

MAY 2017

# VILEDON NEWS

IN FOCUS: SUSTAINABILITY

## THE MAXIM: ACT SUSTAINABLY

HOW INNOVATION POWER HELPS TO CONSERVE RESOURCES



The goal of assuming responsibility for society has been anchored in the corporate values of the Freudenberg Group for more than 165 years. Shaping a sustainable future is today a global challenge. Freudenberg Filtration Technologies is actively contributing to sustainability and is thus fulfilling both this responsibility and the company's aspiration.

The Duden dictionary defines sustainability as a "principle according to which no more may be used than can regrow, regenerate, or be made available again in the future." The Freudenberg Group has concentrated this definition on two main focus points. On the one hand, the company wants to reduce the size of its "footprint". To this end, processes and plants are continually being improved so that

production becomes as resource-friendly as possible. On the other hand, the Freudenberg Group wants to increase the size of its "handprint" and develop innovative products to help customers improve their efficiency. In summary, the negative environmental consequences of production should be minimized and the possibilities of sustainable resource use maximized. Following this principle, Freudenberg Filtration Technologies can also contribute as a globally operating company.

### Step-by-step towards increased sustainability

The filtration specialist works towards this goal using different "sustainability building blocks". The efficiency of the materials used plays a role, for example, if recycled or easily renewable substances can be used that are easy to process at the end of their working lives. Waste handling is another important area and this includes water. Filtration using Aquabio technology from Freudenberg Filtration Technologies can produce up to

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70 per cent drinking water out of waste-water. Another major theme is, of course, clean air. Especially in high-emission industrial plants, dust extraction products made in Weinheim, Germany, ensure impressively low clean gas values, in some cases less than 0.1 mg/Nm<sup>3</sup>. In indoor areas, particles and harmful gases can be reliably separated with special filters for room air cleaners – a major plus for the health of countless people.



Resources must be able to regrow



**Clean water. Clean air. Clean solution.**

In the search for sustainable filtration solutions, Freudenberg Filtration Technologies is also researching the area of energy efficiency. Ventilation and air-conditioning systems in office buildings consume around 40 per cent of a building's total energy requirements, while the ventilation of clean rooms can account for as much as 80 per cent. This is mainly due to the flow resistance of the air filters. High-quality Viledon® filtration solutions enable reliable and energy-optimal operation of these air-conditioning systems. Their low pressure drop combined with a high dust holding capacity ensures clean air in



Energy needs to be used efficiently

buildings and clean rooms while achieving a significant reduction in the energy requirement of the entire system.

**“IN OUR PURSUIT OF SUSTAINABILITY, WE NOT ONLY ORIENT OURSELVES AGAINST INTERNAL STANDARDS, BUT ARE ALSO ACTIVELY INVOLVED IN AN INITIATIVE OF THE UNITED NATIONS.”**

**How to make good things even better**

In the pursuit of sustainability, however, the Freudenberg Group not only acts according to its high internal standards, but also actively participates in the Global Compact of the United Nations. In signing the Compact in 2014, the company committed itself to responsible action – with regard to sustainability as well as to human rights, working standards, health protection and much more. An annual report documents this commitment. Meanwhile, Freudenberg Filtration Technologies continues to research ever better, more resource- and energy-efficient possibilities. Through its production processes and products, the company can influence the responsible, sustainable handling of our planet. ■

**The sustainability building blocks**



**Materials**

- Material efficiency
- Recycled, renewable and replacement materials
- End of Life (EOL) handling of the products



**Waste**

- Waste handling



**Energy**

- Energy efficiency
- Renewable energy



**Emissions**

- Air pollution/ emissions



**Water**

- Water pollution
- Water consumption



**Health**

- Impact of the products on health

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Further information about the commitment of the Freudenberg Group and Freudenberg Filtration Technologies to sustainability can be found at:

[www.freudenberg.com](http://www.freudenberg.com)  
> Responsibility > Sustainability

[www.freudenberg-filter.com](http://www.freudenberg-filter.com)  
> Company > Sustainability

