

## Farrel NST™ Rotors Tangential Technology

NST™ Rotors are the latest Technology Rotor from Farrel Corporation. The unique patented rotor geometry utilizes the shear intensive wing design of the proven ST™ Rotor in combination with a distributive wing designed to circulate material axially within the mixing chamber. The result is a perfect combination of material flow and shear intensity that creates uniformity in the mix very early in the cycle.

The results of multiple studies using both laboratory & production sized mixers confirm significant performance results for the NST™ Rotor.

- Product uniformity improvements up to 70% over 2 Wing Rotors, 65% Over other 4-Wing Rotors
- Product physical properties improved up to 12%
- Increase in productivity up to 14% over 2-Wing Rotors and 6% over 4-Wing rotor designs
- Up to 17% improvement in energy efficiency



To develop this new technology, the mixing process was separated into two basic processing functions, **dispersive mixing & distributive mixing**. These functions were then assigned to each of the long wings of the rotor and the wing geometries were optimized for their respective function. The flow pattern created by this geometry delivers a continuous flow of material to the dispersive wing. With the distributive wing working against the shearing wing, the net flow of material is toward the dispersive wing and ultimately against the rotor end plate. At the rotor end plate, the material is transferred to the opposite bore and gradually moved back toward the opposite end of the mixing chamber. It is this enforced order mixing action that gives the NST™ Rotor its superior mixing characteristics.

Since the NST™ Rotor was introduced, it has been successfully utilized in a variety of production sized machines for both single and multiple pass mixing processes spanning a variety of applications including tire and mechanical goods.

**To learn more about the NST™ Rotor,  
and other Farrel products,  
please visit [www.Farrel.com](http://www.Farrel.com) ,  
or call one of our offices below.**

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