



Refrigerated Compressed Air Dryers

HRB SERIES

HRB SERIES REFRIGERATED AIR DRYERS IMPROVING PRODUCTIVITY

HANKISON HRB SERIES REFRIGERATED AIR DRYERS IMPROVE PRODUCTIVITY. Since 1948, people around the globe have relied on Hankison to deliver the right solutions to efficiently meet the needs of today's applications for compressed air treatment. HRB Series non-cycling refrigerated compressed air dryers are designed exclusively for the tropics to deliver a 3°C pressure dew point per ISO 7183, and reliable operation under tropical air standard conditions from 0.5 through 13.3 Nm³/minute.

GAIN EFFICIENCY

Air-powered products and processes operate best with clean and dry compressed air. Productivity improves. Rejects decrease. Maintenance personnel are able to be proactive and work from their schedule. The entire facility runs smoothly and contributes to financial stability and competitiveness.

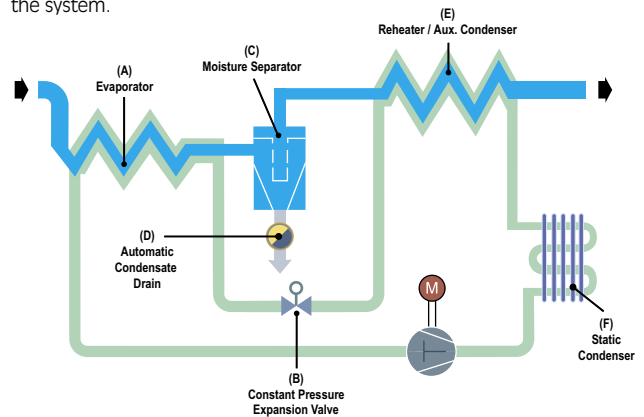
DRY COMPRESSED AIR - PURE & SIMPLE

Research indicates that many customers want reliability and dry compressed air at an affordable price. No fancy bells and whistles - just dry air, pure and simple. The HRB Series non-cycling dryers were designed to meet these demands.

HOW IT WORKS

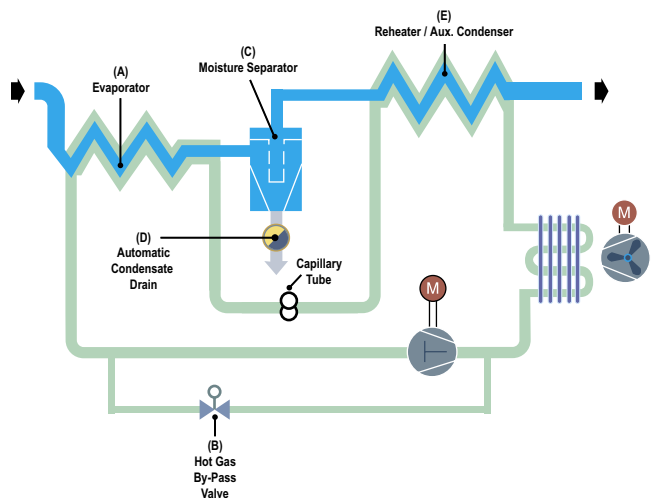
Models HRB 0.5 through HRB 1.6

Warm saturated air enters the Evaporator (A) where it is cooled by refrigerant being controlled by a Constant Pressure Expansion Valve (B). Water vapor condenses into a liquid for removal at the moisture separator (C) by an Automatic Drain (D). The cold, dry air is reheated as it passes through the Reheater (E). This prevents pipeline sweating. The Static Condenser (F) eliminates the need for a cooling fan and simplifies the system.



Models HRB 2.5 through HRB 13.3

Warm saturated air enters the Evaporator (A) where it is cooled by refrigerant being controlled by a Hot Gas By-Pass Valve (B). Water vapor condenses into a liquid for removal at the Moisture Separator (C) by an Automatic Drain (D). The cold, dry air is reheated as it passes through the Reheater (E). This prevents pipeline sweating.





BUILT-IN DURABILITY AND RELIABILITY

All HRB Series dryers are built for durability, in a space-saving design. Sturdy sheet steel is formed and protected by an epoxy-based powdercoat finish. Reliable refrigeration systems use environmentally friendly R-134a or R-407C refrigerant to maintain stable temperatures to protect the integrity of the pressure dew point. HRB Series can handle the pressure.

