AGC

Safety Precautions

■ For your safety, please read the user's manual before using products, and observe all precautions listed therein.

Our continuing program of product improvement makes specifications subject to change without notice.
Data given in this catalog is for reference only, and is not guaranteed.
Formal specification sheets are available upon request.

AGC ENGINEERING CO., LTD.

Membrane div.

WBG MARIVE WEST 19F, 2-6-1
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QD JUL 2019

sunsep™

AGC

FORBLUE™

MEMBRANE GAS DRYER

sunsep™

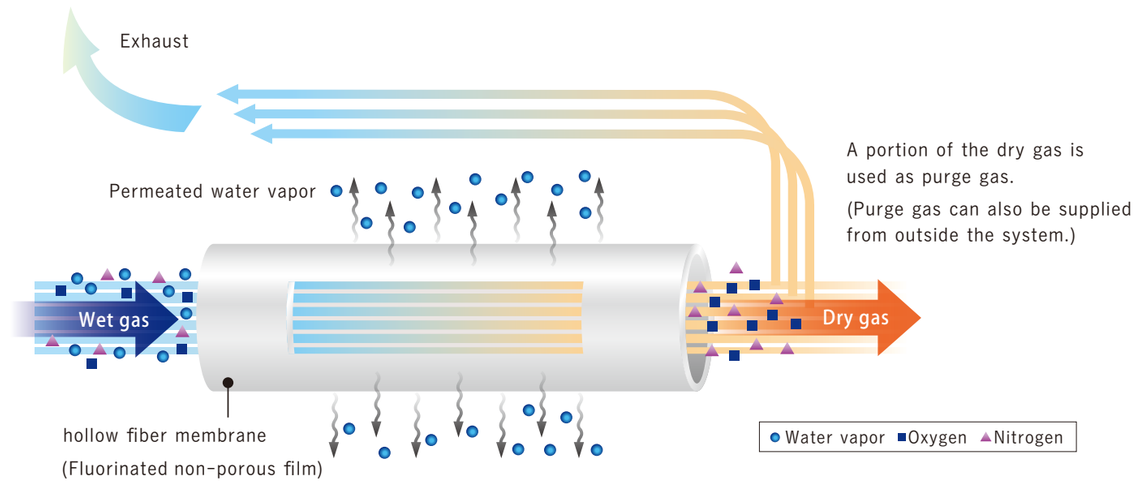
An environmentally friendly membrane gas dryer that does not require any power supply or maintenance.

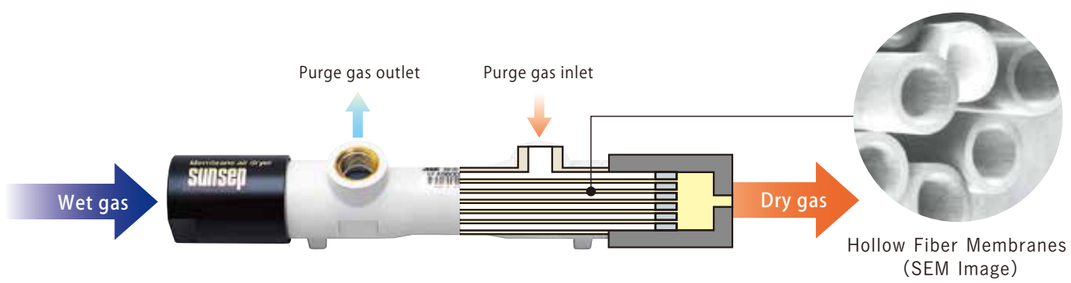
What is FORBLUE™ sunsep™?

The sunsep™ dryer is made from fluoropolymer-based hollow fiber membranes. Simply requiring the supply of humidified gas to the inside of the hollow fiber membrane and dry (purge) gas to the outside, this clean and compact product allows only moisture to permeate through the membrane, efficiently dehumidifying or humidifying the target gas as required.

How does sunsep™ work?

The fluorine resin, one of the raw materials of sunsep™, has an affinity to water molecules. When there a gradient in the partial pressure of the water vapor the gases passing outside and inside the hollow fiber membrane, it generates a force to equalize the concentration in the membrane. This driving force causes the moisture contained in the wet gas to permeate continuously to the dry gas side.





Hollow Fiber Membranes
(SEM Image)

Complete product lineup for a wide variety of applications

Air compression line drainage

PAGE 3 »

Industrial Compressed Air Dryer
SWB／SWC／SWF Series

Features

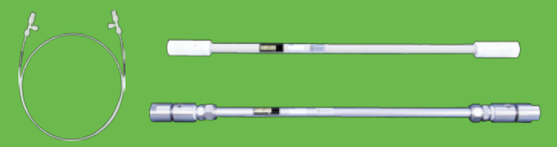
- Dehumidification starts by connecting the product to the piping. The product can be used with any machines and devices that use compressed air.
- Compact and lightweight units can be mounted in any location, and in any position.

SWB／SWC／SWF

Dehumidification of sample gas

PAGE 14 »

Analytical Sample Gas Dryer
SWG Series



Features

- Dehumidification starts simply by connecting the product to the piping. The product can be mounted in any position.
- Only moisture is selectively removed from the gas, with hardly any effect on the gas components to be measured.

SWG

Humidification of micro flow rate gases

PAGE 19 »

AQUADRIVE™
SWT Series

Features

- SWT series products are sheathed in polymer netting for use with micro flow rates.
- Products are available in any length, and can be used with a wide variety of connectors.

SWT

Please contact us to discuss special requirements for humidifying models, custom specifications, and OEM products, etc.

SWB／SWC／SWF

Industrial Compressed Air Dryer

SWB／SWC／SWF Series

Dehumidification starts simply by connecting the product to the piping. The product can be used with any machines and devices that use compressed air.

Compact and lightweight units can be mounted in any location, and in any position.

Operating Conditions

Application	Dehumidification of industrial compressed air/non-corrosive gases	
Inlet gas pressure	−20 to +55℃ −4 to +131°F (Do not freeze)	To maintain optimal dehumidification performance, we recommend that you minimize the difference between inlet (Tinlet) and ambient (Tambient) temperatures, and operate within the following range: $\lvert T_{inlet} - T_{ambient} \rvert \leqq 5℃$ $\lvert T_{inlet} - T_{ambient} \rvert \leqq 9°F$
Ambient temp	−20 to +55℃ −4 to +131°F (Do not freeze)	
Inlet fluid pressure	Supply Gas : 0 to 0.85MPa (Gauge) 0 to 120 psig	
	Purge gas : 0 to 0.05MPa (Gauge) 0 to 7 psig	

