

Watchdog[®] Desiccant Breathers



APPLICATIONS:

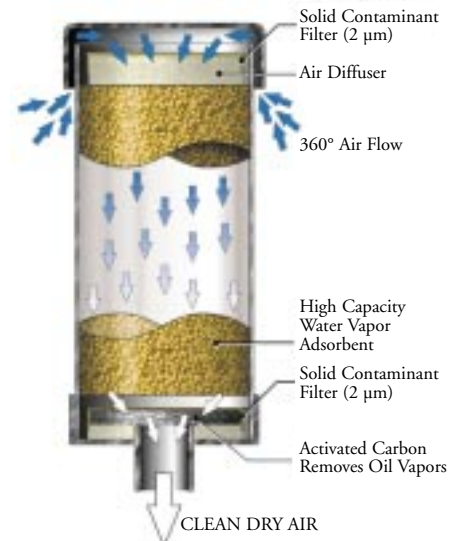
The Watchdog[®] desiccant breathers ensure optimum protection of industrial equipment by prohibiting the entry of moisture and particulate contamination. Contaminants enter industrial equipment as pressure differentials or fluid level changes occur. The Watchdog breathers are ideal for circulating oil systems, oil sumps, process tanks, storage tanks, vacuum systems, hydraulic systems, transformer cases, or anywhere that equipment needs to be dry and clean.

Watchdog desiccant breathers perform two very important functions.

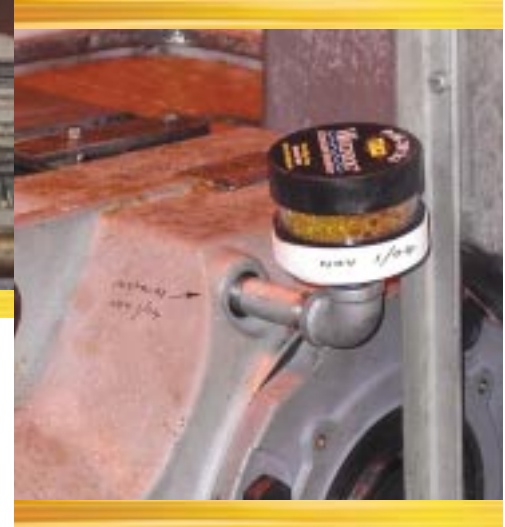
1. They adsorb unwanted moisture inside industrial equipment using silica gel technology. Unwanted moisture can lead to corrosion, shortened fluid life, and additive depletion.
2. They collect airborne solid particles by means of a dual, anti-static filter system. This reduces the amount of abrasive and damaging contaminants that create sludge build-up inside the fluid reservoir.

FEATURES:

- **Bi-directional air flow** - A 360° air flow allows air to be breathed in and out as fluid level changes or differential pressures occur.
- **Dual filtration system** - A two micron filter is located at the top and bottom of the silica gel bed. The top filter removes particle contamination from atmospheric air and the bottom helps with dust created by the silica gel beads contacting each other.
- **Water vapor adsorbent** - The silica gel used in the Watchdog desiccant breathers adsorb up to 40% of its own weight.
- **Durable construction** - Watchdog desiccant breathers are manufactured from rugged ABS plastic and impact modified acrylic.
- **Color indicator** - When maximum adsorption is reached the silica gel turns from gold to dark green, indicating replacement is needed.
- **Activated carbon** - As air is expelled, it passes through activated carbon which removes oil vapors, fumes, and odors (except for 39131, 39132, 39133, and 39134).



Watchdog[®] Desiccant Breathers



SPECIFICATIONS:

Material	ABS plastic and impact modified acrylic
Maximum Operating Temperature	(-20°F to 200°F)

SELECTION CHART

(Desiccant Breathers)

Part Number	Height (inches)	Diameter (inches)	Connection Size	Silica Gel Volume	Water Capacity lbs / ltr	Air Flow
39100	4.75	5	1" Male Friction Fit	.59 lb.	0.2 / 0.1	35 CFM (260 gpm of fluid volume exchange)
39101	6.25	5	1" Male Friction Fit	1.20 lb.	0.4 / 0.2	
39102	9.25	5	1" Male Friction Fit	2.31 lb.	0.9 / 0.5	
39108	11.25	5	2" Male NPT	3.1 lb.	1.3 / 0.6	100 CFM (750 gpm of fluid volume exchange)
39131	2	2	1/2" Female NPT	.08 lb.	.032 / .014	10 CFM (75 gpm of fluid volume exchange)
39132	3.25	2	1/2" Female NPT	.15 lb.	.056 / .027	
39133	2	3.25	1/2" Female NPT	.27 lb.	.104 / .049	
39134	3.25	3.25	1/2" Female NPT	.48 lb.	.18 / .087	

