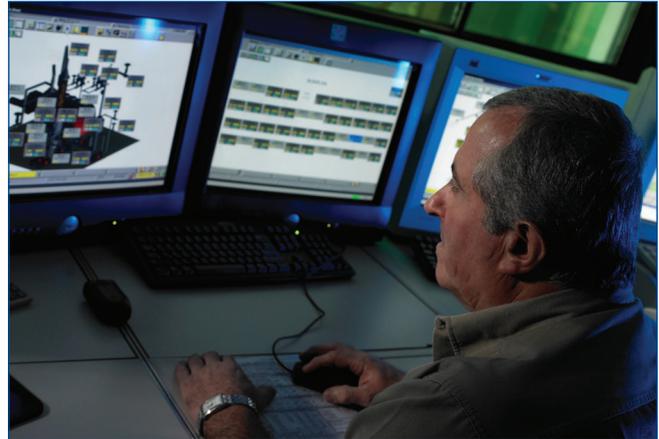


# DeltaV™ Operate

- Robust and secure plant operations
- Powerful operator interface, optionally up to four monitors
- Constant visibility and access to the most important alarms
- Integrated historical trending



*You can easily manage your process with DeltaV Operate.*

## Introduction

Do you want to operate your process control system with a user-friendly interface that has full-function graphics, real-time and historical trending capabilities, alarms prioritized by the user, and system-wide, built in security?

DeltaV™ Operate has direct access to all operating information. With the DeltaV system, there is no additional server PC, or other intermediary required to be able to operate your plant.

Use the standard operating desktop or modify it to fit your specific operational philosophies and work preferences. Take advantage of single-click access to graphics, directories, and other applications.

Display configuration is simply a mouse click away. Use standard tools such as cut, copy, paste, and drag-and-drop to easily configure your displays.

## Benefits

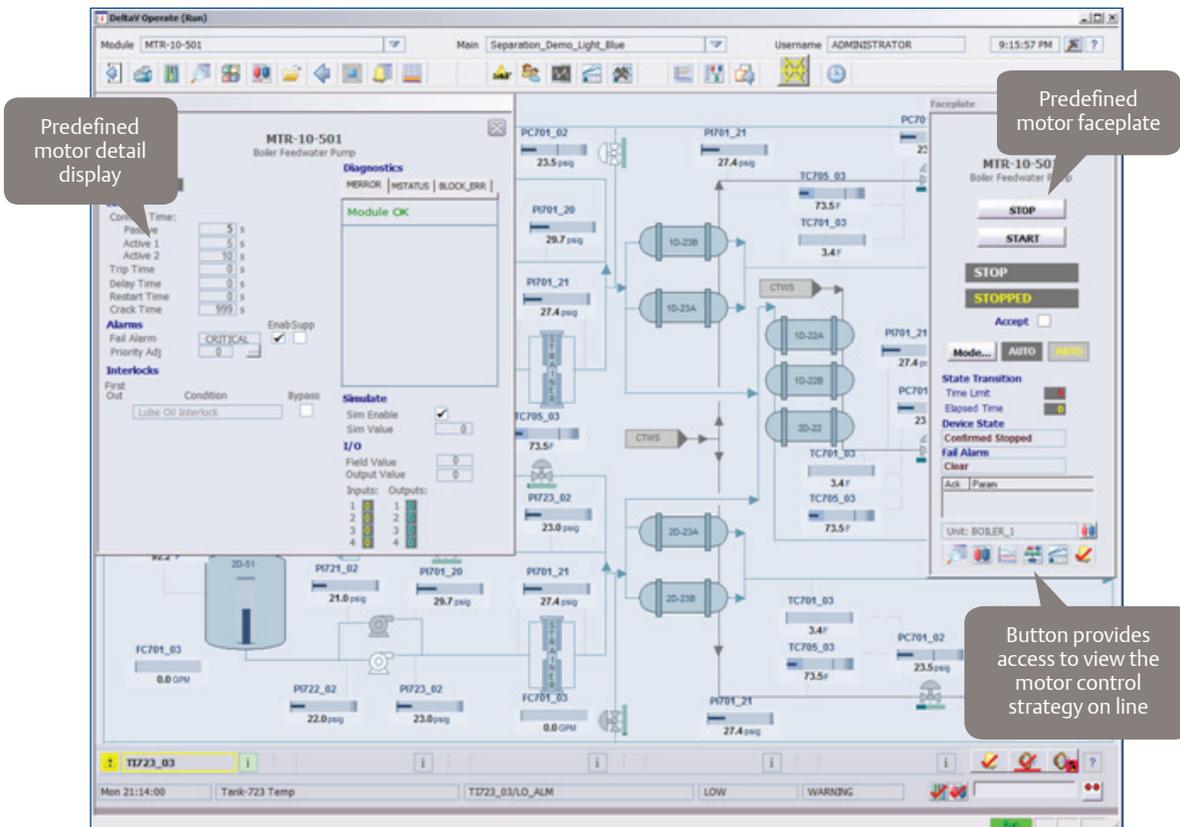
**Robust and secure, plant operation.** Every DeltaV workstation has direct access to all operating information, from the current process values and operating displays to having alarms with the proper alarm priority and timestamp. Even the Alarm Help is maintained locally to ensure availability to operators.

