

# QBQ

A balanced multi-spring pusher seal for low emission light hydrocarbon services with specific gravities down to 0.45 utilizing multi-port flush. This proven design reduces the need for multiple seals to comply with low emissions regulations. The QBQ is also available in tandem and double seal configurations and meets API 682 requirements.

## Features/Benefits

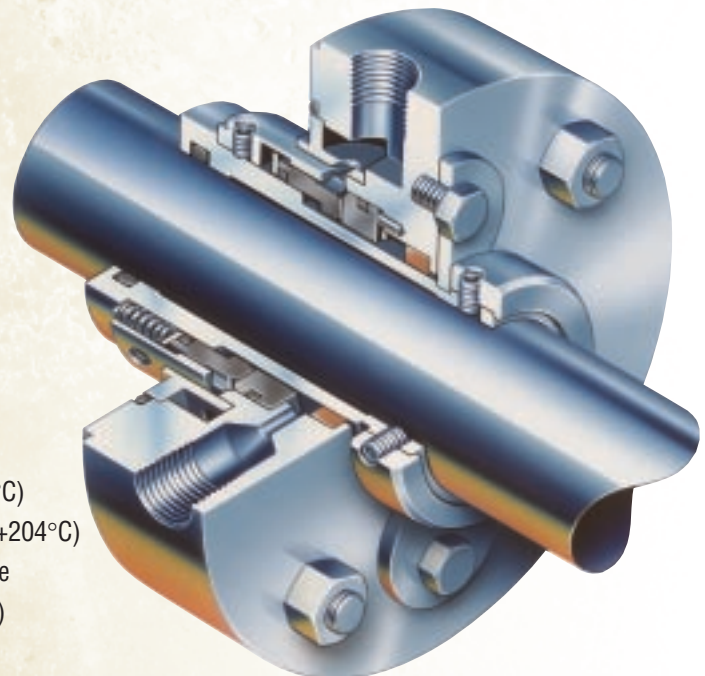
- **Largest number of refinery low emission installations** - provides proven low emission performance
- **Single QBQ seal emission rate less than 500ppm** - facilitates compliance with most emission regulations
- **Increased seal balance ratio and reduced face area** - suppresses product flashing and minimizes face heat generation
- **Premium laboratory tested face materials** - using stronger metal-impregnated carbon structure and high quality silicon carbide mating face provides improved heat dissipation characteristics
- **Heavy-duty rotating face design** - minimizes distortion at high pressure
- **Seals furnished with multi-port injection** - improves heat dissipation, providing uniform face cooling and improved MTBF performance in light hydrocarbon service
- **Compact design** - can be furnished as a cartridge assembly and fits most API and ANSI big bore pumps
- **Standard line of floating carbon throat bushings available** - helps to meet suppression requirements of API 682
- **QBQ is a modification of an existing seal** - provides high degree of parts interchangeability with conventional QB seals

## Materials of Construction

- Metal Parts: AISI 316 Stainless Steel, Alloy C-276
- Rotating Face: Metal Impregnated Carbon
- Stationary Face: Silicon Carbide, Tungsten Carbide
- Gasketing: Nitrile, Fluoroelastomer  
Perfluoroelastomer
- Springs: Alloy C-276

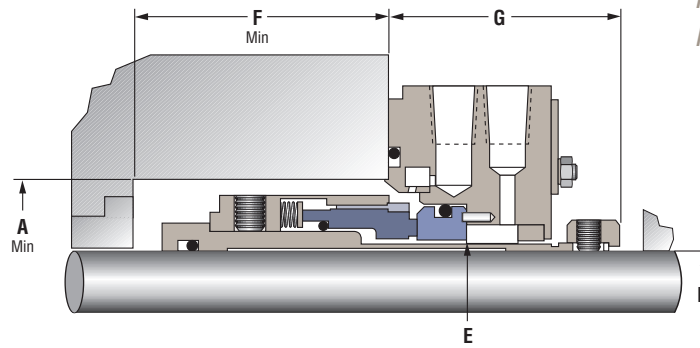
## Operating Parameters

- Pressure: Up to 750 psig (5170 kPa)
- Temperature:\*
  - Water or Water Solution: 32°F to 275°F (0°C to 135°C)
  - Other Liquids: -40°F to +400°F (-40°C to +204°C)
- Liquids: Corrosive and Noncorrosive
- Peripheral Speed: Up to 75 ft/sec. (23 m/sec.)
- Specific Gravity: .45 and higher
- Shaft Sizes: 1/2" through 5-1/2" (12mm through 140mm)



