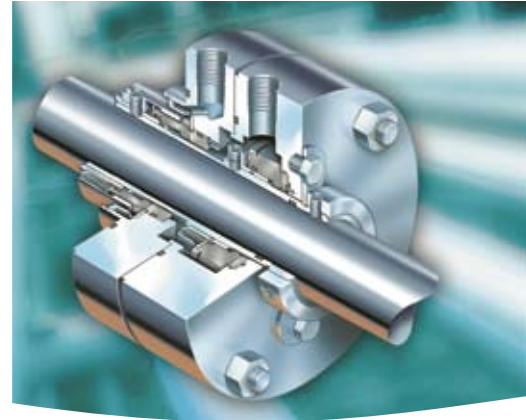




GSL Series

Non-contacting containment seals

GSL Series seals are non-contacting gas seals for dry running vapor containment and full pressure wet backup sealing in light hydrocarbon, crude oil, and hazardous services. GSL seals use wave pattern technology to eliminate wear and are fully compliant with API 682 / ISO 21049 Type A, Arrangement 2 requirements.



Features and Benefits

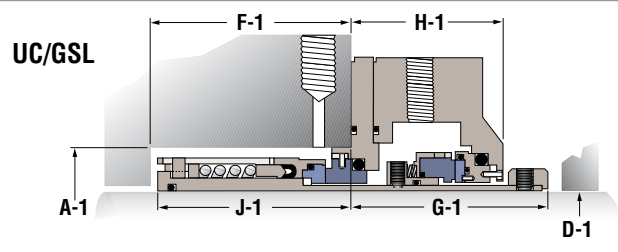
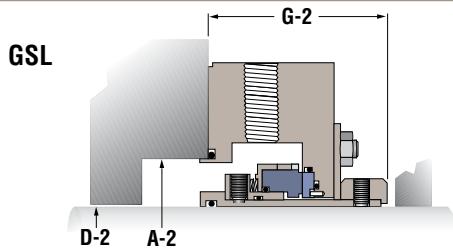
- Silicon carbide seal face utilizes Flowserve Precision Face Topography with a bi-directional wave pattern that narrowly separates the seal faces for long-term, reliable performance.
- Fitted with a contacting or non-contacting inboard seal, the low emission design helps meet the most stringent emissions requirements, especially in light hydrocarbon services with a vapor disposal system back pressure below 25 psi (1.7 bar).
- Unpressurized containment seal operation may include support system Plans 72, 75, 76 for simplified maintenance.
- High and low pressure liquid backup seal capability allows for safe and convenient equipment shut down if the primary seal fails at pressures up to 600 psi (41.4 bar).
- Minimal inventory is required to reconfigure a GS seal in an existing dual seal and upgrade to non-contacting wave face reliability.
- Cartridge assembly simplifies installation for a quick and trouble-free start-up.
- Remote performance monitoring is available within the standard piping plans to report status of the primary seal and reduce downtime.
- Available as a single seal for equipment such as low pressure blowers and vertical sump pumps where dry running and low emissions are required.

Operating Parameters

Pressure	Up to 600 psi (41.4 bar)
Temperature	-40 to 400°F (-40 to 204°C)
Specific Gravity	0.45 liquid and higher
Surface Speed	5 to 100 fps (1.5 to 30.5 m/s)
Shaft Sizes	1.000 to 6.000 inch (25.4 to 152.4 mm)

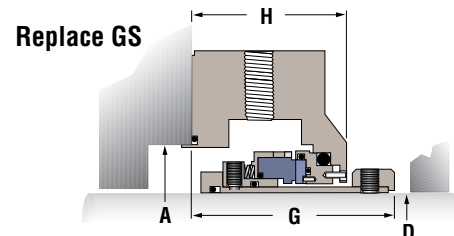
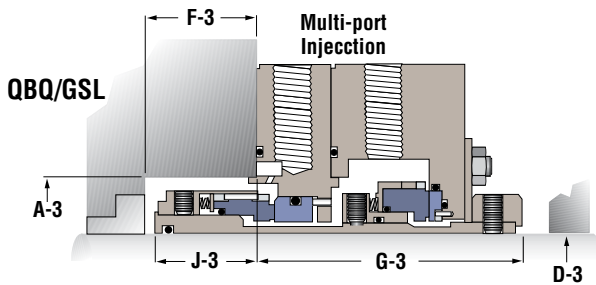
Materials of Construction

Metal Components	316 Stainless Steel, Alloy C-276, Alloy 20
Rotating Face	Carbon
Stationary Face	Silicon Carbide
Gaskets	Fluoroelastomer, Perfluoroelastomer
Springs	Alloy C-276



