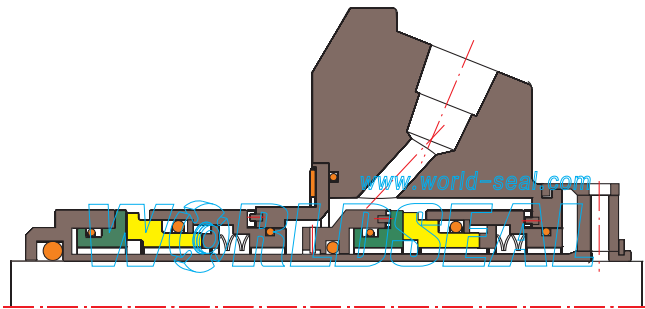


# Dual cartridge mechanical seal catalogue

Dual cartridge can be used in toxic, explosive, volatile, crystalline, high temperature and low temperature working conditions, which can highly improve the working condition and sealing reliability.

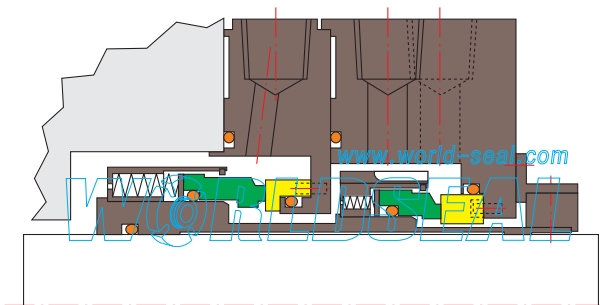
World seal ([www.world-seal.com](http://www.world-seal.com)) is the leading dual cartridge seal designer and manufacturer in the world. Our products can replace worldwide famous manufacturer's dual cartridge seals, we can also design and manufacture according to customers' requirement.

DC-J01



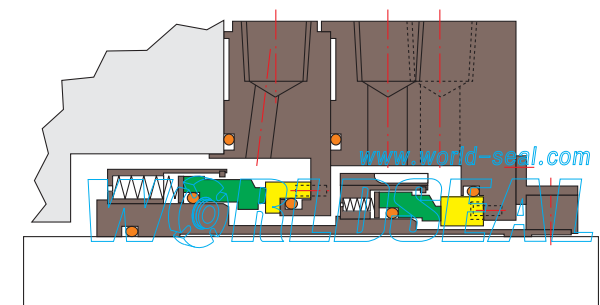
Temperature:  $-30^{\circ}\text{C}\sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$ (shaft diameter  $\leq 75\text{mm}$ )  
 $\leq 1.3\text{MPa}$ (shaft diameter  $> 75\text{mm}$ )  
Speed:  $\leq 25\text{m/s}$

DC-J02



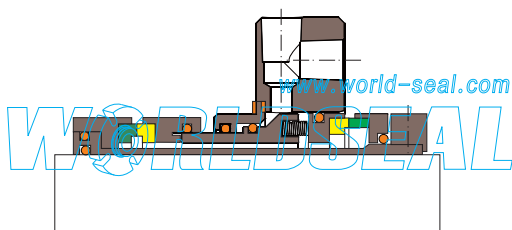
Temperature:  $-30^{\circ}\text{C}\sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$ (shaft diameter  $\leq 75\text{mm}$ )  
 $\leq 1.3\text{MPa}$ (shaft diameter  $> 75\text{mm}$ )  
Speed:  $\leq 25\text{m/s}$

DC-J03



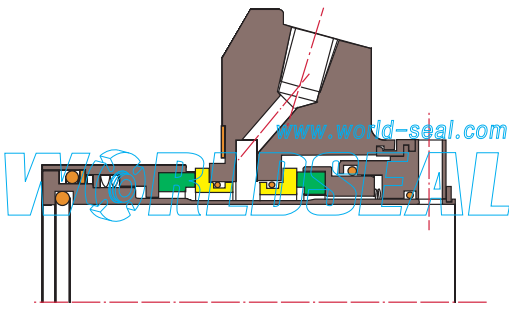
Temperature:  $-30^{\circ}\text{C}\sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$ (shaft diameter  $\leq 75\text{mm}$ )  
 $\leq 1.3\text{MPa}$ (shaft diameter  $> 75\text{mm}$ )  
Speed:  $\leq 25\text{m/s}$

