

# Xplore MFD

## multi filament die

A high quality add-on for the Xplore MC 15 HT or MC 40



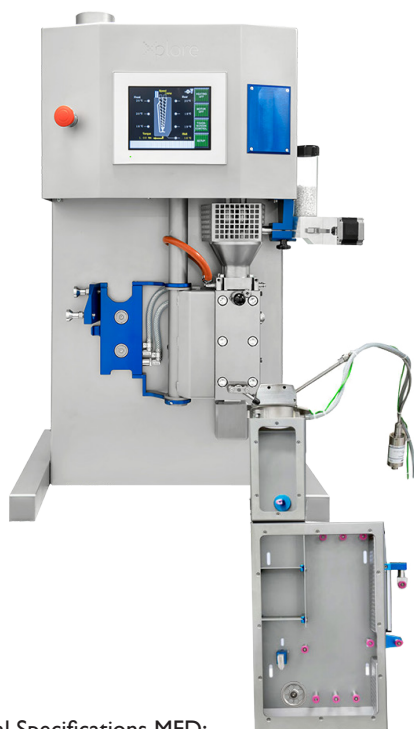
Xplore developed a multifilament die (MFD) which enables you to produce multifilaments from just a small amount of material. This multifilament die, which can be easily connected to one of our micro compounders is a unique asset for the development of new fibre material formulations. It will improve your R&D by delivering reliable, reproducible and fast test results. A full-fledged multifilament spinning solution for your formulation development challenges.

Our MFD offers you the solution: reliable, reproducible and swift results with less material, waste, less equipment and lower infrastructural costs. Even more so when the MFD is used in combination with the winding unit from our fibre line.

The core of this laboratory multi filament die is formed by an insulated temperature controlled, divisible, easy to clean, tool steel housing containing a filter element which filters contaminations or gels out of the processed material. Also, the optional mini feeding unit can be mounted on to the housing of the Xplore micro compounder to have no feeding issues. Also, the stainless-steel hopper and the forced feeding screws can be acquired as an option to the Xplore Micro Compounder (MC 15) to support continuous feeding of granules into the compounder. This guarantees a constant equilibrium in the main barrel, in combination with our MC 15 force measurement (Fv) this enables consistent throughput, hence near-perfect filament dimensions. Optionally a pressure transducer can be connected to the MFD, to

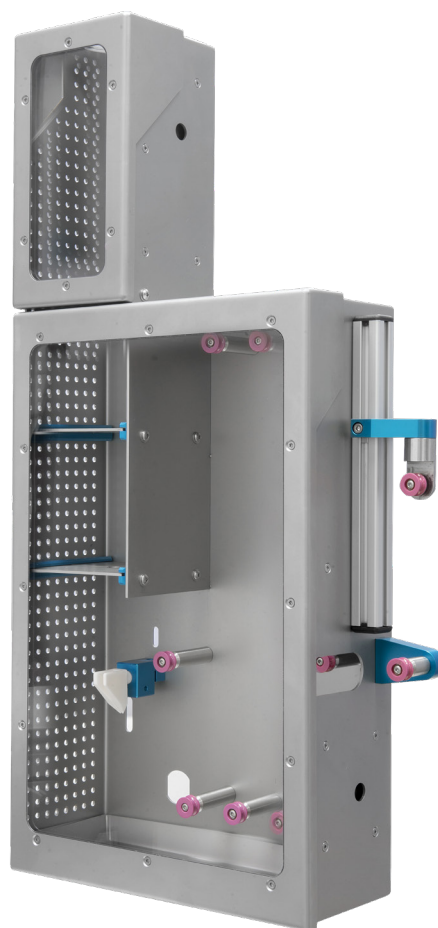
optimize the fibre spin process even more. Pressure and temperature can be monitored on the provided control box, which is part of the complete setup. The dedicated quench box is divided into two sections; first, the filaments enter an inert upper section just below the MFD and just below the inertisation section is a wetting ("avivage") unit mounted, and, second, there is a space for a flexible cooling area for the filaments. This allows you to wet and cool the filaments under specific custom controlled conditions. On request, the quench box can also be equipped with a melt strength measurement.

The MFD can produce 12 multifilaments from a minimum of 100 grams of material. The MFD can be easily fitted on our latest MC 15 micro compounders but is also backwards compatible with earlier models of MC 15 compounders, designed by Xplore.



#### Technical Specifications MFD:

- Die with 12 filaments ( $\varnothing$  0,75 mm) or an optional custom amount of filaments
- Die is heated by a heating band and measured by a thermocouple
- Port for pressure measurement
- Maximum heating temperature: 450 °C
- Exchangeable filter package
- Heating time (from 20 to 240 °C): 10 min
- Supply voltage: 208 - 240 V AC, 50/60 Hz
- Overall dimensions (h x b x d): 10 x 25 x 10 cm
- Approximate MFD weight: 2 kg
- Optional pressure transducer
- Optional 2 zone quench box incl. wetting unit (avivage)
- Optimal melt strength measurement
- Optional feeding unit and feeding control unit
- Optional dedicated table set up for vertical spinning in combination with an, e.g. Xplore compounder and Xplore winder unit



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