



# RST NightWash™ Systems for Residential Applications

RST NightWash™ is a fully automated solar panel cleaning system designed to increase solar energy production and preserve panel warranties.

## How it works

RST NightWash™ utilizes drip irrigation that operates outside the envelope of the house. The system connects to a hose bibb located outside the house that delivers water to a control box that contains a filter, irrigation controller, and irrigation valves.

From the control box, water is delivered to the solar panels via polyethylene tubing. The tubing connects to proprietary nozzles and both are affixed to the panels with patented stainless steel clips that do not react to the aluminum solar panel frame. The nozzles spray soft, filtered water onto the panels at night when there is virtually no risk of thermal stress.



## Ideal for residential solar arrays

### Optimizes solar production

Cleans panels regularly to prevent losses from dirt, pollution, leaves, and bird excrement.

### Protects panel warranties

Cleans at night with filtered, low pressure water to avoid thermal stress. No brushes, no chemicals, no human error.

### Low-profile design

Nozzle extends about 1 inch above the panel making the system nearly invisible from residential streets.

### Advanced water filtration

State-of-the-art water filtration technology eliminates lime scale buildup.

### Water efficient

High efficiency nozzles mean minimal water is used per cleaning (1-1.5 quarts per panel per cleaning).

### Increases safety

Automation and low-impact design reduces labor hazards and damage to rooftops.

### Improves aesthetics

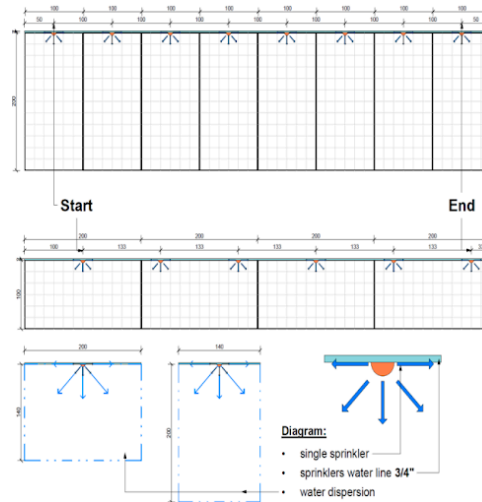
Keeps panels beautifully blue / black, as if they were just installed.

## System Specifications

| Environmental                              |
|--|
| Operating Temperature Range* - 32F to 100F |
| Mechanical                                 |
| 1 valve control box - 24"x16"x8", 13 lbs   |
| 3 valve control box - 24"x16"x8", 15 lbs   |
| 5 valve control box - 28"x20"x8", 20 lbs   |
| Electrical                                 |
| 2 AA batteries                             |
| Hydraulics                                 |
| Maximum Input Water Pressure - 130 psi     |
| Standard Operating Pressure - 40 to 60 psi |
| Maximum Water Temperature - 122 F          |

\*NightWash™ only runs at night.

## Sample Nozzle Layouts



## Water Usage and Flow Rates

| System Name | Max. # of Panels | Max. # of Nozzles | Max system flow rate (gpm)* | Max system run time (min) | Max System Water Usage per clean (gal) |
|-------------|------------------|-------------------|-----------------------------|---------------------------|--|
| 1 valve     | 25               | 25                | 6.25                        | 1                         | 6.25                                   |
| 3 valve     | 75               | 75                | 6.25                        | 3                         | 18.75                                  |
| 5 valve     | 125              | 125               | 6.25                        | 5                         | 31.25                                  |

\* Nozzle flow rate is approx. 1 qt/min at 50 psi. Flow rate will vary with pressure.

## Consideration in Design

1. 50 psi minimum for one story house, 60 psi minimum for two story house
2. 2" gap between panel rows to allow sufficient space for nozzles
3. 5 degree tilt minimum for max efficiency; 2 degree tilt minimum - requires special drainage clips



Your solar panels could be producing **up to 30% more energy.**

For sales information, call 1-866-RST-USA-2 or visit [www.rst-cleantech.com](http://www.rst-cleantech.com)

For product and technical information, visit [www.rst-cleantech.com/our-solution](http://www.rst-cleantech.com/our-solution) or email [info@rst-cleantech.com](mailto:info@rst-cleantech.com)

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