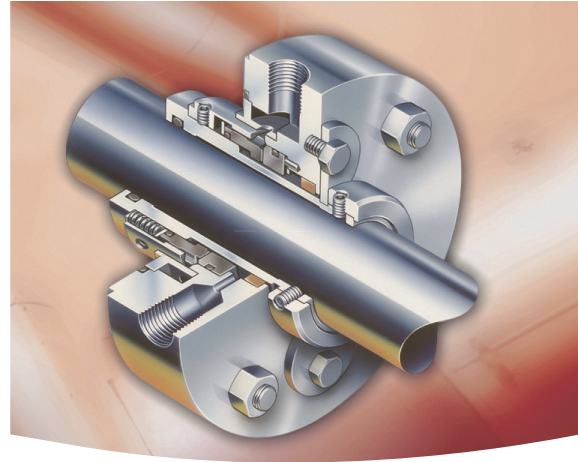


QB Series

Balanced pusher seals

QB Series seals are balanced pusher seals available in single and dual seal configurations used for sealing environmentally-restricted products and meeting the most stringent regulations. The QB Series is fully compliant with API 682/ISO 21049 Type A requirements.



Features and Benefits

- Rugged components in a cartridge design are built for the highest reliability and simple installation on API pumps.
- Heavy duty seal faces remain flat during operation to minimize leakage.
- Multiport flush design improves heat dissipation for uniform face cooling.
- Advanced spring holder pumping ring design flushes spring area.
- Part interchangeability between single and dual seal arrangements minimizes inventory requirements and maximizes design flexibility.

Specialized designs for specific applications

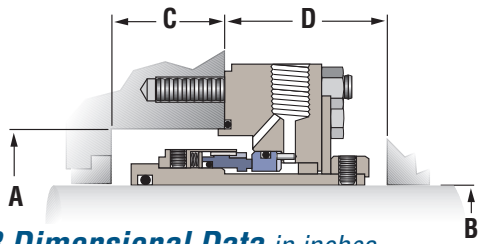
| | |
|--------|---|
| QBQ | High balance face meets lowest hydrocarbon emissions levels, less than 500 ppm |
| QBQ LZ | Wavy face features solve the challenges of low vapor pressure margin light hydrocarbon services |
| QBB | Dual balanced rotating face assembly provide API 682 arrangement 3 reverse pressure capability |
| QBU | Grooved face design improves cooling in hot water applications where cooling water is not available |
| QBS | Single spring design provides the highest resistance to clogging |

Operating Parameters

| | |
|-------------------------|---|
| Pressure | Up to 51.7 bar (750 psig) |
| Temperature | -40 to 204°C (-40 to 400°F) |
| Specific Gravity | 0.4 and higher |
| Surface Speed | Up to 23 m/sec (75 fps) |
| Shaft Sizes | 12.70 to 139.70 mm (0.500 to 5.500 inches) |

