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**ESAB LAUNCHES FABRICATOR SERIES OF HEAVY-DUTY,  
INVERTER-BASED SYSTEMS FOR MIG/MAG AND STICK WELDING**

For fabrication and construction firms that need reliable and efficient welding systems that can withstand rugged industrial environments, ESAB Welding & Cutting Products has introduced its Fabricator EM 401i, EM 401iw and EM 501w inverter-based welding power sources and associated wire feeders for MIG/MAG and flux cored welding. The 401iw and 501iw feature a factory-integrated water cooler. Fabricator controls simplify operation by optimising arc performance for the wire and gas combination selected with predefined settings, and operators can independently adjust wire feed speed and voltage at the feeder. For process flexibility, Fabricator also provides an MMA welding output.

These units use inverter-based technology to increase welding performance to improve mobility with lighter weight, increase energy efficiency and offer more advanced controls to boost weld quality and productivity — all at a highly affordable price. The Fabricator EM 401i and EM 401iw have an output rating of 400 amps at 60% duty cycle. The Fabricator EM 501iw has an output rating of 500 amps at 60% duty cycle.

Housed in a weather-protected IP23S-rated case, the Fabricator has an air tunnel cooling design that isolates electronics from dust, oil, metal shavings and other airborne contaminants. Thick metal side panels provide impact protection, yet the design enables easy access for service and maintenance. Large feet provide ground clearance and extra protection for the chassis, while its two ergonomic handles are crane rated. Because of their rugged design, ESAB offers a 3-year warranty on the power source and wire feeder.

**Inverter-Based Advantages**

Fabricator units feature inverter-based power transformation technology. They operate at 87% electrical efficiency — a 30% improvement over step-regulated power sources — so they lower primary power consumption and are more environmentally friendly.

An energy save mode reduces power consumption by 35 watts when the welder sits idle. These units also have a power factor of 0.91, which lowers primary amperage requirements; this may allow using more machines on the same circuit breaker or reduce worries about nuisance trips. All machines can operate in a wide input voltage range between 342 – 456V, 3ph, 50/60 Hz.

Inverter technology also provides a faster response to changing arc conditions. Coupled with microprocess controls, inverter technology enables ESAB to incorporate additional functions to enhance welding performance while simplifying operation.

Using highly visible LED displays and controls with easily understood terminology and symbols, operators start welding by selecting from one of three options: solid wire, cored wire or MMA. If a wire welding process is selected, operators then select the correct wire diameter and gas type and the Fabricator will then be set for optimised performance. Users can also adjust welding wire feed speed and voltage independently at the wire feeder. The Fabricator 400-amp models are optimised for performance with 0.8 to 1.2 mm wires, and the 500-amp model is optimised for performance with wires from 1.0 to 1.6 mm diameter.

Additional controls allow operators to adjust inductance, which can reduce spatter, enhance bead wetting action and create a flatter bead profile when MIG/MAG welding in the short circuit transfer mode. Users can also set crater fill voltage and amperage at the end of the weld to prevent crater cracking, with the crater fill function activated by setting the welder in the 4T or 4T repeat mode. For MMA welding, adjustable Arc Force provides additional amperage in low voltage situations to prevent the electrode from sticking to the work piece and can provide increased penetration.

### **Dedicated Wire Feeders**

ESAB offers two dedicated wire feeders, the Fabricator Feed 304 and Fabricator Feed 304w water-cooled feeder. Quick connectors at the back of the Fabricator power source make it easy to connect to the wire feeder with quick and heavy duty connectors. Water-cooled variations feature the water cooler integrated into the power source and a quick connection for the torch. The trolley features a low, easy-loading platform to hold a single gas cylinder.

The Fabricator Feed 304 offers voltage and amperage (wire feed speed) control at the feeder. It features a 4-wheel feed mechanism protected by a steel case and plastic cover to shield the wire spool (up to 300 mm spools).

At ESAB, we exist to shape the future of welding and cutting. We connect fabricators with the widest range of products under our industry-leading brand portfolio with the latest technologies to solve virtually any industry challenge — then we back it up with our

knowledge, experience and passion to help them be more productive than ever before. To learn more, visit [esab.com](http://esab.com).

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Image Information

JPG: Fabricator\_Inverters

Caption: ESAB Fabricator inverter-based welding systems boost productivity and quality for fabrication and construction firms that need reliable and efficient welding systems that can withstand rugged industrial environments.





