

Media Qualification

– Basic Know How Digital Printing –

Version 1.2 EN



Objectives

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

- After completing this training you should be able to:
 - Understand the basic specifications
 - Understand basic digital printing process
 - Understand paper path and finishing principles



Overview

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

1. Models / Specification
2. Printing Principle
3. Paper Path
4. Finishing
5. Digital Print Manager

1. Models / Specification



Models

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

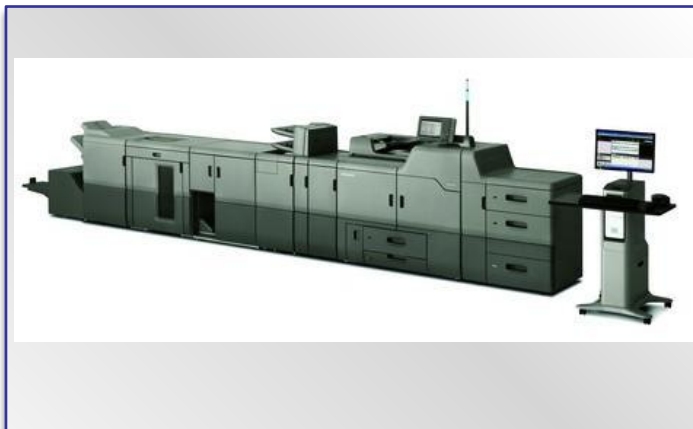


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Pro C901



HEIDELBERG *Linoprint C 901*



RICOH
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Pro C751



HEIDELBERG *Linoprint C 751*





Comparison of the performance of digital printing systems

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

C901

C751

Function/basic details

Controller

Prinect Digital Print Manager & EFI™ Fiery® RIP

Prinect Digital Print Manager & EFI™ Fiery® RIP

Copying function

Electrostatic transfer system with four drums and integrated transfer belt

Electrostatic transfer system with four drums and integrated transfer belt

Fusing

Oilless belt-fusing method

Oilless belt-fusing method

Toner

Wax-based PxP™ toner

Wax-based PxP™ toner

Resolution

1200 x 1200 dpi

1200 x 4800 dpi

Power supply

220/234/240 V, 25 A, 50/60 Hz

220/234/240 V, 16 A, 50/60 Hz

Max. Input capacity

11,000 sheets
(2,000 DIN A4/500 DIN A3/8,500 SRA3)

7,000 sheets
(2,000 DIN A4/5,000 SRA3)

Speed

Printer speed

90 pages/minute (A4)
45 SRA3 pages/minute
18 SRA3 pages/minute at > 300 gsm

75 pages/minute (A4)
40 SRA3 pages/minute
24 SRA3 pages/minute at > 220 gsm

Productivity

350.000 Average
700.000 Max.

180.000 Average
350.000 Max.

Media

Media weight (min./max.)

60–350 gsm

52.3–300 gsm

Min. paper size

140 mm × 182 mm (5.51 in × 7.17 in)

100 mm × 140 mm (3.94 in × 5.51 in)

Max. paper size

330 mm × 487,7 mm (12.99 in × 19.20 in)

330,2 mm × 630 mm (13.00 in × 24.80 in)

Max. printable area

320 mm × 480 mm (12.60 in × 18.90 in)

323 mm × 622 mm (12.72 in × 24.49 in)

Duplex (standard)