The DeltaV system provides security based on Microsoft user credentials. User-specific security ensures that only authorized operators can make process changes or access specific information.

**Powerful operator interface.** DeltaV Operate provides a powerful environment for process operation, with built-in features for easy information access. Whether you are viewing the highest-priority alarm, the next display, or detailed module information, common operator navigation is consistent and intuitive.

No one knows how to operate your plant better than you do. Use the predefined DeltaV capabilities or easily customize them to fit your operational philosophies and work preferences. This includes everything, from graphics such as alarm summaries and faceplates, to the standard desktop and user security.

**Access to the most important alarms.** Alarm prioritization, presentation and management focus the operator on the most important alarms. The alarm banner provides constant visibility and one click access to the five most important alarms.



Predefined faceplates and detail displays provide a consistent, powerful operator interface.

The DeltaV system provides built-in alarm summaries, providing complete alarm information, organized by priority or time. Operators can view all alarms or alarms for a specific unit or area, and can select the Alarm Help for a particular alarm. This allows operators to easily access on the most important alarms and quickly determine the proper response.

**Integrated historical trending.** Improve operator effectiveness by incorporating historical trend information for key process variables within the operators display.

These embedded trends access any DeltaV Historian or OSI PI historian and provide the same chart view as Process History View.

## Product Description

DeltaV Operate provides a complete set of high performance tools: operator graphics, sophisticated alarm management and presentation, embedded historical trending and system-wide security. This product also includes full display configuration capability.

Each workstation independently manages its own alarms and data access. This includes alarm information such as when the alarm occurred, whether the alarm is suppressed and even access to the specific help for that alarm. With the DeltaV system there is no additional server PC, or other intermediary required to be able to operate your plant.

Individual users can have specific privileges defined that determine which functions (e.g., operate or tune) they are allowed to perform. These user privileges can be defined for a section of process, and even for individual parameters, enabling the privileges to be easily tailored to meet your plant operating philosophy.

Use the DeltaV exclusive Flexlock to ensure that operators remain dedicated to monitoring, troubleshooting, and maintaining the process according to plant operating philosophies. Operators are locked in to their system responsibilities so that nothing can preempt their duties.

High-resolution graphics allow extensive detail and flexibility in the way information is displayed. This easy-to-use system enables you to creatively present your important process control information.

DeltaV Operate includes powerful graphics capability. Based on process conditions, virtually any graphic element can have visually dynamic characteristics, including color, size, and movement. You can compare values and perform math functions as part of the animation of a graphic element.

