Optima[®] Hydrogen Fueling Dispenser

THE NEXT GENERATION OF HYDROGEN DISPENSERS IS NOW

Optima® is the most advanced alternative fuel dispenser on the market today. Featuring a newly designed purpose built cabinet equipped with the powerful new **MICON NEXTGEN 1.0®** controller, **Optima®** enhances station control and performance via its unmatched data collection and communication capabilities.

Optima[®] is the result of over three decades of alternative fuels focused experience and feedback from the field. Recognizing a need for easily accessible detailed historical and real time data, **Optima**[®] offers greater functionality in extracting and synthesizing relevant data to identify trends, creating a smart station.

The Kraus Global Optima[®] Hydrogen dispenser offers a new level of fuel dispensing performance while maintaining the high standard Kraus Global has set for safety, reliability and accuracy.



Optima[®] serves you better:

Introducing the PULSE[™] Display

- o Revolutionary new proprietary display to communicate real time status of each fill
- o Users can visually follow fill progression
- o Provides operators visual data to monitor and troubleshoot station performance

Optime and Reliability

- o Save time and money with remote software upgrades, advanced monitoring, and troubleshooting tools
- o Easier serviceability with purpose built Hydrogen cabinet

Fill Data and Reporting Capabilities for Each Hose

- o Real time data via **PULSE**[™] display provides dispenser and station data to the user
- o Store data for larger analysis of overall station performance

Accuracy and Completeness of Fill

Kraus Global has engineered a new, more powerful **MICON®** controller.

- o Faster data acquisition and sensing of key process variables
- o Direct connection between MICON NEXTGEN 1.0[®] and the mass flow meter (optional)
- o Utilizes the SAE J2601 fueling protocol. Custom protocols are also available in order to leverage the computing power of the **MICON NEXTGEN 1.0**[®] controller.
- o Full integration with available station equipment.
- o Superior data acquisition capabilities and analysis tools allow for more intelligent fact base filling variable adjustments in order to optimize fills
- o IrDA vehicle communications available



OPTIMA® DIFFERENCE



- Giving you greater control, **Optima's**[®] real time error reporting and remote set point configuration is used to aid station operators in automating and optimizing station performance for greatest profitability and uptime.
 - Introducing the Kraus Global PULSE[™] display. This proprietary display communicates real time status of each fill. Information displayed allows the vehicle operator to be in tune with starting and ending parameters of their filling process, reassuring that a target was established and met. Service technicians can utilize the display to monitor the valve state, flow rate, and filling conditions to efficiently diagnose potential issues.

The display is designed for customization allowing the master station PLC to drive the information on the screen. The **MICON NEXTGEN 1.0**[®] provides open **MODBUS** registers that can be easily set up to take raw station data and display useful information (i.e., compressor run states, priority panel valve states, storage pressure on all banks, etc.) in real time.

- Kraus Global understands the value of data and how it can be used to increase efficiency and profitability of a station. Recognizing a gap in the ability to obtain detailed data from the dispenser, Kraus Global engineered the new MICON NEXTGEN 1.0[®] controller to extract and communicate relevant data and provide it in a meaningful and easy to use way.
- The MICON NEXTGEN 1.0[®] utilizes this data to compile informative reports which can be accessed from the dispenser remotely via the web in order to view real time and historical filling data in an easy to read manner. Data can be utilized to validate station uptime, complete fill accuracy, and fill times helping maximize station fueling contracts and customer satisfaction.
- 5 The MICON NEXTGEN 1.0[®] reporting tools further drill down into individual fills enabling station owners to adjust operating parameters thereby maximizing station performance. Fleet managers can further utilize this detail to evaluate the performance and fill conditions of each vehicle to ensure their fleet is fully optimized.

Optima[®] is the most advanced **Hydrogen** fueling dispenser on the market today giving you increased insight into the status of your dispensers and each fill at all times.

OPTIMA® BENEFIT



Station Operators will appreciate more control over operating parameters through superior data acquisition capabilities, analysis tools, and the expanded set of configurable filling variables. In addition, enhanced diagnostics identify dispenser performance enabling faster trouble shooting and root cause analysis on site or remotely. Software upgrades can be installed remotely minimizing down time from having to send a qualified technician to the site.

