

## PRESS RELEASE - For Immediate Distribution

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### World's Largest Melt Filter Celebrates its Premier MAS at FAKUMA 2015

September 28, 2015 - The Upper Austrian plastics machine manufacturers MAS Maschinen- und Anlagenbau Schulz GmbH pride themselves in their innovative contributions to improve efficiency within the extrusion and recycling technology markets. These innovative contributions include the extremely gentle plasticizing co-rotating conical twin screw extruder that offers high throughput rates, the DRD waterless cleaning and drying systems for film flakes, as well as the continuous melt filter known as the CDF rotating-disc-melt-filter. All three product lines are available in sizes to fit your needs series.

**Just prior to FAKUMA 2015, MAS presented their latest and largest achievement in continuous melt filtration, the CDF DP. This continuous melt filtration line boasts an incredible filtration area of 6.560 cm<sup>2</sup> and has achieved unparalleled throughput levels not seen by any continuous melt filtration systems offered in the market place by any competition.**

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#### Melt filtering rethought

The MAS line is leading the market in advancements to melt filtration and their technical solutions. The MAS CDF offers significant advantages over its competition in long-term use, as well as at low maintenance cleaning and upkeep. Its central element is a shaft-driven, rotating sieve carrier which holds an interchangeable round mesh filter plate. The perforated plate is made of surface-hardened steel and available, depending on the application, with a filter-hole pattern in the range of 90 to 750 microns. The rotating filter unit runs against a stationary knife which collects the foreign particles lying on the filter disc. The CDF can easily remove contaminants such as paper, wood, aluminum, rubber, or non-molten plastic particles. Once the contamination is lifted from the screen by the knife it is immediately purged from the filter unit by the variable speed discharge screw. A significant advantage of this arrangement is that the highest amount of foreign particles (which increases proportionally with the disc diameter) is nearest to the material discharge. This minimizes filter blockages or filter disc wear by abrasion. The contact pressure of the knife is controlled by the melt pressure via a mechanical piston-lever system. The melt inflow is lateral into the filter housing, passing through the filter disc and flowing as pure melt through the drive shaft and out the lateral outlet (Fig.1).

The filter components consist of a hardened filter plate and a "soft" brass knife, which offers not only the best filtration conditions but a long working life as well. Changing the filter disc is easy, as the filter housing is divided vertically like a clam shell and both halves are connected by a hinge. The change process itself is very simple and can be performed with conventional tools in approximately 45-50 minutes (Fig.2).

### **The CDF filter series - modular and record-breaking efficient**

The CDF (Continuous Disc Filter) series is modular and is comprised of four sizes the 300, 500, 500D and the newly released 500D-P. The smallest size CDF 300 uses a 300 mm disc with 704 cm<sup>2</sup> filtration area, for about 300 - 700 kg polymer melt per hour. All other sizes work with one or more 510 mm filter discs. The CDF 500 single disc has a filter area of 1,640 cm<sup>2</sup> for 700 - 1600 kg / h and the CDF-500-D with two parallel discs has a filter area of 3,280 cm<sup>2</sup> for 1400-3000 kg/h (Fig.3). The newly released CDF-500D-P consists of two parallel CDF-500D units with a total of 4 filter discs and a whopping usable filter area of 6.560 cm<sup>2</sup> (Fig.4). This huge filtration area will allow a melt throughput of up to 6000 kg per hour of polyolefin-melt. This CDF is specifically geared toward the large demands of high scale recycling plants and is currently the most powerful unit in the market.

### **The MAS extruder upgrade**

The conical co-rotating extrusion system developed by MAS is known in the industry for combining the excellent plasticization and homogenization of a parallel twin-screw extruder with the specific advantages of the conical twin-screw extruder in one machine. The conical design provides a large feed opening which allows for optimum processing conditions for materials with a low bulk density and large intake volume. In addition, the MAS extruder has been found to be superior to single screw extruders. It is known that single screw extruders are generally used for recycling; however, with its superior handling and homogenization performance, a particularly gentle material treatment and a stable melt pressure, the MAS conical co-rotating twin screw is quickly gaining the notice of the plastics recycling industry as well. One major benefit of the MAS extruder is the lack of the need for a melt pump to produce pressure stabilization and pressure build-up. Due to the superior homogeneous plastic melt produced by the MAS extruder we have found that it lends itself to the best conditions for an effective melt filtration and degassing process which recyclers know is most important for the processing of recycled materials. As a further advantage, in addition to superior degassing, the MAS extruder's small footprint lends itself to never over working the polymer structure, resulting in a minimally stressed end product. This has been proven time and again in our lab by comparing the physical characteristics of the starting material with the recycled



material. Our tests have continuously shown that the material characteristics, such as viscosity, elongation at break and tensile strength remain maximally preserved.



