



PRODUCT BULLETIN MODEL 810 BELLOW SEAL

American-Marsh Model 810 non-pusher bellow seals are general purpose seals for use in many applications. The seal utilizes an elastomeric bellow for positive sealing. The spring is manufactured of stainless steel and is of the non-clogging design.

Temperatures*: -40°C To 205°C / -40°F To 400°F

Pressures*: To 10 Bar / 150 PSI

Speeds: To 3600 RPM

*Depending on fluid pumped and materials of construction



Seal Designation Example

C₂₀/E₁ - X₇₄/E₁ - S₃₁₆

Rotating Face

Carbon

Rotating Face Elastomer

Viton

Stationary Face

Tungsten-Carbide

Stationary Face Elastomer

Viton

Seal Metal Parts

316 Stainless Steel

Seal Gland and/or Sleeve Material

N/A

Seal De-Rating Example

Fluid: Water

Temperature: 325°F

Seal Size: 2.375"

Rotational Speed: 3600 RPM

150 PSI x 0.75 (Lubricity of Fluid) = 112.5 PSI

112.5 PSI x 0.80 (Fluid Temperature) = 90 PSI

90 PSI x 0.53 (Rotational Speed) = 47.7 PSI

MAX SEAL PRESSURE = 47.7 PSI

Material Specifications		
Part	Construction	
	Standard	Optional
Rotary Face	Carbon (C ₂₀)	Silicon-Carbide (X ₁₄) Tungsten-Carbide (X ₇₄)
Stationary Face	Silicon-Carbide (X ₁₄)	Tungsten-Carbide (X ₇₄)
Elastomers	Ethylene-Propylene (E ₆)	Neoprene (E ₉) Buna-Nitrile (E ₇) Fluoro-Elastomer (E ₁)
Hardware	18-8 Stainless (S ₁₈₋₈)	316 Stainless Steel (S ₃₁₆) Monel (H ₄₂)
Spring	18-8 Stainless (S ₁₈₋₈)	316 Stainless Steel (S ₃₁₆) Monel (H ₄₂)

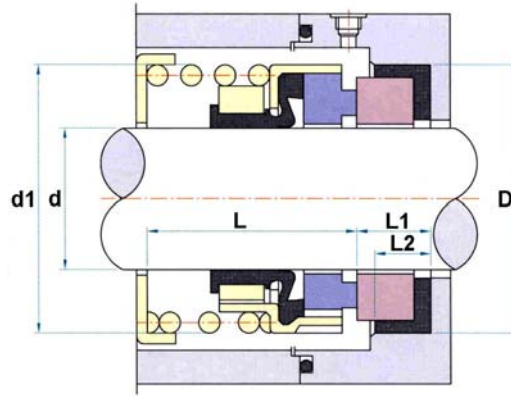
Seal De-Rating (Standard Materials)			
Lubricity of Fluid	Gasoline, Kerosene, Oil or Better	x 1.00	
	Aqueous, Water, etc.	x 0.75	
Fluid Temperature	Below 79°C/175°F	x 1.00	
	Above 79°C to 121°C/175°F to 250°F	x 0.90	
	Above 121°C to 177°C/250°F to 350°F	x 0.80	
	Above 177°C/350°F	x 0.65	
Seal Size and Rotational Speed	Seal Size	1800 RPM	3600 RPM
	0.250 to 1.500	x 1.00	x 1.00
	1.625 to 2.000	x 1.00	x 0.73
	2.125 to 2.500	x 1.00	x 0.53
	2.625 to 3.000	x 1.00	x 0.40
	3.125 to 3.500	x 1.00	x 0.33
	3.625 to 4.000	x 1.00	x 0.28

Elastomer Temperature Limits	
Material	Temperature Limits
Buna-Nitrile (E ₇)	-40°C To 107°C -40°F To 225°F
Fluoro-Elastomer (E ₁)	-29°C To 205°C -20°F To 400°F
Ethylene-Propylene (E ₆)	-45°C To 150°C -49°F To 300°F
Neoprene (E ₉)	-40°C To 100°C -40°F To 212°F

Installation Criteria	
Shaft/Sleeve	Limits
Surface Finish	≤ 3.125" – 63 Ra < 3.125" – 32 Ra
Concentricity	± 0.051mm/0.002"
End Play	± 0.13mm/0.005"

Centrifugal Pumps, Mixers, OEM Equipment, Rotary Pumps, Compressors, Chillers, Agitators
Markets: Water, Waste Water, Industrial, Marine, Pulp & Paper, Automotive, Petrochemical, Water Systems

**PRODUCT BULLETIN
MODEL 810 BELLOW SEAL**



Approximate General Dimensions

(Do not use for construction purposes)

Series 810 Non-Pusher Elastomeric Bellows Mechanical Seals						
d	Min. Bore	d1	D	L	L1	L2
0.250	0.843	0.718	0.750	0.625	0.313	0.250
0.375	0.937	0.812	0.875	0.812	0.313	0.250
0.500	1.187	0.937	1.000	0.812	0.313	0.250
0.625	1.187	1.062	1.250	0.875	0.406	0.344
0.750	1.312	1.187	1.375	0.875	0.406	0.344
0.875	1.437	1.312	1.500	0.937	0.406	0.344
1.000	1.937	1.687	1.625	1.000	0.438	0.375
1.125	2.062	1.812	1.750	1.062	0.438	0.375
1.250	2.187	1.937	1.875	1.062	0.438	0.375
1.375	2.312	2.062	2.000	1.125	0.438	0.375
1.500	2.437	2.187	2.125	1.125	0.438	0.375
1.625	2.750	2.500	2.375	1.375	0.500	0.438
1.750	2.875	2.625	2.500	1.375	0.500	0.438
1.875	3.000	2.750	2.625	1.500	0.500	0.438
2.000	3.187	2.875	2.750	1.500	0.500	0.438
2.125	3.312	3.000	3.000	1.687	0.563	0.500
2.250	3.437	3.125	3.125	1.687	0.563	0.500
2.375	3.562	3.250	3.250	1.812	0.563	0.500
2.500	3.687	3.343	3.375	1.812	0.563	0.500
2.625	4.000	3.500	3.375	1.937	0.625	0.563
2.750	4.125	3.750	3.500	1.937	0.625	0.563
2.875	4.375	3.875	3.750	2.062	0.625	0.563
3.000	4.500	4.000	3.875	2.062	0.625	0.563
3.125	4.750	4.125	4.000	2.187	0.781	0.656
3.250	4.875	4.250	4.125	2.187	0.781	0.656
3.375	5.250	4.500	4.250	2.187	0.781	0.656
3.500	5.375	4.625	4.375	2.187	0.781	0.656
3.625	5.500	4.750	4.500	2.312	0.781	0.656
3.750	5.625	4.875	4.625	2.312	0.781	0.656
3.875	5.750	5.000	4.750	2.437	0.781	0.656
4.000	5.875	5.125	4.875	2.437	0.781	0.656

All dimensions are in inches.

- Your Local Authorized Distributor -



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