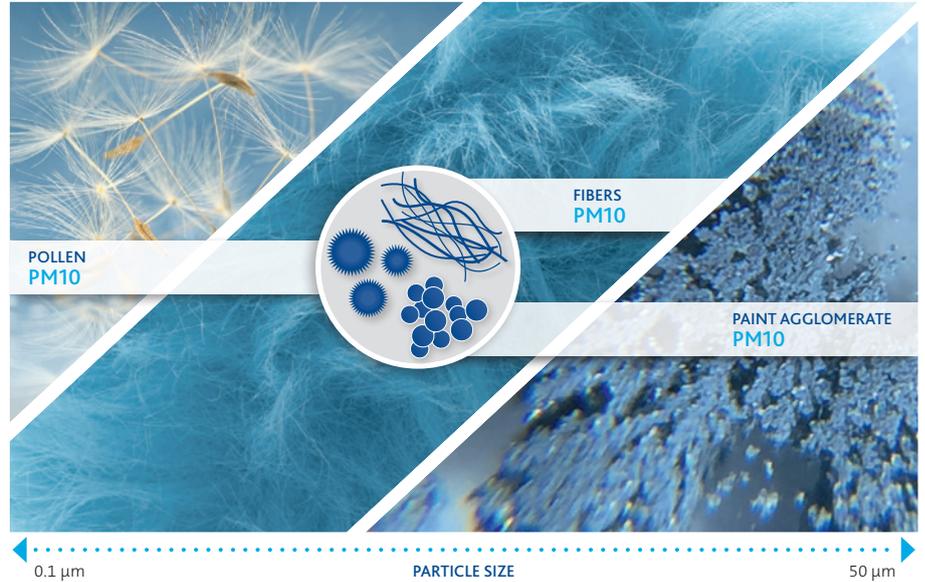


# A FILTER CLASS OF ITS OWN

## THIS IS WHAT ISO 16890 MEANS FOR SURFACE TREATMENT

Inclusions may be valuable in amber – for paint shops, however, dust trapped in paint is a major quality problem. For an optimal high-gloss result, the operators of paint plants are therefore primarily dependent on clean air. Thanks to the new ISO 16890 standard, it will be easier to select the right filter for these applications in the future.

According to the old EN 779 test standard, only the 0.4 µm particle size was used for filter evaluation. For paint businesses, however, it is the particle spectrum around 10 µm – pollen, fibers and paint agglomerates – that is especially relevant. The new ISO 16890 test standard respects the wisdom that “not all dusts are equal” and now considers the complete particle spectrum from 0.3 to 10 µm – fine dust fractions PM1, PM2,5 and PM10.



Relevant particle sizes for paints shops

The filtration efficiencies of the filters are evaluated on the basis of these fine dust fractions. The selection of the right filter system is then dependent on the location of the paint shop or the dust concentration of the ambient air. The e.FFECT (electronic Freudenberg Filter Efficiency Calculating Tool) instrument developed by Freudenberg Filtration Technologies calculates the total amount of atmospheric dust that needs to be separated

by the filter stages. This helps to determine the best possible filter arrangement. The new ISO 16890 thus helps paint shop

operators with an optimally designed fresh and recirculating air system to achieve high-quality paint finishes. ■

You can find out more about ISO 16890 in surface treatment and e.FFECT at

[www.freudenberg-filter.com](http://www.freudenberg-filter.com)  
> ISO 16890 > Surface treatment

In the next edition of Vildeon® News:

**i** What ISO 16890 means for the food and beverage industry.

## AIR POLLUTION CONTROL

# LEAVING DUST BEHIND

## VDMA WORKING GROUP MEETS AT FREUDENBERG HEADQUARTER

The experts of Freudenberg Filtration Technologies have been actively involved in the dust extraction working group of the German Mechanical Engineering Industry Association (VDMA) for many years. On this occasion, they acted as hosts, with representatives of all member companies coming to Weinheim, Germany, to exchange professional views.

The biannual meeting welcomed an expert from Berlin. Anja Behnke from the German Federal Ministry for the Environment,

Nature Conservation, Construction and Reactor Safety, focused her lecture on the revision of the Technical Instructions on Air Pollution Control (TA-Luft). These calculation rules for major airborne pollutants are currently being revised. As this will affect more than 50,000 plants across Germany, her talk was of great interest to the participants. Concluding an insightful meeting of the working group, Karsten Schulz, Product Segment Engineering Manager Industrial Air Filtration at Freudenberg Filtration Technologies,



