



May 19, 2022

Mr. Don Sherwood
Chief Operator
Village of West Windsor

Sub: Flygt 4630.411-083705SJ Submersible Mixer

Don –

Appreciate the opportunity to offer the following replacement for the Flygt Mixer above. Our understanding is this unit is rated for 360 N of Thrust & will be used in your SBR [47' L x 14.5' W x 16.5' D] with a maximum Liquid Level of 12'. The mixer will be mounted on a 2" square mast in the corner & aimed ~ parallel to the long axis of the tank at the midpoint of the far wall.

Sulzer ABS XRW3021-CR-PA18/6 Submersible Mixer

- Submersible Mixer with a two Blade 300 mm Diameter Impeller rated for 484 Newtons of Thrust & 2583 gpm Primary Flow
- 2.4 hp (1.8 KW) IE2 Premium Efficient Inverter Duty Air Filled Motor with Class H Insulation for 460 volt / Three Phase Service
- Motor is Explosion Proof Class 1, Division 1, Groups C & D
- Three Thermal Switches (one per phase) in Motor Windings for Temperature Protection
- Dielectric Probes in Seal Chamber, Motor Housing & Connection Chamber for Leak Detection
- CA-462 Protection Relay to monitor Thermals & Dielectric Probes
- Tandem Mechanical Seal with Silicon Carbide Faces & Nitrile Lip Seal
- Permanently Lubricated Preload Bearings with L-10 Life over 100,000 hours at design conditions
- 33 ft Power & Control Cable with Stainless Steel Cable Grip
- 316 Stainless Steel Wetted Parts
- Impeller is 329 Duplex Stainless Steel
- Nitrile Elastomers
- Lifting Bracket is 316L Stainless Steel

- **2" Square Stainless Steel Mounting Assembly**
- **Stainless Steel Support Cable with Cable Stabilizers**

Cost for the above is \$ 9848 & delivery is one week based on current stock.

If favored with your purchase order, PLEASE MAKE IT OUT TO:

**Shrier-Martin Process Equipment
1260 Rochester Street
Lima, NY 14485**

**Pricing: Valid for 30 days
Terms: Net 30 days
Freight: FOB Factory, freight charges prepaid & added to invoice**

Thank you for your interest in SHRIER-MARTIN PROCESS EQUIPMENT. If you have any questions, please call me at 585 738-7733.

Best Regards,

**Jim Coyne
Sales Engineer
phone: 585 624 4490
fax: 585 624 5373
cell: 585 738-7733
jcoyne@smpe.com**

Date: 02/14

Dwg: DS-M31-002 Rev: --

Submittal Data



Motor Specification

Motor Design	NEMA design B, squirrel cage induction
Motor Type	Fully enclosed Premium Efficiency submersible, IP68 protection rating
Motor Efficiency Standard and Rating	IEC 60034-30, IE2 rating
Motor Efficiency Test Protocol	IEC 60034-2-1
Insulation Materials	Class H, 180°C (356°F), copper windings
Motor Filling Medium	Air
Temperature Rise	Class A
Maximum Fluid Temperature	40°C (104°F) continuous
Motor Protection	Thermal Normally closed bimetallic switch in each phase, connected in series, 140°C (284°F)
	Leakage ABS Seal minder moisture detection probe in oil chamber, motor and cable connection chamber
Sensing Chamber Filling Medium	Environmentally safe, non-toxic oil
Bearing Type	Upper Pre-loaded Single row ball permanently lubricated
	Lower Single row ball permanently lubricated
Motor Starter Types	DOL, Suitable for use with Variable Frequency Drives
Maximum Starts per Hour	15, evenly spaced
Inverter Duty Rating	Motors meet NEMA MG1, part 31 requirements
Maximum Submergence	20 meters (65 feet)
Available Voltages	208, 230, 480, 600
Voltage Tolerance from Rated	+/-10%

