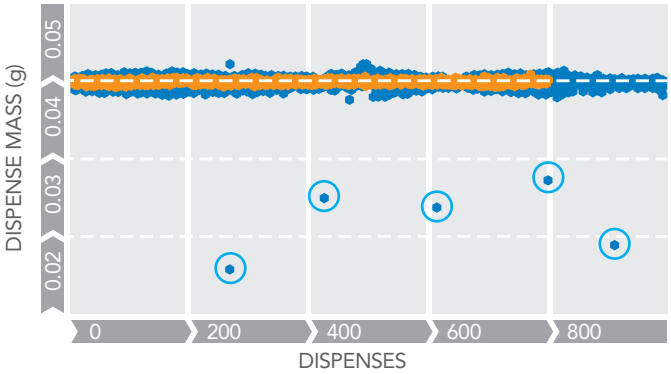
SILICONE DEGASSING

For Life Science Applications

OPTIMAL DEGASSING PERFORMANCE FOR AQUEOUS CHEMISTRIES AT FLOWS OF 5–20mL/MIN (80–330 µL/SEC)

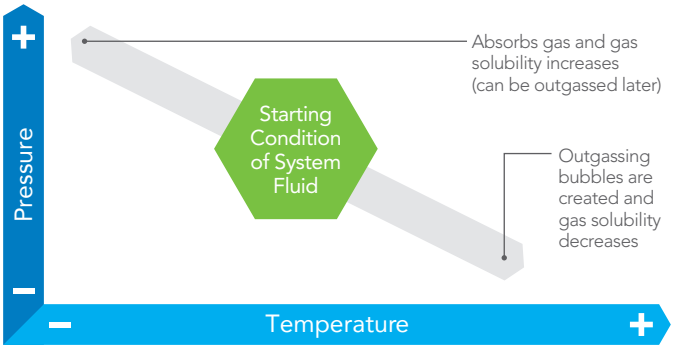
Dissolved gas in system fluids can lead to bubble formation that inhibits peak system performance. Changes in pressure, temperature, or reagent mixing cause bubbles to outgas into the flow path, creating inaccurate aspiration and dispense functions as well as disrupting optical detection.

Dispense Volume Over 1,000 Dispenses*



- Dispensing with a Degasser
- Dispensing without a Degasser
- Lower dispense volume reading due to bubble in system
- * In most water-based applications

Solubility of Gas System Fluids



+ Increase − Decrease

Any time system conditions shift in a way that reduces the gas solubility level of a fluid, outgassing occurs and bubbles form. If conditions change towards the lower right at any point in the fluid path, bubbles will be generated.

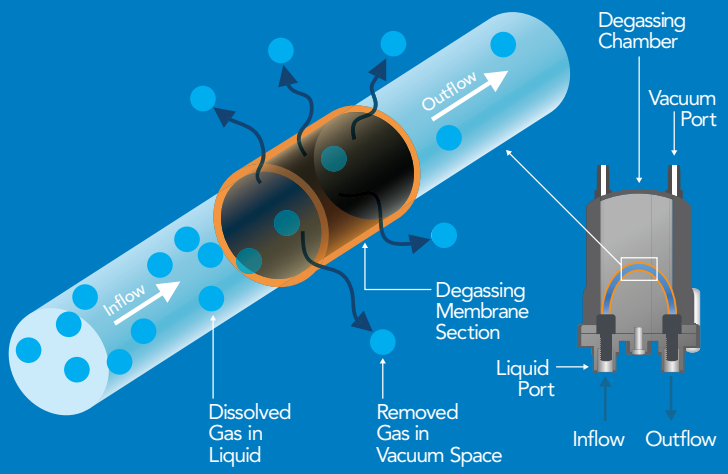
The DGC-020 inline degassing chambers actively remove dissolved gases before they form bubbles, ensuring maximum uptime and performance. It can be integrated into your system as a stand-alone unit for use with your system vacuum, combined into a bracket with an IDEX Health & Science vacuum pump, or mounted onto a custom manifold for a fully integrated solution.

