

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

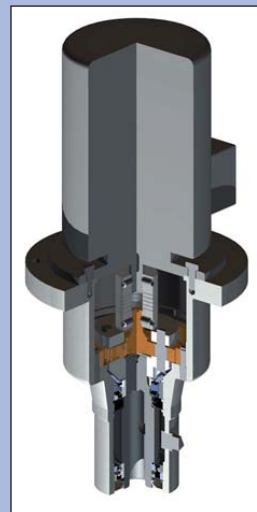
The Nettco S-Series sanitary mixer is available in a wide range of mixing and mounting configurations utilizing a unique modular assembly design. With one mixer it is possible to configure a clamp-on, open tank or sealed mixer design. This mixer can be quickly converted from one mounting arrangement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



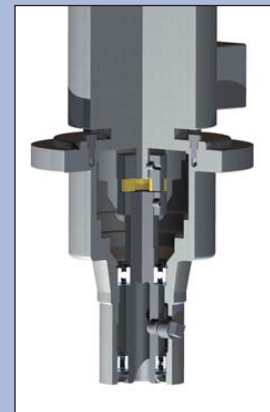
- Highest quality at a competitive price
- For new or existing tank sizes: 0.1 - 20 m³ (25 - 5,000 gal.)
- Designed for Dairy, Beverage, Oils, Prepared Foods and more
- Wide range of impellers and mounting options

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)
 - 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***