Motor Ratings

Motor Model	Input Power (P1) (kW)	Power Output (P2) (kW/HP)	Nominal Speed (RPM)	Rated Voltage (V)	Full Load Amps (A)	Locked Rotor Amps (A)	NEMA Code Letter	NEMA Service Factor	Motor Efficiency at % Load			Power Factor at % Load		
									100	75	50	100	75	50
PA 18/6	2.17	1.80/2.41	1150	208	7.8	101.5	R	1.3	82.9	84.4	83.7	.77	.70	.57
				230	7.1	88.0								
				480	3.4	44.0								
				600	2.7	35.2								
PA 35/6	4.12	350/4.69	1150	208	15.9	124.4	S	1.3	84.8	83.9	80.4	.72	.63	.50
				230	14.4	107.8								
				480	6.9	53.9								
				600	5.5	43.1								

Cable Data

Cable	Motor	Motor Voltage	Cable Qty	Cable Type	Cable Nominal Dia. +/- .5mm (.02")
Power Cable	PA 18/6	208 volt	1	SOOW 14/7	18.5mm (0.72") diameter
		230 volt			
		480 volt			
		600 volt			
Power Cable	PA 35/6	208 volt	1	SOOW 14/7	18.5mm (0.72") diameter
		230 volt			
		480 volt			
		600 volt			
Control Cable	All	All	Included in Power Cable		
Cable Length	Standard: 10m (33 ft)		Optional: 15m (49 ft), 20m (65 ft), 30m (98 ft), 40m (131 ft), 50m (164 ft)		

Date: 02/14

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Submittal Data



Hydraulic Data

Propeller Data without Flow Ring, 60Hz.							
Mixer Hydraulic Number	Number of Blades	Propeller Diameter in (mm)	Thrust ISO 21630 lbf (N)	Propeller Speed (RPM) ①	Mixing Capacity ② GPM (m³/s)	Mixing Power P _p ③ HP (kW)	Power Consumption P1③ HP (kW)
3021	2	11.82 (300)	108.8 (484)	1158	2583 (0.18)	2.20 (1.64)	2.62 (1.95)
3022	2	11.82 (300)	127.0 (565)	1183	3012 (0.19)	2.76 (2.06)	3.34 (2.49)
3023	2	11.82 (300)	148.4 (660)	1180	3329 (0.21)	3.20 (2.39)	3.82 (2.85)
3031	3	11.82 (300)	161.2 (717)	1176	3487 (0.22)	3.78 (2.82)	4.48 (3.34)
Propeller Data with Flow Ring, 60Hz.							
Mixer Hydraulic Number	Number of Blades	Propeller Diameter in (mm)	Thrust ISO 21630 lbf (N)	Propeller Speed (RPM)	Mixing Capacity ① GPM (m³/s)	Mixing Power P _p ② HP (kW)	Power Consumption P1③ HP (kW)
3021	2	11.82 (300)	---	1158	2583 (0.18)	2.20 (1.64)	---
3022	2	11.82 (300)	---	1183	3012 (0.19)	2.76 (2.06)	---
3023	2	11.82 (300)	---	1180	3329 (0.21)	3.20 (2.39)	---
3031	3	11.82 (300)	---	1176	3487 (0.22)	3.78 (2.82)	---

① Nominal speed at full load
 ② Flow rate in clean water at 68° F (20° C)
 ③ Power in clean water at 68° F (20° C)

Materials of Construction

Parts	EC	CR
Motor Housing	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	Stainless Steel 1.4404 (AISI 316L SS)
Motor Shaft	Stainless Steel 1.4021 (AISI 420 SS)	Stainless Steel 1.4401 (AISI 316 SS)
Propeller	Duplex Stainless Steel 1.4460 (AISI 329 SS)	Duplex Stainless Steel 1.4460 (AISI 329 SS)
Fasteners	Stainless Steel 1.4401 (AISI 316 SS)	Stainless Steel 1.4401 (AISI 316 SS)
Lifting bracket	Stainless Steel 1.4404 (AISI 316L SS)	Stainless Steel 1.4404 (AISI 316L SS)
O-Rings and Cable Glands	Nitrile (Buna-N)	Nitrile (Buna-N)
Dual Mechanical Seal	Lower	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS
	Upper	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS

General Data

Motor Size	PA 18/6	PA 35/6
Mixer Weight without Flow Ring	137.0 lbs (62.0 kg)	181.0 lbs (82.0 kg)
Mixer Weight with Flow Ring	162.0 lbs (73.0 kg)	205.0 lbs (93.0 kg)

Sulzer Submersible Mixer XRW 300

60 Hz-US

Compact submersible mixer, designed to achieve an optimum flow pattern in a wide range of mixing and stirring applications, in large tanks or open waters.

