

DGC-080W

Product Data Sheet

Product number: 100001217005

FULLY SWEEP
INLINE
PATHWAY

TWO
INDEPENDENT
CHANNELS

MEDIUM
CAPACITY GAS
REMOVAL

Medium-Throughput Degassing for Your Fluidic System

Improve data quality and reliability in your system with medium-throughput degassing chambers from IDEX Health & Science.

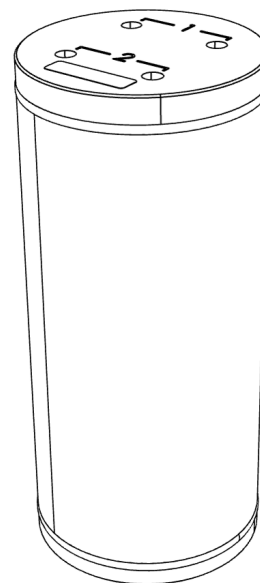
IDEX Health & Science medium-flow inline degassing chambers provide superior fluid conditioning for medium-throughput assay systems. Our degassing chambers improve instrument precision and assay quality by removing dissolved gases from system fluids before they outgas and form bubbles that deteriorate precision dispensing, prevent mixing, disrupt separation air gaps, or interfere with any type of fluid contact detection.

Features:

- › Active medium-capacity dissolved gas removal
- › Fully-swept inline fluid path
- › Two independent channels for maximum flexibility
- › Barbed fluid connection for elastomeric tubing
- › Barbed vacuum connection for elastomeric tubing
- › Sturdy housing for membrane protection

Applications:

- › Benchtop clinical chemistry
- › Benchtop immunoassays
- › Medium-throughput flow cytometry
- › Other medium-throughput or fast flow applications



Description

The core functional element of this inline degasser is a fluid path lined by a highly permeable silicone-like membrane. While fluid flows through the membrane-lined pathway, the space surrounding the membrane is evacuated, held at a precise vacuum level using a reliable PID-controlled IDEX Health & Science vacuum pump. The difference in gas concentration between the solution and vacuum drives the active removal of dissolved gases.

General

Parameter	Value
Class	Degassing chamber
Series	DGC
Product alias	DGC-080W
Product number	100001217005

Absolute Maximum (Per Channel)

Parameter	Value	Unit
Maximum operating pressure difference between fluid and vacuum	100	kPa
Maximum operating flow rate	40	mL/min
Maximum operating vacuum level	16.7	kPa
Maximum operating temperature	40	°C
Maximum operating non-condensing humidity	70	%

Degassing (Per Channel)

The following table contains nominal reference quantities

Parameter	Value	Unit
Degassing	Permeation through solid membrane	
Membrane material	Vinyl methyl silicone (VMQ)	
Degassing fluid volume	8.9	mL
Flow rate for 50% degassing efficiency	40	mL/min
Recommended minimum degassing flow rate	10	mL/min
Recommended maximum degassing flow rate	40	mL/min
Recommended degassing vacuum	16.7	kPa
Vacuum volume	173	cm ³
Pumpdown period to achieve 16.7 kPa vacuum using an IDEX Health & Science double stage vacuum pump	27	s
Vacuum connection	Barb 4.7 mm OD	
Vacuum connection location	On bottom lid	
Vacuum connection material	Brass, nickel-plated	
Recommended vacuum connection	Low gas permeability 3 mm ID elastomeric tube	

Regulatory

Parameter	Value
REACH	Yes
RoHS	Yes

Fluidic (Per Channel)

The following table contains nominal reference quantities

Parameter	Value	Unit
Internal fluid pathway	Parallel tubes	circular
Inline fluid volume	9	mL
Pressure drop-flow rate relation, flow rate q in mL/min	$0.0015q^2 + 0.3q$	kPa/mL/min
Fluid contact materials	Ethylene propylene diene monomer (EPDM) Polyvinylchloride (PVC) Vinyl methyl silicone (VMQ)	
Fluid connection	Female flat-bottom M6x1.0	
Fluid connection location	On top lid	
Fluid connection material	Polyvinylchloride (PVC)	
Fluid connection center-to-center distance	25.4	mm
Fluid connection edge-to-edge distance	20.4	mm
Recommended fluid connection	Male M6x1.0 nut preferably with a softer ETFE ferrule	

