

G2 Rotary Shaft Seals

DESCRIPTION

G2 (G-DUO) type sealing rings are special oil seals for dynamic bidirectional rotary applications. The profile is designed with two opposing sealing lips, energized by two independent springs, providing separation between two fluids or a barrier against heavy contamination from the outside.

PROFILE

G2 / G-DUO configuration

Double lip with double spring

The configuration uses two opposing sealing lips, each preloaded by its own garter spring, combined with an internal metal structure featuring an inverted "T" geometry.

Operation

Bidirectional

Lips

2 opposing

Springs

2 independent

MATERIALS

Materials and operating conditions

MATERIAL	SPEED	TEMPERATURE	PRESSURE
NBR	6.0 m/s	−40 / +100 °C	0.05 MPa (0.5 bar)
Viton / FKM	6.0 m/s	−30 / +200 °C	0.05 MPa (0.5 bar)

COMPATIBLE FLUIDS

Lubricating oils, mineral and synthetic greases, hydraulic fluids and water.

FEATURES

Main features

Double-spring design

Two independent sealing lips, each energized by a steel garter spring, ensure constant contact pressure on both sides.

Internal "T"-shaped metal case

The structural metal insert is embedded in the rubber with a reinforced geometry that provides structural rigidity and stability within the housing.

Bidirectional function

The profile is designed to simultaneously isolate two different fluids or to prevent the ingress of mud, water and abrasive dust from the outside.

ADVANTAGES

Advantages of the G2 profile

Isolation

High sealing capability between two adjacent compartments, for example between a gearbox and the external environment or between an oil chamber and a grease chamber.

Press-fit stability

The robust internal metal case counteracts accidental displacement or misalignment of the oil seal during shaft rotation.

Application flexibility

Available in NBR for standard industrial applications and in FKM/Viton for high-temperature applications or use in the presence of aggressive chemicals.

COMPLIANCE AND STANDARDS

Certifications

Company certifications and production standard specifications for this profile are currently being defined.

VARIANTS

Available configurations

NBR**G2 / NBR**

Standard version made of nitrile rubber with carbon-steel springs. This configuration is suitable for general-purpose applications with mineral oils and greases.

USE

Standard industrial conditions with moderate temperatures.

FKM / VITON**G2 / VITON**

High-performance version made of FKM fluoroelastomer, with springs also available in stainless steel to increase corrosion resistance.

USE

Systems operating at high temperatures or in the presence of aggressive chemical and synthetic fluids.

COMMERCIAL EQUIVALENTS

Cross-reference and special configurations

MANUFACTURER	EQUIVALENT
Trelleborg	DUO Profile
Freudenberg (Simrit)	Special bidirectional profile
Parker Prädifa	Combined rotary profile
Dichtomatik	TC dual spring profile

G2/L

Special versions with asymmetric lips or increased thicknesses for heavy-duty industrial applications.

G2/HD Heavy Duty

Custom configurations with exposed outer metal case or reinforcements for pressures slightly higher than standard.