Construction: The submersible mixer is designed as a compact, pressure tight unit including a propeller and a cast integral bracket to be used with a 2" square guide rail. A flow ring can be fitted on selected models. The mixer is available in cast iron (EC) and stainless steel (CR) versions.

Motor: Premium Efficiency IE2, 1.3 Service Factor, Squirrel cage motor; 480V/3Ph/60 Hz; 4-pole standard, suitable for VFD operation. Protection type IP 68, with Class H, 180°C (356°F) stator insulation, Class A temperature rise, Start-up: direct on line (DOL) Max. liquid temperature 40°C (104°F) Max. submergence 20 m (66ft)

Propeller: Hydraulically optimized, axially operating 2 or 3-blade propeller designed to achieve high thrust and therefore high flow capacity in the axial direction. Self-cleaning to ensures vibration-free operation. Precision-cast, duplex stainless steel for better abrasion resistance.

Solids deflection ring: The patented solids deflection ring protects the mechanical seals from damage by ingress of solids or fibrous materials.

Bearings: All bearings are lubricated-for-life and maintenance-free, with a calculated L10 lifetime of more than 100,000 h. Pre-loaded upper bearing.

Triple shaft sealing system: Two Sic/Sic mechanical seals and a lip seal with dual oil chambers for increased reliability.

Seal monitoring: DI-system with sensors in the oil, motor and cable connection chambers.

Temperature monitoring: Normally closed bimetallic switch in each phase, connected in series, which open at 140°C (284°F)

Cable: 10m (33ft), sewage-resistant, type SOOW Optional lengths: 15m (49ft), 20m (66ft), 30m (98ft), 40m (131ft), 50m (164ft).

Options: Explosion-proof version, flow ring, Viton seals, EMC cable, PTC thermistor in stator, vertical angle adjustment, vortex shield, lifting hoop, guide rail bracket for mast installation, vibration damper, 208-230-600 Volts

Weight: XRW-PA 18/6 62 kg (137 lbs). XRW-PA 35/6 82 kg (181 lbs). With flow ring add 11 kg (25 lbs).



Motor Data

Motor	PA 18/6	PA 35/6
Rated Power (kW /HP)	1.8 / 2.4	3.5 / 4.7
Rated Current (A) at 480V	3.4	6.9
Nominal Speed (RPM)	1150	1150
Motor Efficiency (%)	82.8	84.8
Power Factor	0.73	0.71

Mixer Performance

Hydraulic No.	Mixer Power P _p kW / HP	Motor kW / HP
3021	1.6 / 2.2	1.8 / 2.4
3022	2.1 / 2.8	3.5 / 4.7
3023	2.4 / 3.2	3.5 / 4.7
3031	2.8 / 3.8	3.5 / 4.7
3041*	1.0 / 1.3	1.8 / 2.4
3042*	1.3 / 1.7	3.5 / 4.7
3043*	1.6 / 2.2	3.5 / 4.7
3051*	2.1 / 2.8	3.5 / 4.7

*with flow ring

Materials

Part	EC	CR
Motor housing	EN-GJL-250 (A48 gr. 35B) painted	1.4404 (AISI 316L)
Sliding bracket	EN-GJL-250 (A48 gr. 35B) painted / polyamide	1.4408(AISI 316) / polyamide
Motor shaft	1.4021 (AISI 420)	1.4401 (AISI 316)
Propeller	1.4460 (AISI 329)	1.4460 (AISI 329)
Fasteners	1.4401 (AISI 316)	1.4401 (AISI 316)
Lifting band	1.4404 (AISI 316L)	1.4404 (AISI 316L)

No: AN-M.14.205 - 00

Dat/Nam.: 27/09/12 - D.Whelan

Cad Code: ANM14205

Technical changes reserved
Änderungen vorbehalten
ABS se réserve le droit de changer
les caractéristiques techniques

