Moisture Sensitive Point of Use Areas

Compressor Rooms and Main Ring Applications

Process and Production Equipment

Compressed Air Dryers

Unattended 24 hour operation

Compact

Membrane and PSA technologies available

Silent operation

No desiccant to change

Easy to install and operate

Balston Membrane and PSA Air Dryers

Balston offers both membrane and PSA technology. Balston Membrane Air Dryers combine superior coalescing technology with a proven, innovative membrane system to supply clean, dry compressed air with dewpoints as low as -40°F (-40°C).

Balston PSA Compressed Air Dryers will reduce the dewpoint of compressed air to -100°F (-73°C). Each dryer is delivered complete and ready for easy installation.

Balston
Membrane Air
Dryers

Applications

- Low dewpoint instrument air
- Pneumatic equipment
- Pressurizing electronic cabinets
- Analytical instrumentation
- Prevention of freeze-ups
- Dry air for hazardous areas
- General laboratory air supply

- "We have not had one shutdown due to freeze-ups since the Balston Membrane Dryer was installed."

Peter Vogt
International Filler Corp.

Offer a reliable, efficient, and economical alternative to pressure swing and refrigerant dryer technologies

Require no electricity thus lowering operating costs

Dewpoints as low as -40°F (-40°C) prevent freeze-ups

Explosion proof

Silent operation

No desiccant to change

Models 76-01, 76-02, 76-10, 76-20, 76-40,

Balston Membrane Air Dryers combine a superior coalescing technology with a proven, innovative membrane system to supply clean, dry compressed air with dewpoints as low as -40°F (-40°C). The Balston Membrane Dryers are available in 6 different models which can deliver compressed air at flow rates up to 40 SCFM with a -40°F (-40°C) dewpoint. The Balston Membrane Air Dryers are engineered for easy installation, operation, and long term reliability. The dryers incorporate high efficiency coalescing filtration and the highest efficiency membrane available to provide low cost operation and minimal maintenance.

State-of-the-Art Membrane Technology

Water vapor from the compressed air supply passes through the hollow fibers of the membrane. At the same time, a small portion of the dry air product is redirected along the length of the fibers to sweep out the water vapor laden air which has permeated the membrane. The moisture-laden sweep gas is then vented to the atmosphere, and clean, dry air is supplied to the application. The drying power of the membrane is controlled by varying the compressed air flow rate and pressure. The Balston Membrane Air Dryer is designed to operate continuously, 24 hours per day, 7 days per week. The only maintenance required is changing the prefilter cartridge once a year. This annual maintenance takes approximately 5 minutes.

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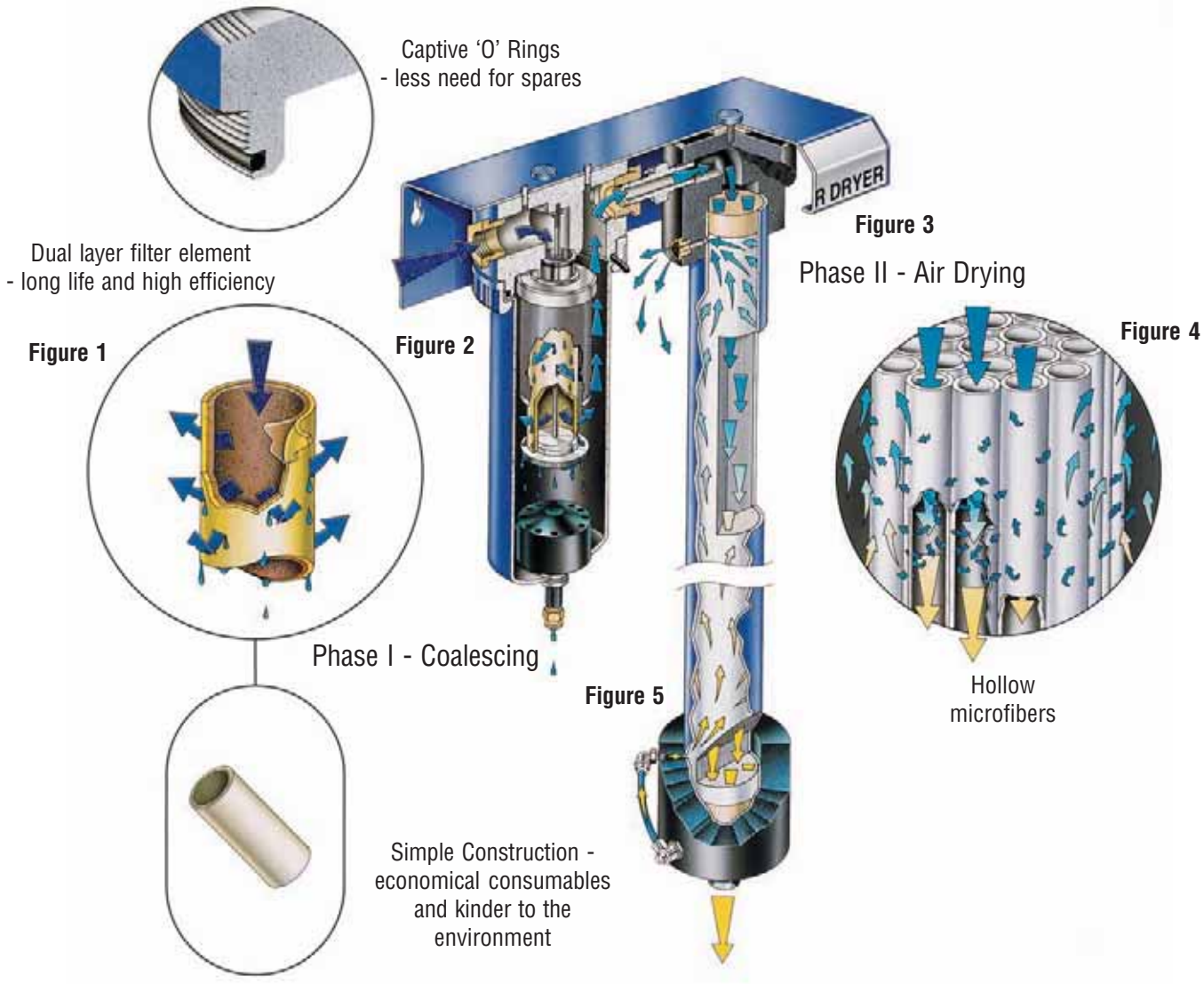
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

