

defender™ SWG

Membrane Gas Dryer



Quick Study

Defender Membrane Gas Dryers utilize non porous, hollow fiber membrane tubes made of Flemion™ to continuously remove water vapor from compressed air or sample gas, significantly lowering the water dew point and reducing the potential for moisture damage to analyzers and instrumentation. The drying process is accomplished by flowing wet air/gas through the inside of the hollow fiber membrane tubes where water vapor molecules will permeate through the wall of the membrane. The permeated water vapor molecules evaporate and are then swept away by purge gas flowing countercurrent over the outside of the membrane tubes. These dryers have the capability to lower the dew point of the supply gas to -30°C (-22°F); however, the effectiveness of the dryer will be directly related to the supply gas pressure and its dew point temperature, as well as the operating temperature of the dryer. There are three series of Defender Membrane Dryers: SWB™ Series, SWC™ Series, and SWG™ Series.

Applications

- ▶ Drying sample or carrier gas
- ▶ Air dryer for ozone generator in NO_x analyzers
- ▶ Drying combusted samples in TOC and elemental (sulfur) analyzers
- ▶ Polishing dryer downstream of sample coolers for process analysis or CEMS systems

Benefits

- ▶ Achieves low dew points
- ▶ High water vapor selectivity
- ▶ No desiccant or refrigerants required
- ▶ No electricity or drain required
- ▶ Maintenance free operation
- ▶ Installation in tightly spaced cabinets

Features

- ▶ Non porous, chemically resistant hollow fiber membrane
- ▶ No moving parts
- ▶ Shell and tube design
- ▶ Flexible and non flexible models

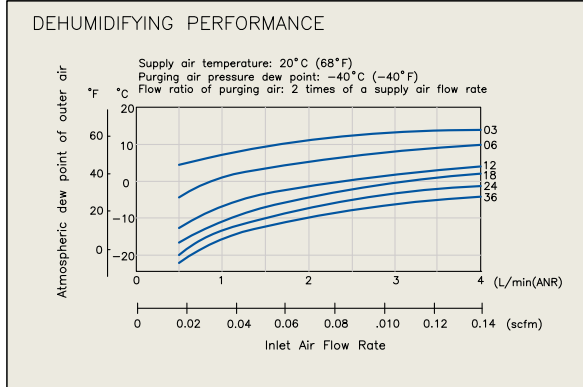
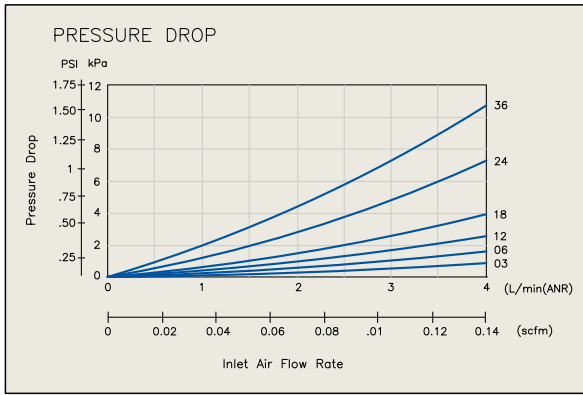
The SWG™ Series consist of both flexible and non flexible shell and tube membrane dryers designed for use with sample or carrier gas. There are several models available that can accommodate flow rates up to 12 L/min. The flow pattern through the dryer is bidirectional, allowing for mounting flexibility as the inlet port can be at either end. This series of dryers does not have a built in purge so either an external purge gas source or rerouting dried gas from the outlet for use as purge gas is required. In order to protect the membrane dryer from solid and liquid contaminants, a prefilter (also available from A+ Corporation) should be installed on the inlet side of the dryer.

