



FICEP  
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# FICEP's Innovative Engineering Generates Expansive Product Line With Sub Assembly Commonality



FICEP has grown their industry leading position by addressing the needs of the world's diverse markets. Steel fabrication occurs around the world, but frequently the automation needed in one market is of no practical value in another region.

In defining the most practical solution for a specific market, the following parameters typically drive the automation requirements:

- Production capacity requirements
- Skilled labor availability and cost
- The required fabrication applications and processes
- Material sizes to be processed

### Challenge of Addressing Diverse Criteria

Closer examination of the factors that drive the needs of each specific market creates difficult challenges for a machine tool builder like FICEP. Using the drilling of structural steel as an example, fabricators around the world may all require automated drilling but that is frequently the only common thread of their application. In markets where shop floor space is extremely restricted, production requirements are limited to 40-50 parts per day, and the budget is constrained, the family of FICEP traveling column single spindle drills frequently addresses this criteria.



*Automatic CNC single spindle drilling line  
 Model EXCALIBUR*

### Component Commonality

The main differences between these two models are the Excalibur 12 offers a spindle sub-axis and automatic tool changer. This feature enables the fabricator to eliminate manual layout for subsequent fitting.

Beyond this difference, these two models use the same material support table, CNC control/drives and basic mechanical elements.

These two models address the needs of different markets but are built on the same design platform.



*Automatic CNC single spindle drilling line  
 Model VICTORY*



*Automatic CNC drilling line Model ORIENT*



*Automatic CNC drilling line Model VANGUARD*



*Automatic CNC drilling line Model VALIANT*

The above three families of FICEP drilling lines all have unique features and benefits to, again, address the specifics of each individual market and fabricator's needs.

The most distinct differences between the models mentioned above can be defined as follows:

- 1 or 2 articulating spindles versus 3 spindles
- 6, 12, or 14 position tool changers
- In line spindles or sub-axis positioning
- Maximum section depth of 450 mm, 600 mm, 1000 mm, 1100 mm, 1200 mm or 2000 mm
- Maximum section weight from 3500 kg to 20000 kg

These described differences in capabilities and capacities are addressed by a total of 17 different FICEP models between the Orient, Vanguard, and Valiant families of drills.

This product line diversity is necessary to be able to offer to each worldwide market the drill line alternatives that addresses the unique specifics of each market and fabricator.

At first thought this would typically generate excessive manufacturing challenges to support these worldwide market designs.

FICEP's innovative engineering team has mastered this challenge by utilizing a concept of sub assembly commonality.

Considering the diverse family of drills and specifications, FICEP has standardized, for example, the following significant components and assemblies for their different drill lines:

- Common drill frame structure
- Rack and pinion measuring carriage assemblies
- Same CNC control and drives
- Drill spindle commonality
- Material clamping assemblies
- Material probing systems
- Transport conveyor commonality between drill families



*Automatic 9 axes CNC thermal cutting robot Model NOZOMI*



*Articulated arm of NOZOMI coper*



*CNC control unit used on all FICEP drilling lines*

The commonality of assemblies extends even beyond the different FICEP drill into other products like the NOZOMI plasma robot. It starts with the frame of the NOZOMI, as shown above, as it is the same frame that is part of the FICEP family of drilling lines.

The following NOZOMI sub assemblies are part of the drill line family:

- Common drill frame structure
- Rack and pinion measuring carriage assemblies
- Same CNC control and drives
- Material clamping assemblies
- Transport conveyors commonality



*Common transfer tables and conveyors used for all material handling*



*Direct Drive drilling spindles common in all FICEP drilling lines*

The comprehensive family of common components that have been engineered into the FICEP product line translates into a diverse group of fabrication solutions.

This approach also increases the quantities of the same parts produced to deliver tailor made solutions at competitive prices.

The progressive marketing approach that historically has been employed by FICEP is to

be able to offer the optimum product solution in each worldwide market.

This is in stark contrast to offering just 2 or 3 different models in an attempt to try to make the application fit a limited number of existing product solutions.

FICEP's progressive approach is to avoid this limitation by offering the optimum fabrication solution with over 100 different CNC lines.



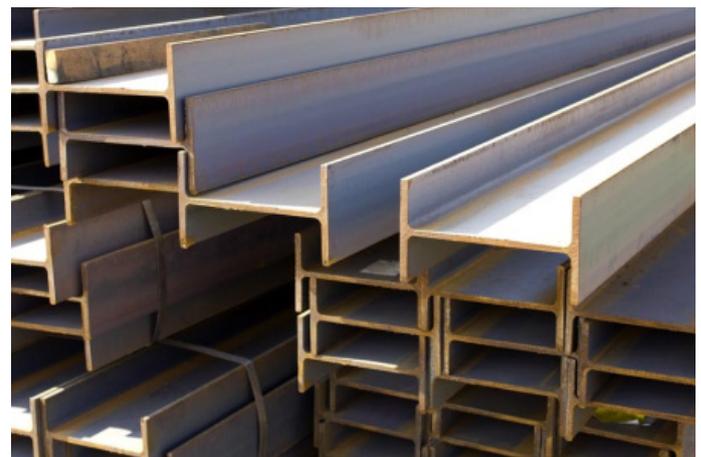
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