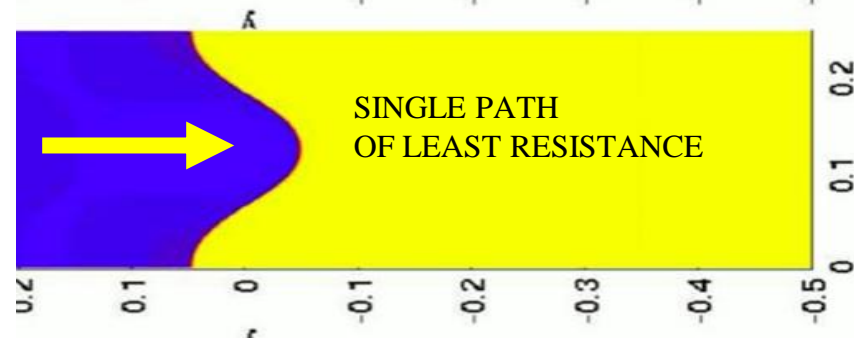
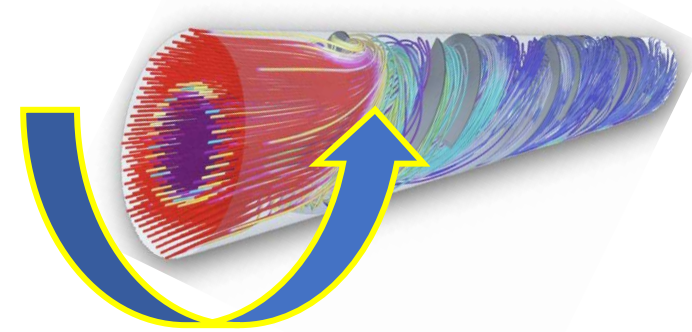


VORTEX – The New Flow Standard

VORTEX TECHNICAL BREAKTHROUGH



UNLIMITED FLOW PATHS OF LEAST RESISTANCE



PROBLEM

- Laminar flow sleeves drag against pipe walls & each other
- Flowing drag results in **INEFFICIENT, COSTLY PUMPING**
- Unreliable flows, blockages requiring expensive intervention
- **Higher flow requires costly square law power increases**
- **Flowing pressure declines rapidly - a symptom of drag losses**
- Yield, productivity and operations continually compromised
- Endure higher capex/opex/emissions of larger pumps, pipes

SOLUTION

- Flow rotation minimizes frictional drag
- Reduced energy consumption across all flow rates
- Full pipe volumetric capacity effectively utilized
- Increased flow capacity achievable in existing lines
- Simple and cost-effective retrofit with vortex unit

