



Our International Wire&Mesh Magazine for Existing and Prospective Customers

The filter packs are at the heart of every HPD system. PACO supplies the process-specific filter cloths, perfectly screened plates – including re-screening of used plates – and the specific expertise for optimum operation.

Triple A – A Theory of Relativity

Dear Reader!

Credit rating agencies (CRAs) earn their money by rating the credit-worthiness of countries and companies. Whoever is assigned the Triple A is considered extremely trustworthy when it comes to repaying the loans that they have been granted.

For a number of years, countries were considered particularly creditworthy: after all, the taxpayers were always there to provide the needed security. Nowadays, however, CRAs view countries much more critically as their citizens are no longer in a position to serve the loans that the state has taken on.

In the case of the European Union, this has not only had an effect on the agency ratings for various member states, but on the common currency as a whole. And this, in return, affects us as a company. Of course, we would not want to go back to the time before the introduction of the EURO, even if it was possible. We are well aware that any calls in this direction create unease in the financial markets and are detrimental to the economy.

At the same time, countries could learn a lot from the economy in general. The crucial mistake that they make would spell the end for any company: the imbalance between income and expenditure. Whoever lives beyond their means is sure to get into financial difficulties. As a family company, we are particularly well aware that equity is far preferable to any form of debt.

In this respect a triple A rating for a country has to be viewed rather relatively: policy makers run up debts and generations of citizens are obligated to pay them back. This is the same as if a company would make its customers accountable for the repayment of its loans. However, a company is entirely responsible for itself, its customers and its staff. A family company in particular. Countries should consider that fact as an example.

Best Regards


Peter Ruppel
Managing Director



Issues with HPD Filtration? Diagnosis and Therapy – Immediately!

In the context of filtering, the abbreviation HPD stands for the German term *Horizontal-Platten-Druck* (horizontal plate pressure) – something that every expert insider probably already knows. But apart from these insiders, there are also competent people in other fields that would find HPD exciting if this specialist area were to be explained in a way that is easily understandable. That is the purpose of this article: to convince the insiders and interest all other people. At PACO, we have gained more than ten years of experience in HPD filtration. We see it as an exciting topic providing a number of benefits: productivity, efficiency and safe operation.

The principle: everything in a vessel A HPD filter can be considered a closed system consisting of a pressure-resistant vessel with a larger or smaller pack of circular plates. The fluid to be filtered is pumped through the vessel and the cleaned filtrate is discharged through a hollow shaft. At this point, we do not want to forget the device for disposal of the contaminated filter cake at the end of each cycle. The discharge obviously requires some form of drive. Where required, jacket heating or jacket cooling are provided. Diatomaceous earth, activated carbon or cellulose are used as filtration aids. One of the main advantages of the HPD filter is its variability, which has enabled it to become well established in numerous industries. Even the handling of combustible, toxic and corrosive substances are among its capabilities.

Many industries – even more demands

One of the traditional applications of the HPD filter is the food and beverage industry, in particular processing of gelatin, beer, wine, fruit juices, sugar or lactose. As it can be used as a settling filter to separate low particle concentrations, as well as a solid matter filter that can control high particle concen-

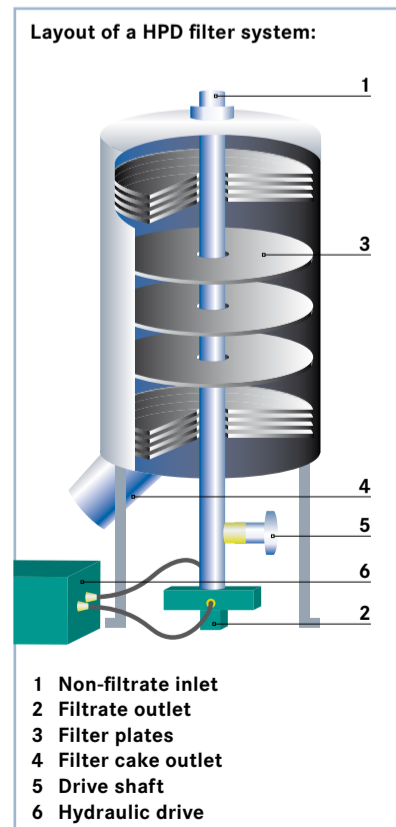
trations, the HPD filter has an extremely comprehensive range of utilization. This includes sensitive chemical processes in the production of antibiotics, pesticides or pigments. Common to all of the

cases mentioned above are high product purity, regardless of whether fluids or extremely fine dry powders are being produced. In the last few years, the HPD filter has also found its way into heavier industries such as fertilizer production or the recovery of precious metals.