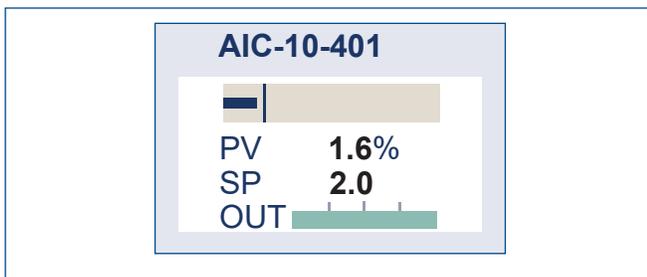
DeltaV Operate also includes predefined functionality such as faceplates, trends, alarm summaries, display directories, and detail displays. This allows you to focus on building the right displays, instead of creating custom operator interface designs and layouts.

Operators intuitively operate the process with built-in capabilities such as dragging a slider to change a SP on a loop faceplate, selecting from a list of valid selections to start or stop a pump, or entering a SIS value using the patented DeltaV SIS secure write.

Operators can access context-sensitive DeltaV information in other applications such as Control Studio and online Alarm Help with a single click from a faceplate, when these related DeltaV products are on the workstation.

DeltaV Operate provides electronic signature verification for your critical parameters, addressing to the requirements of 21 CFR Part 11. The parameters that require electronic signature are defined with the control module, thus consistent electronic signature policies are applied to the parameter, regardless of the operator display being used.

Predefined functionality also includes Human Centered Design (HCD) display components, which follow recommendations and guidelines from the Center for Operator Performance (COP) and ISA 101.1 standards. These components provide integrated alarm, status and operating information, predefined based on industry best practices and display human factors. The display components incorporate HCD considerations such as shape and color to provide easy process monitoring when the process is normal, along with clear indication of alarms and abnormal statuses, without having to limit displays to a few shades of grey.



Operators can quickly, visually compare PV to SP.

These display components are pre-defined with five different color themes, allowing you to easily select the colors that are most appropriate to your control room (such as due to control room lighting). You can, or course, also change the colors to match your requirements.

With the appropriate system licenses, operators can add and operate batches using the standard DeltaV Operate batch displays, as well as view batch status. Operators can also enter comments and answer prompts related to active batches.

Equipment	Name	State	Owner	Area	Unit	Process Cells	Batch ID
AREA_A	MPT1200CHG_MIT	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1200	AMDC_MEDIA_PREP1	
AMDC_PROD_AREA1	MPT1200PFL_MGRD_TO_MPT	RUNNING	OPERATOR	AMDC_PROD_AREA1	MPT1200	AMDC_MEDIA_PREP1	20061128.201910
AMDC_MEDIA_PREP1	MPT1500AGITATE	RUNNING	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	20061128.202922
MPT1100	MPT1500CHG_MEDIA_MGRD	RUNNING	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	20061128.201909
MPT1200	MPT1500CHG_MEDIA_WFI	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
MPT1500	MPT1500MAN_AGITATE	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
MPT1900	MPT1500MAN_CHL_INGRD	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
WPT1400	MPT1500MAN_CHG_WFI	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
AMDC_PROD_AREA3	MPT1500MAN_XPRL_TO_FERM	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
AMDC_MEDIA_PREP3	MPT1500PFL_MPT_TO_FERM	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
MPT3100	MPT1500PFL_MPT_TO_FERM	IDLE	OPERATOR	AMDC_PROD_AREA1	MPT1500	AMDC_MEDIA_PREP1	
MPT3200							
MPT3300							
MPT3500							
MPT3600							
WPT13400							

