



Flat Film Unit 300

An available option for
Goettfert's Extrusimeter
series of laboratory extruders



GÖTTFERT®

Certified acc. to DIN EN ISO 9001:2000

GFT 115.13.0-9-02

This compact flat film unit combines the take-off, cooling and winding of flat films made of PE, PP and other plastics. It also serves to produce small films with variable thicknesses used in the packaging industry in general, and in the food industry specifically, where large film production units are not efficient.

Applications

Production Control

- For batch control / testing of degree of dispersion using extruders or kneaders.
- Incoming quality control of color and gel count.

R&D

- Control of max. stretch ability of given polymer.
- To test suitability of polymers or polymer compounds in a laboratory setting.

Production

- Production of small film, where the use of larger production machinery would not be effective. Possible applications include food packaging, but cover a wide range of other industries.

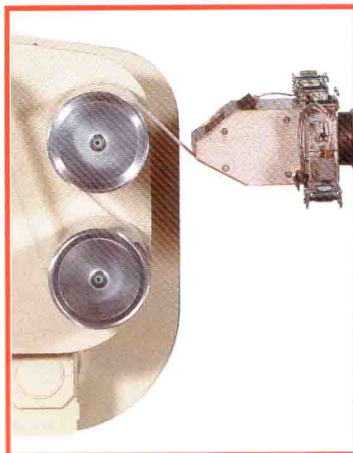
Flat Film Unit 300

Slit Dies

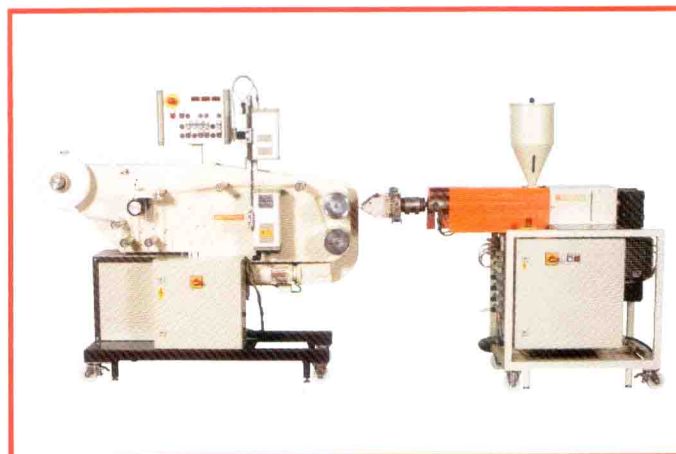
- Slit dies with different dimensions may be used to produce films from 50 – 300 mm width.
- Film thickness can be controlled with two exchangeable adjustment units (starting as of 0.6 mm).
- Fine adjustment of film thickness and quality is done with an adjustable die-lip.

Machine Frame

- The system is mainly built from lightweight metals. It is extremely sturdy and resides on wheels that may be locked. The system contains all mechanics, electronics, and controls.
- As an option, the system can be floor mounted on rails. As such, it is possible to easily detach the unit from the extruder to gain access to the die head.

