Modular Membrane Dryer MSD

= "Most Popular"

Specifications

Max Pressure Drop	KA1E	PSI (bar)	1.45 (0.099 bar)
	KA2E		1.45 (0.099 bar)
	KB1E		3.90 (0.269 bar)
	KB2E		4.35 (0.299 bar)
Port Size	NPT/BSPP-G		3/8
Weight	KA1E	lbs. (kg)	3.1 (1.4 kg)
	KA2E		3.5 (1.6 kg)
	KB1E		4.2 (1.9 kg)
	KB2E		5.3 (2.4 kg)

* Inlet pressure 100 PSIG (6.9 bar), inlet air temperature 77°F (25°C), tested according to ANSI / CAGI Standard ADF 700

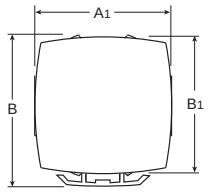
Materials of Construction

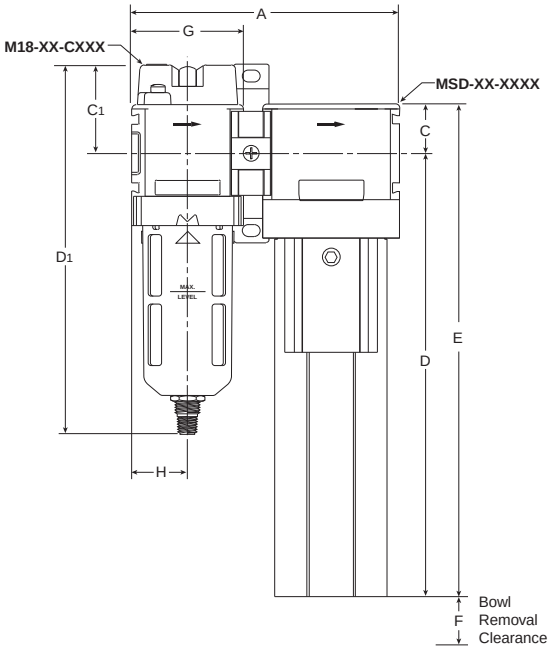
Body	Zinc
Bowl	Aluminum

Features

- Available in 3/8, 1/2 NPT or BSPP-G Port Sizes
- Dried Compressed Air is Immediate
- Compact Modular Design
- Simple and Space-Saving Installation
- Low Pressure Drop
- Suitable for Hazardous Areas
- No Moving Parts
- No Electrical Connection Necessary
- No User Purge Adjustment
- Compatible with 18 / 28 Series Modular Product Line

EXAMPLE:
MSD-XX-CXXX
M18 Coalescing Filter,
0.01 Micron with Membrane Dryer





NOTE: For optimum system design and maximum element life, Wilkerson suggests using an F18 Series 5 micron particulate prefilter in front of the M18 Coalescer.

Dimensions

Models (Inches (mm))	A	A1	B	B1	C	C1	D	D1	E	F	G	H
MSD-XX-KA1X	5.60 (142)	2.90 (74)	— —	2.90 (74)	1.00 (26)	1.90 (48)	6.60 (167.6)	8.23 (209)	7.60 (193)	1.70 (42)	2.36 (59.9)	1.18 (30)
MSD-XX-KA2X	5.60 (142)	2.90 (74)	— —	2.90 (74)	1.00 (26)	1.90 (48)	9.40 (238.8)	8.23 (209)	10.40 (264)	1.70 (42)	2.36 (59.9)	1.18 (30)
MSD-XX-KB1X	5.60 (142)	2.90 (74)	3.10 (79)	2.90 (74)	1.00 (26)	1.90 (48)	10.90 (276.9)	8.23 (209)	11.90 (302)	2.30 (57)	2.36 (59.9)	1.18 (30)
MSD-XX-KB2X	5.60 (142)	2.90 (74)	3.10 (79)	2.90 (74)	1.00 (26)	1.90 (48)	13.70 (347.9)	8.23 (209)	14.70 (373)	2.30 (57)	2.36 (59.9)	1.18 (30)

F

Dryers

How to select your membrane dryer

= "Most Popular"

M S D – 0 3 – K A 1 E

Model Number
MSD Membrane Super Dryer

Thread Type
0 NPT
C BSPP-G

Port Size
3 3/8
4 1/2

Options
K No Prefilter
C With Prefilter Plastic Bowl / Bowl Guard, Auto Drain

Refer to Table A for Dew Point and Flow Capacity Selection. Last three positions of Model numbers are determined by selection of dryer in table A

TO SELECT A DRYER FOR YOUR APPLICATION

The outlet flows in Table A are based on 100 PSIG (6.9 bar) inlet pressure, and 77°F (25°C) inlet air temperature. For proper model selection in your specific application, you must adjust the outlet air flow requirement for the actual inlet air temperature and pressure where the dryer will be installed. This is accomplished by using the correction factors found in Tables B and C (above).

