

High Polymer Membrane Air Dryers (Super Dryer)

■ Main Line Components

CONTENTS

Series variation	170
Product Introduction	172
Super Dryer (High polymer membrane air dryer) SU300E, SU400E, SD300E, SD400E-W	174
Super Dryer (High polymer membrane air dryer) SU300D, SU400D, SD300D, SD400D-W	180
Super Dryer (High polymer membrane air dryer) SU3000, SU4000-W	186
Super Dryer (High polymer membrane air dryer) SD3000, SD4000	192
Super Dryer Modular Series SDM4000	198
Technical data	203
⚠ Safety Precautions	204

Series Variation

High Polymer Membrane Air Dryer (Super Dryer)

High Polymer Membrane Air Dryers

Series Variation

Series	Standard dew point		Low dew point			Large flow rate manifold					
	SD300E / 400E-W SU300E / 400E-W	SD300D / 400D-W SU300D / 400D-W	SU3000-A-W SU4000-A-W	SU3000-B-W SU4000-B-W	SD3000-A/4000-A	SD3000-B/4000-B	SD3000-C/4000-C	SDM4000			
Features	Low purge Purge rate 10% Atmospheric dew point -15°C	Large flow rate Purge rate 20% Atmospheric dew point -20°C	Standard dew point unit Atmospheric dew point -20°C	Low dew point unit Atmospheric dew point -40°C	Standard dew point discrete Atmospheric dew point -20°C	Low dew point discrete Atmospheric dew point -40°C	Ultra low dew point discrete Atmospheric dew point -60°C	Atmospheric dew point -20°C	Atmospheric dew point -40°C	Atmospheric dew point -60°C	
Applicability											
Air Compressor											
kW											
0.2							●(SD3015-C)				
0.4	●(SD301E)						●(SD3015-B)	●(SD3025-C)			
0.75	●(SD / SU302E)	●(SD / SU301D)	●(SU3015-A)	●(SU3025-B)	●(SD3015-A)	●(SD3035-B)	●(SD3050-C)				
1.5		●(SD / SU302D)		●(SU3050-B)		●(SD3050-B)	●(SD3075 / 4050-C)				
2.2	●(SD / SU401E)		●(SU3025-A)		●(SD3025-A)	●(SD3075 / 4050-B)	●(SD4075-C)				
3.7	●(SD / SU402E)	●(SD / SU401D)	●(SU3035-A)		●(SD3035 / 4050-A)	●(SD4075-B)	●(SD4100-C)			●(SDM4050-2-C)	
5.5		●(SD / SU402D)	●(SU3050-A)		●(SD3050-A)	●(SD4100-B)			●(SDM4050-2-B)	●(SDM4075-2-C)	
7.5			●(SU3075-A)		●(SD3075 / 4075-A)			●(SDM4050-2-A)	●(SDM4075-2-B)	●(SDM4075-3-C)	
11			●(SU4100-A)		●(SD4100-A)			●(SDM4075-2-A)	●(SDM4075-3-B)	●(SDM4100-3-C)	
15								●(SDM4075-3-A)	●(SDM4100-3-B)	●(SDM4075-8-C)	
22								●(SDM4050-6-A)	●(SDM4075-6-B)	●(SDM4075-10-C)	
37								●(SDM4075-6-A)	●(SDM4075-10-B)		
55								●(SDM4100-6-A)			
75								●(SDM4100-8-A)			
95											
120											
150											
200											
250											
300											
400											
480											
710											
960											
1450											
With common exhaust port	● Option	● Option	● Option	● Option	● Option	● Option	● Option	● Option	▲ Special-order product	▲ Special-order product	▲ Special-order product
Medium pressure	x	x	x	x	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment
CE Compliant	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment
Freon-free	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment
Power supply not required	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment
Drain treatment not required	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment	● Standard Equipment
Appearance											
Listed page	174	180	186	186	192	192	192	198	198	198	

*1: Use this list as a selection guide. For the final selection, refer to the relevant page and select a model upon confirming installation and operating conditions.
 *2: Contact our sales staff for information on delivery dates and prices of Special-order products.

High-tech dryer that uses a polymer separation membrane.
Ease of use, long service life, and high reliability are realized.

Pursuing ease of use

Easy-to-use unit

Super dryer with integrated pre-filter, etc., is available. Easily used by just connecting directly to the pneumatic source.

Modular design

The system can be easily fitted to our quality control components, reducing design and piping work, and making upgrades easy.

Amenity

The unpleasant effects of conventional air dryers, such as vibration, heat discharge, power source noise, impact noise, and dust generation, have been eliminated.

No power supply needed

Electricity is not required, so expertise in electricity is not required when installing the dryer. The dryer can be installed anywhere including explosion-proof areas with different voltages.

No more problems

There are no mechanical moving parts, so no need for concern about unexpected failures. Clean dry air is stably supplied for long periods of time.

Diverse series to match your applications

Low purge, Purge rate 10%

Reduces operation costs through energy-saving moisture removal with an atmospheric dew point of -15°C and a purge ratio of 10%. [E Series]

Low dew point, Atmospheric dew point -60°C

Clean ultra-dry air can be supplied easily and stably. [3000 / 4000 Series]

Large flow rate, Compatible with 75 kW compressor

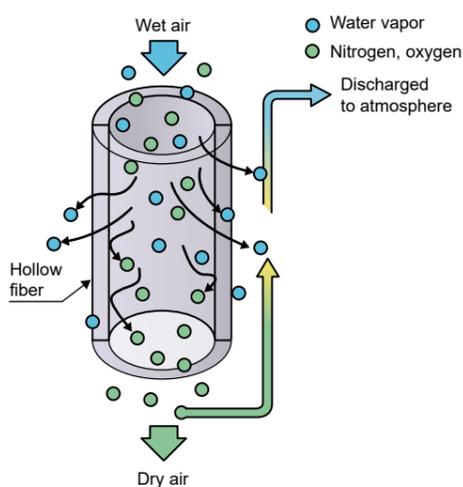
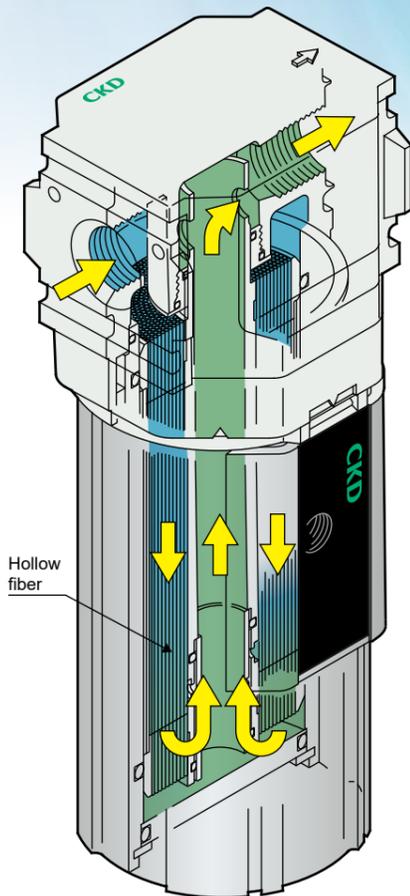
Large flow rate achieved with polymer separation membrane
In addition, compared to suction air dryers, this unit is very compact and slim at 1/3 the installation area and 1/6 the occupied volume of our conventional products. [SDM Series]

Compatible with medium pressure Max. working pressure 1.5 MPa

Suitable for a wide range of applications with 1.5 MPa max. working pressure. [SD3000 / 4000 Series, SDM Series]

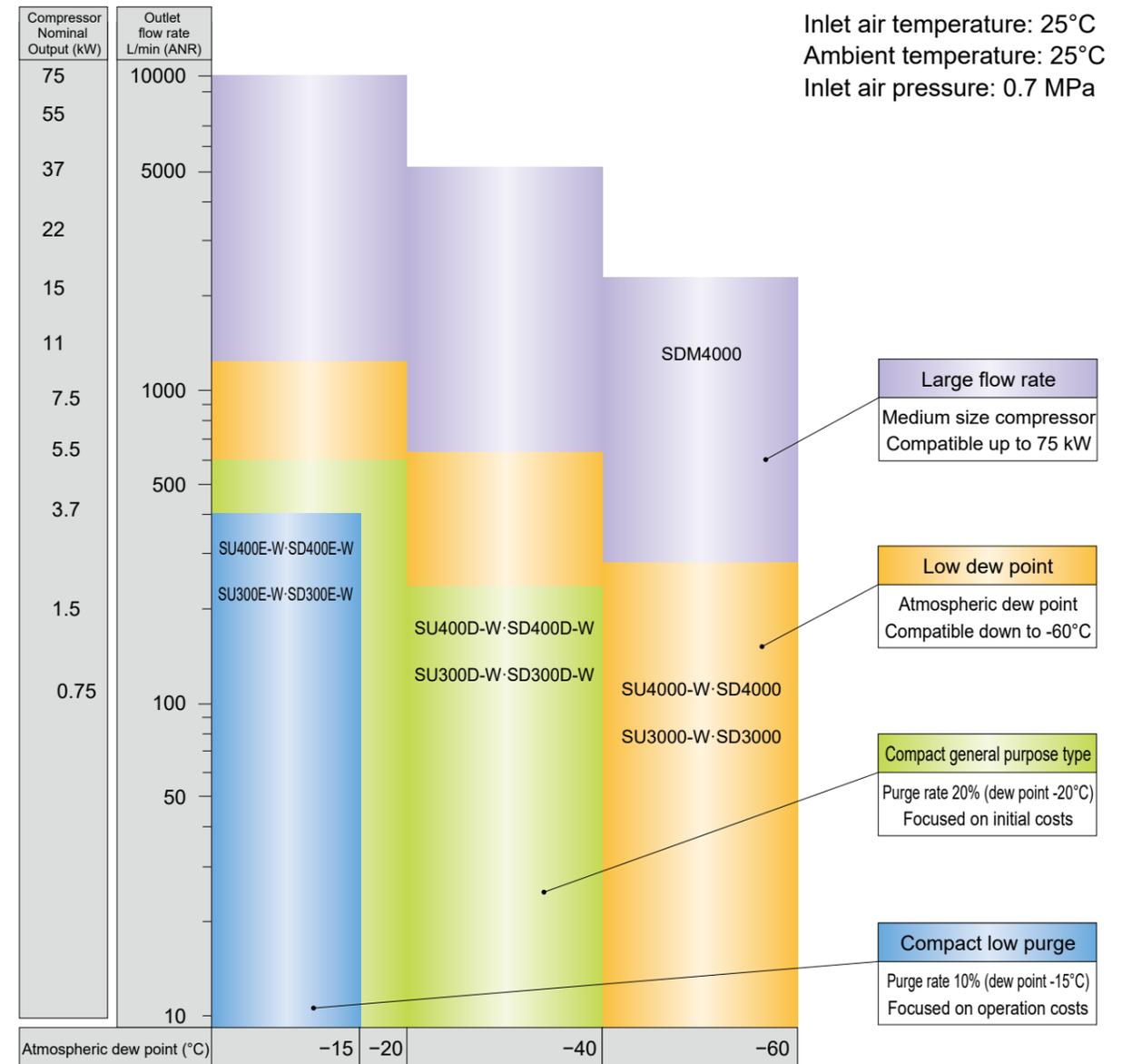
Principles of Dehumidification

The gaseous molecules can freely pass through the high polymer material, but the ease of passage varies widely according to the mutual properties of the gas and the high polymer material being used. In order to remove the water vapor only, the Super Dryer uses a high polymer material which allows water vapor, but not nitrogen or oxygen, to pass through easily. Since the concentration of each gas is high inside the hollow fibers of this material, gases try to move toward the outside of the hollow fibers where concentration is lower when fed with moist compressed air. However, because the hollow fiber is made of a material that allows only water vapor to enter and exit easily, only water vapor moves out of each gas one after another to the outside of the hollow fibers. Moist air supplied from the inlet leaves the outlet as dry air. By having part of the outlet's dry air flow toward the outside of the hollow fibers as purge air, water vapor moved to the outside is quickly discharged into the atmosphere. This keeps the concentration of water vapor on the outside of the hollow fibers low, enabling continuous dehumidification.