Mechanical

Parameter	Value	Unit
Housing material	Polyvinylchloride (PVC)	
Outer dimensions	145 x 60 x 60	mm
Mounting	Secure in place using clamp 100001217019	
Mounting orientation	Upright with fluid connections pointing upward and vacuum connection pointing downward OR Horizontal with fluid and vacuum connections pointing to the side	

Environmental

Parameter	Value	Unit
Operating temperature	5 to 40	°C
Operating non-condensing humidity	10 to 70	%
Storage temperature	-10 to 60	°C
Storage non-condensing humidity	10 to 70	%

Typical Performance

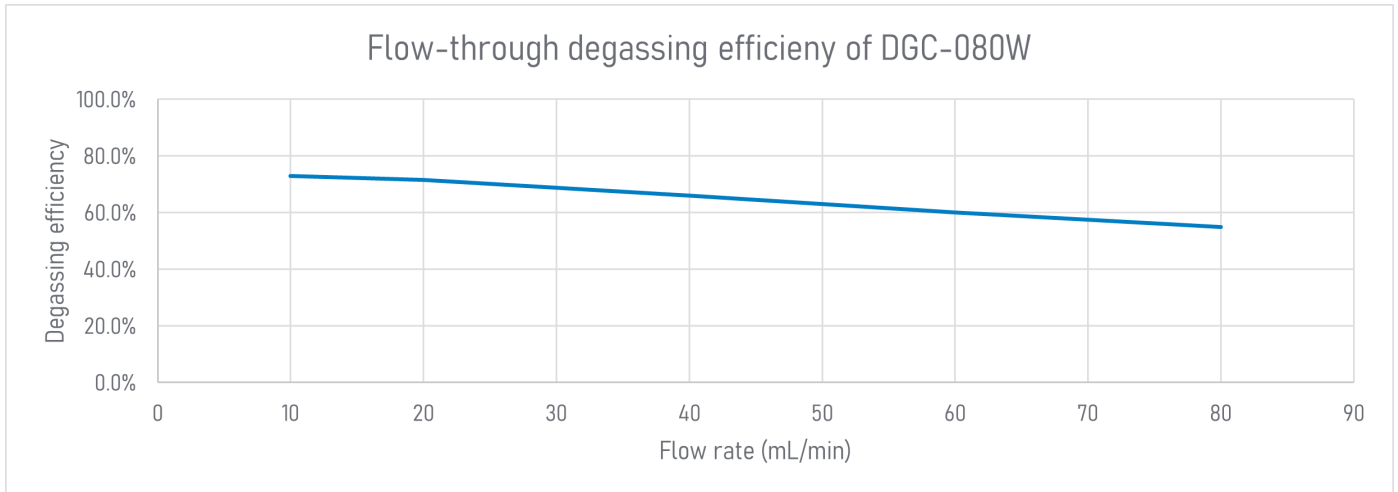
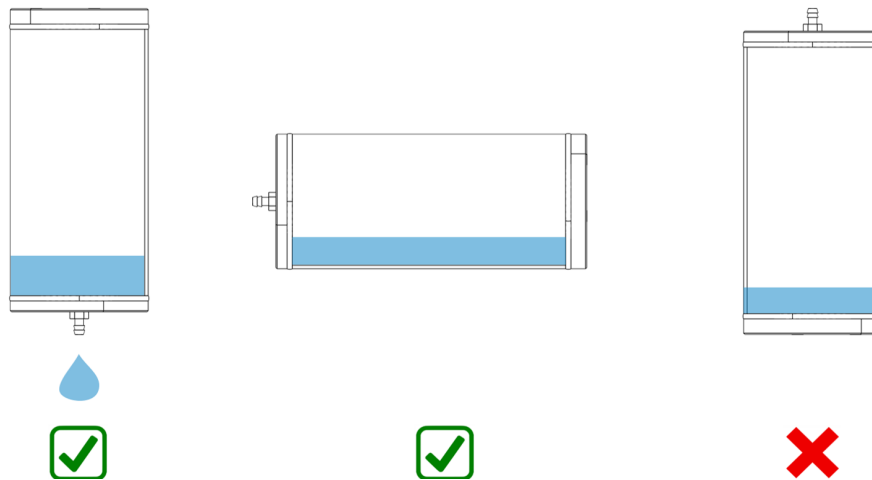


