



# VSG Graphite Pressure Seal Installation Instructions

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## Please note the following VSG Pressure Seal Characteristics

- VSG's are designed and manufactured with 45 Degree Angles.
  - Please note that the seal will form to the existing bonnet angle during installation.
- VSG's have tape holding the caps or wires in place for shipping and installation purposes.
  - Please note: Tape **should not** be removed.
- Like all graphite pressure seals, VSG's are compressible, and thus are taller than standard metal pressure seals prior to installation.
  - Please note VSG seals will compress to the same height as the metal seal during installation and initial system pressurization.
- In some rare cases the pre-installed graphite seal height may prevent the keeper rings from being installed. If this occurs **one or both** of the following steps may be used:
  - With the backing ring on the seal apply pressure using a plastic or brass pin and hammer
  - (And / Or) You may leave the backing ring out and pull the seal up against the keeper ring until the required amount of compression has taken place for the backing ring to be installed.

## (Follow all safety related protocols for valve repair before performing the steps listed below)

1. Before bonnet disassembly:
  - a. Measure and record the stud length from the bottom of the nut to the top of the stud.
2. Disassemble per the valve manufacturer's instructions or facility guidelines.
3. Measure the metal seal height. Subtract the metal seal height from the EGC Seal height to ensure that there is sufficient stud length for assembly.
  - a. Inspect the seal area per facility guidelines.
4. Assemble the valve components per the valve manufactures instructions. Should damage occur to the graphite seal during assembly, please contact EGC for engineering approval.
5. Bonnet alignment during pull-up is very critical. Please locate an area on the valve where measurements can be taken to check for any tilting or misalignment.
6. Locate the valve manufactures torque requirements for bonnet fasteners. Calculate 30% of the assembled torque and start tightening the fasteners using a cross pattern technique.
7. Check for alignment and continue torquing the fasteners to 60% using the same technique.
8. Check for alignment and continue torquing the fasteners to 100% using the same technique.
9. Once the initial 100% is reached check for alignment and continue torquing the fasteners in a clockwise pattern until all fasteners are at a constant 100% torque value.
10. Retorque each fastener to 100% once the valve is at normal system operating pressure.



AS9100B:2004 with Design  
ISO 9001:2000 with Design