DC-J04



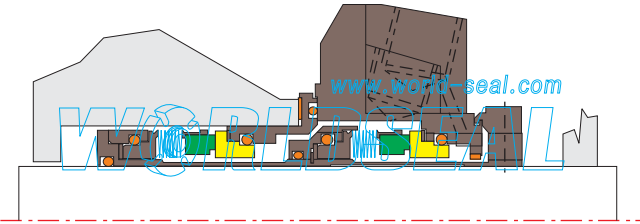
Temperature:  $-30^{\circ}\text{C}\sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$ (shaft diameter  $\leq 75\text{mm}$ )  
 $\leq 1.3\text{MPa}$ (shaft diameter  $> 75\text{mm}$ )  
Speed:  $\leq 25\text{m/s}$

DC-J05



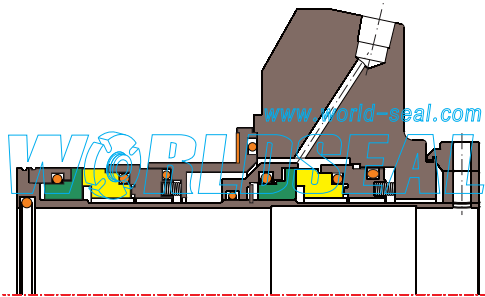
Temperature:  $-30^{\circ}\text{C} \sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

DC-FS01



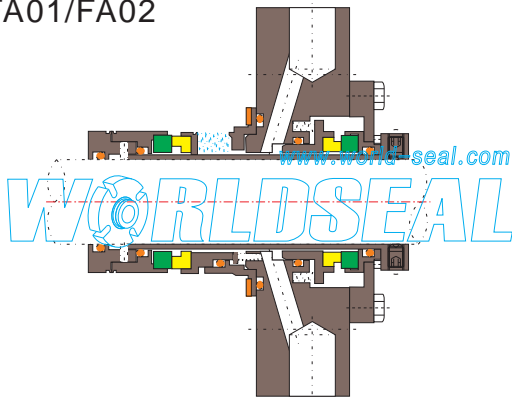
Temperature:  $-40^{\circ}\text{C} \sim 204^{\circ}\text{C}$   
Pressure:  $\leq 1.4\text{MPa}$   
Speed:  $\leq 23\text{m/s}$

DC-FS02



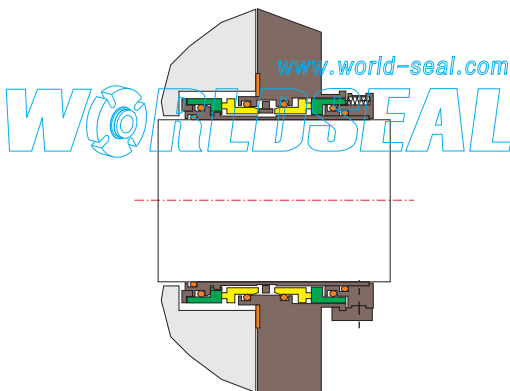
Temperature:  $-30^{\circ}\text{C} \sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

DC-FA01/FA02



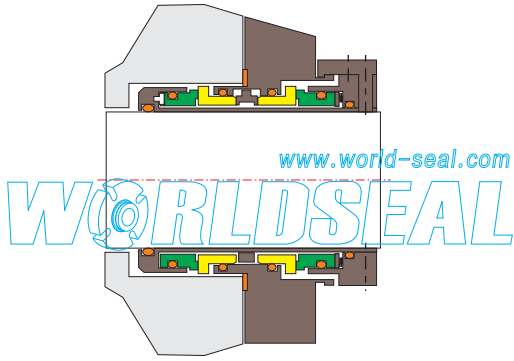
Temperature:  $-30^{\circ}\text{C} \sim 200^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

