

FET-200 LAB:

Laboratory scale wet spinning systems



"Innovative Fibre Solutions"

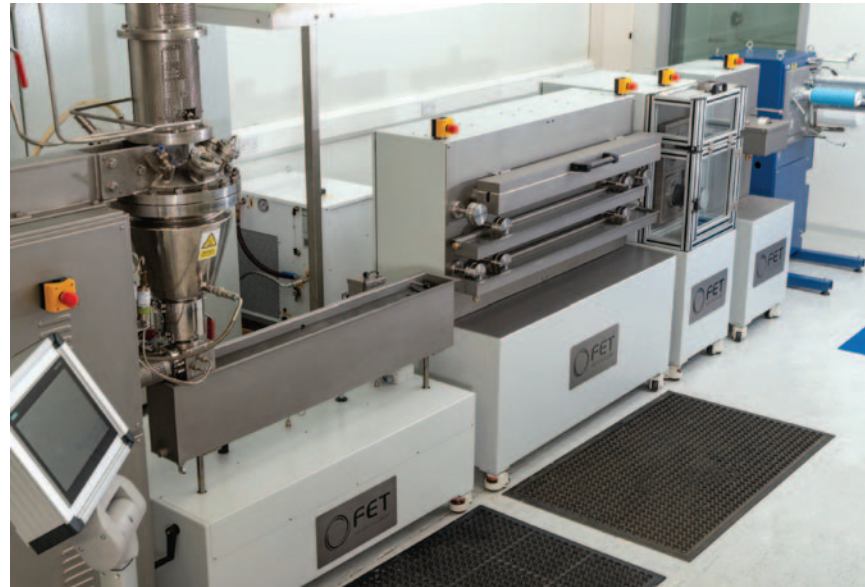
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1. INTRODUCTION

At FET we design and manufacture pilot and small scale production lines for wet spun fibres. We also make a lab scale version which is more suitable for the early stages of formulation and process development.

We supply systems for a wide range of different fibre types. These have ranged from corrosive aqueous salt solutions (such as alginate fibres), high viscosity version (such as cellulosic fibres), to acidic systems (such as engineered silk) and also systems using flammable, toxic solvents (such as UHMWPE).



The FET-200 LAB system is ideal for formulation and process development:

- Compact design makes efficient use of laboratory space whilst delivering high level of functionality
- Enables accurate replication of processes on a small scale
- Allows full exploration of processes with low volumes of processing solutions
- Capable of processing wide range of materials: e.g. corrosive, flammable, acidic, high viscosity

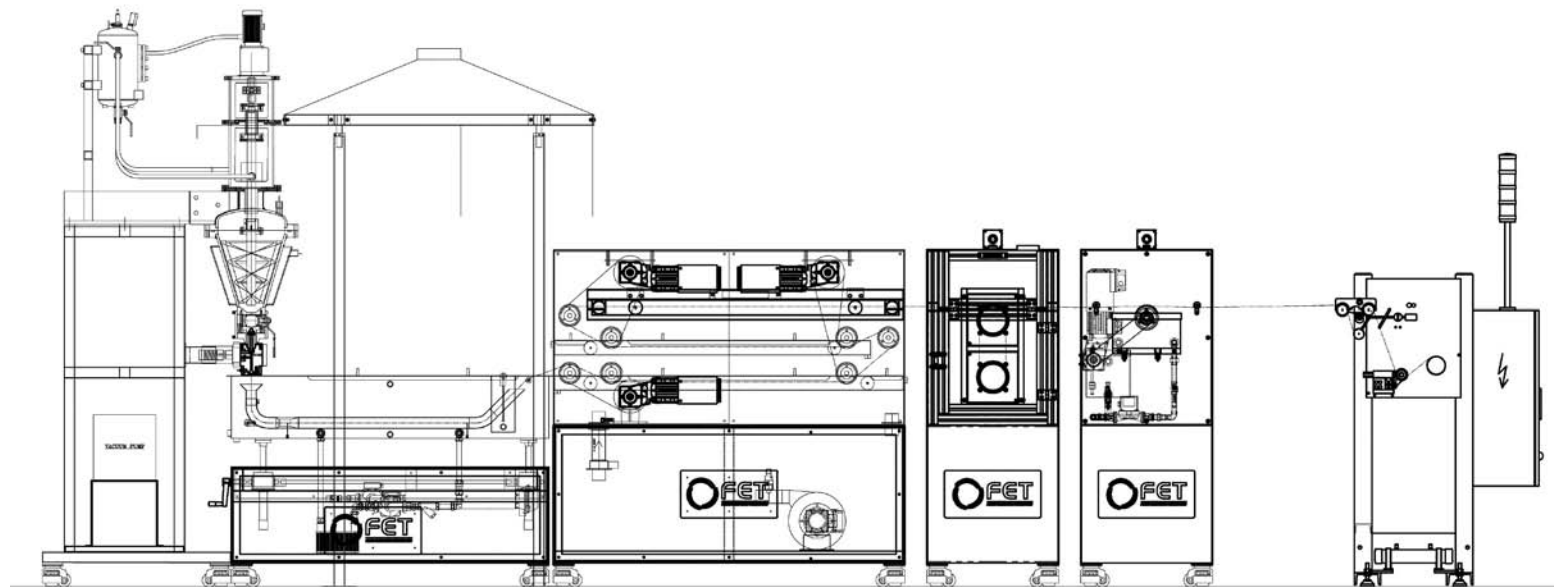
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2. SAMPLE LAYOUT

Example of layout of a multipurpose laboratory line:

- Modular design allows many options for additional functionality
- Representative of production scale processes
- Facilitates development and scale-up



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3. FEATURES

- Dope tanks from 1 Litre working volume
- General Purpose unit is temperature controlled with electrical heater and has variable speed impeller
- Options for cooling jackets and alternative impeller designs
- Many other impeller options including helical and ribbon designs
- Accurate flow to spinneret via speed-controlled gear pump
- Numerous interchangeable options for spin heads, including submerged



- Coagulation tanks with recirculation
- Wash tanks with multiple pass options
- Filament drying systems
- Filament orientation systems
- Take-up winding solutions
- Computerised control system with data capture and recording

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4. ILLUSTRATIONS



4.1
Multiple dope vessel sizes available with high viscosity versions, corrosion resistant, temperature control and homogenised stirring capacity



4.2
Spinneret holder optimises extrusion into coagulation tank. Air gap or submerged spinneret available. Unique Venturi thread up device



4.3
Washing haul-off system for maximum efficiency combined with filament drying system with hot air circulation

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4.4

Draw line components available with flexible configuration and multiple drawing zones



4.5

Various take-up systems available, including flange-spool type, precision cross-winding and high-speed versions

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5. BENEFITS AND OPTIONS

Benefits

- Compact design makes efficient use of laboratory space whilst delivering high level of functionality
- Enables accurate replication of processes on a small scale
- Allows full exploration of processes with low volumes of processing solutions



Options

- Heated Draw Stations allow filaments to be drawn to develop tensile properties
- General Purpose unit uses Infra-Red Heating

Additional options of:

- Hot air, Heated rollers, Hot water
- Additional zones can be added if required



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