FOR EXAMPLE: If an application which requires a -4°F atmospheric dew point, 8 SCFM (226L/min) of air (this would be dryer outlet flow), system pressure (dryer inlet pressure) at 140 PSIG (9.6 bar), and inlet air temperature of 95°F (35°C). *TO ADJUST FOR PRESSURE:* Take the 8 SCFM (226L/min) air flow, and from Table B, *MULTIPLY* by 1.35, which equals 10.8 SCFM (306L/min). *THEN, TO ADJUST FOR TEMPERATURE:* Take the 10.8 SCFM (306L/min) and from Table C, *MULTIPLY* by 0.85, which equals 9.18 SCFM (275 L/min), which is the *ADJUSTED OUTLET AIR FLOW REQUIREMENT FOR THE APPLICATION*. From Table A, the model which would be best suited for this application is the MSD-03-KB2E, which has an outlet air flow of 10.6 SCFM (300L/min). On the same line, you will see the purge at rated flow is 1.6 SCFM (44L/min), and the TOTAL INLET FLOW REQUIRED (outlet + purge) is 12.2 SCFM (344L/min) for this model.

Please contact Applications Engineering if your application cannot be adjusted using these tables.

Dew Point Conversion Chart

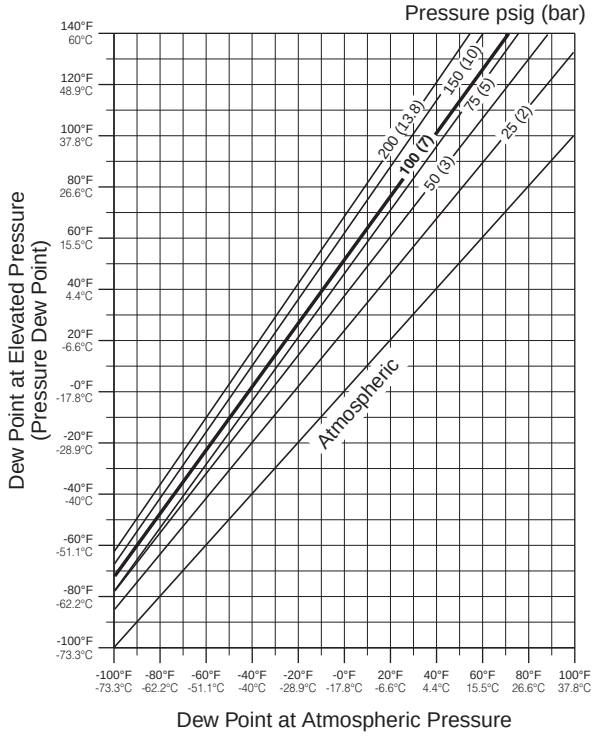


Table A: Membrane Dryer Flow Capacities

Model Number	ADP[1] °F (°C)	Maximum Outlet Air Flow[2] SCFM (L/min)	Purge Flow SCFM (L/min)	Inlet Flow[3] SCFM (L/min)
MSD-03-KA1E	-4 (-20)	1.8 (50)	0.3 (8)	2.1 (58)
MSD-03-KA2E	-4 (-20)	3.5 (100)	0.5 (14)	4.0 (114)
MSD-03-KB1E	-4 (-20)	7.1 (200)	1.1 (30)	8.8 (230)
MSD-03-KB2E	-4 (-20)	10.6 (300)	1.6 (44)	12.2 (344)
MSD-03-KA1D	-4 (-20)	3.5 (100)	0.9 (25)	4.4 (125)
MSD-03-KA2D	-4 (-20)	7.1 (200)	1.8 (50)	8.9 (250)
MSD-03-KB1D	-4 (-20)	14.1 (400)	3.5 (100)	17.6 (500)
MSD-03-KB2D	-4 (-20)	21.2 (600)	5.3 (150)	26.5 (750)
MSD-03-KA1D	-40 (-40)	1.4 (40)	0.9 (25)	2.3 (65)
MSD-03-KA2D	-40 (-40)	2.8 (80)	1.8 (50)	4.6 (130)
MSD-03-KB1D	-40 (-40)	5.7 (160)	3.5 (100)	9.2 (260)
MSD-03-KB2D	-40 (-40)	8.5 (240)	5.3 (150)	13.8 (390)

[1] Atmospheric Dew Point

[2] Flow rates based on: 100 PSIG (6.9 bar) inlet, 77°F (25°C) inlet air temperature, and 77°F (25°C) ambient temperature. Tested according to ANSI / CAGI Standard ADF 700

[3] Required inlet flow is combined outlet flow plus purge flow

Table B:

Pressure Correction Factors (all models)	
Inlet Pressure PSIG (bar)	**Multiply Outlet Flow by:**
60 (4.1)	0.55
80 (5.5)	0.75
100 (6.9)	1.00
120 (8.3)	1.20
140 (9.6)	1.35
160 (11.0)	1.50

Table C:

Inlet Air Temperature Correction Factors		
Inlet Temp °F (°C)	**-40°F (-40°C) ADP**	**-4°F (-20°C) ADP**
	Multiply Outlet Flow by:	
41 (5)	1.28	—
59 (15)	1.10	—
77 (25)	1.00	1.00
95 (35)	0.90	0.85
113 (45)	0.81	0.75
122 (50)	0.80	0.70

Membrane dryer dewpoints at various flow rates