AS568 O-Ring Size Chart — Dash Numbers, Cross Sections and Metric Equivalents

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How AS568 dash numbers encode O-ring size, the five cross-section series with inside-diameter tables for the most-used dash numbers, metric equivalents, and material quick-selection (NBR, FKM, EPDM) with temperature limits.

How dash numbers work

AS568 (SAE Aerospace Standard 568) assigns every standard inch O-ring a three-digit dash number. The first digit selects the cross-section series and the remaining digits step through inside diameters. The five series are:

Series | Cross section | mm | Dash range |

0xx | 1/16" | 1.78 | 001–050* |

1xx | 3/32" | 2.62 | 102–178 |

2xx | 1/8" | 3.53 | 201–284 |

3xx | 3/16" | 5.33 | 309–395 |

4xx | 1/4" | 6.99 | 425–475 |

*dash 001–003 are smaller special sections. Tolerance on cross section is typically ±0.08 mm in these series.

Common sizes (inside diameter)

Dash | ID (in) | ID (mm) | CS (mm) | Dash | ID (in) | ID (mm) | CS (mm) |

-010 | 0.239 | 6.07 | 1.78 | -214 | 0.984 | 24.99 | 3.53 |

-012 | 0.364 | 9.25 | 1.78 | -218 | 1.234 | 31.34 | 3.53 |

-014 | 0.489 | 12.42 | 1.78 | -222 | 1.484 | 37.69 | 3.53 |

-110 | 0.362 | 9.19 | 2.62 | -226 | 2.109 | 53.57 | 3.53 |

-112 | 0.487 | 12.37 | 2.62 | -230 | 2.484 | 63.09 | 3.53 |

-115 | 0.674 | 17.12 | 2.62 | -325 | 1.475 | 37.47 | 5.33 |

-120 | 0.987 | 25.07 | 2.62 | -330 | 2.100 | 53.34 | 5.33 |

-210 | 0.734 | 18.64 | 3.53 | -425 | 4.475 | 113.67 | 6.99 |

Metric O-rings and equivalents

Metric O-rings are specified directly as ID × cross-section, e.g. 15 × 2 mm or 30 × 3 mm, per ISO 3601-1; the common metric cross sections are 1.5, 2, 2.5, 3, 3.5, 4, 5 and 5.7 mm. A metric 25 × 3.5 mm ring is close to, but not interchangeable with, AS568-214 (24.99 × 3.53): in a dynamic groove, use the section the groove was cut for. The catalogue stocks metric nitrile rings in packs — for example 15 × 2 mm NBR 70 and 30 × 3 mm NBR 70 — alongside SKF machined seals such as OR 102.0 × 4.0 N70.

Material quick-selection

Material | Temp. range | Strong against | Avoid |

NBR (nitrile) 70 Sh | " 30…+100 °C | Mineral oils, greases, water, air | Ozone, fuels with high aromatics, brake fluid |

FKM (Viton®) | " 20…+200 °C | Fuels, oils, many chemicals, ozone | Steam, hot water, ketones, ammonia |

EPDM | " 45…+130 °C | Hot water, steam, glycols, ozone | Mineral oils and greases |

HNBR | " 30…+150 °C | Oils at higher temperature, refrigerants | Aromatics, ketones |

Silicone (VMQ) | " 55…+200 °C | Dry heat, food contact | Dynamic duty, fuels, oils |

For refrigerant service (HFC/POE systems), HNBR and neoprene are the traditional choices and FKM only where the gasket set specifies it. Hydraulic rod and piston sealing is covered in the hydraulic seal size finder.

Frequently asked questions
What size is an AS568-214 O-ring?An AS568-214 O-ring measures 0.984 in (24.99 mm) inside diameter with a 1/8 in (3.53 mm) cross section.How do I read an O-ring dash number?The first digit gives the cross-section series (0 = 1.78 mm, 1 = 2.62 mm, 2 = 3.53 mm, 3 = 5.33 mm, 4 = 6.99 mm) and the remaining digits index the inside diameter within that series.Are metric and AS568 O-rings interchangeable?Usually not: sections like 3.53 mm (AS568) and 3.5 mm (metric) differ enough to change squeeze in a dynamic groove. Match the standard the groove was designed for.Which O-ring material for hot water or steam?EPDM — it handles hot water and steam to about 130 °C (peroxide-cured grades higher) where NBR hardens and FKM is attacked by steam.What temperature can NBR O-rings take?Standard 70-Shore nitrile (NBR) O-rings work from about " 30 °C to +100 °C continuously; above that, step up to HNBR or FKM.

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