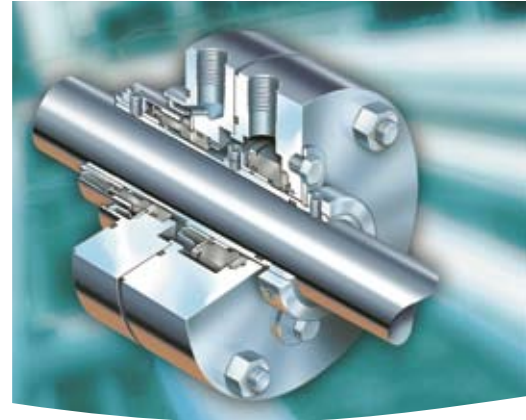




GSL Series

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

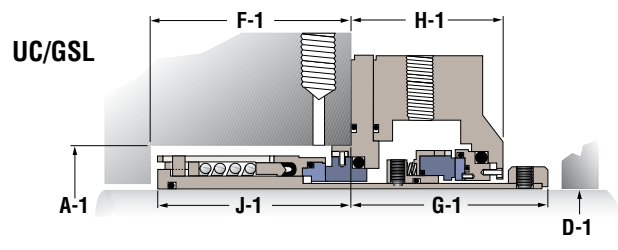
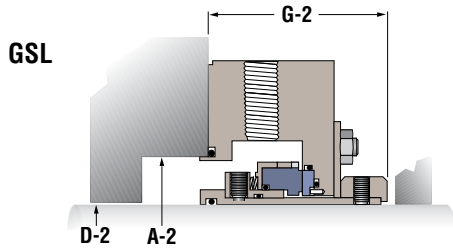
- Silicon carbide seal face utilizes Flowserve Precision Face Topography with a bi-directional wave pattern that narrowly separates the seal faces for long-term, reliable performance.
- Fitted with a contacting or non-contacting inboard seal, the low emission design helps meet the most stringent emissions 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

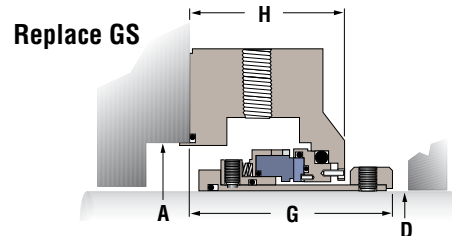
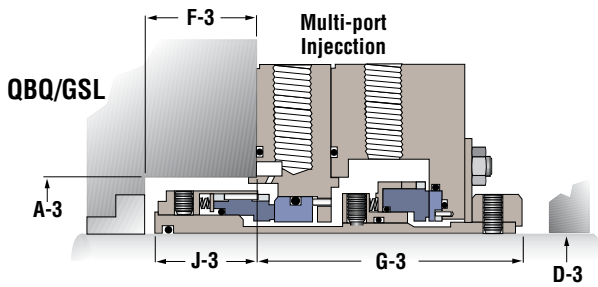
Metal Components	316 Stainless Steel, Alloy C-276, Alloy 20
Rotating Face	Carbon
Stationary Face	Silicon Carbide
Gaskets	Fluoroelastomer, Perfluoroelastomer
Springs	Alloy C-276



Dimensional Data

Inches			Millimeters		
A-2	D-2	G-2	A-2	D-2	G-2
Min	Max	Seal Size	Min	Max	Seal Size
2.594	1.062	2.594	65.89	26.97	65.89
2.984	1.250	2.562	75.79	31.75	65.07
3.109	1.375	2.906	78.97	34.93	73.81
3.250	1.500	2.938	82.55	38.10	74.63
3.375	1.562	3.375	85.73	39.67	85.73
3.719	1.812	3.375	94.46	46.02	85.73
3.875	2.062	3.375	98.43	52.37	85.73
4.297	2.375	3.406	109.14	60.33	86.51
4.594	2.625	3.562	116.69	66.68	90.47
4.812	2.750	3.562	122.22	69.85	90.47
5.000	3.125	3.500	127.00	79.38	88.90
5.171	3.250	3.969	131.34	82.55	100.81
5.391	3.500	3.562	136.93	88.90	90.47
5.594	3.750	3.625	142.09	95.25	92.08
5.875	4.000	3.625	149.23	101.60	92.08
6.438	4.562	3.625	163.53	115.87	92.08
7.500	5.438	3.969	6000	190.50	138.13
7.969	5.938	3.969	6500	202.41	150.83

