

**EagleBurgmann®**

Rely on excellence

# Cartex® Seals

*Engineered to provide the  
extra margin of performance*



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# With EagleBurgmann engineering, Cartex<sup>®</sup> seals will provide trouble free performance for years

On average, only 10% of mechanical seals reach the end of their designed lifetime. The other 90% fail mainly due to incorrect operation, installation or selection. Cartex seals are designed with greater attention to functional details like tighter tolerances for more accurate seal operation, more axial movement capability to handle pump shaft movement, seal parts with robust cross sections for optimal seal stability in operation and castings that meet ASTM A 351/351M standards for proven quality.

Cartex mechanical seals are fully preassembled units for standard and large bore seal chambers on centrifugal pumps. They are also ideal for stuffing box conversions from packings, and for use on original equipment without seal chamber modifications. Cartex seal flanges are equipped with all auxiliary piping connections.

## Standardize on Cartex mechanical seals for a wide variety of applications

Whether you require a seal with a flush, quench, liquid barrier or gas injection, Cartex offers both liquid and gas seals to meet your needs. Double seals (ASDN, ABDN) or quench (ASQN/ABQN) and throttle-bushing seals (ASTN/ABTN) are recommended as a safeguard for handling dangerous products. Flush-style seals (ASPN/ABPN) run cool and protect seal faces for longer life. Cartex gas barrier seals (ASGSD/ABGSD) are recommended when “zero product leakage” to the atmosphere is the goal.

All Cartex seals feature interchangeable sealing elements so you can assemble exactly the right seal for your application from a reduced inventory, for fast economical service in the field. In addition, Cartex seals are easier to install and safer to use because they feature improved assembly fixtures. These seals also feature stationary springs safely positioned outside the product to avoid corrosion, monolithic seal faces to increase stability, plus a wide variety of arrangements for various services.

## Cartex-ASGSD and ABGSD double gas seals provide economical, “zero leakage” performance

For applications requiring a double seal, the Cartex gas barrier seals offer an even more reliable alternative. These seals are available in both small bore (ASGSD) and big bore (ABGSD) configurations. The seal faces are gas lubricated and non-contacting with a self-regulating stable gas film. There is no wear, and there is negligible heat generation, so you achieve significantly improved MTBR. In addition, this advanced gas-barrier seal design provides a corresponding 99% reduction of the power consumption when compared to a comparable wet seal.

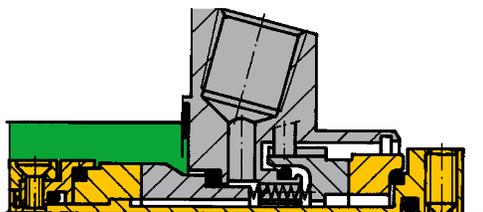
Cartex Product Features and Advantages	Benefits
Extended pressure rating	Forgiving on operational fluctuations
Robust cartridge design	User friendly, reliable performance, long life
Axial/radial assembly fixtures	Facilitates correct installation
Stationary springs isolated from the product	Increased reliability, forgiving of misalignment, resists fatigue & corrosion
Extra heavy duty square pins	Provides distortion free torque transmission to sealing faces
Multi-spring design for even face load, stable sealing gap	Low leakage, long life
Dynamic face o-ring moves to “clean” side, (eliminating face hang-up)	Increased solids handling capability and improved reliability
Monolithic large cross section seal faces resist pressure and thermal distortion	Minimizes leakage, reliable operation
Floating o-ring cushioned seal faces dampens vibration effects	Minimizes leakage, compensates for misalignment & allows faces to track true to each other

# Gas Lubricated

## Cartex-ASGSD and ABGSD Double Gas Seals

A design combination of stationary springs and seal faces pressurized from the inside, **this seal can handle solids up to 3%** in confined seal chambers. Standard bi-directional grooves forgive incorrect electrical motor installation and backflow of product. This seal fits most ANSI seal chambers (standard and enlarged) without modifications or replacement.

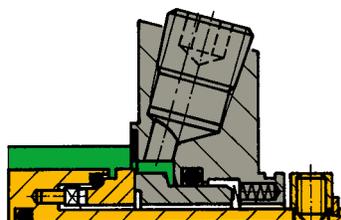
- Rotating
- Stationary



# Liquid Lubricated

## Cartex-ASPN and -ABPN (Single Seal)

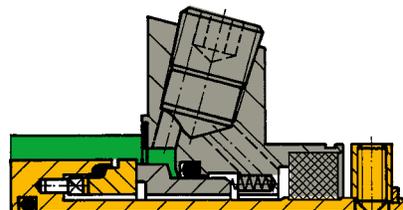
Balanced, bi-directional seals with a flush connection in the flange. Available in small bore (ASPN) and big bore (ABPN) configurations.



