

EXTRABUTOR™ GAS-LIQUID SEPARATION MEMBRANE CONTACTORS

BUBBLE AND DISSOLVED GAS REMOVAL FROM INKS USING HYDROPHOBIC HOLLOW FIBER MEMBRANE

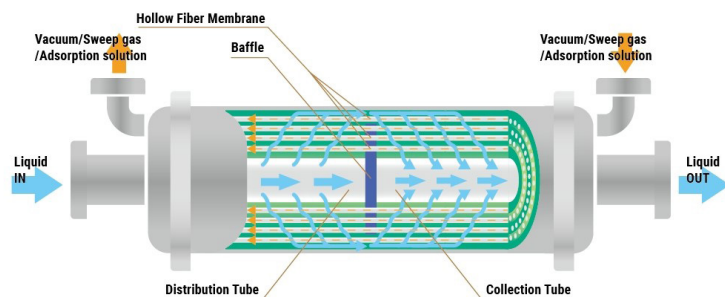
ExtraButor™ gas-liquid separation membrane contactors use hydrophobic hollow fiber membrane technology to remove dissolved gases in inks. In typical operation, liquid (ink) to be degassed flows outside the hollow fiber. At the same time vacuum is pulled through the inside hollow fiber. Micro pores on the surface of the hydrophobic hollow fiber allow gas molecules to pass through, but reject liquid molecules. Under the force caused by vacuum, the gases dissolved in ink outside the hollow fiber moves continuously through the micropores to the inside hollow fiber, and then is taken away by vacuum. In this way, dissolved gases in ink are removed.

FEATURE	BENEFIT
High efficiency hollow fiber construction and design	High removal efficiency of bubbles and dissolved gases from ink.
Low pressure drop, large degassing area	Allows maximum flow rate. Single flow can satisfy multiple print heads.
Simple operation process	Quick start. Very short time for system stability.
Standard connections	Typical industry ink connections



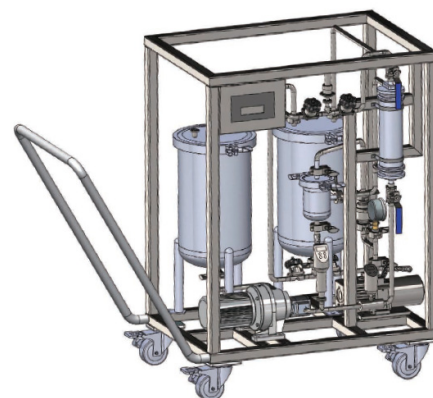
Typical Applications

- Degassing of bulk inks
- Degassing of inks prior to print head

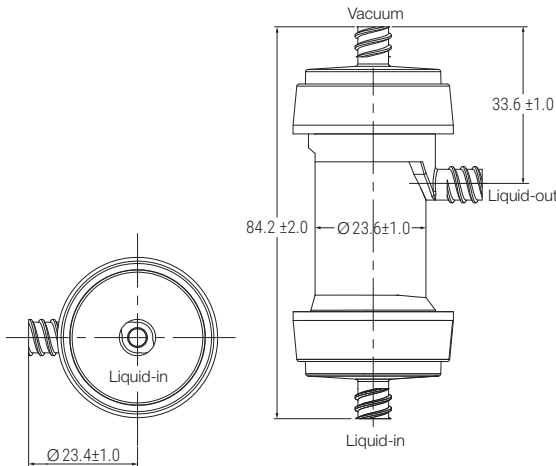
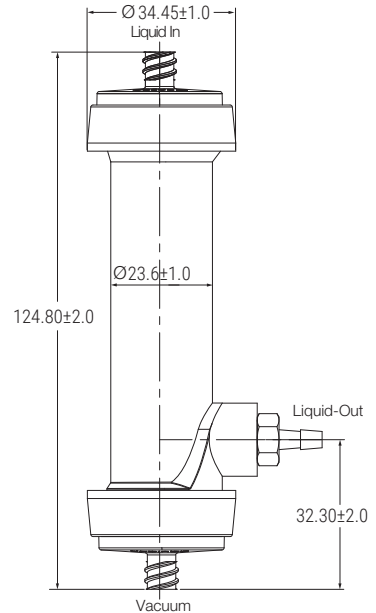
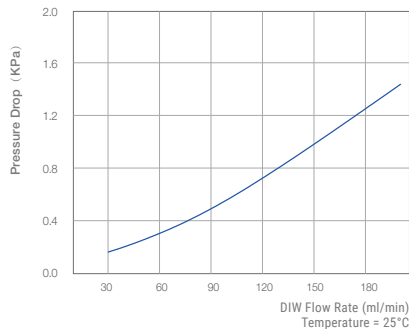
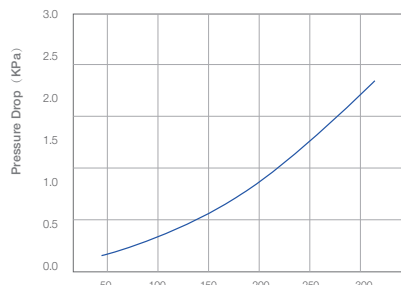
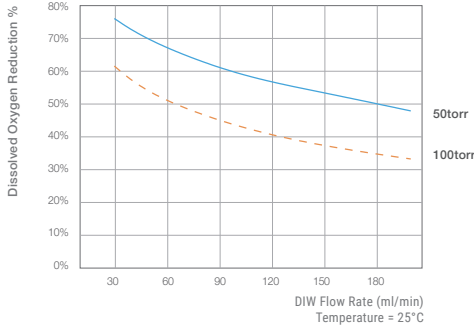
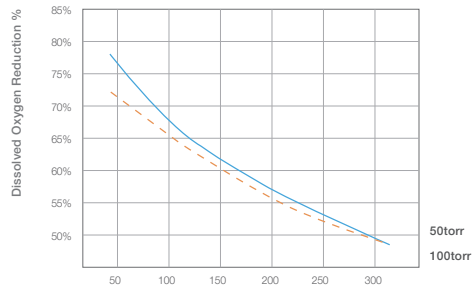


