



Equipment for polymer processing at Fraunhofer IWM Halle and Fraunhofer PAZ Schkopau

- injection molding compounder from Krauss Maffei Technologies GmbH (KM1300-14000 IMC):
 - injection unit: clamping force 1300 tons, min. shot weight 550 g, max. shot weight 5600 g, roboter handling system, core-pulls (3 ejector side, 2 die side), 8x hydraulic and pneumatic cascade, 32 hot channel-control system, injection compression molding option
 - compounder: parallel co-rotating twin-screw extruder, L/D = 34,3 and D = 81 mm, max. screw speed 300 rpm, gravimetric Flex wall-feeder, gravimetric stirring unit feeder, vertical twin-screw tamping unit, twin-screw side feeder, roving feeder with weighing platform, vacuum device
- injection molding compounder from Krauss Maffei Technologies GmbH (KM3200-24500 MX IMC):
 - injection unit: clamping force 3200 tons, min. shot weight 1000 g, max. shot weight 9543 g, roboter handling system, core-pulls (5 ejector side, 5 die side), 12x hydraulic and pneumatic cascade, 48 hot channel-control system, injection compression molding option
 - compounder: parallel co-rotating twin-screw extruder, L/D = 38,9 and D = 81 mm, max. screw speed 300 rpm, gravimetric Flex wall-feeder, gravimetric stirring unit feeder, vertical twin-screw tamping unit, twin-screw side feeder, roving feeder with weighing platform, vacuum device
- injection molding machine from Krauss Maffei Technologies GmbH (KM 200-1000 C₂):
clamping force 200 tons, min. shot weight 20 g (0.05 pounds), max. shot weight 476 g (1.07 pounds), two core-pulls, injection compression molding option, transportable vertical second unit for 2-component injection molding, max. shot weight 68 g (0.15 pounds)
- parallel co-rotating twin-screw extruder from the company Krauss Maffei Technologies GmbH (ZE40 A UTX):
L/D = 48, D = 44 mm, max. screw speed 1200 rpm, multi-tooth screw shaft with numerous compounding and conveying elements, gravimetric Flexwall-feeder, gravimetric stirring unit feeder, vertical twin-screw tamping unit, twin-screw side feeder, roving feeder with weighing platform, vacuum device, strand and under water pelletizer
- parallel co-rotating twin-screw extruder from Krauss Maffei Technologies GmbH (ZE25 A UTX):
L/D = 48, D = 28 mm, max. screw speed 1200 rpm, gravimetric feeder, injection valve for fluids and gases, vacuum device, under water pelletizer
- parallel co-rotating twin-screw laboratory extruder from Leistritz Extrusionstechnik GmbH:
L/D = 30, D = 34 mm, max. screw speed 400 rpm, twin-screw side feeder, vacuum device, strand pelletizer
- conical contra-rotating twin-screw extruder from the company Cincinatti Extrusion (Titan58):
L = 1185 mm, D_{max} = 124 mm, D_{min} = 58 mm, max. screw speed 50 rpm, gravimetric twin-screw feeder, gravimetric feeder, vertical tamping unit, vacuum device, hot-strand pelletizer
- downstream equipment for profile extrusion from Greiner Extrusionstechnik GmbH (calibration table, take-off system, saw), several profile extrusion tools (sheets, hollow chamber profiles), 2 Co-extruder, one Co-extrusion tool for 3 materials (hollow chamber profile 425 mm x 35 mm with coex-coating and inline-foaming)
- single-screw extruder KME 45XS from Krauss Maffei Technologies GmbH:
L/D = 30, D = 45 mm, max screw speed 200 rpm
- Polyurethane-unit RIM-Star 8/8 CCM of Krauss Maffei Technologies GmbH
- melting-pump from the company Witte Pumps & Technology GmbH:
Typ EXTRU92,6-5, capacity 92,6 cm³/U, gear width 56 mm, differential pressure 200 bar, viscosity 1000 - 5000 Pa*s, delivery rate 0,5 - 4 l/min
- fiber cutter from the company Oerlikon Neumag:
Typ NMC-H 150, manufacturing speed 50 - 500 m/min, batch length 1,5 - 98 mm, cable thickness at the cut gap 3 mm: 3000 - 65000 dtex
- device to dose gas from the company CINPRES GAS INJECTION LTD:
Typ SC3000, 2 separated gas dosing modules, possible to dose CO₂ and N₂, output gas pressure up to 420 bar, needle closing die and heater loops controllable
- static mixing machine from the company Sulzer Chemtech GmbH:
Typ SIB, with circuit points for physical foaming agent (CO₂ and N₂)
- dry air drier for pellets and fibers from the company Koch Maschinenbautechnik GmbH:
case contents 2 x 150 liter, separated drying and regenerating loop, drying temperature up to 160 °C, conveyor for pellets and reclaim
- polymer powder mill
- shredder, roll mill
- laminate molding press from RUCKS Maschinenbau GmbH: area 400 x 400 mm, max. temperature 400 °C, max. mold pressure 10 N/mm²
- laboratory kneader