

Butterfly Valve Provides Reliable High Cycle Solution in Industrial Gas Application

CUSTOMER

A leading global industrial tool and equipment manufacturer.

CHALLENGE

Many industries depend on industrial gases as an important part of their production processes, requiring equipment that ensures safe operation, reliable performance, and continuous availability. These demanding processes call for valves that must maintain zero leakage, endure high cycle counts, and provide an extended service life — to optimize return on investment. Valves used for these critical applications are often subjected to extensive endurance tests to validate their performance in specific operating conditions.

Recently, a Bray customer presented endurance testing requirements for their air dryer application, which included:

- > Service life of at least 330,000 cycles (cycle = open + close)
- > Leakage rate = EN 12266 Rate A
- > Rapid cycling

SOLUTION

To meet the performance and endurance requirements, Bray’s engineering team proposed their resilient seated butterfly valve with molded-in seat (Series 3W/3L) and double-acting pneumatic actuator (Series 92). An upgraded high-cycle disc would ensure an extended service life.

RESULTS

The customer installed two valve/actuator packages in their air dryer application for testing. The valve/actuator packages greatly exceeded the test requirements, providing **>400,000 continuous cycles** — gaining full customer acceptance as an approved product.

UPDATE

As the customer continues to update and improve their products offered, valve performance must also be increased to meet new and more demanding requirements. Working with the customer, Bray proposed further disc and seat modifications to help achieve even higher cycle counts.

Once tested, the updated valve/actuator package provided even more impressive results: **>600,000 continuous cycles** (a 50 percent lifecycle increase.)



PROCESS CONDITIONS

Process	Compressed air
Application	Air dryer
Media	Dry, compressed air
Operating Temperature	-29°C to 100°C -20°F to 212°F
Operating Pressure	16 bar 232 psi
Leakage Rate	EN 12266 Rate A

BRAY PRODUCT DETAILS

Valve	Series 3W/3L Resilient Seated Butterfly Valve
Upgrades	High-cycle disc
Size	DN 50 to 300 (NPS 2 to 12)
Seat	BUNA-N (molded-in)
Actuation	Series 92 Double Acting Pneumatic Actuator
Accessories	Series 55 Filter Regulator Series 50 Switch Box Series 62 Solenoid

To learn more about our complete portfolio of flow control solutions, contact your local representative or visit Bray.com.