

INTRODUCTION

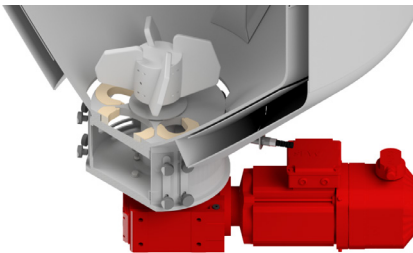
ABEC's single-use Custom Single Run (CSR) offers a GenMix High Turn Down (HTD) solution for upstream or downstream processing of biomaterials, which can work with TFF or support initial or final purification processing needs. Customizable Disposable Containers (DCs) and systems replicate the mixing performance of a traditional stainless equivalent but offer the flexibility and operational efficiency of single-use technology. ABEC's CSR GenMix HTD has a 45° conical-shaped bottom head with a low-profile impeller, allowing turndowns up to and greater than 20:1 while maintaining agitation and sensing capabilities.

BENEFITS

- Highest product recovery for UF/DF applications
- Maximum processing flexibility
- Rapid product changeover
- Lowest supply chain risk

UNIQUE FEATURES

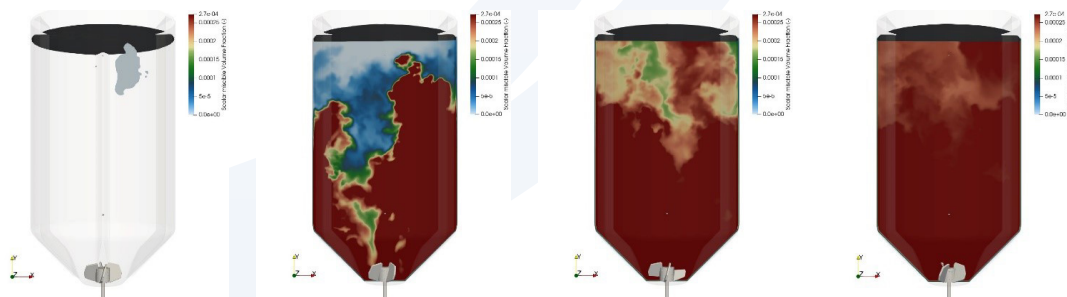
- Customizable size and system configuration to suit process and facility requirements
- Lowest blend times with highest system power input
- Largest processing volumes
- Customizable Disposable Container (DC) design
- Baffles welded to sidewalls and conical bottom head of CSR holder
- 45° angled conical bottom head minimizes fluid hold-up
- Global, in-house manufacturing of equipment and consumables
- Temperature control option via dimpled jacket
- DC installation and removal in less than an hour
- Non-proprietary control system options
- Transparent supply chain with multiple Qualified Suppliers



ABOVE:
ABEC's mixing system for CSR GenMix utilizes a SEW single mechanical seal gearmotor, a low profile impeller, and stainless baffles welded to the holder



ABOVE:
1000L Vw CSR GenMix HTD



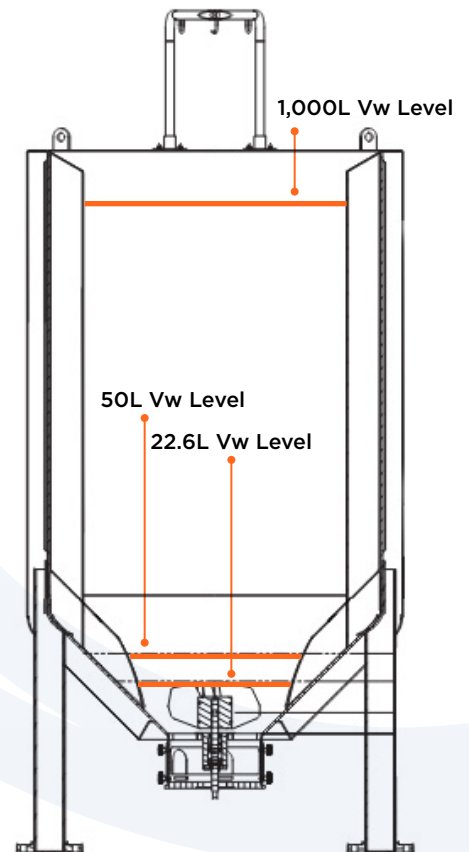
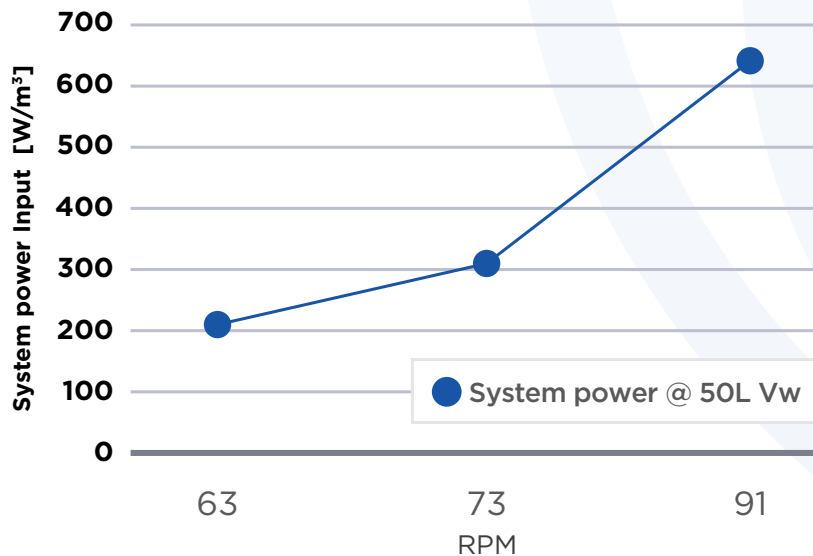
LEFT:
28 second blend time of 1,000L Vw CSR GenMix HTD operating at full volume and 250 rpm

Typical Specifications

ABEC's CSR systems are customizable to meet specific process and operational requirements. Typical design elements and specification ranges are shown

Working Volumes	Customizable: 500L up to 7,500L
Turndown Ratios	Customizable: > 20:1 with sensing and agitation capability
Agitator Mounting	Bottom Center
Agitator Motor Coupling	Mechanical
Agitator Seal	Mechanical/SiC
No. Baffles	Up to 4
Impeller Type	Customizable: Low profile impeller
Performance @ 1,000L	Blend time at max working volume: < 30 seconds @ 250 rpm Blend time at 20:1 turndown (50L): 9 seconds @ 91 rpm
Filtration Capability	Full integration with filtration systems including pumps and sensors
Process Controls	Customizable: Open architecture via Emerson, Rockwell, or Siemens hardware and software

**RPM vs System Power Input
1,000L @ 20:1 Turndown**



RIGHT: The minimum working volume for a 1,000L GenMix HTD is 22.6L