



## SPECIAL DUTY SEALS - DOUBLE CARTRIDGE

### EDP - ETHANOL DOUBLE PUMPER

The **EDP** is a back-to-back, multiple seal assembly that was designed exclusively for sealing abrasive products where positive lubrication is required from an external source without dilution. The design isolates the metal components and prevents abrasive & corrosive pumped products from entering the stuffing box and causing erosion problems that require expensive repair.

#### Bi-Directional Radial Flow Pumping Ring

The pumping ring with tangentially drilled flush ports remove destructive heat from the seal cavity for cooler operation and extended reliability. The EDP is ideal in closed-loop flush systems.

#### Easily Installed

The EDP is a three-piece seal assembly that is pre-assembled and pre-set at the factory. Since the EDP sets externally, mechanics are not required to make critical installation measurements and can make axial adjustments with the equipment on-line.

#### Versatile

Provisions for fitting the seal are made internal to prevent the need to make expensive equipment modifications. Complete dimensional information is required to confirm fit specifications.

#### Isolated Multiple Springs

Multiple springs load evenly for cool operation and are isolated from the product to prevent clogging from suspended solids.

#### Economical & Repairable

Since the product is excluded from the stuffing box, the ESP is an economic alternative to replacement of expensive pump parts damaged by erosion. All sealing components that wear during normal operation can be easily replaced at a fraction of the cost of a new seal making performance of the repaired seal consistent to that of a new seal.



### EDP - SPECIFICATIONS

#### Metal Parts:

Standard metal parts: 316 SS

#### Face Materials:

Standard: High quality chemical grade carbon-graphite and silicon carbide

#### O-ring Materials:

Standard: Viton®, EPR and Aflas™

Optional: Perfluorinated Elastomers

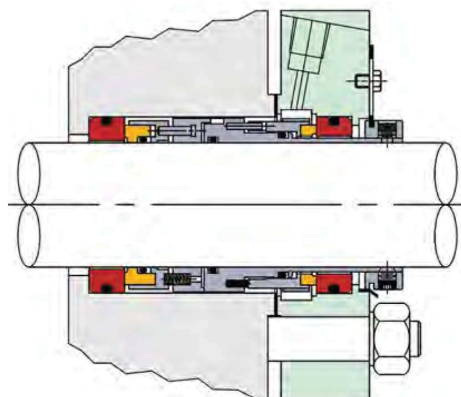
#### Operating Capabilities:

Pressure: 50 psig (3.5 bar g) Maximum Pressure Differential

75 psig (5 bar g) Maximum Pump Discharge Pressure

Temperature: To 250°F (121°C)

Speeds: 5000 fpm (25 m/s)





## SPECIAL DUTY SEALS - DOUBLE CARTRIDGE

### OUS - OVER UNDER SEAL

The SEPCO® OUS mounts externally and is a multiple cartridge-mounted assembly for installation where first obstruction space is limited. It can handle up to 5/32" shaft deflection making it ideal for equipment where movement is excessive. The heavy duty design allows for successful operation where stuffing box pressure operates higher than safely handled by off-the-shelf designs.

#### Rotary or Stationary Design

The OUS is available in both rotary and stationary designs. The rotary is preferred on equipment with excessive shaft deflection and the stationary design where high PV factors are encountered.

#### Hydraulically Balanced

This allows for changes in operating pressures without face separation. Reduced hydraulic loads allow operation on high pressure without reducing lubrication critical for cooler operation.

