

CurvePilot 12.0

What’s New

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2 About this document

This document describes the new features of CurvePilot 12.0:

- Support for Esko profiles as target for a PressSync curve set
- Automated measurement
- Measurement report
- Equinox support

3 Using profiles as target for tones and gray balance in a Curve Set

In CurvePilot 10 a user could specify an ICC profile as target for a PressSync curve set. From this ICC profile desired values for tone and/or gray balance are extracted and used to calculate compensation curves.

From CurvePilot version 12.x onwards, a user can also select an Esko profile as target.

Advantages:

- Consistent compensation and calibration with Esko Color Management System (CMS)
- Support for multi-channel profiles (e.g. Equinox CMYK-OGB).
- Support for profiles that contain spectral data.

3.1 How to use

Create or open an existing PressSync curve set, and click *Setup...*

In the *General* tab you can select a target profile. In the *Target Profile Name* dropdown box, you will find Esko device profiles and ICC profiles (separated by a line).

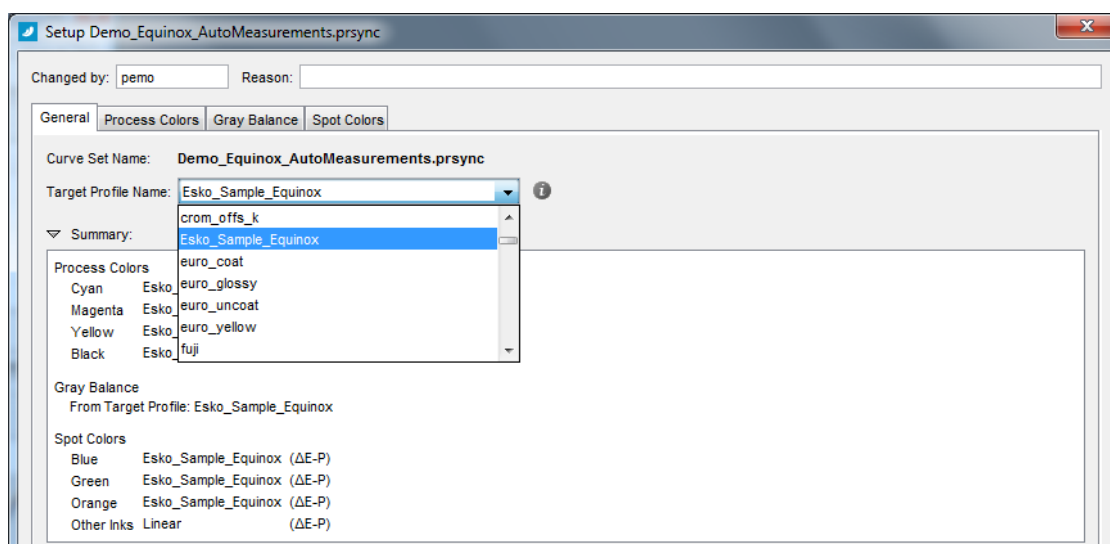
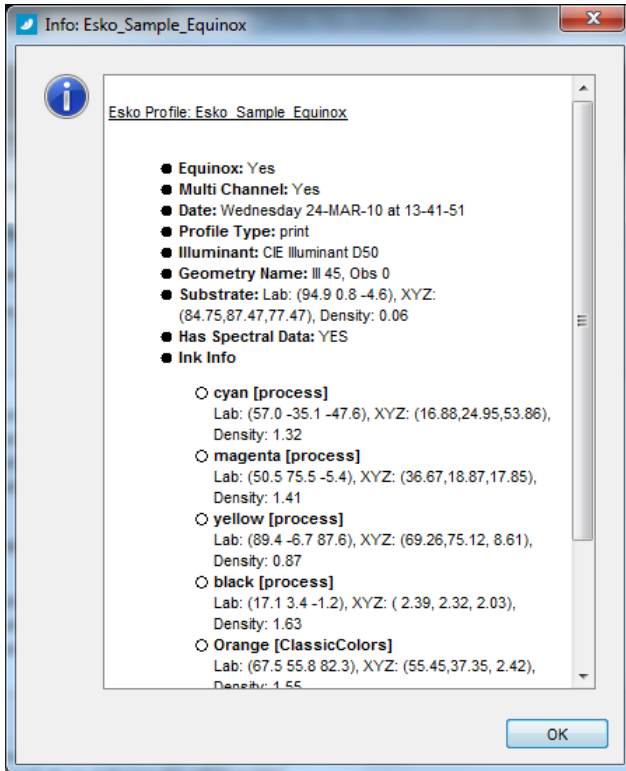


Figure 1: Selecting an Esko profile as target

Click the 'i' icon to show information about the selected profile.



The profile can be used as target for process color tones, gray balance and/or spot color tones. In the *Summary* window of the *General* tab you can see an overview of the target settings.

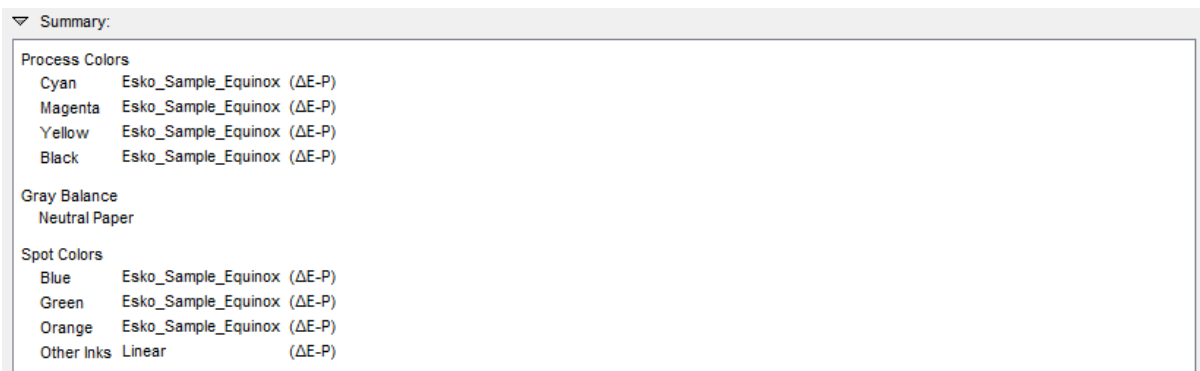


Figure 2: Summary of target settings

3.2 Use a profile as target for process color tones.

To use a profile as target for CMYK tone values, go to the *Process Colors* tab and check *Use Profile for Tone Target Curves*.

By checking this option, the profile that is selected in the ‘General Tab’ is used to calculate the desired dot gain values for all the process inks.

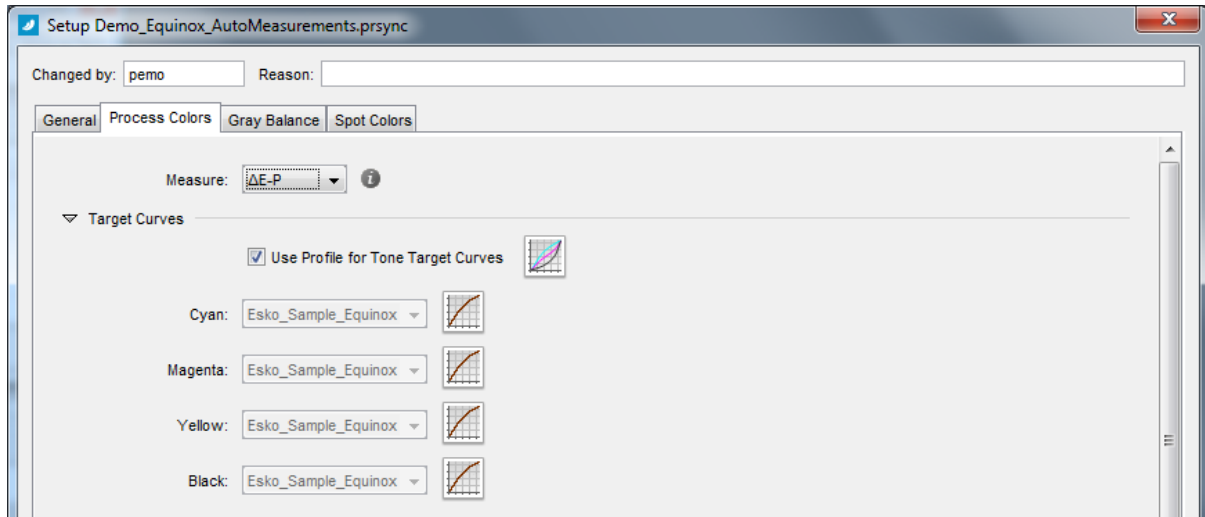


Figure 3: Use profile as target for process color tones

The desired values extracted from the profile depend on the selected measure metric. See appendix 3 for detailed information on how the desired values are calculated from profiles.

3.3 Use a profile as target for gray balance

To use the profile as target for gray balance, go to the *Gray Balance* tab and select ‘From Target Profile’ in the target dropdown box.

By checking this option, the profile that is selected in the ‘General Tab’ is used to calculate the desired gray balance values (CIELab).

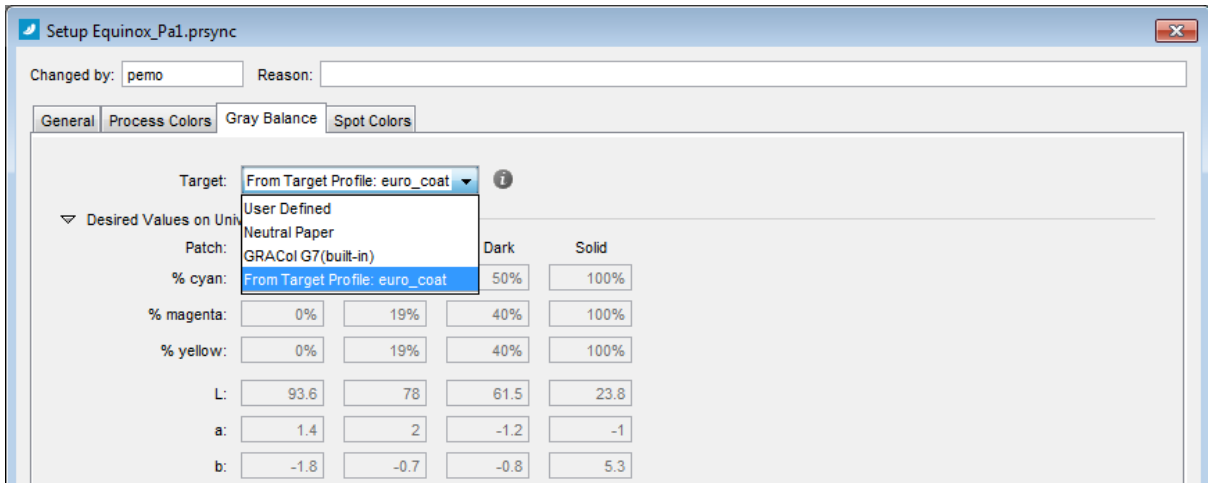


Figure 4: Use profile as target for gray balance

3.4 Use a profile as target for spot color tones

You can also select the profile as target for spot colors. Go to the *Spot Colors* tab, and select the profile in the *Target Curve* dropdown box.

By checking this option, the profile that is selected in the ‘General Tab’ is used to calculate the desired values for spot color tones.

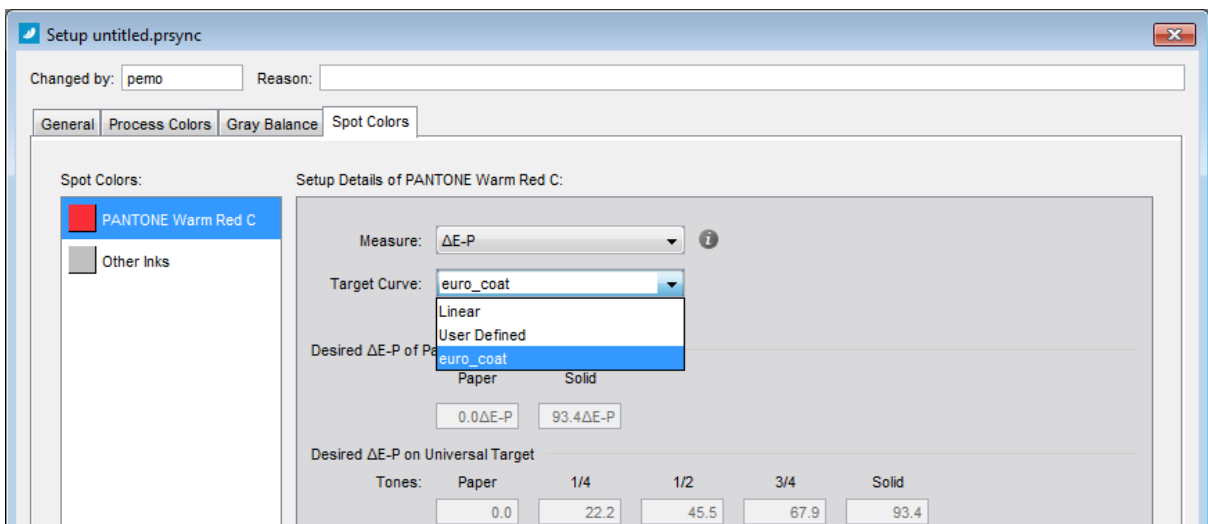


Figure 5: Use profile as target for spot color tones.

Note

When the spot color is present in the selected target profile (e.g. multi-channel profiles), the desired tone values are calculated from that profile.

When the spot color is not defined in the profile (e.g. CMYK profiles), the desired values for the spot color tones are calculated from the ink characteristics defined in in the CMS database (see CMS documentation).

4 Automated Measurement

CurvePilot now also includes an automatic measurement module, the same module that is available in Color Engine Pilot 12.x. This module allows you to automatically measure control strips for finding or tuning PressSync curves in your curve set.

Automatic measurement is currently supported for the following devices (see also Color Engine Pilot documentation):

- I1
- I110
- ... (TODO: CEP support for new devices)

Or external automated measurements data can be load. Supported format: CGATS IT8 data files (see [Appendix 3: supported CGATS IT8 measured data format](#)).

4.1 Starting an automated measurement

When clicking *Measure...* in the PressSync curve set editor, you will notice an option to start or load automatic measurements. This is option is also the default option.

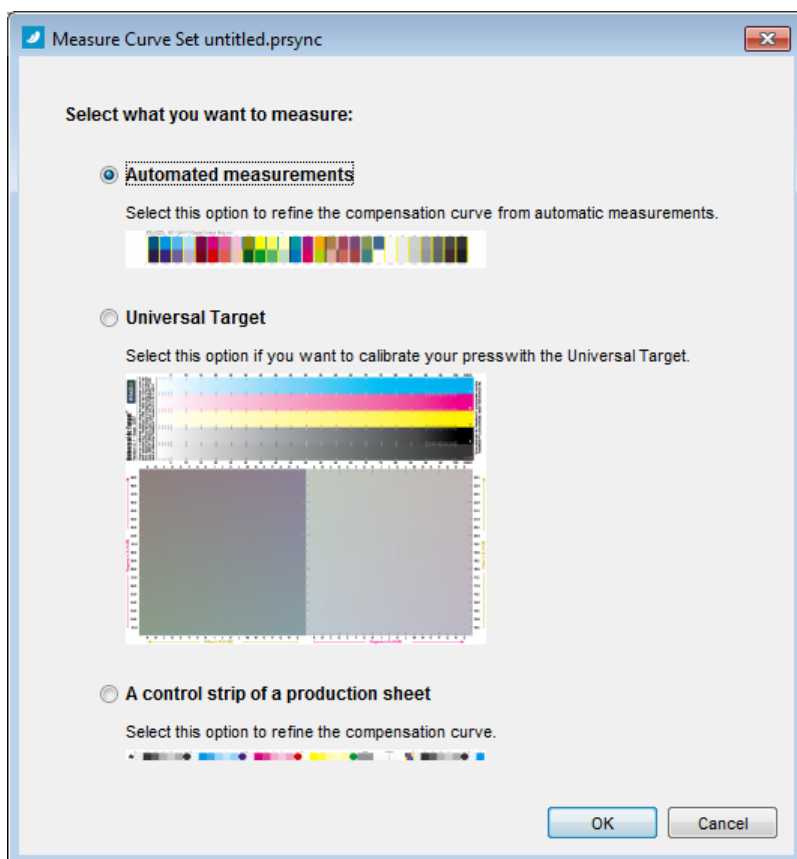


Figure 6: Measurement type selection dialog.

Select *'Automatic measurement'* and click **OK**. The Automatic Measurement panel will appear.