7 Series and 65 Models
Select the best suited model for your application.

Selection Guide MAP



Compact low purge		Compact general purpose type		Low dew point		Large flow rate
E Series (purge rate 10%)		D Series (purge rate 20%)				
SU300E-W·SU400E-W	SD300E-W·SD400E-W	SU300D-W·SU400D-W	SD300D-W·SD400D-W	SU3000-W·SU4000-W	SD3000·SD4000	SDM4000

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending

Ending



Super Dryer Combination Super Dryer SU300E, SU400E, SD300E, SD400E-W Series

E series with low air loss and filter-like operation

- Reduces operation costs through energy-saving moisture removal with a purge ratio of 10%.
- 3 types of units are available. Choose the best system for your application.
- Processing air flow rate: 75 to 450 L/min (ANR) (0.7 MPa, atmospheric dew point -15°C)



SU³00E, SD³00E-W Series

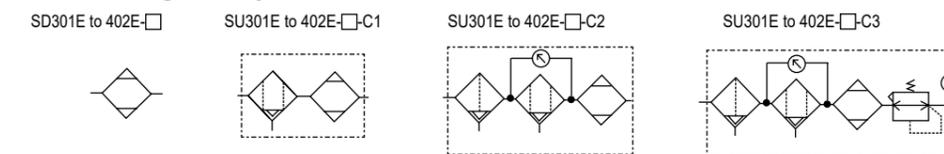
Specifications

Specifications

Item	SU301E □-W-C1	SU302E □-W-C1	SU401E □-W-C1	SU402E □-W-C1	SU301E □-W-C2	SU302E □-W-C2	SU401E □-W-C2	SU402E □-W-C2	SU301E □-W-C3	SU302E □-W-C3	SU401E □-W-C3	SU402E □-W-C3	SD301E □-W	SD302E □-W	SD401E □-W	SD402E □-W	
Appearance																	
Configuration	Oil Mist Filter Super Dryer (High polymer membrane air dryer)				Air Filters Oil Mist Filter (with differential pressure gauge) Super Dryer (High polymer membrane air dryer)				Air Filters Oil Mist Filter (with differential pressure gauge) Super Dryer (High polymer membrane air dryer) Regulator				Super Dryer (High polymer membrane air dryer)				
Range of working conditions	Compressed air																
	Working fluid																
	Inlet air pressure MPa	0.4 to 1.0															
	Proof pressure MPa	1.5															
	Inlet air temperature °C	5 to 50															
Standard Rating	Ambient temperature °C	5 to 50															
	Outlet air atmospheric dew point °C	-15															
	Inlet air flow rate L/min (ANR)	75	150	300	450	75	150	300	450	75	150	300	450	75	150	300	450
	Outlet air flow rate L/min (ANR)	67	135	270	405	67	135	270	405	67	135	270	405	67	135	270	405
	Purge flow rate L/min (ANR)	8	15	30	45	8	15	30	45	8	15	30	45	8	15	30	45
Air Filters	Inlet air pressure dew point °C	25															
	Inlet air pressure MPa	0.7															
	Inlet air temperature °C	25															
	Ambient temperature °C	25															
	Degree of Filtration μm	5															
Oil Mist Filter	Oil Mist Removal for improved air quality: mg/m ³																
	0.01 (inlet air 21°C)																
Regulator	Set pressure range MPa	0.05 to 0.85															
	Relief pressure MPa	Setting pressure plus 0.05															
Standard Accessories	Bracket				Differential pressure gauge/bracket				Pressure gauge/differential pressure gauge/bracket				-				

*1: The C1 type cannot control the oil mist filter with a differential pressure gauge. Replace the oil mist filter mantle every year.
*2: The purge flow rate in the Standard Rating column is the same value at 0.5 MPa.

Circuit Diagram Symbol

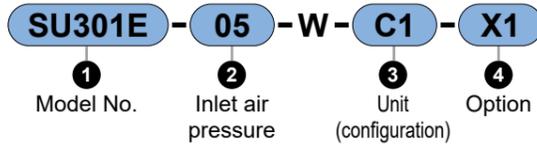


System Components

System Components Model No.	(1) Air Filter	(2) Oil Mist Filter	(3) Super Dryer (High polymer membrane air dryer)	(4) Regulator	(5) Differential Pressure Gauge
SU301E-□-W-C1	-	M3000-10-W-F1	SD301E-□-W	-	-
SU302E-□-W-C1	-	M4000-10-W-F1	SD302E-□-W	-	-
SU401E-□-W-C1	-	M4000-10-W-F1	SD401E-□-W	-	-
SU402E-□-W-C1	-	SM4100-W	SD402E-□-W	-	-
SU301E-□-W-C2	F3000-10-W-F	M3000-10-W-F1	SD301E-□-W	-	GA400-8-P02
SU302E-□-W-C2	F4000-10-W-F	M4000-10-W-F1	SD302E-□-W	-	GA400-8-P02
SU401E-□-W-C2	F4000-10-W-F	M4000-10-W-F1	SD401E-□-W	-	GA400-8-P02
SU402E-□-W-C2	F4000-10-W-F	SM4100-W	SD402E-□-W	-	GA400-8-P02
SU301E-□-W-C3	F3000-10-W-F	M3000-10-W-F1	SD301E-□-W	R3000-10-W	GA400-8-P02
SU302E-□-W-C3	F4000-10-W-F	M4000-10-W-F1	SD302E-□-W	R4000-10-W	GA400-8-P02
SU401E-□-W-C3	F4000-10-W-F	M4000-10-W-F1	SD401E-□-W	R4000-10-W	GA400-8-P02
SU402E-□-W-C3	F4000-10-W-F	SM4100-W	SD402E-□-W	R4000-10-W	GA400-8-P02

Model No. Notation

Super dryer combination



1 Model No.

Code	Description
SU301E	SU301E
SU302E	SU302E
SU401E	SU401E
SU402E	SU402E

2 Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa

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

3 Unit (configuration)

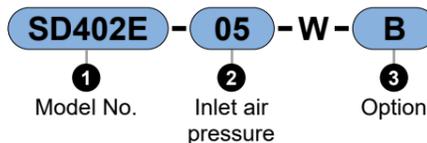
Code	Description
C1	Oil Mist Filter Super Dryer (High polymer membrane air dryer)
C2	Air Filters Oil Mist Filter (with differential pressure gauge) Super Dryer (High polymer membrane air dryer)
C3	Air Filters Oil Mist Filter (with differential pressure gauge) Super Dryer (High polymer membrane air dryer) Regulator

4 Option

Code	Description
Blank	None
E	Common exhaust
X1	IN-OUT reverse

*1: When ordering several options, indicate the required options in alphabetical order.
*2: Purge air of standard products is released to the atmosphere. If "E" is selected, common exhaust of purge air is enabled. The size of exhaust ports include the Rc1/8 for the 300 Series and the Rc1/4 for the 400 Series.
*3: When viewed from the front, standard products have an air inlet on the left port and an air outlet on the right port. When "X1" is selected, an air inlet is provided on the right port, while an air outlet is provided on the left port.

Super dryer (High polymer membrane air dryer)



1 Model No.

Code	Description
SD301E	SD301E
SD302E	SD302E
SD401E	SD401E
SD402E	SD402E

2 Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa

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

3 Option

Code	Description
Blank	None
B	With C-bracket
E	Common exhaust
X1	IN-OUT reverse

*1: When ordering several options, indicate the required options in alphabetical order.
*2: If fixed by C-bracket, modular connection with peripheral devices is not possible.
*3: Purge air from standard products is released into the atmosphere. If "E" is selected, common exhaust of purge air is enabled. The size of exhaust ports include the Rc1/8 for the 300 Series and the Rc1/4 for the 400 Series.
*4: When viewed from the front, standard products have an air inlet on the left port and an air outlet on the right port. When "X1" is selected, an air inlet is provided on the right port, while an air outlet is provided on the left port.

Specifications for Rechargeable Batteries (Catalog No.CC-1226AA)

Specifications for Food Manufacturing Processes (Catalog No.CC-1271AA)

Design compatible with rechargeable battery manufacturing processes

Food grade lubricants that can be used in food manufacturing processes, and resin and rubber materials that conform to the Food Sanitation Laws are used.



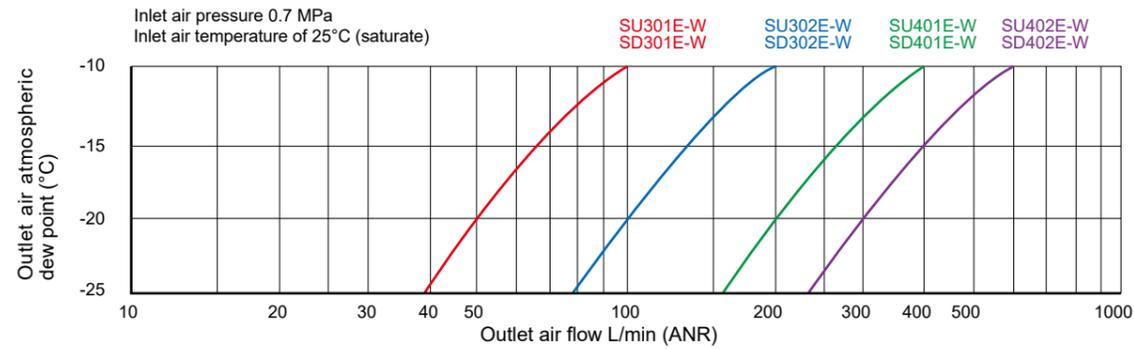
*Contact CKD for details.



Dew point performance

For the correction method, please refer to P. 203.

●Dew point performance curve

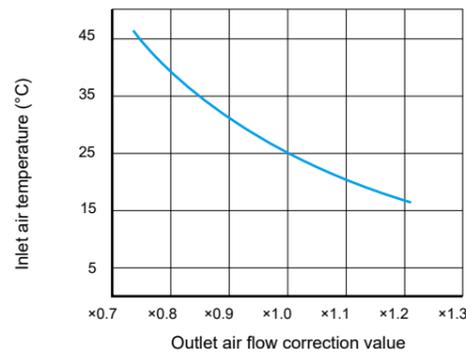


Selection Guide

STEP 1 Confirm the working conditions and the rated values listed in the specifications.
Working conditions: Inlet air pressure, inlet air temperature, required air flow rate, required atmospheric dew point

STEP 2 Confirm the compensation coefficient for outlet air flow rate affected by inlet air temperature.
(1) Temperature - Outlet air flow rate compensation coefficient
*If the inlet air is air that has passed through a refrigerated air dryer, select the inlet air temperature as 10°C, regardless of the actual temperature.

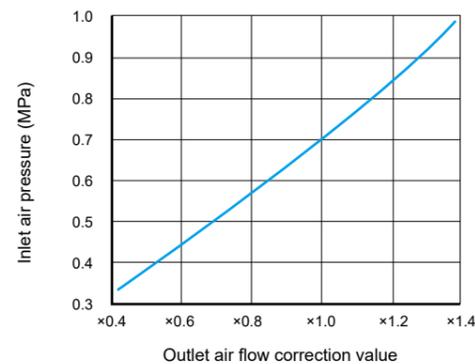
●Inlet temperature - outlet air flow rate correction curve



STEP 3 Confirm the compensation coefficient for outlet air flow rate affected by inlet air pressure.

(2) Pressure - Outlet air flow rate correction coefficient

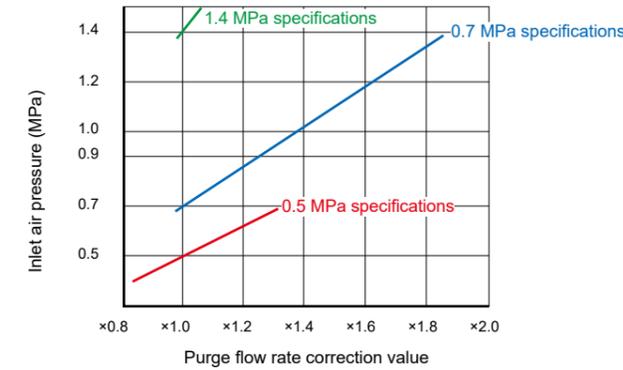
●Inlet pressure - outlet air flow rate correction curve



STEP 4 Determine the appropriate model from the outlet air flow rate of each model.
Rated outlet air flow rate × (1) Temperature correction coefficient × (2) Pressure correction coefficient = Corrected outlet air flow rate
Select one with sufficient outlet air flow rate after correction with the above formula.

STEP 5 Confirming purge air flow rate
(3) Pressure - Purge flow rate compensation coefficient

●Inlet pressure - purge flow rate correction curve



STEP 6 Find the inlet air flow rate from the outlet air flow rate and the purge flow rate of each model.
Outlet air flow rate obtained in STEP 4 + Purge flow rate obtained in STEP 5 = corrected inlet air flow rate
Based on the inlet air flow rate corrected as above, confirm whether the compressor capacity is sufficient.

Example of Calculation

Conditions	Working Conditions	Selecting Conditions	Compensation coefficient for inlet flow rate	Compensation coefficient for purge flow rate
Inlet air temperature	25 to 30 °C	30°C	0.93	-
Inlet air pressure	0.5 to 0.55 MPa	0.5 MPa	0.7	1.0
Outlet atmospheric dew point	-15°C	-15°C	-	-

Substitute the above conditions into the equation above to obtain the outlet air flow rate when using the SD301E-05.

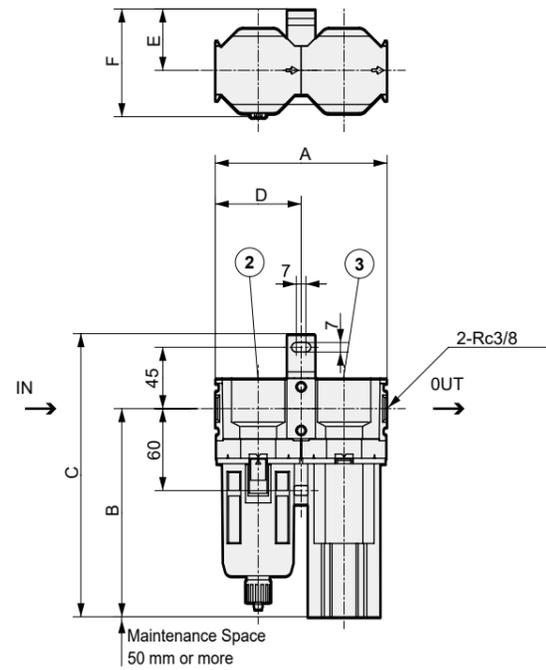
Outlet air flow rate is $67 \times 0.93 \times 0.7 = 43.6$ L/min (ANR)

Purge flow rate is $8 \times 1 = 8$ L/min (ANR)

In this case, the inlet air flow rate is $43.6 + 8 = 51.6$ L/min (ANR).