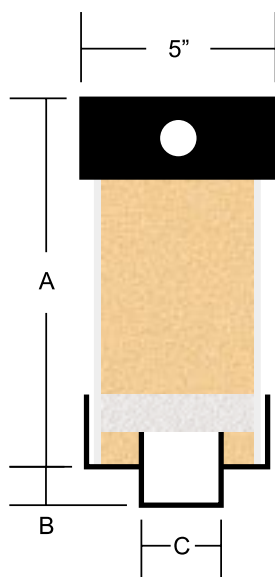
**The size of the reservoir does not determine the type of breather to use. The airflow both in and out of the reservoir determines the type to choose. Two factors create airflow, they are temperature variations (which cause very low airflow rates) and fluid volume changes.*

ACCESSORIES:

Adapters are ordered separately, please see Watchdog Breather Adapters document.

Watchdog[®] EX Series Breathers

In certain extreme operating environments such as a paper mill or in food processing where regular steam cleaning occurs, the humidity level far exceeds normal industrial environments. In these situations, lubricants and other fluids stored in tanks and reservoirs need the protection of a desiccant breather even more. However, small temperature variations draw in the humid air and unnecessarily reduce the life of the breather. The Watchdog[®] EX Series Breathers for extreme humidity applications incorporate two check valves, one to control airflow into the protected reservoir and one to control airflow out. This prolongs the life of the desiccant by allowing the air to flow through the breather only when needed to protect the integrity of the tank. Unlike a membrane system, which does not allow internally generated gases and contaminants to exit the system, the Watchdog EX Breather offers all of the advantages of breathing air in and out of the tank while removing water vapor and solid particles before they contaminate the fluid.



The reusable top cap contains the inlet and outlet valves which protect the silica gel from excess humidity.



The reusable top cap with inlet and outlet valves allows the economic replacement of the desiccant cartridge.

FEATURES:

- **Water Vapor Adsorbent** - longer lasting desiccant formulated specifically for maximum efficiency at humidity levels of 80% and higher.
- **Color Indicating** - When maximum adsorption is reached the silica gel turns from gold to dark green, indicating replacement is needed. The silica gel used is chemically inert, non-corrosive, and does not contain cobalt chloride, a heavy metal. The color changing dye used is environmentally safe and meets all health and safety requirements.
- **Durable Construction** - Watchdog Breathers are manufactured from rugged ABS plastic and impact modified acrylic.
- **Easy Connection** - Models are available with 1" slip fit connection which mates with the standard Watchdog Breather adapters or with a 2" male NPT connection.
- **Reusable Top Cap** - Allows the economic replacement of the desiccant cartridge.

SPECIFICATIONS

Nominal Air Flow Rate	35 CFM (250 gpm of fluid volume change)
Operating Temperature Range	-20°F to 200°F (-28°C to 93°C)
Material	ABS plastic and impact-modified acrylic
Particulate Filtration Level	2 Micron Filter

SELECTION CHART

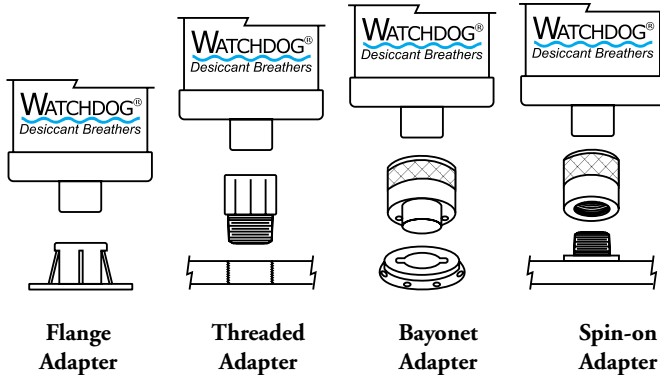
Model No.	Dim A	Dim B	Dim C	Rate Airflow	Water Capacity	Check Valve Capacity
39111	5 in	1.25 in	1" slip	35 CFM	.6 lb	.3 psi in / 2.1 psi out
39112	8 in	1.25 in	1" slip	35 CFM	1.4 lb	.3 psi in / 2.1 psi out
39113	5 in	1.87 in	2" MNPT	35 CFM	.6 lb	.3 psi in / 2.1 psi out
39114	8 in	1.87 in	2" MNPT	35 CFM	1.4 lb	.3 psi in / 2.1 psi out

ACCESSORIES: Adapters are ordered separately, please see Watchdog Breathers Adapters document.

Watchdog[®] Breather Adapters

ADAPTER SELECTION

Watchdog desiccant breathers are easily installed using one of several adapters designed for different applications.