4.2 The Automatic Measurement panel

4.2.1 Production sheet tab

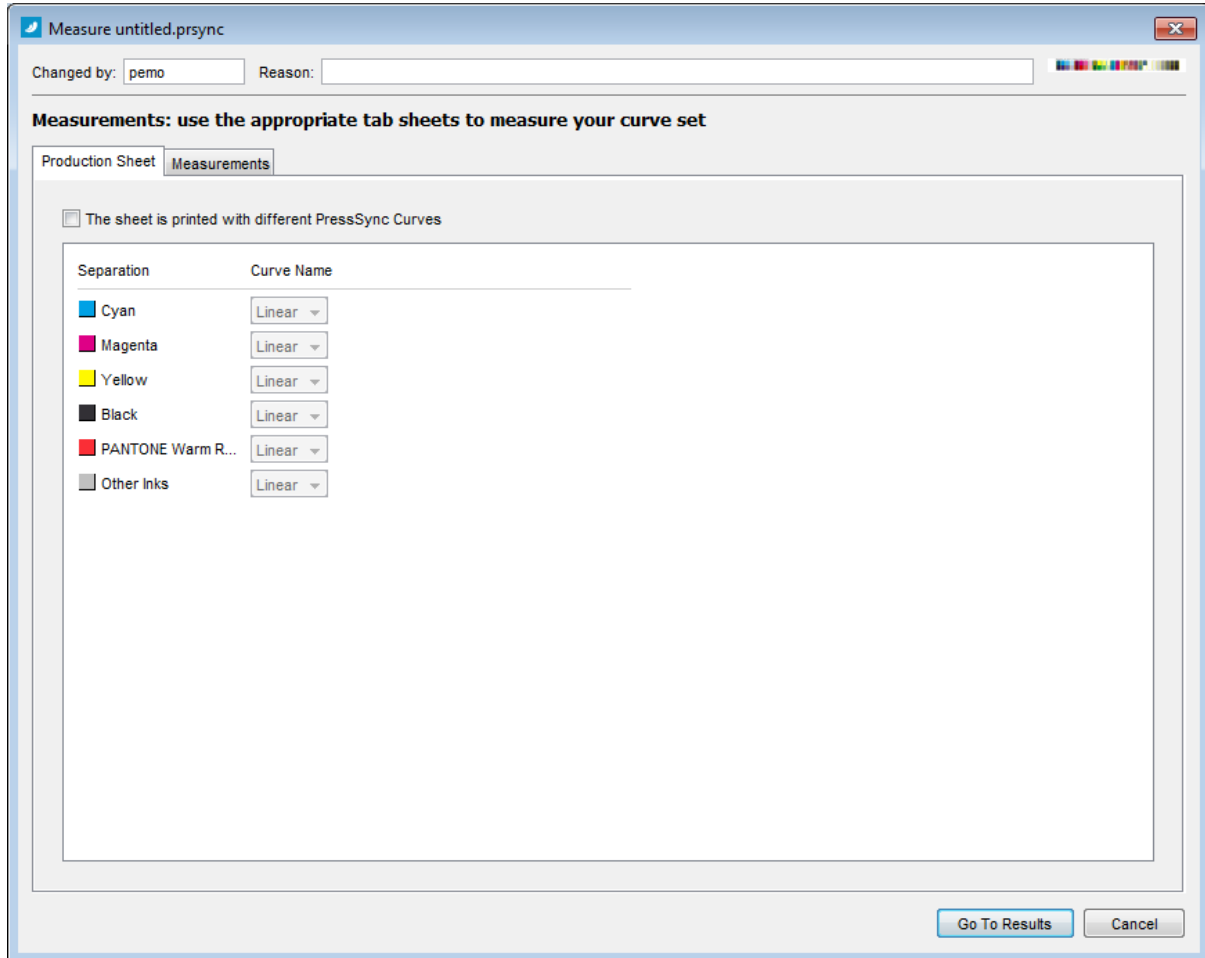


Figure 7: Production sheet tab in Measure panel

In the *Production Sheet* tab you can specify the PressSync curves that were used to generate and print the control strip. This is only required if the control strip was generated with a different PressSync curve set than the one you are editing.

4.2.2 Measurements tab

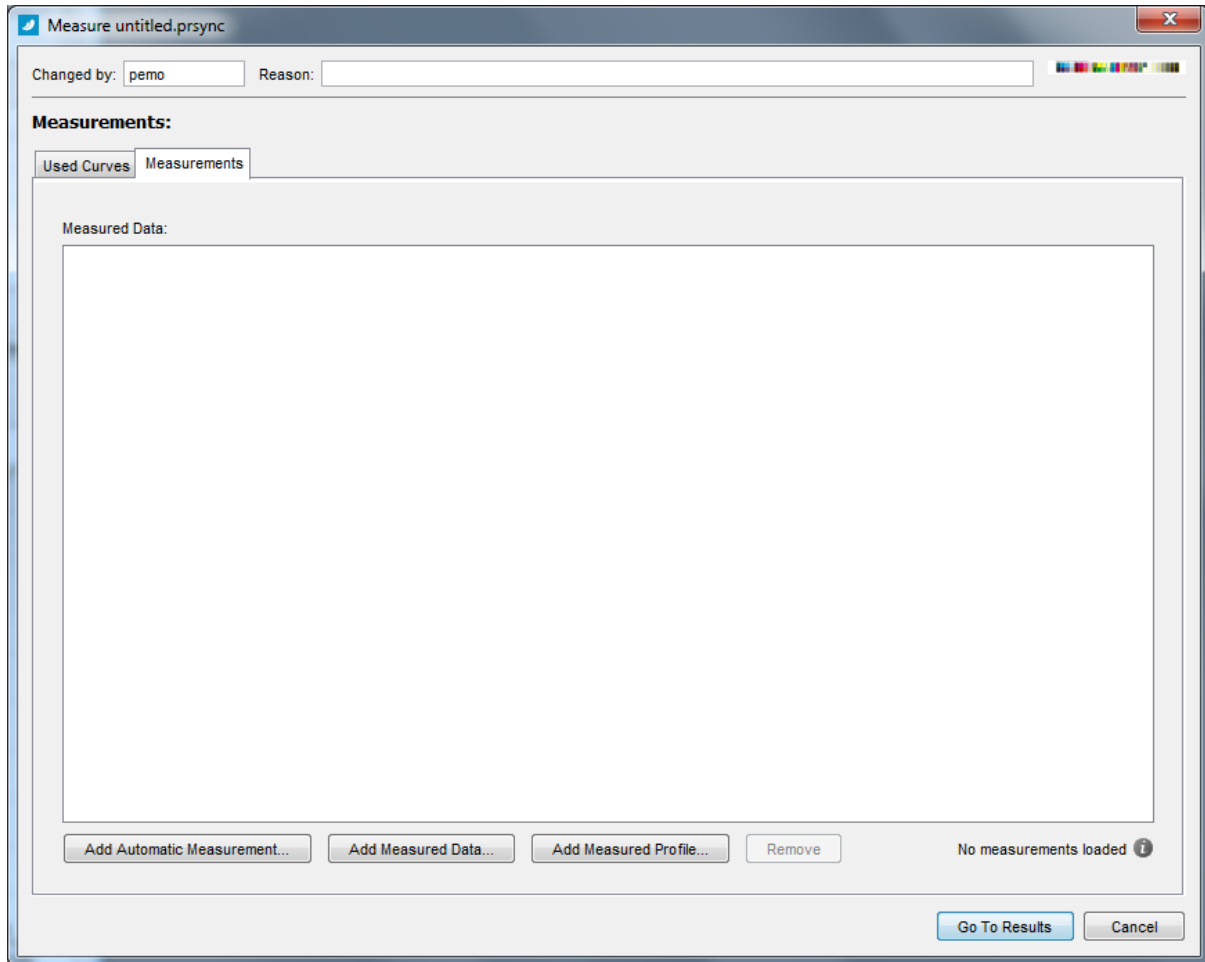


Figure 8: Measurements tab in Measure panel

In the *Measurements* tab, you can start new measurements or you can import measurement data.

Each automatic measurement is added to the *Measured Data* list.

- To start and a new automatic measurement so that it can be added to the list, click **Add Automatic Measurement...**
- To load an existing measurement (CGATS IT8 data file) and add it to the list, click **Add Measured Data...**
- To load a profile (esko or ICC) as measurement data, click **Add Measured Profile...**
- To remove a measurement from the list, select the measurement(s) you want to remove and click the **Remove** button.
- To view or save the resulting PressSync curves from these measurements, Click **Go To Results**.

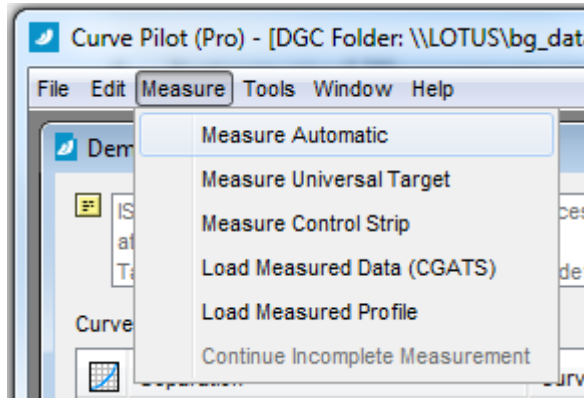
4.3 Add an Automatic Measurement

Click the **Add Automatic Measurement...** button in the Measure panel to start a new measurement. The Automatic Measurement panel will open.

Notes

You can also start an ‘Automatic Measurement’ directly from the applications menu bar.

Select the curve set in the main panel, go to the menu bar and select ‘Measure Automatic’. The ‘Automatic Measurement’ panel will pop up directly, as if you clicked the ‘Add Automatic Measurement...’ in the measurements panel.



In this panel you first select a layout that corresponds with your printed control strip, and then you simply click ‘Start’ to start an automatic measurement.

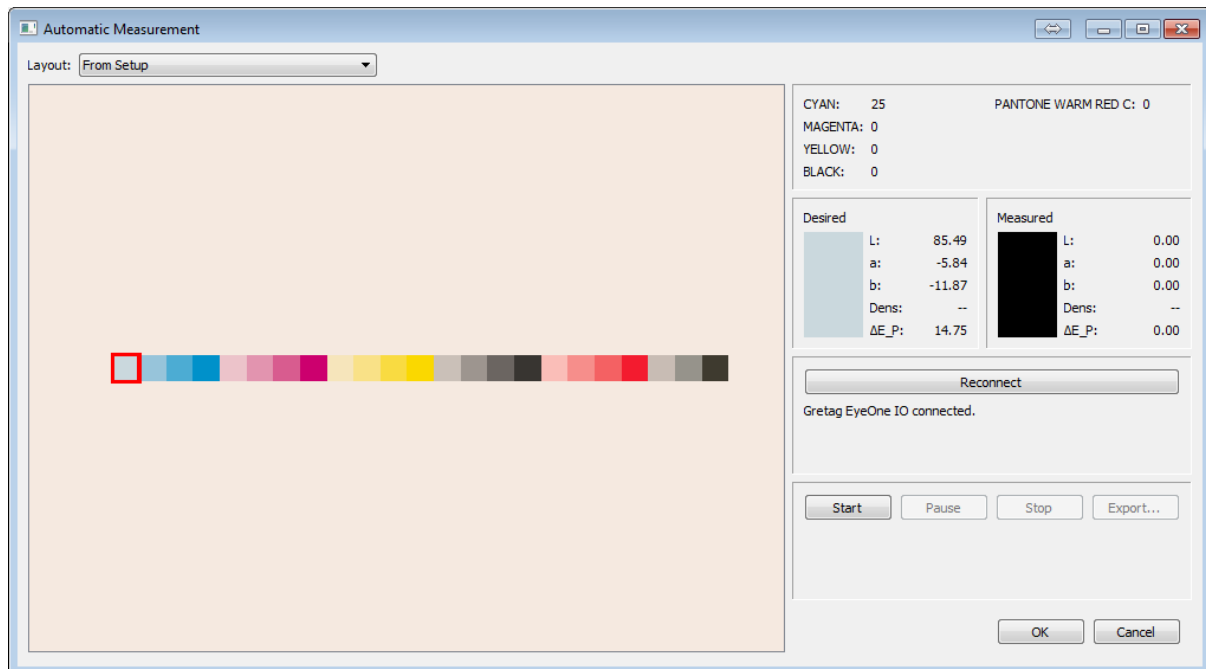


Figure 9: Automatic Measurement panel

4.3.1 Reconnecting a measurement device

When the Automatic Measurement panel is opened, a connection with the measurement device is

established. This is displayed in the middle-left panel.

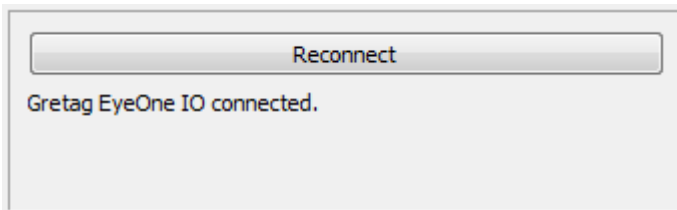


Figure 10: Measurement device status window

When the measurement device is not detected, or when the device was not plugged in when the panel was opened, you can click **Reconnect** to re-establish a connection with the device.

4.3.2 Selecting a control strip layout

In the **Layout** dropdown box you can select the layout of the control strip that you have printed and that you want to measure.

The first item in the layout list is **From Setup**. This is a dynamically created layout from information specified in your curve set setup. See [‘From Setup’ layout](#)

The other available selections are pre-defined control strip layouts, corresponding to different control strip standards. See [Pre-defined layouts included with CurvePilot](#)

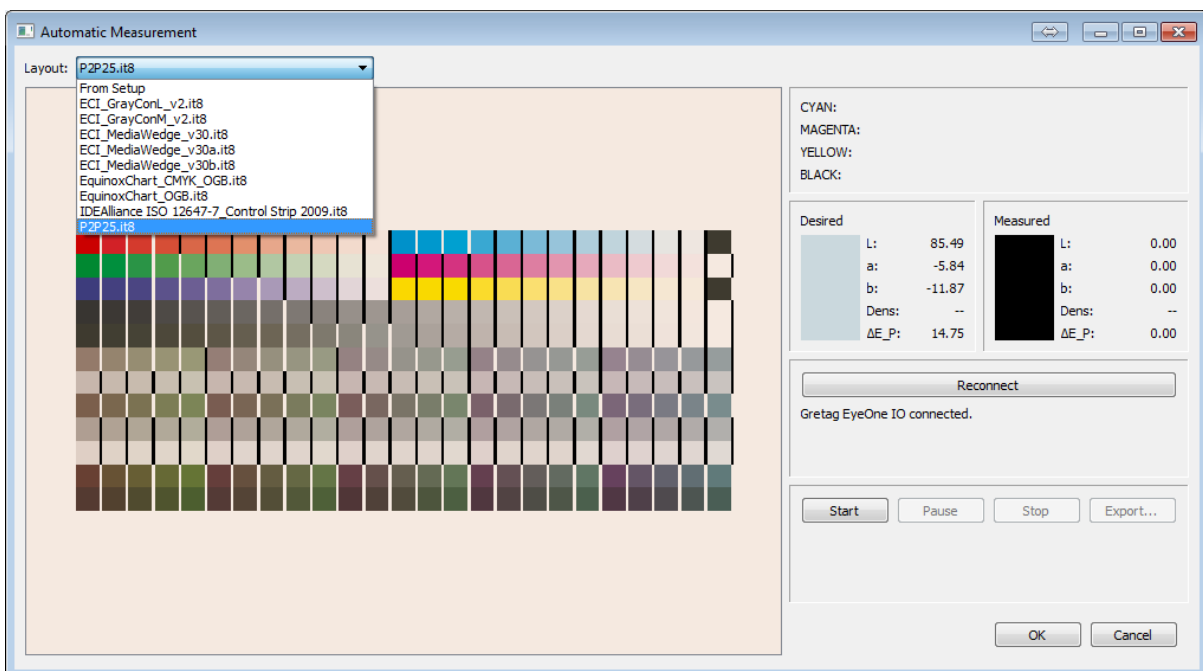


Figure 11: P2P25 control strip layout

Notes

- (Advanced) You can specify your own control strip layout, and add it to the Layout list: The layout of a control strip is configured in a human-readable.it8 file. (See [Custom Layouts](#)).
- The layout files listed are NOT the actual control strip files (PDF). These files must be retrieved from the control strip vendor.

Some of the free to download control strips are included with CurvePilot. You can access them by selecting ‘Documentation Curve Pilot (Pro)’ in CurvePilot help menu.

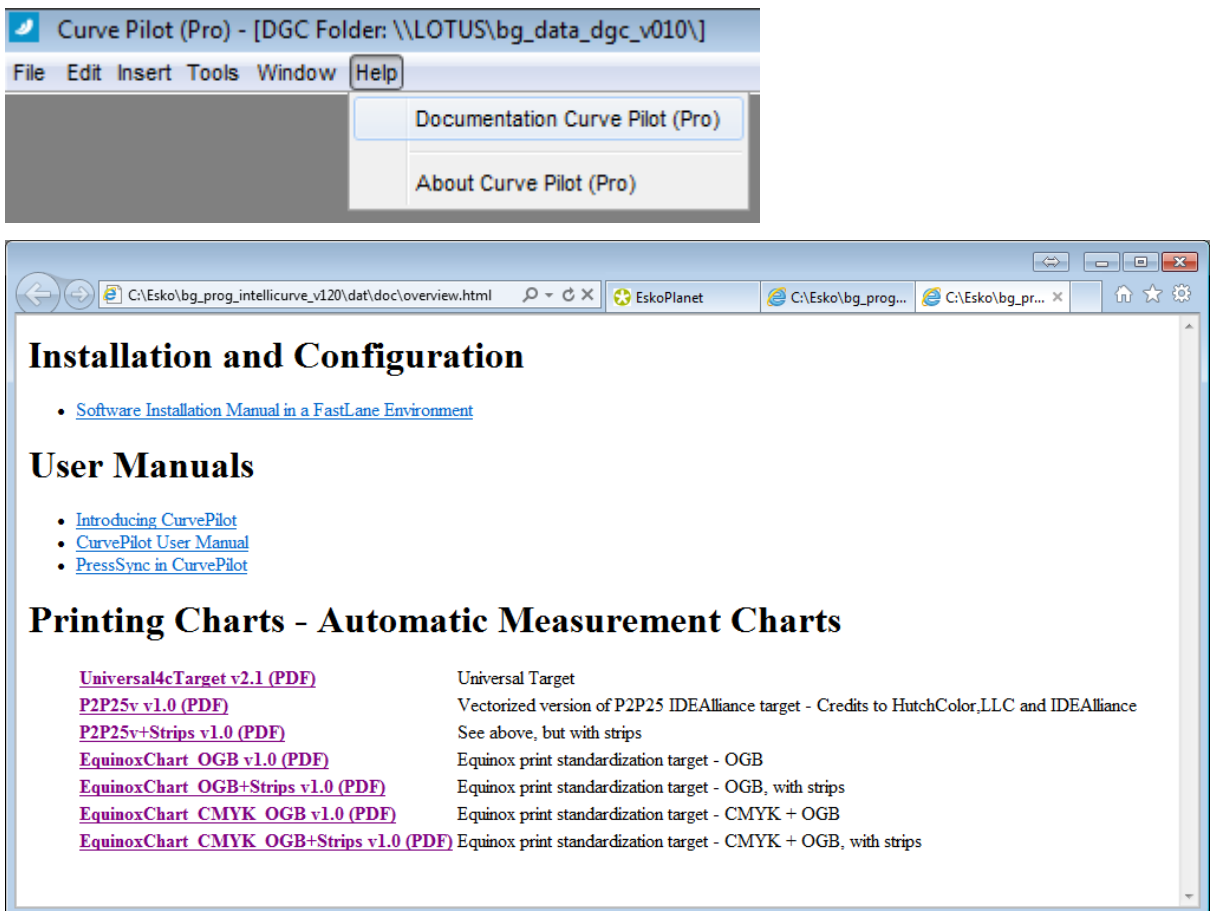


Figure 12: CurvePilot 12.0 Online help, with access to different control strips.

4.3.3 Starting the measurement

Click the Start button to start the measurements.

