

CKD

SUPER DRYER SDM4000

Instruction manual

- Be sure to read this manual before installing and operating your SUPER DRYER.
- Keep this manual within the reach of an operator all the time.

C K D Corporation

JAN-2013 4th EDITION SM-11411-A

Thank you for adopting CKD's quality product.

For maximum results and the most effective utilization of the CKD Super dryer, it is recommended you read and understand this manual prior to installation.

This manual is edited consisting of the following six sections.

- PRODUCT
- CAUTION
- INSTALLATION
- MAINTENANCE
- MODEL CODING

It is, of course, desirable that you read this manual through before start using the product. This manual is so edited that a certain idea will be conveyed by reading the related section only, first of all. For instance, just reading the section of the installation, in case that an immediate installation is mandatorily required.

Table of Contents

1. PRODUCTS

1-1 Specifications	1
1-2 External Dimensions	2

2. CAUTION 3

3. INSTALLATION

3-1 Piping	4
3-2 Installation (2 or 3 station type)	5
3-3 Installation (6, 8, 10 station type)	5

4. MAINTENANCE

4-1 Membrane module replacement	6
4-2 Maintenance parts	7

5. MODEL CODING 8

1. PRODUCT

1-1. Specifications

Model			SDM4050-2	SDM4050-3	SDM4075-2	SDM4075-3	SDM4100-2	SDM4100-3	SDM4050-6	SDM4050-8	SDM4050-10	SDM4075-6	SDM4075-8	SDM4075-10	SDM4100-6	SDM4100-8
Item																
Applicable conditions	Media		Compressed air													
	Inlet pressure MPa		0.4~1.5													
	Proof pressure MPa		2.25													
	Inlet temperature °C		5~50													
	Ambient temperature °C		5~50													
Standard rating	Outlet atmospheric dew point °C		-20													
	Condition	Inlet air flow 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
		Inlet pressured dew point °C	25													
		Inlet air pressure MPa	0.7													
		Inlet air temperature °C	25													
		Ambient temperature °C	25													
Port size Rc		3/4						1			1 1/2					
Mass kg		12	17	15	21	18	25	41	50	59	52	64	76	63	78	

(Note1) Water drop and oil (Less than 0.01mg/m³) to be eliminated from the compressed air supplied to Super dryer.

1-2. External Dimensions

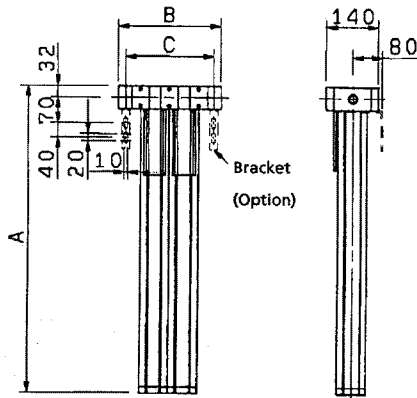


Fig.1

MODEL	A	B	C
SDM4050-2	577	280	240
SDM4050-3	577	360	320
SDM4075-2	827	280	240
SDM4075-3	827	360	320
SDM4100-2	1077	280	240
SDM4100-3	1077	360	320

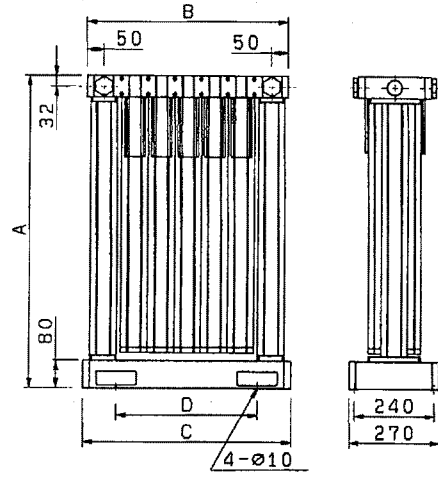


Fig.2

MODEL	A	B	C	D
SDM4050-4	680	360	380	180
SDM4050-6	680	440	460	260
SDM4050-8	680	520	540	360
SDM4050-10	680	600	620	420
SDM4075-4	930	360	380	180
SDM4075-6	930	440	460	260
SDM4075-8	930	520	540	340
SDM4075-10	930	600	620	420
SDM4100-4	1180	360	380	180
SDM4100-6	1180	440	460	260
SDM4100-8	1180	520	540	340