Membrane Air Dryer - Principle of Operation



Phase I - Coalescing Filtration

Prior to entering the membrane drying module, the compressed air passes through 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 the filter cartridge continuously drip from the filter cartridge into the bottom of the housing, where they are automatically emptied by an autodrain assembly (see Fig. 1 and Fig. 2). The air leaving the prefilter, therefore, is laden only with water vapor, which will be removed in the membrane module.

Phase II - Drying

The water vapor in the compressed air is removed by the principle of selective permeation through a membrane (see Fig. 3). The membrane module consists of bundles of hollow membrane fibers (see Fig. 4), 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.

Parker Hannifin Corporation
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Haverhill, MA 1-800-343-4048
www.parker.com/balston

Model 76-01

Model 76-02

Model 76-10

Model 76-20

Model 76-40

Flow Rates	Outlet Flow (SCFM) at Indicated Operating Pressure (psig) for -40°F (-40°C) Atmospheric Dewpoint				
Pressure Dewpoint	60 psig -40°F(-40°C)	80 psig -40°F(-40°C)	100 psig -40°F(-40°C)	120 psig -40°F(-40°C)	140 psig -40°F(-40°C)
Model 76-01	.3	.6	1	1.3	1.7
Model 76-02	.7	1	2	2.6	3.4
Model 76-10	3.3	5	10	13	17
Model 76-20	6.6	10	20	26	34
Model 76-40	13.2	20	40	52	68

Membrane Module Regeneration Flow	Regeneration Flow (SCFM) at Indicated Operating Pressure (psig) and all dewpoints				
Pressure Dewpoint	60 psig	80 psig	100 psig	120 psig	140 psig
Model 76-01	.2	.2	.3	.3	.3
Model 76-02	.34	.4	.5	.6	.7
Model 76-10	1.7	2.1	2.5	3	3.5
Model 76-20	3.4	4.2	5	6	7
Model 76-40	6.8	8.4	10	12	14

Parker Hannifin Corporation
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

Principal Specifications

Model	76-01	76-02	76-10	76-20	76-40
Max. Flow Rate At -40°F (-40°C) Dewpoint (1)	1 SCFM	2 SCFM	10 SCFM	20 SCFM	40 SCFM
Min/Max Inlet Air Temp. (2)	40°F/120°F (4°C/49°C)	→	→	→	→
Ambient Temp. Range	40°F - 120°F (4°C - 49°C)	→	→	→	→
Min/Max Inlet Pressure	60 psig/150 psig	→	→	→	→
Compressed Air Requirement	Total Air Consumption: Regeneration Flow (above) + Outlet Flow Requirements (see tables on pg.154)				
Max. Pressure Drop (3)	5 psid	5 psid	5 psid	5 psid	5 psid
Wall Mountable	Yes	Yes	Yes	Yes	Yes
Prefilter (included) (4)	Yes	Yes	Yes	Yes	Yes
Inlet/Outlet Port Size	1/4" NPT (female)	1/4" NPT (female)	1/2" NPT (female)	1" NPT (female)	1 1/2" NPT (female)/ 3/4" NPT (female)
Electrical Requirements	None	None	None	None	None
Dimensions	6"W x 22"H x 5"D (15cm x 58cm x 13cm)	6"W x 23"H x 5"D (15cm x 58cm x 13cm)	6"W x 37"H x 5"D (15cm x 94cm x 13cm)	12"W x 37"H x 7"D (30cm x 94cm x 18cm)	19"W x 39"H x 8"D (48cm x 99cm x 21cm)
Shipping Weight	9 lbs. (4 kg)	10 lbs. (5 kg)	18 lbs. (9 kg)	20 lbs. (9 kg)	35 lbs. (16 kg)

Notes:
1 Dewpoint specified for saturated inlet air at 100°F (38°C) and 100 psig. Outlet flows will vary slightly for other inlet conditions.

