

## 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**

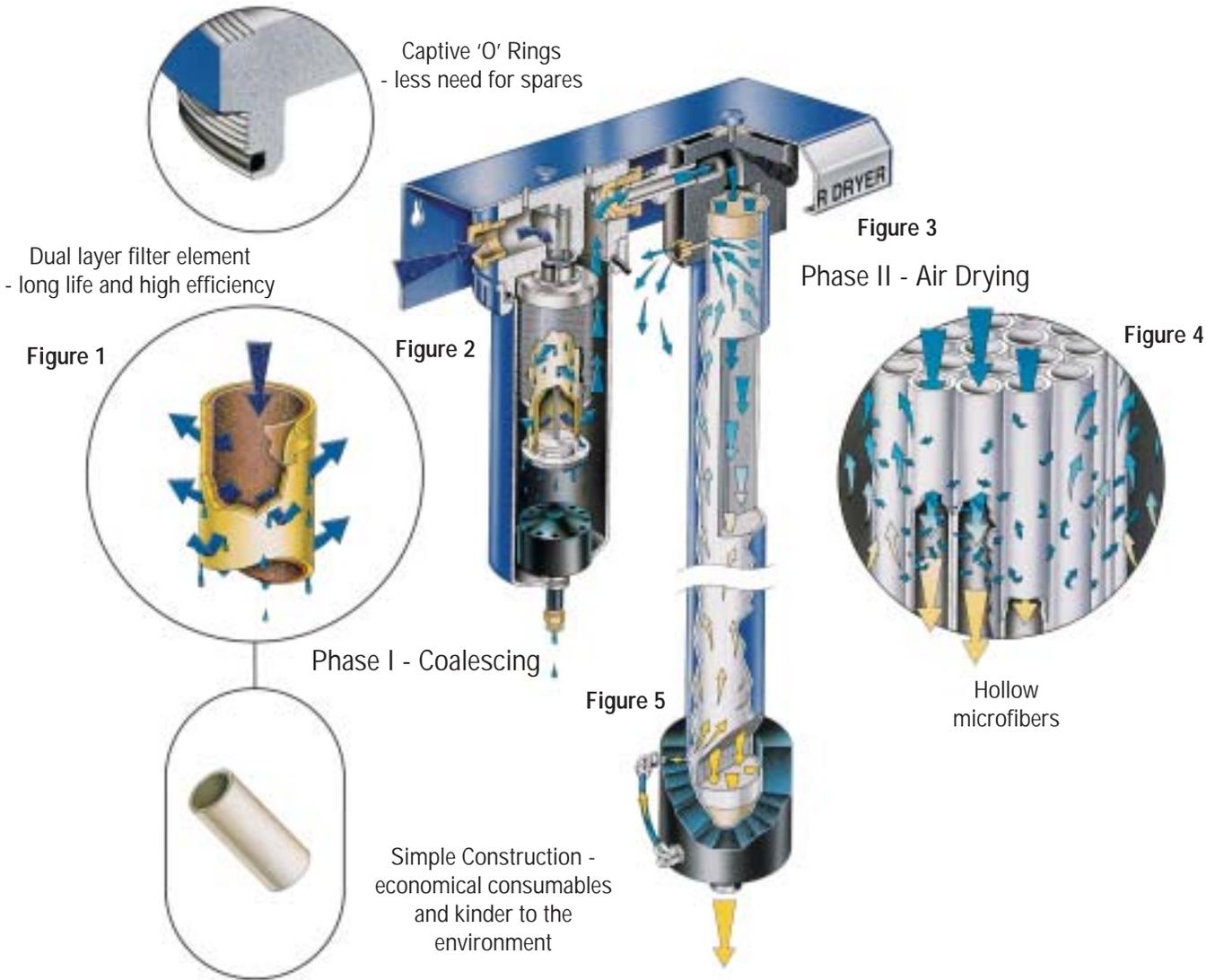
**Models 76-01, 76-02, 76-10, 76-20, 76-40, and 76-100-4050**

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 100 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.

