

# Nettco S-Series Mixer

SANITARY STAINLESS STEEL - PORTABLE/FIXED MOUNT MIXERS



## A World Leader In Industrial Mixing Since

**1923.** Lightnin has over 85 years of unrivaled experience in industrial mixing technology, process knowledge, and technological innovation. Lightnin enjoys a global reputation for durable, long-lasting mixers, agitators, aerators, and flocculators for fluid process systems. We offer a full spectrum of impeller designs for diverse applications. In addition, we offer a worldwide service network, mixer repair, gearbox repair, and replacement parts programs. Look to Lightnin for knowledge, technology and service excellence.

Based in Charlotte, North Carolina, SPX Corporation (NYSE: SPW) is a global Fortune 500 multi-industry manufacturing leader. The company's highly-specialized, engineered products and technologies serve customers in three primary strategic growth markets: infrastructure, process solutions, and diagnostic systems. Many of SPX's innovative solutions are playing a role in helping to meet rising global demand, particularly in emerging markets, for electricity, processed foods and beverages and vehicle services. The company's products include thermal heat transfer equipment for power plants; power transformers for utility companies; process equipment for the food & beverage industry; and diagnostic tools and equipment for the vehicle service industry. For more information, please visit [www.spx.com](http://www.spx.com).

# Introducing a new economical Portable and Fixed Mount Mixer System configured to meet your sanitary needs

## MEETS 3A AND EC 1935:2004 STANDARDS FOR THE FOOD INDUSTRY

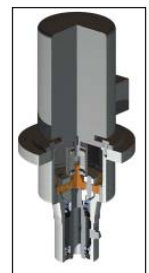
The Nettco S-Series sanitary mixer is available in a wide range of mixing and mounting configurations utilizing a unique modular assembly design. With one mixer it is possible to configure a clamp-on, open tank, or sealed mixer design. This mixer can be quickly converted from one mounting arrangement to another. Modifying the mounting configuration can be accomplished in less than two minutes.

- Highest quality at a competitive price
- For new and existing tank sizes: 0.1 - 20 m<sup>3</sup> (25 - 5,000 U.S. gal.)
- Designed for Dairy, Beverage, Oil, Prepared Foods and more
- Wide range of impellers and mounting options



## UNIQUE MODULAR CONCEPT FEATURES:

- Sanitary, all stainless steel design
  - 304 SS housing
  - Washdown (IP55), inverter ready motor
  - Proven planetary gearing – robust and reliable
  - Food grade lubricant
  - Unique, innovative modular design
  - Reverse-taper shaft attachment for added safety
  - Stainless Steel Motor, 0.37 - 2.2 Kw (1/2 - 3 HP)
    - Optional air motor available
  - Fully standardized product
- Direct and gear options for this global use mixer provides full range of shaft speeds (RPM)
  - 1450, 290, and 240 (50 Hz)
  - 1750, 350, and 280 (60 Hz)
- Shaft lengths up to 2100 mm (84")
- Simple, compact design, 3A and EC 1935:2044 clean design available
- Economical
- Impellers from world's mixing technology leader
  - Multiple style impellers available
    - Hydrofoil, PBT and FP 100 (Marine Props)



Gear Drive  
Section View



Direct Drive  
Section View



Air Motor

## MODULAR DESIGN FEATURES:

### Clamp Module (P):

- Bolted onto base module
- Clamps to vessel or stand
- 0° to 20° horizontal mounting
- 0° to 90° vertical adjustment

Adjustable mounting - controls vessel contents swirl for improved mixing



### Fixed-Mount Open Tank Module (Q):

Open Tank Flange Module

- Attaches to base module

Use on open tanks where a seal is not required

- Vertical on center for baffled tanks
- Vertical offset for unbaffled tanks
- Can be angular mounted



### Bung Adaptor

Allows for mixing in drums by fitting securely into the opening of the lid without the need for clamps or support brackets

- Attaches to base module
- For use on standard drum with a 2" NPT bung
- Stainless Steel construction to prevent corrosion



### Fixed-Mount Closed Tank Lip Seal Module (L):

Closed Tank Sealed Module

- Attaches to base module

For closed tanks with seal requirements

- ANSI or DIN Flange Mount Lip Seal
- Food grade lip seal good for 0.3 BAR (5 PSI) (allowable tank pressure)



### Sanitary Flange Lip Seal:

Clamps to sanitary tank flanges for a simple, clean connection when a low pressure sealing device is required.

