

## Controls and instrumentation Automated PLC Controlled Operations

### Process Automation

Mech-Chem engineers, designs and fabricates fully automated PLC controlled processes and operations.

Controls and instrumentation provide the link between the operators and the complex electronically controlled processes that are part of chemical facilities. The ability to control, respond to, and understand a processing system is very important for the safety and operation of facilities that use acids and chemicals.

Automated processes and operations can save significant operating costs and reduce the exposure of employees to hazardous chemicals.



### Alarms and Charts

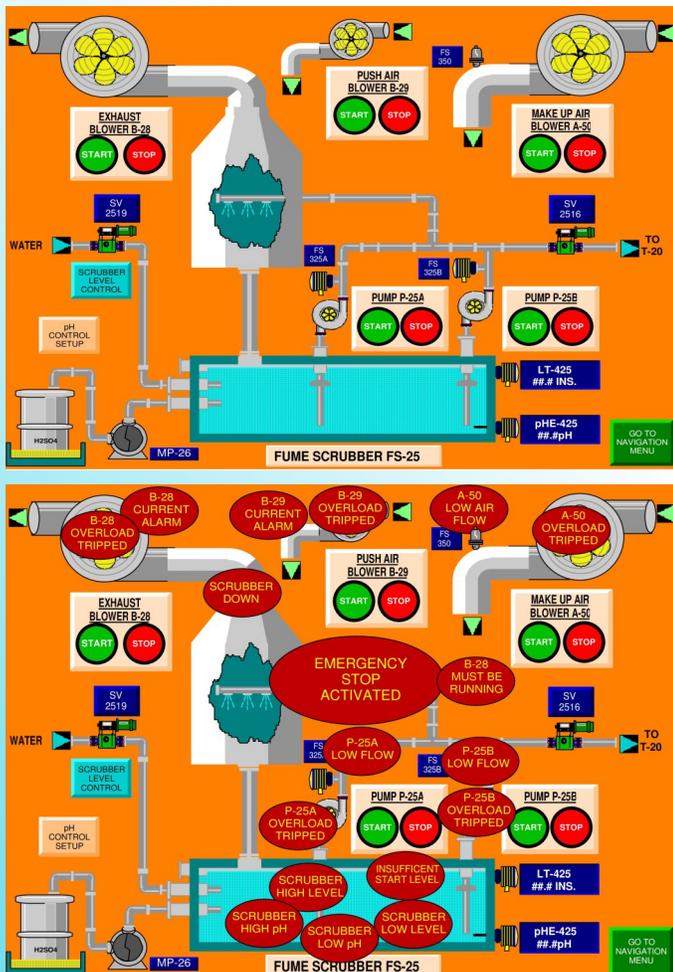
Instrumentation can include alarms in the PLC screen or charts to record the operating data from the process being monitored, as seen in the photos to the left.

### Panels and Controls

Mech-Chem provides control panels with PLCs for the monitoring and control of operations. These control panels feature easy-to-read screens and are built to handle corrosive environments and meet the applicable electrical codes.

### Graphic User Interfaces

The PLC screens to the left are examples of an easily understood graphic interface. Using logical graphics and a touch screen control, an operator can remotely control tank levels, pumps, chemical and waste flows, of the system.



## Experience with Systems

Mech-Chem's instrumentation and control systems are designed by control and programming specialists. The systems feature easy to understand operator interfaces with screens that show accurate graphical representation of the equipment.

Each control and instrumentation system is custom designed and programmed according to the engineering and design drawings prepared and provided by Mech-Chem.

These control systems are designed to reduce any Resistance to Change (RTC) factors by creating Graphical User Interfaces (GUIs) that are easy to use and familiar in their look and feel to operating personnel.

## Codes and Regulations

All PLC/PC systems are built to NFPA, NEMA, UL, and NEC codes, as required, and are fabricated from materials that can withstand the aggressive chemical environments in which they are installed.



## Examples of Controls and Instrumentation

### Interfaces:

- ◆ Touch-Screen
- ◆ Keyboard/ Mouse
- ◆ Graphic Boards
- ◆ Control Panels
- ◆ Annunciator Panels

### Types of Controls and Instrumentation:

- ◆ Programmable Logic Controller (PLC)
- ◆ Distributed Control System (DCS)
- ◆ Supervisory Control and Data Acquisition (SCADA)
- ◆ Single-Point I/O
- ◆ Remote Monitoring
- ◆ Real Time Systems
- ◆ Human-Machine Interface (HMI)

### Engineering Services:

- ◆ Systems Integration
- ◆ Instrumentation and controls
- ◆ Computer Systems and Networks
- ◆ Remote Communication Access
- ◆ Education and Training
- ◆ Panel Fabrication
- ◆ Technical Support Services



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