Inches			Millimeters										
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	Seal Size	Min	Max	Seal Size	Min	Max	Min	Max	Min	Max	Min	
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
2.500	1.250	4.062	3.094	2.250	3.938	1750	1625	63.50	31.75	103.17	78.59	57.15	100.03
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
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
3.125	1.812	3.344	4.188	3.062	3.219	2375	2250	79.38	46.02	84.94	106.38	77.77	81.76
3.625	2.062	3.844	4.156	3.031	3.719	2625	2625	92.08	52.37	97.64	105.56	76.99	94.46
3.938	2.375	4.344	4.219	3.094	4.219	2875	2875	100.03	60.33	110.34	107.16	78.59	107.16
4.312	2.750	4.375	4.500	3.156	4.250	3437	3250	109.52	69.85	111.13	114.30	80.16	107.95
4.812	3.125	4.406	4.469	3.125	4.281	3625	3625	122.22	79.38	111.91	113.51	79.38	108.74
4.938	3.250	4.750	4.938	3.594	4.625	3750	3750	125.43	82.55	120.65	125.43	91.29	117.48
5.125	3.500	4.719	4.531	3.188	4.594	4000	4000	130.18	88.90	119.86	115.09	80.98	116.69
5.625	3.750	4.688	4.719	3.312	4.562	4437	4312	142.88	95.25	119.08	119.86	84.12	115.87
5.812	4.000	4.719	4.719	3.312	4.594	4625	4500	147.62	101.60	119.86	119.86	84.12	116.69
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
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



Dimensional Data

Inches			Millimeters								
A-3	D-3	F-3	G-3	J-3	Seal Size	A-3	D-3	F-3	G-3		
Min	Max	Seal Size	Min	Max	Seal Size	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
2.719	1.125	1.625	3.281	1.500	1750	1750	69.06	28.58	41.28	83.34	38.10
2.844	1.250	1.625	3.688	1.500	1875	1875	72.24	31.75	41.28	93.68	38.10
2.969	1.375	1.625	3.719	1.500	2000	2000	75.41	34.93	41.28	94.46	38.10
3.094	1.500	1.687	4.031	1.562	2125	2125	78.59	38.10	42.85	102.39	39.67
3.375	1.750	1.687	4.156	1.562	2375	2375	85.73	44.45	42.85	105.56	39.67
3.766	2.000	1.937	4.219	1.812	2625	2625	95.66	50.80	49.20	107.16	46.02
4.047	2.312	1.937	4.250	1.812	2875	2875	102.79	58.72	49.20	107.95	46.02
4.312	2.562	1.937	4.406	1.812	3125	3250	109.52	65.07	49.20	111.91	46.02
4.438	2.688	1.937	4.406	1.812	3250	3437	112.73	68.28	49.20	111.91	46.02
4.828	3.062	1.937	4.469	1.812	3625	3625	122.63	77.77	49.20	113.51	46.02
4.953	3.188	1.937	4.938	1.812	3750	3750	125.81	80.98	49.20	125.43	46.02
5.219	3.438	1.937	4.531	1.812	4000	4000	132.56	87.33	49.20	115.09	46.02
5.500	3.688	2.000	4.656	1.875	4250	4437	139.70	93.68	50.80	118.26	47.63
5.844	3.938	2.000	4.688	1.875	4500	4625	148.44	100.03	50.80	119.08	47.63
6.484	4.500	2.000	4.688	1.875	5125	5250	164.69	114.30	50.80	119.08	47.63
7.656	5.375	2.187	5.031	2.062	6000	6000	194.46	136.53	55.55	127.79	52.37
8.172	5.875	2.187	5.062	2.062	6625	6500	207.57	149.23	55.55	128.57	52.37

Inches			Millimeters					
A	D	G	H	Seal Size	A	D	G	H
Min	Max	Min	Max	Min	Max	Min	Max	Min
2.719	1.062	2.812	2.125	1500	69.06	26.97	71.42	53.98
3.094	1.250	2.812	2.125	1750	78.59	31.75	71.42	53.98
3.219	1.375	3.312	2.625	1875	81.76	34.93	84.12	66.68
3.344	1.500	3.469	2.688	2000	84.94	38.10	88.11	68.28
3.438	1.562	3.812	2.906	2125	87.33	39.67	96.82	73.81
3.719	1.812	3.844	2.938	2375	94.46	46.02	97.64	74.63
4.031	2.062	3.812	2.906	2625	102.39	52.37	96.82	73.81
4.297	2.375	3.875	2.969	2875	109.14	60.33	98.43	75.41
4.656	2.625	4.094	3.094	3250	118.26	66.68	103.99	78.59
4.812	2.750	4.094	3.031	3437	122.22	69.85	103.99	76.99
5.125	3.125	4.062	3.000	3625	130.18	79.38	103.17	76.20
5.172	3.250	4.531	3.469	3750	131.37	82.55	115.09	88.11
5.438	3.500	4.125	3.062	4000	138.13	88.90	104.78	77.77
5.750	3.750	4.250	3.188	4437	146.05	95.25	107.95	80.98
5.969	4.000	4.250	3.188	4625	151.61	101.60	107.95	80.98
7.500	5.438	4.219	3.156	6000	190.50	138.13	107.16	80.16
8.062	5.938	4.312	3.250	6500	204.77	150.83	109.52	82.55

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USA and Canada

Kalamazoo, Michigan USA
 Telephone: 1 269 381 2650
 Telefax: 1 269 382 8726

Europe, Middle East, Africa

Roosendaal, The Netherlands
 Telephone: 31 165 581400
 Telefax: 31 165 554590

Asia Pacific

Singapore
 Telephone: 65 6544 6800
 Telefax: 65 6214 0541

Latin America

Mexico City
 Telephone: 52 55 5567 7170
 Telefax: 52 55 5567 4224