

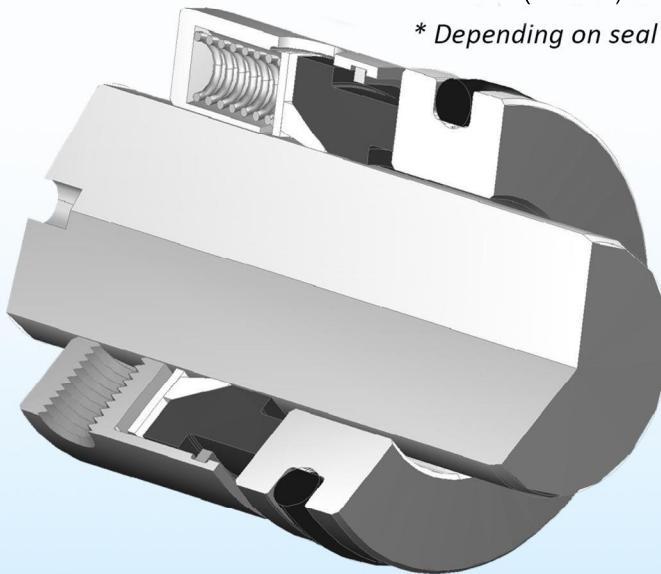
# Advantage Seal Type 91



The compact, durable, multi spring, wedge seal choice for services:

- Up to 5,000 sf/m \*
- Up to 350 psig (24 Bar) \*
- From -350°F (-212°C) to 750°F (400°C) \*

\* Depending on seal size and material selection



## Why choose the Advantage Seal Type 91?



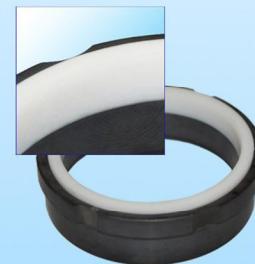
**Compact Design**



**Positive Drive**



**Multiple springs**



**Wedge Secondary Seal**

- Available in Teflon™ PTFE and flexible graphite materials
- Creates positive seal for use in extreme temperature/chemical applications

### Compact Design

- Allows use in a wide variety of rotating equipment including Centrifugal Pumps, Mixers and Agitators

### Unitized Design

- Rotating face held in by a snap ring
- No-hassle handling
- Easy to install

*Ideal for: Industrial Fluids, Caustics, light Hydrocarbons, Corrosives and high pressure liquids and gasses*

### Positive Drive

- "X" Set Screws secure seal to shaft preventing slippage

### Multiple Springs

- Provide precise even preloading of the seal face

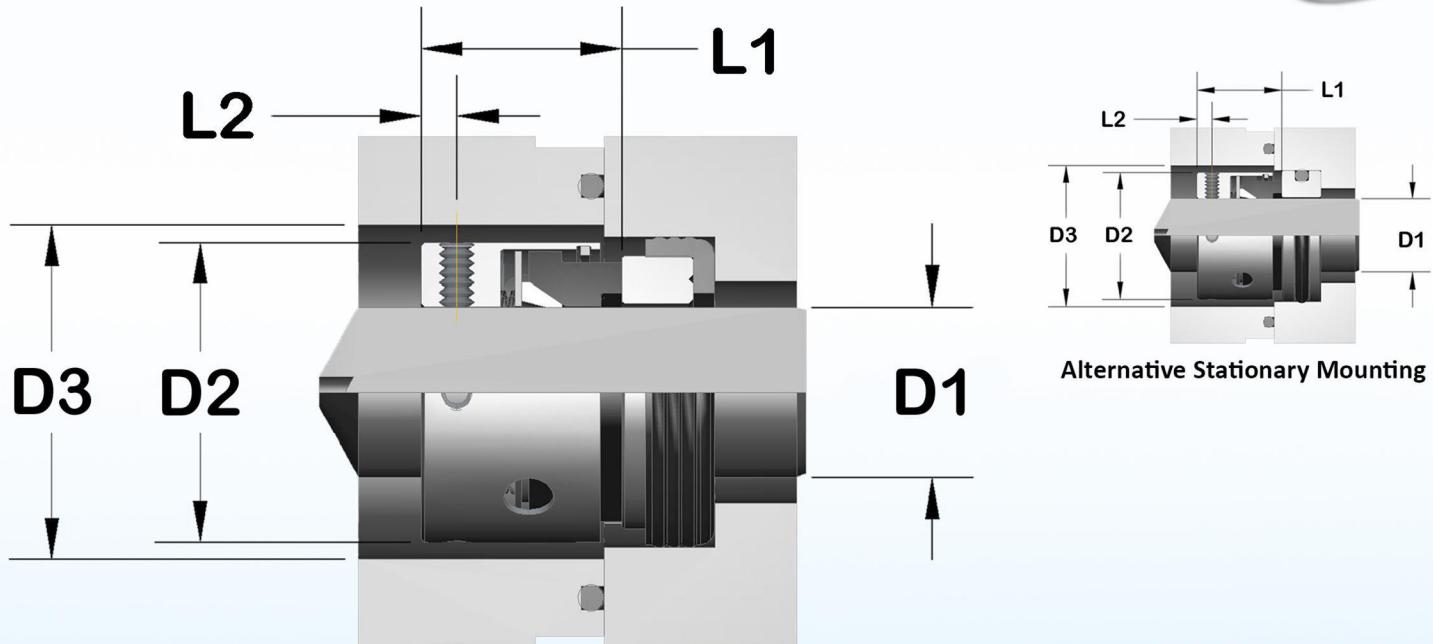
### For use with a variety of mating rings

