

# TTI Enzyme Trial

## 90 Day Breather Trial Provides 20% Longer Life for Industrial Grade Enzyme Manufacturer

**Industry:** Industrial Biosciences

**Location:** Eastern Iowa

**Products Used:** TTI Power Breather's (TT-1, TT-3, TT-4)

**Customer Profile:** An eastern Iowa enzyme manufacturer producing industrial grade enzymes, both liquid and dry, used in several industries such as animal nutrition, biomaterials, biofuels, corn milling, detergents, food enzymes, personal care, cleaning agents and textiles.

### **The Challenge:**

Enzyme manufacturing is a highly technical, complex and automated process that requires attention to detail to ensure pure and quality product. Industrial grade enzyme manufacturing is a fermentation-based process that requires a tiny volume of inoculum (bacteria) immersed in a controlled medium that supports adequate and abundant enzyme growth. A bacterium, like *Aspergillus niger*, subjected to a carbohydrate based medium in specific and controlled conditions (i.e. pH, temperature, oxygen content and additional nutrients) that multiplies enzyme production. Once populated, the enzyme is separated from 'dead cells' and further purified through separation by both centrifugation and continuous filtration techniques. This process is costly, resulting in

high margins, leaving minimal room for process interruptions. Achieving a smooth process requires a sound maintenance budget and schedule.

As part of routine maintenance that reduces process interruptions, the enzyme manufacturer's equipment needs to operate as smooth as possible. As part of routine maintenance, hydraulic oil reservoirs that feed pumps and gear boxes need to be free of moisture contamination. Reducing moisture contamination is achieved by using 'breathers' to allow air flow while trapping free moisture. This enzyme producer had been experiencing shorter breather life while using DesCase's DC-1, DC-3 and DC-4 series. They were interested in trialing a cost-effective replacement, to extend operating life in a high moisture environment.

### **The Solution:**

After reviewing and understanding the enzyme manufacturing process, experts at TTI determined, based on sizing and direct crosses, that the enzyme producer should trial the TT-1, TT-3 and TT-4 series for 90 days. After the trial stage, TTI's breathers provided a 20% longer service life compared to DesCase's DC-1, DC-3 and DC-4 breathers. By extending service life, TTI helped reduce maintenance costs and process interruptions. The three breather styles also contributed to a more efficient solution, at a lower cost while improving daily operation and maintaining product quality.

#### Product Specifications:

- Body Materials
  - o ABS, Nylon, Polypropylene, Buna
- Moisture Absorbing Media
  - o Silica Gel
- Filter Media
  - o Polyester, Polyurethane
- Filter Efficiency
  - o 3µm Absolute
- Operating Temperatures
  - o -20°F to 200°F (-29°C to 93°C)

### **Applications:**

- Gear Boxes
- Transfer Pumps



Todd Technologies Inc

303-585-0132

[Sales@ToddTechInc.com](mailto:Sales@ToddTechInc.com)

[www.ToddTechInc.com](http://www.ToddTechInc.com)

4699 Nautilus Court, Suite #404, Boulder, CO 80301 USA

# TTI Biodiesel Trial

## Todd Technologies Power Breather (TT-BB-CV) Provides 25% Longer Life in Biodiesel Manufacturer

**Industry:** Industrial Manufacturing

**Location:** Eastern Missouri

**Product Used:** TTI Power Breather CV (TT-BB-CV)

**Customer Profile:** An eastern Missouri oilseeds processor separating soybeans into value-add products like high-quality vegetable oil to produce biodiesel fuels and various animal feeds.

### The Challenge:

Oilseed manufacturing is a high cost operation, not only in the cost of starting product, but they also require high energy usage and constant attention to detail to maintain a relatively smooth manufacturing process. Thousands of moving parts require around-the-clock maintenance. Part of the maintenance routine requires technicians to inspect, maintain and preserve the life of hydraulic fluids housed in oil reservoirs that recirculate through transfer pumps and reciprocating equipment.

