

LIGHTNING

AN SPX BRAND

Nettco S-Series Mixer

Sanitary Stainless Steel
Portable and Fixed Mount Mixers



SPX[®]

Introducing A New Economical Portable and Fixed Mount Mixer System Configured To Meet Your Sanitary Needs.

Meets 3A Standards for the Food Industry

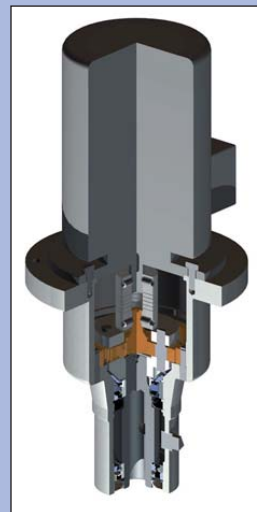
The Nettco S-Series sanitary mixer is available in a wide range of mixing and mounting configurations utilizing a unique modular assembly design. With one mixer it is possible to configure a clamp-on, open tank or sealed mixer design. This mixer can be quickly converted from one mounting arrangement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

- Highest quality at a competitive price
- For new or existing tank sizes: 0.1 - 20 m³ (25 - 5,000 gal.)
- Designed for Dairy, Beverage, Oils, Prepared Foods and more
- Wide range of impellers and mounting options



Unique Modular Concept Features:

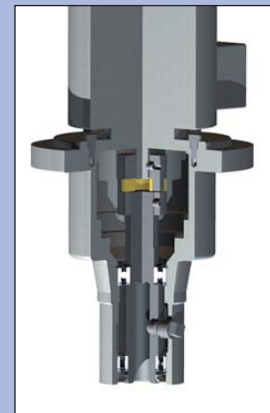
- Sanitary, all stainless steel design
 - 304 SS housing
 - Washdown (IP55), inverter ready motor
 - Proven planetary gearing – robust and reliable
 - Food grade lubricant
 - Unique, innovative modular design
 - Reverse-taper shaft attachment for added safety
 - Stainless Steel Motor, 0.37 - 2.2 Kw (1/2 - 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, 3A clean design available
- Economical
- Impellers from world's mixing technology leader
 - Multiple style impellers available
 - Hydrofoil, PBT and FP 100 (Marine Prop)



**Gear Drive
Section View**



**Direct Drive
Section View**



**Air
Motor**

Typical Product Applications



Dairy



**Prepared
Foods**



Beverage



Pharma



**Personal
Care**

Modular Design Features:



Clamp Module (P):

- Bolted onto base module
- Clamps to vessel
- Clamps to stand
- 0° or 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



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 340 kPa (50 PSI) (allowable tank pressure)



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 170 kPa (25 PSI) (allowable tank pressure)



Bung Adaptor:

Allows for mixign 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



Sanitary Flange Mechanical Seal:

Clamps to sanitary tank 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 50 PSI (340kPa) tank pressure
- Stainless Steel construction to prevent corrosion