- O-Ring Mount
- Cup Mount
- DIN

### Advantage Seal Type 91 replaces:

- John Crane Type 9
- Pac-Seal Type 9
- US Seal Type J

# Typical Type 91 Dimensions



STANDARD				
D1	D2	D3	L1	L2
Inches				
0.500	1.031	1.156	0.812	0.156
0.625	1.187	1.312	0.75	0.156
0.750	1.312	1.437	0.875	0.187
0.875	1.437	1.562	0.937	0.187
1.000	1.562	1.750	1.000	0.187
1.125	1.687	1.875	1.062	0.218
1.250	1.875	2.000	1.062	0.187
1.375	2.000	2.125	1.125	0.187
1.500	2.125	2.250	1.125	0.187
1.625	2.375	2.500	1.375	1.000
1.750	2.500	2.625	1.375	0.281
1.875	2.625	2.750	1.375	0.281
2.000	2.750	2.875	1.375	0.281
2.125	3.000	3.125	1.687	0.281
2.250	3.125	3.250	1.687	0.343
2.375	3.250	3.375	1.687	0.343
2.500	3.375	3.500	1.687	0.343
2.625	3.500	3.625	1.687	0.343
2.750	3.625	3.750	1.687	0.343
2.875	3.750	3.875	1.687	0.343
3.000	3.812	4.000	1.687	0.343
3.125	3.937	4.062	1.687	0.343
3.250	4.125	4.250	1.687	0.343
3.375	4.250	4.375	1.687	0.343
3.500	4.375	4.500	1.687	0.343
3.625	4.500	4.625	1.687	0.343
3.750	4.625	4.750	1.687	0.343
3.875	4.750	4.875	1.687	0.343
4.000	4.875	5.000	1.687	0.343

ALTERNATIVE 91T VERSION				
D1	D2	D3	L1	L2
Inches				
0.500	0.937	1.062	0.812	0.156
0.625	1.062	1.187	0.75	0.156
0.750	1.187	1.312	0.875	0.187
0.875	1.312	1.437	0.937	0.187
1.000	1.437	1.562	1.000	0.187
1.125	1.562	1.687	1.062	0.218
1.250	1.687	1.812	1.062	0.187
1.375	1.937	2.062	1.125	0.187
1.500	1.937	2.062	1.125	0.187
1.625	2.250	2.375	1.375	1.000
1.750	2.312	2.437	1.375	0.281
1.875	2.500	2.625	1.375	0.281
2.000	2.625	2.750	1.375	0.281
2.125	2.812	2.937	1.687	0.281
2.250	2.843	2.968	1.687	0.343
2.375	3.000	3.125	1.687	0.343
2.500	3.125	3.250	1.687	0.343
2.625	3.250	3.375	1.687	0.343
2.750	3.375	3.500	1.687	0.343
2.875	3.500	3.625	1.687	0.343
3.000	3.625	3.750	1.687	0.343
3.125	3.750	3.875	1.687	0.343
3.250	3.875	4.000	1.687	0.343
3.375	4.000	4.125	1.687	0.343
3.500	4.125	4.250	1.687	0.343
3.625	4.250	4.375	1.687	0.343
3.750	4.375	4.500	1.687	0.343
3.875	4.500	4.625	1.687	0.343
4.000	4.625	4.750	1.687	0.343

## Tolerances and Finishes

- Equipment Shaft  $\pm 0.002$  (0.05mm)
- Seat Bore  $\pm 0.002$  (0.05mm)
- Maximum End-Play 0.005 (0.13mm)
- Shaft / Sleeve surface finish 35 Ra to 105 Ra