2 Inlet compressed air dewpoint must not exceed the ambient air temperature.
3 5 psid at -40°F (-40°C) dewpoint operating parameters.

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

Ordering Information

For Assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

Description	Model Number				
Balston Membrane Air Dryer	76-01	76-02	76-10	76-20	76-40
Replacement Prefilter Cartridges	100-12-BXE	100-12-BXE	100-18-BXE	150-19-BXE	200-35-BXE
Optional Additional Coalescing Prefilter	2004N-1B1-DX	2004N-1B1-DX	2104N-1B1-DX	2008N-1B1-DX	2312N-1B1-DX
Replacement Filter Cartridges for Optional Prefilter	100-12-DXE	100-12-DXE	100-18-DXE	150-19-DXE	200-35-DXE
Pressure Regulator (0-130 psig) 1/2" NPT Ports	72-130	72-130	72-130	72-130	---

Parker Hannifin Corporation
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

Operating costs are 35 - 40% less than a refrigerant air dryer*

No electricity required

State-of-the-art membrane technology

Guaranteed 35°F dewpoint - 13% dryer than refrigerant dryers

Durable - will hold up to the dirtiest compressed air system

No requirement for costly maintenance contracts

Output capacities to 1200 scfm **

Complete system with prefilters, autodrains, and pressure indicators

5000 Series SMART Dryer

The Only Way To Dry Compressed Air!

Now, there is only one sensible way to dry compressed air! High efficiency, durable membrane technology is quickly becoming the standard for drying compressed air. Parker Hannifin is leading the way with membrane technology that consumes the least amount of compressed air for drying.

The SMART Dryer™ utilizes sophisticated technology to monitor system parameters and automatically adjusts the regenerative sweep flow as required. The variable sweep system results in significant energy savings and low operating costs.

The SMART Dryer™ technology offers another advantage over refrigerant air drying technology as it does not produce condensate. An average 100 CFM compressor system can produce up to 1,800 gallons of oily condensate per year! The refrigerant dryer condenses it into an oily/water emulsion which has to be disposed of at a high cost to you! The Balston® Membrane Air Dryer is designed to operate continuously, 24 hours a day, 7 days a week. The only maintenance required is changing the prefilter cartridges twice a year, which take approximately 5 minutes and requires no tools!

Applications	Benefits
General Compressed Air Mainlines Process Controls HVAC Systems Instrument Cabinets CNC/CMM Machinery Fire and Sprinkler Systems Pneumatic Controls Dry Air for Hazardous Areas Chemical Blanketing and Packaging Electronics/Dry Boxes Laser Optics	Easy to install - no electrician required to install or maintain system No refrigerants or freons - environmentally friendly Complete system with prefilters, auto drains, and pressure gauges Compact size

*Non-cycling refrigerant air dryer
** Consult Factory

Parker Hannifin Corporation
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

Why buy a Balston SMART Dryer™ instead of a cycling refrigerant air dryer?

The Balston SMART Dryer will save YOU money and offer better performance!

All Balston SMART Dryers require no electricity.

All air dryers are sized based on the maximum capacity output of a compressed air system with inlet conditions assumed to be 100°F inlet temperature, 100 psig inlet pressure and 100°F ambient temperature. In the majority of installations, it is unlikely air dryers will be required to operate under these extreme conditions. Most importantly, the majority of compressed air systems are not operating at the maximum output capacity.

Refrigerant and desiccant air dryers, sized to meet these operating conditions are designed to run continuously regardless of the systems demands, when in fact the actual system conditions are far less.

The result is significant operating costs in wasted energy and wear and tear on refrigerant compressors, cooling systems, drains and other componentry.

In a typical manufacturing plant operating one 8 hour shift with a 100 SCFM compressor system running at 75% capacity (on average over the 8 hour shift), a typical non-cycling refrigerant air dryer would cost $716 in just electrical costs alone, compared to the Balston SMART Dryer with only $436 in electrical costs. If you factor in the annual maintenance costs of $600 for a non-cycling refrigerant dryer compared to $130 for the Balston SMART Dryer, there is a total annual savings of over $750.

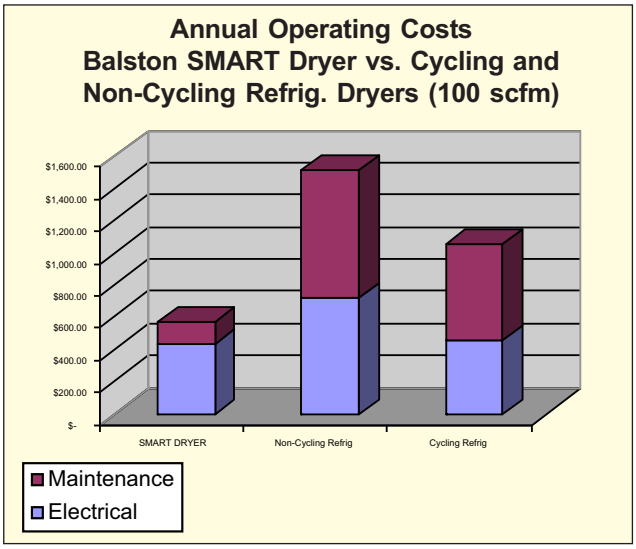
Recently, refrigerant manufacturers have responded to this issue by developing a cycling air dryer which cools a cold storage heat sink reservoir. Once the reservoir is cooled to the minimum temperature the compressor (refrigerant) is shut off. The compressor cycles back on when the temperature of the storage reservoir reaches a preset upper limit. This reduces the total energy consumption of the dryer however it could produce significant variations in output dewpoints.

