# 4ES – for KSB's Etanorm-R pump type series



# 1 Compact

Single cartridge seal, bi-directional and balanced.

## 2 Dependable

Stationary design, multiple springs located outside the fluid handled.

#### 3 Versatile

For all operating conditions the pump is approved for.

#### 4 Service-friendly

Tailored to the seal installation space and requirements of the pump, easy installation, no adjusting dimension. Assembly fixtures ensure optimal pre-loading of the cartridge. The mechanical seal cover is centred on the pump cover.

## 5 Different material variants

Mating ring made of silicon carbide, "A" carbon (hot water) or "B" carbon. Elastomers in EPDM (also for drinking water ACS / WRAS) or FKM.

### **Technical description**

Design	Single cartridge seal
Туре	Stationary, balanced
Springs	Multi-spring arrangement
Direction of rotation	Bi-rotational
Additional information	Approved for drinking water (WRAS)

#### Materials

Primary ring	SiC (Q1)
Mating ring	SiC (Q1) / "A" carbon (A) / "B" carbon (B)
Elastomers	EPDM (E) / FKM (V)
Springs	1.4571 (G)
Other Components	1.4122 (E)

Other material combinations on request

#### Technical data

Operating pressure	Up to 16 bar dynamic Up to 24 bar static
Temperature	-30 °C to 140 °C
Bearing bracket (seal size)	65 (065)
Business type	Engineered