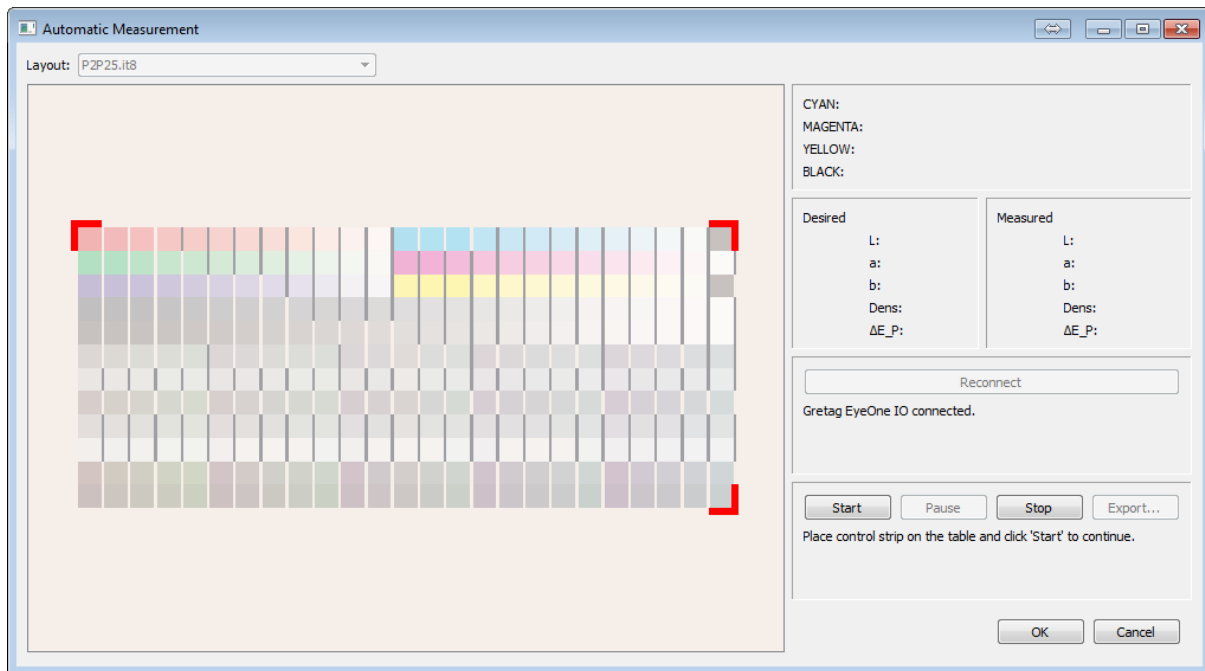


Figure 13: First step after starting an automatic measurement.

The measurement is done in different steps, depending on the device type that is connected. Follow the instructions underneath the measure buttons to continue to the next step. When all the rows are measured, the message 'Measurement completed' will be displayed.

After a measurement is completed you can view the measured result of each patch, by clicking on the patch. The following information will become visible:

- The composition of the patch is indicated in the top-right panel
- The Lab, density and ΔE_P that is desired and that is measured is displayed underneath the patch composition pane.

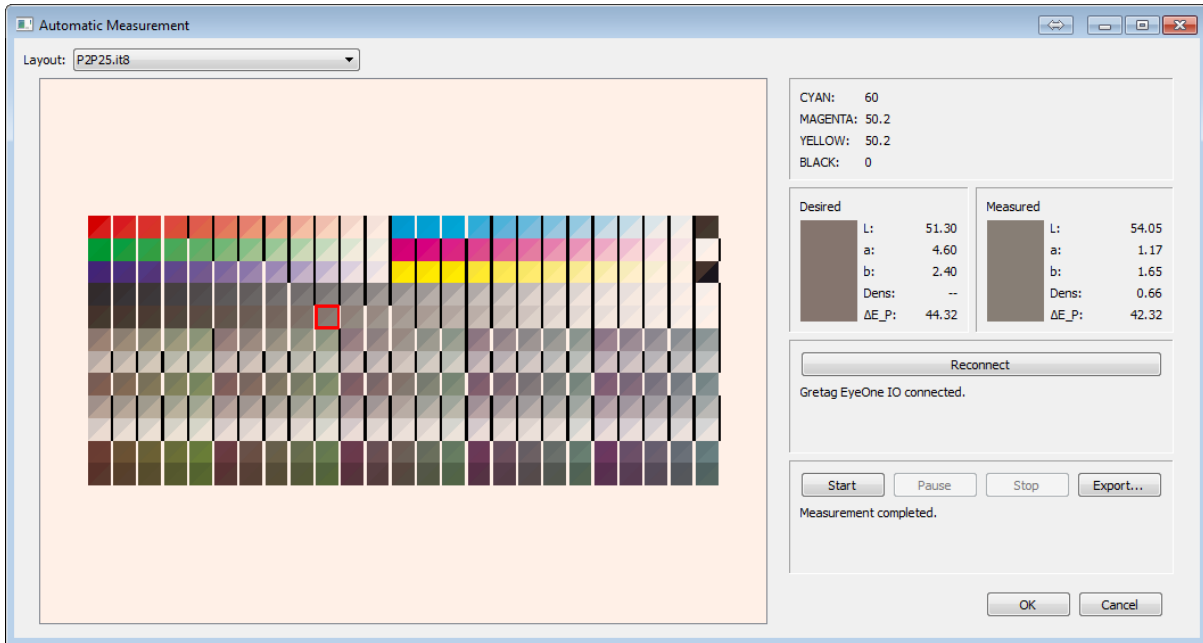


Figure 14: Completed measurement in Automatic Measurement panel

Note

Not all patches will be used to calculate PressSync curves from: Only patches from single inks, or grey patches (= patches with CMY compositions as defined in G7 specs). See Figure 40: G7 CMY Triplets table

4.3.4 Completing a measurement

When a measurement is completed it is saved internally as a temporary CGATS file (extension .it8). This file is added to the measurements list in the main measurement panel.

Click **Start** to measure another printed version of your control strip.

A message underneath the measure buttons will indicate how many measurements have been completed successfully.

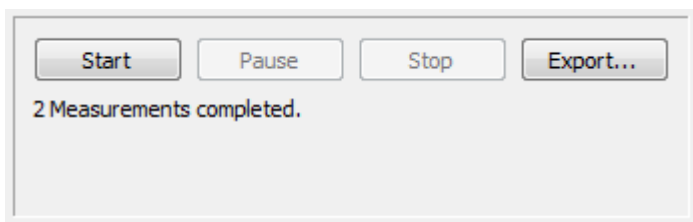


Figure 15: Measurement status panel.

If you have finished measuring, click **OK** to go back to the Measurement panel. Your measurement(s) will have been added to the list of measured data.

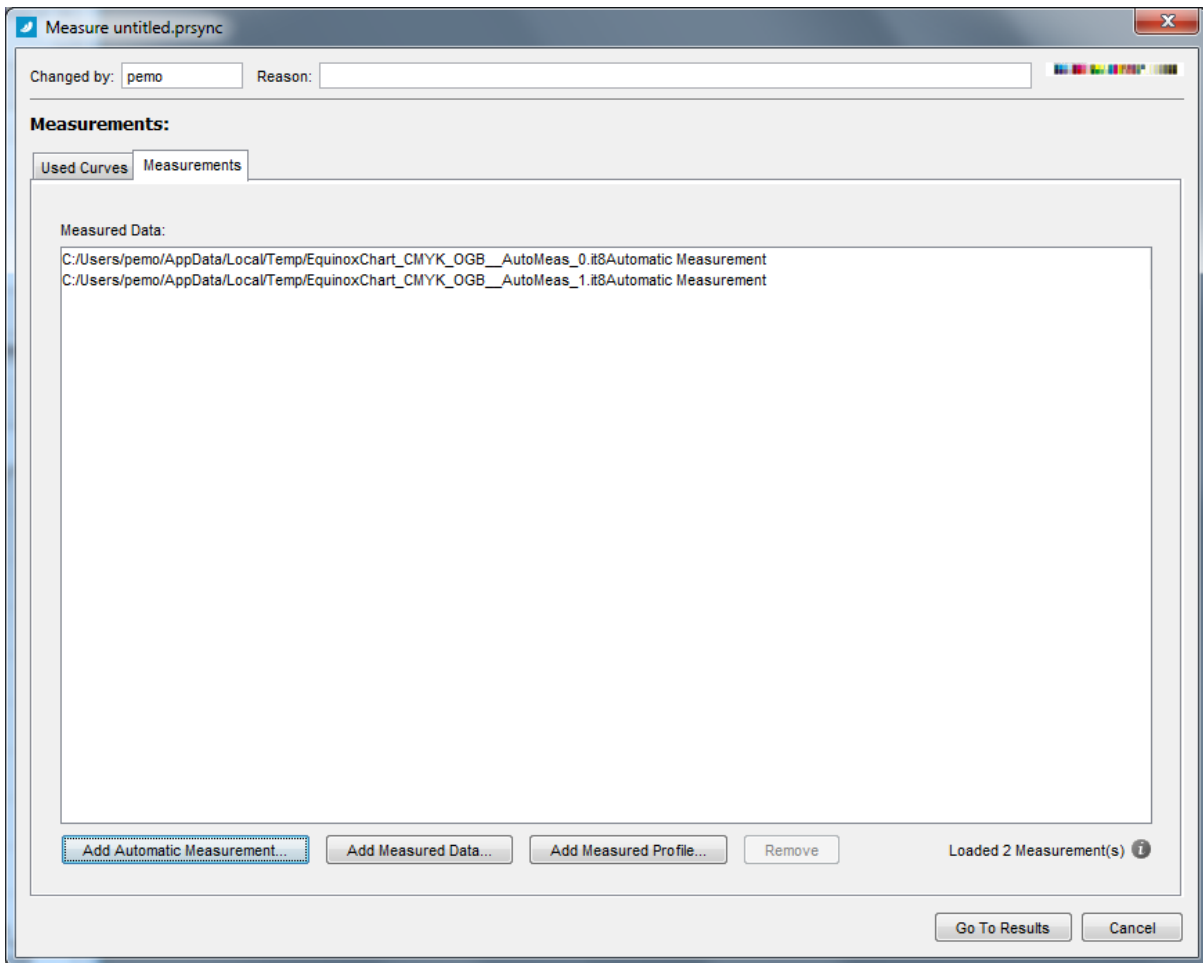


Figure 16: List of measured data, updated with new measurements

4.3.5 Saving a measurement as an external CGATS file.

The .it8 files that are created for the measurements are stored temporary and will be removed when a user quits the main measure panel.

The averaged values of measurements of single inked patches and gray patches are extracted and saved with the PressSync curve set.

A user has the option to save the measurement permanently, by clicking *Export...* in the Automatic Measurement panel. A dialog box will prompt you to enter a file path and name for the measurement file (CGATS file - extension .it8)

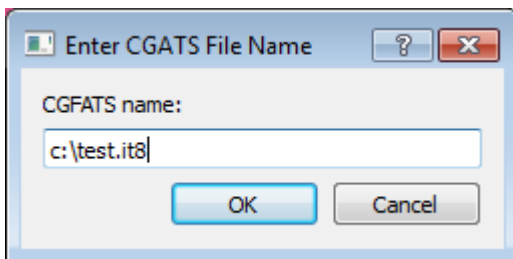


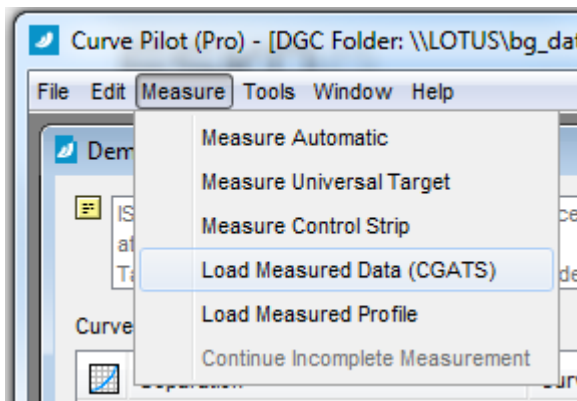
Figure 17: Exporting a measurement

4.4 Adding external measured data files.

When you click **Add Measured Data...** you can add external CGATS (.it8) data files to the measured data list. See [Appendix 2: supported CGATS IT8 measured data format](#) for the proper format of this data.

☑ **Notes**

- You can also add external measured data files directly from the applications menu bar.*
- Select the curve set in the main panel, go to the menu bar and select ‘Load Measured Data (CGATS)’.*
- A dialog will pop-up, allowing you to select and add external measured data.*
- This is identical to clicking ‘Add Measured Data...’ in the measurement panel.*



Browse to the proper folder, and select the .it8 file that you want to add. You can also select multiple files.

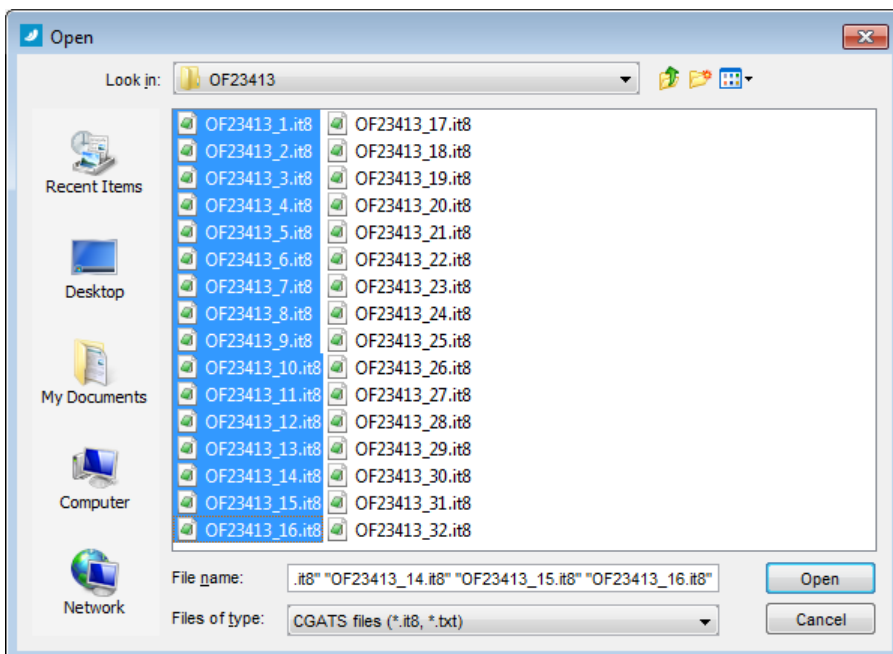


Figure 18: Adding multiple measurement files

Click **Open** and the files will be loaded.

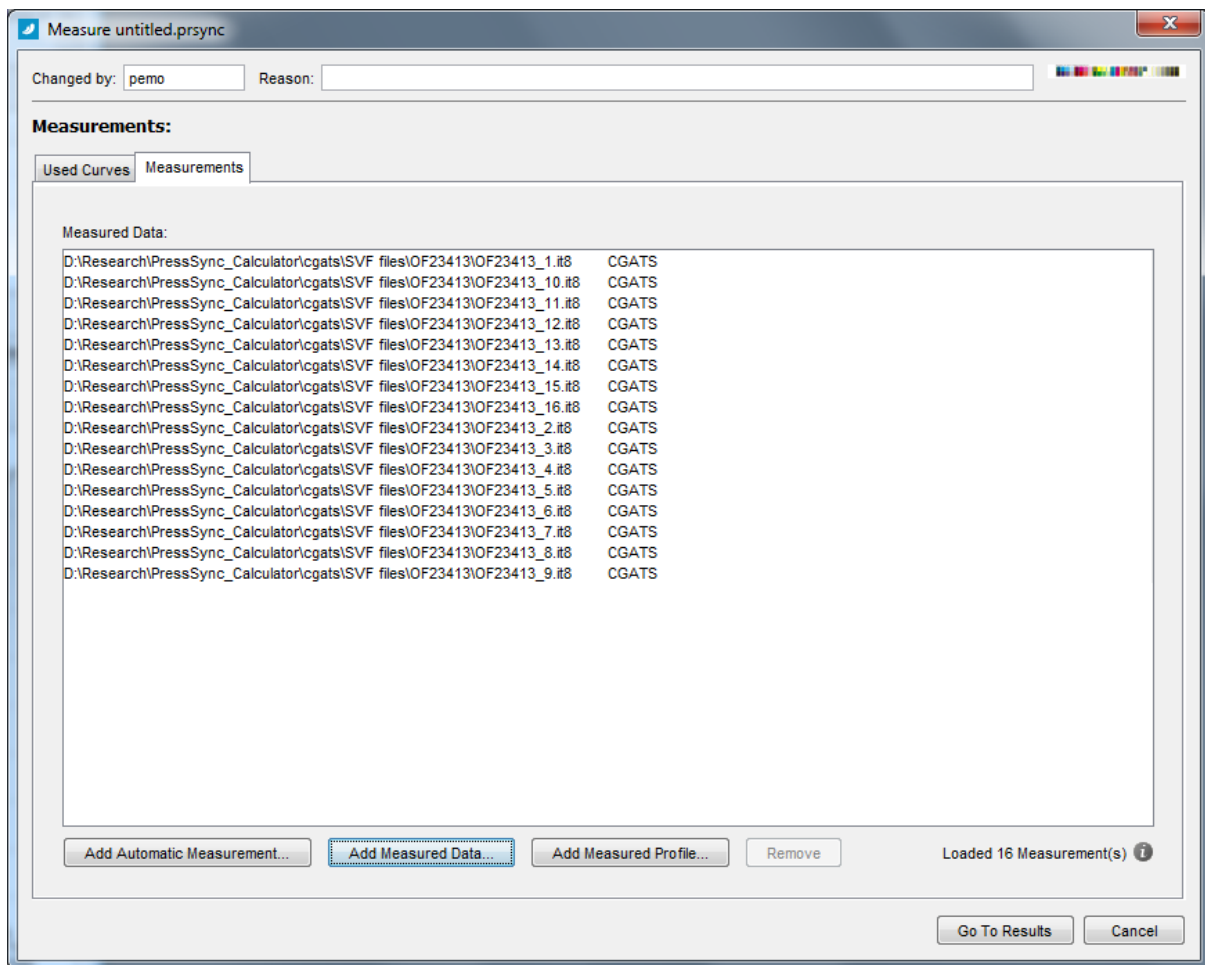



Figure 19: List with imported measurements

At the bottom-left you can find information about the measurements that have been added successfully.

