Reggiani / VUTEk fabric printers

This document bridges the gap between the Fiery XF 7.2.1 documentation and the printer documentation. The driver supports the following printers:

Printer	Color configuration	Mirror default	Conveyor belt	Maximum width (mm)
VUTEk FabriVU	CMYK	Transfer	No	520
VUTEk FabriVUi	CMYK	Transfer	No	340
VUTEk POWER *)	Flexible	Direct	Yes	340
VUTEk COLORS *)	Flexible	Direct	Yes	340
Reggiani NEXT	Flexible	Transfer	No	340
Reggiani ONE	Flexible	Direct	Yes	340
Reggiani FLEXY	Flexible	Direct	Yes	340
Reggiani Compact	Flexible	Direct	Yes	340
Reggiani PRO	Flexible	Direct	Yes	340
Reggiani TOP	Flexible	Direct	Yes	340
Reggiani VOGUE	Flexible	Direct	Yes	340
Reggiani POWER	Flexible	Direct	Yes	340
Reggiani COLORS	Flexible	Direct	Yes	340

*) VUTEk POWER and COLORS appear under manufacturer VUTEk but without VUTEk in their name

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Fiery XF 7.2.1

The supported color configurations are:

Channel mapping	Color modes	Variations
CMYK	CMYK	KCMY, KCMYYMCK If the ink configuration is available, the effective channel mapping is flexible.
Flexible	CMYK CMYKORB CMYKRV CMYKOB CMYKOVB CMYKRVk CMYKORBk CMYKRB CMYKO CMYKV CMYKOV CMYKk CMYKcm CMYKcmk CMYKOBk CMYKRBk CMYKOVBk CMYKORBcm CMYKORBcmk CMYKmk CMYKOBmk CMYKORBmk	Colors can appear in any order, with the following constraints: • Cyan, Magenta, Yellow and Black must be installed. • More than two times the same color (e.g. 3 x Black) is not supported. • A color mode is only supported if all inks of that mode are installed. • Golden Yellow is treated as Orange, but only if there is no Orange ink installed. Every now and then we add a couple of color modes. Please feel free to inquire if you find a mode missing. The following colors are supported as printer-specific colors: • Fluorescent Yellow • Fluorescent Magenta • Diluent They can be freely combined to any color mode. Channel duplication is also supported for them.

Any VUTEk FabriVU, COLORS, POWER and Reggiani printer supported with Fiery proServer / Fiery XF 7.2 should have a minimum printer software version installed to benefit from:

- ERP and Fiery Navigator integration Level 2 support
- Flexible channel mapping support (printer inks are translated into corresponding color mode(s) in Fiery XF
- Minimum print length support of 40 mm (previously 100 mm)
- job names up to 104 characters (previously 70 characters)

EFI printers	**Printer software version**				
	Jet Master and GUI	**Ripper**	**ReNOIR**	**GUI-One**	**Directory synchronization tool**
VUTEk FabriVU	-	-	-	1.0.2.8	-
VUTEk FabriVUi	-	-	-	1.0.2.8	-
VUTEk POWER	1.0.2	-	-	-	-
VUTEk COLORS	1.0.2	-	-	-	-
Reggiani NEXT	-	-	-	1.0.2.8	-
Reggiani ONE	-	-	-	1.0.2.8	-
Reggiani FLEXY	-	-	-	1.0.2.8	-
Reggiani Compact	-	1.3.3.8	2.0.1	-	1.0.0.0
Reggiani PRO	-	1.3.3.8	2.0.1	-	1.0.0.0
Reggiani TOP	-	1.3.3.8	2.0.1	-	1.0.0.0
Reggiani VOGUE	1.0.2	-	-	-	-
Reggiani POWER	1.0.2	-	-	-	-
Reggiani COLORS	1.0.2	-	-	-	-

Setting up the printer

The Reggiani folder

Reggiani technology printers share a “Reggiani” folder. The folder has two subfolders:

- print_parameters
  This folder contains the printer configuration and all the print modes of the printer. It is essential for Fiery XF operation. **You must be able to access this folder to use the Fiery XF output device.**
- jobs_to_prepare
  This folder is the output folder for the print files. The driver automatically creates a “jobs_to_prepare” subfolder during job processing if it is not already there.

On the printer this folder structure is created by the menu action ***Send print parameters to RIP***.