The PACO HPD Service: from troubleshooting to optimization

It goes without saying that PACO filter cloths were the first to find their way into HPD filtration. Their quality and variety of specifications that has ensured their suitability for a wide range of applications meant that they were a natural choice. Drawing on over ten years experience gained in practically applying the technology to specific processes, the cloths were then mounted and perfectly screened by PACO. We were also able to come to a number of conclusions from the malfunctions experienced by our users, patterns of wear observed and our close co-operation with system manufacturers to build up a valuable store of information. More and more PACO customers are using this as part of our service when we supply them with new or re-screened filter plates. Our experts can exactly tailor the cloth and screen-

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Continued from page 1

HPD Filtration

ing to each individual application and ensure that the design is coordinated with the system manufacturer from the outset. Whereby, exact failure analysis is of particular benefit. Examining the damage enables us to draw conclusions about the means of operation and evaluate the potential for improvement. For instance, a small amount of wrinkling can cause a wire to break and a leak to occur. Or excessive vibrations or disproportionately high plate wear can occur during the cleaning process, and

exceeding the permitted level of solids can damage the plates.

PACO has gained more than ten years experience in the operation of HPD filter systems and has developed a keen eye for spotting optimization potential. The HPD process is an extremely fascinating filtration solution. At PACO, we are fully committed to supporting and developing it with all our knowledge.

Your direct line to PACO:
thomas.schulze@paco-online.com

HETA Invests in Sub Arc Welding: Only the Best Connection is Good Enough

The re-tooling of the PACO subsidiary HETA is gathering pace. After the colossal EVOROLL metal plate and rolling machine, a high performance submerged arc welding (SAW) system is now available. It produces welded seams that are not only technically perfect, but also can be considered as x-ray proof.

Quality welds through wire and flux HETA employs three methods of welding: wolfram inert gas (WIG) welding with additional filler wire, manual metal arc (MMA) welding using electrodes, and submerged arc welding (SAW) with additional filler wire. The latter is particularly important as it provides a welding quality that satisfies the most stringent requirements such as pressures up to 450 bar or applications in the nuclear sector. X-ray examinations required by approval organizations in such cases testify to the high quality of the welded seams.

SAW is an arc welding process that enables attaining an extremely high welding efficiency. It is particularly suited to weld longer seams; however, this cannot be carried out manually.

The term "submerged arc welding" indicates that a granular fusible welding powder covers the fused welding wire. It floats on the surface of the fused pool and protects it from contact with the environmental atmosphere, ensuring a particularly high welding quality. Various combinations of welding wire and welding powder are used for the different carbon and chromium nickel steels that are to be welded. The process has near-zero emission and can be performed without exposed arc eye protection.

One of only a very few

The sub arc welding process is especially suitable for the production of the pressure vessels that are extremely important to HETA. The automated SAW system enables the production of both longitudinal as well as circumferential seams. In addition, larger batches of

work pieces can be welded cost-effectively, quickly and with a consistently high level of quality. To ensure this, the HETA SAW system is equipped with a sub arc welding rectifier, a video monitoring system and an automated welding head height control system with a contactless detection element. The welding processes are controlled and monitored through a complex Siemens SPS system.

Within the HETA catchment area and a long way beyond there are very few welding systems of this quality, if any at all. Consequently, HETA is offering sub arc welding of vessels as a sub-contractor to other companies – including extensive and specialist advice for each individual case.

