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.

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

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
  o Ideal as an affordable low specific speed pump
  o Could enable elimination of boost pumps for certain LOX applications
• Scram Jet Engines
  Lightweight fuel pump or hydraulic actuator pump