Standard Specifications

Model	Supply Gas Flow Rate L/min (ANR) (scfm)	Dimensions mm (inch)			Connector Size		Weight gf (lbs)	Built-in Purge circuit
					Supply Gas Inlet / Outlet	Purge Gas Inlet / Outlet		
SWB-01-100	～150 (～5.3)	Ø=32 (1.3)		L=240 (9.4)	Rc1/4 (NPT1/4)	Rc1/8 (NPT1/8)	220 (0.49)	-
SWB-01-200	～100 (～3.5)	Ø=32 (1.3)		L=340 (13.4)			275 (0.60)	-
SWB-02-100	～300 (～10.6)	Ø=50 (2.0)		L=310 (12.2)	Rc3/8 (NPT3/8)	Rc1/2 (NPT1/2対応可)	625 (1.38)	-
SWB-05-100	～600 (～21.2)						600 (1.33)	-
SWB-10-150	～1200 (～42.4)	Ø=75 (3.0)		L=340 (13.4)	Rc1/2 (NPT1/2)	-	1400 (3.09)	○
SWB-17-200	～1800 (～63.6)	Ø=110 (4.3)		L=370 (14.6)	Rc1 (NPT1)	-	4810 (10.61)	
SWC-M04-70/OP	～15 (～0.5)	W=36 (1.4)	H=75 (3.0)	D=15 (0.6)	M5 (Female)	M5 (Female)	50 (0.11)	-
SWC-M04-70/IP						-		○
SWC-M08-100	～50 (～1.8)	W=61 (2.4)	H=112 (4.4)	D=31 (1.2)	Rc1/8 (NPT1/8)	-	270 (0.59)	○
SWC-M08-100/H*1								
SWC-M15-100	～80 (～2.8)	W=61 (2.4)	H=112 (4.4)	D=31 (1.2)	Rc1/8 (NPT1/8)	-	270 (0.60)	○
SWC-M15-100/H*1								
SWC-01-150	～150 (～5.3)	W=70 (2.8)	H=153 (6.0)	D=40 (1.6)	Rc1/4 (NPT1/4)	-	345 (0.76)	○
SWC-02-250	～300 (～10.6)	W=100 (3.9)	H=200 (7.9)	D=50 (2.0)	Rc3/8 (NPT3/8)	-	680 (1.50)	○
SWC-03-250	～450 (～15.9)						725 (1.59)	○
SWC-03-250/H*1								
SWF-M06-400	～30 (～1.1)	Dia=25 (1.0)		L=516 (20.3)	Rc1/4 (NPT1/4)	Rc1/8 (NPT1/8)	120 (0.27)	-

※Supply gas flow rate data are based on the following operating conditions : Supply gas pressure: 0.7 MPa (102 psig), pressure loss between supply gas inlet and outlet ≦ 0.035 MPa (5.1 psig).

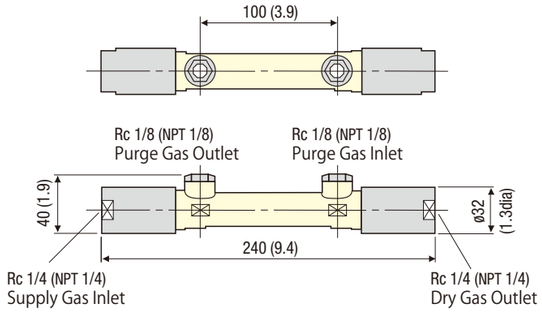
*1 Low purge flow model

SWB-01-100

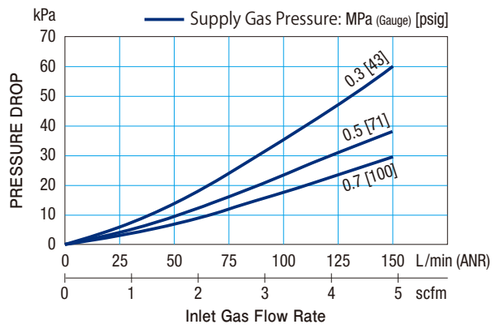
SWB Series

DIMENSIONS

Unit: mm (inch)

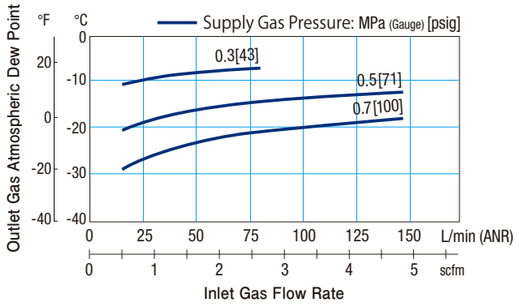


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature: 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Ratio: 20%

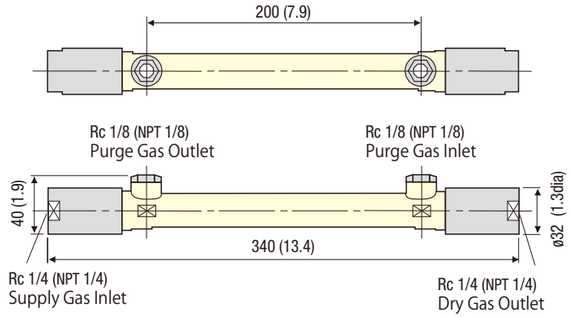


SWB-01-200

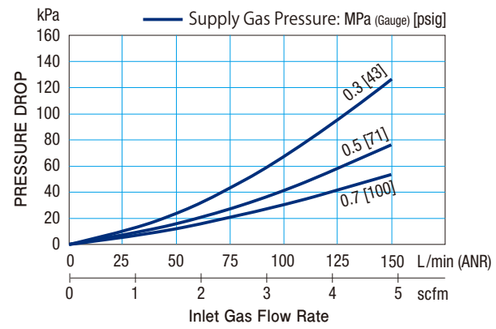
SWB Series

DIMENSIONS

Unit: mm (inch)

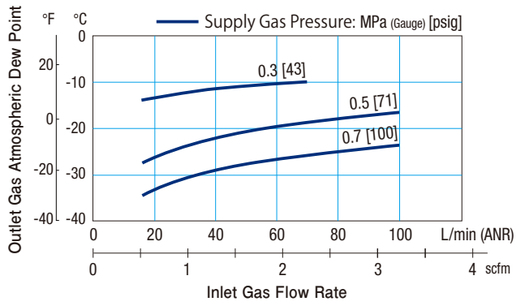


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature: 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Ratio: 20%

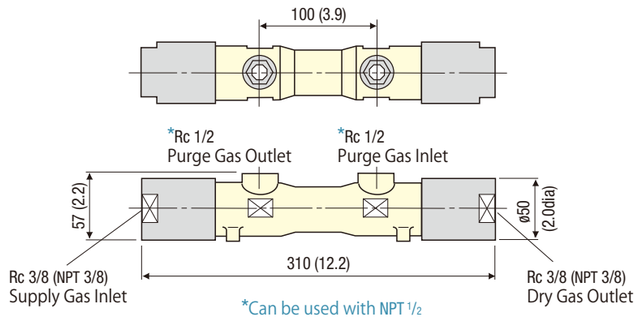


SWB-02-100·SWB-05-100

SWB Series

DIMENSIONS

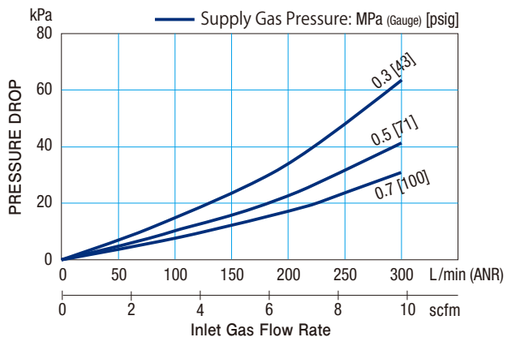
Unit: mm (inch)



