



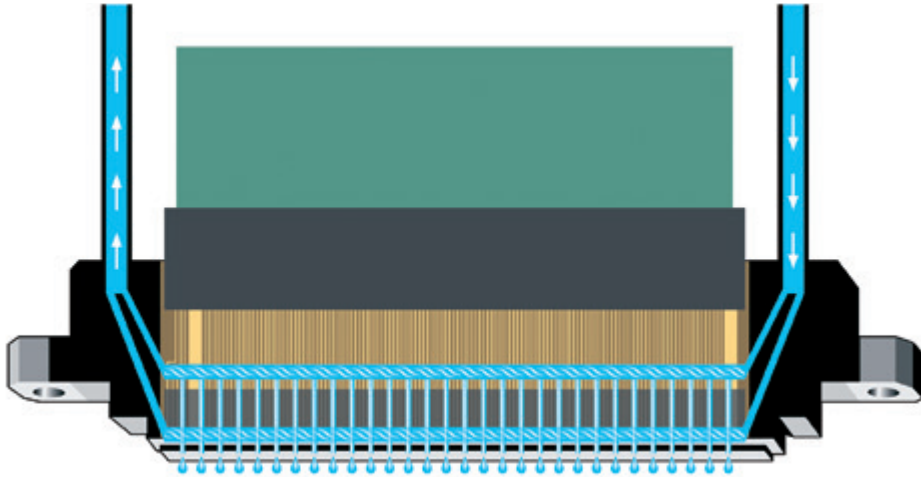
Gamma 75 HD-NR Gamma 75 HD-NRS

Premium Digital Ceramic Printers with
incomparable Performance/Price Ratio



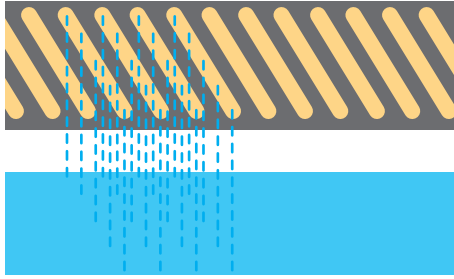
The new range of Gamma printers provide premium Durst engineering with unreached performance and print quality at affordable prices. The "N" series feature a fully modular design, a new ink supply and maintenance system and are available for standard speed and high speed glazing lines to meet the different customers requirements. Durst Gamma printers offer significant economic benefits as well as superior print quality and design advantages compare to other alternatives.

New revolutionary print head technology with dual ink recirculation



The Durst Gamma 75 HD-NR and Gamma 75 HD-NRS printers feature the latest generation HD (High Definition) print head technology with unique dual ink recirculation for constant drop volume and max. productivity offering unreached performance, print flexibility and reliability.

Compare to other technologies on the market, this innovative dual ink recirculation system assures a constant drop size across the full print head at all possible combinations of nozzles jetting to maintain perfect uniformity across the printing width. In addition jetting does not influence ink recirculation inside the print head, especially important to prevent sedimentation when working with heavily pigmented ink formulations. This minimizes initial start-up and ongoing maintenance times along with reducing associated fluid consumption.

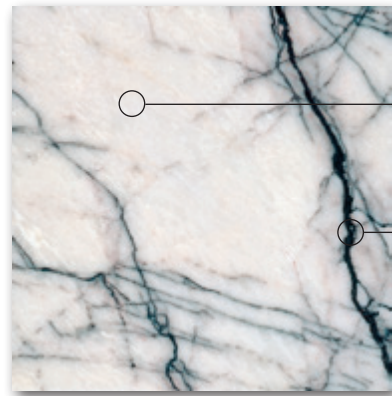


Unique transversal interlacing print head configuration for highest print uniformity

Another important feature is the patented print head configuration with transversal interlacing for high performance printing, ultimate print uniformity and color stability across the printing width. This assures a high flexibility in the design selection and production. Without this transversal interlacing print head configuration density modulations from print head non-uniformity are visible on the tile décor. Only the Durst print heads allow inclined print head arrangements to obtain these advantages.

Superior Productivity & color intensity

Unrivaled high ink jetting capability for strong and vibrant colors, high image contrast and depth from a few grams to several tens of grams per m² (up to 4 times faster than other printers on the market. This with only one print head bar needed per color. Jetting high ink quantities at the required speeds of the glaze lines is not only necessary for darker designs but also light designs with darker lines, like a white marble (i.e. Calacatta) with black veins, which in case of insufficient ink amount per sqm would not have enough density and contrast, resulting in a flat, artificial non-3-dimensional look. In addition this unique feature allows to run different designs on the same white glazed body.

