

DA4 Mix Proof Upgrade Replacement Insert – Nutritional Beverage

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Valve:

[DA4 Double Seat Mix Proof Valve](#) Insert

Industry:

Nutritional Beverage

Challenge:

A major healthcare company in the United States with a large installation of SPX FLOW equipment was looking to upgrade their existing APV brand DA3+ mix proof valves to the latest technology in order to improve processing performance of a difficult sugar and protein beverage. They also wanted to meet the current 3-A hygienic standards. The customer preferred to undergo this upgrade with minimal impact to cost, installation modifications, and downtime with their continuous production schedule.



Solution:

The DA4-40 mix proof replacement insert fits right into the existing housing of the DA3+. This allowed the customer to easily upgrade to the D4 Series technology by simply swapping out the DA3+ insert with the DA4. This was done in a matter of minutes during a scheduled downtime interval and allowed production to restart almost immediately. The upgrade process saved cost and labor by not having to remove the existing housing and avoided welding any new pipework.

The DA4 insert was compatible with the existing proximity sensors, and the customer is also looking to upgrade to the latest control unit technology in the future.

The DA4 has many improved features in order to improve performance and reliability:

- **Welded stainless steel actuator:**
 - Higher actuator spring force to close
 - Fully enclosed to prevent wash down fluid ingress
 - 72 psi (5 bar) minimum supply air pressure requirement for lower consumption
 - Smaller actuator outside diameter for sleeker design
- **Open yoke between actuator and product zone:**
 - 3-A compliant design
 - Avoids heat transfer into actuator
 - Allows visual leak detection of damaged upper shaft seals
- **Axial design middle seat seal**
 - more resistant to water hammer and pressure surges
 - utilizes same installation tools and process as DA3+

In addition to the improvements, the DA4 captures the signature benefits of the DA3+ including extensive cleaning of the product contact surfaces, integrated flushing of the upper and lower shafts to eliminate external piping, and metal orifices in the seat area to control CIP flow during seat lift and reduce chemical and water loss consumption. The customer greatly values these features with their critical sugar/protein beverage and water/chemical loss key performance indicator (KPI) metrics.

To learn more about SPX FLOW's innovative D4 valves, visit our [website](#) or view the [D4 animation](#).