gallus

Gallus Labelfire Diamond Core Series

D1

D2

D3

Diamond Core is the heart of every Labelfire. This refers to the digital print unit, which prints with a native resolution of 1200 x 1200 dpi using the UV inkjet process. This printing unit is available as a 4- or 7-colour Diamond Core and can be optionally equipped with a print head row for digital white. This makes brilliant printing results possible even on transparent materials. A production speed of up to 70 m/min can be achieved, with or without die-cutting unit.

Lowest cost-per-label
Maximum productivity in conjunction with competitive ink prices and the efficient colour management of Prinect enable the printer to produce labels at an excellent price/performance ratio.

Quality
The best available resolution of 1200 × 1200 dpi (native) at 70 m/min and camera-based quality assurance ensure perfect print quality. The Single Colour Pinning process ensures sharp printing results even with extra fine lines and very small fonts. The 7-colour printing unit is capable of simulating up to 94%* of PANTONE® PLUS colours. Constant colour stability throughout the entire production life of the machine guarantees exact reproducibility for repeated print jobs.
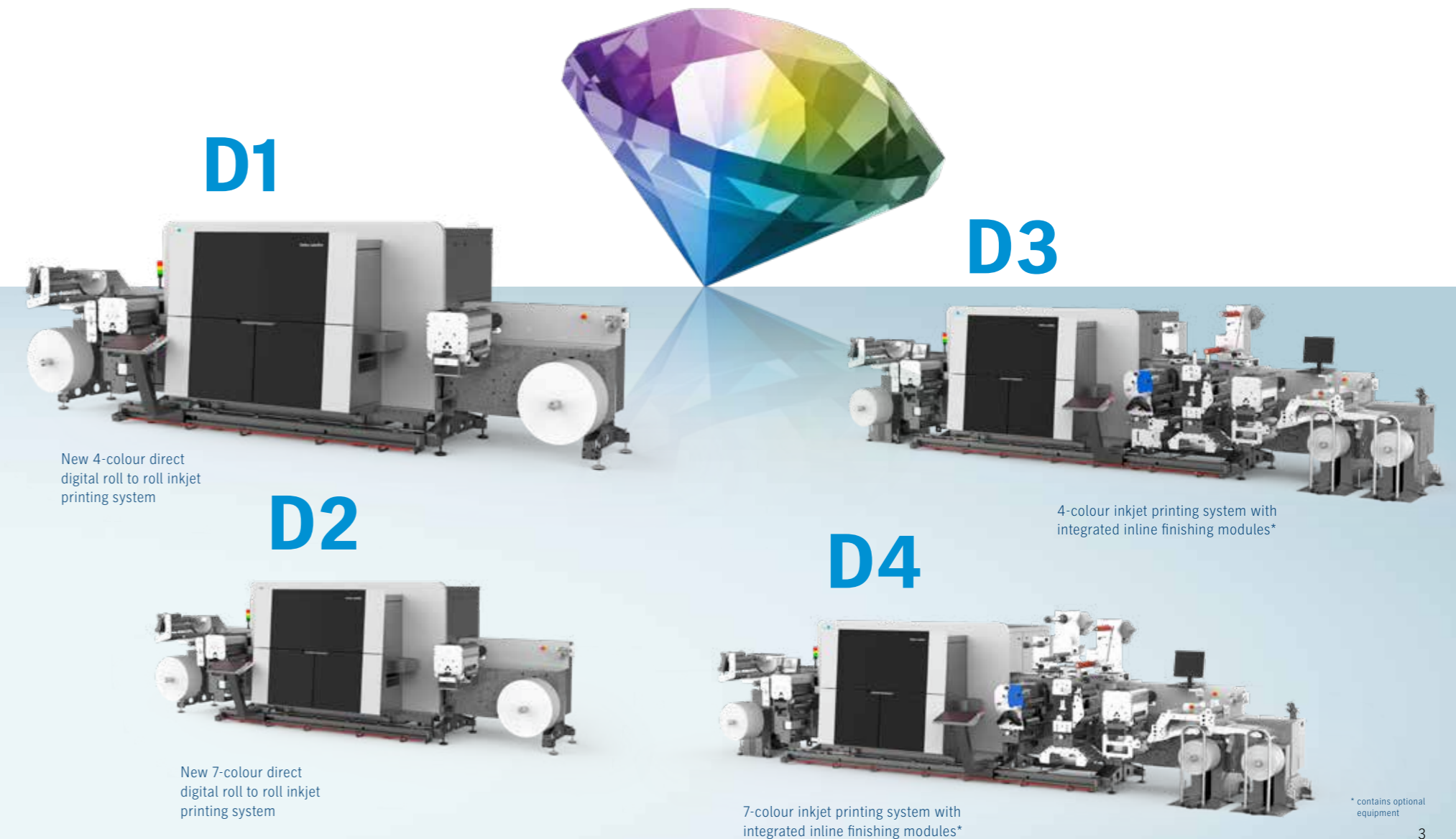
Ease of use
One control panel for everything. Gallus Labelfire's integrated register control and Human Machine Interface (HMI) stand for simple and intuitive operation. The conventional modules are controlled with the same operating logic as the digital printing unit. In addition, camera-based quality monitoring and nozzle error detection and compensation ensure the highest inkjet print quality.