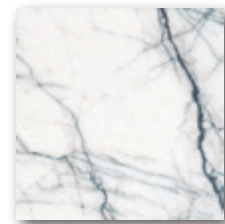


This part requires low ink amount

This black vein requires high ink amount



Durst



Others

Print darker designs faster - High Speed Printing up to 90m/min without compromises

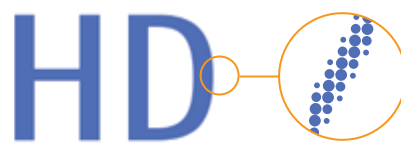
The Gamma 75 HD-NR and Gamma 75 HD-NRS printers are designed to be operated 24/7 at high linear speeds maintaining superior ink amounts jetted per sqm. is the only ceramic printer where it is not necessary to use more than one print head bar for the same color to jet enough ink quantity at high linear speeds.

Advanced High Definition Contone Grayscale Technology

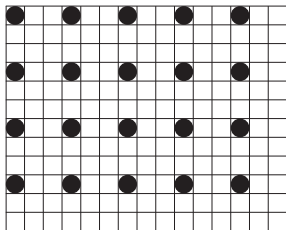
By varying the size of the drop fired, rather than the number of drops fired or the number of passes by the printhead to create each pixel, this new advanced technology for modulating (varying) the drop size assures an increased tonal stability and provides fine tonal gradations for a realistic 3D effect with crisp details. This new breakthrough high definition printing technology with 4-Level Grayscale, substantial higher drop volume for strong and saturated colors (28-90 pl) and extraordinary high frequency jetting ensures excellent image saturation, high densities and fine details with smooth gradation and tonal range without visible graininess. It also offers a more robust solution at unprecedented throughput rates compared to competitive grayscale methods for modulating drop size by producing a single drop at high speed rather than a burst of drops at significantly slower speeds. Image quality is not only defined by the native resolution and grayscale capability, but also by other important parameters such as drop straightness, drop speed, contrast range capability, color intensity/color space, smoothness of transitions; all of which are also greatly influenced by the unique image management and image processing of the Durst Gamma HD printers.



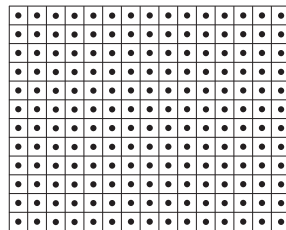
Fixed Drop Technology



Gamma 75 HD Advanced Grayscale Technology



10% Density with Binary Mode



10% Density with Grayscale Mode

Modular Concept

Thanks to the new modular design the Gamma 75 HD-NR and Gamma 75 HD-NRS printers can be configured in different ways to best meet the customer requirements and with the possibility to upgrade the printer at a later stage. In addition it can easily be changed on site in a few minutes from left to right hand operation and vice versa.

Gamma 75 HD-NR - Examples of Color Combinations (more combinations possible):

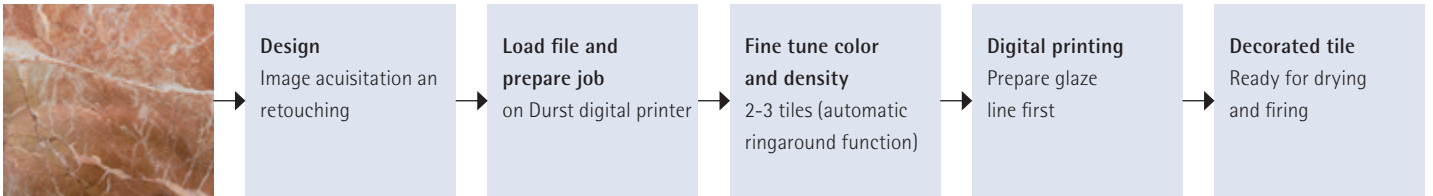
Gamma 75 HD-NR Version	NR-2	NR-3	NR-4	NR-5
Max. Printing Width	271 mm 10.7 in.	415 mm 16.3 in.	560 mm 22.0 in.	704 mm 27.7 in.
CMYK 4-Color Configuration				
CBrYK 4-Color Configuration				
CMYKW 5-Color Configuration with M + White				
CBrYKPi 5-Color Configuration with Brown + Pink (most popular ink combination)				
CBrYKW 5-Color Configuration with Br + White				

Gamma 75 HD-NRS - Examples of Color Combinations (more combinations possible):

