

# QB-Lube

The QB-Lube Groove seal is a single pusher seal designed specifically for hot water services where cooling water is not available. Pre-engineered for moderate pressure boiler feed and boiler circulation pumps with higher reliability and longer life than conventional seals.

## Features/Benefits

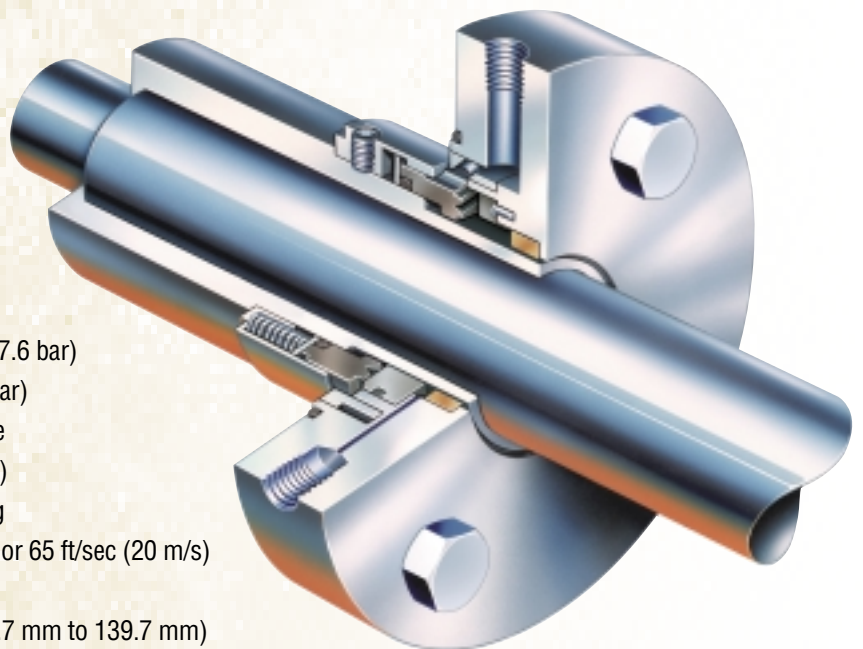
- No external cooling required - eliminates cooling water, heat exchangers, and associated support systems.
- Lube Groove feature uses tangential grooves cut into the rotating face to modify the pressure gradient across the seal faces - allows a stable fluid condition to be developed, enabling the seal to operate at much higher temperatures than conventional seals.
- Part interchangeability between conventional QB seals- minimizes parts required in inventory.
- Compact design - can be furnished as a cartridge assembly and fits most API and ANSI big bore pumps.
- Multiport flush option distributes API Plan 11 flow around seal faces - improves heat dissipation for uniform face cooling.
- Springholder pumping ring design - patented design flushes spring area.

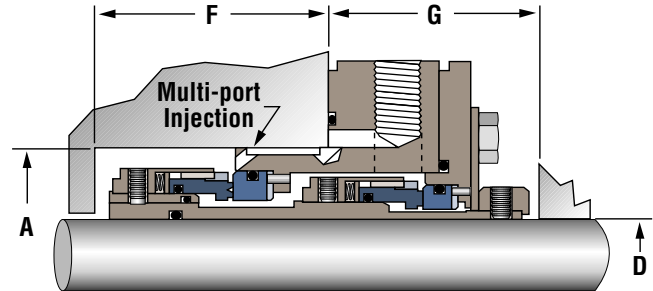
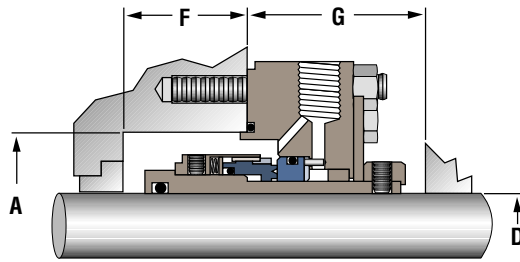
## Materials of Construction

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

## Operating Parameters

- Pressure: Maximum 255 psi (17.6 bar)  
Minimum 29 psi (2 bar) above vapor pressure
- Temperature: Up to 340° F (170° C) water without cooling
- Speed: Maximum 3600 rpm or 65 ft/sec (20 m/s)  
Minimum 750 rpm
- Shaft Sizes: 0.500" to 5.500" (12.7 mm to 139.7 mm)
- API Piping Plan: 11 (21 at temperatures exceeding 340° F or 170° C)





