



ZSK 18 MEGA Lab. The standard for highest quality demands in the extrusion of pharmaceutical compounds.

➤ Highest performance even for smallest batch sizes. Modular construction. GMP design. Maximum speed. Highest power density. Safe scale-up. Tailor-made controls. The ZSK 18 MEGAlab laboratory extruder is the smallest member of the ZSK family. This targeted and further development of proven ZSK technology extends the performance range of the series for R&D and production of pharmaceutical materials in a minimum quantity range.

Technical data of the machine

$Md/a^3 = 11.3 \text{ Nm/cm}^3$

$D_o/D_i = 1.55$

Maximum speed = 1,200 rpm

Maximum length of process section
= 15 barrels (60 D)



Small size - large impact. The ZSK 18 MEGAlab applies the successful ZSK principles and offers in addition to its compact overall size many other advantages:

- › Throughput rates between 1 and 10 kg/h
- › Small batches of 200 g
- › Quick plug & play commissioning
- › Reliable, low noise drive concept
- › Modular construction with exchangeable 4D barrels and all standard screw elements
- › Flight depth of 3.2 mm enables pellet feeding
- › Simple to operate via PLC control and touch screen
- › Simple handling and quick product changes using quick release connections
- › Online support through built in modem (optional)
- › Compact size - mobile base frame with integrated controls, water cooling system and vacuum unit
- › Perfect scale-up due to ZSK features

Special features of Coperion extruders according GMP regulations:

- › Proven materials with certificates
- › All parts coming in contact with the product made of stainless steel with minimized surface roughness
- › Base frame and covers for main drive and process section made of stainless steel
- › Qualification and validation based on user requirement specification (URS) and functional design specification (FDS)
- › Factory acceptance test (FAT) with calibration of all process parameters including documentation
- › Site acceptance test (SAT) based on SAT test logs

Typical applications:

- › Pressure-sensitive adhesives with drugs for transdermal applications
- › Compounding, compacting, pelletizing and wetting of powder premixes with and without additional liquids (substrates and drugs)
- › Melt extrusion with face cutting, strand pelletizer or calendaring

01 | LEAKAGE-FREE QUICK COUPLING FOR WATER COOLING CIRCUIT

02 | DIE HEAD FOR STRAND PELLETIZING

03 | GRAVIMETRIC FEEDER WITH TRI-CLAMP CONNECTIONS

›01



›02



›03





PROCESS SECTION IN MODULAR DESIGN

Technical Data

		ZSK 18 MEGAlab	ZSK 26 Mc ¹⁸	ZSK 32 Mc ¹⁸	ZSK 45 Mc ¹⁸	ZSK 58 Mc ¹⁸	ZSK 70 Mc ¹⁸
D _o /D _i	[mm]	1.55	1.55	1.55	1.55	1.55	1.55
Screw diameter	[mm]	18	25	32	40	58	70
Max. torque per shaft	[Nm]	38	140	315	930	2,000	3,500
Spec. torque Md/a ³	[Nm/a ³]	11.3	15	18	18	18	18
Max. screw speed	[min ⁻¹]	1,200	1,200	1,200	1,200	1,200	1,200
Max. drive power N	[kW]	10	37	83	246	529	926

Coperion GmbH
 Theodorstraße 10
 70469 Stuttgart, Germany
 Tel.: +49 (0) 711 897-0
 Fax: +49 (0) 711 897-3999
 info.cc-ce@coperion.com

www.coperion.com

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