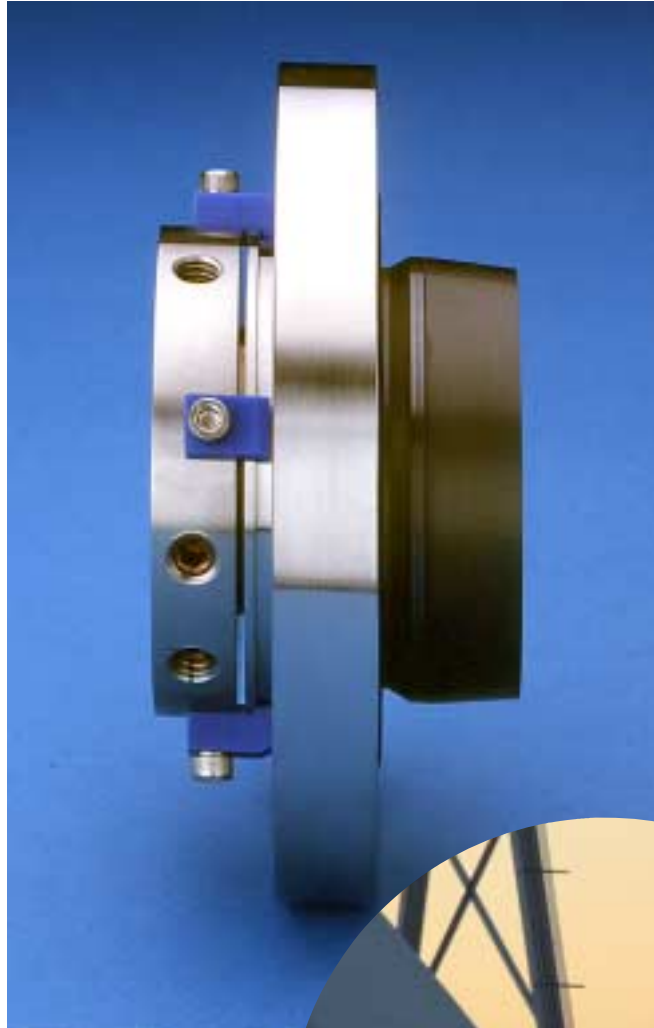


The **SL Series** Seals



Simple, durable seals engineered for use in process equipment handling chemical and moderate slurries.



The **SL Series** mechanical seals **survive** the most

A family of self contained cartridge seals designed for reliable operation in the majority of chemical and moderate slurry services. Engineered to primarily be applied with no outside flush liquid which eliminates product dilution, increases plant efficiency, and reduces operating expenses associated with process equipment.

SL Series seals can decrease plant water consumption and related maintenance costs in applications common to the following industries:



Chemical Process Industries

Any service where the pumpage contains particulate matter, dissolved chemicals, or solids that have a tendency to crystallize, precipitate, scale or solidify.



Municipal/Water Treatment

Dirty water and those services where the pumpage contains sand, silt, or sludge that are known to contain abrasive particulates.



Pulp and Paper

Services such as black, white and green liquor, paper stock coatings and other pulp and paper slurries. It can also be used for textile liquors containing fibrous slurries and sensitive fluids like pitch.

Springs are mounted in the stationary portion of the seal so they are completely isolated from the pumped product as well as centrifugal forces during operation.

Special shroud is press-fit into the bore of the stator. It protects the compression springs and pins from scaling services.

Hydraulically balanced, flexible stator improves seal performance and reliability by automatically compensating for any irregularities in shaft runout or other process changes.

Centering tabs ensure the seal is properly installed and aligned to the shaft.

