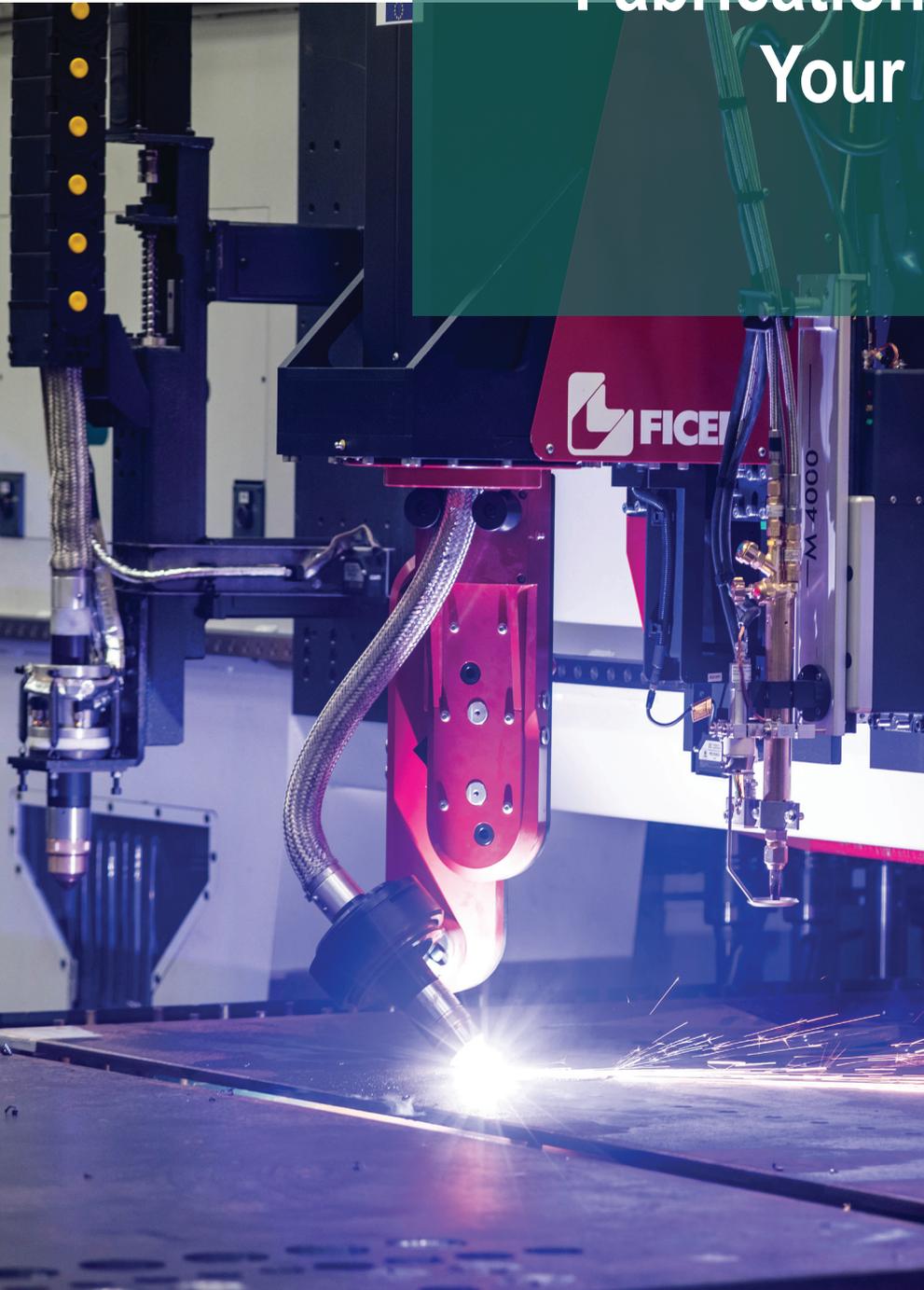




FICEP
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Maximizing the Plate Fabrication Efficiency of Your Facility



90 YEARS
ANNIVERSARY
1930 - 2020

Most firms today are faced with the common challenge of trying to gain maximum use of their existing facility to achieve enhanced productivity. Typically, the greatest potential to increase productivity rests with a plant's layout to minimize the required material handling steps and duration.

During the manufacturing process each step adds value to the end product with the exception of material handling.

Traditionally, fabricators have viewed material handling as a necessary evil to accommodate the different steps in the fabrication process.

Generally speaking, the efficiency when comparing one fabrication facility to another is minimizing the material handling steps and the effective utilization of plant fabrication space.

Process Consolidation Technology

The firm Mazak, a principal supplier in the machining segment of the machine tool world, adopted the term "Done in One" to put forth their approach of combining many traditional machining operations into one work center.

This progressive technology addressed three significant efficiency factors:

- The elimination of the need to engage in numerous material handling steps to transport work-in-process parts from one machining operation to the next
- By combining diverse machining operations into one common work center, it frees up significant floor space
- As the need for secondary work centers are eliminated, the requirement for additional work center operators is also eliminated.

