# PNEUMATIC EXPANSION COMPENSATION FOR AIR-OPERATED DOUBLE-DIAPHRAGM PUMPS

## TECHNICAL BACKGROUND

Temperature changes can cause thermal expansion to occur in air-operated double-diaphragm (AODD) pump units engineered with plastic housings and metallic connecting elements. While this phenomenon is negligible for pumps that operate in a narrow temperature range, operating in wider temperature ranges – including many PTFE pump standard applications – can increase the effects of thermal expansion and lower the tension of connecting elements. Ultimately, this can result in leaks at the pump joints.

## THE SOLUTION

Pump tolerance against temperature changes has significantly increased thanks to the reliable ring-tightening structure of Almatec AODD pumps. However, this ring-tightening structure alone cannot overcome the effects of thermal expansion entirely. Therefore, Almatec has introduced an "Expansion Compensation" option for its line of E-Series AODD pumps (code EC for E-Series pump sizes 15/25/40/50). By adding a pneumatic spring to the housing bolts, this new system creates a buffer between the bolts and the housing that ensures correct housing bolt tension. To function properly, this system needs to be connected to driving air at a maximum pressure that holds the pump under tension 24/7.

## YOUR BENEFIT

- Enhances the containment of dangerous liquids in demanding applications at changing temperatures
- Simplifies maintenance by severely reducing the need to check housing bolt tension
- Eliminates the need to check and retighten the housing bolts during standard applications, monitoring intervals substantially increased

| E-SERIES PUMP SIZES | E 15 | E 25 | E 40 | E 50 |
|---|---|---|---|---|
| Unit Extension mm (in) | 60 (2.4) | 65 (2.6) | 80 (3.2) | 95 (3.7) |
| Air Connection, BSP | R ¼" | R ¼" | R ¼" | R ¼" |
| Material | PA Conductive | | | |
| Option Code | EC | | | |

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