

The pros & cons of cartridge filters

Praised for their water saving capabilities, SPLASH! asked a filter manufacturer and a cartridge maker a few questions about cartridge filters.

Cartridge filters have become a popular alternative to sand, glass media and DE filters in swimming pools. One of the reasons is because of their water saving capabilities. Basically, they don't need to be backwashed – or rather, they can't be backwashed. As backwashing is one of the main causes of water loss in a swimming pool, pools with cartridge filters tend to be more water-efficient.

But what about the other aspects of cartridge filters? Bryan Goh is Group Marketing Manager at Waterco, manufacturer of a complete range of pool equipment, including sand and cartridge filters. He says one advantage of cartridge filters is that they are generally more compact and occupy less space than a sand filter.

"This is changing though, and cartridge filters are increasing in size to reduce their cleaning frequency," he says.

"Also, no backwashing is needed, therefore a backwash line is not required. This makes them the only option for installations where a backwash line is not possible.

Goh also says that cartridge filters have the potential to operate at lower flow rates, saving energy and potentially increasing efficiency.

"As there is no multiport valve connected to the cartridge filter, the filter's pressure drop is lower than a sand or media filter. This means a multispeed or variable speed pump can be operated more effectively at a lower rpm or lower flow rates."

One of the biggest energy savings also has to do with backwashing – or the lack of it. As cartridge filters don't have a backwash flow rate requirement, smaller sized pumps can be used with them. They can operate on a lower flow rate, saving energy and running costs.

But cartridge filters also have their downside. As they can't be backwashed, the cartridge must be removed and hosed or washed clean.

"The filter cartridge is never one hundred per cent cleaned," says Goh. "And progressively its cleaning frequency



Combined Opal and MultiCyclone skid

increases over time. The biggest downside is the time taken to clean a filter cartridge.

"Also, the lifetime of cartridges depends entirely upon water quality and bather-load. Generally, though, the cartridge life is between 18 and 24 months."

Waterco have developed a cartridge filter combined with a MultiCyclone pre-filter to reduce the time between cartridge cleans. Goh says it can mean you only need to clean the cartridge once per season.

The rise of the cartridge

Peter Hogg is Managing Director of New Zealand cartridge manufacturer and exporter Magnum Filters who supplies most of the pool and spa manufacturers and distributors throughout Australia and New Zealand.

He says that Australia embraced cartridge filtration on the back of the water crisis and prolonged drought.

"Some companies in Australia realised early on that with the severe water shortages, cartridges in swimming pools was one way of restricting water usage, given the fact they did not need backwashing," he says.

"AstralPool-Hurlcon was one of the first to realise the importance of bigger cartridge filters, and poured money into development and tooling. I would think this is paying off for them now. Their large cluster cartridges like the Viron range have up to 600 square foot of filtering area. This has resulted in dramatic savings in water. And due to the sheer volume of filtration area, they operate under low flow rates which ultimately results in better filtration. The cartridges, in normal conditions, can go a full season before they are cleaned.

"They also took on the new Microban antimicrobial filtering material which inhibits bacteria and mould. I am sure this has been an effective marketing tool and a point of difference."

Despite the general trend to greater use of cartridge filters, Hogg says that Original Equipment Manufacturer (OEM) cartridge sales for swimming pools remained flat in the 2010/2011 season.

"I think this was due in part to the economic conditions and horrific weather in Australia before and just after Christmas," he says. "While it picked up in February and March, you can never catch up after such a terrible start."

Spa filters

"Also, in the spa pool side there has been a definite slowdown – which I suppose can also be in part attributed to the economic conditions in New Zealand and Australia, and also the importation of spas from overseas, especially China," says Hogg.

He says that some of the Chinese manufacturers use a solid block of polypropylene as a filter, advertising it as a one-micron cartridge that can filter 50 times better than conventional pleated cartridges.

"I am not sure where they get that info from," he says. "But I do know that one-



Cartridge in the pool housing

Cleaning the cartridge

Some of the Magnum range of cartridges

Cartridge advice

Peter Hogg offers the following advice and ideas on cartridge filters.

Advantages of cartridge filters:

- Save on water – no backwashing can result in saving thousands of litres per year.
- Low maintenance – most only need cleaning once or twice per season.
- Easy to install. There is less plumbing required because there is no backwash piping required.
- They generally take up less room.
- Cartridge filters are generally regarded as filtering down to 30 microns. However, over a short period of time they can be filtering down to 5-10 micron.

Reemay

Most reputable cartridges are manufactured with a material called Reemay. This is made of spun-bonded polyester and it is manufactured in such a way that particles get trapped on the surface of the material. This is called a "dirtcake". As this dirtcake builds up on the surface, it actually improves the filtration without too much pressure increase.

A problem occurs when inferior filtration media is used and the dirt is trapped into the pores of the material. It cannot escape, causing complete blockage. This is called "blinding".

This is prevalent in cheap imports especially in the filtration units for the small aboveground pools and some imported spa pools from China.

OEM?

Hogg says you can use alternatives to Original Equipment Manufacturer (OEM) cartridges, as long as they are manufactured to the OEM requirements. In countries like the USA, Australia and NZ, the same people manufacture replacements and the OEMs.

However, he warns against some imports – especially some of those marketed on eBay – saying the sizing is incorrect which results in bypass, and the filtering media may be inferior to Reemay. Additionally, some of these cartridges may have inferior urethane endcaps which are prone to cracking.

What to look for in a cartridge

- Is it manufactured with Reemay – the universally accepted benchmark material for pool filtration?
- Look for sharp pleats. Reemay is extremely hard to pleat and some companies have not perfected it and the pleats appear rounded. This decreases the gap between pleats. If this is the case the dirt is unable to get down the full depth of the

micron nominal takes out *Guardia* cyst, *Cryptosporidium*, yeast cells and some bacteria. However, it's restrictive and will cause premature blockage."

Hogg says that his company has made pleated cartridges to retrofit the polypropylene filters, and they are selling very well, especially in Australia and Europe.

He also says there is an opportunity for Australian spa retailers to benefit from up-selling – an approach that has been lacking in current sales strategies.

"A lot of retailers when selling a spa pool don't like to talk about the filter too much, especially the need to replace it regularly, because they see that as a negative.

"However, the Just Spas group has made a big push into replacement cartridges and this has paid off enormously. The cartridges are presented and packaged attractively on

a stand, and the retailers generally have done well selling the story that the cartridge is a very important piece of spa equipment.

"One thing I have also noticed in Australia is the lack of quality online shops for pool and spa equipment."

Hogg says that he has spent a lot of time in Europe over the past two years and that buying online in general is growing quickly.

"There are a few very good operators in Australia selling pool equipment online. In my opinion these are the guys who will be in a good position for the future. For some reason, younger people especially don't have the time to shop for certain things, so they get on the computer at work or at night time and buy online.

"This is not going to go away and in ten years time there will be a retail revolution in Australia and things will be vastly different than they are now."



“Australia embraced cartridge filtration on the back of the water crisis and prolonged drought.”

pleat and only a small amount of filtration area is used. This is called “bridging”. Cartridges with rounded pleats do not last as long as ones with sharp pleats.

- Make sure the cartridge fits the housing or in case of spas, the skimmer box. Incorrect sizing can result in a large amount of water escaping the filtration process.

Cleaning a cartridge

- Remove the cartridge from the filter housing or skimmer box
- Wash the cartridge using a garden hose working from the top down
- Soak the cartridge for at least one hour (overnight is preferable) in a cartridge cleaning solution. This is important especially in spa pools.
- Rinse the cartridge once more with a hose to remove any remaining oils and cleaning solution.
- Pool owners should be persuaded to carry a spare set of cartridges so they can be rotated.

How often should a cartridge be cleaned?

It depends on the amount of usage: basically, the more area of filtration the lower requirement for cleaning. With low flow rates and in normal conditions, a large cluster cartridge would probably only need cleaning once per year. A stand-alone 100-sq-ft to 150-sq-ft cartridge in a swimming pool may need to be cleaned two to three times per year.

Cartridges in spa pools would need to be cleaned more frequently, as the hot water, body fats and sunscreen released into the water will block the cartridge much sooner than in a swimming pool. They should be cleaned every one to two months, and the owner should have a spare set to rotate during the soaking and cleaning process.

How long does a cartridge normally last?

Once again it depends on the conditions. Large 300-sq-ft to 600-sq-ft cartridges might last as long as five years because of the large surface area and low flow rates. As a general rule, a stand-alone cartridge should be replaced every two years.


Even though they may look okay after good cleaning procedures, in time the very small particles of dirt lodge themselves into the pores of the Reemay and block the cartridge – and no amount of cleaning will unblock it.

In a spa pool, the cartridge is subjected to harsher conditions and with continual use they can block within a year or less.

New developments

One new development is the advent of antimicrobial filtering material. Reemay have bought out a product using Microban silver technology that inhibits the growth of bacteria. When microbes come into contact with the filter surface, Microban technology penetrates the cell wall of the micro-organisms and disrupts the cell functions, disabling their ability to grow and reproduce. (This doesn't alleviate the need for proper sanitisation.)

This product has taken off in Europe and the USA and is growing in popularity here. Reemay with Microban cartridges have a rich blue colour. It has the same filtering qualities as normal Reemay, and the anti microbial technology lasts the life of the cartridge.

Sturdier injection moulded ABS centre cores are a fairly new innovation, providing more even flow through the cartridge. 



