



VCX-100 Boiler Plant Feedwater Control System

The VCX-100 Boiler Plant Feedwater Control system, based on the industry proven Hays Cleveland UPAC™ control platform and under a Hays Cleveland/Venergy Group mutual agreement, represents the ultimate in boiler plant feed water control systems. The VCX's modular approach provides almost unlimited capability. Main components include a touch screen, control unit and expansion modules for analog and digital I/O.

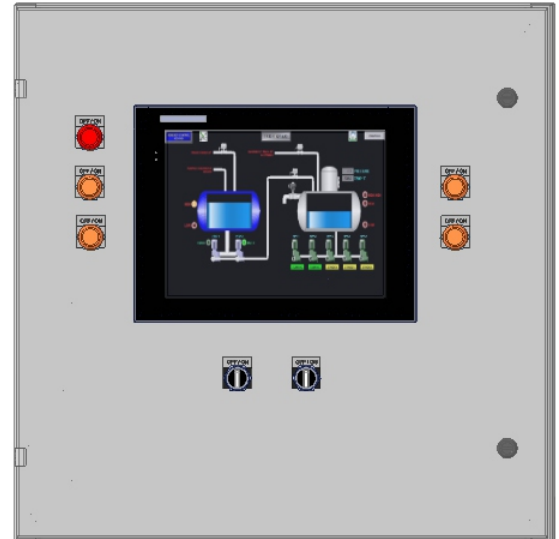
Designed to meet the stringent master specifications of the Department of Veterans Affairs, the VCX-100 meets the Department of VA master specification section 23 09 11 and 23 50 11. In addition, the VCX-100 is considered to be the ultimate in safety and reliability for any industrial or commercial installation.

As a complete solution, the VCX Series is flexible, and easily field configurable to meet the most common installation requirements, simply by the start-up technician enabling and/or disabling the various built-in options. Combined with the VCX-1000 Boiler Controls, and VCX-2000 Plant Master Control, The VCX Series Control System meets the Master VA Specification Requirements of all controllers to be same make and model per specification 23 09 11, pp 2.2. And 23 50 11 pp's 2.2.S.3 & 2.3.L.4.

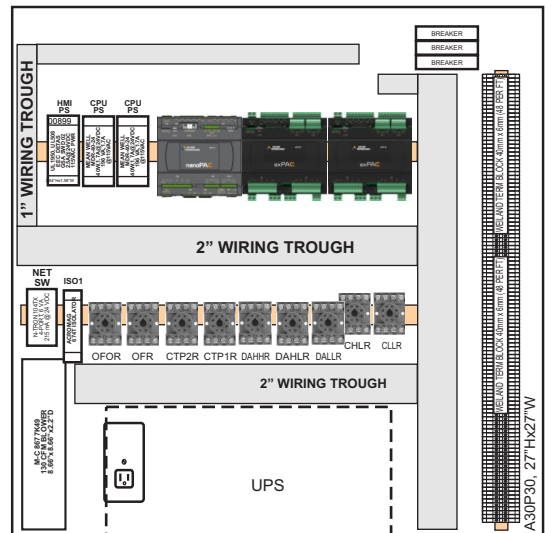
Boiler Plant Feedwater Control

The VCX-100 enhances plant safety, operator awareness, and improving efficiency of the Deaerator and Condensate tanks, boiler feed water pumps and condensate transfer pumps. The features of the standard system include:

- DA Tank level control
- Condensate Tank level control
- Secondary, Emergency make-up water valve control selectable for either tank.
- Tank High-High, High, & Low Level Alarms
- DA Tank Overflow control monitoring & indication
- Boiler Feed Water Pump Lead-Lag sequencer w/selectable pump speed control function
- Condensate Transfer Pump Lead-Lag Sequencer
- Audible Alarm Bell for Water level alarms.
- BACnet / Modbus Communications to BAS System



**VCX-100 FeedWater
Control Skid-Mounted
Cabinet**



**Sub-Panel Layout
(Typical)**

Vcx-100 BOILER CONTROL SYSTEM

Inputs / Outputs

- 20 Analog Inputs - 4-20mMdc, 0-5Vdc, 1-5Vdc, 0-10Vdc
- 12 Analog Outputs - 1-5Vdc, 4-20mAdc
- 24 Digital Inputs - low voltage; 24Vdc.
- 24 Digital Outputs - Low voltage; 24Vdc
- 6 Relay Outputs, Dry Contact closure
- 4 Pulse/Counter Digital Inputs for motor tachometer speed sensing

Pump Control

- Boiler Feed Water Pumps - Field selectable From 2-4 pumps.
- Lead-Lag Start/Stop control based on feed water header pressure
- Condensate Transfer Pump control - Field Selectable 2 or 3 pumps.

