



Alpha Series

The Process Innovation for
Digital Textile Print

80

Years

Experience

Innovation

Sustainability



Durst. Advanced Digital Production Technology

Durst is the world's leading manufacturer of advanced digital production technologies. In our target business categories, Durst is the top choice and a preferred partner for the transformation and digitization of industrial production processes.

Durst is a family-owned company with an 80 year history of values focused on innovation, customer orientation, sustainability and quality.



Durst location in Brixen,
Italy



Durst location in Lienz,
Austria

Durst Textile Printing

Over the last ten years Durst has played a major role in adapting inkjet printing systems for use in large format printing, ceramic, glass, label, packaging and textile sectors. In 2010, Durst introduced the Rhotex 320, a direct sublimation textile printer which instantly set a new quality standard in the industrial soft-signage segment.

With Kappa 180, Durst unveiled a high-performance inkjet printer for the garment industry in 2011, followed by the Kappa 320 in 2013 for the production of printed home textiles. With the new Alpha Series printer generation, Durst is enhancing efficient production processes in order to further increase the cost-effectiveness of digital textile printing at industrial level.



Alpha 330

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Alpha 190

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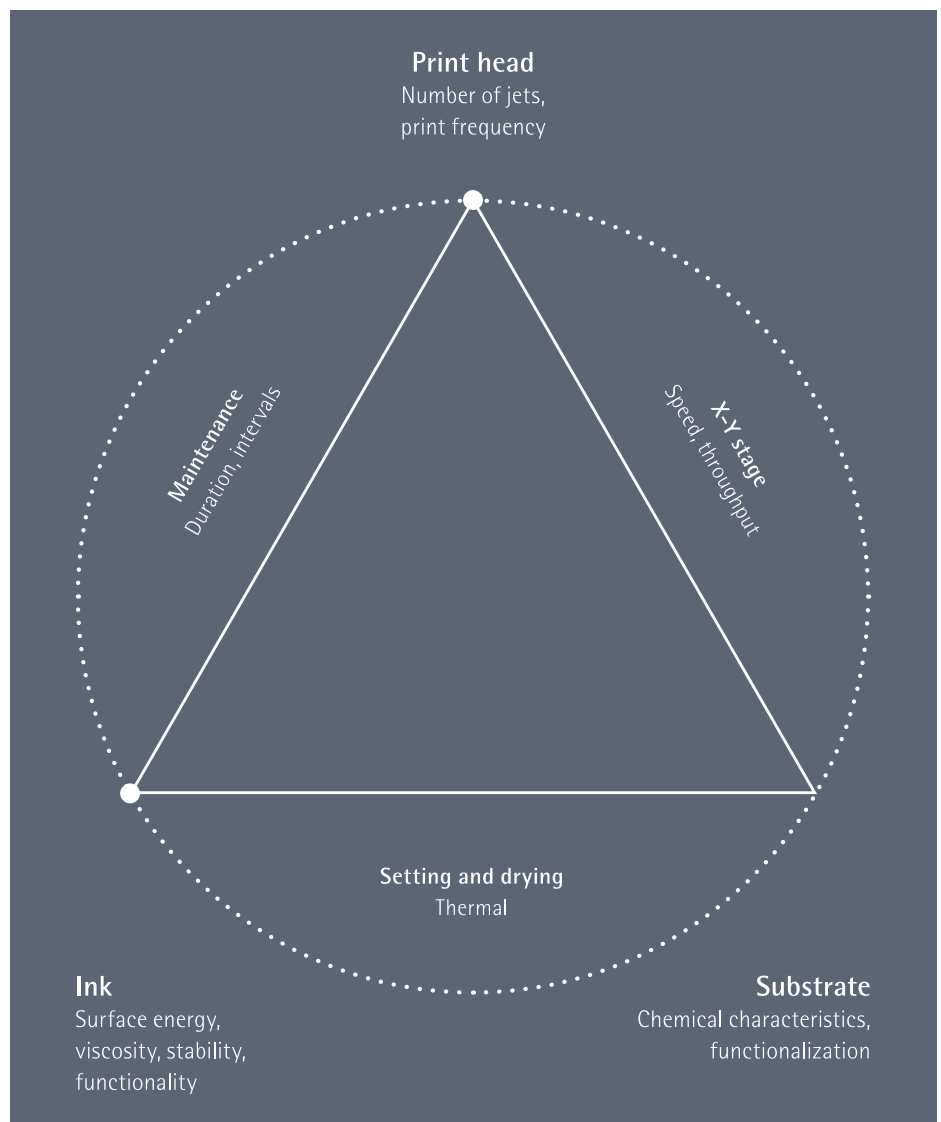


