



durst

Rho System

Inkjet Printers with
Quadro[®] Array Technology



Durst – Trendsetter with tradition



For more than 70 years, Durst has been setting the standard in picture reproduction. Its successes in photo technology, for example with the Lambda, are legendary and have made Durst a market leader throughout the world. The Rho System is continuing this success story and revolutionizing business opportunities for screen printing, photo laboratories and digital printers.

"Leaders in imaging solutions since 1936" is not only Durst's motto, but also its pledge. The Rho System reflects this leadership through its intelligent innovation. Once again Durst is more than living up to its role as a technological trendsetter, and is offering today the equipment that the market of tomorrow will demand.

Rho – the future of screen printers, photo laboratories and digital printers

Rho inkjet printers, the model series 600 and 350, print on a wide variety of materials: the Rho 350R on flexible roll materials, the Rho 600 on sheets and even corrugated cardboard. They are intended for interior and exterior use. No subsequent lamination is required; their print is weatherproof, of impressive quality and offer speeds of up to 160 m² per hour. Rho printers can be easily integrated with the existing machinery. Because of the unique way in which materials are registered, the screen printer is capable of combining screen and digital printing.

This is ideal, for example, for all jobs with variable information. Rho printers open up completely new options for photo laboratories. Especially for those labs that also have access to the Durst Lambda, the Rho makes it possible to be an all-in-one provider with business opportunities that go far beyond photography alone. The Rho is the ideal addition to digital and other printing shops, and it may also be a replacement for flexoprinting or offset printing, since it is much more economical.

The Rho System knows no compromise.

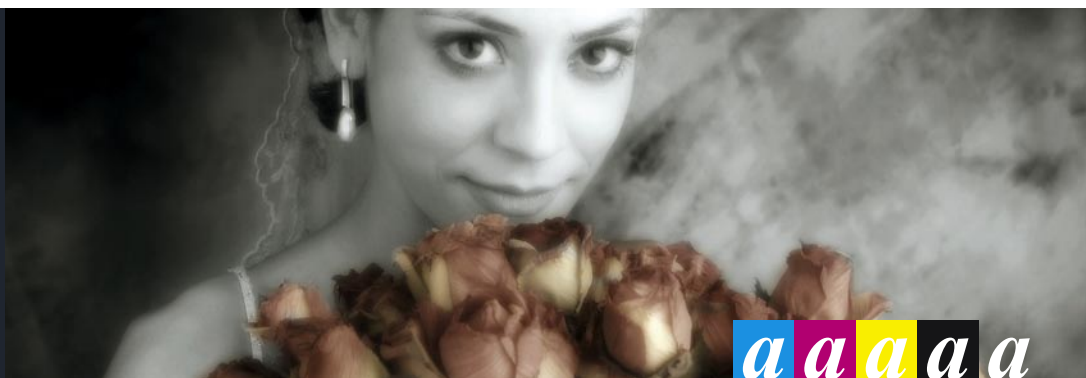
The highest quality and maximum output are not mutually exclusive, thanks to high printing speed. Innovative technology makes it happen. Furthermore, the unique modular system not only makes it possible to make an initial investment in a machine that precisely matches the customer's current needs, but also enables him to upgrade the equipment quickly and economically as demands increase. Furthermore, every single machine in the Rho System is distinguished by its flawless work flow, which further enhances productivity and cost effectiveness.



Rho System – no other printing system brings together so many advantages and innovations



Take advantage of our quality for your benefit



Durst regards the highest standard of picture quality as a point of principle. That's why our development has always taken advantage of every opportunity to further enhance the quality of our equipment. Accordingly, the quality standard of the Rho System is impressive:

Sharp text

The innovative Quadro array technology, with controlled droplet geometry, ensures a high degree of edge definition, even when printing very small fonts, while avoiding satellite drops. Printing very small font sizes, even as little as 6 pt, or A-class bar codes, pose no problem. Fine text on packaging, maps or information sheets comes out pin -sharp.

Colours

But Quadro Array technology is also "sharp" in another sense. It enables the printing of critical colours across the entire printing surface without variations or fluctuations in density. This is thanks to the ink feeding system with its osmosis filter, which eliminates even the tiniest vapour bubbles and guarantees constant and reliable pressure. The result: printing speeds of up to 160 m² per hour with consistent, full-colour, high-density printing. The photographic reproduction of skin tones, colour gradations or pastel areas – with the option of 400/600 dpi, depending on the original – poses no problem for Rho System equipment, owing to its small and finely adjustable dot size and precise dot size control.

