153	141	127	109	88	66
--	4XR4/32-3	3	4		247	238	231	225	218	204	188	170	145	117	87
--	4XR4/40-4	4	5.5		309	297	289	281	272	255	235	212	181	117	109

Model		Power		Flow and corresponding lift											
1~220V/240V	3~380V/415V	kW	HP	Q m³/h 1/min	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	
4XRm6/21-2.2	4XR6/21-2.2	2.2	3	H (m)	135	132	123	114	105	89	69	44			
--	4XR6/28-3	3	4		180	176	164	152	139	119	92	59			
--	4XR6/36-4	4	5.5		232	226	210	195	179	153	118	76			
--	4XR6/44-5.5	5.5	7.5		283	277	257	239	219	187	145	93			
--	4XR6/52-7.5	7.5	10		335	327	304	282	259	221	171	110			
4XRm8/18-2.2	4XR8/18-2.2	2.2	3		109	103	96	90	84	79	72	61	45	28	
--	4XR8/24-3	3	4		155	145	135	127	119	112	101	85	63	39	
--	4XR8/30-4	4	5.5		188	183	171	158	150	142	128	110	85	55	
--	4XR8/38-5.5	5.5	7.5		258	242	225	212	198	187	168	143	105	65	
--	4XR8/46-7.5	7.5	10		288	281	262	243	230	217	197	168	131	85	

Model		Power		Flow and corresponding lift													
1~220V/240V	3~380V/415V	kW	HP	Q m³/h 1/min	0	2.4	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2			
--	4XR10/18-3	3	4	H (m)	111	107	102	96	90	79	65	47	26				
--	4XR10/22-4	4	5.5		136	131	124	118	110	97	80	57	32				
--	4XR10/28-5.5	5.5	7.5		173	166	158	150	140	124	101	72	40				
--	4XR10/34-7.5	7.5	10		210	202	192	182	170	150	123	88	49				
--	4XR12/19-4	4	5.5		121	116	109	102	94	85	75	62	47	28			
--	4XR12/23-5.5	5.5	7.5		147	140	132	124	114	102	90	75	56	33			
--	4XR12/29-7.5	7.5	10		185	177	166	156	144	129	114	95	71	42			

Common system configuration

Water pump power (kW)	Drive Model	Solar modules and configurations					
		Module type	Series-connection quantity	Parallel-connection quantity	Total quantity	Total power (W)	Total input voltage (V)
2.2	SI20-D5-2R2G	SZYL-P100-18	30	1	30	3000	564
4	SI20-D5-004G	SZYL-P250-30	20	1	20	5000	634
5.5	SI20-D5-5R5G	SZYL-P200-30	19	2	38	7600	571.9
7.5	SI20-D5-7R5G	SZYL-P250-30	20	2	40	10000	634
11	SI20-D5-011G	SZYL-P250-30	20	3	60	15000	634

Input voltage DC250-780V, adaptive MPPT search, the best operating voltage range 530-650VDC

The recommended configuration of 2.2kW deep-well pump system

SZYL-P100-18×30; Total power: 3kW



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The recommended configuration of 4.0kW deep-well pump system

SZYL-P250-30×20; Total power: 5kW



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The recommended configuration of 5.5kW deep-well pump system

SZYL-P200-30×19×2; Total power: 7.6kW



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