

DFS FUSION™ MINI MIX™ PLUS



Versatile Mobile Chemical Blending & Dispense System, the Fusion On-Demand MiniMix+

The DFS Fusion On-Demand MiniMix+ transfers chemical from an interchangeable 5-gallon pail or bulk supply to the internal On-Demand Blender. Chem 1 is supplied through the internal vessel or bulk supply. UPW and Chem 2 are supplied using the Facility supply source.

Through the On-Demand™ stream, DFS blend cell, and select analytics, the constituents are blended to drain until the target analytics have been validated. Once the target analytics are validated, the blend supply is diverted to the 38-liter HDPE day tanks (optional PFA) and filled to the full weight.

After the blend constituents have been added to the blend tank, the blend is allowed to recirculate through the internal recirculation loop and select analytics until the blend is validated for a second time. Once the blend has been verified, the system is allowed to go online to the production area. The system has the capability to supply up to 5 connection points. It can also be set up to do a “keep-full” operation with the On-Demand blender blending on top of the existing chemical blend in the online tank, allowing the system to continually supply the production tool without interruption. The system also has the capability to automatically adjust the blend in the tank if the onboard analytics determine the blend to be out of specifications.

Advantages

- ▶ Fully automated system
- ▶ Full blend configuration
- ▶ Ability to perform R&D testing while permanent system comes online
- ▶ Process engineers can easily adjust recipes through the user-friendly HMI as well as monitor key metrology data points
- ▶ Space efficient design
- ▶ On-Demand blending for accurate, repeatable blending and validation
- ▶ DFS high efficiency proprietary blend cell for homogenized mixing and linear flow smoothing



Chemical
Blending

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Features

- ▶ Inline On-Demand™ blending
- ▶ Metrology is selectable for blend confirmation; standards include conductivity and RI metrology
- ▶ 37L HDPE blend/day tanks
- ▶ 3-point load cell system to monitor levels and blended chemicals
- ▶ Pressure and flow monitoring
- ▶ Auto flush of internal plumbing and blend streams
- ▶ Maglev pumps for blend and distribution
- ▶ 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
- ▶ Polypropylene cabinet materials

Safety

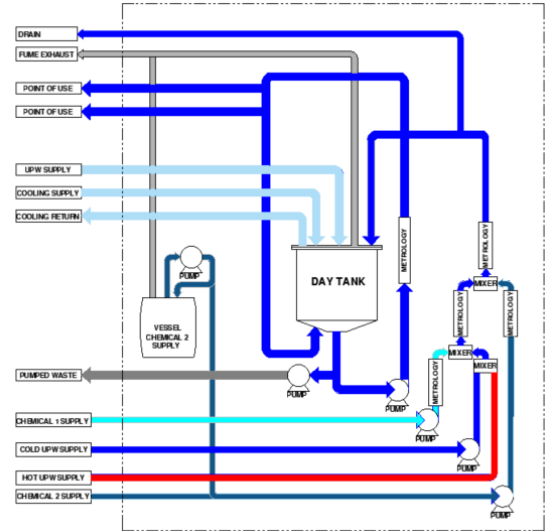
- ▶ Cabinet leak detection and alarming
- ▶ Cabinet exhaust monitoring and alarming
- ▶ Cabinet door interlocks
- ▶ Cabinet contains 110% of the largest volume
- ▶ Local and remote EMO capability
- ▶ Recirculating UPW spray gun for maintenance
- ▶ Waste pump for system draining and maintenance
- ▶ Bi-directional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

Options

- ▶ 10-inch filter housings
- ▶ PTFM lined tank cabinet
- ▶ Global Loop
- ▶ FM4910 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 MiniMix+
Applications	Acids, bases, oxidizers
Flow Rate	20LPM
Pressure Control	+/- 0.3 psig
Blend Accuracy	+/- 0.1% relative
Blend Supply	1200 mL/min per connection (5 total)
Footprint	43"Dp x 30"W x 72"H
Blend/Day Tank	HDPE

Facility Requirement	Utilities
Ultrapure Water (UPW)	20 LPM
Nitrogen (N ₂)	80-100 psi
Clean Dry Air (CDA)	80-100 psi
Exhaust	80-140 SCFM
Process Drain	20 LPM
Power	208VAC
Cabinet Drain	Pressurized
Hi Res Supply	20-40 LPM
Chem 1 and Chem Spare	0.25 LPM



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