XRW 300 EC/CR

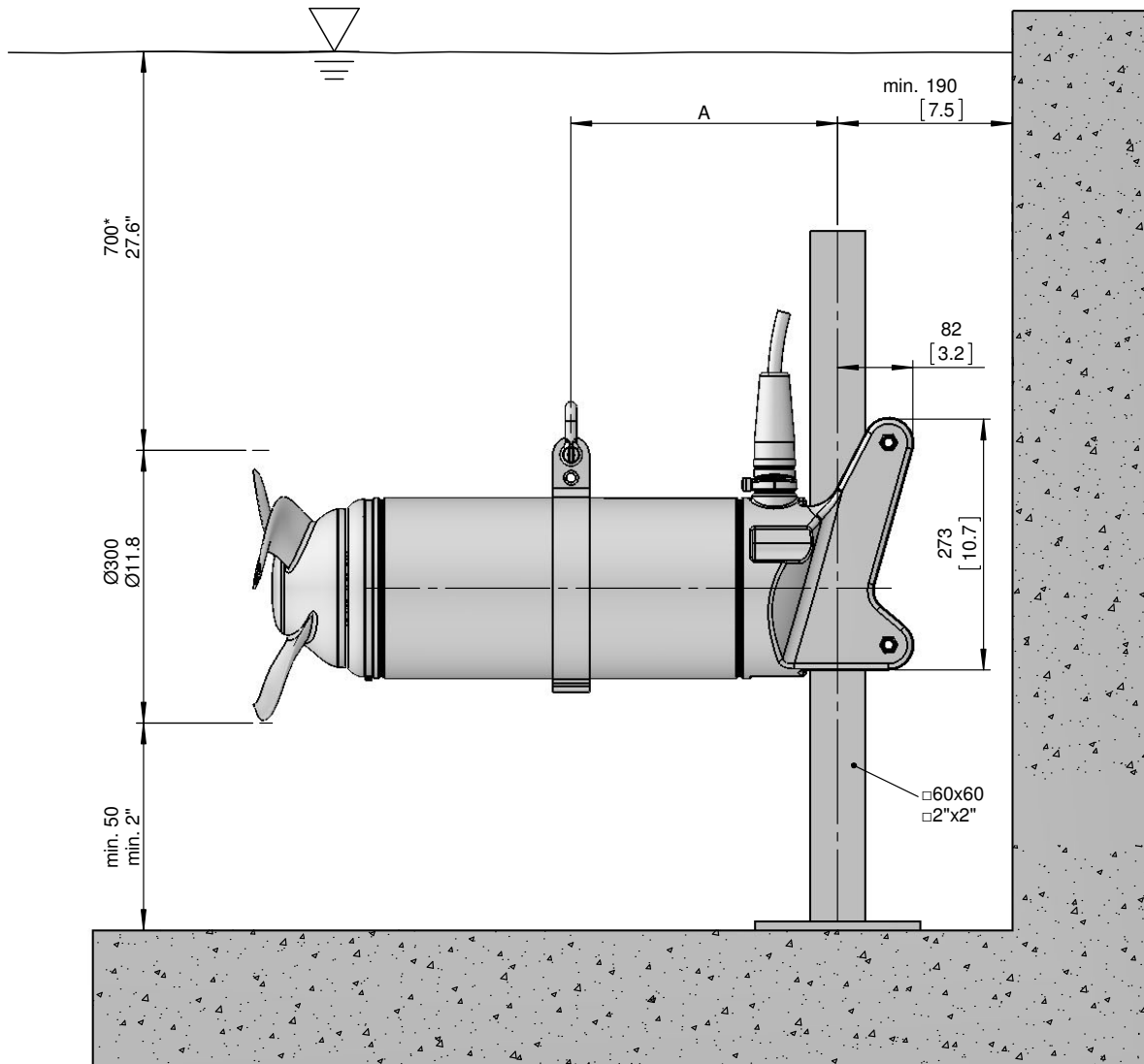
Dimension sheet XRW 300

Maßblatt XRW 300

Plan d'encombrement XRW 300

SULZER

Type Typ Type	Type Typ Type	Weight Gewicht Poids		A	
		(~kg)	(~lb)	(mm)	(")
50Hz	60Hz				
PA 15/6	PA 18/6	62	137	237	9
PA 29/6	PA 35/6	82	181	290	11



* Guideline value: Minimum submergence can be lower
Richtwert: Die Mindestüberdeckung kann geringer sein
Valeur indiquée: la submergence minimale peut s'avérer inférieure en pratique

[mm]
[inch]

A