Comprehensive carefree package
With the Gallus Labelfire, we offer comprehensive service. With the purchase of this machine, all maintenance work in the first year of operation is included in the price, including the exchange of all parts to be replaced, labour and access to the 24/6 help desk. Corresponding service packages are available for every mode of operation for the following years.

* ΔE00 ≤ 3

D1

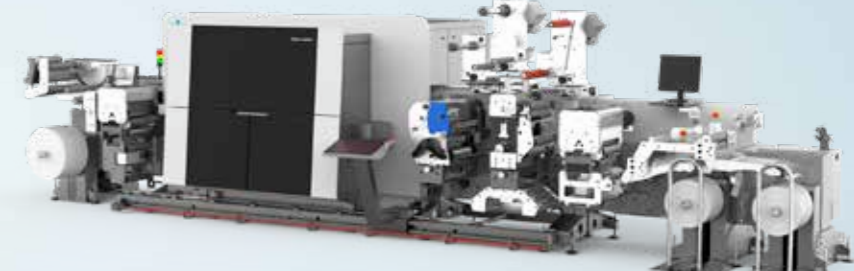New 4-colour direct digital roll to roll inkjet printing system

D2

New 7-colour direct digital roll to roll inkjet printing system

D3

4-colour inkjet printing system with integrated inline finishing modules*

D4

7-colour inkjet printing system with integrated inline finishing modules*

* contains optional equipment

1200 x 1200 dpi

Single Colour Pinning for sharp printing results

Digital white optionally available

4-colour UV inkjet printing roll-to-roll

Vision system HMI: Print and register control

Gallus Labelfire D1

Digital printing on an industrial scale

Solid reliability
As the slimmest member of the Diamond Core Series, the Labelfire D1 4-colour machine focuses entirely on its main tasks in digital printing. Namely robust and long-lasting printing roll-to-roll on an industrial scale, with consistently high quality at 1200 dpi. The Labelfire D1 is also optionally available with digital white.

· 4-colour direct digital roll-to-roll inkjet printing (CMYK) plus optional digital white
· Best print quality with 1200 x 1200 dpi native, corresponds to 2400 x 2400 dpi optical
· Single Colour Pinning for sharp print results
· Vision system HMI (print and register control)
· Fast and stable: up to 70 m/min production speed*
· Optional: Digital white with high opacity

* Printing speed with digital white: 47 m/min, the speed mode of 70 m/min can lead to limitations (color gamut, substrate variety, iVDP, repetition length of die cut)

Single Colour Pinning ensures crisp reproduction of the subjects.

Gradients down to zero percent without tearing and small fonts in 4-colour printing.

The use of digital white enables brilliant colour reproduction on transparent materials.

