



Flow Solutions Division



*Innovation  
Then*

## The **ISC Series** Seals **I**nnovative **S**tandard **C**artridge



*Sealing innovation to meet and exceed in all general process pump applications.*

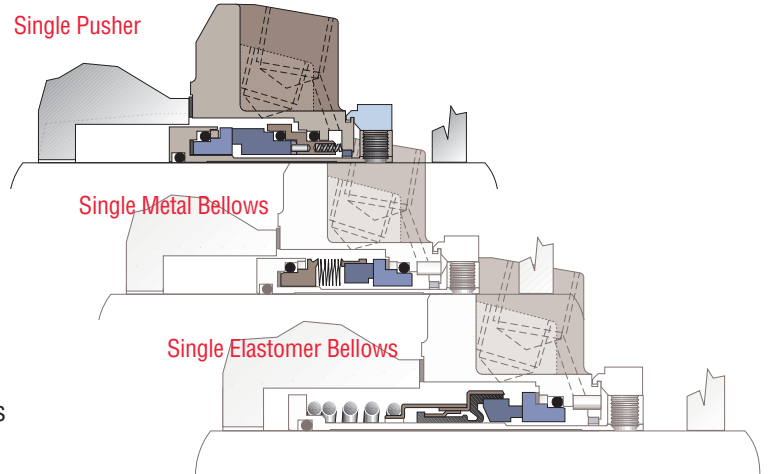


# The **ISC Series** seals offer **interchangeability** for maximum

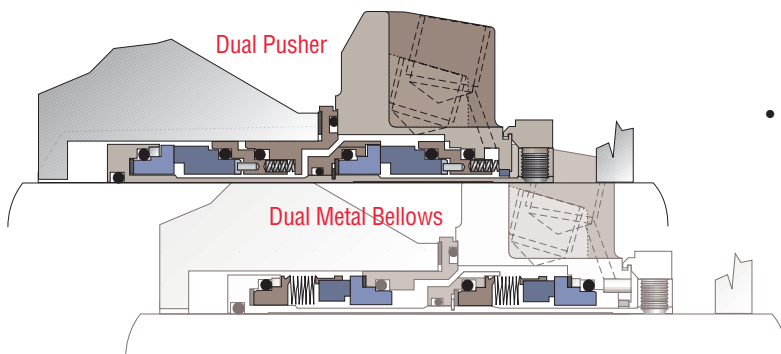
*The economical innovative standard cartridge seal family that features interchangeable pusher, metal bellows, and elastomer bellows configurations on a common gland and sleeve platform.*

ISC seals are designed for general purpose applications on ANSI and DIN process pumps serving chemical processing, pulp and paper, oil and refining, food and beverage, water and wastewater, and other industries. Single, dual pressurized, or dual non-pressurized arrangements provide versatility to help meet a full range of general purpose application conditions, performance reliability, and environmental requirements.

- Robust silicon carbide and carbon face cross sections for **increased reliability**.
- Silicon carbide mating rings are held in compression and are protected for **reliable equipment start-up**.
- Homogenous carbon designs for the pusher configuration results in **stable performance**.



- Bellows units constructed of all Alloy C-276 enhances chemical compatibility resulting in **longer seal life**.
- The robust ISC drive flat mechanism **enhances reliability** by eliminating the need for drive pins and drive notches with resulting stress risers.
- Springs are isolated from the process fluid **reducing stress corrosion**.
- Secondary sealing points use inside diameter grooves to allow the application of optional PTFE O-rings that **minimize the need for expensive perfluoroelastomers**.

