DIRECT TO GARMENT QUESTIONS

Q. What is direct to garment printing?
A. Direct to garment (dtg) printing is a fairly new garment decorating technology that uses a printer to apply specially formulated, high viscosity, water based inks directly to a garment. The GT-3 Series direct to garment printers are designed from ground-up to handle the specific needs of printing directly onto garments.

Q. What type of printer is used in direct to garment printing?
A. The GT-3 Series garment printers are commercial inkjet printers that use Brother designed industrial print heads for printing with high viscosity, direct to garment inks. Brother is the only company that manufactures the printer, print heads, controller and software. Coupled with our exclusive, proprietary ink formulation this ensures a fully integrated system for the best possible results.

Q. What is the difference between the reference to a light garment and a dark garment in direct to garment printing?
A. The terms light garment and dark garment are used to identify whether a white underbase needs to be applied to a garment before printing the CMYK ink. Direct to garment inks are semi-translucent and the color of the garment can show through on some light colors in your artwork.

Light garments do not require a white underbase to be printed first in order to print the desired colors in the artwork. Dark garments require a white underbase to be printed first because the shirt is darker than the color(s) in the artwork.

Q. How is direct to garment printing different than using a digital transfer paper?
A. Digital transfer papers use a polymer or glue coating to adhere the ink or toner to the top of a garment. This creates what is called a polymer window on the garment and can be noticeable visually and to the touch. Direct to garment inks are manufactured to have binders in the ink that allow the ink to adhere to the garment without the use of a polymer top coating.
**GT-3 SERIES PRINTER QUESTIONS**

Q. What are the available models for the GT-3 Series printer? Can they be upgraded?

A. There are three different models available in the GT-3 Series: GT-341, GT-361 and GT-381. The GT-341 has four print heads to print only CMYK inks on light garments. The GT-361 has a six print heads to print CMYK and White ink (2 white print heads). The GT-381 printer has eight print heads. One each of CMYK and four for white ink. Both the GT-361 and GT-381 printers allow for printing on dark garments.

The GT-341 and GT-361 can both be expanded to up to a total of 8 print heads (CMYK + 4 white), to maximize the machine’s potential and maximize productivity*.

Q. What color of garments can the GT-3 Series print on?

A. This depends on the setup of the GT-3 Series printer. All models can print CMYK on light garments. If you desire to print on dark garments, which require a white underbase to be printed before the CMYK layer is printed, you must have the GT-361, GT-381, or have an upgraded GT-341 (to GT-361 or GT-381 configuration).

Below is a chart that explains the three different models of the GT-3 Series.

<table>
<thead>
<tr>
<th></th>
<th>GT-341</th>
<th>GT-361</th>
<th>GT-381</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable Substrate Color</td>
<td>Light Garments Only</td>
<td>Light &amp; Dark Garments</td>
<td>Light &amp; Dark Garments</td>
</tr>
<tr>
<td># of Print Heads</td>
<td>Four (CMYK)</td>
<td>Six (CMYK + 2 Whites)</td>
<td>Eight (CMYK + 4 Whites)</td>
</tr>
</tbody>
</table>

* Additional purchase required.
Q. What types of fabric can it print on?
A. Direct to Garment inks are designed to bond to natural fabrics. You can print on a variety of fabric types, however, best quality results are achieved using 100% cotton and high cotton blends. Printing CMYK inks on to polyester and other synthetic fabrics can be done using a specialty pretreat fluid,* but Brother recommends users conduct a wash test of a test print on a sample garment before the start of production.

Q. What is the maximum printing size?
A. The machine comes with an adult platen for printing standard 14”x 16” designs. The maximum print area of the GT-3 Series printer is up to 16” x 18” and requires the optional large platen for operation**. Brother™ offers other platen sizes for the GT-3 Series printer (additional purchase required).

Q. How many garments can be printed in an hour?
A. The number of garments printed in one hour can vary depending on several factors. The four primary factors determining the number of garments printed in an hour are:
   1) GT-3 Series model being used,
   2) Whether printing just CMYK ink or CMYK+White ink,
   3) Number of printing passes,
   4) Desired print resolution,
   5) Size / coverage of the artwork, and
   6) Curing method

Q. What is the machine's size and weight?
A. The GT-3 Series printer is approximately 54” long x 41” wide x 26” tall. It weighs about 245 lbs. The working space needed to operate a GT-3 Series printer is 70” wide by 68” deep.

