

Problem Statement

- Many pump applications require “low flow / high head” performance, and yet be a compact machine.
- Elevated speed is a partial solution, but positive displacement pumps are comparatively large while full emission pumps are forced to operate near minimum flow for these duties.

Technology Description

- Partial emission “Barske” pump technology combines a high head rise impeller with a tailored discharge diffuser and responds well to high speed operation.



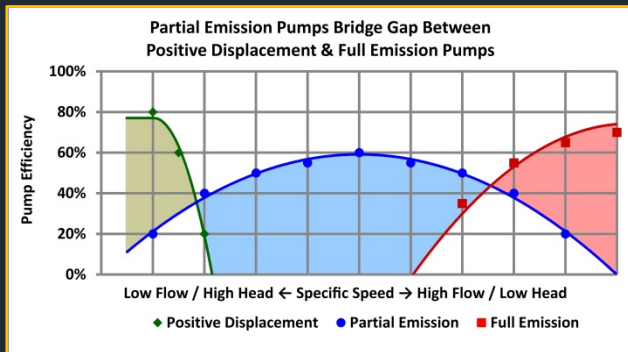
Partial Emission Impeller

Full Emission Impeller

Efficiency Curves

- The partial emission design delivers superior efficiency in the sweet spot of specific speeds ranging from 200 (10) to 800 (40)*, outperforming full emission technology

*GPM Based / (CFS Based)



Areas of Applicability

- Refinery Applications
 - Low inlet NPSH distillation columns
- Commercial Cryogenic Pumps
 - Cryogenic applications for fluids such as LOX, LHe, LH2
- Space Tourism Industry
 - Ideal as an affordable low specific speed pump
 - Could enable elimination of boost pumps for certain LOX applications
- Scram Jet Engines
 - Lightweight fuel pump or hydraulic actuator pump

