

## INSTALLATION, OPERATION & MAINTENANCE MANUAL

# FOR: BUTLER BEVEL SEALS

### INTRODUCTION

The Butler Bevel Seal is a precision manufactured gasket designed to prevent leakage in tubular level gauge applications. The beveled, 2-piece design allows this gasket to be an extremely handy alternative where traditional one-piece rubber gaskets may fail in preventing leak-paths. Each end of the sight-glass will consist of one male and one female piece that, when compressed together, protrude slightly outward, sealing the sight-glass to outer valve component(s). All four pieces are made from 100% solid virgin PTFE, which is commonly used in steam and other corrosive applications.

### INSPECTION & PERFORMANCE CONFIRMATION

One set of the Butler Bevel Seals consists of one pair of gaskets for both the top and bottom of the sight-glass. Prior to installation, the components MUST be checked to make sure that they are in accordance with the sizes and ratings found below:

Model	ID	OD
G18-584-1	5/8"	0.86"
G18-584-2		0.90"
G18-584-3		0.96"
G18-584-5		1.08"
G18-584-6		0.96"
G18-584-7	3/4"	0.90"
G18-584-9		1.13"

### RATINGS:

- Max. Temperature: 425°F (218°C)
- Saturated Steam Pressure: 310 PSIG (21.3 Bar) (2137 kPa) Limited to Glass and Valve Ratings
- Non-Steam Pressure: Limited to Glass and Valve Ratings
- **NOT Recommended** for Super Heated Steam Applications

### MATERIAL:

- Solid Virgin PTFE

### ⚠ CAUTION

Prior to any disassembly of gauge, first be sure that the gauge is relieved of all internal pressure, the temperature is ambient, and all fluids are purged/drained. Failure to do this may result in a sudden release of pressure resulting in physical injury to personnel.

### NOTICE

John C. Ernst LLC. does not have control over the manner in which the gaskets are handled, installed, or used, and cannot and does not warrant or guarantee that this seal is suitable or compatible with the user's specific application.

### SAFETY INSTRUCTIONS

At a minimum, gloves and face shields are required when handling, installing, and/or servicing glass components. Additional means of protection are the responsibility of the end users and depend on the characteristics of each application.

### INSTALLATION

The Butler Bevel Seal can easily be used in place of traditional one piece gaskets, and follows the standard installation procedures that have been provided with that valve set. The valve set must have a packing gland as shown in FIGURE 1. The exact installation order of the Butler Bevel Seals is indicated in FIGURE 1. It must be noted that different valve components can vary in quantity and design from the diagram pictured.

1. Slide all components onto both ends of the sight-glass as shown in FIGURE 1. Ensure that both valves each have a male and female piece.
2. Push the sight-glass up into the upper stuffing box first, and then seat it into the lower stuffing box approximately 1/16" above the rest. Now thread the Bottom Packing Nut on snug by hand, followed by the top.
3. Tighten the Packing Nuts to the manufacturer's specification or tighten by hand and then use a wrench to make a 1/2 turn.
4. Should initial leaks occur, the nuts can be tightened in 1/4 turn increments until the leak stops, but within the valves' torque range.

### ⚠ WARNING

Under no circumstances should these design ratings or application data be exceeded. Exceeding ratings or application data may cause property damage or physical injury to personnel.

## OPERATION

### Pre-Operational Check

1. Ensure that all installation procedures have been completed in this manual and the valve set manual.
2. Check to determine that all connections are torqued per the manufacturer's specifications.

### Hydrostatic Test

1. Take all precautions necessary to handle the possibility of leakage during the test.
2. Pressure test assembly to ½ the required pressure, and repair any leakage before proceeding.

#### **CAUTION**

When hydrostatic testing, the pressure and temperature should never exceed the advertised rating of the lowest rated component of the assembly.

## MAINTENANCE

Maintenance should only be performed by qualified and experienced personnel who are 1) familiar with this equipment and 2) have read and understood all instructions in this manual. On all installations the user should regularly evaluate for signs of leakage around the stuffing box connection.

The user must have maintenance schedules, safety manuals and inspection details created for each application and valve set. These must be determined based on evaluation of the maintenance team's operating experience, for what is necessary for the specific application. Realistic maintenance schedules can only be determined with full knowledge of the services and application unique to each installation.

