RPS scrubber designs

An RPS with an axial inlet and natural drive is tested for removal of dispersed oil droplets from water. 
\[ T = 20 ^\circ C, \ P = 10 \text{ bar}, \ m = 1 \text{ kg/s} \]

In the Pyros flash pyrolysis pilot plant, the RPS serves as a particles arrestor in the high temperature reactor. A second RPS is used in the quench system for quick oil condensation. External drives are added for a pumping action. 
\[ T = 600 ^\circ C, \ P = 1 \text{ bar} \]

In the Dynamic Centrifugal Coalescer, CoalesSense integrated the RPS filter element in a pump to make large oil droplets from micron sized droplets. 
\[ T = 20 ^\circ C, \ P = 10 \text{ bar}, \ m = 0.5 \text{ kg/s} \]

For evaluating the cryogenic pressure distillation process of Condensed Rotational Separation two gas-liquid versions are realized: one at lab scale for real process conditions and one at real scale but atmospheric conditions. An external drive is added for testing purposes.

\[ T = -60 ^\circ C, \ P = 27 \text{ bar}, \ m = 0.02 \text{ kg/s} \]
\[ T = 20 ^\circ C, \ P = 1 \text{ bar}, \ m = 0.3 \text{ kg/s} \]

For general testing a version is built with a magnetic coupling for an optional external drive.
\[ T = 20 ^\circ C, \ P = 8 \text{ bar}, \ m = 0.3 \text{ kg/s} \]

All versions perform according to the design specifications.