

Electrifying the Wellhead for Zero Emission: Chokes



www.calscan.net
780-944-1377

"Keeping the Sky Blue"

Pneumatically Powered Problems

Regulations in many jurisdictions require replacing methane venting pneumatic actuators with non GHG emitting ones. The quick and dirty solution is to run instrument air.

However instrument air is not issue free. Compressors are inefficient, producing a lot of heat instead of usable work. So much so that solar power is often not practical and onsite generators are needed. In addition, both compressors and generators require ongoing maintenance to be reliable.

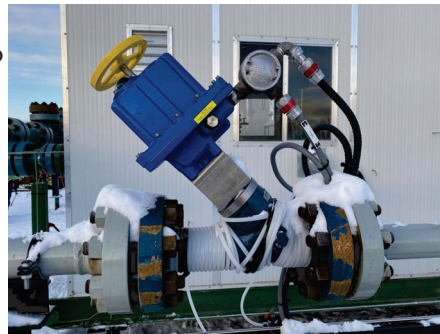
Any water vapor produced during compression has a tendency to freeze when it is piped outside the separator shack and the ambient temperature is cold. The issues of corrosion and freeze up from the vapor often will require an air dryer and the maintenance associated with it.

Additionally, the mechanical linkage of the I/P and Rack & Pinion actuator has a lot of backlash. This gives poor PID response and control with a tendency to oscillate at the set point.

The Bear Electric Solution

Pneumatic actuators can be replaced with low power electric ones designed to run on pure solar power instead. Bear linear and quarter turn electric actuators are field proven, explosion proof, and solar ready.

There is no need to change your valve as Bear actuators come in a variety of sizes and brackets to match your separator requirements. This makes retrofit of existing separators more cost effective since there are no piping changes.



Electric actuators eliminate downtime when water vapor freezes up instrument air lines

Bear Benefits

No Freeze Up

As electric actuators run on electricity instead of wet fuel gas or instrument air, the water vapor freezing issues has been eliminated.

Faster PID Response

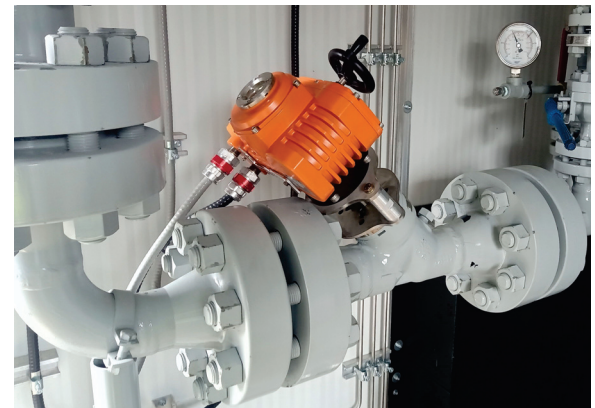
The tight gear train of the Bear Quarter Turn Actuators allows the PLC to have a quick and accurate response to PID control set point changes.

Ease of Installation

As most RTU's already use a 4-20mA signal to control the I/P on a choke, there are typically no PLC code changes required. All that is necessary to upgrade to an electric actuator, is to run a power cable and add the Bear UPS and FSC to make the actuator power failsafe if necessary.

True Zero Emission

Solar powered electric actuators are true zero emission, requiring no fossil fuels to operate. All GHG emissions from venting methane for fuel gas or CO₂ from burning hydrocarbons have been eliminated.



Bear BAQ-40 Quarter Turn Actuator mounted on a inlet Choke



Bear BAL-6L Linear Actuator mounted on a ET style back pressure valve