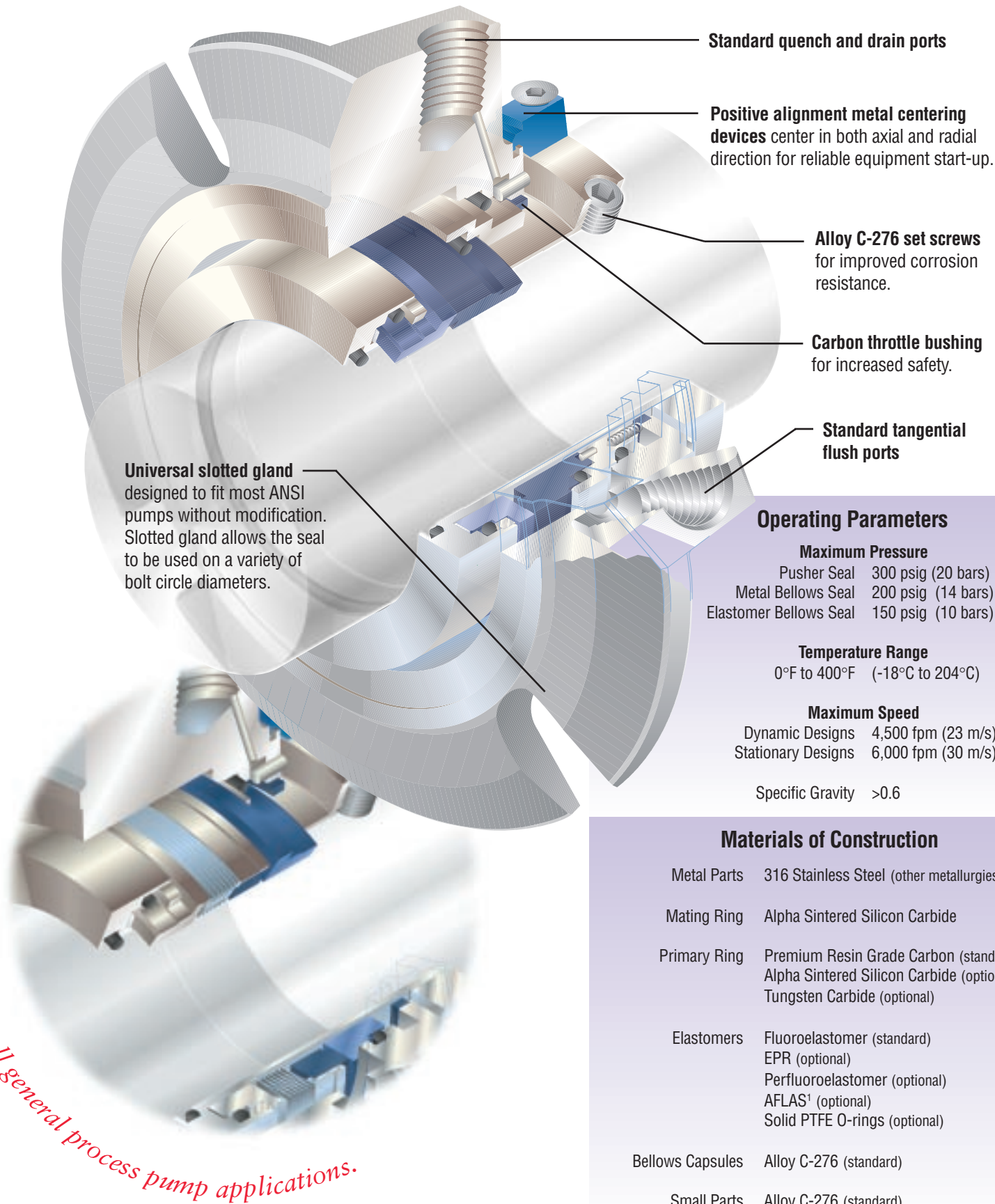


- Dual seals are double balanced to provide both pressurized and non-pressurized dual seal options **increasing equipment dependability**.
- A unique pumping feature, standard on all dual seals, is more effective than conventional dual seal pumping features resulting in **cooler seal operation and enhanced seal MTBF**.