By clicking the  icon, you can view detailed information about each loaded CGATS file.

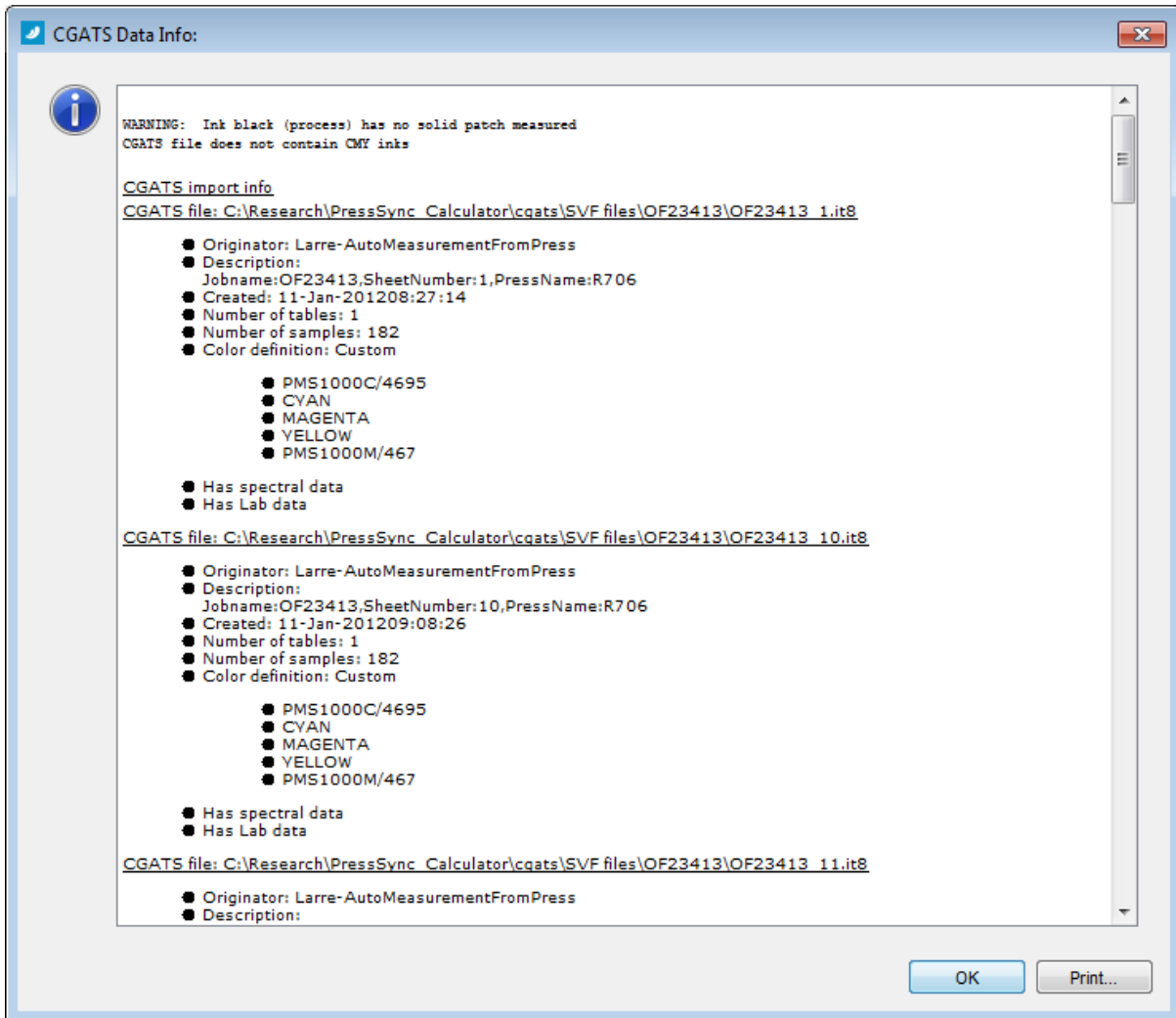



Figure 20: Information about the imported measurement files.

If a specific file cannot be loaded (e.g. corrupted or invalid format), an error will be displayed. This error will also be listed in the above information window (by clicking )

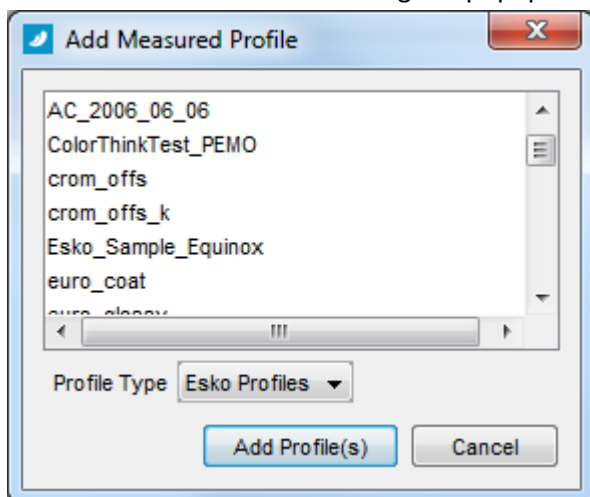
4.5 Adding measured profiles

A profile can also be used as measured data.

E.g. You have made a press profile, and you want to compare the dot gain in that profile with your reference dot gain curves. With the resulting compensation curves you can adjust your profile (See CEP manual for more information on this feature).

To add a measured profile, click 'Add Measured Profile...' in the measurement panel.

The 'Add Measured Profile' dialog will popup allowing you to select a profile that is installed in CMS.



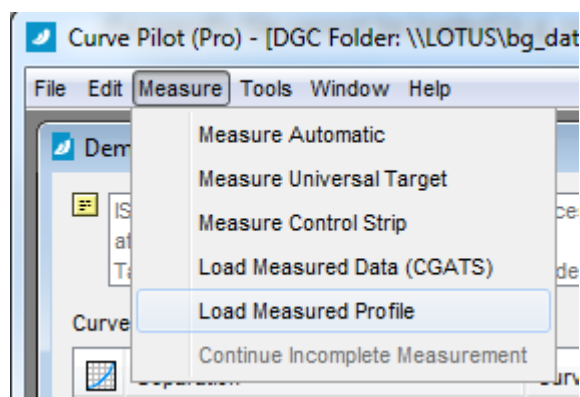
Notes

You can also add measured profiles directly from the applications menu bar.

Select the curve set in the main panel, go to the menu bar and select 'Load Measured Profiles'.

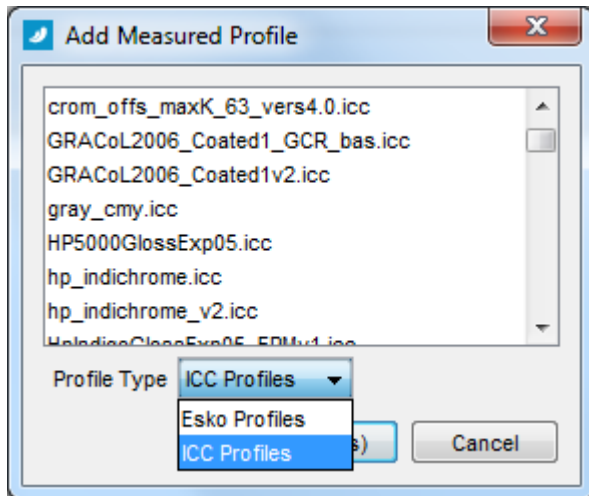
A dialog will pop-up, allowing you to select and add external measured data.

The 'Add Measured Profile' dialog will pop up immediately, similar to clicking 'Add Measured Profiles...' in the measure panel.

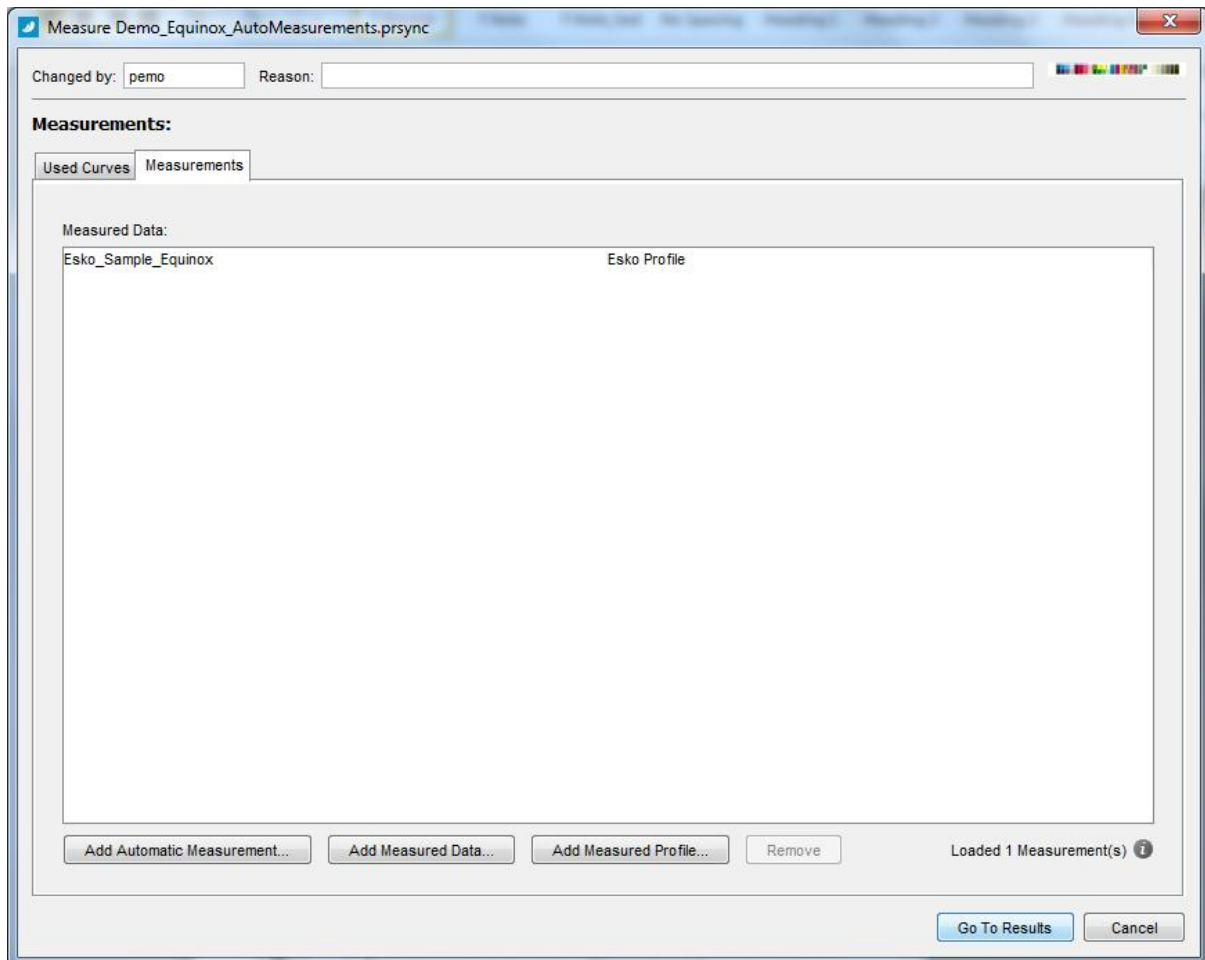


To get the list of installed Esko profiles, select 'Esko Profiles' in the Profile Type drop down.

To get the list of installed ICC profiles, select '



Click 'Add Profile(s)' and the selected profile(s) will be added in the measurement panel.



4.6 Measurement Results

Click [Go To Results...](#) in the main Measurement panel to view the results.

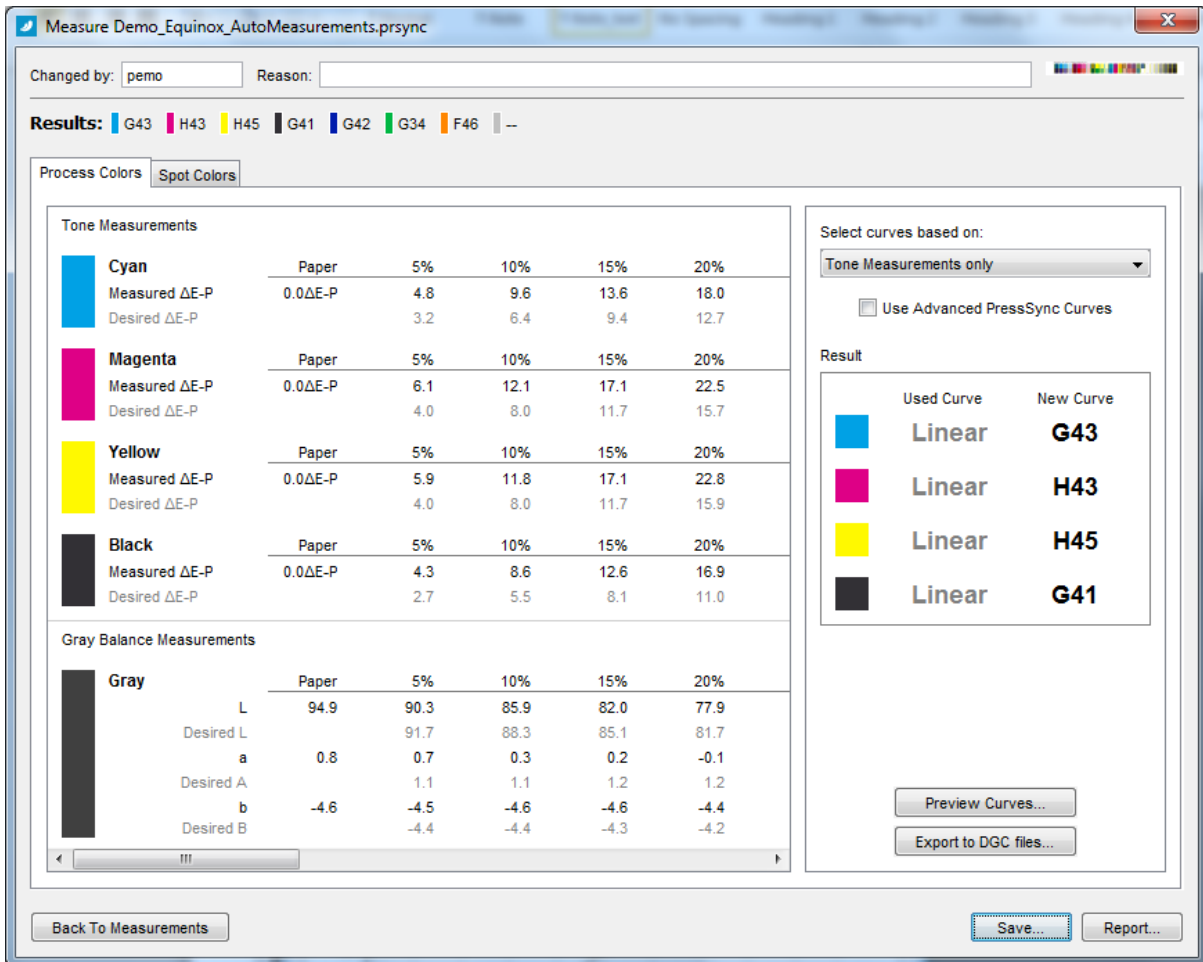


Figure 21: Measurement results panel

This panel is similar to the results panel from manual measurement.

The left panel in the *Process Colors* tab shows the averaged measured values of each tone patch, and each gray patch. The right panel shows you the resulting PressSync curves.

The selected curves can be based on tone measurements, gray balance measurements or both.

Click the *Spot Colors* tab to view measured data and resulting curves for the spot colors.

Click [Preview Curves...](#) to view a plot of the calculated compensation points and the matching PressSync curves.

