APPLICATION SUMMARY:

Ross SLIM Mixers capable of high-speed powder wet-out, emulsification, particle size reduction and homogenization are recommended equipment for commercially produced marinades, glazes and sauces.

Ross SLIM Technology

Ross High Shear Mixers with Solids/Liquid Injection Manifold (SLIM) Technology are ideal for mass production of marinades, glazes and sauces. One common processing challenge encountered in these types of products is the complete dispersion of powdered thickeners and emulsifiers which tend to form lumps immediately upon contact with liquid. The SLIM features a unique rotor/stator mixer which eliminates this issue by drawing solids directly into a high shear zone without the use of eductors or pumps. Its mixing action inherently generates a powerful vacuum that motivates solids sub-surface for immediate wet-out and dispersion into a liquid stream or a liquid batch.

A typical procedure starts with charging the liquid ingredients into the vessel and turning on the SLIM mixer. Minor ingredients including spices, flavorings, salt and preservatives may be added directly into the agitated batch. The rotor/stator quickly produces a homogenous dispersion while emulsifying oils and other liquids immiscible with water. Once the batch is well-blended, the pre-weighed thickener such as xanthan gum, propylene glycol alginate, starch, carrageenan or gum arabic is loaded into the SLIM hopper. The operator then simply opens the hopper valve to initiate sub-surface powder injection at precisely the point where vigorous mixing takes place. Particle wet-out is virtually instantaneous so cycle times are very short and the thickened sauce is not overworked. Certain marinade recipes call for a pureeing step and the SLIM can very easily break down soft solids such as tomatoes and other fruits and vegetables.
The Ross SLIM is proven technology for fast and efficient dispersion of powders such as:

- Alginites
- Clay
- Calcium Carbonate
- Carbomers
- Carrageenan
- Cellulose Gum
- Citric Acid
- Dye Powders
- Fumed Silica
- Guar Gum
- Gum Arabic
- Magnesium Hydroxide
- Milk Powder
- Pectin
- Rosin Ester Resin
- Starch
- Sugar
- Sweeteners
- Talc
- Titanium Dioxide
- Whey
- Xanthan Gum

For more information on the Ross SLIM Technology

Visit www.highshearmixers.com or click here to download a brochure.

Processing advantages of the SLIM Technology

- **Simple and straightforward operation.** Just turn on the mixer and start inducting powders. No eductors or pumps to deal with.
- **Shorter cycle times.** SLIM users switching from conventional mixers and stirrers report as much as 80% reduction in overall cycle time.
- **Increased yield and higher quality dispersions.** By preventing the formation agglomerates and eliminating floating powders, the SLIM maximizes both yield and functionality of raw materials.
- **Easier material handling.** The inline SLIM mixer is usually installed at floor level so operators need not climb up a mezzanine carrying heavy bags of powder. Solids can also be delivered via automatic feeding devices.
- **Cleaner and safer mixing.** A “hose & wand” attachment is used for dipping into bulk bags or containers to conveniently induct lightweight powders without creating a dusty environment.
- **Flexibility.** A portable SLIM unit can be used in multiple process lines and can serve mix vessels of various sizes.

**Batch SLIM.** As the rotor reaches operating speed, the SLIM valve is opened and powders are quickly drawn into the batch by virtue of the powerful vacuum generated by the ported rotor.

**Inline SLIM.** The liquid stream (1) enters the mixer and immediately encounters the powder injection (2) at the high shear zone of the rotor/stator assembly. The resulting dispersion (3) is expelled centrifugally through the stator openings at high velocity.