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## In This Issue

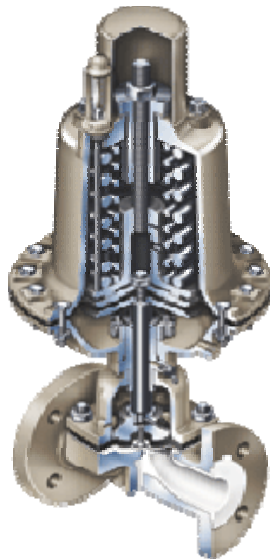
- ♦ Key Application - Demineralization

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## Dia-Flo Key Application: Demineralization

### A glance at Demineralization



The functionality of the demineralizer — the ability to make water ultra pure — is designed not only for water to be consumed by people and animals but also for water to be used in industrial machines. These sorts of machines require water that is very much pure water and very little else, and the demineralizer provides this. The more minerals that are in water that travels through pipes and equipment, the more those minerals tend to attach themselves to the pipes and equipment resulting in corrosion. A demineralizer helps avoid this sort of pipe problem by removing impurities such as magnesium and calcium that would foul process equipment such as heat exchangers, turbines, and piping. Systems may vary in

design, but they all follow the same basic process steps: Demineralization, Backwash, Regeneration, and Rinse.

Dia-Flo diaphragm valves have been proven the most reliable design for demineralizers for more than fifty years. The demineralizer process purifies water by the Ion Exchange method, reducing the amount of ions in the salt solution. Ions naturally occur in water in the form of dissolved mineral salts. Condensate polishing is an ion exchange method used to remove trace contaminants, both dissolved and suspended from high purity water.

### Why Dia-Flo for Demineralizing Systems?

- Reliable long term life
- No packing glands to maintain
- Easy in-line maintenance and low cost of ownership

- 50+ years of proven service for demineralizers
- Modulating and control capabilities

The plastic lined weir body diaphragm valve is the valve of choice because of its clean and versatile design, and ease of operation.

Tefzel<sup>®</sup> lining is typically used in the regeneration of cation resins, which involves the handling of hydrochloric acid or sulfuric acid.

Polypropylene lining is used in caustic solution and in the balance of the piping system.

Diaphragm valves are automated with either double-acting or spring-opposed pneumatic diaphragm type actuators. The actuators are generally specified with adjustable opening stop (rate-set) and open/closed limit switches for remote position indications. Two types of external corrosion protection are available: White epoxy and PVDF coating. These coatings are applied to exterior and interior surfaces of the valve before assembly.

Tefzel<sup>®</sup> is a registered trademark of Dupont.

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