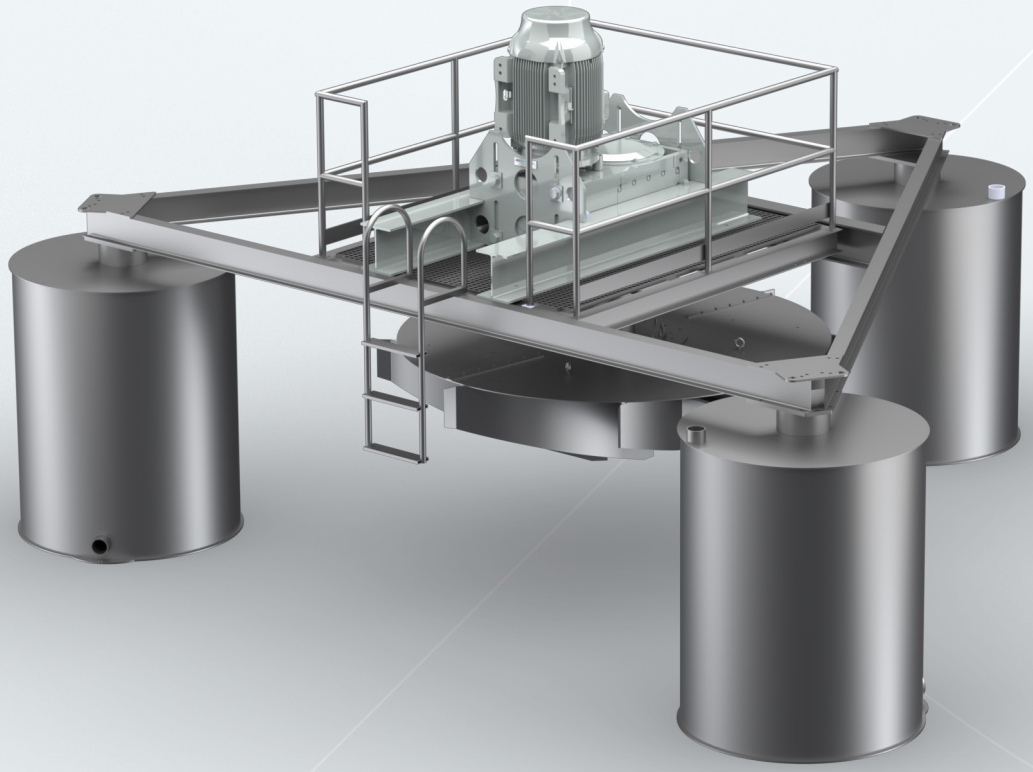
DBS MANUFACTURING

ENGINEERED FIRSTS | BUILT TO LAST

Low Speed Aerators | MA Series



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OVERVIEW

With over 50 years of experience in designing and building aerators, DBS provides the ideal solution for every application. Our MA low-speed aerators are not only cost-competitive but also at least 30% more efficient than high-speed aerators. In many cases, the energy cost savings will pay back the initial investment in a DBS aerator.

Surface Aerators

Surface mechanical aerators fall into two categories:

- **High-speed aerators** use an electric motor to directly drive an impeller that pumps water upward and sprays it out horizontally. Although this design is cost-effective, it has low oxygen transfer efficiency because the impeller wastes significant energy by moving water faster than needed.
- **Low-speed aerators** are more efficient because their rotors operate closer to the optimal aeration speed. However, they tend to be more expensive due to the need for a gearbox that reduces motor speed to turn a large-diameter aeration rotor.

TECHNICAL FEATURES

MA aerators are designed to provide the efficiency of low-speed aerators with the cost savings of high-speed aerators.