60–350 gsm, DIN A5–SRA3

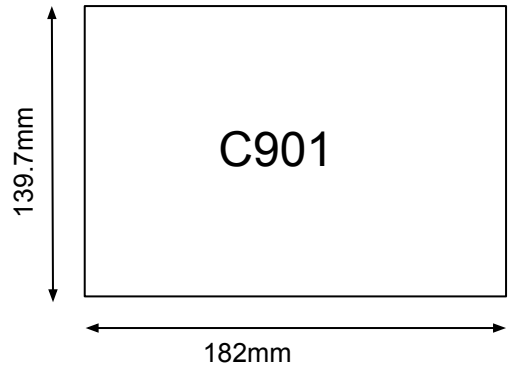
60–256 gsm, DIN A5–SRA3



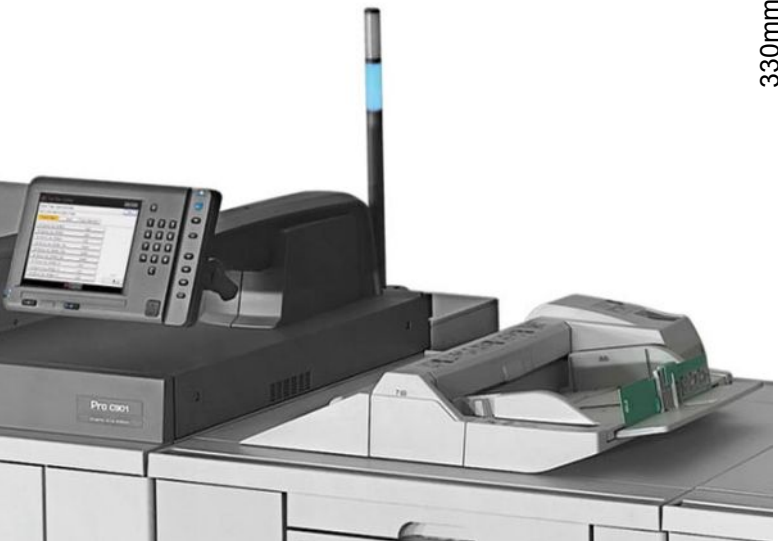
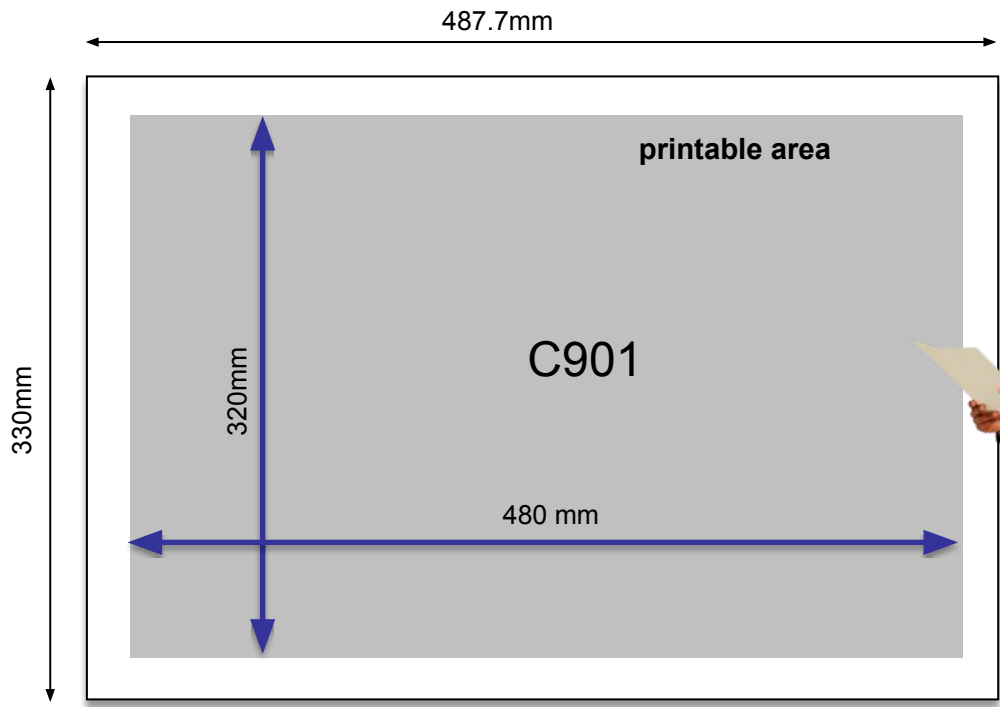
C901 – min. & max. paper sizes and print formats



min. paper size

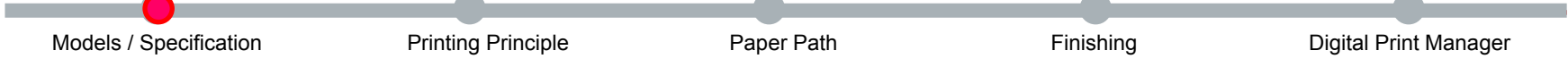


max. paper size

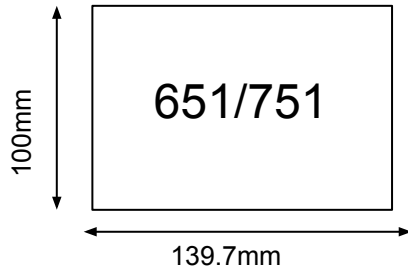




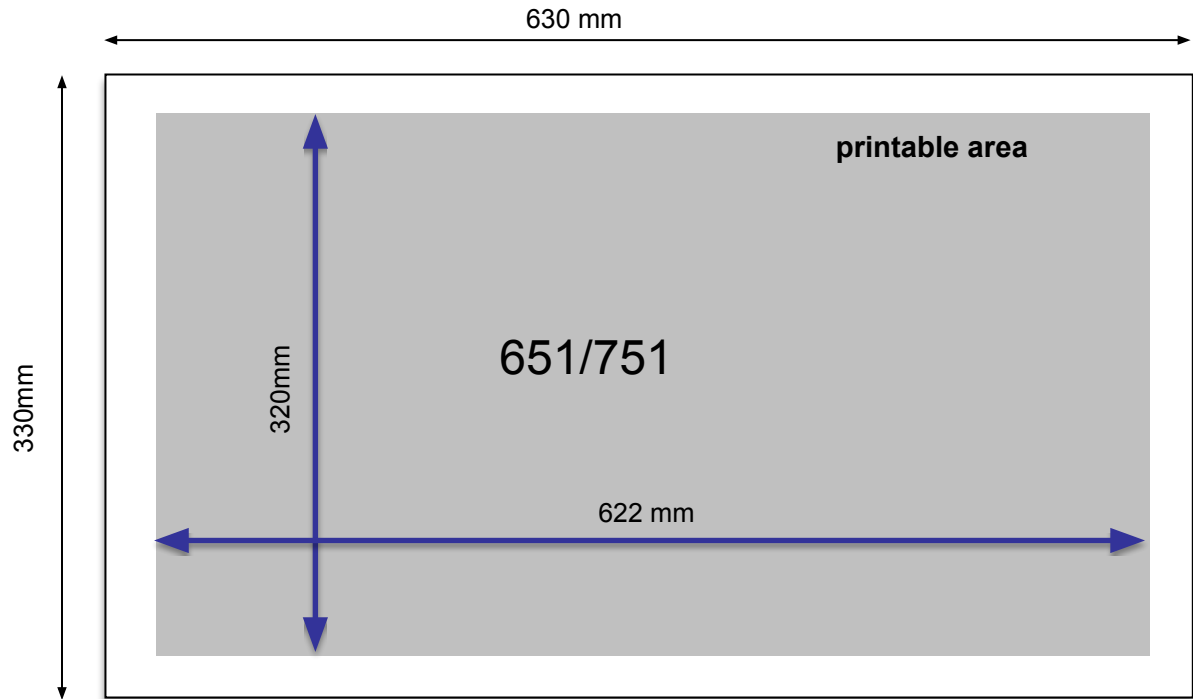
C751 – min. & max. paper sizes and print formats



