

# GRUNDFOS DATA SHEET

## GF 80

GF 80 solar modules are suitable for the SQFlex water supply system based on renewable energy sources.

GF 80 solar modules consist of 68 multicrystalline silicon solar cells in series with bypass diodes. The solar cells are laminated between sheets of ethylene vinyl acetate (EVA) and 3 mm high-transmissivity low-iron tempered glass.

Each solar module is equipped with plugs and sockets for easy connection of several modules in parallel or series. The solar modules must be mounted on a support structure, tilted at an angle ensuring optimum utilisation of the solar energy.

## Quality

- Manufactured in ISO 9001-certified factories.
- Listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating).
- GF 80 is CE marked.
- Compliant with the requirements of IEC 61215 including:
  - thermal cycling between  $-40^{\circ}\text{F}$  and  $+185^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  and  $+85^{\circ}\text{C}$ ) at 85% relative humidity,
  - simulated impact of one inch hail at 52 mph (terminal velocity),
  - a "damp heat" test, consisting of 1000 hours of exposure to  $185^{\circ}\text{F}$  ( $85^{\circ}\text{C}$ ) and 85% relative humidity,
  - a "hot spot" test determining a module's ability to tolerate localised shadowing (which can cause reverse-biased operation and localised heating),
  - static mechanical load, front and back, of 2400 Pa (0.35 psi/50 psf) corresponding to a windspeed of 81 mph (130 km/h); front load (e.g. snow) of 5400 Pa (0.78 psi/113 psf).

## Warranties

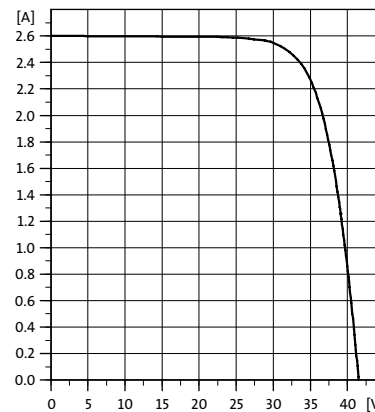
- Power output: 25 years.
- Workmanship: 2 years.



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## Performance

The performance chart below shows the relationship between the current [A] and the voltage [V].

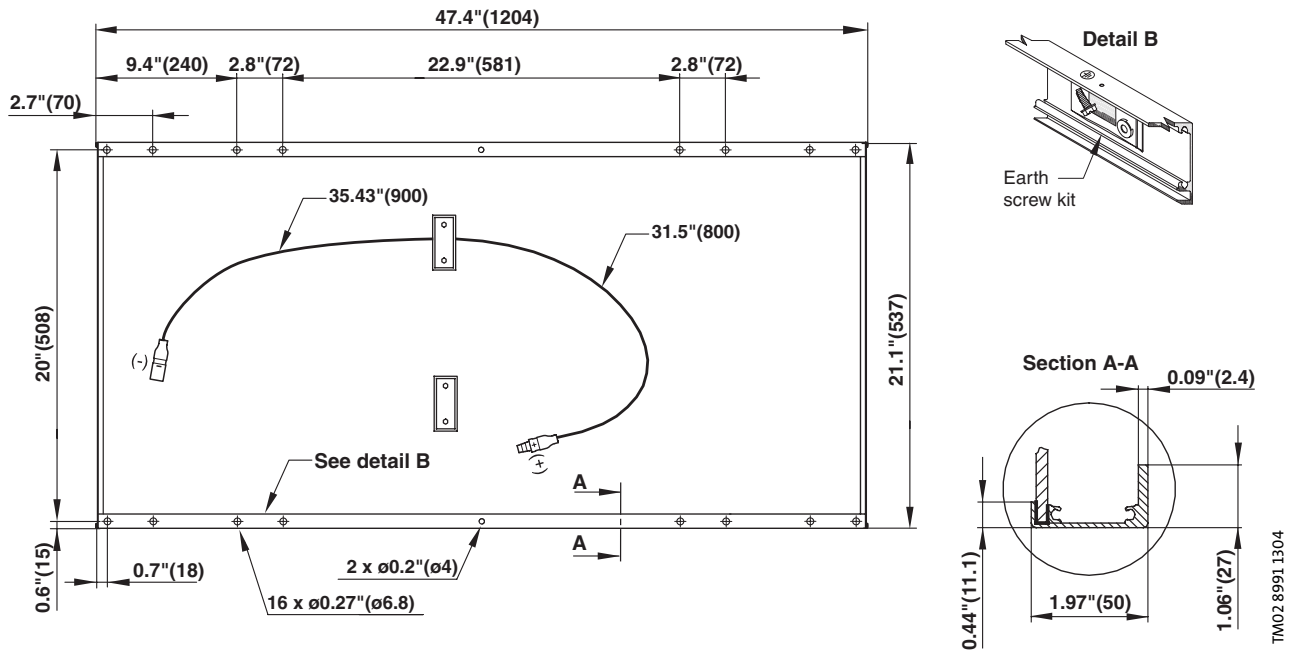


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## Characteristics

	GF 80
Peak power ( $P_{max.}$ )	80 [W]
Voltage ( $V_{mp}$ )	33.3 [V]
Current ( $I_{mp}$ )	2.4 [A]
Open circuit voltage ( $V_{oc}$ )	41.5 [V]
Short circuit current ( $I_{sc}$ )	2.6 [A]
Reference cell temperature ( $T_{cref}$ )	77°F / 25°C
Solar irradiation at reference cell temperature ( $I_{tref}$ )	1000 [W/m <sup>2</sup> ]
Net weight	17.0 [lbs]/7.7 [kg]
Shipping volume	2.12 [ft <sup>3</sup> ]/0.06 [m <sup>3</sup> ]

## Construction and dimensions



## Product range

The table to the right shows the relationship between the possible number of solar modules installed and the number of wire kits, conduits and cable guards required.

The product numbers are shown just below the heading.

The following combinations are available:

### Standard:

- Solar module GF 80
- Array-to-controller wire kit
- Array-to-array wire kit

### Option 1: For protection of array-to-controller wire

- Solar module GF 80
- Array-to-controller wire kit
- Array-to-array wire kit
- Conduit for array-to-controller wire

### Option 2: Full protection of all wires

- Solar module GF 80
- Array-to-controller wire kit
- Conduit for array-to-controller wire
- Cable guard
- Array-to-array wire kit inclusive conduit

Solar module GF 80	Array-to-controller wire kit <sup>1</sup>	Array-to-array wire kit	Conduit for array-to-controller wire <sup>2</sup>	Cable guard	Array-to-array wire kit inclusive conduit <sup>3</sup>
96616391	91126024	91126023	96521496	96537654	96537655
2	1	0	1	2	0
3	1	0	1	3	0
4	1	0	1	4	0
5	1	0	1	5	0
6	1	0	1	6	0
7	1	0	1	7	0
8	1	1	1	8	1
9	1	2	1	9	2
10	1	1	1	10	1
12	1	1	1	12	1
14	1	1	1	14	1
15	1	2	1	15	2
16	1	3	1	16	3
18	1	2	1	18	2
20	1	3	1	20	3

<sup>1</sup> length 32.8 ft/10 m

<sup>2</sup> length 71 in/1800 mm

<sup>3</sup> length 50 in/1275 mm

Support structures are available on request.

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Subject to alterations.