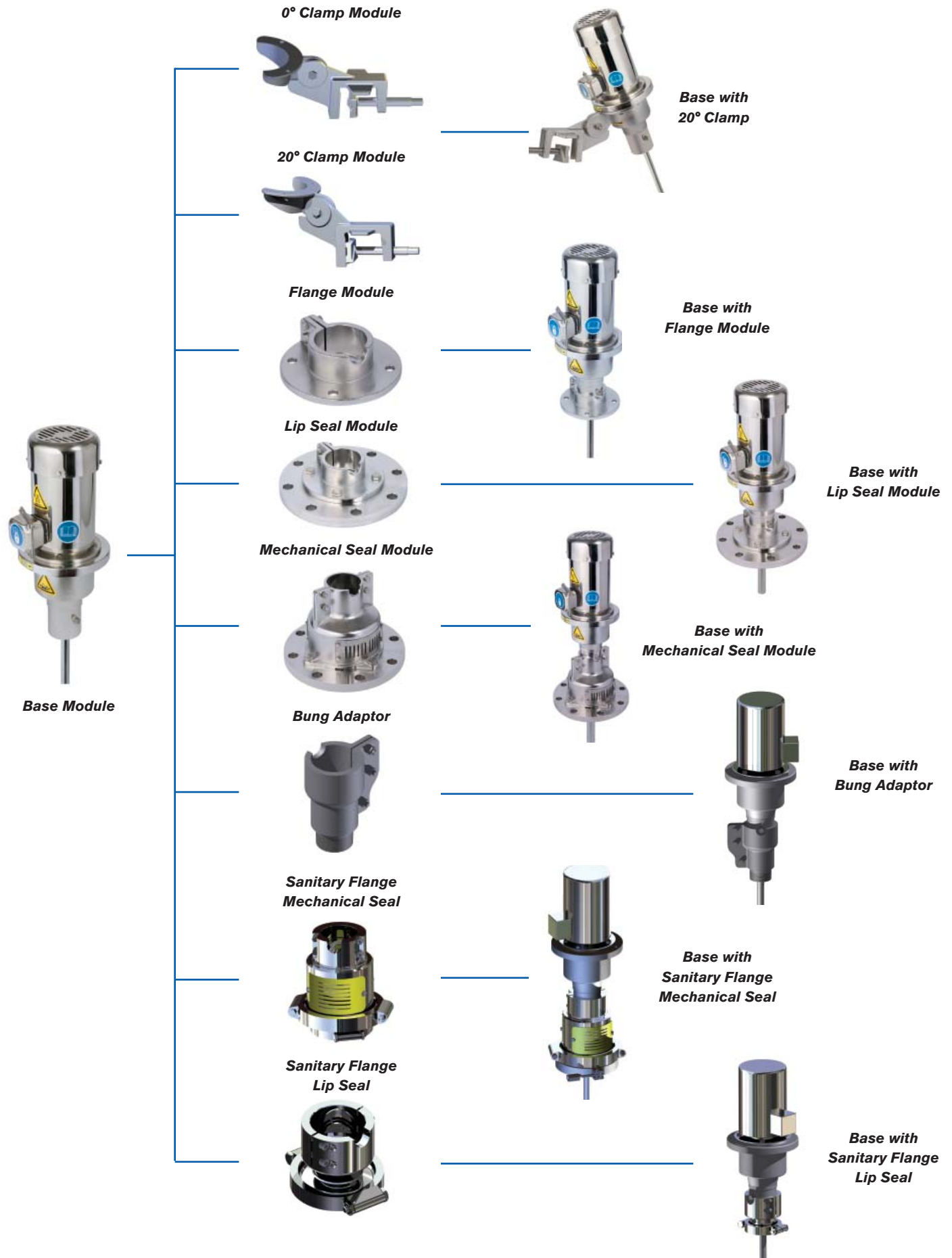


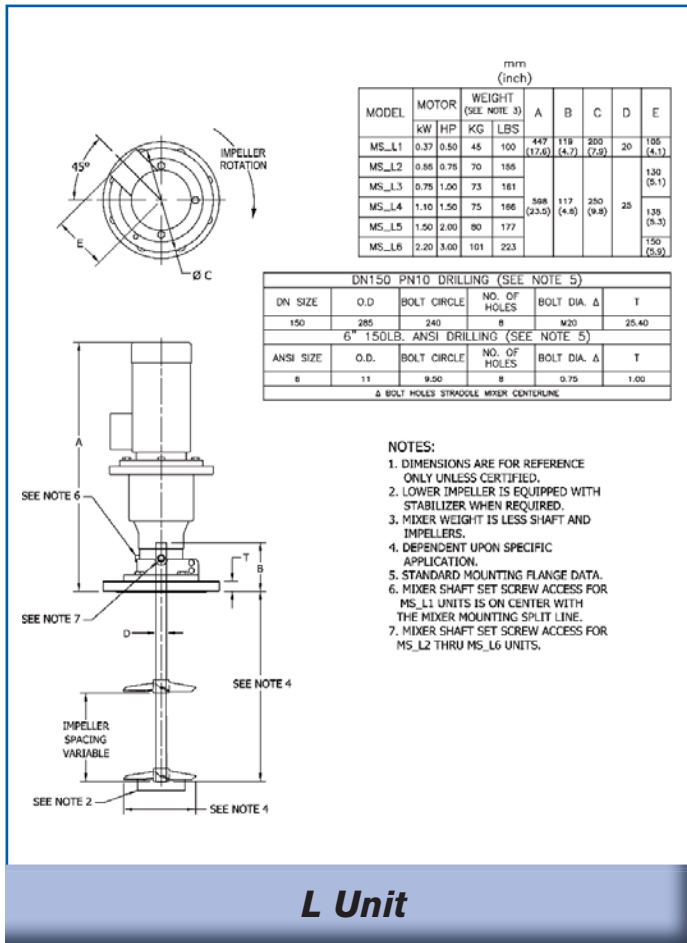
Sanitary Flange Lip Seal:

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

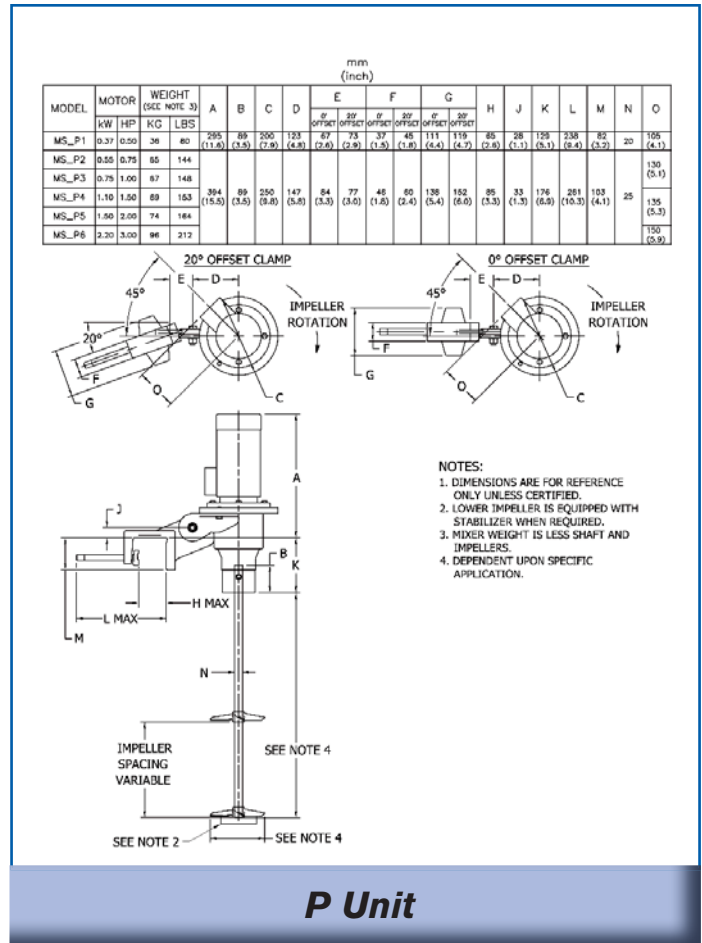
- Attaches to base module
- 3", 4", and 6" Sanitary Flange designs available
- Food grade lip seal good for 25 PSI (170kPa) tank pressure
- Stainless Steel construction to prevent corrosion

Modular Mixing System:

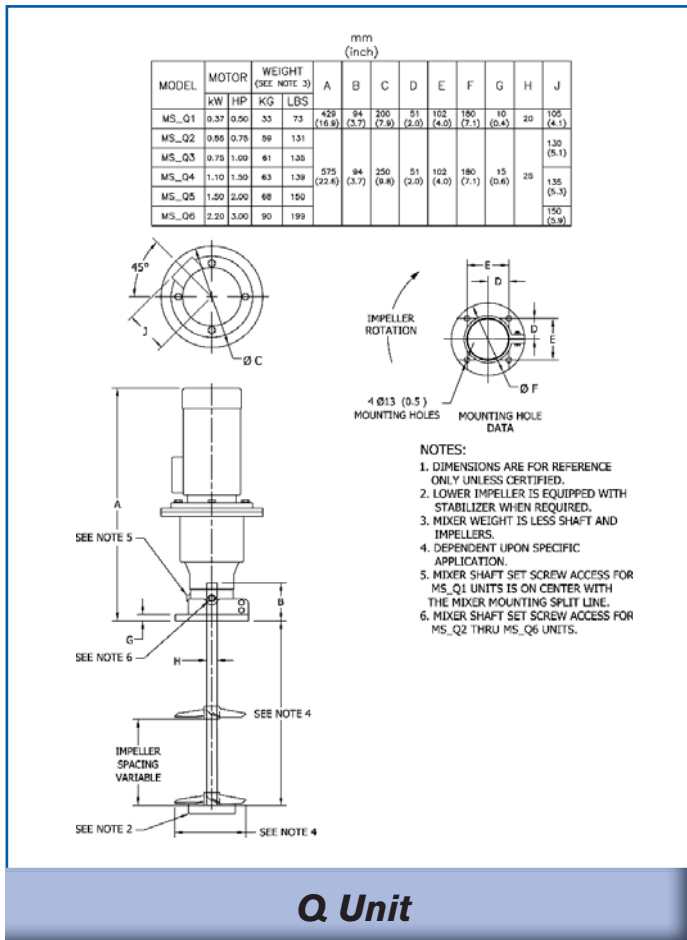




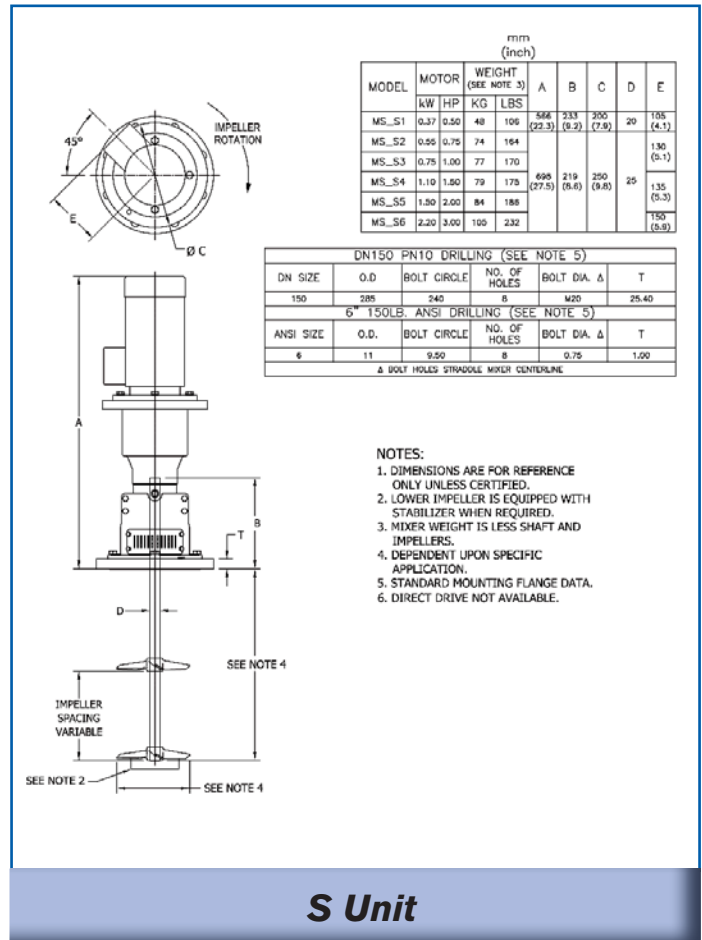
L Unit



P Unit



Q Unit



S Unit

Sanitary Mixer “Blend Time Selection Table”

60 HZ Selections

		VISCOSITY/cP or mPa-s						
		1	100	250	500	1000	2500	5000
TANK VOLUME/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 FP	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	(0.75/0.55)
	6	L	3	(1/0.75)
		S*	4	(1.5/1.1)
			5	(2/1.5)
			6	(3/2.2)

Chart Reference:

Model Design		
Blend Time		
No. Impeller	Imp. Dia.	Imp. Type

FP = FP-100, H = Hydrofoil

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/cm³

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

Mixer in operation during filling and emptying

Example: MS1Q2

*Direct Drive not available with seal.

Sanitary Mixer “Blend Time Selection Table”

50 HZ

		VISCOSITY/cP or mPa-s						
		1	100	250	500	1000	2500	5000
TANK VOLUME/LITRES	<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				

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:

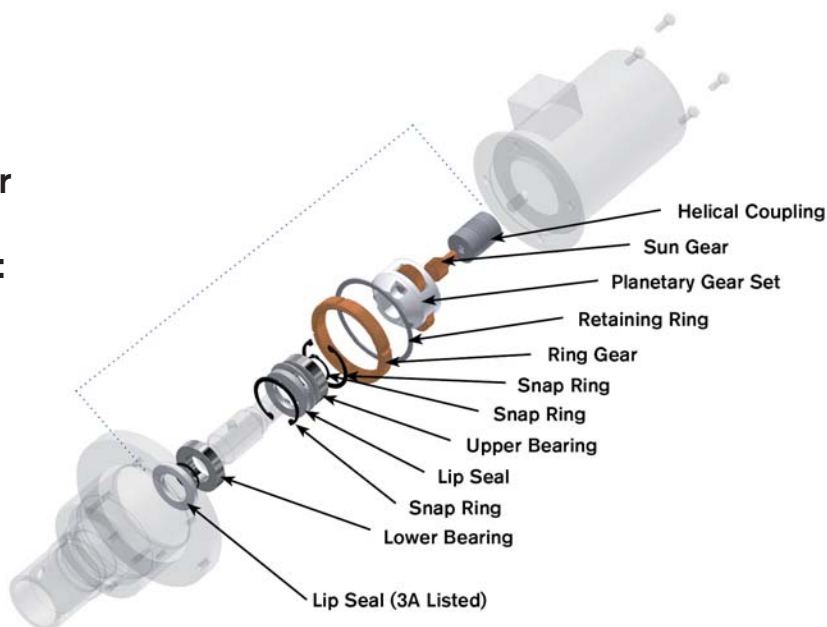
For low viscosity flow controlled applications. Combines performance and high flow efficiency not found in other axial flow impellers.

LIGHTNIN Operation Rochester, New York



Service kits available for rapid replacement of routine service items:

Gear Drive Mixer Repair Kit



Your local contact:



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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.lightninmixers.com.

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