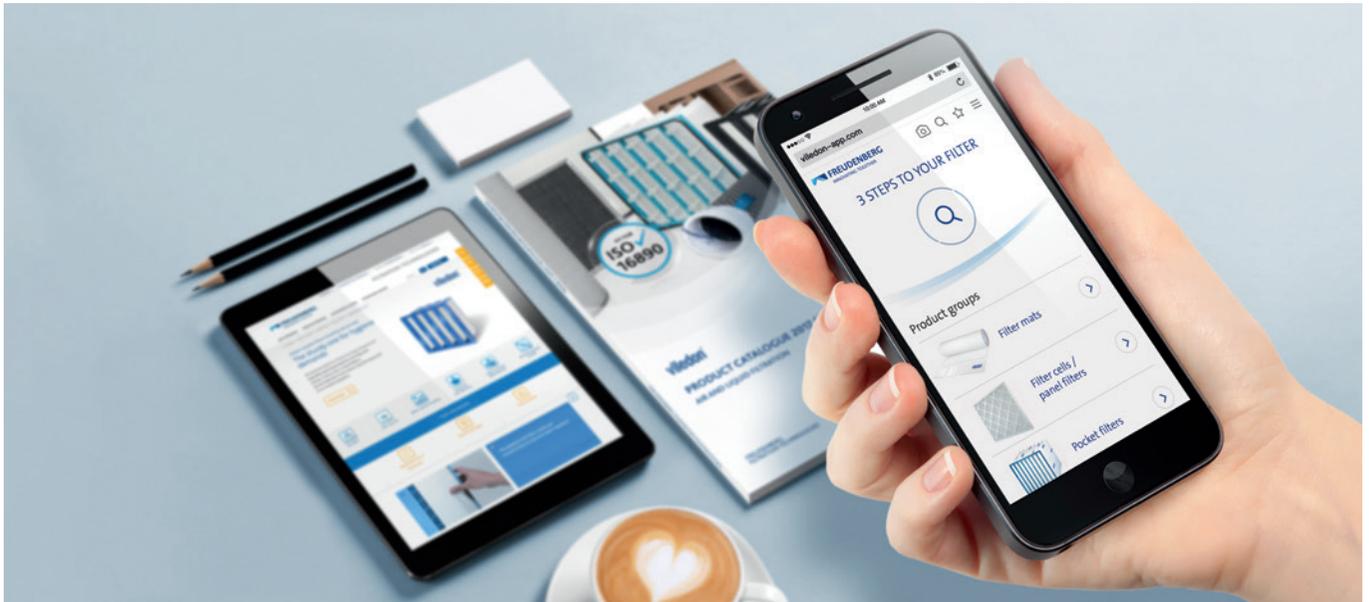
Guided tour of the Freudenberg company exhibition

spoke on the subject of the new ISO 16890 test standard for coarse and fine dust filters. ■

MAKE YOUR CHOICE

# YOUR THUMB IS IN CONTROL

THE VILEDON PRODUCT CATALOG – NOW AS A HANDY APP



The new Viledon® app is much more than a product catalog “to go”. Whether on a smartphone or tablet, our unique web app gives you access to the complete product and service offer of Freudenberg Filtration Technologies. Anywhere and any time.

Everything you need to know at your fingertips – including the new ISO 16890 test standard. The new Viledon® app makes it even easier for you to choose the right filter for your needs. In three steps, you determine product group, filter class and application area. You can then display various filters with technical details in the hit list, which you can

add directly to the selection. You can also compare the filters and directly request them.

A special feature of the app: if you want to switch to Freudenberg filters, just send a photo of the filters to be replaced. We will tell you which solution is suitable for you. ■

Open [www.viledon-app.com](http://www.viledon-app.com) on your smartphone and add the Viledon® app to your home screen.



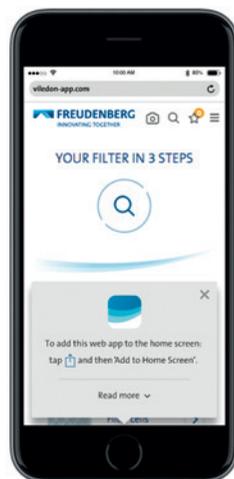
You can find more information about the new Viledon® app here:

[www.freudenberg-filter.com](http://www.freudenberg-filter.com)  
> Make your choice

Whether for iOS or Android, downloading the Viledon® app is simple:

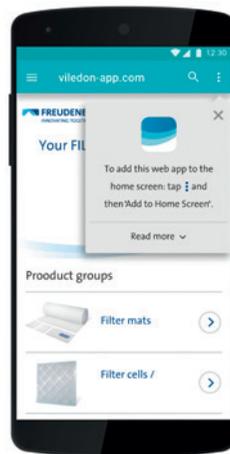
## iOS

- 1 Open [www.viledon-app.com](http://www.viledon-app.com)
- 2 Click on 
- 3 Select “Add to home screen”
- 4 Add the Viledon® app to your home screen



## ANDROID

- 1 Open [www.viledon-app.com](http://www.viledon-app.com)
- 2 Click on the menu  above right
- 3 Select “Add to home screen”
- 4 Add the Viledon® app to your home screen



# CLOGGING IS A THING OF THE PAST

## USING FILTER SOLUTIONS FROM GERMANY, JLG TIANJIN NOW PAINTS MUCH MORE EFFICIENTLY



The site of the American lifting platform manufacturer JLG in Tianjin, China

Overspray of an average of 50 per cent, 250 kilograms of paint sludge a day and clogged air filters – the efficiency of the paint booths of the American lifting platform manufacturer JLG at their Chinese site needed improvement. With the help of Freudenberg Filtration Technologies, the dry separation system has been improved to such an extent that it matches the performance of a wet separation process and is even less costly.

JLG paints its lifting and articulated boom platforms in a striking, powerful orange. In the two paint booths in the Chinese port of Tianjin, the painting process of these large machines had become a major problem. Considerable amounts of overspray and paint sludge had brought the exhaust air filtration system almost to its knees.

