

What are spargers?

Spargers are devices used for the continuous injection of gas bubbles into liquids. They have many applications in different areas such as:

- Bioreactors
- Bubble columns
- Fluidized beds
- Fixed beds
- Column flotations
- Aeration
- Direct steamers



GREENBMG Spargers

Our Mission and Vision

GREENBMG fabricates spargers that are capable of producing bubbles with minimum size, pressure drop, non-uniformity, and weeping condition. Bubble size has a significant effect on mass transfer. **By reducing the produced bubble size, the interface area between liquids and gas increases.** The main drawback of the existing commercial spargers is cost and pressure drop.

Production and Methods

Our spargers are produced through a cost-effective method called the pressureless method. They are able to produce bubbles smaller than 0.1mm. The spargers also have minimum pressure drop and high gas flow rates. Both of these parameters reduce the costs of operation.

Why Choose Us

Main Benefits of GREENBMG Spargers

- **Our spargers produce bubbles that are 10x smaller than other spargers**
 - This decreases compressor operational costs
 - Increases efficiency of gas-liquid operations
- **Pressure drop is significantly lower across our spargers compared to other existing spargers**
 - Less resistance
 - Decreases costs

Different Shapes

These are different shapes of produced spargers using the pressure-less method:

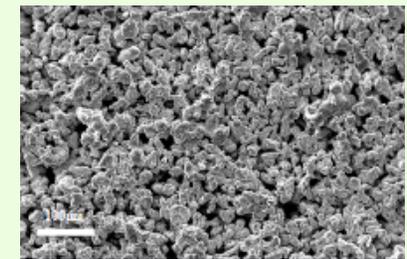


GREENBMG can design and fabricate any shape depending on your need (conical, cylindrical, disc, hollow cylinder, pipe). We can create a custom sparger for any fitting

Microscopic Image

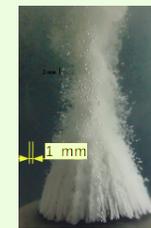
SEM of fabricated spargers by the pressure-less method: magnification

100 μ m and $d_p = 4\mu$ m

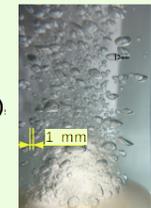


Produced Bubbles from the Sparger

GREENBMG SPARGERS:
Air flow rate:
40-360 litre/h (LPH),
 $\Delta P < 1$ bar



CURRENT INDUSTRIAL SPARGERS
40-360 litre/h (LPH),
 $\Delta P > 5$ bar



Our spargers are made of glass which is durable, of mechanical strength, corrosion resistant, and sanitary. GREENBMG composite copper oxide-glass spargers are suitable for non-polar liquids as well.