*Can be used with NPT 1/2

SWB-02-100

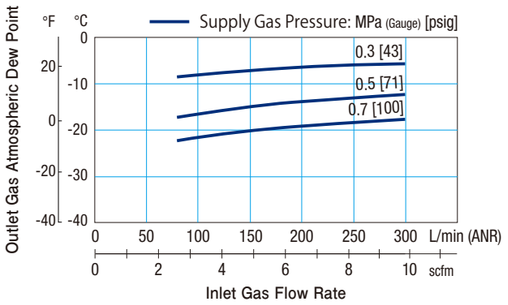
PRESSURE DROP



SWB-02-100

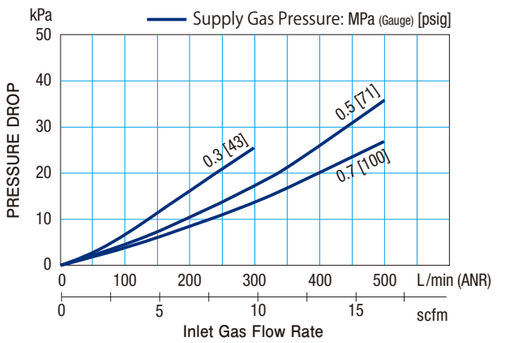
DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature: 20°C(68°F)
Supply Gas Pressure Dew Point : 20°C(68°F)
Purge Gas Flow Ratio: 20%



SWB-05-100

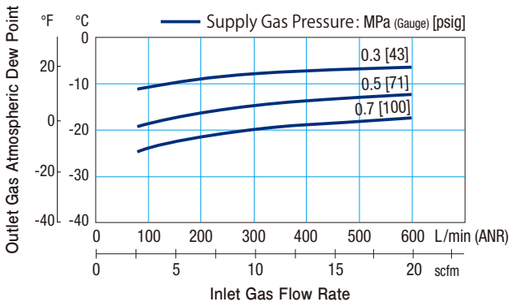
PRESSURE DROP



SWB-05-100

DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature: 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Ratio: 20%



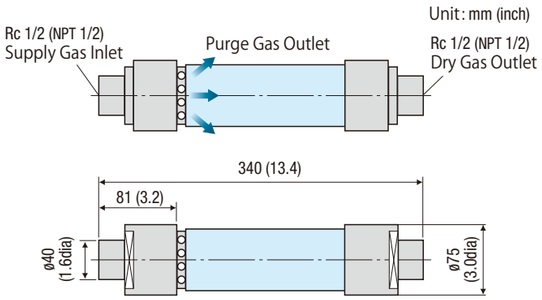
SWB-10-150

SWB Series

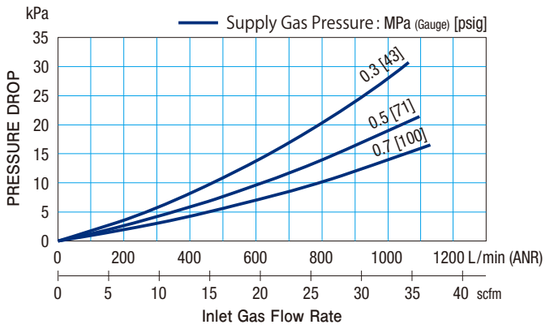
Built-in Purge Circuit

DIMENSIONS

Unit: mm (inch)

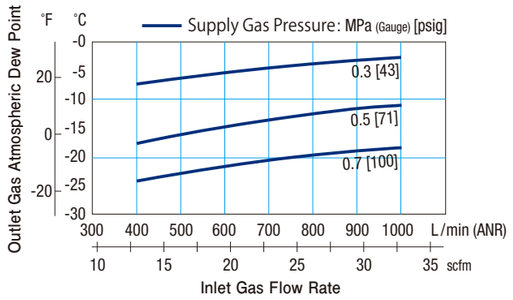


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point : 20°C(68°F)
Purge Gas Flow Rate: see page 13



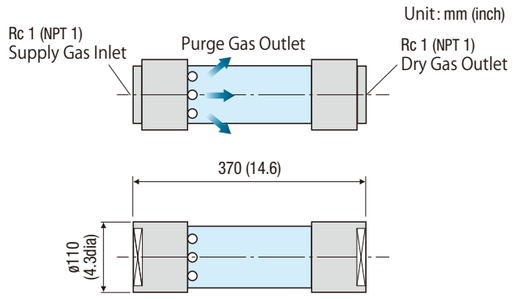
SWB-17-200

SWB Series

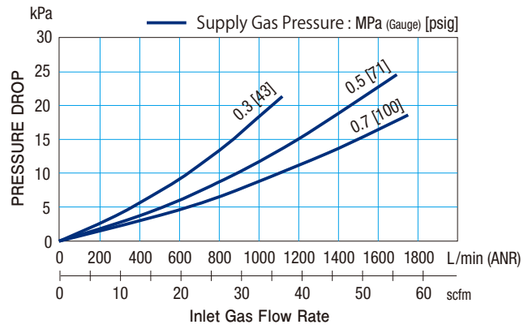
Built-in Purge Circuit

DIMENSIONS

Unit: mm (inch)

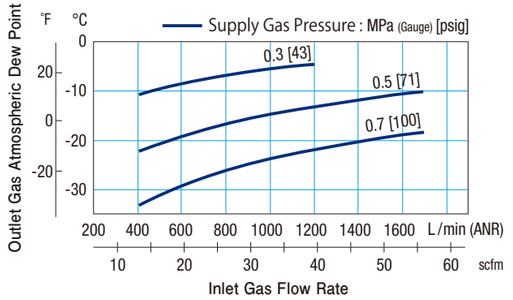


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point : 20°C(68°F)
Purge Gas Flow Rate: see page 13



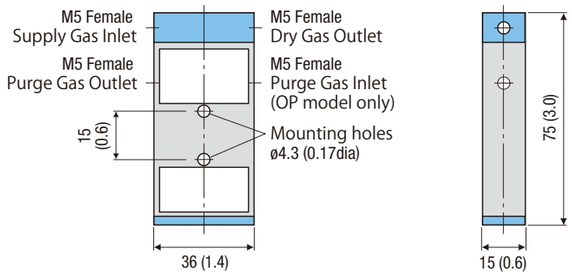
SWC-M04-70/OP・SWC-M04-70/IP

SWC Series

Built-in Purge Circuit ※IP model only

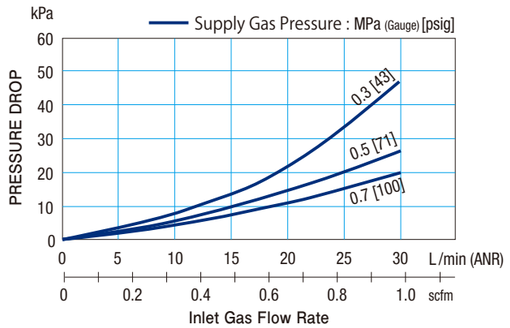
DIMENSIONS

Unit: mm (inch)



SWC-M04-70/OP

PRESSURE DROP



SWC-M04-70/OP

DEHUMIDIFICATION PERFORMANCE

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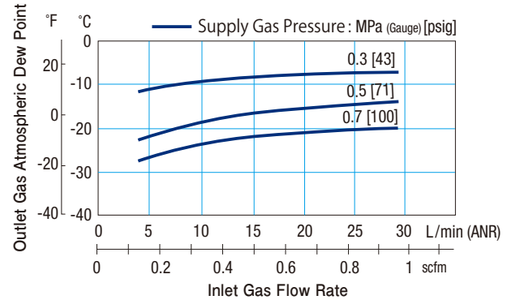
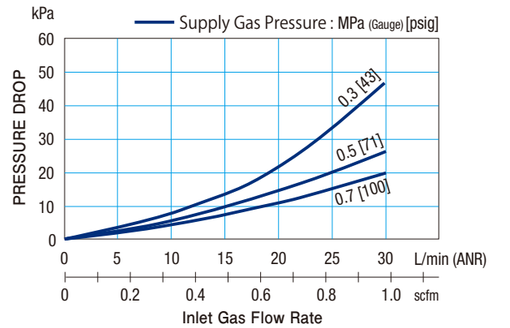
Supply Gas Pressure Dew Point : 20°C(68°F)
Purge Gas Flow Ratio: 20%