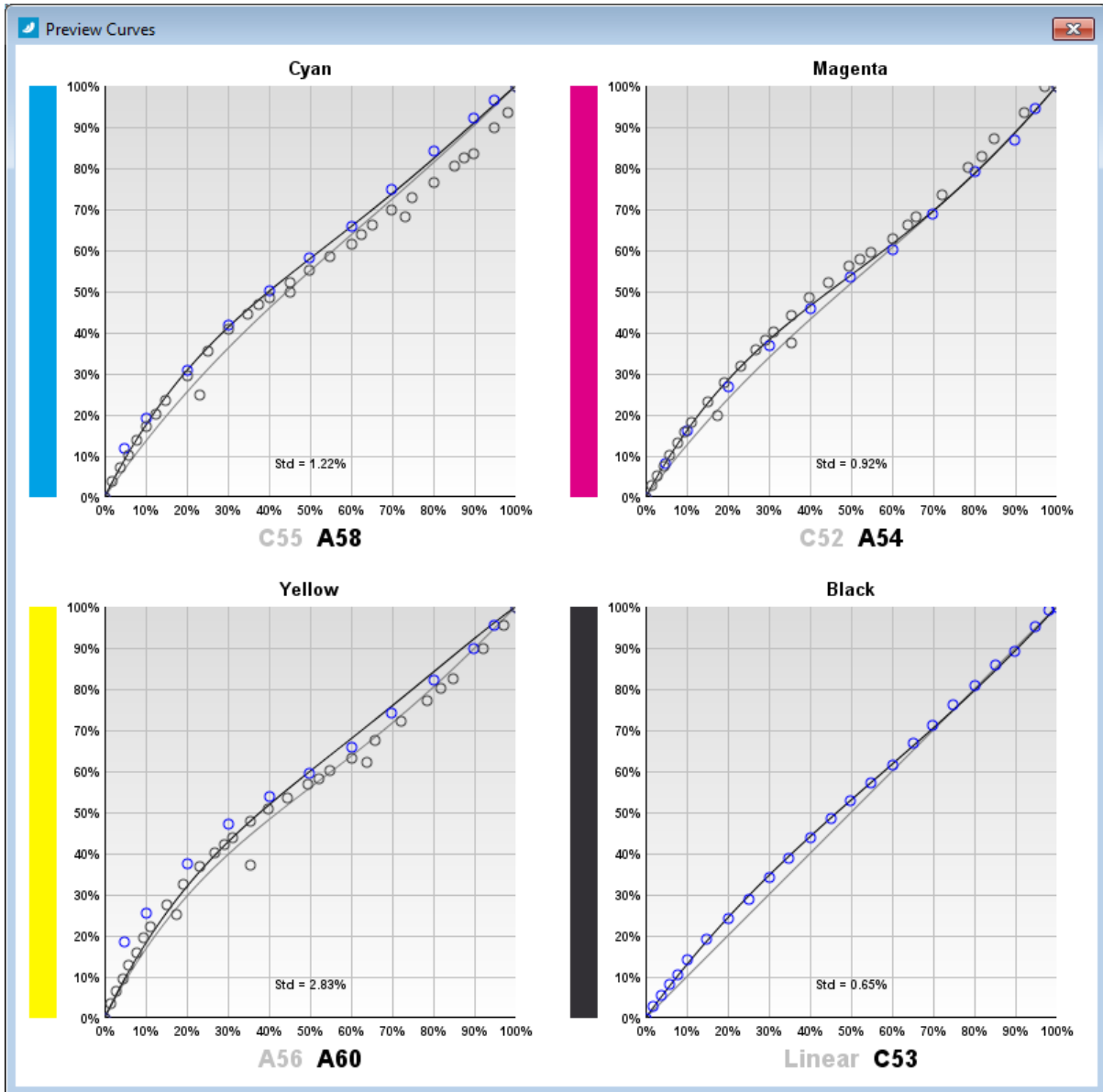


Figure 22: Plot of compensation points and PressSync curves

Click [Export to DGC files...](#) to create DGC files from the resulting compensation points

Click [Report...](#) to view a measurement report. This report can also be printed by clicking [‘Print...’](#)

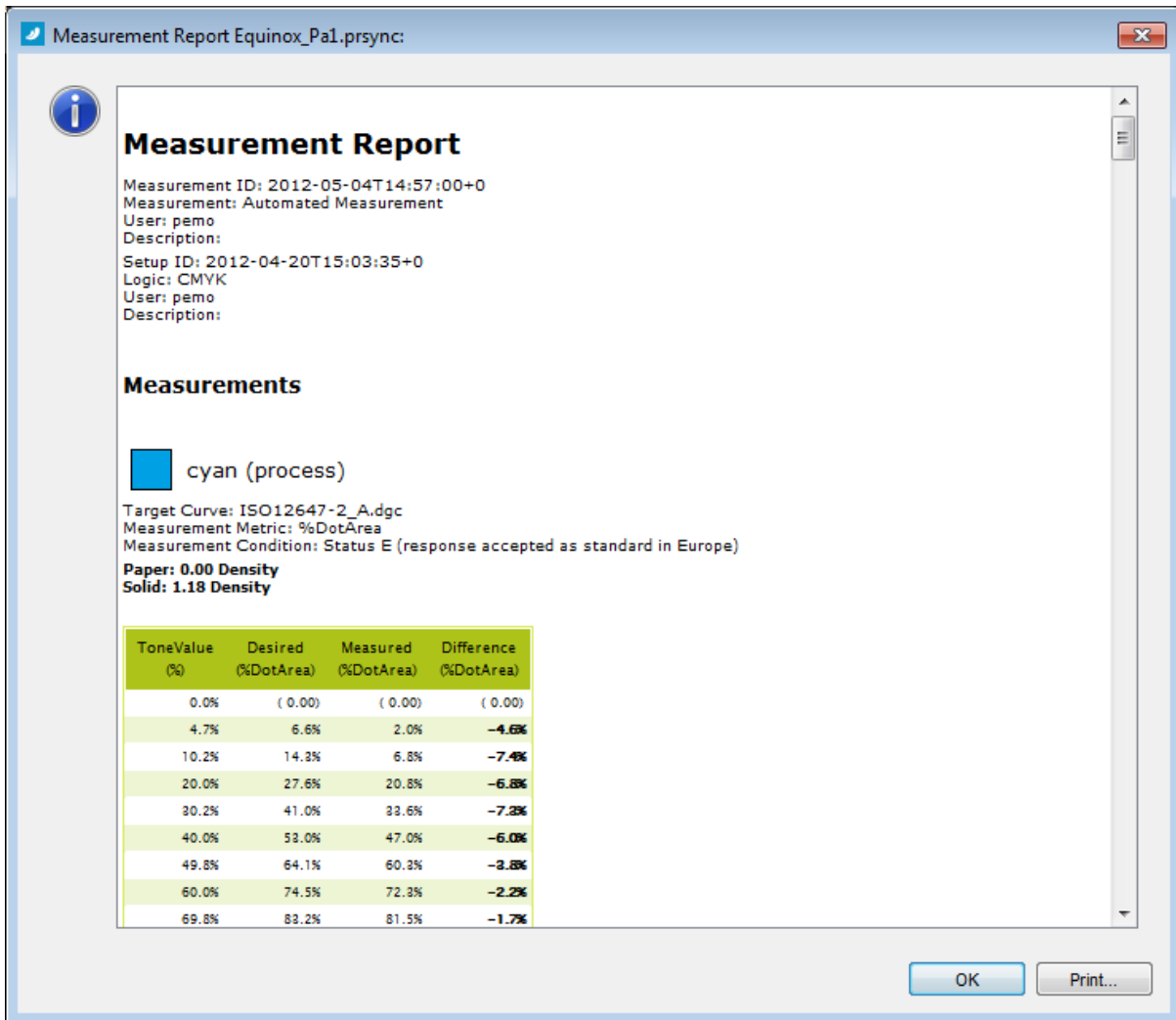


Figure 23: Viewing the measurement report.

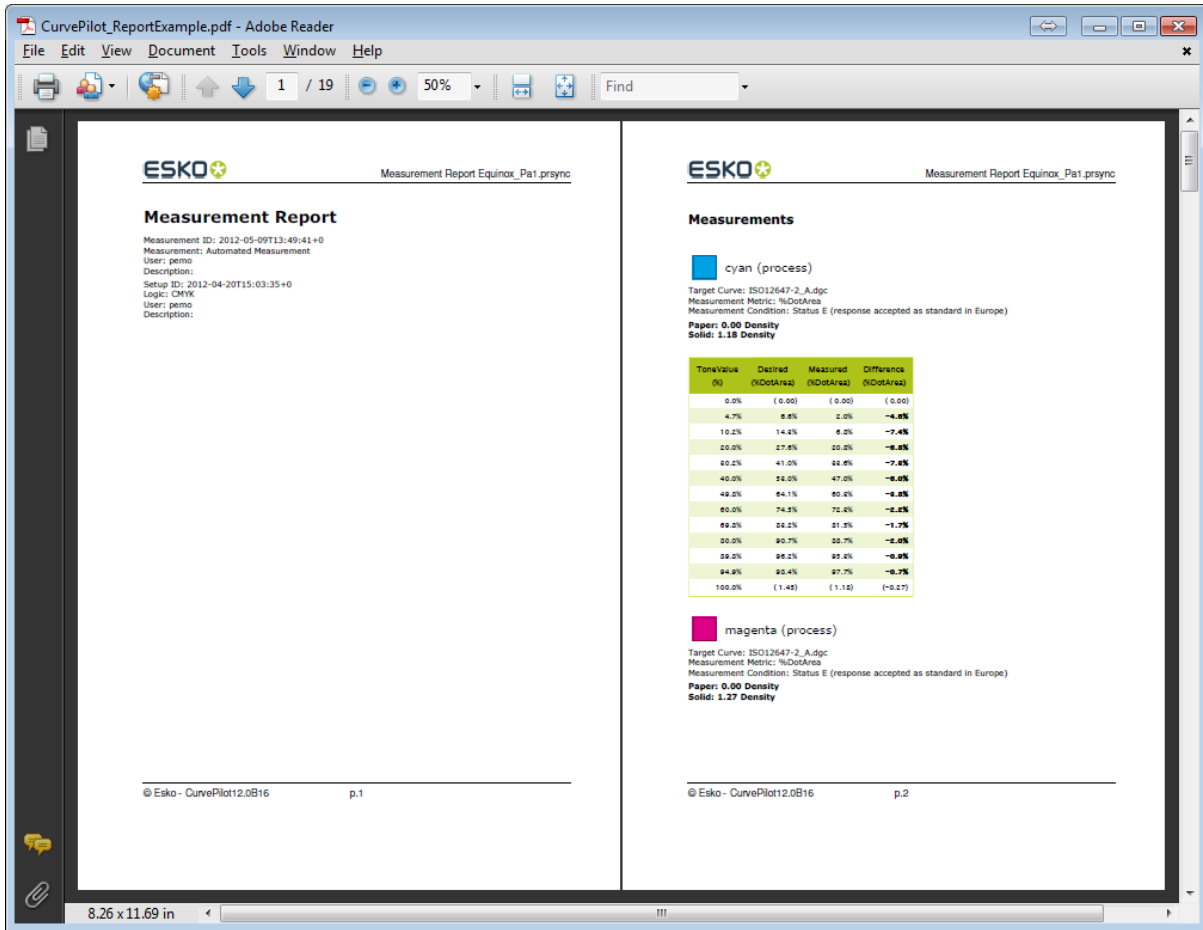


Figure 24: Printing a measurement report to a PDF file.

Click **Save...** to save the new PressSync curves and/or the measurement.

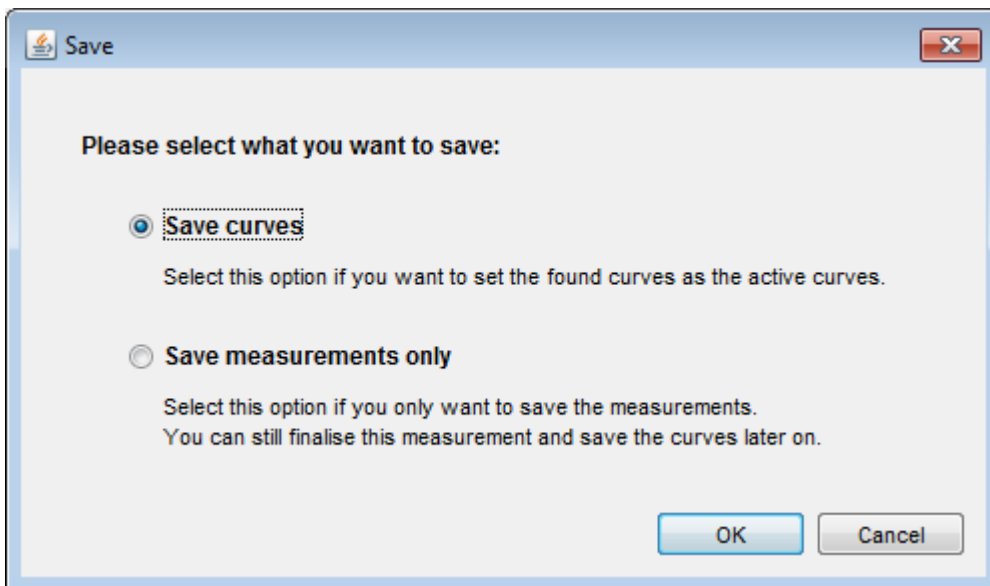


Figure 25: Saving the curveset and measurements

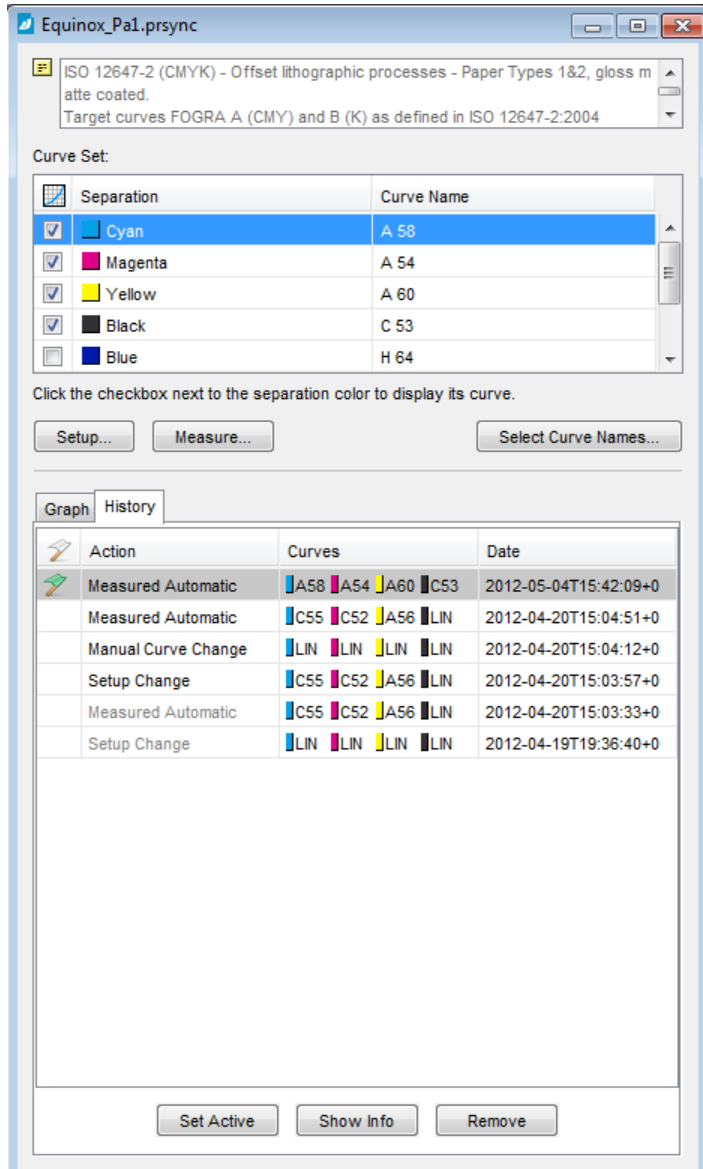
 **Note**
From the results panel, you can always go back to the main measurement panel by clicking **Back**

To Measurement (e.g. to add more measurements or to remove measurements from the measurement list).

4.7 History of measurements

When an automated measurement is saved, the PressSync curves of the curve set are updated, and the averaged measurements are saved in the curve set.

In the History tab of the curve set editor, a new record will be added labeled **‘Measured Automatic’**



By selecting this record and clicking **Show Info** a read-only version of the result panel is displayed, where you can review the measurement or regenerate a report of it.

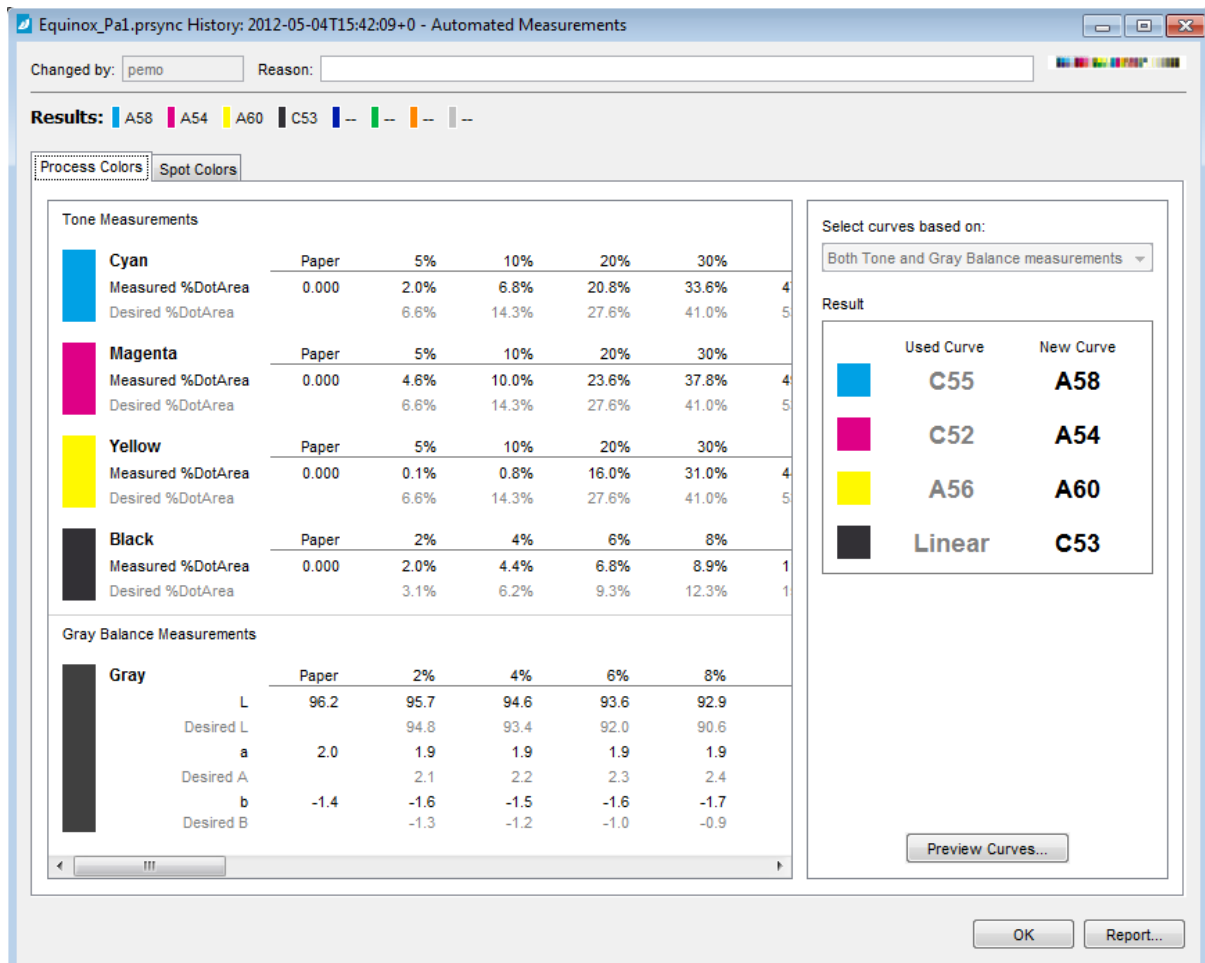


Figure 26: Showing a measurement from history.

5 Equinox support

Equinox makes it possible to increase gamut of your press so you won't need to use extra spot color inks.

When using Equinox a press is setup with up to 7 main inks (e.g. CMYKOGB). Even if a job contains spot colors, it will be separated to one or more of these inks, without losing color quality.

It is important that the profile of the press remains constant to make color conversions accurate and stable. So the dot gain of all our channels must be easy controllable and stable over time.

CurvePilot 12 includes dedicated curve set templates and control strips to make setting up and using PressSync curve sets for Equinox much easier.

5.1 Create a curve set based on the cmyk_Equinox template

You start by creating a new curve set based on the Equinox template that is included with CurvePilot 12.