ADAPTER SELECTION CHART: (part numbers 39100, 39101, and 39102)

Model No.	Description
39200	Flange adapter, without mounting holes
39201	Flange adapter, with 6 ANSI mounting holes
39202	Threaded adapter, 1" NPT male x 1" slip fit
39203	Threaded adapter, 3/4" NPT male x 1" slip fit
39204	Bayonet adapter
39205	Spin-on adapter, 1"-12 UNF female x 1" slip fit
39206	Spin-on adapter, 1-1/2"-16 UNF female x 1" slip fit
39207	Bypass adapter
39216	Adapter, 1/2" NPT male x 1" slip fit

THE BYPASS ADAPTER

The Bypass Adapter is designed for applications where there is very heavy oil mist being expelled from the equipment.

When air is breathed into the equipment, it passes through the Watchdog[®] and is cleaned and dried. When the air is breathed out of the equipment it enters the adapter and is expelled to the outside without passing back through the breather. This protects the breather from oil contamination.



Bypass Adapter
(P/N 39207)

ADAPTER SELECTION CHART: (part numbers 39131, 39132, 39133 and 39134)

Illustration	Trico Part Number	T1	T2
	39208	1/2" NPT	1/4" NPT
	39210	1/2" NPT	3/8" NPT
	39212	1/2" NPT	1/2" NPT
	39213	1/2" NPT	3/4" NPT
	39215	1/2" NPT	1" NPT
	39209	1/4" NPT	1/2" NPT
	39211	3/8" NPT	1/2" NPT
	39214	3/4" NPT	1/2" NPT

WATCHDOG VAPOR SENTRY

Pumps, gearboxes, and some hydraulic reservoirs generate heavy oil mist, which is thrown up and out, or simply migrates, through the vent. This oil mist forms droplets of oil on the outside of the equipment creating an environmental issue, a safety issue, and ongoing clean-up procedures. If a desiccant breather is being used on the equipment, its useful life can be significantly shortened.

The Watchdog Vapor Sentry Oil Coalescing Breather solves these problems. The original breather or vent cap is removed and replaced with the Watchdog Vapor Sentry. The original breather is then reinstalled on top of the coalescing unit. The connection on top of the unit is a 1/2" MNPT which is designed to mate with the Watchdog Mini Desiccant Breathers. A simple screw-on adapter allows the use of the Watchdog slip-fits (39100, 39101, and 39102) or Watchdog EX Series breathers with the Watchdog Vapor Sentry.

ADAPTER SELECTION CHART:

Model No.	Description
39199	Vapor Sentry



Watchdog Oil Dryer

APPLICATIONS:

The WATCHDOG oil dryer is a non-vented system designed to remove water vapor from the air as it is drawn through a bed of silica gel. It is ideal for bearing housings and other applications where moisture condensation must be minimized. The compact design and standard thread size are designed to simplify installation. Equipment can be protected from internal moisture damage when the WATCHDOG Oil dryer is installed.

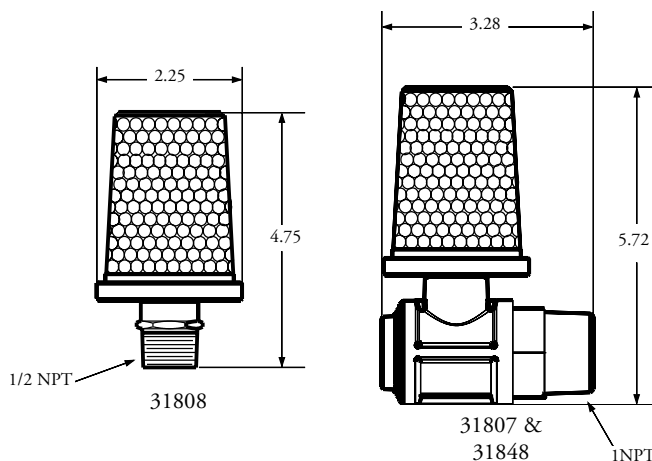
FEATURES:

- Desiccant cartridges change color to indicate when replacement is required.
- Cartridge replacement is simple and takes less than one minute.
- Multiple purpose - serves as a viewport, a fillport and an oil dryer.



SELECTION CHART

Model No.	Description
31807	1" NPT Polysulfone Oil Dryer with viewport
31808	1/2" NPT Polysulfone Oil Dryer without viewport
31848	1" NPT Metal/Glass Oil Dryer with viewport
31849	1" Metal/Glass Oil Dryer with viewport & wire guard



(NOTE: All dimensions are in inches.)

SPECIFICATIONS

Connections	31807	31808	31848 & 31849
Material	Polysulfone	Polysulfone	Glass & Aluminum
Max. Operating Temp.	325°F/160°C	325°F/160°C	325°F/ 160° C

REPLACEMENTS

Model No.	Description
21841R	Replacement cartridge for model numbers 31807 and 31808
31854	1 gal refill of desiccant

