

Nomonox™

BREATHING AIR PURIFIERS
FOR COMPRESSED AIR SYSTEMS

*Exceeds All
Breathing Air Safety
Standards*

- *Continuous Duty From Any Compressed Air System*
- *Respiratory Protection In Stationary and Portable Applications*
- *Unique Models For Medical Applications*



Purify Compressed Air For Breathing Applications

The use of compressed air is a practical solution for many breathing air applications. Other means of supplying breathable air are less cost effective, less reliable, and are often difficult to manage.

Nomonox™ Breathing Air Purifiers apply innovative design and proven performance for a solution that enables one or more individuals to breath safely in contaminated or hazardous environments. Airborn contaminants including particles, water vapor, hydrocarbons, carbon monoxide, and other gaseous impurities are eliminated to meet or exceed the latest Breathing Air Standards:

	Maximum Allowable Contaminant Level *	
	OSHA	CSA
Carbon Monoxide (ppm)	10	5
Carbon Dioxide (ppm)	1000	500 ± 25
Oil (condensed) Hydrocarbons (mg/m ³)	5	1
Odors & Tastes	Slight	Slight

OSHA: Occupational Safety and Health Administration
CSA: Canadian Standards Association

- **OSHA Regulations:** CFSR 1910.134(d) "Respiratory Protection, Air Quality."
- **Compressed Gas Association Guidelines:** Pamphlet G-7, "Compressed Air For Human Respiration," and Pamphlet G7.1 "Commodity Specification for Air."
- **NIOSH/EPA Document EPA-560-opts86-01:** "A Guide to Respiratory Protection for the Asbestos Abatement Industry" Part IV and Appendix F.
- **American National Standard:** Z88.2-1080 "Practices for Respiratory Protection."
- **Canadian Standards Association (CSA):** Z180.1-00 "Compressed Breathing Air and Systems"

Nomonox™ meets the requirements of the National Fire Protection Association and the American National Standards Institute for Grade D breathing air as well as the Nuclear Regulatory Commission requirements for Grade E breathing air.

Nomonox™ Breathing Air Purifiers use absorption, adsorption, coalescence, and catalytic chemical reaction to purify compressed air. They operate automatically with a preset electric timed controller that cycles each desiccant bed through a drying mode and a purge/regeneration mode in a twin-tower design. Operation can be monitored through standard tower gauges, ACTIVE TOWER indicator lights, and POWER ON light.

Nomonox... A Model For Every Application

Nomonox™ CDP continuous duty purifiers are available in capacities suitable for large or small applications. Selection of the correct CDP model is based on the purified air consumption of flooded or constant-flow respirators. (See selection method on back page). In addition to low operating cost and maximum breathing protection, CDPs provide:

- **Long service life**
- **Safety and reliability in low-pressure operation**
- **Minimum routine maintenance****
- **Customization for broad applicability**

CDP models can be configured with a moisturizer to provide additional user comfort.

Nomonox™ PBS models include CDP purifiers that are mounted to a rugged cart to make them truly portable. They are well suited for use in toxic waste and asbestos abatement sites, and by mobile maintenance crews working in the chemical industry or in other contaminated environments. All Nomonox™ options are available for PBS models.

** Converter catalyst must be replaced every 12 months and activated carbon polisher should be replaced every 3 months based on CO contamination not exceeding 600 ppm or based on taste and odor. Condition of air compressor and piping effects catalytic converter and carbon polisher life. (See technical manual).

Nomonox™

CDP and HCP purifiers are available in capacities from 17 - 980 scfm

PDC shown with optional cart and manifold assembly



With Nomonox™

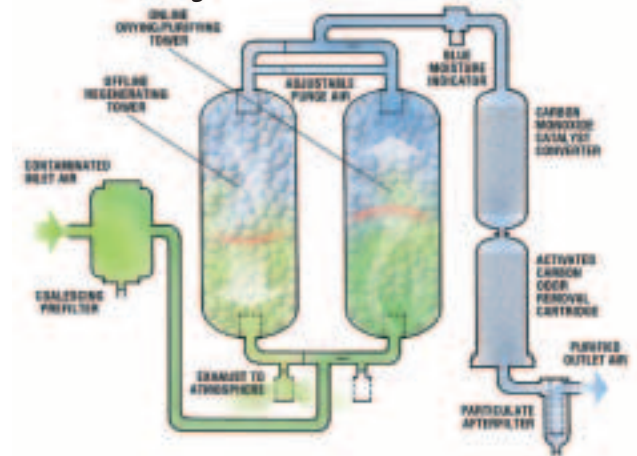
Nomonox™ PDC purifiers are designed for intermittent and brief-use applications. Use where continuous duty air is not needed and where bottled breathing air is not cost effective. PDC purifiers contain a disposable cartridge made of a carefully formulated combination of adsorbents, coalescents, and catalytic converters. Cartridge replacement is simple and quick. ZEKs provides special assembly and packaging of the replacement cartridges to assure consistent high quality. Compact size requires little installation space. Options include a wheeled cart for portability and a manifold for multi-user adaptability.

