

FloConnect® Sand Management System

SOLIDS MANAGEMENT THROUGH PROCESS AUTOMATION AND DIGITALIZATION BRINGS UNPARALLELED ACCURACY AND EFFICIENCY

OVERVIEW

Halliburton's FloConnect® Sand Management System (SMS) is a game changer in terms of solids management operations. Providing unparalleled efficiency, the SMS expands traditional systems by adding solids production awareness within the separation skid, automating workflows, reducing operating time and environmental impact, and removing personnel from the red zone.

AWARENESS AND REMOVAL OF SOLIDS PRODUCTION THE SECOND IT OCCURS

The automated SMS delivers solids separation with up to 98% efficiency for solids > 5 microns while enabling the operator to control, monitor, and report solids production rate parameters and equipment health from a tablet or secondary remote location, such as a command center.

SMS automation provides solids production awareness and accumulation in vessel, thus, the environmental impact is reduced, requiring fewer flush resources and decreasing waste management. Furthermore, choke management can be improved as decreasing solids production rates can be detected earlier than the conventional SMS.

Equipment condition monitoring (ECM) is available throughout all operations, with instant awareness and alarms for unsafe conditions. This provides process assurance and helps improve decision making. In addition to less flush and valve handling requirements during operation, equipment reliability is also greatly improved.

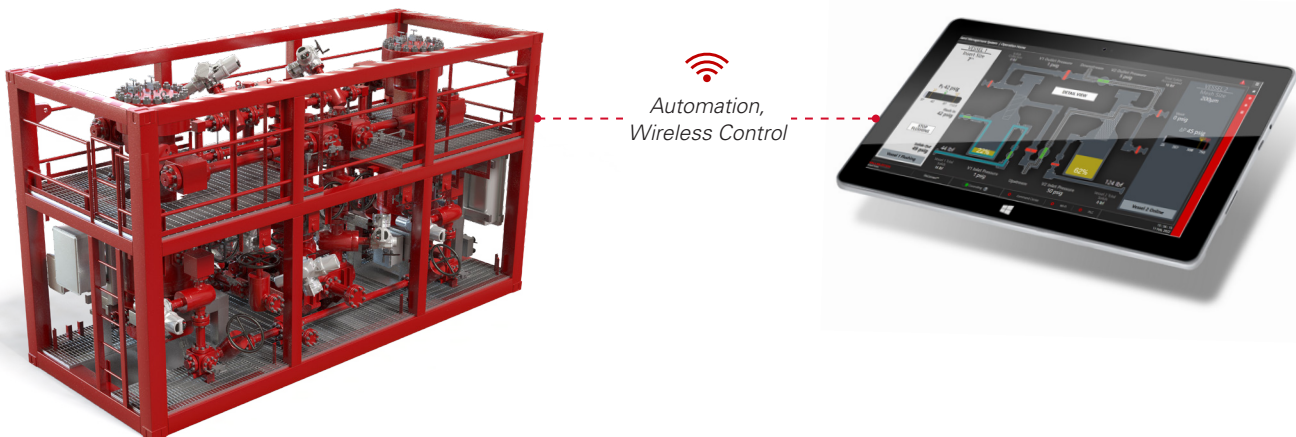
Leveraging Halliburton operational experience, high level of automation and "know-how" were incorporated into equipment to ensure consistent operations and significant reduction of HSE risk exposure that can't be achieved with simple remote control systems, e.g., automated workflows such as swap vessels with equalization and flush vessel. Additional automated features include auto-switch vessels on high differential pressure across screens to deliver standard operating procedures into all FloConnect SMS applications.

FEATURES

- » Highly automated and remotely controlled
- » Equipment condition monitoring
- » Built-in solids produced reporting
- » Highly reduced HSE risk exposure
- » Monitoring from command center and/or tablet
- » Safety autonomous features
- » Process control and monitoring supported by process alarms
- » Modular plug-and-play technology

BENEFITS

- » Standard operating procedures consistently done right
- » Reduced operational time
- » Reduced waste and emissions management
- » Enhanced choke management based on solids production rate
- » Personnel removed from the red zone
- » Easy to integrate with the FloConnect platform and other surface well testing equipment