Setting up the printer software

The steps depend on the color configuration. Normally the Field Service Engineer who sets up the machine should do these steps. The dependency is as follows:

	Printer CMYK	Printer Flexible
Driver CMYK	Supported	Supported
Driver Flexible	Not supported	Supported

E.g. FabriVU software has a dialog where you enter the actual ink colors. If you use that dialog the driver will operate in Flexible mode according to the configured ink colors instead of assuming KCMYYMCK.

Printer CMYK

The following steps are essential to set up a new VUTEk FabriVU.

1. In the Machine Parameters dialog, configure machine type and number of used colors to 8 colors KCMYYMCK. The FabriVU driver generates 8 separations KCMYYMCK. If the printer is configured to read only 4 separations, the prints will look very grainy.
2. On the Edit menu, click Tools, and then click ***Send print parameters to RIP***. This step creates and populates the Reggiani folder.

Printer Flexible

The following steps are essential to set up a new Reggiani printer or VUTEk POWER, COLORS printer.

If your VUTEk FabriVU is equipped with an ink set which differs from KCMYYMCK and its printer software is new enough to have the dialog mentioned below, you can use the approach described here.

1. In the User Configuration menu, click Colors configuration, and configure the ink set. For each ink slot you configure the color in that slot. **Based on this information Fiery XF shows the applicable color modes and dot sizes and directs output to the correct color.**
2. On the Edit menu, click Tools, and then click ***Send print parameters to RIP***. This step creates and populates the Reggiani folder.

Setting up the Reggiani folder

The Reggiani PC on the printer runs all the time, even if the printer is powered off. The Reggiani folder resides there, at the following addresses:

Local: C:\REGGIANI
Network: *machine_ip*\Reggiani

From the Fiery XF server PC you must set up a connection to the Network share. To access the Reggiani folder, you need read/write access. Reggiani's default credentials are:

User name: UTENTE
Password: Reggiani123456

It is possible to change the share name and credentials.

For simulation purposes you can create a local Reggiani folder with the same subfolder structure. Copy the print_parameters folder from the network share.

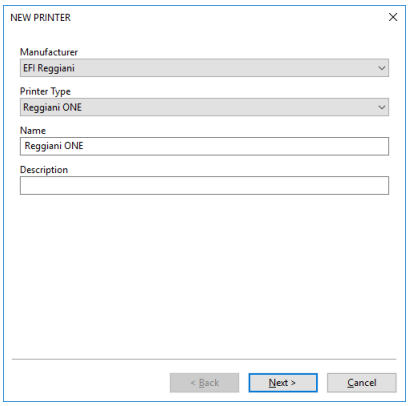
Setting up Fiery XF

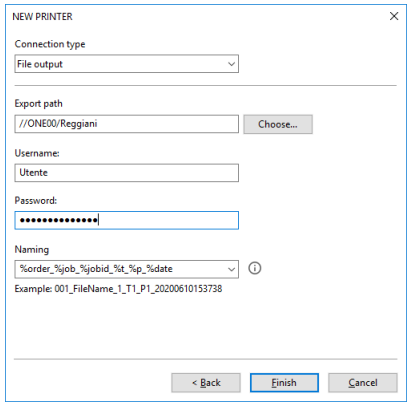
Install Fiery XF 7.2 or later.