The people responsible recognized the problem and discussed their specific wishes with the filtration specialists.

### Lower costs, higher load capacity

JLG set out clear requirements for the new solution. “The life of the filter and paint collection system needed to be at least 40 hours and the working time needed for filter changes should not exceed eight hours a week”, Sui explained. “Overall, we wanted to reduce the total cost of work, filters and disposal by 40 percent compared to our existing system.” Freudenberg Filtration Technologies proposed a dry separation process, which was met with great interest. A system of pocket filters made from synthetic-organic fibers and microfibrers would solve the problems of JLG



Tianjin – in combination with edrizzi® paint mist separators as pre-stage filters. The conversion began with the installation of various Viledon® Compact SD45 pocket filters. In the next step, Freudenberg Filtration Technologies installed 36 edrizzi® Vario medium boxes in each paint booth, which achieve a high degree of separation and can be individually exchanged and disposed of at low cost.

### The solution: everything is better in Tianjin

Following a test phase, the system was further refined and converted to edrizzi® Vario fine Boxes. Now more than 100 kilograms each of primer and topcoat are deposited daily, which results in more reliable fine dust filtration in the exhaust air. With this solution, in addition to cutting costs, increasing service life and reducing filter changes, Freudenberg Filtration Technologies fulfilled all JLG’s other requirements. ■

Further information about the case study on:

[www.freudenberg-filter.com](http://www.freudenberg-filter.com)  
 > Download-Center  
 > References > Surface treatment

## AIR FILTRATION

# THE PLUS FOR MORE ENERGY-EFFICIENT PERFORMANCE

## THE NEW MVP E<sup>2</sup> PLUS CASSETTE FILTER GETS TOP MARKS

New name, more energy efficiency: the cassette filter is valued as a reliable and economical filter in the production facilities of the food and beverage industry, in offices, factory halls or hospitals. However, because a good product can be made even better, the MVP E<sup>2</sup> Plus series has arrived – including a boost in economic efficiency.

Consuming 25 percent less electricity, the new MVP E<sup>2</sup> Plus cassette filters – available from filter class ISO ePM2.5 55% to ISO ePM1 85% – supplement the

MVP series and score with an A+ energy efficiency class according to EUROVENT. In addition, the new cassette filter features the accustomed high dust storage capacity, low pressure drop values and the best price-performance ratio – characteristics that are almost in the DNA of the product line. High functional reliability against dust penetration as well as strength are ensured by sealing the dimensionally stable fold packages in the robust plastic frame, making the latest filter an easy choice. With the

MVP E<sup>2</sup> Plus cassette filter, Freudenberg Filtration Technologies once again offers high operating safety combined with cost-effectiveness, which has a positive impact on the user’s footprint. ■



# MINOR RESEARCHERS. MAJOR RESULTS.

## THE GERMAN REGIONAL "YOUNG RESEARCHERS" COMPETITION GUESTS AT FREUDENBERG



1<sup>st</sup> place in the area of technology: the tablet dispenser

Numerous interested visitors fill the corridors in Building 163 at Freudenberg's headquarters in Weinheim, Germany. At the individual stands, there is discussion, explanation and laughter. The junior inventors present fascinating, surprising and sometimes complex projects, which clearly show that there is no need to worry about the country's potential for innovation.

The spirit of research is in the air. Around 100 young people present their ideas for the North Baden regional competition in the rooms of the Freudenberg Group. 43 super ideas combined with great commitment. The winners of the seven disciplines receive a ticket for the national "Young Researchers" competition.

### Young people solving everyday problems

The results are impressive. There is the intelligent tablet dispenser, which controls the precise output of different tablets and, with a multi-stage alarm system, ensures that the tablets are not forgotten. Or the inconspicuous bracelet, which is equipped with sophisticated vibration technology that enables blind people to recognize colors. Within the framework of "pupils experiment", for example, two 12-year-olds examined different types of apple. One result: the Braeburn variety is the longest lasting.



Pupils experiment with various apple varieties

### Freudenberg has been a partner and sponsoring company for 50 years

Impressive imagination coupled with great enthusiasm is something that the Freudenberg Group has deemed worthy of support for 50 years. As a sponsoring company of "Young Researchers", Germany's best-known newcomer competition, the technology company has much in common with the sponsored young researchers: the motto "Innovating together". ■

ISO 16890

## VILEDON COMPACT WEBINARS

### YOU ARE WARMLY INVITED

Freudenberg Filtration Technologies is offering its customers the free compact webinars "Energy rating based on ISO 16890". This November, you will find out everything you need to know about the revised energy classification according to EUROVENT 4/21. ■

For more information, please visit:

[www.freudenberg-filter.com](http://www.freudenberg-filter.com)  
> ISO 16890



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