**Dimensional Data** (dimensions in inches)

Seal Size	A Min	D Max	F Min	G Min	Seal Size	A Min	D Max	F Min	G Min
0875	1.718	0.500	1.406	2.031	0875	1.844	0.500	2.469	2.500
0937	1.750	0.563	1.406	2.031	0937	1.969	0.563	2.531	2.500
1000	1.843	0.625	1.406	2.031	1000	2.219	0.625	2.594	2.500
1125	1.968	0.750	1.468	2.031	1125	2.594	0.750	2.969	2.500
1250	2.093	0.813	1.437	2.063	1250	2.719	0.813	2.969	2.625
1375	2.218	0.875	1.437	2.063	1375	2.844	0.875	3.344	2.750
1500	2.343	1.000	1.437	2.219	1500	2.969	1.000	3.344	2.750
1625	2.593	1.125	1.781	2.219	1625	3.094	1.125	3.406	2.781
1750	2.718	1.250	1.781	2.219	1750	3.219	1.250	3.406	2.906
1875	2.843	1.375	1.718	2.375	1875	3.344	1.375	3.594	2.906
2000	2.968	1.500	1.937	2.500	2000	3.469	1.500	3.594	2.906
2125	3.156	1.625	2.000	2.500	2125	3.766	1.625	3.906	2.906
2250	3.281	1.750	2.000	2.500	2250	3.891	1.750	3.906	2.906
2375	3.406	1.875	1.968	2.594	2375	4.016	1.875	4.156	2.906
2500	3.531	2.000	1.968	2.594	2500	4.141	2.000	4.156	2.906
2625	3.843	2.125	2.250	2.625	2625	4.266	2.125	4.156	2.906
2750	3.968	2.250	2.250	2.625	2750	4.391	2.250	4.156	3.063
2875	4.093	2.375	2.250	2.625	2875	4.516	2.375	4.281	3.063
3000	4.218	2.500	2.250	2.781	3000	4.625	2.500	4.281	3.063
3125	4.343	2.625	2.250	2.781	3125	4.766	2.625	4.281	3.125
3250	4.468	2.750	2.250	2.781	3250	4.891	2.750	4.281	3.125
3375	4.593	2.875	2.250	2.906	3375	5.000	2.875	4.281	3.125
3500	4.687	3.000	2.156	3.000	3500	5.125	3.000	4.281	3.125
3625	4.843	3.125	2.156	3.000	3625	5.375	3.125	4.406	3.125
3750	4.968	3.250	2.125	3.031	3750	5.500	3.250	4.406	3.125
3875	5.062	3.375	2.125	3.031	3875	5.625	3.375	4.500	3.188
4000	5.187	3.500	2.125	3.031	4000	5.750	3.500	4.500	3.188
4125	5.562	3.625	2.218	3.188	4125	5.875	3.625	4.500	3.219
4250	5.687	3.750	2.218	3.188	4250	6.000	3.750	4.500	3.219
4375	5.812	3.875	2.218	3.219	4375	6.125	3.875	4.500	3.219
4500	5.937	4.000	2.218	3.219	4500	6.250	4.000	4.500	3.219
4625	6.062	4.125	2.125	3.313	4625	6.375	4.125	4.500	3.219
4750	6.187	4.250	2.125	3.313	4750	6.750	4.250	4.688	3.219
4875	6.312	4.375	2.125	3.313	4875	6.875	4.375	4.688	3.219
5000	6.437	4.500	2.125	3.313	5000	7.000	4.500	4.875	3.219
5125	6.562	4.625	2.125	3.313	5125	7.125	4.625	4.875	3.219
5250	6.937	4.750	2.312	3.313	5250	7.250	4.750	4.875	3.219
5375	7.062	4.875	2.312	3.313	5375	7.375	4.875	4.938	3.219
5625	7.312	5.125	2.312	3.313	5625	7.500	5.125	4.938	3.219
5750	7.437	5.250	2.312	3.313	5750	7.750	5.250	4.969	3.531
5875	7.562	5.375	2.437	3.563	5875	7.875	5.375	4.969	3.531
6000	7.687	5.500	2.437	3.563	6000	8.125	5.500	4.969	3.563

Note: For sizes and conditions not listed, contact your local Flowserve Representative.

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