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

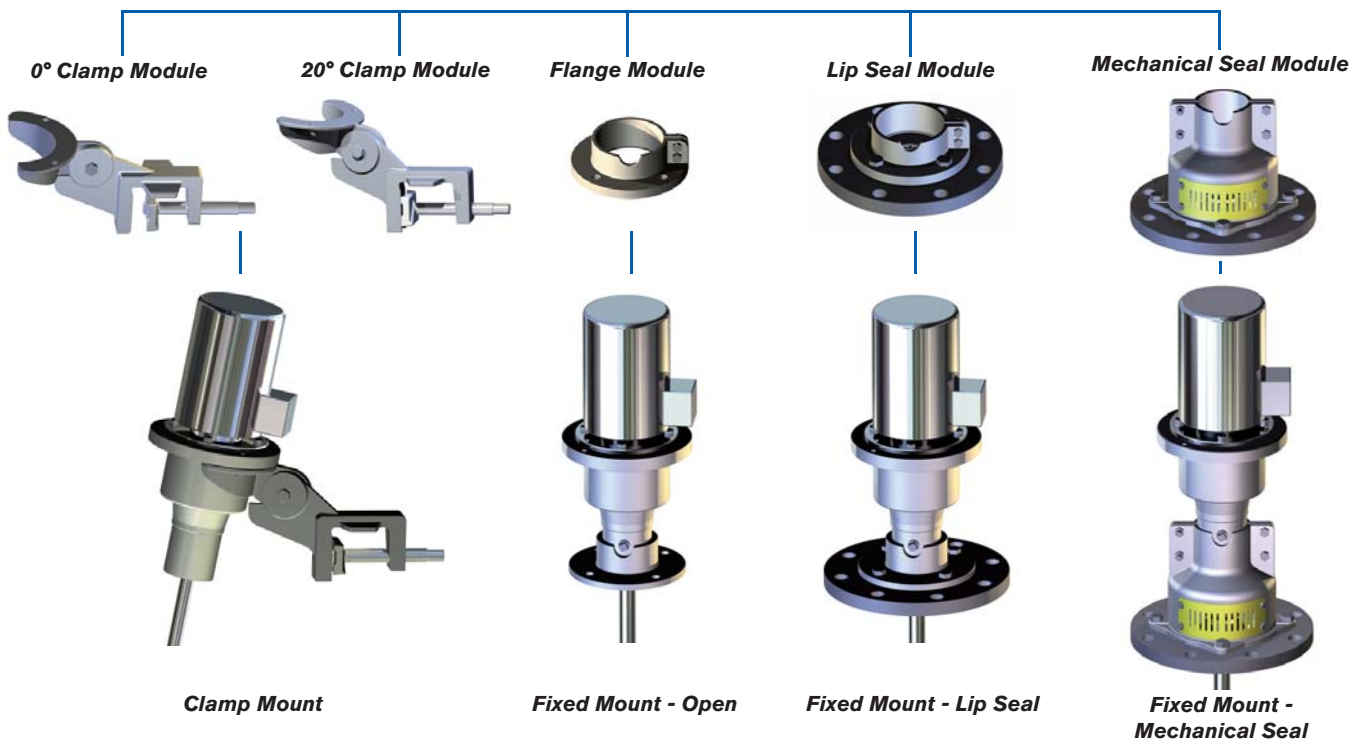
For closed tanks with seal requirements

- ANSI or DIN Flange Mount Lip Seal
- Food Grade lip seal good for 170 kPa (25 PSI) (allowable tank pressure)

Modular Mixing System:



Base Module



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


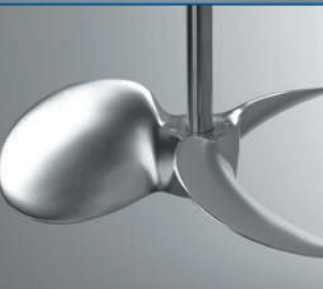

*Direct Drive not available with seal.

Sanitary Mixer “Blend Time Selection Table”

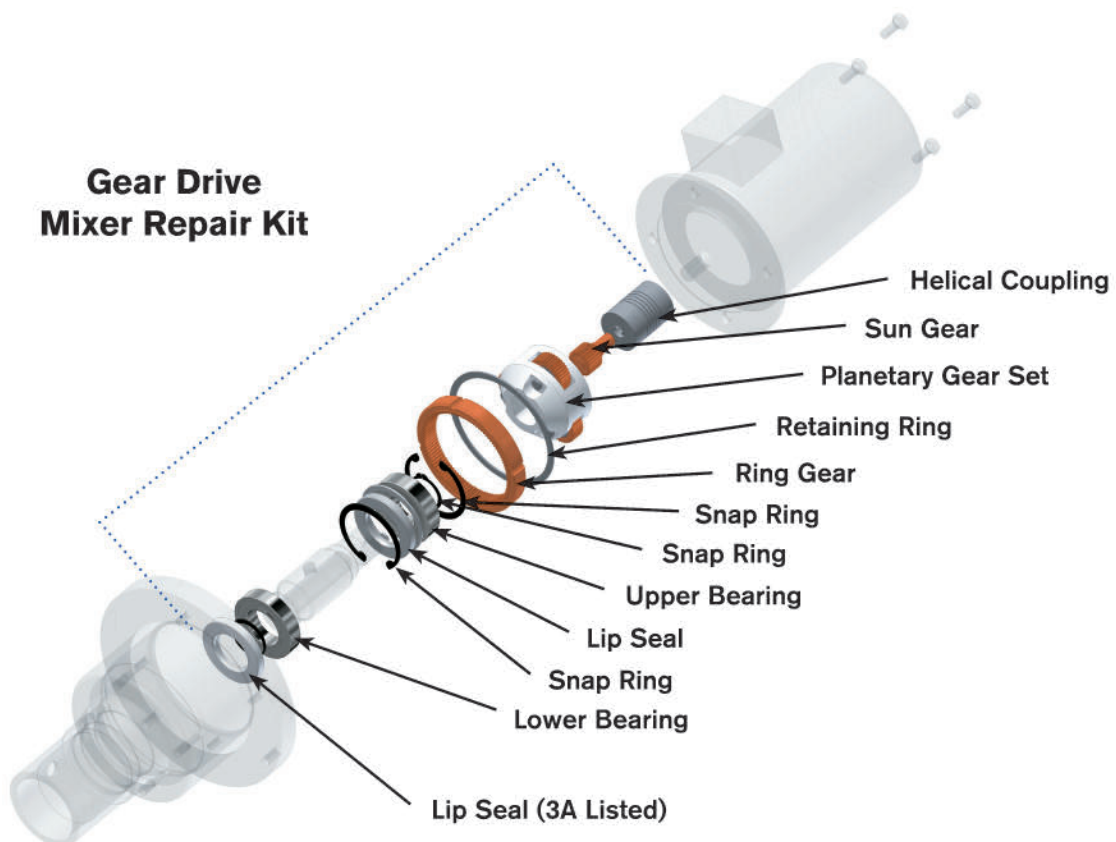
50 HZ

		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:

	<p>Hydrofoil Impeller: For low viscosity flow controlled applications. Combines performance and high flow efficiency not found in other axial flow impellers.</p>
	<p>FP 100 Impeller (Marine Prop): Recommended for applications requiring moderate pumping action and powder-wetting capabilities.</p>
	<p>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.</p>

Service kits available for rapid replacement of routine service items:



MODEL		MOTOR		WEIGHT (SEE NOTE 3)		A	B	C	D	E
		kW	HP	KG	LBS					
MS_L1		0.37	0.50	45	100	447 (17.6)	118 (4.7)	200 (7.9)	20	185 (4.1)
MS_L2		0.55	0.75	70	155					130 (5.1)
MS_L3		0.75	1.00	73	161					130 (5.1)
MS_L4		1.10	1.50	75	166	308 (23.5)	117 (4.6)	250 (9.8)	25	138 (5.3)
MS_L5		1.50	2.00	80	177					150 (5.9)
MS_L6		2.20	3.00	101	223					150 (5.9)

DN150 PN10 DRILLING (SEE NOTE 5)					
DN SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
150	285	240	8	M20	25.40

6" 150LB. ANSI DRILLING (SEE NOTE 5)					
ANSI SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
6	11	9.50	8	0.75	1.00

Δ BOLT HOLES STRADDLE MIXER CENTERLINE

NOTES:
 1. DIMENSIONS ARE FOR REFERENCE ONLY UNLESS CERTIFIED.
 2. LOWER IMPELLER IS EQUIPPED WITH STABILIZER WHEN REQUIRED.
 3. MIXER WEIGHT IS LESS SHAFT AND IMPELLERS.
 4. DEPENDENT UPON SPECIFIC APPLICATION.
 5. STANDARD MOUNTING FLANGE DATA.
 6. MIXER SHAFT SET SCREW ACCESS FOR MS_L1 UNITS IS ON CENTER WITH THE MIXER MOUNTING SPLIT LINE.
 7. MIXER SHAFT SET SCREW ACCESS FOR MS_L2 THRU MS_L6 UNITS.

L Unit

MODEL		MOTOR		WEIGHT (SEE NOTE 3)		A	B	C	D	E	F	G	H	J	K	L	M	N	O		
		kW	HP	KG	LBS																
MS_P1		0.37	0.50	36	80	205 (11.8)	85 (3.3)	250 (7.9)	123 (4.8)	27 (2.6)	37 (1.5)	48 (1.8)	111 (4.4)	119 (4.7)	85 (3.3)	205 (8.1)	238 (9.4)	85 (3.3)	20 (0.8)	185 (4.1)	
MS_P2		0.55	0.75	65	144															130 (5.1)	
MS_P3		0.75	1.00	67	148															130 (5.1)	
MS_P4		1.10	1.50	69	153	304 (15.5)	89 (3.5)	250 (9.8)	147 (5.8)	84 (3.3)	77 (3.0)	48 (1.8)	60 (2.4)	138 (5.4)	152 (6.0)	85 (3.3)	33 (1.3)	176 (6.9)	281 (10.3)	103 (4.1)	25 (1.0)
MS_P5		1.50	2.00	74	164															135 (5.3)	
MS_P6		2.20	3.00	98	217															150 (5.9)	

DN150 PN10 DRILLING (SEE NOTE 5)					
DN SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
150	285	240	8	M20	25.40

6" 150LB. ANSI DRILLING (SEE NOTE 5)					
ANSI SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
6	11	9.50	8	0.75	1.00

Δ BOLT HOLES STRADDLE MIXER CENTERLINE

NOTES:
 1. DIMENSIONS ARE FOR REFERENCE ONLY UNLESS CERTIFIED.
 2. LOWER IMPELLER IS EQUIPPED WITH STABILIZER WHEN REQUIRED.
 3. MIXER WEIGHT IS LESS SHAFT AND IMPELLERS.
 4. DEPENDENT UPON SPECIFIC APPLICATION.

