

Inline Static Mixers and Blenders for Low Shear Processing

100% product uniformity and distribution at any viscosity level

The Admixer excels at processing any combination of miscible fluids regardless of flow rates, viscosity or density profiles. Where laminar flow conditions exist for thick fluids, complete homogeneity is achieved through geometrically precise flow division. In turbulent flow, the Admixer utilizes radial momentum and inertia reversal to eliminate stratification of flow, temperature and density of all processed materials.

The even stirring characteristics of this low shear static mixer are ideal for many jobs. For example: diluting juice concentrates, mixing in flavors and colors, marbleizing cake batters, mixing tomato puree with other agents, blending chocolate chips, nuts or fruit into ice cream or yogurt, blending syrups into milk, evenly distributing jelly within molten peanut butter, and more.

No moving parts, no electrical requirements and easy installation

- Standard 316SS construction with 3-A TPV compliance (Sanitary Standard #35-04)
- Quick disconnect TriClamp® type ferrules for ease of assembly
- Standard design includes a 30Ra or better finish for elements and housing, with all welds completely ground, blended and polished
- Element assemblies are quickly removable for inspection and COP
- Off-the-shelf stock availability from 1" through 4" diameter
- Low capital cost and maintenance
- 50-90% less power consumption than mechanical mixers



Ideal for Low Shear Applications

- ✓ Juice Thin Down
- ✓ Fruit into Yogurt
- ✓ Flavors & Colorants
- ✓ Tomato Sauces
- ✓ Chocolate Syrups
- ✓ Vitamins
- ✓ Ice Cream
- ✓ Carbonate Beverages
- ✓ Create Marbleizing
- ✓ Creams & Lotions
- ✓ Fragrance Blending
- ✓ Jams & Jellies

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How to Select a Sanitary Style Static Mixer

Models, Specifications & Performance

Sanitary design static mixers from Admix are designed to process flow streams from as low as 0.25 GPM to as high as 250 GPM or greater. The Admixer will blend most combinations of flow, viscosity and density even from multiple incoming streams (see side bar for allowable ranges). The limiting factor will be the pressure drop through the mixer, which is very dependent upon all 3 variables.

Most “turbulent flow” static mixing applications can be well blended with 6 mixing elements or vanes at a pressure drop of 2-3 psi or less, while thicker “laminar flow” applications could require 12 to 18 elements and upwards of 25 psi or more pressure drop.

The guidelines provided below are based on 6 element configurations. Please consult your local sales representative indicated below for a detailed sizing analysis.

Model	Nominal Diameter (inches)	Flow Rate (gpm)	I.D. (inches)	Pressure Rating @ 300* F (psi)	Length (inches)	Weight (lbs)
SAN1-6R-S	1	1 - 15	0.87	250	8.75	1
SAN1.5-6R-S	1-1/2	3 - 30	1.37	250	13	2
SAN2-6R-S	2	5 - 50	1.87	250	17.25	5
SAN2.5-6R-S	2 -1/2	10 - 80	2.37	200	21.75	8
SAN3-6R-S	3	20 - 150	2.87	150	26	12
SAN4-6R-S	4	50 - 250	3.83	150	34.5	20

PERFORMANCE CHARACTERISTICS

Mixing Action: Plug Flow

Viscosity Range: 1 to 1,000,000 cps

Viscosity Ratio: 10,000:1 max

Volumetric Ratio: 10,000:1 max

Density Ratio: 100:1 max

Shear Rate: Low, but uniform

Velocity Dependency:

Laminar flow - none

Turbulent - 1ft/sec (minimum)

Dispersion Capability:

Good to Very Good

Pressure Drop: Low (1 to 5 psi)

Maintenance: Low (no moving parts)

Injection Requirements:

Important (especially at high viscosity or volumetric ratios)

Energy Cost:

Low (25% of dynamic agitators)

Capital Cost: Low

How the Admixer Static Mixer and Blender Works

Turbulent Flow - Low Viscosity



Laminar Flow - High Viscosity



Cross Sectional View



Additional sizing and application tips can be found in the following bulletins available at admix.com/admixer-specs or by calling your local representative.

Tech Note #101 Admixer Theory of Operation

Tech Note #102 Sizing the Admixer

Tech Note #201 Sanitary Static Blending with the Admixer