

# Universal Studios Sentosa Ready to Entertain and Conserve

**PLUS:** Two bold  
new innovations  
in subsurface drip  
irrigation

**Hunter**<sup>®</sup>

# Hunter Goes Big at Universal Studios Singapore

Sentosa Island, Singapore may consist of only five square kilometers, but over the last four decades, it has become hugely famous around the world. Located a mere kilometer away from Singapore's main island, the palm tree studded Sentosa has been groomed to become one of the world's premier vacation destinations. With nearly a billion American dollars of private and government money invested in its infrastructure, Sentosa's destiny of greatness is now clearly becoming a reality.

Commonly referred to as Asia's favourite playground, Sentosa is home to a multitude of attractions that keep tourists arriving by the boatload. With award-winning spas, lush rainforests, beautiful beaches, five-star accommodations, world-renowned golf courses, a deep-water yachting marina and luxurious residences, it's safe to say that Sentosa provides every opportunity for fun, adventure, and relaxation. These many attractions, along with its inviting climate, make Sentosa a suitable competitor with any other vacation destination in the world.

One of the latest installments on Sentosa is its new Universal Studios theme park. Universal Studios is a series of amusement parks around the world that offer rides, exhibits, events, and other attractions themed around both contemporary and historical entertainment-related subjects. In nearly two years of construction, and a great deal of anticipation both nationally in Singapore and

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internationally, the park opened in March 2010. The facility occupies 20 hectares and 24 total attractions, which utilize both manmade and natural environments to create an unforgettable experience for visitors.

During construction, one of the largest considerations the managing stakeholders needed to keep in mind was the project's environmental impact. The core of Sentosa's drawing power is the beauty and tranquility of its natural environment, 70% of which consists of oceanfront rain forests. Preserving the beauty and serenity of the island was a primary priority for developers.

When the time came to choose a supplier for the park's vast irrigation system, environmental impact was also a key contributor in the decision. They also needed a

system that would be able to withstand heavy public traffic and perform accurate, efficient, and reliable resource management functions. As Hunter Industries is well known for innovating and producing products specifically for these applications, developers quickly called their region's Sales Manager to provide their prized park with the system they needed.

Anytime an irrigation system is installed over a 20-hectare area, it is going to be a complicated affair. All components must be specified very carefully with a deep understanding of system flow rates and water allocation. To keep costs down and maximize system simplicity and efficiency, developers utilized Hunter's commercial-grade decoder control solution, the ACC 99D controller and ICD decoders. This allowed the system to use as little wire and installation time as possible while still providing the ultimate in commercial control and precision watering solutions with outstanding resource management capabilities. To keep water reliably flowing only where it needs to go, PGV valves were installed with the utmost confidence.

Whereas 5 or 10 years ago specifiers would have selected the standard spray type of sprinkler for their close-in irrigation needs, with Hunter, more precision-focused watering methods are available. So, in order to use as little water as possible, while still maintaining optimal plant growth, specifiers for this project chose to go with

*Story continued on insert >>*



# X-Core and Solar Sync Make “Smart Control” Available to All



While “smart control” has been a common thread in high-end commercial applications for many years, not many professionals ever imagined it would be available in residences. However, when combined with the Solar Sync ET sensor, Hunter’s X-Core residential controller becomes perhaps the smartest and most efficient of its kind.

The X-Core is built to serve as an easy-to-use control option that doesn’t sacrifice efficiency or versatility. It features three independent programs with four start times each to accommodate a wide range of watering requirements. With such an array of programs and start times available, the X-Core allows the homeowner to maximize watering flexibility by selecting days of the week, odd/even, or interval watering. In the event of an electrical loss or short, the X-Core also includes a replaceable lithium battery that backs up timekeeping in the event of a power outage.

What takes the X-Core up to a higher level of efficient control is that it is compatible with Hunter’s Solar Sync ET weather sensor. Hunter’s Solar Sync is a smart control weather sensor that adjusts irrigation schedules based on daily weather conditions. Solar Sync calculates ET by measuring the sun’s intensity and surrounding air temperature, and implements a new seasonal adjustment

value that modifies the program run times. Through these continual adjustments, Solar Sync ensures landscapes receive efficient irrigation no matter what the forecast looks like.

