

HSH

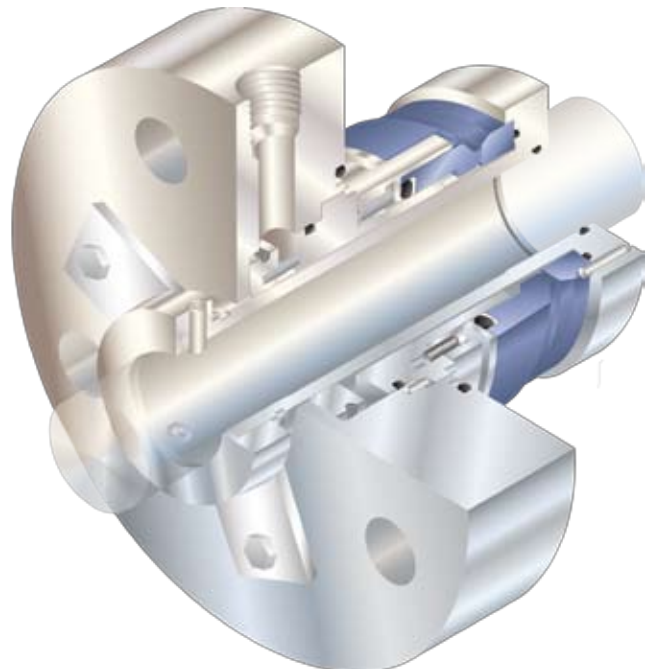
Balanced pusher seal

HSH seals are built for extended reliability in high pressure, high speed and highly viscous services such as mainline crude oil pipeline pumps. HSH seals are balanced, flexible stator cartridge seals with drive mechanisms and seal face geometries engineered for high torque loads and long-term performance.



Features and Benefits

- Thick cross-section seal faces are designed with proven FEA techniques to minimize deflections and stresses for reliable, low-leakage operation.
- High torque-capable anti-rotation lugs along the length of the stationary seal face distribute contact loads, minimize distortion and minimize wear especially for high-viscosity applications.
- Block-style rotating seal face is mounted squarely against a lapped support surface and driven by equally distributed pins to stabilize the effects of mechanical and thermal loads.
- Containment device arrangements help safely direct process leakage to the drain and allow instrumentation connections for seal condition monitoring.
- Flexible stator design with alloy springs allows high speed operation and is better able to tolerate out-of-square misalignment of the pump shaft to seal chamber face.
- Hard-coated balance shoulder resists O-ring fretting while the dynamic O-ring absorbs minor tracking requirements.
- Cartridge seal assembly simplifies seal installation and every seal is pressure tested to facilitate trouble-free startup.



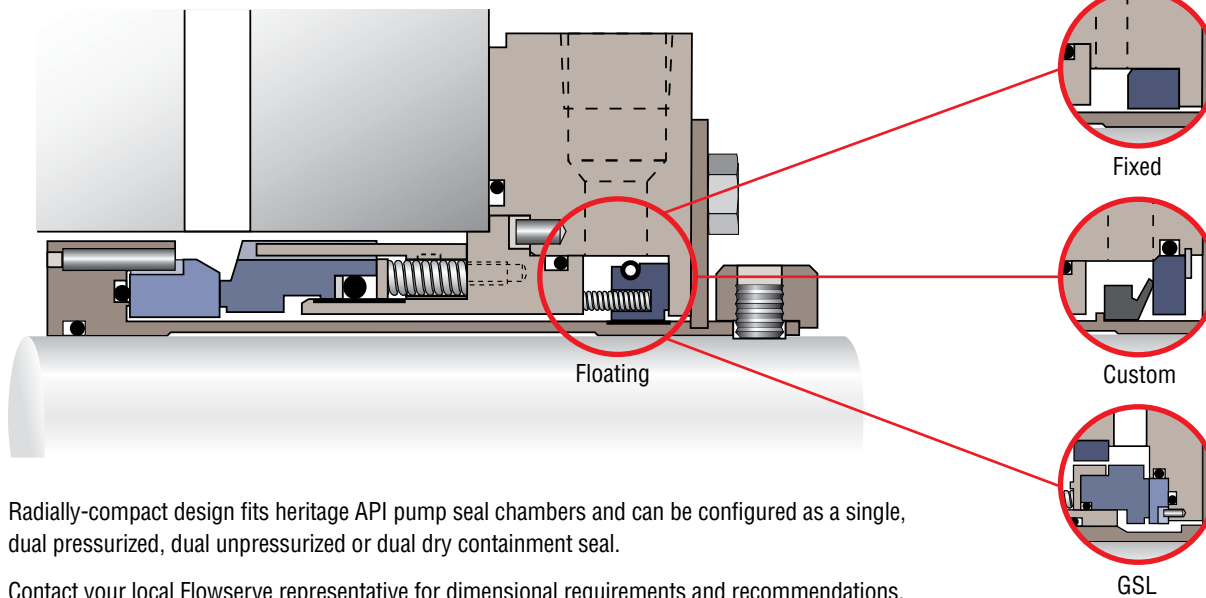
Operating Parameters

Pressure	Up to 103.4 bar (1500 psi)
Temperature	-40° to 204°C (-40° to 400°F)
Specific Gravity	0.45 and higher
Surface Speed	Up to 46 m/s (150 fps)
Shaft Size	38.1 to 178 mm (1.500 to 7.000 inches)

Materials of Construction

Rotating Face	Silicon Carbide, Tungsten Carbide
Stationary Face	Silicon Carbide, Carbon
Metal Components	316 Stainless Steel, 17-4 PH Stainless Steel, Alloy C-276
Gaskets	Fluoroelastomer, Glass-filled PTFE, Perfluoroelastomer, Nitrile, EPDM
Springs	Alloy C-276
Bushing	Carbon

Containment Devices



Radially-compact design fits heritage API pump seal chambers and can be configured as a single, dual pressurized, dual unpressurized or dual dry containment seal.

Contact your local Flowserve representative for dimensional requirements and recommendations.

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and find out more about Flowserve Corporation
visit www.flowserve.com

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

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