



PRODUCT BULLETIN MODEL 850B CARTRIDGE SEAL

American-Marsh Model 850B pusher, elastomer o-ring, single cartridge seals are industrial purpose seals for use in demanding applications. The seal utilizes an elastomeric o-ring for positive sealing. The springs are manufactured of stainless steel and are sealed from the pumped fluid. The 850B cartridge seals are also very easy to rebuild and

Temperatures*: -40°C To 205°C / -40°F To 400°F
Pressures*: To 29 Bar /425 PSI
Speeds: To 3600 RPM

*Depending on fluid pumped and materials of construction

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	Viton (E ₁)	Aflas (T ₁₅) Kalrez (T ₂₁)
Hardware	316 Stainless (S ₃₁₆)	Hastalloy C (H ₃) Monel (H ₄₂)
Spring	316 Stainless (S ₃₁₆)	Hastalloy C (H ₃) Monel (H ₄₂)



Seal Designation Example

C₂₀/E₁ - X₇₄/E₁ - S₃₁₆ - 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

316 Stainless Steel

Seal De-Rating Example

Fluid: Gasoline

Temperature: 200°F

Seal Size: 2.375"

Rotational Speed: 3600 RPM

425 PSI x 1.00 (Lubricity of Fluid) = 425 PSI

425 PSI x 0.90 (Fluid Temperature) = 383 PSI

383 PSI x 0.85 (Rotational Speed) = 326 PSI

MAX SEAL PRESSURE = 326 PSI

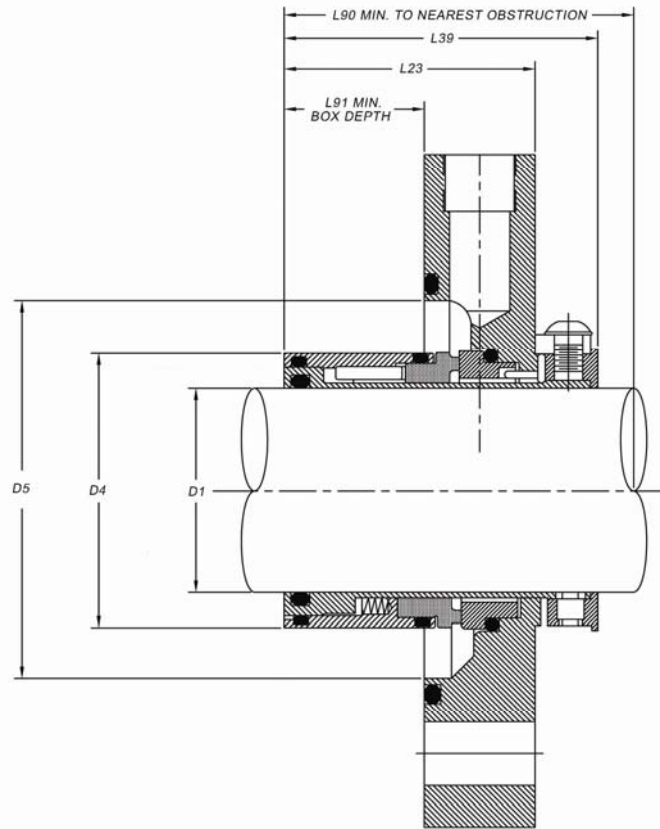
Seal De-Rating (Standard Materials)			
Lubricity of Fluid	Gasoline, Kerosene, Oil or Better		x 1.00
	Aqueous, Water, etc.		x 0.75
	Light Hydrocarbons		x 0.60
Fluid Temperature	Below 79°C/175°F		x 1.00
	Above 79°C to 121°C/175°F to 250°F		x 0.90
	Above 121°C to 177°C/250°F to 350°F		x 0.80
	Above 177°C/350°F		x 0.65
Seal Size and Rotational Speed	Seal Size	1800 RPM	3600 RPM
		1.000 to 2.000	x 1.00
	2.125 to 2.875	x 0.85	x 0.85
		3.000 to 4.000	x 0.61

Elastomer Temperature Limits	
Material	Temperature Limits
Neoprene (E ₉)	-40°C To 100°C -40°F To 212°F
Buna-Nitrile (E ₇)	-40°C To 107°C -40°F To 225°F
Ethylene-Propylene (E ₆)	-45°C To 150°C -49°F To 300°F
Viton (E ₁)	-29°C To 205°C -20°F To 400°F
Kalrez (T ₂₁)	-23°C To 260°C -10°F To 500°F
Graphoil (G ₂₀)	-212°C To 399°C -350°F To 750°F

Installation Criteria	
Shaft/Sleeve	Limits
Surface Finish	32μ inch R _a
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, Mining, Petrochemical, Water Systems

PRODUCT BULLETIN
MODEL 850B CARTRIDGE SEAL




Approximate General Dimensions
(Do not use for construction purposes)

SERIES 850B PUSHER ELASTOMERIC O-RING MECHANICAL SEAL											
D1	MINIMUM BORE	D4	D5	L23	L39	L90	L91	GLAND MAX. DIAMETER	GLAND BOLT CIRCLE	GLAND BOLT DIAMETER	GLAND FLUSH CONNECTION
1.375	2.125	2.065	2.935	2.360	2.970	3.095	1.360	4.970	4.000	0.375	0.375
1.500	2.250	2.186	2.400	3.340	2.970	3.095	1.360	4.970	3.480	0.500	0.375
1.750	2.500	2.447	2.636	2.349	2.970	3.095	1.360	4.800	3.875	0.500	0.375
1.875	2.625	2.515	3.685	2.360	2.970	3.095	1.360	6.200	5.000	0.500	0.375
2.000	2.750	2.643	2.880	2.349	2.970	3.095	1.360	5.480	4.000	0.500	0.375
2.250	2.938	2.847	3.125	2.360	2.970	3.095	1.360	6.220	4.630	0.625	0.375
2.375	3.000	2.948	3.250	2.360	2.970	3.095	1.360	6.220	4.750	0.625	0.375
2.625	3.250	3.177	4.685	2.360	2.970	3.095	1.360	7.600	6.000	0.500	0.500
3.000	4.000	3.910	4.148	2.742	3.462	3.587	1.582	6.800	5.880	0.625	0.500

All dimensions are in inches.

- Your Local Authorized Distributor -



Sales & Marketing: 185 Progress Road • Collierville, Tennessee • 38017
Manufacturing: 185 Progress Road • Collierville, Tennessee • 38017
 Phone: (800) 888-7167
 Fax: (901) 860-2323