Solar Sync hosts a Rain-Clík™ sensor with a Quick Response™ feature that shuts the irrigation system off the instant rainfall begins. This quick response ensures your sprinklers never run in the rain. In weather situations where rainfall is minimal, Solar Sync will dry out quickly and allow regular irrigation to resume. For events involving heavy rainfall, the Solar Sync will absorb more water, and the sensor will keep the controller off for a longer period of time.

Most residential irrigation controller watering programs are rarely adjusted for seasonal factors, and may only get changed once or twice a year. With Solar Sync adjusting run times every day based on the weather, the result

becomes optimal water savings all year long. Best of all, you still retain control over the controller program start and station run times. Depending on your prior irrigation scheduling practices, Solar Sync can provide over 30% in water savings.

In order to connect the Solar Sync to an X-Core, all that is needed is the sensor itself. X-Core was manufactured with the “brains” of the sensor built into the controller. When connected to a sensor (either wireless or hardwired) the Solar Sync responds instantly.

With so many great features, like the wireless option, on-site data with no fees, Quick Response™ rain shut down, daily run time adjustments, diverse controller compatibility, and a 5-year warranty, it’s easy to see how this amazing sensor makes the X-Core a complete revolution in “smart” residential irrigation control.



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## Tech Tip:

## Proper Installation Leads to Greater Conservation

The Solar Sync is a revolutionary ET sensor created to offer highly efficient weather-based smart control for any site. It works with most Hunter controllers\*, so it applies to all levels of residential and commercial sites. Installing the Solar Sync in your Hunter controller is easy, but it must be done correctly in order to ensure maximum water savings occurs.

One of the most crucial steps in the installation process is ensuring that the Solar Sync is properly placed in a site’s outdoor environment. Using the screws provided in the Solar Sync package, simply mount the Solar Sync sensor on any surface where it will be exposed to unobstructed sun and rainfall, but not in the path of sprinkler spray. This allows the sensor to gather complete and accurate weather data. The sensor needs to be oriented upright and the swivel bracket can be moved for mounting on angled surfaces.

The Sensor Gutter Mount can also be used as an optional mounting method. The Sensor Gutter Mount allows the Sensor to be mounted directly to the edge of a gutter. The Sensor Gutter Mount can be installed on the Sensor by removing the extension arm supplied with your Sensor and reinstalling SGM in its place.

Once installed, briefly monitor the system for proper irrigation, as some systems can have weak spots that may need to be adjusted in order to allow the Solar Sync to work properly. With the Solar Sync properly placed on a site, the water savings will continue on for many years to come.

► For complete installation instructions, visit the Solar Sync owner’s manual page [www.hunterindustries.com/products/Sensors/solarsync.html](http://www.hunterindustries.com/products/Sensors/solarsync.html). There, you’ll find a manual in your language with highly detailed instructions and illustrations.

*\*Solar Sync is compatible with Hunter’s X-Core, PCC, Pro-C, ICC, I-Core and ACC controllers.*

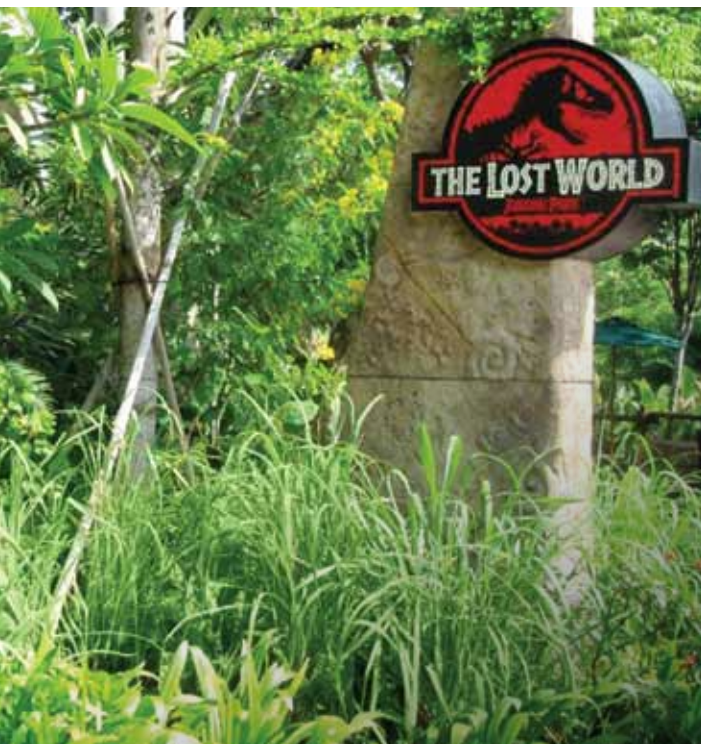
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## Hunter Goes Big at Universal Studios Singapore *(cont'd)*

Hunter's MP Rotators. The MP Rotator is a revolutionary watering device that utilizes multiple streams of water delivery, so the water reaches the soil at the rate it is absorbed. Highly popular in both commercial and residential applications, MP Rotators have saved billions of litres of water, and will undoubtedly do the same at Universal Studios Singapore.

