airmail

NEWS
MAGAZINE FROM
CAMFIL FARR
NO. 2/2011

Campaigning for clean air in London

camfil FARR

We're different – for an excellent reason

For nearly half a century, Camfil Farr has been known for excellence in filter design, production and quality. We stand out from the crowd because our filters and filtration solutions are the best value for money. Our products retain their efficiency longer, have a longer lifetime, and truly pay off for customers and end users in terms of the best possible IAQ and lowest possible energy consumption.

We prove it time after time in our LCC calculations, and we realize it every time in customer installations. More and more customers are jumping on the bandwagon and benefitting. So we're proud that our excellence makes us different and the preferred choice.

On other fronts, Camfil Farr is continuing to focus on R&D, manufacturing and customer care to manage our growing business even more effectively. We're upgrading and adding lab capacity. We're expanding and refining production. We're developing our e-commerce platform and CRM solutions.

It's a win-win situation – for customers and Camfil Farr. We offer the best air filtration solutions on the market and customers get them from the leader in technology, sustainability and quality. They also get the lowest total cost of ownership for their installations.

As usual, this issue of AirMail is like a microcosm of Camfil Farr. It covers everything from interesting customer cases and orders, to our recent initiatives to put clean air on the political agenda. Our efforts in Brussels and our sponsorship of Clean Air in London – the first of its kind in the air filtration business – are notable examples described inside.

New firsts to become First Choice!

Alan O'Connell
President and CEO

PHOTO: GETTY IMAGES

Clean air gains momentum in the European political arena

Last year Camfil Farr started to develop a dialogue with stakeholders involved in the policy-making process in Europe, including Members of the European Parliament (MEPs), expert groups mandated for developing new regulations for the energy efficiency of ventilation systems, and policymakers from the European Commission and government agencies.

The objective is to share Camfil Farr's expertise on the best available technology for air filtration and the options for ensuring that indoor air quality (IAQ) and public health will not be compromised by the next set of European regulations for the energy efficiency of buildings and ventilation systems. Another purpose is to encourage debates and build awareness of how low-energy air filtration solutions can play a key role in reducing the energy consumption of buildings while also improving IAQ and impacting both sustainability and human health positively.

EU policymakers have long focused on the quality of outdoor air, drawing up strategies and targets for reducing harmful emissions of pollutants from cars and heavy industries. However, a recent EU-funded research project found that levels of many harmful air pollutants are higher indoors than outdoors. And while EU rules are patchy, Europeans have been growing into an increasingly sedentary people, spending on average 90% of their time indoors.

A flurry of activities

The new dialogue has resulted in a flurry of activities on the part of Camfil Farr, such as sponsoring the General Assembly of the Architects Council of Europe (ACE). Camfil Farr has also sponsored a roundtable discussion with euractiv.com in Brussels on the next air quality regulations and the need for giving further consideration to IAQ. This event brought together MEPs, European Commission representatives and NGOs. A few MEPs were also invited to visit Camfil Farr facilities in their constituencies.

As a stakeholder, Camfil Farr has contributed to the preparation study of the eco-design directive on energy-consuming ventilation products by providing experts with technical information on air filtration and its benefits for people's health and the energy efficiency of systems. Camfil has also participated in stakeholder meetings organized by Directorate General enterprise experts and policy officers.

Camfil Farr's position on energy efficiency, IAQ and the draft eco-design regulations on ventilation has been communicated to experts, policymakers and commissioners. We have requested that more consideration be given to the EN 13779 and EN 779 sets of standards which, in Camfil Farr's opinion, should be incorporated as the minimum requirements for IAQ in policies related to energy efficiency.

Camfil Farr has been working closer with

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ventilation industry representative associations and experts to share our position and seek support for a set of regulations on energy efficiency that would not compromise IAQ and public health. We invited these representatives to either participate or submit their own comments on ongoing regulation development.

Reducing energy consumption

Improving energy efficiency in buildings has been identified as one of the most effective ways of reducing overall energy consumption in the EU. Systems regulating indoor environments, such as air conditioning and air filtration systems, can make a substantial contribution to the energy footprint of buildings and could therefore open up a significant opportunity to reduce energy consumption.