SWC-M04-70/IP

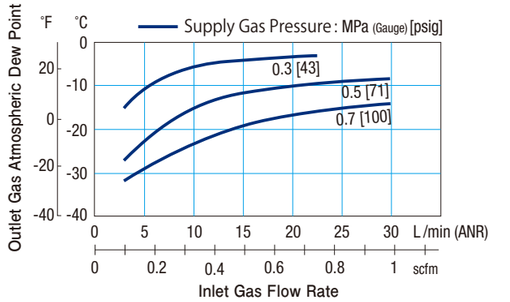
PRESSURE DROP



SWC-M04-70/IP

DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point : 20°C(68°F)
Purge Gas Flow Rate: see page 13



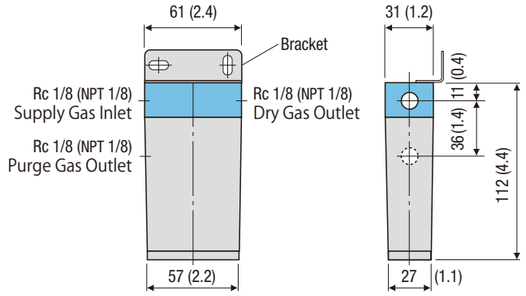
SWC-M08-100・SWC-M15-100

SWC Series

Built-in Purge Circuit

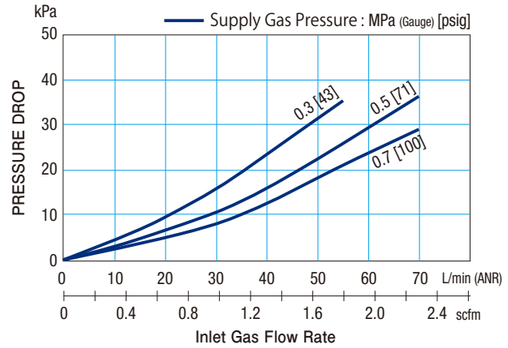
DIMENSIONS

Unit: mm (inch)



SWC-M08-100

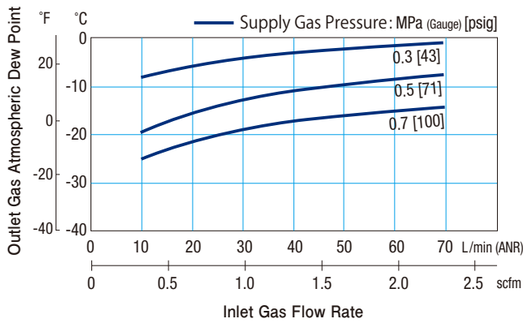
PRESSURE DROP



SWC-M08-100

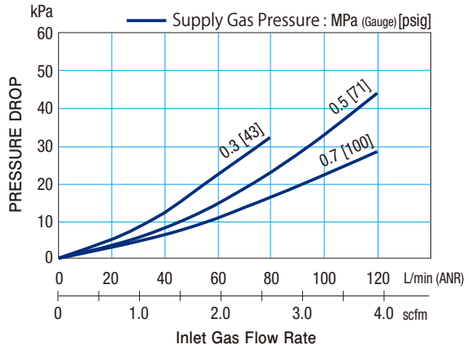
DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature: 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Ratio: see page 13



SWC-M15-100

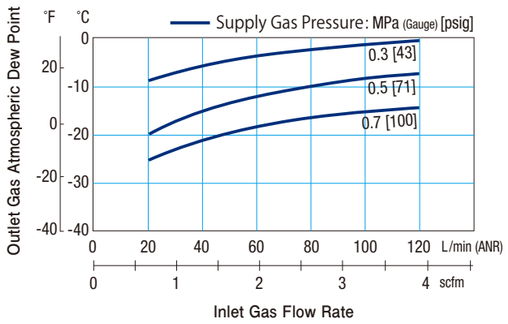
PRESSURE DROP



SWC-M15-100

DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Ratio: see page 13



SWC-01-150

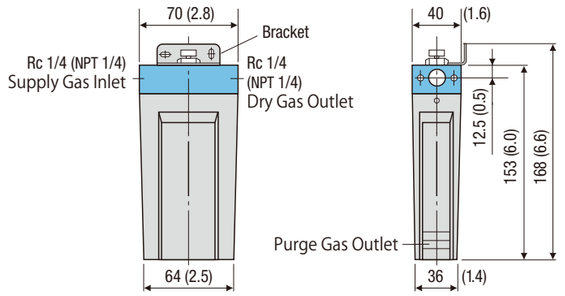
SWC Series

Purge Dial Included

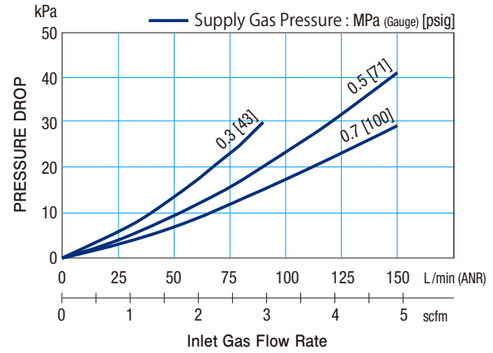
Built-in Purge Circuit

DIMENSIONS

Unit: mm (inch)

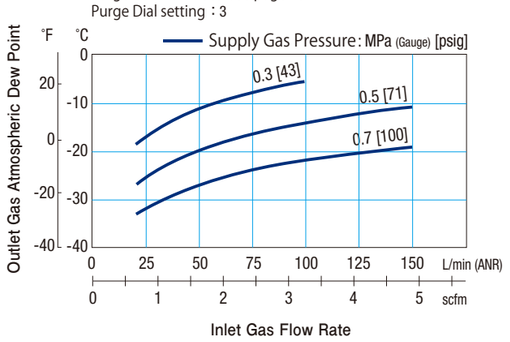


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Rate: see page 13
Purge Dial setting：3



SWC-02-250

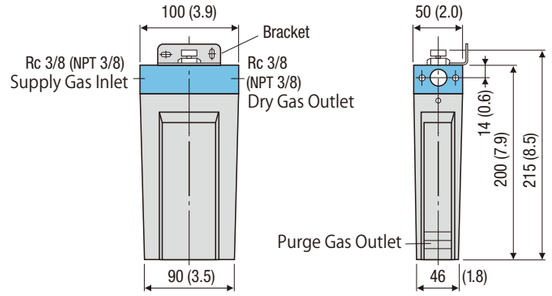
SWC Series

Purge Dial Included

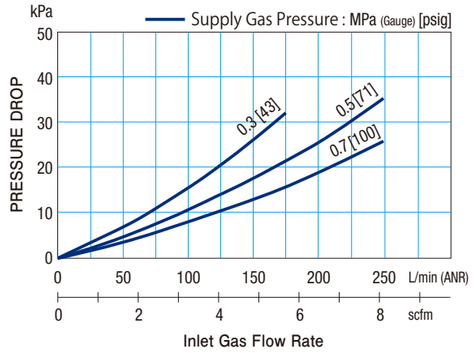
Built-in Purge Circuit

DIMENSIONS (The same as SWC-03-250)

Unit: mm (inch)

