

# MOTT MICRO SPARGER TIPS FOR BENCH-TOP LAB BIOREACTORS & FERMENTORS



## THE MOTT ADVANTAGE

Due to the low solubility of oxygen in many cell culture mediums, optimizing this critical nutrient can be difficult. Maximizing the surface area between the media and the aeration bubble can improve the mass transfer rates of oxygen or carbon dioxide significantly.

A widely accepted method of maximizing the surface area is using a Mott porous metal micro sparger. These micro spargers can greatly reduce the size of the aeration gas bubbles which will increase the amount of surface area for a given volume of gas. It is not unusual to effectively increase mass transfer rates by 100-400% over standard drilled pipe or single opening dip tubes.

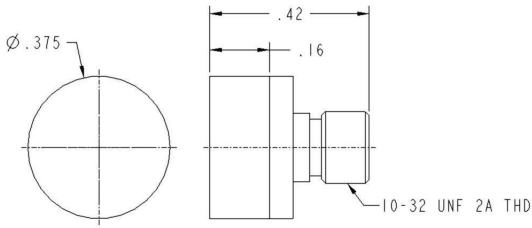


## OPTIMAL PORE SIZES FOR OPTIMAL MASS TRANSFER

Mott Corporation offers a wide variety of porous metal sparger tips for laboratory and pilot scale bioreactors and fermentors. With media grades ranging from 2  $\mu\text{m}$  to 15  $\mu\text{m}$ , Mott porous spargers offer the flexibility to generate bubble sizes which are optimal for your specific media, organism and mass transfer requirements. Whether your application calls for optimal oxygen mass transfer or oxygen or  $\text{CO}_2$  stripping, there is a Mott micro sparger tip for your needs. Sparger tips come with a M5 thread, 10-32 UNF thread, or weld stubs. If these connections don't work for you, we offer an adapter kit with other common connection styles and sizes.

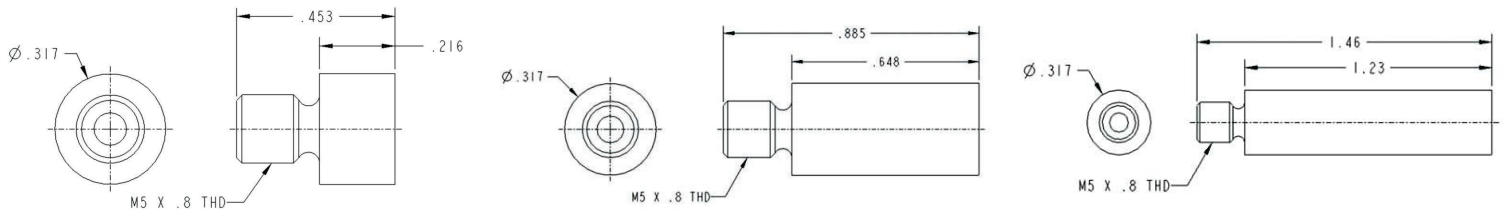
Specifications	
Materials of Construction	All 316L SS
Dimensions	See Dimension Diagrams
Porous Media Grades	2 $\mu\text{m}$ , 5 $\mu\text{m}$ , 10 $\mu\text{m}$ , and 15 $\mu\text{m}$
Connections	M5 thread with O-ring grooves, 10-32 UNF threads, hose barb, NPT threads and butt weld ends available
Optional Adapter Kit for M5 Threaded Spargers - CPN: 210099-KIT	Adapts M5 Thread to the Following Connection Types: <ul style="list-style-type: none"><li>- 10-32 Thread</li><li>- 1/4-20 Thread</li><li>- 1/8 Tube</li><li>- M2.5 Thread</li><li>- M3.5 Thread</li></ul>

## UNF THREADED SPARGER TIPS



Part Number	Media Grade	Overall Length Inches/mm	Active Porous Length Inches/mm	Diameter Inches/mm	Connection Thread
4000401-020-H	2 µm	0.420 / 10.66	0.16 / 4.1	0.375 / 9.52	10-32-UNF 2A Thread
4000401-050-H	5 µm	0.420 / 10.66	0.16 / 4.1	0.375 / 9.52	10-32-UNF 2A Thread
4000401-100-H	10 µm	0.420 / 10.66	0.16 / 4.1	0.375 / 9.52	10-32-UNF 2A Thread
4000401-150-H	15 µm	0.420 / 10.66	0.16 / 4.1	0.375 / 9.52	10-32-UNF 2A Thread

## M5 THREADED SPARGER TIPS WITH 568-007 SIZE O-RING GROOVES



Part Number	Media Grade	Overall Length Inches/mm	Active Porous Length Inches/mm	Diameter Inches/mm	Connection Thread
1242439-01-020-H	2 µm	0.453 / 11.5	0.216 / 5.5	0.317 / 8.05	M5 x .8
1242439-01-050-H	5 µm	0.453 / 11.5	0.216 / 5.5	0.317 / 8.05	M5 x .8
1242439-01-100-H	10 µm	0.453 / 11.5	0.216 / 5.5	0.317 / 8.05	M5 x .8
1242439-01-150-H	15 µm	0.453 / 11.5	0.216 / 5.5	0.317 / 8.05	M5 x .8
1242443-01-020-H	2 µm	0.885 / 22.5	0.648 / 16.4	0.317 / 8.05	M5 x .8
1242443-01-050-H	5 µm	0.885 / 22.5	0.648 / 16.4	0.317 / 8.05	M5 x .8
1242443-01-100-H	10 µm	0.885 / 22.5	0.648 / 16.4	0.317 / 8.05	M5 x .8
1242443-01-150-H	15 µm	0.885 / 22.5	0.648 / 16.4	0.317 / 8.05	M5 x .8
1242451-01-020-H	2 µm	1.46 / 37.1	1.23 / 31.2	0.317 / 8.05	M5 x .8
1242451-01-050-H	5 µm	1.46 / 37.1	1.23 / 31.2	0.317 / 8.05	M5 x .8
1242451-01-100-H	10 µm	1.46 / 37.1	1.23 / 31.2	0.317 / 8.05	M5 x .8
1242451-01-150-H	15 µm	1.46 / 37.1	1.23 / 31.2	0.317 / 8.05	M5 x .8