



P&PE

PUMPS & PROCESS EQUIPMENT INC.

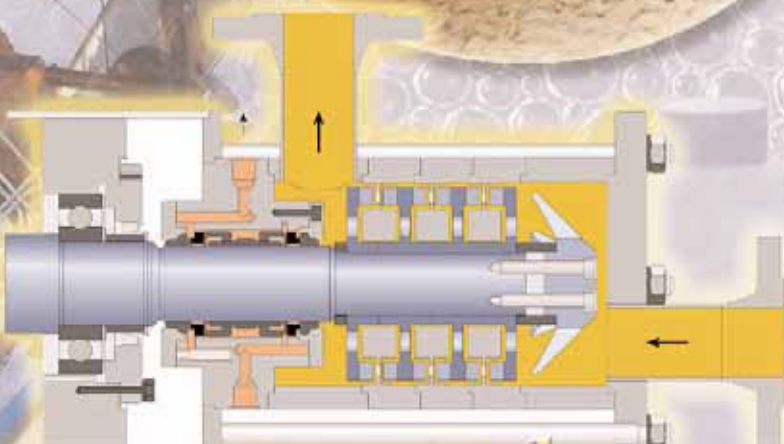
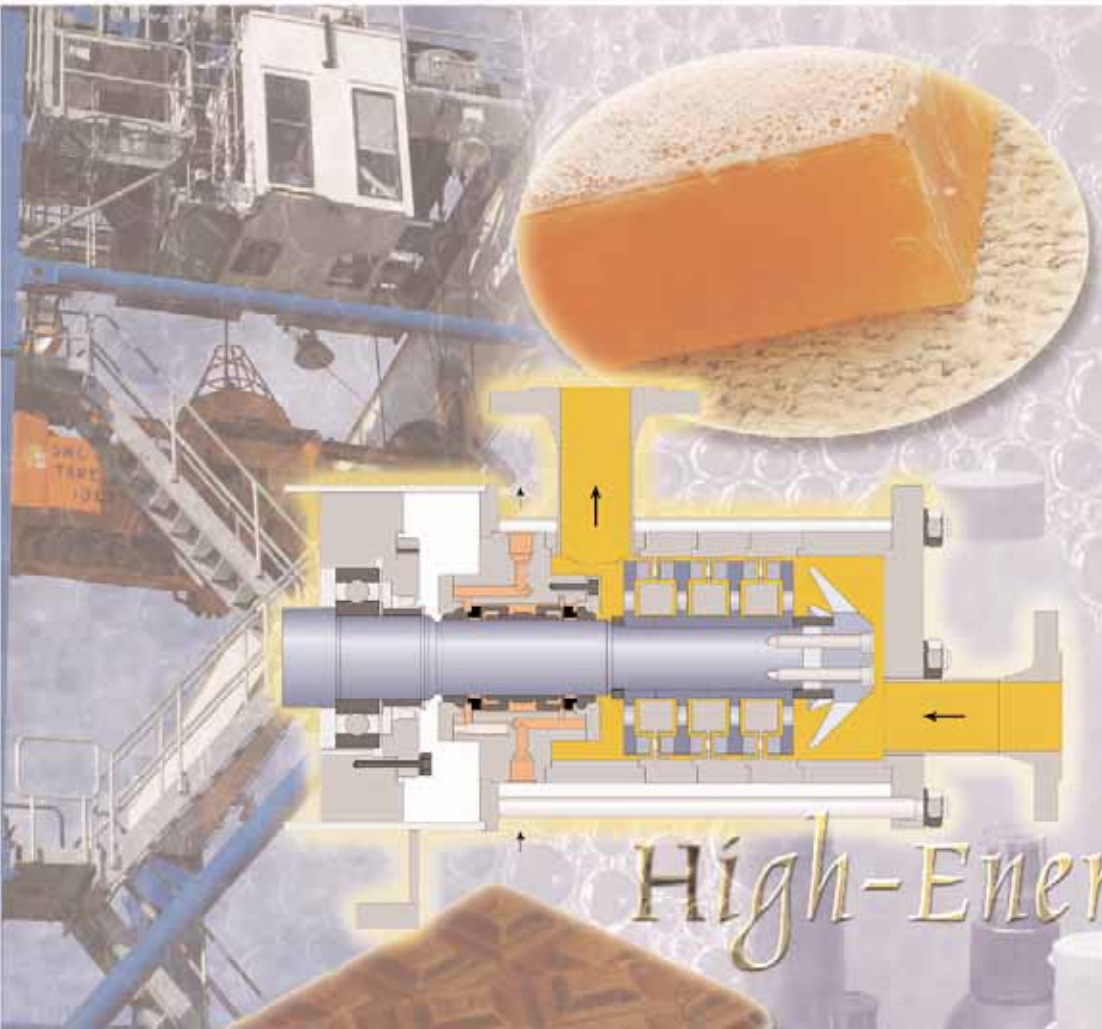
To Request a Quote,

