



durst

Durst Epsilon Plus V3.7 Medium Format Photoprinter



Pictures move the world. Pictures get to the heart of things that many words are often not able to say. The Durst Epsilon Plus brings pictures to life. Rich in contrast, clear, succinct, and always in full color. To do so, we use our LED fiber-optic technology, which is among the most advantageous possibilities for the reproduction of digital image data on photographic materials such as paper or film.

The principal is extremely simple: monochrome LEDs produce light and send it by means of a fiber-optic cable and special optics. The LEDs expose the picture at hand pixel by pixel, line by line on the light-sensitive photographic material. The results can be seen: pictures that come alive. Printed photo quality - Durst Epsilon Quality Prints.

Durst Epsilon Plus with V3.7 Software, the „Medium Format Photo Printer“ for Digital Image Production

The Durst Epsilon Plus is a digital photographic printer, equipped with special LED exposure technology and continuous „roll to roll“ paper transport, which makes it possible to expose pictures or series of pictures in one piece up to 85 m. (279 ft.) in length. The digital image and text files are exposed with a resolution of 254 ppi on conventional RA4 photographic material (paper and film). Through the use of roll material, various picture formats are possible up to a maximum roll width of 76.2 cm. (30 in.) and a total length of 85 m. (279 ft.)

A Pentium PC using Windows XP handles the control of the exposure equipment and at the same time serves the user as a workstation.

The software V3.7 and user interfaces have been specially designed for digital image production. A series of practice-related software functions fulfills the high demands and the most varied desires of customers in the digital image production sector. With its innovative technology, the Durst Epsilon Plus achieves an economically-viable production capacity with the highest image quality and thus makes possible a successful entry into the world of digital image production.



Durst Epsilon Plus – the Greatest Possible Flexibility with Materials, Image Sizes, and File Formats

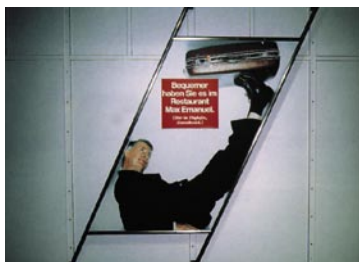
Much is possible with a Durst Epsilon Plus. In addition to the high quality prints of any size, the well-versed multitalent of Durst also handles special tasks, such as the printing of advertising panels, backlit images, albums, brochures, etc.

The material utilized varies according to use and includes all RA4 photographic papers and transparent materials in different models and sizes.



Tradeshows/Advertising

Large format images in photo-realistic quality bring colors and presence to trade shows, meetings, conferences, seminars, etc.



Paneling

Advertising panels that grab the attention and are resistant to environmental influences are also covered by the Durst Epsilon Plus. Resistant, non-fading RA4 materials, such as paper, flex, trans, and clear, can be printed upon.



Backlighting

Whether at trade shows, exhibitions, or in public places: a professionally set up light box is always at the center of attention. The transparent material makes possible image reproductions with optimal luminous power and a long duration.

Photographic Image Quality Arouses Emotions and Draws Attention



Photo albums

The Durst Epsilon Plus provide services worth seeing, even with the printing of photo albums, travel albums, wedding albums, and more.

Thanks to the digital image processing, no limits are posed in the creativity of the layout. The high color quality makes sure that the value of these works does not fade through the course of the years.

Direct Exposure of Digital Image and Text Files on Photographic RA4 Material

Epsilon „LED prints“ are images with a resolution of 254 ppi continuous tone, which corresponds to 1,250 dpi with an inkjet print, uniting advantages of traditional photography (large color space, favorably priced basic materials, infinitely-variable color palette, three-dimensional representation perception) with the advantages of digital image processing. Small and large photos are exposed directly from the file on conventional photographic materials without the time-consuming detour of a negative.

The Durst Epsilon Plus offers the greatest flexibility in the processing of different image formats. Images can be produced without limitation on size, from the smallest scale of an illustration to the largest format poster (with automatic division into panels). With user-friendly software, image sectors, PG series, package prints, and panorama pictures are optimally positioned and exposed on the production medium.

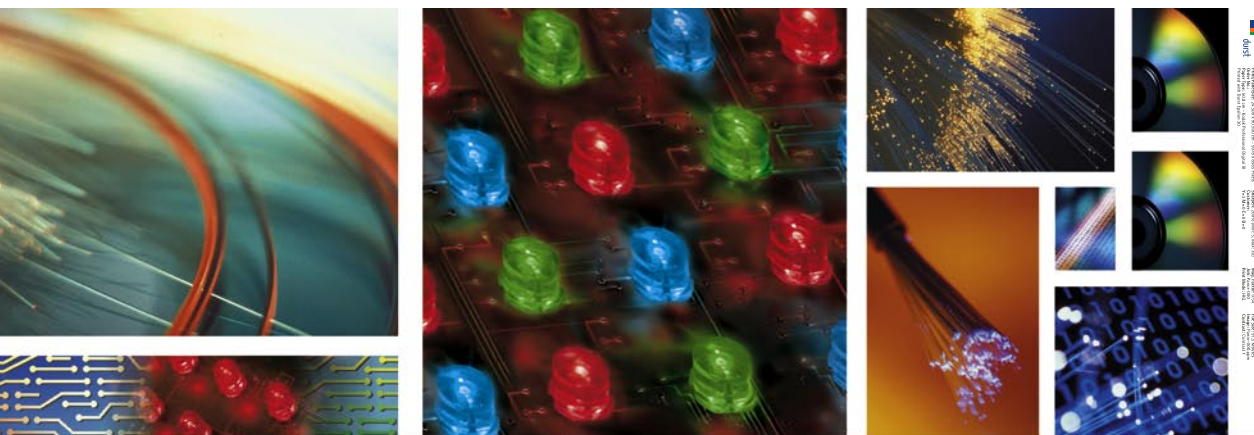


LED Fiber-Optic Technology

New image definition/sharpness with Epsilon Plus V3.7

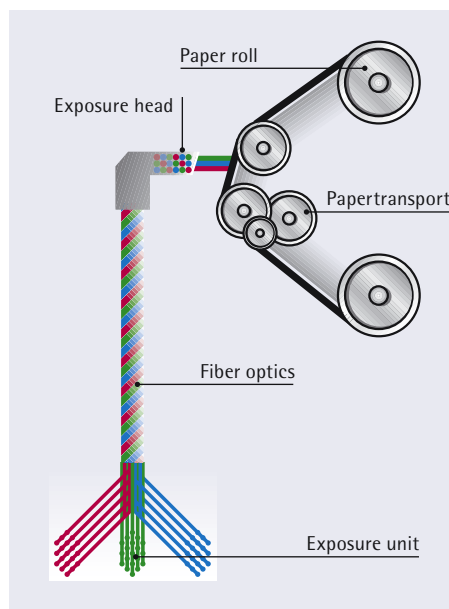
Your advantages

- Compared to the previous system, image detail reproduction and the overall image appear much sharper than before
- This is specially visible on smaller print sizes and in case an image contains fine details. This new image definition is comparable with a Lambda print produced at 200 ppi.



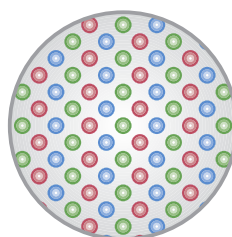
Fiber optics

The eyes of bees are composed of approximately 9,000 facets or lenses. In fractions of a second, they capture images and transfer them over the nerve fibers to the brain, where the individual images are reassembled into a total image. The glass fibers of the Durst Epsilon Plus have similar functions – they transfer the light of the LEDs punctually and per color onto the photographic paper and reassemble the image that had been digitally disassembled back into an analog total picture. Such glass fibers, which were first developed around 1970, are composed of an inner core with a high refractive index and a covering with a low effective index. The total reflection between the two materials prevents the „escape“ of light, which is conducted through the inner core up until the exit at the end of the fiber.



LEDs

LEDs (light emitting diodes) are special semiconductor diodes which convert current directly into light. LEDs emit only monochromatic light, and the color of the light is dependent upon the substrate and the phosphide emitting layer. LEDs are extremely robust, demonstrate a lifetime of 100,000 hours, and use up to 80 percent less energy compared to incandescent bulbs.

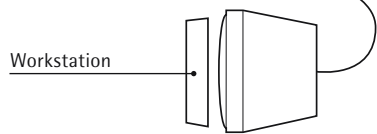
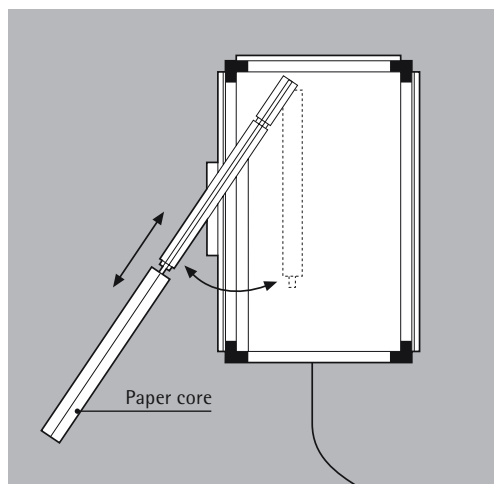
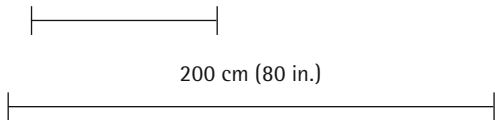


Floor Space Requirements/Installation Possibilities

Recommended installation variations:

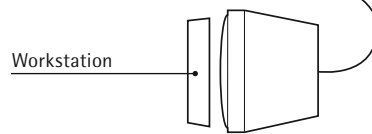
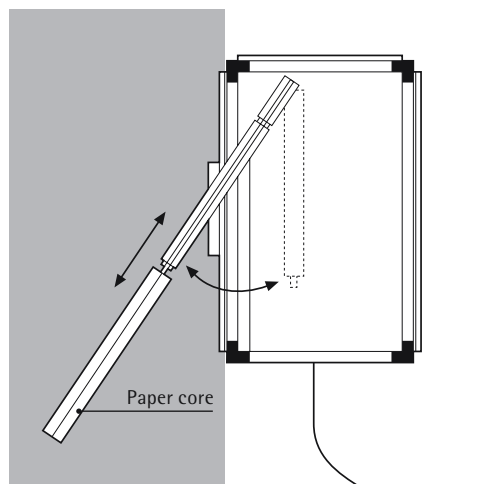
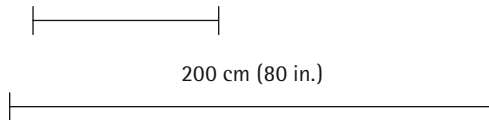
Printer in the darkroom and workstation in the light room

Floor space requirements for the loading and unloading of paper
100 cm (40 in.)



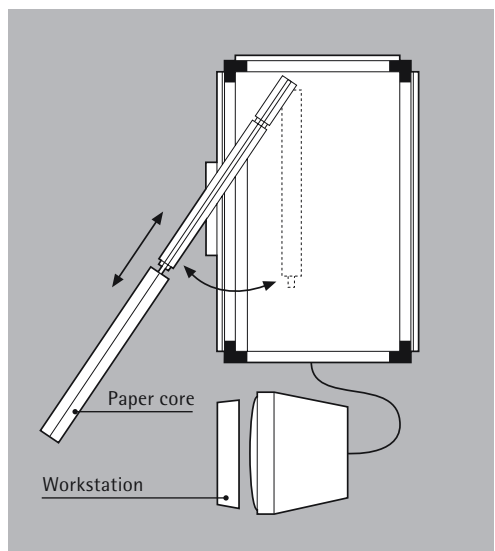
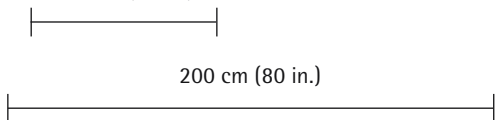
Wall-mounted printer with darkroom loading section, printer and workstation in the light room

Floor space requirements for the loading and unloading of paper
100 cm (40 in.)

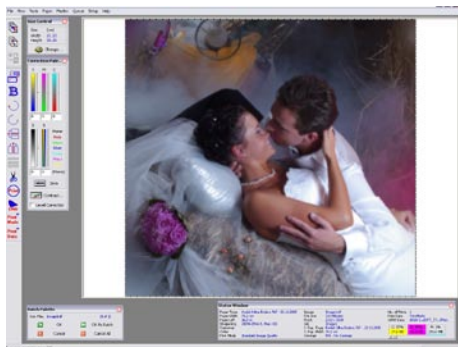


Complete system in the darkroom

Floor space requirements for the loading and unloading of paper
100 cm (40 in.)

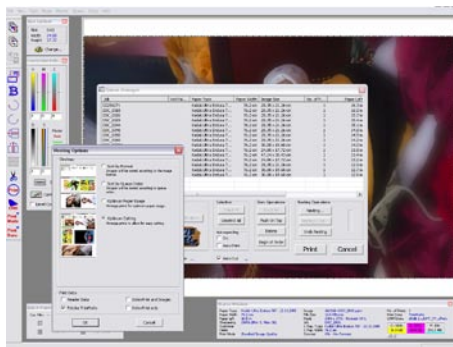


Features of the Software V 3.7



Softproofing

Images are displayed on the screen, using appropriate input and output ICC profiles, to simulate the color gamut of the used media -> "What You See Is What You Get". The system includes the EyeOne Display calibration tool form Gretag Macbeth for monitor calibration.



New Autonesting strategies

There are four (4) different options on how print sizes can be layout on the available roll width on panels, with the option of printing Fotoba Trim Marks.

Sort by Format

Images will be layout according to the print size. That means all images with the same print size will be grouped together.

Sort by Queue Order

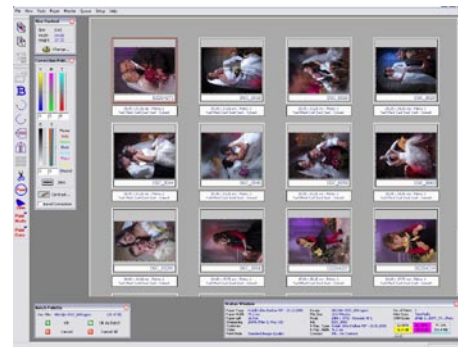
Images will be layout according to the queue order. That means all images regardless of their size will remain in order sequence.

Optimum Paper Usage

Images will be layout to minimize waste. Images get layout according to the best available space, regardless of the order sequence.

Optimum Cutting

Images will be layout to minimize waste, but at the same time arranged for easy cutting. That means that images get layout according to the best available space, regardless of the order sequence.



Thumbnail preview with soft proof

that allows to open multiple files and to preview them in thumbnail size for a fast inspection and image correction, that greatly reduces image correction times and increases productivity.

True Color Management Workflow

suitable for TIFF and JPEG Files, allowing true ICC conversion of files through input profiles (default and/or embedded) and output profiles. The same profiles are used to simulate the image at the screen.

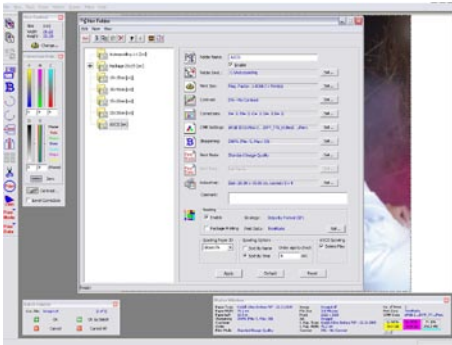
Proportional image cropping

In addition to the available cropping options, you can make now proportional cropping by positioning the cursor over the cropping mark corner and moving the cropping marks diagonally. This way, the horizontal and vertical cropping marks will be moved at the same time, maintaining the aspect ratio of the set print size.



On-screen image correction

A dedicated correction keyboard is used to apply any kind of color, density, contrast and/or saturation correction to individual or multiple images. Corrections can also be made using the correction sliders on the monitor.



New Autospooling software with sub-folders + name extension and also with the Durst ASCII-File for a fully automated workflow.

The software is using hot folder for automatic spooling and printing of jobs containing single files and multiple files. You can create as many hot folder as needed to suit various applications.

There are 3 auto-spooling modes:

a) spooling individual files

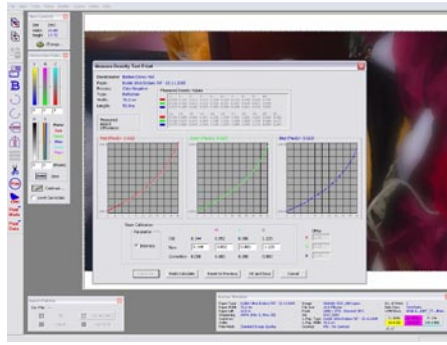
Copy the files for printing into the requested hot folder. They are automatically copied to the print queue applying the preset hot folder parameters, where after the files are nested and printed.

b) spooling files using folders

Copy the files for printing into a folder name the folder, than copy the entire folder into the requested hot folder. This way all files within the named folder are identified as one (1) order. They are automatically copied to the print queue applying the preset hot folder parameters, where after the files are nested as one print job and printed.

c) spooling with ASCII files

ASCII files contain all needed job instructions for the individual files to be printed. To the hot folder, only ASCII files are sent. The corresponding images files are automatically picked up from the server, corrections are applied, where after the files are nested as one print job and printed.

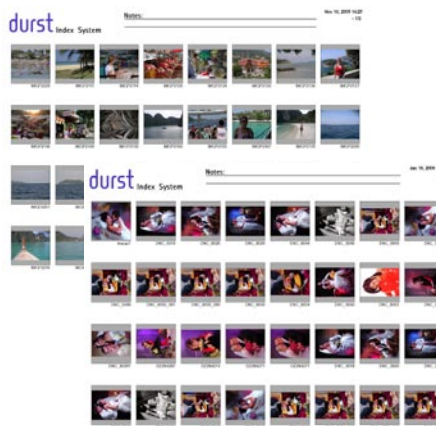


Calibration

The basis for the problem-free reproduction of high-quality images is precise calibration. For that, different test files are printed. These test images are read in through the densitometer and through a flatbed scanner, and the corresponding corrections for density and image quality are automatically corrected in the exposure system. In a few steps, even materials (paper and film) with wide variations are calibrated. With the use of the same material type or for quality controls in between, a quick recalibration suffices.

Your advantages with the Software V3.7

- Improved workflow with true color management software
- Increased image quality with Softproofing and on-screen color & density correction
- Faster operation, as all necessary image corrections can now be done directly on the printer workstation.
- Nesting program that includes Fotoba trim marks, thus allowing the use of an economically priced cutting system.
- Improved and more flexible Autospooling workflow
- New service possibilities with index prints/contact sheets in any size
- Reduced calibration times



IndexPrint

Allows to create index prints on the workstation - but more important also directly via Autospooling, whereby print size, thumbnail size, background color etc. are freely definable.

Technical data

Production capacity (The capacity can vary depending upon the material used.)

Image format	Roll width	Number of adjacent pictures	Number of pictures/hour	Number of pictures/day (8h.)
13 x 18 cm (5 x 7 in.)	76 cm (30 in.)	6 horizontal	214	1.709
20 x 25 cm (8 x 10 in.)	76 cm (30 in.)	3 vertical	100	800
30 x 40 cm (12 x 16 in.)	61 cm (24 in.)	2 horizontal	42	333
50 x 76 cm (20 x 30 in.)	76 cm (30 in.)	1 vertical	13	105
76 x 100 cm (30 x 40 in.)	76 cm (30 in.)	1 horizontal	7	56

General Specifications

Power supply:

115 VAC \pm 10 %, single phase/
50-60 Hz (100-120 VAC), or
230 V AC \pm 10 %, single phase/
50-60 Hz (200-240 VAC)

Power Usage:

max. 500 VA

Dimensions:

Width: about 95 cm (37 in.)
Length: about 140 cm (55 in.)
Height: about 165 cm (65 in.)

Floor space requirements:

about 2 x 2 m (4 m²) (80 x 80 in.)

Weight:

approx. 400 kg (880 lb)

Safety and Standards

Specifications :
CE, GS, UL, CSA

Specifications for the Image Reproduction

Exposure System:

Fiber optic LED exposure
technology (RGB) with continuous
exposure from roll to roll

Lifetime of the LEDs:

approx. 100.000 h

Image quality:

Photographic image quality from
digital files

File formats:

- Grayscale-RGB-TIFF, PPM, JPEG,
and BMP
- PostScript Level 2/Level 3
(PS, PDF incl. CMYK, RGB, and
grayscale images) only
Type 1 fonts

Raster Image Processor (RIP):

Integrated Cheetah-RIP from Dice
America

Colors:

16.7 million colors

Color depth:

39 Bit

Color gradations:

256 RGB color gradations

Resolution:

254 ppi continuous tone, on-the-
fly pixel interpolation

Processable materials:

RA4 photographic material
RA4 transparency materials

Linear output speed:

approx. 110 mm/min = 5 sq. M./h

Please note:

The output speed can change
according to the material used.

Material and Transport Device

Material supply:

Single position roll supply (height
of the loading device approx. 130
cm./51 in.)

Take-up device:

Automatic material take-up system
that swings out, with automatic
cutting device

Material loading capacity:

Roll width	Roll length
30.5 cm (12 in.)	85 m (279 ft)
50.8 cm (20 in.)	85 m (279 ft)
61 cm (24 in.)	50 m (164 ft)
76.2 cm (30 in.)	50 m (164 ft)

Maximum roll length of the

exposed material:

85 m (279 ft)

Minimum image length:

1 cm (0.4 in.)

Minimum material feed:

about 40 cm. (15.7 in.) including
the exposed area

Unused material (waste) during

loading and after every cut:

approx. 2 cm. (1 in.)

Workstation

Image processor:

Pentium IV 3,0 GHz

RAM:

1,5 GB

Hard disk:

80 GByte

Disk drives:

- CD-ROM
- 3,5" diskette drive

Operating system:

Windows 2000, Workstation with
FTP Services (service programs)

Monitor:

19" color monitor

Graphics adapter:

32 Bit for the display of True Color,
32 MByte

Network protocol:

TCP/IP

Interfaces:

- USB for connection to external
devices
- Fast Ethernet connection
(100 Base T) for the network
- RS 232
(for online Densitometer use)

Environmental conditions

Temperature range:

+15 °C to 30 °C (+59 °F to 86 °F)

Relative humidity:

25 to 80 %

Light:

The workroom must be darkened
during the loading and unloading
of material.



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AG

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