Energy efficiency and sustainable air filtration have been on Camfil Farr's agenda for many years. Delivering high IAQ, reducing the energy consumption of air handling systems with better low-energy filters, and continuing our cradle-to-grave approach to product management, all play an important role in this process. Our ongoing European Road Show (see AirMail 1-11) is one of our vehicles – literally – to raise awareness about the importance of IAQ, demonstrate the benefits of effective air filtration and explain how sustainable IAQ and lower energy consumption are achieved with the right choice of filters.

Brussels event

These initiatives and contacts are creating greater awareness among politicians and policymakers, who are now getting the message from GS SANCO and health experts – and now the industry – that there is an unexplored opportunity to save energy while improving indoor air quality and protecting health.

We have taken our message to Brussels in many ways. In the fall of 2011, our Mobile Lab and exhibition, housed in our 13-meter-long Road Show trailer truck, paid a direct visit to the city, parking in front of the European Parliament on Place du Luxembourg, where

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Campaigning for clean air in London

Politicians are being urged in other ways to boost efforts to improve urban air quality. The unique Clean Air in London campaign, of which Camfil Farr is the first Gold Sponsor (see next page), is building public understanding of the dangers of harmful IAQ. Camfil Farr recently met with Simon Birkett, CAL's Founder and Director. Here's the interview:

PHOTO: IAN TTON

Why did you set up the Campaign for Clean Air in London?

Simon Birkett: While campaigning with local residents on environmental issues I found it impossible to persuade politicians to do things they don't want to do and don't have to do. In 2006, we discovered ambient (or outdoor) air pollution was well over twice legal limits and realised the issues were similar to those we were already addressing. A leading member of the European Parliament suggested I formalise the campaign to maximise its impact. It now operates within a legal entity, Clean Air in London (CAL).

Is air quality a problem in London (and elsewhere)?

SB: Air pollution is much worse than most of us have realised. It regularly exceeds twice World Health Organization guidelines near London's busiest streets. The Mayor of London has estimated that 4,267 deaths were attributable to long-term exposure to dangerous airborne particles in London in 2008 at an average additional loss of life of 11.5 years. Separately, CAL found over 1,100 schools near London's busiest roads, after learning that proximity to such roads might be responsible for up to 30% of all new cases of asthma in children. By anyone's standards, there is an invisible public health crisis in London and other large cities.

How does indoor air quality fit in?

SB: Indoor air quality (IAQ) can be much worse than ambient air quality (AAQ). Without filters, up to 50% (and much more in some cases) of air pollution found indoors comes from outside. IAQ is further affected by: tobacco smoke from indoor smoking; combustion (such as gas cooking or candles); water systems, leaks and condensation; and substances emitted from building materials, furnishings and cleaning agents. According to the Mayor of London, domestic gas consumption (from cooking and heating) in turn contributed 22% to ambient air emissions of oxides of nitrogen in London in 2008. With today's European citizens spending – on average – over 90% of their time indoors, there is an opportunity to protect people and reduce pollution.

Why has this crisis happened?

SB: Recent governments have been complacent after earlier successes primarily in the 1960s and 1990s. They have largely

ignored evidence appearing over the last 15 years that long-term exposure to air pollution causes as many premature deaths as we thought occurred during the Great Smog of 1952 (due to short-term exposure). Governments have preferred to pursue technology "silver bullets" rather than alert people to the risks and encourage them to change their behaviour.

Could the public health crisis get worse?

SB: Without action, yes. There are powerful trends towards; population growth and super-cities; increasing consumption and a desire to travel; and rising temperatures and congestion. That makes it more important we tackle air pollution now and set ourselves on a more sustainable path.

How can poor air quality be addressed in London and elsewhere?

SB: Tackling a crisis of this magnitude requires political will, technology and behavioural change. Outside we need fewer and cleaner vehicles in the most polluted parts of our cities and stricter building standards. We need to protect ourselves and reduce pollution for ourselves and others, both outside and indoors. We need to tackle air pollution at its sources (e.g. with filters) rather than mask it through short-term artificial offsets. London schools would be a good place to start.

Why has CAL not campaigned about IAQ if it is such a serious issue?

SB: CAL has not had the resources until Camfil Farr's sponsorship to tackle IAQ as well as AAQ. In earlier days, it might have been difficult to explain that IAQ can be much worse than AAQ. The campaign is maturing now and so I am excited to be working with the world leader in air filtration to tackle a risk I have always been keen to address.

