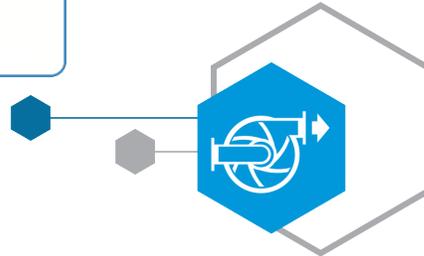


# DFS BULK OFFLOAD AND TRANSFER SYSTEM

## TITAN™



## Bulk Offload and Transfer System



The DFS Titan™ Transfer and Offload System automatically transfers an aqueous chemical from the tanker offload cabinet to the main distribution tanks. This system monitors the level of the main bulk tanks and allows tanker offload into storage tank A. Storage tank A refills storage tank B at the defined setpoint, and all chemical transfers for production tools come from storage tank B.

When the distribution system requests chemical, the system transfers chemical until the distribution tank level has been satisfied and the request signal removed. If one of the pumps is down for maintenance, the system can be configured to supply and return from the opposite tank.



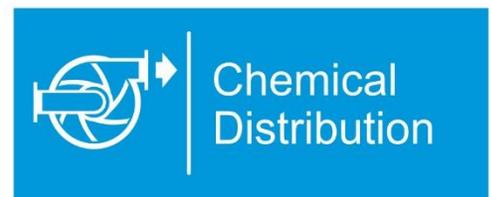
Transfer Module



Offload Module

## Advantages

- ▶ Fully automated systems
- ▶ Low cost of ownership
- ▶ Flexible and user-friendly HMIs
- ▶ Space efficient designs
- ▶ Monitors and controls:
  - Tanker offload functionality
  - Tank levels during offloads and normal operation
- ▶ Continuous transfer of chemical from the main tanks to the production area distribution tanks
- ▶ System and/or component redundancy as required to maximize production uptime



# DFS BULK OFFLOAD AND TRANSFER SYSTEM

## Features

- ▶ Flow and pressure monitoring
- ▶ Quality Control verification of incoming chemical
- ▶ Automated sampling for offload analytical verifications
- ▶ Maintenance points for system purging and draining
- ▶ Solenoid valves with system force capability
- ▶ All wetted flow paths are PFA, PTFM, or PTFE
- ▶ Polypropylene cabinet materials

## Transfer Cabinet

- ▶ Pneumatic or maglev pump options
- ▶ 20-inch filter housings
- ▶ Pneumatic pump for transfer to distribution systems

## Offload Cabinet

- ▶ SS N<sub>2</sub> connection and regulator for supply to tanker
- ▶ Waste tank and pump to remove sample waste

## Safety

- ▶ Cabinet leak detection and alarming
- ▶ Cabinet exhaust monitoring and alarming
- ▶ Cabinet door interlocks
- ▶ Cabinets contain 110% of the largest volume
- ▶ EMO to stop unload functionality from offload system
- ▶ Recirculating UPW spray gun for maintenance
- ▶ Waste pump for system draining and maintenance
- ▶ SEMI S2 Compliant
- ▶ UL 508A Certified

## Options

- ▶ FM4910 cabinet materials
- ▶ External emergency vessel connections
- ▶ Inline sample or bottle
- ▶ Pneumatic or maglev pumps
- ▶ Waste dilution module
- ▶ Tank volumes and materials of construction
- ▶ SEMI S2 Certified

## Controls

- ▶ PLC and HMI
  - Offload HMI: 7-inch; Transfer HMI: 12-inch
  - On-screen system P&ID
  - Maintenance and shutdown monitoring
  - Force screens for maintenance and troubleshooting
  - Password protected screens
  - Manual activation of valves/pumps
- ▶ Connectivity to system PLC Ethernet networks
- ▶ Communication with PC via PLC network

Model	Transfer System
Applications	Acid, bases, oxidizers
Flow Rate	40 to 60 LPM
Pressure Control	+/- 0.3 psig
Footprint	52"Dp x 103"W x 77"H

Transfer Fac. Requirement	Utilities
Ultrapure Water (UPW)	7.5 LPM
Nitrogen (N <sub>2</sub> )	200 SCFH
Clean Dry Air (CDA)	45 SCFM
Exhaust	400 SCFM
Process Drain	19 LPM
Power	208VAC
Cabinet Drain	Pressurized

Model	Offload System
Applications	Acid, bases, oxidizers, slurry
Flow Rate	45 to 75 LPM
Pressure Control	+/- 0.3 psig
Footprint	33"Dp x 70.5"W x 74"H

Offload Fac. Requirement	Utilities
Ultrapure Water (UPW)	7.5 LPM
Nitrogen (N <sub>2</sub> )	13 SCFH
Clean Dry Air (CDA)	15 SCFM
Exhaust	300 SCFM
Process Drain	19 LPM
Power	208VAC
Cabinet Drain	Pressurized



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