CMYK and more

In addition to the CMYK spectrum, all Rho models can come equipped with the ink options of white underprint, white overprint or varnish, or can be upgraded to include these options. Not only was Durst the first manufacturer to introduce and patent a reliable method of digital printing in white, but it also offers an assortment of spot colours. This has the advantage of making it possible to print digitally special "corporate " colours.

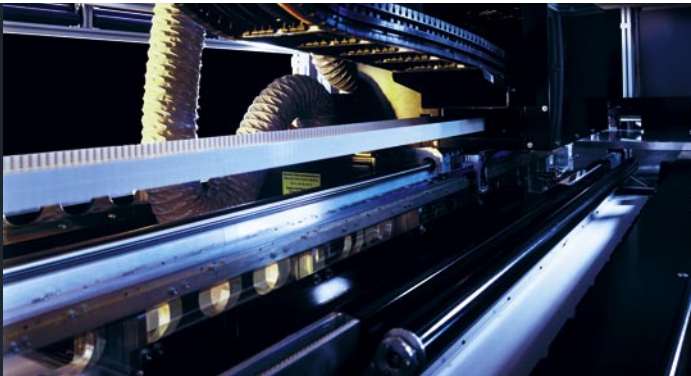
160 m² per hour – no other flatbed inkjet printer on the market can equal this performance. Four Quadro arrays per colour allow the fastest Rho printer, the Rapid, this exceptional output speed.. It goes without saying that we have achieved this quantum leap in speed while still maintaining our high quality standards. Even with a feed rate of 1.3 m per minute, the Rho produces excellent and commercially viable quality, not just a theoretical figure.



At this speed, you're at an advantage



A modular system offers more advantages



It's your choice...

The successful concept of joining and then "growing" with the Rho System has become even more comprehensive. If the customer's production needs increase, the Rho Basic model can be expanded in two steps, with the Presto and then the Rapid. So it is not necessary to replace the entire machine in order to meet one's needs. An upgrade can be accomplished immediately, simply by means of additional arrays. Thus production can be increased from 40 m² to 160 m² per hour, with no decline in quality.

... and even more

Furthermore, every Rho model can be expanded from CMYK to integrated printing in white and varnish or spot colours. This makes not only your Rho versatile, but you as well – as you plan your investments and the possibilities you can offer to your customers.

Speed is not the only prerequisite of economical production. An optimum work flow is crucial as well. Durst takes this into account in a number of ways.

File prep station

A computer prep station makes it possible to prepare files ready for immediate printing. Changes and corrections can be made on-the-fly, without wasting time. If required, several Rho machines can be driven from one prep station.

Transport mechanism

The materials are transported precisely and with the help of sensors by a seamless belt, using adjustable low tension. Rigid and semi-flexible sheets of up to 40 mm thickness (in the industrial version, up to 70 mm) go through the machine smoothly and without jerking.

Roll printing

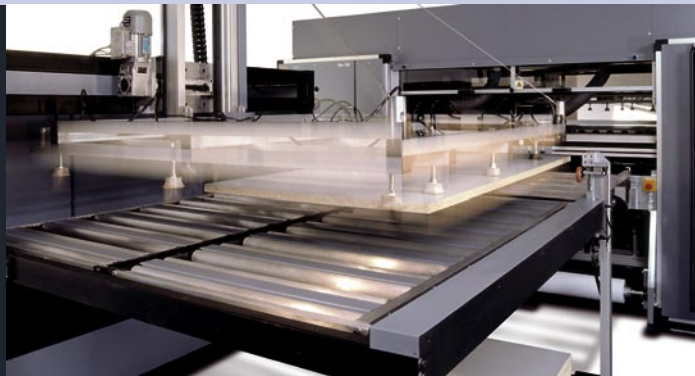
A motorised system for winding and unwinding rolls makes it possible to print flexible materials up to a roll diameter of 19 cm. As in the case of rigid media, the Rho ensures perfect results with printing on flexible material, this is in part due to specially developed inks.

Automated feeding and stacking

Work flow has been optimised particularly by the use of an automatic feeding and stacking system. The Durst feeder-stacker is the ideal optional equipment for use in higher-production settings.

