

Key product parameters

Parameter	Typical value / explanation (how buyers specify)
Name / purpose	Wiper / scraper / rod wiper — a non-pressurized sealing element mounted in the gland to remove contaminants and residual fluid from the rod before it re-enters the cylinder; protects rod seals and extends system life.
Common constructions	Single-lip or double-lip PU scrapers, PTFE-jacketed scrapers, unitized rod-seal+ wiper cartridges. Designs: snap-in metal-cased, press-in, or loose PU profile. Unitized cartridges combine primary seal + wiper in one assembly.
Typical materials	Polyurethane (PU) for wear/resilience (most common), NBR/HNBR elastomer parts, PTFE/filled PTFE for aggressive fluids / low friction; metal case materials stainless or carbon steel (for press-in housings).
Temperature guidance	Compound-dependent. Typical PU/NBR wipers: roughly -30°C to $+100^{\circ}\text{C}$ (verify grade); PTFE variants extend to higher temps per vendor datasheet. Always confirm the compound datasheet for exact limits.
Pressure role	Wipers are non-pressure retaining (do not seal chamber pressure) — their function is contamination exclusion and residual-film wiping. For high-pressure protection use buffer/back-up seals and correct gland design.

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Typical rod diameter coverage	Manufacturers publish stocked sizes across ISO rod series (common diameters: 8 → 200+ mm). Many standard sizes align with ISO 3320 rod/bore series. Custom/intermediate sizes available.
Recommended groove / gland references	Vendors publish recommended groove dimensions (D, width, depth, chamfers) by series; follow ISO-compatible groove tables in manufacturer catalogs (Trelleborg, SKF tables). Example tables include Series 000 / 100 / 200 ... with chamfer and step height guidance.
Rod surface finish / hardness	Smooth, polished rods are required — vendors commonly specify rod surface roughness (e.g., Ra values / microinches) and hardness (typically chrome-plated steel rods, polished). Poor finish causes premature wear and leakage. Example reference recommends $\sim 16 \mu\text{in}$ ($\approx 0.4 \mu\text{m}$ Ra) as an upper bound for sealing surfaces in hydraulic use.
Failure risks / selection cautions	Wrong material for contaminants/fluid, incorrect groove geometry, excessive rod surface damage, use as a pressure seal (wipers are not pressure seals). Use unitized rod-seal + wiper cartridges for compact designs in difficult environments.