P Unit

MODEL		MOTOR		WEIGHT (SEE NOTE 3)		A	B	C	D	E	F	G	H	J
		kW	HP	KG	LBS									
MS_Q1		0.37	0.50	33	73	433 (16.9)	84 (3.3)	200 (7.9)	51 (2.0)	102 (4.0)	180 (7.1)	16 (0.6)	20 (0.8)	105 (4.1)
MS_Q2		0.55	0.75	61	135									130 (5.1)
MS_Q3		0.75	1.00	61	135									130 (5.1)
MS_Q4		1.10	1.50	63	139	575 (22.6)	84 (3.3)	250 (9.8)	51 (2.0)	102 (4.0)	180 (7.1)	15 (0.6)	20 (0.8)	135 (5.3)
MS_Q5		1.50	2.00	68	150									150 (5.9)
MS_Q6		2.20	3.00	90	199									150 (5.9)

DN150 PN10 DRILLING (SEE NOTE 5)					
DN SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
150	285	240	8	M20	25.40

6" 150LB. ANSI DRILLING (SEE NOTE 5)					
ANSI SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
6	11	9.50	8	0.75	1.00

Δ BOLT HOLES STRADDLE MIXER CENTERLINE

NOTES:
 1. DIMENSIONS ARE FOR REFERENCE ONLY UNLESS CERTIFIED.
 2. LOWER IMPELLER IS EQUIPPED WITH STABILIZER WHEN REQUIRED.
 3. MIXER WEIGHT IS LESS SHAFT AND IMPELLERS.
 4. DEPENDENT UPON SPECIFIC APPLICATION.
 5. MIXER SHAFT SET SCREW ACCESS FOR MS_Q1 UNITS IS ON CENTER WITH THE MIXER MOUNTING SPLIT LINE.
 6. MIXER SHAFT SET SCREW ACCESS FOR MS_Q2 THRU MS_Q6 UNITS.

Q Unit

MODEL		MOTOR		WEIGHT (SEE NOTE 3)		A	B	C	D	E
		kW	HP	KG	LBS					
MS_S1		0.37	0.50	48	106	568 (22.3)	333 (13.1)	200 (7.9)	20	185 (4.1)
MS_S2		0.55	0.75	74	164					130 (5.1)
MS_S3		0.75	1.00	77	170					130 (5.1)
MS_S4		1.10	1.50	79	175	698 (27.5)	219 (8.6)	250 (9.8)	20	135 (5.3)
MS_S5		1.50	2.00	84	188					150 (5.9)
MS_S6		2.20	3.00	100	232					150 (5.9)

DN150 PN10 DRILLING (SEE NOTE 5)					
DN SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
150	285	240	8	M20	25.40

6" 150LB. ANSI DRILLING (SEE NOTE 5)					
ANSI SIZE	O.D.	BOLT CIRCLE	NO. OF HOLES	BOLT DIA. Δ	T
6	11	9.50	8	0.75	1.00

Δ BOLT HOLES STRADDLE MIXER CENTERLINE

NOTES:
 1. DIMENSIONS ARE FOR REFERENCE ONLY UNLESS CERTIFIED.
 2. LOWER IMPELLER IS EQUIPPED WITH STABILIZER WHEN REQUIRED.
 3. MIXER WEIGHT IS LESS SHAFT AND IMPELLERS.
 4. DEPENDENT UPON SPECIFIC APPLICATION.
 5. STANDARD MOUNTING FLANGE DATA.
 6. DIRECT DRIVE NOT AVAILABLE.

S Unit

Global Headquarters: SPX Process Equipment, Delavan, WI USA



LIGHTNIN Operation Rochester, New York



PROCESS EQUIPMENT

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

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