1200 x 1200 dpi

Single Colour Pinning for sharp printing results

Digital white optionally available

7-colour UV inkjet printing roll-to-roll

Vision system HMI: Print and register control

Gallus Labelfire D2

Best print quality – perfect price/performance ratio

Perfect printing results
With its 7-colour roll-to-roll printing system, the Gallus Labelfire D2 covers almost the entire colour spectrum – with top print quality. This results in a wide range of tasks.

· 7-colour direct digital roll-to-roll inkjet printing (CMYK OGV) plus optional digital white
· Covers up to 94%* of simulated PANTONE® PLUS colour scale
· Best print quality with 1200 x 1200 dpi native, corresponds to 2400 x 2400 dpi optical
· Single Colour Pinning for sharp print results
· Vision system HMI (print and register control)
· Fast and stable: 70 m/min production speed**
· Optional: Digital white with high opacity

* ΔE00 ≤ 3; ** Printing speed with digital white: 47 m/min, the speed mode of 70 m/min can lead to limitations (color gamut, substrate variety, iVDP, repetition length of die cut)

The 7-colour print perfectly accentuates skin tones and subtle shades in the colouring.

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Increased flexibility thanks to inline processing

Single Colour Pinning for sharp printing results

Optional double rewinder

Die-cutting unit

Optional varnish and lamination module

1200 x 1200 dpi

4-colour UV inkjet printing

Flexographic printing unit

Gallus Labelfire D3* with lamitation unit, varnish flow path and additional corona for perfect gloss.

* contains optional equipment
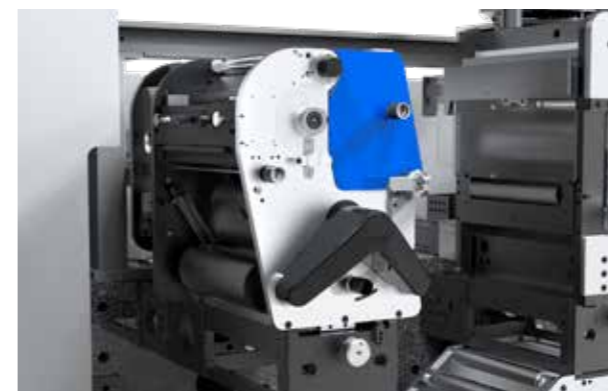
Gallus Labelfire D3

Printing, inline finishing, embellishment and die-cutting in a single pass

Optimised productivity
The ability to not only print labels, but also finish and die-cut them right away saves time and costs, and also significantly increases productivity.