#### **CAUTION**

Signs of corrosion could indicate misapplication. An investigation should immediately be carried out as to the cause of the problem. It is the user's responsibility to choose materials of construction compatible with both the contained media and surrounding atmosphere.

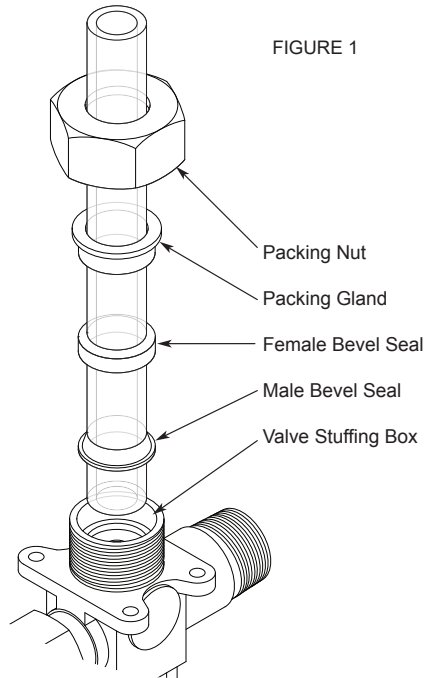
## TROUBLESHOOTING

### Problem: Leak at Glass Connections

#### Solution:

1. Ensure that the gaskets are oriented exactly as depicted in FIGURE 1, and that the valve components are in their proper place.
2. Ensure that the proper size (584-1, 584-2, etc.) has been ordered.
3. Ensure that the proper diameter of glass is being used.
4. Gently tighten the Packing Nuts in 1/4 turn increments, while staying within the manufacturer's recommended torque.
5. Gasket material may not be compatible with media.

FIGURE 1



## LIMITED WARRANTY

### Period of Coverage

The John C. Ernst LLC. expressly warrants products to the original purchaser to be free from defects in the material and workmanship for 12 months from date of shipment. John C. Ernst LLC. will, at its option, replace or repair any products which fail during the warranty period due to defective material or workmanship. Evaluations, repairs, and replacements will most often occur in Sparta NJ 07871 USA, or another facility determined by the John C. Ernst LLC. The warranty does not cover costs required to transport warranted units to or from the John C. Ernst facility.

### Limitations

The responsibility of the John C. Ernst LLC. is hereunder limited to repairing or replacing the product at its expense. This warranty shall not apply if the product has been disassembled, tampered with, repaired, subjected to misuse, neglect, accident, or otherwise altered in any way. The warranty does not guarantee products against normal wear, glass breakage, clouding, or corrosion. The John C. Ernst LLC. shall not be liable for loss, shipping costs, damage, or expenses related directly or indirectly to the installation or use of its products. It is expressly understood that the John C. Ernst LLC. is not responsible for damage or injury caused to other products, buildings, personnel, citizens, or property by reason of the installation or use of its products.

Advertised ratings apply only to units serviced with parts supplied by the John C. Ernst LLC. Service must be done in accordance with the instructions of the product that is being serviced. THIS IS JOHN C. ERNST, LLC'S. SOLE WARRANTY AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED WHICH ARE HEREBY EXCLUDED, INCLUDING IN PARTICULAR ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. WE WILL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE.

### How to get Warranty Service

Prior to submitting any claim for warranty service, the owner must submit proof of purchase, and obtain written authorization to return the product. All returns must be sent back with an MSDS for the application that the product was used in, and with a maintenance log of all service including inspections. Thereafter, the product shall be returned to the John C. Ernst LLC. with freight paid and packaged to prevent damage in transit. Should damage in transit occur the John C. Ernst LLC. will not be held liable.

## GENERAL PRESERVATION GUIDELINES

1. Glass, shields and gaskets that have been removed MUST BE REPLACED. Used parts may contain hidden damage. Induced stress in glass and de-tempering are NOT visible to the naked eye. Be sure that the replacement glass is proper for the service.
2. Products should be stored off of the floor on suitable skids, pallets, or racks and protected from dirt, debris, and exposure to direct sunlight, particularly to soft sealing surfaces.
3. Store at room temperatures between 65°F - 85°F and humidity level between 50 - 60%.
4. Store in dry areas, avoiding any contamination with any liquids. Products should be kept in a clean, heated, weather-tight (dry), well ventilated facility.
5. Useful life of spare gaskets when stored is indefinite.