Adding the printer in Fiery XF

1 Start the Fiery XF server. Start the Fiery Command Workstation. From Command Workstation, start Server Manager.

2 In Server Manager, add new printer, e.g. Reggiani ONE. A wizard appears:



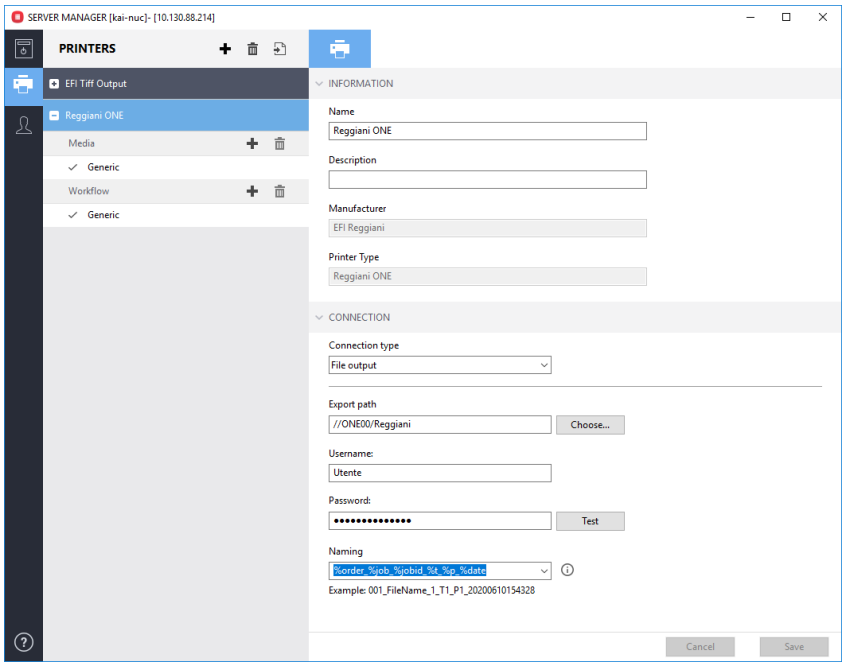


3 Set the export path to e.g. "//ONE00/Reggiani".

You can copy and paste the network path. (You can also set up a local connection for testing purposes. However, it is recommended that you do not use a local connection for printing.)

Note: Make sure to select the "Reggiani" folder as the Export folder, not the "jobs_to_prepare" subfolder. If you want to use the default Export folder instead of the "Reggiani" folder, the print files will be created in "Export/jobs_to_prepare". However, this works only if the Export folder already contains a valid "print_parameters" folder.

4 Enter the user name and the password and click Finish.



5 Click Test to verify that you can access the network export folder.

If you see an error message, check that the user name, password and export path settings are correct.

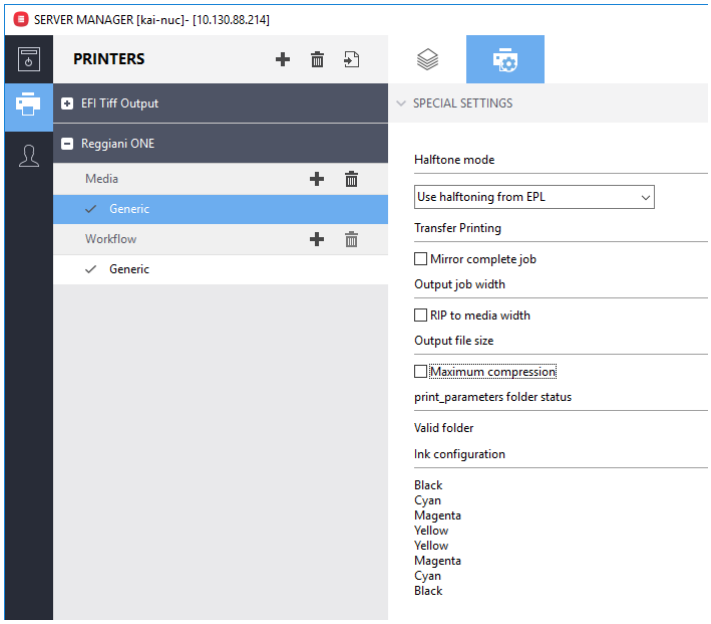
6 Right-click Fiery XF Control and click Fiery XF Server Restart.

On server start the Fiery XF server reads out the information from all configured “Reggiani” folders.

Verifying the setup

Check that the “Reggiani” folder and its contents are valid.

1 Go to Server Manager. On the Special tab, open the Special Printer Settings pane.



2 Check the the print_parameters folder status.

Status	Comment
No content found	One of the following is true: • The Reggiani folder is not configured correctly. • The Fiery XF server was not restarted after the “Reggiani” folder was configured. • Access problems are preventing data being read from the “print_parameters” folder.
No ink_configuration key in configuration.ini	If the driver has flexible channel mapping, a valid ink configuration is essential. See *Check the ink configuration* below.
Valid folder	All the necessary data is available.
No print mode entries	print_parameters_list.txt is not valid or all related *.ini files are not valid.
Configuration.ini file is missing or invalid	Configuration.ini must be readable and contain valid entries: blanket_y_height, no_of_colors, and machine_name

The last two errors should not occur.

3 Check the Ink configuration.

The colors listed here must match the ink colors of the printer. If they do not match or the field is empty (despite of a Valid folder), you must fix it. Please refer to **Setting up the printer software**.

For VUTEk FabriVU printers the field may be empty: In this case the driver assumes ink order KCMYYMCK.

Print modes test in Color Tools

Check that the print modes are available.

