SPX®

Blower Purge Desiccant Compressed Air Dryer

HBP SERIES

Hankison®

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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.

The Hankison Guarantee

Hankison guarantees that HBP Series dryers will produce the design dew point while operating continuously at maximum rated flow (100% duty cycle) at CAGI ADF 200 inlet standards of 100°F inlet temperature and 100% relative humidity at 100 psig.

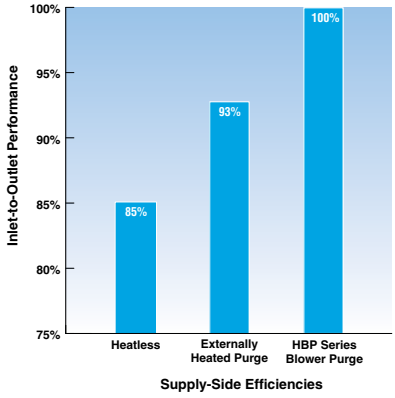
ISO 8573.1 QUALITY CLASSES

Class	Solid Particles			Humidity & Liquid Water		Oil	
	Particle Size, d (micron)			Pressure Dew Point		Total concentration, Aerosol, Liquid, and 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.

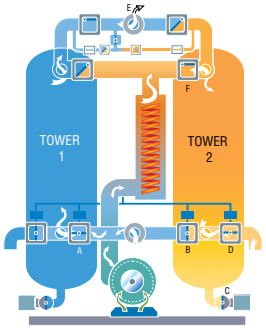
Demand-Side Impact on Supply-Side Dryer Types

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)	
1000	**HBP Series Blower Purge** (100%)	1,000	200	1,000	$0	Yes
	Heated Purge (93%)	1,075	250	1250	$11,436	No
	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 airstream. Clean, dry compressed air exits through (E) to feed the air system. Tower 2 (shown in regeneration mode) 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 airstream 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
FEATURES AND SPECIFICATIONS

PRODUCT FEATURES

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

S=Standard O=Option

ENGINEERING DATA

Model	Inlet Flow @ 100 psig, 100°F [1]	Blower	Heater Rated Output	Full Load (average)	Dimensions W	D	H	Inlet/Outlet Connections	Approx. Weight	HF Series Prefilter	HTA Series Afterfilter
	scfm	kW	kW	kW	inches			inches	lb	(recommended)	
HBP500	500	1.6	10	10	53	70	105	2" NPT	1866	HF5-44-20-DG	HTA600
HBP600	600	2.5	12	12	55	71	108	2" NPT	2111	HF5-44-20-DG	HTA600
HBP750	750	2.2	14	14	60	83	114	3" FLG	2456	HF5-48-20-DG	HTA1200
HBP900	900	2.0	16	16	60	83	114	3" FLG	2472	HF5-54-24-G	HTA1200
HBP1050	1050	2.8	19	19	64	84	113	3" FLG	2981	HF5-56-24-G	HTA1200
HBP1300	1300	5.3	23	25	66	85	118	3" FLG	3576	HF5-60-24-G	HTA1800
HBP1500	1500	7.5	28	32	80	93	116	3" FLG	5359	HF5-60-24-G	HTS1800
HBP1800	1800	7.0	32	35	80	93	116	3" FLG	5359	HF5-60-24-G	HTA1800
HBP2200	2200	5.6	39	41	85	104	124	4" FLG	8018	HF5-64-4F-G	HTA2400
HBP2600	2600	10.3	45	50	85	104	124	4" FLG	8123	HF5-68-4F-G	HTA3000
HBP3200	3200	2.8	53	52	97	117	121	6" FLG	9333	HF5-72-6F-G	HTA4800
HBP3600	3600	4.0	58	59	97	117	128	6" FLG	9833	HF5-72-6F-G	HTA4800
HBP4300	4300	4.4	70	70	105	130	124	6" FLG	12350	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	Inlet Temperature °F (°C)						
psig (kgf/cm²)	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	0.80	0.58	0.43	0.32
70 (4.9)	1.10	1.08	1.07	0.94	0.68	0.50	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	1.20	1.18	0.89	0.66	0.49
100 (7.0)	1.30	1.28	1.26	1.24	1.00	0.74	0.55
110 (7.7)	1.36	1.34	1.32	1.30	1.11	0.82	0.61
120 (8.4)	1.42	1.40	1.38	1.36	1.22	0.90	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	0.80
150 (10.6)	1.58	1.56	1.54	1.52	1.50	1.16	0.87

Inlet Flow

Inlet Flow capacities shown in the Specifications 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 Specifications 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 Model	max. working press.	min. operating press.	max. inlet air temp.	min. inlet air temp.	max. ambient temp.	min. ambient temp.
	psig	psig				
500-4300	150	60	120°F	40°F	120°F	40°F

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