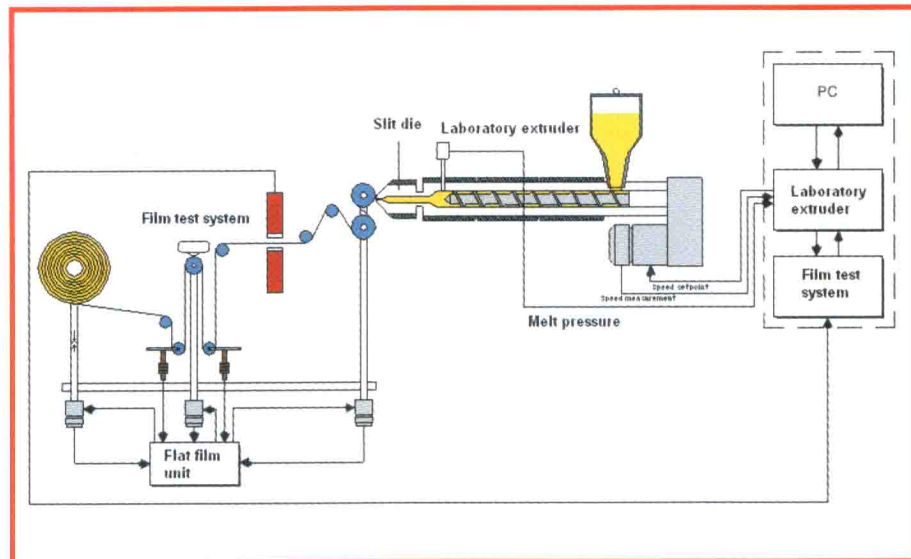


A variety of slit dies are available



Flat Film Unit 300 with film analysis station and laboratory extruder with slit die

Schematic – Flat Film Unit 300



Modular System

- It is easy to add options and/or to design a custom system.
- Film test systems can easily be integrated into the unit.

Control

- User-friendly placement of all controls and display systems, build-in SPS control with adjustable parameters, error diagnosis, and central alarm output make this unit easy to manipulate and handle.

Pull-off unit

- The pull-off unit consists of two temperature and speed controlled cylinders. The surface is hard inchromized and highly polished.
- The cylinder's double wall design holds the temperature controlled water. With it, the system is capable to produce films with different thicknesses and up to 300 mm width.

Decoupling arrangement

- The decoupling arrangement isolates the forces of the pull-off motor and enables the user to set forces from 0 to 45/50 N, with constant force on the film.

Pull-off unit

- The pull-off unit is capable to generate pull-off speeds between 0 – 50 m/min, independent of the type of film material.
- The variable force of 0 – 45/50 N is designed to keep films under sufficient tension.
- The diameter of the winding mechanism can be adjusted up to \varnothing 600 mm based on the pneumatically actuated split shaft, which makes it possible to wind up material without the use of tubes.
- The allowable size of the wound up film is adjustable and sensor controlled.

Film control system

- Sensors check for, alarm, and bring the instrument to a stop when the film ruptures, or when the wound up film has reached its maximum allowable size.

Options

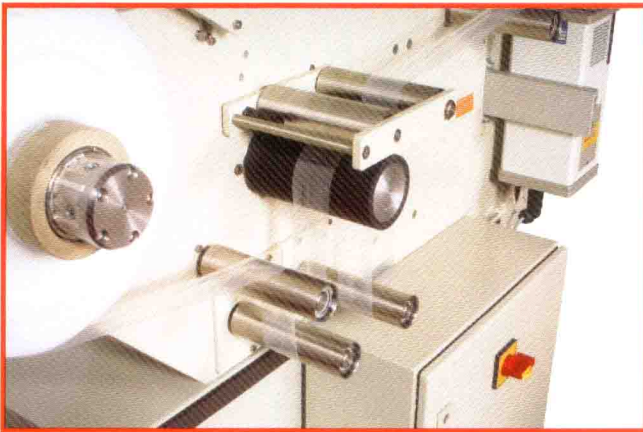
The modular system allows users to attach and integrate additional test systems, such as:

- Film-Test-Analysis, e.g. gel count
- Thickness measurements
- Gloss measurement
- Temperature control unit to heat, or cool the cylinders.

Flat film unit 300

Special Options:

- Slit dies (Option)
- Decoupling unit (Option)
- Film analysis unit (Option)
- Windup unit with split shaft for tubeless winding
- Edge remover (Option)
- Air knife (Option)



Decoupling arrangement for event film stresses



Film analysis system to evaluate its quality

Technical Data

Cylinder width	to 320 mm
Cylinder diameter	150 mm
Film width	max. 300 mm
Slit die widths	70/120/150/220/320 mm
Inlet height	1075 mm
Pull off speed	0 – 50 m/min
Controlled pull-off force	0 – 45/50 N
Dimensions H/B/T	ca. 1735 x 1965 x 660 mm
Winding roll diameter	max. 600 mm
Weight	ca. 400 kg



Laboratory extruder with exchangeable different cylinder diameters and lengths



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