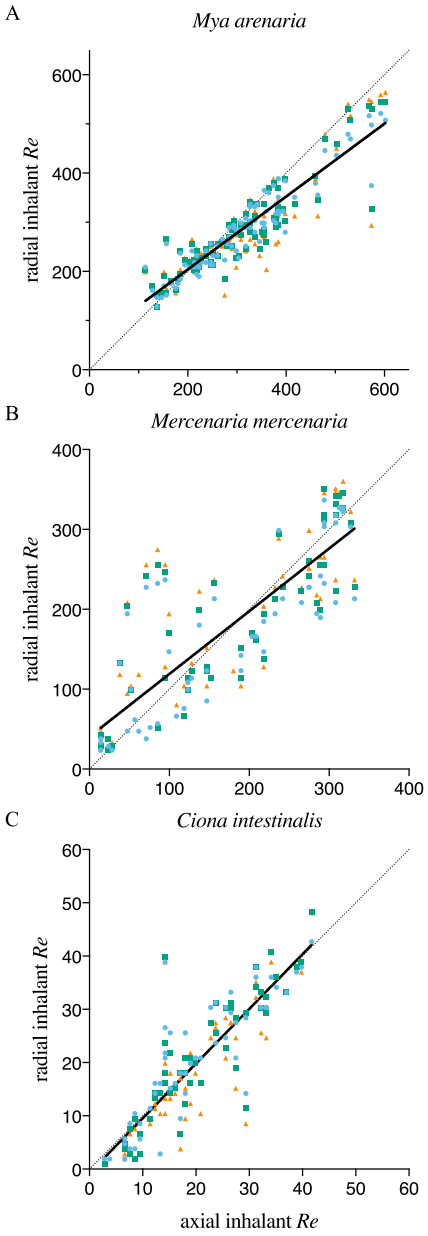

Fig. S1. Comparison of inhalant Reynolds number Re measurements based on axial velocity profiles to those based on radial profiles taken at 6 (blue circles), 7 (green squares), and 8 mm (orange triangles). Each point represents one of ten sequences collected for each individual. (A) *Mya arenaria*: n=9; $y = 0.74x + 56$; $R^2 = 0.83$. (B) *Mercenaria mercenaria*: n = 7; $y = 0.79x + 40.5$; $R^2 = 0.69$), and (C) *Ciona intestinalis*: n=6; $y = 1.0x - 0.76$; $R^2 = 0.76$). The solid line indicates the linear fit for the median of the three radial profiles. A dotted one-to-one line is shown for comparison.

