

Unbalanced Mechanical Seal — Key Product Parameters

Parameter	Typical / Published Range
Basic definition	Simple, often single-spring unbalanced mechanical seal for single-end applications with limited pressure capability.
Pressure (working)	~Up to 24 kg/cm ² (≈343 psig / ≈24 bar) for many unbalanced designs; lower in some OEM series.
Temperature range	- 40 ° C to +260 ° C (- 40 ° F to 500 ° F) in broad-service unbalanced types; some variants narrower (- 20 ° C to 200 ° C).
Surface speed / sliding speed	Up to 4923 fpm (≈25 m/s) in many general industrial unbalanced designs.
Seal face materials	Carbon graphite, Silicon carbide (SiC), Tungsten carbide — typical hard face choices.
Elastomer secondary seals	VITON, AFLAS, NBR, FFKM options depending on fluid compatibility.
Metal components	304 SS, 316 SS, 316L, Alloy C-276, Titanium typical choices in robust variants.
Spring type	Single spring (unbalanced single-spring) typical; multi-spring variants also used.
Balance characteristics	Balance ratio >100% normally; unbalanced designs transfer higher net fluid load to faces, limiting pressure capability relative to balanced designs.