Grundfos Shaft Seal Codes — HQQE, HQQV and AQQE Letter by Letter

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The four-letter Grundfos seal code decoded: seal arrangement, rotating face, stationary seat and elastomer, what actually separates HQQE from HQQV and AQQE, the shaft-size series the cartridges come in, and the failure clues that say which letter to change at the next overhaul.

Four letters, four decisions

Position | Meaning | Common letters |

1st — seal type | The mechanical arrangement | H = balanced cartridge O-ring seal; A = O-ring seal with fixed drive; B = rubber-bellows type |

2nd — rotating face | The spinning ring's material | Q = silicon carbide; B = carbon; U = tungsten carbide |

3rd — stationary seat | The static ring it runs against | Q = silicon carbide (SiC/SiC = the hard pair for abrasives) |

4th — elastomer | O-rings / bellows compound | E = EPDM; V = FKM; K = FFKM for the chemical extremes |

So HQQE — the workhorse on CR pumps in water duty — is a balanced cartridge with SiC faces and EPDM elastomers; HQQV swaps to FKM for oils, glycols above EPDM's comfort and many chemicals (but never hot water duty where EPDM is the right answer — FKM and steam/hot water age badly); AQQE on the CM line is the same material stack in the A-type arrangement. Stocked cartridges run the shaft-size series: 12 mm, 16 mm, 22 mm and 28 mm in HQQE, with HQQV kits alongside — shaft size comes from the pump frame, code from the nameplate's final letters (see the type-key decoder).

Reading a failed seal

Dripping from day one !’ assembly or face damage at install; cartridge seals exist to make this rare — fit dry, never grease SiC faces with mineral oil on EPDM builds (EPDM swells in mineral oil; use water or the maker's lube).

Grooved or chipped faces !’ abrasives; SiC/SiC (QQ) is already the hard pair, so the fix is upstream — strainers or flushing, not a different letter.

Hardened, cracked O-rings !’ elastomer/media mismatch or temperature: the fourth letter is the one to change, E!”V by the medium's chemistry.

Dry-run glazing !’ the pump, not the seal: venting and min-flow protection (the curve guide covers minimum continuous flow).

Beyond Grundfos cartridges, some 290 mechanical-seal line items are stocked — including dimensional replacement kits like the SiC/SiC/EPDM 25 mm transfer-pump kit built to the EN 12756 envelope most European pumps share. A photo of the old seal plus shaft diameter is enough for a 24-hour quotation; lip-type shaft seals are a different animal, handled in the radial shaft seal guide.

Frequently asked questions
What does HQQE stand for on a Grundfos seal?Balanced cartridge seal (H), silicon-carbide rotating face (Q), silicon-carbide seat (Q), EPDM elastomers (E) — the standard fit for clean-water CR duty.When should HQQV be used instead of HQQE?When the pumped medium attacks EPDM — mineral oils above trace levels, many hydrocarbons and chemicals. Keep EPDM for hot water: FKM is the one that suffers in steam and hot-water service, not EPDM.Which shaft size seal does my CR pump take?It follows the pump frame — small CRs run 12 mm, mid frames 16 and 22 mm, larger 28 mm and up. The overhaul documentation per frame states it, and the kit guide maps frame to kit directly.Are Grundfos seal cartridges reusable after removal?No — faces lap into each other in service and O-rings take a set. Once pulled, fit a new cartridge; the old one's wear pattern is diagnostic material, not a spare.Do EN 12756 seals replace Grundfos cartridges?Not directly — the cartridge is a Grundfos-specific assembly. EN 12756 (DIN 24960) dimensional seals cover the many standard-envelope pumps around them; match d1 shaft size, length code and material string when substituting those.

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