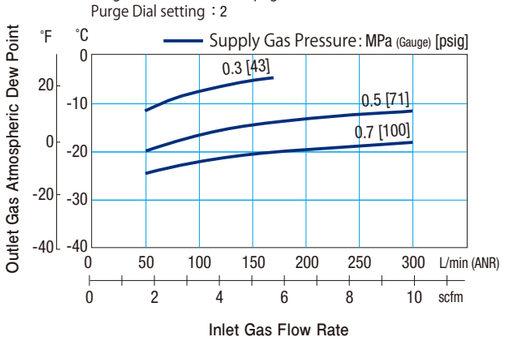


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature: 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Rate: see page 13
Purge Dial setting：2



SWC-03-250

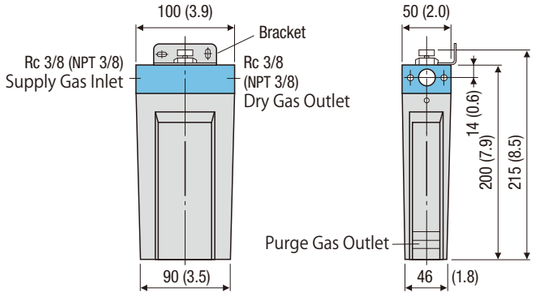
SWC Series

Purge Dial Included

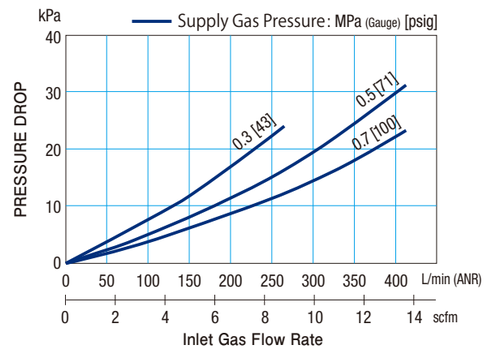
Built-in Purge Circuit

DIMENSIONS (The same as SWC-02-250)

Unit: mm (inch)

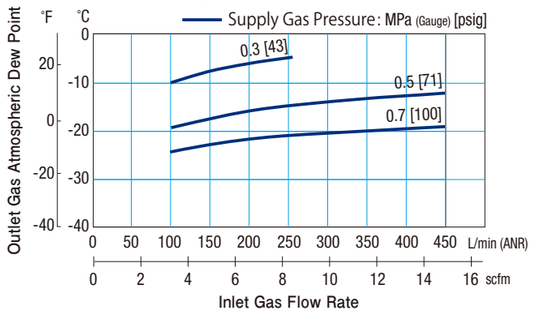


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge Gas Flow Rate: see page 13
Purge Dial setting : 2

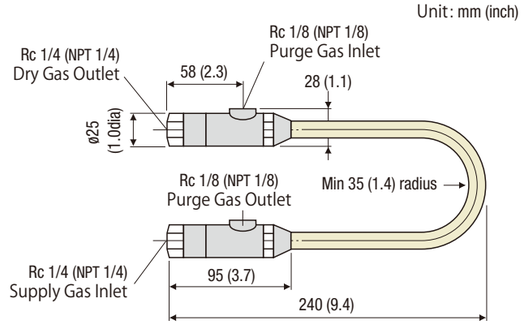


SWF-M06-400

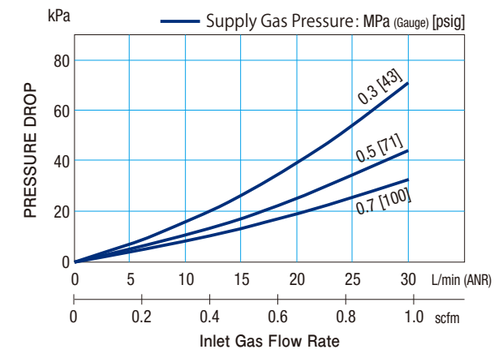
SWF Series

DIMENSIONS

Unit: mm (inch)

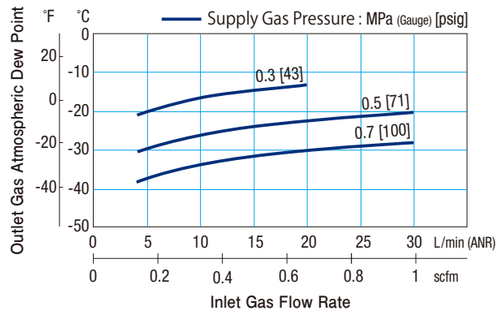


PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Temperature : 20°C(68°F)
Supply Gas Pressure Dew Point: 20°C(68°F)
Purge gas Flow Ratio: 20%



Operating Precautions

Supply Gas

- To remove drainage, dust, etc., we recommend installing a filter (pore size 5 μm) and an automatic drain system at the supply gas inlet. Dehumidification efficiency may decrease if drainage is mixed into the supply gas.
- When using a lubricated compressor, we recommend installing an automatic oil mist separator at the supply gas inlet side with filtration of <0.3 μm, 95% particle size collection rate, and oil-mist concentration of <1 mgf/Nm3.
- Supply gas should be clean and free of dust, corrosive gases, organic solvents and chemicals.
- When installing a pressure-reducing valve, we recommend installing the valve at the outlet side of the dryer to improve dehumidification efficiency.

Purge Gas

- Purge gas is used to purge permeated water vapor from the outside of the hollow fiber membrane.

Purge Rate

The ratio of purge gas flow rate to supply gas flow rate is referred to as the purge rate.

The typical purge gas flow ratio for sunsep™ is about 10-20% of the supply gas flow rate. In other words, 80-90% of the supply gas flow rate produces dehumidified gas.

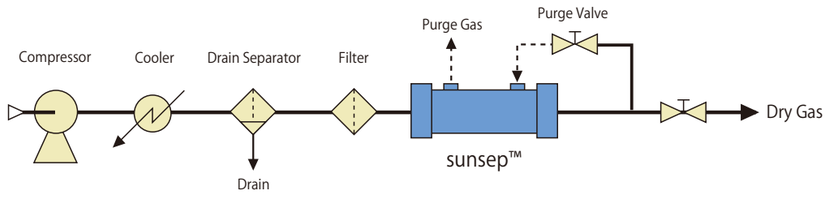
$$\text{Purge Rate (\%)} = \frac{\text{Purge Gas Flow Rate}}{\text{Supply Gas Flow Rate}} \times 100$$

- Excessive pressure should not be applied to the purge gas inlet and outlet (max. 0.05 MPa (Gauge)) (max.7.1 psig).
- For operation with a small amount of purge gas, (less than 10 /min(ANR) (0.35 scfm)), we recommend installing a small-aperture fixed orifice rather than a needle valve.

Typical Examples

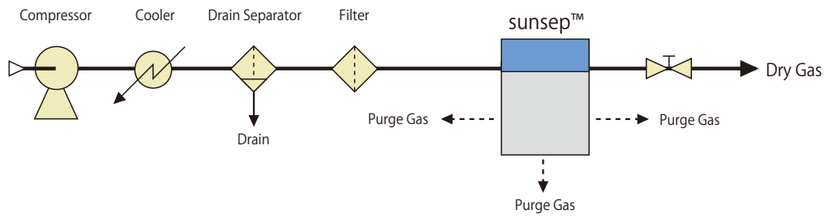
SWB & SWF Series

Excluding SWB-10-150, SWB-17-200



SWC Series

Excluding SWC-M04-70/OP



Models with Built-in Purge Circuits

- Models SWB-10-150, SWB-17-200 and SWC Series (excluding SWC-M04-70/OP) have built-in purge circuits.
- With these models, a portion of the supply gas is automatically fed to the purge gas circuit. This eliminates the need for an outside purge line, simplifying installation and use.
- Purge gas can be discharged from the lower part of the housing or from the purge gas outlet. It is also possible to direct purge gas elsewhere by connecting a pipe to the outlet.