## Cartex-ASTN and -ABTN (Single Seal with Bushing)    Cartex-ASQN and -ABQN (Single Seal w/Lip Seal)

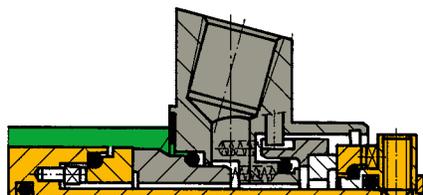
ASTN & ABTN are designed for operating with an internal steam quench. Flange includes a fixed carbon throttle bushing which also acts as a "disaster bushing". In the event of primary seal failure, the bushing holds pressure and the drain port directs leakage to a defined location to provide an additional safety option. Available in small bore (ASTN & ASQN) and big bore (ABTN & ABQN) configurations.

ASQN & ABQN has lip seal in place of throttle bush & allows for using a pressureless liquid internal quench.



## Cartex-ASDN and -ABDN (Double pressurized or Tandem pressureless barrier seal)

Available in small bore (ASDN) and big bore (ABDN) configurations. Patented integrated circulating device for effective cooling. Can be used as double or tandem seal. The double balanced inboard face design ensures that the seal faces remain closed even in the event of buffer pressure failure or pressure reversal.



## Cartex Seal Applications

Conditions	ASGSD	ASTN	ASQN	ASP	ASDN
	ABGSD	ABTN	ABQN	ABPN	ABDN
Volatile media with poor lubricating properties	■	■			■
Media which react with oxygen	■	■	■		■
Low-viscosity media without solids	■	■	■	■	■
Media with solids which are inclined to sedimentation	■	■	■	■	■
Aggressive media	■				■
Media that are harmful to the environment	■				■
Media without environmental pollutants	■	■	■	■	■

## Cartex Seal High-Performance Materials

Seal Component	Cartex-ASP, -ABPN, -ASTN, -ABTN, -ASDN, -ABDN Product Side	Cartex-ASGSD, -ABGSD Product Side
Stationary seal face	Silicon carbide or resin impregnated carbon	Silicon carbide diamond-like with coating
Rotating face	Silicon carbide	Silicon carbide
O-rings	Standard: FPM, e.g. Viton®	Standard: FPM, e.g. Viton®
	Non-standard: EPDM, AFLAS Perfluorocarbon rubber, NBR, Perfluorocarbon, PTFE	Non-standard: EPDM, AFLAS Perfluorocarbon rubber, NBR, Perfluorocarbon, PTFE
Springs	Hastelloy® C-4	Hastelloy® C-4
Flange, sleeve and other metal parts	316 SS, Optional Halar®, Hastelloy® C, Alloy 20, CF8M SS castings; other materials on request	316 SS, Optional Halar®, Hastelloy® C, Alloy 20; other materials on request

Seal Component	Cartex-ASDN, -ABDN Atmospheric Side	Cartex-ASGSDN, -ABGSDN Atmospheric Side
Stationary seal face	Carbon	Silicon carbide
Rotating face	Silicon carbide	Tungsten carbide

Viton® is a DuPont registered trademark.

Hastelloy® is a registered trademark of Haynes International, Inc.

Halar® is a registered trademark of Ausimont USA, Inc.



## Operating Limits

### Gas Seals

#### Cartex-ASGSD and -ABGSD

Sizes, 1.125" to 4" 28 mm to 100 mm

Temp., -5°F to +428°F -20°C to +220°C

Pressure, 190 psi 13 bar

Speed, 53 ft/s 16 m/s

Allowed axial misinstallation:  $\pm 0.047' \pm 1.0$  mm

### Single Liquid Seals

#### Cartex-ASP, -ABPN, -ASTN and -ABTN -ASQN, -ABQN

Sizes, 1" to 4" 25 mm to 100 mm  
Larger Upon Request

Temp., -40°F to +428°F -40°C to +220°C

Pressure, 360 psi 25 bar (silicon carbide/resin impregnated carbon material combination)

Pressure, 230 psi 12 bar (silicon carbide/silicon carbide material combination)

Speed, Carbon/SiC 52.8 ft/s 16 m/s  
SiC/SiC 33 ft/s 10 m/s

Allowed axial misinstallation:  $\pm 0.047' \pm 1.0$  mm  
 $\pm 0.067' \pm 1.5$  mm for 3.000" up

Please observe temperature limits of the O-rings

### Double Liquid Seals

#### Cartex-ASDN and -ABDN

Sizes, 1" to 4" 25 mm to 100 mm  
Larger Upon Request

Temp., -40°F to +428°F -40°C to +220°C

Recommended differential pressure is 20-30 psi.

Speed, Carbon/SiC 52.8 ft/s 16 m/s  
SiC/SiC 33 ft/s 10 m/s

Product Pressure, 290 psi 20 bar (silicon carbide/silicon carbide material combination)  
360 psi 25 bar (silicon carbide/resin impregnated carbon material combination)

Allowed axial misinstallation:  $\pm 0.047' \pm 1.0$  mm  
 $\pm 0.067' \pm 1.5$  mm for 3.000" up

Please observe temperature limits of the O-rings

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