



Part Number	<b>M190X230X20</b>
Series	M
Drain Grooves	Yes

**Material**

Inner Ring	Steel
Outer Ring	Aluminum

**Shaft & Housing Tolerances**

Shaft Tolerance	h6
Housing Tolerance	K7
Shaft & Housing Surface	$R_z \leq 16\mu\text{m}$ ; $R_a \leq 3.2\mu\text{m}$
Shaft & Housing Chamfer	2.0 mm x 15°

**Dimensions**

Bore Diameter	d [mm]	190
Outer Diameter	D [mm]	230
Width	B [mm]	20
Gap Diameter	e [mm]	224.5
Axial Clearance <sup>1</sup>	$S_{ax}$ [mm]	0.80
Drain Groove Width	c [mm]	5.0

**Misc. Data**

Weight	[kg]	1.660
Max Speed <sup>2</sup>	[rpm]	4,700
Temperature Range	[°C]	-40 – 200

**Notes:**

1. Axial Clearance ( $S_{ax}$ ) = The total axial movement of the seal's inner ring in relation to the outer ring in the axial direction.
2. The stated speed value is contingent on utilizing specified tolerances, correct installation techniques, and an operating temperature below the specified maximum.