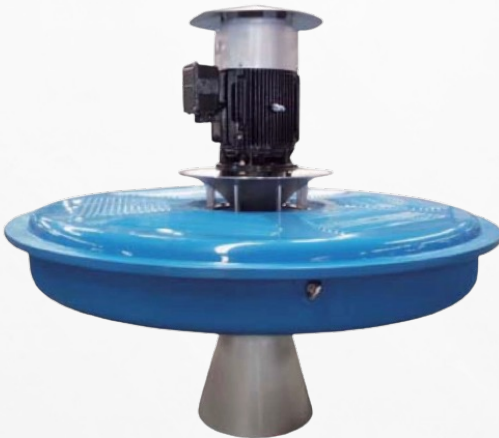


STX

Surface aerator

STX

Surface aerator



Applications

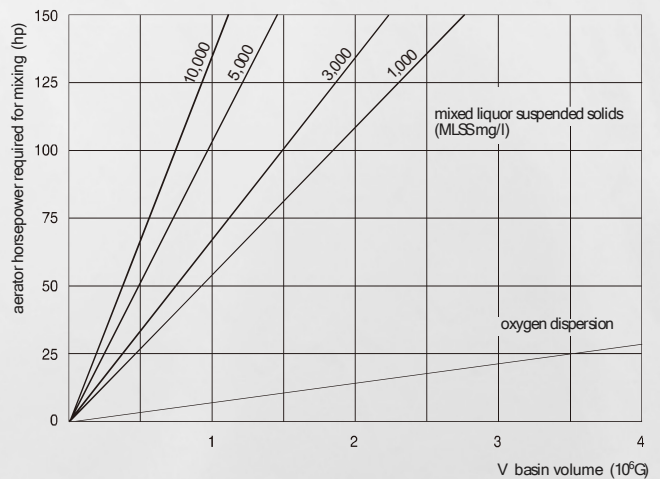
WASTEX surface aerator (STX) uses the motor to drive axial flow type impeller directly in order to pump waste water for creating the spray pattern (or water drop) through the water guide panel. When water contacts air, it will become water drops, which fall to the water surface and form the turbulence and bubbles.

These bubbles will improve oxygen dispersion and increase oxygen in water. WASTEX STX device pumps water from the bottom to the top and creates circulation flows and stir processes. It is suitable for domestic waste water treatment, agriculture and aquaculture oxygen supply and other industrial waste water aeration.

Aerator selection

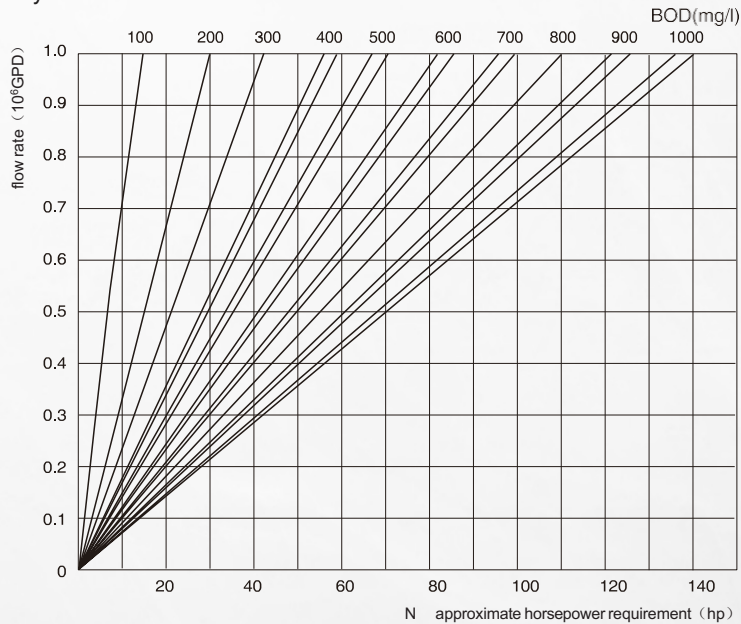
The high speed aerator line is designed to maximize the two most important functions of any aeration device-oxygen transfer and mixing of waste. The waste liquid is pumped through the unit in a manner which creates the most advantageous spray pattern for introducing oxygen into the liquid. At the same time, this pumping action creates a tank velocity pattern which insures the mixing of contents and thus the oxygen dispersion. Years of experience in the design and application of mechanical aeration equipment have been combined with the full capabilities of our extensive research test facility to provide a line of high speed aerators which not only maximize oxygen transfer and tank mixing characteristics but perform these functions in the most economical and reliable manner.

