

AST 7023

SINGLE CARTRIDGE SEAL FOR PLAN 23



High Temperature Sealing with Standard Materials

The AST 7023 seal is cooled and isolated from the hot process. Corrosion rates and elastomer compression set are reduced, and precipitation from dissolved solids is minimized.

No Orifice to Clog

The low pressure differential (compared to Plan 21) means that no orifice is required to regulate cooling flow.

Field Rebuildable

No more waiting for seal repairs, and no more worries about installing exchange seals that might have previously held hazardous materials, because the AST 7023 is easy to rebuild on site using standard tools.

Easy Impeller Adjustment

Adjust impeller clearance without removing the seal or dismantling the pump.

- Boiler Feed
- Boiler Circulating
- Hot Hydrocarbons

Liquids pumped near their vapor pressure must be cooled for successful sealing. Hot water, for example, has low lubricity and causes high seal face wear. Flashing can open the seal faces, causing leakage and seal face damage.

API Plan 23 (ANSI Plan 7323) is the most reliable and economical way to cool a seal. The sealed liquid is circulated from the seal chamber (not the pump discharge) through a cooler and back to the seal. Since only the liquid around the seal is cooled, the heat load on the cooler is minimized and process energy is conserved. Cooler fouling is reduced, extending cooler life.

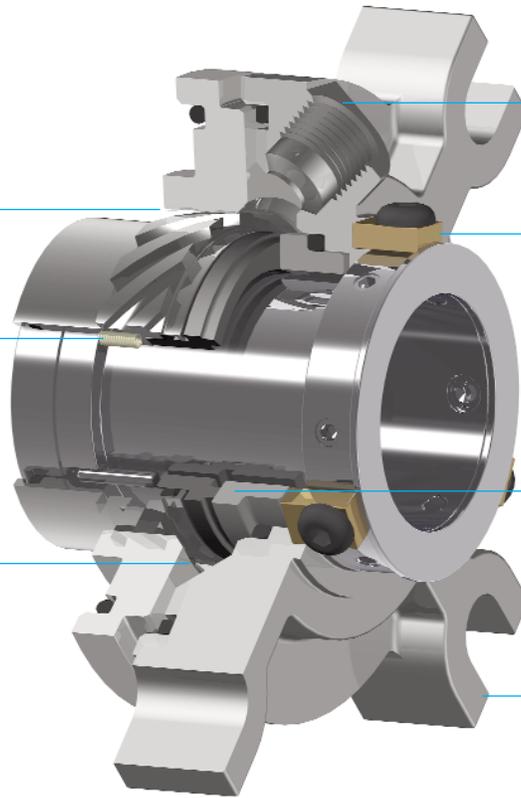
The AST 7023 seal is the off-the-shelf solution for hot liquid sealing. Its built-in pumping ring fits in enlarged bore seal chambers on popular ANSI pumps.

ADVANCED SEALING
TECHNOLOGY

Reliable Sealing for Rotating Equipment



AST 7023



Pumping ring
propels liquid over seal rings
to seal chamber exit port

Springs are isolated
from process fluid reducing
stress corrosion and clogging.

Hydraulically balanced
for longer life and cooler
running.

Gland annulus
extra liquid volume
cools seal rings.

Gland flush port
introduces cooled liquid from
heat exchanger at seal rings.

Metal centering blocks
set radial and axial position of
seal without measurements.

Floating seal rings
are field replaceable and
eliminate shrink-fit distortion.

Piloted gland
fits enlarged bore ANSI
pump seal chambers.

OFF THE SHELF...

AST 7023 seals are available off-the-shelf to fit popular enlarged bore ANSI pumps without modification.

...or ENGINEERED

We design and build special AST 70 seals for vertical turbine pumps, large split case pumps, and other systems that require more than a standard seal. Rebuild parts are still off-the-shelf.

MATERIALS OF CONSTRUCTION

Metal components: 316 Stainless Steel
Rotating seal ring: Carbon-Graphite or Graphite-Loaded Sintered Silicon Carbide
Stationary seal ring: Sintered Silicon Carbide or Tungsten Carbide
Springs: Hastelloy C-276¹
O-rings: Fluoroelastomer, EPDM, Aflas², or Isolast³ perfluoroelastomer

OPERATING LIMITS

Pressure: 400 PSIG (28 bar) maximum to 28 in (710 mm) Hg vacuum, depending on shaft size and speed.
Temperature: To 500°F (260°C), depending on O-ring elastomer limits in fluid sealed

Notes: ¹Trademark of Haynes International Inc., ²Trademark of Asahi Glass Co. Ltd., ³Trademark of Busak+Shamban

**ADVANCED SEALING
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