How can Camfil Farr help CAL?

SB: By becoming CAL's first Gold Sponsor, Camfil Farr is supporting a new campaign to build public understanding ofIAQ, initially in London, with advice for people on protecting themselves (adaptation) and reducing pollution for themselves and others (mitigation).

How can CAL help Camfil Farr?

SB: By building understanding of air quality in London, CAL hopes to do much more than just create awareness, education, information or knowledge. When people understand something, they really "get it" and things change. When I've learnt more about IAQ, I would like to give a campaigner's perspective on IAQ in a future AirMail.

Where next over the three, five and 10 years?

SB: There is a great opportunity to change London and show how wider air pollution and sustainability issues can be tackled everywhere. Short-term, we need to protect health and ensure full compliance with air pollution laws by 2015; long-term, we need sustainable solutions like electric vehicles and zero emission buildings in our cities.

Simon Birkett, Founder and Director of CAL.

Camfil Farr becomes 1st Gold Sponsor of CAL

Camfil Farr, through its British subsidiary Camfil Farr UK, has become the first Gold Sponsor of Clean Air in London (CAL) and is supporting new campaign to build public understanding of indoor air quality (IAQ), initially in the British capital. CAL also aims to establish, sponsor, support and or manage campaigns or other activities to achieve – "urgently and sustainably" – at least World Health Organisation recommended standards of air quality London and other cities.

Camfil Farr welcomes the opportunity to work with CAL to highlight the issues surrounding IAQ, air pollution and its effect on human health. Camfil Farr believes that clean air is a human right, which is why we design high-quality filtration solutions that meet the needs of sustainable ventilation by creating the right balance between healthy indoor air and energy savings.

CAL is encouraging people to ask their employer "Does our ventilation system include regularly maintained air filters that comply with European guidline EN 13779?" Among other steps, CAL recommends people find out about pollution near their home, work or places they visit, protect themselves from the dangers of pollution, reduce air pollution for themselves and others and lobby for full compliance with air quality laws.

CAL's campaign gained media attention in September 2011 when London's air quality, in a report by green groups, was ranked as "below average" compared with other European cities. London was ranked below average after Paris, Glasgow, Amsterdam and Zurich. Berlin, Copenhagen, and Stockholm – where Camfil Farr is headquartered – performed the best while Dusseldorf, Milan and Rome had the lowest rankings.

CAL – and Camfil Farr – will be urging policy makers to improve air quality. This is right in line with Camfil Farr's firm belief that there is a need to increase general awareness of the harmful effects of air pollution and public understanding about the benefits of good IAQ for human health and productivity.

For further details:
www.cleanairinlondon.org

Mastering the new ABCs of AMC

PHOTO: MATTON

AMC – Airborne Molecular Contamination – is a very critical part of environmental control in electronics manufacturing today. Understanding the international roadmap for this evolving industry is vital for comprehending future AMC control trends in the semiconductor community.

Thanks to many years of experience in the field of microelectronics and semiconductor contamination control, and through our involvement in the International Technology Roadmap for Semiconductors (ITRS*), Camfil Farr is well positioned to recommend the best solution for advanced particle and AMC control.

Smaller critical dimensions

The "technology node" for AMC has now reached 22 nanometers (nm) – this is equal to the smaller critical dimension (CD) that lithography processes can print into patterns to form a transistor, the most important component of electronic devices.

The smaller the dimension, the more densely packed information and the better the performance of the microelectronic equipment or memories – something consumers typically notice when upgrading to computers with increasingly fast processors or large memories.

At this scale, AMC is a now a major concern for many processes involved in the manufacturing of logics or memories. The level of AMC control directly impacts production yield and quality. All "fabs" working with the latest technology cannot do without managing AMC today. AMC filters, such as those supplied by Camfil Farr, are installed in facility systems and on top of tools or "mini environments" for tools.

Two major challenges

In addition to AMC concerns, the semiconductor industry is facing two important challenges.

One is the full-scale implementation of EUV (Extreme UltraViolet) lithography scanners. This is expected to start in 2014 to follow the technology pace below 22 nm,

PHOTO: GETTY IMAGES

which is following, in turn, what is known as "Moore's Law" – that the density of circuit elements on microchips will double roughly every 12 to 18 months for more than 30 years.