#### Cartridge Mounted

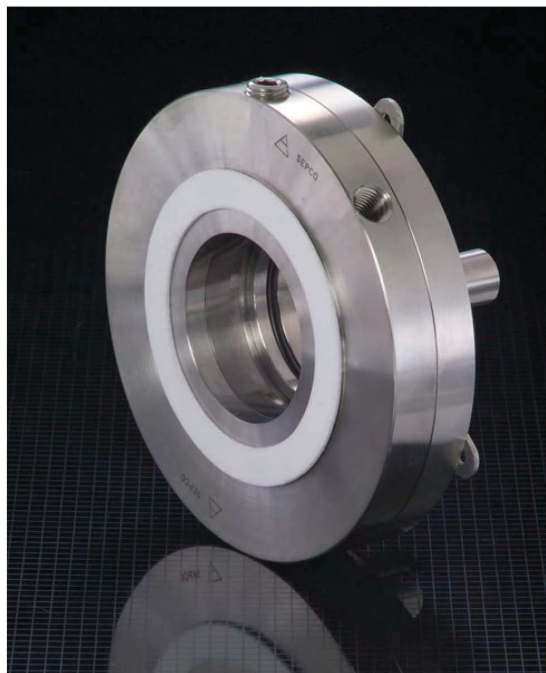
A self-contained unit pre-assembled and pre-set at the factory eases installation and maintenance. When seal leakage occurs, the unique design allows the seal to be slid back and the stuffing box packed to control leakage until an outage can be scheduled.

#### Multiple Seal Design

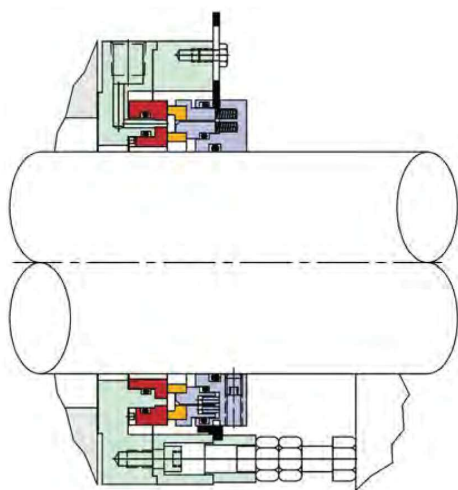
Allows for installation where hazardous, abrasive, non-lubricating products are handled that require injection of a neutral liquid from an external source without diluting the pumped product. The seal can operate in either a double or tandem mode.

#### Isolated Multiple Springs

Multiple springs provide even mechanical loads for cooler operation and are isolated from the pumped product to eliminate clogging from suspended solids.



### OUS - SPECIFICATIONS



#### Metal Parts:

Standard metal parts: 316 SS

#### Face Materials:

Standard: High quality chemical grade carbon-graphite and solid nickel bound tungsten carbide  
Optional: 17-4PH stainless steel.

#### O-ring Materials:

Standard: Viton®, EPR and Aflas™  
Optional: Perfluorinated Elastomers

#### Operating Capabilities:

Pressure: To 750 psig (52 bar g)  
Temperature: -20° to 500°F (-29° to 260°C)  
Speeds: Rotary Design 5000 fpm (25 m/s)  
Stationary Design 7500 fpm (38 m/s)





## SPECIAL DUTY SEALS - DOUBLE CARTRIDGE

### ESD - SPECIFICATIONS

The SEPCO® ESD is a back-to-back, multiple seal assembly designed for applications where positive lubrication is required from an external flush without dilution of product. Since all metal parts are isolated and the pumped product is sealed from the stuffing box, the ESD is an economic solution to sealing extremely corrosive and abrasive fluids.

#### Easily Installed

The ESD is a three-piece seal assembly that is pre-set and pre-assembled at the factory. Since it sets externally, mechanics are not required to make critical installation measurements.

#### Easily Maintained

Equipment disassembly is not required for axial adjustments.

#### Versatile

The ESD is designed for fitting small cross-section stuffing boxes. Its minimal internal length fits different stuffing box depths. These provisions are made internal to the seal preventing the need to make expensive equipment modifications.

#### Multiple Spring Design

This spring design provides even loading for cooler operation and reliability, are isolated from the pumped product to prevent clogging, and made of Hastelloy® C for superior corrosion resistance.

#### Product Isolated from Stuffing Box

The pumped product is sealed from the stuffing box reducing seal hang up while eliminating corrosive and erosive wear.

#### Economical & Repairable

Since all metal components are isolated from the pumped product, expensive alloys are not required. All normal wear components are easily replaced at a fraction of the cost of a new seal while gaining new seal performance.



