



Continuous Testing System (CTS)

Taking Online Blending to the Next Level

CFR Engines Inc. (CFR®) is taking online blending to the next level with its Continuous Testing System (CTS). Integrated with the state-of-the-art XCP® Technology, it allows automatic, 24/7 operation linking one or more engines to the refinery's online octane blending system.

Like all CFR® products, the CTS is designed, manufactured, and tested to work as part of an integrated and reliable solution for your operation. The engine, parts, accessories, instrumentation, and control system are all provided by CFR® to operate together with seamless efficiency.

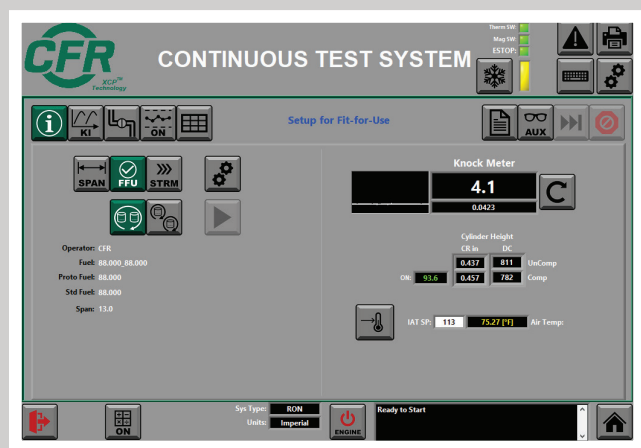
COMPLIANCE

Built by CFR® to fully integrate with existing CFR® systems and comply with the industry standard ASTM® Method for Online Direct Comparison Tests.

D2885 - Octane Number by Online Direct Comparison

ACCOUNTABILITY

Supported by XCP® Technology, the CTS has intuitive and accessible menus for total instrument control. Built-in prompts, automated calculations, and data logging greatly reduce the chance for operator errors and allow operators to be quickly cross-trained for improved workflow resulting in increased throughput and productivity. CTS monitoring screens provide the added features of universal graphic icons and the ability to set all the key online testing parameters.



- User friendly Windows® based operating system for easy integration, security, and upgrades.
- Customizable site-specific setups and fully automated fuel system (no manual valves).
- Visual interface with process flow graphics and engine/system status indicators, live data, including real-time feedback on blend quality/octane results.
- Fully compatible and customizable with the on-site SCADA/HISTORIAN systems to allow maximum integration and operational oversight.
- Historical operating data for every engine is saved to allow full traceability and comprehensive reports.

SPEED

With XCP® Technology, the ability to conduct faster tests and increase productivity is achieved through it's integrated computer, smart valve timing, and fuel management.



Control at Engines or From a Distance

Inherent to all XCP® platforms, an on-board full function industrial PC for operation, measurement, data storage, and control are key features of the CTS. This design lends itself to easier integration of multiple units via Modbus onto a User's master SCADA system. Each machine maintains its own on-board data storage with external network connectivity.

The CFR® system also comes with customizable remote monitoring and control capabilities through the CFR® RAS system. This allows for standard output screens, unit/system status and control, real-time performance curves, and data table summaries.

CONFIGURATIONS

As an upgrade kit for existing units:

P/N: G-802-65: F1/F2 XCP® CTS Upgrade Kit

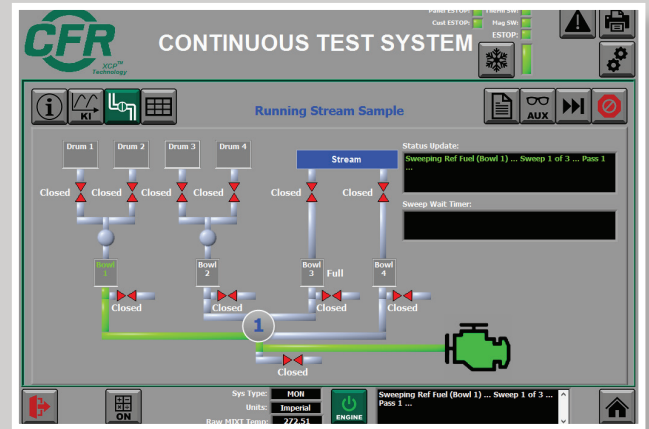
As a specified inclusion on new CFR® F1/F2 units.

INTEGRATIONS

Carburetor/fuel bowl cooling and intake air humidity can be controlled and documented by CTS when integrated with a CFR® Engine Air Control System (EACS).

SPECIFICATIONS

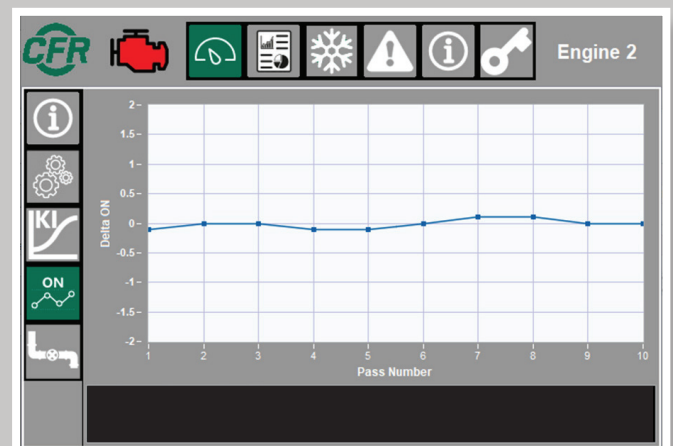
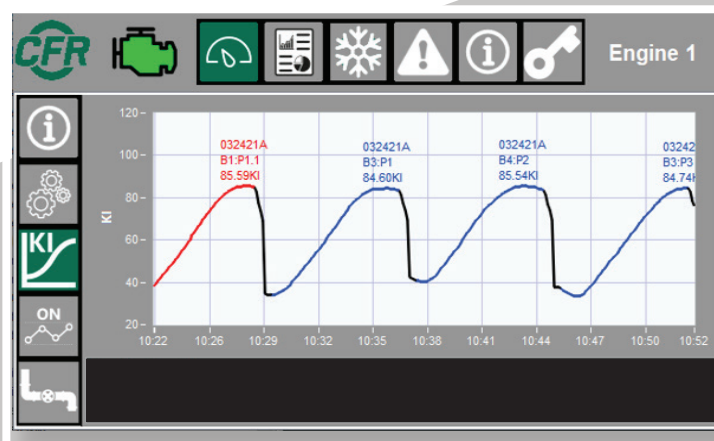
- Touch screen HMI with industrial PC
- Windows® operating system
- Modbus register for SCADA connectivity
- LIMS connectivity
- Bolt-on configuration to existing units
- Power supply: 120V, 1 Ph, 50/60Hz



Animated diagrams display present state of system valves, pumps, and fuel flow - on unit or remote.

Status	Name	Fuel ID	Octane Number
	Engine 1	83056517	90.94
	Engine 2	30096176	89.78
	Engine 3	34211272	88.98
	Engine 4	46993846	88.92
	Engine 5	73410559	89.56
	Engine 6	87763027	91.18

Remote monitoring system tracks real-time unit status and performance via TCP/IP communications.



System provides intuitive menus for easy access to critical data, such as KI charting and Octane ratings across passes.

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