**Visit MAS at FAKUMA 2015 Hall A6 / Booth 6409**

MAS and their innovative processing and plastic recycling equipment is brought to you in North America by **eFACTOR3, LLC**.

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**About eFACTOR3, LLC**

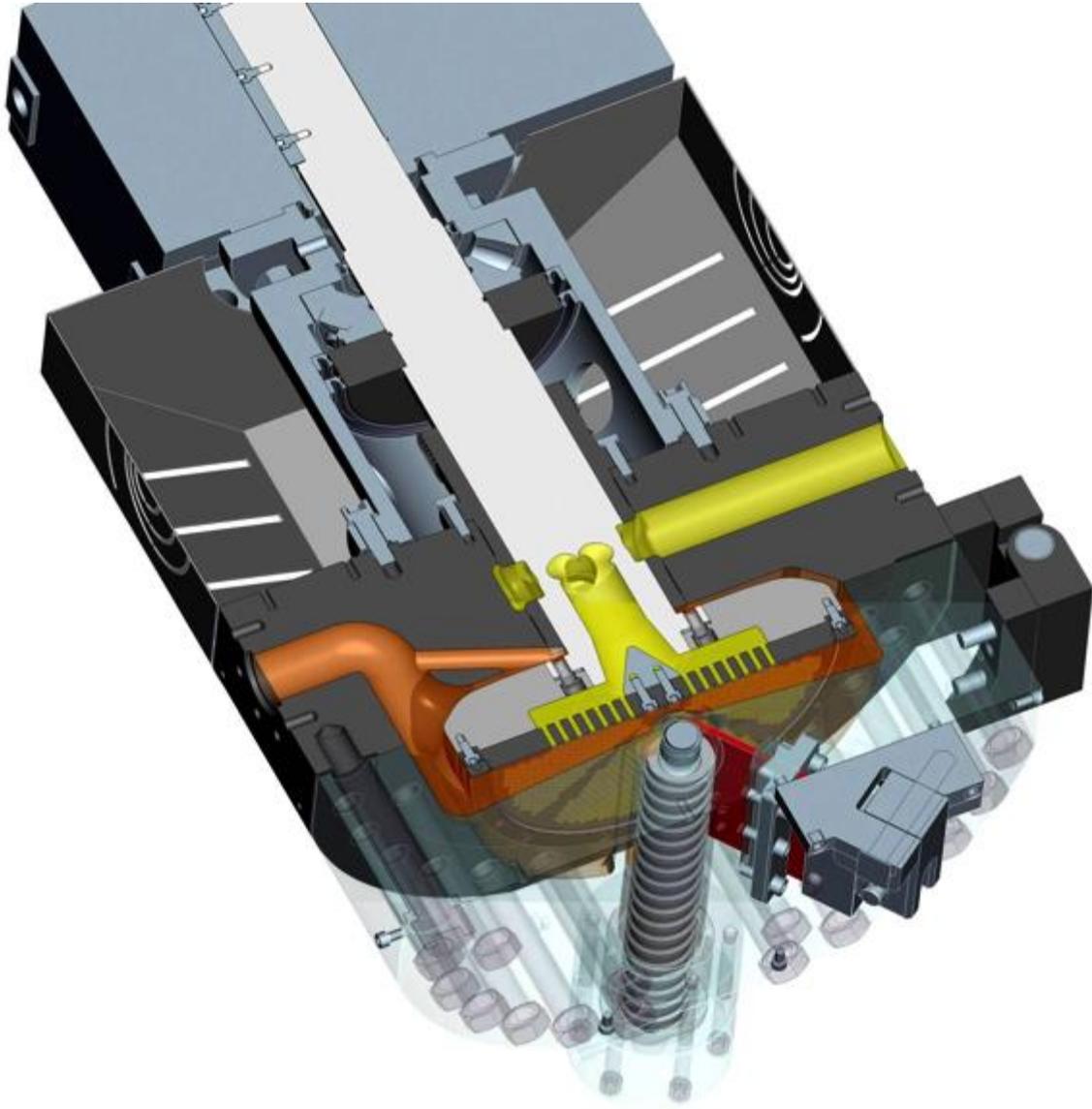
Headquartered right outside the Greater Charlotte area, in Pineville, North Carolina, eFACTOR3, LLC brings together a keen understanding of environmental, engineering and equipment issues. The company offers a variety of pre-shredding, shredding and granulating equipment, along with conveying and separation equipment, systems integration and installation.

eFACTOR3 also represents MAS and their innovative plastic processing and plastic recycling equipment. Their product portfolio focuses on high product quality and very low energy consumption and is comprised of 3 main components: Extruders, Continuous Disc Filtration and Dry Cleaning Systems.

