



Super dryer modular series

SDM4000 Series

Large flow rate is achieved with polymer separation membrane.

- A single unit can support up to 75 kW compressor.
- Joined headers enable flexible expansion according to the use conditions.
- Suitable for area where explosion must strictly be prevented.
- Processing air flow rate: 1.36 to 12.4 m³/min. (ANR) (0.7 MPa, atmospheric dew point -20°C)

Specifications

Item	SDM 4050-2	SDM 4050-3	SDM 4075-2	SDM 4075-3	SDM 4100-2	SDM 4100-3	SDM 4050-6	SDM 4050-8	SDM 4050-10	SDM 4075-6	SDM 4075-8	SDM 4075-10	SDM 4100-6	SDM 4100-8
Working fluid	Compressed air													
Inlet air pressure MPa	0.4 (≈58 psi, 4 bar) to 1.5 (≈220 psi, 15 bar)													
Proof pressure MPa	2.25 (≈330 psi, 22.5 bar)													
Inlet air temperature °C	5 (41°F) to 50 (122°F)													
Ambient temperature °C	5 (41°F) to 50 (122°F)													
Outlet air atmospheric dew point °C	-20 (-4°F)													
Inlet air flow rate m ³ /min(ANR)	1.36	2.04	2.20	3.30	3.00	4.50	4.08	5.44	6.80	6.60	8.80	11.00	9.20	12.40
Outlet air flow m ³ /min(ANR)	1.14	1.71	1.86	2.79	2.52	3.78	3.42	4.56	5.70	5.58	7.44	9.30	7.76	10.48
Purge flow rate m ³ /min(ANR)	0.22	0.33	0.34	0.51	0.48	0.72	0.66	0.88	1.10	1.02	1.36	1.70	1.44	1.92
Inlet air pressure dew point °C	25 (77°F)													
Inlet air pressure MPa	0.7 (≈100 psi, 7 bar)													
Inlet air temperature °C	25 (77°F)													
Ambient temperature °C	25 (77°F)													

Note: The product will be floor-mounted for 6 stations or more.

JIS symbol



How to order

- Super dryer (High polymer membrane air dryer)

SDM4050 - 2 - A 05 - B

A Model No.

B Station No.

C Outlet air atmospheric dew point

D Inlet air pressure

*1

*2

E Option

*3

Code	Description
A Model No.	
SDM4050	
SDM4075	
SDM4100	
B Station No.	
2	2 stations
3	3 stations
6	6 stations
8	8 stations
10	10 stations (not available for SDM4100)
C Outlet air atmospheric dew point	
A	-20°C
B	-40°C
C	-60°C
D Inlet air pressure	
05	0.5 MPa
07	0.7 MPa
14	1.4 MPa (N/A for outlet air atm dew point "A" (-20°C))
E Option	
Blank	None
B	With bracket

⚠ Precautions for model No. selection

*1: If inlet air pressure is less than 0.7 MPa, indicate 05; for 0.7 MPa and over, indicate 07.

*2: 1.4 MPa inlet air pressure and -20°C outlet air atmospheric dew point cannot be selected at the same time.

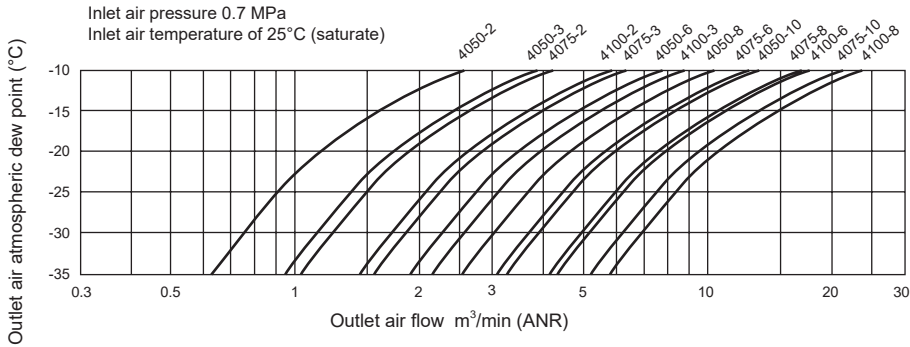
As the atmospheric dew point will be -14°C when the inlet air temperature is 25°C and the pressure is 1.4 MPa, there is no point in using the dryer. Select -40°C or -60°C.

