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**Smart Water Application Technology™ (SWAT™) Performance Report**

Testing Agency: Center for Irrigation Technology [www.californiawater.org](http://www.californiawater.org)

Product: Calsense ET2000e-24-GR-RB with RB-1 Tipping Rain Bucket

Product Type: Climatologically Based Controller

Product Description: Calsense ET2000e controller uses historical ET tables or user selected weather device to allow automatic adjustment of zone run times to match current weather conditions and cycle and soak to reduce runoff. Tipping rain bucket used for reaction to on-site rain.

SWAT™ Protocol\*: Turf and Landscape Equipment Climatologically Based Controllers 7<sup>th</sup> Draft Testing Protocol (November 2006)

The concept of climatologically controlling irrigation systems has an extensive history of scientific study and documentation. The objective of this protocol is to evaluate how well current commercial technology has integrated the scientific data into a practical system that meets the agronomic needs of turf and landscape plants. The evaluation is accomplished by creating a virtual landscape subjected to a representative climate to evaluate the ability of individual controllers to adequately and efficiently irrigate that landscape. After initial programming and calibration the controller is expected to perform without further intervention during the test period. Performance results indicate to what degree the controller maintained root zone moistures within an acceptable range. If moisture levels are maintained without deficit, it can be assumed the crop growth and quality will be adequate. If moisture levels are maintained without excess it can be assumed that scheduling is efficient.

\*All SWAT™ Protocol may be viewed at [www.irrigation.org](http://www.irrigation.org)

**Calsense ET2000e-24-GR-RB Controller SWAT™ Performance Summary**

Irrigation Adequacy	Irrigation Excess
<b>Minimum of 6 test zones: 100%</b> <b>Maximum of 6 test zones: 100%</b> <b>Mean/Average of 6 test zones: 100%</b> <b>Irrigation Adequacy</b> represents how well irrigation met the needs of the plant material. This reflects the percentage of required water for turf or plant material supplied by rainfall and controller-scheduled irrigations. Research suggests that if this value is between 80% and 100%, the acceptable quality of vegetation will be maintained.	<b>Minimum of 6 test zones: 0%</b> <b>Maximum of 6 test zones: 0%</b> <b>Mean/Average of 6 test zones: 0%</b> <b>Irrigation Excess</b> represents how much irrigation water was applied beyond the needs of the plant material. This reflects the percentage of water applied in excess of 100% of required water according to data from CIMIS station #80 Fresno State, Fresno County during the test period.

**Product Detail Supplied by Manufacturer**

Calsense ET2000e-24-GR-RB [www.calsense.com](http://www.calsense.com)

Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
Replaces existing controller or is installed on a new system.	SWAT tested with wireless Internet link to CIMIS weather station #80.	Wireless network (optional hardwire, phone, radio, Ethernet and WiFi)	Purchase price based on number of zones and other options.	<input type="checkbox"/> Optional RB-1 Tipping Rain Bucket <input type="checkbox"/> Optional on-site ET gage <input type="checkbox"/> Optional wind gage	Additional charges dependent upon selected communication option.

**Additional Features**

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
Available in 6, 8, 12, 16, 24, 32, 40, 48 zone models	Capable of restricting the time of day for watering.	Capable of restricting watering days by selection or interval.	<input type="checkbox"/> Flow monitoring and management <input type="checkbox"/> Optional integrated radio remote <input type="checkbox"/> Cycle and soak <input type="checkbox"/> Shared weather data using personal computer and Command CENTER software	Calsense controllers feature a historical ET database that is used in the event communication is interrupted. It may also be used as a standard irrigation controller including cycle and soak features.