SPXFLOW

Blower Purge Desiccant Compressed Air Dryer

HBP SERIES 500 - 4,300 SCFM (850 - 7306 nm³/h)

Hankison®

HBP Series Blower Purge Desiccant Compressed Air Dryers

HBP SERIES DRYERS PRODUCE 100% EFFICIENT AIR SYSTEMS

HBP Series Dryers produce 100% efficient air systems. Since 1948, compressed air users have relied on Hankison to provide compressed air treatment solutions for applications around the world. HBP 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.

ISO 8573.1-2010 QUALITY CLASSES

CLASS	SOLID PARTICLES PARTICLE SIZE, D (MICRON)			HUMIDITY & LIQUID WATER PRESSURE DEW POINT		OIL TOTAL CONCENTRATION: AEROSOL, LIQUID & VAPOR	
	0.10 < d ≦ 0.5	0.5 < d ≦ 1.0	1.0 < d ≦ 5.0	°C	°F	mg / m³	ppm w/w
	Maximum Number of Particles per m³						
0	**As Specified**			**As Specified**		**As Specified**	
1	100	1	0	≦ -70	≦ -94	≦ 0.01	≦ 0.008
2	100,000	1,000	10	≦ -40	≦ -40	≦ 0.1	≦ 0.08
3	Not Specified	10,000	500	≦ -20	≦ -4	≦ 1	≦ 0.8
4	Not Specified	Not Specified	1,000	≦ +3	≦ +38	≦ 5	≦ 4
5	Not Specified	Not Specified	20,000	≦ +7	≦ +45	-	-
6	-	-	-	≦ +10	≦ +50	-	-
-	-	-	-	Liquid Water Content, Cw g/m³		-	-
7	-	-	-	Cw ≦ 0.5		-	-
8	-	-	-	0.5 < Cw ≦ 5		-	-
9	-	-	-	5 < Cw ≦ 10		-	-

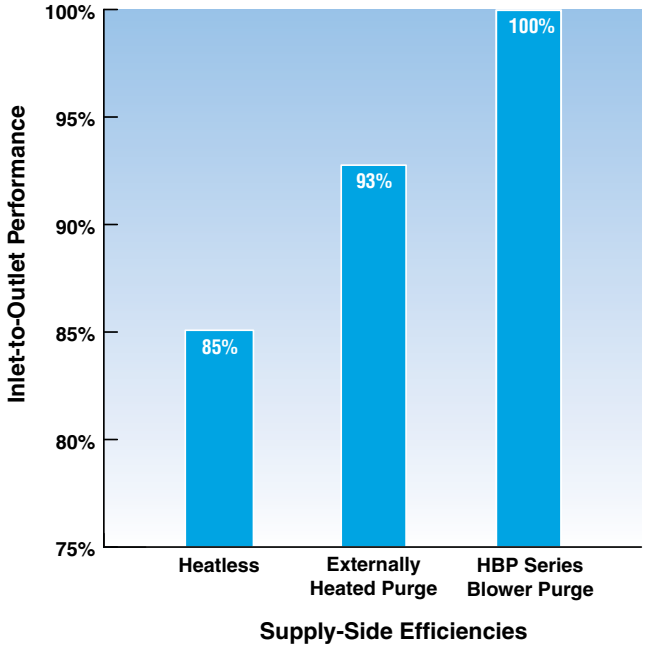
Per ISO8573-1: 2001(E)

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 the system combined, it is wise to ensure that the smallest air compressor is installed. HBP 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.