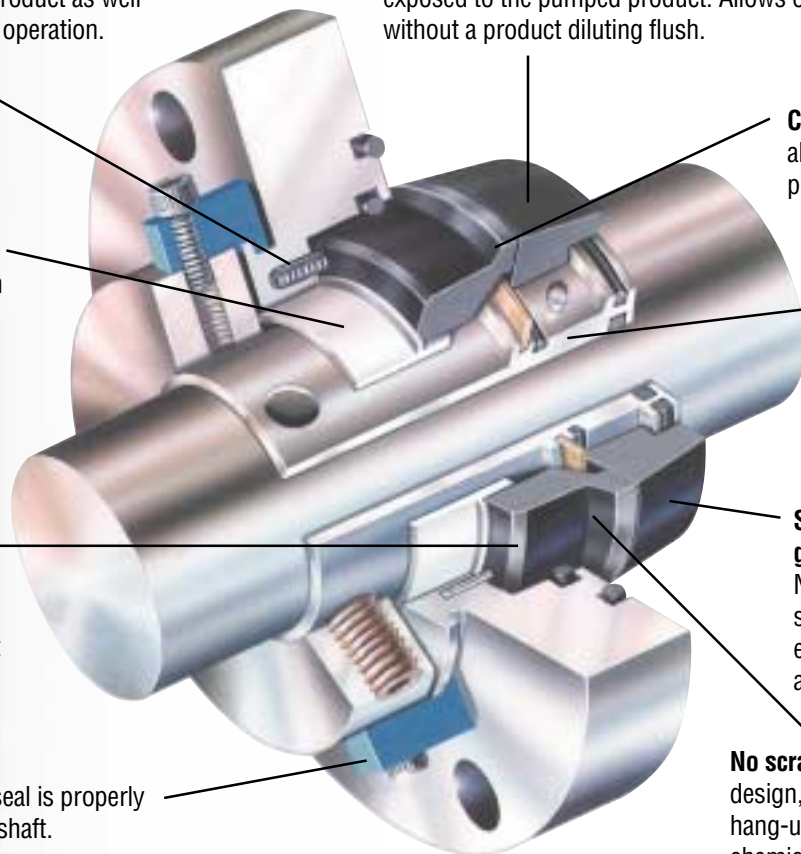
Maximum heat transfer away from the seal faces is facilitated by engineering the faces so they are exposed to the pumped product. Allows operation without a product diluting flush.

Carbide seal faces provide abrasion resistance and promote longer seal life.

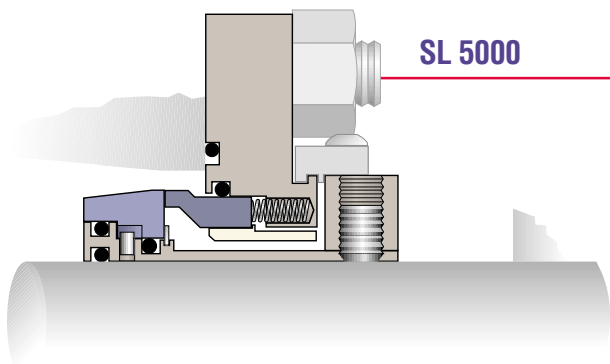
Cartridge mounted seal is preassembled and preset at the factory for ease of installation.

Smooth, contoured part geometry reduces erosion. No sharp corners, holes, set screw indents or pins are exposed which could create abrasive turbulence.

No scraper ring is needed in this design, eliminating a common hang-up point particularly with chemical slurries.

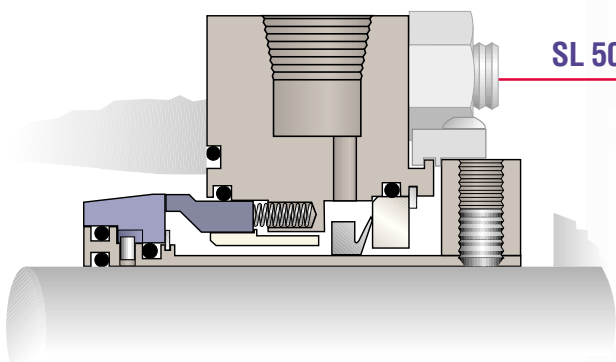


demanding chemical and moderate **slurry service** applications.



SL 5000

Simple, single, balanced multi-spring pusher, cartridge seal, specifically designed to operate without a process bypass or external flush liquid in the majority of common chemical and moderate slurries associated with the chemical, municipal, and pulp and paper industries.



SL 5000 QCD

Primary seal is the same as the **SL 5000** with the addition of a **Quench Containment Device (QCD)**. The **QCD** feature allows for the use of a low pressure fluid (water) quench to be applied to the atmospheric side of the seal faces. Addition of a fluid quench has proven to enhance seal operation characteristics in hot and scaling slurry services.

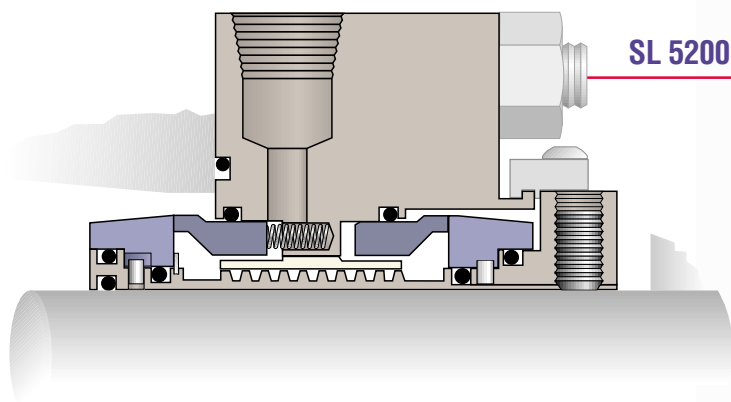
For more information on the QCD, see Flowserve Data Sheet FSD146



SL 5000 SLD

Same as the **SL 5000 QCD** with the addition of a **Synthetic Lubrication Device (SLD)**. Injection of a synthetic lubricant applied to the atmospheric side of the seal faces has been demonstrated to help seal performance during periods of starved suction or when equipment is operated dry.