Grow your fleet customer base by providing **Fleet Managers** historical and real time filling data. Maximum up time at the dispenser will increase your customer's reliance on your station to provide the best experience 24/7.





Enhanced diagnostics and the purpose built **Optima®** cabinet provide easier accessibility to internal components saving valuable **Technical Support and Maintenance** time and frustration while servicing the dispenser as required.

Kraus Global Promise

Kraus Global will continue to work with you, understand your business, and expertly guide you through the entire process of selecting the dispenser configurations which best suit your station design and meets your needs now and in the future. Our ability to customize solutions to suit your unique design criteria is a strength Kraus Global is recognized for in the alternative fuel industry.

Kraus Global is committed to the highest safety standards.

For specific engineering information about Optima[®] and the MICON NEXTGEN 1.0[®], or for a custom proposal to add Optima[®] to your forecourt, please call 204-663-3601 or email us at inquiries@krausglobal.com.

STANDARD FEATURES:	COMPUTING AND CONTROLS:	AVAILABLE OPTIONS:
Single and Dual Sided Units	MICON NEXTGEN 1.0 [®] Controller and Register	Full color 10.4" TFT high-resolution display
(230 barg); 5,000 psig (350 barg); 10,000 psig (700 barg); standard (split pressure and other options available)	100 MB Fiber Optic Isolated Ethernet connection allows for safe high-speed connection to the dispenser	Encrypted PIN Pad for retail debit and EMV credit card application (pending completion)
Maximum Allowable Working Pressure: all system components up to 12,750 psig (875 barg) MAWP	Communication Interfaces: Standard 2-wire POS/Credit Card Protocols	Secure Card reader
		High Speed USB Printer for retail applications
Temperature Compensated to 15°C	Remote configuration of dispenser(s) from a computer, tablet, or phone	Customized, brand-centric
Flow Rates: 8 Kg/min and 12 Kg/min Split Flow options available Up to six inlets per dispenser	Direct connection to mass flow meter. Error codes, gas temperature, and other meter data can be	Multimedia capable - video and audio with customer interaction capability via display soft keys
depending on tubing size and valve configuration	accessed via MODBUS Multiple POS/FMS/PLC communications interfaces	Prominent dispenser canopy topper for enhanced customer branding
Mass Flow, one per hose, up to two per dispenser	MicroSD card data logging 24/7 of every transaction	
Internal Piping Stainless Steel, available in sizes of 3/8" and 1/2" depending on flow characteristics desired and to best match station	Compatible with private fleet management systems	KEGULAIOKY: (Compliant. Pending Completion.)
		PCI and EMV Credit/Debit Card Compliant
Conniguration	MECHANICAL CONTROLS AND VALVES:	ETL Intertek Certification
Main display for Total Sale, Volume and Price per Unit, or Target Pressure,	Manual external shut-off valves, 1 per side	NFPA 2
Actual Pressure, Temperature	Internal solenoid valves or	NFPA 70, ASME B31.3
Panels and doors painted black (standard)	nign-flow actuated ball valves	ETL Certified Intrinsically Safe Inputs and Outputs for Class J. Division 2
In-Cabinet or Remote	gauge per hose	Group B environments (pending completion)
	Check valve between sequencing valves	NTEP and Measurement Canada
NFPA 496 Compliant Type X purge system designed to fully declassify the upper cabinet enclosure	Internal Piping Connections, available in sizes of 3/8" and 1/2" depending on flow characteristics desired and to best match station configuration	certified register and cabinet (pending completion)
See Controls and Register section	One ASME pressure relief valve/hose	VOLTAGE:
Handle lever to start/stop fill located on holster	1/2" Vent line	120 VAC standard, 220/240 VAC
	Hydrogen Gas detector in cabinet	Amperage: 10 to 15 Amps depending
OPERATING ENVIRONMENT:	DIMENSIONS:	on options
-40°C to +40°C	Height: 93"	Single Phase
Humidity = 10-95% Rh	Width: 46" at base, 47.5" at canopy	60 Hz, 50 Hz available
120 VAC heater available for temps <-20°C	Depth: 23.75" at base, 29" at canopy	+/- 10% Tolerence



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