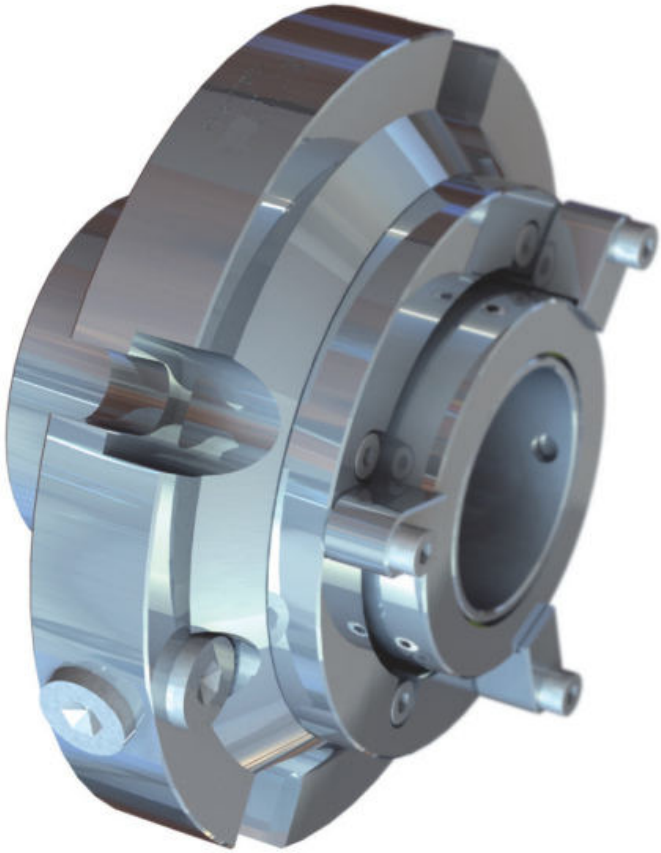
NOVA ROTORS®
Progressing cavity pumps

OUR POWER, YOUR SATISFACTION



SEALING SYSTEMS AND SEALS

DIAMOND SERIES

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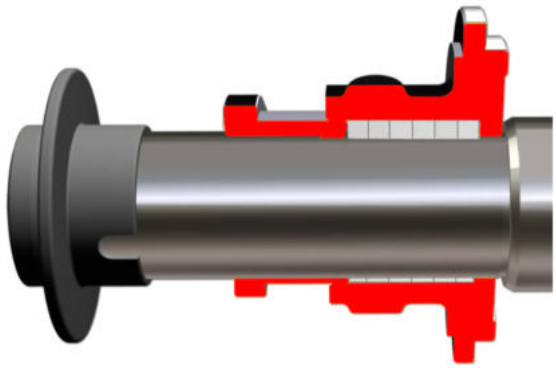
Sealing systems

Any type of machine with a rotating part in a fluid must prevent the inner environment containing the product and the outer environment coming in contact. To prevent this, various sealing systems were introduced, based on the type of machine, the process product, pressure, etc... that keep the two environments separate.
Nova Rotors has developed experience over the years to offer clients optimal types and configurations, even customised, suitable for every type of application.

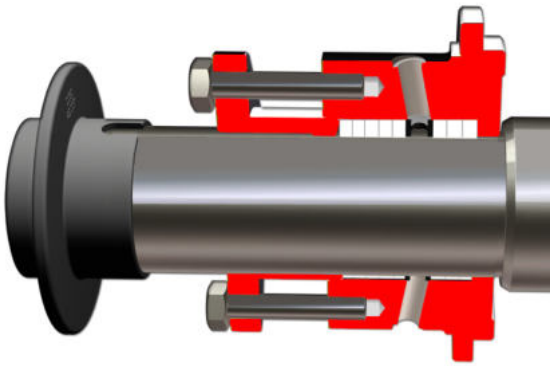
The various seals can be identified and selected based on the pumped product. Various types of seals are available, from packing to cartridge mechanical and component seals.
The latter can be selected in a wide range of configurations based on requirements, for example they can be balanced and unbalanced, multispring or with leaf springs, bellows, with protected springs, etc....; the housing, the elastomers and the faces that prevent process product passage can be selected in various materials.