Gearbox

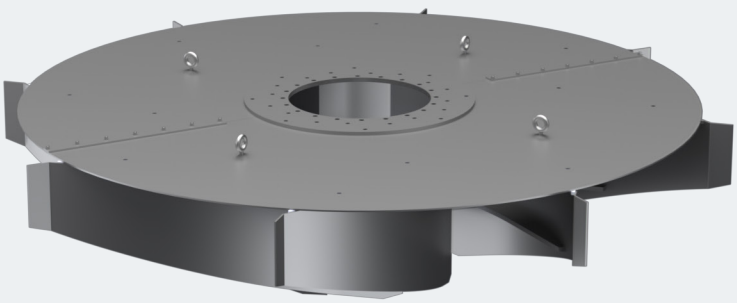
The MA aerator uses a helical gearbox to drive the aerator rotor. This mass-produced gearbox offers an excellent power-to-cost ratio. The gearbox is uniquely mounted directly in the aerator rotor, which provides a number of benefits:

- **Longer Oil Life:** The gearbox operates partially submerged, with water flowing through the impeller cooling it to near ambient temperature, which extends oil life.
- **Reduced Vibration:** By directly driving the rotor, the gearbox eliminates the drive shaft vibration issues common in traditional low-speed aerators.
- **Shock Absorption:** The gearbox and rotor assembly are connected to the electric motor via a “torque tube,” which flexes laterally to absorb shocks caused by wave impacts on the rotor.

Rotor

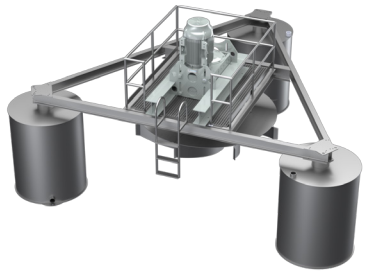
The MA aerator features a traditional high-efficiency backward-curved radial blade rotor, which is renowned for its superior aeration performance.

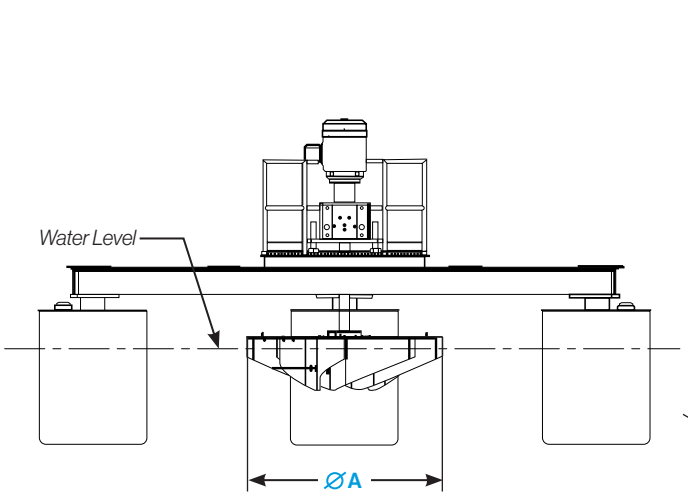
Backward-Curved Radial Blade Rotor

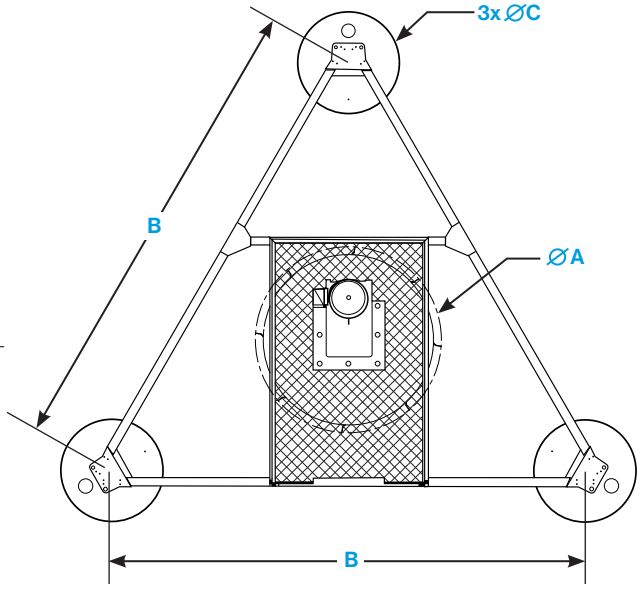


FLOATING MA AERATOR

DBS offers floating aerators from 7.5 hp to 200 hp to match any aeration requirement.