*3: The product will be floor-mounted without bracket for 6 stations or more.

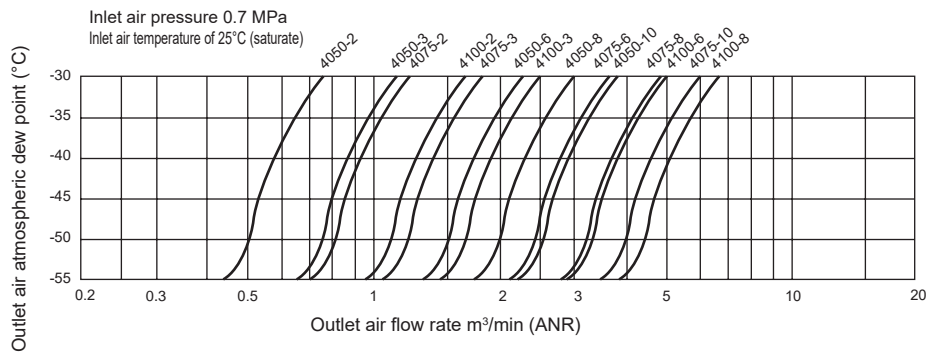
Dew point performance

Refer to page 1831 for selection guide and compensation method.

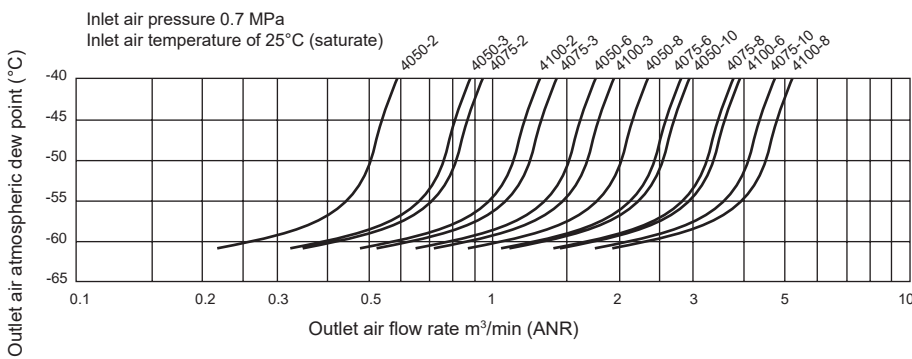
● Dew point performance curve (-20°C specifications)



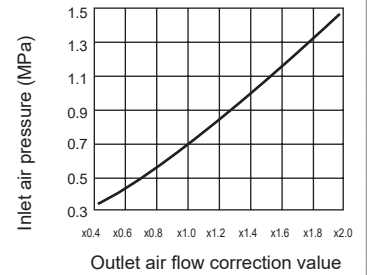
● Dew point performance curve (-40°C specifications)



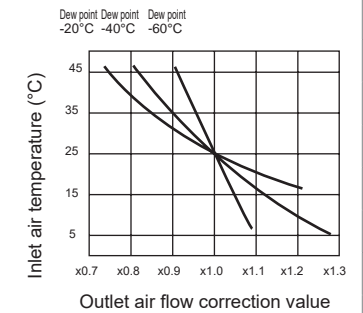
● Dew point performance curve (-60°C specifications)



● Inlet pressure - outlet air flow rate correction curve



● Inlet temperature - outlet air flow rate correction curve



Selection guide by compressor capacity

Inlet air pressure 0.7 MPa
Inlet air temperature of 25°C (saturate) m³/min(ANR)

Compatible compressor kw	3.7	5.5	7.5	11	15	22	37	55	75
Atm dew point									
-20°C	Model No.		SDM4050-2-A07	SDM4075-2-A07	SDM4075-3-A07	SDM4050-6-A07	SDM4075-6-A07	SDM4100-6-A07	SDM4100-8-A07
	Inlet air flow rate			1.36	2.20	3.30	4.08	6.60	12.40
	Outlet air flow			1.14	1.86	2.79	3.42	5.58	10.48
-40°C	Model No.		SDM4050-2-B07	SDM4075-2-B07	SDM4075-3-B07	SDM4100-3-B07	SDM4075-6-B07	SDM4075-10-B07	
	Inlet air flow rate		0.82	1.30	1.95	2.67	3.90	6.50	
	Outlet air flow		0.60	0.96	1.44	1.95	2.88	4.80	
-60°C	Model No.	SDM4050-2-C07	SDM4075-2-C07	SDM4075-3-C07	SDM4100-3-C07	SDM4075-8-C07	SDM4075-10-C07		
	Inlet air flow rate	0.50	0.76	1.14	1.65	3.04	3.80		
	Outlet air flow	0.28	0.42	0.63	0.93	1.68	2.10		