Health Care Applications - Nomonox™ HCP

Health care applications including life support systems, Neonatal care, respiratory therapy, and laboratories place stringent standards and regulations on breathing air purification systems. Nomonox™ HCP Health Care Purifiers are engineered to meet these specific NIOSH, EPA, GRADE D, and FDA requirements. They incorporate a unique vacuum purge control system that automatically rejuvenates the purification media. Utilizing the scrubbing power of high vacuum, HCP purifiers consume little purge air to strip and flush the captured contaminants from the desiccant beds and catalyst chamber. Unlike other purification systems, HCP purifiers maintain efficiency when operating within the 50-70 psig range typical of health care breathing air systems.



The Multi-Stage Nomonox™ Purification Process



- **Dual alternating desiccant beds†** – adsorbs moisture vapor and contaminants. Desiccant beds are continuously rejuvenated by a purge-air regeneration process that expells the captured contaminants.
- **Catalytic conversion** – oxidizes carbon monoxide to form harmless carbon dioxide.
- **Activated carbon polisher** – removes unpleasant tastes, odors, and organic compounds.

Proven dual desiccant tower design enables Nomonox™ purifiers to provide up to 4 hours of continuous drying performance that protects the CO catalyst from water vapor spoilage.

A Wide Range Of Options Are Available

CO Monitor; Oxygen Deficiency Monitor; Low Pressure Alarm; Power Failure Alarm; High Temp Alarm; Dew Point Monitor; Emergency Egress Horn; Moisture Load Control; Moisturizers; Failure to Shift; High Humidity Alarm; INLET/OUTLET Temperature and Pressure Gauges; Isolation Valves; Regulator Manifold; Purge air CO-free; Pre-Filters and After-filters; Premium Electrical Packages

* CAUTION

Nomonox™ purifiers will remove selected contaminants from conventional compressed air, making it suitable for human breathing. Gross contamination of the inlet air to the compressor and/or serious compressor malfunction will adversely affect purifier performance. The compressor must be properly located and maintained to prevent such an occurrence.

Air at the inlet of this purifier must not be oxygen-deficient (less than 19.5%) - Nomonox™ purifiers will not increase the oxygen content of oxygen deficient air; carbon monoxide concentration shall not exceed 100 ppm; methane concentration shall not exceed 10 ppm; halogenated hydrocarbons shall not exceed 5 ppm and no other gross contamination shall be present.

For oil-lubricated compressors, OSHA requires a high temperature or carbon monoxide alarm, or both, on the breathing air purifier. If only a high temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide. These items are available as optional equipment from ZEKs.

For high levels of contamination, or unusual contaminants, consult ZEKs or an authorized ZEKs Distributor.

† Coalescing prefilter needed to meet Warranty requirements.

Nomonox™ Selection Method Selection of the correct Nomonox™ model is based on the maximum number of individuals using purified compressed air and the respirator type(s) used.

First, identify the number of individuals to be supplied followed by calculation of the purified air volume (scfm) required by each respirator. Next, multiply the number of individuals by the scfm consumption of each respirator. Add these figures and the purge air requirement to determine the total air flow volume required - Nomonox model selection is based on this OUTLET volume figure. Consult the Specifications charts below for the Nomonox™ model that meets or exceeds the scfm volume requirement at the required system pressure.

CDP SERIES SPECIFICATIONS (Consult Factory for HCP Series Specifications)

PBS SERIES DIMENSIONS

MODEL	Capacity (scfm) at Indicated Pressure*						Connection Size - in.		Dimensions - in.			Weight lbs.	Dimensions - in.			Weight lbs.
	75 psig		100 psig		150 psig		INLET	OUTLET	HEIGHT	WIDTH	DEPTH		HEIGHT	WIDTH	DEPTH	
CDP 017	16	13	20	17	29	25	1	3/4	45	32	11	140	49	32	30	180
CDP 026	23	19	30	26	43	36	1	1 1/2	54	35	11	200	54	35	30	240
CDP 034	31	26	40	34	57	48	1	1 1/2	52	36	19	250	52	36	30	290
CDP 052	47	40	60	52	86	73	1 1/2	1 1/2	62	38	19	275	62	38	30	315
CDP 069	62	53	80	69	115	98	1 1/2	1 1/2	85	33	28	300	97	60	30	455
CDP 086	78	66	100	86	143	122	1 1/2	1 1/2	85	34	28	325	97	60	30	480
CDP 120	110	93	140	120	200	170	2	1 1/2	84	39	28	350	96	60	30	505
CDP 155	140	119	180	155	260	221	2	1 1/2	87	45	35	375	99	72	36	570
CDP 240	219	186	280	240	400	340	2	1 1/2	90	46	35	CF				
CDP 350	320	272	410	350	590	501	2	2	92	56	45	CF				
CDP 480	440	374	560	480	800	680	2	2	94	56	45	CF				
CDP 630	570	484	730	630	1050	892	3	3	95	71	56	CF				
CDP 790	720	612	920	790	1320	1122	3	3	98	73	56	CF				
CDP 980	890	756	1140	980	1640	1394	3	3	Consult Factory			CF				