Equipment Specifications

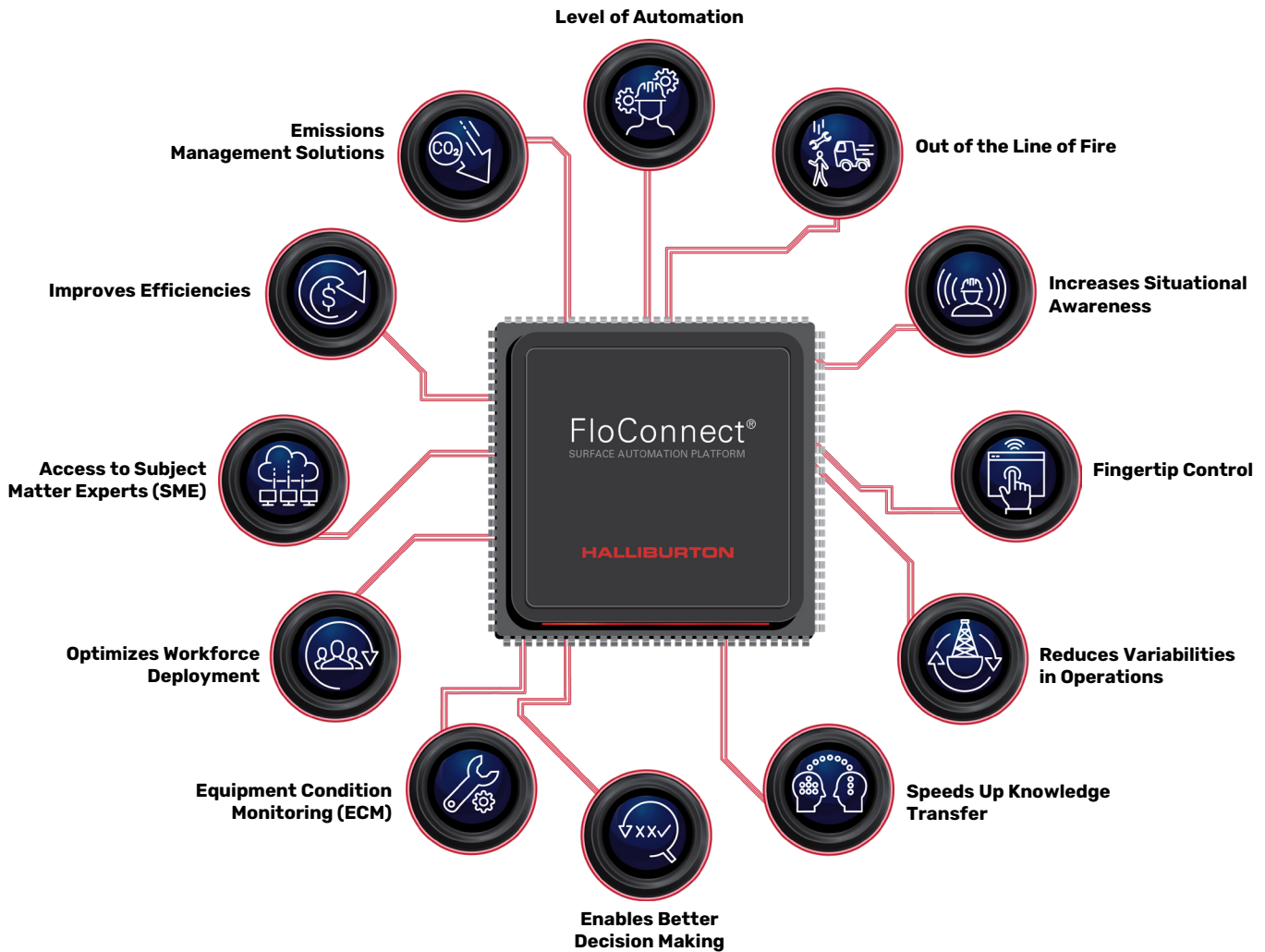
Part Number	102981521	
Class Temperature, °F (°C)	P+X (-20 to 350 (-29 to 176)) ⁽⁴⁾	
Separation Element	Dual Use Vessel:	Cyclonic Internals – 100- to 300-mm Inserts Filter Internals – 50- to 400-µm Screen Sizes
Equalization Between Vessels	2 1/16-in. Spool with 2x Fixed Chokes (Maximum 2-in. ID) for Equalization/Venting Lines	
Autonomous Features ⁽⁸⁾	Auto Diversion for High Differential Pressure / Bucket Over Fill Auto Prompt Recommendations / Auto Equalize via Inline Choke	
Fluid Capacity Per Vessel	130 mm SCFD (GVF=100)/25,000 BOPD (GVF=0) ⁽⁷⁾	
Solids Removal Efficiency ⁽⁵⁾	> 10 microns	
Electrical Power Requirements	230 VAC, 3-Phase, 60 Hz	
Skid Frame	Designed in Accordance with DNV 2.7-3	
Skid Size (L x W x H), in. (mm)	236.2 x 94.49 x 133.4 (6000 x 2440 x 3390)	
Actual Unit Weight, lb. (kg)	73,854 (33500)	
Design	IECEX API 6A, PSL-3, PR2, EE-NL, ASME VIII DIV. 2, B31.3 ^(2,3)	
Service	NACE MR-01-75	
Hazardous Zone Area	Zone 1	
Modes of Operation	Automated (Wired Wireless) and Manual	
Performance	Enhanced Solids Production Monitoring, Logging and Analysis	
Equipment Condition Monitoring	Torque Alarms, Battery Alarms, Valve Obstructions, Valve Jams, Manual Operations, Actuator Maintenance, Valve Maintenance, Greasing Intervals, Maintenance Interval/Valve Inspections, High/High-High and Low/Low-Low Pressures, High/High-High Solids Level	
Accumulator Volume Per Vessel, bbl (L)	1.26 (200)	

Notes

1. These ratings are guidelines only. Contact your local Halliburton surface well testing (SWT) representative for more information.
2. Halliburton Testing and Subsea has developed purchasing specifications to ensure that SWT equipment used by Halliburton meets or exceeds recognized international specifications and industry codes (where/as applicable).
3. Refer to the equipment databook for individual equipment specifications and codes.
4. Manual operation is possible up to 140°F (60°C).
5. 100% efficiency above >10 microns. Actual job requirements should be reviewed as part of the Halliburton Design of Service (DOS) process.
6. Different configurations are available upon request.
7. Flow rates are based on single phases. For all intermediate gas void fraction (GVF) scenarios, further modeling is necessary to confirm maximum flow rates.
8. Based on client standard operating procedures – can be customizable upon request.

ABOUT FLOCONNECT® SURFACE AUTOMATION PLATFORM

The FloConnect surface automation platform is a common data-centric platform with control functionality that provides automated control of surface well testing (SWT) operations, while monitoring and measuring all factors related to the production of well effluents. This highly scalable and configurable automation platform is designed to meet the needs of SWT applications to maximize operational efficiencies and address complex challenges.



For more information, contact your local Halliburton representative
or visit us on the web at www.halliburton.com

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