1 In Command Workstation start Color Tools.

2 In the start screen, click Create Base Linearization.

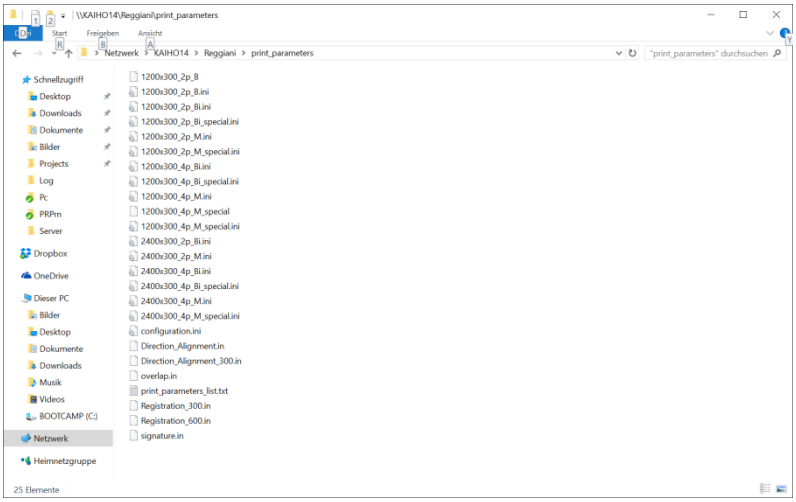
3 Under “Output settings”, check that the printer’s supported resolutions and color modes are available.

A resolution of 100 x 100 dpi indicates that the print_parameters folder has a status of “No content found” or “No print mode entries” (see table above).

Configuration files

print_parameters folder

The print_parameters folder contains information that is used by the printer driver. Typical content looks like this:



Status	Comment
configuration.ini	This file contains the printer configuration. The Fiery XF driver reads out the following entries: **drop_size *n***: The default is 7, 12, 18. The values are displayed in parentheses in the list of dot sizes in Color Tools. **ink_configuration**: Which inks are installed in which slots, e.g. ink_configuration=”Black,Cyan,Magenta,Yellow,Orange,Red,Blue,Black” You must configure the ink set in the Reggiani software: • Known colors are: Cyan, Magenta, Yellow, Black, Golden Yellow, Orange, Red, Green, Blue, Violet, Light Cyan, Light Magenta, Light Black, Fluorescent Yellow, Fluorescent Magenta, Diluent, Dummy • Use “Dummy” for empty channels • The same color cannot appear more than two times If the Reggiani software is too old, you can add the line manually using Windows’ text editor: • Add the whole line as in the example above. Confirm that you can set the cursor at the beginning of the line below.

Status	Comment
	• Change the colors to the actual colors in your printer. • Do not add additional spaces.
print_parameters_list.txt	This file lists all print modes. For each line, there is an *.ini file with the following details: • The base name of the file is the name of the print mode. • y_res and x_res correspond to the resolution in the Reggiani coordinate system.

ReggianiPrn.ini

The ReggianiPrn.ini is located at C:\\ProgramData\EFI\EFI XF\Server and contains details of the driver configuration. If the file does not exist, the driver creates it with default values.

Note: Depending on your Windows setting, the file extension (.ini) may be hidden for known file types.

The Fiery XF driver reads out the following entries:

Entry (default value in bold)	Description
enable_unfiltered_print_modes	0 = Use only print modes listed in print_parameters_list.txt 1 = Use all print modes in print_parameters folder
enable_print_mode_group	0 = Do not show the print mode group on the Special tab 1 = Show the print mode group on the Special tab
enable_discontinued_devices	0 = Do not show discontinued devices 1 = Show discontinued CMYK drivers for NEXT, ONE, PRO and TOP which existed in Fiery XF 6.3.

Other entries are for internal use.

Operation

Channel duplication

Fiery XF has special functions to generate data for duplicated ink channels.

CMYK printers

If no ink_configuration.ini exists, Fiery XF reverts to the CMYK color mode, which is either KCMY or KCMYYMCK.

All printers with 300 dpi print heads and 8 ink channels should be configured so that the CMYK print data is received in 8 TIFF separations. 600 dpi printers such as Reggiani PRO and printers with only two print heads are an exception to this.