# 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 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.



Model 76-01

Model 76-02

Model 76-10

Model 76-20

Model 76-40

Model 76-100-4050

Flow Rates		Outlet Flow (SCFM) at Indicated Operating Pressure (psig) for -40°F (-40°C) Pressure 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	
Model 76-100-4050	33	50	100	130	170	

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	
Model 76-100-4050	17	21	25	30	35	

Principal Specifications

Model	76-01	76-02	76-10	76-20	76-40	76-100-4050	
Max. Flow Rate At -40°F (-40°C) Dewpoint (1)	1 SCFM	2 SCFM	10 SCFM	20 SCFM	40 SCFM	100 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. 3)						
Max. Pressure Drop (3)	5 psid	5 psid	5 psid	5 psid	5 psid	5 psid	
Wall Mountable	Yes	Yes	Yes	Yes	Yes	No	
Prefilter (included) (4)	A912A-BX	A912A-BX	A915A-BX	75962-BX	A960-BX	15/80-DX, 15/80-BX	
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)	2" NPT (male)	
Electrical Requirements	None	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)	51"W x 66"H x 28"D (129cm x 167cm x 71cm)	
Shipping Weight	9 lbs. (4 kg)	10 lbs. (5 kg)	18 lbs. (9 kg)	20 lbs. (9 kg)	35 lbs. (16 kg)	550 lbs. (250 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	76-100-4050
Replacement Prefilter Cartridges	100-12-BXE	100-12-BXE	100-18-BXE	150-19-BXE	200-35-BXE	200-80-DXE 200-80-BXE
Optional Additional Coalescing Prefilter	A912A-DX	A912A-DX	A915A-DX	75962-DX	A960-DX	15/80-DX
Replacement Filter Cartridges for Optional Prefilter	100-12-DXE	100-12-DXE	100-18-DXE	150-19-DXE	200-35-DXE	200-80-DXE
Pressure Regulator (0-130 psig) 1/2" NPT Ports	72-130	72-130	72-130	72-130	---	---
Differential Pressure Indicator Assembly	---	---	---	---	41-071(1)	---

(1) optional accessory



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	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
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	

\*Non-cycling refrigerant air dryer

\*\* Consult Factory



**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.

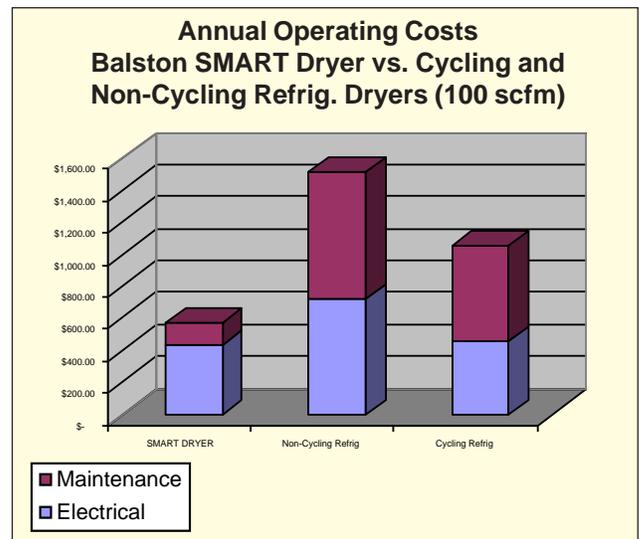
The Balston SMART Dryer does not require refrigerant, compressors, cooling systems or other componentry that carries high operating costs (energy) and maintenance costs. The Balston SMART Dryer utilizes sophisticated technology to monitor the system parameters and automatically adjusts the regenerative 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**

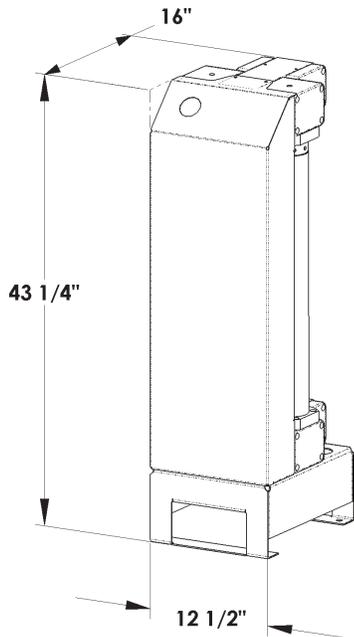
*"Our compressed air system is now completely dry and clean at a very reasonable cost. And we gain at least three hours of production time each week by not having to shut down to clean rusted valves..."*

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

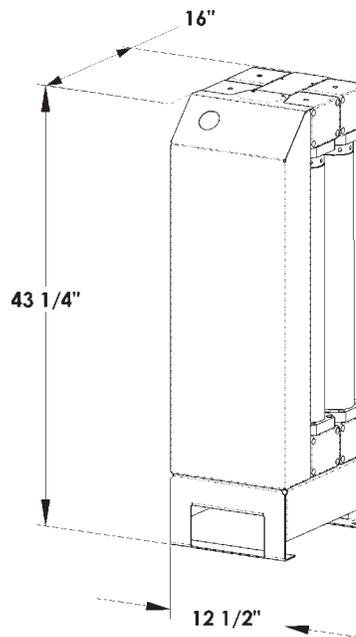
*"This new type of membrane dryer was just what we needed to eliminate problems with water building up in compressed air lines...Since the day we installed it, we haven't had a single problem with rust. The time and money we save by not having to repair spindles and air motors pays for the cost of the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

