

# Dual Column Breather

## Evolution of Breather Engineering

Introducing our newest development in breather engineering technology — the Dual Column Breather (DCB).

The DCB provides a continuous stream of dry air to a transformer, regardless of the amount of moisture being absorbed. This feature allows customers to standardize on one breather to support every transformer on their system, maximizing value and limiting the number of parts needed to manage inventory and/or new orders.

**Customer Configurable**  
SEE BACK SIDE FOR PART NUMBER CONFIGURATION TOOL.

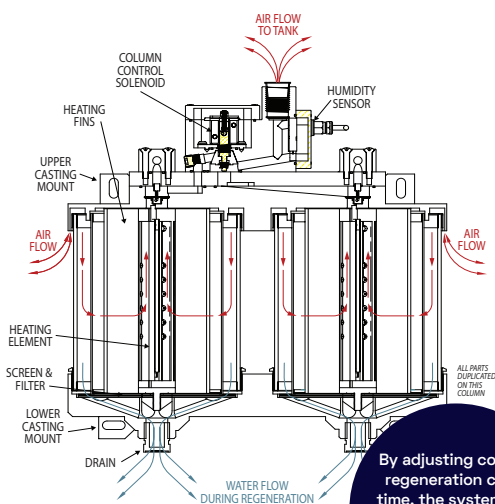


### NEXT LEVEL SILICA GEL MANAGEMENT

Breathers have a long history and serve a critical role in the health of a transformer. First generation breathers required routine replacement of silica gel to provide dry air, increasing maintenance expense.

Next generation breather design provided silica gel regeneration, using heat to dry out the silica gel. This brought about new challenges, as free-breathing during regeneration and inoperable breathers can compromise the dry air path, resulting in moist air being introduced into the transformer oil with no available air path or breathing during regeneration.

Enter the latest evolution in breather technology! Prolec GE Waukesha's new breather does not need to isolate itself from the transformer or LTC during its regeneration cycle due to the dual column design. When one side needs to regenerate, the other side takes over the work of drying the air.



By adjusting column regeneration cycle time, the system can be configured for various tank sizes up to 40,000 gallons.

Because of this feature, the Dual Column Breather helps ensure an uninterrupted supply of dry air. Unlike competitive breathers that have a capacity limit, the Dual Column Breather has the ability to regenerate and still breathe, without the need for "quiet" time. This means the Dual Column Breather has the capacity to support virtually any application.

### DUAL COLUMN BREATHER FEATURES

#### Construction

- Dual column design for continuous breathing, even during regeneration
- Sealed/Latching solenoid for improved reliability
- Aluminum and stainless steel construction for durability
- Borosilicate glass globes resist weather-related etching
- Sealed, super bright 10,000 mcd LED indicators on control box provide easy visual indication of breather status, even in direct sunlight

#### Performance

- Humidity sensor acts as regeneration trigger
- Time-based regeneration settings also included
- In the event of heater failure, the DCB automatically converts the remaining operational column into a single column breather that will continue to service the tank until repairs can be made

#### Convenience

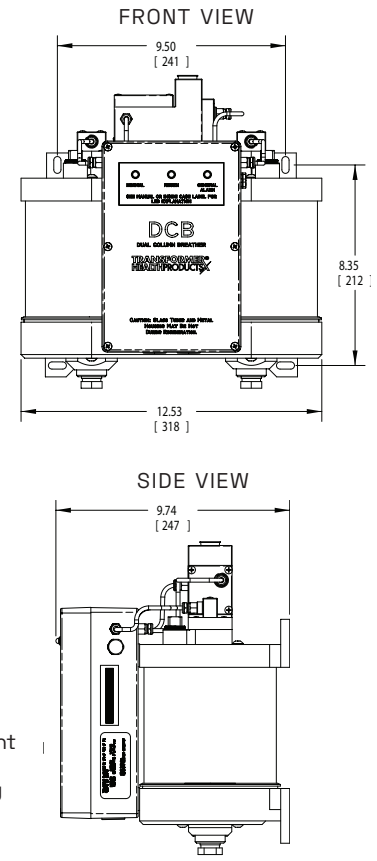
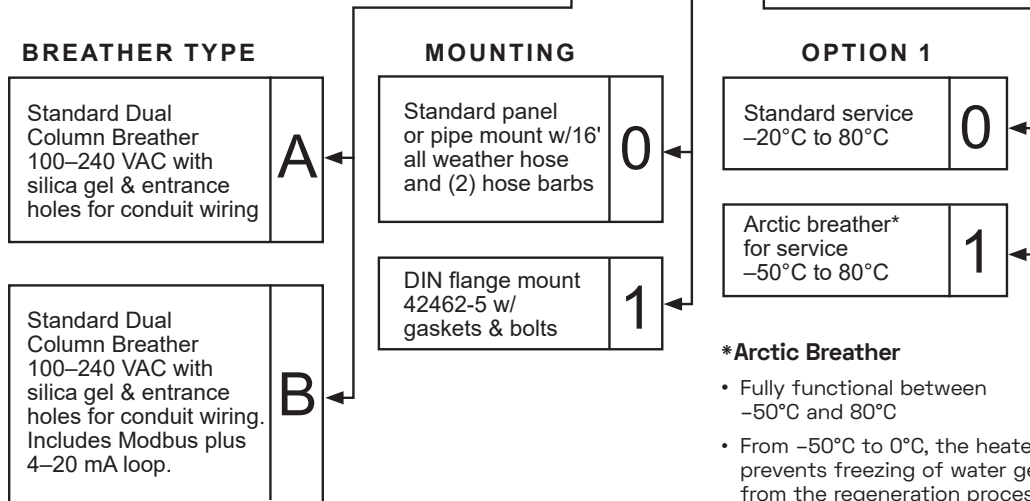
- Standard alarm contacts for remote alerts
- Adapter plate enables easy upgrade from ARDB2
- Conduit wiring does not require adapter box
- Silica gel ships installed