Fiery XF offers the following separation schemes as dot sizes:

ID	Name	Drop size (picoliter)	No. TIFFs	Comments
1	Split18 (7 12 18)	7 12 18	8	One halftoning stage for two channels plus 50% masks
4	Split25 (7 12 25)	7 12 25	8	Mask applied for 7, 12. The third dot of the halftoning fires on both print heads, 18 plus 7 which results in an effective 25.
10	Split36 (7 12 18 36)	7 12 18 36	8	Uses 4 dots at the halftoning stage. Mask applied for 7, 12, 18. The fourth dot of the halftoning fires on both print heads, 18 plus 18 which results in an effective 36.
43	Split36+ (7 12 18 25 30 36)	7 12 18 25 30 36	8	0%-50% is done by one print head only. Above 50% the second print head fills up.
64	NoSplit (7 12 18)	7 12 18	N	No split is done.

The modes Split36 and Split36+ give you the maximum ink amount possible from two print heads. The mode Split18 gives you the maximum amount of ink from one print head. Split25 is in the middle in terms of ink amount.

When you start a base linearization, it is normal to start with Split36. Afterwards, look at the effective channel ink limits (pre-ink limits multiplied by ink limits):

- If the biggest effective value is 50% or less, use Split18 and multiply your values by 2.
- If the biggest effective value is 70% or less, use Split25 and multiply your values by 1.44 (36/25).

If your machine type is configured for 4 TIFF separations, you do not have the flexibility of the Split*N* modes. In this case, you must use the NoSplit mode. Using a Split*N* mode with a machine type configured for 4 TIFF separations results in a poor print quality because half the print data is ignored.

Flexible printers

Newer Reggiani printers write the ink_configuration entry in configuration.ini and Fiery XF reads it.

However, the dot sizes Split*n* are only available if there is at least one duplicated channel. For example:

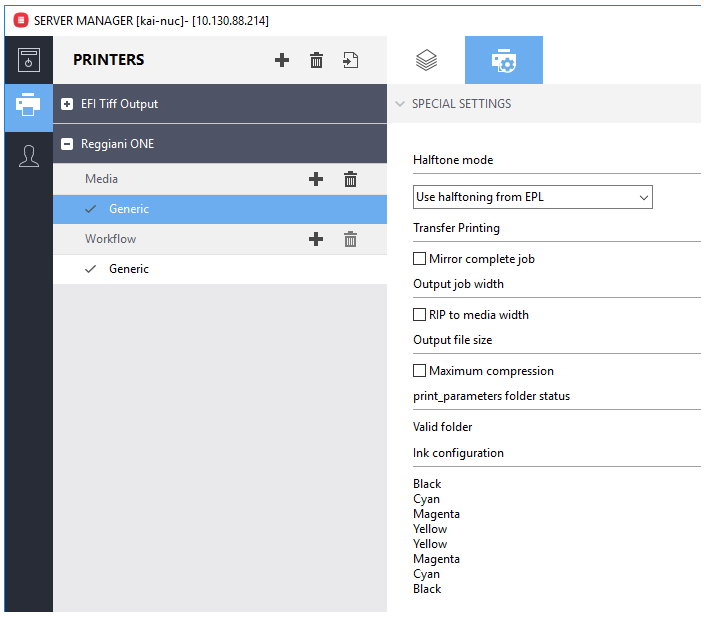
- KCMYORBk: NoSplit only
- KCMYORBK: All split options available. In this case, the split is applied to the two K channels. All other channels operate in NoSplit mode.

Invalid Dot Size

Occasionally you get a calibration set that seems to match the ink configuration of your printer. But when you calculate a job you get this error message. The error indicates a mismatch (in terms of channel duplication) between

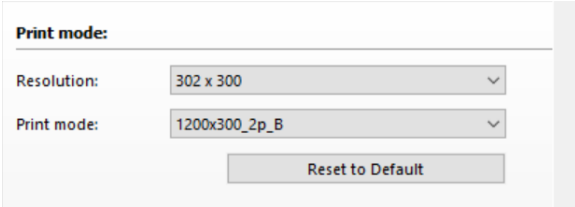
- the original ink configuration used when creating the calibration set and
- the ink configuration which was detected by the Fiery XF driver

Special tab



The following settings are available on the Special Printer Settings pane:

Setting	Description
Halftone mode	The halftoning mode is normally defined by the EPL file. With this setting you can override the halftoning and force SE1 or SE2 halftoning mode.
Transfer printing	If you select “Mirror complete job”, the whole page, including the footer (job ticket and control strips), is mirrored. This compensates for the mirroring effect of the transfer.
Output job width	If you select “RIP to media width”, the output files become as wide as the media. This pushes the printer-generated tickling lines to the conveyor belt. This setting is only available for machines with a conveyor belt.
Output file size	You can change the compression rate for the separated TIFF files. “Maximum compression” yields a better compression but it slows down the processing speed on Fiery XF and on the RIP application. Use it only if each separated TIFF file is 2GB or more.
print_parameters folder status	The status displays “Valid folder”.
Ink configuration	Displays the available ink channels. TIFF files are generated according to this information. If this area is not visible, TIFF files are either KCMY or KCMYYMCK.