The chart below may be used to make quick estimate of the horse- power required.

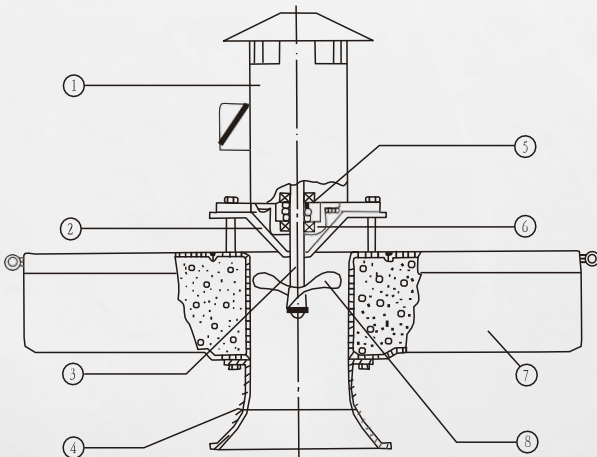


Selection of aerators for O₂ transfer

This chart will help to select the required horsepower of aeration if the BOD (mg/l) and daily flow rate of wastewater are known. First, select the appropriate daily waste flow on the left side of the chart. Then extend a horizontal line to the right until you intersect the appropriate BOD curve. Drop a line vertically from the intersection to the bottom and read the horsepower required for aeration. Calculations are based on a desired BOD reduction of 90%, a factor of 0.8, 1.25LB O₂/LB.BOD and a standard condition transfer of 3.5LB O₂/HP-HR. Accuracy is usually within 10%.



Construction and material



NO.	Name	Material	
		GB	JIS
1	Motor	-	-
2	Water guide panel	FRP	FRP
3	Shaft	1Cr13	SUS410
4	Water inlet pipe	HT200	FC200
5	Mechanical seal	-	-
6	Oil chamber	HT250	FC250
7	Floating	FRP	FRP
8	Impeller	0Cr18Ni9	SUS304

Construction summarization

Each aerator shall consist essentially of a motor, drive shaft, impeller directly driven at constant speed, and an integral flotation unit, which shall support the weight of certain accessories that may be added. All wetted metal parts shall be of corrosion resistant materials, and shall not require painting.

MOTOR AND SHAFT: The electric power unit is the heart of the machine, and is located above the high-density spray-diffusion zone to minimize its exposure to the nature and contents of the pumped liquid. The motors are Weatherproof Chemical Service, TEFC (Totally Enclosed Fan Cooled) 3 phase. These motors utilize a highly refined non-hygroscopic class B insulation system, in addition to which motor housing drains are provided to drain off internal condensation. Shaft is one piece from the upper bearing through the impeller.

IMPELLER: The impeller is constructed of stainless steel and is manufactured using the machined-pitch process which assures perfect impeller accuracy and top performance. The impeller pitch is designed for maximum hydraulic delivery without over-loading the motor.

FLOATATION ASSEMBLY: The floatation hull is constructed of reinforced fibreglass. The hull is completely filled with high-density closed cell polyurethane foam. The mooring eyes transfer tension from one mooring cable to another.

Performance parameters

Type	Motor		Aerator				
	(hp)	(r/min)	OC-HR (kg/h)	MD (m)	MZ (m)	D (m)	PR (m ³ /min)
STX-32	2	1450	3	6	12	2~3	5
STX-33	3	1450	4.2	9	18	3~4	7
STX-35	5	1450	6.6	12	24	3~4	9
STX-37	7 1/2	1450	9.6	16	32	3~4	11
STX-310	10	1450	11.5	19	38	3~4	19
STX-315	15	1450	16.5	27	54	3~4	24
STX-320	20	1450	21	32	64	3~4	29
STX-325	25	1450	27.5	36	72	3~4	33
STX-330	30	1450	31	40	80	3~4	37
STX-340	40	1450	38	45	90	5~6	46
STX-350	50	1450	50	50	100	5~6	55
STX-360	60	1450	61	56	112	5~6	65
STX-375	75	1450	73	62.5	125	5~6	80
STX-3100	100	1450	95	70	140	5~6	120

MZ: Diameter of Mixing Zone. (m)

