Membrane Air Dryers for Process Control Valves

Market Application Publication

Background:

Pneumatically operated control valves play a critical role in the food and chemical processing industry. Clean, dry, oil free compressed air is critical to their proper operation. Downtime caused from excessive moisture can cost thousands of dollars per hour. Traditional methods of drying compressed air require electricity, regular cleaning and maintenance.

Application:

Advanced control schemes can't produce optimum results unless the control valves operate properly. These valves are typically pneumatically operated or solenoid operated with air assist. To control the valves, air is directed through narrow channels operating precision machined cylinders and slides. The valves exhaust the air into the nearby environment that may include computer control circuits. Contamination in the air will result in partial or total failure of the valves or contamination of the computer control circuits. These valves and control circuitry control the flow of important process materials, so a partial or total failure will affect the quality of the product produced. In most industries, substandard product is rejected at a severe cost.

Case Study:

Bliss Brother's Dairy is a manufacturer and distributor of ice cream and frozen desserts. Several years ago they had a moisture problem that simple filtration could not control. Water in their control valves caused downtime and constant control valve maintenance. Moisture in their sterile air filters caused frequent change outs. They installed a Parker Balston membrane air dryer in their compressed air system and are pleased with the results. Rich Renoni, general manager at Bliss Brother's Dairy says "Before we got the Parker Balston Dryer, we were using simple filtration and the biggest problem was moisture. Water and computer control systems don't mix very well. When we went to the Balston dryer it increased our productivity. I can't think of any application that is using air that dry air wouldn't be a plus."

Parker Balston

ENGINEERING YOUR SUCCESS.

Flow Rates at 35°F (2°C) Pressure Dewpoint [1]

Model Number	IT0010-35	IT0030-35	IT0080-35	IT0150-35	IT0250-3560	IT0250-3500	IT0500-3560	IT0500-3500	IT1000-3560	IT1000-3500
Flow @ 100 psig Inlet Pressure (scfm)	1	3	8	15	25	N/A	50	N/A	100	N/A
Flow @ 101-150 psig Inlet Pressure (scfm)	1	3	8	15	N/A	25	N/A	50	N/A	100
Regeneration Flow @ 100 psig (scfm)	0.25	0.5	1.5	2.7	4.5	4.5	9.0	9.0	14	14

Notes:

1 Dewpoint specified for saturated inlet air at 100°F (38°C) and 100 psig.

Principal Specifications

Model Number	IT0010-35	IT0030-35	IT0080-35	IT0150-35	IT0250-3560	IT0250-3500	IT0500-3560	IT0500-3500	IT1000-3560	IT1000-3500
Min/Mas Inlet Air Temp.	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C
Min/Max Ambient Air Temp.	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C	40°F/120°F 4°C/49°C
Min/Max Inlet Pressure	60/150 psig 4.1/10 barg	60/150 psig 4.1/10 barg	60/150 psig 4.1/10 barg	60/150 psig 4.1/10 barg	60/100 psig 4.1/6.9 barg	10/150 psig 6.9/10 barg	60/100 psig 4.1/16.9 barg	10/150 psig 6.9/10 barg	60/100 psig 4.1/16.9 barg	10/150 psig 6.9/10 barg
Compressed Air Requirements	Total Air Consumption: Regeneration Flow + Outlet Flow Requirements									
Max. Pressure Drop	3 psid	3 psid	3 psid	3 psid	5 psid	5 psid	5 psid	5 psid	5 psid	5 psid
Wall Mountable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanical Separator Included	F14F17B	F06F18B	F06F18B	F07F38B	F07F38B	F07F38B	F07F38B	F07F38B	F07F38B	F07F38B
Coalescing Prefilters	8A02N-0B2-BX (2)	2002N-0B1-BX (2)	2002N-0B1-BX (2)	B2004N-1B1-DX 2104N-0B1-BX	2104N-1B1-DX 2104N-0B1-BX	2104N-1B1-DX 2208N-0B1-BX	2208N-1B1-DX 2208N-0B1-BX	2208N-1B1-DX 2208N-0B1-BX	2208N-1B1-DX 2208N-0B1-BX	2208N-1B1-DX 2208N-0B1-BX
Inlet Port Size	1/4" NPT	1/4" NPT	1/4" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1" NPT	1" NPT	1" NPT	1" NPT
Outlet Port Size	1/4" NPT	1/4" NPT	1/4" NPT	1/2" NPT	1" NPT	1" NPT	1" NPT	1" NPT	1" NPT	1" NPT
Electrical Requirements	None	None	None	None	None	None	None	None	None	None
Dimensions (cm)	17.5"Lx8"Wx2.5"D (44.5x20.3x6.3)	18.1"Lx5.4"Wx4"D (45.2x10.5x6.3)	24"Lx11.1"Wx4"D (61x28.2x6.3)	25"Lx16"Wx4.5"D (63.5x40.6x 1.4)	26"Lx18"Wx6"D (66x45.7x15.2)	26"Lx18"Wx6"D (66x45.7x15.2)	39"Lx21"Wx6"D (99x53.3x15.2)	39"Lx21"Wx6"D (99x53.3x15.2)	47"Lx28"Wx7"D (119x71x18)	47"Lx28"Wx7"D (119x71x18)
Shipping Weight	1.6 lbs(.7 kg)	6.68 lbs(3 kg)	6.6 lbs(3 kg)	14.8 lbs(6.7 kg)	24.5 lbs(11.1 kg)	24.5 lbs(11.1 kg)	35.5 lbs(16.5 kg)	36.5 lbs(16.5 kg)	52 lbs(24 kg)	52 lbs(24 kg)

Notes:

2 If compressed air is extremely contaminated, a Grade DX prefilter should be installed directly upstream from the membrane dryer.

Ordering Information

For assistance, call 1-800-343-4048, 8AM to 5PM EST

Model Number	IT0010-35	IT0030-35	IT0080-35	IT0150-35	IT0250-3560	IT0250-3500	IT0500-3560	IT0500-3500	IT1000-3560	IT1000-3500
Replacement Filter Elements										
1st Stage	050-05-BX	100-12-BX	100-12-BX	100-12-DX	100-18-DX	100-18-DX	150-19-DX	150-19-DX	150-19-DX	150-19-DX
2nd Stage	---	---	---	100-12-BX	100-18-BX	100-18-BX	150-19-BX	150-19-BX	150-19-BX	150-19-BX

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