

# Air Preparation for High Precision Manufacturing

Market Application Publication



## Customer Value:

At Metlon Corp., a new air dryer paid for itself after only a few months by completely solving a rust problem and giving the company hundreds of dollars worth of additional production time each week on its high-precision slitting machines. In the past, water in compressed air lines caused valves within the machines to rust and stick, resulting in at least three hours of down time each week. The Balston Membrane Air Dryer uses advanced membrane separation technology to remove all of the moisture from the compressed air system. It has completely eliminated downtime due to rust, saving the customer \$10,400.00 per year.

## Background:

In the competitive world we live in, manufacturing is pushed to tighter and tighter tolerances at faster and faster speeds. For speed, equipment that in the past was hydraulically operated is now almost entirely pneumatic. High precision machinery use air cylinders, valves and positioners manufactured with extremely tight tolerances. These components rely on clean, dry compressed air for maximum service life and up time.



## Features and benefits:

- Decreases production disruptions by eliminating fisheyes, blistering, caking, globbing and other aesthetics blemishes
- Reduces costly rework of product by eliminating all oil, water and other contaminants from compressed air supply
- Removes all water vapor which may condense post-filter and cause defects
- No moving parts or electricity needed
- Environmentally safe requiring no refrigerants or freons, silent operation
- Easy to install, requiring minimal maintenance

## Application:

It is not unusual for manufacturers of high precision machinery to skimp on the filtration of the compressed air. They rely on the end customer to provide clean air; filtration is often an afterthought. Compressed air is the power source of much of the machine's operation. To assure maximum up-time, a Parker Membrane Air Dryer will produce compressed air that is free of moisture, oil and dirt with a guaranteed dewpoint of +35°F. Placed at the point of use next to the machine, the dryer ensures smooth operation of air valves, cylinders and positioners, with no down time.

## Case Study:

Founded in 1947, Metlon Corp. of Cranston, Rhode Island provides high-precision slitting capabilities for a wide range of materials. The company's custom-built machines can hold tolerances of  $\pm 0.001$ " and in some situations even closer. The machines can slit rolls up to 54" wide, with finished slit widths down to .0078".

Pneumatic edge guides use air from the plant's main compressed air system. In the past, moisture built up in the air lines, causing valves and solenoids in the edge guides to rust and corrode. "It was a constant problem," says Wayne Etchells, vice

president at Metlon. "At least every other day, one of the machines was down while we took apart and lubricated the valves. And in some cases, we had to replace the valves."

The installation of the Balston Membrane Air Dryer solved the problem. "This new type of dryer was just what we needed to eliminate problems with water building up in compressed air lines. Since the day we installed it we haven't had a single problem with rust," says Etchells. "This has totally eliminated downtime. The dryer saves us more than \$200 each week. At that rate, it paid for itself in just over three months."

## 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/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)	100/150 psig (6.9/10 barg)	60/100 psig (4.1/6.9 barg)	100/150 psig (6.9/10 barg)	100/150 psig (6.9/10 barg)	100/150 psig (6.9/10 barg)
Max. Pressure Drop (1)	3 psid (.2 bard)	3 psid (.2 bard)	3 psid (.2 bard)	3 psid (.2 bard)	5 psid (.34 bard)	5 psid (.34 bard)	5 psid (.34 bard)	5 psid (.34 bard)	5 psid (.34 bard)	5 psid (.34 bard)
Wall Mountable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanical Separator 08WJR (Included)	F14F17B	F06F18B	F06F18B	F07F38B	F07F38B	F07F38B	F07F38B	F07F38B	F602-08WJR	F602-
Coalescing Prefilters (1)	8A02N-OB2-BX	2002N-OB1-BX	2002N-OB1-BX	B2004N-1B1-DX B2004N-OB1-BX	2104-1B1-DX 2104-OB1-BX	2104N-1B1-DX 2104N-OB1-BX	2208N-1B1-DX 2208N-OB1-BX	2208N-1B1-DX 2208N-OB1-BX	2208N-1B1-DX 2208N-OB1-BX	2208N-1B1-DX 2208N-OB1-BX
inlet Port Size	1/4" NPT	1/4" NPT	1/4" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" 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 10.5 x 6.3)	24"Lx11.1"Wx4"D (61 x 28.2 x 6.3)	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"Dx21"Wx6"D (99 x 53.3 x 15.2)	47"Dx28"Wx7"D (119 x 71 x 18)	47"Dx28"Wx7"D (119 x 71 x 18)
Shipping Weight	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 If compressed air is extremely contaminated, a Grade DX prefilter should be installed directly upstream of the membrane dryer.
- 2 Filtration efficiency: 99.99% at 0.01 micron.

## Ordering Information:

For assistance, call 1-800-343-4048, 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	PS802	PS802	PS802	PS802
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

Parker Hannifin Corporation  
 Filtration and Separation Division  
 242 Neck Road  
 Haverhill, MA 01835  
 phone 800 343 4048 or 978 858 0505  
 fax 978 556 7501  
 www.balstonfilters.com