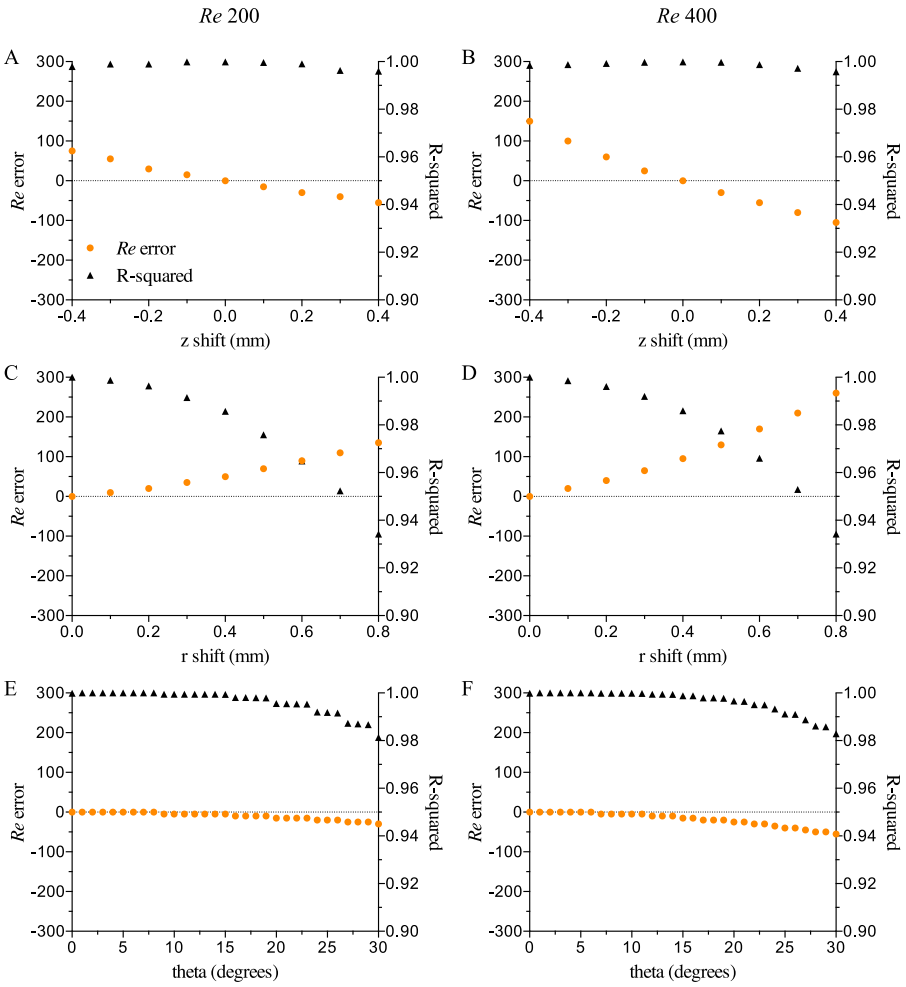

Fig. S2. Sensitivity analysis results for axial profiles. Re errors (estimated Re− actual Re) and R^2 values for comparisons of profiles shifted in the z (A and B) or r direction (C and D) or with shifted profile angles (E and F) at $Re_{\mathrm{in}} = 200$ and 400.