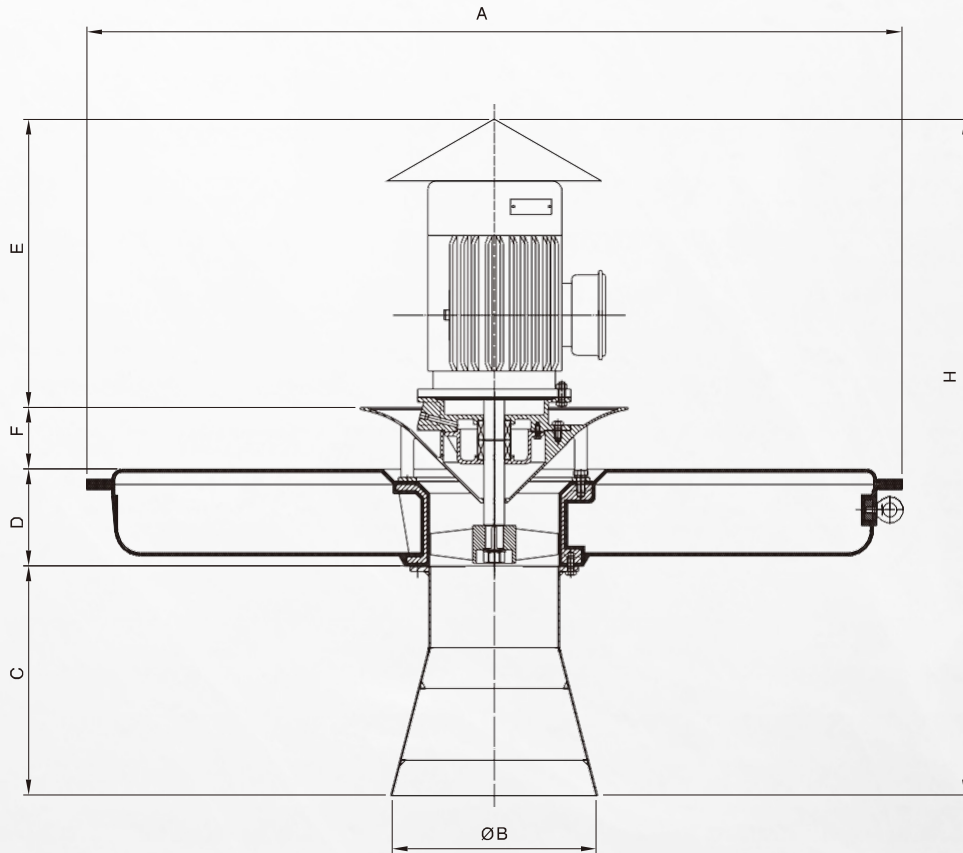
OC-HR: Kgs Oxygenation Capacity per Hour. (kg/h)

MD: Diameter of Complete Mixing in Meter at minimum average velocity of 1.2 meter per second (approx). (m)

D: Depth in Meter of Complete Mixing, related to MD.

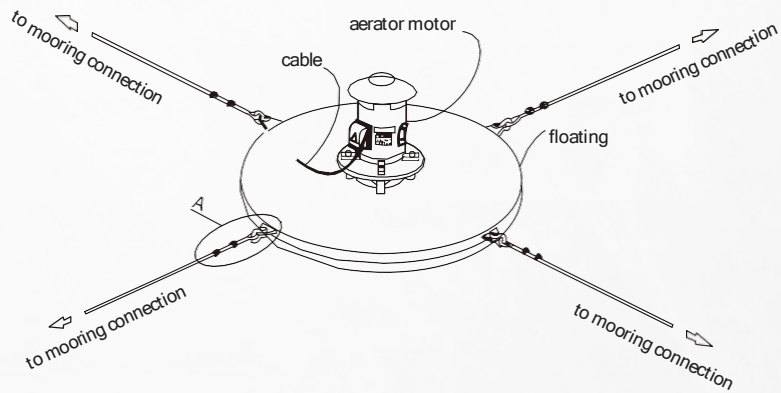
PR: Pumping Rate, m³ per Minute.

