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Press release

**Coperion at K 2016
New features improve handling**

Revised compact version of the ZSK Mc¹⁸ twin screw extruder

Stuttgart, October 2016 – At this year's K 2016 trade fair (October 19 - 26, 2016, Düsseldorf, Germany), Coperion GmbH, Stuttgart will be presenting a revised compact version of its successful ZSK Mc¹⁸ series. Six years after the initial launch of the series, which is characterized by its specific torque of 18 Nm/cm³, it has undergone a range of improvements designed to further simplify handling.

The compact series offers many advantages. First, it can be swiftly put into operation – meaning a quick start to production and no costly start-up times – as the control cabinet is fully prewired upon delivery. In addition to a lower construction height and a more clearly arranged control cabinet design, one way that the compact version stands out is through the improved accessibility of its process section. The cable ducts are arranged under the process section, and the control cabinets are located at motor and gearbox-height. The separately mounted drive cabinet results in a reduction in installation space as well as in the weight of the machine. The machine and the control system can be quickly and easily connected using a small number of clearly identified cable connections. All of these benefits result in a quicker return on investment than with conventional machines.

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The new compact version of the twin screw extruder is equipped with quick-release clamps for the simple, quick replacement of the feed hopper as well as the user-friendly CSpro control system. Coperion will be showcasing the ZSK Mc¹⁸ compact extruder with a screw diameter of 58 mm at its booth at K 2016 (booth B19 in Hall 14). The extruder will be fitted with the tried and tested ZSK die head and a high-precision S60 gravimetric feeder from Coperion K-Tron above the feed barrel. In addition to a ZS-B side feeder with patented feed enhancement technology (FET) and a KT-20 feeder from Coperion K-Tron on a practical swivel arm, the design of a new ZS-EG side devolatilization will be on display.

New ZS-EG side devolatilization unit for improved handling

Coperion has completely overhauled its ZS-EG side devolatilization. It now offers clearly improved features for fast and neat assembly and disassembly. The new design of the ZSK's connection barrel has been optimized for quick changing and allows all four mounting bolts to be simultaneously undone in a circular movement. What's more, the screw shafts can be completely loosened, cleaned, or changed in only a few moves. Cleaning and maintenance times are sharply reduced as a result.

The new ZS-EG is fitted with radial shaft sealing rings. As a result, the lantern area remains visible. They additionally permit nitrogen purging in an explosive environment. Thanks to the new seals, there is no longer a vacuum in the gear lanterns, and the service life of the gear-side shaft seal is considerably greater. With the new gearbox, the ZS-EG side devolatilization can be quickly and easily converted into a ZS-B side feeder. Of course, the same applies in the opposite direction: a ZS-B side feeder can be transformed into a ZS-EG side devolatilization in just a few movements.

Clear increase in throughput with patented feed enhancement technology (FET)

Coperion brought its patented feed enhancement technology (FET) for ZSK twin screw extruders to market some time ago, for a significantly enhanced feed performance when processing powdered bulk material. The technology involves equipping the feeding zone with a porous, gas permeable wall section, to which a vacuum is applied externally. Intermediate particle air is then sucked out of the powdered bulk material through this wall section. This compacting of the bulk material reliably improves the material intake capacity in the feeding section by a factor of two to three. The flow rate increases substantially while the compound

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quality remains high. Since its market launch, Coperion has successfully used the FET technology for the feeding zone of the ZSK twin screw extruder as well as for the ZS-B twin screw side feeder. It has been integrated into new machines and has also been retrofitted into existing compounding plants in close consultation with Coperion's process engineers.

High-precision feeders for optimum delivery

For simple and precise feeding, the ZSK 58 Mc¹⁸ compact is equipped with a high-precision, gravimetric K2-ML-D5-S60 single screw loss-in-weight feeder from Coperion K-Tron. It yields feeding rates of 45 to 4,500 dm³/h, and is ideal for free-flowing powders, pellets, and other bulk material. The feeder is attached to a rotating frame above the gearbox for simple, flexible handling, easy accessibility and quick cleaning.

The ZS-B twin screw side feeder is equipped with a high-precision, gravimetric K-CL-SFS-KT20 twin screw loss-in-weight feeder from Coperion K-Tron, which is ideally suited to feeding a range of powders from easy-flowing to extremely sluggish (e.g. clogging, damp, bridge-forming) materials. It achieves feeding rates of 0.1 to 45 dm³/h.

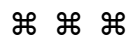
CSpro for Industrie 4.0 tasks

The ZSK 58 Mc¹⁸ extruder that will be showcased at the K trade show is designed for all demanding compounding tasks. It is equipped with the user-friendly CSpro medium control system, which Coperion has been using in its ZSK high performance extruders since 2010. The control system comes with high-grade, standardized and pre-tested software, is fitted with the latest Siemens SPS-Generation S7-1500, and is connected via ProfiNet to the CPU (central processing unit) with compact ET200SP peripheral modules. Integration and data exchange in superordinated networks (ERP) takes place via the standardized OPC-DA and OPC-UA protocols. The control system is rounded off with additional complex software functions such as recipe management, order and material management, analysis of downtimes and the evaluation of historical values.

The CSpro medium enables the condition of the plant to be easily visualized via a web browser in the network with support for display of this information on smartphones and tablets. CSpro medium is ideally suited to the requirements of Industrie 4.0.

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Coperion (www.coperion.com) is the international market and technology leader in compounding systems, feeding technology, bulk materials handling systems and services. Coperion designs, develops, manufactures and maintains systems, machines and components for the plastics, chemicals, pharmaceutical, food and minerals industries. Within its four divisions – Compounding & Extrusion, Equipment & Systems, Materials Handling and Service – Coperion has 2,500 employees and nearly 40 sales and service companies worldwide.



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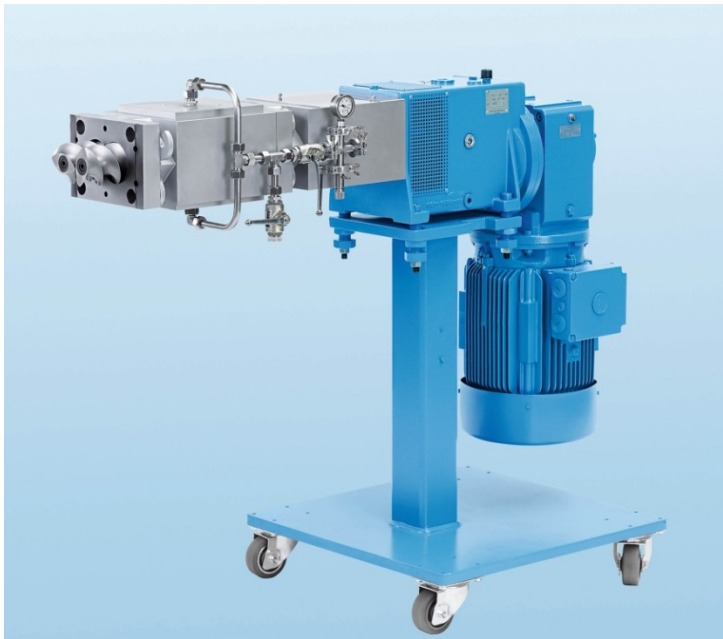
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The ZSK 58 Mc¹⁸ compact's enhancements improve operating reliability and make working at machines easier

Image: Coperion, Stuttgart



With the patented feed enhancement technology (FET) for ZSK twin screw extruders, the flow rate increases substantially while the compound quality remains high.

Image: Coperion, Stuttgart