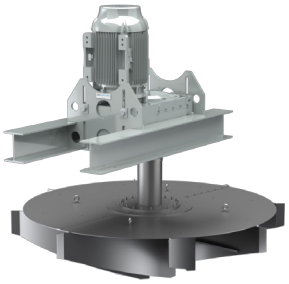
Model	Horsepower		Service Factor[1]		02/HR[2]		∅A 1800 RPM Input		∅A 1500 RPM Input		B		∅C		Weight	
	hp	kW	50hz	60hz	lb	kg	in	mm	in	mm	in	mm	in	mm	lb	kg
MA-08	7.5	5.6	6.97	8.41	26	12	42	1,067	46	1,168	98	2,489	40	1,016	4,729	2,145
MA-10	10	7.5	5.22	6.3	35	16	46	1,168	49	1,245	98	2,489	40	1,016	4,779	2,168
MA-15	15	11	3.48	4.2	53	24	49	1,245	52	1,321	98	2,489	40	1,016	4,969	2,254
MA-20	20	15	2.61	3.15	70	32	52	1,321	57	1,448	98	2,489	40	1,016	5,019	2,277
MA-25	25	19	2.95	3.57	88	40	68	1,727	74	1,880	240	6,096	46	1,168	7,141	3,239
MA-30	30	22	2.46	2.97	105	48	72	1,829	78	1,981	240	6,096	46	1,168	8,091	3,670
MA-40	40	30	3.17	3.83	140	63	80	2,032	86	2,184	240	6,096	52	1,321	8,341	3,783
MA-50	50	37	2.54	3.06	175	79	86	2,184	96	2,438	240	6,096	52	1,321	10,176	4,616
MA-60	60	45	2.12	2.55	210	95	88	2,235	99	2,515	240	6,096	52	1,321	11,476	5,205
MA-75	75	56	3.95	4.76	263	119	116	2,946	122	3,099	300	7,620	52	1,321	11,776	5,342
MA-100	100	75	3.59	2.97	350	159	122	3,099	130	3,302	300	7,620	62	1,575	17,574	7,972
MA-125	125	93	2.37	2.86	438	198	130	3,302	136	3,454	300	7,620	62	1,575	18,175	8,244
MA-150	150	112	1.97	2.38	525	238	136	3,454	144	3,658	300	7,620	70	1,778	25,429	11,534
MA-200	200	149	2.23	2.69	700	317	144	3,658	165	4,191	300	7,620	70	1,778	26,229	11,897

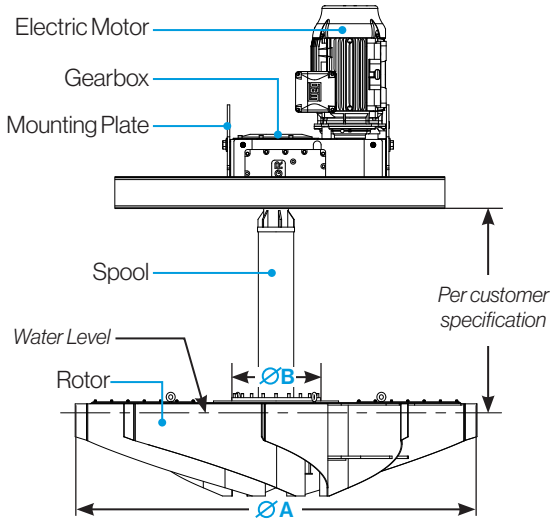
1 *Minimum recommended service factor is 1.8 At 1.0 service factor, gears have a theoretical infinite life.*

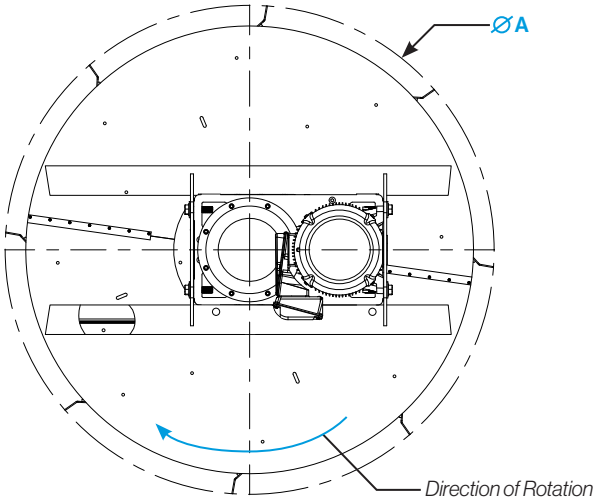
2 *Under standard conditions. Performance under field conditions may vary.*

BRIDGE-MOUNTED MA AERATOR

DBS offer bridge mounted aerators from 7.5 hp to 300 hp to match any aeration requirement.