*Sealing innovation to meet and exceed*



# Maximum versatility on a **cartridge design** for a variety of applications



**Universal slotted gland** designed to fit most ANSI pumps without modification. Slotted gland allows the seal to be used on a variety of bolt circle diameters.

- Standard quench and drain ports**
- Positive alignment metal centering devices** center in both axial and radial direction for reliable equipment start-up.
- Alloy C-276 set screws** for improved corrosion resistance.
- Carbon throttle bushing** for increased safety.
- Standard tangential flush ports**

### Operating Parameters

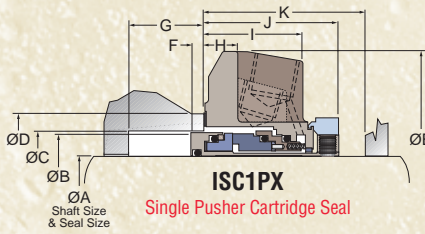
<b>Maximum Pressure</b>	
Pusher Seal	300 psig (20 bars)
Metal Bellows Seal	200 psig (14 bars)
Elastomer Bellows Seal	150 psig (10 bars)
<b>Temperature Range</b>	
0°F to 400°F	(-18°C to 204°C)
<b>Maximum Speed</b>	
Dynamic Designs	4,500 fpm (23 m/s)
Stationary Designs	6,000 fpm (30 m/s)
Specific Gravity	>0.6

### Materials of Construction

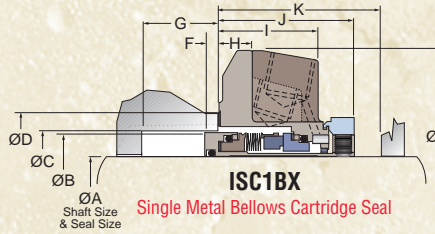
Metal Parts	316 Stainless Steel (other metallurgies available)
Mating Ring	Alpha Sintered Silicon Carbide
Primary Ring	Premium Resin Grade Carbon (standard) Alpha Sintered Silicon Carbide (optional) Tungsten Carbide (optional)
Elastomers	Fluoroelastomer (standard) EPR (optional) Perfluoroelastomer (optional) AFLAS <sup>1</sup> (optional) Solid PTFE O-rings (optional)
Bellows Capsules	Alloy C-276 (standard)
Small Parts	Alloy C-276 (standard)

1 Registered trademark of Asahi Glass Co., Ltd.

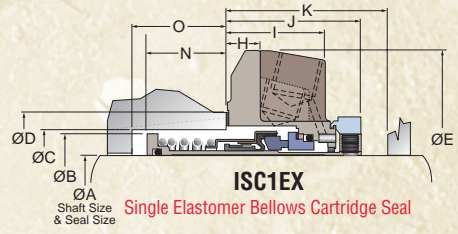
BW Seals  
 Durametallic Seals  
 Pacific Wietz Seals  
 Pac-Seal



**ISC1PX**  
 Single Pusher Cartridge Seal



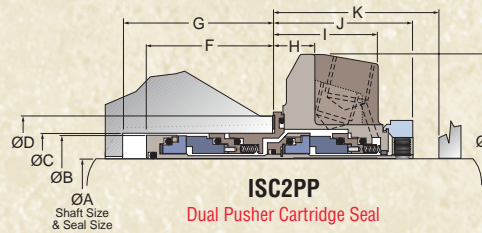
**ISC1BX**  
 Single Metal Bellows Cartridge Seal



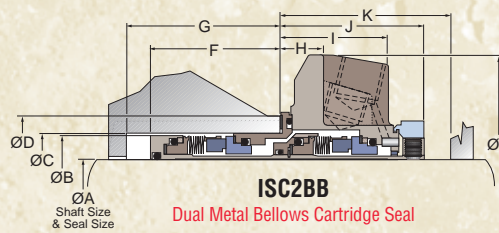
**ISC1EX**  
 Single Elastomer Bellows Cartridge Seal