Applications: Water / Aqueous Chemistries

- Benchtop Clinical Chemistry & Immunoassay
- Flow Cytometry
- NGS Applications
- Spatial Biology
- Multiomics

How It Works

The core functional element of this inline degasser is a fluid path lined by a highly permeable silicone-like membrane. Fluid flows through the membrane pathway, while the space surrounding the membrane is evacuated. A PID-controlled IDEX Health & Science vacuum pump holds a precise vacuum level driving the active removal of dissolved gases across the membrane.



Typical Performance: Flow-Through Degassing Performance of DGC-020

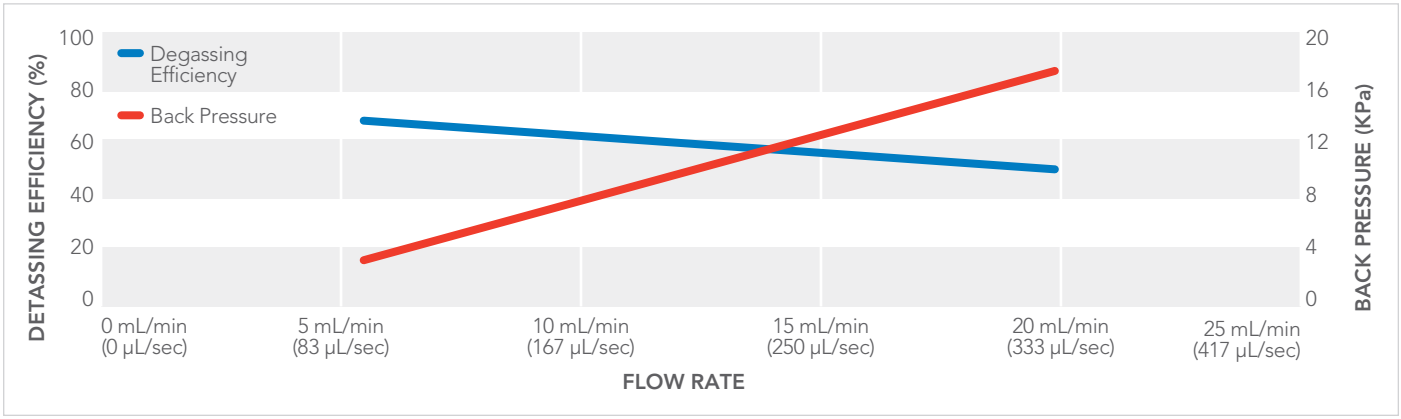


Figure 1: The plot shows the reference performance of degassing chamber DGC-020 tested under various flow rates. The blue line shows a typical minimum degassing efficiency profile gained at 25 °C using deionized water and a vacuum level of 16.7 kPa. The degassing efficiency represents the percentage of removed dissolved oxygen with respect to its saturation concentration. Oxygen concentration was monitored using a dissolved oxygen sensor while the flow rate was measured using a mass flow meter. The red line shows a typical back pressure profile gained at 25 °C using deionized water without vacuum.

Parameter	Value
Product Alias	DGC-020-153881
Product Number	115388100001
Membrane Material	Vinyl methyl silicone (VMQ)
Best Suited For	Water & aqueous chemistries
Other Wetted Materials	Ethylene propylene diene monomer (EPDM); Polyphenylene sulfide (PPS)
Recommended Liquid Connection	Male 1/4-28UNF nut preferably with a softer ETFE ferrule
Recommended Vacuum Connection	Low gas permeability 3 mm ID elastomeric tube
Recommended Degassing Vacuum	16.7
Recommended Min/Max Liquid Flow Rate	5 / 20 mL/min; ~ 80 / 330 µL/sec
Pressure Drop (Water 25°C, Maximum Operating Flow Rate)	< 20 kPa
RoHS / REACH Compliance	YES

IDEX HEALTH & SCIENCE

For ordering, technical support, and contact information please visit www.idex-hs.com/silicone-degassing