



Critical Engineering

Engineering  
**GREAT** Solutions



## Metal Seal to Graphite Pressure Ring Seal

IMI CCI is introducing the graphite pressure ring seal as a simple upgrade to metal seal valves to significantly improve the maintenance of the valves. This is a drop-in replacement with no changes to any other components; the metal seal is replaced with a pusher ring and graphite ring. The pusher ring is a physical vapor deposition coated with Titanium Aluminum Nitride (TiAlN) to prevent oxidation build up and increase corrosion resistance.

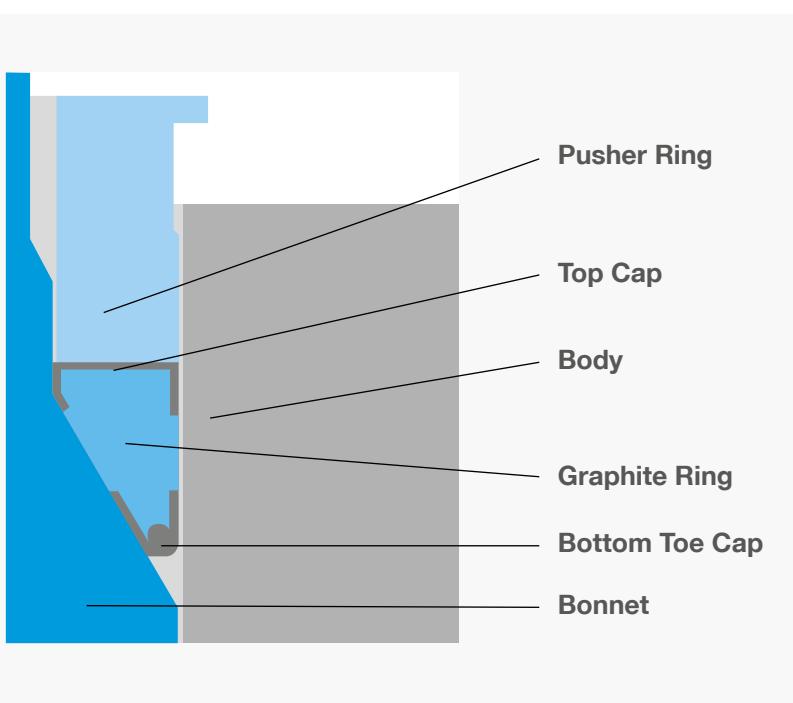
## Materials

- > Pusher ring: 4140 or 4130 SS with TiAlN coating
- > Graphite seal: Graphite ring with 300SS cap and toe ring

## Advantages of graphite seal over metal seal:

- > Quicker removal of bonnet during maintenance; does not get stuck to the bonnet
- > Significantly reduces risk of bonnet damage during bonnet removal
- > Triple sealed design to ensure tight leakage control
- > Graphite seals conform over cavity damage due to scratches and erosion
- > Resistant to nearly all organic and inorganic fluids, except highly oxidizing chemicals
- > Graphite seals can function in temperature ranges of -96 to 1250 F

Available as standard for all 100DLC and 100DR designs. For all other models, review is required by engineering. Only **two weeks** lead time to provide graphite metal seal in cases where engineering review is required.



## Value Proposition

- On average saves five hours of disassembling graphite pressure ring sealed valve vs. traditional metal seal valves, based on field experience
- Risk of damage to bonnet reduced; avoid costly repair and replacement.
- Metal sealed steam valves can sometimes require custom hydraulic tooling to disassemble, a process that carries significant risk and complexity, which can be avoided with the graphite seal upgraded designs.

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