

# Valve Configuration Goes Next Generation

Today's Online Tools Ease the Valve Selection Process (Really)

by Matt Migliore

The process of fluid handling systems design, like many engineering tasks, has changed drastically with the emergence of Internet-based business over the past 10-15 years. And perhaps nowhere is this evolutionary trend more evident today than in the area of valve specification, as the era of massive binders full of product data sheets makes way for a new generation of online tools aimed at streamlining the valve selection process.

With lessons learned from clunky early iterations of Web-based offerings in hand, some valve manufacturers are entering the 2.0 phase of their online strategy, providing tools that are truly user friendly and thoroughly intuitive. Ultimately, the aim is to arm the valve user with an online system that is capable of custom configuring a valve to meet the specific needs of a given application. But before that goal is achieved, there's still some more ground to be covered.

## Web-Enabling Valve Configuration

It wasn't so long ago that online valve configuration was nothing more than an idea, with a handful of manufacturers considering

how to add product information to their Web sites. Meanwhile, end-users were still building hard-copy documentation libraries, filled with product data sheets and component manuals from valve manufacturers far and wide.

"[Ten years ago,] the whole process took much time, and since it was paper-based, it was prone to error," says Mike Farrell, director of Web & IT Services for Assured Automation ([www.assuredautomation.com](http://www.assuredautomation.com)). "Engineers would need to consult all of the component product sheets and price sheets to find compatible components, determine the price of each component, and tally the cost of each component to get to a total assembly cost."

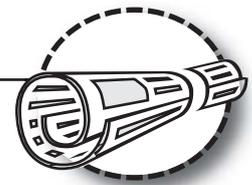
Marty Mincevich, director of marketing for ASCO Valve Inc. ([www.ascovalve.com](http://www.ascovalve.com)), says the online valve configuration tools that are coming to market today, however, offer valuable features to help end-user engineers take some of the time and effort out of the valve selection process.

Earlier this month, ASCO released its latest online configurator, which focuses specifically on solenoid valve specification. Whereas ASCO's previous configuration tools took a systems-based

Qty / Quote	Part Number	Availability	Max Pressure (psi)	Orifice Size (in)	Flow Factor (Cv)	Wet Rating	List Price (\$155)
	8262H010	100%	750	3/8	0.06	6.1	69
	8262H020	100%	1500	3/8	0.06	10.1	89
	8262H030	100%	379	3/32	0.17	6.1	69
	8262H041	100%	500	3/32	0.17	9.1	69
	8262H022	100%	185	1/8	0.35	6.1	53
	8262H032	100%	340	1/8	0.35	10.1	65
	8262H021	100%	210	5/32	0.50	10.1	62
	8262H013	100%	55	7/32	0.84	6.1	54
	8262H018	100%	100	7/32	0.72	10.1	65
	8262H020	100%	36	5/32	0.96	6.1	54

Assured Automation's Configurator valve configuration system includes logic for options such as sizing, material selections, and accessory selections. As options are selected, an image of the assembled automated valve with accessories is generated.

ASCO's new two-way solenoid valve configurator is designed to intuitively and quickly select valve attributes required for end-user applications, such as pipe size, operation and voltage. The configurator will provide several model numbers that meet specific requirements.



approach with the aim of building entire valve packages, the company's latest configurator focuses on the solenoid valve itself.

### Designing the Configurator of Today

According to Mincevich, the development process for ASCO's latest online configuration tool was based on extensive observational research and focus group data. He says this research process effort revealed some of the key characteristics an engineer wants in an online valve configurator, such as intuitiveness and ease of use.

Mincevich says engineers want a configurator that presents all of the possible options available to them via a single interface, rather than in drop-down lists or by parsing through multiple pages. Regarding intuitiveness, Mincevich says engineers indicated that while they want multiple options to choose from after inputting their application requirements, they don't want to be overwhelmed with too many possible solutions.

Based on this feedback, Mincevich says ASCO designed its latest configurator such that the interface is presented on a single page, which continuously refines the options as the end-user engineer provides more and more information about the application. The interface was also designed such that all of the options are viewable at the same time rather than housed in drop-down lists or on separate pages. Finally, he says ASCO armed its configurator with enough business and engineering intelligence so it generally provides 5-10 viable options once all of the application information is provided.

Farrell says Assured Automation sees timelessness as one of the key advantages online configurators offer as compared to paper-based systems. He says that while hard-copy documentation libraries often contain a lot of dated material, today's generation of online systems are capable of providing end-user engineers with real-time access to the most current product information.