Installation dimensions

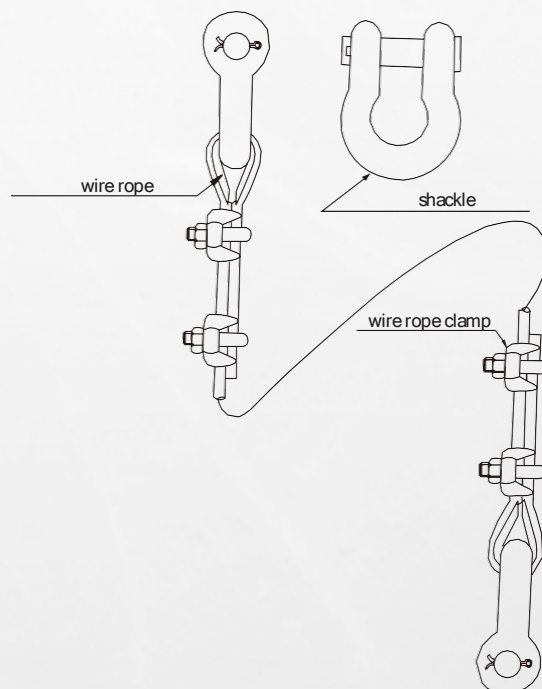


Type	Dimensions(mm)							
	A	B	C	D	E	F	H	W(kg)
STX-32	1200	250	200	120	360	100	900	85
STX-33	1200	250	200	120	360	100	900	90
STX-35	1500	300	320	140	420	100	1120	130
STX-37	1500	360	320	280	430	110	1140	160
STX-310	1500	360	320	280	480	110	1190	180
STX-315	1800	500	600	300	580	120	1600	250
STX-320	1800	500	600	300	630	120	1650	290
STX-325	1800	500	600	300	650	120	1670	350
STX-330	1800	500	600	300	700	120	1720	390
STX-340	1800	650	800	340	730	150	2020	430
STX-350	1800	650	800	340	750	150	2040	430
STX-360	2200	800	800	340	820	200	2160	720
STX-375	2200	800	800	370	860	200	2230	795
STX-3100	2200	800	800	400	950	200	2350	1075