Diamond industrial Series

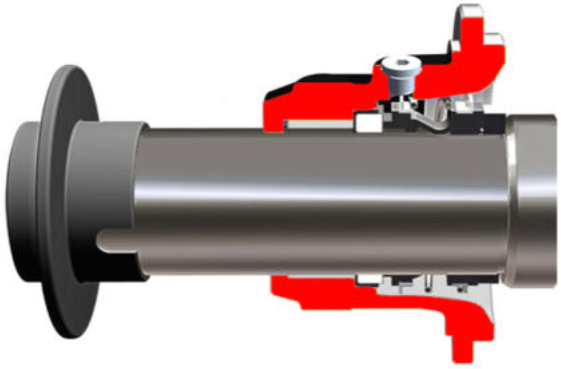
Diamond industrial pumps are manufactured with mechanical seals as they offer higher performance and reliability. On request, the version is also available with packing and flushed packing.



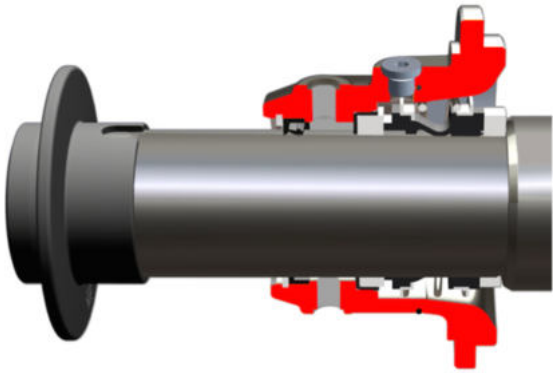
Packing Seal B01
Standard packing seal with PTFE impregnated seals, at low friction coefficient per pack. Low cost installation solution Suitable to process products with suspended solids and abrasives.
Pressure: up to 2 bar for clean fluids; 0,5 bar for fluids with suspended solids.



Packing Seal With Flushing B02
Packing seal with low friction coefficient rings and flushing rings. Flowing pressure must be from 0.5 to 1 bar over the pressure inside the casing and compatible with the process liquid. Suitable to process many abrasive products.
Pressure: up to 2 bar for clean fluids; 0,5 bar for fluids with suspended solids.



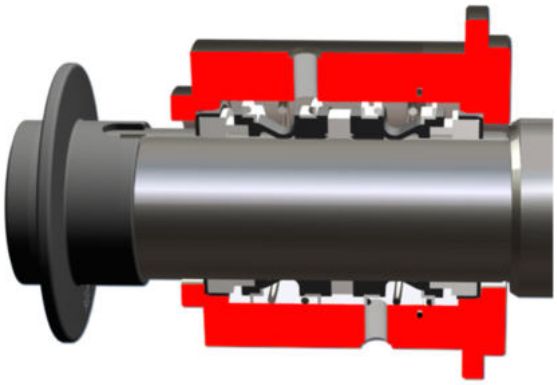
Single Mechanical Seal G0K9
Made of a stationary part and a rotating part, available with elastomer or metallic spring. Faces in contact with friction coefficient very low. Independent rotation direction. Suitable to process products with high viscosity and with small quantities of solids.
Pressure: when empty 16 bar.



Single Mechanical Seal + Quench Q0K9

In compliance with single mechanical seal specifications, the flow is not pressurised, making this seal suitable in pumps with an inverse rotation direction such as vertical pumps and in all those applications in which the product has solid, crystalline or abrasive residue.

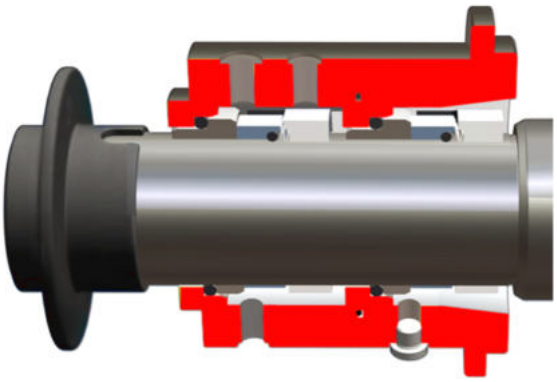
Pressure: when empty 16 bar.



Double Mechanical Seal Back to Back D0K9

The faces are not in contact with the product. The flushed liquid must be compatible with the process liquid and it is necessary for flushing pressure to be over 1 bar compared to that of the body of the pump. Suitable to process products with solid, abrasive, aggressive and crystalline parts.

Pressure: when empty 16 bar.



