

# Media Qualification

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– 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

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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 / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

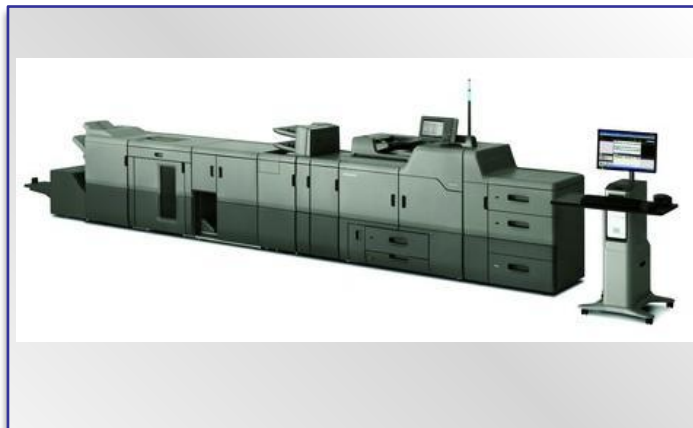


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*Pro C901*



**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

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## 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

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Models / Specification

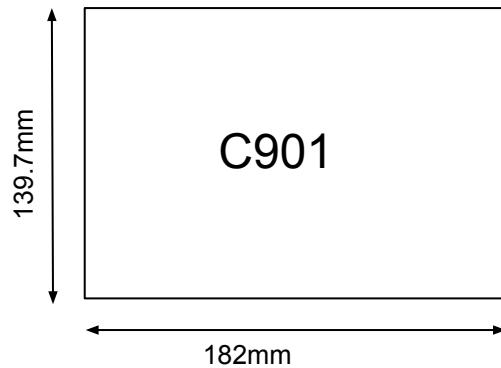
Printing Principle

Paper Path

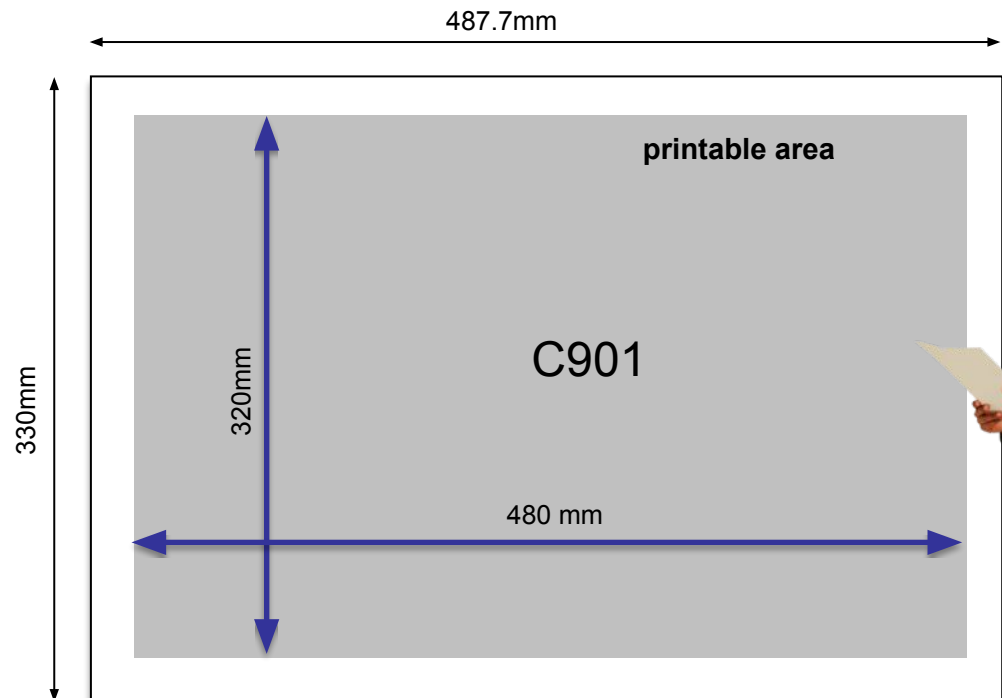
Finishing

Digital Print Manager

min. paper size



max. paper size



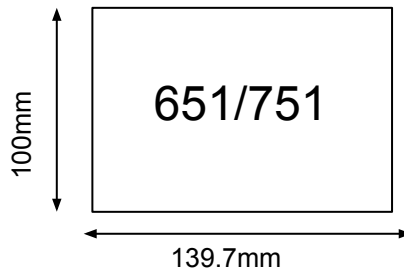


# C751 – min. & max. paper sizes and print formats

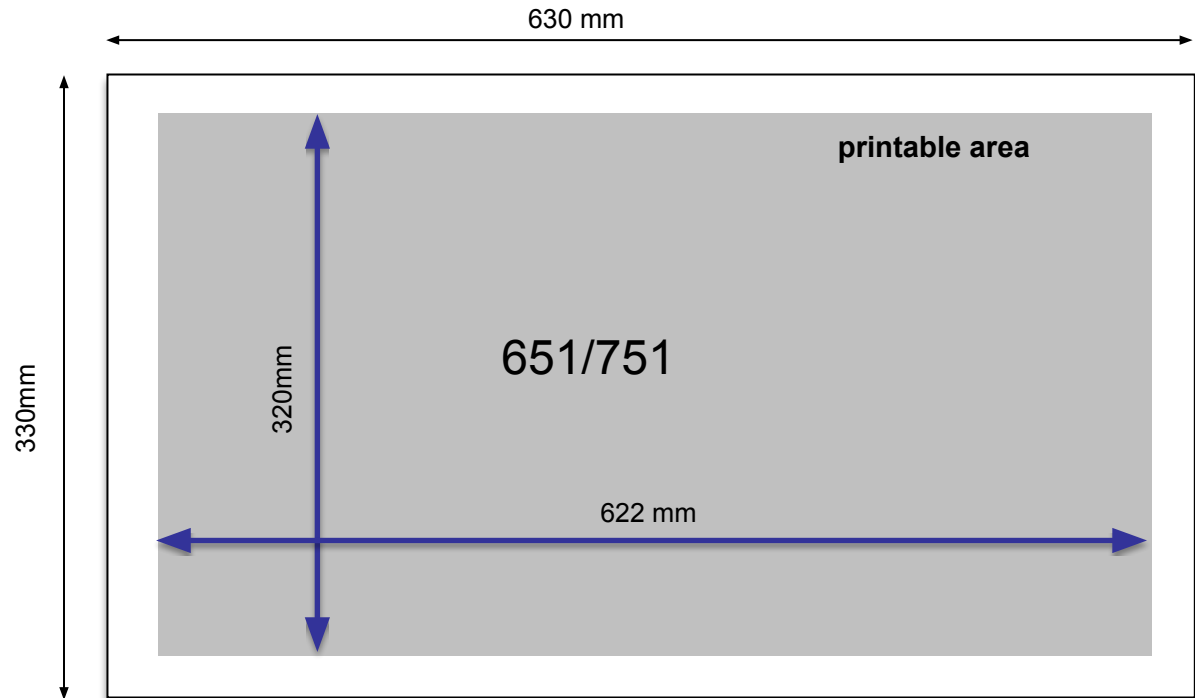
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min. papers size



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. Grammaturess: 60-350 gsm . Paper weight 1-7. Multi • Paper weight 1 only uncoated. • Envelopes C5/C4 format only, minimum paper weight 5 <b>*) different to C751</b>					
Total maximum		11,000 sheets			



# C751 – Media capacity and weight

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

## 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 <sup>*)</sup> – 330x480	52.3 – 256 gsm	
A3 LCT (Option)	3rd tray	1000	100x140 <sup>*)</sup> – 330x480	52.3 – 256 gsm	All Media
	4th tray	2000	100x140 <sup>*)</sup> – 330x480	52.3 – 300 gsm	
	5th tray	1000	100x140 <sup>*)</sup> – 330x480	52.3 – 256 gsm	
Multi Bypass (Option)	6th tray	500	100x140 <sup>*)</sup> – Banner (330x630) <sup>*)</sup>	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 <sup>*)</sup> different to C901					
Total maximum		7,000 sheets			

## 2. Printing Principle





# Xerografical Principal

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Models / Specification

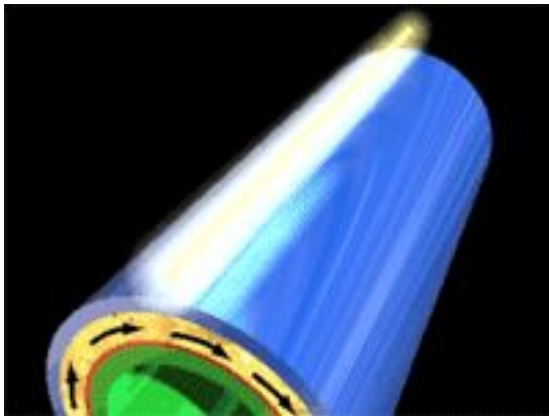
Printing Principle

Paper Path

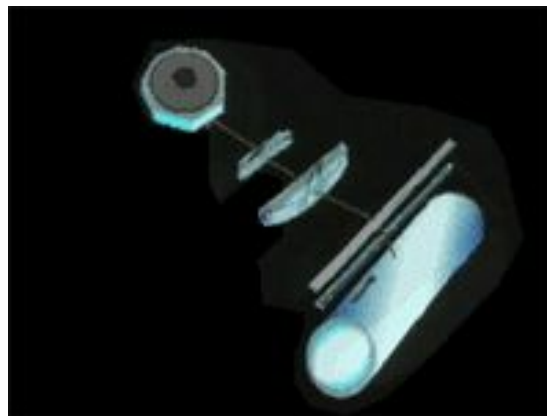
Finishing

Digital Print Manager

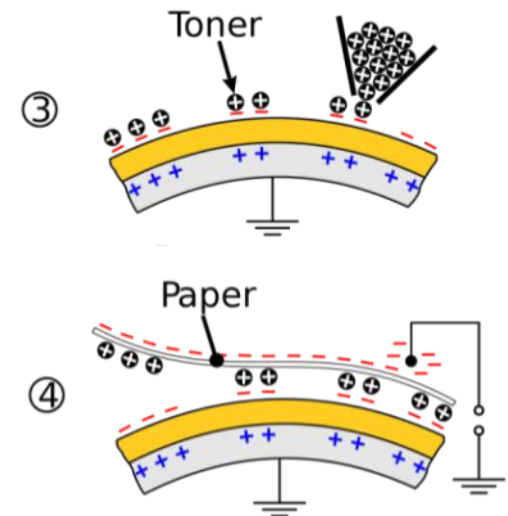
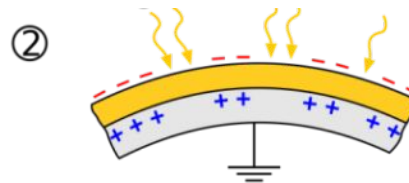
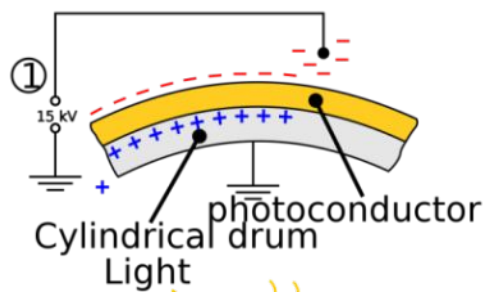
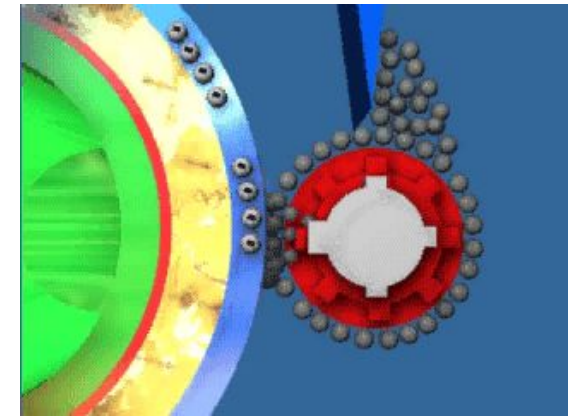
## 1. Charging of drum



## 2. Discharging with LASER



## 3. Toner transfer to drum



Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

- Oil free dry-toner
- Particle size only 5  $\mu\text{m}$
- Active toner control for constant density



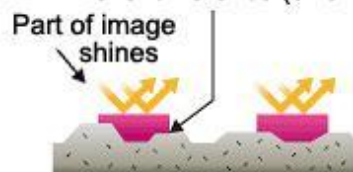
Toner does not attach uniformly due to uneven fibers



In case mass of deposit is decreased

(a) Conventional toner

Level difference (swelling)



In case mass of deposit is increased

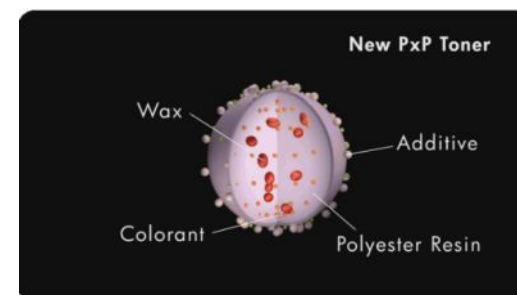
(b) Conventional toner

Toner taken thinly and uniformly



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

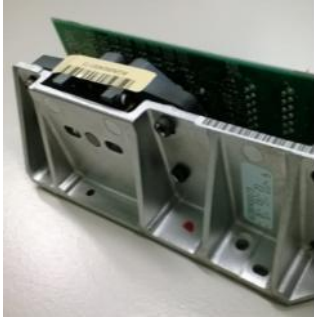
Printing Principle

Paper Path

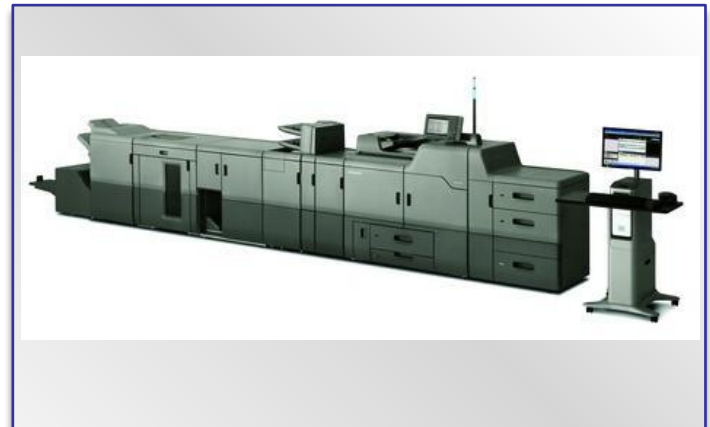
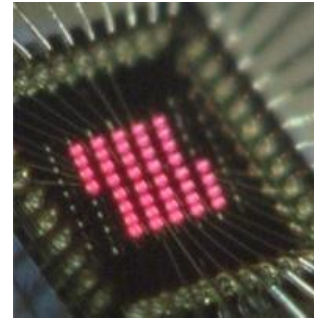
Finishing

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 1mm<sup>2</sup>



# C751 – Technology

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Models / Specification

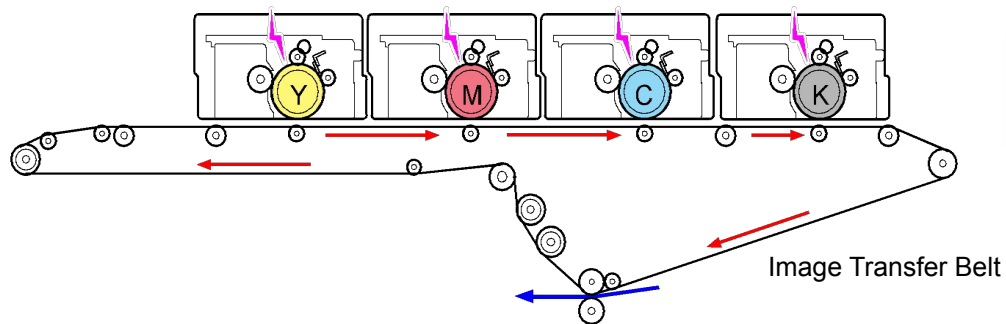
Printing Principle

Paper Path

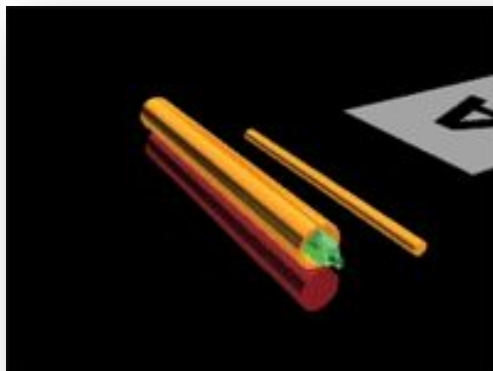
Finishing

Digital Print Manager

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



Charging roller



Fusing unit





# C751 – AC Technology

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Models / Specification

Printing Principle

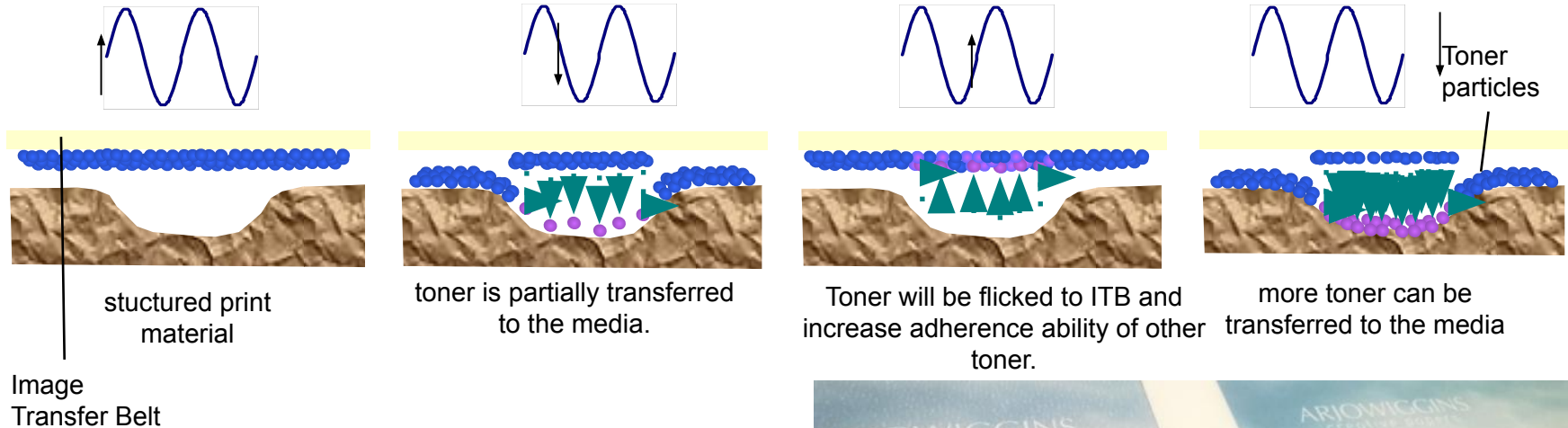
Paper Path

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



**DC Transfer**



**AC Transfer**



better adhesion





## 3. Paper Path



# Paper Path

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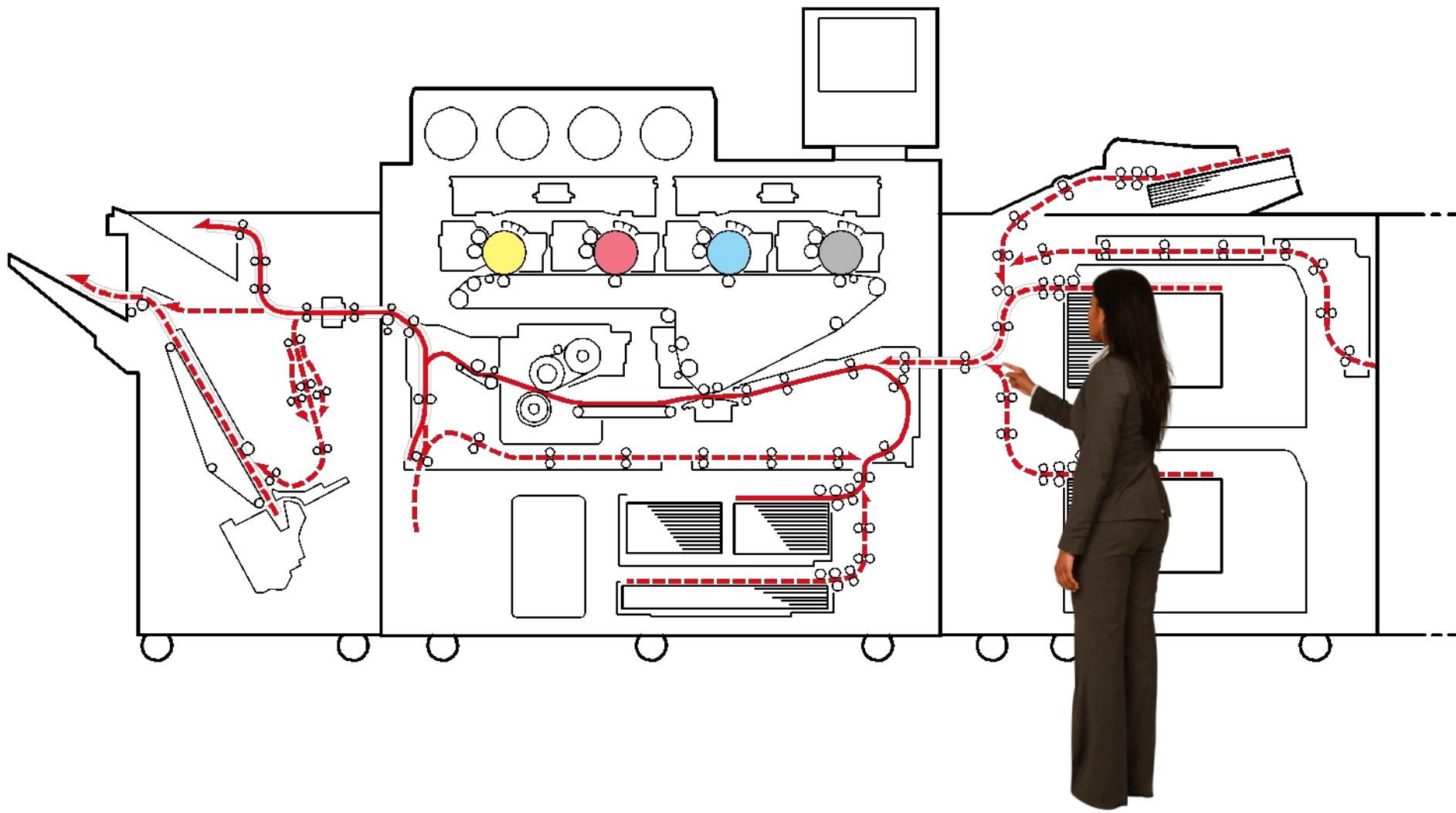
Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager



# Paper Feed

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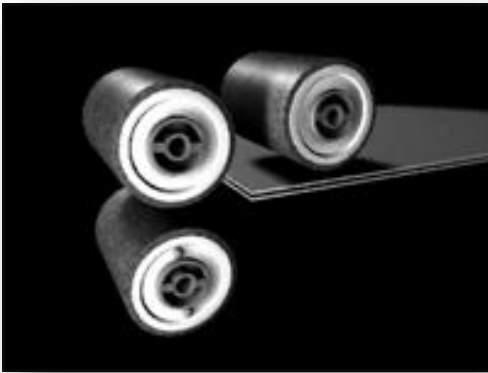
Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager



Friction rollers



Double sheet push back roller



# Media Registration

Models / Specification

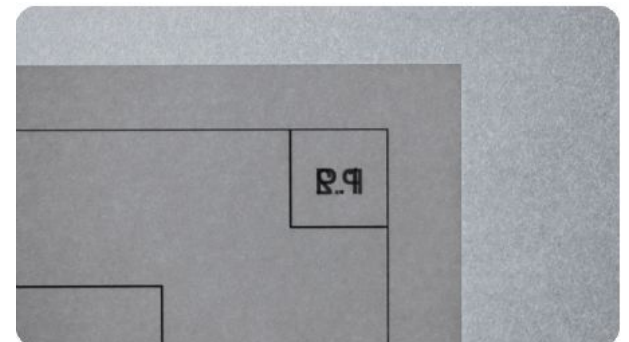
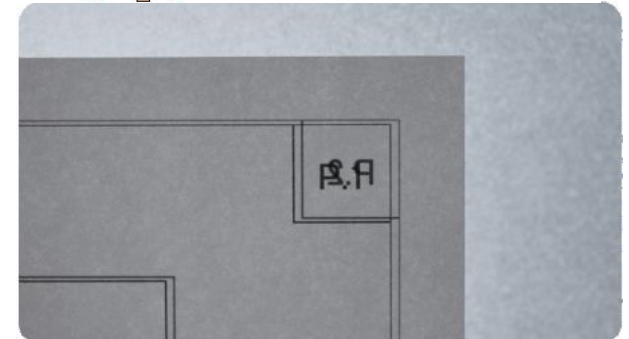
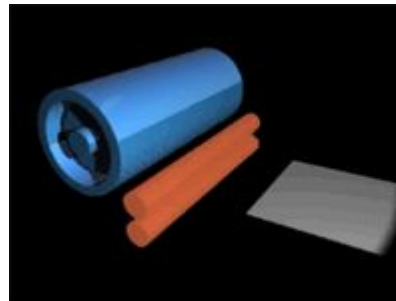
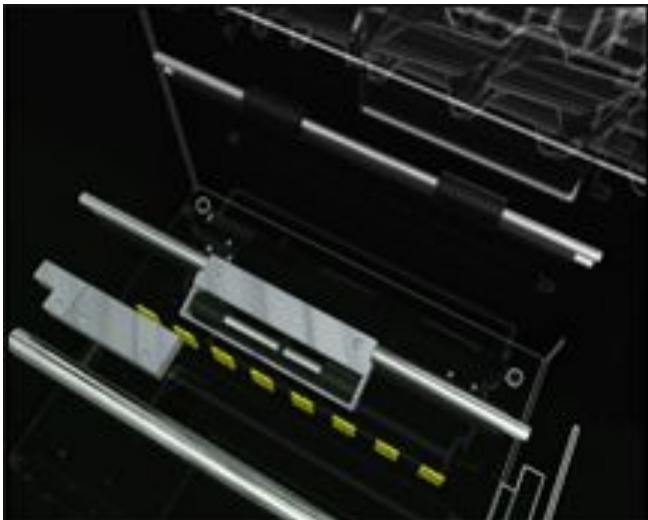
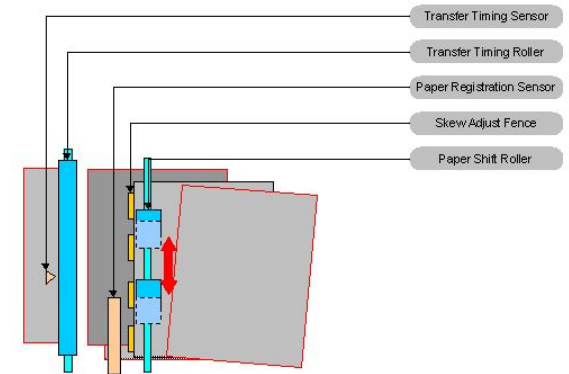
Printing Principle