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Freeform or Natural Domestic Composite Fibreglass Pool: Under \$35,000: Narellan Pools Queensland

Domestic Concrete Pool Traditional or Geometric: Under \$35,000: Majestic Pools & Landscapes; Over \$35,001 up to \$75,000: Evans & Evans Pools; Over \$75,001 up to \$130,000: Majestic Pools & Landscapes; Over \$130,001: L & V Project Pools

Domestic Composite Fibreglass Pool Traditional or Geometric: Under \$35,000: Narellan Pools Queensland; Over \$35,001 up to \$75,000: Pool World

Domestic Indoor Pool (inside a permanent dwelling or enclosure): Concrete Construction: Rothwell Pools

Domestic Outdoor & Screened Pool: Composite Fibreglass: Freedom Pools & Spas

Domestic Lap Pool: Concrete Construction: L & V Project Pools; Composite Fibreglass: Pool World; Lap Style Pool – any other size: Norfolk Pools

Domestic Courtyard Plunge Pool: Concrete Construction: Majestic Pools & Landscapes

Domestic Aboveground Modular Pool: Installed Above the Ground: Classic Pools; Installed In the Ground: Pool World

Domestic Spa Pool: Spa Pool Combo – Combined with a Swimming Pool: L & V Project Pools; Spa Pool – Separate from a Swimming Pool: L & V Project Pools

Pool Water Feature: Connected to a Swimming Pool: Majestic Pools & Landscapes; Water Feature – Not Used for Swimming: Majestic Pools & Landscapes

Domestic Pool Lighting Feature: Norfolk Pools:

Domestic Pool Renovation Under \$35,000: Queensland Family Pools; Over \$35,001 up to \$75,000: Majestic Pools & Landscapes; Over \$75,001 up to \$130,000: Majestic Pools & Landscapes

Concrete Commercial Pool: Under \$250,000: Pool Fab Swimming Pools & Aquatic Landscapes; Over \$250,001 up to \$500,000: L & V Project Pools; Over \$500,001 up to \$1,000,000: L & V Project Pools; Over \$1,000,001: L & V Project Pools

Commercial Spa & Pool Combo: Up to \$250,000: L & V Project Pools; Over \$500,001 up to \$1,000,000: L & V Project Pools

Commercial Spa Pool: Over \$1,000,001: L & V Project Pools

Commercial Lap Pool: Intergraded Construction: L & V Project Pools; Stand Alone Construction: L & V Project Pools

Commercial Pool Lighting Feature: L & V Project Pools

Commercial Water Feature: Not Used for Swimming Up to \$250,000: L & V Project Pools Over \$250,001 up to \$500,000: L & V Project Pools; Over \$1,000,001: Surfside Pools Commercial

Portables: Spa: Freedom Pools & Spas; Hot Tubs: Majestic Pools & Landscapes

Display Pools: Builders Display Swimming Pool: Pool World; Other Display Pool: Mad Pool Interiors

Creative: Domestic: Placid Pools Leisure & Spas; Commercial: Surfside Pools Commercial

Technical/Engineering: Domestic: L & V Project Pools; Commercial: Dean Thomas Pools; Pool Accessories: L & V Project Pools

Self-Sufficient Swimming Pool: Concrete Construction: Majestic Pools & Landscapes

Pool Shop: Swimworld Wynnum/Manly

Salesperson of the Year: Chris Nicholls

Construction Supervisor of the Year: Garth Cleaver

Pool Technician of the Year: Carol Smith

Industry Trade Representative: Roger Farbrother

Pool Builder of the Year: Concrete: L & V Project Pools; Composite: Compass Pool Centre – Northside

President's Award: L & V Project Pools 🏆

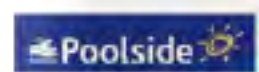
Awards Night Gala Dinner

The biggest night of the year for the pool & spa industry in South Australia. and SPASA SA was proud to play host to the Awards Night Gala Dinner which was held on the 29th of July 2011.

SPASA SA would like to acknowledge the support that these companies have provided to SPASA to make the industry and the association and particular to help make the night a huge success.



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South Australian Awards

All the Gold winners from the SPASA SA awards night

Elite Pool Constructions, winner Residential Concrete Pools Up to \$50,000

Residential Concrete Pools:

Up to \$50,000: Elite Pool Constructions; \$50,000 - \$100,000: Urban Oasis; Over \$100,000: Marlin Pools

Residential Concrete Pools

- Spas/Combined: DayDream Pool & Spas

Residential Fibreglass Pools:

Up to \$40,000: Australian Outdoor Living; Over \$40,000: Australian Outdoor Living

Commercial Fibreglass Pools:

Freeform

Residential Vinyl Lined

In-ground Pools: Pleasure Pools
Above Ground: Classic Pools
/Above Ground Pool Sales

Residential Enclosed /Indoor Pools:

Natural Pools

Portable Spas & Hot Tubs:

The Pool & Spa Shop

Concrete Spas Attached to Pool:

DayDream Pool & Spas

Display Pools: Urban Oasis

Commercial Pools over \$250,000: South Pacific

Renovations: Under \$20,000:

Freeform; Over \$20,000: DayDream Pool & Spas

Innovative Category:

Ecoswater

Innovation in Pool

Equipment: Ecoswater

Water Feature:

DayDream Pool & Spas

Lap Pools: Bonasera

Sustainable Pools: Ecoswater

Best Retail Pool Shop:

Poolside Lifestyles

Best Retail Spa Shop:

Splashdown

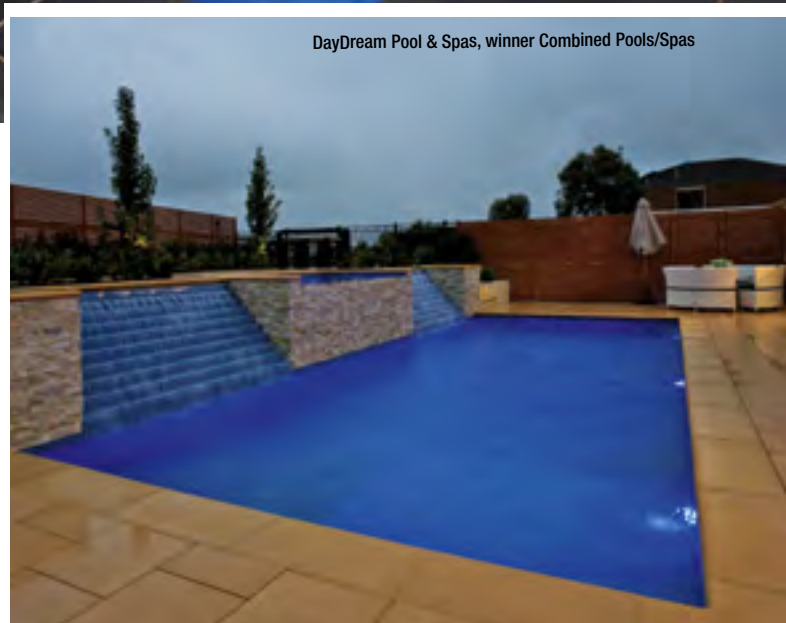
Service Technician Award/ Best Customer Service

Award: Poolside Lifestyles (Sherralea Bale Tech)

Best Overall Concept:

Urban Oasis

DayDream Pool & Spas, winner Combined Pools/Spas



The Pool and Spa Shop



Quality Dolphin Pools, winner of Concrete Pools Traditional & Geometric Over \$100,000

Western Australian Awards

All the Gold winners from SPASA WA Award Night

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Concrete Pools Freeform & Natural: Under \$50,000: Sapphire Pools

Fibreglass Pools: Under \$30,000: Barrier Reef Pools; Over \$30,000: Barrier Reef Pools; Secondhand Pools: Palm City Pools

Residential Vinyl Lined Pools: In-Ground: Add A Splash; Above Ground: Classic Pools

Residential Enclosed/Indoor Pools: Quality Dolphin Pools

Residential Plunge/Courtyard Pools: Future Pools

Residential Pool & Spa Combo: Imperial Pools

Spas: Concrete: Reflections Pools; Pre-Engineered/Portable: Freedom Pools

Display Pools/Centres: Barrier Reef Pools

Residential Lap Pools: Concrete: Future Pools; Fibreglass: Barrier Reef Pools

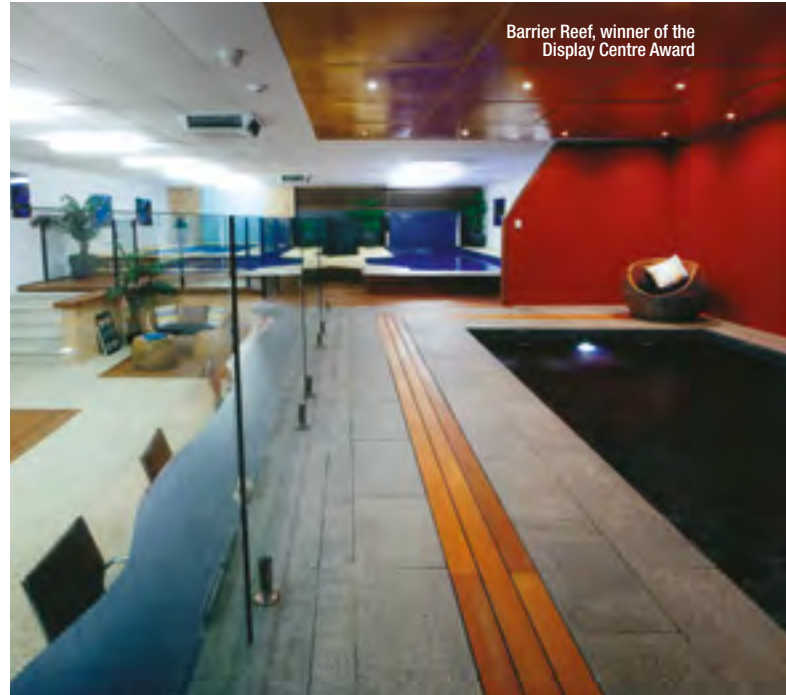
Commercial Pools: Under \$100,000: Imperial Pools; \$100,000 - \$250,000: AVP Commercial Pools; Over \$250,000: AVP Commercial Pools