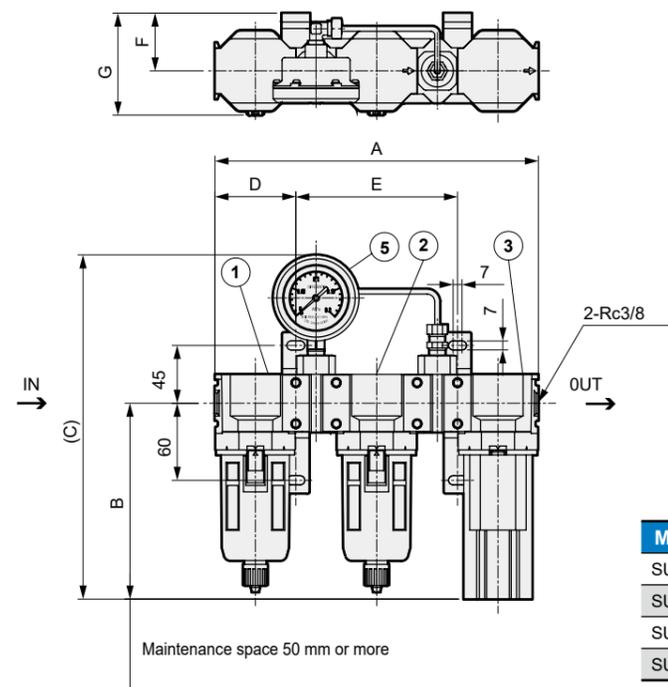
Dimensions

●Unit C1



Model No.	A	B	C	D	E	F	Weight (kg)
SU301E-□-W-C1	126	153	208	63	45	79	1.0
SU302E-□-W-C1	143	223	278	80	55	97	1.6
SU401E-□-W-C1	160	223	278	80	55	97	2.1
SU402E-□-W-C1	160	328	383	80	55	95	3.5

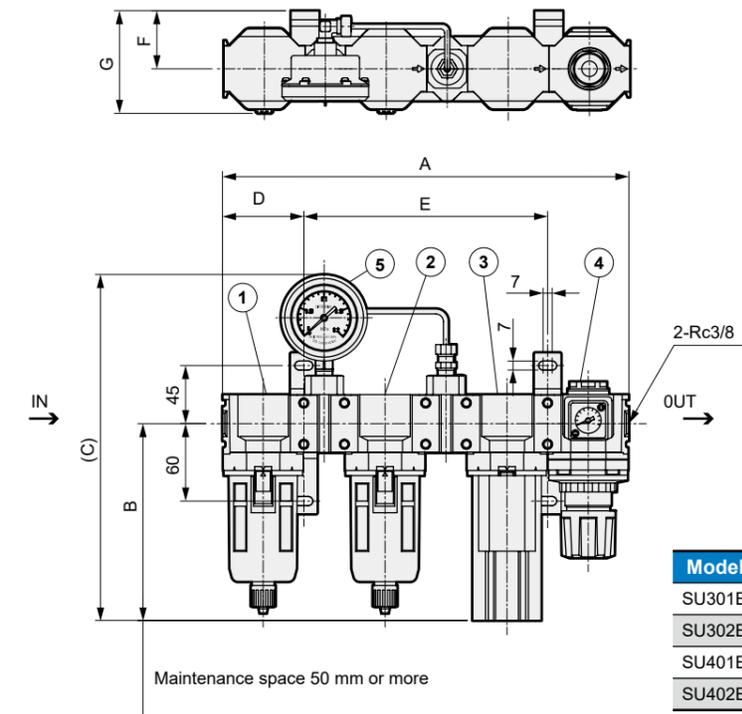
●Unit C2 type



Model No.	A	B	C	D	E	F	G	Weight (kg)
SU301E-□-W-C2	252	153	268	63	126	45	79	2.0
SU302E-□-W-C2	286	223	338	80	143	55	97	2.8
SU401E-□-W-C2	303	223	338	80	143	55	97	3.3
SU402E-□-W-C2	303	328	443	80	143	55	97	4.7

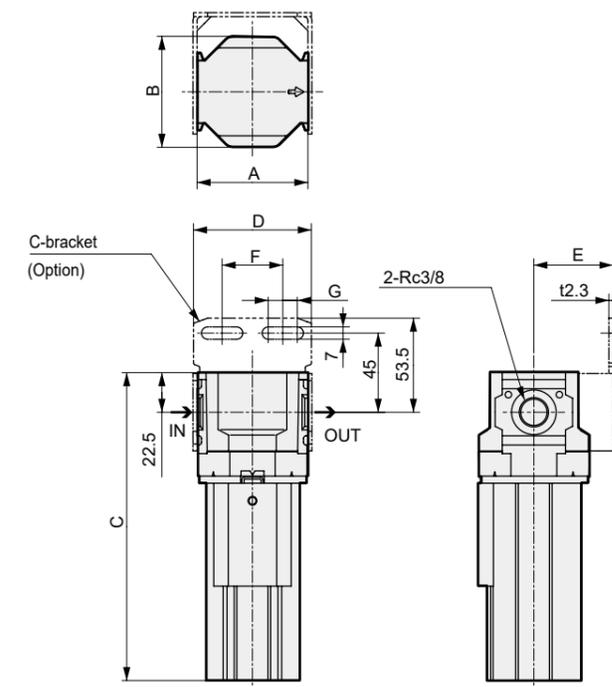
Dimensions

●Unit C3 tiePlunger



Model No.	A	B	C	D	E	F	G	Weight (kg)
SU301E-□-W-C3	315	153	268	63	189	45	79	2.5
SU302E-□-W-C3	366	223	338	80	206	55	97	3.5
SU401E-□-W-C3	383	223	338	80	223	55	97	4.0
SU402E-□-W-C3	383	328	443	80	223	55	97	5.4

●SD300E, SD400E



Model No.	A	B	C	D	E	F	G	Weight (kg)
SD301E-□-W	63	63	175	67	45	34.5	16.5	0.6
SD302E-□-W	63	63	245	67	45	34.5	16.5	0.9
SD401E-□-W	80	79	245	84	55	55	14	1.4
SD402E-□-W	80	79	315	84	55	55	14	1.8

For maintenance parts, refer to the CKD Components Product site
 Refer to (<https://www.ckd.co.jp/kiki/en/>) → "Model No." → Maintenance Parts

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending



Super Dryer Combination Super Dryer SU300D, SU400D, SD300D, SD400D-W Series

Slim body and high performance D series

- Small in size but with ample dehumidification capacity in terms of both quality and quantity, making it suitable for integration into equipment.
- 3 types of units are available. Choose the best system for your application.
- Processing air flow rate: 125 to 750 L/min (ANR) (0.7 MPa, atmospheric dew point -20°C)

SU³00D, SD³00D-W Series

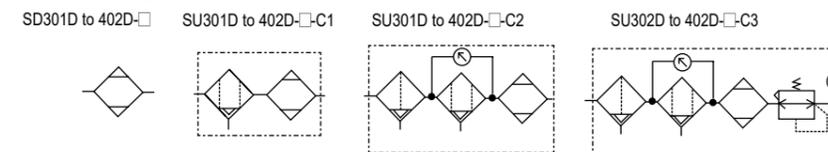
Specifications

Specifications

Item	SU301D -W-C1	SU302D -W-C1	SU401D -W-C1	SU402D -W-C1	SU301D -W-C2	SU302D -W-C2	SU401D -W-C2	SU402D -W-C2	SU301D -W-C3	SU302D -W-C3	SU401D -W-C3	SU402D -W-C3	SD301D -W	SD302D -W	SD401D -W	SD402D -W
Appearance																
	A simple and space-saving unit that dehumidifies air from which solid impurities have already been removed. (*1)				A unit that supplies clean dry air in a line that does not require pressure regulation.				A unit that supplies clean, regulated dry air simply by supplying compressed air.				Discrete super dryer enabling easy system configuration with peripheral devices due to modular design.			
Configuration	Oil Mist Filter Super Dryer (High polymer membrane air dryer)				Air Filters Oil mist filter (with differential pressure gauge) Super dryer (High polymer membrane air dryer)				Air Filters Oil mist filter (with differential pressure gauge) Super dryer (High polymer membrane air dryer) Regulator				Super Dryer (High polymer membrane air dryer)			
Standard rating	Compressed air															
	Working fluid															
	Inlet air pressure MPa															
	Proof pressure MPa															
	Inlet air temperature °C															
	Ambient temperature °C															
	Outlet air atmospheric dew point °C															
	Inlet air flow rate L/min (ANR)															
	Outlet air flow rate L/min (ANR)															
	Purge flow rate L/min (ANR)															
Inlet air pressure dew point °C																
Inlet air pressure MPa																
Inlet air temperature °C																
Ambient temperature °C																
Air Filters	Degree of Filtration μm				5				-				-			
Oil Mist Filter	For removing oil mist mg/m ³				0.01 (inlet air 21°C)				-				-			
Regulator	Set pressure range MPa				-				0.05 to 0.85				-			
	Relief pressure MPa				-				Setting pressure plus 0.05				-			
Standard Accessories	Bracket				Differential pressure gauge/bracket				Pressure gauge/differential pressure gauge/bracket				-			

*1: The C1 type cannot control the oil mist filter with a differential pressure gauge. Replace the oil mist filter mantle every year.
*2: The purge flow rate in the Standard Rating column is the same value at 0.5 MPa.

Circuit Diagram Symbol

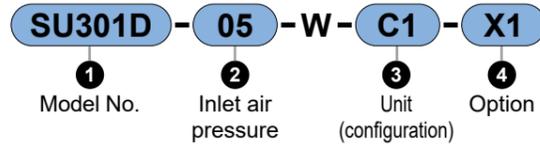


System Components

System Components Model No.	(1) Air Filter	(2) Oil Mist Filter	(3) Super Dryer (High polymer membrane air dryer)	(4) Regulator	(5) Differential Pressure Gauge
SU301D-□-W-C1	-	M4000-10-W-F1	SD301D-□-W	-	-
SU302D-□-W-C1	-	M4000-10-W-F1	SD302D-□-W	-	-
SU401D-□-W-C1	-	SM4100-W	SD401D-□-W	-	-
SU402D-□-W-C1	-	SM4100-W	SD402D-□-W	-	-
SU301D-□-W-C2	F4000-10-W-F	M4000-10-W-F1	SD301D-□-W	-	GA400-8-P02
SU302D-□-W-C2	F4000-10-W-F	M4000-10-W-F1	SD302D-□-W	-	GA400-8-P02
SU401D-□-W-C2	F4000-10-W-F	SM4100-W	SD401D-□-W	-	GA400-8-P02
SU402D-□-W-C2	F4000-10-W-F	SM4100-W	SD402D-□-W	-	GA400-8-P02
SU301D-□-W-C3	F4000-10-W-F	M4000-10-W-F1	SD301D-□-W	R4000-10-W	GA400-8-P02
SU302D-□-W-C3	F4000-10-W-F	M4000-10-W-F1	SD302D-□-W	R4000-10-W	GA400-8-P02
SU401D-□-W-C3	F4000-10-W-F	SM4100-W	SD401D-□-W	R4000-10-W	GA400-8-P02
SU402D-□-W-C3	F4000-10-W-F	SM4100-W	SD402D-□-W	R4000-10-W	GA400-8-P02

Model No. Notation

● Super dryer combination



1 Model No.

Code	Description
SU301D	SU301D
SU302D	SU302D
SU401D	SU401D
SU402D	SU402D

2 Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa

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

3 Unit (configuration)

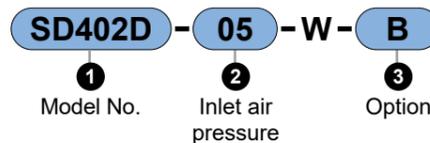
Code	Description	
C1	Oil Mist Filter Super Dryer (High polymer membrane air dryer)	
C2	Air Filters Oil Mist Filter (with differential pressure gauge) Super Dryer (High polymer membrane air dryer)	
C3	Air Filters Oil mist filter (with differential pressure gauge) Super dryer (High polymer membrane air dryer) Regulator	

4 Option

Code	Description
Blank	None
E	Common exhaust
X1	IN-OUT reverse

*1: When ordering several options, indicate the required options in alphabetical order.
*2: Purge air of standard products is released to the atmosphere. If "E" is selected, common exhaust of purge air is enabled. The size of exhaust ports include the Rc1/8 for the 300 Series and the Rc1/4 for the 400 Series.
*3: When viewed from the front, standard products have an air inlet on the left port and an air outlet on the right port. When "X1" is selected, an air inlet is provided on the right port, while an air outlet is provided on the left port.