- Attaches to base module
- 3", 4" and 6" Sanitary Flange designs available
- Food grade lip seal good for 0.3 BAR (5 PSI) (allowable tank pressure)
- Stainless Steel construction to prevent corrosion



### Fixed-Mount Closed Tank Mechanical Seal Module (S):

Closed Tank Sealed Module

- Attaches to base module

For closed tanks with seal requirements

- ANSI or DIN Flange Mount
- Single dry-running mechanical seal good for 5 BAR (75 PSI) (allowable tank pressure)



### Sanitary Flange Mechanical Seal Assembly:

Clamps to sanitary flanges for a simple, clean connection when a mechanical seal is required.

- Attaches to base module
- 3", 4" and 6" Sanitary Flange designs available
- Single dry-running mechanical seal good for 5 BAR (75 PSI) (allowable tank pressure)
- Stainless Steel construction to prevent corrosion



## Typical product applications

With an all stainless steel construction and features designed to meet 3-A and EC 1935:2004 standards, the Nettco S-Series mixer can be used in a variety of sanitary mixing applications. And with Lightnin's unparalleled experience, every mixer comes with a process guarantee!

### Dairy



### Prepared Foods



### Beverage



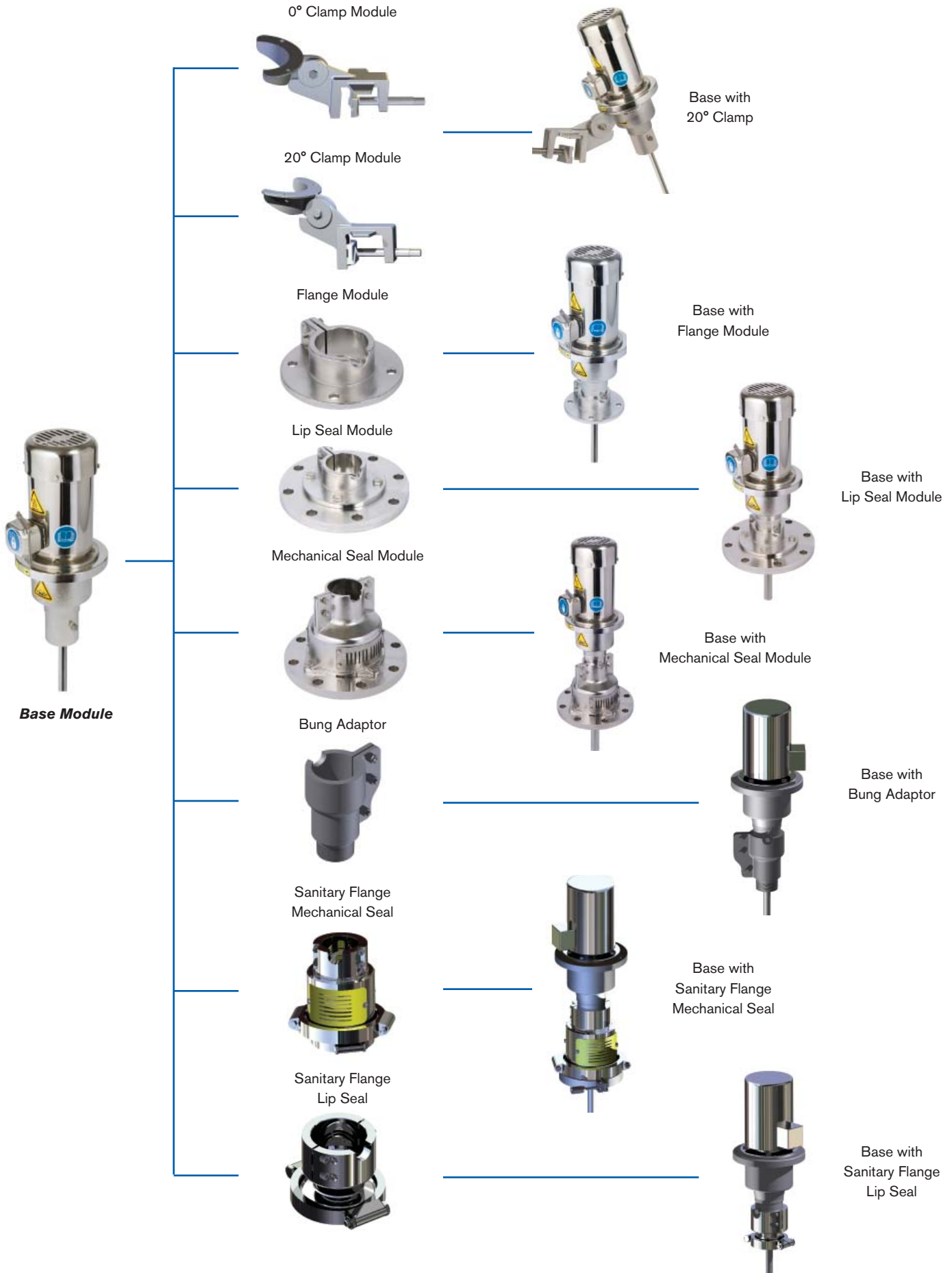
### Pharma

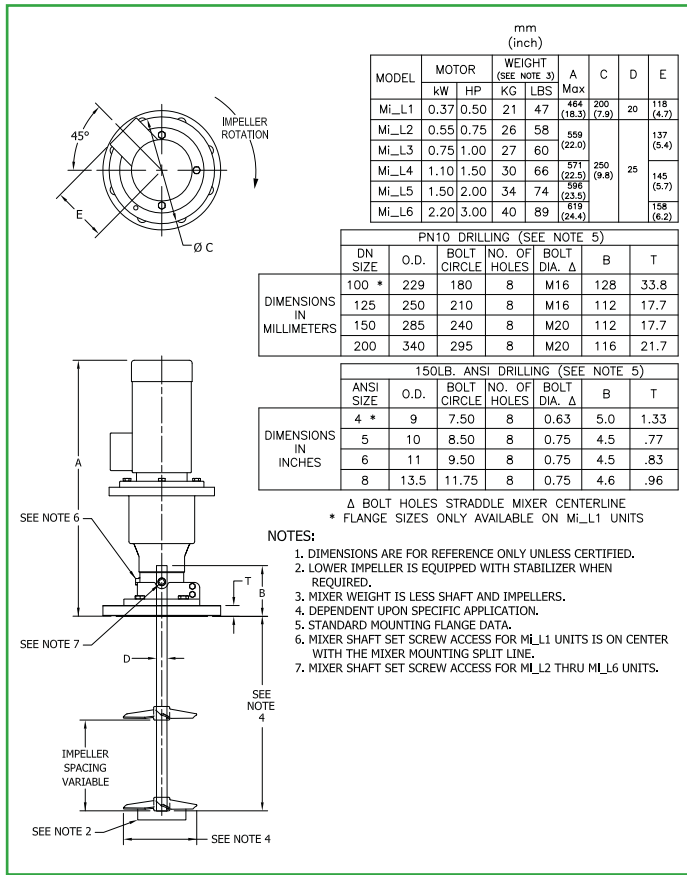


### Personal Care

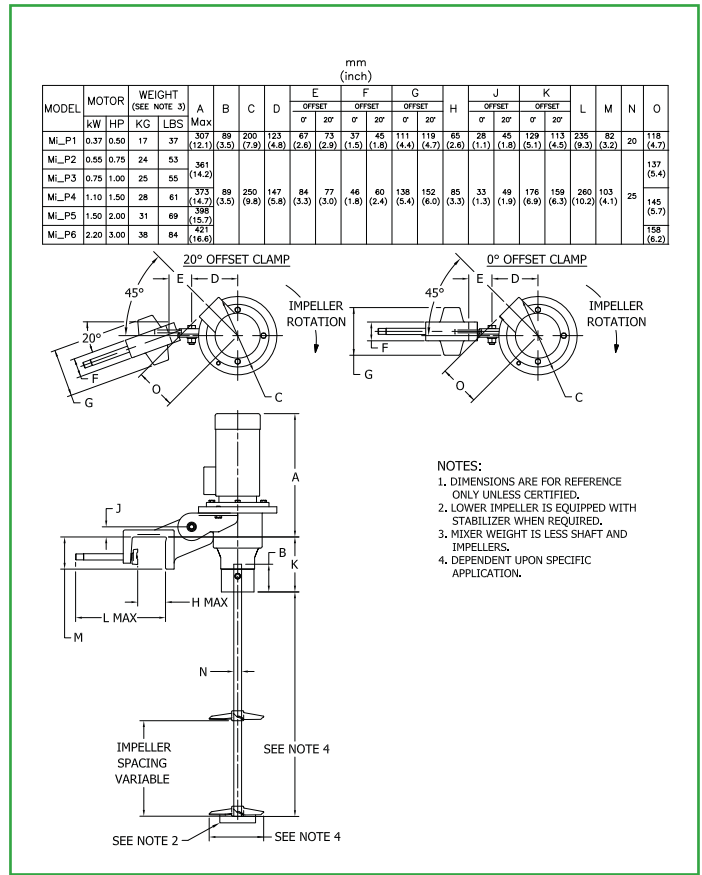


**MODULAR MIXING SYSTEM:**

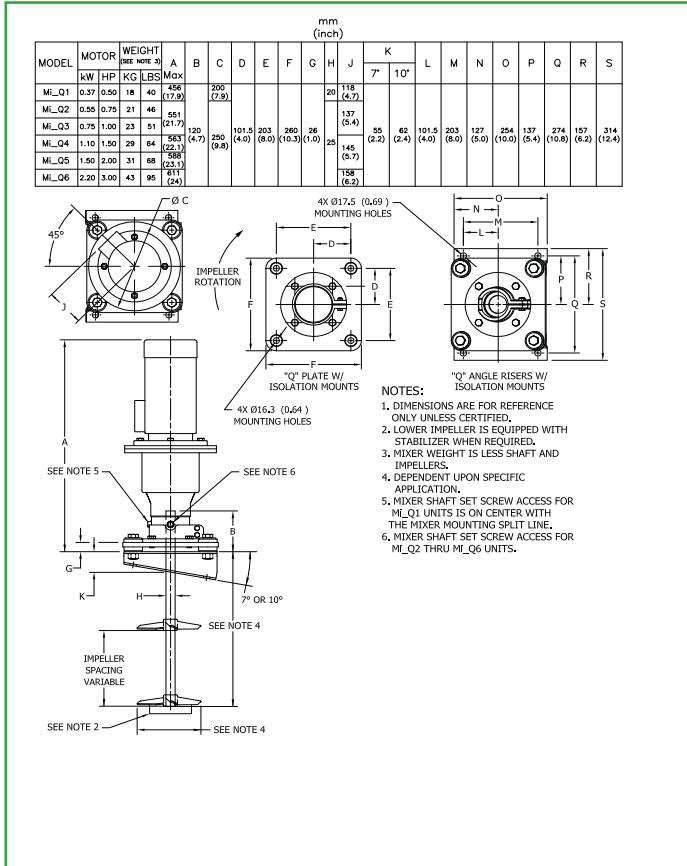