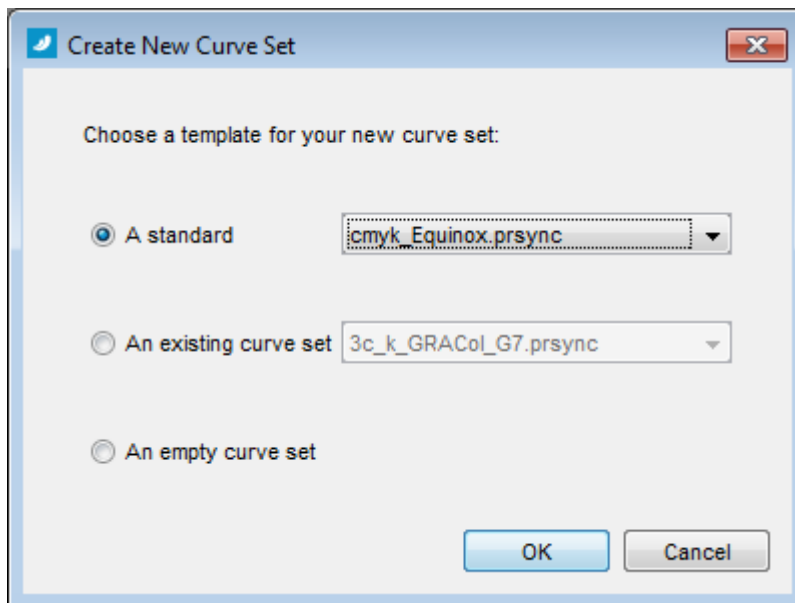


Figure 27: Creating a curve set for Equinox

The new curve set will be configured with CMYK and OGB channels.

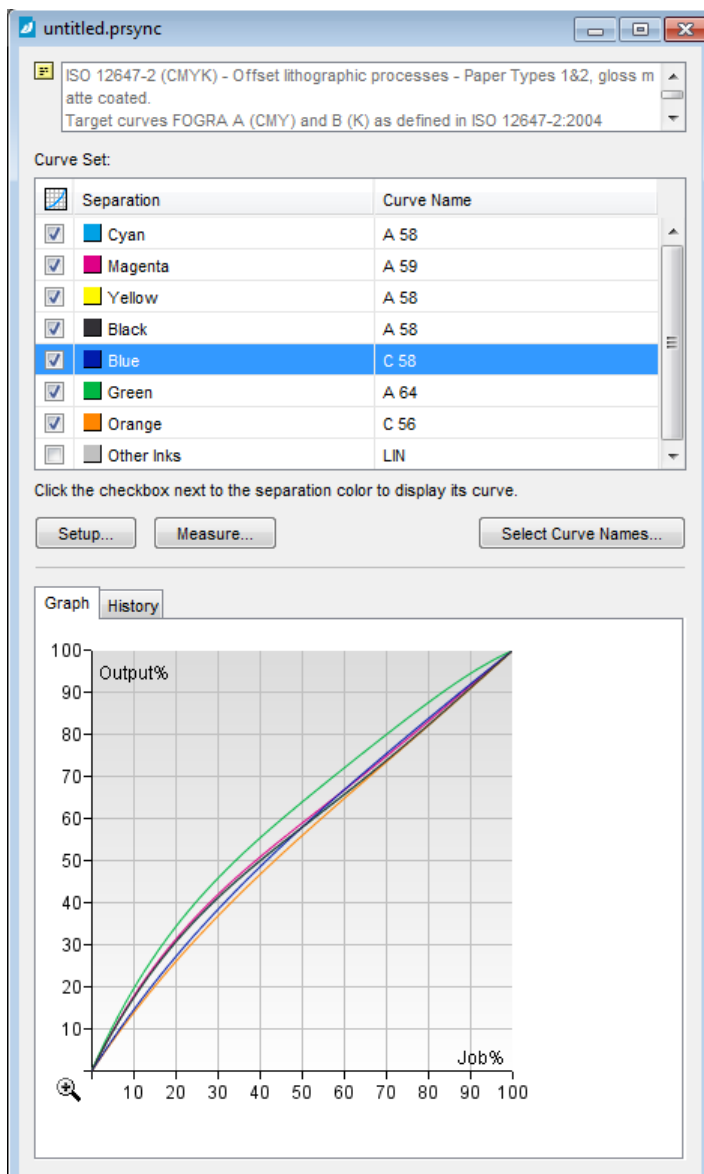


Figure 28: Equinox curve set

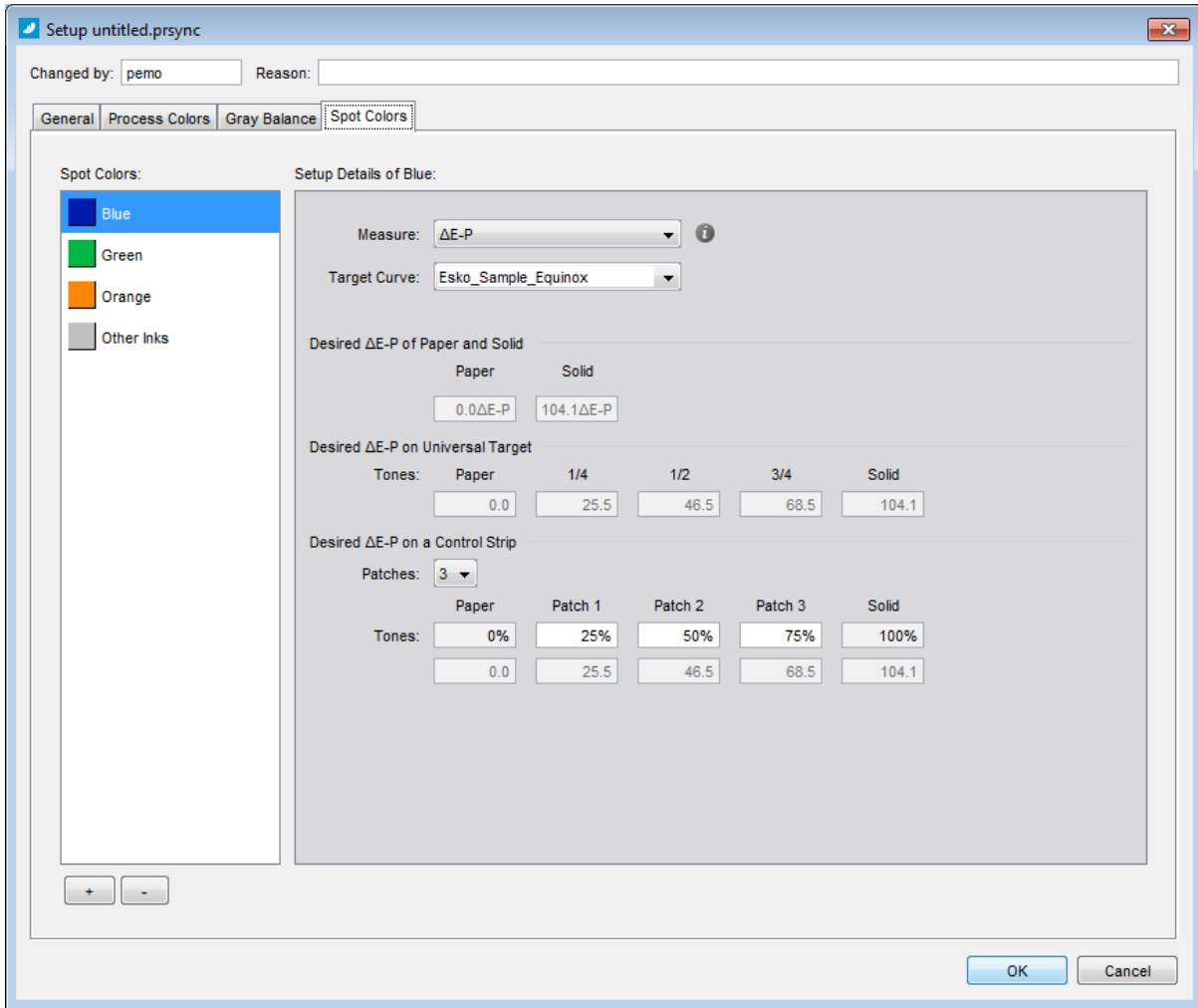


Figure 29: Default setup of equinox ink channels

By default the new curve set is configured to use the Esko_Sample_Equinox profile as target for all ink channels, CMYK and OGB.

The metric of all channels, also the classic process inks C-M-Y-K, will be set to the colorimetric unit ΔE_P (CIElab delta between ink patch and paper).

So the calculation of compensation points and matching PressSync curves will be based on colorimetric measured and desired data.

5.2 Automatic measurements based on Equinox control strips

CurvePilot 12.0 also includes control strips and corresponding layouts dedicated to Equinox, so that all ink channels can be measured automatically and compensated in one go.

E.g. the EquinoxChart_CMYK_OGB.PDF control strip contains single-inked patches for all Equinox inks and CMY G7 composed patches, so that curves can be calculated for all inks with one control strip.

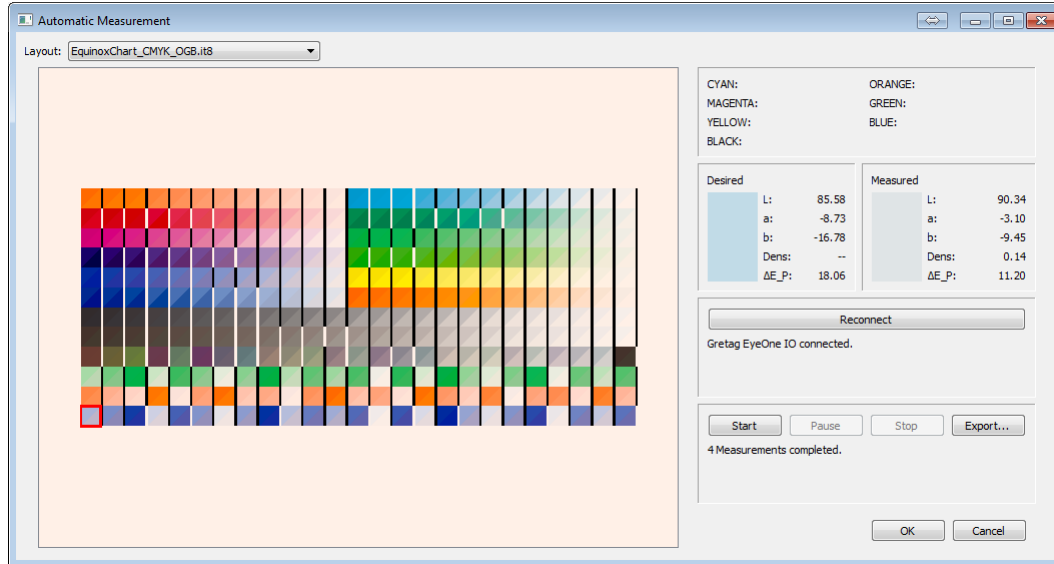


Figure 30: Automatic measurement of CMYK_OGB control strip

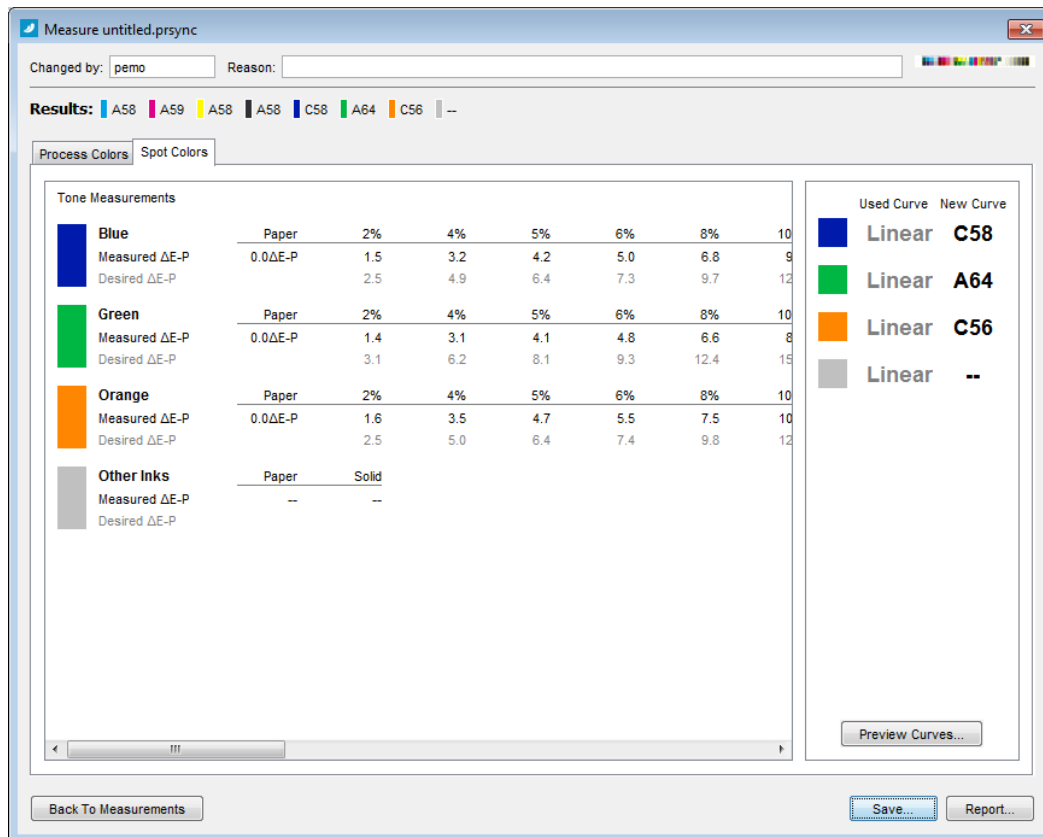
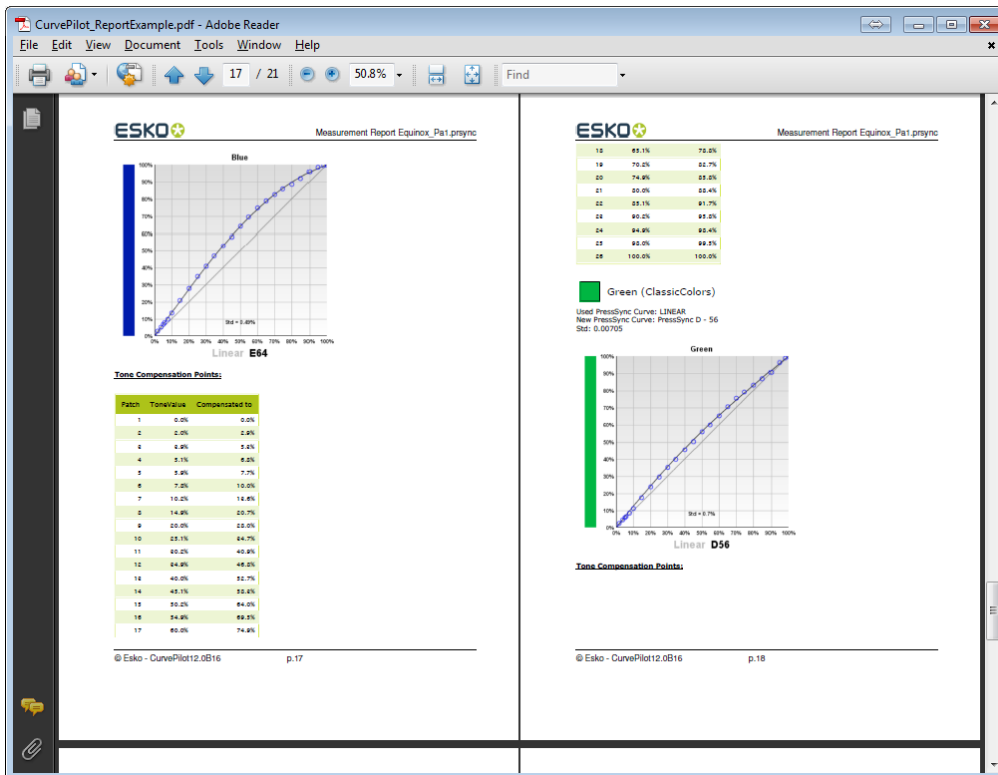


Figure 31: Measurement result for OGB ink channels.

The OGB ink measurements and resulting curves can be found in the ‘Spot Colors’ tabs.



The measurement report will show measurement and calculated compensation points for each ink channel.

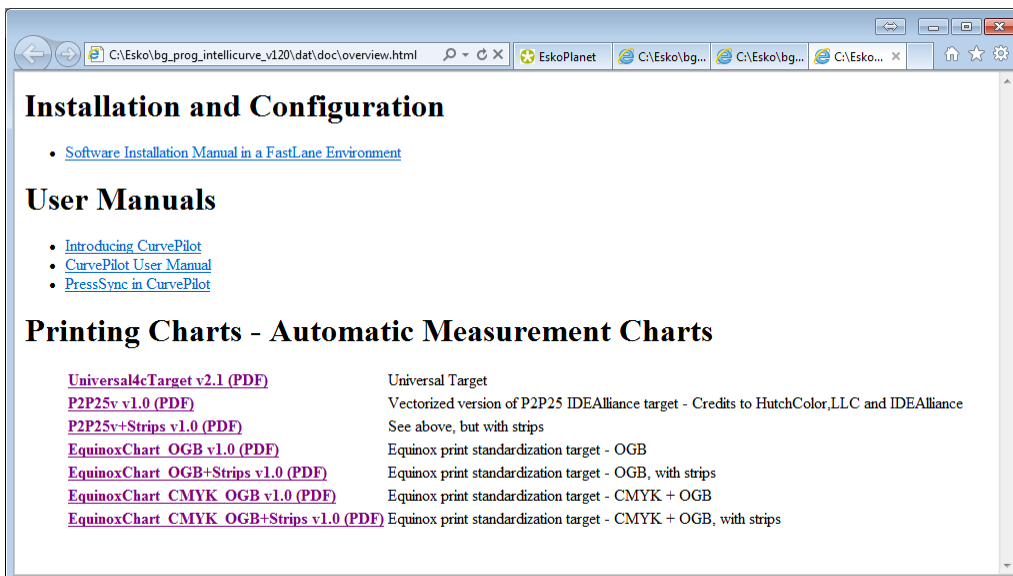


Figure 32: The PDF files for generating the control strips can be found in CurvePilot's online help page.

6 Exporting compensation to DGC files

In the results panel, you can export your compensation curve to DGC files.

