

DIRECT-TO-CARD PRINTERS

VS

REVERSE TRANSFER DYE-SUBLIMATION PRINTERS

- Direct-to-Card printers (otherwise referred to as DTC printers) are the most common entry-level badge printers found on the ID badge printing market.
- This method utilizes a printhead to apply a monochrome or color ribbon directly onto the surface of an ID badge. Through a YMCKO printing process (Yellow, Magenta, Cyan, Karbon(black), & overlay) the image is directly applied to the card through several passes.
- These printers can produce up to a 300 DPI resolution color-printed image. Certain DTC printers can produce up to 1,200 DPI monochrome (black text only) printed images.
- Designed to print specifically on standard CR80 PVC cardstock and or CR79 adhesive cardstock on the few printers that meet the spec (single-sided only).

- This process is also called High-Definition Printing or HDP.
- The HDP process utilizes the combination of a color (remove) ribbon and retransfer film to produce a printed image onto an ID badge.
- The printhead does NOT come into direct contact with the card.
 - o The ribbon (YMCK-color or black K only) is printed onto the retransfer film.
 - o The film is then directly transferred onto the card and applied via heat transfer.
- These printers produce either 300 and 600 DPI resolution for high quality full-color printing.
- They are designed to print on standard 100% PVC and composite PVC cardstock (both non-technology and technology-enabled).
 - o Most printer manufacturers recommend printing ONLY on composite PVC cardstock due to the higher heat printing process needed to transfer a film onto a badge.
 - o Standard PVC cardstock can warp in a reverse transfer printer, causing a "banana-like" bend.

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| <ul style="list-style-type: none"> • The most cost-efficient way to produce ID badges: <ul style="list-style-type: none"> o Only a ribbon supply is needed o The hardware itself is more cost-efficient than a reverse transfer printer. • Faster printing speeds than the reverse transfer method. • Easier to operate for someone who is not technically inclined. <ul style="list-style-type: none"> o Troubleshooting is oftentimes simpler as well. • Repairs and extended warranties tend to be less than those for HDP printer. | <ul style="list-style-type: none"> • A DTC printer cannot produce a full edge-to-edge color printed badge. You can expect a thin white border around all edges of a card because the printhead is not passing over each edge. • It can only produce up to 300 DPI resolution. <ul style="list-style-type: none"> o In certain scenarios where marketing and or leadership departments have a higher expectation for quality and or color-matching capabilities, a DTC printer is very limited in meeting said expectations. • You must be conscious of designing around the badge, if you're printing on an RFID/proximity card. <ul style="list-style-type: none"> o The embedded chip of an RFID card can be microns higher than the rest of the card surface. o When the printhead comes into direct contact with these raised areas, it can "bounce" resulting in poor print quality when images are printed in the same area. |
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| <ul style="list-style-type: none"> • Can produce a full-color edge-to-edge printed badge. • Can produce up to 600 DPI resolution. • More freedom designing your badge: <ul style="list-style-type: none"> o Will NOT produce a blemish on an RFID card... in most cases. o Has the ability to match more colors than a DTC printer. • Produces an overall higher quality, and more professionally appearing badge. | <ul style="list-style-type: none"> • A higher price per badge due to increased consumables (combination of color ribbon and retransfer film) • A higher initial investment on hardware, as these printers tend to cost more than DTC printers. • More moving parts to break, because of the additional supplies installed. • Need for more technically inclined personnel. • Higher warranty and repair costs. |
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