· 4-colour UV inkjet printing (CMYK) plus optional digital white
· Best print quality with 1200 x 1200 dpi native, corresponds to 2400 x 2400 dpi optical
· Single Colour Pinning for sharp print results
· Vision system HMI (print and register control)
· Fast and stable: 70 m/min production speed*
· Optional: Digital white with high opacity
· Inline processing: Fully printed, embellished and die-cut label in a single pass
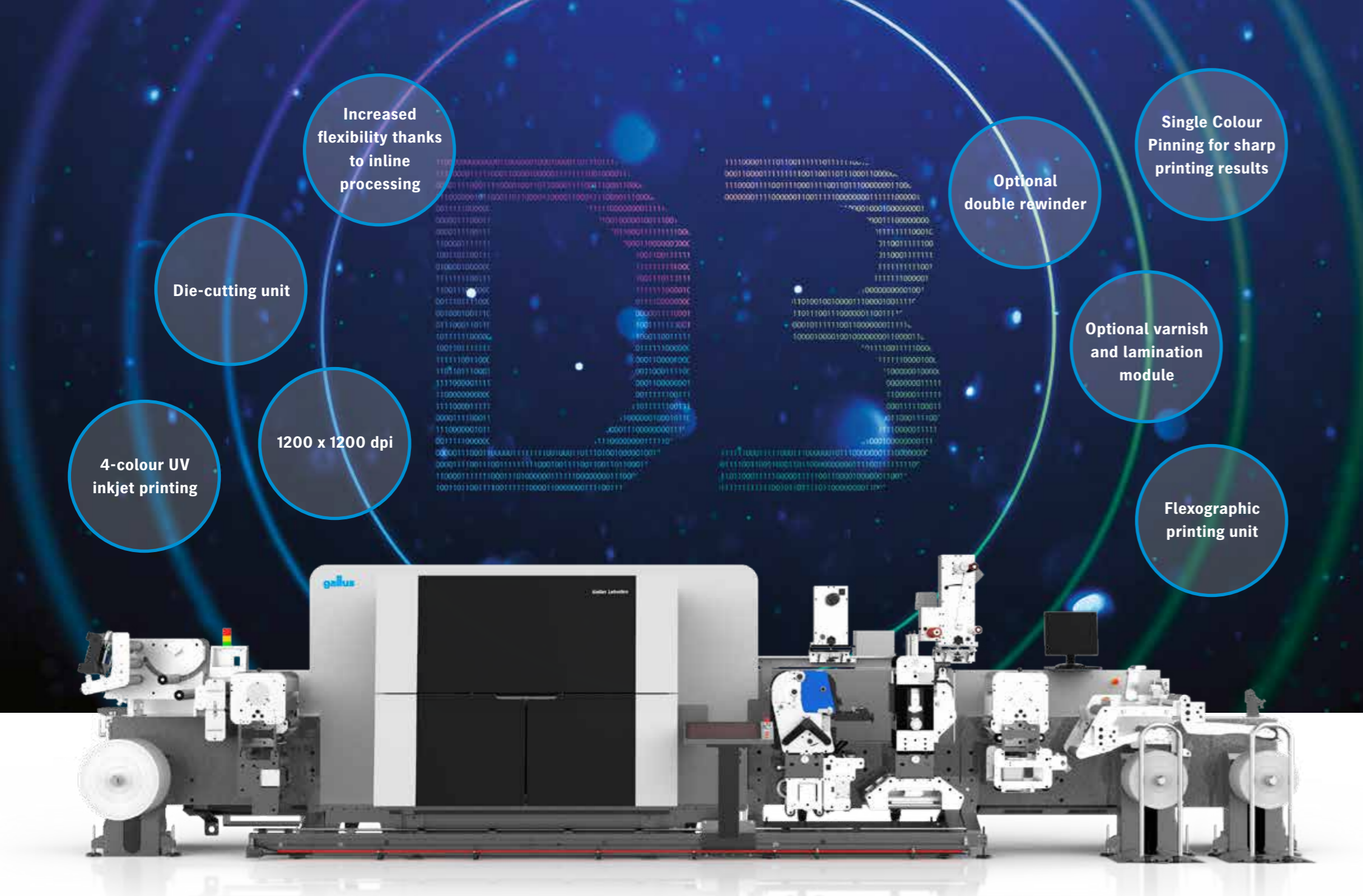
  * Printing speed with digital white: 47 m/min, the speed mode of 70 m/min can lead
    to limitations (color gamut, substrate variety, iVDP, repetition length of die cut)

Flexographic printing unit for spot colours and varnish

Semi-rotatory die-cutting unit

Gallus Labelfire D4

Best print quality and inline finishing in a single pass

Maximum brilliance
The combination of a 7-colour inkjet system and inline processing makes the Gallus Labelfire D4 the all-rounder of the Diamond Core Series. It optimally covers even the highest requirements and produces at the perfect cost-effectiveness ratio.

· 7-colour UV inkjet printing (CMYK OGV) plus optional digital white
· Covers up to 94%* of simulated PANTONE® PLUS colour scale
· Best print quality with 1200 x 1200 dpi native, corresponds to 2400 x 2400 dpi optical
· Single Colour Pinning for sharp print results
· Vision system HMI (print and register control)
· Fast and stable: 70 m/min production speed**
· Optional: Digital white with high opacity
· Inline processing: Fully printed, embellished and die-cut label in a single pass

* ΔE00 ≤ 3; ** Printing speed with digital white: 47 m/min, the speed mode of 70 m/min can lead to limitations (color gamut, substrate variety, iVDP, repetition length of die cut)

Embellishments, such as cold foil applications or varnish effects, are often used for wine and spirits labels, but also for body care products. Gallus Labelfire D3 and D4 provide a wide range of application options here.

