

# SUN-RAY SRX

## SOLAR-POWERED, SURFACE AND FLOATING WATER PUMPING SYSTEMS

The Sun-Ray SRX is a solar-powered water pumping system designed to efficiently and reliably transfer water from springs, rivers, tanks and dams. The system draws energy from the sun, eliminating the need for diesel fuel or AC power. Components are low maintenance, specifically designed for use in solar-powered pumping systems and highly efficient as well as easy to install and use.



### THE SUN-RAY SRX SYSTEM

The Sun-Ray SRX system is comprised of four main parts – solar array; solar motor controller (SMC); brushless DC motor (BLDC) and CP pump (wet end) which is direct coupled to the BLDC motor.

Additional items such as floats, termination kits, water level controllers (WLCs) and float switches may also be supplied with the system.

It is critical that you install the right solar pumping system for your specific situation. Our Computer Aided Solar Selection (CASS) software, available at [www.solarcass.com](http://www.solarcass.com), can help to determine the right system for you.

### KEY FEATURES AND SPECIFICATIONS

The Sun-Ray SRX system has very high daily flows with discharge pressures of up to 50 metres. The highly efficient, helical rotor pump is inherently self-priming, so the pump can be positioned up to six metres above the water source. This allows the pump to be installed above the high water mark on dam walls or river banks. The water pumping rate can also be limited to suit the water source.

The Sun-Ray SRX is suitable to pump water from springs, rivers, tanks and dams. It is available with a floating pontoon that has been designed to safely enable the pump to float on a dam or other water source.

The Sun-Ray SRX is available in three pump sizes:

#### SRX CP25

– up to 50 m, up to 28 L/min\*

#### SRX CP800

– up to 35 m, up to 68 L/min\*

#### SRX CP1600

– up to 25 m, up to 130 L/min\*

### SOLAR ARRAY

Range of output power from 200 Watts to 1600 Watts.

Available in either stationary or GPS tracking. Mono's patented GPS tracker can increase flows by around 30 per cent.

Designed to withstand 140 km/hr winds and can be easily modified to withstand 210 km/hr winds.

### SOLAR MOTOR CONTROLLER (SMC)

Solar maximum power point tracker (MPPT) and brushless DC motor control electronics are combined in the one enclosure.

MPPT adjusts the voltage on the solar array to maximise power generation and increases or reduces voltage to suit the demands of the controller (input power range from 200 Watts – 1600 Watts)

Electronic pressure control enables automatic pump shutdown once tanks and troughs are full. Thermal overload protection is also in place.

Variable motor speed control via front panel or optional hand held display unit.

Low motor speed cut-off to reduce pump and motor wear.

Easily accessible on/off switch with optional interface to a hand-held display unit. Remote on/off control via float, pressure switch or water level control via probes.

Operates in temperature range from -10°C to 50°C.

\* Flow rates based on optimum conditions



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SRX CP25

### BRUSHLESS DC MOTOR

High torque, high efficiency, brushless and sensorless DC motor, purpose-built motor for use with the Sun-Ray SRX pump. No sensor is needed to determine rotor position within the motor and without brushes to wear out, no on-going maintenance is required.

Permanent magnet rotor supported by low lose bearings.

All drive electronics are housed separately in the SMC.

### SUN-RAY SRX PUMP, WET END

Progressing cavity pump designed specifically for use within the Sun-Ray SRX system.

Helical rotor pump element provides maximum water output even when the water contains silt or iron oxide. Low pump speed means extended rotor and stator life in abrasive bores. Pump is self-cleaning – ideal for iron oxide rich environments.

Low interference design of rotor and stator ensures low starting torque and maximum pumping efficiency.

High operating efficiency of pump and SMC ensures maximum amount of water can be pumped over whole day and during cloudy conditions.



### SUN-RAY SRX PERFORMANCE CHARACTERISTICS

FLOW ESTIMATES (M <sup>3</sup> /DAY) BASED ON AVERAGE DAYLIGHT HOURS						
SYSTEM SIZE (WATTS)	200	400	600	800	1200	1600
HEAD (M)						
5	33	53	102	104	110	112
10	24	46	81	93	105	108
15	17	39	47	79	98	104
20	14	31	42	62	90	99
25	11	25	36	49	80	93
30	9	20	31	34		
35	7	16	26	30		
40	6	12	15			
45		10	13			
50		8	11			
	SRX CP25		SRX CP800		SRX CP1600	

ARRAY STRUCTURE						
System Power [Watts]	200	400	600	800	1200	1600
No. of 200W Module	1	2	3	4	6	8

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