The Balston SMART Dryer does not require refrigerant, compressors, cooling systems or other componentry that carries high operating costs (energy) and maintenance costs. The Balston SMART Dryer utilizes sophisticated technology to monitor the system parameters and automatically adjusts the regenerative sweep flow as required. The variable sweep system results in significant energy savings and low operating costs with no fluctuation in output dewpoints.

In a typical manufacturing plant operating an 8 hour shift with 100 SCFM compressor system running at 75% capacity (on average over the 8 hour shift), a typical cycling refrigerant air dryer would cost $454.00 in electrical costs alone, compared to the Balston SMART Dryer with only $436.00 in electrical costs. If you factor in the annual maintenance cost of $800 for a cycling refrigerant dryer compared to $130.00 for the Balston SMART Dryer, there is a total annual savings of over $685.00

Additionally, there are no moving parts, no freons that need recharging, no compressors to be serviced and no cooling coils to be cored and cleaned.

Most importantly, the Balston SMART Dryer is producing a constant 35°F dewpoint which is 13% dryer than a cycling refrigerant air dryer (ppm weight in air).



Here's What Our Customers Say

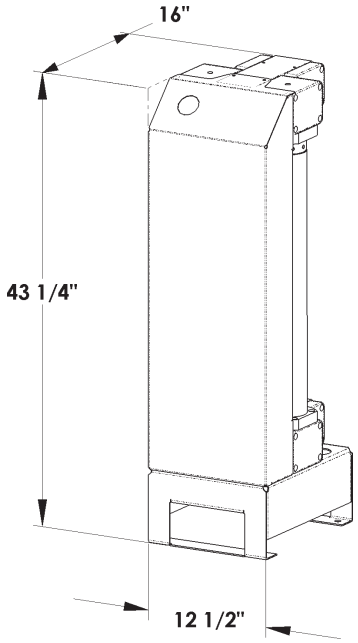
"*Our compressed air system is now completely dry and clean at a very reasonable cost. And we gain at least three hours of production time each week by not having to shut down to clean rusted valves...*"

Wayne Etchells, Vice President
Melton Corporation, Cranston, R.I.

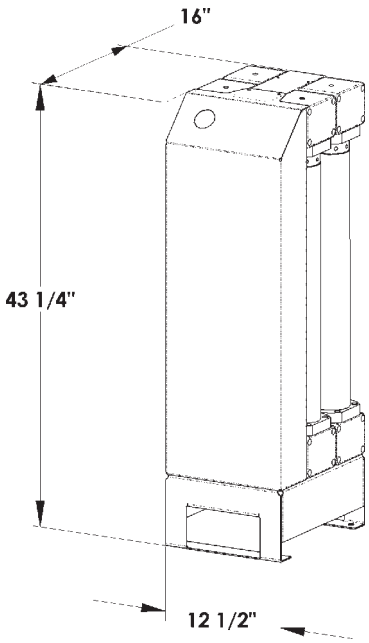
"*This new type of membrane dryer was just what we needed to eliminate problems with water building up in compressed air lines...Since the day we installed it, we haven't had a single problem with rust. The time and money we save by not having to repair spindles and air motors pays for the cost of the dryer every few months.*"

John Napier, Maintenance Engineer
King Machine, Akron, OH

Model SMRT5100
Front View



Model SMRT5200
Front View



Principal Specifications

	Membrane Air Dryers	
Model Number	**SMRT5100**	**SMRT5200**
Max Flow Rate @35°F dewpoint	100 SCFM	200 SCFM
Dewpoint	35°F (2°C)	35°F (2°C)
Min/Max Inlet Air Temp.	40°F/120°F (4°C/49°C)	40°F/120°F (4°C/49°C)
Ambient Temp. Range	40°F/110°F (4°/43°C)	40°F/110°F (4°/43°C)
Min/Max Inlet Pressure	80 psig/150 psig (5.5 barg/10 barg)	80 psig/150 psig (5.5 barg/10 barg)
Max Dewpoint	120°F PDF	120°F PDF
Max Compressed Air (1) Requirement	113 SCFM	226 SCFM
Max Pressure Drop (2)	10 psi (0.7 bar)	10 psi (0.7 bar)
Inlet/Outlet Port Size	1 1/2"NPT(male)	2"NPT(male)
Physical Dimensions (3)	12.5"w x 44"h x 18"d (32cm x 112cm x 46cm)	12.5"w x 44"h x 18"d (32cm x 112cm x46cm)
Shipping Weight	175 lbs(86 kg)	250 lbs(113kg)

Notes:

1 Dewpoint specified for saturated inlet air at 100°F(38°C) and max. flow at 100 psig. Outlet flow and dewpoint will vary for other inlet conditions.

2 Max. pressure drop measured at max flow rate @ 100 psig. Pressure drop will increase at lower feed pressures - consult factory.