Whatever is intended to be recycled or turned into an alternative fuel, eFACTOR3 can provide a custom solution.

For more information, contact Hartmut Bendfeldt at 1.877.801.3232, [hbendfeldt@efactor3.com](mailto:hbendfeldt@efactor3.com), and visit [www.efactor3.com](http://www.efactor3.com).

Images:



Animation: MAS-Maschinen-und Anlagenbau Schulz GmbH

Fig.1: Function diagram of MAS's CDF-filter system. The incoming plastic melt is shown in **orange**, **yellow** the cleansed melt. Central functional component is the rotating filter plate. Opposite to the filter plate is the adjustable scraper (**red**) and the discharge screw for the separated impurities.

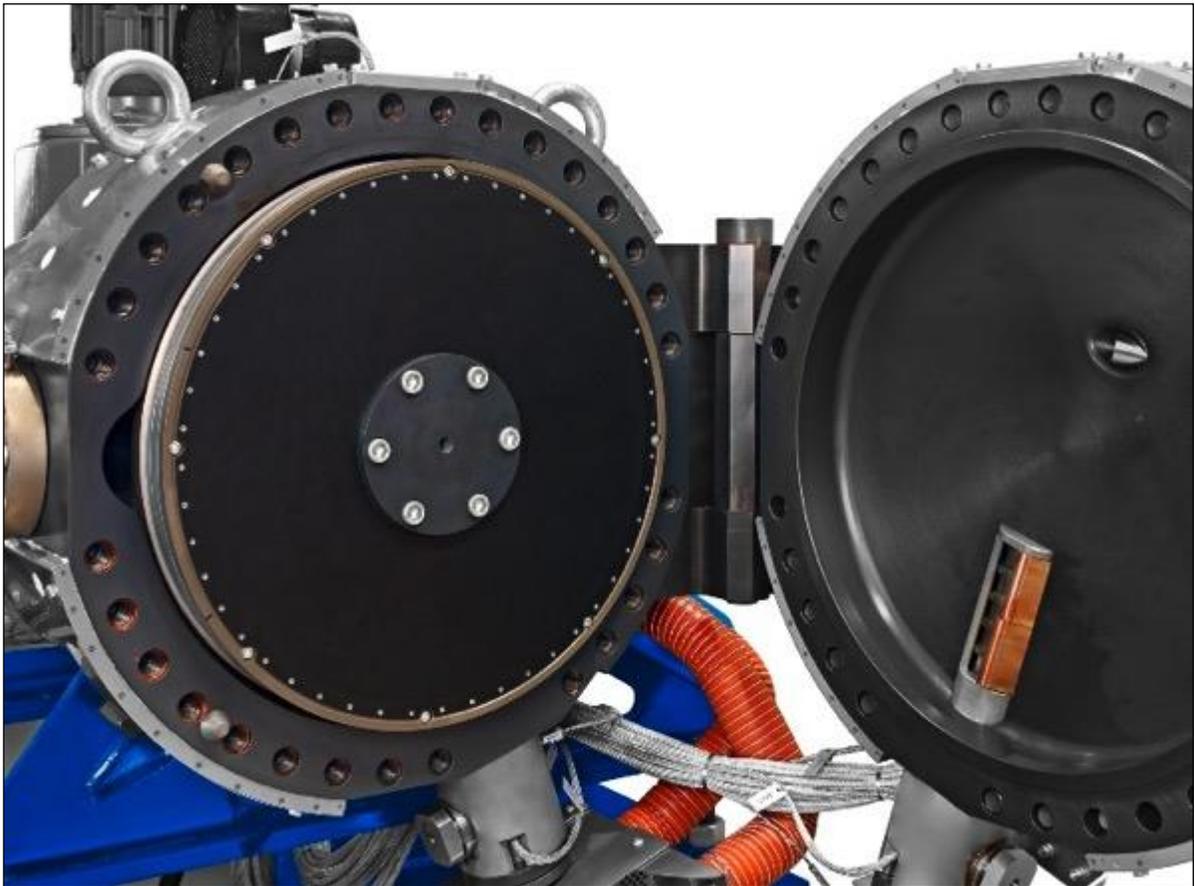


Photo: MAS - Maschinen- und Anlagenbau Schulz GmbH

Fig.2: The MAS filter systems, featuring a rotating filter disc and a fixed scraper, are extremely compact and thus very flexible to use. The vertical division housing and the hinge connection between the two housing parts allows for easy maintenance, optimum accessibility to the filter plate and to the particle scraper.



