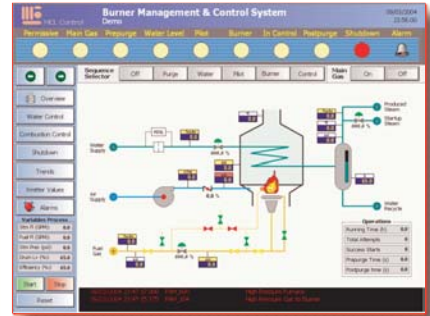


BoilerSentinel™ FurnaceSentinel™

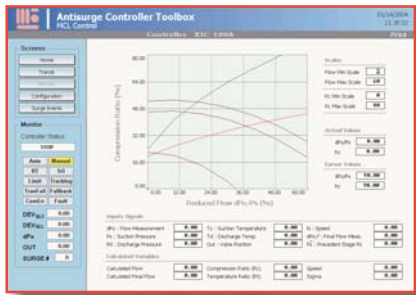
BoilerSentinel & FurnaceSentinel provide an integral solution for the protection and control of Boilers and Furnaces, thermally integrated or not. Including the Burner Management System (BMS) for the sequence for safe start-up and normal shutdown, emergency shutdown and general protection of the equipment, and



also a solution for the needs of continuous control and monitoring of the combustion, as well as, other process related variables. Thermal integration for steam networks by means of optimal load distribution algorithms is available. The protection logic is based on the most demanding international standards (NFPA 85). The control strategies are selectable either as Standard PID control loops or Fuzzy Control. An NOx virtual analyzer



may be included for monitoring and control of the combustion process in order to reduce the emissions to acceptable levels. Efficiency and fuel consumption calculations are included.



CompressorSentinel has been designed for the protection and control of centrifugal and axial compressors either stand alone or in networks. It is based upon Compressor Controls Corporation's (CCC) series 3 & 5 platform for

CompressorSentinel™



both control and sequencing, and upon IEC 61508 compliant Programmable Electronic Systems (PES) for safety and protection. The compressor start-up sequence may be implemented as a part of CCC's series 5 controller or, in case of using CCC series 3+ for process control, on the latest version of the main PLCs or hybrid controllers, depending on customer best interests. Process control includes flow and discharge or suction pressure control and load sharing

algorithms. Antisurge control is included and performed by digital controllers in exclusive operation for each stage by a CCC anti-surge controller. A vibration monitoring system is included and executed by the Safety Module or by an independent system.

SafetySentinel™

MCL Control is aware of the importance of functional safety nowadays, for the protection of the people, the environment, and the property. Numerous fatalities have occurred in processing plants in the near past due to the lack of awareness of the risks associated with the processes and



their impact on the surroundings. **MCL Control** offers products and services for either adapting or designing your safety system in accordance with the ANSI/ISA-S84.01, IEC 61508, and IEC 61511 standards during its entire **Life Cycle**. Also training courses for engineers, operators, and managers with responsibilities on process plants' safety systems, including Gas & Fire, and preparation for the

"Certified Functional Safe Expert and Technician" (CFSE) exam are offered.

