

Food Extrusion



UTILISATION

From expanded snack products to textured vegetable proteins (TVP) to wet extrudates or high moisture meat analogues (HMMA). Three-Tec's twin-screw (co-rotating) extruders are excellent for both small-volume production for research and development applications as well as production quantities. The extruders are equipped with easily exchangeable extrusion screws, which can be individually structured and adapted to the extrusion task by different segments such as conveying, reverse conveying, kneading or mixing segments. The temperature profiles of the individual heating zones and the torque of the motor are recorded and can be read out via USB or Ethernet interface.

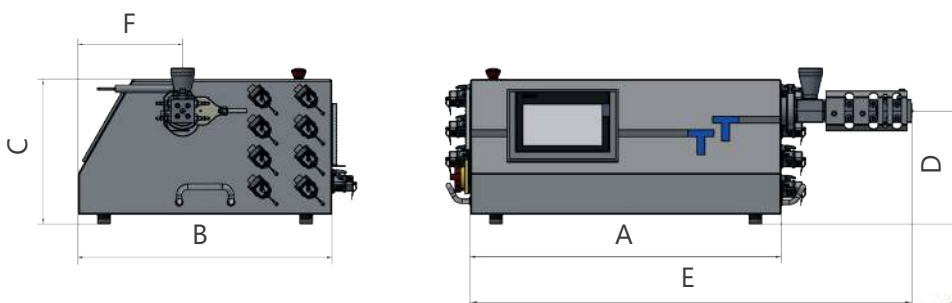
TECHNICAL DATA TABLE-TOP DEVICES

	ZE 12	ZE 18
Throughput [kg/h] *	2.5	10
Max. torque [Nm]	20	60
Weight [kg]	≈ 70	≈ 100
L/D	20, 40 or according to customer requirements	
A [mm]	600	1200
B [mm]	490	800
C [mm]	280	380
D [mm]	220	275
E [mm] (L/D 20; 40)	860; 1100	1200; 1400
F [mm]	200	290

All information without guarantee | * Throughput depending on various factors

ADVANTAGES

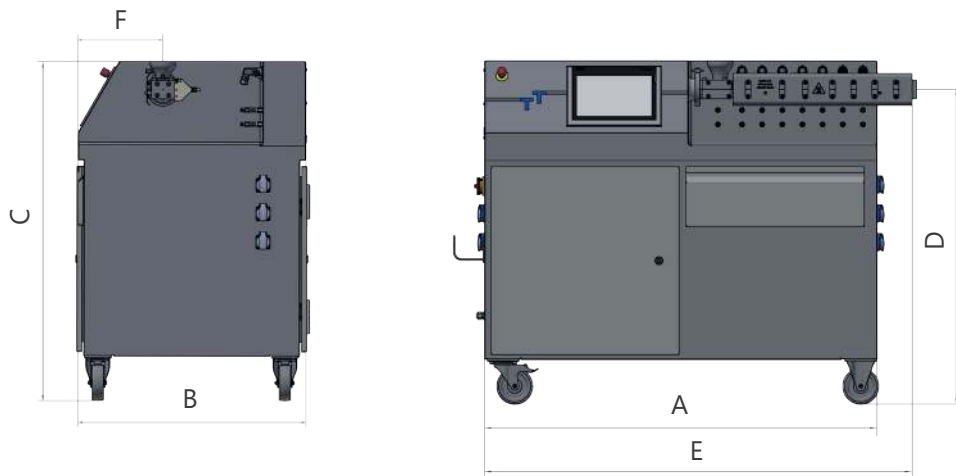
- Steep temperature gradients possible
- Scale Up suitable
- Intuitive operation via touch panel
- Easy data output thanks to USB connection
- All parts in contact with the product are made of stainless steel
- Simple barrel mounting with only one clamping ring
- Barrel freely accessible for additional sensors
- Very compact design
- Completely enclosed drive
- Hygienic design
- Split barrel for easy cleaning and process analysis
- High experimental efficiency due to low cleaning effort
- Very small batch sizes required, perfect for formulation trials



TECHNICAL DATA EXTRUDER PILOT PLANTS/PRODUCTION

	ZE 18	ZE 24	ZE 32	ZE 50	ZE 100
Throughput [kg/h] *	10	50	150	500	4000
Max. torque [Nm]	60	120	300	1500	6000
Weight [kg]	≈ 150	≈ 200	≈ 1000	≈ 2500	≈ 8000
L/D	20, 40 or according to customer requirements				
A [mm]	1200	1400	3000	3000	5700
B [mm]	800	800	1000	1000	1200
C [mm]	1250	1250	1500	1600	1600
D [mm]	1100	1100	1100	1100	1100
E [mm] (L/D 20; 40)	1200; 1400	1400; 1700	3000; 3200	3000; 4000	5200; 7200
F [mm]	290	300	350	400	400