Gamma 75 HD-NRS Version	NRS-1	NRS-2	NRS-3
Max. Printing Width	206 mm 8.1 in.	443 mm 17.4 in.	680 mm 26.7 in.
CMYK 4-Color Configuration			
CBrYK 4-Color Configuration			
CMYKW 5-Color Configuration with M + White			
CBrYKPi 5-Color Configuration with Brown + Pink (most popular ink combination)			
CBrYKW 5-Color Configuration with Br + White			

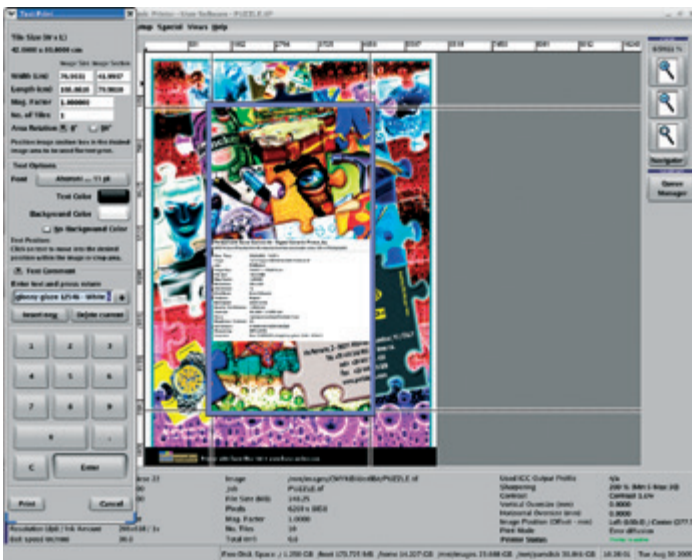
Efficient and fast Workflow for quick turnaround

Instead of a PC, the Gamma 75 HD-NR and Gamma 75 HD-NRS printers are powered by a workstation with 64bit LINUX, designed for 24/7 operation. This provides a fast and efficient Durst digital workflow combined with exceptional image quality and high productivity drastically shorten the overall process from the design stage to final production with minimized downtime and faster time to market.



Best rated user software

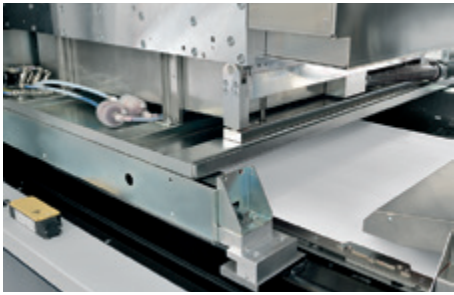
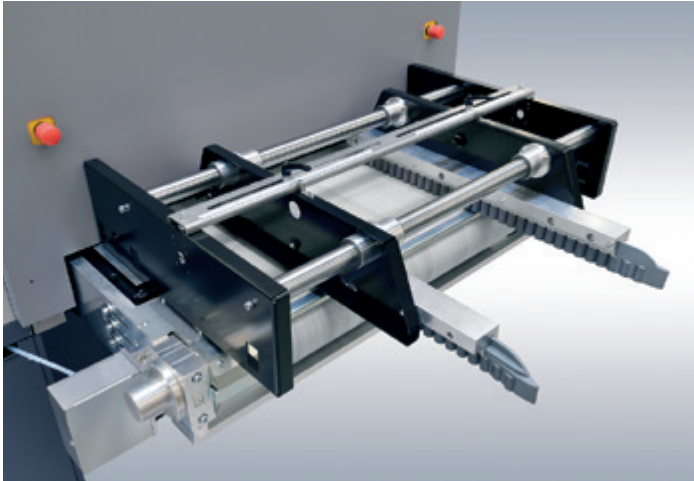
The Durst Gamma 64 bit Linux based user software is best rated in the ceramic industry with unparalleled image processing technology, important production possibilities and speed and ease of operation.



File preparation and on-printer corrections



Print Queue Manager



Long duty cycles with automatic print head cleaning and ink collecting system

New high efficiency automatic print head cleaning and ink collecting system with drastically reduced cycle time. No dumping of the ink onto the belt.

Long duty cycles to maximize uptime thanks to (automatic print head purging only every 6 hours (depending on ink and production conditions)

Test and correct next job while running production

The proprietary and patented on-the-fly image processing technology offers the following unique advantages:

- Color correct digital file directly on the printer
- Test next job or new designs while running production without stopping
- Patented „Ringaround®“ function for fast and automated testing of new designs and repeating jobs, by automatically printing the complete range of tonal corrections onto one single tile without preparing such a file.
- Durst proprietary on-the-fly image processing eliminates the need to prepare the printing files based on speed and resolution and to create huge files for random printing



Sophisticated main ink tank with proprietary Cubitainer® Ink Refill System

Spill-free and secure ink loading thanks to Durst proprietary ink cubitainer system with rapid connector to avoid introducing dirt/dust into the ink circuit, assuring high printer reliability.

