



Sun Pumps produces different models of solar-powered pumps that can provide water for livestock, wildlife, and personal use.

Solar Pumps Provide Water Off The Grid

Sun Pumps is a 22-year-old company that supplies solar pumps and parts for livestock waterers, irrigation systems, home water systems, and grid-tie solar systems. Sun Pumps also designs and sells desalination systems that convert salt water to fresh water.

Black Rock Ranch and Wilderness Retreat uses Sun Pumps systems to provide fresh drinking water to livestock, wildlife, and residences and irrigation water for fruit trees. One of their systems pumps from a 70-ft. deep well at a constant rate of 5 gpm, and a secondary pump adds an additional 300-ft. lift delivering water 5 miles away for livestock and wildlife. The system delivers water for home use, and a tank with overflow irrigates fruit trees and a garden. It's one of five systems utilizing 8 miles of pipeline installed on the 18,000-acre ranch. All their systems run on power from solar panels that activate a float switch when the sun comes up. The ranch is 20 miles from the nearest town without access to commercial power, so the Sun Pumps systems provide hands-free

pumping. The ranch owner says, "With solar, I don't have to start a pump, run a generator, put gas in an engine, or even haul water. Large storage tanks store water for personal use, livestock, and wildlife."

Sun Pumps says its products have been designed to meet low-cost pumping needs without sacrificing quality, reliability, and performance. The positive displacement Helical Rotor (HR) AC-DC pumps range from 90-400 VDC or 90-265 VAC. Output on different models ranges from 5 to 12 gpm. Six models of the SDS Series diaphragm type pumps are DC-powered low voltage units specific for remote locations. They're ideal for livestock watering, remote living, camping, or hunting locations that are off the power grid.

Contact the company for pricing info and unit information specific to your needs.

Contact: FARM SHOW Followup, Sun Pumps, 325 E. Main St., Safford, Ariz. 85546 (spsales@sunpumps.com; www.sunpumps.com).



Add-on cabs are common in orchards, keeping operators cool and protected.

Precision Add-On Cab Protection

Key Dollar Cab of Modesto, Calif., creates Precision Fit cabs for orchard tractors and other small-scale open-air vehicles. They're designed to fit the John Deere orchard tractors used in California's almond and pistachio orchards.

The company began in 1982 when Eastern Oregon orchardist Al Parks joined forces with engineer Henry Svehaug to develop a protective cab that would prevent farmers from having to sit in an open tractor cab

when spraying. The first Precision Fit Key Dollar Cab was made from plastic and plexiglass and used a charcoal filter. Designs have improved since then, and today's cabs are made from 1/2-in. thick bullet-proof glass and rustproof stainless steel.

Most Precision Fit cabs are purchased for use with the orchards of California's Central Valley. Very occasionally, they're purchased by municipalities, often for use around highways. California orchards can be dense and tight, to



VTI Contour Master Swivel uses a torsion rubber design.

Swivel Reduces Maintenance On Manure Injectors

Installing the new Contour Master Swivel (CMS) from Vertical Till Injector (VTI) reduces maintenance and replacement costs, according to the company. The new swivel is a torsion rubber design that handles contours better with no grease points.

"We've had a swivel on our row units for 8 or 9 years, but it's been replaced with the CMS," says Matt Bonebrake, VTI. "It's lighter, with no greasing needed and no springs or bushings to wear out. It eases contouring, protecting bearings and reducing blade replacement due to breakage."

The torsion rubber allows the row unit to swivel with contours or when turning as much as 20 degrees. When the unit is lifted out of the ground, the torsion rubber doesn't snap back to center, but when the toolbar is lowered, the blades are engaged back to center or contouring, as the case may be.

Bonebrake explains that even a slight pressure or curve in direction can put pressure on the bearings that are inside machined hubs. "Introducing side load into the hub is about the worst thing you can do," he says. "Trying to turn without a swivel puts pressure on the bearings or snaps off the injector blade or both."

The harder the ground, the more magnified the problem becomes. Given the hard, dry soils in much of the Midwest this year, Bonebrake expects a lot of bearing and blade replacements. The problem will be exacerbated with cold temperatures, as dry ground tends to freeze faster and deeper.

"Conditions will make it nearly impossible to do manure injection without swivels," says Bonebrake.

The CMS has another benefit for owners. In an economy where experienced operators can be hard to find, the torsion rubber swivels are more forgiving and make the equipment easier to run.

"They make it less likely the inexperienced operator will mess up," says Bonebrake.



Switchback coil pack row unit with single hub design.

VTI also recently introduced the Switchback coil pack row unit with a single hub design. The Switchback swivels on its own and offers as much as 10 in. vertical travel. The single-hub design makes changing blades and row spacing much easier and requires less time.

Eliminating the need for a swivel reduces the weight by 235 lbs. for every two rows. On a 12-row 30-in. row toolbar, which saves 1,400 lbs., a weight that's magnified by the long tongue. Replacing standard, double gang units with the single hub row unit reduces row unit weight by 60 lbs. per row.

"On these larger systems, the tank with the toolbar behind it can be 46 to 50 ft. behind the tractor," says Bonebrake. "Toolbar weight adds significantly to stress on the system."

Check with local dealers for pricing on both the CMS and the Switchback.

Contact: FARM SHOW Followup, VTI LLC, 201 Airport Rd., Washington, Iowa 52353 (ph 319-591-2222; info@vtille.com; www.vtille.com).

the point that you almost need to crawl to get between trees. Compact, durable equipment is essential. "Conditions can change quickly in an orchard environment," says Mike Colombo, Key Dollar Cab sales manager. "When a farmer has a window of opportunity to work, their equipment needs to be ready to go without any delays. For instance, a farmer runs out of fuel and must travel on a busy road to get some. If the tractor gets knocked around in the orchard, a headlight might get broken. That increases the risk of a roadside accident."

The cabs have large windows for optimal visibility and use sound-dampening components to keep things comfortable for drivers. Wide doors make it easier to step in and out. A premier selling point remains the large A/C ducting, which ensures farmers get plenty of cold air even on the hottest days. "When I was young, tractors were simpler," says

Colombo. "But today, no one wants to be in a tractor without a cab anymore. It's a way more pleasant experience."

Each Precision Fit Cab meets strict California insurance requirements, and the company continues to stock parts for nearly all of the cabs it's ever sold. "Our focus is on longevity and safety. We joke that the stainless steel within the cabs will outlast the pyramids. That's hugely important, as tractors are used in corrosive environments."

Optional features include an EZ Connect spray plug, 360-degree LED lights, rear camera and monitor, limb lifters, paper filters, radio, and HD fenders. Contact Key Dollar Cab directly for pricing information.

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