DC-C01



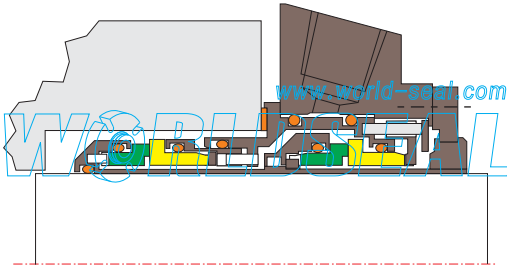
Temperature:  $-30^{\circ}\text{C} \sim 206^{\circ}\text{C}$   
Pressure:  $\leq 4\text{MPa}$   
Speed:  $\leq 20\text{m/s}$

DC-C02



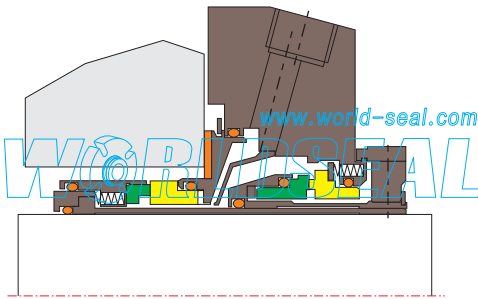
Temperature:  $-30^{\circ}\text{C} \sim 206^{\circ}\text{C}$   
Pressure:  $\leq 4\text{MPa}$   
Speed:  $\leq 20\text{m/s}$

DC-C03



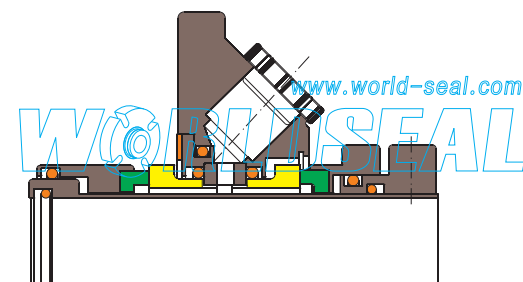
Temperature:  $-30^{\circ}\text{C} \sim 205^{\circ}\text{C}$   
Pressure:  $\leq 3.1\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

DC-A01



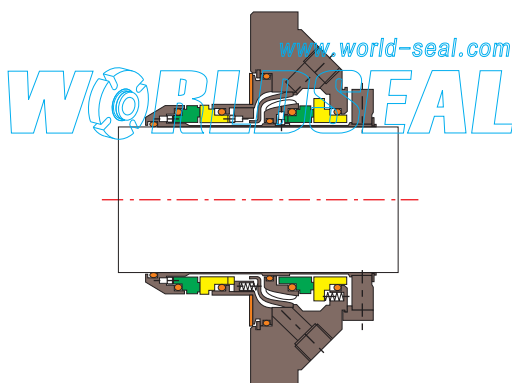
Temperature:  $-40^{\circ}\text{C} \sim 204^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$   
 $\leq 25\text{m/s}$   
Speed:

DC-A02



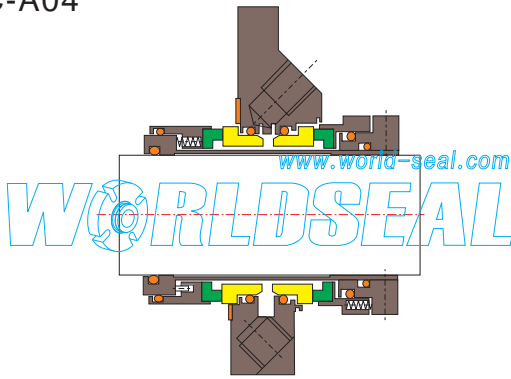
Temperature:  $-30^{\circ}\text{C} \sim 205^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$  (shaft diameter  $\leq 75\text{mm}$ )  
Speed:  $\leq 1.3\text{MPa}$  (shaft diameter  $> 75\text{mm}$ )  
 $\leq 25\text{m/s}$

DC-A03



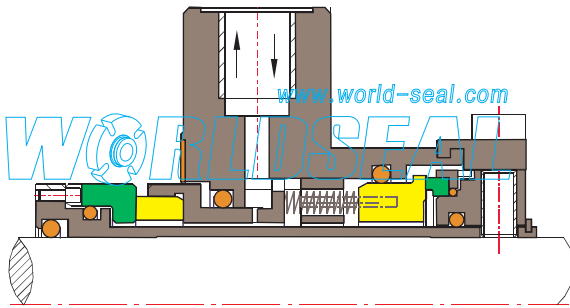
Temperature:  $-40^{\circ}\text{C} \sim 204^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