CALL US 1-847-882-8116



SPX Process Equipment

PENTAX
Multi-Frequency
Fluid Mixer



High-Energy



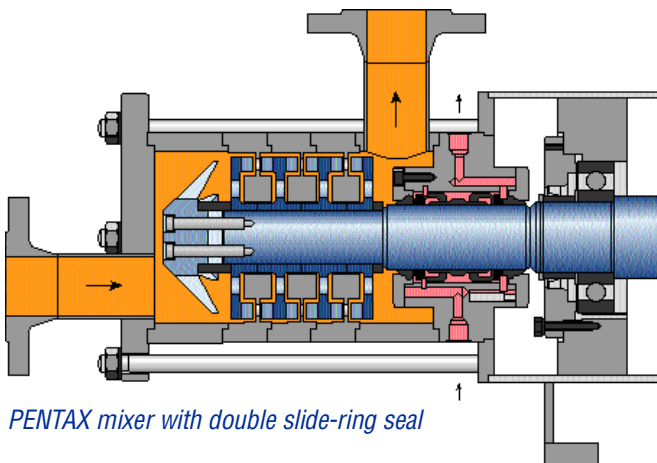
Motor-Driven Mixers For The Most Exacting Liquid Mixing Requirements

PENTAX mixers are used where two mutually insoluble liquids must be continuously mixed into a stable emulsion, or where solids in suspension must be dispersed as finely as possible in a viscous liquid.

Design and Construction

The multi-frequency liquid mixer comprises a series of opposed rotors and stators on a common axis. The rotors are fitted with milled teeth for low viscosity applications and with round studs for use with viscous fluids.

Inside the PENTAX mixer, constantly changing areas of rapid flow and resistance subject the liquid to high frequency acceleration and deceleration. The resulting high energy shear forces result in effective dispersion and emulsification.



PENTAX mixer with double slide-ring seal

A pre-mixing chamber is located at the entrance to the mixer. When one or more components are fed in by non-synchronous piston or diaphragm pumps, this chamber accommodates the discharge volume of several pump strokes and thereby equalizes any differences in concentration before the liquids enter the main mixing area.

Advantages

- Extremely fine droplet size and material distribution
- Low space requirement
- High shearing action and phase boundary area
- Rapid reaction rate for neutralization and other reactions
- Effective material exchange for reactions involving gases

Applications

- **Chemicals and Plastics**
 - Dispersing hardeners, accelerators and colorants into resins.
 - Continuous cross-linking of PVA solutions.
 - Production of anionic and cationic bitumen emulsions.
 - Continuous molten resin saponification.
 - Wax and Paraffin emulsion preparation.
 - Dispersing propellant in foams.
- **Food**
 - Continuous production of mayonnaise.
 - Fine dispersion of additives in cocoa and chocolate.
 - Soya milk drink production.
 - Dispersion of citric acid in vegetable oil.
 - Homogenization of nut-nougat sandwich spread.
 - Preparation of beaten egg white/sugar foam mixtures.
- **Cosmetics and Detergents**
 - Continuous manufacture of creams and emulsions.
 - Alkaline neutralization of fatty and sulphonic acids.
 - Dilution of molten alkane sulphonate.
 - Elimination of viscosity anomalies in alkyl ether sulphate dilutions.
 - Continuous shampoo and dishwashing liquid production.
- **Fibers and Textiles**
 - Dyeing and delustering for semi- and fully synthetic spinning solutions.
 - Homogenization for viscous solutions.
 - Production of lubricant emulsions.
 - Continuous starch gelatinization.