STANDARD FEATURES

- Easy to install package saves time. Simply connect the pipes and plug in the power cord (model HRB 13.3 is hard-wired).
- Adapts to system needs without complicated controls. Fully automatic operation saves money.
- Every unit comes pre-assembled with quality components. Long service life.
- Steady pressure dew point. Ensures maximum moisture removal every day.
- On/off switch illuminates when compressor is on

MODELS 0.5 TO 1.6 Nm³/min

- Static condenser recycles waste heat to eliminate cold, sweaty pipes
- Integral moisture separator
- Reliable float drain removes condensate
- On/off switch illuminates when compressor is on

MODELS 2.5 TO 13.3 NM³/MIN

- Integral 304 stainless steel heat exchanger, mesh demister and moisture separator for long life
- Timer operated drain includes isolation valve/strainer to protect valve from rust and scale
- Panel mounted drain timer controls
- Digital LED drain time display



HRB SERIES

PRODUCT FEATURES AND SPECIFICATIONS

HRB Series Product Features

HRB Models	Standard Controller					Refrigeration System					
	Lighted Compressor On/Off Switch	Dew Point Indicator	220v/50/1 Grounded, 1.8m, Power Cord	Timer Operated Drain Valve, Isolation Valve, Strainer	Panel Mounted Drain Valve Adjustments	HFC Refrigerant	Copper Tube-on-Tube Heat Exchanger	Constant Pressure Expansion Valve	304ss Heat Exchanger, Demister & Moisture Separator	Capillary Tube & Hot Gas Bypass Valve	Fan Cycling
0.5	S	S	S	S ²	-	S	S	S	-	-	-
1.0 - 1.6	S	S	S	S ²	-	S	S	S	-	-	-
2.5 - 4.9	S	-	S	S	S	S	-	-	S	S	S
6.6 - 13.3	S	-	S ¹	S	S	S	-	-	S	S	S

S=Standard
¹ Not available. AHG 13.3 is hard wired.
² Float drain is standard on HRB 0.5-1.6

HRB Series Product Specifications

Model	Flow Capacity ¹	Inlet/Outlet Connections inch	Power Supply	Input Power ² kW	Refrigerant	Dimensions			Shipping Weight kg
						Height mm	Width mm	Depth mm	
HRB 0.5	0.50	PT 3/8"		0.24	R-134a	382	320	320	20
HRB 1.0	1.00	PT 3/4"		0.34		568	368	394	32
HRB 1.3	1.33	PT 3/4"		0.42		568	368	394	32
HRB 1.6	1.67	PT 3/4"	220-240V	0.58		568	500	500	44
HRB 2.5	2.50	PT 1"	1 PH	0.64	R-407C	525	366	496	41
HRB 3.0	3.00	PT 1"	50 Hz	0.89		525	366	496	45
HRB 4.9	4.92	PT 1"		1.20		525	366	496	50
HRB 6.6	6.67	PT 1-1/2"		1.78		525	416	616	58
HRB 10.0	10.08	PT 2"		3.00		710	470	770	75
HRB 13.3	13.33	PT 2"	380-420/3/50	3.40		710	470	770	89

¹ Rated Flow Capacity - Conditions are 35°C inlet temperature, 6.9 bar(g) inlet pressure, 100% relative humidity, 25°C ambient temperature, 50Hz.
² At 2°C (35°F) evaporator and 25°C (77°F) ambient

Operating Conditions Models HRB 0.5–HRB 13.3

HRB Models	Max. Inlet Air Press.	Min. Inlet Air Press.	Max. Inlet Air Temp.	Min. Inlet Air Temp.	Max. Ambient Temp.	Min. Ambient Temp.
0.5 - 13.3	16 barg	0.7 barg	60°C	4°C	43°C	2°C

Capacity Correction Factors

To adjust dryer capacity for conditions other than rated, use Correction Factors (multipliers) from Tables 1 and 2.

Example: What is the capacity of a 6.67 Nm³/min model when the compressed air at the inlet to the dryer is 10.3 bar and 45°C and the ambient temperature is 43°C?

Answer: 6.67 Nm³/min (rated flow from Product Specifications Table) x 0.79 (correction factor for inlet temperature and pressure from Table 1) x 0.72 (correction factor for ambient temperature from Table 2) = 3.79 Nm³/min

Table 1: Dryer Sizing Chart

Inlet Air Temp. (°C)	Inlet Air Pressure barg (psig)						
	4.1 (60)	5.5 (80)	6.2 (90)	6.9 (100)	7.6 (110)	8.6 (125)	10.3 (150)
25	1.30	1.42	1.52	1.58	1.63	1.71	1.80
30	1.01	1.11	1.18	1.23	1.27	1.33	1.40
35	0.82	0.90	0.96	1.00	1.03	1.08	1.14
40	0.68	0.75	0.80	0.83	0.85	0.90	0.95
45	0.57	0.62	0.66	0.69	0.71	0.75	0.79
50	0.48	0.52	0.56	0.58	0.60	0.63	0.66

Table 2

Ambient Air Temp. (°C)	Correction Factor
25	1.00
30	0.92
35	0.85
40	0.78
43	0.72

Improvements and research are continuous at SPX Hankison
 Specifications may change without notice.



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