Renovations: Domestic Pools: Reflections Pools; Commercial Pools: AVP Commercial Pools

Innovative: Reflections Pools

New Product – Sustainability: AstralPool

Water Feature: Reflections Pools



Barrier Reef, winner of the Display Centre Award

Pool Shop: The Pool Shop Kalamunda

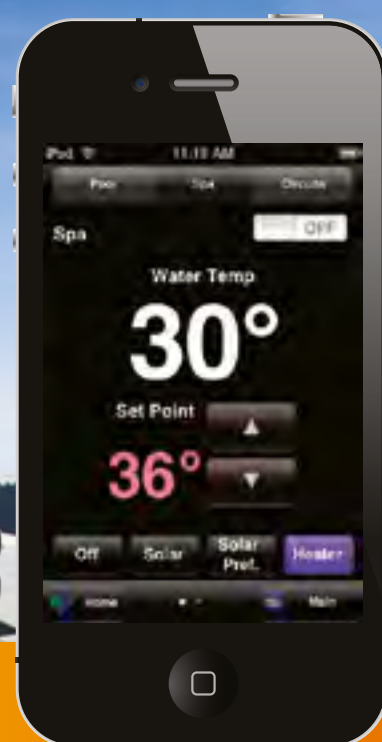
WA Technician of the Year: Warren Williams – Poolwerx Spearwood

WA Supplier of the Year: Austral Pool

Pool of the Year: Quality Dolphin Pools



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The base model Amarok is good value and actually has some advantages over the flashier models



Getting a pallet full

It's perhaps the most exciting new light commercial to hit the market in a long time. Diesel Editor Paul Matthei plonked a hefty load in the back of the base model and found that it is much more than a pretty face.

I like to test the base model of each new light commercial range because more often than not, this is the one that ends up doing the hard yards in the hands of tradies. With that in mind, it was fitting that the good people at Volkswagen offered us a stock standard two-wheel-drive Amarok – retailing around \$33,500 – for our test run.

While the three higher spec variants – Trendline, Highline and Ultimate – are ideal for dual purpose work and recreation roles, there's one thing they can't do in standard guise that the workhorse version can: that is, have their tailgates lowered a full 180 degrees to enable a heavy pallet to be forked onto the tray. Sure not everyone needs this feature, but having it certainly adds to the versatility of the vehicle.

On the base model Amarok, Volkswagen also offers the dealer fitted option of a drop-



No forkin' worries. Amarok's tailgate drops 180 degrees to allow easy forklift access. With 1222 mm between wheel arches, full size pallets fit in without a drama.

side aluminium tray in place of the standard painted steel tub. But while this allows easy loading of pallets, it also significantly downgrades the aesthetics of a dual cab ute, which is probably why you don't see many around.

Still, if I needed a dual cab Amarok for load carrying I'd forego the bells 'n' whistles double-diff versions in favour of the base model 4x2 simply for the tailgate lowering versatility. Meanwhile, other features that should endear it to the working class include an unpainted front bumper, rugged steel wheel rims and the same high ground clearance as 4x4 variants.

However, the entire absence of any form of bump protection at the rear is a disap-

pointment, particularly when the holes used for mounting the bumpers on higher spec versions are clearly visible. Surely Volkswagen could design some form of wrap around 'bumperette' for each side that would allow the tailgate to be fully lowered whilst providing a degree of panel protection and a more finished look to the rear lower corners.

That aside, it's clear the company has done its homework by ensuring sufficient tailgate top-to-ground clearance after a decent payload is added. Given the considerable height of the tailgate (just over half a metre), the last thing you'd want would be to drop it down, put on the load, then discover you couldn't lift the tailgate because it's now buried in the ground.



Incidentally, there's another good reason why the two-wheel-drive Amarok is more suited to working roles. With a tare weight of 2000 kg (including the driver) and an allowable gross mass of 3040 kg when fitted with the standard heavy-duty rear suspension, the base Amarok has the capacity to carry just over one tonne of payload which is a mighty decent quota for a dual cab ute.

And on top of this, when fitted with the appropriate towing equipment it can haul a braked trailer weighing up to 2800 kg which amounts to a gross combination mass just shy of six tonnes!

On road

Whilst I couldn't evaluate the Amarok at its ultimate capacity because the test vehicle wasn't fitted with a towbar, the ease with which it hauled an 800 kg pallet of pavers left no doubt of its ability to also capably tow a heavy trailer. The vehicle has a rock solid build quality and a terrifically flexible engine with power and torque outputs that belie its diminutive two litre displacement.

Gearing is also spot-on with the six-speed manual 'box providing ideally spaced ratios up to an overdrive top that allows relaxed highway cruising with the engine ticking over at just 1750 rpm at 100 km/h. In fact, while the tachometer is redlined at 5000 rpm, the engine was rarely run above 2500 rpm which is, in fact, the upper point of a 1000 rpm band where maximum torque of 400 Nm is produced. Still, as good as the manual box is, Volkswagen really should offer an automatic transmission option in order to give the Amarok maximum reach in the dual cab ute market segment.

Of course, with diesel engines the trick is to keep revs low to ensure the best fuel economy and Amarok certainly didn't disappoint in this department, consuming just 14.68 km/litre – or an astonishing 41.5 mpg – in more than 200 km of suburban conditions with its load of pavers on the back.

As for other driving impressions, handling, ride, road-holding and braking were all exemplary. Volkswagen engineers have cleverly mounted the rear leaf spring hangers on brackets attached to the outer sides of the chassis rails rather than underneath. This gives the vehicle a lower centre of gravity and provides superior stability, particularly when loaded, without sacrificing ride comfort.

Niggles were few but like its more upmarket mates, it's surprising to find there's no engine coolant temperature gauge. Another dash disappointment came after peering into the aptly named glove box. Seriously, a decent pair of gloves is virtually all you could fit in it.

Then there are the ventilation control symbols, so small and under-illuminated that during night driving I found the only truly safe way to change the air flow from feet to face was to pull over and give it my undivided attention.

That said, the sound system is excellent while the seats are superb with large supportive side bolsters to cradle the love handles and provide a sporty feel in tune with the stubby, short-throw shifter.

Overall though, the base model Amarok proved itself a thoroughly capable and versatile unit exhibiting most of the virtues of its upmarket siblings minus the hefty price tag. Indeed, at around \$33,500 it represents good value as a German-built diesel dual-cab capable of carrying a one tonne payload and towing a braked trailer weighing 2.8 tonnes. Sure it's not all wheel drive, but with ample ground clearance, a wading depth of 500 mm and the optional electrically operated diff lock fitted, it should prove to be entirely at home in a wide range of conditions.

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Commercial

In **SPLASH! Commercial** we focus on big and small commercial swimming pools including resort pools and spas, water parks, competition pools and municipal projects. We examine issues of importance to commercial pool builders, designers, management and staff, while taking a look at some of the latest aquatic happenings around the region and the world.

Image shows a pool built right into the lava rock at the edge of the Samoana Resort in Samoa

COMMERCIAL NEWS AND FEATURES

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The cool pool

Singapore is just too hot to train for London, so the Aussie team came up with a cool response.



Geoff Huegill with one of the two Davey Cool Pool pumping units

The Australian swimming team was undertaking preparatory training in Singapore. However, Swimming Australia (SA) investigated the training pool facilities and decided the ambient pool water temperature in the humid local conditions was too warm.

Consequently SA tried to find a way to reduce the water temperature by up to three degrees to create more swimmer-friendly water conditions. They approached Davey Water Products to investigate how that might be able to happen. This led to the production by Davey of two innovative Cool Pool pump systems. They tested them in Melbourne and shipped them to Singapore.

National Head Coach, Leigh Nugent, declared them an outstanding success.

"We've been running them for about eighteen hours a day and they have been effective at keeping the water temperature to 28.5 degrees Celsius," he says. "Without them our swimmers would be in water of 31 degrees Celsius – effectively too hot to train in."

"Davey has supported the Australian Swimming Team significantly in its preparations for the 2011 World Championships and ultimately the London Olympics."

Created as two self-contained packages, the Cool Pool units each employ a Davey Power Master 450 electric pool pump which recovers the pool water at a rate of 450 litres per minute, then distributes it across the pool surface through two Davey fire fighting nozzles.

The water drawn out of the pool is recirculated as a fine mist through the air, cooling through evaporation, before being delivered back into the pool.

The trajectory and water surface coverage obtained by the nozzles is also adjustable in accord with the size of the pool.

Each of the two Cool Pool units is fabricated as a self contained unit mounted on a 304 stainless steel base to give an easy means of lifting and handling.

Italian centre key to Aussie gold

Australia's Olympic and Paralympic athletes are lining up to use the Australian Institute of Sport's European Training Centre (ETC) as a base to launch their bids for gold in London.

With less than a year until the London Games, Australia's sporting teams are using the centre in Varese, Italy as a "home away from home" to give them a competitive edge.

It is expected the ETC will see almost 10,000 bed nights filled by Australian athletes before the London Games.

The ETC replicates the Australian

Institute of Sport's elite high performance facilities in Europe, providing a home for Australia's best athletes while they train and compete in Europe.

Australia's 73-member national rowing team used the ETC as a base to prepare for the 2011 World Championships in Slovenia, which will act as a London 2012 qualifier. Sports which have used the centre since it opened in March include cycling, athletics, wheelchair basketball, table tennis, skiing, canoeing, waterpolo,

paracycling, triathlon and sailing.