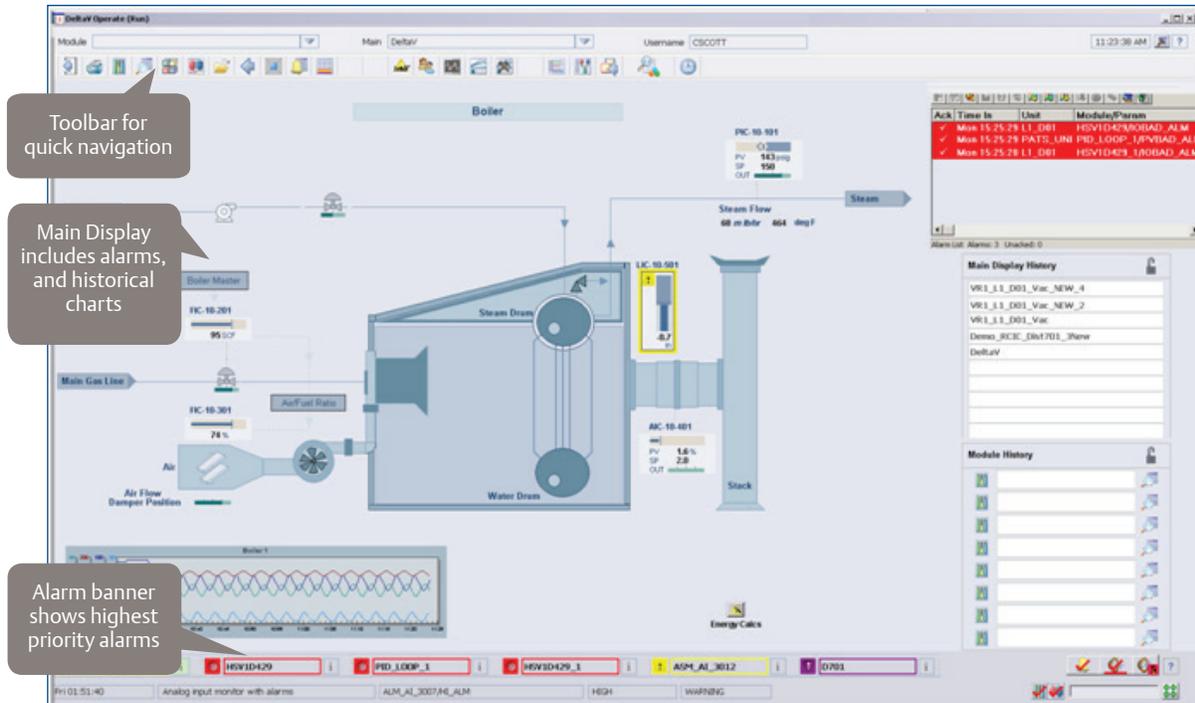
*Integrated batch operation.*

**Standard Operating Layout.** The DeltaV operating desktop is specifically designed for the critical needs of process automation. One or two monitors are standard, and optionally up to four screens can be used per workstation for monitoring your process.

This layout includes operator navigation for alarms, graphics, faceplates and other applications. Each monitor is divided into three pre-designed sections, when using traditional (4:3) monitors:

- Toolbar.** The top of the screen is dedicated to the toolbar. It provides single-click access to important graphic displays, directories, and other applications. The toolbar offers several predefined buttons. You can add, delete, or modify these predefined buttons and layout.
- Main Display.** The center of the screen is the main display, the primary working area featuring the process graphics. These graphics range from typical process line graphics to artistically rendered plant graphics—even photographs of the plant.
- Alarm Banner.** The bottom of the screen is dedicated to the alarm banner. The alarm banner displays the five highest-priority alarms based on the currently logged on operator. By simply selecting an alarm, the operator goes directly to the process graphic and the faceplate is automatically displayed.

With HD 1080p (16:9) and wide screen (16:10), you can choose to use the full width for the main display, or choose to use this space for additional operator navigation. The default 3 additional sections are:



Display color themes and standard desktop layouts facilitate a quick start.

- **Critical Alarms.** Critical alarms are separately displayed, to ensure operators don't lose sight of these important alarms
- **Display History.** The ten recently viewed or favorite displays, providing one click access to these displays
- **Module History.** The ten most recently accessed control tags, providing one click access to these tags

You can use one of the default DeltaV operating layouts, or modify them.