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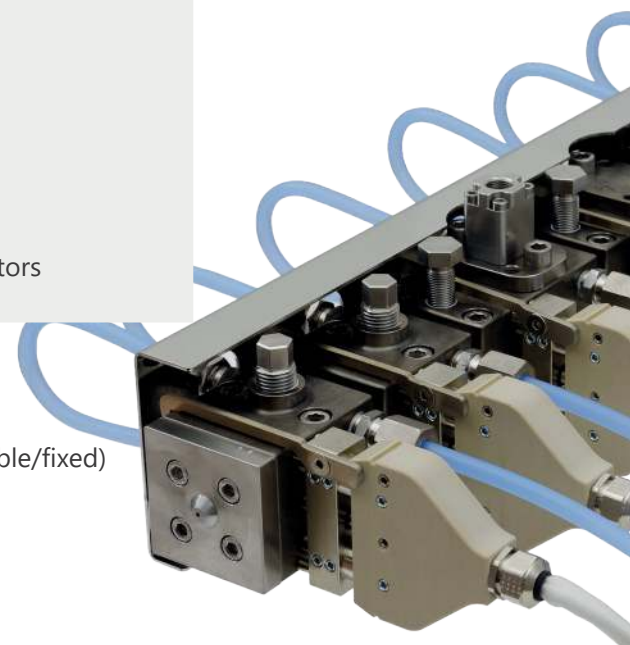


FEATURES EXTRUDER PILOT PLANTS/PRODUCTION

- Split barrel up to 100 mm screw diameter
- All parts in contact with the product made of stainless steel
- Completely enclosed drive
- Hygienic design
- Highest possible efficiency with regard to customer requirements
- Mobile frame
- Efficient and compact drive technology through the use of servo motors

ACCESSORIES

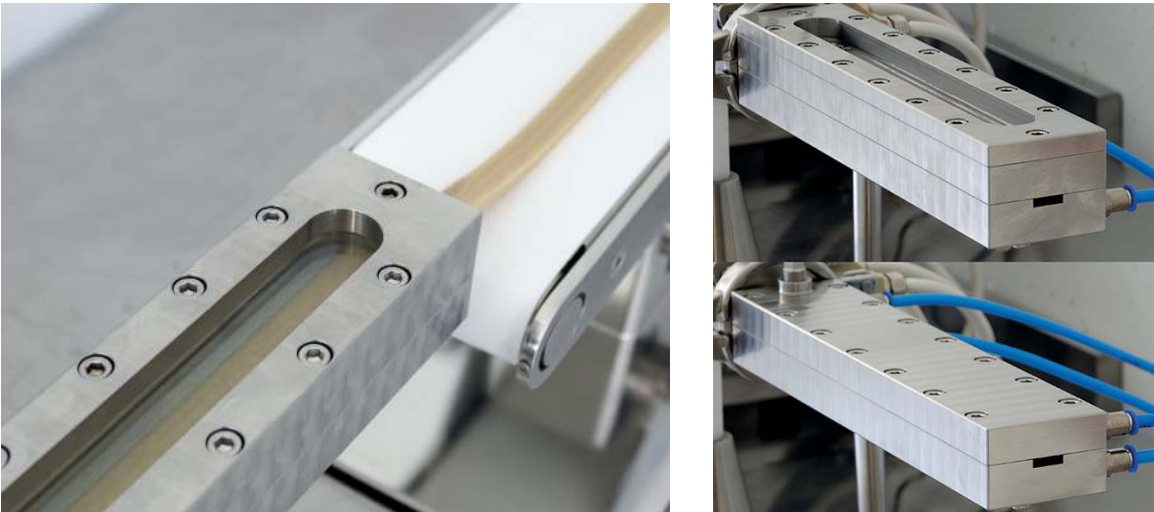
- Volumetric/gravimetric feeding
- Stuffing feeding device
- Side feeding device
- Cooling dies (adjustable/fixed)
- Hot cutter
- Conveyor belt



EXAMPLES DEVICES AND ACCESSORIES



Cooling die with adjustable slot height 4 to 25 mm



Cooling die with optional sight glass



Table-top device ZE 12 HMI with feeding unit and cooling die (HMMA)

EXAMPLES PILOT PLANTS



Pilot plant ZE 32 HMI with side feeder, cooling die and hot cutter (HMMA and TVP)



Pilot plant ZE 50 HMI with gravimetric feeding system, refilling and adjustable cooling die (HMMA)

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CONTACT

Would you like to learn more about our products and services or do you have a specific use case where we can support you? With our many years of experience, we can help you to develop your process faster and better. You can find direct contact persons and further contact options on our website at www.three-tec.ch/contact.