

APPLICATION SOLUTIONS: **ELLIOTT YR PROCESS STEAM TURBINES**

Significantly Extend MTBR & Increase Steam Savings with a Drop-In Replacement Floating Brush Seal.

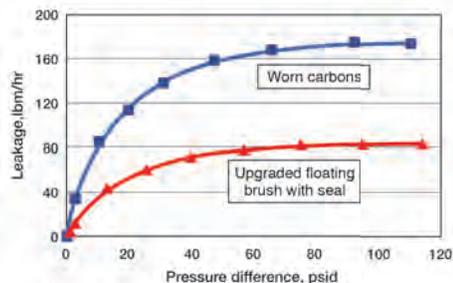
Carbon seals, the traditional sealing method in process steam turbines, are weak, brittle, and wear quickly—causing them to become ineffective within a short period of time. Ineffective sealing solutions decrease reliability and efficiency by requiring periodic seal replacements and causing an increase in steam leakage.

Enhance the performance of your process steam turbines by protecting the carbon rings with the Inpro/Seal® Sentinel™ Floating Brush Seal (FBS). The Sentinel FBS is comprised of densely packed and flexible metallic bristles which “bend” with changing clearances between rotating and stationary surfaces. This unique technology, first applied in jet engines where high temperature differentials demand the need for a compliant and reliable seal, provides an extra layer of protection that slows down the natural wear of downstream carbon rings.



The Sentinel FBS is a drop-in replacement for a standard carbon ring seal. The brush serves as the primary shaft seal while a carbon element provides face sealing in the turbine's casing. Users have found that by utilizing the FBS, the interval between seal replacement increased more than 3x to an average 3 to 4 year life span.

Count on us to deliver enhanced performance on your process steam turbines by increasing MTBR and efficiency through an effective sealing solution.

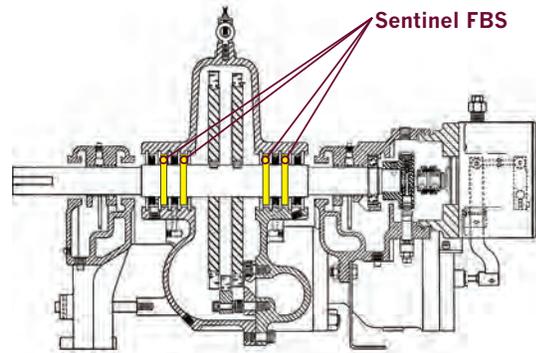
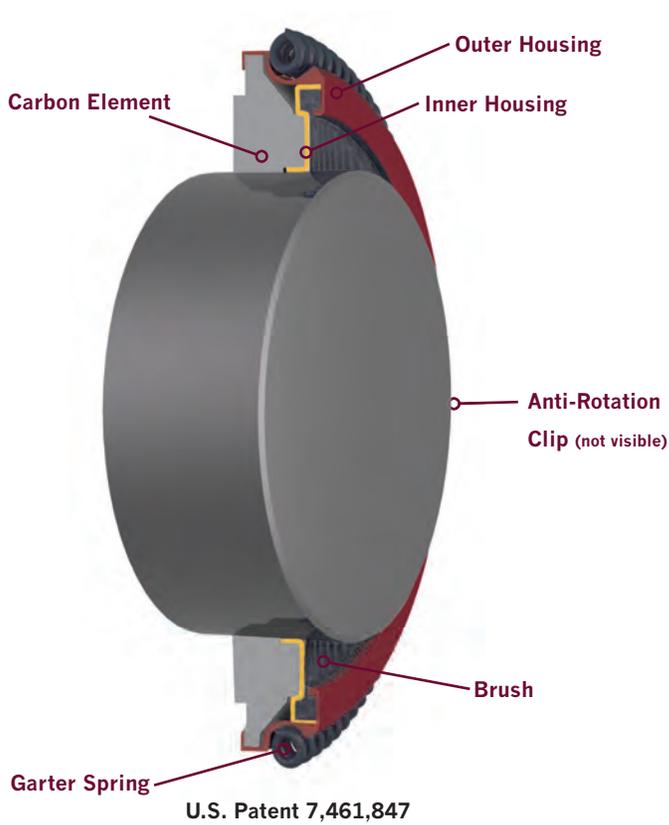