Photo: MAS – Maschinen- und Anlagenbau Schulz GmbH

Fig.3: MAS melt filter systems are available in four size or capacity classes. Shown here, is the mid-size type CDF 500-D, the modular combination of 2 x 510 mm filter units. Overall, it provides an active filter surface of 2 x 1,640 cm<sup>2</sup> and a flow capacity of up to 3,000 kg/h (PE or PP).

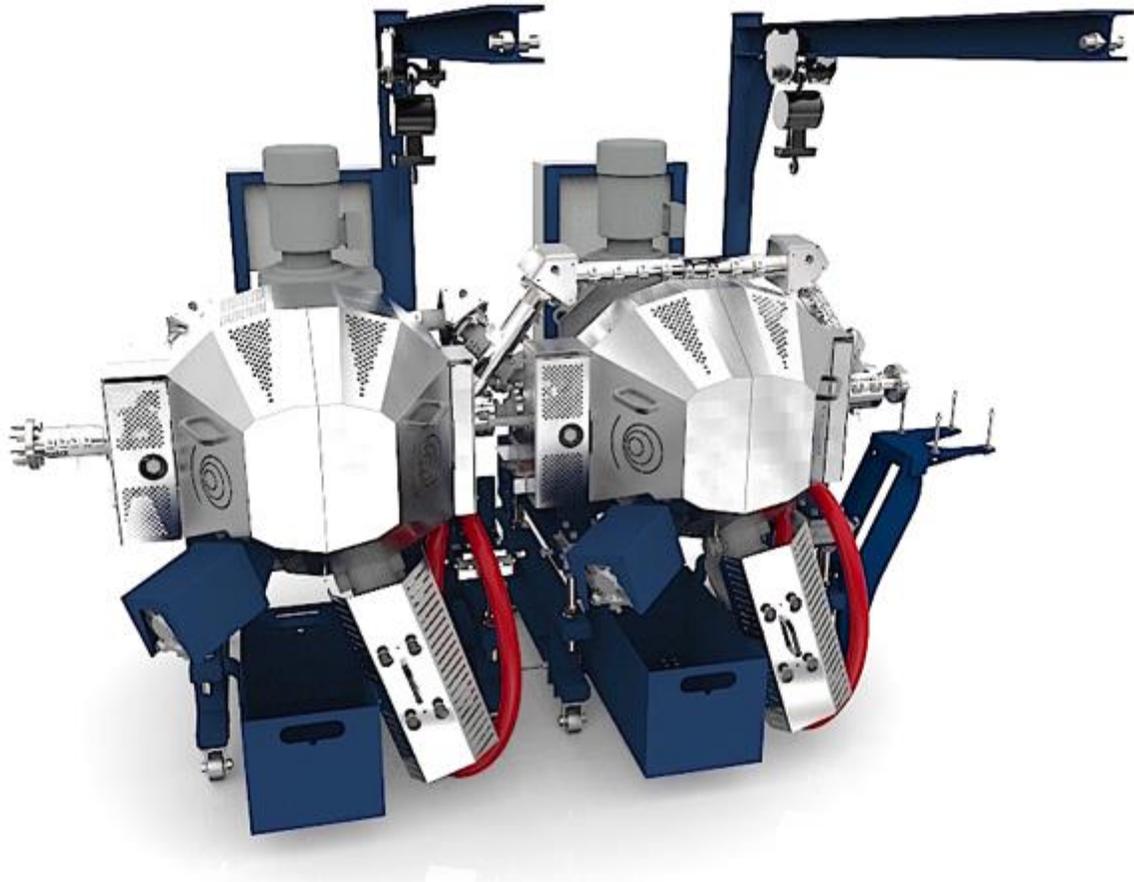


Photo: MAS - Maschinen- und Anlagenbau Schulz GmbH

Fig.4: The newest addition to the MAS line is also the biggest unit for continuous fine filtering of a polymer melt. The CDF-500-DP has an active filter area of 6.560 cm<sup>2</sup> and melt throughputs up to 6000 kg of polyolefin per hour. The filter system is a combination of two parallel CDF 500 double filters. For this, the main melt stream is divided into two partial streams, which are reunited afterwards.