In the 80's FICEP started to promote to the structural steel industry the idea of combining the drilling and sawing into one work center.

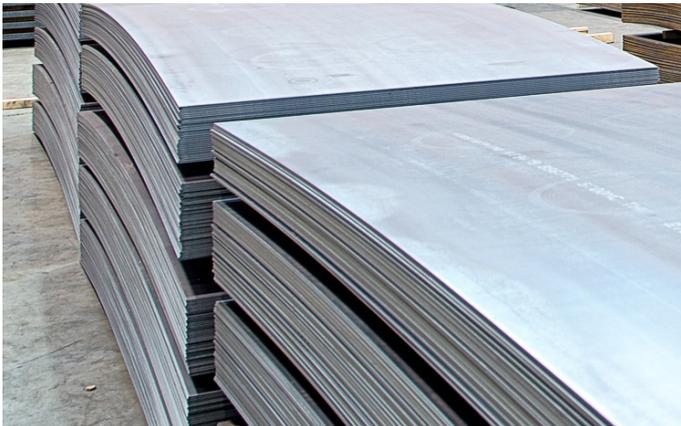
This combination of processes reduced the number of material handling steps and the associated cost that added no value to the finished product. Secondly, it freed up significant floor space for subsequent fit up.

Over the years this concept has flourished in structural steel fabrication facilities around the world.



New Plate Fabrication Technology Reduces Plate Fabrication Cost

Unfortunately, until recently the traditional fabrication of plate components generally started with stock size plates, which were sheared or thermally cut to the required size and shape.



Once the required part geometry was created, they were manually handled throughout the fabrication facility to numerous work centers to generate:

- Layout
- Hole generation

- Part marking
- Weld prep
- Tapping
- Countersinking
- Counter boring
- Milling operations

Each of the above-described functions typically required separate and unique work centers.

This historic approach to plate fabrication required numerous material handling steps through an expansive physical plant space because of the locations of the numerous work centers.

FICEP's Gemini Consolidates Operations Into One Work Center

The FICEP Gemini plate processor enables the consolidation of numerous traditional fabrication operations.

This gantry style plate processor incorporates both plasma and oxy-fuel thermal capabilities in addition to high performance machining spindles.

The machining spindles have a unique sub-axis positioning system.

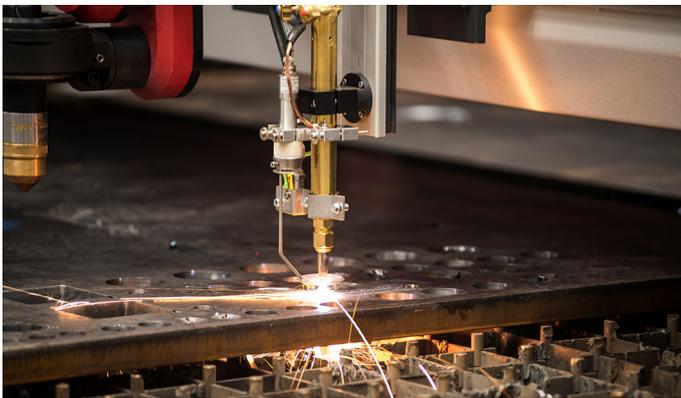


This innovative technology enables the stock plate and gantry to remain stationary while just the spindles are positioned in an “X” and “Y” axis grid. This feature enables productive milling as the stock plate and gantry are rigidly clamped or locked into a fixed position.

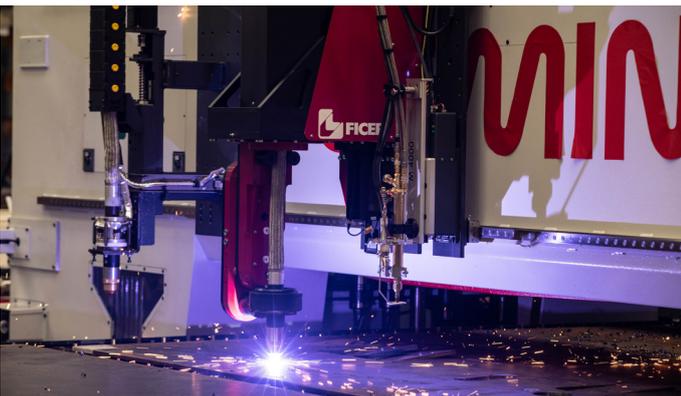
Only the spindle is in motion during extensive drilling, milling or scribing type applications. The fact that both spindles have a unique sub-axis and that they are fully independent generates twice the spindle productivity.

The concept of combining operations permits the FICEP Gemini to accomplish these traditional operations:

- Oxy-fuel cutting



- Plasma cutting



- Thermal weld prep generation



- Drilling
- Scribing to eliminate manual layout for subsequent operations



- Part marking
- Tapping
- Countersinking
- Counter boring
- Diverse milling operations

The ability to productively accomplish the above-described fabrication tasks enables the total completion of typical plate components on the Gemini work center.