Q. Are there any special environmental conditions or required humidity levels?
A. For best operation conditions and to help ensure consistent print quality, Brother recommends the machine be kept in an area where the temperature is consistently between 64°F (18°C) to 86°F (30°C) and relative humidity levels are consistently between 45 - 85% RH with no condensation. Machine should not be directly near heat source. Refer to owner’s manual for additional information.

* Requires large platen for operation (additional purchase required.) CMYK + White maximum print area 16” x 17”. Selecting 16” x 18” design size will decrease print speed for duration of printing large format design.

September 26, 2013
Q. How do you send artwork to the GT-3 Series printer?
A. The GT-3 Series printer can be directly connected to a computer using a USB cable* (included in starter kit), or LAN/Ethernet cable* (not included). For those garment decorators that want to have the GT-3 Series printer in a different location than where the computer is, artwork can also be transferred with a using your USB memory stick.

Q. Is any special power supply required to operate the GT-3 Series printer?
A. No, the GT-3 Series printer works with regular AC power 115V (+/- 10%). It is recommended that the GT-3 Series printer be plugged into an uninterrupted power supply or surge protector to prevent damage to the printer due to spikes in the power supply.

Q. Is financing available?
A. Yes, the GT-3 Series printers can be leased through third party leasing companies. See your authorized distributor for more information.

Q. Can the printer fit through a standard 36” wide door?
A. Yes. The back cover can easily be removed to allow the GT-3 Series printer to fit through a 36” wide door. With the back cover removed, the width of the GT-3 Series printer is 32.9” wide.

Q. Is the printer portable?
A. Yes. The GT-3 Series printer can easily be moved around on the commercial grade floor stand with casters (included). Print head alignment should be checked and adjusted as necessary after moving the unit.

PRINT QUESTIONS
Q. How much does it cost in ink to print a garment?
A. The ink cost varies depending on several factors, including size and density of design, whether printing on darks, whether using a single pass or multiple passes and driver settings. Your authorized distributor can run a test print of one of your designs to estimate printing costs.
Q. Are the prints produced very detailed?
A. The GT-3 Series printer produces graphics with up to 1200 dpi (dots per inch). In comparison, the average process screen printing is approximately 72 dpi. The higher resolution allows the GT-3 Series printer to print photographic quality prints. Below is a picture showing a 600 x 600 dpi print (left side) next to the 1200 x 1200 dpi print (right side).

Q. How many colors will the printer produce?
A. By using the 5-color printing process (CMYK and White) it can produce over 100,000 colors including white.

Q. How long does it take to print a shirt?
A. It really depends on the design. A standard 10"(H) x 12"(W) design printed on a dark garment (similar to below) takes approximately 2 minutes and 14 seconds when using the GT-381 printer (assuming 600 dpi, with underbase mask set at 2 and highlight at 6). The same design printed on a light garment finishes in less than 1 minute.†

† Estimated times may vary based on a variety of factors.
INK QUESTIONS
Q. What kind of ink is used?
A. The Brother™ GT inks are water based, eco-friendly inks developed especially for printing on garments. Brother inks are specifically formulated to be used with the Brother industrial print heads to provide bright, long-lasting prints.

Q. How is the ink supplied to the printer?
A. Ink is supplied to the GT-3 Series printer via individual sealed cartridges (up to 8 depending on machine model). CMYK ink comes in 180cc and 380cc cartridges; white comes in 380cc cartridges. Inks can be ordered through your local authorized distributor, or through our accessory department at www.thepasstore.com.

PRINT HEAD QUESTIONS
Q. What type of print heads are used in the GT-3 Series printer?
A. The GT-3 Series printers use industrial grade piezo print heads that Brother™ specifically designs and manufactures for printing on garments. The design and components of these print heads are similar to those used in the GT-541 and GT-782 printers. By manufacturing our own print heads it gives us complete manufacturing control and ensures availability in the future.

Q. What print resolutions are available with the print heads?
A. The GT-3 Series printer comes with high resolution print heads that offer up to both 600 x 600 and 1200 x 1200 dpi resolutions.

PRINTING SOFTWARE QUESTIONS
Q. Is any special software or a RIP required?
A. No, graphics can be produced by using most of major Windows® based design software programs. The GT-3 Series printer comes with its own print driver that allows users to print directly from most graphic software programs.