min. papers size



max. paper size





C901 – Media capacity and weight

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

C901+

Paper Supply		Paper Capacity 80gsm	Paper Size	Grammage	Media Type
Mainframe (Standard)	1st tray	1,000+ 1,000 (Tandem)	A4 only	60 – 220 gsm	only uncoated
	2nd tray	500	140x182*) – 330x450	60 – 220 gsm	
First A3 LCT (Option)	3rd tray	2000	140x182*) – 330x480	60 – 350*) gsm	All Media
	4th tray				
Second A3 LCT (Option)	5th tray	2000	140 x182*) – 330x480	60 – 350*) gsm	All Media
	6th tray				
Multi Bypass (Option)		500	140 x182*) – 330x480	52 – 216 gsm	only uncoated
Plockmatic BK5010e (Option)			206x275 – 320x457	64-300 gsm	All Media

Remarks:

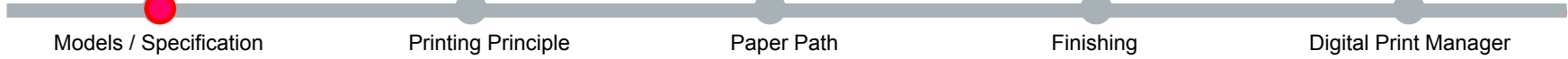
- Duplex: all media types, Formats: A5 – SRA3. Grammatres: 60-350 gsm . Paper weight 1-7. Multi
- Paper weight 1 only uncoated.
- Envelopes C5/C4 format only, minimum paper weight 5

***) different to C751**

Total maximum		11,000 sheets			
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C751 – Media capacity and weight



C751					
Paper Supply		Paper Capacity	Paper Size	Grammage	Media Typ
Mainframe (Standard)	1st tray	1,000+ 1,000 (Tandem)	A4 only	52.3 – 300 gsm	only uncoated
	2nd tray	500	100x140*) – 330x480	52.3 – 256 gsm	
A3 LCT (Option)	3rd tray	1000	100x140*) – 330x480	52.3 – 256 gsm	All Media
	4th tray	2000	100x140*) – 330x480	52.3 – 300 gsm	
	5th tray	1000	100x140*) – 330x480	52.3 – 256 gsm	
Multi Bypass (Option)	6th tray	500	100x140*) – Banner (330x630*)	52.3 – 220 gsm	only uncoated
Plockmatic BK5030 (Option)			206x275 – 320x457	64-300 gsm	All Media
Remarks: • Duplex: all media types. Formats: A5 – SRA3. Grammaturs: 60-256 gsm . Paper weight 1-6. Multi Bypass Banner simplex only • Paper weight 1 only uncoated. • Envelopes minimum paper weight 5 *) different to C901					
Total maximum		7,000 sheets			