Specifications

Type	Connection Inch	Throughput GPH	Speed Range min^{-1}	Drive Power HP	Rotor Diameter d_r mm	Power Coefficient	
						$Re > 10^4$ NE	$Re < 200$ Ne . Re
KMF 8	1"	10 – 200	500/4500	3 – 5	72	4.2	6000
KMF 15	1 1/2"	40 – 800	500/4000	3 – 15	94	3.0	3000
KMF 30	2"	100 – 1600	350/2800	5 – 25	149	2.2	2100
KMF 70	3"	240 – 3200	250/1450	7.5 – 30	236	1.5	1800
KMF 120	4"	400 – 4800	200/950	20 – 40	254	1.0	1500
KMF 250	4"	660 – 7900	150/750	20 – 40	317	0.7	1200
KMF 300	6"	1100 – 13200	100/450	30 – 60	515	0.5	1000

¹⁾ For special applications higher throughputs may be acceptable.

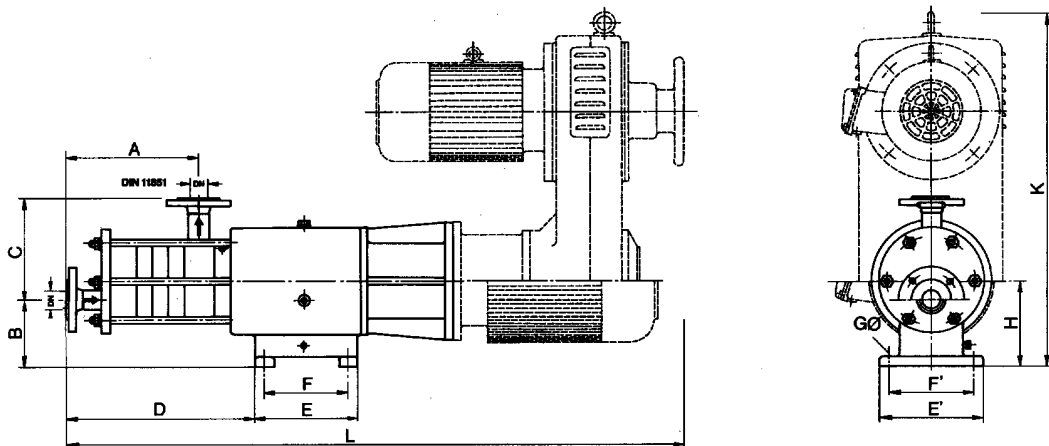
The table above indicates the relationship between throughput, drive power and rotation speed. Low viscosity applications require high throughput and rotation speed with a low power rating; high viscosity applications require the opposite.

As many products exhibit non-Newtonian flow characteristics, it is not normally possible to determine the effective viscosity within the mixer; in these cases test runs in our pilot plant are required.

Pentax mixers can be supplied with fixed gearing via a directly coupled motor, or with variable-speed drives.

Connections and Dimensions

Type	Connection Inch	Dimensions (inch)								Approx. Dimensions	
		A	B	C	D	E x E'	F x F'	G	H	K	L
KMF 8	1"	9.1	3.6	5.0	11.7	7.5 x 7.1	6.5 x 6.1	0.5	4.3	23.6	40
KMF 15	1 1/2"	11.9	4.6	6.5	15.1	7.9 x 9.5	6.7 x 8.3	0.6	5.6	24.8	49
KMF 30	2"	13.2	6.7	10.0	18.8	10.2 x 10.4	8.3 x 8.5	0.7	8.5	35.5	63
KMF 70	3"	15.3	6.8	11.9	19.2	18.5 x 15.0	16.5 x 13.0	0.7	9.7	–	67
KMF 120	4"	17.5	6.5	12.2	25.9	19.7 x 15.8	17.3 x 13.8	0.9	10.2	–	83
KMF 250	4"	18.5	8.3	15.2	23.4	16.2 x 17.7	13.4 x 15.8	0.9	12.4	–	95
KMF 300	6"	15.8	13.1	17.2	27.9	29.6 x 24.0	26.9 x 22.1	0.9	13.1	–	99



Global Headquarters: SPX Process Equipment Delavan, WI USA



Installation of Pentax Multi-Frequency Fluid Mixer.

For more information about Bran+Luebbe or for technical details on products and services available from SPX Process Equipment, visit our website:

www.spxprocessequipment.com

E-Mail **bl@processequipment.spx.com**

Call **1-800-252-5200, (262) 728-1900** or Fax **(262) 728-4904**

Your Local Contact