Increased flexibility thanks to inline processing

Single Colour Pinning for sharp printing results

Die-cutting unit

Optional double rewinder

Optional cold foil unit

1200 x 1200 dpi

7-colour UV inkjet printing

Flexographic printing unit

Gallus Labelfire D4* with integrated cold foil system.
* contains optional equipment

Labelfire scores particularly well in the overall assessment of all costs incurred (total cost of ownership). The combination of short set-up times, minimised waste and low ink prices enables extremely economical production even with the smallest runs but also at medium run lengths, and forms the basis for highly attractive prices per label.

Print functions
The combination of digital technology and Prinect software simplifies the processing of variable data and versioning for label printing. In addition, order-related fixed costs as well as costs for versioning and customisation can be reduced. The result is cost-effective production of small and medium-sized print runs as well as significantly reduced unit prices for the customer.

The conventional print functions of the Gallus Labelfire D3 and D4 offer additional options in embellishment and inline further processing. This includes, for example, varnishing, laminating and die-cutting. A fair, consumption-based business model offers market-driven prices for inks and services, thus promising interesting margins and competitive advantages.

Highest productivity at low costs

Diamond Core makes it possible

Semi-rotary die-cutter for minimised tool costs and a wide choice of substrates.

The double rewinder* enables crossed winding of rolls.

* contains optional equipment

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Maximum Quality

1200 x 1200 dpi native resolution

The combination of high resolution, a wide colour spectrum and inline quality management provides the basis for brilliant, precise and perfectly consistent print results.

The print quality of the system corresponds to that of high-resolution offset printing
The native (physical) resolution of 1200 x 1200 dpi with a droplet size of just 2 pl and up to 200 greyscale values enables an optical resolution of 2400 x 2400 dpi. Tiny characters, fine lines and colour gradients can be printed down to zero percent without tearing.

The combination of the process colours CMYK and the colour gamut extension colours orange, violet and green covers up to 94 percent* of the simulated PANTONE® PLUS colour space. Highly opaque digital white is the basis for brilliant printing results on transparent substrates, even at high speeds.

* ΔE00 ≤ 3

The unique rhombic shape of the heads makes it easier to achieve a seamless fit between the heads to create a smooth colour progression.

Inter Colour Pinning ensures excellent printing quality and a wide choice of substrates.

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Perfect printing system from a single source

Specially developed UV inks are the ideal supplement for maximum print quality

The colour system
Specially developed for Labelfire, Saphira® Digital UV inks ensure an optimally coordinated printing system and enable reliable, high-quality production on a wide range of substrates. Particularly when using seven process colours plus white, the system impresses with an excellent colour gamut and perfect colour gradients. The inks are characterised by high rub resistance, good adhesion and hardness as well as lightfastness of ≥7 across all colours. With the 10-litre "Bag in Box System", a clean and easy ink change is possible without the need to stop operation. To ensure maximum durability of the print heads, Gallus supplies additional consumables perfectly adapted to the system, e.g. for automatic and contactless cleaning of the print heads.

Colour sequence in the digital printing system: Digital white, green, orange, violet, yellow, magenta, cyan and black.

Saphira® Digital UV inks for optimal printing results
· Lightfastness ≥7 across all colours
· Up to 94%* coverage of PANTONE® PLUS colour gamut for optimal reproduction of special colours
· Meets general regulatory requirements such as REACH, RoHs and the relevant guidelines for printing inks.

* ΔE00 ≤ 3

The 10-litre "Bag in Box System" ensures easy ink change.

Flawless labels thanks to sophisticated technology

Undesirable effects are avoided in a targeted and effective manner

Perfect print quality thanks to inline quality management
Thanks to the interaction of camera detection in the digital printing unit and specially developed algorithms, so-called "white lines" and "dark lines" are a thing of the past. This gives you perfect labels in perfect quality.

Eight-colour printing system for maximum colour space coverage.

Gallus Labelfire colour spaces

The 7-colour inkjet system covers up to 94 percent* of the simulated PANTONE® PLUS colour scale in the highest quality.