John Napier, Maintenance Engineer  
King Machine, Akron, OH

Model SMRT5100  
Front View



Model SMRT5200  
Front View



**Principal Specifications**

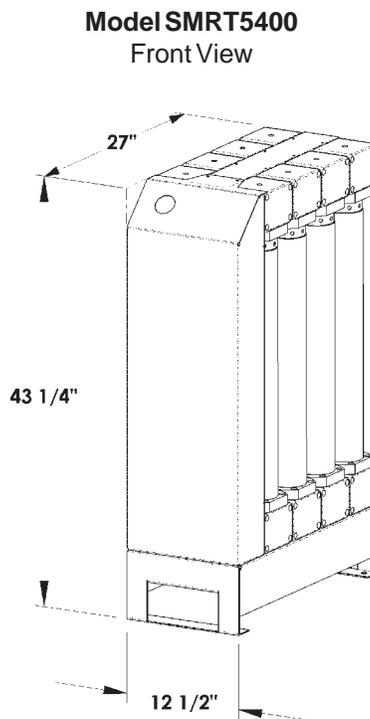
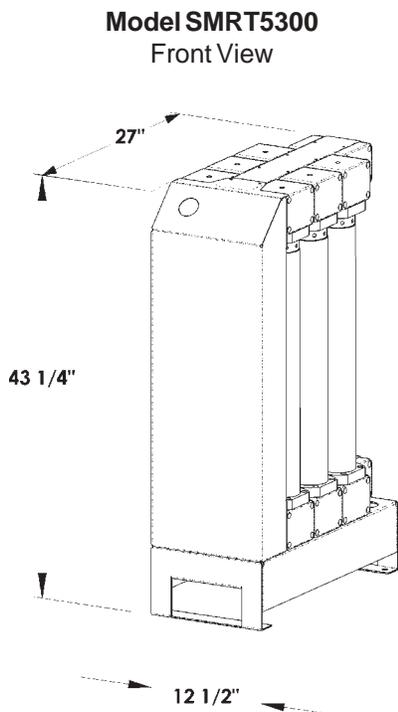
	Membrane Air Dryers	
Model Number	SMRT5100	SMRT5200
Max Flow Rate @35°F dewpoint	100 SCFM	200 SCFM
Dewpoint	35°F (2°C)	35°F (2°C)
Min/Max Inlet Air Temp.	40°F/120°F (4°C/49°C)	40°F/120°F (4°C/49°C)
Ambient Temp. Range	40°F/110°F (4°/43°C)	40°F/110°F (4°/43°C)
Min/Max Inlet Pressure	80 psig/150 psig (5.5 barg/10 barg)	80 psig/150 psig (5.5 barg/10 barg)
Max Dewpoint	120°F PDF	120°F PDF
Altitude	2000M	2000M
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 x 46cm)
Shipping Weight	175 lbs(86 kg)	175 lbs(100 kg)

**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



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
Altitude	2000M	2000M
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

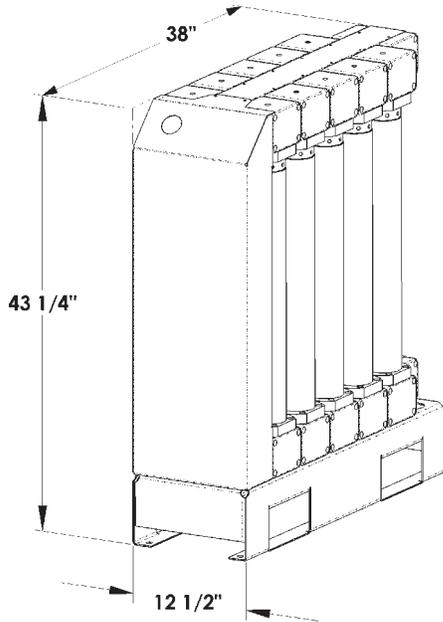
**Notes:**

- 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.

