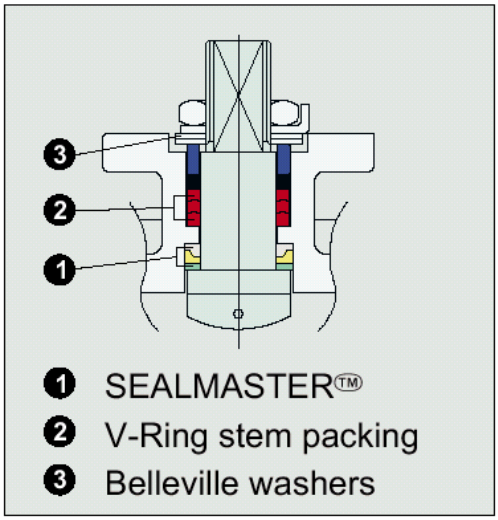
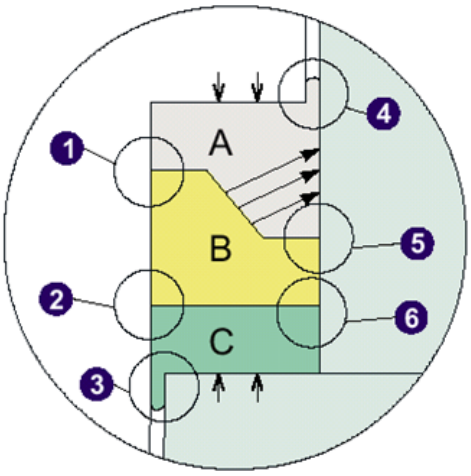
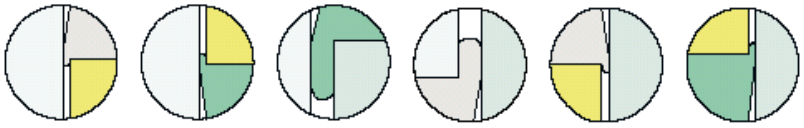
Patented "SEALMASTER" Stem Sealing Arrangement



Our extremely high cycle stem sealing design is accomplished by a dual sealing system. The high performance of PMP ball valves is due to the ① unique SEALMASTER stem seal arrangement, which provides the primary sealing. It has been specially designed and constructed to prevent line fluid permeation and resultant leakage. On top of this arrangement are multiple ② layers of V-Ring stem packing that provides secondary sealing. ③ A set of Belleville washers automatically and constantly compresses the seals to adjust for wear, pressure and temperature fluctuations.





EXPLANATION OF "SEALMASTER™"

The live loaded SEALMASTER™ is a combination of 3 components; (A) a cup and cone PFA/TFE upper thrust seal, (B) a cup and cone sintered S.S.316 center load ring and (C) a flat S.S./TFE lower thrust seal. When tightened, the live loaded stem pulls up compressing the stem thrust seals . As this happens, material from the upper and lower thrust seal extrude between stem and body enclosures.(See[1-6]) The surfaces between the bottom of lower thrust seal and top of stem flange are smooth and all rotation occurs between these two surfaces leaving the stem thrust seal "static" to create the best possible seal. As rotation continues, components bed in and keep seal performance constant with usage. As operating wear takes place, the stem thrust seal can be retightened to recommended torques multiple times.

MAIN FEATURES OF "SEALMASTER™"

PATENTED STEM SEAL ARRANGEMENT	COMPETITORS
"MULTIPLE" sealings up to 6 areas (see [1-6]) for pressure and high vacuum.	Variations depending on design, either no sealing or only up to 2 areas.
Encapsulated " **STATIC"** sealing achieved on upper thrust seal. Constant sealing force reflects to stem (See Arrow) and makes stem primary sealing " **POSITIVE"**	Only dynamic sealing. No compression forces act on stem.
Excellent wear resistance on lower thrust seal (50% SS filled PTFE).	PTFE - easy to wear due to dynamic sealing.
Standard stem finish better than Ra 0.8υμ(150Γριτ) to reduce seals friction to minimum.	

Patent # 139736 Taiwan Valve Company Ltd.