\*Depending on materials selected

BW Seals  
 Durametallic Seals  
 Pacific Wietz Seals  
 Pac-Seal



**Dimensional Data**

Inches					Seal Size	Metric (mm)				
A Min	D Max	E	F Min	G		A Min	D Max	E	F Min	G
1.718	0.500	0.750	1.406	2.031	0875	43.66	12.70	19.05	35.72	51.59
1.750	0.563	0.812	1.406	2.031	0937	44.45	14.27	20.62	35.72	51.59
1.843	0.625	0.875	1.406	2.031	1000	46.83	15.88	22.23	35.72	51.59
1.968	0.750	1.000	1.468	2.031	1125	50.01	19.05	25.40	37.31	51.59
2.093	0.813	1.062	1.437	2.063	1250	53.18	20.62	26.97	36.51	52.39
2.218	0.875	1.125	1.437	2.063	1375	56.36	22.23	28.58	36.51	52.39
2.343	1.000	1.250	1.437	2.219	1500	59.53	25.40	31.75	36.51	56.36
2.593	1.125	1.375	1.781	2.219	1625	65.88	28.58	34.93	45.24	56.36
2.718	1.250	1.500	1.781	2.219	1750	69.06	31.75	38.10	45.24	56.56
2.843	1.375	1.625	1.718	2.375	1875	72.23	34.93	41.28	43.66	60.33
2.968	1.500	1.750	1.937	2.500	2000	75.41	38.10	44.45	49.21	63.50
3.156	1.625	1.875	2.000	2.500	2125	78.58	41.28	47.63	50.80	63.50
3.281	1.750	2.000	2.000	2.500	2250	81.76	44.45	50.80	50.80	63.50
3.406	1.875	2.125	1.968	2.594	2375	84.93	47.63	53.98	50.01	65.88
3.531	2.000	2.250	1.968	2.594	2500	88.11	50.80	57.15	50.01	65.88
3.843	2.125	2.375	2.250	2.625	2625	96.04	53.98	60.33	57.15	66.68
3.968	2.250	2.500	2.250	2.625	2750	99.22	57.15	63.50	57.15	66.68
4.093	2.375	2.625	2.250	2.625	2875	102.39	60.33	66.68	57.15	66.68
4.218	2.500	2.750	2.250	2.781	3000	105.57	63.50	69.85	57.15	70.64
4.343	2.625	2.875	2.250	2.781	3125	108.74	66.68	73.03	57.15	70.64
4.468	2.750	3.000	2.250	2.781	3250	111.92	69.85	76.20	57.15	70.64
4.593	2.875	3.125	2.250	2.906	3375	115.09	73.03	79.38	57.15	73.82
4.687	3.000	3.250	2.156	3.000	3500	117.48	76.20	82.55	54.77	76.20
4.843	3.125	3.375	2.156	3.000	3625	121.44	79.38	85.73	54.77	76.20
4.968	3.250	3.500	2.125	3.031	3750	124.62	82.55	88.90	53.98	76.99
5.062	3.375	3.625	2.125	3.031	3875	127.00	85.73	92.08	53.98	76.99
5.187	3.500	3.750	2.125	3.031	4000	130.18	88.90	95.25	53.98	76.99
5.562	3.625	3.875	2.218	3.188	4125	136.53	92.08	98.43	56.36	80.96
5.687	3.750	4.000	2.218	3.188	4250	139.70	95.25	101.60	56.36	80.96
5.812	3.875	4.125	2.218	3.219	4375	142.88	98.43	104.78	56.36	81.76
5.937	4.000	4.250	2.218	3.219	4500	146.05	101.60	107.95	56.36	81.76
6.062	4.125	4.375	2.125	3.313	4625	149.23	104.78	111.13	53.98	84.14
6.187	4.250	4.500	2.125	3.313	4750	152.40	107.95	114.30	53.98	84.14
6.312	4.375	4.625	2.125	3.313	4875	155.58	111.13	117.48	53.98	84.14
6.437	4.500	4.750	2.125	3.313	5000	158.75	114.30	120.65	53.98	84.14
6.562	4.625	4.875	2.125	3.313	5125	161.93	117.48	123.83	53.98	84.14
6.937	4.750	5.000	2.312	3.313	5250	171.45	120.65	127.00	58.74	84.14
7.062	4.875	5.125	2.312	3.313	5375	174.63	123.83	130.18	58.74	84.14
7.187	5.000	5.250	2.312	3.313	5500	177.80	127.00	133.35	58.74	84.14
7.312	5.125	5.375	2.312	3.313	5625	180.98	130.53	136.53	58.74	84.14
7.437	5.250	5.500	2.312	3.313	5750	184.15	133.35	139.70	58.74	84.14
7.562	5.375	5.625	2.437	3.563	5875	187.33	136.53	142.88	61.91	90.49
7.687	5.500	5.750	2.437	3.563	6000	190.50	139.70	146.05	61.91	90.49

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**Primary Worldwide Flow Solutions Division Locations**

*Licensees, authorized agents, and affiliated companies located worldwide.*

**United States**  
 Kalamazoo, MI  
 Phone 616-381-2650  
 Fax 616-381-8368

**Temecula, CA**  
 Phone 909-676-5662  
 Fax 909-308-4495

**Canada**  
 Edmonton, Alberta  
 Phone 708-463-7958  
 Fax 708-450-1241

**Canada**  
 Scarborough, Ontario  
 Phone 416-292-2877  
 Fax 416-292-5190

**Netherlands**  
 Roosendaal  
 Phone 31-165-581-400  
 Fax 31-165-552-622

**Argentina**  
 Mendoza  
 Phone 54-261-427-2300  
 Fax 54-261-427-2524

**Singapore**  
 Phone 65-746-4318  
 Fax 65-747-1963

**Mexico**  
 Tlaxcala  
 Phone 52-2-461-6791  
 Fax 52-2-461-6847

**Brazil**  
 Sao Paulo  
 Phone 55-11-4066-8600  
 Fax 55-11-4066-7014

**Japan**  
 Osaka  
 Phone 81-720-85-5571  
 Fax 81-720-85-5575

**Germany**  
 Dortmund  
 Phone 49-231-6964-0  
 Fax 49-231-6964-248

**Australia**  
 Marayong NSW  
 Phone 61-2-8822-7100  
 Fax 61-2-9679-7511