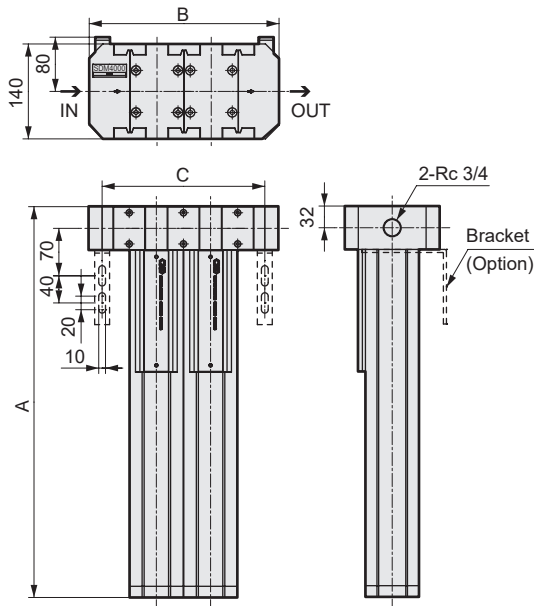
With different flow rate and conditions, select the model based on the dew point performance curve above according to the required outlet air flow rate.

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PresCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

SDM4000 Series

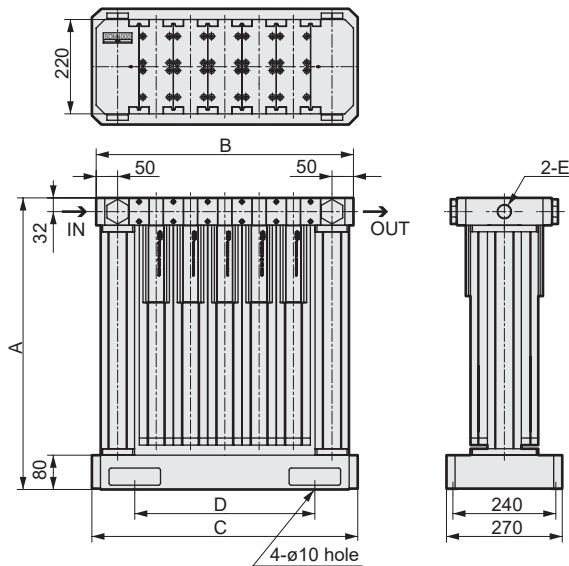
F.R.L. Dimensions

● 2/3 stations



Model No.	A	B	C	Weight (kg)
SDM4050-2	577	280	240	12
SDM4050-3	577	360	320	17
SDM4075-2	827	280	240	15
SDM4075-3	827	360	320	21
SDM4100-2	1077	280	240	18
SDM4100-3	1077	360	320	25

● 6/8/10 stations



Model No.	A	B	C	D	E	Weight (kg)
SDM4050-6	680	440	460	260	Rc1	41
SDM4050-8	680	520	540	340	Rc1	50
SDM4050-10	680	600	620	420	Rc1	59
SDM4075-6	930	440	460	260	Rc1 1/2	52
SDM4075-8	930	520	540	340	Rc1 1/2	64
SDM4075-10	930	600	620	420	Rc1 1/2	76
SDM4100-6	1180	440	460	260	Rc1 1/2	63
SDM4100-8	1180	520	540	340	Rc1 1/2	78

Selection guide

(Selection guide)

Each performance curve shows the relation of the outlet air flow and the outlet air atmospheric dew point of each model at an inlet pressure of 0.7 MPa and inlet air temperature of 25°C (saturate). Select the model according to the intersection of the required dew point and required flow rate shown on the right.

(Flow rate compensation method)

If the inlet pressure and inlet temperature differ from the rated values, the outlet air flow rate that can be supplied will change. Use each compensation curve and compensate in this case.

$$(\text{Rated outlet air flow rate}) \times (\text{correction value}) = (\text{conditional outlet air flow rate})$$

In addition, when the inlet air is the air which comes through the refrigeration air dryer, regardless of actual temperature, select the model with inlet air temperature of 10°C.