DC-A04



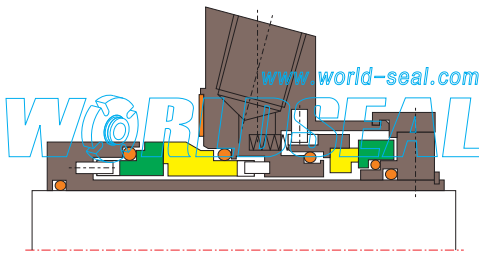
Temperature:  $-40^{\circ}\text{C} \sim 204^{\circ}\text{C}$   
Pressure:  $\leq 2.1\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

DC-B01



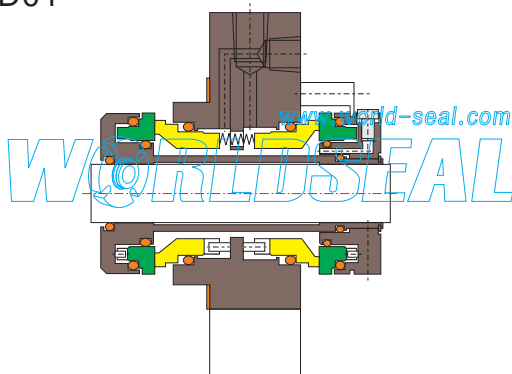
Temperature:  $-30^{\circ}\text{C} \sim 200^{\circ}\text{C}$   
Pressure:  $\leq 1\text{MPa}$   
Speed:  $\leq 16\text{m/s}$

DC-B02



Temperature:  $-40^{\circ}\text{C} \sim 220^{\circ}\text{C}$   
Pressure:  $\leq 2.5\text{MPa}$   
Speed:  $\leq 16\text{m/s}$

DC-D01



Temperature:  $-40^{\circ}\text{C} \sim 204^{\circ}\text{C}$   
Pressure:  $\leq 2.8\text{MPa}$   
Speed:  $\leq 25\text{m/s}$

### Technical information about dual cartridge seal

Since almost all seals utilize the process liquid or gas to lubricate the seal faces, they are designed to leak. Process liquids and gases containing hazardous vapors, dangerous toxic chemicals or flammable petroleum must not be allowed to leak into the atmosphere or onto the ground. In these applications a second "containment" seal is placed after the primary seal along the pump shaft. The space in between these two seals is filled with a neutral or compatible liquid or gas [Generally nitrogen] called a "buffer [Unpressurized]" or "barrier [Pressurized]" fluid.

In a tandem seal [Face To Back], the seal will leak into the buffer fluid contained in the unpressurized cavity commonly known as thermosiphon pot. If the cavity registers a dramatic increase in pressure or fluid level, operator will know that the primary seal has failed this can be achieved by using pressure / level switches or transmitters. If the cavity is drained of liquid, then the secondary seal failed. In both instances, maintenance will need to be performed. This arrangement is commonly used when sealing fluids that would create a hazard or change state when contacting open air. These are detailed in API 682 [Currently 3rd Edition] Piping Plan 52

In a double seal [Generally Back to Back], the barrier liquid in the cavity between the two seals is pressurized. Thus if the primary seal fails, the neutral liquid will leak into the pump stream instead of the dangerous pumped fluid escaping into the atmosphere. This application is usually used in gas, unstable, highly toxic, abrasive, corrosive, and viscous fluids. These are detailed in API Piping Plan standards #53a, 53b, 53c; or 54. Plan 74 may also be considered a double seal piping plan, although it is used exclusively when describing a dry gas barrier seal support system. The barrier fluid used in a Plan 74 system is simply a gas, not a liquid. Typically, nitrogen is used as its inert nature makes it advantageous due to mixing with the process stream being sealed.

Tandem and double seal nomenclature historically characterized seals based on orientation, i.e., tandem seals mounted face to back, double seals mounted back to back or face to face. The distinction between pressurized and unpressurized support systems for tandem and double seals has lent itself to a more descriptive notation of dual pressurized and dual unpressurized mechanical seal. This distinction must be made as traditional 'tandem seals' can also utilize a pressurized barrier fluid.