Figure S1. Soluble P-selectin (sP-selectin) was not detected in porcine blood plasma neither at time “0” nor following 4-hour recirculation of whole blood through device-propelled circulatory loops. sP-selectin standard – optical density of the sP-selectin standard of 0.156 ng/ml concentration, a detection limit of the commercial ELISA kit. Data of 3 experiments are reported as Mean ± SD.

Figure S2. Blood recirculation in the Impella 5.5 and Centrimag circulatory loops as well as incubation undisturbed for 4 hours resulted in repolarization of platelet membrane. Annexin V binding indicating externalization of negatively charged phospholipids on platelet surface is reported as median fluorescence intensity of annexin V-positive platelets. Data of 3 experiments are reported as Mean ± SD, one-way repeated measures ANOVA with Dunnett’s multiple comparison test: * - p < 0.05, **, ## - p < 0.01 as compared with non-sheared control “0 Still” for Impella 5.5 and Centrimag, respectively. No statistically significant difference was found between devices for platelet annexin V binding (two-tailed paired t-test, p > 0.05).
Figure S3. Illustrative dot diagrams of platelets and microparticles captured in PFA-fixed platelet-rich plasma following 4-hour recirculation of whole blood through device-propelled circulatory loops.

Figure S4. Normalized collagen binding of von Willebrand Factor (vWF:CBA) allows to identify its statistically significant decrease over the shear exposure time in both Impella 5.5 and Centrimag propelled circulatory loops. vWF:CBA was measured using in-house von Willebrand factor collagen binding assay and results were presented as % VWF:CBA of an internal assay standard (canine pooled plasma VWF:CBA = 100%). vWF:CBA values were then normalized to non-sheared control “0 Still”. Data of 3-4 experiments are reported as Mean ± SD, one-way repeated measures ANOVA with Dunnett’s multiple comparison test: **, ## - p < 0.01 as compared with non-sheared control
"0 Still" for Impella 5.5 and Centrimag, respectively. No statistically significant difference was found between devices for vWF:Ag and vWF:CBA (two-tailed paired t-test, p > 0.05).