Technical Conditions

The HETA SAW system welds carbon steel vessels as well as stainless steel vessels and even special materials such as inconel 625 or hastelloy. The application becomes economically viable with wall thicknesses of 8 mm and above and vessel diameters of 500 mm. There is almost no upper limit to the vessel dimensions. This means that longitudinal seams on vessel lengths up to 3,000 mm and diameters of approx. 3,000 mm can be produced. Also possible is the internal/external welding of mounted, tack-welded rows of container sections, whereas the maximum length of each section is 6,500 mm and the section weight is not to exceed 10 t. All in all: There are a great number of possibilities – simpler, safer and more economical than ever before.

Further information:
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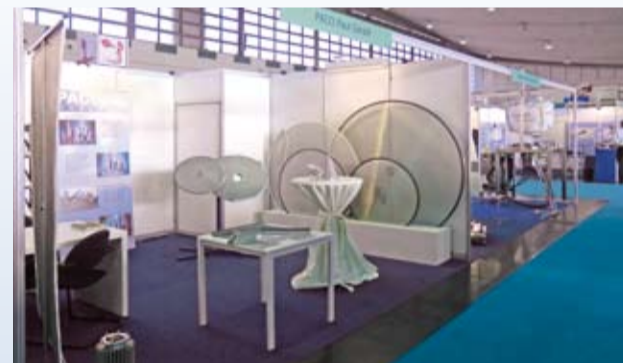
The fully automated HETA sub arc welding system is not only able to weld. It can also lift and hold a total weight of 10 tons by means of a roller block rotating device. This enables to handle extremely large and heavy work pieces safely.



ChemTech WORLD EXPO, Mumbai

Where the World Market Met

The show year began for PACO with its participation at the 25th ChemTech WORLD EXPO in Mumbai, India at the end of February. Unfortunately, the world economic crises got in the way of the record participation predicted by the organizers. Nevertheless, the statistics of the show are still impressive: 21 countries were represented, 329 exhibitors from around the world with a further 1,100 exhibitors from India alone. The exhibitors, however, kept us rather on tenterhooks: twelve hours before the show was due to start, the hall was still in chaos and the booths were only shells. However, everything still started as planned on time. A fine example of dynamic Indian growth! The interest at the PACO booth was satisfactory. A lot of attention was paid to PACO filter elements for catalyst separation, resulting in an order for test elements from an Indian manufacturer.



easyFairs SCHÜTTGUT, Dortmund:

Trade Delegates Meet Specialist Exhibitors

SCHÜTTGUT is a show at which the trade remains amongst itself: innovative and well-known specialist suppliers meet a qualified specialist audience. At the PACO booth, we presented an extended range of products. It started with screen cloths with extremely high efficiency and separating capability and extended through to the high performance MAG 10 screening machine that can separate the most demanding screening materials or products. Within the two days at the show, there were 80 contacts made, of which 20 were first time contacts. The SCHÜTTGUT is one of the most successful shows for PACO when it comes to making contacts, and it is extremely likely that we will be back next year.

FILTEC 2011 Wiesbaden:

PACO & HETA HETA Exhibiting as a Team

Once again exhibiting at the FILTEC, the largest European event for filtration and separation as well as particle measuring technology, was well worth it for PACO. Our experiences of past events were already good. These were not only confirmed in 2011, but exceeded due to the economic recovery in parts of Europe. During the exhibition, we had 130 intensive talks with interested parties, of which 28 were new contacts. We were, however, particularly pleased to present ourselves together with our new subsidiary HETA. As a specialist for industrial plant and equipment for the mechanical filtration of fluid and gaseous media, including crude oil and natural gas, HETA was able to attract a lot of international attention. PACO and HETA would once again like to thank all of the visitors that made their way to Stand K 16 in Hall 4 at the FILTECH 2011!

PACO Supplier Portrait

Dahmen Präzisionsdrähte

We Need “Live Wire” Professionals!

A metal wire cloth is only as good as the wire that it is woven from. This is a well-known fact that has been taken extremely seriously by PACO ever since its foundation over fifty years ago. That is why the selection of a suitable wire supplier has always played such an important role. The close working relationship between PACO and Dahmen, a manufacturer of precision wires, has a tradition characterized by trust and innovation throughout the course of many years.

