

Spring Energized Metallic Seal

Mark TechPro and Consultants Pvt. Ltd., offers Special Spring energized resilient metallic seals for high temperature and high pressure applications.



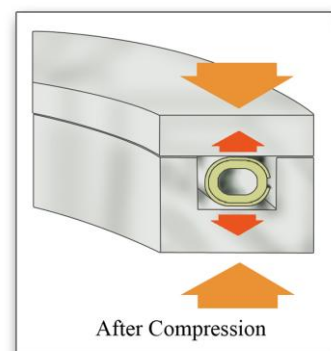
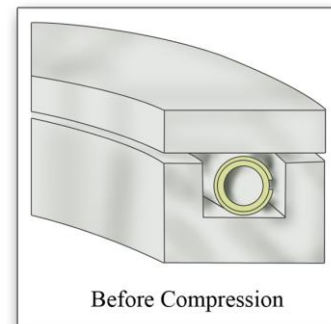
Construction

Metal lining is provided over spring. Due to the resiliency property of the spring, it Springs back like an elastomer O ring. The seal is 100 % metallic, hence have both the properties of Metal & Elastomer.



Sealing Concept

The spring energized seal gets its resiliency power from the Spring and the system's pressure. When the seal is compressed to a predetermined deflection, between the flanges, the metal lining springs back to the flange surface and provides a very good sealing.



Working conditions

Temperature range : – 272 upto +1000 deg.C (Cryogenic to high temperature)

Pressure range : 10^{-10} mbar to 3000 bar (Ultra high vacuum to high pressure)

Leak tightness : Bubble tightness to 10^{-12} Pa m³. s

Very good resistance to radiation and corrosion.

General Characteristics

Size range : Diameter from 4.75 mm to 6350 mm

Spring material : High temperature alloy material.

Metal lining material : High temperature alloy materials, depending upon working conditions.

Coating : Silver plating, PTFE coating , depending upon working condition.

Pressure direction : Internal, External and Axial.

Shape consideration : Square, Rectangular, Oval, Racetrack and Customized designs possible.

Other designs

We also offer other designs of resilient metallic seals, depending upon the applications, as follows: –

- Metallic C Ring



- Metallic O ring



- Metallic E Ring



Applications

Nuclear Industry

Processing & Research

- Pipe Joints
- Connectors
- Accelerator Ring Joints
- Pressure Vessel head gaskets
- Thermocouple Fittings

Valves and Pumps

- Valve/Pipe Joints
- Connectors
- Casing Joints, Body Joints
- Stem Sealing
- Fittings

Waste Containment Systems

- Piping Joints/Fittings
- Transport Container Lid
- Storage Container Cover
- Gas/Evacuation Ports

Aerospace Industry

Accessories

- Fail-Safe Forward Engine Mounting/
Air Intake Joints
- Generator Mounting Joints
- Fuel Pump Mounting Joints
- Fuel System Piping Joints

Airframe

- Heat Exchanger/Precooler Joints
- Air Conditioning Pack Joints
- Auxiliary Power Unit (APU) Ducting
System Joints
- Air Start System Ducting Joints
- Empennage Thermal De-Icing
Ducting Joints
- Wing Anti-Ice System Joints
- Nacelle to Fuselage Ducting Joints
- Fuselage Ducting Joints

Engine (including EBU)

- Exhaust Nozzle Joints
- Thermocouple Fittings
- Air and Fuel Connectors
- Fuel Nozzles and Injectors
- Nacelle Anti-Ice System Joints
- Stall Recovery System Joints
- Temperature Control Valve and
Mixing Valve Joints
- Shut-Off Valve Joints
- Case Joint Seals
- Manifold Joint Seals
- Compressor-Bled Air Ducting
System Joints
- Valve-Engine Case Joints
- Internal Turbine Nozzle Seals and
Outer air seals

Space Industry

Accessories

- Kerosene System Controls/Valves/Fittings
- Turbo Pumps
- Valves, Fittings
- Hydrogen Valves and Fittings

Rocket Engine

- Oxygen Piping Fittings
- Hydrogen Valve and Fittings
- Kerosene Fuel Systems

Main Combustion Chamber Cover

- Nozzle
- Cooling/Preheating System
- Vehicle/Habitation Module
- Valves, ECS Fittings
- Oxygen Piping Fittings

Semi-conductor and Vacuum Industries

Devices

- Laser Range Finder

Process Equipment

- Transfer Suction Pads
- Vacuum Casting Machines
- Vacuum Coolers

Injection

- Extrusion
- Blow Molding
- Process Line

Research

- Experimental Equipment
Joint Sealing

Energy Industry

Power Generation

- Pressure vessel cover sealing
- Pressure vessel connection joint sealing
- Turbine multi stage seals
- Turbine blade lock seals
- Turbine environmental & biological control seals
- Valves, pumps and couplings

Land-Based and Off-Shore Oil Exploration

- Drill rig seals
- Drill pipe and collar assemblies
- Centrifuge spin assembly seals
- Threaded and Thread less Connector assemblies
- High pressure quick disconnect couplings
- Telescoping joint assemblies
- Directional drill positioning devices
- Sea-floor Christmas tree assemblies
- Injection well assemblies

Chemical Industry

Accessories

- Hot Runners
- Nozzles
- Gates

Molding

- Compression
- Composite
- Co-injection

Injection

- Extrusion
- Blow Molding
- Process Line

Connection Joints

- Tube Assemblies
- Valves
- Pumps

Automotive Industry

Accessories

- Airbag Cylinders
- Turbocharger Connections

Emissions

- Catalytic Converter Connections
- EGR Valves

Engine

- Exhaust Manifolds
- Cylinder Heads