

# BLOOM Nanobubble Generator



## APPLICATIONS

- Deep-Water Culture
- NFT
- Drip Irrigation
- Water Tank Aeration
- Reservoir Aeration
- Algae Control
- Biofilm Control\*

The patented Moleaer Bloom is a highly efficient gas-injection technology that converts bulk oxygen into nanobubbles and supersaturates irrigation water with high levels of dissolved oxygen (DO). Negatively charged, neutrally buoyant nanobubbles can remain suspended in water for long periods of time, acting like an oxygen battery that delivers oxygen to the entire body of water. As oxygen is consumed, the nanobubbles continue to diffuse more oxygen into solution to maintain optimal levels of DO. The nanobubbles produce a natural oxidant capable of reducing biofilm growth\* and suppressing harmful pathogens, even in warm water. Moleaer's Bloom is an economical and highly effective tool to improve water quality, increase plant growth, suppress root disease, and reduce environmental stress.

The Bloom comes with a self-priming, enclosed impeller pump for maximum flow and energy efficiency. The system is quiet and corrosion-resistant. The Bloom can be upgraded with an integrated DO sensor to allow real-time monitoring, system control and automation. Available in 6, 11 and 34 m<sup>3</sup>/h flow rates, the Bloom was designed for durable operation, easy installation, low maintenance, and simple control.

## FEATURES & BENEFITS

- 90% standard oxygen transfer efficiency
- Supersaturated irrigation water
- Improved water quality
- 100 nm-sized bubbles produced in excess of one billion nanobubbles / ml
- Oxygenation of any tank and any depth of water
- Increased nutrient uptake efficiency
- Promotion of beneficial bacteria, suppression of pathogens
- Easy integration with fertigation and climate control systems
- Auto gas shut-off if loss of prime feed
- Low-feed gas pressure sensor
- Optional: DO monitoring

\*Organic, bio-based nutrients may impact biofilm accumulation rates.

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| Bloom EU Series   |   |                                   |           |
|---|---|-----------------------------------|-----------|
| Models  | Bloom 25  | Bloom 50                          | Bloom 150 |
| <b>Liquid Flow Capacity (water)</b>                                     |   |                                   |           |
| Flow Rate, m <sup>3</sup> /h  | 5.7   | 11.4                              | 34        |
| Maximum Liquid Pressure, Bar  |   | 1.5                               |           |
| <b>Operating Parameters</b>   |   |                                   |           |
| Temperature Tolerance, °C   |   | 5 - 60                            |           |
| <b>Gas Feed<sup>1</sup></b>   |   |                                   |           |
| Maximum Gas Pressure, Bar   |   | 8.5                               |           |
| Indicated Gas Flow Range, L/min.  | 0 - 1.2   | 0 - 2.4                           | 0 - 4.8   |
| <b>Electrical Power</b>   |   |                                   |           |
| Voltage   | 115/230   | 115/230                           | 230       |
| Phase   |   | 1                                 |           |
| Hz  |   | 50                                |           |
| Total KW  | 0.4   | 0.6                               | 2.2       |
| Total Amp Draw  | 3.3/1.6   | 4.9/2.4                           | 9.8       |
| <b>Pump</b>   |   |                                   |           |
| Pump Type   |   | TEFC                              |           |
| Wetted Parts Materials  |   | Polypropylene/316 SS/Buna         |           |
| <b>Controls</b>   |   |                                   |           |
| Grow Smart Controller   |   | Timed Start/Stop                  |           |
| Voltage   |   | 24V DC                            |           |
| Power (Light)   |   | On/Off DP                         |           |
| Motor Starter   | Enclosed Nema4x Motor Starter w/ 1 Auxiliary Contact w/ OL Protection |                                   |           |
| Start Switch  |   | Latching (24V DC)                 |           |
| Gas Pressure Alarm with Light   |   | On/Off (24V DC)                   |           |
| Dissolved Oxygen (DO) Sensor <b>(Only Available on Bloom IQ Option)</b> | Optical, 0 - 50 ppm (+/- 1.5 ppm), 30 Second Response Time            |                                   |           |
| <b>Connections</b>  |   |                                   |           |
| Customer Pipe Connection  | 63  | 63                                | 75        |
| Unit Inlet (FNPT), mm   | 63  | 63                                | 63        |
| Unit Discharge (FNPT), mm   | 32  | 50                                | 75        |
| Air Fitting for Offboard Oxygen Tank                                    |   | CGA 022 fitting 1/4" MNPT (BSPTF) |           |
| <b>Dimensions and Weight</b>  |   |                                   |           |
| Height, cm  |   | 86                                |           |
| Width, cm   |   | 51                                |           |
| Length, cm  |   | 91                                |           |
| Weight, kg  | 45  | 48                                | 54        |

**Note 1:** When using oxygen, Moleaer recommends CGA inlet 540, outlet 9/16" - 18RH pressure regulator with delivery range of 0.34 - 10.3 bar

**Note 2:** Intake screen is necessary to prevent clogging