● Super dryer (High polymer membrane air dryer)



1 Model No.

Code	Description
SD301D	SD301D
SD302D	SD302D
SD401D	SD401D
SD402D	SD402D

2 Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa

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

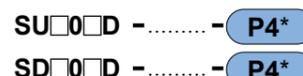
3 Option

Code	Description	
Blank	None	
B	With C-bracket	
E	Common exhaust	
X1	IN-OUT reverse	

*1: When ordering several options, indicate the required options in alphabetical order.
*2: If fixed by C-bracket, modular connection with peripheral devices is not possible.
*3: Purge air from standard products is released into the atmosphere. If "E" is selected, common exhaust of purge air is enabled. The size of exhaust ports include the Rc1/8 for the 300 Series and the Rc1/4 for the 400 Series.
*4: When viewed from the front, standard products have an air inlet on the left port and an air outlet on the right port. When "X1" is selected, an air inlet is provided on the right port, while an air outlet is provided on the left port.

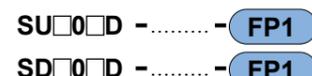
Specifications for Rechargeable Batteries (Catalog No. CC-1226AA)

- Design compatible with rechargeable battery manufacturing processes



Specifications for Food Manufacturing (Catalog No. CC-1271AA)

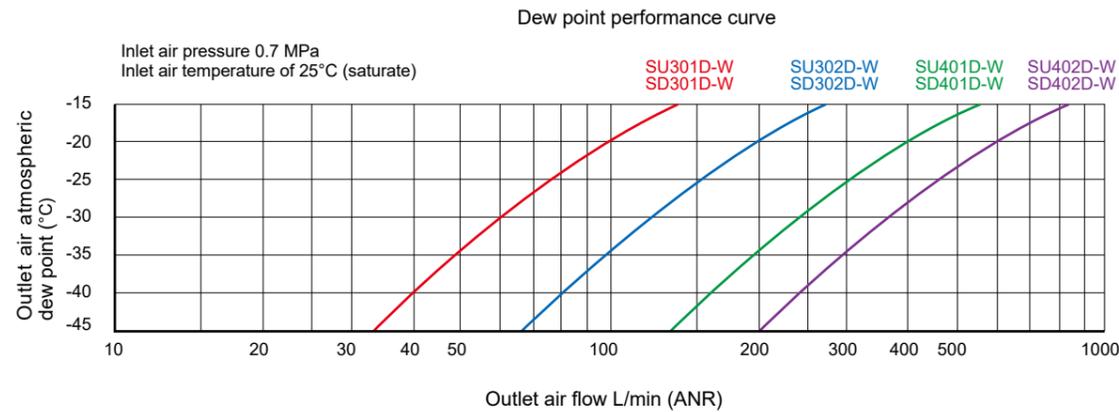
- Food grade lubricants that can be used in food manufacturing processes, and resin and rubber materials that conform to the Food Sanitation Laws are used.



*Contact CKD for details.

Dew point performance For the correction method, please refer to P. 203.

●Dew point performance curve



Selection Guide

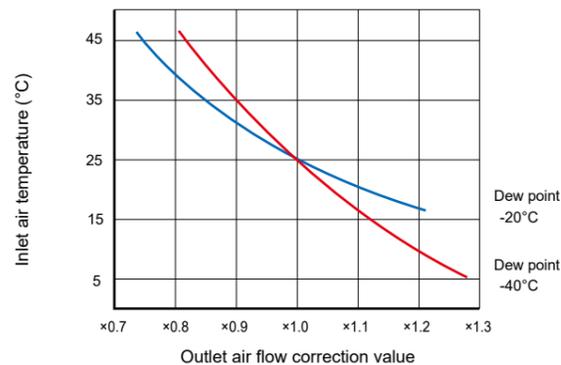
STEP 1 Confirm the working conditions and the rated values listed in the specifications. Working conditions: Inlet air pressure, inlet air temperature, required air flow rate, required atmospheric dew point

STEP 2 Confirm the compensation coefficient for outlet air flow rate affected by inlet air temperature.

(1) Temperature - Outlet air flow rate compensation coefficient

*If the inlet air is air that has passed through a refrigerated air dryer, select the inlet air temperature as 10°C, regardless of the actual temperature.

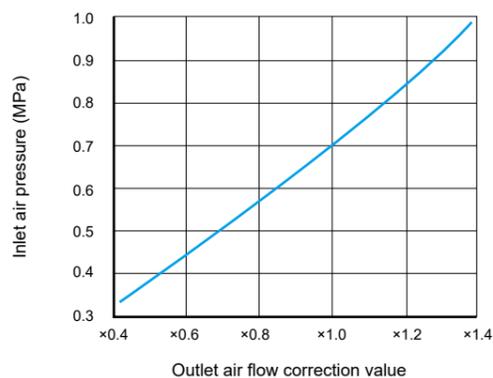
●Inlet temperature - outlet air flow rate correction curve



STEP 3 Confirm the compensation coefficient for outlet air flow rate affected by inlet air pressure.

(2) Pressure - Outlet air flow rate correction coefficient

●Inlet pressure - outlet air flow rate correction curve



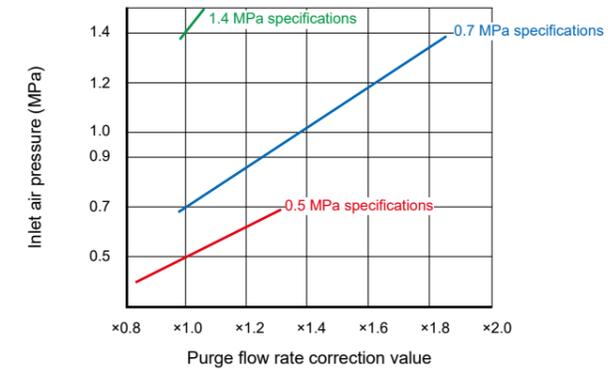
STEP 4 Determine the appropriate model from the outlet air flow rate of each model.

Rated outlet air flow rate × (1) Temperature correction coefficient × (2) Pressure correction coefficient = Corrected outlet air flow rate
Select one with sufficient outlet air flow rate after correction with the above formula.

STEP 5 Confirming purge air flow rate

(3) Pressure - Purge flow rate compensation coefficient

●Inlet pressure - purge flow rate correction curve



STEP 6 Find the inlet air flow rate from the outlet air flow rate and the purge flow rate of each model.

Outlet air flow rate obtained in STEP 4 + Purge flow rate obtained in STEP 5 = corrected inlet air flow rate
Based on the inlet air flow rate corrected as above, confirm whether the compressor capacity is sufficient.

Example of Calculation

Conditions	Working Conditions	Selecting Conditions	Compensation coefficient for inlet flow rate	Compensation coefficient for purge flow rate
Inlet air temperature	25 to 30 °C	30°C	0.93	-
Inlet air pressure	0.5 to 0.55 MPa	0.5 MPa	0.7	1.0
Outlet atmospheric dew point	-20°C	-20°C	-	-

Substitute the above conditions into the equation above to obtain the outlet air flow rate when using the SD301D-05.

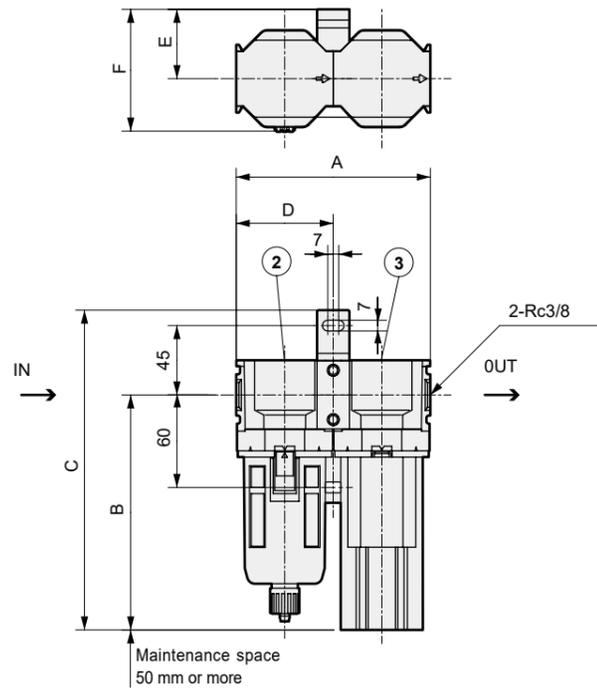
Outlet air flow rate is 100×0.93×0.7=65.1 L/min (ANR)

Purge flow rate is 25×1.0=25 L/min (ANR)

In this case, the inlet air flow rate is 65.1+25=90.1 L/min (ANR).

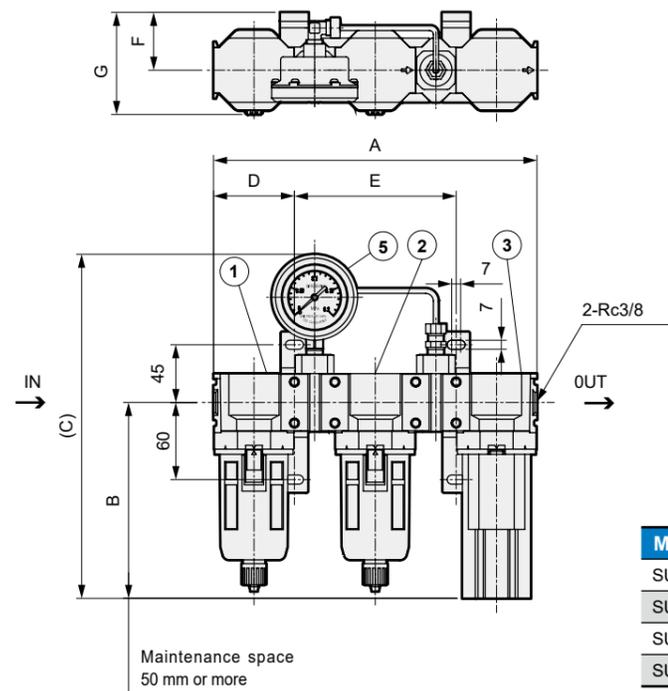
Dimensions

●Unit C1



Model No.	A	B	C	D	E	F	Weight (kg)
SU301D-□-W-C1	143	171	226	80	55	97	1.3
SU302D-□-W-C1	143	223	278	80	55	97	1.6
SU401D-□-W-C1	160	328	383	80	55	95	3.1
SU402D-□-W-C1	160	328	383	80	55	95	3.5

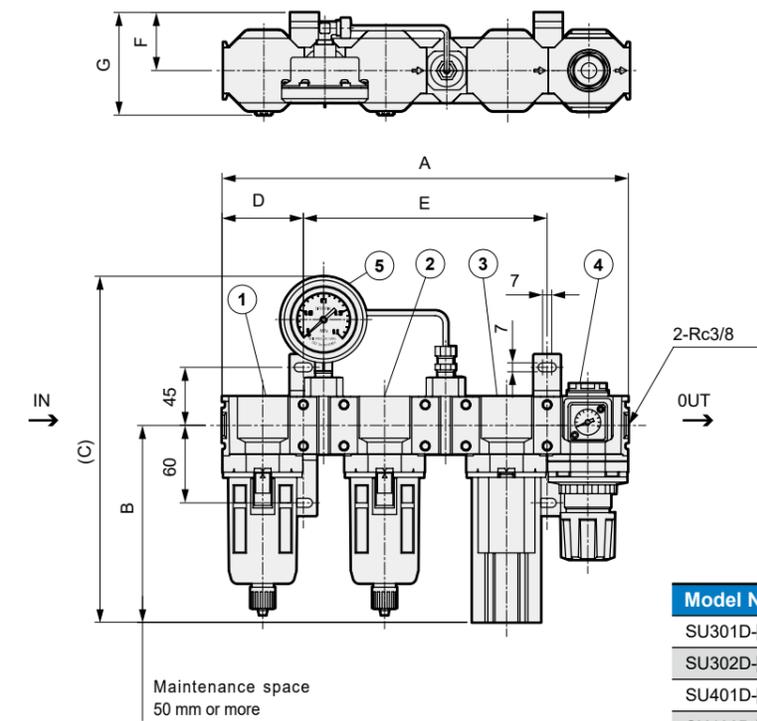
●Unit C2 type



Model No.	A	B	C	D	E	F	G	Weight (kg)
SU301D-□-W-C2	286	171	286	80	143	55	97	2.5
SU302D-□-W-C2	286	223	338	80	143	55	97	2.8
SU401D-□-W-C2	303	328	443	80	143	55	97	4.3
SU402D-□-W-C2	303	328	443	80	143	55	97	4.7

