



SQ Flex Pumps

Grundfos

SQ Flex

The Grundfos SQ Flex pumping systems are a giant leap forward for solar water pumping. Grundfos, the world's largest pump manufacturer, has reduced the cost of the pumps along with reducing the power needs. The result is a Grundfos centrifugal or helical rotor quality system for about the cost of a diaphragm pump. The Grundfos SQ Flex pumping system can also be powered by a wind generator if you have the right site. The Whisper H-80 Waterpumper on page 53 is the required generator.

Features:

- Up to 390 foot head applications • 30-300 VDC, or 90-240 VAC single-phase AC input.
- Permanent magnet high efficiency motor • Overload protection • Over temperature protection • Dry running protection
- Maximum Power Point Tracking to optimize pump operation according to DC Power available.
- Power line communication with the CU200 (optional) to display operational conditions

| Model | TDH Range (Ft.) | Nominal GPM | Length (In.) | Output Size | MSRP |
|----------|-----------------|-------------|--------------|-------------|------------|
| 3 SQF-2 | 120 - 390 | 3 | 47 | 1" NPT | \$1,475.00 |
| 6 SQF-2 | 120 - 390 | 6 | 48 | 1" NPT | \$1,475.00 |
| 11 SQF-2 | 40 - 300 | 11 | 49 | 1 1/4" NPT | \$1,475.00 |
| 25 SQF-3 | 0 - 40 | 25 | 33 | 1 1/2" NPT | \$1,475.00 |
| 25 SQF-6 | 0 - 60 | 25 | 35 | 1 1/2" NPT | \$1,475.00 |
| 40 SQF-3 | 0 - 20 | 40 | 37 | 2" NPT | \$1,475.00 |
| 75 SQF-3 | 0 - 40 | 75 | 39 | 2" NPT | \$1,475.00 |

Accessories:

IO 100 – Simple On/Off switch box for Grundfos SQFlex solar electric system. No float switch terminals.

*Use CU200 pump controller for the Grundfos SQ Flex if a float switch is needed.

MSRP

\$109.00

IO 101 – Generator Interface Box for Grundfos SQFlex. Includes On/Off switch (replaces IO 100) and allows for operation of SQFlex pump for either solar or manual-start generator. No float switch terminals. *Add a CU200 pump controller for the Grundfos SQFlex if a float switch is needed.

\$327.00

IO 102 – Wind Generator Breaker Box. This box includes a rectifier for the wind generator and a stop switch, and allows the Grundfos SQFlex pump to operate from either the H80 wind generator or a combination of wind and solar. *Add a CU200 pump controller for the Grundfos SQFlex if a float switch is needed.

\$319.00

CU 200 – SQFlex Control Box. This controller and system monitor can be used with solar alone or in combination with the IO101 (for manual generator backup) and/or the IO102 (for wind generator). The CU200 will allow you to add a float switch to shut off the pump when the storage tank is full. The system monitor display on the CU200 shows the following: • Pump operation • Full Tank • Input Power (Watts)

\$245.00

- Alarm Indicator for dry running, overvoltage, overload and overtemperature.

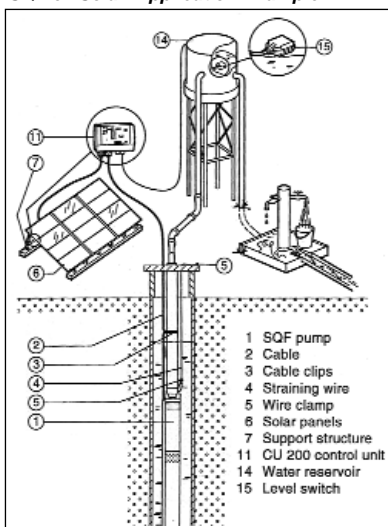
Water Level Switch – Mechanical float switch