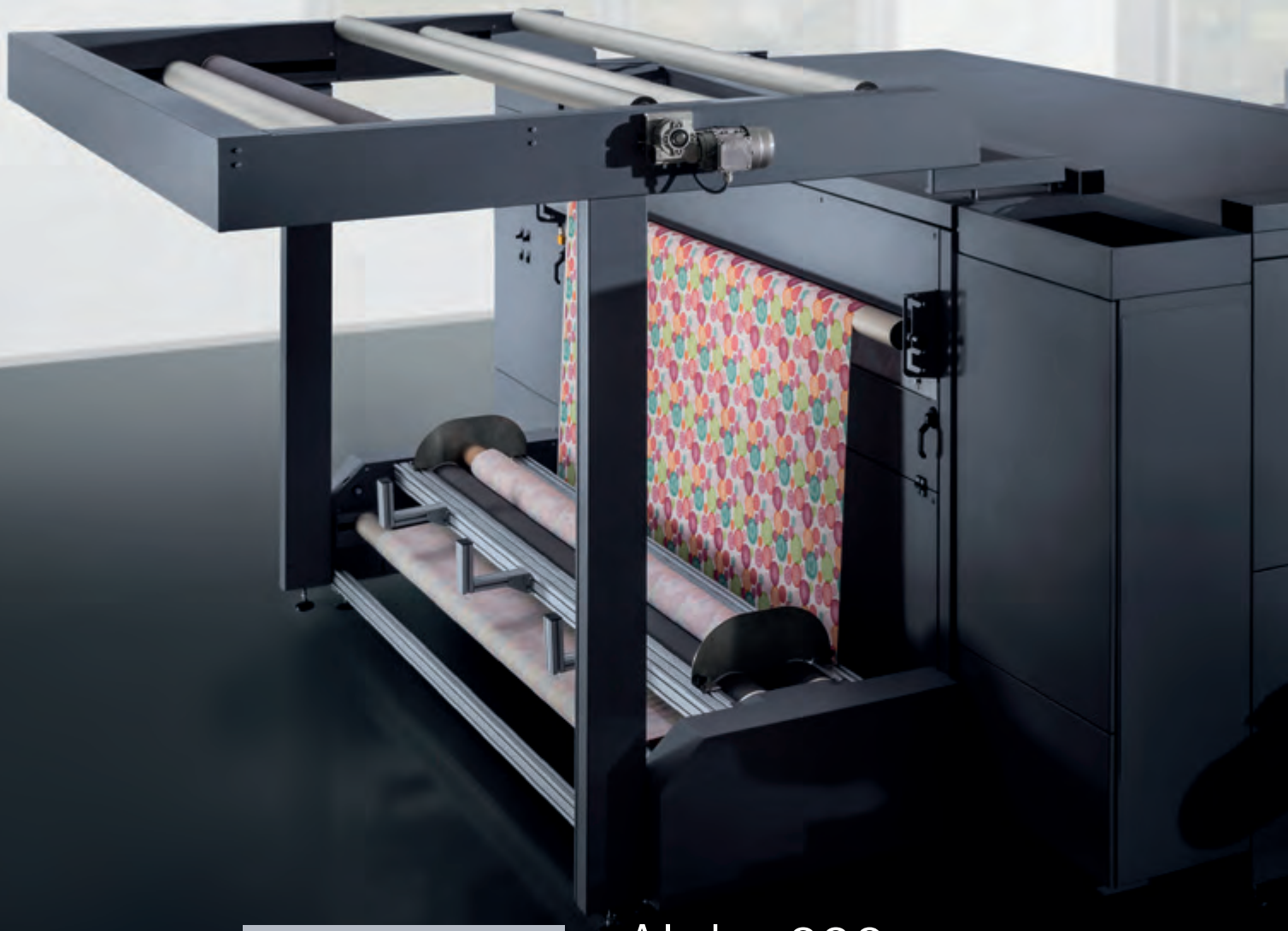
Alpha 180 TR

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Alpha Series Multi-Pass Textile

The Alpha Series is designed to solve the current challenges of the industrial textile finishing sector: It features a sustainable and eco-friendly print technology and is designed for economic productivity and efficient processes, it minimizes warehousing by just-in-time production and produces top print quality with unlimited color and design complexity. The Alpha Series combines new process technologies to control the interactions of print heads, ink system, textile material, fabric type, pre-treatment and finishing, thereby making them reproducible with the best performance.





460 $\frac{\text{lm}}{\text{h}}$

7.6 $\frac{\text{lm}}{\text{min}}$

24/7

Alpha 330 Multi Pass Textile

The new Alpha Series features different configurations and print widths for the digital printing of fashion garment and apparel, home textiles and upholstery.

The Alpha 330 is Durst's flagship for the industrial production of home textiles; with a maximum printing width of 330 cm, households and decor products such as duvets, linen, table cloths, curtains and drapes, as well as advertising materials such as flags and banners can be printed in their full width.

Depending on the number of print heads, the production output can vary: fully configured with 64 print heads the Alpha 330 produces up to 460 running meters per hour and the Alpha 190 up to 620 running meters per hour.



Magnetic Linear Actuator

The print carriage, engineered by Durst, is equipped with magnetic linear actuation to achieve the highest precision print results. The carriage and print bridge form the basis for this precise, flawless, sharp-edged output, with 2 micro-meter tolerances.

