Rho 161 TS
Roll to Roll UV Inkjet-Printer for Traffic Sign Applications

Durst introduces the new, compact high speed direct digital UV printing system for long-lasting traffic sign production, designed for manufacturers of traffic signs. The Rho 161 TS is a further development of the Rho 160R printer and is escpecially developed for printing directly onto 3M High Intensity Prismatic Sheeting HIP 3930 and 3M Diamond Grade Cubed Sheeting DG3 4090 media types and offers exceptional productivity, quality and flexibility. Designed for the use of 3M UV Ink Series 8800, the Rho 161 TS can print Traffic Signs, with a durability of up to 12 years MCS warranty, while meeting key requirements in terms of retro-reflectivity and color boxes and reducing significantly cycle time and production workflow steps.

Advantages of the Rho 161 TS:

- Direct Digital UV Inkjet-Printing System for producing long lasting Highway Traffic signs & general traffic signs
- Printer designed for printing onto 3M High Intensity Prismatic Sheeting HIP 3930 and 3M Diamond Grade Cubed Sheeting DG3 4090 media types
- Meeting the European Traffic standards, 3M CRYK inks are specifically developed to match the traffic sign color boxes.
- 12 year 3M MCS warranty (durability, reflectivity, traffic colors) are provided when using 3M UV Ink Series 8800
- Reduced operating steps and higher flexibility with digital production workflow.
- Excellent print quality with a resolutuion of 400/600 dpi (addressable)
- High output speed – up to 65 m^2/hr (700 sq ft/hr) in 2 Pass Mode at 400 dpi
- Easy Operation with Durst Rho 161 TS proprietary user software based on Linux
- High reliability and 24/7 unattended printing
- Fast media changing with minimum media waste
- Maximum printing width 157,5 cm (62 in.)
- Maximum printing length – limited by the roll length

Quadro® Array Technology

Belgium company uses Durst Rho 161 TS for traffic sign production

Janssens, based at Lokeren, near Ghent in Belgium, has built its business on the production of traffic signs since it was founded in 1978. Initially production was limited to a few standard signs printed by the silk screen process. Today the company is responsible for several hundred different designs, many of which are in multiple colours and it has also diversified into different areas of road and traffic management. Group Janssens, which employs more than 160 people (32 manufacturing traffic signs), encompasses: the installation of traffic signs, sign rental, the production of traffic lights, illuminated "speed warning" signs powered by solar energy, road markings and a division that is responsible for the renovation and upkeep of bridges, buildings and car parks.

Janssens first decided to introduce digital printing technology into the traffic sign business four years ago when it invested in a solvent printer. Digital print provided far greater flexibility especially for low volume work. However, there are environment issues with solvent ink and the company believed UV ink was the next step in developing a better printing solution.

With advice from 3M, Janssens installed a Rho 161 TS UV roll to roll printer last September, which uses special media and inks supplied by 3M. Mr Ivan De Coster, Production and Quality Control Manager of Janssens, said: "We have always used 3M consumables and wanted a machine that was both suitable to our business requirements and compatible with 3M inks and materials. Durst and 3M worked closely in the development of the machine and although we are acting as a Beta site for the new version of the Rho 161 TS, it has proven to be very reliable. We are also very pleased with its performance, the print quality is excellent and its productivity is very high."

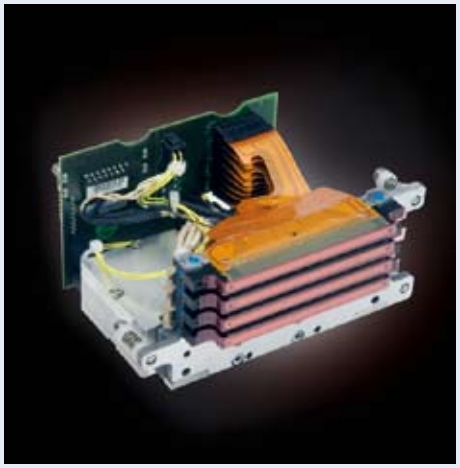
Four weeks after the installation of the Rho 161 TS, Janssens also invested in a digital cutting table. Prior to that the signs were either stamped out or cut out by hand. Mr De Coster commented, "We are printing 5 or 6 complete rolls of material a day on the Rho and we needed to be able to cut out the printed signs equally quickly. From printing all our signs by the silk screen process up to four years ago, we now produce 75% digitally, it's far more convenient and turn around is much faster. We started with short run or one-offs being printed digitally, but now we print anything up to 500 signs on the Rho, cost effectively. Anything over that and it is still more economical to use silk screen particularly for the printing of single colour signs."