Models with Built-in Purge Circuits: Purge Gas Flow Rates

- The purge gas flow rates of models with built-in purge circuits is determined as per the following table according to the inlet pressure of the supply gas. (Rates fluctuate slightly according to supply gas inlet temperature and ambient temperature). For purge gas flow rates at other pressures, contact us.
- It is possible to adjust the circuit to achieve the desired purge flow rate at the designated pressure. Please contact us to discuss your specific requirements.
- The SWC-01, 02 and 03 Series models feature a Purge Dial. Purge flow rates for each of the three settings of the dial at each pressure level are shown in the following table.

Model with Built-in Purge Circuit: Purge Gas Flow Rate

Supply gas	MPa (Gauge) [psig]	0.3 [43]		0.5 [71]		0.7 [100]	
Model	Purge Dial Setting	Purge Gas Flow Rate					
		L/min (ANR)	scfm	L/min (ANR)	scfm	L/min (ANR)	scfm
SWB-10-150	-	80	2.82	120	4.24	150	5.65
SWB-17-200	-	136	4.80	203	7.17	270	9.53
SWC-M04-70/IP	-	1	0.04	1.5	0.05	2	0.07
SWC-M08-100	-	3	0.11	5	0.18	6	0.21
SWC-M08-100/H*	-	1.5	0.05	2	0.07	3	0.11
SWC-M15-100	-	6	0.21	9	0.32	12	0.42
SWC-M15-100/H*	-	3	0.11	5	0.18	6	0.21
SWC-01-150	1	3	0.11	5	0.18	6	0.21
	2	6	0.21	9	0.32	12	0.42
	3	12	0.42	19	0.67	25	0.88
SWC-02-250	1	12	0.42	19	0.67	25	0.88
	2	25	0.88	38	1.34	50	1.77
	3	37	1.31	56	1.98	75	2.65
SWC-03-250	1	25	0.88	38	1.34	50	1.77
	2	37	1.31	56	1.98	75	2.65
	3	63	2.22	94	3.32	125	4.41
SWC-03-250/H*	1	12	0.42	19	0.67	25	0.88
	2	25	0.88	38	1.34	50	1.77
	3	37	1.31	56	1.98	75	2.65

*Low purge flow model

SWG

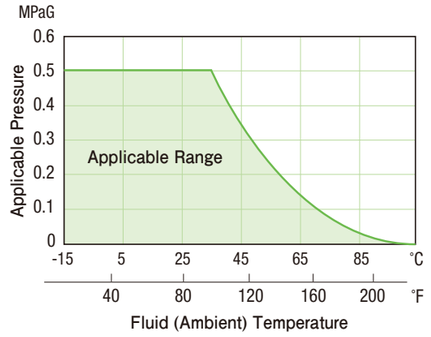
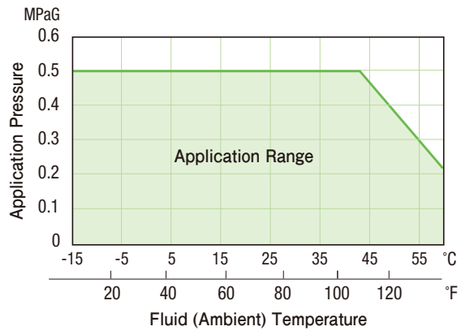
Analytical Sample Gas Dryer

SWG Series

With the SWG series installed in your analysis line, it is possible to dehumidify without the loss of target gases.

Select the materials and tube length that are best suited to your application.

Scope of Operating Conditions

Application			Dehumidification of Sample Gas for Gas Analyzers
SWG-A01 series			
Inlet fluid temperature	**PP series**	−15 to +80℃ +5 to 176°F (Do not frozen)	To maintain optimal dehumidification performance, we recommend that you minimize the difference between inlet (T_{inlet}) and ambient ($T_{ambient}$) temperatures, and operate within the following range: $\lvert T_{inlet} - T_{ambient} \rvert \leqq 5℃$ $\lvert T_{inlet} - T_{ambient} \rvert \leqq 9°F$
	KF series	−15 to +100℃ +5 to 212°F (Do not frozen)	
Ambient temp	**PP series**	−15 to +80℃ +5 to 176°F (Do not frozen)	
	KF series	−15 to +100℃ +5 to 212°F (Do not frozen)	
Inlet Fluid Pressure Range	Supply Gas : −0.04 to 0.5MPa (Gauge) at 25℃ −6.0 to + 72psig at 77°F The pressure range shown above applies to dry hollow fiber membranes. The graph to the right shows the effect of moisture and operating temperature on the applicable pressure range.		
	Purge Gas : −0.04 ～ 0.05MPa (Gauge) at 25℃ (−6.0 to + 7.2psig at 77°F)		
SWG-035, 100 series			
Inlet fluid temperature Ambient temp	**PP series** **PS series** **SS series**	−15 to +60℃ +5 to 140°F (Do not frozen)	To maintain optimal dehumidification performance, we recommend that you minimize the difference between inlet (T_{inlet}) and ambient ($T_{ambient}$) temperatures, and operate within the following range: $\lvert T_{inlet} - T_{ambient} \rvert \leqq 5℃$ $\lvert T_{inlet} - T_{ambient} \rvert \leqq 9°F$
Inlet Fluid Pressure Range	Supply Gas : −0.04 to 0.5MPa (Gauge) at 25℃ −6.0 to + 72psig at 77°F The pressure range shown above shows the values under the dry hollow fiber condition. The value varies as per the graph shown at the right according to the wet condition of the hollow fiber or the operating temperature.		
	Purge Gas : −0.04 ～ 0.05MPa (Gauge) at 25℃ (−6.0 to + 7.2psig at 77°F)		

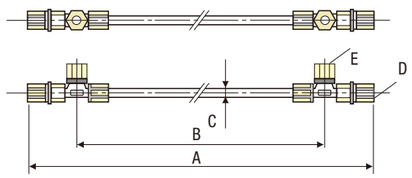
Note: The graphs above assume that the hollow fiber purge gas pressure is roughly the same as atmospheric pressure. The applicable pressure varies according to hollow fiber moisture or condensate mixing. Please contact us or your local representative if you are using a purge line with negative pressure, or in a pressurized atmosphere.

Standard Specifications

Model	Connector Material	Standard Supply Flow Rate L/min. (ANR) (scfm)	Length		Connector Size		Weight gf (lbs)
			Total mm (inch)	Purge Gas Port from Inlet to Outlet mm (inch)	Supply Gas Inlet / Outlet	Purge Gas Inlet / Outlet	
SWG-A01-03/PP	PP	～2 (～0.07)	390 (15.4)	300 (11.8)	⌀6.35mm (⌀1/4inch)	⌀6.35mm (⌀1/4inch)	40 (0.09)
SWG-A01-03/KF	PVDF						55 (0.12)
SWG-A01-06/PP	PP		690 (27.2)	600 (23.6)			50 (0.12)
SWG-A01-06/KF	PVDF						65 (0.15)
SWG-A01-12/PP	PP		1290 (50.8)	1200 (47.2)			75 (0.17)
SWG-A01-12/KF	PVDF						90 (0.20)
SWG-A01-18/PP	PP		1890 (74.4)	1800 (70.9)			100 (0.22)
SWG-A01-18/KF	PVDF						115 (0.25)
SWG-A01-24/PP	PP		2490 (98.0)	2400 (94.5)			125 (0.27)
SWG-A01-24/KF	PVDF						140 (0.30)
SWG-A01-36/PP	PP		3690 (145.3)	3600 (141.8)			175 (0.38)
SWG-A01-36/KF	PVDF						185 (0.41)
SWG-035-06/PP	PP	～4 (～0.14)	714 (28.1)	600 (23.6)	Rc1/4 (NPT1/4)	Rc1/8 (NPT1/8)	240 (0.53)
SWG-035-12/PP	PP		1314 (51.7)	1200 (47.2)			350 (0.78)
SWG-100-03/PS	PP	～12 (～0.42)	414 (16.3)	300 (11.8)			1000 (2.2)
SWG-100-03/SS	SUS316						1200 (2.65)
SWG-100-06/PS	PP		714 (28.1)	600 (23.6)			1200 (2.65)
SWG-100-06/SS	SUS316						1450 (3.20)
SWG-100-12/PS	PP		1314 (51.7)	1200 (47.2)			1680 (3.71)
SWG-100-12/SS	SUS316						1925 (4.25)

