

# Pneumatic Products™



Blower Purge  
Desiccant Compressed  
Air Dryers  
**IBP Series**



## IBP Series Dryers

### Produce 100% Efficient Air Systems

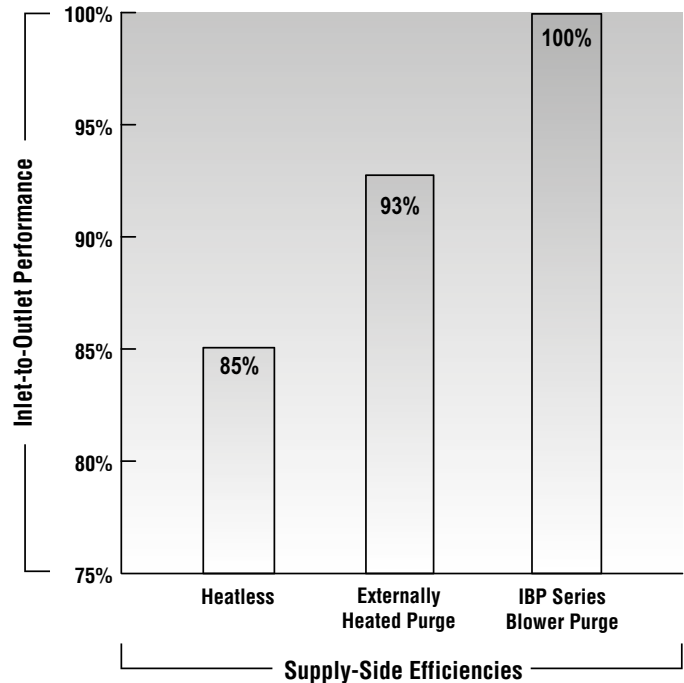
IBP Series dryers improve air system efficiency by the use of a dedicated axial blower, instead of a percentage of dehydrated purge air, to regenerate the off-line desiccant tower. ISO 8573.1 Class 2 (-40°F/-40°C) dew point performance is guaranteed.

### Reduce Energy Consumption

As the air compressor is the most costly system component to purchase, and it uses more electrical energy than the rest of system combined, it is wise to ensure that the smallest appropriately sized air compressor is installed. IBP Series dryers are 100% efficient at delivering full supply-side compressor capacity. Therefore, users benefit from the ability to purchase a less expensive air compressor and a 20% reduction in compressor operating costs.

### Eliminate Costly Compressed Air Loss

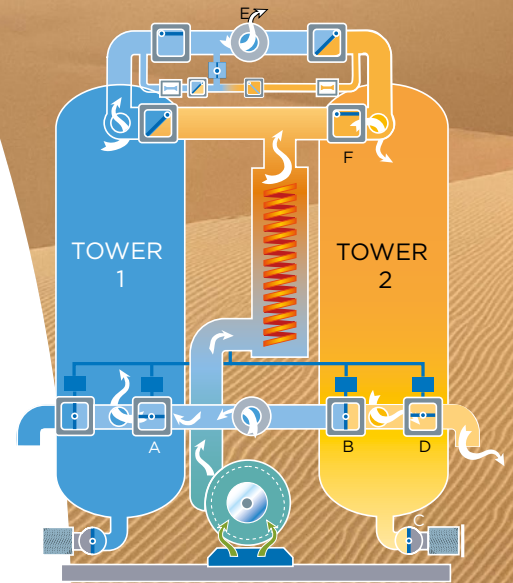
Global competition, spiraling energy costs, and the challenge to “do more, with less” require manufacturers to closely examine operating costs. Compressed air generation tends to be the most costly utility within a facility. Eliminate air loss to align supply-side equipment with demand-side requirements to optimize your air system.



Since 1946, the world has turned to the Pneumatic Products brand for the quality and service demanded by the most critical of applications. Global leaders of industry require durable components that deliver unquestionable reliability. Our precision engineered components and designs deliver outstanding service life and operational longevity. Invest in our experience and gain annuities that will grow for years.

# How It Works

Filtered compressed air enters on-line desiccant-filled, drying Tower 1 through valve (A). Up-flow drying enables the desiccant to strip moisture from the air stream. Clean, dry compressed air exits through (E) to feed the air system. Tower 2 (shown in regeneration mode) with valve (B) closed, depressurizes to atmosphere through muffler (C). Valves (D & F) open and the heater turns on. The high-efficiency blower draws ambient air and feeds it through the heater. The ambient air stream passes through valve (F) and flows downward through the moist desiccant in Tower 2, collecting water vapor before exiting valve (D). Once the desiccant is fully desorbed, the heater turns off. Valve (D) closes and Tower 2 is repressurized. At a fixed time interval, valve (B) will open and Tower 2 will be placed on-line to dry the airstream and valve (A) will close. Operations will switch and Tower 1 will be regenerated.