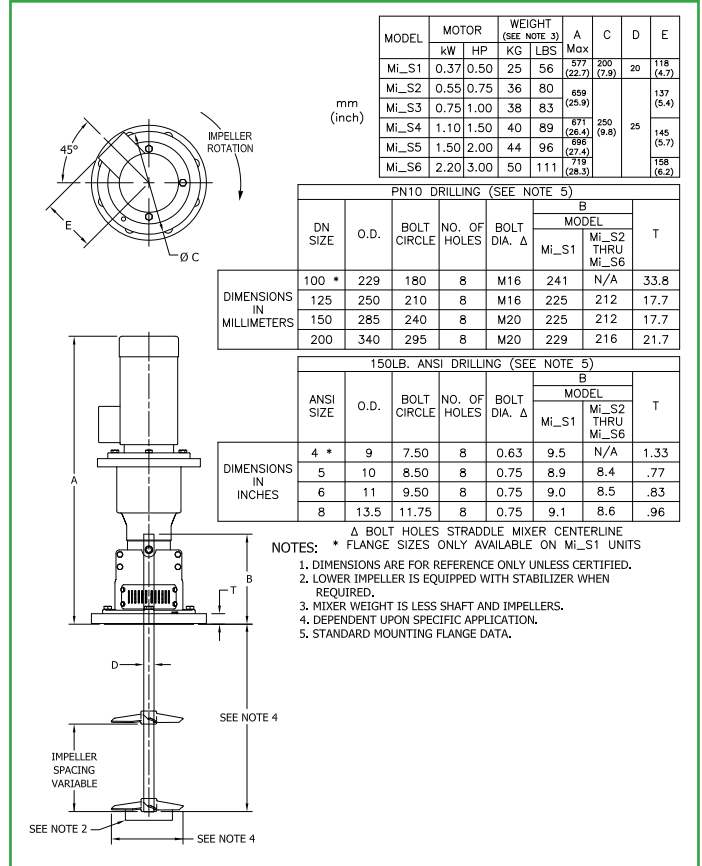
### L UNIT



### P UNIT



### Q UNIT



### S UNIT

# MIXER "BLEND TIME SELECTION TABLE"

## 60 HZ SELECTIONS

		VISCOSITY/cP or mPa-s						
		1	100	250	500	1000	2500	5000
TANK VOLUME / U.S. GALLONS	< 25	MS1_1 (1) 1 3.6 FP	MS1_1 (1) 1 3.6 FP	MS1_1 (1) 1 3.6 FP	MS1_1 (1) 1 3.6 FP	MS1_1 (1) 1 3.3 FP	MS6_1 (2) 1 8.9 FP	MS6_1 (3) 1 7.7 FP
	< 50	MS1_1 (1) 1 3.6 FP	MS1_1 (1) 1 3.6 FP	MS1_1 (2) 1 3.6 FP	MS1_1 (2) 1 3.6 FP	MS5_1 (1) 1 10.0 H	MS6_1 (3) 1 8.9 FP	MS6_1 (3) 1 10.0 FP
	< 100	MS1_1 (2) 1 3.6 FP	MS1_1 (2) 1 3.6 FP	MS1_1 (2) 1 3.8 FP	MS5_1 (1) 1 11.2 H	MS5_1 (2) 1 10.0 H	MS6_1 (3) 1 10.0 FP	MS6_2 (5) 2 10.0 FP
	< 200	MS1_1 (3) 1 3.6 FP	MS1_1 (3) 1 3.6 FP	MS5_1 (1) 1 11.2 H	MS5_1 (2) 1 11.2 H	MS6_1 (3) 2 11.2 H	MS6_2 (6) 2 10.5 FP	MS6_3 (9) 2 10.5 FP