Dimensional Data

Inches			Millimeters			Inches						Millimeters								
A-2	D-2	G-2	Seal Size	A-2	D-2	G-2	A-1	D-1	F-1	G-1	H-1	J-1	Seal Size	A-1	D-1	F-1	G-1	H-1	J-1	
Min	Max			Min	Max		Min	Max					GSL	Min	Max					
2.594	1.062	2.594	1500	65.89	26.97	65.89	2.188	1.062	3.062	3.094	2.250	2.938	1500	1375	55.58	26.97	77.77	78.59	57.15	74.63
2.984	1.250	2.562	1750	75.79	31.75	65.07	2.500	1.250	4.062	3.094	2.250	3.938	1750	1625	63.50	31.75	103.17	78.59	57.15	100.03
3.109	1.375	2.906	1875	78.97	34.93	73.81	2.688	1.500	3.344	3.813	2.812	3.219	2000	1875	68.28	38.10	84.94	96.85	71.42	81.76
3.250	1.500	2.938	2000	82.55	38.10	74.63	2.938	1.562	3.531	4.156	3.031	3.406	2125	2062	74.63	39.67	89.69	105.56	76.99	86.51
3.375	1.562	3.375	2125	85.73	39.67	85.73	3.125	1.812	3.344	4.188	3.062	3.219	2375	2250	79.38	46.02	84.94	106.38	77.77	81.76
3.719	1.812	3.375	2375	94.46	46.02	85.73	3.625	2.062	3.844	4.156	3.031	3.719	2625	2625	92.08	52.37	97.64	105.56	76.99	94.46
3.875	2.062	3.375	2625	98.43	52.37	85.73	3.938	2.375	4.344	4.219	3.094	4.219	2875	2875	100.03	60.33	110.34	107.16	78.59	107.16
4.297	2.375	3.406	2875	109.14	60.33	86.51	4.312	2.750	4.375	4.500	3.156	4.250	3437	3250	109.52	69.85	111.13	114.30	80.16	107.95
4.594	2.625	3.562	3250	116.69	66.68	90.47	4.812	3.125	4.406	4.469	3.125	4.281	3625	3625	122.22	79.38	111.91	113.51	79.38	108.74
4.812	2.750	3.562	3437	122.22	69.85	90.47	4.938	3.250	4.750	4.938	3.594	4.625	3750	3750	125.43	82.55	120.65	125.43	91.29	117.48
5.000	3.125	3.500	3625	127.00	79.38	88.90	5.125	3.500	4.719	4.531	3.188	4.594	4000	4000	130.18	88.90	119.86	115.09	80.98	116.69
5.171	3.250	3.969	3750	131.34	82.55	100.81	5.625	3.750	4.688	4.719	3.312	4.562	4437	4312	142.88	95.25	119.08	119.86	84.12	115.87
5.391	3.500	3.562	4000	136.93	88.90	90.47	5.812	4.000	4.719	4.719	3.312	4.594	4625	4500	147.62	101.60	119.86	119.86	84.12	116.69
5.594	3.750	3.625	4437	142.09	95.25	92.08	7.625	5.438	6.562	4.688	3.281	6.438	6000	6000	193.68	138.13	166.67	119.08	83.34	163.53
5.875	4.000	3.625	4625	149.23	101.60	92.08	8.125	5.938	6.688	4.594	3.375	6.562	6500	6500	206.38	150.83	169.88	116.69	85.73	166.67
6.438	4.562	3.625	5250	163.53	115.87	92.08														
7.500	5.438	3.969	6000	190.50	138.13	100.81														
7.969	5.938	3.969	6500	202.41	150.83	100.81														



Dimensional Data

Inches						Millimeters				Inches								Millimeters			
A-3	D-3	F-3	G-3	J-3	Seal Size	A-3	D-3	F-3	G-3	A	D	G	H	Seal Size	A	D	G	H			
Min	Max				QBQ	Min	Max			Min	Max				Min	Max					
2.344	0.938	1.313	3.250	1.188	1500	1500	59.54	23.83	33.35	82.55	30.18			1500	69.06	26.97	71.42	53.98			
2.719	1.125	1.625	3.281	1.500	1750	1750	69.06	28.58	41.28	83.34	38.10			1750	78.59	31.75	71.42	53.98			
2.844	1.250	1.625	3.688	1.500	1875	1875	72.24	31.75	41.28	93.68	38.10			1875	81.76	34.93	84.12	66.68			
2.969	1.375	1.625	3.719	1.500	2000	2000	75.41	34.93	41.28	94.46	38.10			2000	84.94	38.10	88.11	68.28			
3.094	1.500	1.687	4.031	1.562	2125	2125	78.59	38.10	42.85	102.39	39.67			2125	87.33	39.67	96.82	73.81			
3.375	1.750	1.687	4.156	1.562	2375	2375	85.73	44.45	42.85	105.56	39.67			2375	94.46	46.02	97.64	74.63			
3.766	2.000	1.937	4.219	1.812	2625	2625	95.66	50.80	49.20	107.16	46.02			2625	102.39	52.37	96.82	73.81			
4.047	2.312	1.937	4.250	1.812	2875	2875	102.79	58.72	49.20	107.95	46.02			2875	109.14	60.33	98.43	75.41			
4.312	2.562	1.937	4.406	1.812	3125	3250	109.52	65.07	49.20	111.91	46.02			3250	118.26	66.68	103.99	78.59			
4.438	2.688	1.937	4.406	1.812	3250	3437	112.73	68.28	49.20	111.91	46.02			3437	122.22	69.85	103.99	76.99			
4.828	3.062	1.937	4.469	1.812	3625	3625	122.63	77.77	49.20	113.51	46.02			3625	130.18	79.38	103.17	76.20			
4.953	3.188	1.937	4.938	1.812	3750	3750	125.81	80.98	49.20	125.43	46.02			3750	131.37	82.55	115.09	88.11			
5.219	3.438	1.937	4.531	1.812	4000	4000	132.56	87.33	49.20	115.09	46.02			4000	138.13	88.90	104.78	77.77			
5.500	3.688	2.000	4.656	1.875	4250	4437	139.70	93.68	50.80	118.26	47.63			4437	146.05	95.25	107.95	80.98			
5.844	3.938	2.000	4.688	1.875	4500	4625	148.44	100.03	50.80	119.08	47.63			4625	151.61	101.60	107.95	80.98			
6.484	4.500	2.000	4.688	1.875	5125	5250	164.69	114.30	50.80	119.08	47.63			6000	190.50	138.13	107.16	80.16			
7.656	5.375	2.187	5.031	2.062	6000	6000	194.46	136.53	55.55	127.79	52.37			6500	204.77	150.83	109.52	82.55			
8.172	5.875	2.187	5.062	2.062	6625	6500	207.57	149.23	55.55	128.57	52.37										

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