**Challenge**

Pressure powered pumps rely on high-pressure motive steam to pump hot condensate from the receiver tanks. If there is a loss of motive steam pressure, hot condensate will overflow from the tank to a drain or flood steam-using equipment (such as shell and tube heat exchangers, unit heaters, humidifiers, and other process equipment), resulting in a loss of energy and performance.

**Solution**

The installation of a dual motive station allows two different motive sources to be piped to the pump. Steam is normally the primary motive source and compressed air is the alternate or back-up motive source. The compressed air system is generally a very reliable backup source, because it is used to operate control valves and machinery.

**Results**

When the motive steam pressure falls below the set pressure requirement, the dual motive station will automatically switch to compressed air for the motive pressure to the Kadant Johnson Liqui-Mover pump. Once the motive steam pressure returns to the set point pressure, the dual motive station automatically reverts back to steam as the motive source. This process allows the pump to continue operating under conditions of steam motive loss.

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**Highlights**

- The dual motive station is compact and preassembled for ease of installation.
- The dual motive station prevents pump downtime due to loss of motive steam pressure.
- The dual motive station prevents condensate overflow resulting in energy savings.