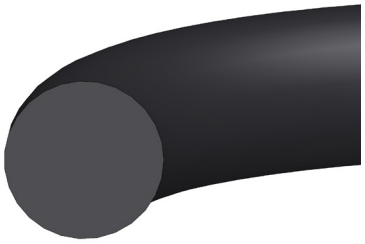
DICHTOMATIK
Any seal. Any time.



O-RINGS

O-rings are endless, ring-shaped sealing elements with a circular cross-section that are manufactured from elastomer materials or PTFE. The designation of an O-ring is derived from the dimensions of its inner diameter and cord width in millimeters, along with the name of the material and its Shore A hardness (e.g. 25.00x1.50 NBR 70). The O-ring's application areas are found in numerous sectors, such as hydraulics, vehicle manufacturing, and vacuum applications, and in plant engineering and machine-building.

DICHTOMATIK offers O-rings made of a number of materials: EPDM, FKM, HNBR, NBR, VMQ and PTFE, as well as with FEP encasing. For special applications (gas devices and facilities, drinking water, foods), materials with the required certifications are available.

TOLERANCES

- Dimensional tolerances in accordance with DIN ISO 3601-1, industry class B
- Surface deviations in accordance with DIN ISO 3601-3, type feature N
- For special applications, the permissible tolerances for special items are limited to industry class A and to the type feature S for shape and surface deviations

DIMENSIONS

DICHTOMATIK stocks the standard dimensions for DIN ISO 3601- 1 and AS568B/BS1806. In addition, dimensions of JIS 2401 (General Industry), of Norm R (NF T 47-501) and, on a limited basis, of SMS 1586 (static applications) are available from stock. The currently available dimensions can be found on our website as well as in our web shop at www.dichtomatik.com.

YOUR ADVANTAGES AT A GLANCE

- Nearly all standard dimensions available from stock
- Special elastomer materials can also be delivered in varying degrees of Shore hardness upon request
- Good value for the money
- Certified materials available
- Can be used universally

MOUNTING

Before mounting, dust, dirt, metal filings and any type of soiling must be removed. Threaded tips and installation spaces for other sealing and guide elements should be covered with an assembly sleeve. Each edge must be burr-free and radii and slopes must be applied smoothly. The mounting surface and the O-rings should be treated with an appropriate grease before the installation. If the elastomer is heated in water or oil to about +80°C, it becomes even more pliable and can be stretched more easily for assembly. But the O-ring must not be widened to its elongation limit. During the installation, it must also be ensured that the O-ring is not twisted as it is clicked into the groove.

If any assembly tools such as expanding mandrels or sleeves are used, they should be made of a soft material (e. g. POM) and free of sharp edges.

FEP-ENCAPSULATED O-RINGS

The encapsulation consists of the thermoplastic material FEP and resembles PTFE in its characteristics. The extremely high chemical and thermal resistance of the encapsulation protects the elastic core material from aggressive media and environments. The FEP encapsulation has a very low coefficient of friction, which prevents the stick-slip effect, and exhibits very low gas permeability.

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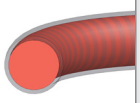
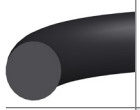
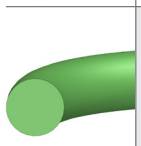
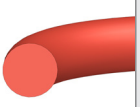
Profile	Material	Shore A hardness	Temperature °C	Color	Material characteristics
	EPDM, sulfur-cross-linked	70	-45 to +130	black	• Very stable in hot water and steam, washing lyes, caustic soda and caustic potash, silicone oils and greases, many polar solutions, many diluted acids and chemicals • Good resistance to ozone • Incompatible with mineral oil products (lubricants and fuels)
	EPDM, peroxide-cross-linked	70	-50 to +150	black	
	FKM FEP-encapsulated		-20 to +205	transparent/ black	• With elastic FKM core
	VMQ FEP-encapsulated		-60 to +205	transparent/ red-brown	• With elastic VMQ core
	FKM, peroxide-cross-linked	75	-15 to +200	black	• Good chemical resistance to mineral oils and greases, synthetic oils and greases, motor, transmission and ATF oils up to +150°C, fuels, HFD flame-resistant pressure fluids, aliphatic, aromatic and chlorinated hydrocarbons, water to a maximum of +80°C • Very good weathering, ozone and aging resistance • Very low gas permeability (thus well-suited for vacuum uses)
	FKM	75	-15 to +200	green	
		80	-15 to +200	black	
		90	-15 to+200	green	
	HNBR	70	-30 to +150	black	• HNBR is formed through the full or partial hydration of NBR • Heat, ozone and aging stability are significantly improved in this form. Very good mechanical characteristics such as good wear resistance are achieved • Media resistance is comparable to that of NBR
	NBR	70	-30 to +100	black	• Good chemical resistance to mineral oils and greases, hydraulic oils (H, HL, HLP), the flame-resistant pressure fluids HFA and HFB. HFC up to about +50°C and water up to a maximum of +80°C
		80	-30 to +100		
		90	-30 to +100		
	PTFE		-200 to +260	white	• Good chemical resistance to aggressive acids, bases, alcohols and oils
	VMQ	70	-55 to +200	red-brown	• Good chemical stability in water (up to +100°C), aliphatic engine and transmission oils, animal- and plant-based oils and greases • Not resistant to fuels, aromatic mineral oils, water vapor (short periods up to a maximum of +120°C are possible), silicone oils and greases, along with acids and alkaline compounds

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