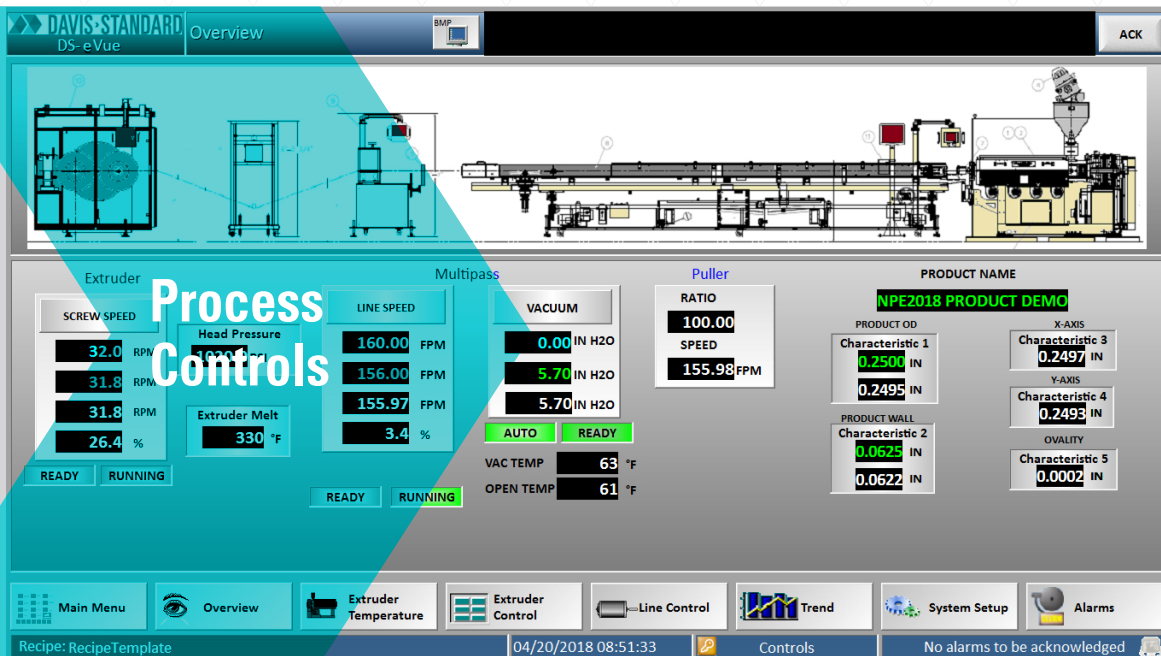# DAVIS › STANDARD®

Where your ideas take shape.

DS-eVUE Extrusion Process Control System

Overview

The DS-eVUE combines full process control with affordability. This mid-level system is engineered for controlling smaller lines with one or two extruders and offers the features and flexibility of advanced systems in a value-added, compact package. Processors can take advantage of features such as trending and recipe storage without incurring costs for additional functions not required for their processes

Features

- System architecture divided into two basic parts: computer/HMI (Human Machine Interface), and process controller
- Touch-screen control via a high resolution color LCD of drives, pressures, and temperatures
- PLC based hardware system
- Simple manipulation of all control functions, including set-point changes, recipe creation/storage, line status overview, alarms, and events tracking
- Web interface
- Mounting options: swing arm, slope front, console, 19-inch rack

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DS-eVUE Extrusion Process Control System

Computer/HMI

- 19" wide screen 16:9
- Solid state hard drive
- LAN ports
- USB ports

Temperature Control

- PLC – dual or single T/C
- Single T/C Autotune

PLC

- Siemens
- Allen-Bradley Logix

Software

- OS: Windows®
- SCADA: Run-Time

Drive Operation

- Independent: each drive is controlled independently of all other system drives
- Coordinated: drive Start/Stop is controlled independently
- Speed control depends on the drive's function and may follow the master reference, downstream drive, or melt pump if provided

System Architecture

The DS-eVUE system architecture is divided into two basic parts – computer/HMI, and process controller.

Computer/HMI

The integrated computer/HMI contains Windows®-based operating software, SCADA (System Control and Data Acquisition) foundation software, and custom applications software. The HMI features an integral 19" high-resolution color LCD with touch-screen and functions as the main operator interface for controlling drives, pressures, and temperatures. The operator can implement control functions, make set-point changes, monitor line status, alarms and events, focus on specific process areas, create and download recipes, and conduct supervisory functions such as trending and reporting.

Temperature Control

Standard temperature control is maintained by the PLC control utilizing Davis-Standard's advanced dual thermocouple algorithm. All temperature zone information is entered and displayed through the HMI.

Process Controller

The process controller (PLC) is selected according to application and is based on either a Siemens or Allen-Bradley PLC hardware system. It is supplied with an Ethernet port to allow for easy data extraction of line parameters to a host data collection system with options for remote view notes and web browsing capabilities. PLC components include an industrial input and output rack/rail with power supply, a CPU module, analog input and output modules, binary input and output modules, and modem for remote diagnostics and trouble-shooting. Davis-Standard supplies a customized process control program for various applications in standard PLC language.

Software Advantages

The Ds-eVUE is powered by a Windows® operating system with an anti-virus program, zip program, and PLC interface program as needed. Run-Time SCADA software package. Davis-Standard offers a customized application program for controlling and monitoring the extrusion process.

Features

All DS-eVUE systems include, or are available with, the following features and functions:

- Main menu
- Multi-level programmable security access to protect critical set-up functions and limit access to selected control functions
- Operator screen with shift/product/run data entry
- Extrusion temperature control and monitoring
- Set-points and other numeric data entered on the touch-screen via a pop-up keypad
- Extrusion pressure monitoring, calibration, and set up
- Extrusion pressure control of screw speed, based upon melt pump suction press set point and measured value
- Line overview screen with a summary of key process data
- Screens for extruder(s), die(s), and downstream equipment
- Line and drive(s) set/monitor – drive start/stop, machine speed, drive percent load, drive mode select, drive status monitor
- Recipe creation, storage, down-loading, editing, snapshot (captures current set-points)
- System alarm and event log – 60 days
- Historical trending of predefined groups – 60 days
- Electronic status reports
- Help screens for set-up, maintenance, and trouble-shooting
- Provision for system networking via Ethernet LAN; DS-eVUE process data is available over the LAN
- Optional communication interface to a single intelligent device (Davis-Standard has an extensive list of tested and proven device drivers from which to choose.)
- Optional language selector
- Electronic signatures and For 21 Part 11 ready