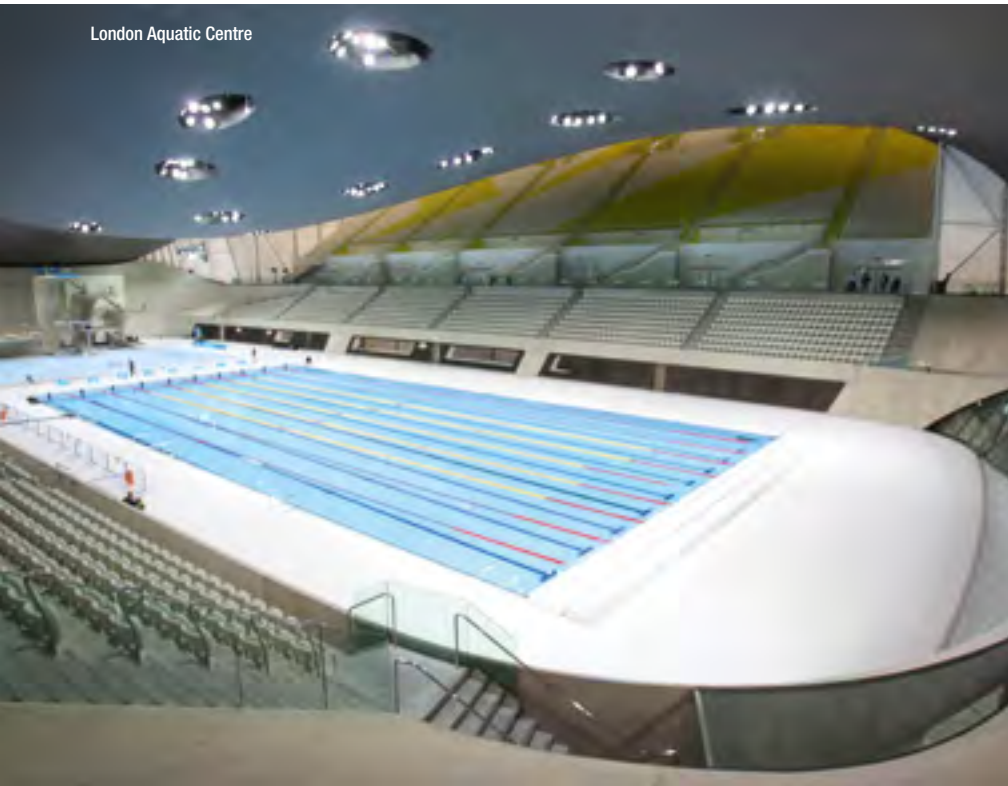
The Australian Government committed \$12.5 million for the ongoing operation of the ETC in the lead up to the London Olympics and Paralympics and beyond.

Australia's most successful Olympian, Ian Thorpe, is taking advantage of the European home training base.

"The important thing for me is being able to access the Australian standard of services, which would otherwise be unavailable," he says.

London Olympics pool unveiled

London Aquatic Centre



- Balfour Beatty built the Aquatics Centre and huge land-bridge that forms the roof of the training pool and the main pedestrian access to the Olympic Park.
- The sweeping roof, which is 160m long and 90m at its widest point, is an innovative steel structure weighing over 3000 tonnes with a striking and robust aluminium covering, half of which is recycled, resting on three supports.
- Over 850,000 ceramic tiles installed in the pools, poolside and changing rooms.
- Six unique diving boards were constructed on site: a 5m board; a 7.5m board and 3m board; a 10m board; and 3m springboards.
- All three pools hold a total of 10million litres of water.
- The venue contains 9000 tonnes of steel and the hardwood ceiling is made up of 37,000 individual strips.

The London 2012 Aquatics Centre has been unveiled, completed on time and on budget. The Aquatics Centre was the last of the six main Olympic Park venues to finish construction.

The Olympic Stadium, Velodrome, Handball Arena, Basketball Arena and the International Broadcast Centre were all completed earlier this year. In 2006, the Olympic Delivery Authority (ODA) set out a challenging brief to clean and clear the Olympic Park site and build the new venues and infrastructure needed in time for test events by the summer of 2011 – a year before the Games.

This has now been achieved on time, to budget, with a safety record far better than the industry average, and by setting new standards in sustainability and accessible design.

“The Aquatics Centre will be a fantastic gateway to the Games in 2012 and a much-needed new community and elite sporting venue for the capital afterwards,” says ODA Chairman John Armitt. “Five years ago, in July 2006, we published a delivery timetable which set out the ambitious target to complete the main venues a year before the Games. With the completion of the sixth main permanent venue, I am proud to say that we have delivered on that commitment.”

LOCOG Chair Sebastian Coe says that with the Aquatics Centre now complete, they are

one step closer to finishing the spectacular Olympic Park. “After the Games, the venue will become a much-needed swimming facility for London with community use at its heart, epitomising the spirit of London’s bid – a Games which would bring lasting change and encourage people to choose sport,” he says.

Notes on the project

- The Zaha Hadid designed Aquatics Centre is located in the south of the Olympic Park and will be the main “Gateway into the Games”.
- The Aquatics Centre will have a capacity of 17,500 during the Games, hosting swimming, diving, synchronised swimming, and the swimming element of the Modern Pentathlon.
- After the Games, the venue will be reduced to a maximum of 2500, with the ability to add 1000 for major events, and provides two 50m swimming pools with moveable floors and separation booms, a diving pool and dry diving area for a full range of community and elite use.
- Before construction could begin, 11 industrial buildings were demolished and around 160,000 tonnes of soil was dug out on of what was one of the more polluted areas of the Olympic Park. Four skeletons were discovered and removed from a prehistoric settlement discovered on the site of the Aquatic Centre. (For more see page 28.)



SpongeBob squares up at SeaWorld

Bikini Bottom is coming to Australia. Sea World is joining forces with Nickelodeon to bring a new SpongeBob SquarePants and Dora the Explorer Aquatic Adventure Zone to the Gold Coast.

The Nickelodeon Aquatic Adventure Zone will feature three bright and colourful water-play areas themed around SpongeBob SquarePants characters including SpongeBob, Gary, Patrick and Squidward. Highlights will be a spectacular dancing water display, a giant spray bucket and interactive water sprays. It will also feature a Dora the Explorer interactive sculpture and Nick Jr. characters. It is planned to open in time for Christmas.

World's longest water coaster to open next year



The intriguingly named US town of Santa Claus will have something apart from its name to be famous for next May – the world's longest water coaster.

The \$US9 million Mammoth will open in Splashin' Safari water park, says park president Dan Koch.

"We added a Wildebeest water coaster last year and it was a runaway hit," he says. "So we asked our designers for something even bigger. It's so huge, we're calling it the Mammoth."

The Mammoth will begin with a conveyor ride up the water coaster's lift-hill. Following the five-storey drop at a 45-degree angle, linear induction motors (LIMs) will propel the six-person round boats up additional hills, into dark enclosed sections and through twists and turns. Mammoth will cover 1.2 hectares, increasing the water park's size to 12 hectares.

Mammoth's tallest elevation is 21 metres higher than its lowest drop. The conveyor-style lifthill replaces any slide-tower stairs, making the water coaster accessible to riders who might have difficulty walking up stairs.



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Turkey joins the Aquacircus

Ilica Spa and Wellness Resort in Cesme, Turkey has just opened Aquatoy City, a new waterpark addition to the facility. The Aegean resort is popular with Turkish locals, especially from the nearby city of Izmir.

Now an array of water play features from Empex Watertoys have been combined into a dynamic water playground called Aquacircus - a climb-and-slide structure which provides a myriad of different slide experiences and 45 creative interactive activities.

Females more sporty says survey

The 2010 Exercise, Recreation and Sport Survey (ERASS) has found that Australian females are more likely than males to participate in physical activity.

Australian women, on average, have increased the frequency of their physical activity from twice per week in 2001 to three times per week in 2010. However, the survey has found that, on average, males participated in physical activity for a longer duration than females.

In 2010, the most popular physical activities in order of total participation were walking, aerobics/fitness, swimming, cycling, running, golf, tennis, bush walking, outdoor football and netball. The survey also found:

- 48 per cent of the Australian population aged 15 years and over participated in physical activity on average at least three times per week in 2010, compared with 37 per cent in 2001;
- An estimated 4.9 million people aged 15 years and over, or 28 per cent of the

population, participated in physical activity on average five times per week or more in 2010;

- Between 2001 and 2010, there was a 10 per cent increase in the regular participation rate among males to 45 per cent in 2010. This increase in the regular participation rate was mainly explained by an increase in participation in non-organised activity.

Water park worker killed by lightning

The Tampa Tribune has reported Justin Inverso, a 21-year-old lifeguard, was killed at a Florida water park when the ride he was supervising was struck by lightning.

Inverso was trying to evacuate people from the 20-metre-high ride because of the oncoming storm. He was standing in about one metre of water at the time of the lightning strike. He died at hospital a short time later. Inverso's father said his son's work as a lifeguard went hand-in-hand with his work as a Sunday school teacher for teenagers.

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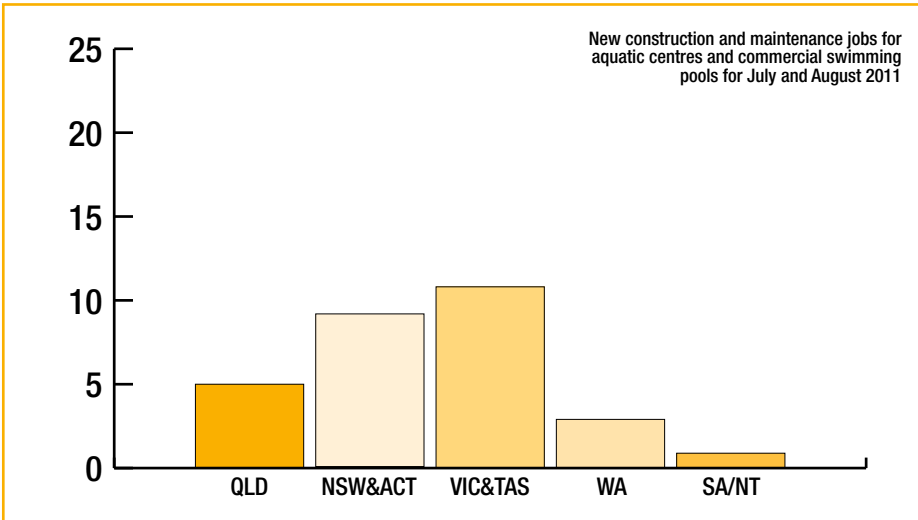
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Latest commercial tenders

Cordell Information has released data showing new tenders for public swimming pools and aquatic centres for July and August, 2011.

