

ARRANGING BUTTERFLY VALVES FOR POSITIVE SEALING OF A VALVE ASSEMBLY

ABSTRACT

Valve assemblies with butterfly valves for use as a double isolation & bleed (DIB) valve and a double block & bleed (DBB) valve. The embodiments may have a twin-disc design with a non-separable, valve body having a central bore. A pair of butterfly valves may reside in the central bore, each having an annular seal and a rotatable disc that contacts the annular seal to prevent flow of fluid into space between the butterfly valves. Implementations of the embodiments configure the annular seal with a sloped contact surface at an angle to positively seal the rotatable discs in the preferred direction of incoming flow. In this way, the valves can always close in response to either uni-directional flow into one end of the central bore or bi-directional flow into both ends of the central bore, respectively or simultaneously.

[Figure 1]