2. Printing Principle



Xerografical Principial

Models / Specification

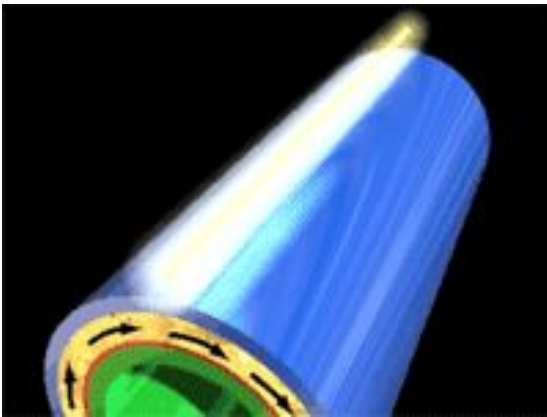
Printing Principle

Paper Path

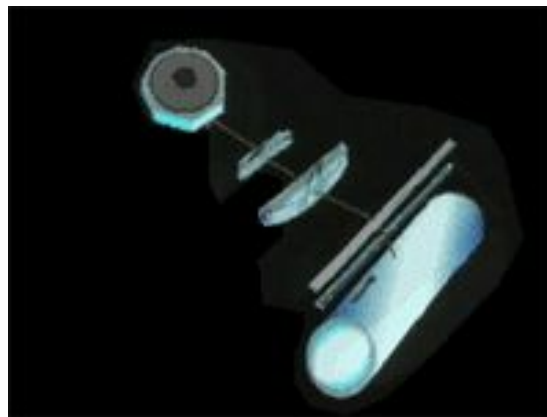
Finishing

Digital Print Manager

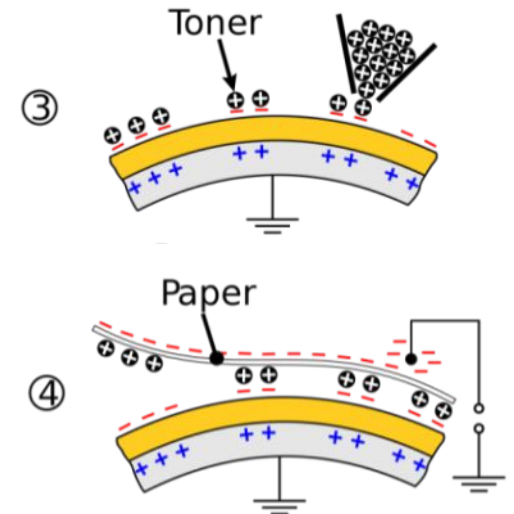
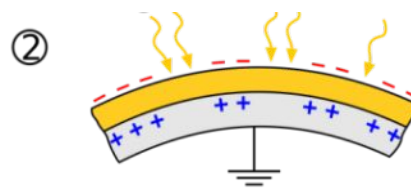
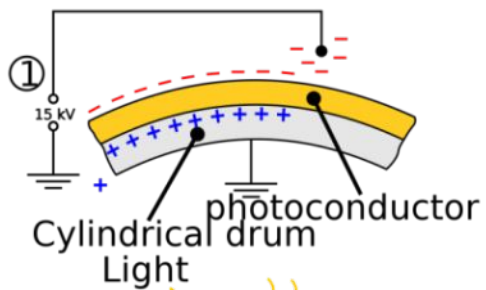
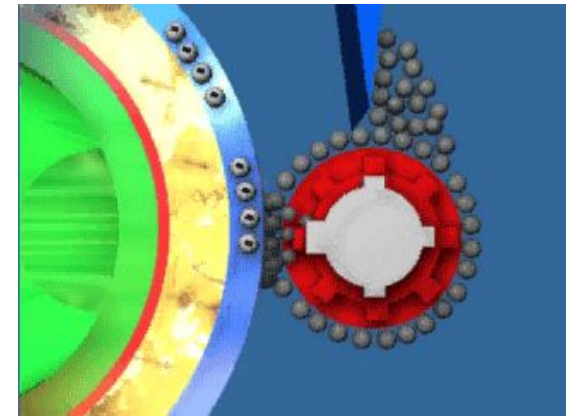
1. Charging of drum



2. Discharging with LASER

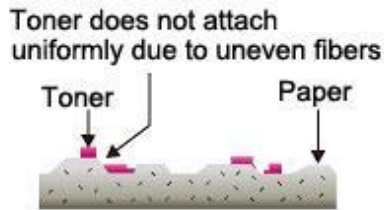


3. Toner transfer to drum



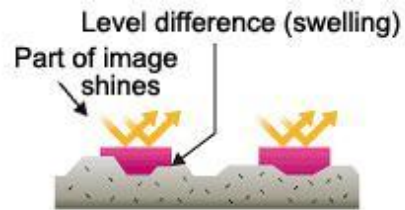


- Oil free dry-toner
- Particle size only 5 μm
- Active toner control for constant density



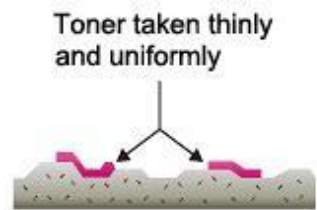
In case mass of deposit is decreased

(a) Conventional toner



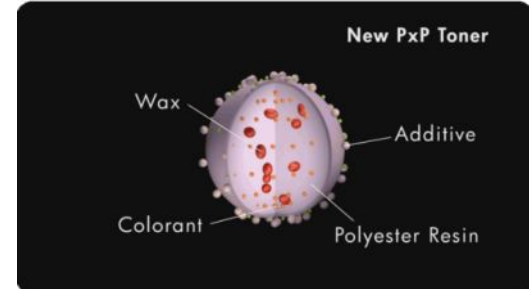
In case mass of deposit is increased

(b) Conventional toner



Natural, legible image quality

(c) Color PxP-EQ Toner



Item	Transport	Storage	durability
Toner	-30 to +45°C 15 to 95% RH	-30 to +45°C 15 to 85% RH	Less than 12 month from production
Developer	-30 to +45°C 15 to 95% RH	-30 to +45°C 15 to 85% RH	Less than 12 month from production
Do not exceed a month under the temperature between 35 and 40°C Do not exceed 12 hours under the temperature between 40 and 45°C Light resistance: BWS 6+ - very good service life (blue wool-scale)			

Different Printing Resolutions

Models / Specification

Printing Principle

Paper Path

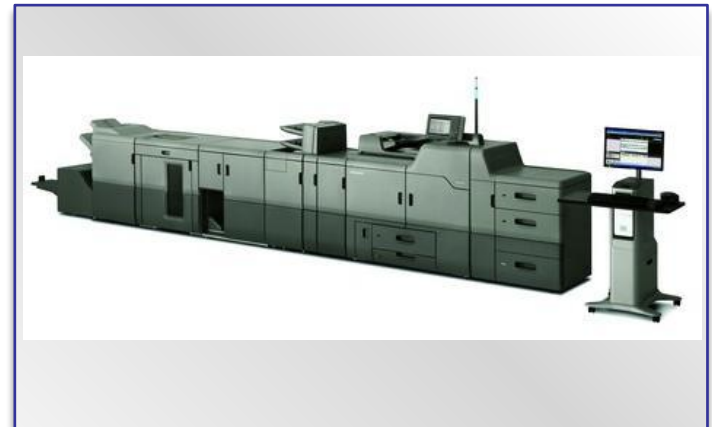
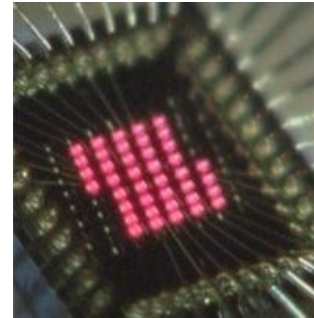
Finishing

Digital Print Manager

- Laser
- High resolution of 1200 x 1200 dpi



- Vertical Cavity Surface Emitting Laser
- High resolution of 1200 x 4800 dpi
- 40 laser beams on 1mm²