Installation method



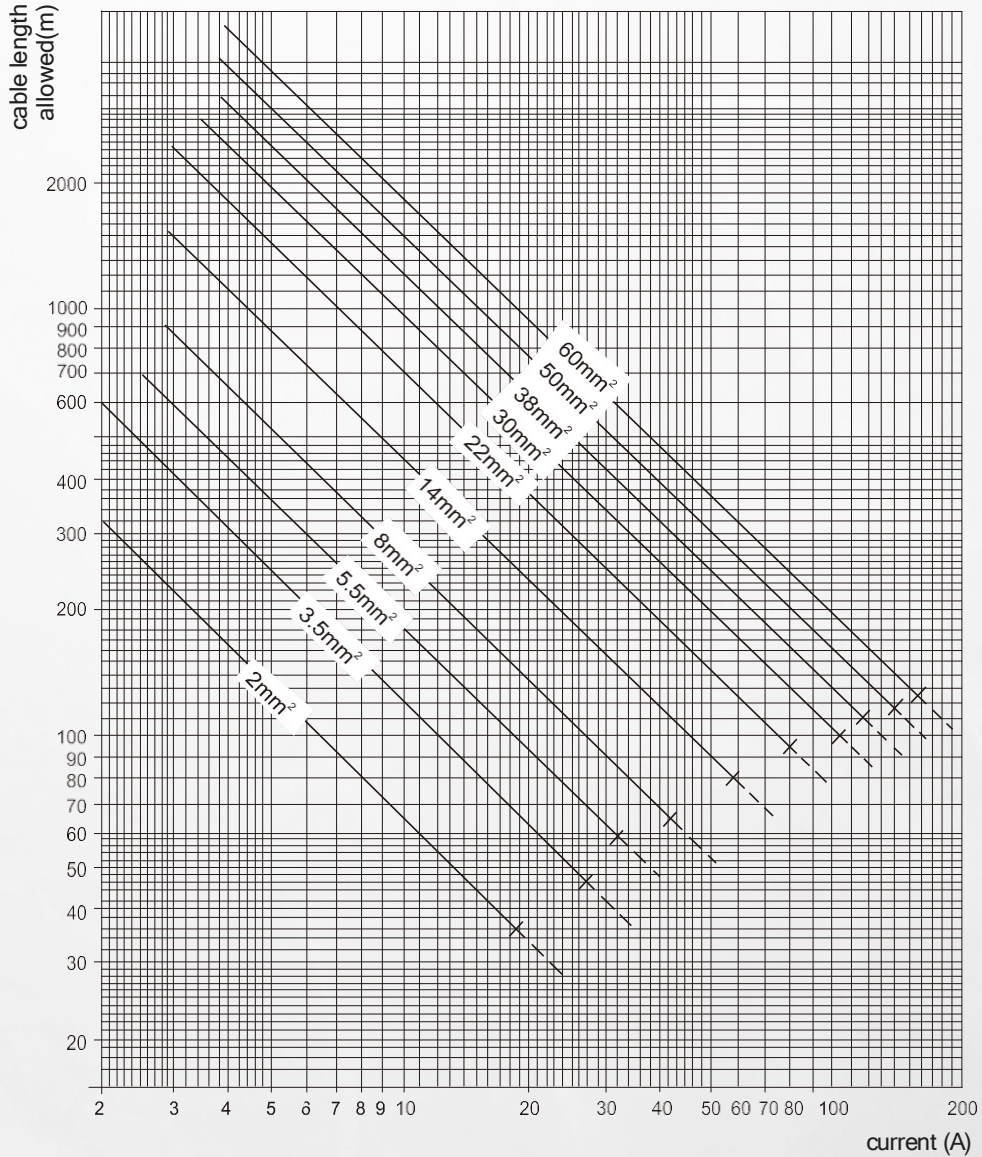
Mooring accessories



Mooring cable specifications

Power(hp)	Cable diameter	Cable size	Breaking strength	Material
2~100	Ø6mm	6x19	2180KGS	SUS304
2~10	Ø4mm	6x19	880KGS	SUS304
15~30	Ø5mm	6x19	1380KGS	SUS304
40~100	Ø6.3mm	6x19	2180KGS	SUS304

Power cable selection chart



Conductor shall be sized in accordance with the tables above whenever possible. The tables are based on 30 maximum ambient temperature with an allowable voltage drop between controller and aerator of 5%.