Model	Horsepower		Service Factor[1]		02/HR[2]		ØA 1800 RPM Input		ØA 1500 RPM Input		B[3]		Weight	
	hp	kW	50hz	60hz	lb	kg	in	mm	in	mm	in	mm	lb	kg
MA-08B	7.5	5.6	6.97	8.41	26	12	42	1,067	46	1,168	12	300	1,310	594
MA-10B	10	7.5	5.22	6.30	35	16	46	1,168	49	1,245	12	300	1,359	616
MA-15B	15	11	3.48	4.20	53	24	49	1,245	52	1,321	12	300	1,523	691
MA-20B	20	15	2.61	3.15	70	32	52	1,321	57	1,448	12	300	1,598	725
MA-25B	25	19	2.95	3.57	88	40	68	1,727	74	1,880	12	300	1,793	813
MA-30B	30	22	2.46	2.97	105	48	72	1,829	78	1,981	15	375	2,735	1240
MA-40B	40	30	3.17	3.83	140	63	80	2,032	86	2,184	15	375	2,987	1355
MA-50B	50	37	2.54	3.06	175	79	86	2,184	96	2,438	15	375	3,094	1403
MA-60B	60	45	2.12	2.55	210	95	88	2,235	99	2,515	15	375	4,397	1986
MA-75B	75	56	NR	2.04	263	119	91	2,311	NR	NR	15	375	4,636	2103
MA-100B	100	75	2.96	3.57	350	159	122	3,099	130	3,302	18	450	7,452	3380
MA-125B	125	93	2.37	2.86	438	198	130	3,302	136	3,454	18	450	8,095	3672
MA-150B	150	112	1.97	2.38	525	238	136	3,454	144	3,658	18	450	12,369	5610
MA-200B	200	149	2.23	2.69	700	317	144	3,658	165	4,191	18	450	13,125	5953

1 *Minimum recommended service factor is 1.8 At 1.0 service factor, gears have a theoretical infinite life.*

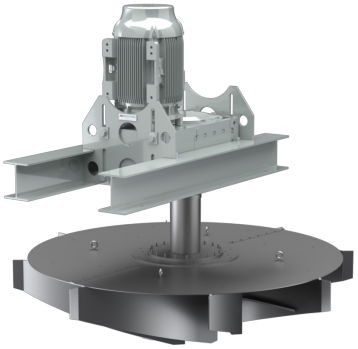
2 *Under standard conditions. Performance under feld conditions may vary.*

3 *Bridge platform must have a hole equal to or larger than B dimension for installation*

NR *Not recommended*

DBS "RACETRACK" OXIDATION DITCH

Oxidation ditches have proven to be efficient, economical wastewater treatment systems for decades. DBS Manufacturing has improved upon this technology by incorporating their new DBS aerator.



Key Features

DBS Racetrack Oxidation Ditches are powered by the patented MA low-speed aerator that provides high efficiency and long life at a substantially lower cost than competitive aerators. Plus, maintenance parts are available worldwide.

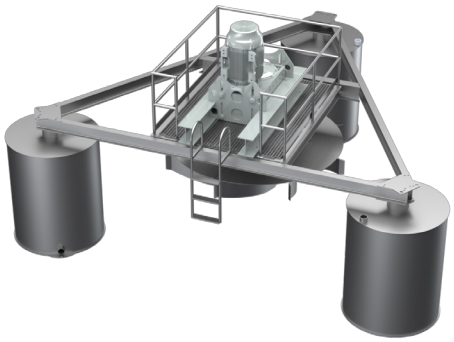
Equipped with stainless steel high efficiency backward curved aeration rotors, DBS Racetrack Oxidation Ditch aerators maximize pumping rate for superior mixing and aeration.

The DBS Racetrack Oxidation Ditch guarantees reliable performance of the mechanical equipment while ensuring optimal biological treatment and maintaining consistent ditch velocity.