## Demand-Side Impact on Supply-Side Dryer Types

PLANT AIR DEMAND scfm	DRYER TYPES Efficiency	AIR VOLUME REQUIRED TO MEET DEMAND scfm	AIR COMPRESSOR NEEDED TO MEET AIR VOLUME		COMPRESSED PURGE AIR PENALTY* dollars	PREFERRED SUPPLY-SIDE SOLUTION
			hp	scfm		
1,000	Blower Purge (100%)	1,000	200	1,000	\$0	Yes
1,000	Heated Purge (93%)	1,075	250	1250	\$11,436	No
1,000	Heatless (85%)	1,176	250	1250	\$24,506	No

\* Assumes 5 scfm/HP, 8760 hours of operation per year, 10 cents per kW/h

AIR QUALITY CLASS	SOLID PARTICLES MAXIMUM NUMBER OF PARTICLES PER M <sup>3</sup>			WATER VAPOR PRESSURE DEW POINT		OIL TOTAL OIL CONCENTRATION: AEROSOL, LIQUID & VAPOR	
	0.10 - 0.5 micron	0.5 - 1.0 micron	1.0 - 5.0 micron	°C	°F	mg / m <sup>3</sup>	ppm <sub>w/w</sub>
0	As specified by the equipment user or supplier and more stringent than class 1						
1	≤ 20,000	≤ 400	≤ 10	≤ -70	≤ -94	0.01	0.008
2	≤ 400,000	≤ 6,000	≤ 100	≤ -40	≤ -40	0.1	0.08
3	-	≤ 90,000	≤ 1,000	≤ -20	≤ -4	1	0.8
4	-	-	≤ 10,000	≤ +3	≤ +37	5	4
5	-	-	≤ 100,000	≤ +7	≤ +45	-	-



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## IBP Series – Key Product Features

Towers filled with high-grade activated alumina to deliver superior performance

Soft-seated check valves for tight shut-off and durability

### Standard Controls

- Tower Status
- Service Reminder
- Heater On
- Heater Temperature
- Desiccant Bed Temperature
- Failure to Switch
- RS 232

Low-watt density heater saves energy and prevents premature desiccant aging

High quality pressure gauges display left tower, right tower and purge pressure

Function indicator LEDs for easy monitoring

Easy-view vacuum fluorescent text display is visible under any condition

NEMA 4 construction

Quiet, energy efficient, high-capacity blowers

Premium quality inlet switching/purge exhaust butterfly valves for long life on 3" and larger. (High-performance pneumatic angle-seated valves for smaller sizes.)

### PCC & PCS Series Filtration

- Pleated media offers high capacity
- Uniform pore size reduces downstream contamination

*\*Model Shown with Optional Features*



# Exclusive Feature Details

## PCC & PCS Series Filtration

Critical applications and hostile environments demand premium grade products. Global industry leaders rely on PCS & PCC Series filters for their unmatched quality, durability and reliability in tough applications. PPC's large flow filters meet the challenge and provide contaminant protection for the premium grade desiccants used in our dryers as well as contaminant sensitive applications. Power plants, paper mills, refineries, and petro-chemical installations are a few examples of the challenging environments that rely on PPC filters for lasting protection.

## Controller Feature List

	Controller Configuration		
	Standard	Option A	Option B
<b>Pressure Dew Point</b>			
ISO Class 2 -40°F (-40°C)	3	3	3
<b>EMS Control</b>			
Automatic Energy Savings	—	3	3
<b>Vacuum Fluorescent Text</b>			
Digital Dew Point Monitoring	—	—	3
High Humidity Alarm	—	3	3
2 Line, 16 Characters (high-visibility in darkness or sunlight)	3	3	3
<b>Languages</b>			
English, Spanish, French	3	3	3
<b>Power Recovery</b>			
Automatic Restart after Power Loss	3	3	3
<b>Dry Contacts</b>			
Remote Indication of Alarm	3	3	3
<b>Overlay w/Circuit Graphics &amp; LED Indicators Alarm LEDs with Text Display</b>			
Tower Status - (drying switchover heat, cool, etc.)	3	3	3
Tower - Switchover, Failure (low heater temp/high heater temp)	3	3	3
Sensor Over-range & Under-range	3	3	3
Service Reminder	3	3	3

