Extensional Properties of Polymer Solutions by CaBER and Spinline Extensional Indexer

표익납, 윤석일, 이주성, 정현욱*, 김종엽, 현재천
고려대학교 화공생명공학과
(hwjung@grtrkr.korea.ac.kr*)

Extensional properties of polymer solutions or suspensions including extensional viscosity, Hencky strain, and extensional rate give a decisive effect on their microstructure formations and physical properties in complex flows. The new extensional rheometer, CaBER (Capillary Breakup Extensional Rheometer) from Hakke, for measuring the low viscosity polymer solutions has been developed by adopting the dynamics of breakup of a fluid filament following a short, rapid extensional deformation. In this study, extensional properties of polymer solutions of Glycerine and Ethylene Glycol with Polyacrylamide (PAAm) particles have been investigated using the CaBER. Also, these results have been compared with those obtained by a spinline extensional indexer giving apparent extensional properties.
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