At the heart of wire manufacturing

The reason that particular industries and companies have been established in the areas that they are based in today is often extremely plausible. Nevertheless, these are often forgotten, as the factors that often played a decisive role in the choice of a particular location are of no importance nowadays. This is true for wire manufacturing in the town of Iserlohn in the rural and hilly Sauerland area of northwestern Germany. Originally, there were ore deposits in the region that could be used for the manufacture of metal products. This was complemented with a large supply of hydropower and wood that provided the manufacturing operations with the necessary energy resources. One of the first global sales success stories were metal needles from Iserlohn that gained an excellent reputation among the suppliers of knights' chainmail shirts. Later in history, industrial wire manufacturing and metal processing allowed Iserlohn

to develop into one of the most prosperous towns in the former kingdom of Prussia. True to the industrial tradition of Iserlohn and the district in which it is situated is the company Dahmen, founded in 1919 as a specialist for precision metal wires.

Business relationship almost from the outset

When PACO, or to be more accurate Paul & Co., was founded in 1953, the wire manufacturer J.G. Dahmen & Co. had already been in existence in Iserlohn for more than 30 years. Therefore, it was no surprise that Wilhelm Ruppel, co-founder of PACO, very quickly came across Dahmen when he was looking for a reliable wire manufacturer for his metal wire weaving business. From the outset, excellent quality at a good price has characterized the close working relationship. And it was typical for Wilhelm Ruppel to not perceive his suppliers as interchangeable but wanting to

develop a long-term co-operation based on mutual trust. This quality of business dealings has become a characteristic part of the PACO corporate culture, successfully continued by the new PACO management. It is particularly interesting that this personal principle is not only common to the management, but can be found at any level within the mutual company structure. This means that it is normal for the work mates at Dahmen to always find a hearing ear at PACO that will provide them with the needed information and support, and vice-versa. Such open communication is of particular benefit to the engineers, developers and production specialists at both companies. Without a doubt, this is the logical explanation for the mutual success of both companies throughout the years. Dahmen has become and remained one of the most important wire suppliers to PACO in spite of the countless interesting and appealing offers received through the internet from as far away as China and other emerging economic regions.

The (medium) size bonds us

“Birds of a feather flock together” might be a rather well known proverb. But in the case of PACO and Dahmen, it is a saying that contains more than just an

element of truth. Two companies with similar backgrounds and objectives have developed extremely close ties with each other: both companies are medium sized enterprises, both are owner-managed, both are entirely oriented to the needs of their customers and both are committed to their families. On top of this they perfectly complement each other, and not simply as wire manufacturer and wire processor. The co-operation in research and development, in manufacturing and sales, and in expertise and vision is extremely close and effective in a way that is only possible among medium-sized, family-run companies. The large companies of this world have developed their own extremely successful strategies – but they seem to have a different point of view than family companies when it comes to the importance of personal contact and individual responsibility for each other. In the case of companies such as PACO and Dahmen, personal continuity and the resulting mutual trust are definitely the way forward. Both are well placed in the global market and as families so that a successful continuation of their close working relationship can be expected long into the future..

For Further information:
www.dahmen-draht.de

Visit us on the internet!
www.paco-online.com



“Wire is Our Passion.”

Interview with Dr. Gösta Dahmen
(Engineer)

PACO World: Dr. Dahmen, what is so fascinating about wire?

Dr. G. Dahmen: Everything. Its history and its future. Its manufacturing and its application. Its appearance and its precision. The high demands of our customers and the continued development of our production process. All in all, a very broad field.

PACO World: Let's start with the history. How did it all begin?

Dr. G. Dahmen: It all started when man learned how to form metal in such a way that produced long, more-or-less thin, but always flexible and tear-resistant strands of wire. As far as I am concerned, the invention of wire is of equal cultural importance to the development of mankind as the invention of the wheel. Similar to a number of other things, the Egyptians have been credited as being the first. Although they began making wire out of gold to produce jewelry. In medieval times, people were able to produce and process wire to make chain mail coats for knights. And without the developments in the production of wire, the industrial and current high-tech ages would be completely inconceivable.



PACO World: If wire is such an important product, why do most people not recognize this?