\$31.00

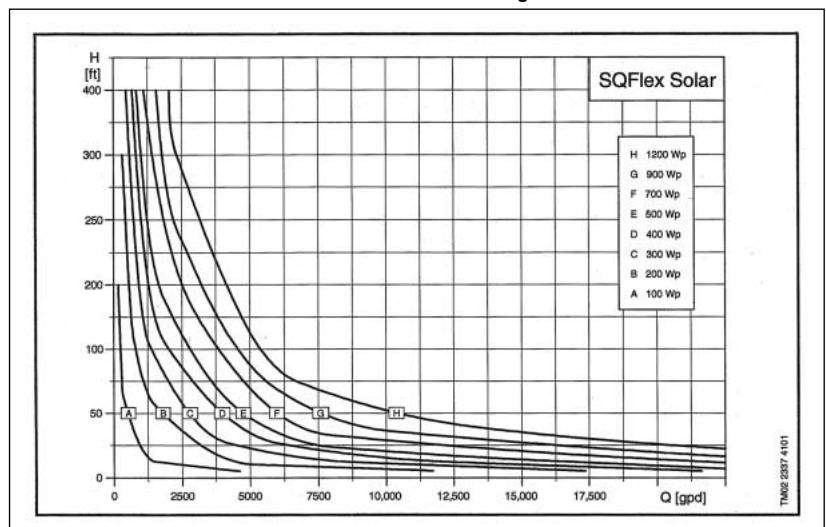
GF 43 Solar Module – 43 Watts, Vmp: 141, Imp: 0.31, Voc: 196.2, Isc: 0.42, Dimensions: 52" x 32", Weight: 33 lbs.

\$199.00

SQFlex Solar Application Example



SQFlex Performance Range



Water Pumps



Grundfos SA-1500

Grundfos

SA-1500

The Grundfos solar direct SP line of water pumps should be considered by anyone who wants to do the job right the first time. The pumps are a stainless steel centrifugal design with no diaphragms to replace and a water-cooled motor.

The Solar Pump 1500 series operates from a solar array of 7 or 8 modules in series up to 2000 watts. This series can pump water from a maximum depth of 650 feet. Common applications for this series of the Grundfos Solar Pump 1500 are campground water systems, livestock watering, irrigation, and larger community water systems.

The SA-1500 controller is a pump controller and an inverter. There are many pump control features in the controller such as maximum power point tracking, low water sensing, and float switch terminals. This controller takes the DC power from the solar array and inverts it to 65 VAC, 3 phase for the pump motors.

Accessories:

Contact your dealer for the accessories to complete your water pumping systems.

- A solar array tracker; using a tracker on a water pumping system may increase your water production up to 25%
- Submersible pump cable • Float switches • Solar modules

| SOLAR PUMP 1500 PUMPS | Voltage VDC | Current | Power Wp | Flow Rate GPM | Total Vertical Lift (in feet) | Weight (lbs) | MSRP |
|-------------------------------------|-------------|---------|----------|---------------|-------------------------------|--------------|------------|
| 08045028 SP1 A-28 | 105 to 120 | 14A | 2000 | 3 to 9 | 328 to 656 | 39.9 | \$1,315.00 |
| 03315021 SP1.5 A-21 | 105 to 120 | 14A | 2000 | 7 to 12 | 262 to 394 | 37 | \$1,290.00 |
| 09315015 SP2 A-15 | 105 to 120 | 14A | 2000 | 7 to 20 | 164 to 394 | 34.8 | \$1,199.00 |
| 10315010 SP3 A-10 | 105 to 120 | 14A | 2000 | 17 to 37 | 98 to 230 | 32.2 | \$1,112.00 |
| 11875005 SP8 A-5 | 105 to 120 | 14A | 2000 | 40 to 140 | 7 to 92 | 32.9 | \$1,112.00 |
| 07315003 SP14 A-3 | 105 to 120 | 14A | 2000 | 80 to 180 | 7 to 49 | 42.1 | \$1,224.00 |
| CONTROLLER | | | | | | | |
| 625100 SA1500 Controller | 105 to 120 | 14A | 2000 | | | 9.7 | \$1,558.00 |
| CABLE TERMINATION KIT | | | | | | | |
| 115099 Cable termination kit w/sock | | | | | | | \$126.00 |

Water Pumps



Grundfos *continued*

Grundfos Solar Pump Sizing Chart

Water production based on 4 kwh/m2 Winter and 6 kwh/m2 Summer insolation (POA)
Trackers will increase daily water production 25-30% above listed values.