Figure 1: The plot shows the reference degassing efficiency of degassing chamber DGC-080W tested under various flow rates. The degassing efficiency represents the percentage of removed dissolved oxygen with respect to its saturation concentration. The curve shows a typical minimum performance profile gained at 25 °C using deionized water and a vacuum level of 16.7 kPa. The chamber was operated with negligible back pressure connected to the discharge side of a continuous pump. Oxygen content was monitored using a dissolved oxygen sensor while the flow rate was measured using a mass flow meter.

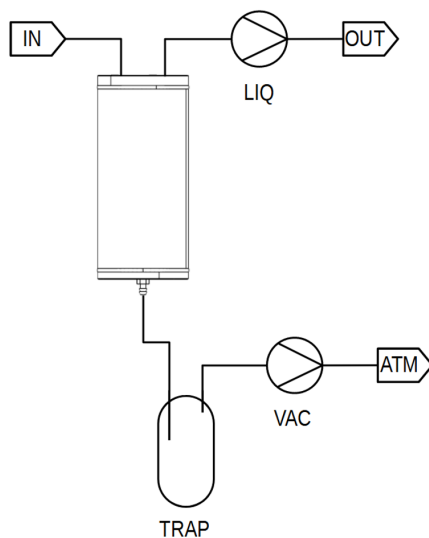
Mounting Orientation

Condensation will reach an equilibrium in the chamber such that a small amount of water will be present at the bottom of the vacuum space. We recommend mounting the DGC-080W either in an upright position with fluid connections pointing upward and vacuum connections pointing downward or horizontally with fluid and vacuum connections pointing sideways.

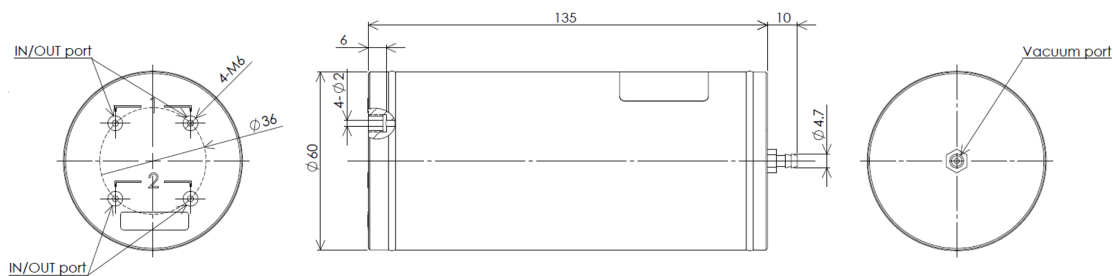


Integration (liquid integration shown for one channel)

Always place a liquid trap between degasser chamber and vacuum pump for longer continuous operation in order to avoid spillovers into the vacuum line.



Dimensions



Warranty

Seller warrants to buyer that each product will be free of defects in workmanship and material for the period of 1 year. The warranty period for all products commences on the date the product is deposited by the seller with the carrier for shipment. For complete warranty details refer to IDEX Health & Science LLC terms and conditions of sale which can be found at <https://www.idex-hs.com/about-us/legal-notices/terms-conditions-of-sale>.