

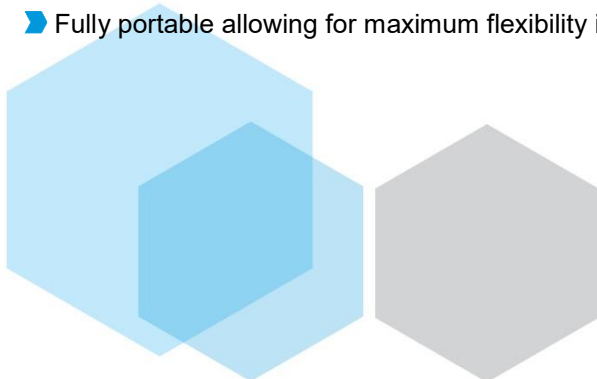
FUSION™ 

## Mobile Chemical Blending System Plus, the Fusion MCBS+

The DFS Fusion™ MCBS+ blends slurries or aqueous chemicals through our inline On-Demand™ blend technology or by weight and volume. All blending methods receive chemical from the customer-supplied chemical source, UPW, or on-board vessels. Blends are prepared in either of the two 114L blend and dispense tanks, and each blend is verified through the blend specific on-board metrology set. The system maintains and supplies constant temperature and pressure control to the production area tools. Maglev pumps (one per tank) are used for the main chemical supply, and pneumatic pumps are used for blend recirculation and transfer from external vessels.

### Advantages

- ▶ Fully automated system
- ▶ Excellent R&D process development platform
- ▶ Low cost of ownership
- ▶ Space efficient design
- ▶ Flexible and user-friendly HMI
- ▶ High blend accuracy
- ▶ Precise pressure control
- ▶ System and/or component redundancy to maximize production uptime
- ▶ Fully portable allowing for maximum flexibility in placement



# DFS FUSION™ MCBS+

## Features

- ▶ Inline On-Demand blending
- ▶ Metrology for blend confirmation
- ▶ 114L HDPE blend/day tanks
- ▶ Precision 3-point load cells
- ▶ Flow and pressure monitoring
- ▶ Automated system and tool flushing sequences
- ▶ Maglev pumps for tank and recirculation (1 per tank)
- ▶ 10-inch filter housings (2 per tank)
- ▶ DFS high efficiency proprietary blend cell
- ▶ Pneumatic pumps for vessel recirculation and blending
- ▶ Non-intrusive level sensors
- ▶ Verification of incoming chemical supply
- ▶ Maintenance points for system purging and draining
- ▶ Automated sampling chamber
- ▶ Solenoid valves with system force capability
- ▶ All wetted flow paths are PFA, PTFM, or PTFE
- ▶ On-board humidified N<sub>2</sub> system
- ▶ Polypropylene cabinet materials

## Safety

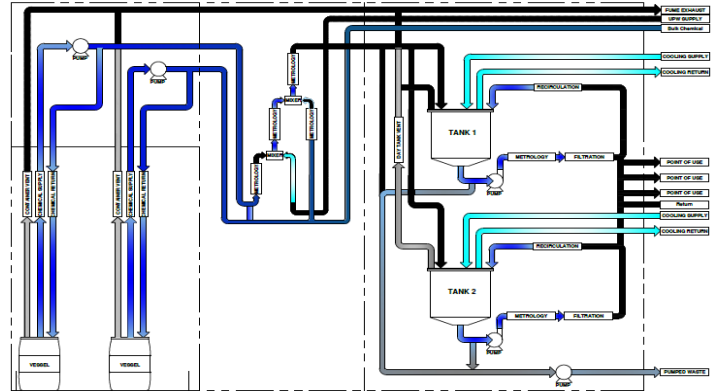
- ▶ Cabinet leak detection and alarming
- ▶ Cabinet exhaust monitoring and alarming
- ▶ Cabinet door interlocks
- ▶ Cabinet contains 110% of the largest volume
- ▶ Recirculating UPW spray gun for maintenance
- ▶ Waste pump for system draining and maintenance
- ▶ Local and remote EMO capability
- ▶ UL 508A Certified
- ▶ SEMI S2 Compliant

## Options

- ▶ External vessel connections
- ▶ 2-part and 3-part blending modules
- ▶ Refractive Index, pH for blend confirmation
- ▶ Configurable global loop or three independent tool supplies
- ▶ PTFM lined tanks
- ▶ FM4910 cabinet materials
- ▶ SEMI S2 Certified

## Controls

- ▶ PLC and HMI
  - On-screen system P&ID
  - Maintenance and shutdown monitoring
  - Force screens for maintenance and troubleshooting
  - Pump runtime monitoring
  - Password protected screens
  - Manual activation of valves/pumps
- ▶ Connectivity to system PLC Ethernet networks
- ▶ Communication with PC via PLC network



Model	Fusion MCBS+
Applications	Acid, bases, oxidizers, slurry
Blend Supply	40 LPM
Flow Rate	40 LPM
Pressure Control	+/- 0.3 psig
Inline Blend Accuracy	+/- 0.1% relative
Wt-Based Blend Accuracy	+/- 1% relative
Footprint	29.5"Dp x 53.75"W x 75.5"H

Facility Requirement	Utilities
Ultrapure Water (UPW)	45 LPM
Nitrogen (N <sub>2</sub> )	175 SCFH
Clean Dry Air (CDA)	18 SCFM
Exhaust	150 SCFM
Process Drain	38 LPM
Power	208VAC
Cabinet Drain	Gravity



**DFS** Diversified Fluid Solutions  
A Critical Process Systems Group Company

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