ITRS experts expect the CD of printed patterns to reach 6 nm by 2026. To put this in perspective, it represents the approximate dimension of six toluene molecules side-by-side. With surface patterns nearing these molecular dimensions, AMC will naturally be a critical parameter.

The next-generation EUV lithography will also require a lot of power and the need to save energy in other areas of fabs will further increase. Camfil Farr, in addition to being a leading AMC expert, can also help fabs with our Life Cycle Cost (LCC) approach to filter selection and optimization.

The second challenge will be the progressive use of 450 mm wafers (against 200 and 300 mm today). A dimension like this will drive up the cost of individual wafers and further increase the need for AMC protection at tool level.

"Total Cair"

As the industry evolves, AMC experts will have to follow suit. Camfil Farr is continuously growing its product line and expanding its "Total Cair" concept.

Total Cair stands for Total Clean Air from facility to process tools, but also involves the implementation of more sustainable solutions inside microelectronics facilities thanks to filter regeneration, LCC and overall molecular filtration optimization.

Recent important orders in Malaysia, Singapore, Taiwan, Europe and the U.S. – of which some are described in this issue of AirMail – confirm Camfil Farr's readiness and capabilities to serve globally important semiconductor companies and their dedicated in-house task forces for AMC.

**ITRS is a group of experts representing the semiconductor industry associations of the U.S., Europe, Japan, South Korea and Taiwan. The ITRS roadmap is a set of documents that is prepared and updated regularly to anticipate the development of the market and to plan and control technological needs for production.*

Why AMC control?

Airborne molecular contamination (AMC) is now a major issue for all advanced microelectronic fabs. No advanced facility is running without a proper AMC control concept today.

A wide range of AMC effects have been observed impacting production yield. For instance, acidic corrosion of hard disks or wafers, condensable organic deposition on sensitive surfaces or exposure to low levels of ammonia have all been shown to affect diverse process steps negatively.

Filters are the heart of a cleanroom, but there are a number of considerations regarding room classification, choice of filter, and how filters influence the environment.

Camfil Farr's HEPA, ULPA and molecular filters are produced within controlled environments in Camfil Farr's certified plants. We can produce the same type of filters at multiple manufacturing sites. Our large production capacity ensures the availability of our products at all times throughout the world.

Gigapleat®

– the H2S eliminator

Flash memory is an increasingly important and fast-growing memory technology used in consumer electronics, removable storage and handheld communication devices. One of the leading providers produces flash memories using advanced semiconductor manufacturing methods.

The company's wafer fab in Asia was experiencing problems with hydrogen sulphide (H2S) contamination, a very serious problem in semiconductor production as it corrodes copper surfaces even when present at very low ppb (parts per billion) levels. Production yield was affected in a pattern correlated to H2S peaks inside the fab's cleanroom.

Fabs can experience H2S corrosion issues, but in many cases, the source of the problem is typically a large emitter of H2S, such as a petrochemical complex, pulp-and-paper mill, wastewater treatment facility or agricultural activity in the vicinity of the fab. Even natural hot springs can be a source.

The AMC source was external and the customer decided to install molecular filters inside the fab's make-up air units. Camfil Farr's Gigapleat NXPH C3 filters were chosen over another global AMC filtration competitor. A total solution was provided, including installation and online monitoring for filter certification.

In addition to eliminating the H2S corrosion problem, the Gigapleat filters offer an additional benefit – they remove ozone, a common oxidant found in outside air, especially in large cities, where it is generated by vehicle traffic.

PHOTO: GETTY IMAGES

Australia

Camfil Farr secures major biotech order

The Biotechnology Team of Camfil Farr Australia has won a substantial order to supply Esco Biological Safety Cabinets to Queensland Institute of Medical Research (QIMR). The order is the largest ever received by Camfil Farr in Australia.

Camfil Farr has been distributing the Esco cabinet range across Australia for a couple of years. Esco, based in Singapore, is a world leader in biosafety cabinets with thousands of installations at leading laboratories in 95 countries. Camfil Farr has secured the supply of Esco products in Australia because of our unique relationship with biotechnology organizations where we provide regular validation and replacement of their HEPA filters.