The ‘Export to DGC files’ option performs the following tasks for each ink:

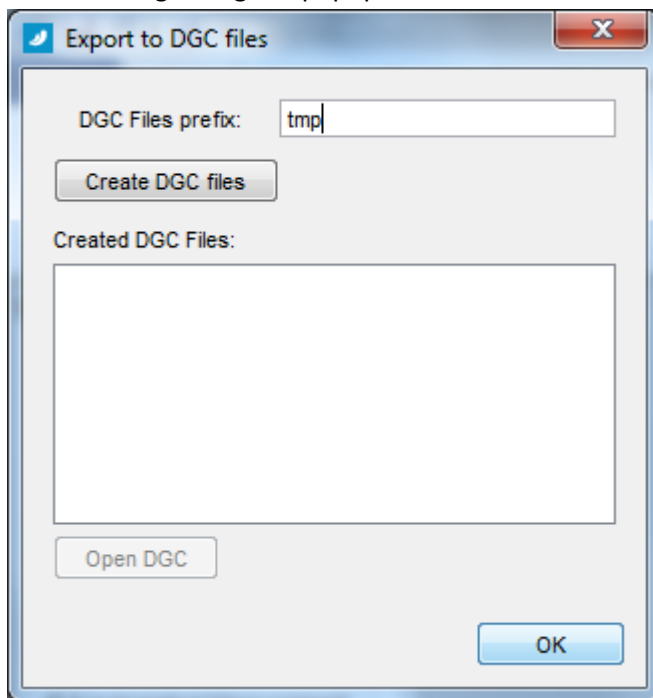
- It constructs a reference DGC curve, containing the desired values. These desired values are calculated from the target curve that is setup for the curve set and for the specific ink.
- It constructs a compensation DGC curve with the compensation points obtained and used to fit a PressSync curve. That DGC curve will also contain the measured points and the reference DGC curve that was previously created for that ink.

The option will also create an ink-based curves strategy (.ICPRO file), that bundles the curves for all inks.

6.1 Exporting to DGC files from the measurement results panel.

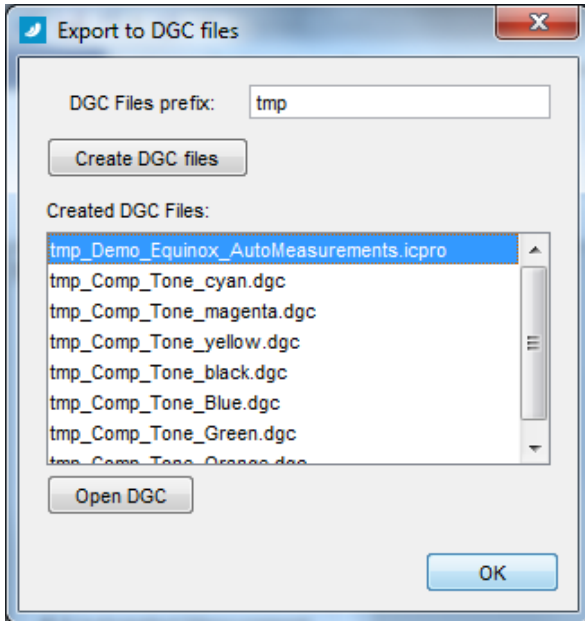
After you have made (a) measurement(s), the measurement result panel will show the resulting PressSync curves. From this panel you can export the curves to DGC files by clicking ‘[Export to DGC Files...](#)’

The following dialog will popup:



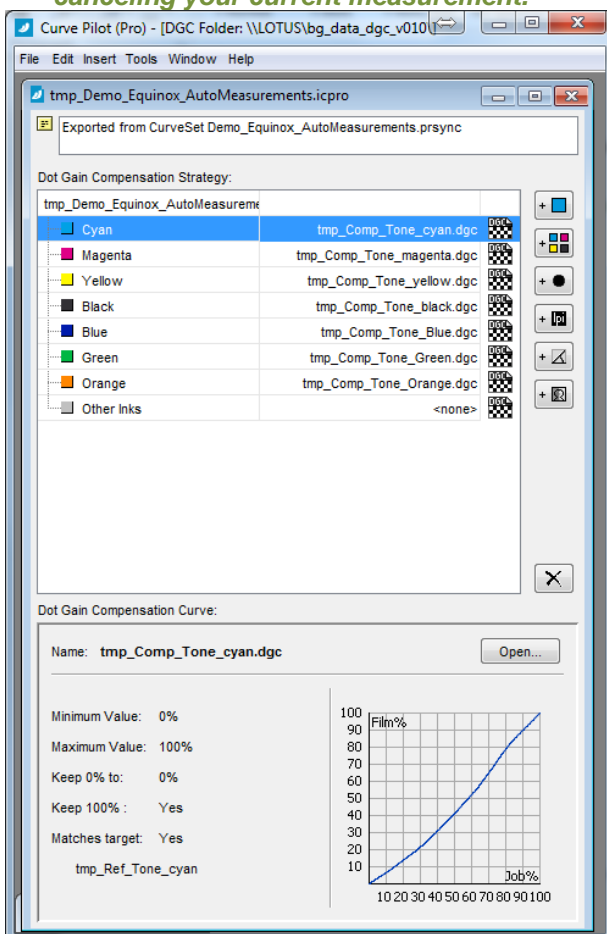
The ‘*DGC Files prefix*’ indicates how the newly created DGC file names should be pre-fixed. By clicking the ‘*Create DGC files*’, the DGC and ICPRO files will be created from the resulting measured, desired and compensation values.

- ☑ **Important!**
Any existing DGC file with the same name will be overwritten without confirmation. So make sure to choose a proper ‘DGC files prefix’.



Click the ‘Open DGC’ button to open the curve file in the main panel.

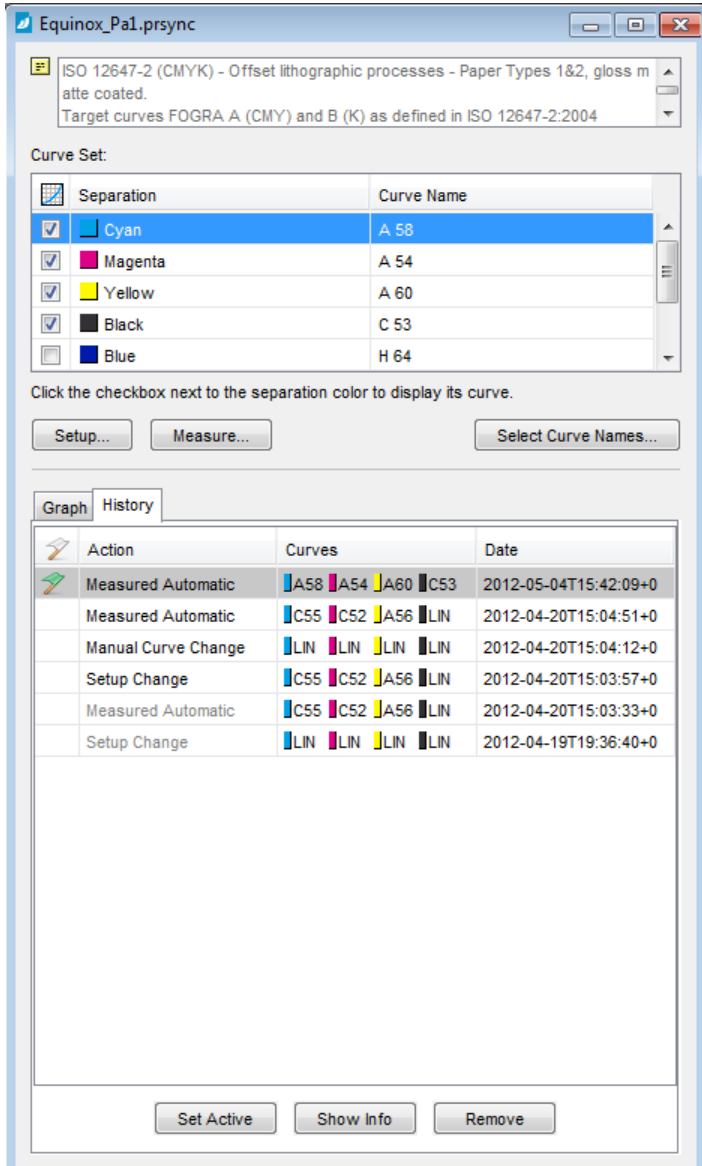
- ✔ **Important!**
To select the opened file, you must first close the measurement panel by saving or canceling your current measurement.



6.2 Exporting to DGC files from previous measurements

You can also export curves to DGC files from previous measurements.

Click the **‘History’** tab in the curve set editor, select your previous measurement, and click **‘Show Info’**.



The result panel will show up, where you will also find the **‘Export to DGC’** button.

7 Appendix 1: Control Strip Layouts

7.1 Pre-defined layouts included with CurvePilot

7.1.1 ‘From Setup’ layout

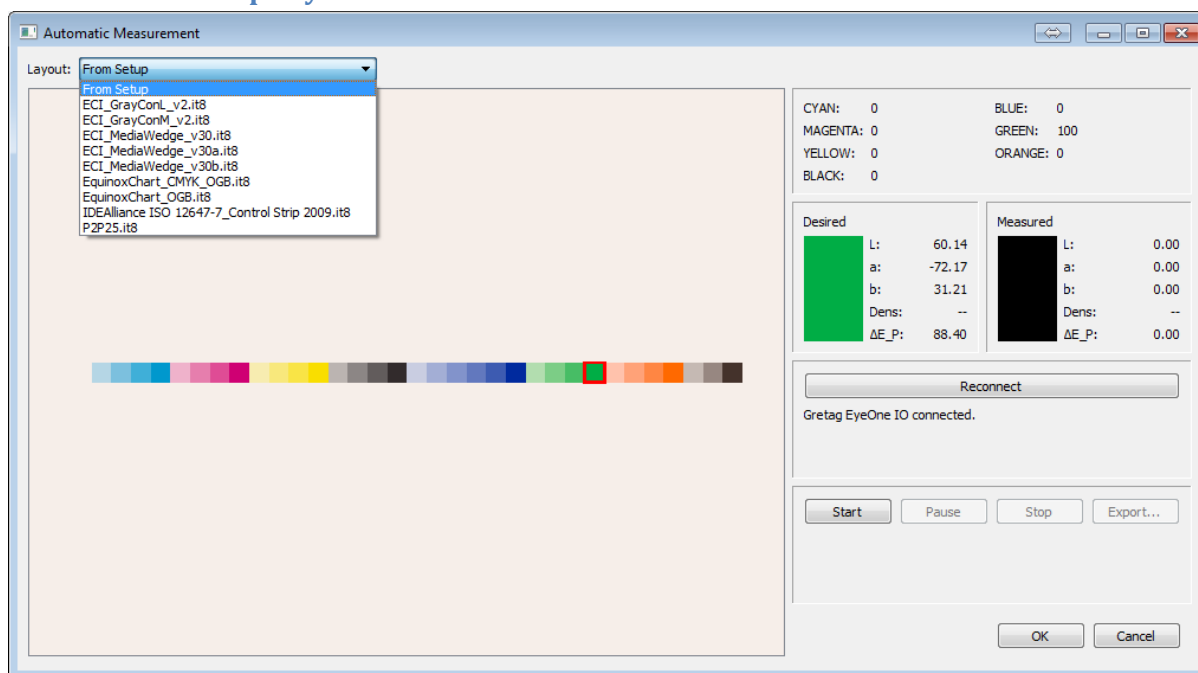


Figure 33: Dynamically created layout from curve set setup

The first item in the layout list is *From Setup*. This layout shows all the patches that have been setup in your curve set. These are:

- The different patches setup for each Process Colors (C,M,Y,K) or channel (CMY+K), to be contained on a control strip.
See ‘Process Colors’ setup tab.
- The different gray patches that are setup.
See ‘Gray Balance’ setup tab
- The different patches setup for each spot color, to be contained on a control strip.
See ‘Spot Colors’ setup tab.

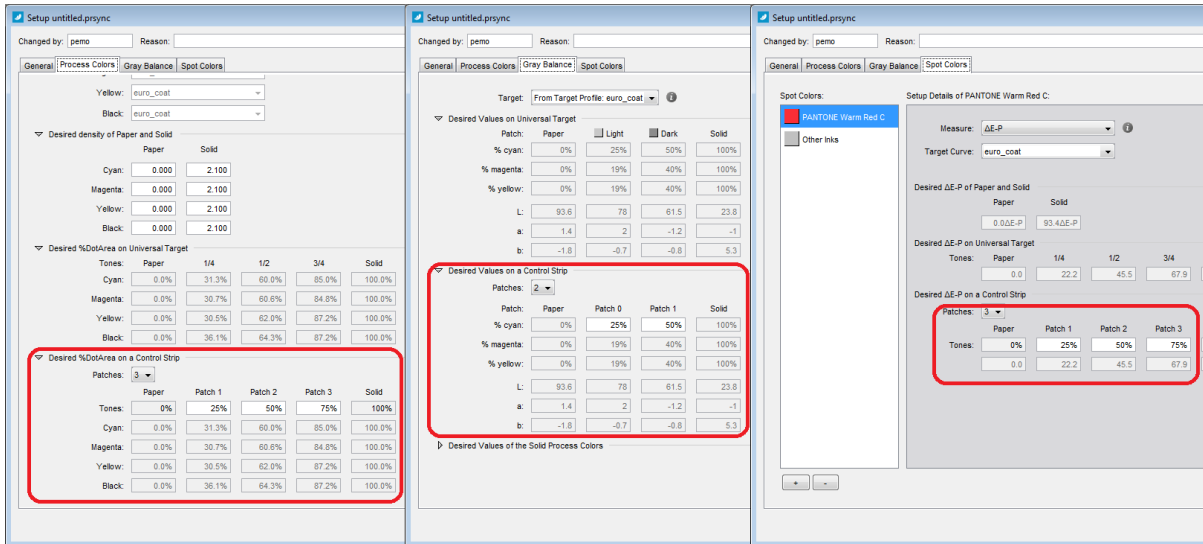


Figure 34: Setting up the 'From Setup' layout patches

7.1.2 ECI Gray Balance Control Strip

Links:

- <http://www.bvdm.com>
- <http://www.bvdm-online.de/Aktuelles/Downloads.php?Action=Download&FileID=225>

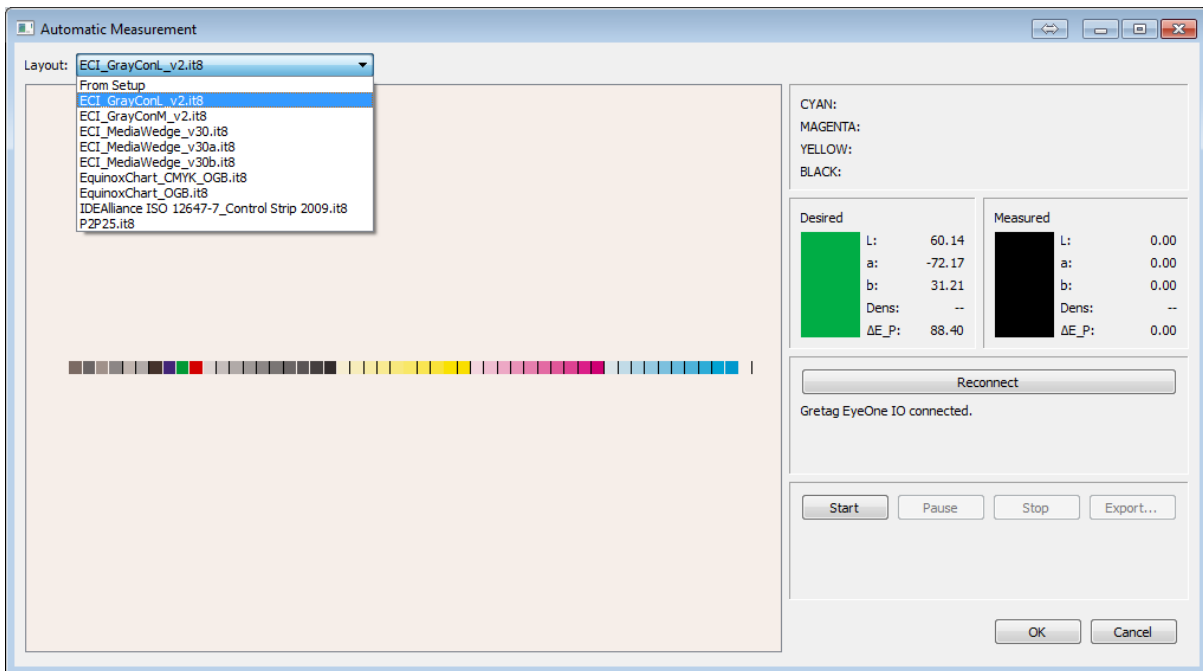


Figure 35: ECI_GrayConL_v2 layout

7.1.3 ECI MediaWedge (contract proof)

Links:

- <http://www.fogra.org>
- <http://www.fogra.org/index.php?menuid=35&downloadid=213&reporeid=17>

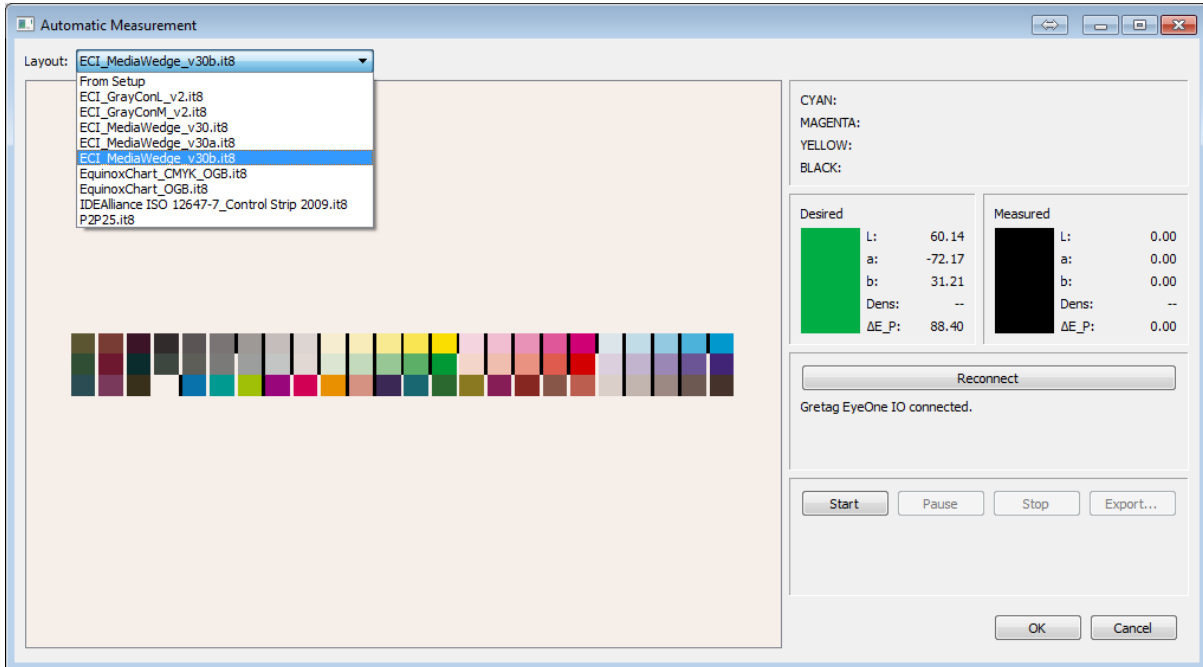
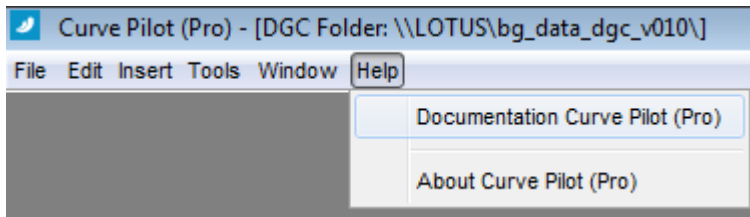