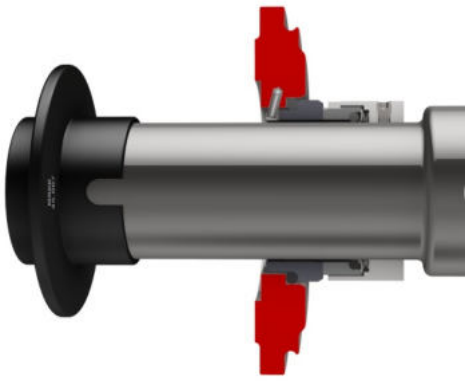
Double Mechanical Seal in Tandem K0K9

Similar to a seal with “quench”. The difference is the type of seal. In a seal in tandem, the seals are two singles so that if one breaks, the second ensures the product seal of the product and enables work. Suitable for very aggressive and polluting products which if leaked cause considerable damage.

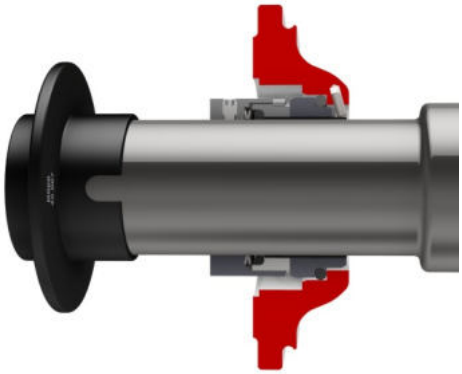
Pressure: when empty 16 bar.

Diamond Hygienic Series

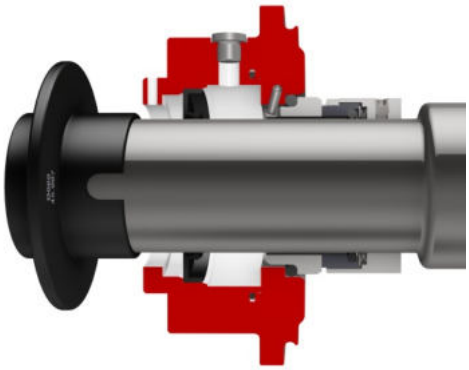
Diamond hygienic pumps were designed in single mechanical seal configurations, therefore not including a packing assembly. The position was also reviewed of the seals, advancing them (if internal) and positioning them under the suction for complete engagement of the process product.
A new seal configuration was also added compared to the previous Diamond Industrial Series, i.e. the external single seal is then emerged in the process product.



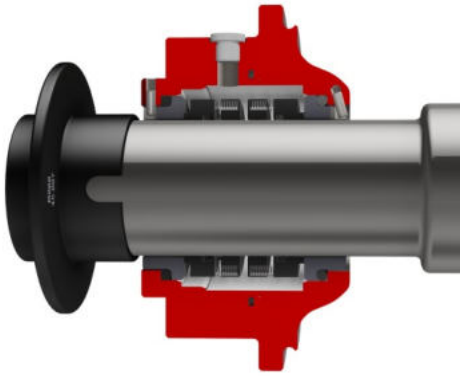
Internal Single Mechanical Seal AK9
Composed of a stationary part and a rotating part. Positioned under suction for greater engagement of the pumped product. Faces in contact with friction coefficient very low. Independent rotation direction. Suitable to process products with high viscosity and with small quantities of solids.
Pressure: when empty 16 bar.



External Single Mechanical Seal EK9
The faces are not in contact with the product. Suitable to process products with solid, abrasive, aggressive and crystalline parts.
Pressure: when empty 16 bar.

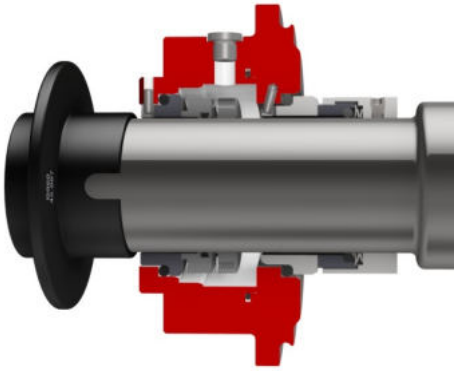


Single Mechanical Seal + Quench FK9
In compliance with single mechanical seal specifications, the flow is not pressurised, making this seal suitable in pumps with an inverse rotation direction such as vertical pumps and in all those applications in which the product has solid, crystalline or abrasive residue.
Pressure: when empty 16 bar.



