



Erratum

Erratum: “Scaling Laws for Ultra-Short Hydrostatic Gas Journal Bearings” [Journal of Vibration and Acoustics, 2005, 127(3), pp. 254–261]

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- (1) The exponents of the clearance to radius term (C/R) in the scaling law for damping ratio ζ in Eqs. (19) and (20) were inadvertently switched between these two equations. Equations (19) and (20) should read:

$$\zeta \propto \left(\frac{C}{R}\right)^{-3} \left(\frac{\Delta p}{p_o}\right)^{-1/2} \left(\frac{\rho_o}{\rho_d}\right)^{-1/2} \frac{\sqrt{\Lambda} Re_C \mu L^2}{\rho_d C^3 (\Omega R)} \quad (19)$$

and

$$\zeta \propto \left(\frac{L}{D}\right)^2 \left(\frac{C}{R}\right)^{-1} \left(\frac{\Delta p}{p_o}\right)^{-1/2} \left(\frac{\rho_o}{\rho_d}\right)^{1/2} \Lambda^{1/2} Re_C^{-1/2}. \quad (20)$$

- (2) This correction also pertains to Table 1, where the second term in the last row, with the damping ratio ζ , should read -1 as shown below.
- (3) Consistently, the second sentence of the fifth paragraph on p. 259, in the section “Design Implications,” should read: “Since the damping ratio ζ scales with $(L/D)^2$, $(C/R)^{-1}$, and ...”.

Table 1 Scaling laws for ultra-short hydrostatic gas journal bearings

	$\left(\frac{L}{D}\right)$	$\left(\frac{C}{R}\right)$	$\left(\frac{\Delta p}{p_o}\right)$	$\left(\frac{\rho_o}{\rho_d}\right)$	Λ	Re_C
ζ	2	-1	-1/2	1/2	1/2	-1/2