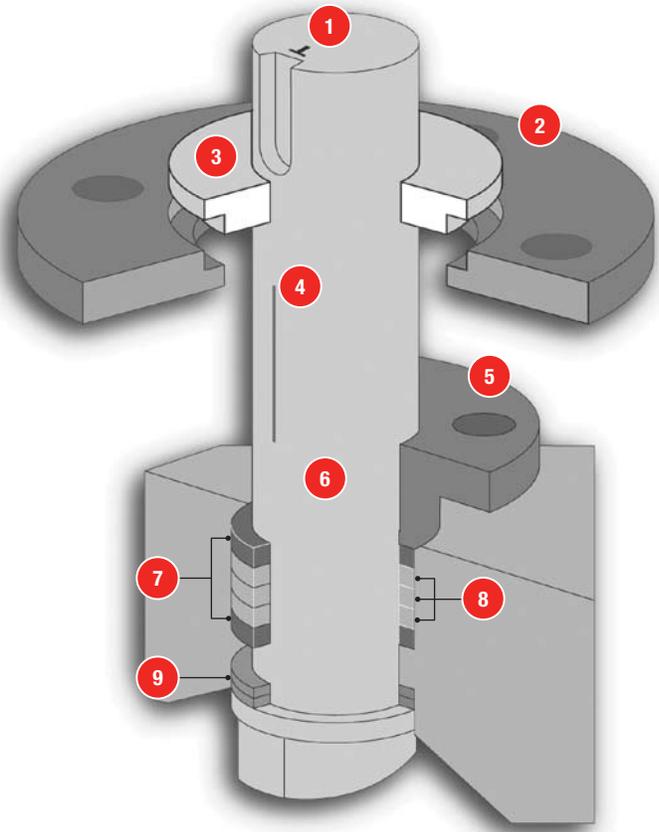


Stem Seal Bearings

MOGAS utilizes coated, lapped metal ring/rings between the stem shoulder and the blow out proof pocket in the body. This creates a pressure energized stem seal internal to the valve. The lapped surfaces secure a tight seal that is enhanced by line pressure exerting additional vertical force. This seal saves the stuffing box from thermal shocks and particle migration. The ring/rings also serve as a thrust bearing which eliminates radial movement that can cause packing wear.

- 1 "T" mark on stem
- 2 Actuator mounting flange
- 3 Stem bushing
- 4 Scribe line
- 5 Gland follower
- 6 Stem
- 7 Braided anti-extrusion rings
- 8 Formed grafoil packing rings
- 9 Stem seal bearings



Packing Chamber

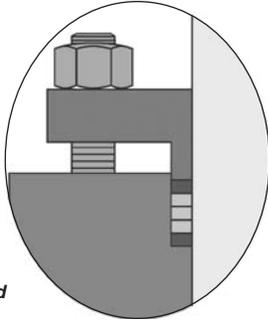
MOGAS utilizes an industry preferred system of two or three sandwiched rings of die-formed Grafoil ribbon between upper and lower braided carbon fiber anti-extrusion rings. This is an optimum system which has enough Grafoil to effect a seal without having redundant rings for show. A heavy stainless steel gland follower secured by a minimum of four studs compresses the system. This insures proper load strength and minimizes the possibility of cocking.



Actuator Mounting Flanges

MOGAS utilizes a rigidly secured mounting bracket for actuators, wormgears and levers. The bracket, constructed of heavy plate steel, is welded or bolted to the valve body. The mounting plate is parallel to the bore, and perpendicular to the stem, so there is no misalignment of the operator. MOGAS places a heavy metal bushing in the bracket of the valve to guide the stem and ensure that the stem does not side load during operation. If side loading occurs, it is absorbed outside the packing chamber and does not deform packing. Deformation of packing caused by side loading is a major cause of stem leakage in rotary valves. All of these components work together to provide the most reliable stem seal in the industry.

