

OPTIMUS Nanobubble Generator



TYPICAL APPLICATIONS

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

FEATURES

- 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, 100nm 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 90% 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

- 100nm 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 gas holding capacity
- Flooded suction required

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	Optimus with Integrated Enriched Oxygen ¹			Optimus		
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 (0.9)	100 (2.8)	180 (5.1)	30 (0.9)	100 (2.8)	180 (5.1)
Indicated Gas Flow Range Recommended, CFH (m ³ /hr)	10 - 20 (0.3 - 0.6)	30 - 50 (0.9 - 1.4)	60 - 100 (1.7 - 2.8)	10 - 20 (0.3 - 0.6)	30 - 50 (0.9 - 1.4)	60 - 100 (1.7 - 2.8)
ELECTRICAL						
INTEGRATED COMPRESSED AIR TREATMENT²						
Power, hp (kW)	8.3 (6.2)	13.8 (10.3)	35 (26.1)	8 (6)	13 (9.7)	33 (24.6)
Voltage		480V 60Hz			480V 60Hz	
Phase		3			3	
CONNECTIONS^{3 4}						
Inlet ANSI 150, inches	3	4	4	3	4	4
Discharge ANSI 150, inches	3	4	6	3	4	6
DIMENSIONS						
Length, inches (mm)	60 (1524)	60 (1524)	80 (2032)	60 (1524)	60 (1524)	80 (2032)
Width, inches (mm)		40 (1016)			40 (1016)	
Height, inches (mm)		48 (1220)			48 (1220)	
Shipping Weight Estimate, lb (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)		21 (1.5)			21 (1.5)	
Note 1	Enriched air treatment system providing ISO quality compressed air with 42% O ₂ .					
Note 2	Integrated air treatment system providing ISO 8573 - 1:2010 Class 1.4.1 quality compressed air.					
Note 3	Taper thread or sanitary connections available upon request.					
Note 4	Inlet and Discharge Flanges are only available in ANSI, that can accommodate ISO.					
Note 5	Weights vary based on air treatment options (add 120 lbs/55kg for Enhanced air option).					