Dr. G. Dahmen: Because they simply don't know enough about wire. Who thinks about wire when they drive across a bridge, switch on a light or eat yoghurt? But these things all need wire of various gauges and qualities. Even the mobile telephone and the PC would not be possible without the high precision screen-printing required for their printed circuit boards. Nevertheless, within a global context, we as manufacturers of precision wires are a relatively small industry. We are only of interest to specialists. That is why there is no point in directing public relations campaigns toward the public. In Altena near to Iserlohn you will find the *Deutsche Drahtmuseum* (German Wire Museum). A visit

Dr. Gösta Dahmen is the managing director and owner of J.G. Dahmen & Co. GmbH & Co. KG. The company was founded back in 1919 by his grandfather.

is of interest to lay people and school classes alike.

PACO World: What do you consider a particular challenge for wire manufacturing?

Dr. G. Dahmen: I am talking about precision wire manufacturing here. Normal wires, such as those used for fencing or springs, are not too challenging. But we specialize in precision wires which have a completely different quality as they have to be produced with a specific application in mind. In other words, we receive extremely tight specifications from our customers to provide the best possible results for their particular application. This means that on one hand, one wire is not the same as the other. And on the other hand, we have to keep to the same tight specifications for subsequent orders from each of the specific fields that we serve. To satisfy both these demands requires a considerable amount of effort on our behalf. But wire is our passion, otherwise this would not be possible.

PACO World: Talking about the effort needed on your behalf. What does this mean in particular?

Dr. G. Dahmen: This starts with the wire rod that we buy. It is more-or-less the raw material for the precision wires we produce. We look all around the world for suitable suppliers. And this diligence

continues with each processing step: redrawing, repeated annealing, and further refining until the required quality is attained. In some cases, fine wire that is even thinner than a human hair. At the same time maintaining perfect roundness and quality including an optimum surface of the wire. The manufacturing of precision wire is an extremely challenging process that places particular demands on the continuous development of our drawing technology as well as the acquisition of suitable production equipment, requiring a high degree of capital investment.

PACO World: Finally a question as to how you perceive the well-established close working relationship with PACO.

Dr. G. Dahmen: It is more than a business relationship between customer and supplier in the common sense. It is more of a relationship based on mutual trust. This is not only an advantage for the way we work together, but also for the implementation of our common tasks and projects. The openness that the PACO management meets us with and continues with contact persons at all other levels is superb and extremely unusual. This leads to the excellent working results that benefit PACO as much as ourselves.

PACO World: Thank you for talking to us.



Made in Herolz

New: PACO "Wide Loom" with a Weaving Width up to 3 Meters!

The global demand for excess width metal wire cloths is steadily increasing. And as PACO also covers screens with a diameter up to 3m it was a logical consequence to build our own loom with a 3 meter weaving width!



The new PACO HD "Wide Loom" 3000 Built in the PACO factory in Herolz and already working reliably and failure-free for six months to produce precision metal cloths of various specifications.

Everything under our control

A mechanical engineering department within your own company is one that you have the best control over, one where you can closely check the quality of and move forward. With this in mind, PACO established and continuously built up its own relatively large mechanical engineering department over three decades ago. This department, which also has a group in Herolz, was primarily set up to satisfy PACO's own needs. At the forefront of activities are obviously looms. The latest example of this demanding challenge on ourselves is a loom that can produce excess width metal wire cloths up to 3,000 mm with a mesh size of 0.10 – 1 mm.

Heavy duty

Of course the new PACO "Wide Loom" wire weaving machine – in common with all PACO HD machines – has to fulfill the same high standards as its less wide predecessors. Consequently, it is also a state-of-the-art rapier-tape gripper loom that can weave anything from standard cloths, through medium-heavy to heavy-duty cloths and spring temper qualities.

We have also developed the control technology for the "Wide Loom". Programmable weaving parameters enable the desired weaving quality to be precisely defined and reproduced as required at any time. In addition, the highest quality mesh accuracy and production reliability are also provided.

Bits and Pieces: You will most likely find Michael and Petra in a German boardroom.