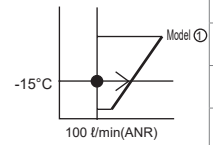
Purge flow rate

The purge flow rate is shown in the specifications.

Make sure that the flow rate including the purge flow rate as well as the outlet side operating air flow rate can be supplied from the inlet. The purge flow rate when the inlet air pressure differs from the rated, The rated purge flow rate is multiplied by the compensation value shown on the right.

(Example) Required dew point of -15°C

When the required flow rate is 100 l/min (ANR), the model (1) located on the right side of an intersection point can be selected.

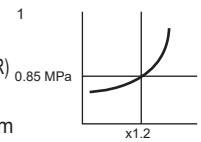


(Example) Inlet pressure of 0.85 MPa

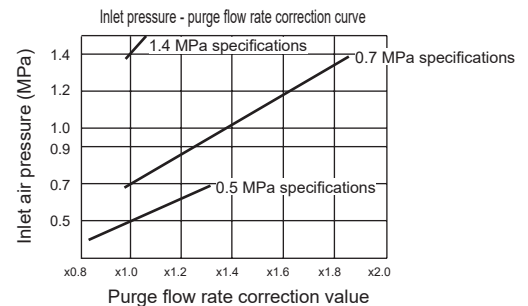
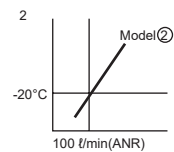
Required dew point of -20°C

When the required flow rate is 120 l/min (ANR)

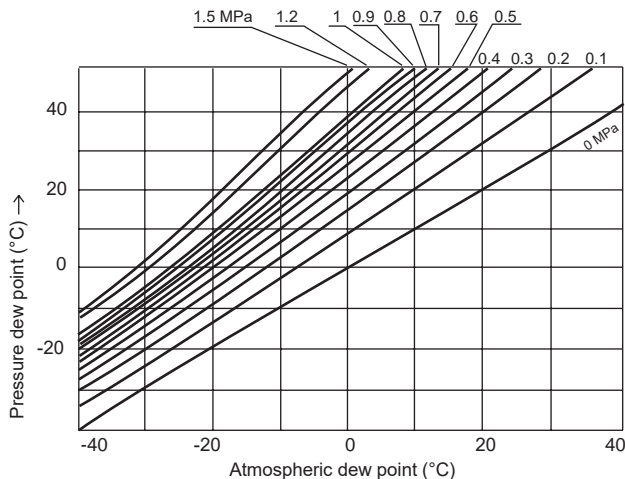
1. Obtain compensation (in this case 1.2) from the pressure flow rate compensation curve.



2. Model (2) has an outlet atmospheric dew point of -20°C and outlet air flow rate of 100 l/min, allowing up to a 1.2-fold rate of 120 l/min (ANR); therefore model (2) is selectable.

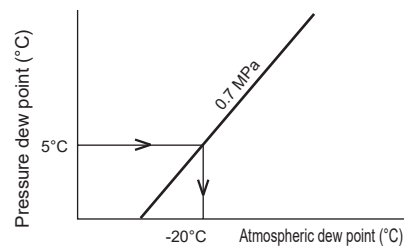


Pressure dew point - atmospheric dew point conversion table



Reading pressure dew point - atmospheric dew point conversion table

This table, The pressure dew point at each pressure is converted to the atmospheric dew point, or to convert the atmospheric dew point to a pressure dew point. Example: Obtain the atmospheric dew point when the pressure is 0.7 MPa and the pressure dew point is 5°C.



According to the above table, when the pressure is 0.7 MPa, the 5°C pressure dew point is converted into a -20°C atmospheric dew point.

Measuring the working air flow rate

When selecting the super dryer model, if the working air flow rate is unknown, measure the flow rate. Pneumatic flow rate sensor with integrated display, peak display, peak value hold, and analog output is used for flow rate measurement. "FLUEREX Flow Sensor Tester Kit" is convenient.

● FLUEREX Flow Sensor Tester Kit FLUEREX PFK SERIES



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- Silncr
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- Fit/Tube
- Nozzle
- Air Unit
- PresCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending