QUANTUM VS. QUANTUM LX

Feature	Quantum	Quantum LX
Software		
Capacity Control	Maximum of 2 of the following options: Suction Pressure, Process Temperature, Discharge Pressure, User Selectable Input	4 User Defined Modes (Any Defined Analog Input can be used for Control)
Oil Pump Control		
• No pump	X	X
• Demand (Includes Prelube and Cycling)	X	X
• Full Time	X	X
• Dual pumps	X	X
• Shaft Driven	X	
• Shaft with Auxiliary	X	
Balance Piston Control	X	X
Alarms		
• Current Display	19 Available	21 Available
• History / Freeze Display	50 Available	128 Available
Dual Discharge Pressure Control (Swing Compressor)	X	X
Electric Motor Drive Constant Speed	X	X
Electric Motor Drive Variable Speed (wired)	X	X
Vyper Electric Motor Drive Variable Speed (Comm)		X
Engine Drive	X	X
Turbine Drive	X	X
Discharge Safeties	X	X
High Suction Safeties	X	X
Oil Safeties	X	X
Main Oil Injection Control	X	X
Liquid Injection Control (TX valve, EZ Cool)	X	X
Oil Filter Safeties	X	X
Hot Gas By-Pass Control	X	X
Slide Valve 1 Control	X	X
Slide Valve 2 Control	X	X
Economizer Control	X	X
Setback	Time based switching between Mode 1 and Mode 2 of selected Capacity control option	Time based switching between 4 user defined modes
8 Digital Input Auxiliaries	X	X
10 Analog Input Auxiliaries	X	X
Pumpdown Control	X	X
DX Circuit Control	X	X
PID	4	8 Analog Outputs Total
User Defined Analog Output (Re-Transmit)	1	8 Analog Outputs Total
Condenser Control		
• Digital Steps	4	4
• Analog Control	1 Analog Output integrated with Digital Step #4	1 PID loop
Multiple Compressor Sequencing	Upto 4 Frick compressors on a common suction pressure via serial communications	Upto 24 Compressors, 3 suction pressure systems with 8 compressors each via Ethernet communications. Interlocking between suction systems is available also. All compressors must have Quantum LX controllers
Permissive Start	X	X
Input Mode Selection	X	X
Pull Down	X	X
PhD Vibration Monitoring	X	X
Security	**3 levels available:** **No Access** – Prevents operator from changing any setpoint or password. **Moderate Access** – Allows operator to change setpoints, but prevents changing safety setpoints and passwords. **Full Access** – Allows operator to change all setpoints and passwords.	**3 User Levels of access available** **User Level 0 – Basic** - Most graphical displays, very limited access to setpoints (capacity control only). **User Level 1 – Advanced** – Less graphical displays, access to setpoints, and trending. **User Level 2 – Service** – Less graphical displays, access to setpoints, trending, compressor configuration, diagnostics.

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QUANTUM VS. QUANTUM LX

Feature	Quantum	Quantum LX
Slide Valve and Slide Stop Calibration	Manual Calibration via on screen instructions	Automatic calibration started by user
Language	English,Danish,German,Spanish,French	English,French, Portugues,Spanish,Polish, Mandarin Chinese, Traditional Chinese
Temperature Displays	Fahrenheit, Celsius	Fahrenheit, Celsius
Pressure Displays	PSIA, PSIG, Bar, BarA, kpaA	PSIA, PSIG, Bar, BarA, kpaA
Trending	X	X – File downloadable via USB drive or Ethernet file transfer
Setpoint Saving	Yes, via CF card with Frick program	Yes, via USB drive
Serial Communications Protocols		
• Comm #1	Frick #, Frick $,	Frick #, Frick $, Modbus ASCII & RTU, Allen Bradley DF1, Vyper, DBS
• Comm #2	Frick #, Frick $, Modbus ASCII, Allen Bradley DF1, York ISN	Frick #, Frick $, Modbus ASCII & RTU, Allen Bradley DF1, Vyper, DBS
• Comm #3	Not Used	Frick #, Frick $, Modbus ASCII & RTU, Allen Bradley DF1, Vyper, DBS
Ethernet Protocols		Modbus TCP, Ethernet/IP(A-B), Profinet, BACnet
Remote Screen Display	Via Frick Qtalk Software (serial), limited screens available.	Via Ethernet using any Internet Browser (No special software Required). Full access to Quantum LX.
Refrigerant List	16 available refrigerants plus user defined	35 available refrigerants plus user defined
Hardware		
10.4 VGA Display	X	X
300 Mhx Processor	X	X
Enclosure (18 x 22 x 10)	X	X
Keypad (Door Mounted)	X	X
Power Supply (Condor DC)	38 Keys	27 Keys
Analog Board (2 max)	X	X
• Inputs	24 to 48	24 to 48
• Outputs	4 to 8	8 to 16
Digital Boards (2 max)	X	X
• Inputs	8 brd #1 / 11 brd #2	8 brd #1 / 11 brd #2
• Outputs	16 brd #1 / 13 brd #2	16 brd #1 / 13 brd #2
Serial Communication Ports	**2 Serial ports are available**. Both ports are configurable for RS-422,RS-485, or RS-232.	**3 Serial ports are available.** Two ports are configurable for RS-422,RS-485, or RS-232. One port is fixed for RS-232(485 available with converter).
Ethernet Port		X
Flash Card (Installation)	Used To Update/Install Program	
Flash Card (Setpoint Saver)	Used to Save Setpoints	
Flash Card (Program Run)		Program Runs From Card
USB (Thumb Drive)		Updates Program / Saves Setpoints

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