	< 500	MS1_1 (6) 1 3.8 H	MS5_1 (3) 1 11.2 H	MS5_1 (4) 1 11.2 H	MS5_1 (5) 1 11.8 H	MS6_1 (6) 2 12.8 H	MS6_3 (12) 2 13.6 H	MS6_4 (11) 2 11.4 FP
	< 1000	MS5_1 (4) 1 11.2 H	MS5_1 (7) 1 11.2 H	MS5_1 (6) 1 11.8 H	MS5_1 (7) 1 12.8 H	MS6_2 (10) 1 13.6 H	MS6_3 (21) 2 13.6 H	MS6_5 (15) 2 13.1 FP
	< 2000	MS5_1 (7) 1 11.2 H	MS5_1 (14) 1 11.2 H	MS6_1 (12) 2 12.8 H	MS6_2 (17) 2 13.6 H	MS6_3 (22) 2 14.5 H	MS6_4 (33) 2 15.1 H	
	< 3000	MS6_1 (11) 2 11.8 H	MS6_1 (16) 2 12.8 H	MS6_2 (18) 2 13.6 H	MS6_3 (20) 2 14.5 H	MS6_4 (27) 2 15.1 H	MS6_5 (42) 2 15.6 H	
	< 5000	MS6_1 (14) 2 12.8 H	MS6_2 (23) 2 13.6 H	MS6_3 (24) 2 14.5 H	MS6_4 (27) 2 15.1 H	MS6_4 (38) 2 15.1 H		