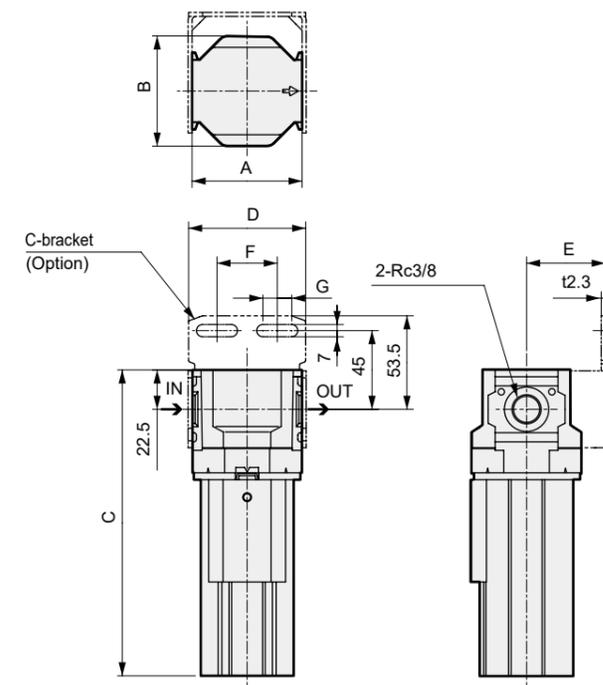
Dimensions

●Unit C3 type



Model No.	A	B	C	D	E	F	G	Weight (kg)
SU301D-□-W-C3	366	171	286	80	206	55	97	3.2
SU302D-□-W-C3	366	223	338	80	206	55	97	3.5
SU401D-□-W-C3	383	328	443	80	223	55	97	5.0
SU402D-□-W-C3	383	328	443	80	223	55	97	5.4

●SD300D, SD400D



Model No.	A	B	C	D	E	F	G	Weight (kg)
SD301D-□-W	63	63	175	67	45	34.5	16.5	0.6
SD302D-□-W	63	63	245	67	45	34.5	16.5	0.9
SD401D-□-W	80	79	245	84	55	55	14	1.4
SD402D-□-W	80	79	315	84	55	55	14	1.8

For maintenance parts, refer to the CKD Components Product site
 Refer to (<https://www.ckd.co.jp/kiki/en/>) → "Model No." → Maintenance Parts



Super Dryer Combination SU3000, SU4000-W Series

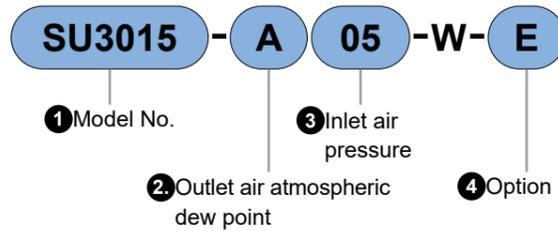
Easily and Stably supply Ultra-Dry Air.

- Ultra dry air with an atmospheric dew point -60°C is obtained just by piping to a pneumatic source.
- All in one unit with superior installability.
- Processing air flow rate: 35 to 1500 L/min (ANR)
(0.7 MPa, atmospheric dew point -40°C)

SU3000, SU4000-W Series Specifications

Model No. Notation

● Super dryer combination



Note: Purge flow rate in standard rating section is also the same value at 0.5 MPa.

1 Model No.

Code	Description
SU3015	SU3015
SU3025	SU3025
SU3035	SU3035
SU3050	SU3050
SU3075	SU3075
SU4050	SU4050
SU4100	SU4100

2 Outlet air atmospheric dew point

Code	Description
A	-20°C
B	-40°C, -60°C

Note

Note: For an outlet air atmospheric pressure dew point of -60°C, the same type number "B" as for -40°C.

3 Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa

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

4 Option

Code	Description
Blank	None
E	Common exhaust
X1	IN-OUT reverse

*1

*1: When ordering several options, indicate the required options in alphabetical order.

*2: Purge air of standard products is released to the atmosphere. If "E" is selected, common exhaust of purge air is enabled. Size of exhaust port is Rc1/2.

*3: When viewed from the front, standard products have an air inlet on the left port and an air outlet on the right port. When "X1" is selected, an air inlet is provided on the right port, while an air outlet is provided on the left port.

Specifications for Rechargeable Batteries (Catalog No. CC-1226AA)

● Design compatible with rechargeable battery manufacturing processes

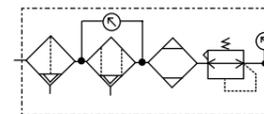
SU□000 - - P4□

*Contact CKD for details.

Specifications

Item	SU 3015-A-W	SU 3025-A-W	SU 3035-A-W	SU 3050-A-W	SU 3075-A-W	SU 4100-A-W	SU 3015-B-W	SU 3025-B-W	SU 3050-B-W	SU 4050-B-W	SU 4100-B-W
Working fluid	Compressed air										
Inlet air pressure MPa	0.4 to 1.0										
Proof pressure MPa	1.5										
Inlet air temperature °C	5 to 50										
Ambient temperature °C	5 to 50										
Outlet air atmospheric dew point °C	-20					-40					
Inlet air flow rate L/min (ANR)	125	300	490	760	1200	1500	35	90	230	410	890
Outlet air flow rate L/min (ANR)	100	240	390	610	960	1260	25	65	170	300	650
Purge flow rate L/min (ANR)	25	60	100	150	240	240	10	25	60	110	240
Inlet air pressure dew point °C	25										
Inlet air pressure MPa	0.7										
Inlet air temperature °C	25										
Ambient temperature °C	25										
Air Filters	Degree of Filtration μm										
Oil Mist Filter	Oil removal mg/m ³										
Regulator	Set pressure range MPa										
	Relief pressure MPa										
Standard Accessories	Pressure gauge/differential pressure gauge/bracket										

Circuit Diagram Symbol



System Components

System Components	① Air Filters	② Oil Mist Filter	③ Super Dryer (High polymer membrane air dryer)	④ Regulator	Differential pressure gauge
SU3015-A-W	F3000-10-W-F	M3000-10-W-F1	SD3015-A	R3000-10-W	GA400-8-P02
SU3025-A-W	F4000-10-W-F	M4000-10-W-F1	SD3025-A	R4000-10-W	GA400-8-P02
SU3035-A-W	F4000-10-W-F	M4000-10-W-F1	SD3035-A	R4000-10-W	GA400-8-P02
SU3050-A-W	F4000-10-W-F	SM4000	SD3050-A	R4000-10-W	GA400-8-P02
SU3075-A-W	F4000-10-W-F	SM4000	SD3075-A	R4000-10-W	GA400-8-P02
SU4100-A-W	F4000-15-W-F	SM4000	SD4100-A	R4000-15-W	GA400-8-P02
SU3015-B-W	F3000-10-W-F	M3000-10-W-F1	SD3015-B	R3000-10-W	GA400-8-P02
SU3025-B-W	F3000-10-W-F	M3000-10-W-F1	SD3025-B	R3000-10-W	GA400-8-P02
SU3050-B-W	F4000-10-W-F	M4000-10-W-F1	SD3050-B	R4000-10-W	GA400-8-P02
SU4050-B-W	F4000-15-W-F	SM4000	SD4050-B	R4000-15-W	GA400-8-P02
SU4100-B-W	F4000-15-W-F	SM4000	SD4100-B	R4000-15-W	GA400-8-P02

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

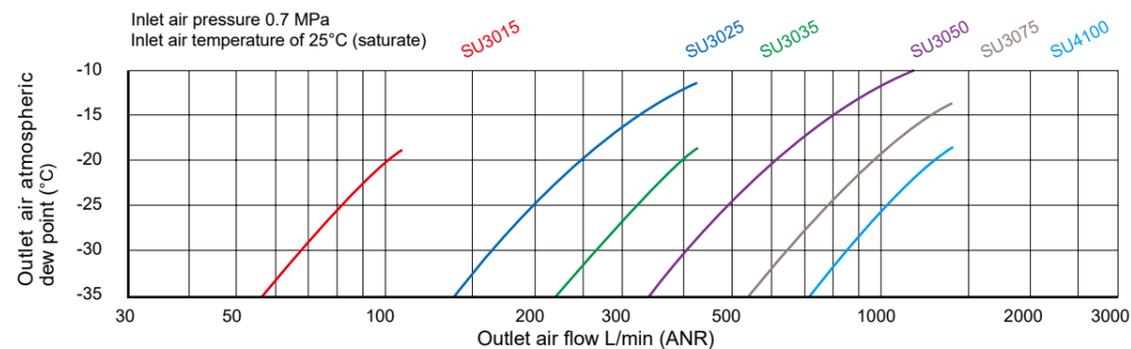
Drain discharger, etc.

Ending

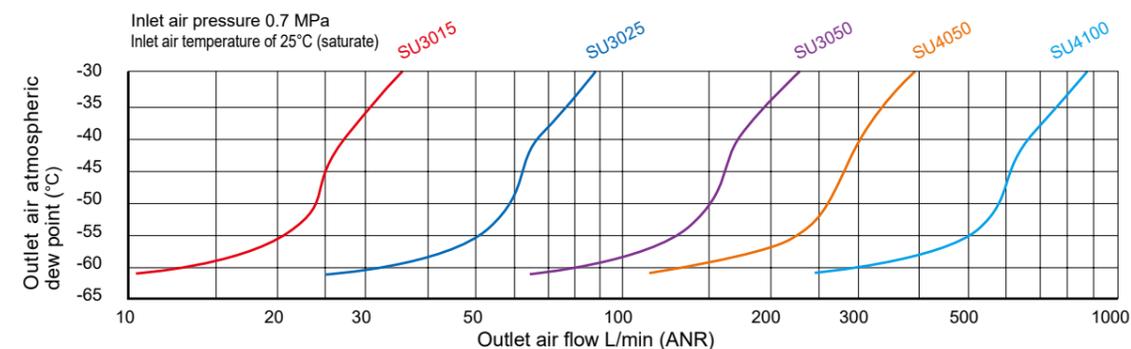
Ending

Dew point performance For the correction method, please refer to P. 203.

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



●Dew point performance curve (-40, -60°C specifications)

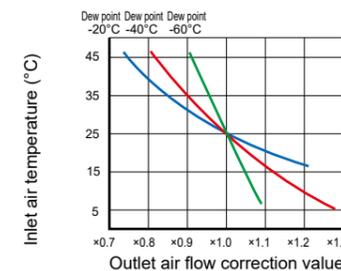


Selection Guide

STEP 1 Confirm the working conditions and the rated values listed in the specifications.
Working conditions: Inlet air pressure, inlet air temperature, required air flow rate, required atmospheric dew point

STEP 2 Confirm the compensation coefficient for outlet air flow rate affected by inlet air temperature.
(1) Temperature - Outlet air flow rate compensation coefficient
*If the inlet air is air that has passed through a refrigerated air dryer, select the inlet air temperature as 10°C, regardless of the actual temperature.

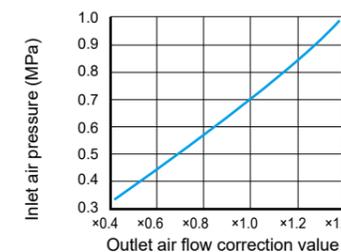
●Inlet temperature - outlet air flow rate correction curve



STEP 3 Confirm the compensation coefficient for outlet air flow rate affected by inlet air pressure.

(2) Pressure - Outlet air flow rate correction coefficient

●Inlet pressure - outlet air flow rate correction curve



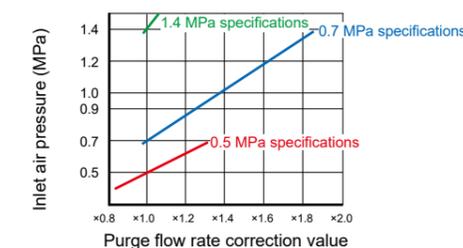
STEP 4 Determine the appropriate model from the outlet air flow rate of each model.

Rated outlet air flow rate × (1) Temperature correction coefficient × (2) Pressure correction coefficient = Corrected outlet air flow rate
Select one with sufficient outlet air flow rate after correction with the above formula.

STEP 5 Confirming purge air flow rate

(3) Pressure - Purge flow rate compensation coefficient

●Inlet pressure - purge flow rate correction curve



STEP 6 Find the inlet air flow rate from the outlet air flow rate and the purge flow rate of each model.

Outlet air flow rate obtained in STEP 4 + Purge flow rate obtained in STEP 5 = corrected inlet air flow rate
Based on the inlet air flow rate corrected as above, confirm whether the compressor capacity is sufficient.

Example of Calculation

Conditions	Working Conditions	Selecting Conditions	Compensation coefficient for inlet flow rate	Compensation coefficient for purge flow rate
Inlet air temperature	25 to 30 °C	30°C	0.95	-
Inlet air pressure	0.5 to 0.55 MPa	0.5 MPa	0.7	1.0
Outlet atmospheric dew point	-40°C	-40°C	-	-

Substitute the above conditions into the equation above to obtain the outlet air flow rate when using the SU3025-B05-W.

