

DynaBlend™

Precision In-line Dynamic Blending System

- » Provides in-line dynamic real-time precision blending of chemical or slurry
- » Compact, modular design architecture
- » Accurate and repeatable
- » Multi-step blend sequences



Product Overview

Celerity's DynaBlend™ is designed for dynamic real-time precision blending of chemical or slurry. Utilizing liquid flow controllers to precisely blend constituents at the point-of-use, it provides the tool with consistent blend recipes at constant flow rates. The user may also dynamically control the recipe rate of each constituent, further maximizing planarization capability while maintaining constant delivery flow rates.

Over the process cycle, stock material is removed and slurry blends are reduced in solids content to avoid potential over-polishing. This benefit enables the user to enhance processes while reducing core chemical consumption, thereby realizing significant savings. DynaBlend is available in nine different flow ranges to accommodate most process recipe requirements. Each module can blend up to three constituents at the point-of-use.

Celerity's InFlo™ Technology



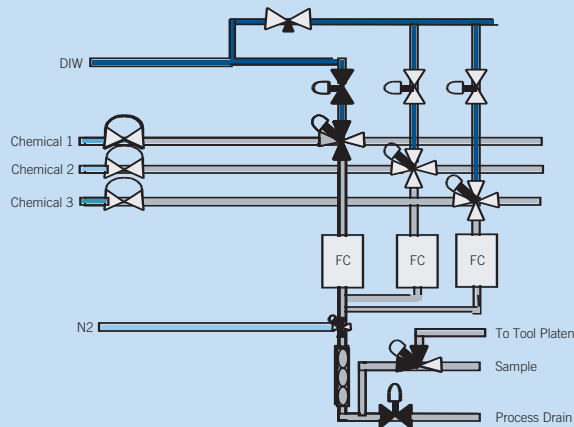
DynaBlend leverages Celerity's InFlo™ technology that has been specifically designed to accommodate CMP slurry and chemical distribution. With our patented algorithms, it manages flow with high precision and reliability, while taking into consideration the dual phase nature of slurry.

System Operation

Each module is programmed for a specific recipe which may have multiple steps for different ratios. When a demand signal is initiated, the flow controllers operate to provide the proper mix ratio to the mix chamber where the fluids are combined and made homogeneous from a pressurized source. This blend ratio may be configured to change during the demand sequence, providing additional process control. When the demand signal is terminated, the blend process stops. An automatic flush and purge sequence can be programmed to run based on the number of cycles, time from the cycle demand, or can be initiated manually.

Options

- CE mark – 220V, 50 Hz
- Pump module for supplying blend component from container
- Analytical modules as required (chemical specific)
- Light Tower



Utility	Requirement	Connection Type
DI water supply	5 GPM @ 30 psig	1/4" PFA flare for wall mount 3/8" bulkhead for cabinet
DI Water return	5 GPM @ 30 psig	1/4" PFA flare for wall mount 3/8" bulkhead for cabinet
N ₂	3 SCFM, 90 psig	3/8" SS bulkhead
Power	120 VAC, 15A, 60 Hz	3/4" Conduit
Exhaust	50 SCFM @ -2" H ₂ O	2" FNPT (3" flange for containment cabinet)
Process Drain	2 GPM @ 25 psig	3/8" flare w/ dual containment (3/8" FNPT for containment cabinet)
Cabinet drain	Gravity	3/8" FNPT

Features

- Compact, modular design
- Flexible designs suited to customers' installation requirements
- Scalable design
- Eliminates pot-life issues after blend
- Precisely controlled flow rates
- Ability to blend up to three constituents in one blend module
- Flexibility in recipe settings, sequences, and operation
- Programmable DI water flush and N₂ purge capability
- Compatible with all Mega Systems™ products
- Suitable for many slurry and chemical applications
- Flexible, easy installation, modifications, and upgrades
- Discharges directly to end use device, which can be a polisher platen, cleaning nozzle, or transfer tank

System Specifications

- Blend rate: From 40 ml/min to >6 L/min. (depending on number of constituent streams and their flow rates)
- Flow Rate: 20 ml/min to 2.2 L/min for individual component stream
- Availability: >99.9%
- MTBF: > 4,000 hrs.
- MTBA: > 2,500 hrs.
- MTTR: < 0.5 hr.
- Flow Rate and Blend Accuracy: within + 2% of target value

Dimensions

- Wall mount configuration:
 - Blend module: 19.5" W x 19" H x 10" D
 - Control module: 24" W x 28" H x 18" D
 - Sampling box: 16.5" W x 20" H x 12" D
- Cabinet configuration:
 - Containment cabinet: 24" W x 24" D x 72" H



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