For more information on the SLD, see Flowserve Data Sheet FSD148



SL 5200

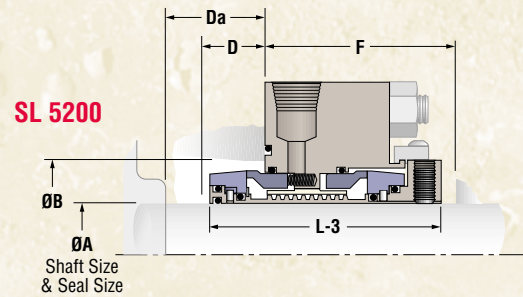
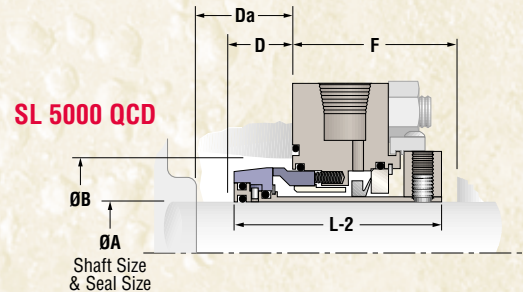
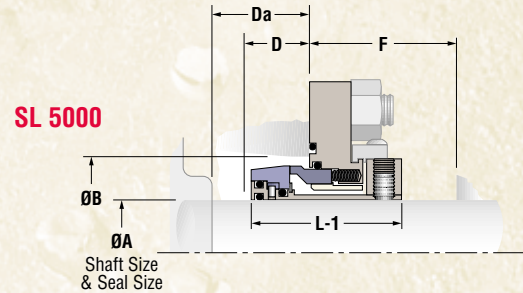
Dual, balanced, multi-spring pusher, cartridge seal, specifically engineered to operate in chemical slurry services where corrosive, toxic or volatile liquids are being handled. Uses a pressurized barrier fluid to help prevent process liquid from reaching the atmosphere when a single seal is not acceptable to help provide proper environmental or operational safety. As with the single **SL 5000** design, to reduce product dilution effects, no process bypass or external flush liquid is required when installed into an open taper bore seal chamber.

BW Seals
Durametallic Seals
Pacific Wietz Seals
Pac-Seal

Dimensional Data (inches)

SL 5000 SL 5000 QCD SL-5200

A	B	D	F	L-1	L-2	L-3
Shaft & Seal Size	Box Bore (Min)	Box Depth (Min)	First Obstruction (Min)	OAL	OAL	OAL
1.125	2.63	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
1.250	2.75	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
1.375	2.88	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
1.500	3.00	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
1.625	3.13	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
1.750	3.25	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
1.875	3.38	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
2.000	3.50	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
2.125	3.63	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
2.250	3.75	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
2.375	3.88	1.16	(OAL) - (Da) + (.25)	2.69	3.37	4.28
2.500	4.00	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
2.625	4.13	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
2.750	4.25	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
2.875	4.38	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
3.000	4.50	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
3.125	4.63	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
3.250	4.75	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
3.375	4.88	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
3.500	5.00	1.16	(OAL) - (Da) + (.25)	2.69	3.63	4.28
3.625	5.25	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
3.750	5.38	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
3.875	5.50	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
4.000	5.63	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
4.125	5.75	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
4.250	5.88	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
4.375	6.00	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
4.500	6.13	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
4.750	6.38	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
5.000	6.63	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
5.250	6.88	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
5.500	7.13	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
5.750	7.38	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41
6.000	7.63	1.16	(OAL) - (Da) + (.25)	2.87	4.32	4.41



Operating Parameters

Maximum Seal Chamber Pressure: 175 psig (12 bar)
 Maximum Process Temperature: 0°F to 175°F (-18°C to 79°C)
 with water quench: 0°F to 275°F (-18°C to 135°C)
 Maximum Slurry Particle MOH Hardness: MOH 7 (scale 1 to 10)
 Maximum Hard Slurry % Solids by Weight: 20%
 Maximum Particle Size: 5000 micron
 Maximum Surface Speed: 4500 fpm (23 m/s)
 Shaft Sizes: 1.125" to 6.000" (28 mm to 152 mm)

Materials of Construction

Wetted Metal Parts: 316 SS, Alloy 20, Alloy C-276 (standard)
 (other materials available upon request)
 Seal Faces: Sintered Silicon Carbide (standard)
 Reaction Bonded Silicon Carbide (standard)
 Tungsten Carbide (optional), Carbon (optional)
 Springs: Alloy C-276
 Elastomers: EPDM, Fluoroelastomers, TFE Elastomer (standard)
 (other materials available upon request)

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