### Dimensional Data (inches)

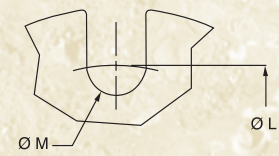
A	B	C		D	E	F	G	H	I	J	K	L	M	N	O
Shaft & Seal Size		Box Bore (Min)	Box Bore (Max)	Gasket OD	Gland OD		Box Depth (Min)	Web Thickness			Dist. to Obst. (Min)	Bolt Circle	Bolt Slot Dia.		
1.125	1.687	1.750	2.000	2.245	3.69-3.75	0.212	0.274	0.375	1.405	1.913	1.975	2.875	0.44	0.962	1.024
1.375	1.937	2.000	2.375	2.620	3.94-4.00	0.212	0.274	0.425	1.385	1.913	1.975	3.250	0.44	1.127	1.189
1.750	2.437	2.500	2.875	3.155	4.94-5.00	0.202	0.264	0.494	1.454	1.973	2.035	3.875	0.56	1.152	1.214
1.875	2.562	2.625	2.875	3.155	4.94-5.00	0.202	0.264	0.494	1.454	1.973	2.035	3.875	0.56	1.152	1.214
2.125	2.812	2.875	3.125	3.435	5.94-6.00	0.202	0.264	0.515	1.420	1.973	2.035	4.250	0.75	1.092	1.154
2.375	3.062	3.125	3.687	3.980	6.32-6.38	0.202	0.264	0.515	1.420	1.973	2.035	4.875	0.75	1.287	1.349
2.500	3.268	3.375	3.687	3.980	6.32-6.38	0.202	0.264	0.515	1.420	1.973	2.035	4.875	0.75	1.287	1.349
2.625	3.437	3.625	4.312	4.620	7.19-7.25	0.204	0.266	1.069	2.004	2.726	2.788	5.625	0.88	1.129	1.191
2.750	3.562	3.750	4.312	4.620	7.19-7.25	0.204	0.266	1.069	2.004	2.726	2.788	5.625	0.88	1.129	1.191



**ISC2PP**  
 Dual Pusher Cartridge Seal



**ISC2BB**  
 Dual Metal Bellows Cartridge Seal



A	B	C		D	E	F	G	H	I	J	K	L	M
Shaft & Seal Size		Box Bore (Min)	Box Bore (Max)	Gasket OD	Gland OD		Box Depth (Min)	Web Thickness			Dist. to Obst. (Min)	Bolt Circle	Bolt Slot Dia.
1.125	1.687	1.750	2.000	2.245	3.69-3.75	1.838	1.900	0.524	1.554	2.062	2.124	2.875	0.44
1.375	1.937	2.000	2.375	2.620	3.94-4.00	1.838	1.900	0.574	1.534	2.062	2.124	3.250	0.44
1.750	2.437	2.500	2.875	3.155	4.94-5.00	1.903	1.965	0.643	1.603	2.122	2.184	3.875	0.56
1.875	2.562	2.625	2.875	3.155	4.94-5.00	1.903	1.965	0.643	1.603	2.122	2.184	3.875	0.56
2.125	2.812	2.875	3.125	3.435	5.94-6.00	1.903	1.965	0.664	1.569	2.122	2.184	4.250	0.75
2.375	3.062	3.12	3.687	3.980	6.32-6.38	1.903	1.965	0.664	1.569	2.122	2.184	4.875	0.75
2.500	3.268	3.375	3.687	3.980	6.32-6.38	1.903	1.965	0.664	1.569	2.122	2.184	4.875	0.75
2.625	3.437	3.625	4.312	4.620	7.19-7.25	2.429	2.491	1.249	2.184	2.906	2.968	5.625	0.88
2.750	3.562	3.750	4.312	4.620	7.19-7.25	2.429	2.491	1.249	2.184	2.906	2.968	5.625	0.88

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