

PadJet™

Digital InkJet Pad Printing System

Multi-Patented PadJet “Inkjet to Pad” System

The PadJet Digital Pad Printing System unites industrial inkjet technology with tampon printing pads to transfer high quality, full-color, digital images, designs, and logos onto a wide range of products with exclusive advantages and benefits unattainable with traditional pad printing, direct inkjet printing, or other printing methods.

PadJet’s innovative system applies multi-color images directly onto the proprietary PadJet printing pad via high-resolution inkjet print heads. PadJet then transfers the full-color image to the object in a single printing pass. Unlike other pad systems, each multi-color image can be uniquely different.

PadJet’s unique single-pass technology provides product decoration with high-resolution, full-color images, applied directly onto flat or oddly shaped 3-dimensional objects while reducing preparation and setup time, speeding-up printing and offering simplified multi-color printing.

PadJet ends the need for manual preparation eliminating engraved printing plates (clichés) and ink cups, ends extensive machine set-ups, and long equipment changeover times.

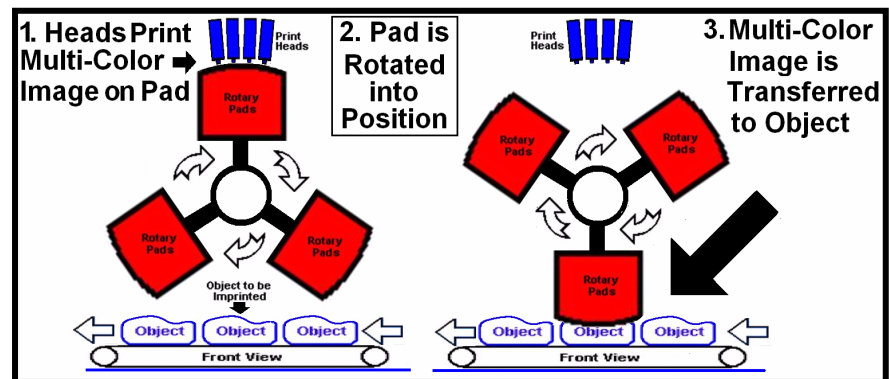
The result is a more flexible and versatile production system creating superior products with lower cost, enhanced quality, expanded color options, and time and labor savings.



The PadJet™ RotoPad™ System – How it Works

1. Inkjet heads print a multi-color image directly onto the PadJet printing pad.
 2. The pad is moved into position over the object to be printed.
 3. The image is then transferred directly to the object in a single step printing application.
- The system is then ready to print the next image which may be identical or different.

Optionally, the pad assembly moves up and down and the conveyor starts and stops for printing.



High Image Resolution Across Curved Surfaces

Unlike direct inkjet printing, PadJet maintains high image resolution over the full range of image wrap for images printed on curved surfaces.

Samples demonstrate PadJet’s extended image wrap capability that is not possible with direct inkjet.

Inkjet heads lose image quality when jetting images farther than about 5 mm between head and object.

The equivalent printing distance from the top of the golf ball to the edge of printing shown in this full-color sample is approx 16 mm.

Sample PadJet Digital Images



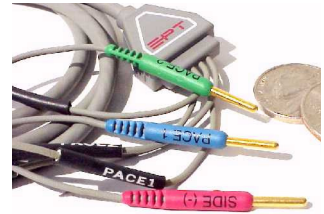
160° Wrap Golf Ball Image

Direct inkjet images become distorted at an equivalent inkjet head-to-object printing distance.

PadJet Benefits vs. Pad Printing and Direct Inkjet Printers

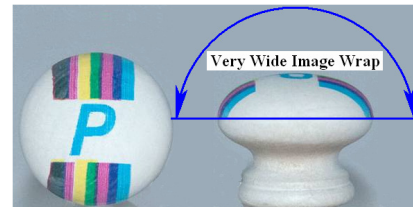
Full Process Color Capability

- Single-pass multi-color printing producing instant full color images
- Multiple colors printed in a single step
- Instant Image Change – Each image printed can be uniquely different
- Allows automated sequential numbering, bar coding, customization



Simplified Operation

- Perfect image registration
- No Ink Cups, Doctor Blades or Etched Plates
- No plate making labor
- Easy image correction, contrast control, color balance changes, with remote image manipulation



Expanded Area Coverage

- Prints full image wrap on curved, contoured, irregular and uneven surfaces
- Multiple-Layers and Coatings Applied Simultaneously

Print Inside Objects

- Prints inside deep shapes like bowls, cups, boxes, vessels, and containers



Overcomes Obstructions

- Prints next-to or between obstructions that prevent direct inkjet use.
- No head crashes – Inkjet heads are easily damaged when hitting objects. PadJet eliminates crashes.

Prints on Virtually Any Object

- Prints on items of any length
- Prints on items of any circumference
- Optional automated surface tracking allows printing on items of varying surface heights and complex shapes



Fully Automated Production

- Inventory Reduction via On-Demand Printing
- Continuous production line product feed capability

– U. S. Patent Numbers –

- **PadJet Digital Printing System** US 6,840,167 - Multi-Color Pad Printing Apparatus and Method
- **PadJet Shape-Changing Printing Pad** US 7,644,657 - Deformable Pad for Pad Printing
- **PadJet Multi-Layer Printing** US 7,644,660 - Simultaneous, Multi-Layer Pad Printing Method
- **PadJet Shape-Changing Rotary Pad** US 7,886,260 - Deformable Pads for Rotary Pad Printing
- **PadJet Variable Surface System** US 8,356,552 - Surface Tracking Rotary Pad Printing Apparatus and Method
- **PadJet RotoPad Automation System** US 8,800,439 - Continuously Updatable Rotary Pad Printing Apparatus & Method

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