The GT3 print driver is designed to allow users to easily select the desired print settings using sliders, check boxes and radio buttons. This print driver provides users control over the white underbase, white highlight and color layers. Below is a screen shot of the GT3 print driver:
Q. Can you print a white only design?
A. Yes. Our white ink is designed to be a stable underbase for color printing, as well as durable stand alone white ink. To print just white ink, select the White Ink Only option in the GT3 driver.

In order to print a design using white ink only, the option in the GT-3 driver for “White Only” must be selected. This will display the slides for the Mask and Highlight layers. The design will be printed as a grayscale design using only white ink.
Q. Do I need to create a white underbase layer?
A. No. The GT-3 print driver will automatically create a grayscale underbase based on the colors in the artwork. The option to print a white underbase requires the selection of “Color+White” option in the GT-3 print driver.

When printing on a dark garment, a white underbase needs to be printed prior to printing the colors in the design. The GT-3 driver will automatically create a grayscale underbase layer based on the brightness of the colors in the design. To create the underbase, select the option for “White+Color” option in the GT-3 driver. Then make adjustments to the Mask and Highlight layers to apply the desired amount of white ink.

Q. What operating system(s) is required?
A. The GT-3 Series print drivers are compatible with the following Windows® Operating Systems: Windows® 8 (32 bit/64 bit), Windows® 7 (32 bit/62 bit), Windows Vista®, (32 bit/64 bit), Latest Windows® XP (32 bit/64 bit). The GT-3 driver does not run natively on a Mac® operating system.
Q. What is an ARP file?
A. The Brother GT-3 print driver allows users to save a file with all the print settings so it can be reprinted at a later time without having to reopen the artwork in a graphic software program.

An ARP file can be previewed using the GT File Viewer and will display the print settings that were selected at print time. Users can also create a file name for the ARP file and view the amount of ink used for printing the file. In addition, ARP files can be loaded directly into a GT-3 Series printer using the USB port located on the control panel.

WHITE INK PRINTING QUESTIONS
Q. When printing a white underbase, does the garment need to be pretreated?
A. Yes. All garments printed with a white underbase are required to be pretreated prior to the white underbase being printed. The pretreat fluid* allows the white ink to remain on the top of the garment and still have desired washability.

Q. What is the white ink pretreat fluid?
A. The pretreat fluid* is a water based chemical that is specifically designed to start gelling the white ink once it is printed on a pretreated garment and helps bond the white ink to the garment.

Q. How is the white ink pretreat fluid applied to a garment?
A. The pretreat fluid* should be applied using an automatic pretreater. It is important to apply the pretreat fluid evenly on the garment in the appropriate amount to ensure the optimal washability and print quality.

Q. How much pretreat fluid is used on a garment.
A. The amount of pretreat fluid* applied to a garment can vary depending on the size of the artwork and the color of the garment. The amount of pretreat fluid can range between 14 to 30 grams for a full 14” x 16” print.

Below is a chart of the recommended amounts of pretreat fluid* based on the color of the garment being printed on and the size of the spray area.

<table>
<thead>
<tr>
<th></th>
<th>14” x 16” (Adult Platen)</th>
<th>10” x 12” (Youth Platen)</th>
<th>7” x 8” (Baby Platen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Colored Shirts</td>
<td>30 grams</td>
<td>16 grams</td>
<td>7 grams</td>
</tr>
<tr>
<td>Medium Colored Shirts</td>
<td>24 grams</td>
<td>14 grams</td>
<td>6 grams</td>
</tr>
<tr>
<td>Light Colored Shirts</td>
<td>14 grams</td>
<td>9 grams</td>
<td>4 grams</td>
</tr>
</tbody>
</table>

The easiest way to determine if the correct amount of pretreat fluid* is being applied is to weigh the garment using a gram scale (postal scale) before and after the pretreat fluid is applied, but prior to curing it.

*Additional purchase required.
Q. **How is the pretreat fluid cured to the garment.**
A. The pretreat fluid* is cured to the garment using a heat press* set at 356°F for approximately 35 seconds using 70 - 80 lbs. of pressure. While curing the pretreat, steam will be generated from under the heating press as the pretreat cures. When finished, the garment should feel dry.

**PLATEN QUESTIONS**

Q. **How is a garment loaded into the printer?**
A. A garment is usually slipped on to the printer's platen much like a garment is loaded on to a screen-printing machine. Because the GT-3 Series printers use industrial print heads, the gap between the bottom of the print head and the top of the garment is one of the largest gaps used by dtg printers, so it is not necessary use a hoop or locking mechanism to hold the garment down.