3 Excluding coalescing prefilter assembly.

Ordering Information For assistance call 1-800-343-4048

Model Number	SMRT5100	SMRT5200
Coalescing Prefilter Assembly	2312N-1B1-DX 2312N-1B1-BX	A15/80-DX A15/80-BX
Replacement Prefilter Cartridges (every 6 months)	200-35-DXE 200-35-BXE	200-35-DXE 200-35-BXE
Membrane Replacement Module	D01-0086	D01-0086
Automatic Drain Kit	21552	21552

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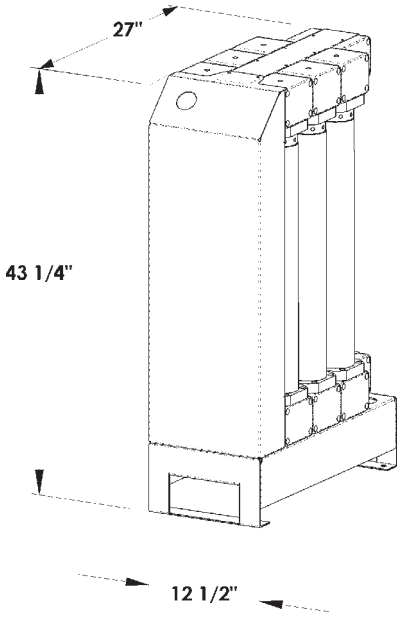
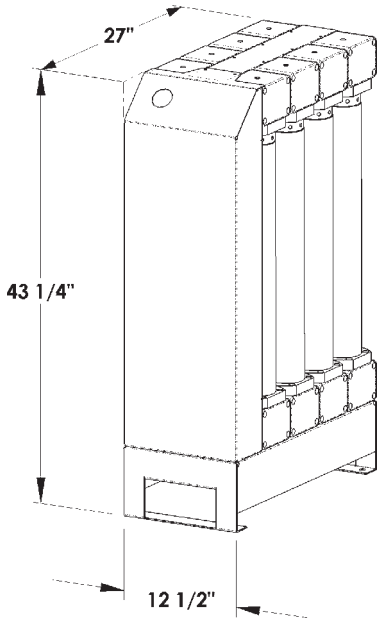
Model SMRT5300
Front View



Model SMRT5400
Front View



Principal Specifications

	Membrane Air Dryers	
Model Number	**SMRT5300**	**SMRT5400**
Max Flow Rate @35°F dewpoint	300 SCFM	400 SCFM
Dewpoint (1)	35°F (2°C)	35°F (2°C)
Min/Max Inlet Air Temp.	40°F/120°F (4°C/49°C)	40°F/120°F (4°C/49°C)
Ambient Temp. Range	40°F/110°F (4°/43°C)	40°F/110°F (4°/43°C)
Min/Max Inlet Pressure	80 psig/150 psig (5.5 barg/10 barg)	80 psig/150 psig (5.5 barg/10 barg)
Max Inlet Dewpoint	120°F PDP	120°F PDP
Max Compressed Air Requirement (1)	339 SCFM	452 SCFM
Max Pressure Drop (2)	10 psi (0.7 bar)	10 psi (0.7 bar)
Inlet/Outlet Port Size	2"NPT(male)	2"NPT(male)
Physical Dimensions (3)	32"w x 112"h x 74"d	32"w x 112"h x 74"d
Shipping Weight	300 lbs	375 lbs

Notes:

1 Dewpoint and maximum flow specified for saturated inlet air at 100°F(38°C) at 100 psig. Outlet flow and dewpoint will vary for other inlet conditions.

2 Max. pressure drop measured at max flow rate @ 100 psig. Pressure drop will increase at lower feed pressures - consult factory.

3 Excluding coalescing prefilter assemblies.

Ordering Information For assistance call 1-800-343-4048

Model Number	**SMRT5300**	**SMRT5400**
Coalescing Prefilter Assembly	C02-2356 C02-2357	C02-2358 C02-2359
Replacement Prefilter Cartridges (every 6 months)	210-800-DXE 210-800-BXE	210-955-DXE 210-955-BXE
Membrane Module	D01-0086	D01-0086
Automatic Drain Kit	21552	21552