The other major need that the park required was finding a dripline solution that provided ample irrigation, but did so as evenly and reliably as possible. After learning about how Hunter had innovated their pressure-compensating Professional Landscape Dripline by inserting check-valves into line emitters, the answer was plain as day. Check valves prevent debris from sucking back into lines and drainage at low-lying points. Whether it's a flowerbed or other creative landscape configurations, the PLD's targeted technology is the perfect application.

With Hunter products properly specified throughout the grounds, Universal Studios Singapore and Sentosa Island are both ensured a long-term irrigation solution that will stand the test of time and deliver only what the landscape requires to thrive. With so much surrounding natural beauty and so many amazing resorts and attractions to see, Sentosa is assured to be one of the few destinations that will be on the wish list of every traveler around the world.



## Do Hunter's I-Series Rotors Lead a Double Life of Conservation?

One big misconception about large-area sprinklers such as Hunter's I-Series rotors, is that the fields they irrigate are merely created for sports, vanity, or public park applications with more attention paid to how far and fast they can fire water, rather than how efficiently they work. In reality, those lush, green turf areas are more than just important recreational sites. They are air purifiers, contaminant filters, oxygen producers, air conditioners, and carbon sinks. They also provide us with pleasing green space, and help to offset the effects of hardscapes and buildings in our urban environment.

Yes, water is needed to keep these surfaces in top shape, but the water used is for a good cause. Hunter spends tremendous amounts of engineering, testing, and development time and money ensuring the I-Series rotors are produced so they use water as efficiently as possible. Installing irrigation systems that operate at the appropriate pressure also helps ensure that the systems installed deliver optimum efficiency.

Large rotors do run for much longer times than typical spray sprinklers, and they need to. Small area spray sprinklers apply water at a high application rate, generally around 38 mm per hour. Some are much higher than that as well, but just imagine a rainstorm that measured 38 mm in one hour—that's a lot of rain, at a rapid pace. Spray sprinklers by their nature

apply a lot of water quickly, and only need to run for a short time to get the job done. Large rotors by comparison apply water at very slow rates, normally in the range of 13 mm per hour, which is one-third the rate of sprays. They do need to run three times longer than spray sprinklers to apply the same amount of water to an area, but they do it with greater efficiency.

The lower application rate of rotors ensures more water is absorbed by the soil. Soils in general cannot accept water at high rates, so some of the water applied by spray sprinklers may not reach its intended destination: the root zone.

Of course there are areas of the landscape where spray sprinklers are the best irrigation method. Under the pressure of legislative measures, and out of a desire to contribute to the conservation of our precious natural resources, irrigation manufacturers continue to work on developing more efficient small area heads and nozzles. But for large turf areas such as sports fields, Hunter's I-Series rotors remain the component of choice for turf managers and installers around the world.

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# Enhanced Subsurface Dripline

Hunter introduces two new innovative products for subsurface drip irrigation with Eco-Mat and PLD-ESD

Hunter's new Eco-Mat and PLD-ESD are tools that allow for the irrigation of turf and small plant areas to occur completely under the surface. When applying water under the surface, moisture is applied directly to the plant's roots. This solves a number of overhead watering challenges such as sporadic distribution, the capillary effect of soil, and root intrusion of drip emitters. Eco-Mat and PLD-ESD make subsurface drip a viable solution for sites where traditional overhead irrigation is not allowed or is simply not the best choice.

The Eco-Mat consists of fleece-wrapped PLD tubing (PLD-ESD) that is woven between two layers of water holding fleece material. The mat is placed under the plant material to be irrigated where it becomes fully soaked and then provides a constant water supply directly to the plant's roots. PLD-ESD is Hunter's PLD tubing wrapped in water-conducting fleece. Since the tubing is wrapped with fleece and there is water readily available under the plant material, the plant's roots do not need to seek out the water source (emitter), which could potentially clog.