Efficient ink recirculation to prevent sedimentation

Gamma 75 HD-NR and Gamma 75 HD-NRS printers feature a sophisticated, continuous ink recirculation in the primary and secondary ink circuits including inside the print heads to prevent sedimentation.

Open ink system

Inks certified of all major ink manufacturers. See Durst website for details.

Remote diagnostics and printer monitoring

Automated printer monitoring for preventive maintenance to anticipate service calls minimizing downtime and automatic filing of back-up data.

Designed for ceramic environment and operator safety

- Operating temperatures from +5 °C to +40 °C/Installation with or without enclosure.
- Fully enclosed system with internal positive pressure to avoid dust entering the printer. Unique aerosol aspiration and neutralization for operator health safety (aerosols should not be inhaled)
- New reinforced internal vapor & heat tile aspiration system to allow working with higher tile temperatures Automatic continuous belt cleaning system without the need of cleaning liquids.

Technical Data

General Specifications

Power Supply:

230/400 V AC 3-phase + N (+/- 10%), 50/60 cycles

Configuration:

System can be configured for right or left hand operation

Dimensions (L x W x H):

5670 x 1860 x 2850 mm (224 x 74 x 112 in.)

Weight:

Approx. 4500 kg (9900 lb)

Safety Standards:

Complies with currently valid guidelines. Closed system with integrated aerosols aspiration system for operator safety

Printing Specifications

Printing System:

Patented Durst Synchronized Inline Printing System (SIPS) with proprietary Advanced High Definition Contone Grayscale Technology for 1000+ apparent resolution with very smooth gradations

Printing Modes:

- High Definition (HD) Contone Grayscale
- Durst Gamma 60/70 Simulation
- Binary

Colors:

4 or 5 colors depending on configuration with simultaneous printing of all colors loaded

Inks:

Pigmented ceramic inks certified by Durst available from different ink vendors for decorating floor and wall tiles, as well as third fire applications.

Ink Supply:

Ink supply system designed for continuous, nonstop operation with user-friendly refill system.

Software:

Proprietary and patented 64 Bit LINUX based Durst Gamma software with intuitive workflow and sophisticated, powerful job preparation and print controls for fast and easy operation.

File Format:

CMYK-TIFF + Alpha Channel

Image Processing:

Patented Durst Print Engine with on-the-fly image processing and random image variation control with multiple choices for ultimate tile variability, fast operation and minimized downtime

Tile Specifications

Tile Type:

All type of floor and wall tiles

- Green tile bodies (porcelain/monocottura – single fire)
- Fired biscuit (bicottura – double fire)
- Ceramic trim pieces – Listello (terzo fuoco – third fire)

Tile Width (un-fired):

- Gamma 75 HD-NR:
100–704 mm (3.9–27.7 in.),
depending on configuration
- Gamma 75 HD-NRS:
100–680 mm (3.9–26.7 in.),
depending on configuration

Tile Length (un-fired):

100–2700 mm (3.9–106 in.), depending on configuration and resolution

Tile Thickness:

5 to 25 mm (0.2–1.0 in.)

Environmental Requirements

Temperature Range:

+5 °C to +40 °C (+41 °F to 104 °F)

Relative Humidity:

25–80 % non condensing

Resolutions, linear belt speeds and max. ink amounts:

Gamma 75 HD-NR

Advanced High Definition Contone Grayscale Technology

Gamma 75 HD-NRS

Advanced High Definition Contone Grayscale Technology

Resolution

Max. belt speed

(from 1m/min up to:)

Max. Ink amount

(with 1.2 g/m³ ink density)

Single Color

All Colors

360 x 120 dpi	90 m/min.	7.2 g/m ²	36.0 g/m ²
360 x 240 dpi	76 m/min.	14.5 g/m ²	72.5 g/m ²
360 x 360 dpi	48 m/min.	21.1 g/m ²	105.5 g/m ²
360 x 480 dpi	36 m/min.	29.0 g/m ²	145.0 g/m ²
360 x 600 dpi	28 m/min.	35.6 g/m ²	178.0 g/m ²
220 x 240 dpi	74 m/min.	8.5 g/m ²	42.5 g/m ²
220 x 480 dpi	37 m/min.	17.2 g/m ²	86.0 g/m ²
220 x 720 dpi	25 m/min.	25.8 g/m ²	129.0 g/m ²
220 x 960 dpi	19 m/min.	34.5 g/m ²	170.0 g/m ²



durst

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