Farrell says today's tools also hold significant advantages over earlier iterations of

## Features to Look for in A Valve Configurator

According to Assured Automation, today's best-in-class online valve configurators will include the following features:

- ✓ Open access (pre-approved login and password not required)
- ✓ Logic to prevent order errors
- ✓ Logic to select optimal priced configurations
- ✓ Image of configured components
- ✓ Generates part number
- ✓ Generates price
- ✓ Generates shipping cost
- ✓ Animated demonstrations
- ✓ Online purchase
- ✓ Estimates ship date
- ✓ Estimates weight
- ✓ In-stock identifier
- ✓ Online datasheets
- ✓ Online installation & maintenance manuals
- ✓ Downloadable 3D CAD drawings
- ✓ Extensive help screens, product cutaways and animations of complex concept

online configurators. According to Farrell, one of the main drawbacks of first-generation configurators was that they were often over-engineered, resulting in a time-consuming and tedious process. "Since there was no internal logic that guided engineers to relevant options based on choices already made, it was possible for engineers to configure assemblies that simply would not work," says Farrell. "Or engineers could select sets of options that would produce no viable recommendation."

As more logic was introduced into the configurators, Farrell says the problem became waiting for pages to refresh with each option selected. "The user interface was clunky and cumbersome. Extensive use of drop-down menus prevented engineers from seeing all relevant options in one glance," says Farrell. "And some dated configurators required engineers to flip across multiple pages before finally completing a valve assembly."

Unlike the valve configurators of yesteryear, however, Farrell says today's systems are capable of providing enough engineering and business logic to effectively specify even the most complex assemblies.



## Keys to Configuration Success

To effectively specify a valve using today's best-in-class configuration tools, ASCO's Mincevich says the end-user should be prepared to input certain core pieces of information about the application, such as pipe size, configuration (i.e., normally closed, normally open, etc.), pressure requirements, type of media, required voltage, etc. If the application has some specialized requirements, such as vibration, response time, etc., Mincevich says it may be best to contact the manufacturer directly to ensure the appropriate solution is specified.

When evaluating configurator technologies, Mincevich says end-users should look for some key features, such as options for added information (e.g., an information bar that provides more details about a given option when the end-user mouses over it). He says it is also important to look for a system with features for online purchases and/or pricing quotes, as well as availability information. Mincevich says ASCO's latest generation of valve configurator provides availability information, with the ability to directly purchase and/or receive instant pricing. And perhaps most importantly, he says end-users should look for a configurator that is intuitive and easy to use. "Time is of the essence; so being able to move through the process and configure quickly and easily, and being able to understand what you're getting, is very important," says Mincevich.

Whether configuring a valve via a paper-based system or the most intuitive online configurator, Farrell says it is critically important for the end-user to be mindful of the consequences of improper specification. "Applications with high performance demands can fail if the correct valve is not selected to meet the rigorous demands," says Farrell. "For example, water fountains that pump water at the rate of 11,000 gallons per minute can generate water hammering with thousand pounds of metal objects slamming and pounding.

"Engineers still need to be able to select the correct valve type depending on the particular requirements of their application," says Farrell. "For example, angle valves would be more appropriate for applications that require high cycle rates at zero or full pressure rate than a typical ball valve would be."

## The Future

Mincevich says he sees the evolution of online valve configuration as a three-step process. The first step was the "Select-to-Order" phase, with end-users perusing through static data on a Web site to determine which valve and related components were most appropriate for their given application. The "Configure-to-Order" phase was next. Mincevich says this is where today's best-in-class configurators are now, with features for effectively producing a list of actionable options based on end-user inputs. The future, he says, is the "Design/Engineer-to-Order" phase, where the end-user engineer can design a valve from scratch to meet the needs of a specific application.

According to Mincevich, this next phase of valve configuration tools will provide capabilities for customization. "This is where we can incorporate the engineers experience and knowledge into a computer application that will actually allow a customer to design and engineer a product that has never been made before."

Mincevich says this next phase of online configuration tools is tied closely to the effort revolving around modular systems design. "Modular architecture is a key requirement and enabler for true product configuration and then moving forward to Engineer/Design-to-Order," says Mincevich. Ultimately, Mincevich sees configurators in this phase of their evolution providing end-users the ability to assemble their valves piece by piece rather than being tied to a primarily pre-configured product design.

Farrell says one of the nice features Assured Automation offers to help end-users make the most out of their valve configurator is an online training feature. He says the training feature gives the end-user engineers a better feel for how to use the available tools in a way that eliminates errors and will maximize the configuration process.

According to Farrell, some of the key warning signs end-users should keep an eye out for when evaluating configuration systems are: over-engineering, too many bloated questions, and too many confusing opinions. He says the most effective configuration tools need only basic application parameters to generate a list of

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potential solutions. From there, he says the end-user can further refine their search by performing "what if" scenarios to determine how changes in the application parameters — such as pipe size, for example — would impact the options outputs, pricing, etc.

Going forward, Farrell says end-users should expect to see online configurators add access to full product information, more online training to complement valve type selection, and more download options for 3D CAD models, etc.

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