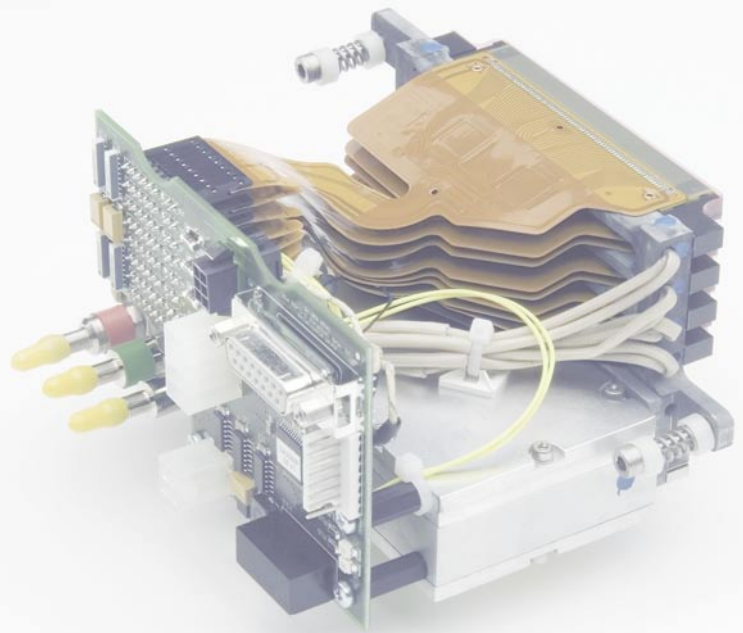
Automatic cutting

When cutting is required, the i-cut system is the ideal solution.. This makes it possible to cut printed materials automatically, according to precisely set parameters and in any shape desired. This, too, is a significant contribution to an optimum work flow.

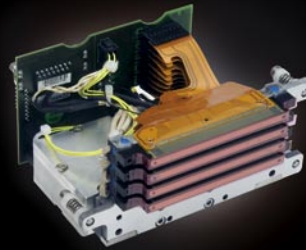


Optimum work flow offers advantages





With technology in minds



Quadro®
Array
Technology

Revolutionary – Quadro array technology

Durst's Quadro array technology is based on Spectra ink jets. There are four slots in a single heated jet plate in an array configuration. This provides a total of 512 nozzles which are supplied with continual ink flow.

This makes it possible to achieve the greatest drop density yet recorded in the smallest amount of space, and at the same time to eliminate the tolerances between the jet heads. The drops are set at precisely defined points. But printing quality has been improved still further: Durst's own electronic system controls the size and shape of the drops. Thus when text with a font size as small as 6 pt is printed, the result is comparable to that achieved with conventional offset printing. With precision drop setting electronics, at either 400 or 600 dpi resolution, the customer need not make the usual choice between the best quality and a high rate of printing speed. Quadro array technology makes the Rho both high-quality and fast, without compromise. And Quadro technology, with its constant control of drop geometry, makes it possible to print full-area, critical colours without variation.



Tailor-made for Rho

A UV-hardening ink especially made for Durst is used for printing. Viscosity, surface tension and UV light absorption wavelength are coordinated in such a way as to ensure optimum hardening with maximum adhesion to the largest possible variety of materials. Various inks are available, all of which are, of course, compatible:

Rho ink flexible set

This is the most flexible UV ink on the market, and extremely well suited to flexible materials such as blue-back paper, transparencies, vinyl etc., or for sheet materials that are moulded or creased.

Rho ink rigid set

This ink is particularly appropriate for rigid materials for which adhesion is usually a problem, such as metals, acrylics, plexiglass and glass. Rho ink rigid set achieves the highest adhesion rating, according to the cross-hatch test, for materials that are otherwise impossible to print upon.

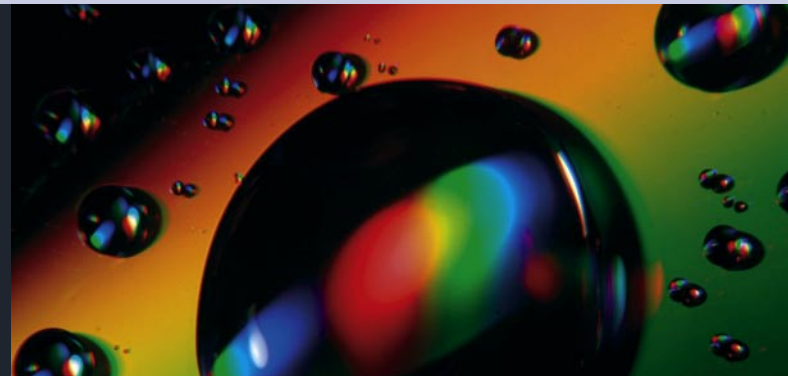
Paperboard ink

A cost-effective UV ink, it is used specifically for paper, laminated/absorbent surfaces and inside applications.

Rho roll ink/Rho cat ink

These UV-hardening inks – free radical inks or, alternatively, cationic inks – are characterised by a lack of odour and a high degree of flexibility/adhesion on flexible materials such as transparencies (PE, PP, PVC), vinyl and various textiles. Cationic inks are odourless and particularly environmentally friendly, which may be used in connection with foods and are especially elastic as a colour film on media, for example used in applications on voile fabrics or for shrink wrapping or creasing processes.