C751 – Technology

Models / Specification

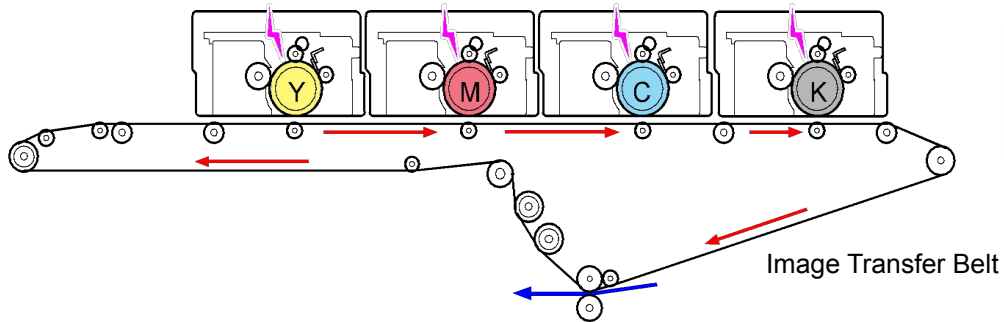
Printing Principle

Paper Path

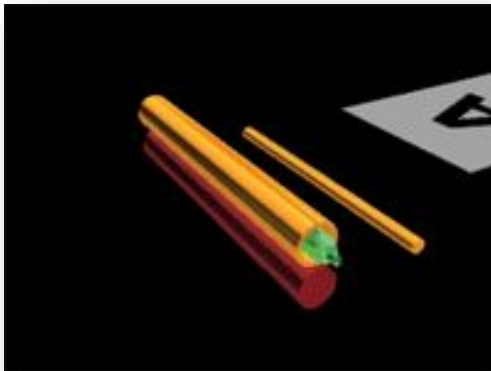
Finishing

Digital Print Manager

- Charging by rollers – no corona wires
- No ozon generation
- Low energy demand



Charging roller



Fusing unit





C751 – AC Technology

Models / Specification

Printing Principle

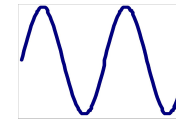
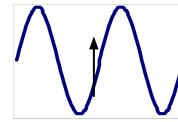
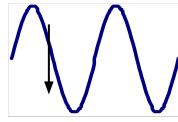
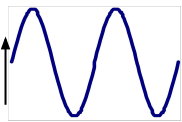
Paper Path

Finishing

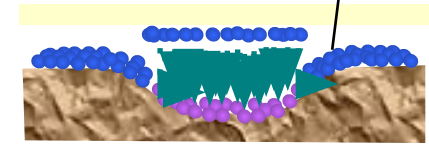
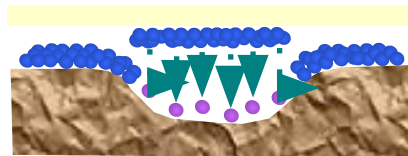
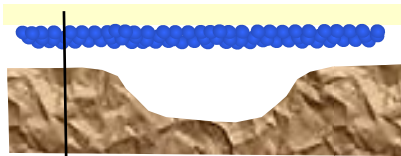
Digital Print Manager

- AC Technology enables a better toner transfer onto structured paper for better toner adhesion
- (standard in factory shipped machines from Jan 2013 – retrofit available in march 2013)

accumulating currency over time



Toner particles



structured print material

toner is partially transferred to the media.

Toner will be flicked to ITB and increase adherence ability of other toner.

more toner can be transferred to the media

Image Transfer Belt

DC Transfer



AC Transfer



better adhesion



3. Paper Path



Paper Path

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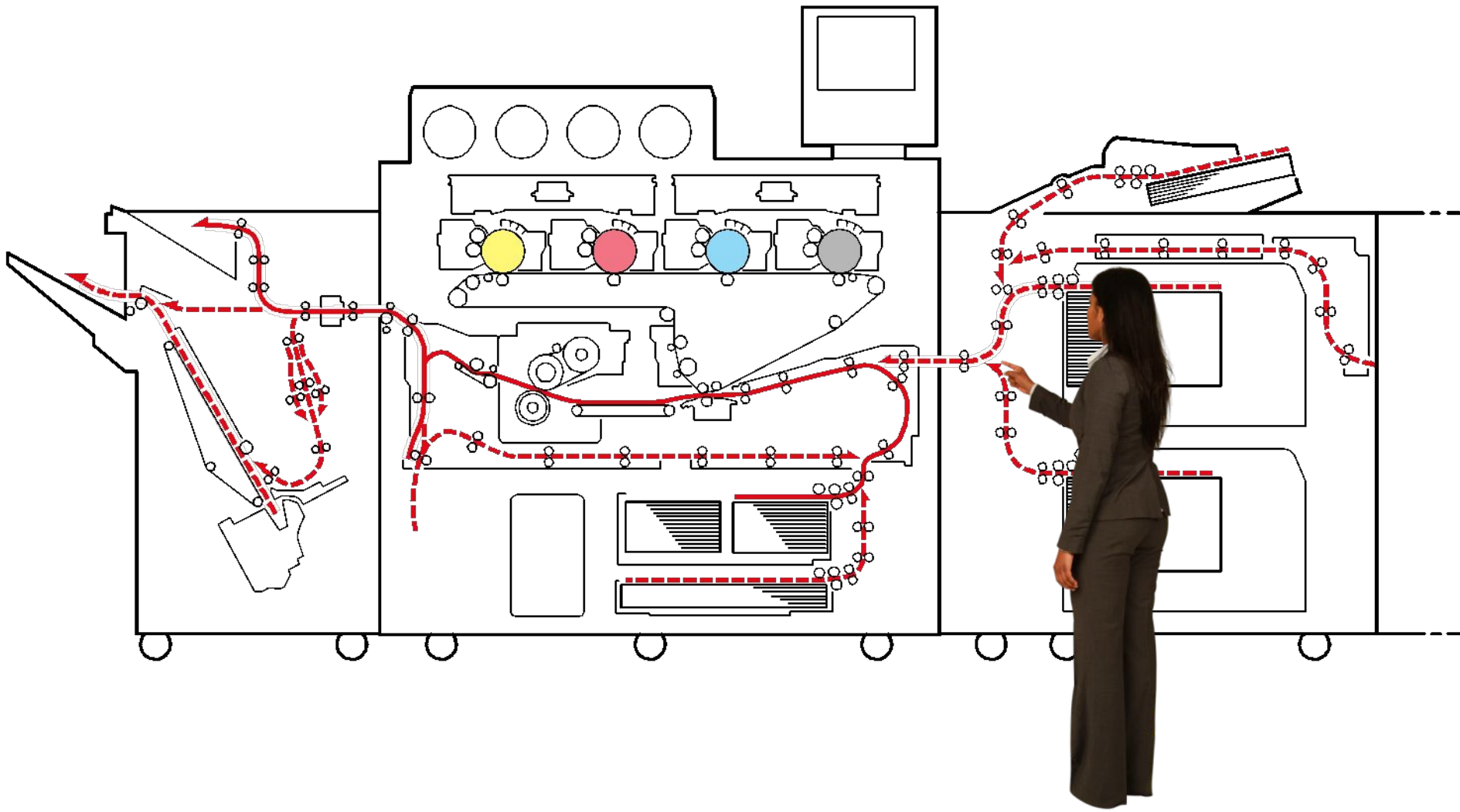
Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager



Paper Feed

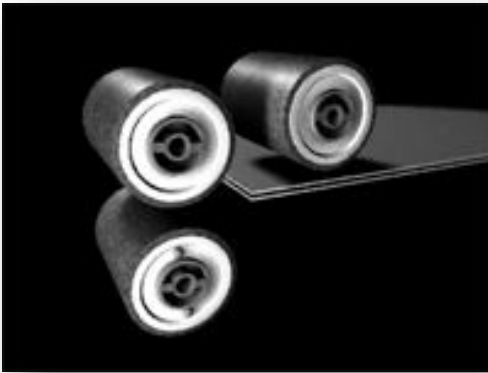
Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager



Friction rollers



Double sheet push back roller



Media Registration

Models / Specification

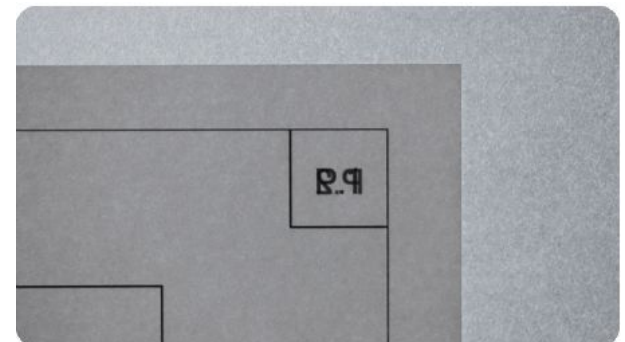
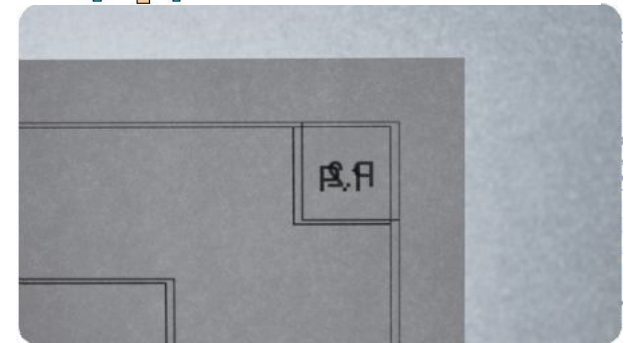
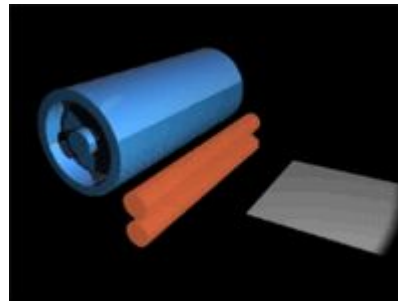
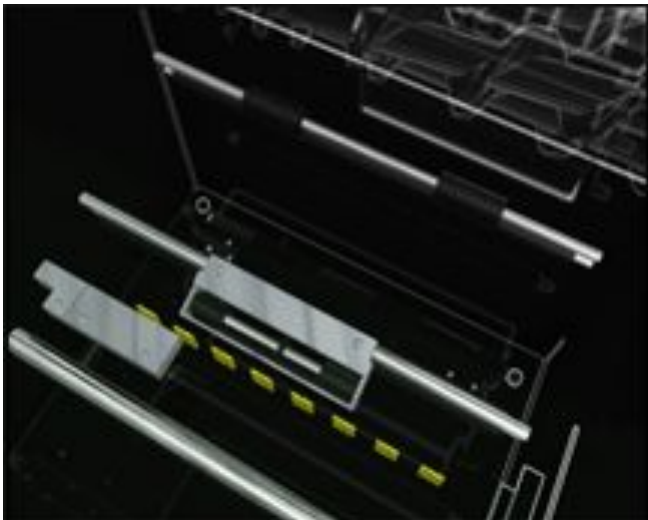
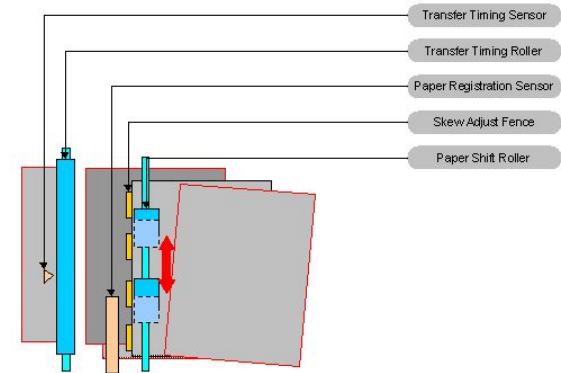
Printing Principle