SWG-A01 Series

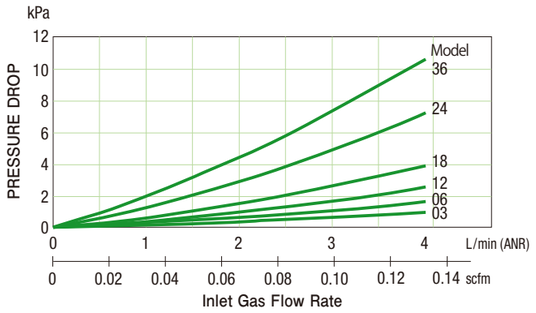
DIMENSIONS



Unit: mm (inch)

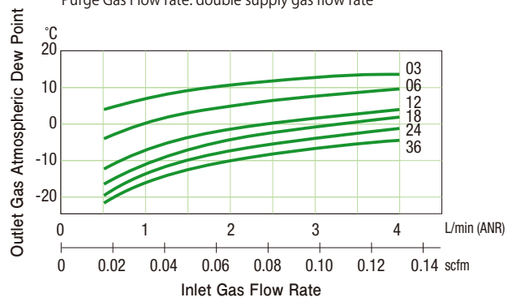
Model	Dimensions			Connector Size	
	A	B	C	D	E
-03	390 (15.4)	300 (11.8)	ø6.35 (0.25dia)	ø6.35 (0.25dia)	ø6.35 (0.25dia)
-06	690 (27.2)	600 (23.6)			
-12	1290 (50.8)	1200 (47.2)			
-18	1890 (74.4)	1800 (70.9)			
-24	2490 (98.0)	2400 (94.5)			
-36	3690 (145.3)	3600 (141.7)			

PRESSURE DROP



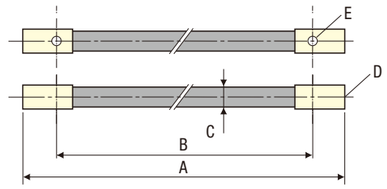
DEHUMIDIFICATION PERFORMANCE

Supply Gas Pressure: Approx. atomospheric pressure
Supply Gas Temperature：20°(68°F)
Atmospheric dew point of purge gas：-40°(-40°F)
Purge Gas Flow rate: double supply gas flow rate



SWG-035, 100 Series

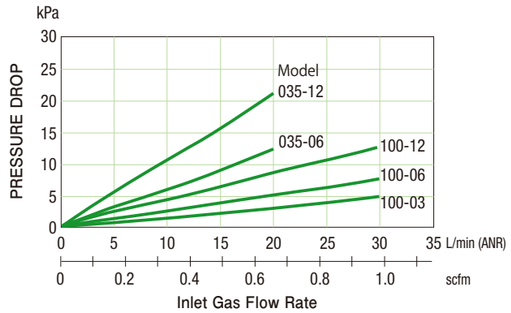
DIMENSIONS



Unit: mm (inch)

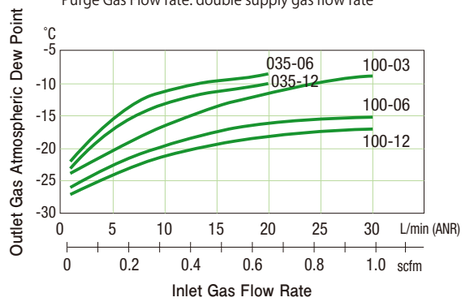
Model	Dimensions			Connector Size	
	A	B	C	D	E
-035-06	714 (28.1)	600 (23.6)	20 (0.8)	Rc1/4 (NPT1/4)	Rc1/8 (NPT1/8)
-035-12	1314 (51.7)	1200 (47.2)			
-100-03	414 (16.3)	300 (11.8)	19 (0.75)		
-100-06	714 (28.1)	600 (23.6)			
-100-12	1314 (51.7)	1200 (47.2)			

PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

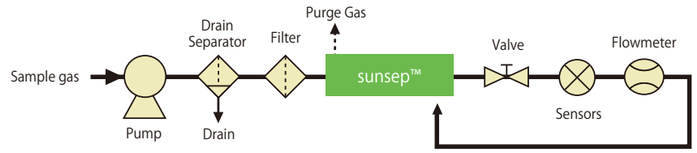
Supply Gas Pressure: Approx. atomospheric pressure
Supply Gas Temperature：20°(68°F)
Atmospheric dew point of purge gas：-40°(-40°F)
Purge Gas Flow rate: double supply gas flow rate



Typical Examples

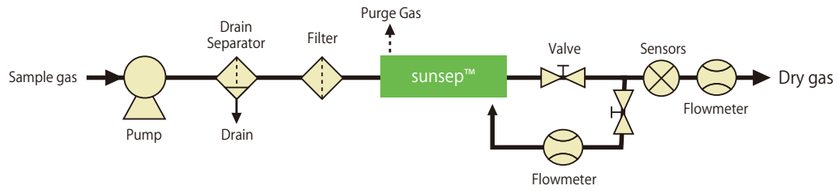
Usage Example 1 — Using all sample gas as purge gas

- Effective if the sample gas flow rate is relatively low.
- The sample gases loses pressure as it passes through the analyzers.
  This pressure loss should be considered in determining the appropriate supply pressure.



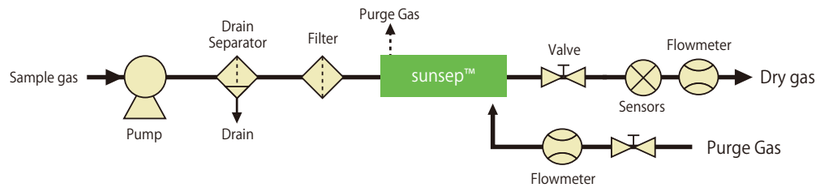
Usage Example 2 — Using a portion of the sample gas as purge gas

- Effective if the sample gas flow rate is relatively high.



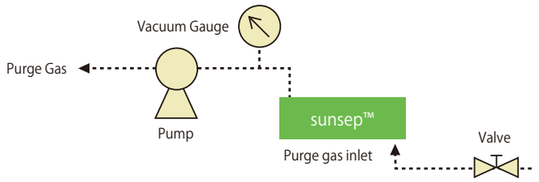
Usage Example 3 — Supplying purge gas separately

- Effective if instrumentation air or dried nitrogen gas is supplied separately.
- Shows stable performance even if the supply pressure is lower than that of examples 1 and 2.
- Dehumidification performance depends on the dryness of the supplied purge gas.