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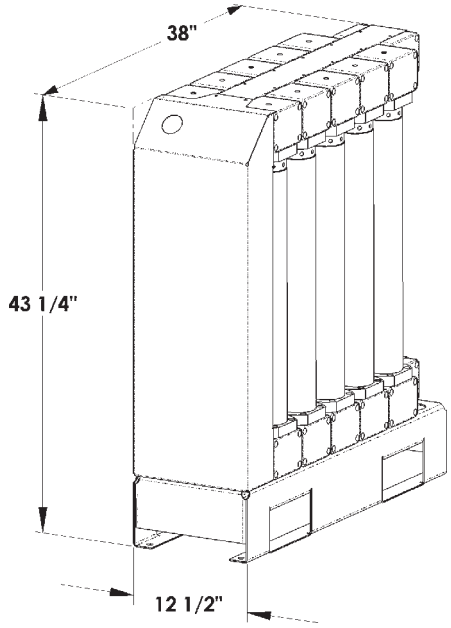
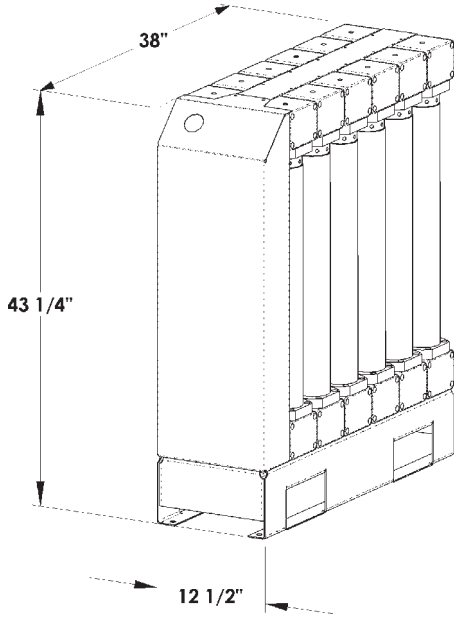
Model SMRT5500
Front View



Model SMRT5600
Front View



Principal Specifications

	Membrane Air Dryers	
Model Number	**SMRT5500**	**SMRT5600**
Max Flow Rate @35°F dewpoint	500 SCFM	600 SCFM
Dewpoint (1)	35°F (2°C)	35°F (2°C)
Min/Max Inlet Air Temp.	40°F/120°F (4°C/49°C)	40°F/120°F (4°C/49°C)
Ambient Temp. Range	40°F/110°F (4°/43°C)	40°F/110°F (4°/43°C)
Min/Max Inlet Pressure	80 psig/150 psig (5.5 barg/10 barg)	80 psig/150 psig (5.5 barg/10 barg)
Max Relative Dewpoint	120°F PDP	120°F PDP
Max Compressed Air Requirement (1)	565 SCFM	678 SCFM
Max Pressure Drop	10 psi (0.7 bar)	10 psi (0.7 bar)
Inlet/Outlet Port Size	2 1/2"NPT	3"NPT
Physical Dimensions	32"w x 112"h x 102"d	32"w x 112"h x 102"d
Shipping Weight	475 lbs	550 lbs

Notes:

1 Dewpoint and maximum flow specified for saturated inlet air at 100°F(38°C) at 100 psig. Outlet flow and dewpoint will vary for other inlet conditions.

2 Max. pressure drop measured at max flow rate @ 100 psig. Pressure drop will increase at lower feed pressures - consult factory.

3 Excluding coalescing prefilter assemblies.

Ordering Information For assistance call 1-800-343-4048

Model Number	**SMRT5500**	**SMRT5600**
Coalescing Prefilter Assembly	C02-2360 C02-2361	C02-2362 C02-2363
Replacement Prefilter Cartridges (every 6 months)	300-960-DXE 300-960-BXE	300-960-DXE 300-960-BXE
Membrane Module	D01-0086	D01-0086
Automatic Drain Kit	21552	21552

Parker Hannifin Corporation
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

Balston SMD Series Air Dryers

Guaranteed dewpoint of 35°F (2°C)

No electricity required and no moving parts

Explosion proof

No requirement for expensive annual service contracts

Output capacities up to 50 SCFM

The Only Way To Dry Compressed Air!

Now there is only one sensible way to dry compressed air! Refrigerant air dryers are becoming a thing of the past. High efficiency, durable membrane technology is quickly becoming the standard for drying compressed air. Parker Hannifin is leading the way with membrane technology that consumes the least amount of compressed air for regeneration.

Balston SMD Series Dryers combine a superior coalescing technology with a proven, innovative membrane system to supply clean, dry compressed air with a constant dewpoint to 35°F (2°C). The Balston SMD Series Dryers are available in 2 different models which can deliver dry, compressed air at flow rates up to 50 SCFM. The Balston Dryers are engineered for easy installation, operation, and long term reliability.

Applications	Benefits
General Compressed Air Mainlines Process Controls HVAC Systems Instrument Cabinets CNC/CMM Machinery Fire and Sprinkler Systems Pneumatic Controls Dry Air for Hazardous Areas Chemical Blanketing and Packaging Electronics/Dry Boxes Laser Optics	Easy to install - no electrician required to install or maintain system No refrigerants or freons - environmentally friendly Complete system with prefilters, auto drains, and pressure gauges Compact size Similar configuration of inlet/outlet ports to that of refrigerant dryers for easy replacement installation

Parker Hannifin Corporation
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

State-of-the-Art Membrane Technology

Water vapor from the compressed air supply passes through the hollow fibers of the membrane. At the same time, a small portion of the dry air product is redirected along the length of the fibers to sweep out the water vapor laden air which has permeated the membrane. The moisture-laden sweep gas is then vented to the atmosphere, and clean, dry air is supplied to the application. The drying power of the membrane is controlled by varying the compressed iar flow rate and pressure. This technology offers another advantage over refrigerant air drying technology as it does not produce condensate. An average 100 CFM compressor system can produce up to 1,800 gallons of oily condensate per year! The refrigerant dryer condenses it into an oily water emulsion which has to be disposed of at high cost to you! The Balston Membrane Air Dryer is designed to operate continuously, 24 hours per day, 7 days per week. The only maintenance required is changing the prefilter cartridges twice a year. This annual maintenance takes approximately 5 minutes.