Figure 36: ECI MediaWedge v30b

7.1.4 Esko Equinox control strips

Links:

- <http://www.esko.com>
- [Equinox support](#)
- Included with CurvePilot12.0 (see ‘Documentation Curve Pilot (Pro)’)



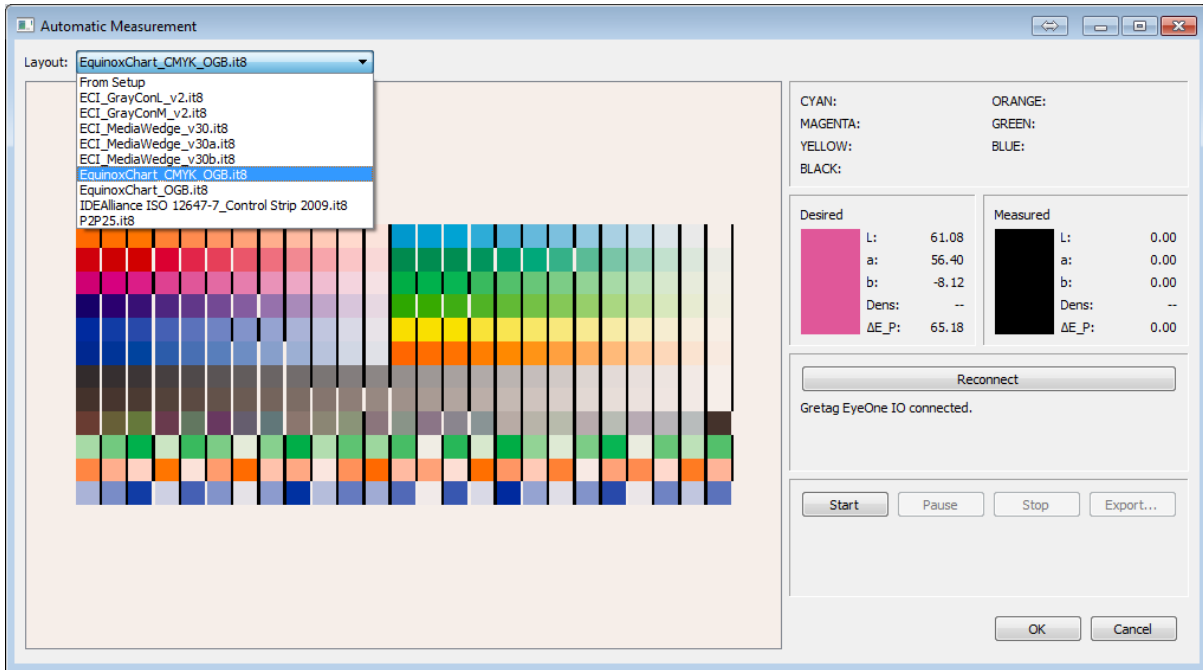


Figure 37: EquinoxChart_CMYK_OGB

7.1.5 IDEAlliance ISO12647-7 Digital Control Strip

Links:

- <http://www.idealliance.org/>
- <http://www.idealliance.org/downloads/idealliance-iso-12647-7-color-control-wedge-2009>

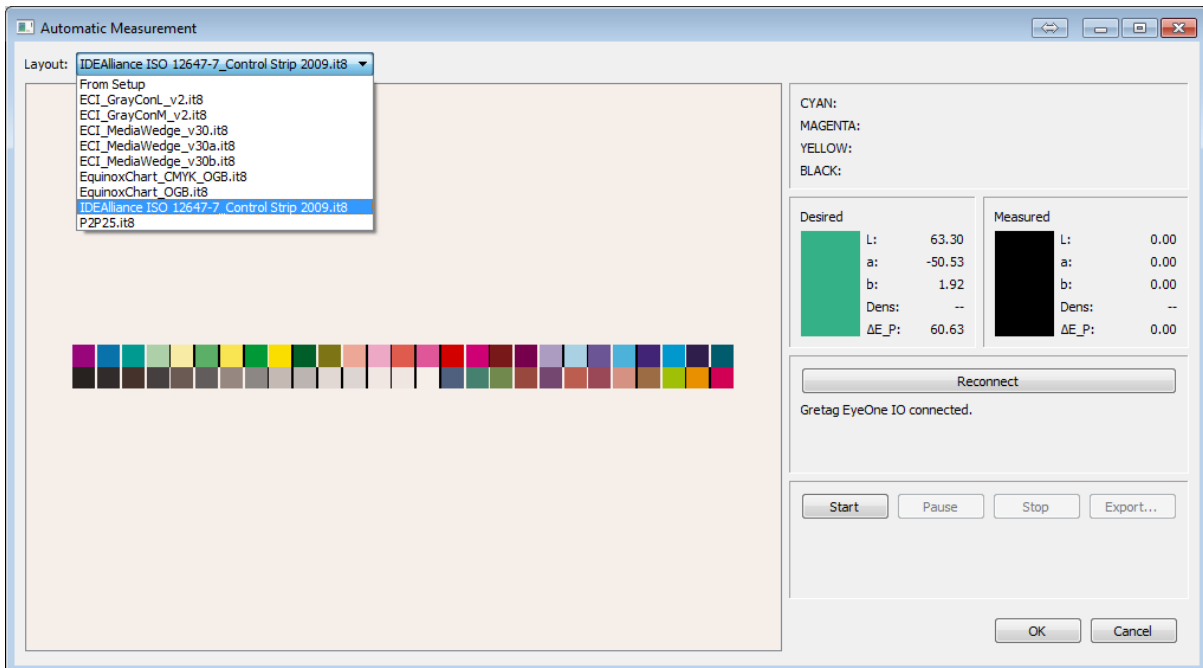


Figure 38: IDEAlliance ISO 12647-7 Control Strip 2009

7.1.6 P2P25

Links:

- <http://www.idealliance.org/>
- Included with CurvePilot12.0 (see ‘Documentation Curve Pilot (Pro)’)

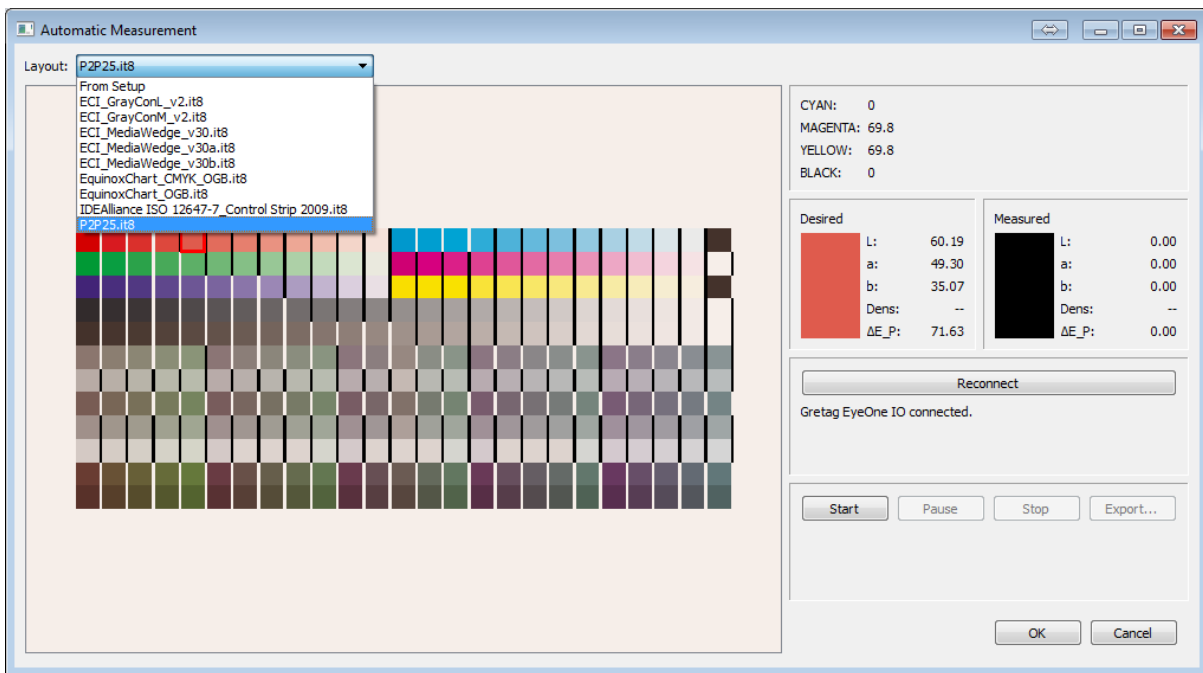
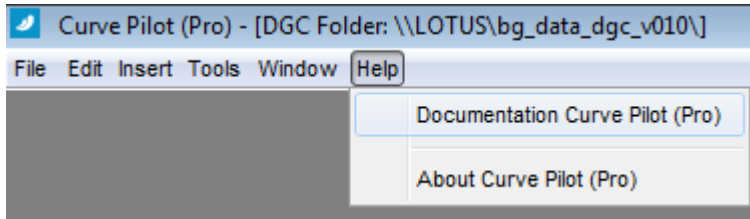


Figure 39: P2P25 Control strip

7.2 Custom Layouts

The drop-down box with the control strip layouts is actual a list of .it8 files extracted from folder \Esko\bg_data_intellicurve_v120\.

The .it8 files are human-readable CGATS files. The files describe the layout and composition of patches for several control strips.

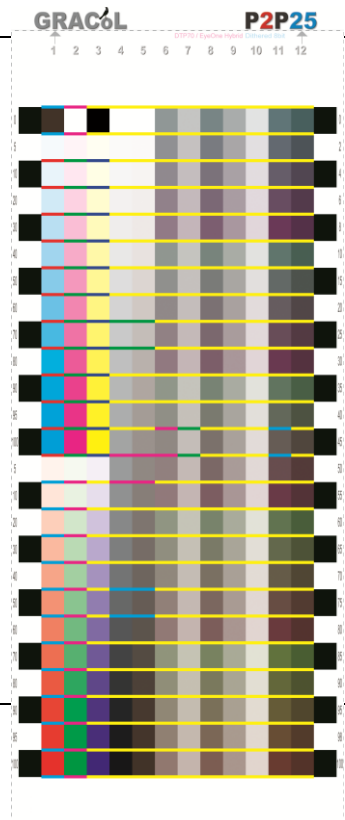
Most control strip vendors deliver such files to support generic measurement devices, or the file is available as characterization data.

To make such a file ready as CurvePilot layout, some extra fields need to be defined.

Below an example showing how the layout file of the P2P25 control strips looks like.

```

CREATED 4/14/2007 # Time: 18:00
CGATSKEY_LAYOUT_TYPE      Esko
NUMBER_OF_STRIPs 12
NUMBER_OF_COLS 25
PATCH_WIDTH 9
PATCH_HEIGHT 8
GAP_SIZE_X 1
GAP_SIZE_Y 0
MIRROR_X 1
BORDER_PATCHES 0
INKSET 0
KEYWORD SampleID
KEYWORD SAMPLE_NAME
NUMBER_OF_FIELDS 9
BEGIN_DATA_FORMAT
SampleID  SAMPLE_NAME CMYK_C CMYK_M CMYK_Y CMYK_K LAB_L      LAB_A      LAB_B
END_DATA_FORMAT
NUMBER_OF_SETS 300
BEGIN_DATA
1          A1          100          100          0           23          0           0
2          A2          4.71         0            0           95          0          -2
3          A3          10.2         0            0           95          0          -2
4          A4          20           0            0           95          0          -2
5          A5          30.2         0            0           95          0          -2
6          A6          40           0            0           95          0          -2
7          A7          49.8         0            0           95          0          -2
...
    
```



Field name	Example Value	Unit	Description
CGATSKEY_LAYOUT_TYPE	Esko		
NUMBER_OF_STRIPs	12		Number of rows to measure
NUMBER_OF_COLS	25		Number of columns to measure
PATCH_WIDTH	9	mm	Width of a patch, including border and gaps
PATCH_HEIGHT	8	mm	Height of a patch, including border and gaps
GAP_SIZE_X	1	mm	Gap between patches in a row
GAP_SIZE_Y	0	mm	Gap between patches in a column
MIRROR_X	1		Indicates if columns need to be mirrored.
BORDER_PATCHES	0	mm	Border around patches

Notes

- Each patch must have a proper C,M,Y,K composition.
- The order of how the patches are listed in the file must be the same as on the chart: starting with listing all the patches in the first row, and continuing for each column.

8 Appendix 2: supported CGATS IT8 measured data format

With CurvePilot 12.0 you can also import measurement data from external automatic measurements. E.g. a press that supports output of measured data.

CurvePilot can read measurement files that have the CGATS IT8 file format.

- The data files may contain LAB, XYZ and/or spectral data.
- Multi-channel data files or files that contain spot colors or also supported.

When none-CMYK inks are used the inks must be specified as extra fields in the CGATS file.

These inks must be known in CMS, and each ink must be described in the file by an extra field.

Syntax: PROCESSCOLOR_ID “<inkbook>/<inkname>”.

The different ink fields must be listed in the same order as the data columns.

Example:

The data file below comes from an automatic measurement system that measured 5 inks: The process inks C,M,Y,K and the Pantone color 700 Coated.

The Pantone color component is given as 5th column in the measured data.

=> the 5th ink field: PROCESSCOLOR_ID “PMS1000C/722”

ORIGINATOR	Cartonnages-Larre.fr - AutoMeasurementFromPress											
FILE_DESCRIPTOR	Jobname: OF23408, SheetNumber: 1, Press Name:R706											
CREATED	13-Jan-2012 11:36:16											
TARGET_TYPE	ANSI IT8.7/4											
COPYRIGHT	NA											
PRINT_CONDITIONS	See ANSI CGATS/GRACoL TR 006-2007											
ILLUMINANT	D50											
MEASUREMENT_GEOMETRY	0/45											
OBSERVER	CIE 2 degree											
SAMPLE_BACKING	White											
PROCESSCOLOR_ID	Cyan											
PROCESSCOLOR_ID	Magenta											
PROCESSCOLOR_ID	Yellow											
PROCESSCOLOR_ID	Black											
PROCESSCOLOR_ID	"PMS1000C/722"											
NUMBER_OF_FIELDS	40											
BEGIN_DATA_FORMAT												
SAMPLE_ID	PC5_1	PC5_2	PC5_3	PC5_4	PC5_5	LAB_L	LAB_A	LAB_B	SPECTRAL_NM_400			
END_DATA_FORMAT												
NUMBER_OF_SETS	224											
BEGIN_DATA												
1	0	0	100	0	17.67	1.87	0.13	1.78	2.73	1.84	2.48	
2	100	0	0	0	57.79	-33.52	-45.33	33.58	43.77	51.84	57.92	
3	0	100	0	0	50.11	68.93	-6.62	20.81	22.64	24.23	26.27	
4	0	0	100	0	85.62	-2.7	100.91	2.37	2.43	1.66	2.09	
5	0	0	0	100	77.54	13.79	24.3	32.92	32.83	33.89	33.3	
6	0	75	0	0	58.13	56.66	-10.33	30.17	31.77	35.12	37.29	
7	0	0	75	0	87.12	-6.06	74.24	12.84	10.79	9.39	9.11	
8	0	0	0	25	86.55	4.94	6.98	51.66	55.72	61.14	63.33	
9	0	0	0	100	16.39	1.32	0.25	0.95	1.76	2.16	2.26	

To be able to calculate proper compensation points for all inks in the data file, there must be enough patches composed of single inks, and for all inks. Also, for each ink there should be a solid (100%) patch.

If you want to base compensation also on gray balance there must be enough gray patches in the file. These gray patches need to have neutral CMY compositions as defined by G7 in their Neutral gray CMY triplet table (see table below).

Only patches that are close to such compositions (+/- 1%) will be extracted from the data file.

Source: “Calibrating, Printing and Proofing by theG7™ Method”

Gray	C%	M%	Y%
0.00%	0.00%	0	0
1.96%	1.96%	1.18	1.18
3.92%	3.92%	2.75	2.75
5.88%	5.88%	4.31	4.31
7.84%	7.84%	5.49	5.49
10.20%	10.20%	7.45	7.45
14.90%	14.90%	10.98	10.98
20.00%	20.00%	14.9	14.9
25.10%	25.10%	18.82	18.82
30.20%	30.20%	23.14	23.14
34.90%	34.90%	27.06	27.06
40.00%	40.00%	31.37	31.37
45.10%	45.10%	35.69	35.69
49.80%	49.80%	40	40
54.90%	54.90%	45.1	45.1
60.00%	60.00%	50.2	50.2
65.10%	65.10%	55.29	55.29
69.80%	69.80%	60.39	60.39
74.90%	74.90%	65.88	65.88
80.00%	80.00%	71.76	71.76
85.10%	85.10%	78.04	78.04
89.80%	89.80%	84.31	84.31
94.90%	94.90%	92.16	92.16
98.04%	98.04%	96.86	96.86
100.00%	100.00%	100	100

Figure 40: G7 CMY Triplets table

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