Q. **How does the garment stay on the platen during the printing process?**
A. The GT-3 Series printer comes with an Adult Platen (14” x 16”) that is covered with a special fabric that helps hold the garment in place. I

Q. **Can you print on sleeves?**
A. Yes. The GT-3 Series printer can print on both short and long sleeves. It is recommended to heat press* the sleeves flat to prevent the bottom of the print heads from rubbing the top of the sleeve. Specialty platens are available to facilitate sleeve printing. Please contact your authorized distributor or our accessory department at [www.thepasstore.com](http://www.thepasstore.com) for more information.

Q. **Can it print over seams, pockets, zippers or other features commonly found on garments?**
A. Yes. The GT-3 Series printers use industrial print heads that have an approximately 6 mm gap from the bottom of the print heads to the top of the garment. This is one of the largest gaps used by dtg printers and allows for the ability to print over seams, pockets, zippers and other items commonly found on garments.

Q. **Are there other platens available***?
A. Yes. In addition to the Adult Platen (14” x 16”) that comes with all GT-3 Series printers, Brother also offers a Large Platen (16” x 18”)**, Youth Platen (10” x 12”), Baby Platen (7” x 8”) and Long Sleeve Platen (4.25” x 16”)*. Several other aftermarket platens are available for printing on a variety of substrates and sizes. Please contact your authorized distributor, or our accessory department at [www.thepasstore.com](http://www.thepasstore.com).

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*Additional purchase required.

**Maximum machine print area of 16” x 18” requires large platen for operation (additional purchase required.) CMYK + White maximum print area 16” x 17”. Selecting 16” x 18” design size will decrease print speed for duration of printing large format design.
CURING QUESTIONS
Q. How is the ink cured to the garment?
A. Since the GT ink is a high viscosity, water based ink, the ink can be cured either using a heat press or a textile conveyor dryer*. Settings may vary depending on the equipment being used.

Q. What are the recommended settings for curing both light and dark garment prints using a heat press?
A. Use a regular heat-press* set at 356°F and press for approximately 35 seconds† with light pressure to cure both a light garment and dark garment prints.

Q. What are the recommended settings for curing both light and dark garment prints using a textile conveyor dryer?
A. A textile conveyor dryer or dryer box* can also be used to cure a print from the GT-3 Series printer when set to 320° for a dwell time of approximately 3 to 4 minutes‡ depending on the dryer.

MAINTENANCE QUESTIONS
Q. Does the printer require any maintenance?
A. The GT-341 needs weekly tube clean maintenance. The GT-361 and GT-381 require daily maintenance to be performed to prevent the white ink from separating and clogging in the printer.

Q. What daily maintenance is recommended for this printer?
A. The daily maintenance consists of agitating the white ink in the cartridges and selecting the daily maintenance procedure in the control panel. The daily maintenance procedure can be done in approximately 5 minutes and should not require opening the front cover of the printer or using cleaning applicators.

Q. What weekly maintenance is recommended for this printer?
A. In order to prevent ink build-up in the ink lines and print heads, the GT-3 Series printer allows users to perform a weekly maintenance procedure that cleans out the ink lines and print heads. This tube clean procedure takes approximately 30 to 45 minutes to complete and is recommended to be performed the morning of the first day of the week.

TRAINING & SUPPORT QUESTIONS
Q. What type of training is provided with the purchase of the GT-3 Series printer?
A. Installation and training with a certified Brother GT Technician is required for an additional fee (Please contact your local distributor for cost). We recommend our 1-day on-site install and training program for the GT-341; and our 2-day program for the GT-361 and GT381. The standard training includes having a certified Brother GT technician uncrate, install calibrate and test the unit. The technician will also provide training on machine operation, maintenance, pretreating (GT-361/GT381), curing and all applicable functions of the print driver and software. The certified Brother GT technician will also assess the minor variations with the customer’s heat presses and automatic pretreaters (if applicable) and make recommendations for the settings of the ancillary equipment to provide the best possible results.

* Additional purchase required.
†Estimated times may vary based on a variety of factors.
Q. If I have a question, how and from whom can I receive technical support?
A. Users can receive technical support from the both the regional distributor whom they purchased the GT-3 Series printer and directly from Brother. Please contact Brother Technical Support at 1-877-427-6843, or email tsupport@brother.com. Be sure to provide your company contact information and have the serial number of the printer available.