

Rotating shaft oil seals G

DESCRIPTION

The G series rotary shaft seals, universally known on the market as standard rubber-covered oil seals or Type G, are dynamic seals designed to ensure perfect retention of fluid lubricating oils and greases within rotating mechanical components. Featuring an internal metal reinforcement and a dynamic lip preloaded by a garter spring, they provide an effective hydrodynamic barrier and prevent the ingress of light external contaminants.

PROFILES

Type G / WA Standard

Single-lip dynamic sealing profile equipped with an internal spring and a completely smooth elastomer-covered outer diameter.

Type G/DL

Geometric variant, where applicable, equipped with an additional front dust lip without a spring, specifically designed for dusty external environments.

MATERIALS

Materials and operating conditions

MATERIAL / COMPOUND	PERIPHERAL SPEED	TEMPERATURE	MAX PRESSURE
NBR Nitrile rubber 70 / 80 ShA	Up to 12.0 m/s Up to 0.5 m/s in low-speed applications	−30 / +100 °C	0.05 MPa Standard atmospheric pressure
FKM Fluoroelastomer / Viton	Up to 35.0 m/s	−20 / +200 °C	—

LOADING COMPONENT

Garter spring

Component	Garter spring
Material	Spring steel
Option	AISI 302/316 stainless steel for marine environments

COMPATIBLE FLUIDS

Mineral hydraulic oils, fluid gear lubricants, lubricating greases, water and fluid emulsions.

FEATURES

Main features

Constant radial load

The spring positioned behind the lip applies calibrated and continuous radial pressure to the rotating shaft diameter. This compensates for elastomer ageing, minor misalignments (run-out) and normal wear, maintaining the dynamic sealing area.

Rubber-covered outer surface

The elastomer outer casing ensures optimal static sealing within the housing and compensates for thermal expansion and minor surface roughness of the metal seat.

Sealing edge

The main lip is finished with a precise, sharp geometric cut. The angle creates a hydrodynamic wedge that uses the surface tension of the oil film to limit leakage and provide self-lubrication of the running surface.

ADVANTAGES

Why choose Type G

Liquid fluid sealing

The presence of the spring makes this seal particularly suitable for very fluid, low-viscosity oils, overcoming the performance limitations of conventional springless grease seals.

Safe installation

The rubber coating reduces the mechanical force required for press-fitting into the housing, limiting the risk of scoring or deformation of the casing.

High rotational speeds

The flexibility of the lip and the quality of the compounds, especially in the FKM Viton version, limit the heat generated by friction and allow high peripheral speeds.

COMPLIANCE AND STANDARDS

International standards

Construction dimensions, geometric tolerances and installation dimensions manufactured in compliance with DIN 3760 Form A and ISO 6194-1 Type 1 standards, corresponding to the universal WA / SC profile.

VARIANTS

Available configurations

NBR 70

Type G Standard

The most widely used configuration in general mechanical engineering and the industrial aftermarket. It represents the universal standard for retaining conventional mineral oils at medium temperatures.

ADVANTAGES

Excellent value for money, simplified warehouse stocking and maximum availability across dimensional ranges.

FKM / VITON

Type G Premium

Specific configuration for high-speed shafts, up to 35 m/s, or applications operating at high temperatures in contact with aggressive synthetic oils with high thermal stability.

ADVANTAGES

Continuous thermal resistance up to +200 °C and a dynamic lip resistant to hardening and premature cracking caused by frictional heat.

COMMERCIAL EQUIVALENTS

Market equivalents

MANUFACTURER	TYPE G STANDARD - NBR	TYPE G PREMIUM - FKM / VITON
Net Seals	Oil Seal Series WA / SC / G	Viton Oil Seal Series WA / SC / G FKM
Freudenberg (Simrit)	Simmerring® BA / 827N Profile	Simmerring® BA FKM Profile
Parker Prädifa	OSHA / SC Profile	OSHA (FKM) Profile
Dichtomatik	WA Profile	WA FKM Profile
Kastas Sealing Technologies	K26 / K29 Profile	—
Corteco	Standard Type G Oil Seal Series	—
SKF	—	Viton rubber-covered seals (HMS5)