

HEAT TRANSFER TECHNOLOGY

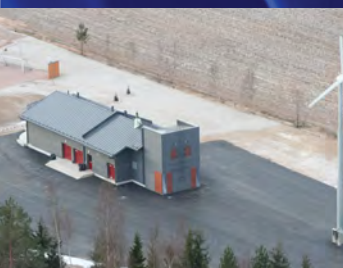
The latest news and views on heat exchanger technology from **BOWMAN®**

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Heating a solar thermal pool even in the UK's variable climate



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Finnish eco residential project where Bowman has recently supplied exhaust gas heat exchangers



GETTING INTO HOT WATER

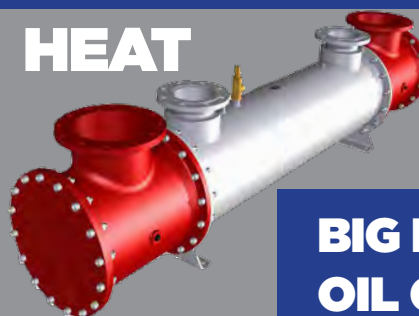
Heat exchangers at new cogeneration system in Australia

New large capacity oil coolers and heat exchangers are launched!

NEW! TYPE 15 HEAT EXCHANGER

We have extended our range of exhaust gas heat exchangers to incorporate the new type 15 unit that is capable of recovering waste energy from engines rated up to 1MW. The type 15 heat exchanger means Bowman can now cater for larger scale power generation applications and enables genset manufacturers to offer highly efficient CHP solutions at a reasonable cost.

Designed specifically to address market demands for a high efficiency unit for engines up to 1MW typical power, it is capable



of recovering around 600kW of waste heat through the engine's exhaust stream at an exhaust gas flow rate of 70kg/min.

RIGHT ANGLE END COVERS

Several exhaust gas heat exchangers can now be offered with right angled end covers as an option allowing easy access to the heat exchanger tubes for cleaning and maintenance.

LARGE CAPACITY CHARGE AIR COOLER



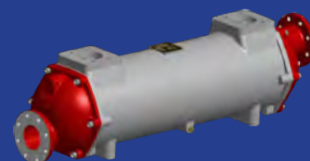
Bowman has launched the PK-190, a new charge air cooler designed for large capacity turbo charged engines rated up to 800kW.

The PK-190 was developed following the immediate

success of the JK-190 to cater for the next level of larger engine powered co-generation equipment. With the launch of the PK-190, Bowman is now able to offer manufacturers a high quality solution for cooling the incoming combustion air from the turbo charger of these engines.

Charge Air Coolers provide reliable cooling of turbo charged air, enhancing engine performance and fuel efficiency, whilst reducing emissions.

BIG NEWS FOR OIL COOLERS



Bowman will be enhancing its range of hydraulic oil coolers with the launch of the new RK hydraulic oil cooler range which extends the maximum heat load capacity up to 1MW.

Like all Bowman hydraulic oil coolers, the RK range features a fully floating tube stack which minimizes thermal stresses and enables it to be easily removed when cleaning or maintenance is required. The range is also available in a choice of lengths to suit various thermal duties.

"The PK-190 builds on the development of the JK-190 charge air cooler which we launched at Power-Gen 2011. It marks a significant step into larger capacity charge air coolers for Bowman, as it will offer a high performance solution for the increasing number of applications with rising heat loads," comments Kevin Howell of E J Bowman.

THE LATEST NEWS WORLDWIDE FROM OUR STOCKISTS

We welcome the following companies to our international stockist team

TURKEY

MDT Engineering Systems Co. Phone: Tel: +90 (212) 482 90 03

Website: www.bowman-tr.com

Contact name: Murat Onur Email: m.onur@mdtco.com

PERU

Rintusac. Phone: Tel: 0051 1 4250566

Website: www.rintusac.com.pe

Contact name: Andres Tubillas Email: atubillas@rintusac.com.pe



Stockist milestones - celebrating significant achievements of our stockists

CELEBRATING 175 YEARS

Kemper en Van Twist Diesel B.V (one of our stockists in the Netherlands) has recently celebrated their 175 year anniversary

Website: www.kvt.nl

CELEBRATING 50 YEARS

Certikin (one of our UK distributors of swimming pool equipment) will be celebrating their 50 year anniversary later this year. To mark the occasion they will be arranging a celebratory dinner in July and EJ Bowman are pleased to be hosting one of the tables at this event

Website: www.certikin.co.uk/Pool+Water+Heating/Bowman+Heat+Exchangers



BARILLA

SOLAR POOL FEELS THE HEAT

At Bowman we have never doubted that our heat exchangers can heat a solar thermal pool effectively even in the UK's variable climate. However, it's very encouraging to know our confidence has been backed by tests carried out by the solar energy experts, Barilla Solar.