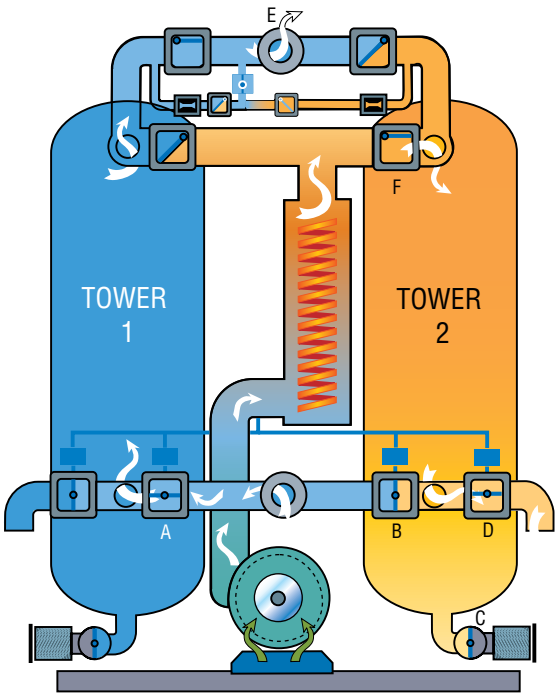
DEMAND-SIDE IMPACT ON SUPPLY-SIDE DRYER TYPES

PLANT AIR DEMAND	DRYER TYPES	AIR VOLUME REQUIRED TO MEET DEMAND	AIR COMPRESSOR NEEDED TO MEET AIR VOLUME		COMPRESSED PURGE AIR PENALTY*	PREFERRED SUPPLY-SIDE SOLUTION
scfm	Efficiency	scfm	hp	scfm	dollars	
1,000	HBP Series 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

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. Valves (F & D) close 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.



ENGINEERED EFFICIENCY AND PERFORMANCE

Soft-seated check valves for tight shutoff and durability

Towers filled with extra, industrial-grade activated alumina to deliver superior performance

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

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

Standard Controls

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

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)

HBP Series Controller Feature List

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

✓- Standard O - Option

ENGINEERING DATA

MODEL	INLET FLOW @ 100 psig, 100°F [1] SCFM	BLOWER KW	HEATER RATED OUTPUT KW	FULL LOAD (AVERAGE) KW	DIMENSIONS INCHES H	W	D	INLET/OUTLET CONNECTIONS IN	APPROX WEIGHT LB	HF SERIES PREFILTER (RECOMMENDED)	HTA SERIES AFTERFILTER
HBP500	500	1.6	10	10	105	53	70	2" NPT	1,866	HF5-44-20-DG	HTA600
HBP600	600	2.5	12	12	108	55	71	2" NPT	2,111	HF5-44-20-DG	HTA600
HBP750	750	2.2	14	14	114	60	83	3" FLG	2,456	HF5-48-20-DG	HTA1200
HBP900	900	2.0	16	16	114	60	83	3" FLG	2,472	HF5-54-24-G	HTA1200
HBP1050	1050	2.8	19	19	113	64	84	3" FLG	2,981	HF5-56-24-G	HTA1200
HBP1300	1300	5.3	23	25	118	66	85	3" FLG	3,576	HF5-60-24-G	HTA1800
HBP1500	1500	7.5	28	32	116	80	93	3" FLG	5,359	HF5-60-24-G	HTS1800
HBP1800	1800	7.0	32	35	116	80	93	3" FLG	5,359	HF5-60-24-G	HTA1800
HBP2200	2200	5.6	39	41	124	85	104	4" FLG	8,018	HF5-64-4F-G	HTA2400
HBP2600	2600	10.3	45	50	124	85	104	4" FLG	8,123	HF5-68-4F-G	HTA3000
HBP3200	3200	2.8	53	52	121	97	117	6" FLG	9,333	HF5-72-6F-G	HTA4800
HBP3600	3600	4.0	58	59	128	97	117	6" FLG	9,833	HF5-72-6F-G	HTA4800
HBP4300	4300	4.4	70	70	124	105	130	6" FLG	12,350	HF5-72-6F-G	HTA4800

[1] Performance data per CAGI Standard ADF 200 for 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, and 5 psi (0.35 bar) pressure drop.

* Consult factory for larger models.

TABLE 1: PRESSURE

PRESSURE psig (kgf/cm²)	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/cm²) 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/cm²) and 100°F (38°C) saturated. Dew point varies slightly at other conditions. Consult the factory to determine exact outlet pressure dew point at your operating conditions.

OPERATING CONDITIONS

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

HBP Series

500 to 4300 scfm
(850 to 7306 nm³/h)

SPXFLOW

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