| Head/ Wattage | 270 W | 360 W | 540 W | 690 W | 920 W | 1150 W | 1200 W | 1365 W | 1575 W | 1800 W | 1920 W |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 30 ft./ 10M | 11SQF-2 | 25SQF-3 | 25SQF-3 | 40SQF-3 | 75SQF-3 | 75SQF-3 | 14A-3 | 14A-3 | 14A-3 | 14A-3 | 14A-3 |
| Summer GPD | 3,700 | 5,100 | 8,100 | 11,000 | 15,450 | 18,700 | 20,600 | 23,770 | 27,310 | 30,270 | 31,700 |
| Winter GPD | 2,500 | 3,000 | 5,200 | 6,850 | 9,990 | 12,500 | 12,490 | 14,950 | 18,150 | 21,130 | 22,720 |
| Max Flow | 8 | 14 | 20 | 28 | 37.5 | 45 | 64.5 | 70.4 | 77 | 83.6 | 85.8 |
| 50 ft./ 15M | 11SQF-2 | 11SQF-2 | 11SQF-2 | 25SQF-6 | 25SQF-6 | 25SQF-6 | 8A-5 | 8A-5 | 8A-5 | 8A-5 | 8A-5 |
| Summer GPD | 3,100 | 4,000 | 5,300 | 7,150 | 9,550 | 11,700 | 12,500 | 15,850 | 17,880 | 20,520 | 21,740 |
| Winter GPD | 2,000 | 2,700 | 3,900 | 4,400 | 6,250 | 8,000 | 7,750 | 9,550 | 11,680 | 13,810 | 14,900 |
| Max Flow | 7.5 | 9 | 10 | 18 | 22.5 | 26 | 43 | 50.2 | 54.6 | 57.2 | 59 |
| 65 ft./ 20M | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 25SQF-6 | 25SQF-6 | 8A-5 | 8A-5 | 8A-5 | 8A-5 | 8A-5 |
| Summer GPD | 2,700 | 3,600 | 4,900 | 5,550 | 7,650 | 9,700 | 9,500 | 10,500 | 13,000 | 16,640 | 17,680 |
| Winter GPD | 1,700 | 2,350 | 3,450 | 4,200 | 4,750 | 6,300 | 5,000 | 6,000 | 7,750 | 9,850 | 11,070 |
| Max Flow | 7 | 8 | 9.5 | 10.5 | 20 | 24 | 38 | 40 | 45 | 51.7 | 53.7 |
| 95 ft./ 30M | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 3A-10 | 3A-10 | 3A-10 | 3A-10 | 3A-10 |
| Summer GPD | 1,700 | 2,450 | 3,800 | 4,700 | 5,350 | 5,650 | 6,500 | 7,000 | 8,250 | 9,000 | 9,500 |
| Winter GPD | 900 | 1,450 | 2,500 | 3,300 | 4,100 | 4,450 | 3,750 | 5,000 | 6,750 | 6,250 | 7,500 |
| Max Flow | 5 | 7 | 9 | 10 | 10 | 10 | 19 | 20 | 21 | 23 | 24 |
| 130 ft./ 40M | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 3A-10 | 3A-10 | 3A-10 | 3A-10 | 3A-10 |
| Summer GPD | 1,100 | 1,600 | 2,800 | 3,800 | 4,650 | 5,100 | 4,960 | 5,940 | 6,890 | 7,500 | 8,250 |
| Winter GPD | 600 | 850 | 1,700 | 2,450 | 3,350 | 3,900 | 2,850 | 3,510 | 4,320 | 5,000 | 5,500 |
| Max Flow | 3 | 5 | 8 | 10 | 10 | 10 | 17.6 | 19 | 21.1 | 22 | 23 |
| 160 ft./ 50M | 6SQF-2 | 6SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 3A-10 | 3A-10 | 3A-10 | 3A-10 | 3A-10 |
| Summer GPD | 900 | 1,300 | 2,200 | 3,100 | 4,100 | 4,600 | 3,670 | 4,570 | 5,570 | 6,630 | 7,180 |
| Winter GPD | 500 | 800 | 1,250 | 1,900 | 2,750 | 3,450 | 1,680 | 2,190 | 3,110 | 3,990 | 4,320 |