The figures show both construction and maintenance jobs for aquatic centres and commercial swimming pools. Only new business opportunities have been included, not jobs that have been previously advertised.

The figures show tender numbers at 31 in total compared with 23 for the previous period. Victoria (12) and New South Wales (9) had the most tenders.



Tender of the month

Banyule City Council Contract No. 0722-2012

Tenders are invited from professional organisations to tender for the Management and Operational contract for Council's Greensborough Regional Aquatic and Leisure Centre (RALC) which is currently under construction. It is anticipated that the successful organisation will have skills, experience and knowledge relating to the management and operation of significant regional leisure centres and community infrastructure.

Tenders close at 3:00 pm Tuesday, 11 October 2011

Tender documents may be downloaded (free of charge) following registration via the Tenders section of Council's web site (www.banyule.vic.gov.au).

Contact Person: Thomas Zappulla, Phone: (03) 9433 7752

For more information on Cordell Information's commercial tender reports, call 1800 674 120.

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Christchurch helped by portable pools

February's earthquake created a serious swim shortage for Christchurch's eastern suburbs and the Waimakariri District. Now, a local trust has introduced "Pools to Schools" to make sure affected primary school students continue learning the skills required to swim and survive.

"Christchurch has lost 60 per cent of its pool capacity," says Sport Canterbury CEO Geoff Barry. "The east side of Christchurch now has a serious challenge. The barriers (time, cost and transport) for eastern suburb

students to reach western suburb pools are massive – and daunting.

"We know that New Zealand has the third highest drowning rate in the world – this makes access to 'swim and survive' skills absolutely critical for our young people."

Pools to Schools is Sport Canterbury's newest program, conceived by Barry. His passion for and commitment to the importance of water safety through "learn to swim and survive" as a critical life skill have made this program a logical fit on his post-quake priority list.

Sport Canterbury has now authorised the purchase of two portable pools – one to go into Kaiapoi and another, initially, for the Queenspark Parkview area. Barry expects each pool to see over 500 kids swimming each week.

The new program has relied upon backing from a group of valued stakeholders including the Christchurch Earthquake Appeal, Christchurch City and Waimakariri District Councils, Rotary chapters throughout the world, the Mainland Foundation and PoolsinSchoolz.

RDAF funds 35 projects

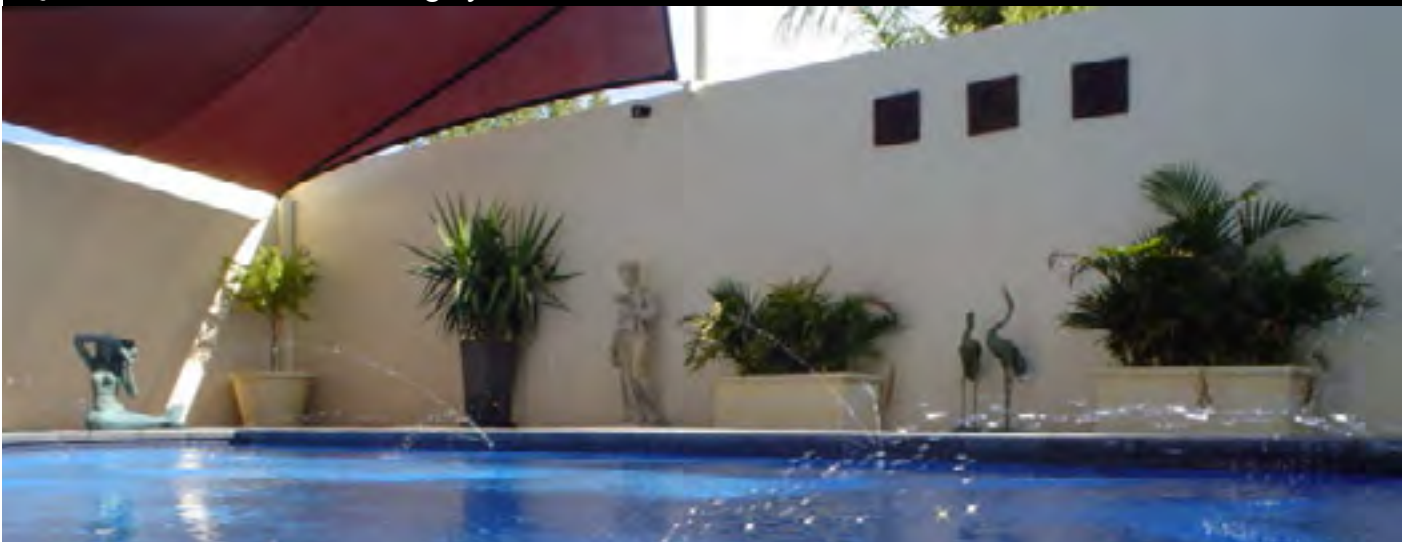
The Australian Federal Government is providing \$150 million towards 35 community projects worth about \$418 million, as part of the first round of the Regional Development Australia Fund (RDAF). Swimming pools and leisure complexes are numbered among the projects supported by the RDAF.

The Shire of Roebourne will receive \$15 million for the new \$65 Karratha Leisure Complex; Rockhampton Regional Council will

get \$5 million for the \$15 million Rockhampton Southside Memorial Pool Redevelopment in Wandal; and Bundaberg Regional Council will see \$4 million go towards the \$6 million Bundaberg Recreational Precinct. Round Two of the RDAF program will be also be valued at \$150 million, with applications to open in November this year. Further details can be accessed through the Regional Australia website (www.regional.gov.au) or by emailing rdaf@regional.gov.au in November.

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Simply natural rock pool

The magic of a Samoan pool with the whole ocean as a balance tank.



The pool built into the lava rock



The Wednesday scrub



The balance tank

The pocket-sized, 28-bed Samoana Resort – co-owned and run by Aussie surfer Paul Robertson – is built right on the beach by the small village of Salamumu.

The village and resort are intrinsically linked – the resort land is leased from one of the village families, and all the friendly local workers are Salamumuans. One thing that helped persuade the village to allow Robinson to build here is the natural way the resort blends with the landscape. The Aussie-designed *fales* rise straight from the sand, surrounded by coconut palms and hammocks.

While the *fales* are integrated with the landscape, the pool is blended visually and physically with the sea. Carved out of the lava-rock on the shoreline, the pool is totally natural. It is fed straight from the ocean by a single pump, and flows over a spill-over wall in to the biggest balance tank of them all – the Pacific Ocean.

To overcome the build up of algae, the pool is drained every Wednesday and scrubbed.

“We can’t have people slipping and falling,” says Robinson. “And because it’s built into that black lava rock, it holds and generates a

massive amount of heat, so it keeps the water temperature high the whole time, stimulating growth. It’s probably fractionally warmer than the natural lagoon. There wouldn’t be much in it. It’s still cool enough to be refreshing.”

But the guests wouldn’t have it any other way.

“I’ve asked literally hundreds of guests if we should negate the weekly cleaning by concreting the pool, marblesheening it and chlorinating it. Not a single person over the past twelve years has said, why don’t you build a proper pool. But plenty have said, ‘Ahh, that’s magic’.” 📍

Dive into the red outback at the newest AUSSIE RESORT



Australia has a new resort: the Wildman Wilderness Lodge.



The Wildman Wilderness Lodge's stunning centrepiece is the steel-framed infinity pool, overlooking the dusty red centre.

The Lodge, situated on the beautiful Mary River Wetlands, about two hours easy drive from Darwin, offers travellers the opportunity to explore this amazing region while staying in a choice of stylish eco cabins (Habitats) or luxury safari tent accommodation.

Wildman is the result of years of planning by tourism industry leader, Grant Hunt and Indigenous Business Australia (IBA). Hunt has long been known for his work in developing iconic tourism experiences in Australia and is currently Chairman of Anthology which owns the award winning Bay of Fires Huts and Cradle Mountain Walks as well as Wilpena Pound Resort in the Flinders Ranges.

There are 10 eco-cabins called Habitats. These are free standing, fully air conditioned




structures with all the amenities expected in a luxury lodge including premium quality furnishings, king size beds and ensuite bathrooms.

The 15 new spacious luxury safari tents, over 50m² in size, have been custom designed for the site to complete the accommodation. Each is fan cooled with a private bathroom and luxurious bedding. Five tents have been configured for families and sleep up to four people.

Hunt has worked with Justin Long Designs, the original architect behind Wrotham Park,

and renowned Australian design firm, Pike Withers, and has taken his inspiration for the Lodge from the time he has spent travelling in Africa. Stylish interiors can be found throughout with natural colours from the region providing a sense of place, in the form of a resort in harmony with its surroundings.

Wildman Wilderness Lodge will be open 1 March to 30 November each year and close for the wet season.

For more information go to www.wildmanwildernesslodge.com.au 

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Ole Gronborg, presenting methodologies for the reduction of chloramines and trihalomethanes



Promoting better swimming pool water

The first two Better Water Seminars were held in Sydney and Brisbane recently. Alan Lewis gives us a review of the presentations.

Under the aegis of Swim Australia, two seminars were recently held in Brisbane and Sydney to highlight straightforward and cost effective ways of upgrading indoor heated pools.

The seminars focused on both the latest proven methods piloted in Brisbane at Westside Swimming School, as well as the very latest installations in Denmark designed by Dr Ole Gronborg, in which he has introduced new, government-approved methodologies for the reduction of chloramines and trihalomethanes (THMs).