3 - Standard

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## Product Specifications

### Engineering Data

MODEL	CAPACITY <sup>1,2</sup>	BLOWER HP	HEATER RATING KW	AVERAGE KW	DIMENSIONS <sup>3</sup> INCHES			APPROX <sup>3</sup> WEIGHT LB	INLET/OUTLET <sup>3</sup> CONNECTIONS IN	FILTRATION <sup>4</sup>
	SCFM				H	W	D			
IBP500	500	2.5	10	6.4	105	53	59	1,900	1.5" NPT	PCS15001
IBP600	600	4	12	7.7	108	55	60	2,200	2" NPT	PCS16001
IBP750	750	4	14	9.6	114	60	71	2,200	2" NPT	PCS18001
IBP900	900	4	17	10.8	114	60	68	2,400	3" FLG	PCS19501
IBP1050	1050	5	19	12.5	113	67	70	3,000	3" FLG	PCS112001
IBP1300	1300	7.5	23	15.5	118	66	92	3,600	3" FLG	PCC114003
IBP1500	1500	10	28	19.3	116	80	98	5,400	4" FLG	PCC118003
IBP1800	1800	10	33	21.7	119	84	98	5,500	4" FLG	PCC118003
IBP2200	2200	10	40	27.6	127	90	107	8,100	4" FLG	PCC124004
IBP2600	2600	15	45	30.7	127	89	106	8,200	6" FLG	PCC136003
IBP3200	3200	5	54	37.7	127	97	105	9,400	6" FLG	PCC136003
IBP3600	3600	7.5	60	42.0	133	97	116	9,900	6" FLG	PCC136003
IBP4300	4300	7.5	70	50.1	132	109	123	12,350	6" FLG	PCC148004

<sup>1</sup> @ 100 psig, 100°F -40°F Pressure Dewpoints

<sup>2</sup> Performance data per CAGI Standard ADF 200 for Dual-Tower Regenerative Desiccant Compressed Air Dryer. Rating conditions are 100°F (37.8°C) inlet 100 psig (6.9 bar) inlet pressure, 100% relative humidity, 100°F (37.8°C) ambient temperature.

<sup>3</sup> Dimensions, Weights & Inlet/Outlet Connections based on F01 pre-piped filter options

<sup>4</sup> Prefilter element type SU; Afterfilter element type HT.

Consult factory for sizing assistance and -100°F pressure dewpoint applications. Larger models available.



**Table 1: Pressure**

PRESSURE PSIG (kgf/cm <sup>2</sup> )	INLET TEMPERATURE °F (°C)						
	60 (15.6)	70 (21.1)	80 (26.7)	90 (32.2)	100 (37.8)	110 (43.3)	120 (48.9)
60 (4.2)	1.03	1.01	0.99	0.8	0.58	0.43	0.32
70 (4.9)	1.1	1.08	1.07	0.94	0.68	0.5	0.37
80 (5.6)	1.17	1.15	1.14	1.08	0.79	0.58	0.43
90 (6.3)	1.24	1.22	1.2	1.18	0.89	0.66	0.49
100 (7.0)	1.3	1.28	1.26	1.24	1	0.74	0.55
110 (7.7)	1.36	1.34	1.32	1.3	1.11	0.82	0.61
120 (8.4)	1.42	1.4	1.38	1.36	1.22	0.9	0.67
130 (9.1)	1.48	1.46	1.44	1.42	1.33	0.99	0.74
140 (9.8)	1.53	1.51	1.49	1.47	1.44	1.07	0.8
150 (10.6)	1.58	1.56	1.54	1.52	1.5	1.16	0.87

### Inlet Flow

Inlet Flow (scfm) capacities shown in the Engineering Data table have been established at an inlet pressure of 100 psig (7kgf/cm<sup>2</sup>) and a saturated inlet temperature of 100°F (38°C). To determine maximum inlet flow at other conditions, multiply the inlet flow from the Engineering Data table by the multiplier from Table 1 that corresponds to your operating conditions.

### Dew Point

Outlet pressure dew point at rated inlet conditions of 100 psig (7kgf/cm<sup>2</sup>) and 100°F (38°C) saturated. Dew point varies slightly at other conditions.

### Operating Conditions

IBP MODELS	MAX. WORKING PRESS.	MIN. OPERATING PRESS.	MAX. INLET AIR TEMP.	MIN. INLET AIR TEMP.	MAX. AMBIENT AIR TEMP.	Max. Ambient Air Temp.
500-4300	150 psig	60 psig	120°F	40°F	120°F	40°F



# Blower Purge Desiccant Compressed Air Dryers **IBP Series**

500 - 4,300 SCFM

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing.

Please contact your local sales representative for product availability in your region.

 **Pneumatic  
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