#### Optional Communication and Monitoring

- Modbus (RS-485) connectivity at 4800 to 38400 baud monitors:
  - Average inhaling air relative humidity
  - Average inhaling air temperature
  - Time in hours since last regeneration
  - Any alarm conditions
  - Remote reset of breather to start-up condition
- 4-20mA signal for data transmission
  - Average inhaling air relative humidity

# Build Your Own Part Number Using Configuration Below

**DCB - XXX**



**ALL STANDARD PANEL MOUNT KITS INCLUDE THE FOLLOWING:**

- Two 1/2 NPT hose barbs (for breather and end use location)
- 16 ft of all-weather hose
- Silica gel/Desiccant: ~4.4 lbs/2 kg clear, non-indicating gel (ships installed)

**MOUNTING:**

- Panel mount or DIN flange
- Adapter plate to convert from ARDB2 available
- 1/4" mounting hardware NOT supplied with kit

**LOCAL ALARM/LED INDICATORS:**

- Solid Green — Normal Operation
- Blinking Green — Fast Mode (debug only)
- Yellow — Regeneration Mode
- Blinking Yellow — Humidity Sensor Error

**REMOTE ALARM/LED INDICATORS:**

- Solid Red — Solenoid Valve Failure
- Blinking Red — Regeneration Heater Failure
- None — Power Failure

**REGENERATION:**

- Primary — User adjustable time-based
- Secondary — Humidity sensor with Logic controls

*NOTE: Humidity sensor overrides timer frequencies, if needed.*

**TESTS PERFORMED:**

- IEC 60068-2-1 Low Temperature
- IEC 60068-2-2 Dry Heat
- IEC 60068-2-78 Damp Heat
- IEC 60068-2-6 Sine Vibration
- MIL-STD-810G Random Vibration
- IEC 60068-2-27 Shock
- IEC 68-2-52 Salt Fog Cyclic
- EN 61000-4-2 Electrostatic Discharge (ESD)
- EN 61000-4-3 Radiated Immunity
- EN 61000-4-4 Electrostatic Fast Transients
- EN 61000-4-5 Line Surge Immunity
- EN 61000-4-6 RF Common Mode Injection
- EN 61000-4-8 Power Frequency Magnetic Field Immunity
- EN 61000-4-11 VOLTAGE DIPS, SAGS AND VARIATIONS

**\*Arctic Breather**

- Fully functional between –50°C and 80°C
- From –50°C to 0°C, the heated filter vent prevents freezing of water generated from the regeneration process, allowing complete drainage
- Applies to breather models DCB-A01, DCB-A11, DCB-B01 and DCB-B11 on the configurator above

GENERAL SPECIFICATIONS	
Regeneration Timing	2, 5, 10 or 20 days
Regeneration Humidity	Based on relative humidity and temperature
Heating Time	3 hours, full power
Cooling Time	30 minutes before standby mode
Power Requirements	100–240 VAC, 50/60 Hz
Regenerating	Inrush 4.0 A max, steady 1.2 A
Non-Regenerating	Steady 0.2 A
Temperature Range	Standard: 0°C through 80°C Arctic: –50°C through 80°C

**PARTNERSHIP VALUE**

Capital budgets run thin. O&M budgets face pressure from rising costs and organizational desire to reduce spend. Prolec GE Waukesha helps you stretch your budget by providing better-than-original solutions that can lengthen duty cycles and reduce maintenance spend. We serve as an extension of your organization’s capabilities, providing resources to help maximize your budgets and reduce the burden on your internal engineering and maintenance resources.

**Contact us for more information. To download a technical manual, field maintenance manual and/or technical paper, visit our website.**

**LOCATION**

Prolec-GE Waukesha, Inc.  
9011 Governors Row  
Dallas, TX 75247  
800-338-5526

[waukeshacomponents.com](http://waukeshacomponents.com)



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