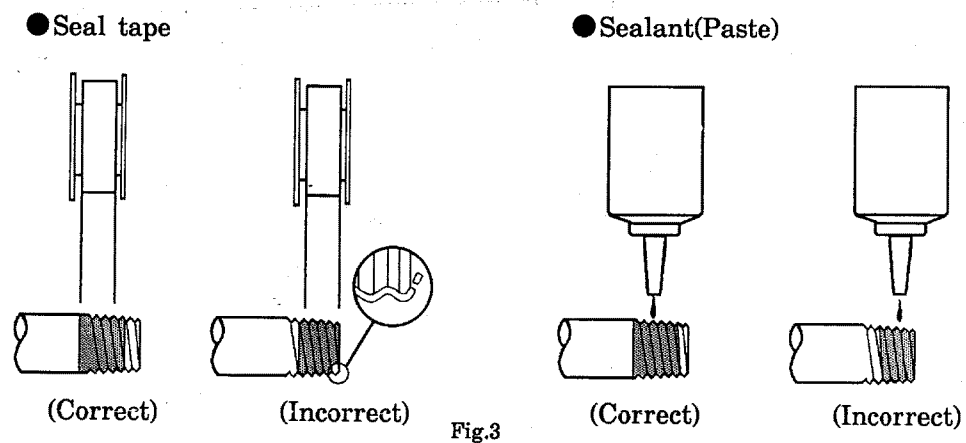
2. CAUTION

- 1) Use within ambient temperature of 5~50°C.
- 2) Keep operating pressure below 1.5MPa.
- 3) Avoid installation close to welding or spray painting areas.
- 4) Avoid installation in direct sun light.
- 5) Air filter of 5 μ m filtration and oil mist filter to be installed at inlet of Super dryer when supplied air is lubricated and close to saturated.
- 6) Pressure reducing valve, such as regulator to be installed at outlet of Super dryer.
- 7) Super dryers reduce oxygen content. Do not use for breathing air.

3. INSTALLATION

3-1. Piping

- 1) Install so as air flow coincides with the directional arrows on the cover.
- 2) Use port size larger than that of air piping for air filter and Super dryer.
- 3) Flush air into the pipe to blow out foreign substances and metal chips before piping.
- 4) Leave at least two thread pitches prior to the end of pipe before applying sealant or sealing tape to reduce the possibility of contamination or fowling.



3-2. Installation (2 or 3 station type)

- 1) Both inlet and outlet pipes must be fixed, when the super dryer will be used as suspended by pipes, or a filter will be installed before or after itself. See figure 4. The dryer body can be fixed with brackets, also. See figure 5.
- 2) Allow a minimum of 300mm upward and 30mm downward for maintenance purpose.
(Refer to fig.4)

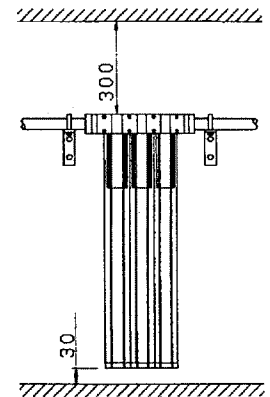


Fig.4

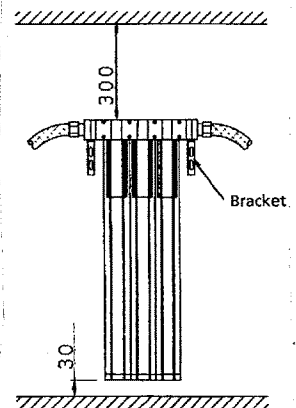


Fig.5

3-3. Installation (6, 8, 10 station type)

- 1) The place where the super dryer will be installed must be flat and strong enough to support it.
- 2) The base has four fixture holes ($\Phi 10$).
Please see the dimensions on the catalog about those holes' dimensions.
- 3) Allow a minimum of 300mm upward for maintenance purpose. (Refer to fig.6)

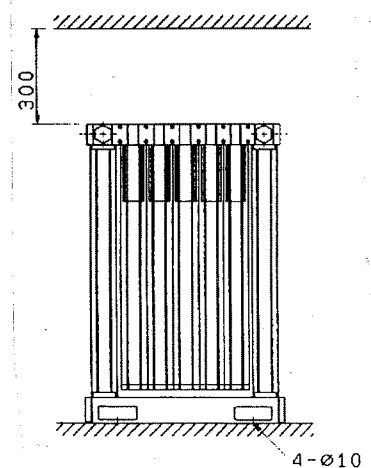


Fig.6

4. MAINTENANCE

4-1. Membrane module replacement

- 1) Using hex bar spanner to loose four hex cap bolts supporting each modules at the upper header block enables to replace membranes modules.
- 2) Using hex bar spanner to loose two silencer fixture screws at each membranes module assembly allows to remove silencers. The silencer will be removed along the rail.
- 3) The silencer will be inserted and fixed at the header block with the reverse procedure of removing.
- 4) The silencer should be pushed and reached to the header block along the rail, then fixed by silencer fixture screws.