**Alarms.** With DeltaV Operate, operators do not have to waste time searching amongst multiple alarms to find the ones that are most important. The DeltaV system uses a sophisticated algorithm that analyzes the alarm priority, whether the alarm has been acknowledged, if the alarm is still active, along with alarm priority and operator scope of responsibility to provide the alarms in order of their importance.

Although many alarms may be present in your system, only the alarms within an operator's area of responsibility are shown. This means that the operator is not distracted by alarms from other areas of the plant. However, if an operator with different

responsibilities logs on, the alarm banner automatically adjusts for this new operator.

The alarm banner displays the five most important alarms, with the most important alarm on the left. Operators can view the faceplate and process graphic associated with the tag in alarm by simply clicking on the alarm in the alarm banner.

The alarm banner's auto eclipsing can reduce multiple alarms from a control tag or even from process unit down to the one most important alarm. You can choose to have all critical priority alarms individually shown while lower priority alarms are consolidated. Low priority alarms can be auto-acknowledged when coming into or going out of the active alarm condition.

Alarms are also displayed on faceplates, process graphics and alarm summaries. The alarm summaries show all active alarms for the operator, all alarms for an area or all alarms for a unit. Alarms are organized by alarm priority.

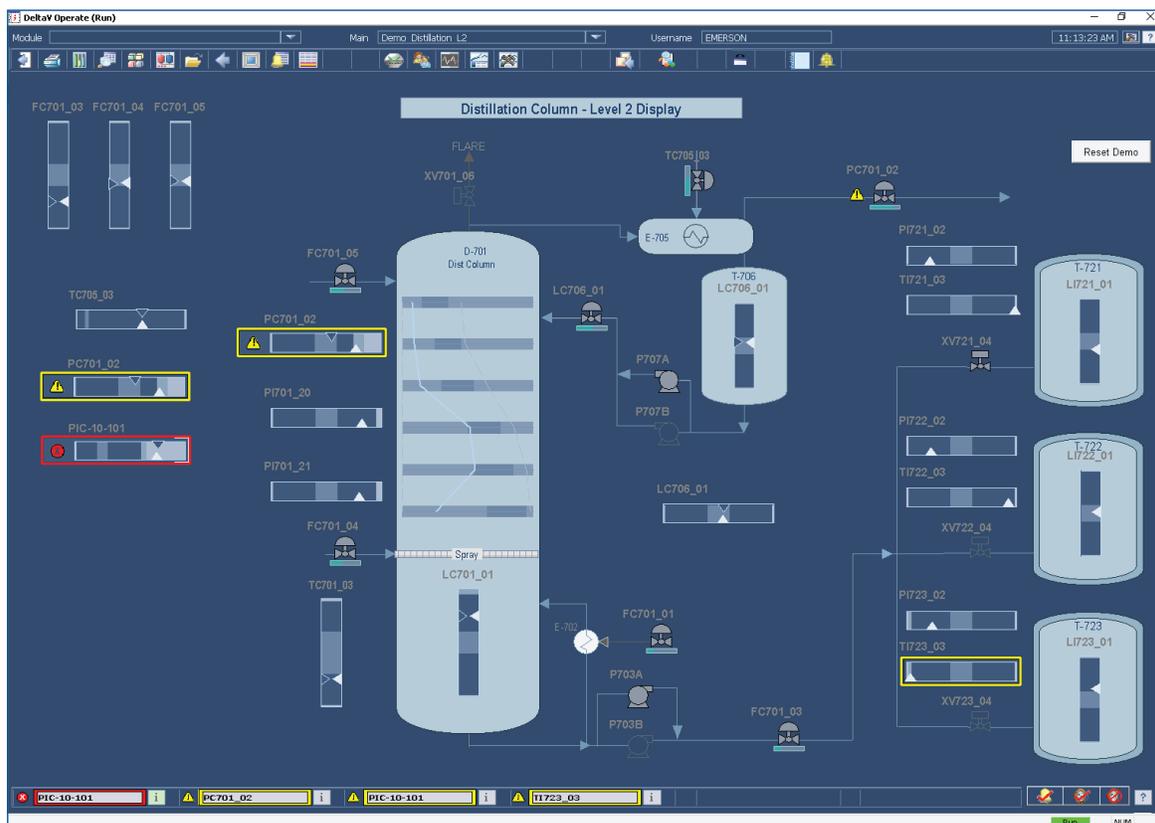
Alarms are prioritized, managed, and timestamped at the source (e.g., a controller). This ensures that an alarm is displayed with the same priority, acknowledgment status, and timestamp across multiple workstations.

