

MEDIA RELEASE
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Photo: MAS-Maschinen-und Anlagenbau Schulz GmbH

Fig. 1: The new, and currently biggest MAS melt filter, the CDF 500-D, has been designed for high throughputs in the 1300 to 2000 kg/h range.

New melt filter for high throughputs and the most stringent quality demands

Several units of the third and biggest disk-type melt filter to date that was announced as a new development at FAKUMA 2012 by Austrian company, MAS – Maschinen-und Anlagenbau Schulz, have now been delivered. This is the CDF 500-D, with a filter area of 3650 cm². It has been designed for a melt throughput in the 1300 to 2000 kg/h range (Fig. 1).

The construction principle underlying the MAS melt filter is the patented Continuous Disk Filter (CDF) system, whose central component is a filtration disk rotating in the incoming

flow of melt. This disk is made of tempered steel and has a pattern of fine perforations. Depending on the degree of contamination, the properties of the melt and the quality targets, it is possible to achieve a filtration fineness of 0.1 – 0.75 mm (100 – 750 µm). The filter is highly efficient at holding back impurities, such as paper, wood, aluminium, rubber and unmelted foreign plastics, from the melt that it lets through.

Self-cleaning system

To ensure that the disk filter does not clog up in continuous operation, the rotating filter disk is combined with a stationary, radially positioned scraper unit. An automatic unit pushes the scraper against the filter disk. The scraper lifts the impurities retained at the perforations off the disk and conveys them directly towards the outside via a discharge screw.

It is possible to influence the efficiency of the filter through the size of the perforations and the rotational speeds of the filter disk and the discharge screw. The entire filter unit has been designed to be very easy to maintain. To replace the filter, for instance, all that is required is to open the vertically divided housing. The two halves of the housing are held together with a hinge and readily move apart once the fastening bolts have been undone. The filter disks and the scraper unit are then freely accessible. Changing the filter disk and/or the scraper itself is straightforward and can be completed using conventional tools in approximately 45 - 50 minutes (Fig. 2).

Modular concept – melt throughput from 300 to 2000 kg/h

The construction principle underlying the MAS range of melt filters is a modular one, and four sizes are available. The basic modules have disk diameters of 300 or 510 mm and, depending on the type, either one or two filter disks are fitted. The smallest size is the type CDF 300 which has a 300 mm filter disk and is suitable for melt throughputs in the 300 to 700 kg/h range. The next model up is the “twin” CDF 300-D with two 300 mm filter modules in parallel and a possible melt throughput in the 700 to 1600 kg/h range.

The newcomer is the biggest model to date, known as the CDF 500-D. It has also been designed with two filter units in parallel, which, in this case, have a diameter of 510 mm. The available active filter area is thus a remarkable 3650 cm², allowing a melt throughput of between 1300 and 2000 kg/h. The “twin” configuration makes it possible to keep the dimensions extremely compact, ensuring that the filter is easy and flexible to handle, both during cleaning and maintenance and during transfers between a number of different extrusion lines when required (Fig. 3).



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Information on MAS Maschinen- und Anlagenbau Schulz GmbH



MAS was founded in 2006 by Ing. Helmut Schulz, who has more than 40 years of experience in the building of machines for the plastics industry and owns numerous patents in this field.

MAS's core competences are:

- > the world's only twin-screw extruder with conical, co-rotating screws for processing plastics and plastic composites.
- > installations for the dry compounding of post-consumer plastics waste using the DRD (Double Rotor Disk) system.

Twenty patents are strong evidence of the innovativeness of the company, which, with 35 employees, achieves annual sales of some EUR 11 million (2012).

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Figures:

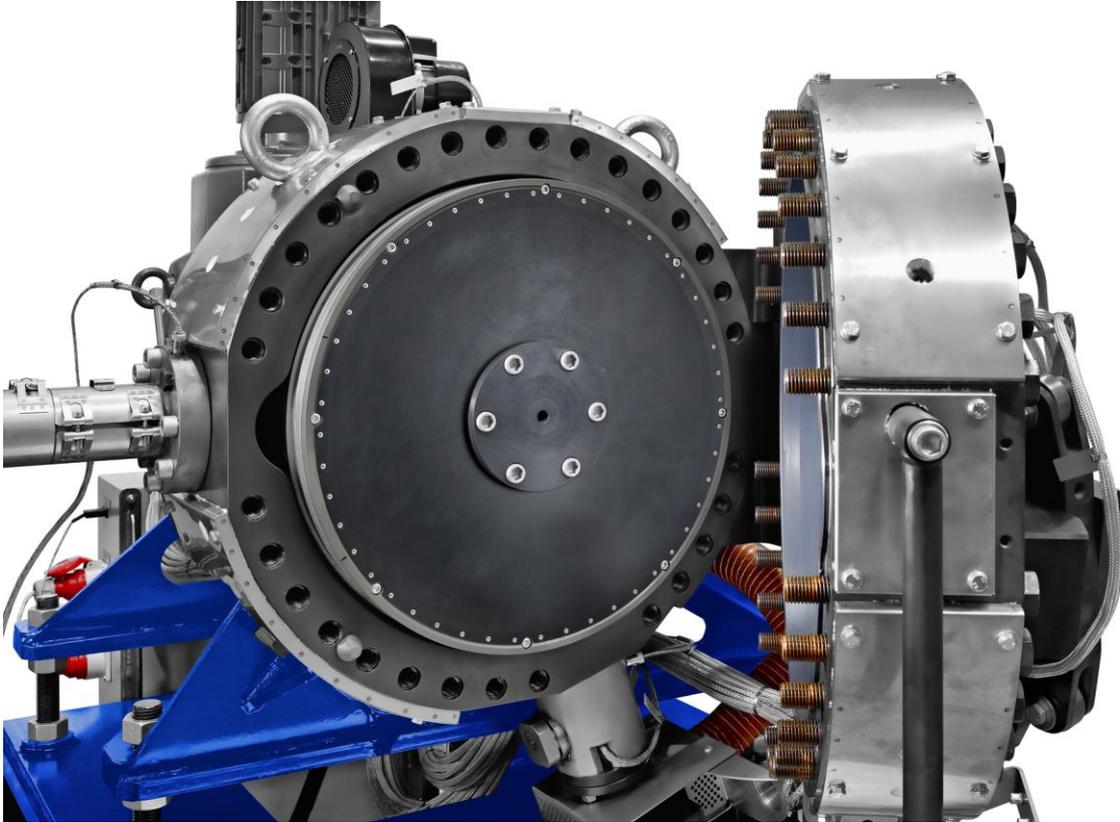


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Fig. 2: Despite the considerably larger dimensions and masses of its components, the CDF 500-D filtration unit is just as easy to maintain as the smaller models of the same type, thanks to its split housing, hinged connections and integrated service crane.

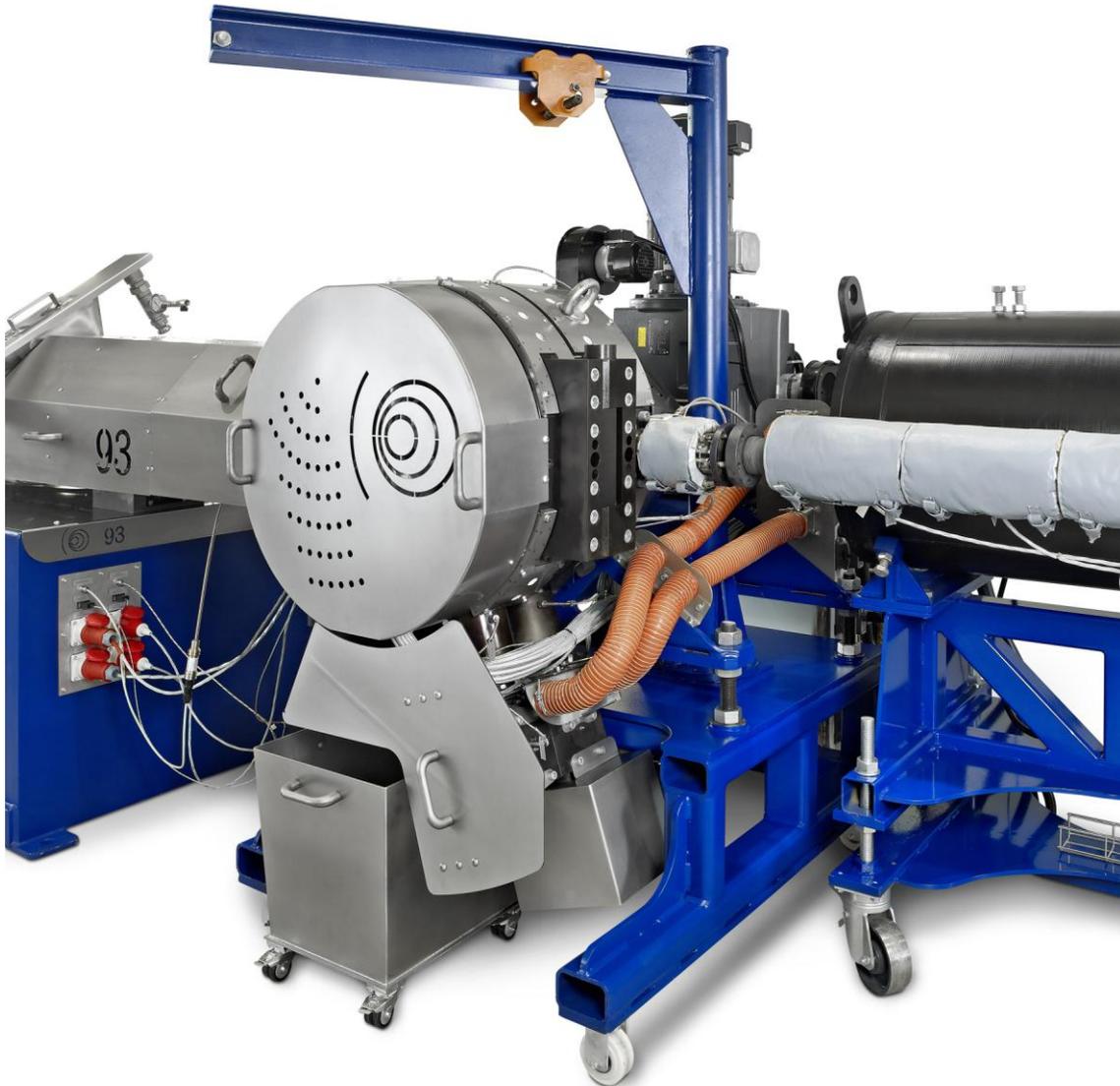


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Fig. 3: Die CDF 500-D filter unit is exceedingly compact and can thus be deployed very flexibly, thanks to its two filter disks, each with a diameter of 510 mm, that are configured in parallel.