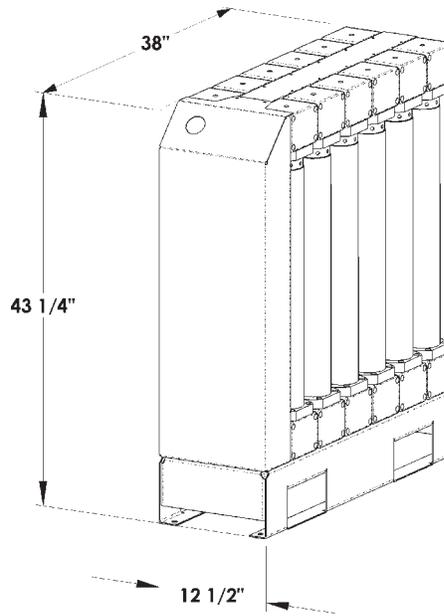
Ordering Information For assistance call 1-800-343-4048		
Model Number	SMRT5300	SMRT5400
Coalescing Prefilter Assembly	C02-2356 C02-2357	C02-2358 C02-2359
Replacement Prefilter Cartridges (every 6 months)	210-800-DXE 210-800-BXE	210-955-DXE 210-955-BXE
Membrane Module	D01-0086	D01-0086
Automatic Drain Kit	21552	21552



Model SMRT5500  
Front View



Model SMRT5600  
Front View



**Principal Specifications**

Model Number	Membrane Air Dryers	
	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
Altitude	2000M	2000M
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

## 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 hysteresis 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.



# SMART Dryer™ 5000 Series Membrane Air Dryers For Coordinate Measurement Machines

## Membrane Air Dryers for Coordinate Measurement Machines

Flow Rates	Outlet Flow (SCFM) at Indicated Operating Pressure (psig)									
	Pressure	60 psig		80 psig		100 psig		120 psig		140 psig
Dewpoint	-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)

#### 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.

### 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



Balston  
Compressed Air  
Dryer

#### 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

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

**Unattended 24 hour operation**

**Lightweight and compact**

**No desiccant to change**

#### Model 75-20

Balston regenerative PSA desiccant dryers reduce the atmospheric dewpoint of compressed air without operator attention. Model 75-20 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 75-20 is a wall mountable unit. It has a 10 SCFM/min. capacity (at 100 psig inlet pressure).

## Principal Specifications

Model	75-20
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	75-20
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



## Customer Support and Service Network for Balston® Products



### Customer Support and Assistance

**Balston products are supported by a staff of 70+ highly trained sales and service specialists located throughout North America and Canada.**

The Specialists are continuously trained and updated on all Balston branded products and technologies, ensuring prompt, accurate customer service.

When on-site service isn't practical, replacement items are shipped the same day you contact us directly to your facility from one of our near by Stocking Centers or directly from our Manufacturing Plant. We guarantee overnight delivery and we pay the freight!

### World Class Manufacturing

All Balston branded products are manufactured within strict guidelines of a total quality management program. Each product incorporates superior workmanship and the best quality components available ensuring long term reliability and trouble free operation. **Your complete satisfaction is guaranteed.**

### Technical Support Staff

If you have technical questions, special product modifications or unique applications, Balston's technical information and support staff are available to assist you with your requirements. These highly trained application engineers are committed to ensuring your questions are answered accurately, and your special needs are attended to. In addition, they will work closely with you on new and unique applications. This team of engineers can be contacted at **1-800-343-4048** 8AM to 5PM Eastern Time.

# Offer of Sale

The items described in this document are hereby offered for sale at prices to be established by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any item described in its document, when communicated to Parker Hannifin Corporation, its subsidiary or an authorized distributor ("Seller") verbally or in writing, shall constitute acceptance of this offer.

**1. Terms and Conditions of Sale:** All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance or an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer. Acceptance of Seller's products shall in all events constitute such assent.

**2. Payment:** Payment shall be made by Buyer within 30 days from the date of shipment. Amounts not timely paid shall bear interest at the maximum rate permitted by law for each month or portion thereof that the Buyer is late making payment. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.

**3. Delivery:** Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

**4. Warranty:** Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 12 months from date of shipment to Buyer. THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.

NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS.