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### ESD - SPECIFICATIONS

#### Metal Parts:

Standard isolated metal parts and set screws: 316 SS

Standard springs and drive pins: Hastelloy® C

#### Face Materials:

Inboard Standard: Silicon carbide

Outboard Standard: High quality chemical grade carbon-graphite, ceramic, and silicon carbide

#### O-ring Materials:

Standard: Viton®, EPR and Aflas™

Optional: Perfluorinated Elastomers

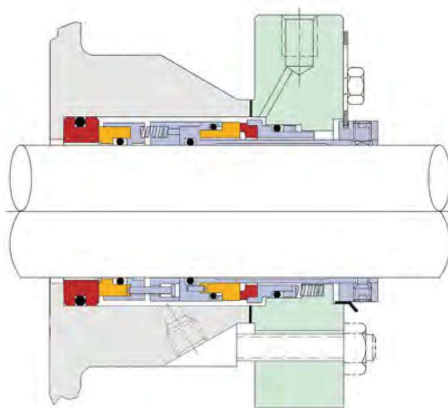
#### Operating Capabilities:

Pressure: 50 psig (3.4 bar g) Maximum Differential Pressure

75 psig (5.2 bar g) Maximum Discharge Pressure

Temperature: -20° to 250°F (-29° to 121°C)

Speeds: 5000 fpm (25 m/s)



800-633-4770



## SPECIAL DUTY SEALS - DOUBLE CARTRIDGE

### PRO - PROGRESSIVE CAVITY PUMP SEAL

The SEPCO® PRO is a multiple, cartridge-mounted, stationary seal designed for installation on progressive cavity pumps without having to make equipment modifications. The stationary design aligns the seal faces 90 degrees to the center-line of the shaft eliminating wear in secondary areas of the seal.

#### Stationary Design

This design squares the seal faces 90° to the center line of the shaft preventing misalignment, giving better control of the parallel sealing gap and eliminating wear in secondary seal areas.

#### Cartridge Mounted

The PRO is a completely self-contained unit pre-assembled and pre-set at the factory for ease of installation and maintenance on equipment where axial adjustments may be required.

#### Versatile

The seal gland is slotted to provide versatility for mounting and machined for superior strength and corrosion resistance. The narrow cross-section inboard design allows for installation on stuffing boxes with minimal radial space.

#### Reciprocal Balanced

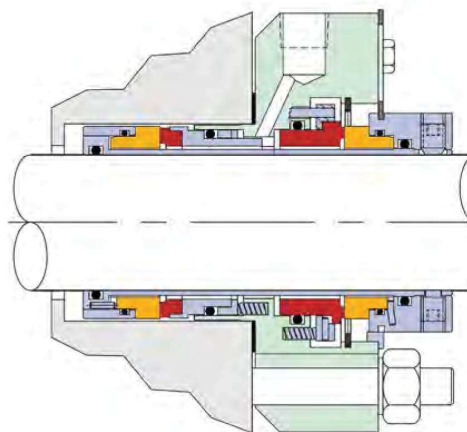
The inboard seal is balanced from both the product side as well as the flush side of the inboard seal faces. The seal can operate in either a tandem or double mode without face separation.

#### Multiple Springs

Multiple springs provide even mechanical loads for cooler operation and are isolated from the pumped product to prevent clogging. They are manufactured from Hastelloy® to provide superior corrosion resistance.



### PRO - SPECIFICATIONS



#### Metal Parts:

Standard metal parts and set screws: 316 SS  
Springs: Hastelloy® C

#### Face Materials:

Standard: High quality chemical grade carbon-graphite, solid nickel bound tungsten carbide, ceramic, and silicon carbide

#### O-ring Materials:

Standard: Viton®, EPR and Aflas™  
Optional: Perfluorinated Elastomers

#### Operating Capabilities:

Pressure: Inboard Seal: 350 psig (24 bar g) Pressure Differential  
Outboard Seal: To 150 psig (10 bar g)  
Temperature: Inboard Seal: To 400°F (205°C)  
Outboard Seal: To 250°F (121°C)  
Speeds: 7500 fpm (38 m/s)





# SPECIAL DUTY SEALS - DOUBLE CARTRIDGE

## DRC - DOUBLE ROTARY CARTRIDGE

The **DRC** is a multiple, cartridge mounted, rotary seal designed to be easily adapted on equipment that is difficult to fit. Although inexpensive, it is rugged and highly dependable. The unit is ideal for installation on positive displacement pumps moving abrasive, sticky products requiring multiple seals operating in conjunction with closed loop systems.

