

# *Better than 3D-printed... MasterPrinted!*



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## **MasterPrint Continuous Filament**

**Program, Simulate, 3D Print and Overprint with Ingersoll Machine Tools' new Additive Manufacturing Robotic Solution.**

**MasterPrint Continuous Filament** is Ingersoll Machine Tools' new family of continuous filament Additive Manufacturing equipment that provides your company with the ability to program, simulate, 3D-print new parts or overprint existing pieces.

**MasterPrint Continuous Filament** uses 6 axes industrial robots and a rotary table as 7<sup>th</sup> axis to accurately position a printing module consisting of a carbon fiber filament extruder, a touch-free material tensioning and an auxiliary general-purpose extruder (FFF, fused filament fabrication technology, patent pending).

**MasterPrint Continuous Filament** has been designed, built and tested at the Ingersoll U.S. headquarters in Rockford, Illinois, in partnership with the **University of South Carolina** (Columbia, SC) and **TIGHITCO** (Charleston, SC).

**MasterPrint Continuous Filament** is aimed at the *fast prototyping* and *durable tools* manufacturing needs of the aerospace sector, but can serve a wider market wherever printing and overprinting cheaply, quickly and reliably is required.

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# MASTERPRINT

Continuous Filament

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**MasterPrint Continuous Filament** differentiates from the competitors' line-up through **core-distinctive features** that have made Ingersoll's products easily recognizable and greatly appreciated by the market

**1. Flexibility**

ability to print brand new complex geometries or overprint pieces produced with equipment other than Ingersoll's (alien parts)



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## MasterPrint Continuous Filament's core-distinctive features

### 2. Siemens 840D

the standard control for the manufacturing industry, well known by all your operators and maintenance crews:

- Controls all 7 axes for smooth synchronous printing
- Controls extruder motors, heaters, tensioners
- Manages safety guarding and Cartesian Monitoring



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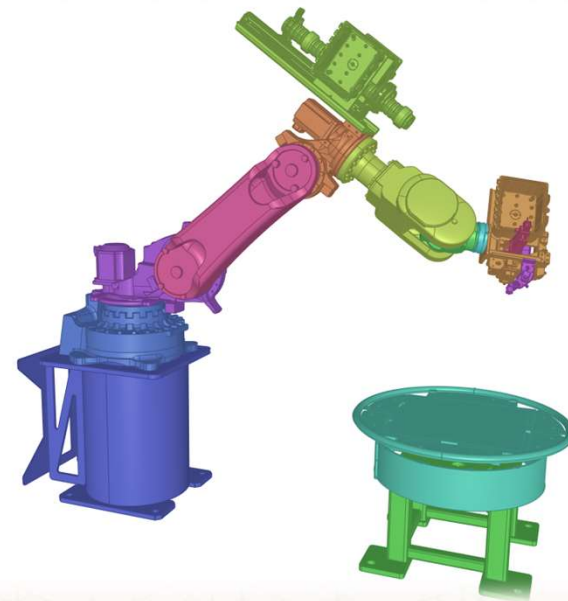
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## **MasterPrint Continuous Filament** 's core-distinctive features

### **3. seamless programming environment**

a comprehensive SW suite to seamlessly program and simulate all manufacturing operations, covering:

- Toolpath generation
- Post-processing
- Machine simulation
- NC Program creation



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## MasterPrint Continuous Filament's core-distinctive features

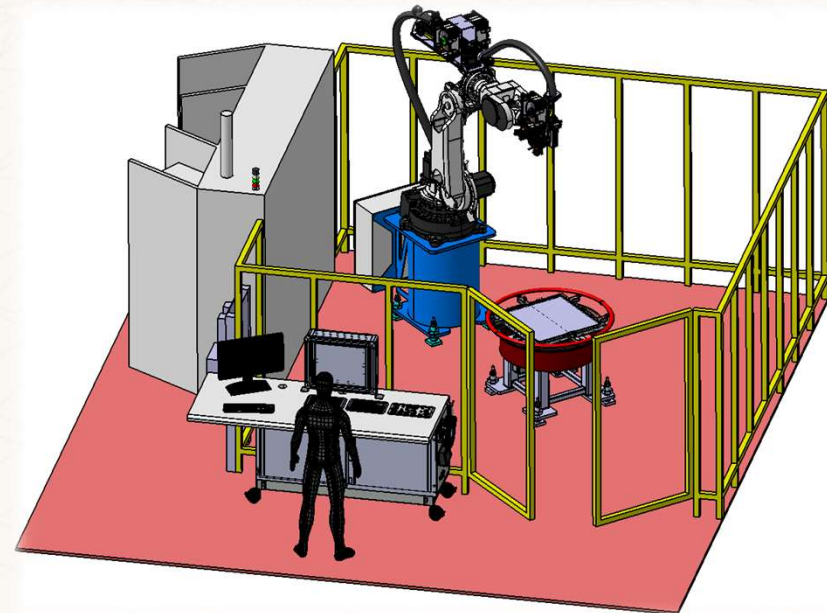
### 4. Simplicity, Safety and Ergonomics

no large enclosures, but **open-air printing**

**perimeter guarding** for total protection.  
Safe, easy and convenient access to the  
workzone in *maintenance mode* with HT8  
control pendant

#### **zone management**

single robot operating in multiple zones  
multiple robots sharing multiple zones



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## MasterPrint Continuous Filament's core-distinctive features

remote process/equipment monitoring and pre-emptive maintenance with **Ingersoll IB-NET**

compliance with **U.S. and E.U. (CE) regulations and certifications**

The screenshot displays the IBNET Production Management interface. It features a navigation bar with options: HOME, WAITS & STOPS, CHARTS, SCHEDULES, PMS, and SETTINGS. The main content area is divided into four panels, each representing a different machine. Each panel includes a small image of the machine, its name, and a set of performance metrics.

Machine Name	Machine Status	Part Name	Part Number	Part Formation (%)	Spindle Speed (rpm)	Working Hours (h)	Efficiency (%)
Atlas 3 [1]	Running	Wind turbine hub	79	14.16	904.27	32.02	98.02
Atlas Vision P [1]	Running	Wind turbine hub WE398	19	56.16	995.99	13.16	84.99
Atlas 3 [1]	Running	Wind turbine hub WE398	70	90.16	-	-	-
Atlas Vision P [1]	Running	Wind turbine hub WE398	0	42.16	-	-	-



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