VORTEX BENEFITS

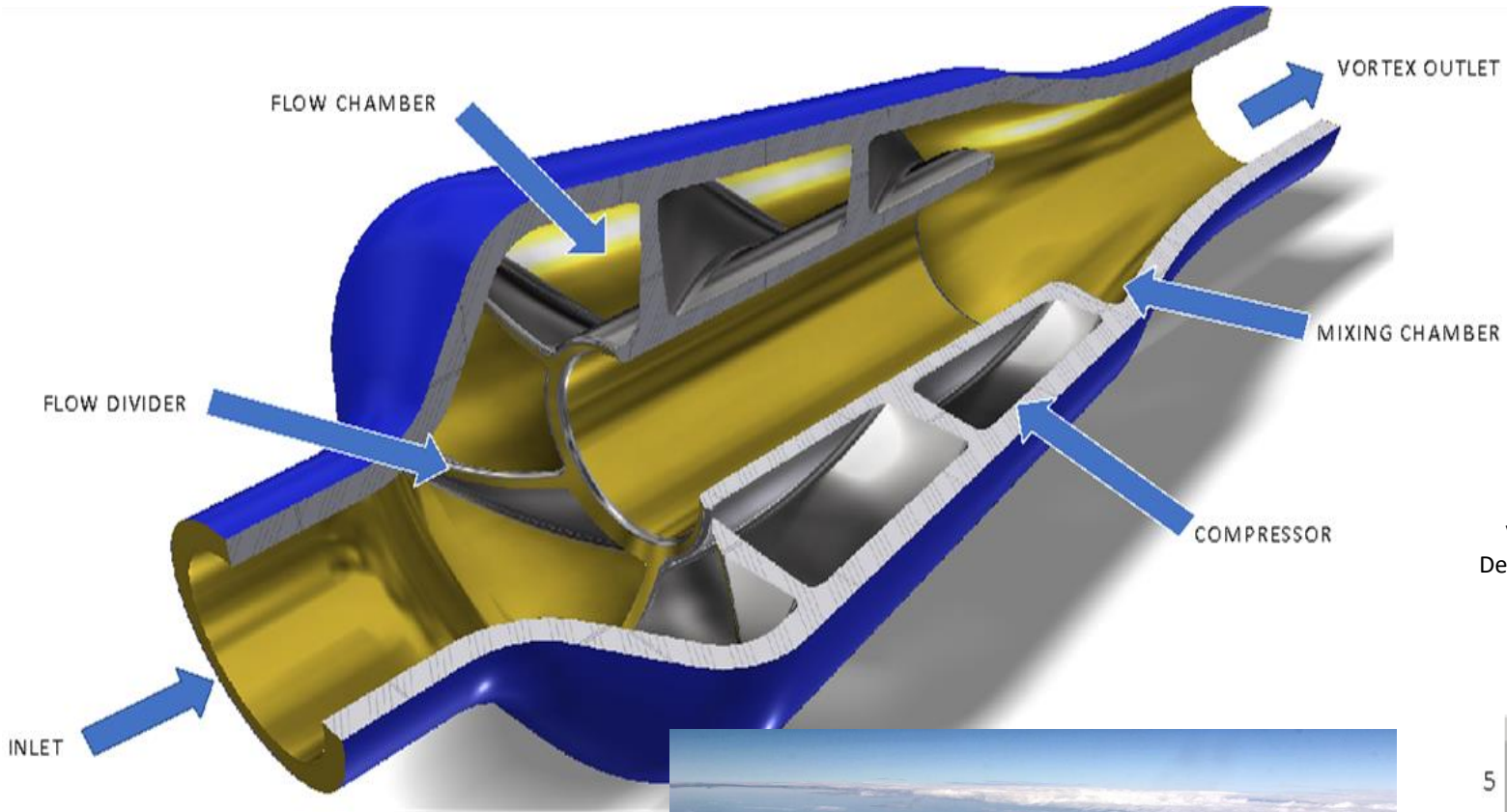
- Unlock higher flow capacity in existing lines
- Lower costs associated with fluid transport units
- Compatibility with multiple fluids
- Piggable vortex units with zero downtime

Value Proposition : **SIMULTANEOUS**

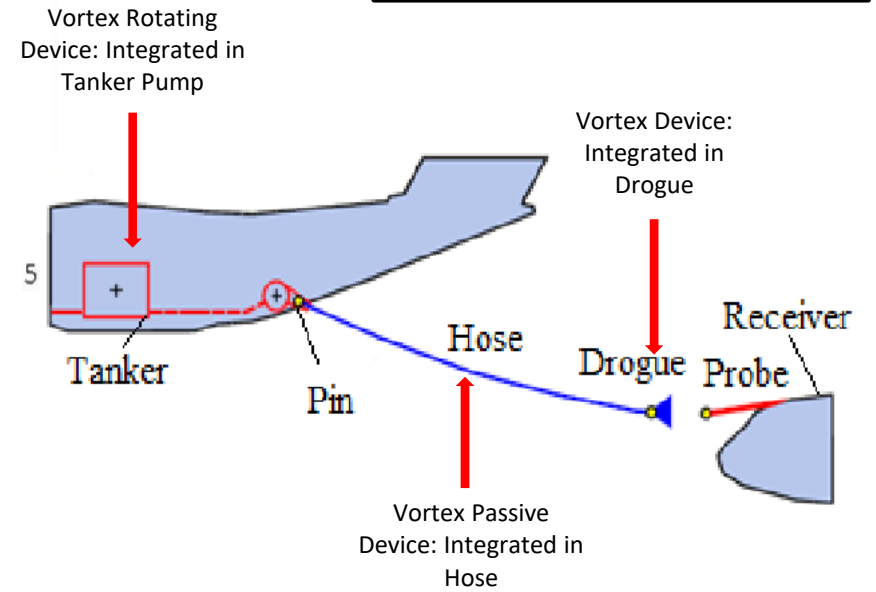
- Reduction in pumping costs
- Unlock higher flow capacity in existing lines
- Cost-effective de-bottlenecking solutions
- Lower overall costs
- Decreased energy consumption
- Emission reduction



VORTEX AMPLIFIER CROSS-SECTION



- Installs simply in line
- No moving parts
- No energy required
- No maintenance
- Fully Piggable
- Fit and forget



VORTEX TESTED PERFORMANCE

SYSTEMS CURVE **BASE** vs. **VORTEX**

