

PRESSURE SEAL BONNET DESIGN

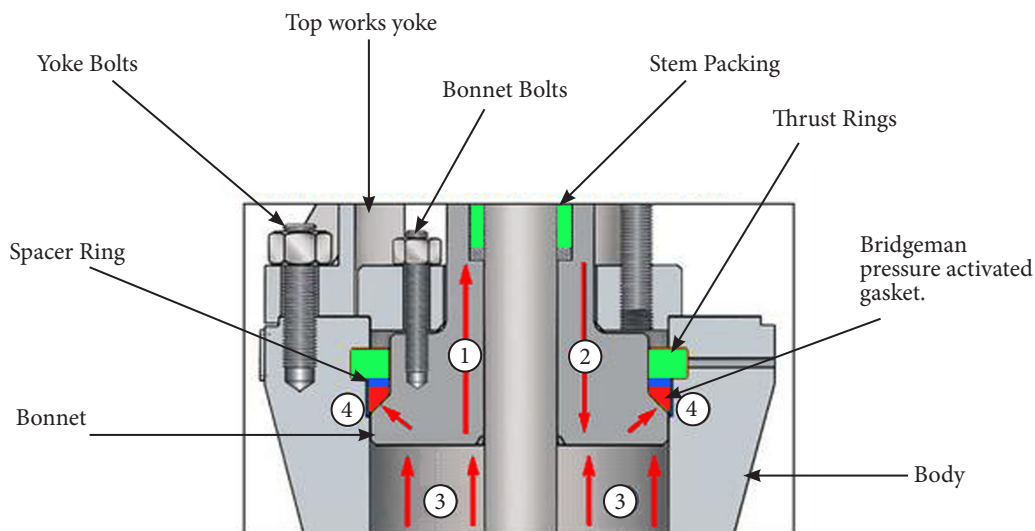
Australian Pipeline Valve gate, globe and check valves are available with pressure seal bonnets in 900 to 2500 class.

The Bonnet bolts effect a seal on the pressure seal joint which forces the bonnet onto the 'bridgeman' soft metallic gasket which in turn is forced up hard against the outer body. Refer table 1 below. The higher the line pressure, the higher the sealing force against the gasket, further tightening the seal. The thrust rings are embedded in the body. In smaller forged valves sometimes a 'breach-lock' threaded bonnet insert is used instead of a bolt energised bonnet.

Pressure seal bonnets are superior to traditional bolted bonnets and are ideal for high pressures and situations in power plants and refineries where frequent pressure surges, start-ups and shut-downs occur.

The bonnet gasket is metallic. A 'bridgeman' gasket is used as its design ensures that pressure acting against it further increases the seal against the surface effecting a self-energised seal. In larger sizes this gasket is silver plated as silver provides a softer surface to flow the gasket metal into the mating flange surface. Flexible custom made expanded graphite gaskets are also available. Another superior option for larger sizes is 316 + Graphite gasket. In very large sizes graphite gaskets can be specified in conjunction with live loading bonnet bolt washers that can be tightened to ensure a constant force is applied to the bonnet gasket.

Table 1



1/2	Bonnet can move up or down as pressure increases and decreases
3	Line Pressure
4	Line pressure further tightens Bridgeman gasket seal

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Short lead time valve manufacturer

Australian Pipeline Valve

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