### **Cartridge Mounted**

The DRC is a completely self-contained unit pre-assembled and pre-set at the factory for ease of installation.

### **Reciprocal Balanced**

The inboard seal is hydraulically balanced to permit the seal to operate in either a double or tandem mode. This provides lubrication of the inboard seal faces without separation and leakage.

### **Clamped-In Mating Ring**

Stationaries are clamped in allowing for higher pressure operation

### **Versatile**

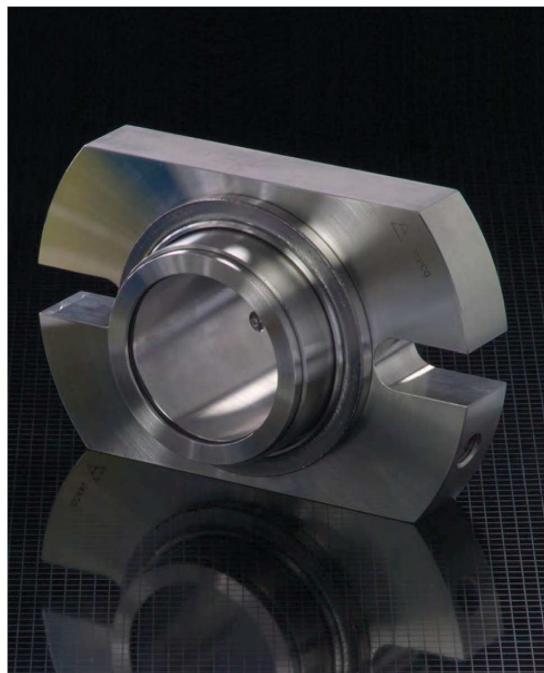
The gland is machined for superior strength and corrosion resistance. Machining allows for modifications within the seal instead of modifying the equipment. The narrow cross-section and short axial length allows use on equipment with limited space.

### **Multiple Springs**

Multiple springs provide even mechanical loads for cooler operation and are isolated to prevent clogging.

### **Static Shaft O-Ring**

The o-ring that seals to the shaft is static and not required to slide axially to adjust for seal face misalignment. This prevents wear and the need to replace expensive shafts.



## DRC - SPECIFICATIONS

### **Metal Parts:**

Standard metal parts: 316 SS

Standard springs and drive pins: Hastelloy® C

### **Face Materials:**

Standard: High quality chemical grade carbon-graphite and  
17-4PH stainless Steel

### **O-ring Materials:**

Standard: Viton®, EPR and Aflas™

Optional: Perfluorinated Elastomers

### **Operating Capabilities:**

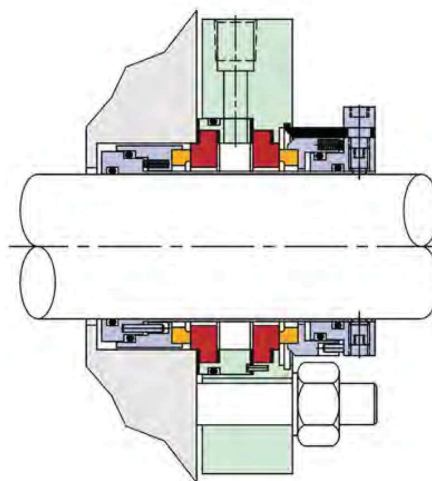
Pressure: Inboard Seal: 350 psig (24 bar g) Pressure Differential

Outboard Seal: To 150 psig (10 bar g)

Temperature: Inboard Seal: To 400°F (205°C)

Outboard Seal: To 250°F (121°C)

Speeds: 5000 fpm (25 m/s)





## SPECIAL DUTY SEALS - DOUBLE CARTRIDGE

### RBA - RECIPROCAL BALANCED AXIAL SEAL

The SEPCO® RBA is a multiple, cartridge mounted seal. The flexible parts are mounted in the gland to reduce centrifugal forces permitting operation on high PV applications. The multiple spring design allows up to 1/16" end-play making the seal ideal for equipment with excessive end-play, split case pumps and where positive lubrication is required from an external source without diluting the pumped product.

