

## HR14-48 Submersible

The HR14 is a maintenance free, compact, lightweight water pumping system developed especially for photo-voltaic operation. The range of the HR14 offers package systems capable of up to 7000 US gals per day for solar direct applications and pumping heads of up to 160m. Systems are also available in 24 volt and 48 volt models with pumping depths to 200 feet. Due to the outstandingly high efficiency of the motor, unlike some other well known submersible motors, does not require any additional cooling. This pump may be used in lakes, streams or wells with diameters greater than 4" or close to the well filter with ambient temperatures up to 40° C. with out loss of motor power.

### How the Pump Works



The HR14 is comprised of a single hard-chrome plated rotor and a rubber stator. When the rotor lies inside the stator the two components touch along a ribbon of contact. Behind that ribbon of contact is a sealed capsule that moves from suction to discharge as the rotor rotates inside the stator. The pumping element is lubricated by the water itself. The rubber stator yields so that particles cannot be trapped against the hard chrome plated rotor. The rubber stator is engineered to compress momentarily during the passage of abrasive particles increasing stator life. Due to this principle the pump has a higher tolerance with sandy or silt-laden water. The pump can operate over an outstanding wide speed range of about 1:5 (700 to 3500 RPM), resulting in more liters pumped per day using the first rays of the sun to start the pump when running on solar direct. The HR14 Pump motor is a brushless DC motor designed to drive many different types of pumps at efficiencies of up to 90% compared to AC motors that are at 55 % to 60%. Its brushless design, reliable ceramic bearings and rugged construction ensure the high reliability under the most extreme conditions.

### Pump Advantages:

Non - pulsating flow, positive displacement, sand damage less than other pumps, self cleaning, simplicity of only 2 parts, efficiency of more than 70 %, very long life expectancy, frost proof and chrome plated abrasion resistant rotor.

### Motor Advantages:

No Brushes to replace, raw earth permanent magnets for highest efficiency, standard NEMA flange, motor filled with water, stainless steel casing and installs in 4" casings.

### Warranty

The HR14-48 pump and controllers are warranted to be free from defects in material and workmanship for two years from date of purchase.



## Kelln HR-14-48 Volt Pumping Specifications



50 James Street, Box 94 Lumsden Saskatchewan Canada Tel (306) 731-2224 Fax (306) 731-2774

Watts	Lift	US GPM	Cdn GPM	Amps Per Hr.	Gallons Per Hr.	128 w	168 w	256 w	336 w	512 w	128 w	168 w	256 w	336 w	512 w
						Gallons Pumped Per Day					Cow Calf Pairs				
115	25	8.73	7.28	2.40	437	2188	2746	4267	5492	8533	146	184	285	367	569
160	50	8.54	7.12	3.33	427	1538	1931	2999	3861	5998	103	129	200	258	400
225	75	8.35	6.96	4.69	418	1070	1342	2085	2684	4170	72	90	139	179	278
265	100	7.97	6.64	5.52	398	866	1087	1689	2174	3378	58	73	113	145	226
320	125	7.58	6.32	6.67	379	683	857	1331	1714	2662	46	58	89	115	178
340	150	7.00	5.84	7.08	350	594	745	1158	1490	2316	40	50	78	100	155
380	175	6.62	5.52	7.92	331	503	631	979	1261	1958	34	43	66	85	131

**All gallons are in Imperial Measurements**

### Self Cleaning Ability

The rotor sweeps the full surface of the rubber stator every turn. It is impossible for growth or deposits to develop there. This makes it even more superior to centrifugal pumps. There are no valves to lock, clog or wear.

### Easy to Repair

This pumps principle is known not just for trouble-free long life, but for being the easiest pumps to work on. Parts are low in cost and can usually be replaced on site with basic tools.

## Common Pumping Situations

95 Cow/Calf pairs (Battery Operated)  
65 Feet Lift / 4" Casing / 10GPM recovery

### Pump Model HR14-48-442

- 1 – Submersible Pump HR14-48
- 1 – Pump Controller
- 4 – 42Watt Uni-Solar Shatterproof Panels
- 2 – Double Panel Stand
- 1 – Float Switch
- 1 – Wire Package
- 1 – Battery Box

### Required But Not Included

- 2 – Poles (2 3/8 O.D.) for Panel Stand
- 4 – Trojan SCS 225 Batteries

### System Cost \$ 4495.00

Pump Cable, Poly Hose and Safety Rope is  
\$ 3.00 per Lin. Foot. X Depth of pump + 10 Feet  
(GST & Shipping Extra)

### Pump Model HR14-48-864

- 1 – Submersible Pump HR14-48
- 1 – Pump Controller
- 8 – 64 Watt Uni-Solar Shatterproof Solar
- 4 – Double Panel Stands
- 1 – Float Switch
- 1 – Wire Package
- 2 – Battery Box

### Required But Not Included

- 4 – Poles (2 3/8 O.D.) for Panel Stand
- 8 – Trojan SCS 225 Batteries

### System Cost \$7195.00

Pump Cable, Poly Hose and Safety Rope is  
\$ 3.00 per Lin Foot. X Depth of pump + 10 Feet  
(GST & Shipping Extra)

220 Cow/Calf pairs (Battery Operated)  
100 Feet Lift / 4" Casing / 10GPM recovery