| Max Flow | 3 | 4 | 7 | 8 | 9 | 9 | 15.4 | 17.2 | 19.1 | 20.5 | 21.1 |
| 195 ft./60M | | 6SQF-2 | 6SQF-2 | 11SQF-2 | 11SQF-2 | 11SQF-2 | 2A-15 | 2A-15 | 3A-10 | 3A-10 | 3A-10 |
| Summer GPD | | 1,100 | 1,800 | 2,400 | 3,450 | 4,050 | 2,770 | 3,370 | 4,170 | 4,960 | 5,570 |
| Winter GPD | | 600 | 1,100 | 1,400 | 2,150 | 2,800 | 1,420 | 1,770 | 1,980 | 2,850 | 3,140 |
| Max Flow | | 3 | 5 | 7 | 9 | 9 | 10.5 | 11.4 | 16.3 | 18.1 | 19 |
| 225 ft./70M | | | 6SQF-2 | 6SQF-2 | 11SQF-2 | 11SQF-2 | 2A-15 | 2A-15 | 2A-15 | 2A-15 | 3A-10 |
| Summer GPD | | | 1,600 | 2,000 | 2,750 | 3,550 | 2,110 | 2,640 | 3,370 | 3,870 | 4,540 |
| Winter GPD | | | 950 | 1,350 | 1,600 | 2,250 | 730 | 1,100 | 1,610 | 2,190 | 2,190 |
| Max Flow | | | 4 | 5 | 8 | 8 | 9.3 | 10.5 | 11.8 | 12.6 | 15.7 |
| 260 ft./80M | | | 6SQF-2 | 6SQF-2 | 6SQF-2 | 11SQF-2 | 2A-15 | 2A-15 | 2A-15 | 2A-15 | 2A-15 |
| Summer GPD | | | 1,350 | 1,800 | 2,200 | 2,950 | 1,630 | 2,110 | 2,770 | 3,370 | 3,570 |
| Winter GPD | | | 750 | 1,150 | 1,600 | 1,700 | 320 | 730 | 1,210 | 1,740 | 1,870 |
| Max Flow | | | 4 | 4 | 5 | 8 | 8.1 | 9.3 | 10.5 | 11.8 | 12.3 |
| 295 ft./ 90M | | | 6SQF-2 | 6SQF-2 | 6SQF-2 | 6SQF-2 | 1.5A-21 | 2A-15 | 2A-15 | 2A-15 | 2A-15 |
| Summer GPD | | | 1,100 | 1,600 | 1,950 | 2,200 | 1,320 | 1,790 | 2,370 | 2,900 | 3,190 |
| Winter GPD | | | 600 | 950 | 1,400 | 1,700 | 450 | 480 | 1,010 | 1,400 | 1,580 |
| Max Flow | | | 3 | 4 | 5 | 5 | 6 | 8.5 | 9.7 | 11 | 11.6 |
| 325 ft./ 100M | | | 3SQF-2 | 6SQF-2 | 6SQF-2 | 6SQF-2 | 1.5A-21 | 1.5A-21 | 2A-15 | 2A-15 | 2A-15 |
| Summer GPD | | | 1,000 | 1,400 | 1,800 | 2,100 | 1,050 | 1,710 | 1,980 | 2,560 | 2,770 |
| Winter GPD | | | 700 | 800 | 1,250 | 1,550 | 200 | 450 | 600 | 1,050 | 1,260 |
| Max Flow | | | 2 | 4 | 4 | 5 | 5.5 | 6.3 | 8.8 | 9.9 | 10.5 |
| 425 ft./130M | | | | | | | 1A-28 | 1A-28 | 1A-28 | 1A-28 | 1A-28 |
| Summer GPD | | | | | | | 870 | 1,050 | 1,340 | 1,630 | 1,770 |
| Winter GPD | | | | | | | 165 | 420 | 630 | 870 | 970 |
| Max Flow | | | | | | | 3.9 | 4.5 | 5.1 | 5.5 | 5.7 |
| 490 ft./ 150M | | | | | | | | 1A-28 | 1A-28 | 1A-28 | 1A-28 |
| Summer GPD | | | | | | | | 790 | 1,050 | 1,320 | 1,450 |
| Winter GPD | | | | | | | | 165 | 420 | 590 | 710 |
| Max Flow | | | | | | | | 3.9 | 4.5 | 4.9 | 5.1 |
| 655 ft./ 200M | | | | | | | | | | | 1A-28 |
| Summer GPD | | | | | | | | | | | 790 |
| Winter GPD | | | | | | | | | | | 165 |
| Max Flow | | | | | | | | | | | 3.7 |

WINDPOWER & WATER PUMPS