PBS Series Purifiers are cart-mounted CDP units.



Operating Conditions

Ambient Temperature: 120°F Maximum; -20°F Minimum
 Inlet Air Temperature: 120°F Maximum; 32°F Minimum
 Working Pressure: 150 psig Maximum; 75 psig Minimum

* Chart based on 100°F saturated INLET air temperature

INLET = Required air volume at indicated psig
OUTLET = Air volume available for breathing

PDC SERIES SPECIFICATIONS

MODEL	Air Flow Capacity (scfm) at Indicated Operating Pressure							Replacement Cartridge	Connection Size - in.			Dimensions - in.			Weight lbs.
	50 psig	75 psig	100 psig	125 psig	150 psig	200 psig	250 psig		INLET	OUTLET	DRAIN	HEIGHT	WIDTH	DEPTH	
PDC 101A	4.5	6.2	8	9.7	11.5	-	-	DC-1	3/4	3/4	1/2	31	4.8	3	15
PDC 201A	11.2	15.6	20	24.3	28.6	-	-	DC-2	1 1/2	1 1/2	1	35	8	5	40
PDC 102A	-	-	-	-	11.5	15	18.4	DC-1	3/4	3/4	1/2	31	4.8	3	15
PDC 202A	-	-	-	-	28.6	37.4	46.1	DC-2	1 1/2	1 1/2	1	35	8	5	40

Operating Conditions

Ambient Temperature: 120°F Maximum; -20°F Minimum

The direct relationship between air flow capacity and operating pressure is noted above. To meet OSHA/CSA guidelines, each respirator must be supplied with a minimum of 4 scfm. Flooded or constant-flow respirators (hoods, suits, helmets) may require 6-12 scfm or more air.

PDC DISPOSABLE CARTRIDGE LIFE

PDC purification cartridges contain a special blue moisture-indicating desiccant that is visible through a sight glass. As the cartridge becomes saturated with water and oil vapor, the vivid color of the blue desiccant gradually fades, indicating the need for replacement. This table gives the *estimated* lifetime of the cartridges in air volume (scf) consumed by workers using any respirator type; actual useful life is most directly determined through inspection of the color-change indicator.

MODEL	Inlet Air Temperature	Total Air Volume Consumed At Indicated Pressure (standard cubic feet - scf)									
		50 psig	75 psig	100 psig	125 psig	150 psig	175 psig	200 psig	225 psig	250 psig	
PDC 101A	60°F	3,300	4,900	6,200	7,500	8,900	-	-	-	-	
PDC 101A	80°F	1,800	2,400	3,300	3,900	5,100	-	-	-	-	
PDC 201A	60°F	15,000	22,000	27,000	33,000	40,000	-	-	-	-	
PDC 201A	80°F	6,000	9,000	13,000	17,000	22,000	-	-	-	-	
PDC 102A	60°F	-	-	-	-	-	9,700	10,500	11,600	12,200	
PDC 102A	80°F	-	-	-	-	-	5,600	5,900	6,600	7,200	
PDC 202A	60°F	-	-	-	-	-	44,000	47,000	51,000	53,000	
PDC 202A	80°F	-	-	-	-	-	25,000	27,000	31,000	33,000	

Maximum Nomonox™ PDC cartridge life results from high inlet air pressure and low inlet air temperature.

Nomonox™
 BREATHING AIR PURIFIERS
 FOR COMPRESSED AIR SYSTEMS

Specifications, illustrative materials and descriptions contained herein were as accurate as known at the time this publication was approved for printing. The company reserves the right to change specifications, discontinue models, equipment or design without notice and without incurring obligation. The information set out in this brochure is for preliminary information only and is not intended to constitute any representation or warranty by ZEKS to potential customers or to form the basis of a contract with any customer.



1302 Goshen Parkway
 West Chester, PA 19380
 Phone: 610-692-9100 800-888-2323
 Fax: 610-692-9192
 www.zeks.com