Operators with the right privileges can suppress alarms, such that they no longer are shown in the alarm lists. Operators can view the suppressed alarms on the standard suppressed alarm display.

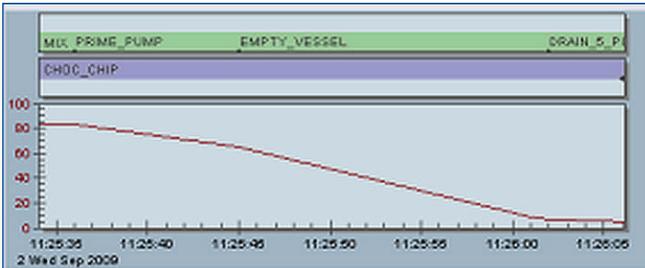
With additional privileges, you can change individual alarm priorities, limits, or conditional alarm settings, as your process requires.

Alarm presentation is consistent across all Operator Stations. All alarms of the same priority are displayed identically throughout the system. Alarm priority characteristics are defined globally for the system with the DeltaV Explorer.

Horn acknowledgement is managed for all workstations. When the horn is silenced at one workstation, all other workstations sounding the horn for the same reason are also silenced.



Presentation and access to the most important alarms ensures operators are effective.

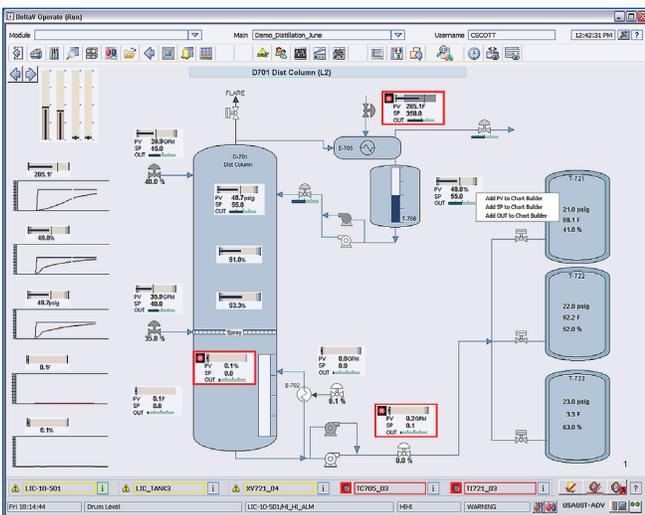


Embedded trends access any historian option available.

**Trending.** When historical information is important for day to day operation, historical charts can be embedded into the operator displays, improving operator productivity by placing the information right where it is needed and eliminates the need to launch separate historical trend charts.

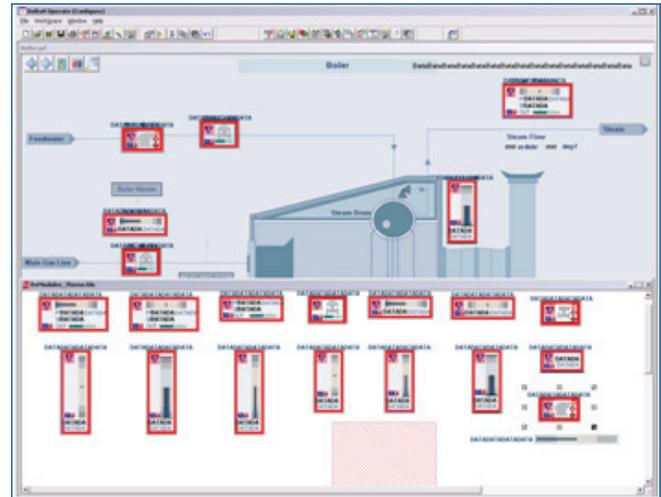
The trend button on faceplate opens a historical trend specifically for the control tag you have selected, using Process History View. Operators also can easily create their own historical charts on-the-fly simply by right clicking on the DeltaV HCD display components.