Membrane Air Dryers for Coordinate Measurement Machines

Flow Rates	Outlet Flow (SCFM) at Indicated Operating Pressure (psig)					
Pressure Dewpoint	**60 psig**	**80 psig**	**100 psig**	**110 psig**	**120 psig**	**140 psig**
Model 76-25-3560	25	25	25	---	---	---
Model 76-25-3500	---	---	---	25	25	25
Model 76-50-3560	50	50	50	---	---	---
Model 76-50-3500	---	---	---	50	50	50

Principal Specifications

Model	76-25-35-(XX)	76-50-35-(XX)
Max. Flow Rate at 35°F (2°C) Dewpoint (1)	25 SCFM	50 SCFM
Min/Max Inlet Air Temperature. (2)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)
Ambient Temp. Range	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)
Min/Max Inlet Pressure	60 psig/140 psig	60 psig/140 psig
Compressed Air Requirement	28 SCFM	57 SCFM
Max. Pressure Drop	6 psi	6 psi
Prefilter	76-915-DX, 76-915-BX	A962-DX, A962-BX
Inlet/Outlet Port Size	1/2" NPT (male)	3/4" NPT (male)
Electrical Requirements	None	Male
Dimensions	18"Wx33"Hx13"D (45cmX85cmX32cm)	26"Wx56"Hx18"D (66cmX142cmX454cm)
Shipping Weight	65 lbs. (30 kg)	175 lbs. (79 kg)

Notes:
1 Dewpoint specified for inlet air at 100°F (38°C) and 100 psig (The Compressed air & Gas Institute Standard for Testing and Rating compressed air dryers) Outlet dewpoint will vary slightly for inlet air > 100°F (38°C) conditions. Outlet dewpoint will vary with operating pressures other than 100 psig. Consult factory.
2 Inlet compressed air dewpoint must not exceed the ambient air temperature.
3 If the compressed air is extremely contaminated, an aftercooler and separator must be installed directly upstream from the membrane dryer. Consult factory for recommendation.
4 Pressures from 101 PSIG to 140 PSIG.
5 Pressures from 60 PSIG to 100 PSIG.

Ordering Information

For Assistance, call toll-free at 1-800-343-4048 8AM to 5PM EST

Description	Model Number	
Balston Membrane	76-25-3500 (4)	76-50-3500 (4)
Air Dryer	76-25-3560 (5)	76-50-3560 (5)
Replacement Prefilter Cartridges (4)		
First Stage	100-18-DXE	150-19-DX
Second Stage	100-18-BXE	150-19-BX

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Filtration and Separation Division
Haverhill, MA 1-800-343-4048
www.parker.com/balston

Membrane Air Dryers for Coordinate Measurement Machines

Protects CMMs from costly repairs caused by oil and water

Guaranteed dewpoint of 35°F

Offers a reliable, efficient, and economical alternative to PSA and refrigerant dryer technologies

Ideal for supplying pure, dry air to Starrett, Brown & Sharpe, Zeiss, and MTI CMMs

Requires no electricity resulting in lower operating costs

Silent operation

No desiccant to change

Problems that cause costly repairs to Coordinate Measurement Machines

A CMM has 26 highly sensitive air bearings per machine. If oil and moisture are present in the air system supplying the air bearings, the .5mm hole in the bottom of the air bearing will become clogged producing a "drag" in the machine. As the resistance builds, it causes historesious in the measurements producing an inaccurate measurement.

If this problem is allowed to continue, the bearing will drag on the aluminum ways and wear a groove in the machine. Once a groove develops, the air bearing will not produce lift if air is leaking out through the groove in the machine ways. To correct the problem, a complete rebuild of the machine at the factory is necessary which can be as costly as purchasing a new machine.

If the problem is caught in time, a service team will be required to come to the facility to repair the machine. The team will remove the bearings and the holes and grooves are cleaned with alcohol. Each bearing is then resurfaced with 600-1500 grit paper. Badly corroded or pitted air bearings are replaced at a cost of $200.00 per bearing. Air hoses are also replaced, and all air passages are cleaned. The machine is then reassembled, and the time-consuming and costly task of recalibrating the machine with the ball bar and B89 test is performed as the final step in repairing the machine.

How to avoid costly maintenance problems

Many repairs average upwards of $5,000.00. These costly repairs and downtime can easily be avoided by installing a Balston high efficiency Membrane Air Dryer. The Balston Membrane Air Dryer will provide extremely clean, dry air to a CMM, eliminating the possibility of contamination. The Dryer utilizes patented membrane technology, unsurpassed in performance and durability to dehydrate and purify the compressed air. The Balston Membrane Dryer is the only system designed specifically for CMM applications.

