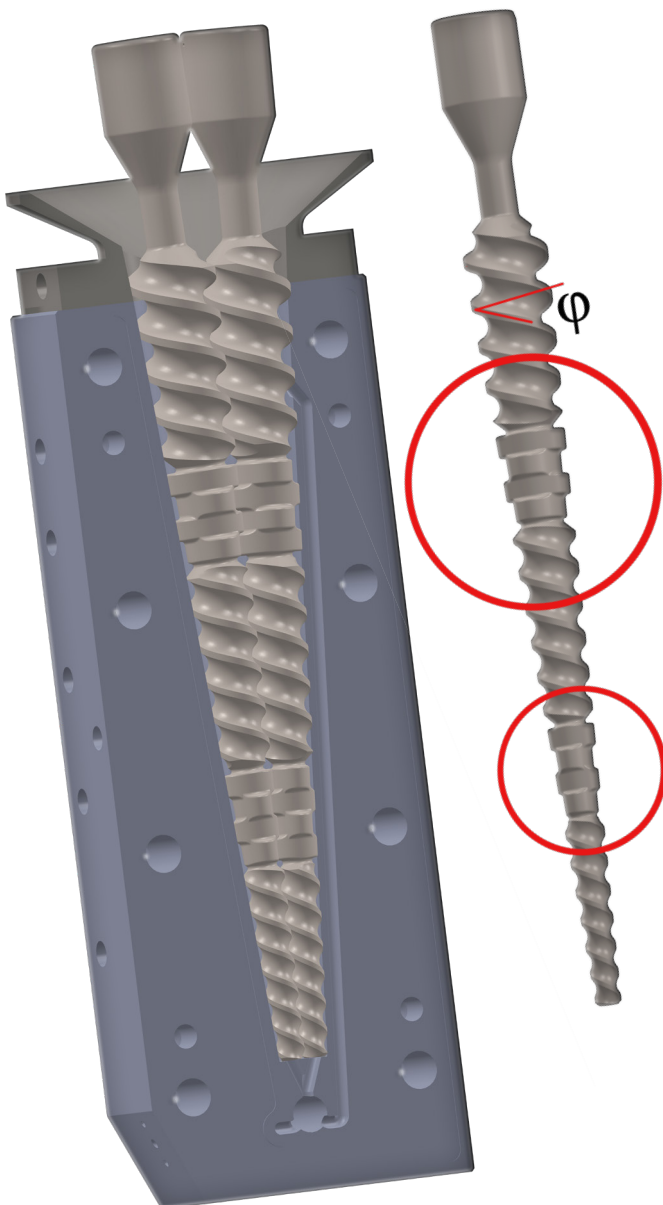


An innovative screw design for our MC 40

Enabling your customer to process viscous materials in
continuous mode with prolonged residence times



Xplore micro-compounders are mainly designed to work in batch mode. The advantage is that you can mimic any L/D and fully control the residence time with the recirculation valve.

Many customers ask us often: Do you have another screw design?

The reason for having only one screw design is easy to explain: The residence time in the batch extruders is arranged not by the screw design, like in a standard parallel twin extruder, but with the recirculation valve.

The person operating the Xplore compounder determines the residence time by switching from the recirculation to the die-exit position.

Nowadays, more and more customers want to have a choice to work either in batch mode or in continuous mode, e.g. casting films, fibre spinning, coating, and impregnation applications.

In continuous mode, the residence time is influenced by the screw design/geometry. Longer residence times generate a better distribution of particles.

Due to this customer need, our engineers designed a solution to substantially improve the residence time by decreasing the average pitch angle “phi” of the mixing screw, thereby improving distributive mixing.

The engineers also introduced 2 x 4 lobes, see red circles and improved the mixing capability even more, generating more extensional flow and subsequently observed an improvement in dispersive mixing behaviour.

Please inform all your MC 40 users about this innovation.

Figure 1.
MC 40 new screw geometry

The new screw design for the MC 40 are commercially available: 2nd week of march 2024

Dispersive mixing screw part# MC.40.3.83
Price: € 12.250