**Display configuration.** Graphics for DeltaV Operate are configured from within DeltaV Operate. All control system information is readily available for display configuration, simply by browsing. Display configuration is designed for process control, including pre-defined functionality such as faceplates, trends, alarm summaries and display directories.



Operators can easily create historical charts on-the-fly.

Display configuration debugging is easily accomplished by switching between editing a display and viewing that same display with live data.

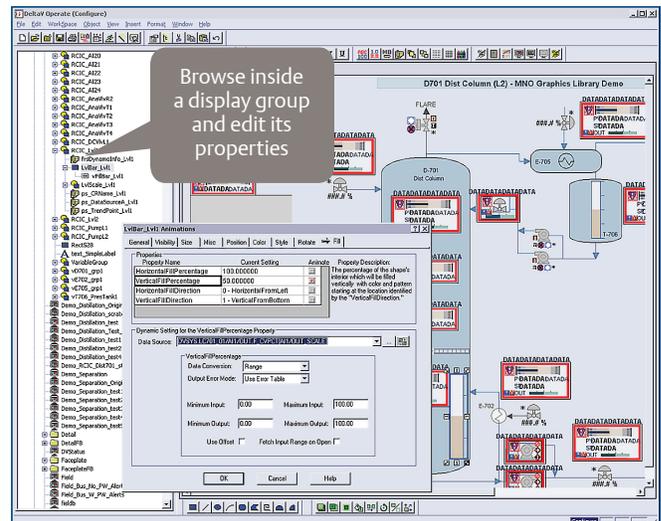


Dynamos simplify display configuration.

Display configuration is intuitive and designed for process control. Display configuration is loaded with predefined functionality so that you can focus on building displays.

You can use this functionality out-of-the-box, or modify it to fit your requirements. For example, perhaps you would like to have alarm summary information for a specific unit as part of your unit process graphic. Simply place a new alarm summary on your display and define it based on what alarm information you would like to show.

DeltaV Operate incorporates Active X technology and Visual Basic for Applications (VBA) to provide flexible, powerful display capabilities.



Powerful Operator Graphics configuration.

## Live Video Integration

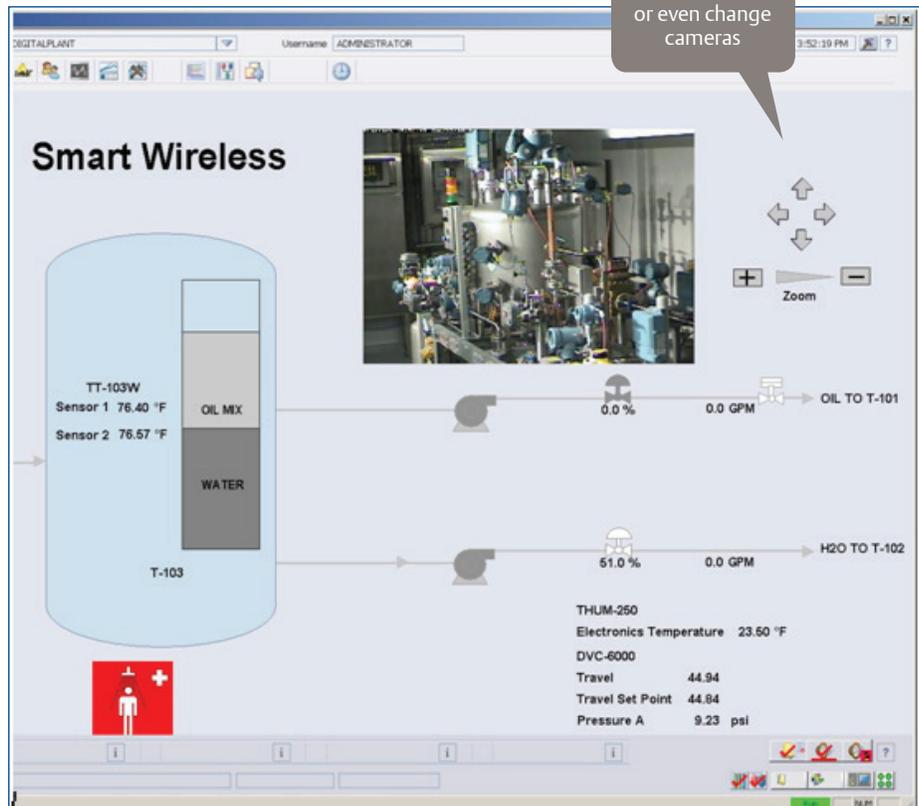
Since DeltaV system versions 9 and 10, Emerson Wireless Services offers embedded live video within DeltaV Operate displays.