In addition, Durst is the first company in the world to supply the colour white in addition to the CMYK inks. A separate ink feeding system with an anti-sediment device makes it possible to print with white combined with CMYK. The system for varnish is similar.



Latest technology for Durst inks, too

The system for rigid material, and much more

Rho 600
Basic
Presto
Rapid



The quality you want – the technology you need. The modular concept Durst offers with the Rho system makes the decision to purchase much easier. It can be made on purely economic grounds. Depending on the customer's production needs, there are three versions of the Rho 600 available:

Rho 600 Basic

Four Quadro arrays guarantee a production output of 40 m² per hour

Rho 600 Presto

Eight Quadro arrays produce 80 m² per hour

Rho 600 Rapid

Sixteen Quadro arrays reach a speed of 160 m² per hour

Rho 600 – Print unlimited

All Rho 600 models are designed for sheet materials that are up to 205 cm wide. There are a variety of applications for cost-effective printing: decorations for fairs, exhibits, logistics/communications, bus shelters and of course all types of advertising are only a few examples. It goes without saying that they can be used in interior and exterior applications, and on sheets of up to 40 mm thickness, in the case of the industrial version even up to 70 mm. Whether used on wood, aluminium, glass, cardboard or some other material, with the help of UV-drying ink, the printed sheets are ready for use immediately.

What's good for flat materials works for roll materials, too

Based on the Rho concept, there is now a brand-new roll printer, Rho 350R, for use in printing roll materials with a width of up to 3,500 mm. A specially developed UV ink that is suited to the flexibility of such materials ensures perfect printing on textiles (polyester, canvas, cotton, synthetic silk, banner materials, etc.), vinyl, tarpaulin, paper (blue-back), transparencies and much more. It is also ideal for producing advertising materials to attach to construction scaffolding, and for flags, advertising on lorries and other uses.

The Rho 350R offers a number of advantages:

- 400/600 dpi resolution
CMYK colour printing and 2 special colours in a rapid-change system
- No additional drying time is needed
- Quick changing of materials and minimal material loss
- Direct printing onto untreated materials
- Special ink, odourless and environmentally friendly
- Very good ink adhesion
- Superior light and weather resistance
- Unattended printing
- Maintenance friendly
- Precise registration for two-sided printing

Advantages resulting from innovative technology

The Rho 350R makes use of every technological innovation that the Rho system has to offer. For example, this equipment also utilises the revolutionary Quadro array technology. Using the four-colour mode, the machine can process up to 120 m² per hour. UV ink drying makes it possible to use materials immediately after printing. Two roll loading positions with roll holders for a maximum of 240 mm roll diameter and 300 mm.

Rho 350R



The system for roll material



Photo laboratories need the Rho more than ever

Daniel Oschatz
Cologne, Germany

"With digital photography, photo laboratories find themselves faced with an entirely new situation. Those who fail to seek new business opportunities will be left behind. For us, the Rho has opened up a completely new business segment. We are producing large-format advertising for brands, POS, POP, exhibitions, fairs, and business facilities, with perfect quality. We have had no problems with colour reproduction, colour gradations, skin tones or small font sized text. Even these come out pin sharp."



Tom Smith, President of Shaw & Slavsky in Detroit, Michigan, runs one of the first printing companies in the western hemisphere to install a Durst Rho 600. He says that he immediately transferred a large number of employees to the Rho 600 that he had previously employed in screen or digital printing with water-based varnish. The result: a smaller amount of work and larger printing capacity – at the same time. "We used to have to print a picture, then laminate and mount it," says Smith. "But since the Rho 600 is so productive, we can now print a picture directly on a board, bring it to our i-cut router and we're done. Interior signs make up about half of our business. In order to keep retail chains as our customers, we have to be cost-effective. With the Rho 600 we have added a work- and cost-saving tool that gives us fantastic picture quality and enormous versatility with respect to printing and media options."

Tom Smith
Detroit, USA

Rho is the crowning touch for the digital printer



Screen printers appreciate the advantages Rho has to offer



Ricardo Rodríguez Villalba
Madrid, Spain

"Before buying the Rho 600, we had already had a great deal of experience with the Rho 205 as well as with the excellent support provided by Durst regarding our day-to-day work and the extensive practical printing possibilities that were available. Our recent investment in the Rho 600 was a well-considered decision, and of course it was also based on the positive experiences we at Panorama had already had with Durst. Just like the Rho 205, the Rho 600 fully met our expectations, and even exceeded them. The range of services that Panorama can offer its customers has been expanded further, and the 600 dpi resolution has helped us reach a standard of quality that fully satisfies even demanding customers like those in the fashion industry, with extensive and demanding POS materials."



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