

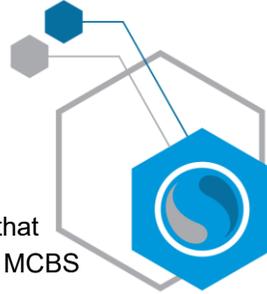


Mobile Chemical Blending System, the Fusion MCBS

The DFS Fusion™ MCBS is a mobile blending platform that can feed up to three production tools or global loop. 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 distribution 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.

Advantages

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



Chemical
Blending

DFS FUSION™ MCBS

Features

- ▶ Conductivity and RI metrology for blend confirmation
- ▶ HDPE distribution tank with cooling coils for temperature control
- ▶ 3-point load cell system to monitor levels and blend chemicals
- ▶ Pressure and flow monitoring
- ▶ Non-intrusive level sensors
- ▶ Precision load cells
- ▶ Automated flushing and drain sequences
- ▶ Maglev pump
- ▶ 10-inch filter housings
- ▶ Maintenance points for system purging and draining
- ▶ Solenoid valves with system force capability
- ▶ All wetted flow paths are PFA, PTFE, or HDPE
- ▶ Polypropylene/PVC cabinet materials

Safety

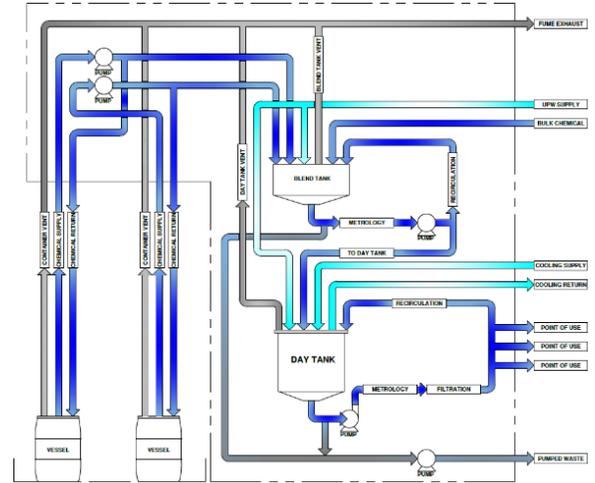
- ▶ Cabinet leak detection and alarming
- ▶ Cabinet exhaust monitoring and alarming
- ▶ Cabinet door interlocks
- ▶ Cabinet contains 110% of the largest volume
- ▶ Local and remote EMO capability
- ▶ Recirculating UPW spray gun for maintenance
- ▶ Waste pump for system draining and maintenance
- ▶ UL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

Options

- ▶ Bulk feed capable
- ▶ 2-part and 3-part blending
- ▶ pH metrology
- ▶ Specific gravity metrology
- ▶ Pressure vessel for foaming chemicals or fine additions
- ▶ 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	10-15 LPM
Flow Rate	10-15 LPM
Flow-Based Blend Accuracy	+/- 0.1% relative
Wt-Based Blend Accuracy	+/- 1% relative
Pressure Control	+/- 0.3 psig
Footprint	30"Dp x 49.5"W x 76"H
Blend/Distribution Tank	HDPE

Facility Requirement	Utilities
Ultrapure Water (UPW)	7-11 LPM
Nitrogen (N ₂)	100 SCFH
Clean Dry Air (CDA)	16 SCFM
Exhaust	100 SCFM
Process Drain	11-19 LPM
Power	208VAC
Cabinet Drain	Gravity
Supply Loop	10-15 LPM



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