Janssens is responsible for the complete process of traffic sign production, from the delivery of plain sheets of aluminium through to the finished sign. The raw sheets of aluminium are cut and fabricated into the correct shape of the sign, weather proofed and powder coated ready for the finished printed sign to be glued in place.

Mr De Coster said, "We don't start printing on the Rho until we have enough signs ready to print a whole roll of material. The reflective media used to make the signs is very expensive and so we eliminate as much wastage as possible by carefully nesting the signs, often many different designs, until a whole roll is completed. And then we print it in one go, followed by laminating the material and then sending the finished roll to the cutting table."

"Until now all our signs have been for Belgium and we deal with all the various local authorities throughout the country. But now, having installed the Rho 161 TS, we will be looking for opportunities to export our services to other parts of Europe."

For more information on Janssens, visit www.groupjanssens.com or telephone +32 9 355 54 54.



Quadro® Array Technology

Durst's own innovative Quadro® Array printhead technology achieves the combination of the highest productivity with the finest quality and is featured in all the Durst Rho UV inkjets.

The technology is based on Spectra inkjets. There are four slots in a single heated jet plate in an array configuration.
This provides a total of 512 nozzles wich 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.

Printing quality is further improved by Durst's own electronic system which controls the size and shape of the drops. This means that the printing of very small text (as small as 6pt), is comparable to that achieved with conventional offset printing. With precision drop setting electronics, at either 400 or 600 dpi resolution, the customer no longer has to make the choice between the best quality and a high rate of printing speed. Quadro array technology makes the Rho inkjets both high-quality and fast, without compromise.

Finally, Quadro Array Technology, with its constant control of drop geometry, also makes it possible to print full-area, critical colours without variation.

Technical Data

General specifications

Power supply:
120/208 VAC ± 10 %, 3 phase, 3 wi, 60 Hz, or
230/400 VAC ± 10 %, 3 phase + N/50 Hz

Power consumption:
Maximum: 13 KVA; average: 7 KVA
Max. amperage per phase:
208 VAC: 32 amp
230/400 VAC: 17 amp

Dimensions:
Width: approx. 505 cm (199 in.)
Length: approx. 201 cm (79 in.)
Height: approx. 212 cm (83 in.)

Space requirement:
Approx. 7 x 5 m (23 x 16 ft.)

Weight:
approx. 2000 kg (4400 lb)

Safety standards:
Complies with currently valid guidelines

Printing specifications

Printing system:
Patented Durst Roll to Roll transport system with Quadro® Array-Technology

Resolution:
400/600 dpi (adressable)
800/1200 dpi (apparent)

Finish:
3M 1170 overlay film

Colors:
Rho 161 TS: CRYK

Inks:
3M UV 8800 Inks,
designed to match the traffic sign colors

Ink supply:
Continuous ink supply with 10-litre ink reservoirs, refillable during operation for large print processes. Refill ink in 5-litre non-returnable containers, easy disposal in collapsed condition, avoiding pollution to the machine and the environment.

Software/RIP:
Durst Rho User software based on Linux.
RIP Workstation with Caldera GrandRIP+

Productivity:
Rho 161 TS-16:
Up to: 65 m²/h (700 sq.ft./h) in 2 Pass Mode at 400 dpi

Front-end workstation:
HP Linux Worstation

Operating system:
Pre-installed RedHat Enterprise Linux WS EM64T

Monitor:
HP TFT Monitor

Network Interface:
Ethernet 100/1000 Mbit

Printing specifications

Media types:
3M High Intensity Prismatic Sheeting HIP 3930
3M Diamond Grade Cubed Sheeting DG3 4090
3M Engineer Grade 3290I Sheeting

Maximum printing width:
Up to 1575 mm (62 in.) with border and no edge to edge option.

Max media weight:
Limited only by maximum outer diameter of supply roll and/or max. weight.
- Lower position 1: approx. 35 cm up to 200 kg (445 lb.) with pneumatic axle for media feeding and take-up unit Pneu 76, 74 to 82 mm (2.9 to 3.2 in.)
- Upper position: approx. 25 cm (9.8 in.) up to 35 kg (77 lb.)

Max. medium thickness:
0.15 mm up to 2.5 mm

Medium cutoff:
Approx. 40 cm (16 in.) at the leading edge

Media cutting:
Mechanical guide for manual cutting of the roll

Location requirements

Maximum height:
2,400 m (8,000 ft) above sea level

Temperature range:
+15 °C to +30 °C (+59°F to 86°F), non-condensing

Relative air humidity:
25 - 80 %, non-condensing

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