**5. Limitation of Remedy:** SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.

**6. Changes, Reschedules and Cancellations:** Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

**7. Special Tooling:** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially

converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**8. Buyer's Property:** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

**9. Taxes:** Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

**10. Indemnity For Infringement of Intellectual Property Rights:** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

**11. Force Majeure:** Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's Control.

**12. Entire Agreement/Governing Law:** The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

## Application Notes

## Application Notes

# Filtration Group Technical Sales & Service Locations

## Filtration Group North America

Filtration and Separation Division  
242 Neck Road, P.O. Box 8223  
Haverhill, MA 01835-0723  
Phone: 800-343-4048 or 978-858-0505  
Fax: (978) 858-0625

Haverhill, MA  
Phone: (978) 858-0505

Baltimore, MD  
Phone: (410) 636-7200

Oxford, MI  
Phone: (248) 628-6400

Hydraulic Filter Division  
16810 Fulton County Road #2  
Metamora, OH 43540-9714  
Phone: (419) 644-4311  
Fax: (419) 644-6205

Process Filtration Division  
6640 Intech Boulevard  
Indianapolis, IN 46278  
Phone: (317) 275-8300  
Fax: (317) 275-8413

Tell City, IN  
Phone: (812) 547-2371

Racor Division  
3400 Finch Road  
P.O. Box 3208  
Modesto, CA 95353  
Phone: (800) 344-3286  
Phone: (209) 521-7860  
Fax: (209) 529-3278

Beaufort, SC  
Phone: (843) 846-3200

Henryetta, OK  
Phone: (800) 451-7299

Holly Springs, MS  
Phone: (662) 252-2656

Filter Division Europe  
Parker Hannifin UK Ltd.  
Shaw Cross Business Park  
Dewsbury, West Yorkshire  
England WF12 7RD UK  
Phone: +44 (0) 1924 487000  
Fax: +44 (0) 1924 487001

Arnhem  
The Netherlands  
Phone: +31 (0) 26 3760376

Etten-Leur  
The Netherlands  
Phone: +31 76 508 53 00

Maidstone  
England  
Phone: +44 (0) 1622 723300

Thetford, Norfolk  
England  
Phone: +44 (0) 1842 763299

Urdala As.  
Finland  
Phone: +358 (0)3 54100

## Filtration Group Asia Pacific

Parker Hannifin Asia Pacific Company, LTD  
Filtration Group  
Dae Venture Plaza  
169 Samsung-Dong  
Kangnam-Ku, Seoul  
Korea 135-882  
Phone: +82 2 559 0400  
Fax: +82 2 556 8187

## Filtration Group Latin America

Parker Hannifin Ind. e Com. Ltda. Filter Division  
AV Getulio Vargas, 1331/1333  
123-05-000 Jacarei, SP  
Brazil  
Phone: +55 (11) 3917 1222  
Fax: +55 (11) 3917 1102

Call 1-800-343-4048  
for any Parker Products  
In Europe, 00800-2727-5374  
or visit our Web site  
[www.parker.com/balston](http://www.parker.com/balston)

## Parker Worldwide Sales Offices

Contact Parker's worldwide service and distribution network by calling:

Argentina .....	+54 (11) 4752 4129	Hong Kong .....	+852 (2) 428 8008	Singapore .....	+65 6261 5233
Australia .....	+61 (2) 9 634 7777	Hungary .....	+36 (1) 252 8137	South Africa .....	+27 (11) 392 7280
Austria .....	43-2622-23501-0	India .....	91-22-790-7081	Spain .....	+34 (91) 675 7300
Belgium .....	+32 (67) 280900	Italy .....	39-02-451921	Sweden .....	46-8-5979-5000
Brazil .....	55-12-3955-1000	Japan .....	81-3-6408-3900	Switzerland .....	41-0-22-307-7111
Canada .....	1-800-272-7537	Jordan .....	(962) (6) 810679	Taiwan .....	+886 (2) 2298 8987
Central & South		Korea Choongnam .....	82-41-583-1410	Thailand .....	+662 693 3304
America/Caribbean ...	1-305-470-8800	Korea Kyoungnam ....	82-55-389-0100	United Arab Emirates .	971-2-6788587
China .....	+86 (21) 6445 9339	Korea Seoul .....	82-2-559-0420	United Kingdom	+44 (0) 1924-487000
Czech Republic ....	42-0-2-830-85-221	Mexico .....	1-800-272-7537	USA .....	1-800-272-7537
Denmark .....	45-0-43-56-04-00	Netherlands .....	31-0-541-585000	Venezuela .....	58-212-238-54-22
Finland .....	+358 (0)3 54100	New Zealand .....	+64 (9) 573 1523		
France .....	33-0-254-741403	Norway .....	47-64-91-1000		
Germany .....	49-0-2131-513-350	Poland .....	48-22-863-4942		

**Note:** The (+) sign in front of the country code indicates that you may need to dial an additional prefix.



Parker Hannifin Corporation  
Filtration and Separation Division  
242 Neck Road, P.O. Box 8223  
Haverhill, MA 01835-0723  
Phone: 800-343-4048 or 978-858-0505  
Fax: 978-858-0625

<http://www.parker.com/balston>  
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