Outlet air flow rate is $65 \times 0.95 \times 0.7 = 43.2$ L/min (ANR)

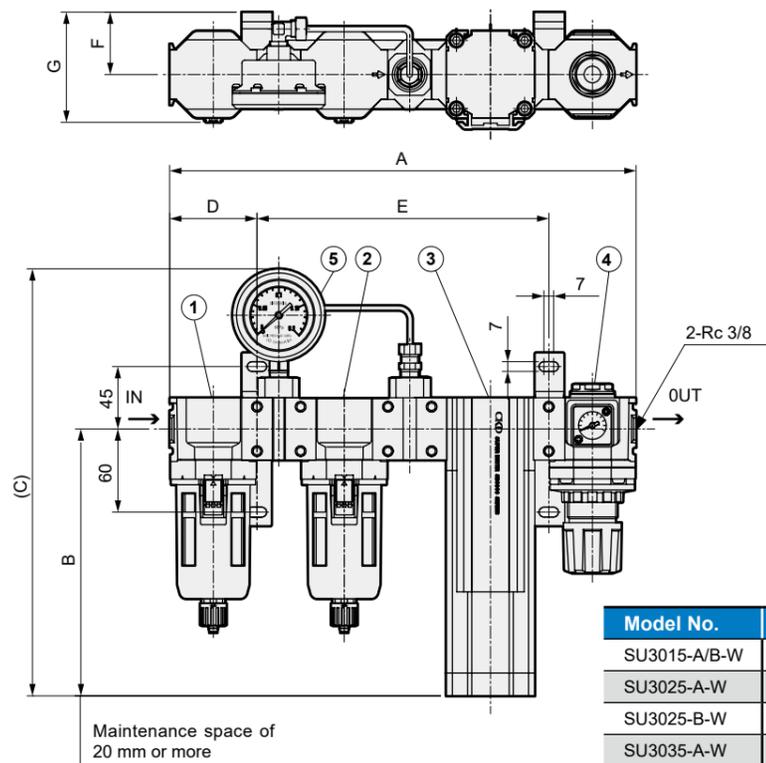
Purge flow rate is $25 \times 1.0 = 25$ L/min (ANR)

In this case, the inlet air flow rate is $43.2 + 25 = 68.2$ L/min (ANR).

SU3000, SU4000-W Series

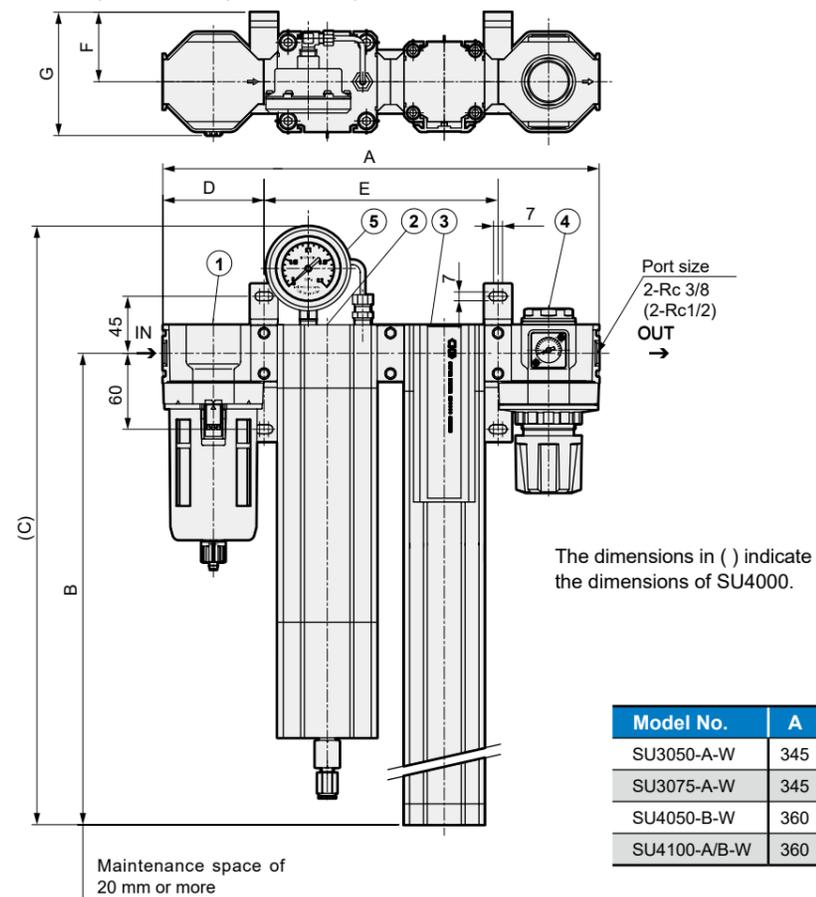
Dimensions

●SU3015-A/B-W, SU3025-A/B-W, SU3035-A-W, SU3050-B-W



Model No.	A	B	C	D	E	F	G	Weight (kg)
SU3015-A/B-W	337	193	308	63	211	45	85	3.3
SU3025-A-W	388	293	408	80	228	55	97	4.4
SU3025-B-W	337	293	408	63	211	45	85	3.7
SU3035-A-W	388	393	508	80	228	55	97	4.8
SU3050-B-W	388	543	658	80	228	55	97	5.3

●SU3050-A-W, SU3075-A-W, SU4050-B-W, SU4100-A/B-W



Model No.	A	B	C	D	E	F	G	Weight (kg)
SU3050-A-W	345	543	644	80	185	55	97	7.7
SU3075-A-W	345	793	894	80	185	55	97	8.6
SU4050-B-W	360	543	644	80	200	55	106	9.0
SU4100-A/B-W	360	1043	1144	80	200	55	106	11.8

MEMO

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending



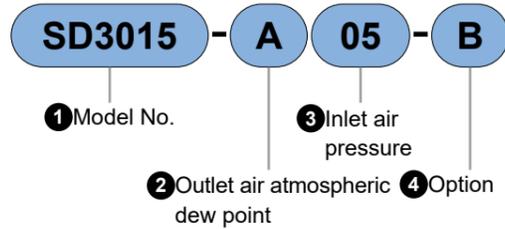
Super Dryer (High polymer membrane air dryer) SD3000, SD4000 Series

- Modular design for easy system expansion with peripheral components
- Quickly supplies ultra-dry air of -60°C atmospheric dew point.
- Suitable for a wide range of applications with 1.5 MPa max. working pressure.
- Processing air flow rate: 35 to 890 L/min (ANR)
(0.7 MPa, atmospheric dew point -40°C)

SD3000, SD4000 Series Specifications

Model No. Notation

- Super dryer (High polymer membrane air dryer)



① Model No.

Code	Description
SD3015	SD3015
SD3025	SD3025
SD3035	SD3035
SD3050	SD3050
SD3075	SD3075
SD4050	SD4050
SD4075	SD4075
SD4100	SD4100

② Outlet air atmospheric dew point

Code	Description
A	-20°C
B	-40°C
C	-60°C

③ Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa
14	1.4 MPa (Not available when the outlet air atmospheric dew point is "A" (-20°C).)

- *1: Select "05" if the inlet air pressure is less than 0.7 MPa, and "07" if it is 0.7 MPa and over and less than 1.4 MPa.
- *2: 1.4 MPa inlet air pressure and -20°C outlet air atmospheric dew point cannot be selected together. This is because the atmospheric pressure dew point is -14°C at an inlet temperature of 25°C and pressure of 1.4 MPa, -making the use of a dryer almost meaningless. Select -40°C or -60°C.

④ Option

Code	Description
Blank	None
B	With bracket
E	Common exhaust
X1	IN-OUT reverse

- *1: When ordering several options, indicate the required options in alphabetical order.
- *2: Purge air of standard products is released to the atmosphere. If "E" is selected, common exhaust of purge air is enabled. Size of exhaust port is Rc1/2.
- *3: Viewed from the front, a standard product has an air inlet on the left port, while an air outlet on the right port. When "X1" is selected, an air inlet is provided on the right port, while an air outlet is provided on the left port.

Specifications for Rechargeable Batteries (Catalog No. CC-1226AA)

- Design compatible with rechargeable battery manufacturing processes

SD□□□□ - - P4*

*Contact CKD for details.

Specifications

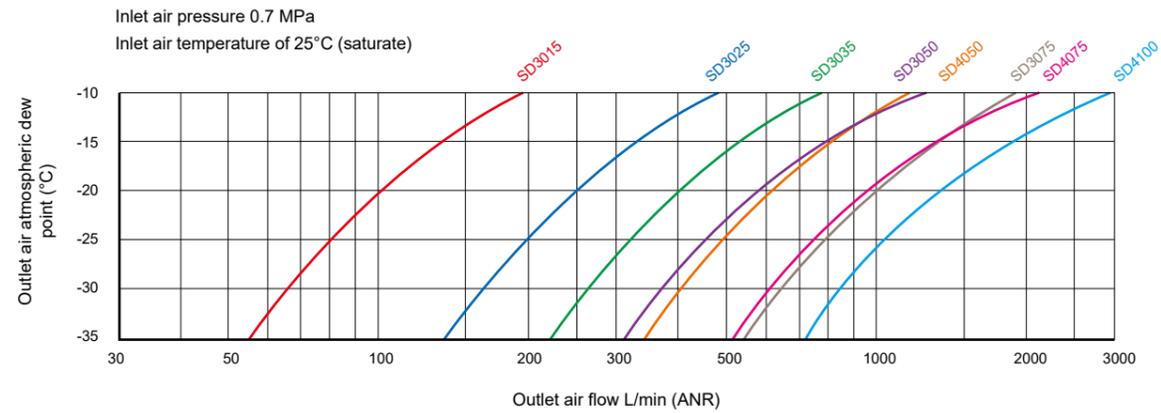
Item	SD3015	SD3025	SD3035	SD3050	SD3075	SD4050	SD4075	SD4100	
Working fluid	Compressed air								
Inlet air pressure MPa	0.4 to 1.5								
Proof pressure MPa	2.25								
Inlet air temperature °C	5 to 50								
Ambient temperature °C	5 to 50								
Inlet air pressure dew point °C	25								
Inlet air pressure MPa	0.7								
Inlet air temperature °C	25								
Ambient temperature °C	25								
Range of working conditions	Inlet air flow rate L/min (ANR)	125	300	490	760	1200	680	1100	1500
	Outlet air flow rate L/min (ANR)	100	240	390	610	960	570	930	1260
	Purge flow rate L/min (ANR)	25	60	100	150	240	110	170	240
Standard rating	Inlet air flow rate L/min (ANR)	35	90	150	230	370	410	650	890
	Outlet air flow rate L/min (ANR)	25	65	110	170	270	300	480	650
	Purge flow rate L/min (ANR)	10	25	40	60	100	110	170	240
Outlet air atmospheric dew point	Inlet air flow rate L/min (ANR)	20	55	90	140	220	240	380	520
	Outlet air flow rate L/min (ANR)	10	30	50	80	120	130	210	280
	Purge flow rate L/min (ANR)	10	25	40	60	100	110	170	240

Circuit Diagram Symbol

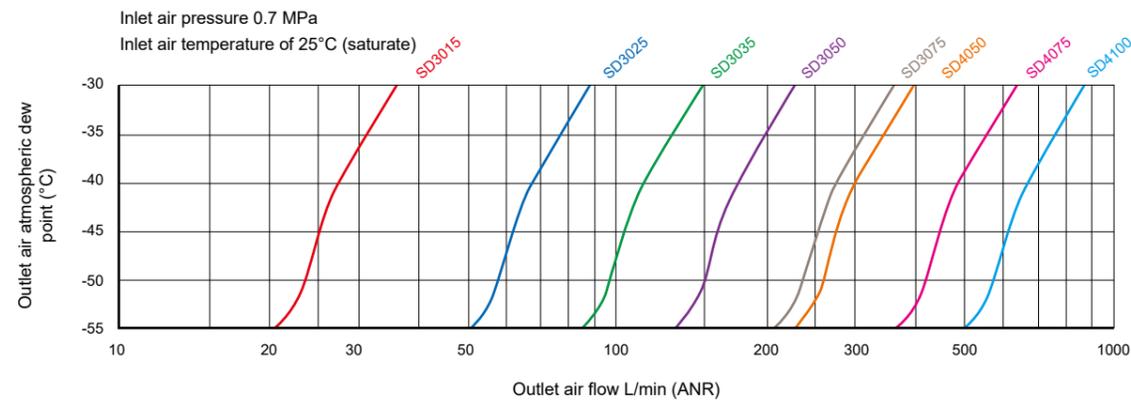


Dew point performance For the correction method, please refer to P. 203.

