



## **Save Time and Money with Prefabricated Process Systems**

The prefabrication of pharmaceutical process systems has become more prevalent as the industry realizes the value proposition that prefabrication affords, and old myths are dispelled. Historically, end-users have been unaware of the benefits of modular construction. The traditional sticks and bricks design/build community had no incentive to either explore or promote what was perceived as an assault on their core competencies. There has also been a lack of fabricators who can model and control the diverse trades a pharmaceutical module demands. So what does modular construction bring to the table?

The biggest value is a condensed project schedule. You no longer have to anguish over ordering long lead time items to insure that there will be a roof over sensitive equipment. They can be ordered and installed in a module while the building construction process is ongoing. Process fabrication and building construction occur concurrently, not consecutively. Shop crews don't wait for work or flume permits so an eight hour day is truly eight hours. Shop material handling is more efficient than in the field, and a lot kinder to sensitive equipment. You will never run out of daylight in a shop or stop for weather delays. Tools and equipment are left where they are needed the next day not carried across a project site for gang box lockup. Access to difficult to reach areas is better accomplished in the shop than a high reach struggling around multiple trades on the job site.



Module fabrication allows for the utilization of the most competitive workforce regardless of the install area's wage scale. As the market heats up for skilled workers, it allows for fabrication in areas where the necessary craft skills are available. Generally speaking, shop crews fabricating modules consistently repeat similar tasks and progress along a learning curve that the diversity of field work doesn't permit.

There are also inefficiencies to modular construction. There will almost always be additional structural components to facilitate the module concept and shipping. Falsework may be necessary to replicate actual field conditions that will eventually be discarded. These inefficiencies pale in comparison to the ability to resolve interferences or ring out electrical systems prior to field installation.

What are the barriers to modular fabrication? The most important concept to realize is that it has to start in the design phase. If you are trying to determine if a designed process lends itself to modularization, you're too late. Bring in a fabrication partner early. Their contributions regarding constructability and value engineering far outweigh any costs. A reputable module fabricator will be able to address logistical challenges, such as federal height limits on overhead bridges and other transporting issues.

Research and find a fabricator who will provide one stop shopping for the structural, mechanical, and electrical scope to avoid chasing your process from shop to shop to see where it stands. Select a fabricator that is an innovative problem solver and you will reap the benefits of prefabricated module solutions in your industry.