Fogg Filler Company

Well-filled bottles and order books

Consistent design process thanks to integrated plant design

Products
Smap3D P&ID
Smap3D 3D Piping / Isometic

Fogg Filler Company is an American manufacturer and world leader in the design and manufacture of rotary filling, rinsing, capping, and enclosure systems for the flowable liquids industry. With P&ID and Piping ISO, Smap3D Plant Design software is a fundamental component in the efficient design of these innovative systems used in the dairy, water, premium juice, spirits, and pharmaceutical industries.
Fogg, founded in 1956, began as a small dairy filler rebuild shop and progressed over the years to become a premier filling machinery provider.

In the past 60 years, not only its filling and capping machines, the bottle and cap sanitizers, or the cap sorters have become increasingly modern and efficient, but also the design and engineering process.

Plant design software integrated with Solidworks PDM

The US company from Holland, Michigan, had been working with Solidworks and a manual P&ID tool for over 10 years before they started looking for a more intelligent software to build pipes and to generate pipelines. The new tool should have a higher performance and should optimize productivity in the design process. This is only achievable with end-to-end processes. Thus, Fogg Filler's main requirement was that the plant design software had to work flawlessly with Solidworks CAD, their custom-built ERP system, and their current PDM system; Solidworks PDM Professional. As one of the few solutions on the market, Smap3D Plant Design was able to fulfill these demands by combining P&ID, piping, and isometric for 2D / 3D plant and pipeline planning of the filling machines. The software is integrated with Solidworks PDM via a connector which ensures the smooth

exchange of document information and avoids duplicated information. For example, all metadata of a document such as status, change history, or engineer are automatically transferred. “Smap3D has integrated into our existing systems flawlessly, we are very happy with how it blends into our PDM workflow so seamlessly,“ says Jesse Reda, Engineering Manager – Systems at Fogg Filler Company. “This has saved us considerable time and costs configuring specialized software.”

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A single solution for P&ID, piping, and isometric

From bottled water to antifreeze, juice to household products, pharmaceutical to dairy products: Fogg Filler has strong expertise in Extended Shelf Life (ESL) filling systems for hot and cold applications along with other innovative filling systems for food and beverage customers around the globe. To meet the high demands of these industries, the machines must be planned down to the last detail. This quality requirement begins with 2D flow diagrams, which represent the first step of the process chain: The database-driven P&ID software provides all relevant charts, diagrams, drafts, design checks, and reports regulated by ANSI/ISA 5.1 to 5.5. in the USA and DIN EN ISO 1062 in Europe. All drawing sheets, project sheets, and report templates are 100% customizable, and frequent or repetitive tasks are automated and simplified with Smap3D P&ID. By eli-

minating the need to manually enter data, Fogg Filler has also been able to minimize errors. "By using the different Smap3D Plant Design modules we're able to reuse our information from the P&ID and pull it directly into the 3D Piping application built into Solidworks. This saves a lot of time and while simultaneously providing a verification the P&ID and Solidworks model match," mentions Jesse Reda. In Smap3D P&ID, all data is available to create the 2D flow diagrams as well as the associated bills of material (BOM). In the next step, all relevant information can be provided to the piping model in Solidworks that automates 3D pipeline planning.

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Pipe specifications simplify handling of different filling machines

The basis of this highly automated 3D piping design is the use of pipe specifications. Pipe specs are defined as tables for a company, department, or project-specific, the relationship of the pipe components (fittings, equipment, etc.) to pipe characteristics (diameter, pressure, temperature, medium, etc.) is determined once. The general use of pipe specs helps Fogg Filler to change the diameters or the materials of their filling systems very quickly and efficiently. Especially, because their portfolio includes seven different series of filling machi-

nes: From the F12 series, Fogg's largest and fastest fillers with a 12-foot diameter filling bowl and up to 120 filling valves, to the F2 series, designed for smaller plants with up to 18 filling valves. "Our pipe class editor makes it easy to create, maintain, and manage these pipe class specifications," says Michael Mooney, Technical Director of Smap3D Plant Design. "Fogg Filler engineers can do this themselves, so they remain flexible." The software also delivers pipe spec ‚samples' that can be directly used or modified according to individual requirements. Smap3D also competently supports the company with further services at any time. Highly knowledgeable and experienced engineers from the plant engineering sector form the local support team. In addition to implementing the software on-site, it was also important to quickly familiarize admins and designers with the new software in training sessions. „It is important for us to support customers in the best possible way during implementation and during operation. Fogg Filler can contact our American support team directly - without having to consider the time difference to Europe," emphasizes Maxim Lich, Managing Director of SmapD Plant Design. „That was another reason why the company chose us."

3D plant design solution saves engineering time

Jesse Reda is very happy about the fact that the planning and design process has evolved: "With our past process of part numbering and detailing every cut to length pipe, spool weldment, and then plumbing the system we can work up to two times more efficiently with Smap3D. We can then invest this saved time in further improving our processes and in developing new products." This also supports Fogg Filler's course for growth which reached its peak so far with the acquisition by ProMach, a worldwide leader in packaging machinery solutions, in 2020.

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Maxim Lich
CEO
Smap3D Plant Design