The tightening torque is followings.

Hex. bar spanna	Tightening torque
Round nominated 2.5	3N·m
Round nominated 6	10N·m

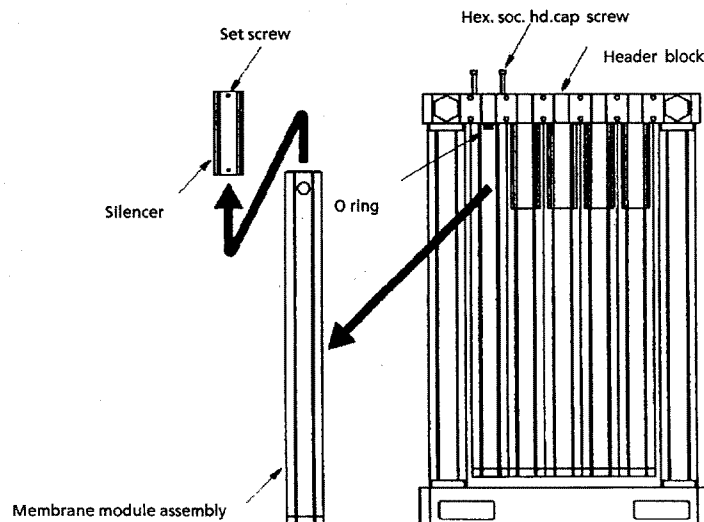


Fig.7

4-2. Maintenance parts

Model \ Part name	Membrane module	O ring set
SDM4050-○-A05	SDM4050-A05- Membrane module	SD-3000/4000 -O ring set
SDM4050-○-B05	SDM4050-B05- Membrane module	
SDM4050-○-C05	SDM4050-C05- Membrane module	
SDM4050-○-A07	SDM4050-A07- Membrane module	
SDM4050-○-B07	SDM4050-B07- Membrane module	
SDM4050-○-C07	SDM4050-C07- Membrane module	
SDM4050-○-B14	SDM4050-B14- Membrane module	
SDM4050-○-C14	SDM4050-C14- Membrane module	
SDM4075-○-A05	SDM4075-A05- Membrane module	
SDM4075-○-B05	SDM4075-B05- Membrane module	
SDM4075-○-C05	SDM4075-C05- Membrane module	
SDM4075-○-A07	SDM4075-A07- Membrane module	
SDM4075-○-B07	SDM4075-B07- Membrane module	
SDM4075-○-C07	SDM4075-C07- Membrane module	
SDM4075-○-B14	SDM4075-B14- Membrane module	
SDM4075-○-C14	SDM4075-C14- Membrane module	
SDM4100-○-A05	SDM4100-A05- Membrane module	
SDM4100-○-B05	SDM4100-B05- Membrane module	
SDM4100-○-C05	SDM4100-C05- Membrane module	
SDM4100-○-A07	SDM4100-A07- Membrane module	
SDM4100-○-B07	SDM4100-B07- Membrane module	
SDM4100-○-C07	SDM4100-C07- Membrane module	
SDM4100-○-B14	SDM4100-B14- Membrane module	
SDM4100-○-C14	SDM4100-C14- Membrane module	

O ring should be changed same time, if modules were used for long time and will be changed. O rings are available as "O ring set" including 4 pieces of O rings to replace two modules.

5. MODEL CODING

SDM	①	②	③	④	⑤						
Product	①Basic module		②Module number		③Type	④Inlet air pressure		⑤Options			
Super dryer	4050	□80×L500	2	2 station	A	Outlet pressure dew point -20℃		05	0.5MPa	Brank	No option
	4075	□80×L750	3	3 station	B	Outlet pressure dew point -40℃		07	0.7MPa	B	Bracket
	4100	□80×L1000	6	6 station	C	Outlet pressure dew point -60℃		14	1.4MPa		
			8	8 station							
			10	10 station							