Paper Path

Finishing

Digital Print Manager

- Active registration
- Mechanical accuracy (sheet to sheet $\pm 0,5\text{mm}$ (A4))
- Paper shrink compensation (C751)



Decurler

Models / Specification

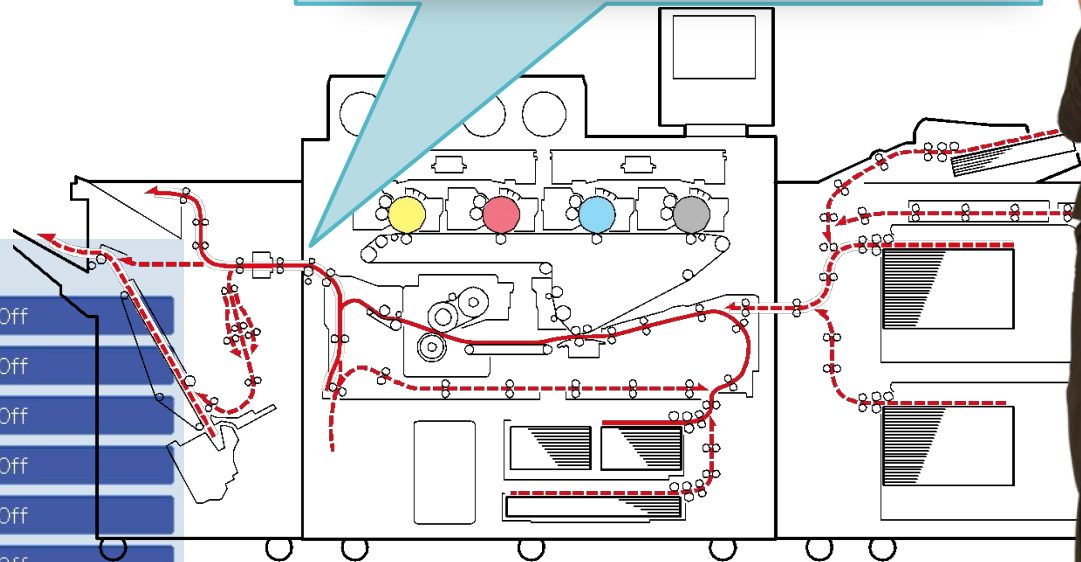
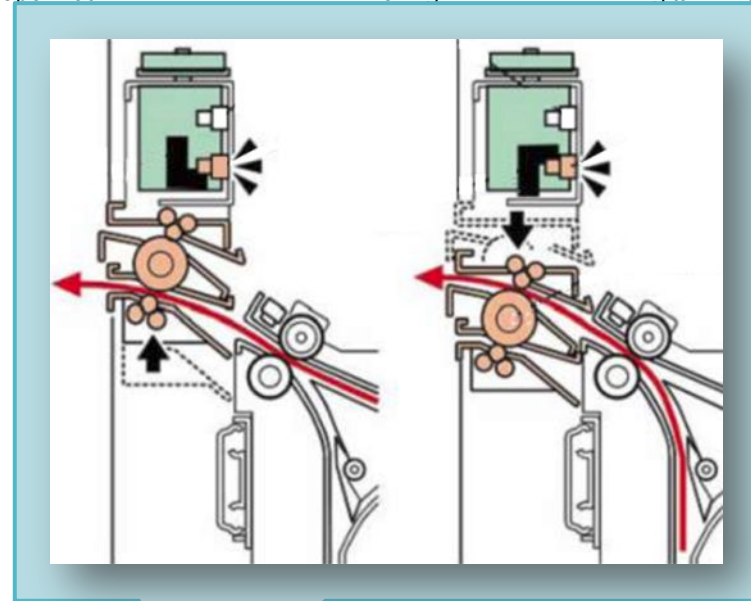
Printing Principle

Paper Path

Finishing

Digital Print Manager

- The operator is able to set decurling rate individual per tray.
- Improves stackability and further inline finishing



0116 : Adjust Paper Curl

01	Tray 1	Adjust <input type="checkbox"/> Curl: Off
02	Tray 2	Adjust <input type="checkbox"/> Curl: Off
03	Tray 3	Adjust <input type="checkbox"/> Curl: Off
04	Tray 4	Adjust <input type="checkbox"/> Curl: Off
05	Tray 5	Adjust <input type="checkbox"/> Curl: Off
06	Tray 6	Adjust <input type="checkbox"/> Curl: Off

Operator Replaceable Units (ORU)

