

Shenzhen factory in full production

Barely a year from its opening, Halifax Fan's Shenzhen plant is in full production. Fans are being manufactured not only for Chinese customers but also for customers in Denmark, Singapore, Norway and the UK. All of the fans built in Shenzhen are designed in the UK and are manufactured to full UK specifications and designs. In quality terms the Chinese factory is a mirror of the Brighouse plant and is now fully audited twice annually, by BSI in China, to BSI EN ISO 9001:2000 and is fully supported by regular visits from the Brighouse engineering and manufacturing staff.

The new factory has just completed an order for 12 fans for Danish spray dryer manufacturer Anhydro. The 12 high specification fans, some required to run at high temperatures, range in size from 30 to 155cms. For efficiency reasons, the fans were all sized exactly to Anhydro's specification and were fabricated from locally obtained fully certificated 316 stainless steel, fully pickled and passivated and were delivered on time complete with anti-vibration mounts, flexible couplings, motors and height adjustable baseframes. The larger units were fitted with Halifax own bearing units ensuring extended lifetimes and reduced downtime. As a consequence Anhydro has placed a second substantial order that will also be built in Shenzhen.



German chemicals company Bayer has also purchased a fully ATEX certified spare fan for its plant in Shanghai. The fan, which features a special dye penetrant tested impeller, was fitted with flexible bellows to deal with internal pressure differentials and was pressure tested to 2 bar prior to despatch.

With the Chinese plant fully operational and proven to their demanding quality standards, Halifax now has the flexibility and build capacity to meet customer's needs for timely delivery on any order, be it for China, the Far East or even for customers in the EU •

We hope you like our bright clean new Airmail newsletter. It's designed to reflect Halifax Fan's recognition of the green issues facing engineering companies today. We acknowledge that our energy resources are not infinite and that, worldwide, centrifugal fans consume an estimated 25% of the energy consumed by industry. This is why Halifax Fan have an ongoing R&D programme aimed at the continuous improvement in the efficiency of our fan designs. We don't simply supply fans to order off the shelf. Every fan that leaves our Brighouse and Shenzhen factories has been designed and bespoke built to meet the exact specification of our customers so that it always performs at its most efficient and offers our customers the longest life and the lowest running cost. It's no coincidence that this also leaves the smallest carbon footprint possible on our planet, consistent with getting the job done •

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Halifax appoints agent in Thailand

Halifax Fan has appointed a new agent in Thailand who will improve Halifax's access to the wider Asian market. Integrated Quality Services Co. Ltd has offices in Bangkok and Rayong, the two major manufacturing centres in Thailand. They have many years experience servicing heavy industries such as the petrochemical, power, oil & gas, steel, pulp and paper and chemical industries, supplying a wide range of industrial products including pumps, valves, instrumentation and tools. They also provide a repair and refurbishment service for

pumps and fans that will enhance Halifax's servicing capability to Thai customers and relieve pressure on the Brighthouse and Shenzhen plants.

IQS will be taking a highly proactive role in presenting Halifax Fan products into the Far East markets and during the coming year propose conducting a series of seminars on important aspects of fan engineering such as ATEX standards for hazardous applications, energy efficiency and noise reduction.



A new wind blowing in the glass industry



Working in harmony with partner WMC Fans of Belgium, Halifax Fan has made its presence felt in the glass industry in Western Europe and North Africa with orders for over a quarter of a million pounds. While Halifax has extensive experience in supplying severe duty fans to the glass industry, particularly Pilkingtons in the UK, WMC Fans is bringing to the table a more focused approach to glass industry applications in a wider marketplace, particularly for float glass lines and glass processing plants.

Principal, Nick Dewaele, has been providing fan solutions to the glass industry since 1992 and has many contacts in the glass industry worldwide. WMC Fans also develops, manufactures and services fans used for special applications in the glass industry, especially for convection glass tempering furnaces.

The tie-in with WMC Fans will provide Halifax not only with a valuable service base in Europe and Africa but will boost Halifax Fan's level of expertise in glass industry fan solutions, much to the benefit of customers globally. China especially is investing massively in glass production plants and constructing numerous new float lines, glass container plants and glass processing plants every year. Now that their Shenzhen factory is fully operational, Halifax is ideally positioned to compete in this market sector. As part of their joint marketing strategy, Halifax Fan and WMC Fans will be sharing a stand at Glasstec 2008, the world's largest glass engineering exhibition, to be held in Dusseldorf from the 21st to the 25th October this year.

Biomass fans contribute to carbon reduction

By the addition of an innovative direct injection biomass boiler fuelling system from Alstom Power, one of the UK's largest coal fired power stations has increased biomass co-firing from the previous 10% to greater than 20%, more that doubling its carbon reduction on two of the four units at the station. Initially the system will utilise palm kernel chips although other vegetable by-products such as olive kernels or wood pellets can be accommodated in the design.



Whereas previous, more traditional systems have relied upon the use of a pre-combustion system utilising primary, secondary and flue gas return fan systems, Alstom has simplified the process by blowing the milled biomass fuel directly into the boiler utilising high pressure forced draft fans. The two boilers at the power station have split furnaces and in opposing corners of the 4 sections, the 8 fans inject biomass fuel.

An additional elevation within the boiler by the utilisation of an existing air input means that the milled biomass is blown in between two of the vertically aligned coal inputs and thus is burned separately from the coal. This technique has made a significant improvement to the efficiency in combusting the biomass fuel component.

