

Provide Breathing Quality Air from Your Compressed Air System

**Removes carbon monoxide
Meets OSHA and CSA requirements**

A Hankison® Catalite® breathing air purifier allows you to use your compressed air system as a source of breathing quality air for supplied air devices such as masks, hoods, and helmets. Hankison purifiers are complete systems, removing excessive moisture, solid particles (dust and dirt), oil aerosols and mists, carbon monoxide (CO), and hydrocarbon vapors.

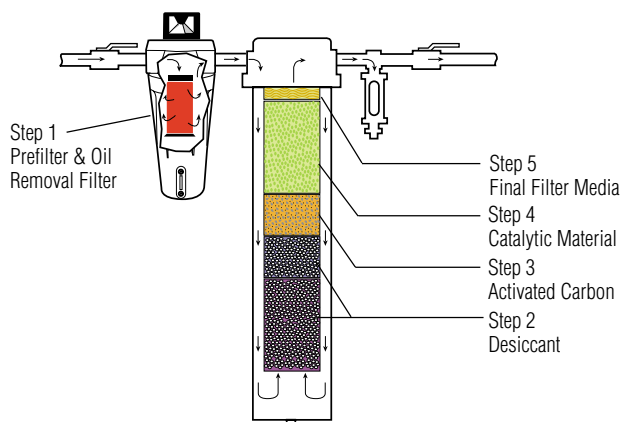
A Hankison purifier allows you to utilize your compressed air supply (even if supplied by lubricated compressors) for breathing. It is an economical alternative to costly high pressure air cylinders or a separate breathing air system.

Model 1901 contains a replaceable cartridge and is ideal for applications where portability is required, electrical power is not available, or use is occasional (e.g. tank cleaning). Where demand for breathing air is frequent, continuous flow models are available.

Operation

Catalite purifiers are completely engineered, packaged systems consisting of five filter/purification stages.

- Step 1 A combination prefilter and high efficiency oil removal filter eliminates solid contaminants and liquid oil aerosols (mist). A differential pressure gauge indicates need for filter element replacement.
- Step 2 Two beds of desiccant lower the moisture level maintaining the effectiveness of the catalyst bed.
- Step 3 A bed of activated carbon removes oil (and various other hydrocarbon) vapors and undesirable odors.
- Step 4 A bed of catalytic material reduces CO concentrations as high as 700 ppm_v by converting CO to CO₂.
- Step 5 A final layer of media prevents solid particles 0.01 micron and larger from passing downstream.



 **HANKISON**



CATALITE®

BREATHING

AIR PURIFIERS

PORTABLE

MODEL

Meets OSHA and CSA Standards for Breathing Quality Air

There are a number of standards that describe breathing air quality. In the United States the most common is OSHA (Occupational Safety and Health Administration) standard 29 CFR 1910.134 and in Canada CSA (Canadian Standards Association) standard CAN3-Z180.1-M85.

Catalite purifiers will reduce the concentration of contaminants normally found in compressed air to levels acceptable for breathing. However, air that is oxygen deficient or grossly contaminated cannot be purified to acceptable levels. It is important to locate the compressor intake in a clean environment with sufficient oxygen.

Visible Indication of Expended Cartridge Life

Convertor cartridge life is dependent on the water vapor content of the inlet air. The moisture level is monitored by bleeding a sample of air through a color change indicator. The indicator responds to an increase in moisture content as the desiccant bed becomes saturated and signals in advance the need for convertor cartridge replacement.

Ease of installation and service

Purifiers are complete with a wall mounting bracket and inlet and outlet isolation valves for easy servicing.

Specifications

I. Flow Capacity

Rated Flow: 10 scfm @ 100 psig (7.0 kgf/cm²)
For maximum flow at other inlet pressures refer to Table 1.

Table 1 Maximum flow at various inlet pressures (scfm).

Inlet Pressure psig (kgf/cm ²)	20 (1.4)	40 (2.8)	60 (4.2)	100 (7.0)	150 (10.6)	200 (14.0)
Flow Rate (scfm)	3.0	4.8	6.5	10.0	14.4	18.7

II. Operating Conditions

Maximum operating pressure: 200 psig (14.0 kgf/cm²)
Maximum operating temperature: 120°F (49°C)

III. Determining purifier cartridge life:

Step 1 - From Table 2 find the volume of air that can be purified at the pressure and temperature at the purifier inlet. Note: Use the measurable (sensible) inlet temperature if the air supply has not been dried (i.e. saturated); if the air supply has been dried, use the dew point temperature produced by the dryer. Example: at 100 psig and 80°F saturated inlet conditions, a cartridge will purify 5400 scf. If the air is dried to a 40°F dew point, it will purify 22,470 scf.

Hankison International has a tradition of continuous improvement. Specifications and designs are subject to change without notice or obligation.

Step 2 - If the inlet temperature is higher than the dew point temperature (e.g. air dried in a refrigerated dryer to a 40°F dew point is reheated to ambient temperature), multiply the volume of air found in Step 1 by the Correction Factor from Table 3 corresponding to the measurable (sensible) temperature at the purifier inlet and the dew point temperature of the compressed air supply. Example: air at a 40°F dew point reheated to 80°F would purify 6292 (22,470 scf x 0.28) scf.

Step 3 - To determine cartridge life, divide the volume of air found above by the rate of air consumption of the breathing air device(s) supplied. Example: at the above conditions cartridge life is 786.5 minutes (13.1 hours) when supplying a mask using 8 scfm (6292 scf/8 scfm).

Table 2 Volume of air that can be purified at various inlet temperatures and pressures (scf).

Inlet dew point (saturated air) temperature °F (°C)	Inlet Pressure psig (kgf/cm ²)						
	20 (1.4)	40 (2.8)	60 (4.2)	80 (5.6)	100 (7.0)	150 (10.8)	200 (14.0)
40 (4.4)	6,798	10,716	14,634	18,552	22,470	32,265	42,060
50 (10)	4,644	7,321	9,998	12,675	15,352	22,044	28,736
60 (16)	3,230	5,091	6,953	8,814	10,676	15,330	19,984
70 (21)	2,281	3,596	4,911	6,226	7,541	10,828	14,116
80 (27)	1,634	2,575	3,517	4,458	5,400	7,754	10,108
90 (32)	1,186	1,869	2,552	3,236	3,919	5,627	7,336
100 (38)	872	1,375	1,876	2,380	2,883	4,140	5,397

Table 3 Correction Factor for air at less than saturated conditions

Dew point (saturated air) temperature	Sensible Temperature								
	120°F (49°C)	110°F (43°C)	100°F (38°C)	90°F (32°C)	80°F (27°C)	70°F (21°C)	60°F (16°C)	50°F (10°C)	40°F (4°C)
120°F (49°C)	1.00								
110°F (43°C)		1.00	0.90						
100°F (38°C)			1.00	0.90	0.78				
90°F (32°C)				1.00	0.90	0.75	0.56		
80°F (27°C)					1.00	0.88	0.70	0.51	0.39
70°F (21°C)						1.00	0.88	0.70	0.51
60°F (16°C)							1.00	0.88	0.69
50°F (10°C)								1.00	0.85
40°F (4°C)									1.00

Dimensions and Weight