The Class II Esco cabinets are fitted with Camfil Farr H14 Megalam HEPA filters. Camfil Farr will also be responsible for regular servicing of the cabinets, arranging their installation, testing and commissioning, and providing replacement HEPAs.

QIMR

QIMR is one of the largest and most successful medical research institutes in Australia. Originally established to further the study of tropical diseases in North Queensland, QIMR has broadened its scope of research to include the genetic and environmental influences of a range of diseases including cancer, asthma, HIV, malaria, endometriosis and dengue fever. More than 700 scientists, students and support staff in six research departments in 50 separate laboratories.

QIMR & Camfil Farr personnel after signing the contract (from left): Camfil Farr's Pierre Thomas, Biotechnology Business Manager, and Ina Donaldson, Service Coordinator; and Nicolas McNeill, Procurement Manager; QIMR's Mark Eaton, Purchasing Officer; and Bruce Landford, Managing Director, Camfil Farr Australia & New Zealand.

Versatile partnership for Versilia's energy certification

Equipped with a CamHosp R ceiling system, this operating theatre at Versilia Hospital can meet the toughest air quality standards for surgery.

Camfil Farr does more than supply filters. We also help customers become more sustainable and energy-efficient. This is achieved with Camfil Farr's life cycle analyses and our low-energy filters and systems. The operations of customers can also be made "greener" by fine-tuning air handling systems in partnership with local technical staff. The first energy certification for a public hospital in Italy is a recent example.

Over a period of years, Camfil Farr Italy has been technical consultant and air filtration supplier to Versilia Hospital in Lido di Camaiore on the northeastern coast of Tuscany. This important regional hospital provides most medical and surgical specialties for around 26,000 patients annually.

As technical partner, Camfil Farr Italy has been steadily upgrading Versilia's air filtration systems to improve indoor air quality (IAQ) and reduce energy consumption. This work has involved reviews of the air handling systems and their mechanical components, as well as continuous measurements of system performance, all in close consultation with the hospital's technical manager and staff.

The first big step was to install Megalam MX filters for fine airborne particulate control in areas of the hospital. Pre-filtration filters have also been upgraded. Other filters are also being substituted to reduce pressure drop and realize greater energy savings. For example, low-energy Hi-Flo XLs will gradually be installed in air handling units (AHUs) and discussions are under way to include Opakfil Energy filters to reduce energy needs even more.

Operating theatres have been fitted with two CamHosp R ceiling systems, a versatile and future-proof system with unidirectional airflow that complies with the most stringent air quality standards for hospital surgery. The low pressure-drop development of filters in CamHosp R has saved even more energy for Versilia.

All upgrades and improvements were preceded by an LCC analysis. In addition to filter upgrades, smaller measures have been carried out, such as more frequent change-outs of filters to reduce pressure drop, cutting the power consumption of AHUs. Mechanical improvements have included the installation of inverters and high-efficiency fan motors for AHUs.

Energy certification is payoff

These collaborative efforts have paid off: in 2011, Versilia became the first hospital in Italy to be certified for energy-efficient and sustainable management. This "first" was recently highlighted at a special ceremony in Lido di Camaiore attended by management, experts and representatives for the EU and academic community.

Dr. Stefano Maestrelli (right), Technical Manager at Versilia, here being interviewed by a reporter, holds proof of the first energy certification for a public hospital in Italy, an award achieved in close collaboration with its technical partner for filtration systems, Camfil Farr Italy.

Landmark awards and certifications

Camfil Farr, a champion of energy efficiency and sustainability, likes to "practice what it preaches", as exemplified by prizes and certifications that have been recently awarded to the company's subsidiaries in the United Kingdom and France. These achievements recognize the steps taken by these companies to decrease energy consumption and reduce greenhouse gas emissions.

Camfil Farr UK staff proudly show the prizes they won at the recent Best Factory Awards ceremony in 2011.

Camfil Farr's subsidiary in the United Kingdom has become the first company in the country to transition from BS 16001 to ISO 50001 and the first company in the world to achieve both ISO 50001 and the Energy Reduction Verification Kitemark (British Standards Institution).