Barilla Solar has been testing Bowman solar heat exchangers on the outdoor solar thermal pool at its headquarters in Lymington, Hampshire since May 2012 as part of a two-year programme. Ongoing results have shown that the solar heat exchangers are easily capable of heating the outdoor pool to comfortable temperatures all year round.

Barilla has been simulating and testing a variety of typical UK climate conditions, to prove the heat exchangers will work effectively. Results have shown that even on cold cloudy days, pool temperatures have been reaching 22-23°C, whilst on warmer sunny days, the pool temperature has risen to such a level that Barilla has been able to draw excess heat from the pool into a thermal store, which is then used to heat hot water in its headquarters.

The pool has a capacity of 37,500 litres and is being heated by 6 x Barilla F22 AR Flat Plate solar thermal collectors and a 5113-5 Bowman heat exchanger. The experiment will continue for at least two years to help Barilla correlate the actual performance of a pool system against the modelling software that it is developing. Kevin Howell of Bowman, says: "We're

delighted but not surprised by the results of Barilla's tests, as our solar panel heat exchanger range has been specially designed to work with the lower temperature water from solar heating, compared to the hotter temperatures of traditional boilers.

"Many of our customers have been genuinely surprised at the difference a high efficiency heat exchanger makes to their solar pool. With pool heat-up times up to 60% faster, energy demand is significantly reduced, making solar heating a much more viable heat source for Northern Europe."



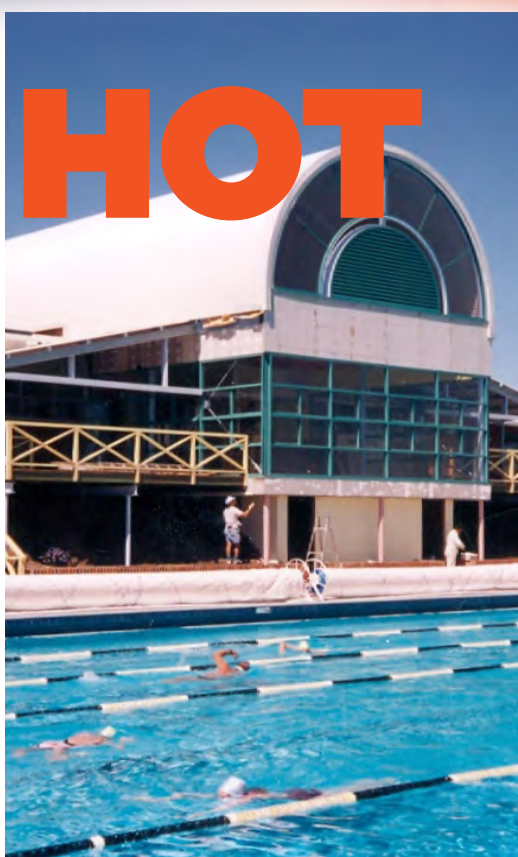
GETTING INTO WATER

Bowman heat exchangers are at the heart of a new cogeneration system at Leichhardt Park and Aquatic Centre (LPAC) in New South Wales, Australia.

Work on the Cogeneration Project began in September 2012 and will significantly improve the aquatic centre's energy efficiency, while reducing its annual energy costs and greenhouse gas emissions.

The Bowman 8-40 heat exchangers were supplied to LPAC, which is Leichhardt Municipal Council's largest energy consuming asset. The centre's existing heat pumps were nearing the end of their useful life. The pumps are being replaced with a new cogeneration system which comprises two 30kW micro turbines, capable of providing a combined 120kW of heat output.

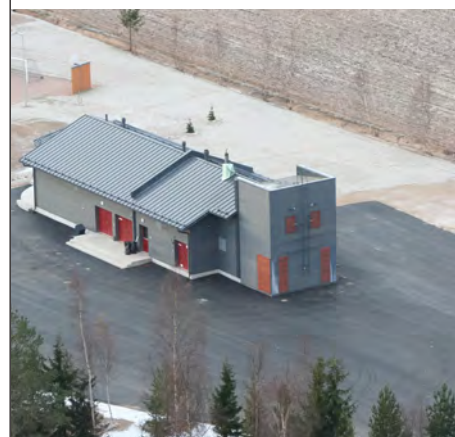
Co-generation is the simultaneous production of electricity and the recovery of waste heat from the generation process to supply heating needs. The micro turbine will produce electricity that has approximately 40% less greenhouse gas emissions than coal fired electricity. This lower carbon



electricity will achieve a significant reduction in emissions for the council.

