

Balston IT Series Membrane Air Dryers

Dry Air for Critical Applications



Why Choose a Balston Membrane Dryer?

- Offer a reliable, efficient, and economical alternative to pressure swing and refrigerant dryer technologies
- Require no electricity thus lowering operating costs
- Produce low dewpoint air, ideal for critical points of use
- No moving parts and no vibration
- Silent operation
- No desiccant to change
- Explosion proof

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

Model Number	100 psig Inlet Press (scfm)	101 - 150 psig Inlet Press (scfm)	Regeneration Flow @ 100 psig (scfm)
IT0010-35	1	1	0.25
IT0030-35	3	3	0.5
IT0080-35	8	8	1.5
IT0150-35	15	15	2.7
IT0250-3560	25	N/A	4.5
IT0250-3500	N/A	25	4.5
IT0500-3560	50	N/A	9.0
IT0500-3500	N/A	50	9.0
IT1000-3560	100	N/A	18.0
IT1000-3500	N/A	100	18.0

(1) For an inlet pressure dewpoint of 100°F, outlet pressure dewpoint is +35°F (2°C).

For an inlet pressure dewpoint of 50°F (10°C), outlet pressure dewpoint is +15°F (-9°C).



Phase I - Coalescing Filtration

Prior to entering the membrane drying module, the compressed air passes through a mechanical separator and a high efficiency coalescing filter to remove oil and water droplets and particulate contamination with an efficiency of 99.99% at 0.01 micron. The liquids removed by filter cartridge continuously drip from the filter cartridge into the bottom of the housing, where they are automatically emptied by an autodrain assembly. The air leaving the prefilter, therefore, is laden only with water vapor, which will be removed in the membrane module. Models 15 SCFM and above include another stage of prefiltration.

Phase II - Drying

The water vapor in the compressed air is removed by the principle of selective permeation through a membrane. The membrane module consists of bundles of hollow membrane fibers, each permeable only to water vapor. As the compressed

air passes through the center of these fibers, water vapor permeates through the walls of the fiber, and dry air exits from the other end of the fiber. A small portion of the dry air (regeneration flow) is redirected along the length of the membrane fiber to carry away the moisture-laden air which surrounds the membrane fibers. The remainder of the dry air is piped to the application.

Applications

- Food Processing and Automation
- Electronics/Dry Boxes
- Coordinate Measurement Machines
- Critical Pneumatic Valves and Controls
- Protection of Pneumatic Instrumentation
- Low Dewpoint Instrument Air
- Pneumatic Equipment
- Pressurizing Electronic Cabinets
- Dry Air for Hazardous Areas



Models and Flow Rates



IT0010-35
8" w X 17.5" h

IT0030-35
10" w X 18.1" h

IT0080-35
11.1" w X 24" h

IT0150-35
16" w X 25" h

IT0250-35XX
18" w X 26" h

IT0500-35XX
21" w X 39" h

IT1000-35XX
28" w X 47" h

Principal Specifications

Model #	IT0010-35	IT0030-35	IT0080-35	IT0150-35	IT0250-3560	IT0250-3500	IT0500-3560	IT0500-3500	IT1000-3560	IT1000-3500
Min/Max 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	101/150 psig 6.9/10 barg	60/100 psig 4.1/6.9 barg	101/150 psig 6.9/10 barg	60/100 psig 4.1/6.9 barg	101/150 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 (1)	F14F17B	F06F18B	F06F18B	F07F38B	F07F38B	F07F38B	F07F38B	F07F38B	F602-08WJR	F602-08WJR
Coalescing Prefilters (2)	8A02N-OB2-BX (2)	2002N-OB1-BX (2)	2002N-OB1-BX (2)	B2004N-1B1-DX B2004N-0B1-BX	2104-1B1-DX 2104-0B1-BX	2104N-1B1-DX 2104N-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 44.5 x 20.3 x 6.3	18.1"Lx10"Wx4"D 45.2 x 25.4 x 10.2	24"Lx11.1"Wx4"D 61 x 28.2 x 10.2	25"Lx16"Wx4.5"D 63.5 x 40.6 x 11.4	26"Lx18"Wx6"D 66 x 45.7 x 15.2	26"Lx18"Wx6"D 66 x 45.7 x 15.2	39"Lx21"Wx6"D 99 x 53.3 x 15.2	39"Lx21"Wx6"D 99 x 53.3 x 15.2	47"Lx28"Wx7"D 119 x 71 x 18	47"Lx28"Wx7"D 119 x 71 x 18
Shipping Wt	1.62 lbs (.73 kg)	6.68 lbs (3 kg)	6.68 lbs (3 kg)	14.88 lbs (6.75 kg)	24.5 lbs (11.11 kg)	24.5 lbs (11.11 kg)	36.5 lbs (16.55 kg)	36.5 lbs (16.55 kg)	52 lbs (24 kg)	52 lbs (24 kg)

Notes:
1 Included 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 toll free at 800-343-4048, 8AM to 5PM EST

Model #	IT0010-35	IT0030-35	IT0080-35	IT0150-35	IT0250-3560	IT0250-3500	IT0500-3560	IT0500-3500	IT1000-3560	IT1000-3500
Replacement Prefilter Cartridges										
Stage 1	PS403	PS702	PS702	PS802	PS802	PS802	5/150-19-DX	PS802	EK602VB	EK602VB
Stage 2	---	---	---	5/100-12-DX	5/100-18-DX	5/100-18-DX	5/100-19-DX	5/150-19-DX	5/150-19-DX	5/150-19-DX
Stage 3	5/050-05-BX	5/100-12-BX	5/100-12-BX	5/100-12-BX	5/100-18-BX	5/100-18-BX	5/150-19-BX	5/150-19-BX	5/150-19-BX	5/150-19-BX



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