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

Set A



Paper Feed Roller



Drum cleaning unit



Paper transfer roller unit



Developer C901 only



Dust Filter



Belt cleaning unit



Charge unit



OPC

Set B



Fusing Unit

4. Finishing



C751 Inline Multifold Unit

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Models / Specification

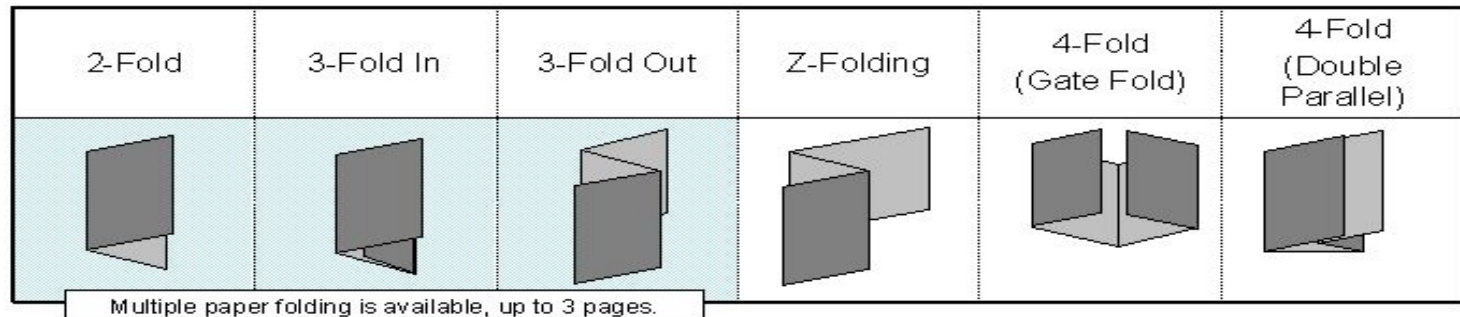
Printing Principle

Paper Path

Finishing

Digital Print Manager

- Six folding schemes
- Multi sheet folding
- Uncoated media up to 105 gsm



Inline Finishing

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

Ring-binder

- Up to 100 sheets per set



Booklet -Finisher

- Up to 20 sheets (80 pages)



Perfect- binder (glue-binder)

- Up to 200 sheets



Plockmatic

- 2 -30 sheets (up to 120 pages)



5. Digital Print Manager



Command Workstation

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

Productivity



Color & Quality



Flexibility



Adding
Value
To The
Workflow



Prinect Digital Print Manager

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Models / Specification

Printing Principle

Paper Path

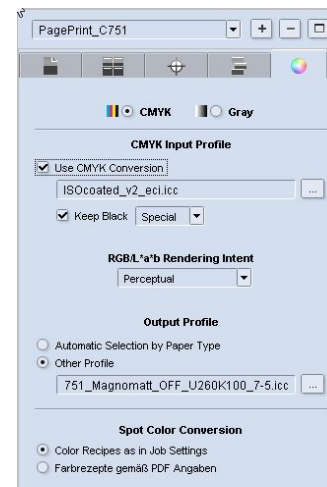
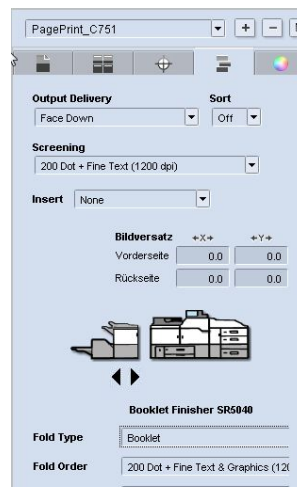
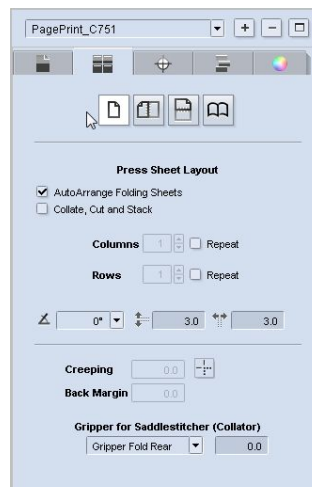
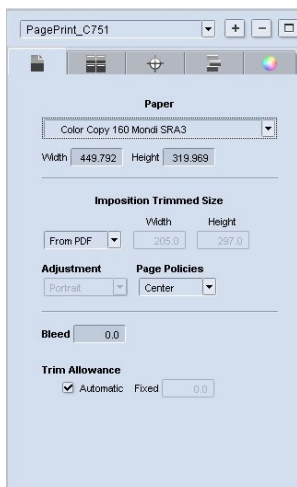
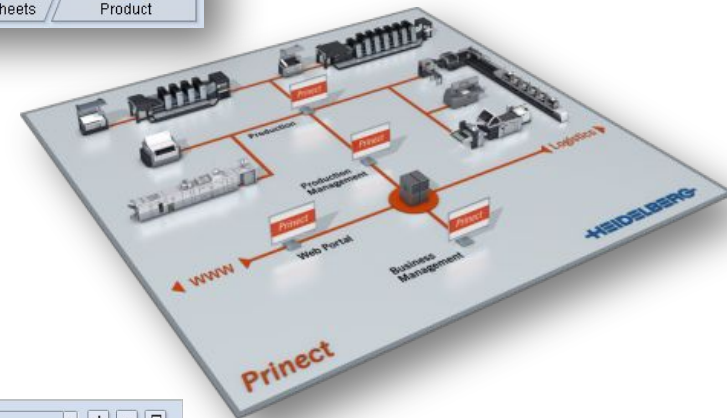
Finishing

Digital Print Manager

- Job based production
- Integrated page positioning tool



- Integrated Color Management
- Support for hybrid production
- Scheduling and cost planning



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