In times where quotas for women are being demanded for the executive and supervisory boardrooms of German companies, the results of the following poll highlight a number of interesting facts:

German companies are guided by experienced managers with a statistical age of 51.1 years. Whereas the average age of manageresses is 50.6 years, male company heads are statistically 51.3 years old.

Regardless of sex, the age group between 45 and 49 represents the strongest segment among managers with 183,988 persons (18 percent). The second largest group – the 40 to 44 year olds – is 15.2 percent. This corresponds with 155,366 managers / manageresses. Youngsters among German company bosses are a rarity. The age group between 18 and 24 that represents 4,753 company heads is a proportion of only 0.5 percent. Whereas those over 75 years of age present 2.9 percent or 30,032 persons.

In total, there are five times as many men (83.2 percent) than women sitting in executive chairs. Germany has 848,866 company managers and only 171,436 women in a similar position. The largest proportions of these are in the age group between 18 and 24 with 23.1 percent. This proportion diminishes in each additional age group, with the smallest proportion found among those over 75 years of age.

Finally an interesting fact in passing: When it comes to forenames, Petra (female form of Peter, editors note) and Michael are the most popular, followed by Sabine and Gabriele for women and Thomas and Peter (at long last! Editors note) for men.

Source: Bürgel Wirtschaftsinformationen GmbH & Co. KG / openPR

Steinau an der Straße: Raising the Curtain on the Bergwinkel Festival!

The old town of Steinau an der Straße is in itself a fine stage for culture and history. You only have to stroll around it to imagine what the streets and facades have already experienced. Then there is the renaissance castle – just the right scenery for an open-air theatre! That is why the Bergwinkel Festival has built its stage right in the middle of the castle courtyard. This season, two classic plays are being performed: "The Broken Jug" by Heinrich von Kleist and "The Bourgeois Gentlemen" by Molière. The ensemble consists of professionals, experienced actors and dancers, as well as amateurs. They are playing under the guidance of the well-known director Günter Keim. The festival is an initiative of the local society Theaterkultur Bergwinkel e.V. that since 2008 has been dedicated to the development of culture within the region. A commitment worthy of support and recognition.



A stage that means a lot to Steinau: The Bergwinkel Festival sets out to entertain the public, but also to develop the area by providing a cultural impetus.

Brilliant Minds

Glauco of Chios, the Forefather of Welding

There are scientists, researchers, mathematicians and other brilliant minds to which PACO is deeply indebted because their contributions positively influence the way that we carry out our day-to-day business. Theme related, we would like to introduce our readers to them in a series appearing periodically in various issues of PACO WORLD. (Img. Bust by Herodot)

Welding technology – what would we do without it today?

Glauco of Chios (born around 700 B.C) is considered to be the inventor of the art of joining two pieces of metal together through liquefied soldering wire. At least according to what can be read in the works of Herodotus, the Greek father of historical writing. Glauco is said to have invented his art of soldering in the fourth year of the 21st Olympics, in other words around the year 693 B.C. Thank you very much dear Glauco of Chios. Without you, we would never have got our act together. The invention of arc welding is, incidentally, attributed to the Russian Nikolay Gavrilovich Slavjanov (1854 – 1897). Our thanks go out to you, too.

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All information in this edition of PACO WORLD has been carefully checked prior to publication. Nevertheless, we can make no guarantee for completeness, accuracy and up-to-dateness.

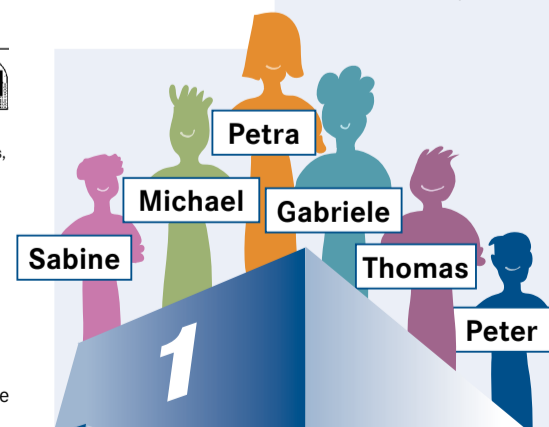
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