Ole Gronborg was the keynote speaker at both these seminars and also presented his ideas to ALFA Queensland and at the SPLASH! Pool and Spa Trade Show in Wellington.

The combination of these progressive sci-

entifically proven ideas blazes a trail for all aspiring architects, designers, consultants, builders, installers, owners and operators of public indoor heated pools and swim schools. Importantly these developments tackle the most challenging issue in this type of pool – how to reduce the chlorine used to disinfect the pools, and thereby reduce the chlorinated by-products that are the main concern of environmental health departments around the world.

In contrast to Australian policies, the Danish Government supports the view that it, rather than private enterprise, must invest in research and development in order to support the emergence of new ideas and products which can then bring new export opportunities to the country. Thus Gron-

“A special drum filter...can remove skin cells from the water within a few hours – rather than the days and weeks it takes in conventional pools. This in itself is a primary and measurable way of reducing chloramines in pools.”

borg and his fellow scientists were able to arrive at this new world benchmark for the removal and reduction of chloramines and trihalomethanes in public swimming pools.

For this new concept to work, there was



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a need to break with the traditional, existing pool guidelines so as to allow the reduction of the current pH and chlorine levels.

At that time, Danish pool standards required free chlorine levels of from 0.5-3.0 mg/L and combined levels of 0-1.0 mg/L; while trihalomethane levels could not exceed 50 micrograms/L and the pH allowed was 7.0-8.0. Their neighbour Germany had already researched and found ways that allowed free chlorine residuals of 0.3-0.6mg/L and combined chlorine no greater than 0.2 mg/L; trihalomethanes no greater than 20 micrograms/L and pH of 6.5-7.6.

Challenged by this, the Danish scientists proceeded to research ways to emulate or better those DIN 19643 standards. The ensuing research showed that world efforts at improving the health of public swimming pool water had hitherto overlooked one very salient fact – that bathers continuously shed skin cells in the water. Those cells either sink to the floor or are captured in sand or DE filters where they remain for long periods of time, thus continually increasing the chloramines through their oxidation by the chlorine in the water.

The research delved deeper and brought to light the fact that poor hydraulics with the current inlet and skimmer design leads to poor transport of particles to the skimmers and high pressure (read energy) losses. The consequences of high chloramines and THM levels in pools have been well researched over the past decade in particular, and Bernard et al 2003 attributed the prevalence of asthma amongst young children in the developed world, at least in part, to their exposure to chloramines and THM gases in swimming pools.

Further to that, longitudinal research in Spain found a correlation between THMs in both drinking water and swimming water and bladder cancer. The Danish philosophy in this regard is that even if the proof of this research is contestable, it is desirable that a way be found to reduce or remove chloramines and THMS from swimming pools. This would protect the public from these health hazards and make the aquatic experience more pleasurable.

Gronborg and his scientist associates came up with a comprehensive set of solutions which brought about previously unmatched results. Backed by the Danish Government they built a school pool in 2006 in which they implemented all their ideas including the use of a special drum filter with an outer membrane fine enough to remove particles down to 10 micron in size and which, with the aid of the new pool floor spigot design, can remove skin cells from the water within a few hours – rather than the days and weeks it takes in conventional pools. This in itself is a primary and measurable way of reducing chloramines in pools.

They also introduced a new element known as a chloramine and THM stripper – a world first. This stripper leaves only 10-15 per cent of THMs in the water after one pass. New design for air handling in the pool hall ensures that chloramine or THM gases are also drawn out of the hall quickly and efficiently. Finally, they added UV treatment to oxidise remaining chloramines.

In 2008/2009, monthly measurements were taken by a certified independent lab – Eurofins at Bernstorffminde: free chlorine ran at 0.3 mg/L; combined chlorine residuals at 0.06-0.28 mg/L and THMs 5-9 microgram/L. These results are exceptional in every regard, and the envy of every country in the world.

Gronborg and his co-scientists continue to research, refine and improve on this. There are now more than 30 pools in Denmark and its neighbours built to Gronborg's specifications – proving that it is possible to disinfect pools satisfactorily with very low levels of chlorine and to reduce the chloramines and THMs to negligible levels.

Denmark now has two standards for swimming pools: the old regulations continue to apply to existing pools with a moderate change towards stricter levels; while the "low level" chlorine pools are ac-

Supreme M3

Supreme M4

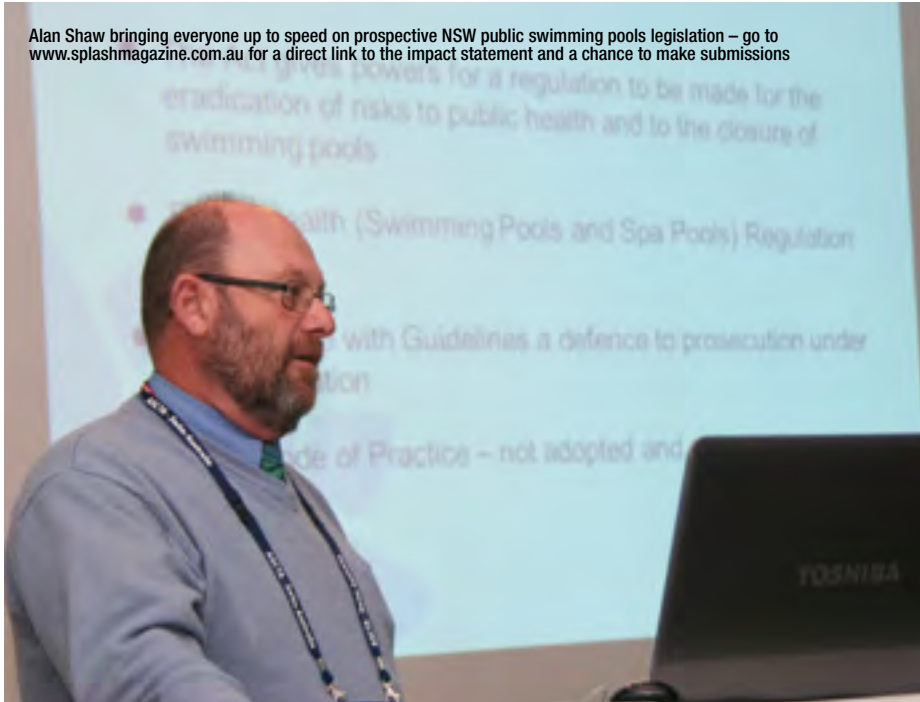
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Alan Shaw bringing everyone up to speed on prospective NSW public swimming pools legislation – go to www.splashmagazine.com.au for a direct link to the impact statement and a chance to make submissions



The Sydney seminar included a tour of the Sydney Olympic Park Aquatic Centre (SOPAC)

cepted by the health authorities wherein pH can run from 6.8-7.6; free chlorine 0.3-0.6 mg/L; combined chlorine at 0.2 mg/L and THMs at less than 20 micrograms/L.

Overall it has been found in central Europe that the cost of designing and building a pool to the Gronborg specifications equals approximately the costs for a conventional pool. However the running costs improve dramatically.

There are huge savings in energy since there are no pressure filters and the pool pumps need only return the water to the pool with a head of about 50-60 KPa. The

filtration and water passing through the stripper flows gravitationally from the pool. Chemical needs are reduced to a small fraction of the current convention, while pH control is hardly needed at all because the chlorine feed is minuscule compared to most other standards. Savings in ventilation are apparent and there is less corrosion in both the water and the air of the facility – so overall the expected life of the facility is greater and maintenance costs lower.

Operating costs have been halved on the filtration and there are huge savings in water

(in Denmark, one kilolitre of water costs \$15), because the drum filter uses only 30 per cent of the quantity normally needed for back-washing sand filters. Labour is considerably reduced. There is a better indoor climate, much better water quality, less health problems, and very low energy consumption.

Pilot project in Brisbane

Meanwhile, although we can only dream about having the sort of scientific support Denmark invests in these aquatic and other green projects. The pilot project of Swim Australia has been able to demonstrate at Westside Swimming in Brisbane that it is also possible to make strides in saving energy, water, chemicals and labour.

Since we are dealing here with pools built more than a decade ago, even our best efforts will only be a shadow of what can be done were we to build a new swim school pool today in Australia. It has been clearly demonstrated how to ensure that pH control can be more efficiently applied using CO₂ gas (forming carbonic acid) as the reduction agent. It has also been shown that we can feed less chlorine, and do that more cost effectively by injecting into the pH reduction line at a point where the pH is 6.3, thereby converting the sodium hypochlorite to 96 per cent hypochlorous acid (HOCl) – rather than 66 per cent when injected to a point where the pH is 7.3. Chlorine consumption has been cut in half since this system was introduced; and not a single bubble of CO₂ goes to waste.

By using the Blue I Hydroguard 302 controller with an in-line photometer, we have a great analytical tool for the better management of the dosing systems, and also at times when we need to troubleshoot. The Nu Link remote monitoring, recording and controlling system allows for easier management of the facility and reduces the need to visit the plant room, and/or calibrate the probes as regularly as before.

The Swim Ozone secondary disinfection system is aimed at reducing the chloramine residuals. The size of each installation is matched to the maximum bather loads expected in each pool. The results here have been exceptional and meet expectations so that the monochloramines rarely exceed 0.3 mg/L. These modest yet comparatively good achievements have brought Westside swimming to a standard which is amongst the best in Australia today.

The seminars dealt with each of these issues in great detail and generally the standard of the presentations was very high indeed. Additional information on new pump



“The building cost is approximately the same as a conventional pool – but the running costs improve dramatically.”