Degassing Systems

Cobetter offers a variety of degassings systems and custom degassing system carts and panels. Contact your Banner representative for details.



DIMENSIONS, FITTINGS, FLOW RATES, DEGASSING EFFICIENCY

				
Part Number	EX-DMA-L		EX-DMB-L-P	EX-DMB-L-Q
Tube (Vacuum/Gas) Side	Female Luer Lock		Luer Lock	Luer Lock
Shell (Liquid) Side	Female Luer Lock		Inlet: Luer Lock Outlet: 1/8 FNPT to 4 mm ID, 6 mm OD Hose Barb	Inlet: Luer Lock Outlet: 1/8 FNPT to 6 mm ID, 8 mm OD Hose Barb
Flow Rates				
Degassing Efficiency				
Flow Rate	50 - 90 ml/min		30 - 150 ml/min	
Max. Working Temp/ Pressure	45°C / 0.2 MPa (29 psi)		45°C / 0.2 MPa (29 psi)	
Shell (Housing) Material	Black Polypropylene - PP		Black Polypropylene - PP	

Additional fittings available upon request

DIMENSIONS, FITTINGS, FLOW RATES, DEGASSING EFFICIENCY

Part Number	EX-DMB-8NC	EX-DMBP-8RC
Tube (Vacuum/Gas) Side	1/8" FNPT	1/8 Rc [Tapered Thread (BSPT), Female]
Shell (Liquid) Side	Inlet/Outlet: 1/8" FNPT	Inlet/Outlet : 1/8 Rc [Tapered Thread (BSPT), Female]
Flow Rates	<p style="text-align: center;">Typical Pressure Drop vs. Flow Rate</p>	<p style="text-align: center;">Typical Pressure Drop vs. Flow Rate</p>
Degassing Efficiency	<p style="text-align: center;">Typical Oxygen Removal vs. Flow Rate</p>	<p style="text-align: center;">Typical Oxygen Removal vs. Flow Rate</p>
Flow Rate	30 - 150 ml/min	50 - 400 ml/min
Max. Working Temp/ Pressure	45°C / 0.2 MPa (29 psi)	45°C / 0.2 MPa (29 psi)
Shell (Housing) Material	Black Polypropylene - PP	Black Polypropylene - PP

Additional fittings available upon request

DIMENSIONS, FITTINGS, FLOW RATES, DEGASSING EFFICIENCY

TYPE:	EX-DMD-4NC	EX-DMF-3NC	EX-DMF-1GC
Tube (Vacuum/Gas) Side	1/4" FNPT	3/4" FNPT	1" GF
Shell (Liquid) Side	1/4" FNPT	Inlet/Outlet: 3/4" FNPT	Inlet/Outlet: 1" GF
Flow Rates	<p>Typical Pressure Drop vs. Flow Rate</p>	<p>Typical Pressure Drop vs. Flow Rate</p>	
Degassing Efficiency	<p>Typical Oxygen Removal vs. Flow Rate</p>	<p>Typical Oxygen Removal vs. Flow Rate</p>	
Flow Rate	0.1 - 0.7 m³/hr (0.44 - 3 gpm)	0.2 - 3.4 m³/hr (0.88 - 15 gpm)	
Max. Working Temp/Pressure	50°C / 0.2 MPa (29 psi)	50°C / 0.2 MPa (29 psi)	
Shell (Housing) Material	White Polypropylene - PP	White Polypropylene - PP	

Additional fittings available upon request



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