Where overhead irrigation is challenging or impractical, and in locations where the use of overhead irrigation is restricted or prohibited, Eco-Mat is the perfect solution. Since there's never water or sprinklers on the surface, high-traffic turf areas in places like amusement parks, city parks, and commercial complexes can be used all day every day with no recovery time or worries of vandalism. Since the Eco-Mat can be customized to fit any area, even the oddest shaped designs and green roofs can grow healthy plants and turf. PLD-ESD is also well suited for smaller areas or where complete coverage of the plant material is not necessary (i.e. closely spaced plant material).

Both products will become available for purchase in August, 2011 and are expected to make a major impact on all kinds of specification plans around the world.



## Regulating Water Pressure Is Crucial Now More Than Ever

Creating an efficient sprinkler system includes several key elements. One very important element is ensuring that water pressure is properly regulated throughout an irrigation system. With proper regulation, an installer is ensuring that water is efficiently applied. With the correct amount of water, optimal vegetation health is achieved, and no water is being wasted in the process. With water regulations becoming more common and stringent around the world, optimizing water pressure in an irrigation system is more important now more than ever.

If pressure is too high, water efficiency can drastically decrease, as sprinklers will mist water into the air that either evaporates or drifts away from the area needing irrigation. High pressure can also take a toll on the components of a system, and shorten the life of the products in use. If pressure is low, water distribution can be compromised and leave landscaped areas dry and unhealthy.

In order to properly gauge a system's water pressure, it is important to have a good understanding of system hydraulics, backflow preventers, valves, pipes, and components.

Typical pressure requirements for commonly used Hunter products are:

| Product Type          | Pressure Requirement | Accu-Sync Model Color |
|-----------------------|----------------------|-----------------------|
| All Application Types | 1.5–7 Bar            | Black                 |
| Drip/Micro            | 1.5 Bar              | Yellow                |
| Spray Heads           | 2 Bar                | Red                   |
| MP Rotator            | 3 Bar                | Grey                  |
| PGP and I-20          | 3.5 Bar              | Light Blue            |
| I-25, I-35, and I-40  | 5 Bar                | Teal                  |

In order to ensure that every system can be easily optimized for regulated water pressure, Hunter has recently developed and released the Accu-Sync™ line of automatic regulators. Accu-Sync brings fixed or adjustable pressure regulation to any Hunter valve. The adjustable model enables the zone pressure to be customized from 1.5 to 7 Bar, while fixed models allow for easy installation at a set pressure. No matter which you choose, all zones stay in tune with Accu-Sync.



Adjustable 1.5–7 Bar

Fixed 1.5 Bar

Fixed 2 Bar

Fixed 3 Bar

Fixed 3.5 Bar

Fixed 5 Bar

## Hunter Training Site

Knowledge is power. And in irrigation, training.hunterindustries.com puts all the information you need to succeed at your fingertips. This free online education system offers in-depth lessons on Hunter products and installation procedures, so you can get better at what you do. Plus, you and your employees or coworkers can learn at your own pace when it's convenient for you. It's free, easy, and unquestionably beneficial for anyone in the irrigation business.

### Newly posted courses include:

- Solar Sync ET Sensor
- I-Core DUAL Two-Wire System
- X-Core Fundamentals
- ACC Fundamentals



▶ To register for courses that can best elevate your business, simply log on to [training.hunterindustries.com](http://training.hunterindustries.com) and click the 'Sign Me Up' button.

## New Remote Control Cabinets are Now Available from Hunter

A new Hunter Industries system accessory has hit the market, and yet again, it's geared to make the irrigation professional's job as efficient as possible. Durable constructed Locking Cabinets are now available to house Hunter Remote Control Receivers.

These aesthetically pleasing outdoor cabinets allow Hunter receivers to be permanently mounted next to controllers in a secure lockable box. Suitable for the ROAM and ICR receivers, this cabinet offers reliable security for your valuable hardware.

The PN for the Remote Receiver Cabinet is 213000 and they are in stock now. The list price is \$40 US.

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Our Facebook page is filled with all the latest updates and company info you need to know as an irrigation professional. It's also the fastest way to stay informed on all the product information and updates that can help your business immediately improve. It's a great way to connect with your peers around the world, and start a conversation or two about our great profession.

▶ For the better industry insights, and immediate updates no matter where you are in the world, get online and connect with Hunter on Facebook today!