

The compact filter system Maxflow:

Filtration and briquetting in a single unit is a formula for success

"Clean filtrate without having to add filter aids and a dry briquet for sorted disposal." This is how Sascha Schönecken, Sales Manager of GKD-CompactFiltration, summarises the problem that faced this business unit of GKD – Gebr. Kufferath AG. The solution to this complex challenge was elegant in its simplicity: "Maxflow".

GKD-CompactFiltration's Maxflow concept is a patented compact filter system that represents the perfect solution for a wide range of tasks in the filtration sector. The Maxflow compact filter combines filtration and briquetting in a single piece of equipment and allows particle separation down to the micro-filtration range. Whether for cooling lubricants or process fluids and effluents, whether in the automotive or the metal-working industry, Maxflow has gone from strength to strength since its introduction and has repeatedly proved its efficiency in many different fields of application.

Exemplary success

An example of this success is the case of a precision contract grinding works in the Rhineland-Palatinate, where Maxflow has been in use since May 2007. The oil used to cool and lubricate the grinding discs and the workpieces becomes contaminated during the process with ultrafine filings or with dust from the abrasive grinding discs themselves. So it has to be regularly cleansed of this fine particulate matter. Contaminated oil reduces the ablation capability of the grinding discs and deposits itself in the grinder or on the workpieces – making it an important cost and effectivity factor for the grinding works.

To deal with the problem, the works first tried using paper belt filters and edge chip filters, but neither of these techniques were successful in extending the service life of the lubricant oil, or in increasing efficiency, or in reducing costs. In search of a better alternative, the grinding works came across the patented Maxflow filter system and found it to be the optimal solution. After a short trial period, the compact filter system was put into operation in May 2007, and has been doing its job successfully ever since.

With Maxflow, it was possible to significantly improve the cleanliness of the grinding machines and of the workpieces. Since then, both the dimensional consistency of the ground parts and the length of time before the grinding discs need to be trued up has increased. Furthermore the cooling lubricant can stay longer in the process and is less subject to transportation. Finally, by using Maxflow, cooling requirements and energy consumption have been considerably reduced. All of this means enormous cost savings for the grinding works.

Optimised filtration results

Filtration with Maxflow takes place according to the cross-flow principle. Inside the stainless steel enclosure, the filtrate streams around static, vertically arranged filter discs which are composed of multi-layered GKD stainless steel meshes. Automatic backwashing then detaches the filter cake from the filter discs, and this is finally ejected as a briquet or as sludge. This process, combined with the use of custom configured filter media, makes it possible to do without filter aids altogether. Without filter aids, the volume of the waste product is drastically reduced. Furthermore, instead of a large quantity of wet sludge, Maxflow produces dry briquets

that can be disposed of much more easily and in a more environmentally friendly way.

The round tank system of the compact filter unit can be extended as required by the specific process. It consists of a dirt tank which is integrated into the clean tank and is equipped with a tapered run-off that prevents deposits from accumulating on the floor of the tank.

Success story continues

These advantages were also crucial to the decision of a car manufacturer to deploy the Maxflow compact filter system for the filtration of the wash water contaminated with paint particles during the cleaning of transportation skids.

The problem facing the company was that the wash water, which they were cleaning by means of bag filters and paper belt filters and recycling back into the paint removal units, was simply not pure enough. One consequence of this was that the nozzles of the high-pressure water robots used to clean the skids often got blocked and had to be replaced. In addition, because the filter discharge was in the form of wet sludge, five to eight cubic meters of water were being lost per day through filtration and had to be replaced with fresh water.

Thanks to Maxflow, not only has fresh water consumption been reduced by a third and energy costs substantially reduced. Filtration results have also been significantly improved since the filter system was put into operation three years ago. As a result, the robots' nozzles do not tend to get blocked as much and need to be replaced less often. The simplified handling of the filter discharge is another highly appreciated advantage of the Maxflow

compact system. Instead of an enormous amount of wet sludge mixed with paint particles, dry briquets are now produced which can be disposed of much more easily and at lower cost.

A positive balance and a bright future

GKD-CompactFiltration not only draws a positive balance on the various deployments of Maxflow so far but is also very optimistic about future developments. "We are sure that the Maxflow concept will really establish itself in the market for the metal-working industry. Whether for washing processes, parts cleaning or filtration of cooling lubricants, Maxflow will set new standards in this sector in the coming years," says Sascha Schönecken with great conviction.

International deployment

Thanks to worldwide standardized parts and the global presence of GKD through six production facilities, the Maxflow system can be deployed anywhere in the world with equal efficiency. Comprehensive solutions competence, covering all stages from configuration and dimensioning through to commissioning of the equipment and later expansion or modification to adapt it to changing production conditions, qualifies GKD-CompactFiltration as an efficient systems supplier and reliable technology partner in all stages of the process.

6.164 characters incl. spaces

GKD – Gebr. Kufferath AG

With two divisions – WORLD WIDE WEAVE for technical meshes and CAPITAL EQUIPMENT for capital equipment and engineering – the owner-managed technical weaver GKD is the world market leader for metal and



plastic woven solutions. The division WORLD WIDE WEAVE comprises the business units SolidWEAVE for filtration and separation media, WEAVEinMotion for process belt technology and CreativeWEAVE for metallic fabrics for the architecture and design sector. The division CAPITAL EQUIPMENT, with its business units GKD-Delkor and GKD-CompactFiltration, sets international standards in capital engineering for clearly defined markets in the solid/liquid filtration sector. With seven production facilities – two of them in Germany, the others in the USA, the United Kingdom, Spain, South Africa and China – as well as a branch in Dubai, GKD is close to the market all over the world.

For further information, please contact:

GKD – Gebr. Kufferath AG
Metallweberstraße 46
D-52353 Düren
Tel: +49 (0) 2421 / 803-0
Fax: +49 (0) 2421 / 803-141
E-Mail: compactfiltration@gkd.de
www.gkd.de

Copyright free. Please send a copy to:

impetus.PR
Ursula Herrling-Tusch
Charlottenburger Allee 27-29
D-52068 Aachen
Tel: +49 (0) 241 / 189 25-10
Fax: +49 (0) 241 / 189 25-29
E-Mail: herrling-tusch@impetus-pr.de