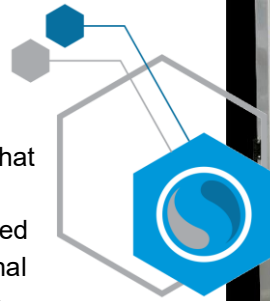


FUSION™ 

Mobile Chemical Blending System, the Fusion MCBS

The DFS Fusion™ MCBS is a mobile blending platform that can feed up to three production tools. The MCBS blends chemical by weight or by volume from externally connected source vessels, house ultrapure water (UPW), and optional house-supplied chemical. Blends are verified through the on-board metrology in the blend tank and then transferred to the day tank maintaining constant temperature and pressure-controlled supply to the production areas. The MCBS uses a single centrifugal pump for the main chemical supply and pneumatic pumps for blend recirculation and transfer from the external vessels.

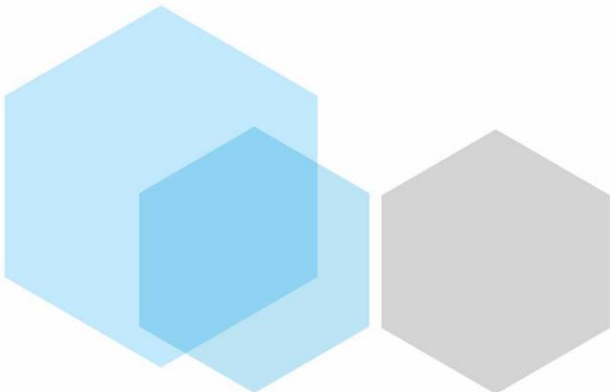


System Benefits

- ▶ Excellent R&D process development platform
- ▶ Low cost of ownership
- ▶ High blend accuracy
- ▶ Precise pressure control
- ▶ Flexible and user-friendly HMI
- ▶ System redundancy to maximize production uptime
- ▶ Automated system and tool supply line flushing
- ▶ Portable unit able to pass through standard 3-foot door
- ▶ Space efficient design

Components

- ▶ Non-intrusive level sensors
- ▶ Pressure and flow monitoring
- ▶ Precision load cells
- ▶ Centrifugal pump



DFS FUSION™ MCBS

Cabinet

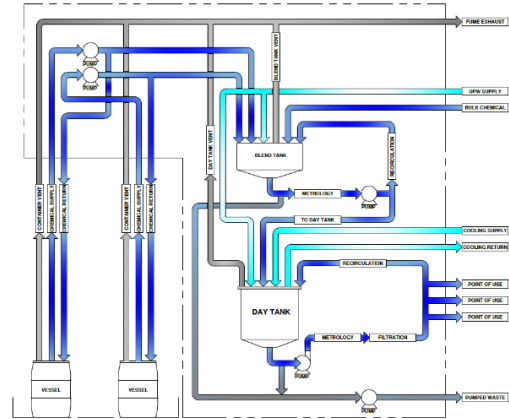
- ▶ Fully automated system
- ▶ Inline On-Demand™ blending
- ▶ Conductivity and RI metrology for blend confirmation
- ▶ HDPE day tank with cooling coils for temperature control
- ▶ 3-point load cell system to monitor levels and blend chemicals
- ▶ Flow and pressure monitoring
- ▶ Optical cabinet leak detection and alarming
- ▶ Automated flushing and drain sequences
- ▶ Recirculating UPW spray gun for maintenance
- ▶ Cabinet door interlocks
- ▶ Centrifugal pump
- ▶ 10-inch filter housings
- ▶ Conductivity verification of incoming chemical supply
- ▶ Waste pump for system draining and maintenance
- ▶ Maintenance valves for purging, draining, and sampling
- ▶ Automated sampling chamber
- ▶ Solenoid valves with manual bypass
- ▶ All wetted flow paths are PFA, PTFE, or HDPE
- ▶ Space efficient design
- ▶ UL certified
- ▶ Semi S2 compliant

Options

- ▶ Bulk feed capable
- ▶ 2 part and 3 part blending modules
- ▶ Refractive Index for QC operations
- ▶ pH analyzers
- ▶ FM4910 cabinet materials
- ▶ Pressure vessel for foaming chemicals or fine additions

Controls

- ▶ Allen-Bradley® HMI and PLC
- ▶ PID process control
- ▶ Alarm screens for maintenance and shutdowns
- ▶ Force screens for maintenance and troubleshooting
- ▶ Pump runtime monitoring
- ▶ Password protected calibration and maintenance screens
- ▶ Manual activation of valves/pumps from maintenance screens
- ▶ Connectivity to system PLC Ethernet networks
- ▶ Local and remote EMO capability
- ▶ Communication with PC via PLC network



Model	Fusion MCBS
Applications	Acid, bases, oxidizers, slurry
Internal Flow Path	3/4"
Blend Supply	10-15 LPM
Materials Flow Path	PFA Teflon™ pipe & tubing
Flow Rate	10-15 LPM @ 30 psi
Flow-Based Blend Accuracy	+/- 0.1% relative
Wt-Based Blend Accuracy	+/- 1% relative
Pressure Control	+/- 0.3 psig
Cabinet Materials	Polypropylene/PVC
Safety	SEMI S2 compliant
Footprint	30"Dp x 49.5"W x 76"H
Blend/Day Tank	HDPE

Facility Requirement	Utilities
Ultrapure Water (UPW)	7-11 LPM
Nitrogen (N ₂)	100 SCFM
Clean Dry Air (CDA)	120 psi / 16 SCFM
Exhaust	100 SCFM
Process Drain	11-19 LPM
Power	208VAC, 20A
Cabinet Drain	Gravity
Supply Loop	10-15 LPM@30 psi



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