In France, Camfil Farr recently became the second company in the country to be certified to the EN 16001 energy management system. This certification recognizes the commitment and tangible results achieved by Camfil Farr France after several years of intense focus on improving energy efficiency within manufacturing at the Saint-Martin-Longueau plant. These efforts have reduced the company's energy bill by one-third.

In addition, Camfil Farr France has been recognized as a benchmarkable company and several institutions and universities have asked it to share and explain its energy practices for other manufacturers and customers.

Other awards

Camfil Farr UK has won three awards in 2011, been highly commended in seven – and is short-listed for another six – in recognition of achievements on national level within the British air filtration and HVAC industries. These awards cover all dimensions of business. They include Air Conditioning Product of the Year, sustainable manufacturing excellence and carbon reduction.

Earlier this summer Camfil Farr won the "Air Conditioning Product of the Year" for its Hi-Flo M7 H7 bag filter. Earlier in 2011, Camfil Farr UK was also the recipient of the MITIE Supplier Overall Award for Carbon Reduction, and the Energy & Environmental Awards SME Sustainable Business/Highly Commended prize.

More recently Camfil Farr U.K. also won "Best Engineering Plant" at the Best Factory Awards and was highly commended for the Health & Safety award and the Energy & Environmental award. At the RAC Cooling Awards Camfil Farr was highly commended with "AC Product of the Year".

Camfil Farr UK has been more shortlisted for 11 more awards in 2011 for innovative products, green initiatives, energy excellence and sustainable manufacturing practices.

Road Show update

Camfil Farr's unique "rolling" Mobile Lab and Exhibition – all housed in a 13-meter-long eco-friendly trailer truck – has been travelling around Northern and Southern Europe for several months, touring major cities.

In Frankfurt, Paris, Brussels, London, Copenhagen, Stockholm, Helsinki and other cities, our truck has been attracting much attention and a large number of visitors. We are both pleased and grateful for the warm welcome and interest that we have been getting.

Don't miss our mission to raise awareness about the importance of IAQ. We're on the road to demonstrate the benefits of effective air filtration and explain how sustainable IAQ and lower energy consumption are attainable with the right choice of filters.

Follow us on Facebook, or check our website to see when we will be in your neighbourhood!

www.facebook.com/pages/Camfil-Farr-Road-Show/164620503589519

www.camfilfarr.com/RoadShow/

PHOTO: GETTY IMAGES

Service par excellence

What does a biotech customer do when it needs filters in days, not weeks, for a facility undergoing an important validation process? Answer: rely on its air filtration vendor of choice – Camfil Farr.

This is what one customer did for one of its state-of-the-art manufacturing facilities in the Caribbean. The company is a major biotech manufacturer and Camfil Farr has been supplying its sites for a number of years with a variety of filters, including Pharmaseal, 2000+ Megalam panels, 2000+ 30/30 filters and Durafil.

The facility to be validated manufactures a treatment for patients with chronic kidney disease and is the first and only oral solid dosage (OSD) facility in the customer's global network. Camfil Farr and Camfil Farr APC (Air Pollution Control) were both involved in supplying additional Pharmaseals, containment and dust collector equipment when the building was originally refurbished for producing the pharmaceutical.

New vent filters needed

Inspecting the new facility, the European Medicines Agency (EMEA) noted that the vent filters had to be replaced for a granulation process critical to the validation of the facility. These particular filters, made by Camfil Farr in France, have a normal lead-time of several weeks but were needed quickly to complete the validation procedure.

Camfil Farr sales teams in the U.S., France and Puerto Rico, together with the customer's procurement staff, coordinated the logistics in a matter of days, getting the filters delivered from France to New Jersey on a Friday, to the Caribbean site the following Saturday morning. A Camfil Farr representative picked up and personally delivered the filters to the customer since the airfreight company could not ship or guarantee the delivery overnight. Mission accomplished … and in record time.

Challenging orders like this give Camfil Farr the chance to validate true partnerships and prove its commitment to customers.

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Clean air gains momentum in the European political arena

we provided information about the harmful effects of air pollution, which directly affects air quality indoors, where people spend about 90 percent of their lives.

At the event, Finnish MEP Sirpa Pietikäinen made introductory comments, after which Camfil Farr gave a live demonstration of real-time air quality measurements. Professor Olli Seppänen, a leading specialist on indoor air quality, also commented on the importance of IAQ.