This capability enables going from a stock plate to finished parts without the need to manually handle parts from one work center to the next.

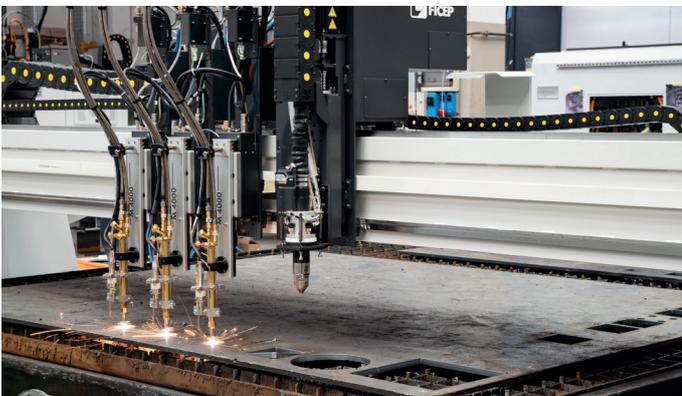
The elimination of the need to have multiple work centers also frees up valuable plant space for additional operations such as fit up and welding. The addition of the Gemini plate processor enables its users to increase their throughput substantially without expanding the size of their plant facility.

Increasing the Gemini's Productivity

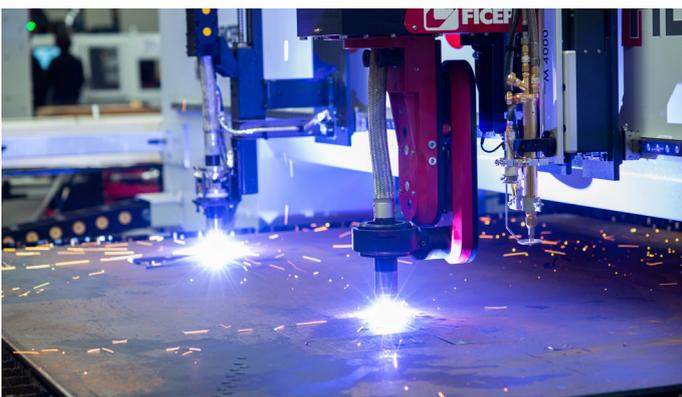
The optional features that are available on the Gemini enables a fabricator to increase the productivity of the work center without increasing the system's footprint.

The thermal cutting configuration can easily be expanded with the following options:

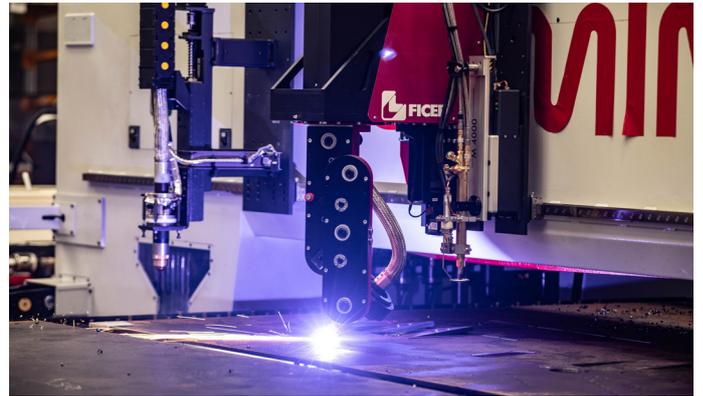
- Single or multiple oxy-fuel torches



- Single or dual plasma torches



- Programmable bevel cutting



The spindle design, with sub-axis positioning, permits the addition of a second spindle to double the productivity of these operations.

The fact that both spindles are fully independent with sub-axis positioning, each unit can be drilling, milling, scribing, tapping, countersinking or counter boring simultaneously even when the operations do not share the same length axis coordinate.

The diversity of plate components that need to be fabricated frequently requires a range of operations extending from just thermal cutting to comprehensive milling operations.



Addressing the goal of increasing productivity in a small, if not the same footprint, can also be accomplished by adding the FICEP Kronos burn table as it shares the same gantry rails and downdraft table.

What is not diverse is the goal that all firms share to reduce their fabrication cost. The ability to eliminate manual material handling operations and free up plant space is a recognized goal to establish this objective.



This combination is an ideal and cost effective solution to enhance productivity at a fraction of the cost and floor space of investing in a second plate processor.

This capability can be incorporated after the original installation when production demands justify the additional capital investment.

The methods utilized to fabricate plate components are extremely diverse and varied.

Progressive plate fabricators have recognized the technological and productivity advancements that the FICEP Gemini has generated for their operation.

Reducing labor cost, material handling steps and freeing up valuable plant space is a major key to the success of plate fabricators around the globe.

Examples of pieces processed on GEMINI systems for the agricultural machines field



Examples of pieces processed on GEMINI systems for the steel construction industry

