PRE-RELEASE

MASS PORTAL®

Dynasty®
ADDITIVE MANUFACTURING SYSTEM
Modular. Adaptable. Scalable.

Mass Portal Dynasty Additive Manufacturing System (AMS) is designed to provide adaptable solutions to small-series plastic production challenges by deploying modular capabilities as needed.

<table>
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<tr>
<th>3D PRINTING UNITS</th>
<th>SMART MATERIAL DRYERS</th>
<th>PRINTER RACKS</th>
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<td>Heavy duty versions of the Mass Portal Pharaoh ED and XD 3D printers are the basis of the system.</td>
<td>Integrated smart materials drying, feeding and management system ensures material stability.</td>
<td>6 Pharaoh 20 or 4 Pharaoh 30 printing units are stacked in one rack that also provides connectivity.</td>
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**DYNASTY CONTROL SOFTWARE**
Allows easy setup, monitoring and control of individual printing units and whole system workflows, including materials, automation and print jobs.

**AUTOMATION**
Dynasty AMS can mount print beds, start, run and finish print jobs with limited operator attendance for system setup. Jobs can be routed to specific machines based on features.

**POST PROCESSING**
Dynasty system allows for integration of post-processing capabilities like UV curing, vaporized solvent print smoothing and other procedures.

**3rd PARTY SOFTWARE**
Dynasty AMS is designed to seamlessly integrate into 3rd party workflows and cloud systems.

**PRINT PLATFORM STORAGE**
Unprocessed and processed print platforms are stored in a modular rack for easy access and retrieval.

**UTILITIES**
Networking, compressed air, air filtration and other utilities are integrated into system modules.
Automated.

Dynasty AMS overcomes the bottleneck of desktop 3D printing by automating AM workflows for parallelized production of parts or for semi-unattended printing of individualized products.

**Print Job Automation**
Dynasty AMS is our answer to many challenges in the low volume plastic products industry — cost per part, initial tooling cost, personalization, excessive manual labor, pre-production reengineering and more.

**Materials Versatility**
The Dynasty AMS is designed from the ground up to be ultimately flexible with material choice — open materials from independent vendors can be used. Smart material dryers are integrated into Dynasty Control workflow.

**Example Configuration**
Example deployment of Dynasty AMS shown above: automation module with vacuum gripper, single rack of six Mass Portal Pharaoh XD20 3D printing units with vacuum quick exchange printbeds, printbed storage rack, material dryer with up to 30 kg capacity, control console with Dynasty Control and printjob setup / slicing software.

**Example Applications**

**DENTAL CLEAR ALIGNER MOLDS**
Automated system for production of molds for dental clear-aligners — high geometrical precision prints of similar, but individual models. Automated job preparation, slicing, printing, storage is provided.

**ASSISTIVE DEVICES**
A dual-material, dedicated system for production of end-use orthodontic assistive devices. Integrated slicing, material (PA6 / PLA) selection.

**FLEXIBLE SEALS AND GASKETS**
Production of low-volume custom seals and gaskets for custom hydraulics / pneumatics applications. Direct feed hotend option.

**END-USE PRODUCTS**
Production of customized end use objects. Simultaneous multi-material printing allows for tailored performance of products such as 3D printed loudspeaker systems or shoe inserts with personalized features.

**MATERIALS / APPLICATIONS TESTING**
Automated system for development / testing of material properties and printing applications. Integrated reporting allows for automated data entry for experiment analysis.

**SHARED PRINTLAB**
A mix of system capabilities for multiple applications in shared-service environments such as printing shops, Fablabs or educational laboratories. Material use management and reporting.
Desktop to Production

Going from desktop prototyping to automated production with the same materials, same software and same printing technology cuts the pre-production time, reengineering and cost to almost zero.

One System, Many Solutions
The Dynasty AMS is our answer to many challenges in the low volume plastic products industry — cost per part, initial tooling cost, personalization, excessive manual labor, pre-production reengineering and more.

Low Cost of Entry
You can start a Dynasty AMS deployment with a single, standalone Pharaoh desktop 3D printer in the R&D lab — or even in your home office. This will allow prototyping, materials testing, pre-production development and planning.

For the New Industrial Age
Dramatically lowering the cost of entry for small-series plastic parts production, Dynasty AMS embodies the ideals of today’s new industrial revolution — bringing the hype of 3D printing to the daily business of productivity.

Customer Success Ensurance
Included with every Dynasty AMS deployment is a complete range of customer benefits, including application scoping, development and piloting, onsite operator training, delivery, installation and on-site service.

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