Technical Specifications

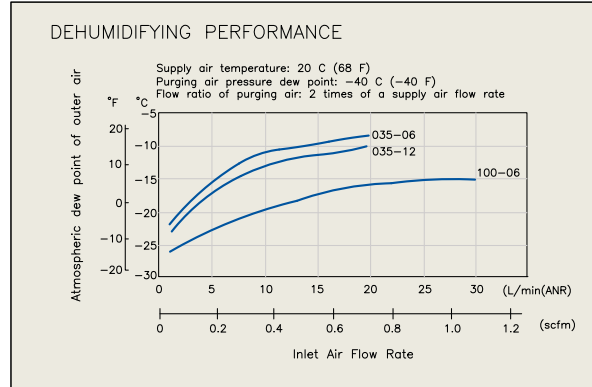
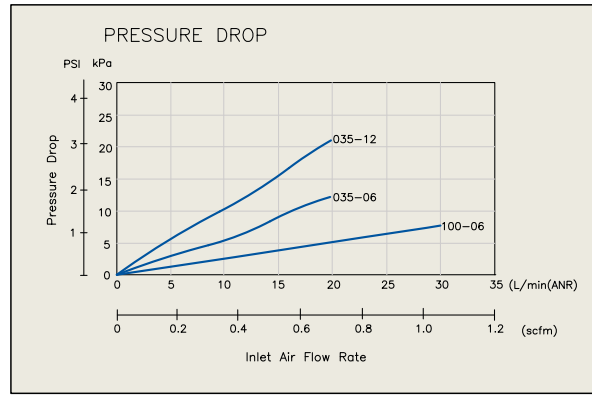
Operating pressure range	Supply gas	0 - 72 PSIG
	Purge Gas	0 - 7 PSIG
Operating temperature range	A01 Series	
	Maximum temperature	176 °F (80 °C)
	Minimum temperature	5 °F (-15 °C)
	035 Series, 100 Series	
	Maximum temperature	140 °F (60 °C)
	Minimum temperature	5 °F (-15 °C)
Supply Gas Flow Rate*	A01 Series: ~ 2 L/min	
	035 Series: ~ 4 L/min	
	100 Series: ~ 12 L/min	
*Refer to pressure performance charts on back for more information		
Connection size	A01 Series:	Supply gas inlet /outlet 1/4" tube
		Purge gas inlet/outlet 1/4" tube
	035 & 100 Series:	Supply gas inlet/outlet 1/4" NPT
		Purge gas inlet/outlet 1/8" NPT
Materials of construction	A01 Series:	Fitting: Polypropylene
		Shell tube: PFA
	035 Series:	Cap and shell tube: Polypropylene
	100 Series:	Cap and shell tube: Stainless steel

Performance Charts

SWG-A01 Series

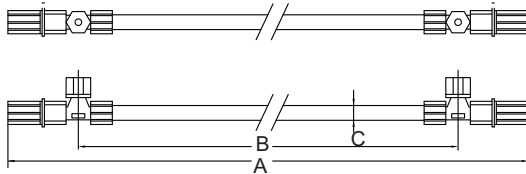


SWG-035 and SWG-100 Series

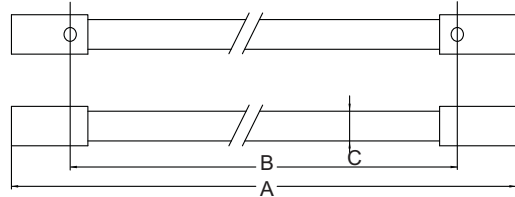


Dimensions

SWG-A01



SWG-035 & 100 Series



Model Number	A (inches)	B (inches)	C (inches)
D44-SWG-A01-03/PP	15.4	11.8	0.25 dia.
D44-SWG-A01-06/PP	27.2	23.6	0.25 dia.
D44-SWG-A01-12/PP	50.8	47.2	0.25 dia.
D44-SWG-A01-18/PP	74.4	70.9	0.25 dia.
D44-SWG-A01-24/PP	98.0	94.5	0.25 dia.
D44-SWG-A01-36/PP	145.3	141.7	0.25 dia.
D42-SWG-035-06/PP	28.1	23.6	0.8 dia.
D42-SWG-035-12/PP	51.7	47.2	0.8 dia.
D42-SWG-100/06-SS	27.6	23.6	0.9 dia.

Local Distributor:

Manufacturer

A+ Corporation, LLC

41041 Black Bayou Road

Gonzales, LA 70737

Call for expert product application assistance:

Phone: (225)-644-5255 Website: www.geniefilters.com

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