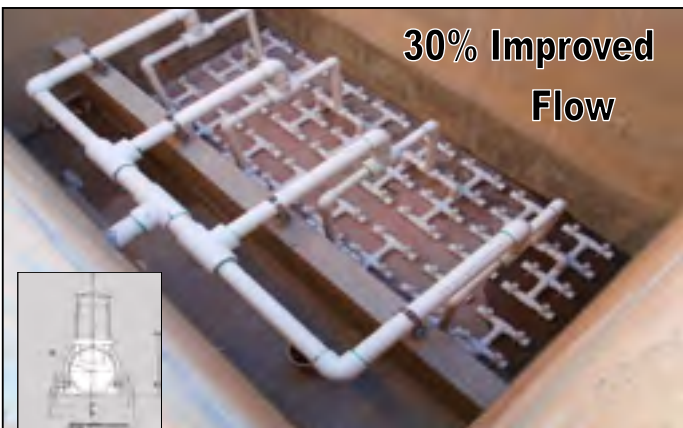
efficiency developments was presented by Terry Day, and Neil Shaw brought us up to date on the prospective legislation for public swimming pools in NSW. [There will be more on Neil Shaw’s presentation in the next issue of SPLASH!]

The new NSW Public Health Regulation 2011 and the accompanying Regulatory Impact Statement (RIS) have been uploaded on the NSW Health website – go to www.splashmagazine.com.au for a direct link to the impact statement and a chance to make submissions.

It is hoped that the Better Water Seminars will be an annual feature on the Swim Australia calendar, whereby we can aim to steadily raise the standard of water in swim schools to a new and more pleasant level.

Those seeking further information on these new developments are invited to email Alan Lewis at aquazure34@gmail.com.

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New Products

The latest ideas to make residential and commercial pools, spas and landscapes more enjoyable, stylish, efficient and easier to maintain, including luxurious accessories, technological advances and new concepts from Australasian and international manufacturers, suppliers and service providers.

WATERPLAY'S NEW TODDLER FOUNTAINS

WATERPLAY has released an exciting set of new toddler features. Designed to engage and amuse the younger children on their own level, the new toddler play features all comprise a rotating section that can be spun by waterplayers.

"It is important to design water play features that facilitate the development of motor skills and stimulate imaginative play, engaging toddlers in a way that allows them to relate," says product manager Cory Forrest.

"This means considering the world from their vantage point and allowing them to explore the water without intimidation.

As well as the durable stainless steel products, the line now includes acrylic in some of the new designs, delivering a unique aesthetic look and capitalising on the different manufacturing options available.

This material is used in two of the toddler features as well as the new Waterleaf which stands over three metres tall.

For more information email lisa.neilson@waterplay.com.



PEBBLES GETTING POPULAR

AMBER says they have noticed an increased trend for river pebble pavers, as well as concrete pavers, clay pavers and natural stone. Amber's range of natural stone replicas can showcase both the quality and texture of natural stone, at an affordable cost. Latest trends indicate soft creams and light coffee colours are the most popular choices. For store locations and more information on Amber's range of pool and outdoor products, visit ambertiles.com.au or call 1300 362 241.



A NEW WAY TO STAY CURRENT

FASTLANE Pools, national distributors for the Fastlane Swimming System, are actively seeking new pool & spa dealers and installers throughout Australia.

Fastlane says their swimming machines are superior to jetted systems as they create a clear, non turbulent river-like swim current. The 5hp hydraulic motor powers the swim unit, while the remote controlled 53 variable speed settings make the Fastlane Swimming system suitable for all fitness levels

and swimming abilities.

The steel kit Fastlane Pools are modular in design, ranging in sizes from 2.4m x 3.96m to 3.05m x 5.18m. Because the Fastlane Pool comes in kit form, it is ideal for homes with limited access, as all parts fit easily through doorways or up stairs.

Visit www.fastlanepoolsaustralia.com.au to view the underwater footage of a Fastlane Pool Swim System in action; or call on 1300 16 17 28 or email info@fastlanepools.com.au.

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NEW FROM FOCUS



BLING

FOCUS Bling is new to the evolving Pink Range of Focus clarifiers. Focus describes Bling as an easy-to-use, powerful single dose clarifying tablet that binds organic and inorganic wastes together, enabling them to be removed by the pool's filtration system. This polymetric clarifier is simply placed into the skimmer basket where it rapidly dissolves to start working straight away, bringing that appealing crystal clear "bling" to the pool water.

NEW ROK SERIES II

THE New ROK series II uses the latest technology in salt water chlorination. A switch mode power supply generates much less heat and offers versatility for the user, while the boost mode increases output by 25 per cent. Cell reversal times can also be modified for those extreme condition areas where calcification of electrode plates may be an issue. According to Focus, the flow-through cell can minimise hydraulic limitations while working well with the lower flow of variable speed pump systems. It has a range of outputs from 15 grams/hour to 45 grams/hour.



OZONE1 RELEASES COMMERCIAL SANITISATION SYSTEM

OZONE1 has introduced an ozone swim pool sanitation system for commercial applications. These skid-mounted turnkey systems are pre-plumbed, pre-wired and mounted on a 316-stainless-steel frame.

Depending on user need, ozone output can range from 1 gram/hour to 120 grams/hour to handle the toughest water treatment applications. They have been extensively trialled and are now endorsed by Swim Australia.

The primary benefit of ozone enriched water is that it breaks down chlorine by-products, notably chloramines, thereby providing a healthier swimming environment for both bathers and staff.

Ozone1 says that clients are likely to experience a reduction in chemical needs as well. For more information call 1300 696 631 or go to www.ozone1.com.au.



NEW PACKAGING FOR ADJUSTERS

FOCUS'S new highly glossed cardboard packaging is striking and looks great in shop. The packaging sits at the same height on shelves, no matter if it is 1kg, 2kg, 3kg or 4kg, and still contains internal

portion packs as per the previous packaging. The tear-open lid means that customers no longer require scissors and the strong box enables the product to remain up-right once opened, eliminating product spillage. The highly glossed exterior of the package helps to make it water resistant.

PHIX

FOCUS says that pHix takes the hassle and potential hazard out of lowering the pH of a pool. As a compressed tablet form of sodium bisulphate with added clarifiers, pool owners simply add Phix directly into the skimmer, meaning no more nasty fumes or possible spills.



VORTEX CYCLONIC CLEANER

ZODIAC has released their new Vortex V1 robotic pool cleaner. This cleaner features powerful and constant cyclonic suction throughout the cleaning cycle. By altering the position of the pump motor and the hydraulic flow, the Vortex effect creates a powerful whirlpool inside the internal filter – keeping debris in suspension and avoiding filter clogs.

It also combines the Intelligent Steering System (ISS) Technology with Wide Trax Tires and a clever back wheel to offer increased mobility and highly fluid movements. The V1 includes a front handle and rear water outlet for easier maintenance, as well as a flexible hose that optimises the cleaner's movements.

Weighing less than six kilos, the compact V1 is 30 per cent lighter than most pool cleaners and can reach even the most difficult areas. The rigid filter compartment is easy to remove – simply click out, empty debris and watch the pool sparkle. Zodiac also says that the V1 uses 50 per cent less energy than regular pool cleaners.

For more information call 1800 688 552 or go to www.zodiac.com.au to find your nearest Zodiac dealer.

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- *Covers the whole pool in a random manner, sweeping up leaves and other debris*
- *2 Year Warranty*

For information on these products, please contact your State Distributor.

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| NEW ZEALAND | | Pool Quip Ltd +64 (09) 634 9097 | Email: info@poolquip.co.nz |





CLOUD SOFTWARE FOR THE POOL INDUSTRY

FLUID Solution is a new innovative business solution created for the pool industry. The company says it addresses problems that the pool industry commonly shares – long hours, bottlenecked information flow and seasonal staff. You can access this cloud-based program on- and off-site to get client's pool details, service logs and chemical records. It can be accessed by employees, monitored and updated on-site through the use of an iPad or any smart phone.

Fluid Solution says it's simple to use and works with the business's existing accounting software – just needing a quick import of clients' details, service and test result history, and logged equipment.

You can use it to create seasonal schedules, increase your team's efficiency and capacity, plan your team's travel routes, track your employees' progress, while reducing administration by entering data only once. It can help build a client database by having information all in one place, view industry catalogues and product manuals and place orders while still on-site.

You can access a free 30-day trial by going to the Fluid Solution website at www.fluidsolv.com.



LEARN2 SWIM TOOL

Gladstone Health & Leisure is a leading supplier of leisure management and fitness software in the UK, Ireland and Australia. Learn2 is Gladstone's new course management tool allowing for accurate administration, course co-ordination and customer interaction. The advantages of the Learn2 solution include up-to-the-minute reporting, online enrolment and the use of a portable device for teachers which drastically reduces administration time.

Gladstone says its tool will reduce the pressure on receptionists, as it allows customers to re-enrol from home using the Home Portal function. Data copied from Plus2 permits customers to view weekly teacher feedback. Home Portal is intelligent enough to allow a parent to manage more than one child and more than one course, all within one easy login.

No more enrolment letters – once the pupil has been approved to move up to the next class, or needs to pay for the next set of lessons, Learn2 will automatically email and/or SMS the parent, informing them of the change. Should the parent not respond, reception will be alerted.

For more information contact Steven Balocco on (02) 8920 3028, email sbalocco@gladstonemrm.com.au or go to www.gladstonemrm.com.



ONLINE LIFE CYCLE CALCULATOR

THE Herborner Pumpenfabrik calculator determines the cost effectiveness of pumps with just a few clicks, so now you can calculate pump life cycle costs, payback period and potential savings, quickly and easily online.

According to Herborner, electric motors are responsible for approximately 30 per cent of electricity consumption worldwide and pumps alone account for up to 10 per cent of that usage. But how efficient are different kinds of pump systems in reality and is it possible to improve efficiency and save energy at the same time? Herborner

says that with their online calculator, both swimming pool operators and plant manufacturers can comprehensively determine how economical their current pump system actually is.

Moreover, the calculator makes it possible to compare various types of pumps and thereby determine whether it is more economical to use a replacement pump in the medium term in certain cases.