For their equipment to operate smoothly, these oil reservoirs need to be free of moisture contamination. This is achieved by using 'breathers' to allow air flow while trapping free moisture. This facility had been experiencing shorter breather life while using DesCase's DC-VG-BB series. They wanted to trial a cost-effective replacement, not only to extend operating life in a high moisture environment, but to nearly eliminate moisture re-entry using a breather with check-valve technology.

### **The Solution:**

After a review of the oilseed operation and TTI's product offering with experts at both TTI and Waco Filters, it was determined, based on sizing, that the facility should trial TTI's TT-BB-CV series.

After the trial stage, TTI's TT-BB-CV breather provided a 25% longer service life compared to DesCase's DC-VG-BB breather. By extending service life, TTI helped reduce maintenance costs and process downtime. The price of TTI's breather technology is also beneficial to manufacturers, marked down significantly less using distribution partner, Waco Filters.

By TTI supplying the oilseed processor the TT-BB-CV breather, the facility was able to implement a more efficient solution at a lower cost all while helping improve operations and maintaining product integrity.

### **Product Specifications:**

- Body Materials
  - ABS, Nylon, Polypropylene, Buna
- Moisture Absorbing Media
  - Silica Gel
- Filter Media
  - Polyester, Polyurethane
- Filter Efficiency

- 3µm Absolute
- Operating Temperatures
  - -20°F to 200°F (-29°C to 93°C)

### **Applications:**

- Gear Boxes
- Transfer Pumps



**303-585-0132**

**[Sales@ToddTechInc.com](mailto:Sales@ToddTechInc.com)**

**[www.ToddTechInc.com](http://www.ToddTechInc.com)**

4699 Nautilus Court, Suite #404, Boulder, Colorado 80301

# TTI Soybean Trial

## Todd Technologies Power Breather (TT-4-CV) Trial with Soybean Processor

**Industry:** Food & Beverage Manufacturing

**Location:** Southern Georgia

**Product Used:** TTI Power Breather CV (TT-4-CV)

**Customer Profile:** A southern Georgia soybean mill that separates soybeans into value-add products such as high-quality vegetable oil for human consumption and soybean meal for the poultry industry

### The Challenge:

Soybean mills are costly operations requiring high energy output and constant attention to detail to maintain a relatively smooth manufacturing process. There are thousands of moving parts that require around-the-clock maintenance. Part of the maintenance routine requires technicians to inspect, maintain and preserve the life of food grade oils kept in oil reservoirs that recirculate through mechanical drives, pumps and motors.

To ensure this equipment is operating smoothly, these oil reservoirs need to be free of moisture contamination using breathers. The mill had been experiencing shorter breather life using Air Sentry's GRC85C breather and wanted to trial a replacement that was also more cost

effective and virtually eliminates moisture re-entry by using check-valve technology in a high moisture environment.

### **The Solution:**

After a review of the soy mill's operation and TTI's product offering with experts at both TTI and Hydrotex, it was determined, based on sizing, that the mill should trial TTI's TT-4-CV breather.

After the trial stage, TTI's TT-4-CV breather lasted for 7 weeks before a replacement breather was required. This, compared to Air Sentry's product that would maintain efficiency for only 4-5 weeks, on average. Not only was the mill's breather life improved by 35-40% reducing maintenance costs and process downtime, the price of TTI's breather technology is 18% less through distribution by partner Waco Filters.

By implementing the TT-4-CV breather, TTI was able to provide a more efficient solution at a lower cost, while helping the soy mill improve operation and maintain quality of their product offering.

### **Product Specifications:**

- **Body Materials**
  - ABS, Nylon, Polypropylene, Buna
- **Moisture Absorbing Media**
  - Silica Gel
- **Filter Media**
  - Polyester, Polyurethane
- **Filter Efficiency**
  - 3µm Absolute
- **Operating Temperatures**
  - -20°F to 200°F (-29°C to 93°C)

### **Applications:**

- Gear Boxes
- Low-Flow

- High Humidity
- Washdown



**303-585-0132**

**[Sales@ToddTechInc.com](mailto:Sales@ToddTechInc.com)**

**[www.ToddTechInc.com](http://www.ToddTechInc.com)**

4699 Nautilus Court, Suite #404, Boulder, Colorado 80301