



KM static mixers feature a patented helical mixing element which produces complete radial mixing and flow division for any combination of liquids, gases, or solids.

## Design

The KM static mixer's helical mixing element directs the flow of material radially toward the pipe walls and back to the center. Additional velocity reversal and flow division result from alternating right and left hand elements, increasing mixing efficiency. All material is continuously and completely mixed, eliminating radial gradients in temperature, velocity and material composition.

## Application

KM static mixers provide precise blending and dispersion of all flowable materials, without utilizing moving parts. Mixing is achieved by redirecting the flow patterns already present in empty pipe. Kenics static mixers are currently being used in numerous processing applications, in order to reduce overall costs and significantly improve efficiency, speed and control. KM mixers can be found in a wide range of markets including chemical, refining, oil and gas, polymer, food, pulp and paper, and water and wastewater treatment. These high efficiency mixers also handle other critical processes, such as:

### Heating/Cooling

KM mixers dramatically boost heat transfer rates over those typically found in open pipe under both laminar and turbulent flow conditions.

### Residence Time Control

By eliminating the parabolic velocity profile characteristic of laminar flow in open pipes, the helical element of KM mixers promotes plug flow in continuous processes.

### Temperature Uniformity

The radial mixing action of the KM elements rapidly eliminates temperature gradients, reducing fouling and thermal degradation.



### Fixed Element — KMS

- Used for laminar, transitional, and turbulent flow applications; suitable for most blending or dispersion problems involving liquids or gases
- Mixing elements are attached to the housing wall



### Element Assembly — KMA

- Mixing elements are inserted in the customer's existing housing
- Precisely controlled to assure proper fit and ease of installation in any standard or custom pipe size



### Removable Element — KMR

- Used for laminar, transitional, and turbulent flow applications where periodic cleaning or inspection is required; suitable for most blending or dispersion problems involving liquids or gases
- Mixing elements are easily removed from housing
- 3A certification available



### Edge-Sealed Element — KME

- Used for maximum heat transfer, polymer reactors, certain fibrous applications, and mixing liquids with wide viscosity ratios
- Mixing element edges are furnace-brazed to the housing wall eliminating dead areas
- Continuous joining of elements to the housing eliminates wall clearance to maximize heat conduction and minimize thermal degradation or fouling

# Kenics KM Static Mixer

## Kenics Static Mixer Quick Selection Guide

Viscosity (cP)

Flow Range (gpm)	Line Size	1	10	100	500
0.5 to 2	0.5"	1/2-KMS-4	1/2-KMS-6	1/2-KMS-12	$\Delta P > 10$ psi
	0.75"	3/4-KMS-4	3/4-KMS-6	3/4-KMS-12	3/4-KMS-18
	1"	1-KMS-4	1-KMS-6	1-KMS-12	1-KMS-18
2 to 5	0.5"	1/2-KMS-2	1/2-KMS-4	1/2-KMS-6	$\Delta P > 10$ psi
	0.75"	3/4-KMS-2	3/4-KMS-6	3/4-KMS-12	$\Delta P > 10$ psi
	1"	1-KMS-2	1-KMS-6	1-KMS-12	1-KMS-12
	1.5"	1.5-KMS-4	1.5-KMS-6	1.5-KMS-12	1.5-KMS-18
5 to 7.5	0.5"	1/2-KMS-2	1/2-KMS-4	$\Delta P > 10$ psi	$\Delta P > 10$ psi
	0.75"	3/4-KMS-2	3/4-KMS-4	3/4-KMS-6	$\Delta P > 10$ psi
	1"	1-KMS-2	1-KMS-4	1-KMS-6	$\Delta P > 10$ psi
	1.5"	1.5-KMS-2	1.5-KMS-6	1.5-KMS-12	1.5-KMS-12
7.5 to 10	0.75"	3/4-KMS-2	3/4-KMS-4	3/4-KMS-6	$\Delta P > 10$ psi
	1"	1-KMS-2	1-KMS-4	1-KMS-6	$\Delta P > 10$ psi
	1.5"	1.5-KMS-2	1.5-KMS-4	1.5-KMS-6	1.5-KMS-12
10 to 15	0.75"	3/4-KMS-2	3/4-KMS-4	$\Delta P > 10$ psi	$\Delta P > 10$ psi
	1"	1-KMS-2	1-KMS-4	1-KMS-6	$\Delta P > 10$ psi
	1.5"	1.5-KMS-2	1.5-KMS-4	1.5-KMS-6	1.5-KMS-12
	2"	2-KMS-2	2-KMS-4	2-KMS-6	2-KMS-12
15 to 20	0.75"	3/4-KMS-2	3/4-KMS-2	$\Delta P > 10$ psi	$\Delta P > 10$ psi
	1"	1-KMS-2	1-KMS-4	$\Delta P > 10$ psi	$\Delta P > 10$ psi
	1.5"	1.5-KMS-2	1.5-KMS-4	1.5-KMS-6	1.5-KMS-12
	2"	2-KMS-2	2-KMS-4	2-KMS-6	2-KMS-12
20 to 30	1"	1-KMS-2	1-KMS-2	$\Delta P > 10$ psi	$\Delta P > 10$ psi
	1.5"	1.5-KMS-2	1.5-KMS-4	1.5-KMS-6	$\Delta P > 10$ psi
	2"	2-KMS-2	2-KMS-4	2-KMS-6	2-KMS-12
	3"	3-KMS-2	3-KMS-4	3-KMS-6	3-KMS-12
30 to 40	1"	1-KMS-2	1-KMS-2	$\Delta P > 10$ psi	$\Delta P > 10$ psi
	1.5"	1.5-KMS-2	1.5-KMS-2	1.5-KMS-6	$\Delta P > 10$ psi
	2"	2-KMS-2	2-KMS-4	2-KMS-6	$\Delta P > 10$ psi
	3"	3-KMS-2	3-KMS-4	3-KMS-6	3-KMS-12