Double Mechanical Seal Back to Back B1X9

The faces are not in contact with the product. The flushed liquid must be compatible with the process liquid and it is necessary for flushing pressure to be over 1 bar compared to that of the body of the pump. Suitable to process products with solid, abrasive, aggressive and crystalline parts.
Pressure: when empty 16 bar.



Double Mechanical Seal in Tandem T1X9

Similar to a seal with “quench”. The difference is the type of seal. In a seal in tandem, the seals are two singles so that if one breaks, the second ensures the product seal of the product and enables work. Suitable for very aggressive and polluting products which if leaked cause considerable damage.
Pressure: when empty 16 bar.

Le tenute meccaniche a componente

Mechanical Seal Series 050 type -051-052

Double directional mechanical seal with cylindrical single spring, unbalanced with elastomer bellows, suitable for general services machinery with low to medium pressure.

Contact surface material
Silicon carbide - Tungsten carbide
Ellastomer material
FPM – EPDM – NBR
Metal parts
AISI 304 – AISI 316

Mechanical Seal Series 110 type 110

Balanced mechanical seal with incorporated shaft sleeve, double directional with single leaf spring. Thanks to the geometry of the design, the spring never works in contact with the product, making it suitable for all uses with highly viscous liquids or those with suspended solid parts.

Contact surface material
Silicon carbide - Tungsten carbide
Ellastomer material
FPM – EPDM – NBR – SILICONE – FFPM – PTFE
Metal parts
AISI 304 – AISI 316 – F51 (Duplex) – F55 (Superduplex) – C-276 (Hastelloy)

Mechanical Seal Series 120 type -120-122

Balanced and unbalanced (based on the type) mechanical seal, independent of the rotation direction, with a single leaf spring (multispring on request). Its versatile configurations enable its broad use not only on machinery with heavy use at medium pressure, but also in the presence of very viscous liquids. High resistance to torsion and compact axial size enable its universal application.

Contact surface material
Silicon carbide - Tungsten carbide - Graphite
Ellastomer material
FPM – EPDM – NBR – SILICONE – FFPM – PTFE
Metal parts
AISI 304 – AISI 316

Mechanical Seal Series 170 type 172

Single mechanical seal, unbalanced, independent of the rotation direction with multispring configuration. It is a mechanical seal with reduced axial size. Thanks to the possibility of configuration with all the stationary rings it is interchangeable with the most widespread mechanical seals on the market.

Contact surface material
Silicon carbide - Tungsten carbide - Graphite - Aluminium oxide
Ellastomer material
FPM – EPDM – NBR – SILICONE – FFPM – PTFE
Metal parts
AISI 304 – AISI 316

Mechanical Seal Series 115X

Single mechanical seal, balanced, independent from rotation direction with single leaf spring. It's the aseptic mechanical seal applicable only to Diamond XO serie. It comes with shaped o-rings following restricted 3-A ed EHEDG normatives. The elastomers are FDA e 3-A Sanitary certified .

Contact surface material
Silicon carbide – Tungsten carbide
Ellastomer material
FPM – EPDM
Metal parts
DUPLEX 1.4462

Le tenute meccaniche a cartuccia

Cartridge Mechanical Seal

Mechanical cartridge seal engineered for the Diamond series. The various configurations enable use of a wide range of applications, from medium to heavy use. The fundamental advantage is the quick replacement and regeneration of the worn seal making it economically beneficial in the short to medium term. The single seal is available in configurations with quench, double back to back and double in tandem.

Contact surface material

Silicon carbide - Tungsten carbide - Graphite

Ellastomer material

FPM – EPDM – NBR – FFPM – PTFE

Metal parts

AISI 316 – F51 (Duplex) – F55 (Superduplex) – C-276 (Hastelloy)

Cartridge Mechanical Seal API 682

Mechanical cartridge seal in compliance with API 682 (American Petroleum Institute) category 1. As well as application in the petrochemical, chemical or natural gas sectors, these seals are the same as the previous ones, but with higher strength. The cartridge is available in single seal configurations with quench, double back to back and double in tandem.

Contact surface material

Silicon carbide - Tungsten carbide - Graphite

Ellastomer material

FPM – EPDM – NBR – FFPM – PTFE

Metal parts

AISI 316 – F51 (Duplex) – F55 (Superduplex) – C-276 (Hastelloy)

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