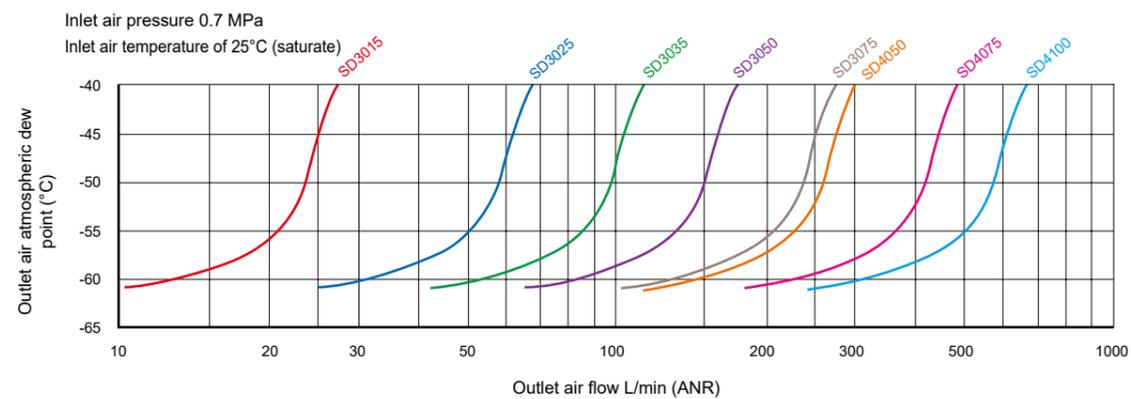
●Dew point performance curve (-20°C specifications)



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



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



Selection Guide

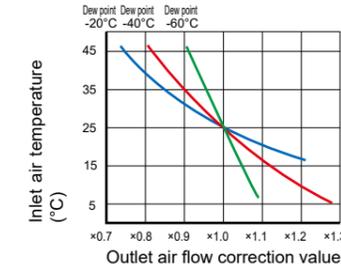
STEP 1 Confirm the working conditions and the rated values listed in the specifications. Working conditions: Inlet air pressure, inlet air temperature, required air flow rate, required atmospheric dew point

STEP 2 Confirm the compensation coefficient for outlet air flow rate affected by inlet air temperature.

(1) Temperature - Outlet air flow rate compensation coefficient

*If the inlet air is air that has passed through a refrigerated air dryer, select the inlet air temperature as 10°C, regardless of the actual temperature.

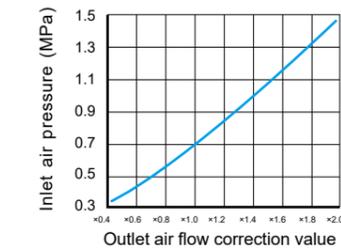
●Inlet temperature - outlet air flow rate correction curve



STEP 3 Confirm the compensation coefficient for outlet air flow rate affected by inlet air pressure.

(2) Pressure - Outlet air flow rate correction coefficient

●Inlet pressure - outlet air flow rate correction curve



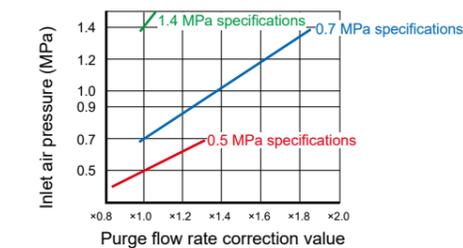
STEP 4 Determine the appropriate model from the outlet air flow rate of each model.

Rated outlet air flow rate × (1) Temperature correction coefficient × (2) Pressure correction coefficient = Corrected outlet air flow rate
Select one with sufficient outlet air flow rate after correction with the above formula.

STEP 5 Confirming purge air flow rate

(3) Pressure - Purge flow rate compensation coefficient

●Inlet pressure - purge flow rate correction curve



STEP 6 Find the inlet air flow rate from the outlet air flow rate and the purge flow rate of each model.

Outlet air flow rate obtained in STEP 4 + Purge flow rate obtained in STEP 5 = corrected inlet air flow rate
Based on the inlet air flow rate corrected as above, confirm whether the compressor capacity is sufficient.

Example of Calculation

Conditions	Working Conditions	Selecting Conditions	Compensation coefficient for inlet flow rate	Compensation coefficient for purge flow rate
Inlet air temperature	25 to 30 °C	30°C	0.95	-
Inlet air pressure	0.5 to 0.55 MPa	0.5 MPa	0.7	1.0
Outlet atmospheric dew point	-40°C	-40°C	-	-

Substitute the above conditions into the equation above to obtain the outlet air flow rate when using the SD3025-B05.

Outlet air flow rate is $65 \times 0.95 \times 0.7 = 43.2$ L/min (ANR)

Purge flow rate is $25 \times 1.0 = 25$ L/min (ANR)

In this case, the inlet air flow rate is $43.2 + 25 = 68.2$ L/min (ANR).

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

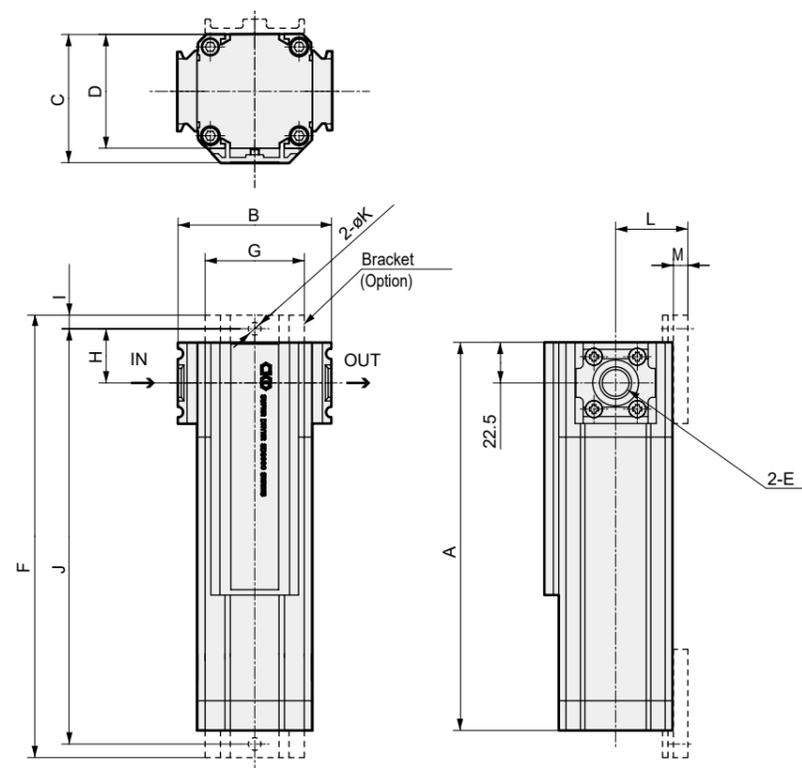
Main Line Filters

Drain discharger, etc.

Ending

SD3000, SD4000 Series

Dimensions



Model No.	A	B	C	D	E	Weight (kg)	Bracket relational dimensions							
							F	G	H	I	J	K	L	M
SD3015	215	85	71	63	Rc 3/8	1.4	245	55	30	7.5	230	7	40	8
SD3025	315	85	71	63	Rc 3/8	1.8	345	55	30	7.5	330	7	40	8
SD3035	415	85	71	63	Rc 3/8	2.2	445	55	30	7.5	430	7	40	8
SD3050	565	85	71	63	Rc 3/8	2.7	595	55	30	7.5	580	7	40	8
SD3075	815	85	71	63	Rc 3/8	3.6	845	55	30	7.5	830	7	40	8
SD4050	565	100	90	79	Rc 1/2	4.0	605	70	32.5	10	585	9	50	10
SD4075	815	100	90	79	Rc 1/2	5.4	855	70	32.5	10	835	9	50	10
SD4100	1065	100	90	79	Rc 1/2	6.8	1105	70	32.5	10	1085	9	50	10

For maintenance parts, refer to the CKD Components Product site
 Refer to (<https://www.ckd.co.jp/kiki/en/>) → "Model No." → Maintenance Parts

MEMO

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Ending

Ending

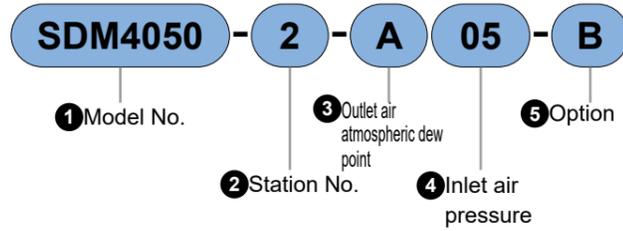


Super Dryer Modular Series SDM4000 Series

- Large flow rate 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)

Model No. Notation

● Super dryer (High polymer membrane air dryer)



1 Model No.

Code	Description
SDM4050	SDM4050
SDM4075	SDM4075
SDM4100	SDM4100

2 Station No.

Code	Description	
2	2 stations	
3	3 stations	
6	6 stations	
8	8 stations	
10	10 stations (not available for SDM4100)	

3 Outlet air atmospheric dew point

Code	Description
A	-20°C
B	-40°C
C	-60°C

4 Inlet air pressure

Code	Description
05	0.5 MPa
07	0.7 MPa
14	1.4 MPa (● Not available when the outlet air atmospheric dew point is "A" (-20°C).)

*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 together. 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 type.

5 Option

Code	Description	
Blank	None	
B	With bracket	

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

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 to 1.5													
Proof pressure MPa	2.25													
Inlet air temperature °C	5 to 50													
Ambient temperature °C	5 to 50													
Outlet air atmospheric dew point °C	-20													
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													
Inlet air pressure MPa	0.7													
Inlet air temperature °C	25													
Ambient temperature °C	25													

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

Circuit Diagram Symbol



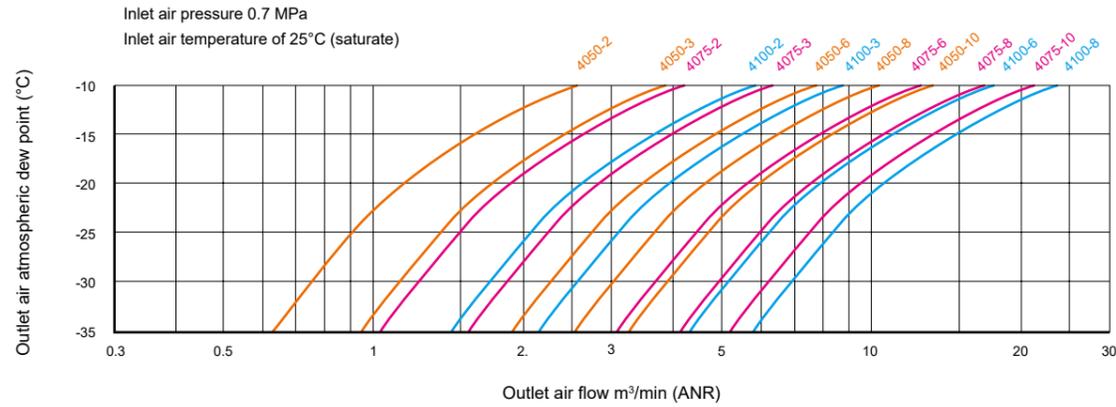
Selection guide by compressor capacity

		Inlet air pressure 0.7 MPa Inlet air temperature of 25°C (saturate) m ³ /min (ANR)								
Compatible compressor kw	atmospheric dew point	3.7	5.5	7.5	11	15	22	37	55	75
	-20°C			SDM4050-2-A07	SDM4075-2-A07	SDM4075-3-A07	SDM4050-6-A07	SDM4075-6-A07	SDM4100-6-A07	SDM4100-8-A07
				1.36	2.20	3.30	4.08	6.60	9.20	12.40
				1.14	1.86	2.79	3.42	5.58	7.76	10.48
	-40°C		SDM4050-2-B07	SDM4075-2-B07	SDM4075-3-B07	SDM4100-3-B07	SDM4075-6-B07	SDM4075-10-B07		
				0.82	1.30	1.95	2.67	3.90	6.50	
				0.60	0.96	1.44	1.95	2.88	4.80	
	-60°C	SDM4050-2-C07	SDM4075-2-C07	SDM4075-3-C07	SDM4100-3-C07	SDM4075-8-C07	SDM4075-10-C07			
		0.50	0.76	1.14	1.65	3.04	3.80			
		0.28	0.42	0.63	0.93	1.68	2.10			

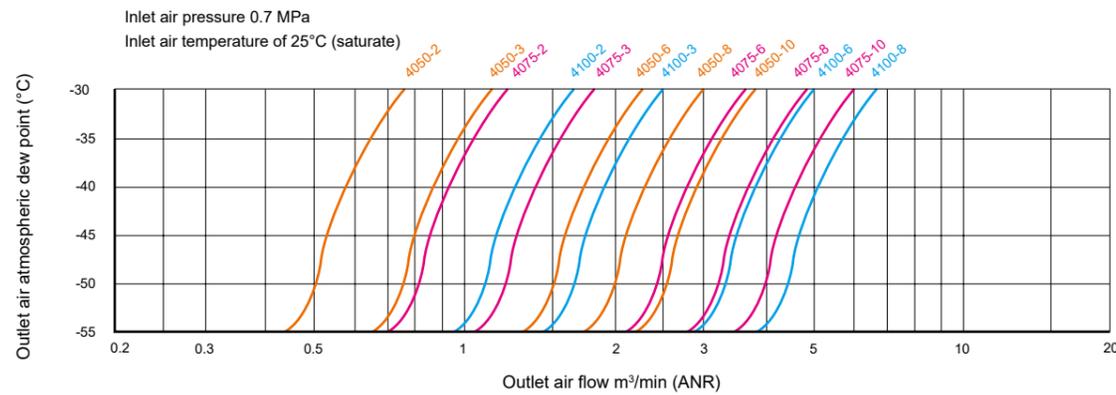
With different flow rate and conditions, select the model based on the dew point performance curve on page 200 according to the required outlet air flow rate.

Dew point performance For the correction method, please refer to P. 203.