FACTS AT A GLANCE

The Sentinel FBS installed on process steam turbines:

- protects downstream carbon rings from contamination and high pressure.
- reduces maintenance, downtime and steam loss.
- prevents secondary damage to bearings and leakage to atmosphere .
- is a Plug-n-Play split design that provides a direct replacement of a carbon ring without necessitating rotor removal or costly casing modifications.
- provides predictable leakage (low and stable) over an extended operating life compared to carbon rings.
- is self-centering and lightweight.
- utilizes a compliant brush seal that allows “wear-in” to optimize fit and eliminates incorrect bore sizing issues.





SENTINEL™ FBS

Operating Parameters

Pressure: Up to 150 psid [10 bar]

Temperature: Up to 850°F [450°C]

Surface Speed: Up to 160 ft/sec [50 m/s]

Environment: Steam

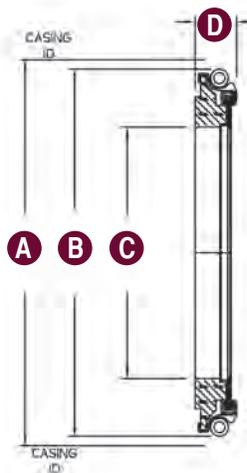
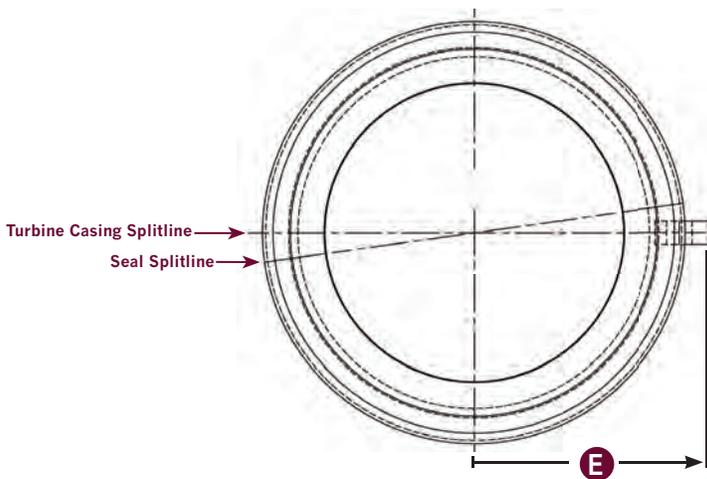
Available Designs

Elliott AYR/BYR 2.25 in. [57,15 mm] shaft

Elliott CYR/DYR 3 in. [76,20 mm] shaft

Other designs available upon request.

SENTINEL FBS HOW TO ORDER



Contact Information

Contact Name: _____

Company Name: _____

Phone Number: _____

Email Address: _____

	Description	AYR/BYR Dimension	CYR/DYR Dimension
A	Casing ID	3.750" [95,25 mm]	4.500" [114,30 mm]
B	Seal Assembly OD	3.63" [92,20 mm]	4.280" [108,71 mm]
C	Rotor Diameter (Min/Max)	2.250/2.251" [57,15/57,18 mm]	2.932/2.933" [74,47/74,50 mm]
D	Casing Groove Width (Min/Max)	0.515/0.520" [13,08/13,21 mm]	0.515/0.520" [13,08/13,21 mm]
E	Anti-Rotation Clip (same as carbon ring)	1.950" [49,53 mm]	2.320" [58,93 mm]

Standard Sentinel FBS dimensions for Elliott YR process steam turbines are stated above. To order/quote, note any changes to the stated dimensions, if needed, and fax to +1 309-787-6114 or email to info@inpro-seal.com. Please make sure to fill out your contact information in the above form.