DBS Racetrack OXIDATION DITCH

LOW SPEED AERATORS AEROBIC DIGESTERS – LAGOON AERATION

DBS Floating Aerators are ideal for lagoon and aerobic digester applications because their compact design makes these units easy to assemble and install.



Key Features

All wetted parts such as the aeration rotor, float arm lower link, and float hardware are made from corrosion resistant stainless steel for long life and reliability. The flexibility of the DBS stainless steel mooring winch may significantly benefit lagoon applications. Two winches make easy work of moving the DBS aerator across the lagoon to maximize mixing efficiency.

Post Mounted AERATOR

Floating Aerator WITH WINCH

ORDERING INFORMATION

Contact DBS or a DBS representative for assistance in deciding your equipment requirements.

DBS. MANUFACTURING
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MA Low Speed Aerator Options

Series	Rotors	Horsepower		Mounting	
	Code	Code	hp	Code	Mounting
MA Aerator	**A** Standard backwards curved rotor	08	7.5	B	Bridge
		10	10	Omit	Floating
		15	15		
		20	20		
		25	25		
		30	30		
		40	40		
		50	50		
		60	60		
		45	75		
		100	100		
		125	125		
		150	150		
		200	200		

Example:

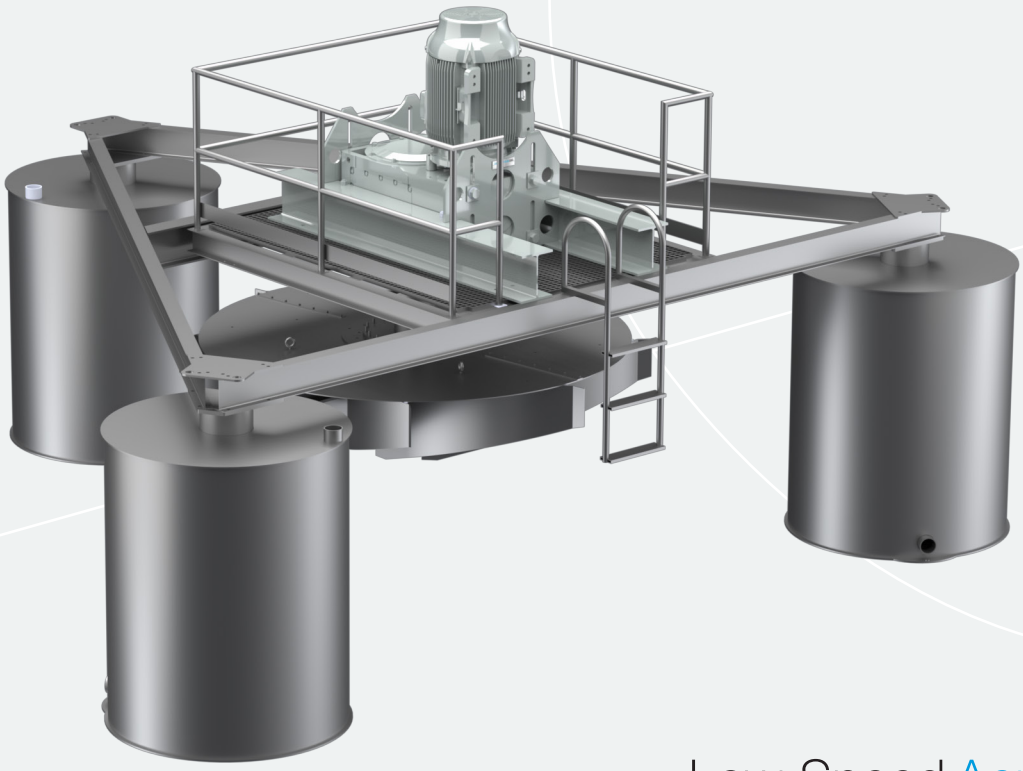
MODEL MA-200B is for an aerator with a standard backwards curved rotor, 200 hp electric motor, and bridge mounting.

Options

DBS also offers a range of optional features, including stainless steel construction, special coatings, maintenance platforms, and a low oil level switch.

DBS MANUFACTURING

- Clarifier & Thickener Drives
- Hyperbolic Mixers
- Low-Speed Surface Aerators
- Rotary Distributor Center Mechanisms



Low-Speed Aerator

MA-SERIES
MODEL MA-100

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