Water Level Alarms

- High & Low level indicator lamps for each tank.
- Includes industry standard, Warrick Alarm level relays in the control panel, eliminating the need for a secondary cabinet for alarms

Touchscreen HMI

- 10.1", 12.1", or 15" sizes available
- Remote Monitoring capability

Communications Options

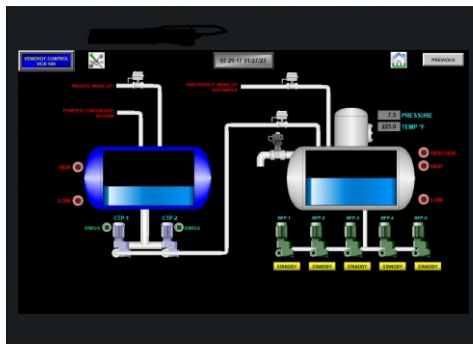
- Modbus RTU serial connection as standard
- Modbus TCP connection for communications to SCADA Workstation.
- BACnet IP or MS/TP connection to Building Automation System

Power Requirements

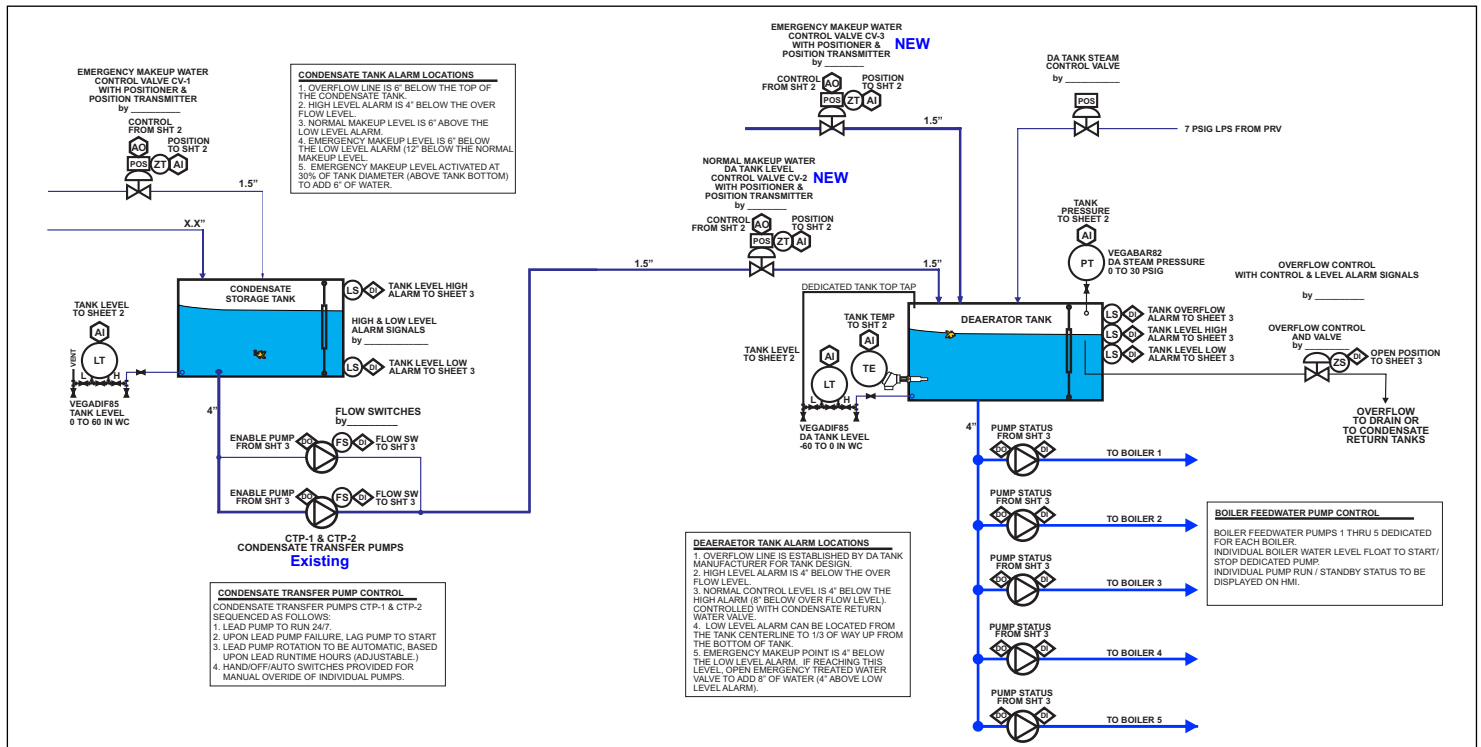
- 120VAC single phase, 20A circuit

Approvals

- Built to UL 508A standards.



TYPICAL SYSTEM LAYOUT



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