

NANOFIBER MANUFACTURING: BEYOND ELECTROSPINNING

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Nanofiber technology has been explored by filtration industry for decades. However, its real potential has not been fully realized because of the manufacturing challenges. Unlike traditional fiber manufacturing processes, nanofiber manufacturing faces significant challenge of meeting production volume and to provide cost to performance benefit. Electrospinning has been primarily explored both in industrial and academic sectors with the hope of overcoming these manufacturing hurdles. There are few attempts to overcome these challenges by using traditional technologies such as Meltblowing and non-traditional manufacturing methods such as Forcespinning to produce nanofibers. In the present review, we will elaborate challenges in nanofiber manufacturing and introduce some of the cutting- edge manufacturing technologies which have potential to bring real benefits of nanofiber to the filtration industry.