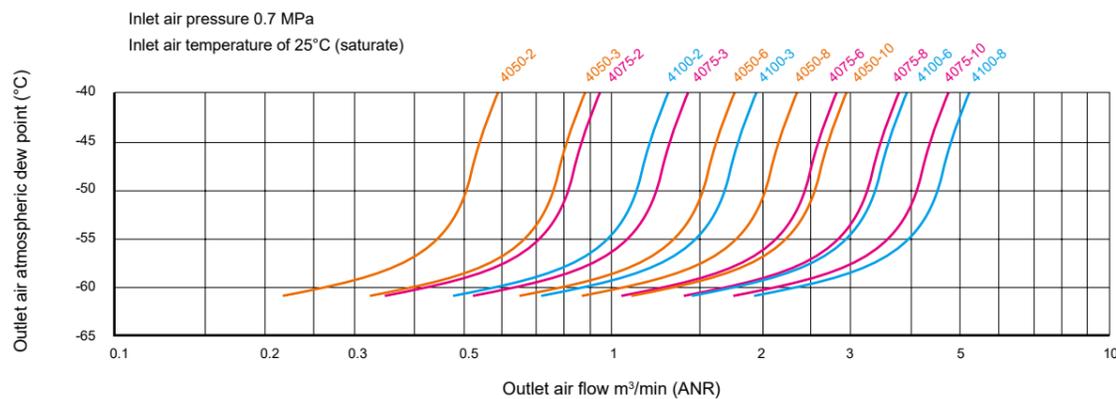
●Dew point performance curve (-20°C specifications)



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



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



Selection Guide

STEP 1 Confirm the working conditions and the rated values listed in the specifications.

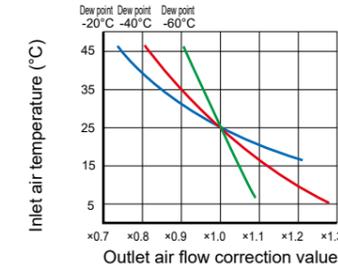
Working conditions: Inlet air pressure, inlet air temperature, required air flow rate, required atmospheric dew point

STEP 2 Confirm the compensation coefficient for outlet air flow rate affected by inlet air temperature.

(1) Temperature - Outlet air flow rate compensation coefficient

*If the inlet air is air that has passed through a refrigerated air dryer, select the inlet air temperature as 10°C, regardless of the actual temperature.

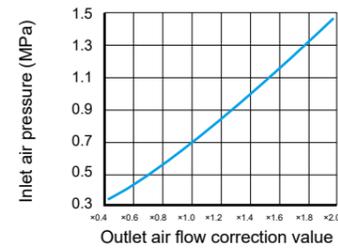
●Inlet temperature - outlet air flow rate correction curve



STEP 3 Confirm the compensation coefficient for outlet air flow rate affected by inlet air pressure.

(2) Pressure - Outlet air flow rate correction coefficient

●Inlet pressure - outlet air flow rate correction curve



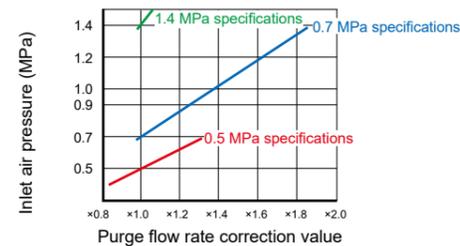
STEP 4 Determine the appropriate model from the outlet air flow rate of each model.

Rated outlet air flow rate × (1) Temperature correction coefficient × (2) Pressure correction coefficient = Corrected outlet air flow rate
Select one with sufficient outlet air flow rate after correction with the above formula.

STEP 5 Confirming purge air flow rate

(3) Pressure - Purge flow rate compensation coefficient

●Inlet pressure - purge flow rate correction curve



STEP 6 Find the inlet air flow rate from the outlet air flow rate and the purge flow rate of each model.

Outlet air flow rate obtained in STEP 4 + Purge flow rate obtained in STEP 5 = corrected inlet air flow rate
Based on the inlet air flow rate corrected as above, confirm whether the compressor capacity is sufficient.

Example of Calculation

Conditions	Working Conditions	Selecting Conditions	Compensation coefficient for inlet flow rate	Compensation coefficient for purge flow rate
Inlet air temperature	25 to 30 °C	30°C	0.95	-
Inlet air pressure	0.5 to 0.55 MPa	0.5 MPa	0.7	1.0
Outlet atmospheric dew point	-40°C	-40°C	-	-

Substitute the above conditions into the equation above to obtain the outlet air flow rate when using the SDM4050-2-B05.

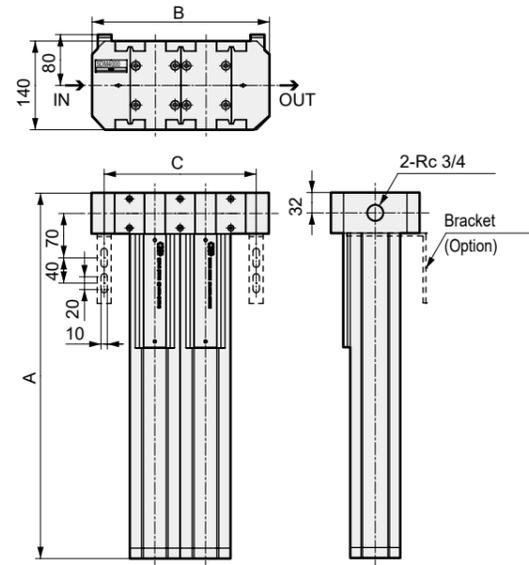
Outlet air flow rate is 600×0.95×0.7=399 L/min (ANR)

Purge flow rate is 220×1=220 L/min (ANR)

In this case, the inlet air flow rate is 399+220=619 L/min (ANR).

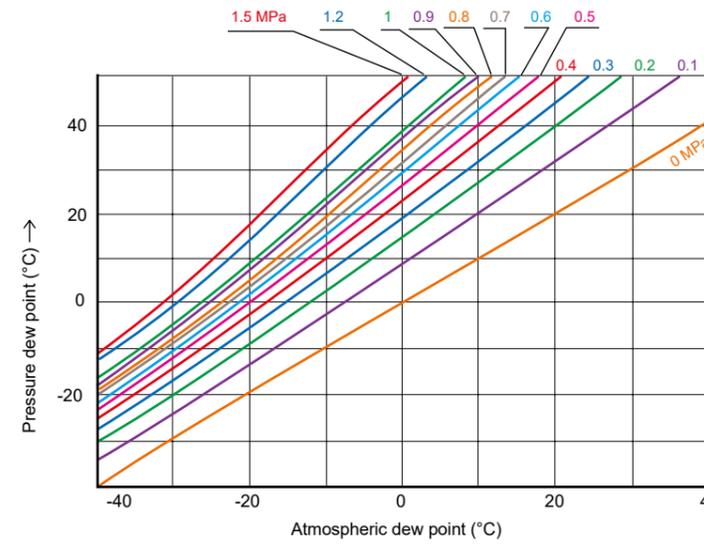
Dimensions

● 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

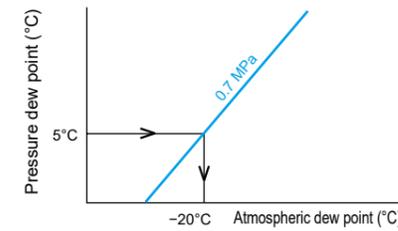
Pressure dew point - atmospheric dew point conversion table



Reading pressure dew point - atmospheric dew point conversion table

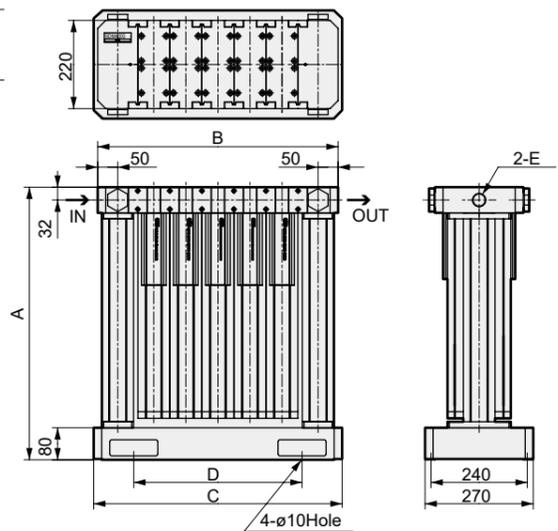
This table, The pressure dew point at each pressure is changed to the atmospheric dew point, or when converting the atmospheric dew point into a pressure dew point.

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.

● 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

For maintenance parts, refer to the CKD Components Product site
Refer to (<https://www.ckd.co.jp/kiki/en/>) → "Model No." → Maintenance Parts



Pneumatic components (high polymer membrane air dryer)

Safety Precautions

Be sure to read this section before use.

For general pneumatic components precautions, refer to Intro 15.

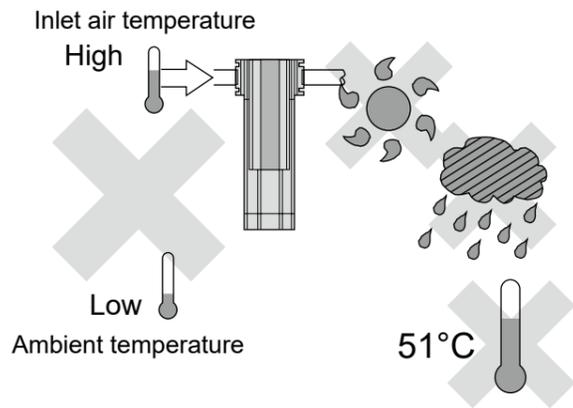
Product-specific cautions: Super dryer SU/SD Series

Design / Selection

CAUTION

Working environment

- Avoid using in a state where the inlet air temperature is higher than the ambient temperature. (Water drops may form and accumulate inside if the super dryer body cools)
- Avoid installing this product where it will be subject to direct sunlight or rain.
- As the bowl material is polycarbonate, avoid use with the following chemicals or in an atmosphere containing these chemicals. [SUSeries]
- Avoid use in environments where ozone is generated.
- Avoid use where vibration and impact are present.



■ The oil mist filter comes to the end of its service life when the pressure drops to 0.07 MPa or after one year of use, whichever comes first. Replace the mantle with a new one at the end of its life. (Check the pressure drop with the differential pressure gauge.) (Do not touch the urethane rubber foam layer when replacing the mantle) [SUSeries]

■ The life of the membrane module of the Super Dryer varies depending on the conditions of use, but it should be replaced after 3 to 5 years.

■ Be aware that adequate time is necessary to obtain a required dew point after compressed air is supplied.

Types of Chemicals	Categories of Chemicals	Main Products of Chemicals	General Applications	Polycarbonate
Inorganic compounds	Acids	Hydrochloric acid, sulfuric acid, fluorine, phosphoric acid, chromic acid, etc.	Acid washing of metals, acidic degreasing solutions, Coating treatment solution	×
	Alkalines	Caustic soda, caustic potash, calcium hydroxide, aqueous ammonia, sodium carbonate, etc.	Alkaline degreasing solution for metals	×
	Inorganic salts	Sodium sulfide, potassium nitrate, potassium bichromate, sodium sulfate, etc.		×
Organic compounds	Aromatic hydrocarbons	Benzene, toluene, xylene, ethyl benzene, styrene, etc.	Contained in paint thinner (benzene, toluene, xylene)	×
	Chlorinated aliphatic hydrocarbons	Methyl chloride, ethylene chloride, methylene chloride, acetylene chloride, chloroform, trichlene, perchlene, carbon tetrachloride	Organic Solvent-Based Washing Solution for Metals (Trichloroethylene, Tetrachloroethylene, Carbon Tetrachloride, etc.)	×
	Chlorinated aromatic hydrocarbons	Chlorobenzene, dichlorobenzene, benzene hexachloride (B/H/C), etc.	Agricultural chemicals	×
	Petroleum components	Solvent, naphtha, gasoline		×
	Alcohols	Methanol, ethanol, cyclohexanol, benzyl alcohol	Used as an antifreeze agent	×
	Phenol	Carbolic acid, cresol, naphthol, etc.	Disinfectant solution	×
	Ethers	Methyl ether, methyl ethyl ether, ethyl ether	Brake fluid additive	×
	Ketones	Acetone, methyl ethyl ketone, cyclohexanone, acetophenone, etc.		×
	Carboxylic acids	Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc.	Dyes/oxalic acid are used for aluminum treatment Phthalic Acid Is Used as a Paint Base	×
	Phosphate ester	Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP)	Lubricant, synthetic coolant, rust preventing agent additives Used as plasticizer for synthetic resin	×
	Oxyacids	Glycolic acid, lactic acid, malic acid, citric acid, tartaric acid		×
	Nitro compounds	Nitromethane, nitroethane, nitroethylene, nitrobenzene, etc.		×
	Amines	Methylamine, dimethylamine, ethylamine, aniline, acetanilide, etc.	Brake fluid additive	×
	Nitriles	Acetonitrile, acrylonitrile, benzonitrile, acetoisonitrile, etc.	Raw material for nitrile rubber	×

For precautions during mounting, installation, adjustment, use and maintenance, refer to the CKD Components Product Site (<https://www.ckd.co.jp/kiki/en/>) → Model No. → [Instruction Manual](#)

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.