Print speed:

1-Pass 300 x 600 dpi, 460 l/m/h, 1.470 m²/h
2-Pass 300 x 600 dpi, 230 l/m/h, 735 m²/h

Printing width and material thickness:

Max. printing width: 3,300 mm, max. material thickness: 8 mm

Integrated entry for fabric rolls diam. 500 mm max.

Axial unwinder for jumbo-rolls and material feed system for optimum advancement and tension monitoring
Feed unit for folded textiles

Printing blanket:

With permanent adhesive and integrated washing system
Heated pressing roller
Airblade for automatic belt drying

Dryer:

Horizontal dryer with 3 passes:
Thermal air dryer of up to 150 °C; with either gas or electricity

Material discharge options:

Uproller for roll diameters up to 500 mm
Discharge unit for folded textiles
Axial unwinder for big rolls up to 2000 mm

Print heads:

32/64 Durst Alpha Slots, 8 colors symmetrically arranged (mirrored) print heads featuring 40,960/81,920 nozzles

Printing mode:

variable droplet sizes of 7/14/21 picoliters

Resolution:

Standard 300 x 600 dpi and 500 x 600 dpi



Alpha 190 Multi Pass Textile

With the new Alpha 190, Durst offers, especially for the fashion sector, various configurations in the entry and exit units to print on super-elastic knit fabrics. The fabric management allows very fast changes of the feeding roll.

620 $\frac{\text{lm}}{\text{h}}$

10.2 $\frac{\text{lm}}{\text{min}}$

24/7

Print speed:

1-Pass 300 x 600 dpi, 620 lm/h 1 Pass, 990 m²/h
2-Pass 300 x 600 dpi, 310 lm/h 2 Pass, 490 m²/h

Printing width and material thickness:

Max. printing width: 1,900 mm, max. material thickness: 8 mm

Material feed options:

Integrated material entry for roll diameters up to 500 mm
Axis unwinder for large rolls and material feed system for optimum advancement and tension monitoring
Feed unit for folded textiles

Printing blanket:

With permanent adhesive and integrated washing system
Heated pressing roller
Airblade for automatic belt drying

Dryer:

Horizontal dryer with 3 passages:
Thermal air dryer of up to 150 °C; with either gas, steam or electricity

Material discharge options:

Uproller for roll diameters up to 500 mm
Discharge unit for folded textiles
Axial unwinder for big rolls up to 2000 mm

Print heads:

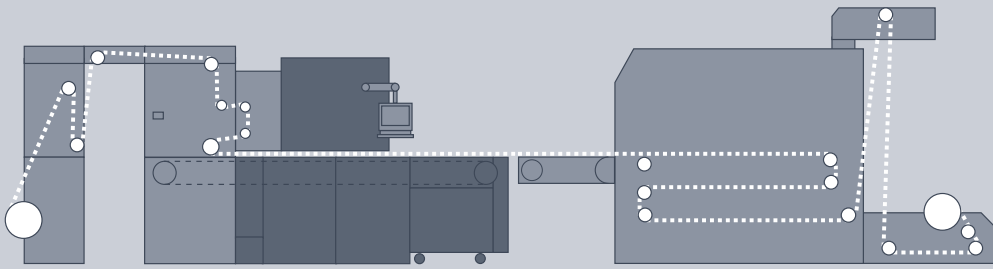
32/64 Durst Alpha Slots, 8 colors arranged symmetrically (mirrored) print heads featuring 40,960/81,920 nozzles

Printing mode:

variable droplet size with 7/14/21 pictoliters

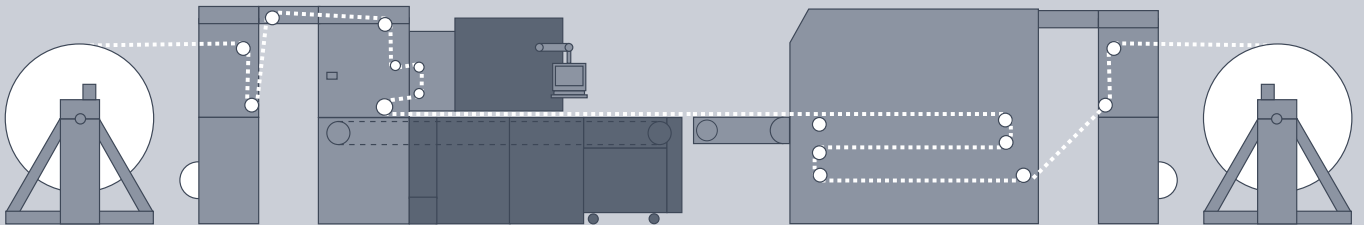
Resolution:

Standard 300 x 600 dpi and 500 x 600 dpi



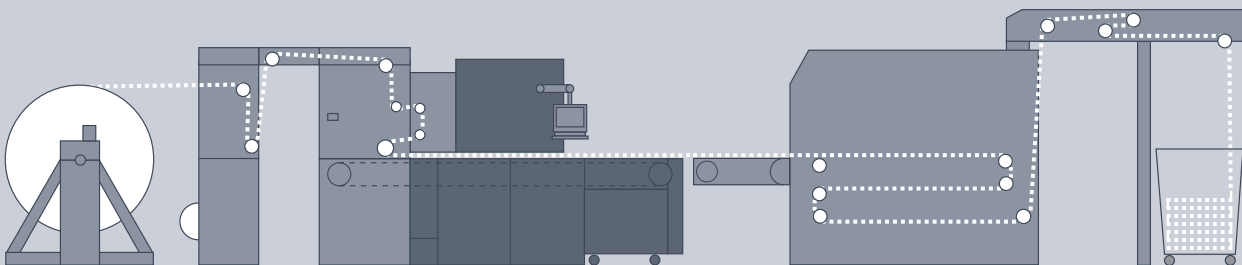
Version 1

Durst entry unit for small rolls and exit unit on uproller winder for small rolls.



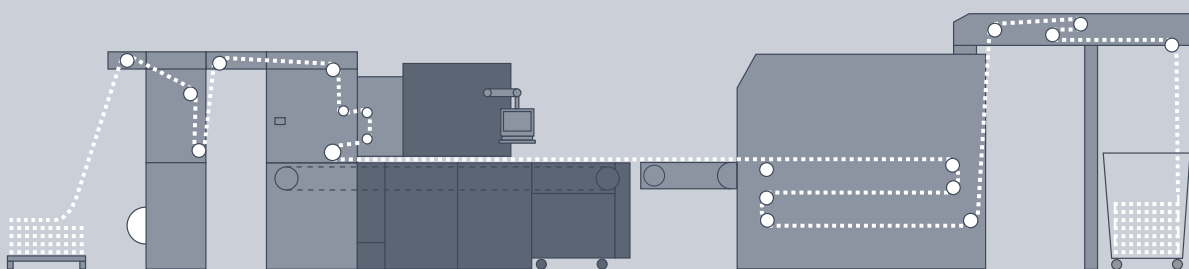
Version 2

Durst entry and exit unit for big and small rolls



Version 3

Durst entry unit for big and small rolls, exit unit for folded fabrics.



Version 4

Durst entry unit for folded fabric, small rolls and exit unit for folded fabrics.

Alpha Multi-Pass Dual-Use Dye Sublimation Printer

With the new Alpha 180 TR Dye Sublimation Printer, Durst is expanding its successful portfolio of high-performance inkjet printers. Durst now offers transfer paper printing for the textile industry using the same printer used for direct digital output. Printing on sublimation paper and then transferring by calendar simplifies printing on certain fabrics and it is a very eco-friendly solution; enabling companies from other sectors to move into textile production. The trend towards consumer-specific output, the growing number of textile solutions for POS, as well as web-to-print and print-on-demand requirements, provide new market opportunities. The Alpha 180 TR is suitable especially for woven polyester and PES-blends, as commonly used for sportswear, home textiles and soft-signage.

Industry standard

High-Quality

Hybrid



Alpha 180 TR

Industrial Dye Sublimation

This system is designed for non-stop production and easily produces 200 m²/h. The Alpha 180 TR features a maximum print width of 185 cm and is equipped with the latest Quadro S print heads for sublimation disperse inks.

Durst offers a specially formulated Dye Sublimation Ink System: water-based, odor-free, skin-friendly and free of any volatile organic compounds (VOCs).

This printing system is classified for all current transfer papers at maximum quality. It creates brilliant colors, sharp images and produces an impressive abrasion-resistant and water-proof result.

Durst also offers an optional "Direct Printing Kit" for the Alpha 180 TR, for fabrics needing deep color penetration like flags and banners.

The changeover between transfer paper and direct fabric printing takes only a few minutes, and can be easily performed by a single operator.

Print Speed:

1-Pass 800 x 600 dpi, 112 lm/h, 200 m²/h
2-Pass 800 x 600 dpi, 56 lm/h, 100 m²/h

Print Width:

Max. Print Width 1850 mm (72.8 in.)

Material transport:

Integrated Feed-In System and Unwinder for rolls with a diameter of up to 400 mm (15.7 in.)

Dryer:

Heated Printing Table and Hot Air Dryer for rapid drying

Print heads:

Durst QuadroS Print heads

Print Mode:

Binary (7 pL) and variable droplet size with 7/14/21 Picoliters

Resolution:

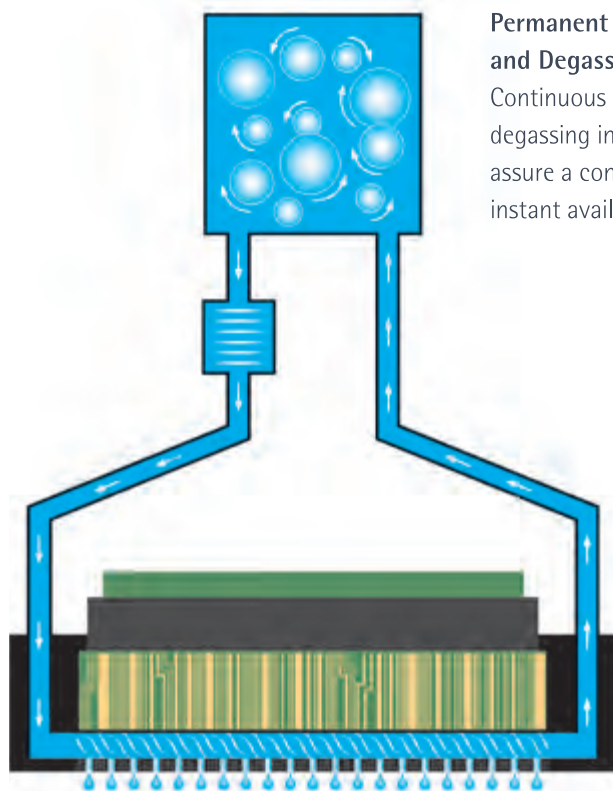
Standard 800 x 600 dpi

Sublimation Paper

Optional: "Direct Print Kit" for printing on coated and uncoated polyester fabric with a polyester percentage of more than 50%. Other fiber mixtures can be printed, with some restrictions.

Inks:

Durst Dye Sublimation-Ink set, CMYK, Light Cyan, Light Magenta, Light Black or special colors



Permanent Ink Circulation and Degassing

Continuous ink circulation and dual degassing in advance of the print heads, assure a consistent ink quality and an instant availability of the print heads.

Symmetrical Color-Alignment

Due to the symmetrical alignment of 8 colors, identical color sequences are printed in both print directions to eliminate banding and to increase the speed by 30% compared to an asymmetric printhead assembly.





Touch Screen Interface

The Alpha Series introduces a new user software application, to enable straightforward visual supervision of print jobs and parameters by touch screen. The new software is intuitive and allows for direct interactive processing of print data and profiles on the printer. It logs all print orders, calculates the exact required ink amount per square meter and can reproduce any job under identical parameters at the push of a button.



Online Nozzle Control

The Online Nozzle Control allows the operator to print a control strip in order to check the print output and to apply any required changes, without interrupting the ongoing print process.

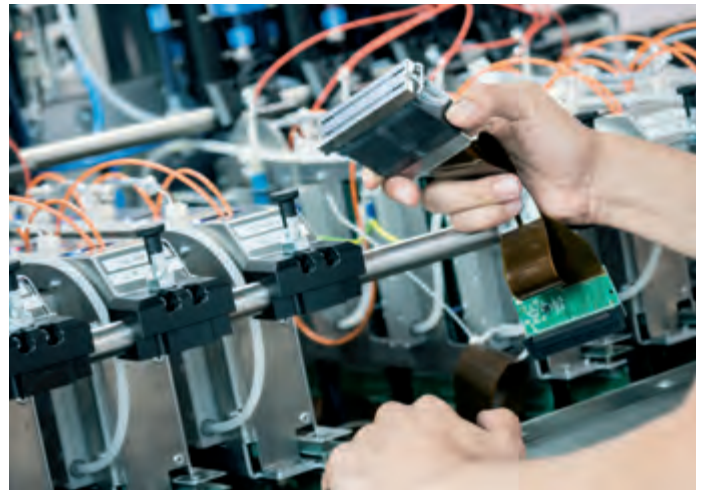


Ink Mist Extraction

The print carriage is equipped with an ink mist extraction device to guarantee a haze-free print image, a clean interior of the printer and therefore low maintenance costs.

Anti Crash System

The new Anti Crash System operates directly at the print cart and with laser sensor at the feed-in system to suspend the print cart for any potential textile irregularities, with the aim of preventing damage to the print heads.



Easy Printhead Replacement

When necessary, the Alpha Print heads can be easily replaced by the machine operator within minutes, thus minimizing down-time.

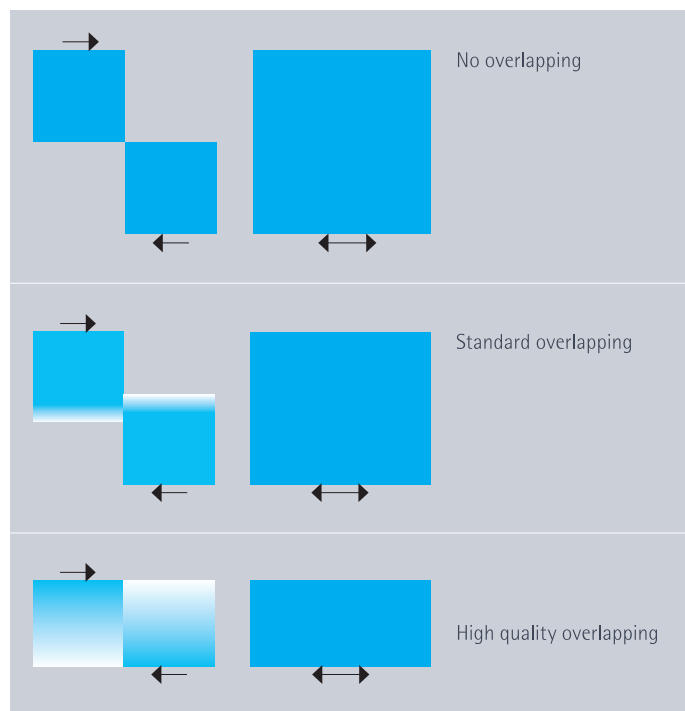
Capping-Station

The Printhead Capping Station hermetically seals off the nozzles to guarantee immediate availability of the printer, even after longer stand-by periods. Additionally, continuous spitting of the nozzles can be activated



Durst Advanced Stroke Control

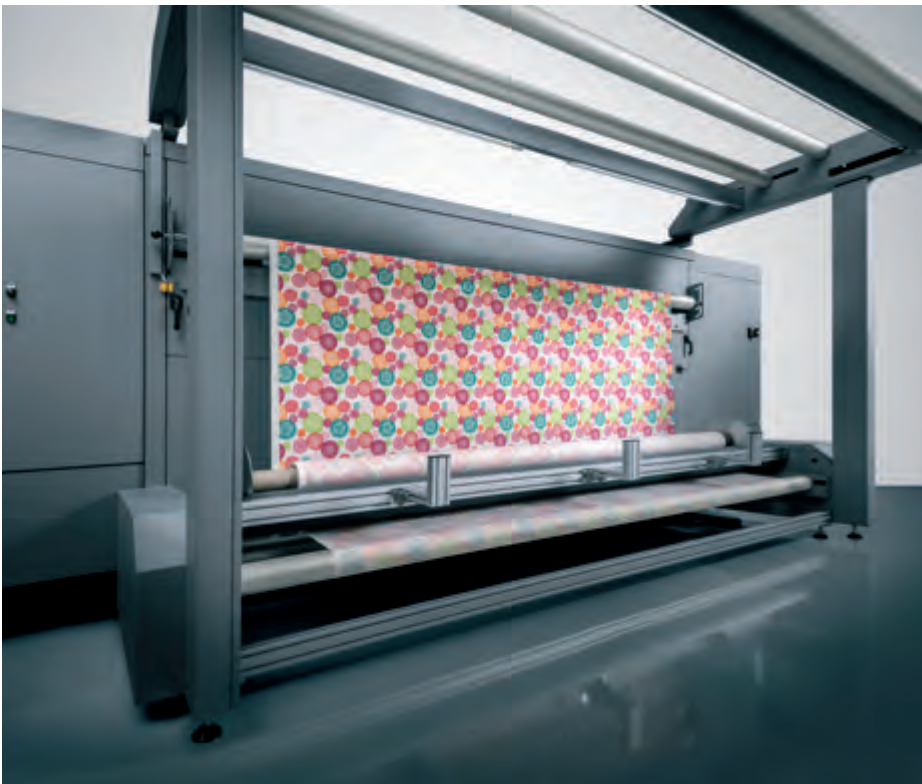
DASC minimizes ink drying times on fabrics, eliminating color banding effects. Depending on substrate and design, the optimal percentage of DASC can achieve 20-80% speed increases avoiding the speed reductions caused by adding additional full passes.





Precise Fabric Guidance

A new intelligent guidance system was developed especially for the Alpha Series. This system automatically adapts itself to different textile materials and print roll diameters. The respective dancer rollers, expander rollers, center- and batch winders can be activated by touchscreen to control the precise speed and tension all the way to the printing table.



Drying Unit

The dryer utilizes special thermal insulation with an efficiency of over 80%. A consistent speed control with infrared sensor, as well as homogeneous temperatures, guarantee optimal evenness in the drying process. All different settings can be stored as a print profile and are available to be re-used at any time.

Alpha Inks



For the Alpha Printing Systems, Durst offers eco-friendly, water-based ink solutions in Disperse, Sublimation, Reactive (Acid) and the new Greentex-P ink system, the best binder-inclusive digital Pigment available on the market. The Greentex Pigment Ink System is developed for the efficient and economical application on a large number of textile materials. Main characteristics are an outstanding color reproduction and a smooth, soft touch. No need for pre-treatment and finishing for some standard applications, which makes the Alpha Pigment especially suitable as an all-round choice for the production process. The Alpha Inks are characterized by a deep black, high color saturation, with excellent printability and runability. These inks are impressive in all aspects, including color gamut, image quality, uniformity, vibrancy and high lightfastness.

Color Fastness

All the Alpha Inks are continuously tested and consistently achieve very good results in all relevant color fastness ISO-Standard tests:

- Fastness to light - ISO 105-B02
- Fastness to weathering - ISO-B04
- Fastness to washing - ISO 105-C06
- Fastness to dry cleaning ISO 105-D01
- Fastness to water - ISO 105-E01
- Fastness to perspiration - ISO 105-E04
- Fastness to crocking - ISO 105-X12

Which ink system for which application

Greentex-P	Reactive	Dispersion
For cotton and cotton blends polyester and polyester blends. Applications: home textiles, clothing, fashion, flags.	For cotton and cotton blend with a cotton share of more than 60%, as well as polyamide, silk and viscose. Applications: home textiles, curtains, linen and upholstery, clothing and fashion.	For chemical fibers, polyester and polyester blends with a polyester share of more than 50%. Applications: flags, banners, outdoor signage, POP, automotive, home textiles, sports wear.

Available colors for the ink systems

Greentex-P	Reactive	Dispersion
CMYK  Orange  Green  Light Cyan  Grey 	CMYK  Orange  Red  Blue  Light Magenta  Grey 	CMYK  Orange  Red  Blue  Grey 

Certifications

ISO 9001

Durst's Quality Management System (QMS) is certified according to the international quality management standard ISO 9001.

CE-Certificate

All European machine manufacturers must provide a self-declaration with regards to product safety compliance. Durst commissioned an official certification from the automation technology supplier Pilz. This guarantees a high standard for legal- and occupational security for the operating company.

Green Label

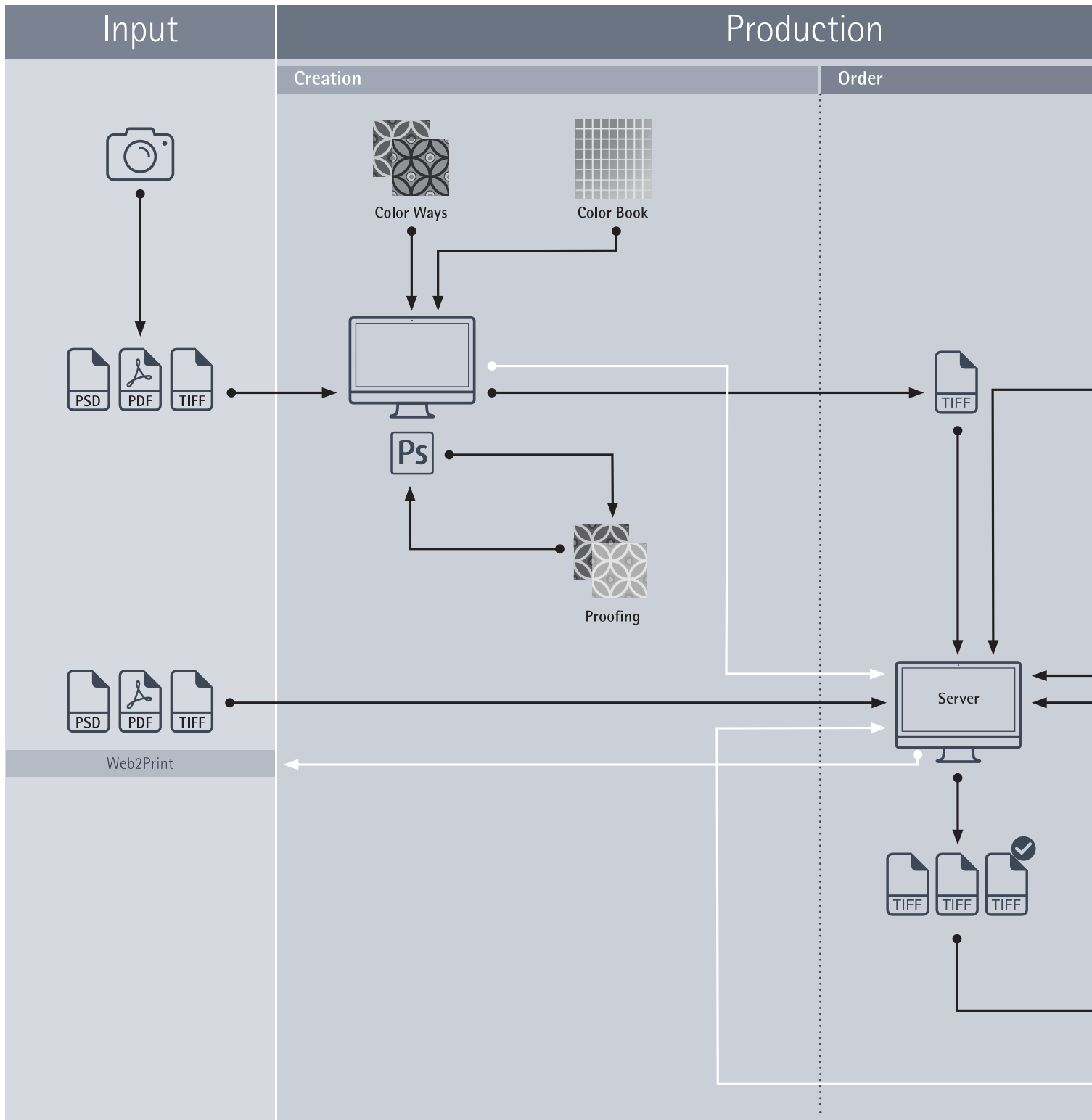
In 2010, the Italian Association of Textile Machine Constructors ACIMIT, introduced the 'Green Label', a certification programme for sustainable technologies. The 'Green Label' indicates the energy requirements, the consumption of water and chemicals, the CO2 footprint and the production efficiency. The production efficiency of Durst textile printers is 95% higher than traditional print methods, while featuring a fully positive ecological balance.

OEKO-TEX Standard 100

The OEKO-TEX Standard 100 is an independent control- and certification system for textile end products including all processing stages.

The Alpha Ink system guarantees the absence of pollutants and absence of detrimental health effects for applications such as clothing, home- and house textiles or bed linen.

Durst Workflow - Textile Printing

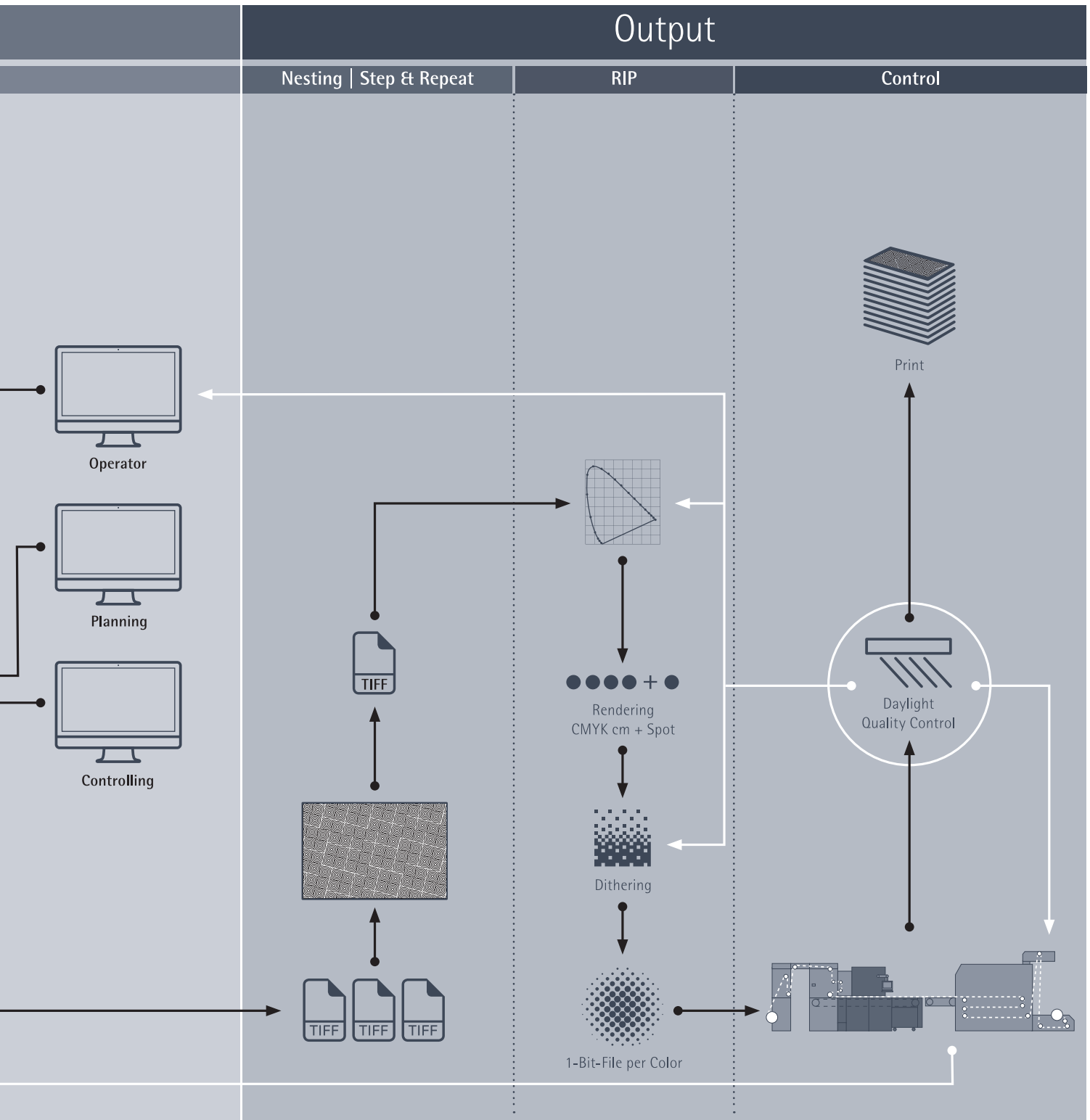


The development of its Durst Workflow Textile Printing system means that Durst can not just offer high-performance printing systems for textile applications, but also a comprehensive software solution in order to ensure perfect handling of print data and information processing in real time in addition to perfect print output.

Durst is thus pursuing a holistic and process-oriented vision.

The workflow software covers all relevant parameters, from data management and print data preparation to output on the printer and reporting. Access to the software is via a browser and can be managed from mobile devices without the need to install any additional software.

The Durst Workflow Textile Printing system offers a range of modules that can be expanded at any time and adapted to the requirements at hand. The various modules include solutions for variable data printing, ink cost calculation, a digital color management system, job control, and a lot more.





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