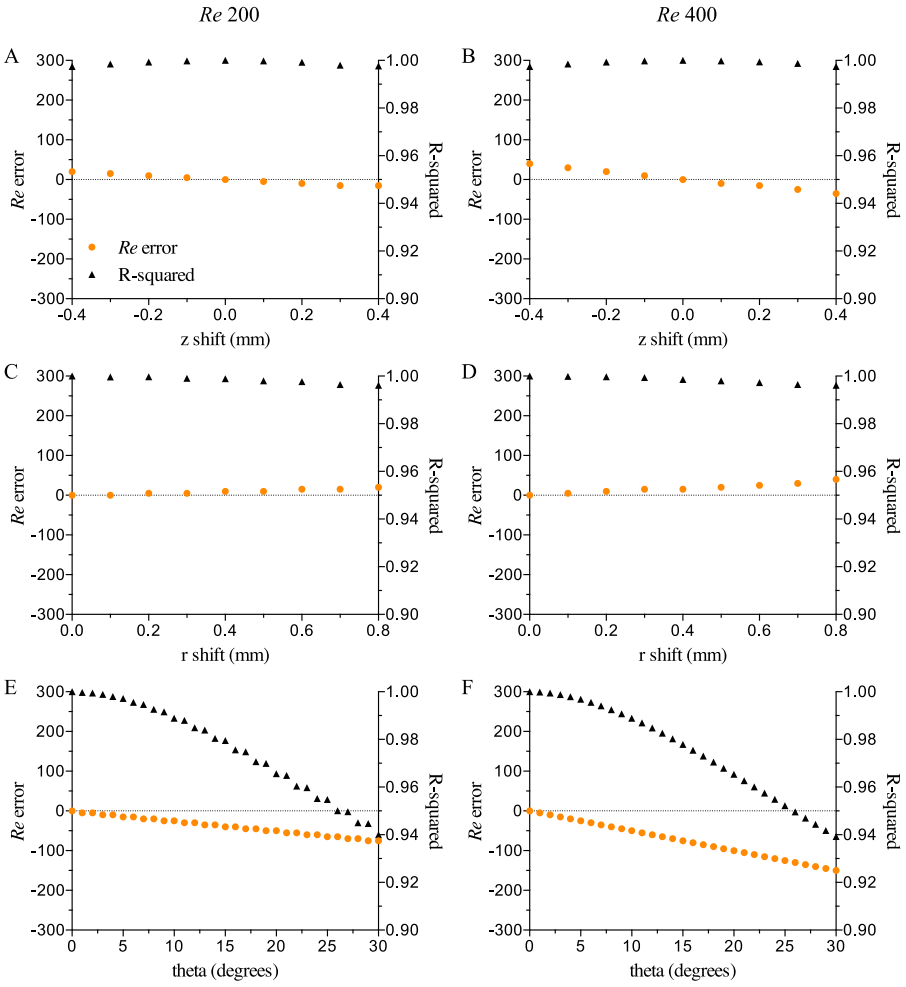

Fig. S3. Sensitivity analysis results for radial profiles. Re errors (estimated Re − actual Re) and R-squared values for comparisons of profiles shifted in the z (A and B) or r direction (C and D) or with shifted profile angles (E and F) at Re = 200 and 400.

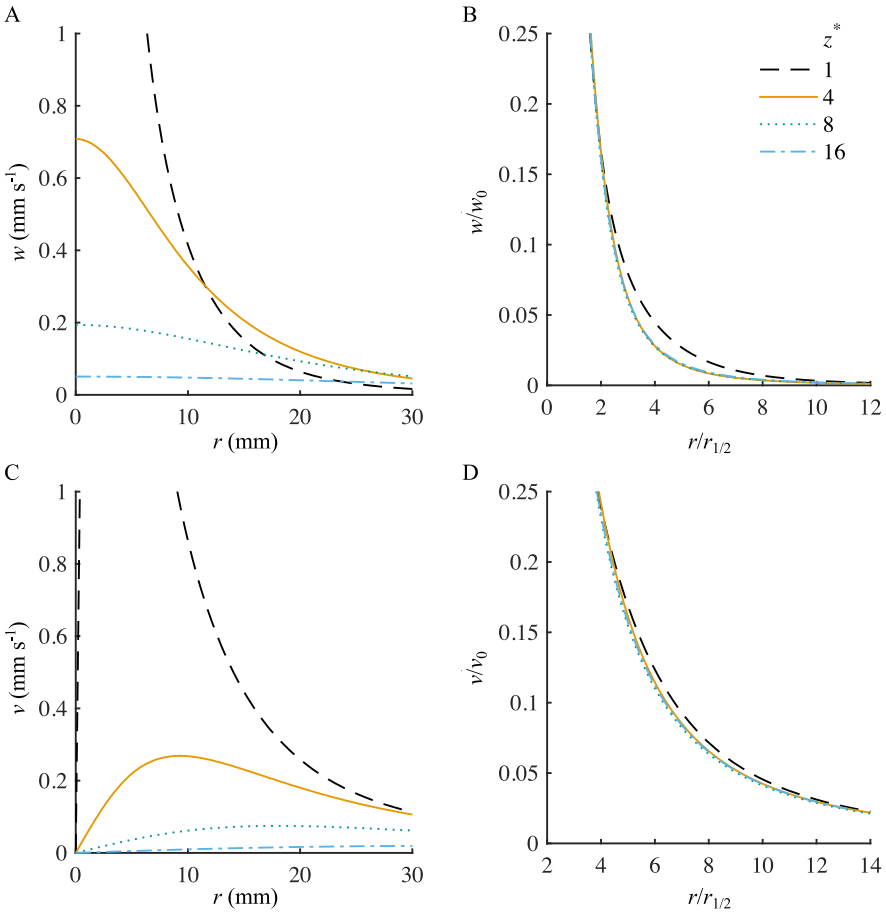

Fig. S4. Radial velocity profiles from a CFD model of an inhalant siphon with $Re_{in} = 300$ and $D_{in} = 3.0$ mm. Each profile is centered on the axis at a distance z^* from the siphon center. The legend applies to all four plots. (A) Unscaled profiles of axial velocity w. (B) Axial velocity profiles scaled by $r_{1/2}$ and w_0. (C) Unscaled profiles of radial velocity u. (D) Radial velocity profiles scaled by $r_{1/2}$ and u_0. For each set of scaled profiles (B, D), all profiles collapse onto a single curve except the profile taken closest to the siphon ($z^* = 1$).