Public health concern

Air pollution and poor IAQ have become public health concerns and Camfil Farr wants to inform the general public about their impact on human health, well-being, performance and productivity. In Europe alone, more than 300,000 Europeans die prematurely from the health impact of air pollution each year and indoor air can be 50 times more polluted than outdoor air, due to the infiltration of outdoor air into our buildings and chemical emissions from building materials, furniture and products used indoors.

PHOTO: MATTON

At the same time, knowledge about the importance of IAQ is limited. Camfil Farr's mobile exhibition – and events like the one in Brussels – is mainly designed to inform politicians, the public and the media about the importance of breathing good quality air in the premises where we work and live.

But the main message is this: we consider clean air to be a human right.

Read more about this at camfilfarr.com, on our dedicated Road Show pages, and in our latest Annual Report and Sustainability Report.

PHOTO: GETTY IMAGES

New acid-resistant coating for containment equipment

When nuclear fuel is converted or enriched, some processes require equipment that can withstand hydrofluoric acid and other acid gases that are highly corrosive on conventional materials, but also highly toxic to people and the environment.

For example, solutions for extraction filtration systems have been developed for exhaust gases containing hydrogen fluoride (HF).

Based on its many years of experience from sheet metal production for filtration and containment system products used in the nuclear power industry, Camfil Farr France has developed a new range of containment equipment, such as tight-lock housings and containment dampers, which can withstand extremely corrosive acids. These solutions, made of mild steel or stainless steel, are coated with a suitable surface treatment, type ECTFE (ethylene chlorotrifluoroethylene).

In addition, air filtration systems for containment equipment are now designed to withstand a highly acidic and gaseous atmosphere. These use special very-high efficiency filters with a specific membrane media and airtight gasket, and molecular filters with impregnated activated carbon to adsorb HF.

These new solutions are all described in Camfil Farr France's new Safety and Protection product catalogue.

New product catalogue for the nuclear industry

Camfil Farr France has produced a new product catalogue – "Safety and Protection" – in French and English. This new publication is the most comprehensive guide ever published on Camfil Farr France's range of air filtration solutions and products for the nuclear power industry. Inside you will find everything you want to know about our track record and history in the nuclear industry, our entire range of filters for nuclear power plants, our containment systems, technical specifications and explanations, plus a glossary of nuclear terms. Ask for a copy from your local Camfil Farr company or representative.

Want to know more?

For further information please contact the Camfil Farr subsidiary or agent closest to you, or phone, write or fax to Camfil Farr headquarters.

www.camfilfarr.com

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EXHIBITIONS 2011/2012

2011

NOVEMBER

16 – 17, Indoor Air Workshop, Forssa, Finland
17 – 19, Bostadsrättsmässan, Stockholm/Älvsjö, Sweden
29 nov – 2 Dec, Pollutec (Road Show) Paris, France

DECEMBER

13 – 15, Power Gen International, Las Vegas, USA

2012

JANUARY

17 – 21, Swissbau 2012, MCH Messe, Basel, Switzerland

FEBRUARY

7 – 10, Interclima, Paris, France
8 – 9, Sairaalatekniikan päivät, ("Hospital Technics") Turku, Finland
8 – 9, Annual Pharmaceutical and Biotechnology Manufacturing Congress for Enlarged Europe, Budapest, Hungary
20 – 23, Nigeria Oil & Gas, Abuja, Nigeria
28 Feb – March 1, Pharma Lounges, Karlsruhe, Germany

MARCH

5 – 7, Russia Power, Moscow, Russia
13 – 15, CFIA, Rennes, France
12 – 17, World of Climate, Moscow, Russia
20 – 23, Nordbygg, Stockholm, Sweden
27 – 30, Anuga FoodTec, Cologne, Germany
27 – 30, 38° Mostra Convegno ExpocomfortT, Milano, Italy

APRIL

19 – 21, Power-Gen India & Central Asia, New Dehli, India

MAY

23 – 24, Cyclatom, Charbourg, France

JUNE

11 – 13, 15th EBSA Conference 2012, Manchester, UK
12 – 14, Power-Gen Europe, Cologne, Germany
15, VTDV, Leuven, Belgium
18 – 22, Achema, Frankfurt am Main, Germany
27 – 29, Interphex, Japan

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