Pressure-Seals

Fluid Sealing | Thermal Management | Materials

Conventional

Silver coated metal. That's what was used in the US Navy's high-pressure valve seals and they wanted a cost-effective alternative for powering their nuclear ships. EGC knew the answer was flexible graphite. It's soft and resilient and has the ability to micro-seal a surface. When built to the proper thickness, it also adjusts for out-of flatness conditions. To eliminate extrusion, stainless steel caps were incorporated. The result: EGC is the only graphite pressure seal tested and approved for the US Navy for use in Standard Navy Control Valve designs aboard nuclear-propulsion vessels.

VSG

There was a broader need for high-pressure valve seals in power plants across the world. But, the EGC pressure seal required expensive tooling and took weeks to build and that wasn't good for power generation. So EGC created a way to service the needs of a plant during outages by developing a faster process requiring no-tooling and a delivery time that was measured in days not weeks. The new VSG is designed to deliver the same performance as the conventional seal with a zero-failure track record for every one of EGC's graphite pressure seals.

VSG Pro

"How fast can you get it to me?" That's the first question you're going to hear from a power generation service guy. So, EGC made some changes. They used "edges" to prevent extrusion of the graphite instead of full faced caps. The result: a new seal called the VSG Pro that can be completed the same day the order arrives and shipped immediately. Now, service managers can get a custom-designed, flexible graphite seal faster that anyone could have predicted just a few years ago. And, with no production tooling, the price point is significantly lower so the VSG Pro is cost-competitive with its metal counterpart.

egc enterprises, inc.

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Features Benefits Specifications

Lower Total Operating Cost - EGC pressure-seals not only cost less than silver-plated metal rings, they will reduce your valve operating and maintenance costs in a number of ways.

Trouble-free seal removal - Compared to removal of metal pressure seals, you'll save literally hundreds of man-hours during change out. Simply loosen the nuts on the bonnet studs and push the bonnet away. In most cases the weight of the bonnet will break the joint, and the seal and mating valve components are easily disassembled.

No need to machine or resurface valve sealing surfaces - EGC pressure-seals install quickly as the Thermafoil flexible graphite easily conforms to irregular surfaces and will even tolerate out-of-round valve components.

Reduced Inventory - No need to stock oversize metal seals to fit remachined valves. EGCpressure-seals sized to the original OEM cavity dimensions are designed to accommodate the full range of cavity machining allowed by the OEM valve manufacturer.

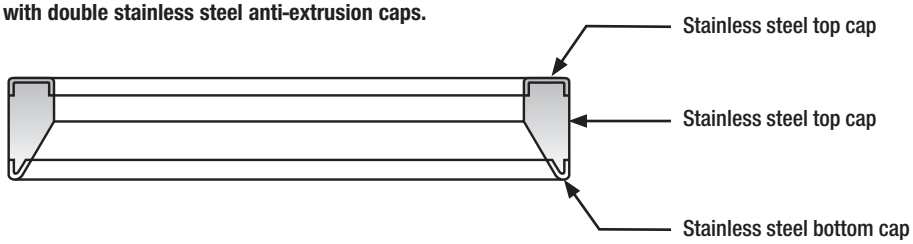
Proven Performance Advantages - EGC pressure-seals require significantly lower loads to seal and are much more resilient than their all-metal counterparts.

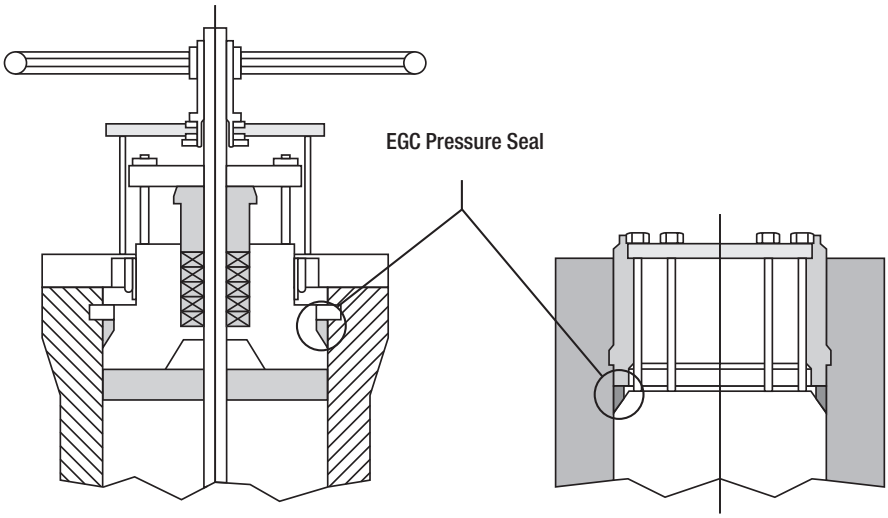
Thermal Compensation - Flexible graphite's coefficient of thermal expansion actually causes it to shrink slightly as temperature rise. EGC has developed a proprietary method that reverses this effect and allows the pressure seal to expand at the same rate as the surrounding valve components, thus insuring seal contact is maintained.

U.S. Naval Approved - EGC's is the only graphite pressure seal tested and approved by the U.S. Navy for use in Standard Navy Control Valve designs aboard nuclear-propulsion vessels.

Tested and Proven - A major Southwestern U.S. nuclear power station has performed extensive life-cycle testing on EGCpressure-seals. Their accelerated 30-year life test subjected seals to numerous potential failure mode and cyclic temperature and pressure conditions. Since the test inception in 1993, and during in-plant use of EGCpressure-seals, they report hundreds of man hour have been saved during outages with zero seal-related failures and zero leakage recorded.

The EGC pressure seal with double stainless steel anti-extrusion caps.





The EGCpressure seal has been tested and approved by several OEM control valve manufactures, aftermarket customers and the U.S Navy. It is also in use at several nuclear and fossil-fuel power generation facilities throughout the U.S.

Certified to ISO 9001:2000 including design and AS9100B:2004

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