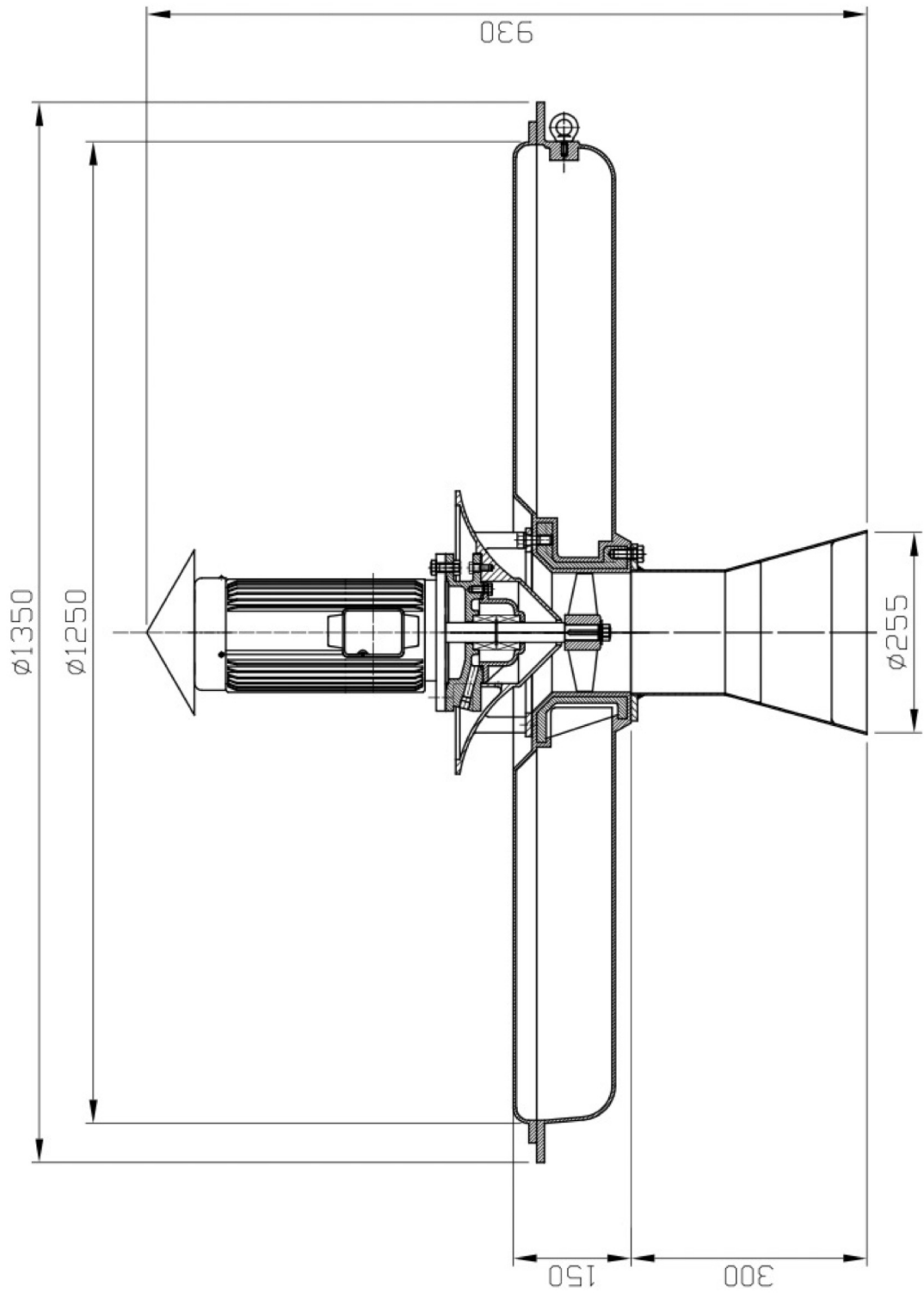
C

Cautions during installing the surface aerator


Install the SURFACE AERATOR in the proper position according to the characteristics of the SURFACE AERATOR and the size of the pool. Check the fixing steel wires for the SURFACE AERATOR are completely fastened and the Flotation Unit is in an inclined state. Ensure the electric cables for the SURFACE AERATOR are properly fixed. Generally, one of the electric cables is fixed with a hanging ring on the fixing steel wires according to the on-the-spot situation to prevent the wiring terminals from being damaged due to excessive pulling force of the electric cables. Check the voltage and frequency of the power supply for the acceptor are consistent to those marked on the name plate of the SURFACE AERATOR.

Cautions during operating the surface aerator

- Check the voltage and frequency of the power supply for the acceptor are consistent to those marked on the name plate of the SURFACE AERATOR.
- Ensure the capacity of the protective device for the control disc is consistent to the hp(kW) marked on the name plate of the SURFACE AERATOR in order to protect the operating life of the SURFACE AERATOR.
- During operation, the control disc should be on the "AUTO" position, not on the "MANUAL" position to avoid no leap-off due to overloads.
- Make sure the operating electric current is within the rated current range marked on the name plate of the SURFACE AERATOR during operation.





STX32 Installation Drawing	
DWN	沈晓凤
CHKD	张跃
APPD	吴俊霖
DATE	2020. 07


	Technical Data Sheet	Surface Aerator	
		Series	STX
Model	STX-32		
Item	Description	Unit	Value
	<u>General at Specifica ication & Design</u>		
	Brand		WASTEX
	Oxygen Transter (OC-HR	kg/h	3
	Complete Mixing Depth (D)	m	2~3
	Complete Mixing Diamneter (MD)	m	12
	Diameter of Mixing Zone (MZ)	m	Waste Water
	Fluid Type (Specific Gravity)		<40
	Fluid Terrperature	°C	Mechanical Seal
	Shaft Seal Type		
	<u>Material</u>		
	Floating	JIS	Fibre-Reinforced Plastic (FRP)
	Impeller	JIS	Stainless Steel (SUS304)
	Shaft	JIS	Stainless Steel (SUS410)
	Mechanical Seal		Carbon/Ceramic/NBR
	Water Inlet Pipe		Stainless Steel (SUS304)
	Mooring Wire Rope		Stainless Steel (SUS304)
	<u>Motor and Accessories</u>		
	Maker	Brand	TECO
	Type	Squirrel-Cage, Induction STD. Motor	
	Power	Kw	1.5
	Pole		4
	Volt.Phase/Freo.		380V / 30 /50Hz
	Protected by Enclosure	IP	56
	insulation Class		
	Driving Method		D.O.L
	Wire Rope (diameter x length x a'tvi		4 mm x 10 m x4
	Total Weight (Aerator & Motor)	Kg	85
Scope of Supply:	<input checked="" type="checkbox"/> Aerator Set		
	<input type="checkbox"/> Wire Rope & Accessories		

WASTEX

บริษัท เกรทโอเรียนเต็ลเทรดดิ้ง จำกัด

 074-300212-4

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