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

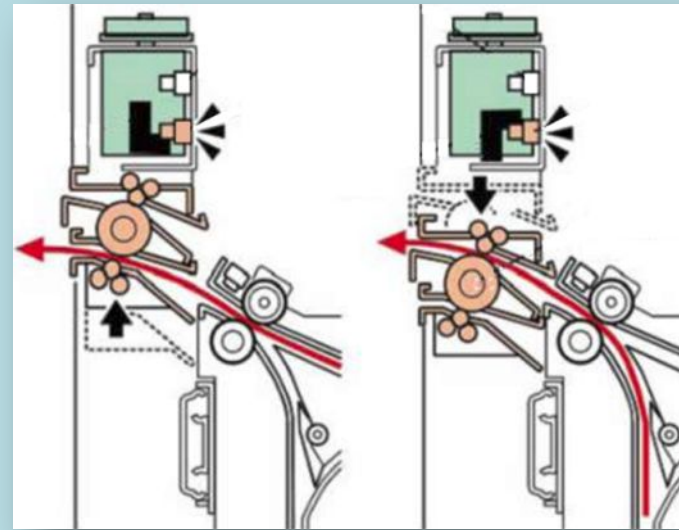
Printing Principle

Paper Path







Finishing

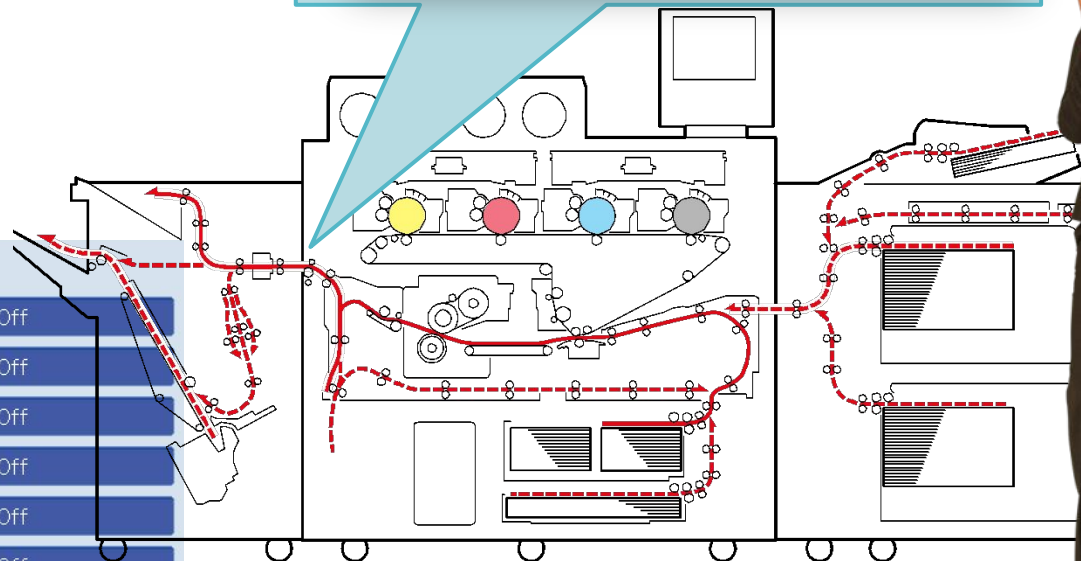
Digital Print Manager

- 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  Curl: Off
02	Tray 2	Adjust  Curl: Off
03	Tray 3	Adjust  Curl: Off
04	Tray 4	Adjust  Curl: Off
05	Tray 5	Adjust  Curl: Off
06	Tray 6	Adjust  Curl: Off





# Operator Replaceable Units (ORU)

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

## Set A



**Paper Feed Roller**



**Drum cleaning unit**



**Paper transfer  
roller unit**



**Dust Filter**



**Belt cleaning unit**



**Charge unit**



**Developer  
C901 only**



**OPC**

## Set B



**Fusing Unit**

## 4. Finishing





# C751 Inline Multifold Unit

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Models / Specification



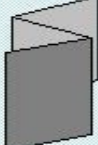
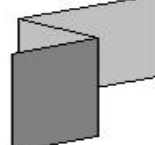
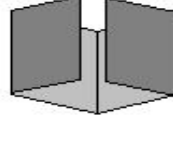
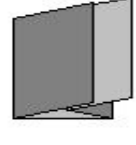
Printing Principle

Paper Path

Finishing

Digital Print Manager

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

2-Fold	3-Fold In	3-Fold Out	Z-Folding	4-Fold (Gate Fold)	4-Fold (Double Parallel)
					
Multiple paper folding is available, up to 3 pages.					





# Inline Finishing

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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

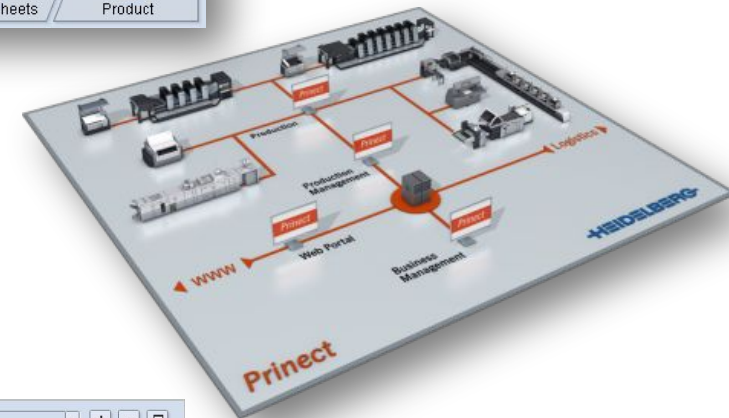
Finishing

Digital Print Manager

- Job based production
- Integrated page positioning tool



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



PagePrint\_C751

**Paper**

Color Copy 160 Mondri SRA3

Width 449.792 Height 319.969

**Imposition Trimmed Size**

From PDF Width 205.0 Height 297.0

**Adjustment** Portrait **Page Policies** Center

Bleed 0.0

**Trim Allowance**  
☒ Automatic Fixed 0.0

PagePrint\_C751

**Press Sheet Layout**

☒ AutoArrange Folding Sheets  
☐ Collate, Cut and Stack

Columns 1 Repeat  
Rows 1 Repeat

Creeping 0.0  
Back Margin 0.0

**Gripper for Saddlestitcher (Collator)**  
Gripper Fold Rear 0.0

PagePrint\_C751

**Output Delivery** Face Down **Sort** Off

**Screening** 200 Dot + Fine Text (1200 dpi)

**Insert** None

**Bildersatz**  
Vordersette 0.0  
Rückseite 0.0

**Booklet Finisher SR5040**

**Fold Type** Booklet  
**Fold Order** 200 Dot + Fine Text & Graphics (1200 dpi)

PagePrint\_C751

**CMYK Input Profile**

☒ Use CMYK Conversion  
ISOcoated\_v2\_eci.icc

☒ Keep Black Special

**RGB/L\*a\*b Rendering Intent**  
Perceptual

**Output Profile**

☐ Automatic Selection by Paper Type  
☒ Other Profile  
751\_Magnomatt\_OFF\_U260K100\_7-5.icc

**Spot Color Conversion**

☒ Color Recipes as in Job Settings  
☐ Farbrezepte gemäß PDF Angaben

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