Operators can easily pan, tilt, and zoom the camera view from within the operator's display and even switch cameras.

Everything you need, from cameras, video storage, view station software, and embedded live video windows (through ActiveX controls) are provided.



Pan Tilt Zoom Camera.



DeltaV Operate with integrated live video feeds.

The benefits of having a live video feed embedded within an operator display are many and include:

**Safety.** Enables an additional “all-clear” visual before the execution of a process start-up, shut-down, or turn-around. Allows operators to monitor hazardous areas

**Security.** Additional eyes on the process area, remote plant areas, or site perimeter

**Productivity.** Live visual of the process being controlled (e.g. boiler) alongside the process measurements

**Emissions monitoring.** With video monitoring for plant emissions, fines can be reduced to the minimum by demonstrating exact start and stop times to regulatory officials.

All the plant's video information can be recorded and stored on a central server that can store months of video data depending on your needs or to comply with emissions regulations.

## Ordering Information

Description	Model Number
Operations Software Add On for Base or Maintenance Station, Full Span of Control	VE2126

## Related Products

For detailed information about the following applications, refer to the appropriate product data sheet:

- **Alarm Help.** Provides Operators with in-context access to alarm response information from DeltaV Operate.
- **AMS Device Manager Client SC for device status.** Provides the ability to view the status of HART and FOUNDATION fieldbus devices (license from AMS Suite: Intelligent Device Manager required for configuration capability).
- **Campaign Manager Operator Interface.** The interface used by the operator to create and control campaign execution.
- **Control Studio On-line.** Graphically monitor and troubleshoot running control strategies.
- **DeltaV Four-Monitor Workstation.** DeltaV Operate support of up to four screens.
- **DeltaV Executive Portal.** Securely view your process remotely on Windows PCs or tablets. Convert displays with minimal rework
- **DeltaV InSight.** Control performance monitoring and loop tuning application embedded in DeltaV. Identifies control problems and improves control performance with automatic process learning, loop diagnostics, tuning, and automatic report generation.
- **DeltaV Predict and PredictPro.** Model Predictive Control (MPC) which runs in DeltaV to provide multivariable control and optimization for small and large applications. Includes off-line model identification and simulation, plus on-line MPC with operator interface.
- **Diagnostics.** Facilitates checking the overall health of your system and quickly resolving system hardware, software, and configuration issues.
- **History View Suite.** Monitor your plant's continuous, batch and event data—historically and in real time.
- **Wireless Video Service.** Complete wireless services solution to integrate video into DeltaV Operate Displays.

## Prerequisites

- DeltaV Operate (Operations Software Add-on) must be loaded onto a workstation. A variety of hardware is available to meet your specific requirements. Refer to the DeltaV Workstation Hardware Product Data Sheet.
- One ProfessionalPLUS Station is required for each DeltaV system. Refer to the ProfessionalPLUS Station Software Suite Product Data Sheet.

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