For this project Alstom selected 8 custom designed FD fans from Halifax Fan of Brighthouse. Their decision was supported by performance guarantees based upon Alstom witnessing a model performance test of what was in essence a new fan designed specifically for this project. The design was based upon a No53 narrow width backward curved high pressure fan of 53ins diameter. These are driven by 280kW 2pole motors via flex couplings, through dedicated fan cartridge bearings of Halifax's own design. These bearings offer a high end thrust capability and proven reliability. The fan casings were designed for 0.4 bar g operating pressures and 3.5 bar g containment, were equipped with full condition monitoring, inlet vane flow control, inlet silencers and acoustic case protection and were designed to meet ATEX group II certification, cat 2D T1250C internal and group 3D T1250C external. This fan model has now been adopted into the Halifax Fan product portfolio.

In addition to model testing to BS848 part1, Halifax also conducted full BS848 part 1 testing of a completed unit to strict tolerances and then conducted full mechanical run testing of the other 7 units, all in-house. Halifax project managed this fan solution contract in its entirety from initial quote to despatch, installation supervision and commissioning on time and to budget.



Halifax shows-off in Shanghai

Although industrial exhibitions are losing favour in the UK, in China they are a very effective method of gaining exposure to potential customers for a marketplace much wider than China itself, being attended by delegates from the whole of Asia. At the China International Chemicals Industries Fair in Shanghai on 23-25th April, Halifax Fan will be demonstrating a range of products from its Shenzhen factory. For the chemical industry which requires fans to handle highly corrosive gases, there will be an emphasis on fans with GRP linings and nitrogen purged seals and on ATEX and stainless steel products.

According to Managing Director Malcolm Staff "Because of the high cost and questionable attendance at exhibitions in the UK, we tend not to exhibit in our home market. However, in China, exhibiting is a cost-effective way to put ourselves in front of a huge vibrant market in search of products such as ours. Our new factory in Shenzhen gives us a strong competitive edge for major projects being carried out in China but we will also be presenting ourselves to potential customers from around the globe who see China as somewhere they can source quality products at competitive prices. The quality from our Shenzhen factory is identical to that produced in the Brighthouse plant and thus we can address the most demanding enquiries with confidence that all our products will deliver long life and high reliability."

Halifax ATEX blowers kill all known germs

Sterilisation of everything used in a hospital is absolutely critical and most of us visualise sterilisation as a high temperature process. However, not everything medical can withstand the high temperatures necessary to bring about absolute sterility. Items such as soft rubber goods and surgical implants, for example, would all be damaged by high temperatures.

An alternative is gaseous sterilisation. Ethylene Oxide (EO) gas kills all known bacteria and their endospores and is highly effective in sterilising materials that would be damaged by other methods. Unfortunately, EO is carcinogenic, toxic, highly flammable, potentially explosive and gasifies at 10°C. This necessitates full hazardous area compliance of all electrical and mechanical equipment utilised in the sterilisation process.

Getinge UK of Sutton-in-Ashfield is a centre of excellence in the design and construction of EO sterilisation systems and installs bespoke sterilisation plants worldwide. In a typical system, pallets of the products to be sterilised are first subjected to a temperature of around 55°C at around 70% RH in a conditioning area which 'activates' any microbes and renders them more susceptible to the EO gas. The pallets are then loaded into the hermetically sealed sterilisation chamber which is then flooded with EO gas at below atmospheric pressure. During the typically 12 hour exposure period, it is critical that the EO gas is maintained as a homogenous environment throughout the chamber. To achieve this a specially designed explosion-proof Halifax Fan blower is used to continuously circulate the gas through manifolds on the sides and top of the chamber, changing the



entire volume of the chamber typically 8 to 10 times per hour.

The potentially explosive nature of Ethylene Oxide means that the circulating blower has to be designed to meet the exact needs of every installation and to full explosion-proof standards. Halifax Fan's design is based upon many years experience building fans and blowers to handle explosive gases and features spark-proof features such as brass rubbing strips and a coupling guard. The stainless steel 316 shaft is fitted with a dual cartridge mechanical shaft seal purged and cooled with water.

The fan is rated to work down to very low sub-atmospheric pressures but the high integrity, gas tight, stainless-steel casing is designed to +10Bar and tested to +11Bar. ATEX certified stainless-steel inlet and outlet flame arrestors protect against potential flame propagation beyond the fan in the event of internal combustion. ATEX certified accelerometers and vibration monitors are included for early detection of any imbalance in the fan impeller that might lead to contact with the casing, potentially causing a spark.

According to Shaun Riley, EO Product Specialist at Getinge, 'we attach so much importance to this item that we wanted it designed, built and certified by specialists and supplied as a reliable fit-and-forget fully certified component. It was essential we deal with a manufacturer with a proven expertise in ATEX and hazardous gas applications. Halifax Fan worked closely with us to develop a range of bespoke blower sizes that we can use for quotation purposes and then, once we have a contract settled, the design is fine-tuned to the exact specification of that application. Although the blower comes to us fully certified to ATEX 94/9/EC for Category 2G, Zone 1, it is actually fully rated for duty at Category 1G, Zone 0, meeting the most demanding specifications of all our applications. Halifax Fan's self certification for Zone 1 satisfies the environmental and gas groups with which we must comply but we also draw confidence from the increased safety margin of the more demanding Cat 1, Zone 0 rating to which Halifax builds the fans •



For further information on the articles published in this issue or any other subject of interest please contact us at Halifax Fan or visit our website.

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