

# Impellers | GM4 Series

Professional Mixing Technologies

## Next-Generation Self-Aspirating Impeller for Complete Gas Conversion

The GM4 impeller is engineered for processes requiring efficient gas self-aspiration, rapid gas-liquid contacting, and complete gas conversion without external sparging equipment. Its specialized blade geometry generates strong suction forces that draw gas directly into the reaction zone, providing superior gas distribution, optimized mass transfer, and significantly shorter reaction times. Designed for hydrogenation, oxidation, carbonation, and biogas upgrading, the GM4 ensures high-efficiency operation in both laboratory and industrial-scale reactors.

### INDUSTRIES

- Chemicals
- Pharmaceutical
- Petrochemical
- Food & Beverages
- Cosmetic
- Environment & Energy

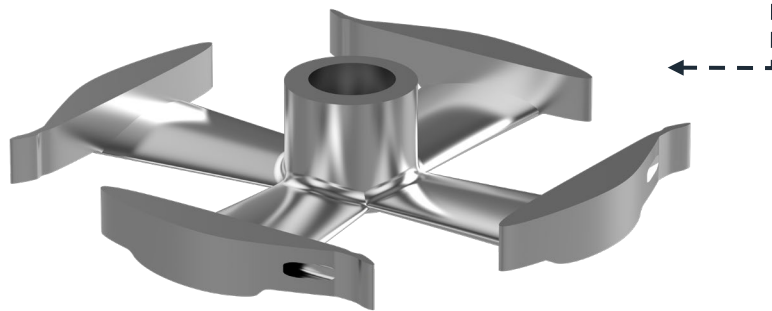
### APPLICATIONS

- Hydrogenation
- Alkoxylation
- Oxidation
- Carbonation
- Biogas improvement
- Fermentation

### ADVANTAGES

- Optimum gas mass transfer
- Equal and uniform gas distribution
- Short reaction time
- Low gas consumption
- Excellent heat-transfer performance

## GM4



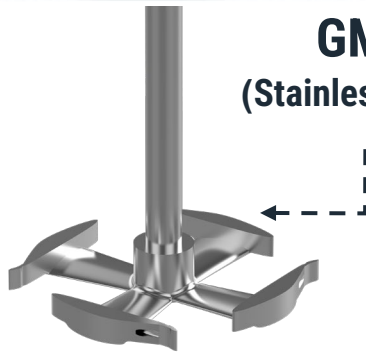
### FEATURES

- High gas-supply capacity
- Large gas-liquid contact surface
- Specially shaped gas-aspiration channels
- Homogeneous energy distribution
- Optimum suction power



# Material Variants and Application Range

## Professional Mixing Technologies



**GM4**  
(Stainless Steel)

### Material

- High-grade stainless steel

### Features

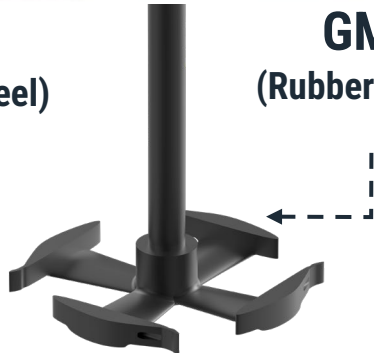
- Excellent corrosion resistance in gas-liquid reaction systems
- Smooth hygienic surface suitable for pharmaceutical processes
- Stable self-aspiration and radial gas distribution
- Easy-to-clean design compatible with CIP units

### Typical Applications

- Hydrogenation reactions
- Food-grade carbonation
- Cosmetic and biochemical aeration
- Fermentation and controlled gas dosing

### Advantages

- Reliable gas self-aspiration
- Safe, clean operation without clogging
- Consistent gas-conversion efficiency



**GM4**  
(Rubber Lining)

### Material

- Carbon-steel impeller body with rubber lining

### Features

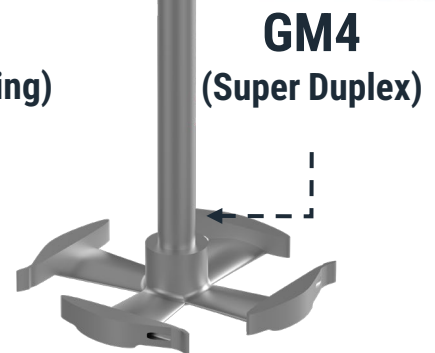
- High abrasion resistance for gas-solid-liquid systems
- Rubber surface reduces wear and absorbs impact
- Stable suction performance under variable gas loads
- Ideal for particle-rich gas-reacting environments

### Typical Applications

- Hydrometallurgical gas-reaction reactors
- Abrasive oxidation or biogas upgrading slurries
- Gas-aided leaching operations
- Carbonation in abrasive media

### Advantages

- Extended operational lifespan
- Lower blade wear
- Reduced maintenance downtime
- Reliable gas aspiration in harsh conditions



**GM4**  
(Super Duplex)

### Material

- Super Duplex Stainless Steel

### Features

- Exceptional strength for high-pressure gas systems
- Superior resistance to pitting, SCC, and erosion
- High stability in chloride-rich or acidic gas media
- Optimized for aggressive oxidation and hydrogenation

### Typical Applications

- High-pressure hydrogenation
- Chloride-rich oxidation reactors
- Offshore biogas upgrading
- Severe-duty gas-liquid reaction systems

### Advantages

- Maximum corrosion & erosion resistance
- Long operational lifetime
- Reliable suction and gas distribution under extreme conditions