Those interested can view the the company's website and carry out comparative calculations. For more information go to www.herborner-pumpen.de.

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WATERCO'S NEW ENVIROPRO RANGE

WATERCO has launched a new EnviroPro range – aimed at helping environmentally and budget conscious pool owners save water and energy, while also reduce the time required to maintain their pool.

Bryan Goh from Waterco says this new range is a holistic solution designed to address three key areas – energy efficiency, water conservation and convenience.

Goh says the new range consists of a select number of Waterco's high quality, energy efficient and award-winning water saving products, from the latest energy efficient pool pump, MultiCyclone pre-filter, cartridge and granular filters, to the latest LED lights, solar pool heaters and robotic pool cleaners.

"Whilst highly effective in their own right, these products combined and operated in the right way enable pool owners to reach the highest levels of sustainability," Goh says.

Waterco outlines the key EnviroPro benefits:

- With the unique pre-filter MultiCyclone technology, not only do you save thousands of litres of water per year, it also takes less maintenance time to clean your filter and extends the life of your equipment. Or for the ultimate convenience and maximum water savings, the MultiCyclone Plus is an easy to use, highly efficient pre-filter and cartridge filter all in one.
- With the low flow Hydrostorm Eco pump, which already uses up to 70 per cent less electricity than a regular pump, you can switch to off-peak electricity tariffs at night due to its quiet operation, saving even more on energy bills. Pool water clarity is also improved, due to slow flow and better filtration.
- By combining the energy efficient Hydrostorm Eco pump with an Opal XL cartridge filter (rather than a standard granular filter) you eliminate the need for regular backwashing saving you both water and energy.



- Or you can combine the Hydrostorm Eco with the new Micron Eco granular filter, which still allows you to enjoy the convenience of backwashing the pool, while using 30 per cent less water than a standard granular filter.
- The Admiral, Waterco's new range of next generation energy efficient robotic pool cleaners, cleans the pool in less than three hours, using only 80 watts of power – which is less power than required to illuminate one halogen pool light.
- With the Zane Solar Gulfpanel and the Electroheat heat pump, not only do you save on energy bills, you can extend the swim season or even swim all year round, conveniently and cost effectively.
- Finally, the BriteStream multicoloured LED lights not only look great, but they operate on a mere 15 per cent of the electrical power required for the halogen equivalents.

For more information go to www.waterco.com.au

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ASTRALPOOL LAUNCHES ITS NEW PRODUCT DATABASE

THE ASTRALPOOL Product DataBase (PDB) is a reference tool for finding and downloading all documentation related to a product

in AstralPool's current catalogue. All information is updated and the tool was designed by AstralPool to enable professionals in the sector to access the latest and best information available about products as efficiently and quickly as possible.

All products have a photo, description and a table of logistic data. All kinds of documents,

ranging from commercial catalogues to manuals and highly technical information about products, can also be downloaded.

Accessing the PDB is very easy. Just go to AstralPool's homepage (www.astralpool.com) and click on the PDB banner. The new PDB has a fresher image, has introduced significant changes and has made substantial improvements to user interactivity and usability.

Main features of the new PDB include:

- Browsing the new PDB is more dynamic. It has improved user interactivity and usability;
- Users can go backwards and forwards, facilitating information searches;
- It is now available in English, Spanish and French;
- By moving your mouse over the name of a product, a photo and a brief description of the product pops up;
- Photos of products can be downloaded.

The AstralPool website is undergoing a whole range of updates, and the launch of the AstralPool Product DataBase is only one of many upcoming changes. These include new facilities on the website such as a regular electronic newsletter delivered directly to interested customers, and a pool configurator.

For more information go to www.astralpool.com.

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FILTERMASTER'S NEW SKIMMER

FILTERMASTER says its new skimmer was made in consultation with local New Zealand pool builders who offered their insights and inputs to the design process. The result is a highly user-friendly product which has already proven successful in the Kiwi market. Filtermaster manufactures and distributes pool and spa pool equipment including pumps, filters, heating, lighting, PVC items and cleaning accessories. For more information go to www.filtermaster.co.nz.



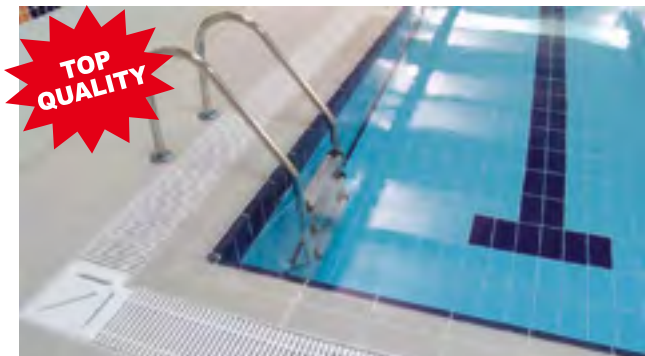
THREE-PART ENVIROSWIM GETS NSF 50

ENVIROSWIM is a patented freshwater system that incorporates three processes – electronic oxidising, ionisation and ultrasonics.

Enviroswim says they are the only Australian and international manufacturer to have received NSF standard 50 certification for an innovative sanitising system. The company has qualified previously for Federal Government funding under the COMET scheme for the commercialisation of emerging technologies.

Enviroswim is made in South East Queensland and the company is very proud that it is 100 per cent Australian designed and 100 per cent Australian manufactured. For more information call 1300 888 457, email info@enviroswim.com or go to www.enviroswim.com.

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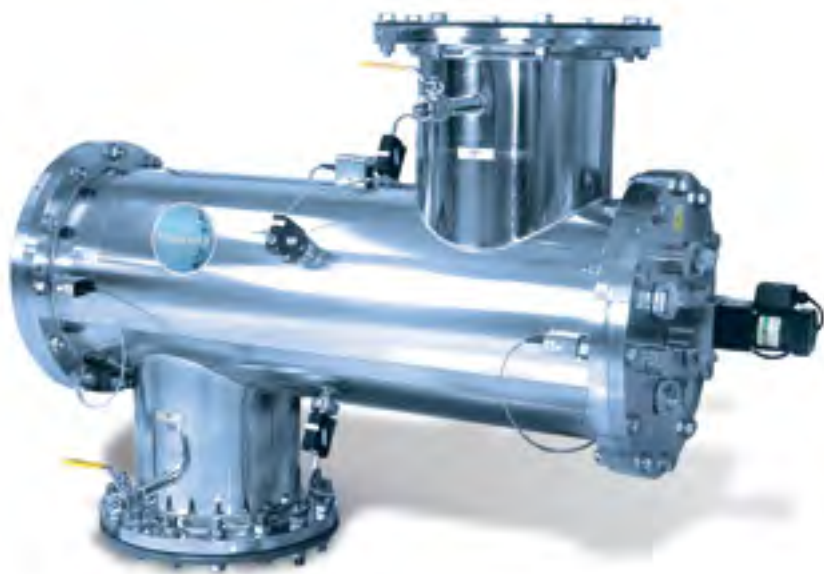
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kid's health
the children's hospital at Westmead
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HANOVIA LAUNCHES SWIMLINE UV

THE SwimLine UV water treatment system for swimming pools is a compact unit that Hanovia says will kill all known pathogens and destroy combined chlorines.

Resulting from extensive research and pool trials, the SwimLine has been completely re-engineered to provide lower capital costs and lower operating costs than previous UV systems. Hanovia says it retains their class-leading pool water treatment performance, while offering twofold protection for pool operators: water disinfection and removing combined chlorines.

Because of the SwimLine's simple, highly compact design, it is easily incorporated into existing water treatment systems or can be included from the start into new builds. It is available in a range of configurations, from axial and in-line to U-shaped. In addition, because the SwimLine dramatically reduces the amount of chlorine required, there is correspondingly less backwashing and dilution, less waste and notably purer water.

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A SAUNA FOR KIDS

IN Europe, the trend for saunas is getting so strong that they are now designing them for children.

According to a study by Roland Berger Strategy Consultants, the proportion of travellers who venture to spas and wellness facilities with children is already at 24 per cent.

Klafs says that the trend towards afternoon wellness programs for children is already firmly anchored in America, and is slowly gaining ground in Europe. With playful muscle training for boys, fun dance for girls and an exciting and relaxing chocolate body pack for both, such a casual wellness day can also mean huge fun for the little ones.

Klafs says that they have known for a long time that regular visits to the sauna can reinforce children's immune systems. Allergies and related breathing difficulties as well as sleeplessness and concentration problems, even aggression and nerv-

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ousness can be reduced with regular sauna visits.

However, in order to do justice to the growing numbers of younger bathers, a new approach must be found. When designing the spaces, child-friendly access should be a consideration, as well as a keen eye to safety.

In cooperation with the Steigenberger Hotel Group, Klafs recently created a prime example of a children's spa facility. The Steigenberger Hotel Gstaad-Saanen in Switzerland devotes an entire floor of its large Spa Luxury World, which is spread across three storeys, to children alone.

Naturally, supervision is provided. In an area covering 150 square metres the children can try out many healthy treatments and decide which one is the most fun. One is the mountain hut (pictured) complete with Wii consoles for virtual tennis, golf and soccer.

For more information go to www.klafs.com.



ENDUROSHIELD GETS TÜV CERTIFICATION

ENDUROSHIELD has been awarded certification from TÜV Rheinland Germany for both durability and easy-to-clean functionality.

TÜV Rheinland is a leading global independent test provider with a history stretching back 140 years, and a certified product is one that has passed extensive testing, including for safety and quality. The durability test was carried out to simulate a lifetime of 10 years on interior and exterior use.

EnduroShield is a clear liquid that utilises nanotechnology to achieve an exceptionally durable protective coating that is easily sprayed onto glass – such as pool fences – using either a hand held spray gun or an automated machine.

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