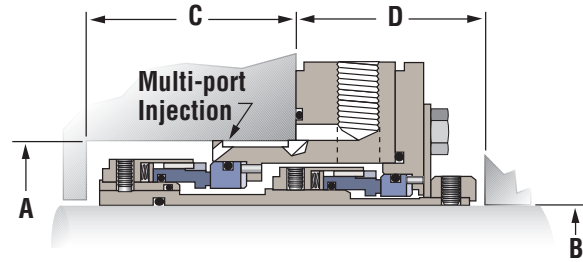
Materials of Construction

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



QB Dimensional Data in inches

| Seal Size | A Min | B Max | C Min | D Min |
|-----------|-------|-------|-------|-------|
| 0875 | 1.718 | 0.500 | 1.406 | 2.031 |
| 0937 | 1.750 | 0.563 | 1.406 | 2.031 |
| 1000 | 1.843 | 0.625 | 1.406 | 2.031 |
| 1125 | 1.968 | 0.750 | 1.468 | 2.031 |
| 1250 | 2.093 | 0.813 | 1.437 | 2.063 |
| 1375 | 2.218 | 0.875 | 1.437 | 2.063 |
| 1500 | 2.343 | 1.000 | 1.437 | 2.219 |
| 1625 | 2.593 | 1.125 | 1.781 | 2.219 |
| 1750 | 2.718 | 1.250 | 1.781 | 2.219 |
| 1875 | 2.843 | 1.375 | 1.718 | 2.375 |
| 2000 | 2.968 | 1.500 | 1.937 | 2.500 |
| 2125 | 3.156 | 1.625 | 2.000 | 2.500 |
| 2250 | 3.281 | 1.750 | 2.000 | 2.500 |
| 2375 | 3.406 | 1.875 | 1.968 | 2.594 |
| 2500 | 3.531 | 2.000 | 1.968 | 2.594 |
| 2625 | 3.843 | 2.125 | 2.250 | 2.625 |
| 2750 | 3.968 | 2.250 | 2.250 | 2.625 |
| 2875 | 4.093 | 2.375 | 2.250 | 2.625 |
| 3000 | 4.218 | 2.500 | 2.250 | 2.781 |
| 3125 | 4.343 | 2.625 | 2.250 | 2.781 |
| 3250 | 4.468 | 2.750 | 2.250 | 2.781 |
| 3375 | 4.593 | 2.875 | 2.250 | 2.906 |
| 3500 | 4.687 | 3.000 | 2.156 | 3.000 |
| 3625 | 4.843 | 3.125 | 2.156 | 3.000 |
| 3750 | 4.968 | 3.250 | 2.125 | 3.031 |
| 3875 | 5.062 | 3.375 | 2.125 | 3.031 |
| 4000 | 5.187 | 3.500 | 2.125 | 3.031 |
| 4125 | 5.562 | 3.625 | 2.218 | 3.188 |
| 4250 | 5.687 | 3.750 | 2.218 | 3.188 |
| 4375 | 5.812 | 3.875 | 2.218 | 3.219 |
| 4500 | 5.937 | 4.000 | 2.218 | 3.219 |
| 4625 | 6.062 | 4.125 | 2.125 | 3.313 |
| 4750 | 6.187 | 4.250 | 2.125 | 3.313 |
| 4875 | 6.312 | 4.375 | 2.125 | 3.313 |
| 5000 | 6.437 | 4.500 | 2.125 | 3.313 |
| 5125 | 6.562 | 4.625 | 2.125 | 3.313 |
| 5250 | 6.937 | 4.750 | 2.312 | 3.313 |
| 5375 | 7.062 | 4.875 | 2.312 | 3.313 |
| 5625 | 7.312 | 5.125 | 2.312 | 3.313 |
| 5750 | 7.437 | 5.250 | 2.312 | 3.313 |
| 5875 | 7.562 | 5.375 | 2.437 | 3.563 |
| 6000 | 7.687 | 5.500 | 2.437 | 3.563 |



| Seal Size | A Min | B Max | C Min | D Min |
|-----------|-------|-------|-------|-------|
| 0875 | 1.844 | 0.500 | 2.469 | 2.500 |
| 0937 | 1.969 | 0.563 | 2.531 | 2.500 |
| 1000 | 2.219 | 0.625 | 2.594 | 2.500 |
| 1125 | 2.594 | 0.750 | 2.969 | 2.500 |
| 1250 | 2.719 | 0.813 | 2.969 | 2.625 |
| 1375 | 2.844 | 0.875 | 3.344 | 2.750 |
| 1500 | 2.969 | 1.000 | 3.344 | 2.750 |
| 1625 | 3.094 | 1.125 | 3.406 | 2.781 |
| 1750 | 3.219 | 1.250 | 3.406 | 2.906 |
| 1875 | 3.344 | 1.375 | 3.594 | 2.906 |
| 2000 | 3.469 | 1.500 | 3.594 | 2.906 |
| 2125 | 3.766 | 1.625 | 3.906 | 2.906 |
| 2250 | 3.891 | 1.750 | 3.906 | 2.906 |
| 2375 | 4.016 | 1.875 | 4.156 | 2.906 |
| 2500 | 4.141 | 2.000 | 4.156 | 2.906 |
| 2625 | 4.266 | 2.125 | 4.156 | 2.906 |
| 2750 | 4.391 | 2.250 | 4.156 | 3.063 |
| 2875 | 4.516 | 2.375 | 4.281 | 3.063 |
| 3000 | 4.625 | 2.500 | 4.281 | 3.063 |
| 3125 | 4.766 | 2.625 | 4.281 | 3.125 |
| 3250 | 4.891 | 2.750 | 4.281 | 3.125 |
| 3375 | 5.000 | 2.875 | 4.281 | 3.125 |
| 3500 | 5.125 | 3.000 | 4.281 | 3.125 |
| 3625 | 5.375 | 3.125 | 4.406 | 3.125 |
| 3750 | 5.500 | 3.250 | 4.406 | 3.125 |
| 3875 | 5.625 | 3.375 | 4.500 | 3.188 |
| 4000 | 5.750 | 3.500 | 4.500 | 3.188 |
| 4125 | 5.875 | 3.625 | 4.500 | 3.219 |
| 4250 | 6.000 | 3.750 | 4.500 | 3.219 |
| 4375 | 6.125 | 3.875 | 4.500 | 3.219 |
| 4500 | 6.250 | 4.000 | 4.500 | 3.219 |
| 4625 | 6.375 | 4.125 | 4.500 | 3.219 |
| 4750 | 6.750 | 4.250 | 4.688 | 3.219 |
| 4875 | 6.875 | 4.375 | 4.688 | 3.219 |
| 5000 | 7.000 | 4.500 | 4.875 | 3.219 |
| 5125 | 7.125 | 4.625 | 4.875 | 3.219 |
| 5250 | 7.250 | 4.750 | 4.875 | 3.219 |
| 5375 | 7.375 | 4.875 | 4.938 | 3.219 |
| 5625 | 7.500 | 5.125 | 4.938 | 3.219 |
| 5750 | 7.750 | 5.250 | 4.969 | 3.531 |
| 5875 | 7.875 | 5.375 | 4.969 | 3.531 |
| 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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