Setting	Description
Print mode (optional)	This setting is only available if the driver configuration file contains the entry “enable_print_mode_group=1”.  If “Print mode” is available, you can print a job with settings completely different from the settings used to create the profile. However, be aware that there is a high risk of poor color reproduction.

Printer-specific spot colors

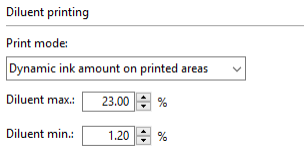
Printer-specific spot colors are supported by the Flexible channel mapping. These channels bypass color management and go directly to the printer driver.

Fluorescent ink

Fluorescent ink is supported by the two predefined, printer-specific spot colors FLUORESCENT_YELLOW_INK and FLUORESCENT_MAGENTA_INK. There are no special settings for those inks. You can create visual corrections in Color Tools and apply them.

Diluent

Diluent is the volatile fluid part of ink. It can be used during the direct printing process to address ink penetration and bleeding issues. For transfer printing we have not seen any use case.



Print mode	Behavior
Off	No diluent is printed
Dynamic ink amount on printed areas	Diluent ink is printed dynamically related to the TIL only on the printed areas (colored pixel): • printing the maximum % value until TIL value is reached • printing the minimum % value always even TIL value is exceeded
Dynamic ink amount: max. on printed, min. on entire area	Diluent ink is printed dynamically related to the TIL: • printing the maximum % value until TIL value is reached only on the printed areas (colored pixel) • printing the minimum % value always even TIL value is exceeded on the entire area (colored & white pixel)
Dynamic ink amount on entire area	Diluent ink is printed dynamically related to the TIL on the entire area (colored & white pixel): • printing the maximum % value until TIL value is reached • printing the minimum % value always even TIL value is exceeded
Spot color DILUENT_INK	Diluent ink is printed if the job spot color is mapped to the DILUENT_INK printer spot color in Fiery XF on the printed area of the spot color channel (colored pixel in spot color channel): • printing the maximum % value until TIL value is reached • printing the minimum % value always even TIL value is exceeded If the spot color channel includes tints and the maximum % value is different than 100% the tint value on the output is reduced in the ratio to the defined maximum % value

Off is the default setting. Minimum % value cannot be higher than maximum % value.

From a customer installation with a PRO, Dyesub inks and color mode CMYKcmk and flag application we got the following example values:

Diluent ink printing (Printer special tab)
- Mode: Dynamic ink amount on printed areas
- Diluent max: 25%
- Diluent min: 0%

Linearization (Color Tools)
- Set TIL 110% .. 140% if channels are 30% .. 40%

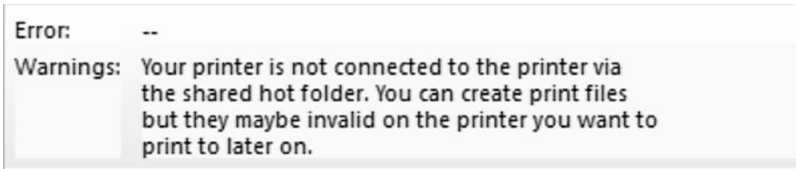
Multiple printer support

Fiery XF 6.x was not prepared to support multiple printers of the same type. The driver had a lot of workaround behavior for this scenario which was documented in the previous edition of this supplement.

From Fiery XF 7.0 on the support of multiple printers is as straightforward as one can expect. In particular if you have the same model, but with different color configurations they are treated as separately as they should.

Printing

In special circumstances, the Reggiani folder may not be valid (e.g. if the **print_parameters** folder does not exist or if the Fiery XF server has not been restarted). This can happen, for example, if you change the Export folder just to collect print files without sending them to an actual printer. Although the job is still printed, the following warning message also appears:



Support case simulation files

If you need to contact our Support team, we require the “print_parameters” folder from the printer, in addition to the usual files (e.g. Server.log).