

OPTIMUS Nanobubble Generator



TYPICAL APPLICATIONS

- Wastewater Treatment
- MBRs / DAFs
- Cooling Towers
- Horticulture
- Aquaculture

FEATURES

- No Moving Parts
- Plug-and-Play
- Self-Cleaning

The Optimus nanobubble generator is the most efficient gas injection technology available to dissolve virtually any gas into any liquid. The Optimus produces trillions of nanobubbles, ~80nm in size, providing more than 400-times the interfacial surface area of conventional ultra-fine micro bubbles. Moleaer nanobubble generators transfer gas with greater than 85% efficiency, providing maximum gas utilization, improving the functionality of water, and enhancing treatment processes. The nanobubbles remain suspended in water, creating a reserve of available gas.

The Optimus comes standard with a centrifugal recirculating pump or can be installed in-line with existing pumps for maximum energy efficiency. The Optimus is available in a variety of configurations including the option for integrated compressed air or oxygen enriched air; or operators can use existing plant air or industrial gases. Moleaer nanobubble generators are designed for durable operation, easy installation and straightforward control making the Optimus a truly plug-and-play system.

FEATURES & BENEFITS

- ~80nm size bubbles exhibiting neutral buoyancy
- · Electro kinetic potential of the bubble ensures its integrity
- >85% standard oxygen transfer efficiency (SOTE)
- Smallest size bubbles creating 400x the interfacial surface area compared to microbubbles
- Highest concentration of bubbles per mL (>500 million bubbles / mL)
- Nanobubbles stay suspended in water after solution reaches saturation
- Increases water's capacity to hold a given gas
- Low-turbulent gas diffusion

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	Optimus with Pump			Optimu	Optimus without Pump		
Models	200	500	1000	200	500	1000	
FLOW SPECIFICATIONS							
Flow Rate, GPM (m ³ /h)	200 (45)	500 (114)	1000 (227)	200 (45)	500 (114)	1000 (227)	
Indicated Gas Flow Range Maximum, CFH (m ³ /hr)	30 (0.85)	56 (1.56)	116 (3.28)	30 (0.85)	56 (1.56)	116 (3.28)	
Indicated Gas Flow Range Recommended, CFH (m ³ /hr)	20 (0.57)	50 (1.42)	100 (2.83)	20 (0.57)	50 (1.42)	100 (2.83)	
FEED GAS SPECIFICATIONS							
Feed Gas Pressure Range Minimum, PSIG (bar)		120 (8.27)			120 (8.27)		
Feed Gas Pressure Range Maximum, PSIG (bar)		140 (9.65)			140 (9.65)		
ELECTRICAL							
INTEGRATED COMPRESSED AIR TREATMENT 1							
Power, hp (kW)	7 (5)	15 (12)	35 (26)	2 (1.5)	5 (4)	7.5 (5)	
Voltage		400-460		120/240	400-460	400-460	
Phase		3			3		
INTEGRATED COMPRESSED OXYGEN ENRICHED AIR	2						
Power, hp (kW)	7.5 (5.6)	15.5 (11.55)	35.5 (26.5)	2 (1.6)	5.5 (4.1)	8 (6)	
Voltage		400-460		120/240	400-460	400-460	
Phase		3		1	3	3	
EXTERNAL COMPRESSED GAS ³							
Power, hp (kW)	5 (3.7)	10 (7.5)	30 (22.3)	2 (1.6)	2 (1.6)	2 (1.6)	
Voltage		400-460			120/240		
Phase		3			1		
CONNECTIONS 4							
Inlet ISO 150, inches (mm)	3 (75)	3 (75)	6 (150)	3 (75)	3 (75)	6 (150)	
Discharge ISO 150, inches (mm)	3 (75)	4 (100)	6 (150)	3 (75)	4 (100)	6 (150)	
DIMENSIONS							
Length, inches (mm)		36 (914)			36 (914)		
Width, inches (mm)		80 (2032)			80 (2032)		
Height, inches (mm)		50 (1270)			50 (1270)		
Shipping Weight Estimate, Ib (kg) ⁵	1750 (794)	1880 (853)	2320 (1052)	1650 (750)	1680 (762)	1900 (862)	
Operating Temp, °F (°C)		41-145 (5-65))		41-145 (5-65))	
Solids Handling, inches (mm)		0.375 (9)			0.375 (9)		
Minimum Discharge Pressure, PSIG (bar)		12 (0.7)			12 (0.7)		
Maximum Discharge Pressure, PSIG (bar)		50 (3.44)			50 (3.44)		

Note 1Integrated air treatment system providing ISO 8573 - 1:2010 Class 1.4.1 quality compressed airNote 2Enhanced air treatment system providing ISO quality compressed air with 42% 02Note 3Oil, water and particulate must be removed from all gases before entering the generatorNote 4Taper thread or sanitary connections available upon requestNote 5Weights vary based on air treatment options (add 120 lbs/55kg for Enhanced air option)



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