### Legend:

Series	Drive Ratio	Mounting	Motor Code	HP/kW
Nettco MS	1	P	1	(0.5/0.37)
	5	Q	2	(0.75/.055)
	6	L	3	(1/0.75)
		S*	4	(1.5/1.1)
			5	(2/1.5)
			6	(3/2.2)
			8**	(0.5/.37)
			9**	(0.75-2/.55-1.5)
			10**	(3/2.2)

Tank height to diameter ratio 0.8 - 1.2

Liquids with Newtonian viscosity characteristics

S.G. difference of liquids < 0.1

Use for mild blending applications

Maximum density 1.10 g/cm<sup>3</sup>

Maximum viscosity ratio - 10:1 (>250cP)

Mixer in operation during filling and emptying

**Example: Mi1Q2**

\*Direct Drive not available with seal.

\*\* Air Motors

### Chart Reference:

Model Design		
Blend Time (min.)		
No. Impeller	Impeller Dia. (in.)	Impeller Type

FP = FP-100, H = Hydrofoil

# MIXER "BLEND TIME SELECTION TABLE"

## 50 HZ SELECTIONS

		VISCOSITY/cP or mPa-s						
		1	100	250	500	1000	2500	5000
TANK VOLUME / LITERS	< 100	MS1_1 (1) 1 104 FP	MS1_1 (1) 1 104 FP	MS1_1 (1) 1 104 FP	MS1_1 (1) 1 104 FP	MS1_1 (1) 1 97 FP	MS5_1 (2) 1 254 FP	MS5_1 (2) 1 226 FP
	< 250	MS1_1 (1) 1 104 FP	MS1_1 (1) 1 104 FP	MS1_1 (2) 1 104 FP	MS1_1 (2) 1 104 FP	MS5_1 (1) 1 325 H	MS5_1 (3) 1 254 FP	MS5_1 (3) 1 239 FP
	< 500	MS1_1 (2) 1 104 FP	MS1_1 (2) 1 104 FP	MS5_1 (1) 1 325 H	MS5_1 (1) 1 325 H	MS5_1 (3) 2 285 H	MS5_2 (4) 2 239 FP	MS5_2 (5) 2 226 FP
	< 1000	MS1_1 (4) 1 104 FP	MS5_1 (2) 1 325 H	MS5_1 (2) 1 325 H	MS5_1 (2) 1 325 H	MS5_1 (5) 2 285 H	MS5_3 (7) 2 325 H	MS5_3 (7) 2 239 FP
	< 1500	MS1_1 (5) 1 104 FP	MS5_1 (3) 1 325 H	MS5_1 (3) 1 325 H	MS5_1 (3) 1 325 H	MS5_1 (7) 2 285 H	MS5_3 (10) 2 325 H	MS5_3 (9) 2 239 FP
	< 2000	MS1_1 (7) 1 104 FP	MS5_1 (3) 1 325 H	MS5_1 (4) 1 325 H	MS5_1 (5) 1 325 H	MS5_1 (8) 2 285 H	MS5_3 (12) 2 325 H	MS5_4 (11) 2 267 FP
	< 2500	MS5_1 (3) 1 325 H	MS5_1 (5) 1 325 H	MS5_1 (5) 1 325 H	MS5_1 (5) 1 325 H	MS5_2 (7) 1 368 H	MS5_3 (16) 2 325 H	MS5_5 (11) 2 290 FP
	< 3750	MS5_1 (4) 1 325 H	MS5_1 (7) 1 325 H	MS5_1 (6) 1 325 H	MS5_1 (7) 1 325 H	MS5_2 (10) 1 368 H	MS5_3 (21) 2 325 H	MS5_5 (15) 2 290 FP
	< 5000	MS5_1 (5) 1 325 H	MS5_1 (9) 1 325 H	MS5_1 (9) 2 300 H	MS5_2 (13) 2 325 H	MS5_3 (14) 2 345 H	MS5_4 (26) 2 345 H	
	< 7500	MS5_1 (6) 1 325 H	MS5_1 (14) 1 325 H	MS5_1 (13) 2 300 H	MS5_2 (17) 2 325 H	MS5_3 (23) 2 345 H	MS5_4 (37) 2 345 H	