Usage Example 4 — Vacuum purge line

- Sample schematic:



In all cases:

- The purge gas outlet should be open to the atmosphere or decompressed.
- Purge gas and sample gas should be removed to a treatment facility or a safe location.
- Be sure to install the purge gas flow rate control valve upstream of the purge gas inlet.

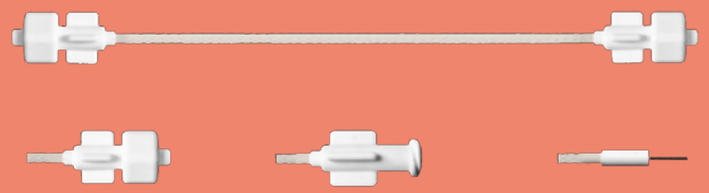
SWT

AQUADRIVE™

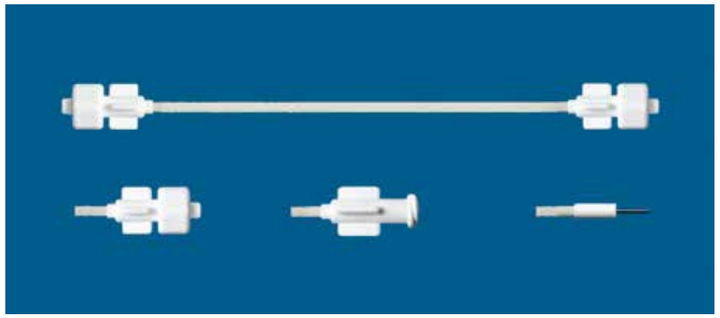
SWT Series

The SWT series features sunsep™ dehumidification tubes sheathed in polymer netting.

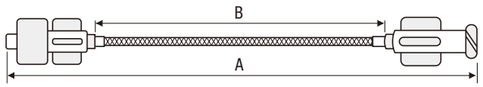
This structure allows micro flow rate gases to freely exchange moisture with the ambient environment while protecting the hollow fiber dehumidification tube.



SWT Series



DIMENSIONS



Unit: mm (inch)

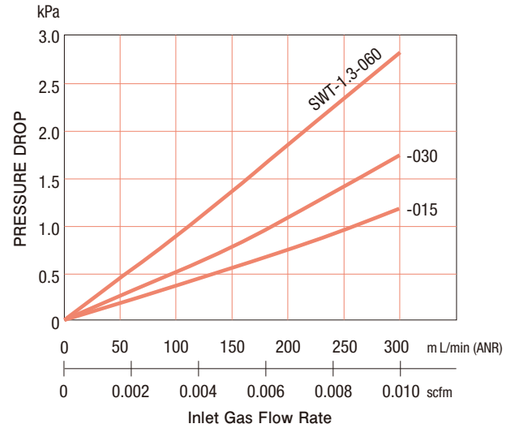
Model	Dimensions mm (inch)				
	A				B
	MM	FF	FM	SS	
SWT-1.3-015	194 (7.6)	194 (7.6)	194 (7.6)	184 (7.2)	150 (5.9)
SWT-1.3-030	344 (13.5)	344 (13.5)	344 (13.5)	334 (13.1)	300 (11.8)
SWT-1.3-060	644 (25.4)	644 (25.4)	644 (25.4)	634 (25.0)	600 (23.6)

Different connector bores are also available. Please contact us for more information.

Joints

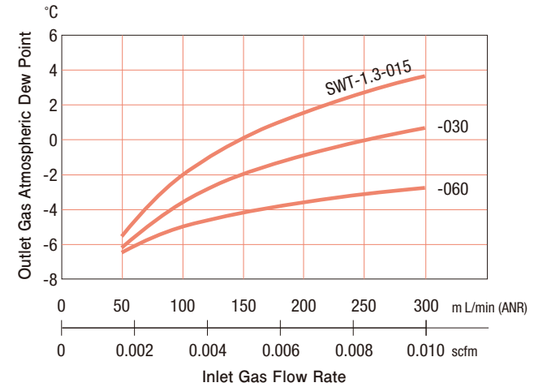
Type of Joint	Product Code	Outer diameter [mm] (inch)
Male Locking Luer Fitting	MM	–
Female Locking Luer Fitting	FF	–
Female-Male Locking Luer Fitting	FM	–
Barb Fitting	MB	2.55 (0.1)
Straight Fitting	P4	4 (0.16)
Stainless Steel Tube	SS	1.27 (0.05)

PRESSURE DROP



DEHUMIDIFICATION PERFORMANCE

Supply Gas Pressure Dew Point : 20°C (68°F)
Ambient Temperature: 20-25°C (68 to 77°F)
Ambient Humidity: RH 13% or less



NOTES

What is a “Dew Point” ?

Dew point is defined as the temperature at which air that contains water vapor begins to condense. The term is often used as an indicator of the degree of dryness of a wet gas. The lower the dew point, the less water vapor is included, which means a higher degree of dryness.

How Is the Dew Point Decreased?

Methods to lower the dew point, or increase the dryness of dehumidified air with the use of the sunsep™ module, are as follows:

Lower the temperature of the supply gas at the inlet. (Reduce the load of water vapor on the module.)
Increase the pressure of the supply gas.
Lower the flow rate of the supply gas.
Decrease the product dry gas flow rate.
Increase the purge gas flow rate.

How Is the Purge Gas Flow Rate Decided for a Fluctuating Dehumidified Gas Flow?

One of the characteristics of the sunsep™ membrane is that its components retain water, making it possible to equalize dehumidification performance even with large load fluctuations and a relatively short cycle time. The purge gas flow rate can therefore be selected using the average load of the product gas flow rate.

Clean Humidification

Another characteristic of the sunsep™ hollow fiber membrane is that it moves moisture toward the drier of the gases flowing inside and outside the membrane. For example, if dry gas is supplied to the inside of the hollow fiber membrane and humidified gas or purified water is supplied to the outside, the gas on the inside of the membrane will be humidified. (Fluids other than gases can be used – please contact us for details.)
In addition, the materials used in sunsep™ hollow fiber membranes are highly selective for water vapor (water molecules). Since permeation of gas components other than water vapor is extremely low, it is possible to humidify even when different gases flow on either side of the membrane with virtually no impact on the composition of either gas. This illustrates how sunsep™ can be used as a clean humidifier.

CUSTOM MADE

Custom Products, Prototypes, and OEM Products

sunsep™’s unique gas dehumidification/humidification technologies are used in a wide variety of fields and applications. If you don’t see a product that meets your needs in our catalog, please feel free to contact us about custom products, prototypes, and OEM products.

Modules with non-standard joints/shapes	Large-scale gas humidification modules	Manufacturing and supply of OEM modules

See page 22 for contact information.

Contact Us

Please provide as much of the following information as possible.

Name*

Company/Organization*

How can we contact you? (Telephone #, email address)*

Subject*

☐ **Purchase of sunsep™ product**

☐ **Selection of product (Choose the application.)**
☐ Dehumidification ☐ Humidification ☐ Humidity conditioning (dehumidification/humidification)
☐ Other applications

☐ **Other**

Please provide as much of the following information as possible.

● **Supply gas (Gas to be dehumidified or humidified):**

Name/components of gas
Concentration [%]
Flow rate [L/min](ANR),scfm
Pressure [MPa] (Gauge)
Temperature [℃],[℉]
Humidity [%]

● **Air/gas processed:**
Target dew point [℃],[℉](ADP or PDP) or humidity [%] (RH)

● **Other information or questions**

*required