Parker Hannifin Corporation
Filtration and Separation Division
Haverhill, MA 1-800-343-4048
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Membrane Air Dryers for Coordinate Measurement Machines

Flow Rates	Outlet Flow (SCFM) at Indicated Operating Pressure (psig)									
Pressure Dewpoint	60 psig		80 psig		100 psig		120 psig		140 psig	
	-40°F(40°C)	32°F (0°C)	-40°F(40°C)	32°F (0°C)	-40°F(40°C)	32°F (0°C)	-40°F(40°C)	32°F (0°C)	-40°F(40°C)	32°F (0°C)
Model 76-25-3560	25		25		25		---		---	
Model 76-25-3500	---		---		---		25		25	

Principal Specifications

Model	76-25-XX
Max. Flow Rate at 35°F (2°C) Dewpoint (1)	25 SCFM
Min/Max Inlet Air Temp. (2)	40°F/100°F (4°C/38°C)
Ambient Temp. Range	40°F/100°F (4°C/38°C)
Min/Max Inlet Pressure	60 psig / 140 psig
Compressed Air Requirement	28 SCFM
Max. Pressure Drop	6 psi
Prefilter	76-915-DX, 76-915-BX
Inlet/Outlet Port Size	1/2" NPT (male)
Electrical Requirements	None
Dimensions	18"W X 33"H X 13"D (45cmX85cmX32cm)
Shipping Weight	65 lbs. (30 kg)

Ordering Information

For Assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

Description	Model Number
Balston Membrane (5)	76-25-3500
Air Dryer (6)	76-25-3560
Replacement Prefilter Cartridges (4)	
First Stage	100-18-DXE
Second Stage	100-18-BXE

Notes:
1 Dewpoint specified for inlet air at 100°F (38°C) and 100 psig (The Compressed air & Gas Institute Standard for Testing and Rating compressed air dryers) Outlet dewpoint will vary slightly for inlet air > 100°F (38°C) conditions. Outlet dewpoint will vary with operating pressures other than 100 psig. Consult factory.
2 Inlet compressed air dewpoint must not exceed the ambient air temperature.
3 Compressed air is extremely contaminated, an aftercooler and separator must be installed directly upstream from the membrane dryer. Consult factory for recommendation.
4 Pressures from 101 PSIG to 140 PSIG.
5 Pressures from 60 PSIG to 100 PSIG.

Balston Compressed Air Dryer

Reduce the dewpoint of compressed air to -100°F (-73°C)

Unattended 24 hour operation

Lightweight and compact

No desiccant to change

Applications
Pneumatic Tool Stations
HVAC Systems
Purge Electrical Boxes
Air Lines Subject to Sub-Freezing Temperatures
Blanketing Moisture Sensitive Materials
Spray Painting
Pneumatic Instrumentation
Robotics
Lasers
Dry Boxes

Model 75-A20NA

Balston regenerative PSA desiccant dryers reduce the atmospheric dewpoint of compressed air without operator attention. Model 75-A20NA will reduce the dewpoint to -100°F (-73°C). Each dryer is delivered complete and ready for easy installation. Each model has coalescing prefilters, PSA drying towers, automatic drains, a particulate final filter, a moisture indicator, differential pressure indicator, and pretested controls.

Balston regenerative dryers have safe, 12 VDC electrical controls. To install, simply attach the inlet (60 psig minimum) and outlet air lines, plug the electrical transformer into a wall outlet - no electrician required - and the unit is ready for trouble-free operation.

These reliable dryers can be easily installed, operated, and maintained by personnel not trained in instrumentation. In addition to supplying analytical instruments with dry, particulate-free air, the Balston dryers are useful when air comes into contact with moisture-sensitive materials, or when outside compressed air lines are subjected to sub-freezing temperatures.

The 75-A20NA is a wall mountable unit. It has a 10 SCFM/min. capacity (at 100 psig inlet pressure).

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Principal Specifications

Model	75-A20NA
Dewpoint (1)	-100°F (-73°C)
Max. Dry (outlet) Air Flow Rate for Specified Dew Point (1)	
Inlet Pressure 125 psig	12.0 SCFM (340 lpm)
Inlet Pressure 100 psig	10.0 SCFM (283 lpm)
Inlet Pressure 80 psig	8.3 SCFM (235 lpm)
Inlet Pressure 60 psig	6.5 SCFM (184 lpm)
Air Loss for Regeneration (2)	2.5 SCFM (71 lpm)
Min/Max Inlet Air Pressure	60 psig/125 psig
Max. Inlet Air Temperature (3)	78°F (25°C)
Pressure Drop at Max. Flow Rate	8 psi
Inlet/Outlet Port Size (female)	1/4" NPT
Electrical Requirements (4)	120 VAC/60 Hz.
Shipping Weight	50 lbs. (23 kg)
Dimensions	15"W X 41"H (38cm X 104cm)

Notes:
1 Dewpoint will be lower than specified at lower air flow.

2 Total air required = air loss for regeneration + process demand (up to max. dry air flow rate).

3 Outlet dewpoint will increase at higher inlet compressed air temperatures.

4 Power consumption - less than 10 watts. Each dryer is shipped with a 12 VDC plug-in transformer to connect to the local electrical supply.

Ordering Information

For Assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

Description	Model Number
Balston Compressed Air Dryer	75-A20NA
Replacement Filter Cartridges 1st stage (box of 10)	100-18-DXE
Replacement Filter Cartridges 2nd stage (box of 10)	100-18-BXE
Maintenance Kit, 1 year supply of filter cartridges	MK7525

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