	< 10000	MS5_1 (8) 1 325 H	MS5_1 (17) 2 300 H	MS5_2 (14) 2 325 H	MS5_3 (18) 2 25 H	MS5_4 (24) 2 368 H	MS5_5 (37) 2 384 H	
	< 12500	MS5_1 (11) 2 300 H	MS5_2 (17) 2 325 H	MS5_3 (18) 2 325 H	MS5_4 (20) 2 384 H	MS5_4 (28) 2 368 H		
	< 15000	MS5_1 (12) 2 300 H	MS5_2 (21) 2 325 H	MS5_3 (20) 2 325 H	MS5_4 (22) 2 384 H	MS5_4 (32) 2 368 H		
	< 20000	MS5_1 (16) 2 300 H	MS5_2 (27) 2 325 H	MS5_3 (23) 2 325 H				

### Chart Reference:

Model Design		
Blend Time (min.)		
No. Impeller	Impeller Dia. (mm)	Impeller Type

FP = FP-100, H = Hydrofoil

# Nettco S-Series Mixers

**SANITARY STAINLESS STEEL  
PORTABLE/FIXED MOUNT  
MIXERS**

## SPX<sup>®</sup> INDUSTRIAL PROCESSES

### MULTIPLE IMPELLER STYLES:



#### **PBT Impeller:**

For low-to-medium viscosity flow controlled applications. Although superseded by the Hydrofoil, the PBT still has a specific role in applications where a degree of fluid shear is beneficial to the overall process result.



#### **FP 100 Impeller (Marine Prop):**

Recommended for applications requiring moderate pumping action and powder-wetting capabilities.



#### **Hydrofoil Impeller:**

For low viscosity flow controlled applications. Combines performance and high flow efficiency not found in other axial flow impellers.

### GEAR DRIVE MIXER REPAIR KIT:

- Service kits available for rapid replacement of routine service items.



## Global locations

### USA

#### **SPX GLOBAL HEADQUARTERS**

13515 Ballantyne Corporate Place  
Charlotte, NC 28277  
United States of America  
+1 704 752 4400

#### **SPX FLOW TECHNOLOGY**

135 Mt. Read Blvd.  
Rochester, NY 14611  
P: (888) 649-2378 (MIX-BEST), US and Canada) or +1 (585) 436-5550  
F: (585) 436-5589  
E: [lightnin@spx.com](mailto:lightnin@spx.com) ▪ [www.lightninmixers.com](http://www.lightninmixers.com)

### APAC

#### **SPX ASIA PACIFIC**

2F, Treasury Building  
1568 Hua Shan Road  
Shanghai 20000523  
Peoples Republic of China  
+86 21 2208 5888

### EMEA

#### **SPX EUROPE**

Ocean House  
Towers Business Park  
Wilmslow Road  
Manchester, M20 2LY England  
+44 (0) 161 2491170

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