It is estimated that the co-generation system will lower greenhouse gas emissions by 1,270 tonnes of carbon dioxide per annum - around 35% of the stationary energy emissions from Leichhardt Council operations. Improved efficiency of the co-generation plant will result in reduced annual energy costs.

WARM WELCOME AT ECO VILLAGE



Combined Heat and Power (CHP) plants are becoming more widespread as a low carbon, energy efficient and sustainable way of generating heat and power for local communities.

An excellent example is the Finnish eco residential project where Bowman has recently supplied five exhaust gas heat exchangers for use on three CHP power plant units. The power plant supplies heat and power to ten houses.

The units are fitted to Sisu Gensets for recovering waste heat from the exhaust and jacket water systems and to cool the gas produced by the wood burner. The Finnish developer originally found Bowman through the internet and was impressed by both the performance of the heat exchangers as well as Bowman's ability to meet its tight deadline with a rapid delivery time.

MARINE COOLER SAVES A SMALL FORTUNE

When the oil cooler on his yacht engine failed, David Berry expected a £700 bill for an OE replacement. Instead, he found the Bowman DC range offered a more effective solution at a fraction of the cost.

The original oil cooler on the Volvo Penta engine of Mr Berry's Moody Eclipse 33 failed and was found to be beyond repair.

The replacement part was listed at around £700,



so Mr Berry decided to look for an alternative. As an experienced designer of marine equipment, he researched the market, and decided to use a Bowman DC oil cooler, as this range of compact, high performance units were particularly suitable for his boat's 2003T engine.

The Bowman DC cooler is designed for mounting directly into a cooling water pipeline and, using the guides on Bowman's easy to use website, he selected the DC60 model to suit the 43hp engine. "The total cost for the Bowman cooler, a set of new hoses plus all the other fittings needed came to around £170: a substantial saving on the £700 standard item," says Mr Berry.



NEW FACES

Bowman is delighted to welcome a number of new people to our team and wish them every success in their new roles.



Teresa Carleton
Joins us as
Export Administrator



Gary McDonough
Joins us as
Sales Engineer



Nick Pilditch
Joins us as
Business Development
Manager



Jonathan Swain
Joins us as
Design Engineer

NEW SKYPE FACILITY

We have recently set up a large TV screen in our boardroom to enable us to have Skype video calls and keep in regular contact with our customers and stockists all over the world.

Our Skype address is [bowman_conference](https://www.skype.com/join/bowman_conference)

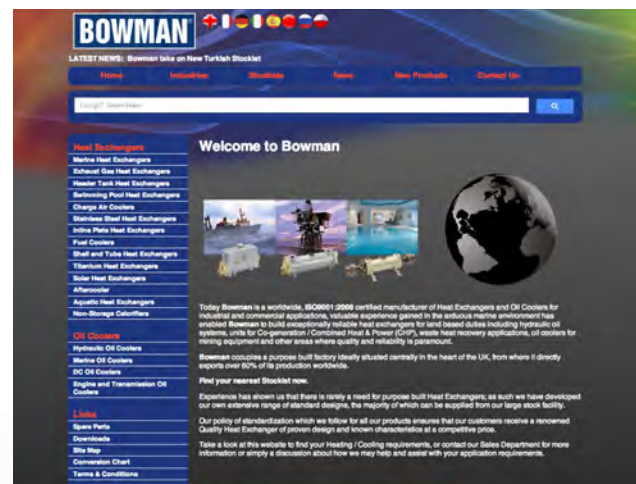


WEB SUCCESS

Our new-look website has attracted a huge amount of positive feedback since its launch in 2012.

The site - www.ejbowman.co.uk - has a smart new layout in keeping with Bowman's corporate image and is quick and easy to navigate. We've added more information on specific industry applications such as the marine and hydraulic sectors. Sales literature and data sheets can be downloaded for all our product ranges to help with technical specification.

The new product section has been added to enable customers to find details of our latest product developments. You will also find recent news stories, case studies and a directory of stockists.



SEE US AT:

HANNOVER MESSE

Hannover 8 - 12th April 2013
Europe's leading technology and automation exhibition.

AUTOMOTIVE TESTING EXPO

Stuttgart, 4 - 6th June 2012
Europe's leading exhibition for automotive testing technology.

PISCINA

Barcelona, 15th - 18th October 2013
Europe's major swimming and leisure pool exhibition.



FOR MORE INFORMATION

If you would like more information on any of the articles contained in this newsletter, or for technical data on any of our heat exchanger ranges, please contact us directly;

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