Stem Packing



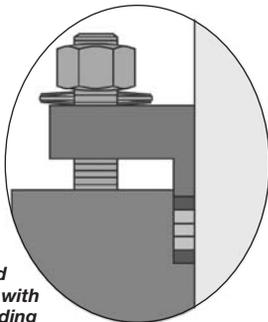
Standard Packing

Standard Packing

- Up to 850°F (456°C) – Oxygen Present
- Up to 1200°F (654°C) – Reducing Atmospheres

Special Features

- Stainless steel studs and nuts are torqued to meet pressure requirements
- Heavy duty gland flange
- Braided carbon fiber anti-extrusion rings surround two to three die-formed Grafoil packing rings
- Grafoil packing rings
- Double 410 stainless (typical) rings with chrome carbide coating or single PEEK filled Teflon® make up the inner stem seal bearings



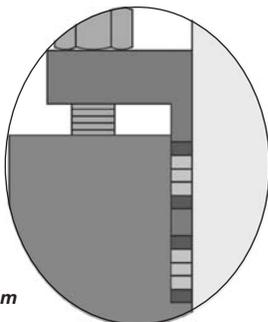
Standard Packing with Live Loading

Standard Packing with Live Loading

- Up to 850°F (456°C) – Oxygen Present
- Up to 1200°F (654°C) – Reducing Atmospheres

Special Features

- Includes all of the features of the standard stem packing with stainless steel Belleville spring washers and the stainless steel guide spacer



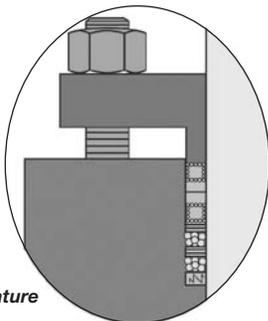
Dual Stem Packing

Dual Stem Packing

- Up to 850°F (456°C) – Oxygen Present
- Up to 1200°F (654°C) – Reducing Atmospheres

Special Features

- Includes all of the features of the standard stem packing
- Two sets of braided carbon fiber anti-extrusion rings surround two to three die-formed Grafoil packing rings
- Double 410 stainless (typical) rings with chrome carbide coating or single PEEK filled Teflon® make up the inner stem seal bearings
- 316 stainless steel molycoated lantern ring situated between the two packing sets



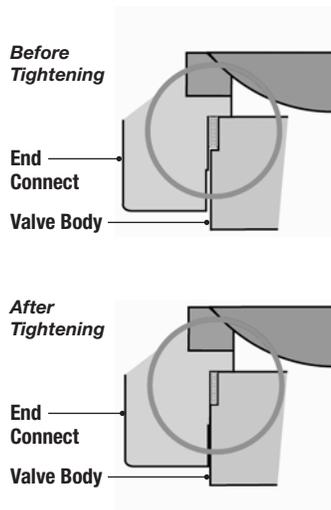
High Temperature Packing

High Temperature Packing

- 850°F – 1300°F (456°C – 710°C) – Oxygen Present
- 850°F – 1652°F (456°C – 907°C) – Reducing Atmospheres

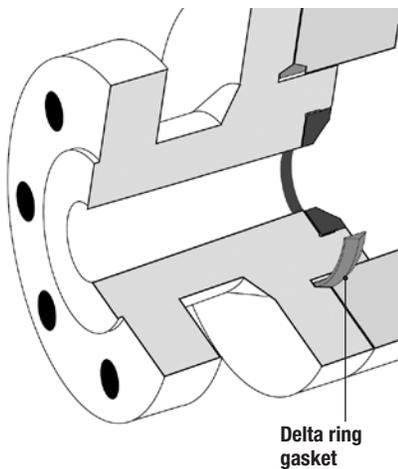
Special Features

- **Top:** two reinforced composite fiber braided ropes surround two oxygen resistant, corrosion inhibited, die-formed Grafoil packing rings
- **Center:** two ceramic fiber gasket insulators and two ceramic fiber braided rope insulators split up to form an oxygen and heat barrier
- **Bottom:** Grafoil impregnated, Inconel 718 anti-extrusion and sealing ring, also includes inner stem seal bearings



Bolting

The coefficients of thermal expansion of body and bolting materials are important criteria in the selection and design of the bolting on the valve. The bolting is sized in accordance with ASME Section VIII Appendix II. On both high and low pressure valves, a body bolting make-up torque is specified which provides a preload between the body and end connection. This bolting torque is sufficient to insure there will be no relative movement during pressure or thermal cycling of the valve in service.



Gaskets

- Spiral wound for 150# to 1500# ANSI Class, Inconel with Grafoil for all temperatures
- Pressure energized gold plated delta ring gasket for 2500# to 4500# ANSI Class
 - Inconel 718 for Carbon Steel, F-22 and Nickel Alloy body materials
 - A638 Gr. 660 for stainless steel body materials



End Connections

MOGAS manufactures many valves with almost any style of end connection. All end configurations are machined integral with the body and end connections of the valve, instead of multiple piece construction. The choice of end connection configurations is usually left to the discretion of the customer.