



Extrusion and Foil processing

Single-screw extruder ES 45

- Plastification of plastic granules & powders
- Processing of plastic into foils or semi-finished products

Specifications:

- Screw diameter: 45 mm
- Screw length: 25 D to 50 D
- Screw speed max. 160 rpm
- Drive power: 17.2 kW
- Extrusion height: 1,000 mm
- Throughput PE: 150 kg/h
- Throughput PP: 150 kg/h
- Amount of sensors: 8
- Smooth und grooved feed section



Source: WEBER

Cast film line TYP LCR 350 HD

- Production of organic sheets, films and boards

Specifications:

- Roller group with three big rolls
- Roll diameter: 145 mm
- Roll width: 400 mm
- Production of boards with 0.3 to 2 mm thickness and 350 mm widthness
- Oil-based roll heating



Plastics and Lightweight Design

1. Plastics Technology Center



Twin-screw extruder ZSK 40

- Compounding thermoplastic materials
- Incorporating organic and inorganic fillers and reinforcing materials, flame retardants, reinforcing fibres

Specifications:

- Screw diameter: 40 mm
- Screw length: 38 D
- Screw speed: max. 400 rpm



Twin-screw extruder ZSK 25

- Compounding thermoplastic materials
- Incorporating organic and inorganic fillers and reinforcing materials

Specifications:

- Screw diameter: 25 mm
- Screw length: 36 D
- Screw speed max.: 600 rpm



Blown film line „Blowmaster“

- Miniaturized blown film line with a comparable range of functions

Specifications:

- Max. height: 2,10 m
- Assemblable and transportable
- Max. foil width: 500 mm
- Incl. stabilization of the foil tube by an integrated cooling ring





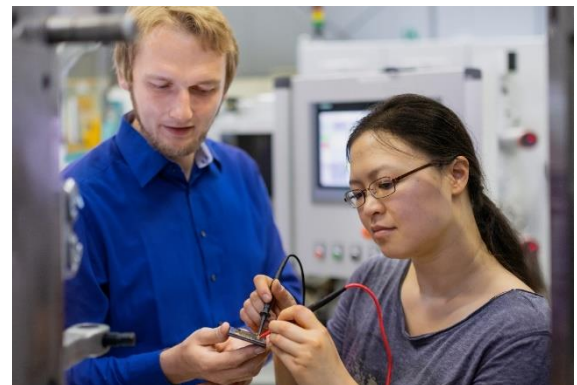
Injection molding

KraussMaffei type KM 160/750/180 CX V

- Two-component injection molding
- Overmolding of aluminum and organic sheets with suitable plastics
- Multiple component injection molding for manufacturing plastic components that conduct electricity
- Sandwich injection molding
- With turntable tool

Specifications:

- Clamping force: 1,600 kN
- Fully hydraulic dual-platen clamping system
- Injection unit 1: Size: 750; horizontal; Screw diameter: 45 mm; Nozzle radius: 10 mm; Nozzle bore: 4 mm
- Injection unit 2: Size 180; vertical; Screw diameter: 30 mm; Nozzle radius: 10 mm; Nozzle bore: 4 mm



KraussMaffei type KM 80 CX 380

- Injection molding machine with interchangeable mold inserts
- Production of specific molded parts

Specifications:

- Clamping force 800 kN
- Fully hydraulic dual-platen clamping system
- Injection unit : Size: 380; horizontal; Screw diameter: 35 mm
- Working volume: 154 cm³
- Injection pressure max.: 2,429 bar



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Fibre composite technology with a hydraulic 4-column press

ATM Typ RWP700

- RTM process and fibre composites

Specifications:

- Clamping force: 100 t
- Opening stroke: 500 mm
- Clamping area: 750 x 750 mm
- Settable time and temperatures
- Heating temperature: max. 250 °C



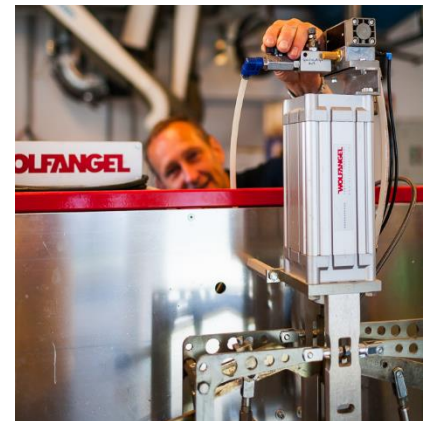
Resin preparation systems and purifiers

Wolfangel 100/120/25/17

- Piston injection system
- Epoxy resin and unsaturated polyester resin

Specifications:

- Pressure: up to 10 bar
- Vacuum-supported
- Variable mixing ratio



Eldomix 103

- Heatable gear pump
- Suitable for epoxy resin, unsaturated polyester resin, polyurethane (including foams)

Specifications:

- Mixing ratio: 100:100 to 100:20
- Volume flow: 0.1 – 1.0 l/min
- Melt temperatures up to 80 °C
- Vacuum support possible



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Production and processing of organic sheets

Thermoforming System

Rucks type KV 293-5

- Hydraulic 4-column upstroke press 430 kN
- Integrated preheating station and material transfer system
- Vacuum pump 3 mbar, 13 m³/h
- Energy consumption display and diagnostic program
- Forming of thermoplastic semi-finished products, in particular organic sheets and foils



Source: Rucks

Direct extrusion line to produce continuous fiber reinforced organic sheets

SUCHY Textilmaschinenbau GmbH 022/19

Impregnation of three endless fiber layers with thermoplastic melt

- Gravimetric feeding of plastic via a metering device to the twin-screw extruder
- Melting of the plastic in the extruder
- The thermoplastic is fed through a distributor into three melt pumps
- Transfer of the melt to three direct extrusion tools using two heating hoses each
- Impregnation of the fiber layers pre-stressed and preheated by the roll holders with the melt
- Feeding to a calender roller, which presses the layers together and pulls them through the system
- Side and length trimming to the required dimensions in the downstream integrated process
- Overall control of the system via a central touch screen



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Treatment process, crash test and permeability

Miniature indoor mixer

- Transparent mixing chamber for simulating the mixing process of plastics with fillers in an internal mixer
- Model fluids (e.g. silicone oil) instead of plastic
- Motor torque: 3.1 Nm
- Speed: up to 600 rpm
Rotor arrangement: counterrotating
- Gap width: 1 mm
- Chamber volume: 53.3 cm³



Drop tower

- Experimental investigation of crash relevant components regarding deformation behaviour
- Max. drop height 3 m
- Max. mass 291 kg
- Max. impact speed 25 km/h
- Determination of force-displacement curves
- Optical evaluation using a high-speed camera



Permeability test for semi-finished fiber materials

- Measurement of the permeability of flat fabrics
- Glass tool 300 mm x 300 mm

