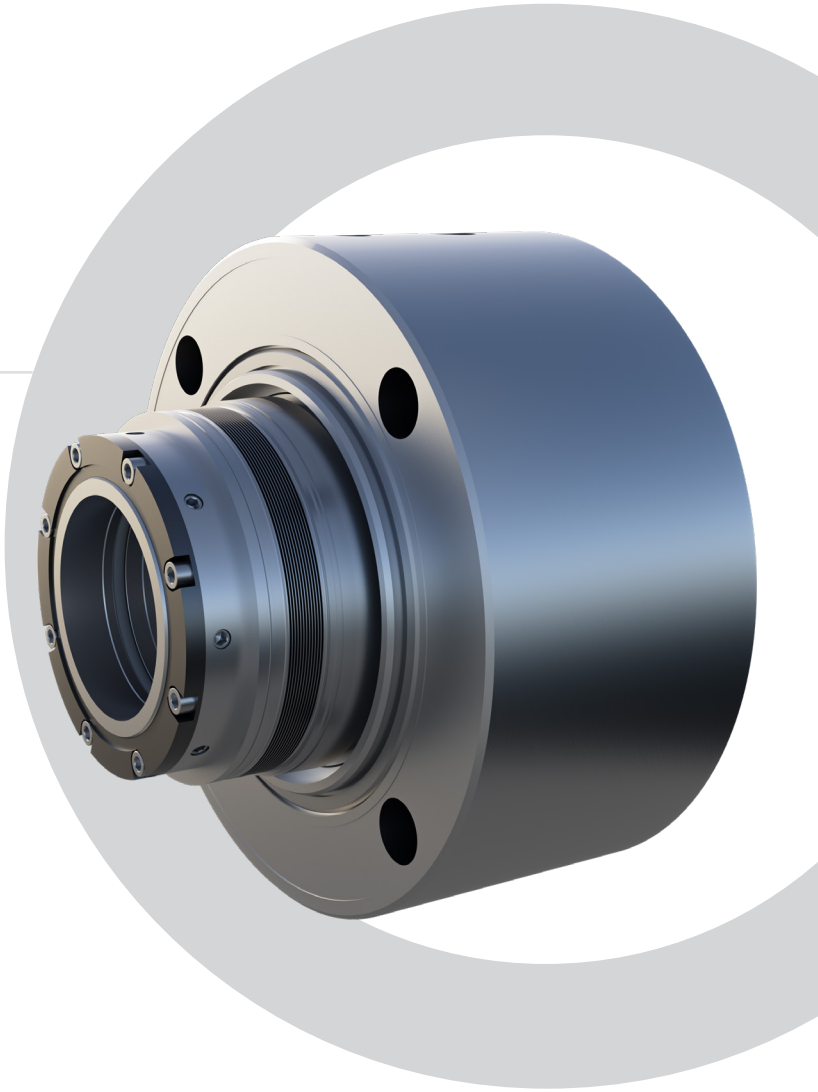
Type 2874HTC

Non-elastomeric dual gas-lubricated metal bellows cartridge seal



Design benefits

Increase reliability
Non-contacting design eliminates wear and reduces unplanned downtime.

Improve energy efficiency
Friction-free operation lowers power consumption and improves performance.

Reduce total cost of ownership (TCO)
Reduced installation, maintenance and replacement costs over time.

Decrease operating and maintenance costs
Minimal support systems and maintenance requirements lower ongoing spend.

Improve sustainability credentials
Helping reduce emissions and energy consumption to support lower environmental impact.

Exceptional seal face stability and robustness
Stable, wear-resistant design performs reliably in harsh conditions.

Superior design for high-temperature, corrosive applications
Built to withstand extreme temperatures and aggressive process fluids.

Product description

The Type 2874HTC is a non-elastomeric, dual gas-lubricated metal bellows cartridge seal. It combines unique High-Temperature Corrosion Resistant (HTC) technology with non-contacting spiral groove seal face technology to seal hot and cold hydrocarbons and hazardous process fluids.

The Type 2874HTC can lower costs and energy consumption to help meet economic and environmental goals. API 682 qualified, it empowers safer, more efficient operations and is ideal for oil and gas, petrochemical and chemical industries.

Robust, efficient and reliable sealing

The Type 2874HTC is a self-contained, pre-assembled metal bellows cartridge seal designed for reliability and ease of installation. Its unique design incorporates advanced features that set it apart - each engineered to deliver exceptional performance.

HTC edge-welded metal bellows for high-temperature uptime
High-precision, flexible metal bellows, combined with HTC technology, provide superior seal face stability at high temperatures. They ensure excellent corrosion resistance and reduced barrier gas consumption, delivering reliable, efficient performance in demanding process environments.

Non-contacting spiral grooves for longer seal life
Spiral groove technology eliminates frictional heat and face wear, increasing seal life. Unique outward pumping grooves create a highly effective gas-lubricated seal with superior film stiffness and stability in all operating ranges.

Chemically inert, elastomer-free secondary seal for lower costs and reliable performance
The flexible carbon-graphite secondary seals eliminate perfluoroelastomers and associated costs. It provides exceptional seal face stability across a wide temperature range.

Manufactured from advanced materials for superior durability
The Type 2874HTC's seal faces are made from a silicon carbide composite providing exceptional toughness and heat resistance.

This material delivers outstanding corrosion and thermal shock resistance, lowers running temperatures, resists heat checking and chipping to support reliable, longlasting performance in demanding applications. Silicon carbide and tungsten carbide are also available.

Balanced sealing for growth and reverse pressure control
A generous axial float enables hot pumps to accommodate for shaft growth. The design of the seal ensures full containment of the process fluid, in the event of a drop or loss in barrier pressure.

Support systems for API Plan 74 and steam barrier
The minimum seal support system required for the Type 2874HTC is an API Plan 74, typically using pressurised nitrogen or steam as an inert barrier gas to prevent chemical reactions and hazards.

Temperature	Pressure	Speed	Axial movement
-75° to 425°C/ -100° to 800°F	**Process fluid:** N/Ar barrier: Vacuum to 16 barg/230 psig Steam barrier: Vacuum to 14 barg/200 psig **Barrier:** N/Ar barrier: Vacuum to 18 barg/260 psig Steam barrier: Vacuum to 16 barg/230 psig	1450 to 3600 rpm (Outside this range contact John Crane Engineering)	Sizes <40 mm/1.57": ±0.76 mm/0.030" Sizes >40 mm/1.57": ±1.02 mm/0.040"

North America
United States of America
Tel: 1-847-967-2400

Europe
United Kingdom
Tel: 44-1753-224002

Latin America
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