#### Stationary Design

This design squares the seal faces 90° to the center line of the shaft preventing misalignment, giving better control of the parallel sealing gap and eliminating wear in secondary seal areas.

#### Cartridge Mounted

The RBA is a completely self-contained unit pre-assembled and pre-set at the factory for ease of installation and maintenance.

#### Versatile

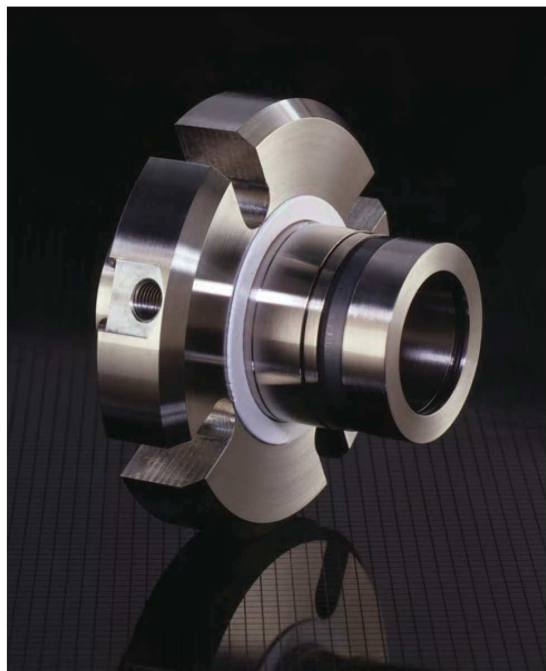
The seal gland is slotted to provide versatility for mounting and machined for superior strength and corrosion resistance. The narrow cross-section inboard design allows for installation on stuffing boxes with minimal radial space.

#### Reciprocal Balanced

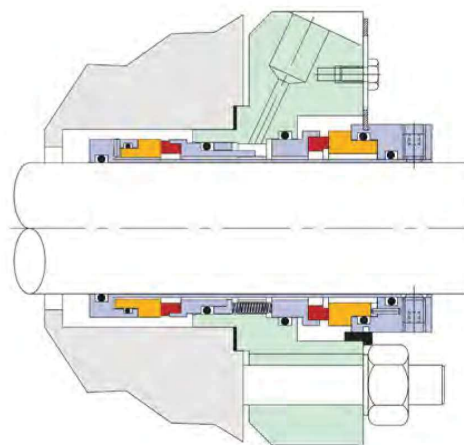
The inboard seal is balanced from the product side as well as the flush side of the inboard seal faces. The RBA can operate in either a tandem or double mode without face separation.

#### Multiple Springs

Multiple springs provide even mechanical loads for cooler operation and are isolated from the pumped product to prevent clogging. They are manufactured from Hastelloy® to provide superior corrosion resistance.



### RBA - SPECIFICATIONS



#### Metal Parts:

Standard metal parts and set screws: 316 SS  
 Springs: Hastelloy® C

#### Face Materials:

Standard: High quality chemical grade carbon-graphite, solid nickel bound tungsten carbide, high-purity ceramic, and silicon carbide

#### O-ring Materials:

Standard: Viton®, EPR and Aflas™  
 Optional: Perfluorinated Elastomers

#### Operating Capabilities:

Pressure: Inboard Seal: 350 psig (24 bar g) Pressure Differential  
 Outboard Seal: To 150 psig (10 bar g)  
 Temperature: Inboard Seal: To 400°F (205°C)  
 Outboard Seal: To 250°F (121°C)  
 Speeds: 7500 fpm (38 m/s)