The 4-colour gamut already covers up to 77 percent* of the simulated PANTONE® PLUS colour scale.

* ΔE00 ≤ 3

Diamond Core Series at a Glance

The right system for every requirement

Technical Data	
Print process	UV Piezo DoD – Inkjet
Print speed	up to 70 m/min*
Productivity	max. print area 1428 m²/h
Print resolution	1200 × 1200 dpi native at a droplet size of 2 pl, visual resolution approx. 2400 × 2400 dpi
Print width	up to 340 mm
Substrates	mono films, papers and composite materials (50–350 µm)

Digital Print Unit		D1	D2	D3	D4
Colours	CMYK (cyan/magenta/yellow/black)	✓	✓	✓	✓
Colour gamut extension	GOV (green/orange/violet)	–	✓	–	✓
Digital white (up to 47 m/min)	high opacity & speed mode	▪	▪	▪	▪
Single colour pinning after each print bar	sharpness and intercolour bleeding control	✓	✓	✓	✓
Automatic cleaning system	contact-free cleaning (<180s)	✓	✓	✓	✓
Vision system	Visualizing on HMI	✓	✓	✓	✓
Digital print control	missing nozzle detection & compensation / density unevenness detection & compensation	✓	✓	✓	✓
Substrate qualification	automatic inline qualification (100% system supported)	✓	✓	✓	✓
Digital register automatic	for all colours	✓	✓	✓	✓
Web video function	Inspection via screen in front of the rewinder	–	–	▪	▪
Industrial variable data printing (iVDP)	e.g. barcodes, QR codes, alphanumeric text	✓	✓	✓	✓
Insetting	accurate imprinting of pre-printed substrates	▪	▪	▪	▪

Workflow		D1	D2	D3	D4
Digital Front End (DFE)	3 x Prinect cockpits	✓	✓	✓	✓
Server hardware		▪	▪	▪	▪
Pre and post calculation	ink consumption	✓	✓	✓	✓
Colour proof	integration in proofing workflow (Prinect Colour Proof Pro 75)	▪	▪	▪	▪
MIS integration	MIS to DFE Pack	▪	▪	▪	▪
Colour Toolbox full license	ICC profiles and device link profiles, quality monitor	▪	▪	▪	▪
Kanji Fonts	Extension by 5 high resolutions kanji fonts	▪	▪	▪	▪

* Speed mode of 70 m/min can lead to limitations (color gamut, substrate variety, iVDP)

Conditioning		D1	D2	D3	D4
Unwinder	max. 40" (1016 mm), max. 250 kg	✓	✓	✓	✓
Lift		■	■	■	■
Splice control	automatic print bar lifting	✓	✓	✓	✓
Teknek web path cleaning	front and reverse side	✓	✓	✓	✓
Active web cleaning (vacuum system)	contact-free	✓	✓	✓	✓
Corona	front or reverse side	✓	✓	✓	✓
Antistatic system	contact-free	✓	✓	✓	✓

Inline Converting		D1	D2	D3	D4
Flexo Unit	254–508 mm (10"–20")	–	–	✓	✓
Register control		–	–	✓	✓
Cold Foil System		–	–	■	■
Lamination Unit	with varnish flow path and additional corona for perfect gloss	–	–	■	■
Rail system		–	–	✓	✓
50 m/min Semi Rotary Die-Cutting Unit	supported formats: 152–508 mm (6"–20"), v_{max}: 381 mm (15")	–	–	■	■
Adjustable anvil cylinder	Acustrike	–	–	✓	✓
Matrix rewinder		–	–	✓	✓
70 m/min Semi Rotary Die-Cutting Unit	supported formats: 152–508 mm (6"–20"), v_{max}: 305 - 508 mm (12" - 20")	–	–	■	■
Adjustable anvil cylinder	K&B (oil system)	–	–	✓	✓
Matrix rewinder		–	–	✓	✓
Web video		–	–	■	■
Longitudinal slitter in razor blade design	3 blades	■	■	■	■

Inline Converting		D1	D2	D3	D4
Rewinder	max. 40" (1016 mm), 250 kg	✓	✓	✓	✓
Lift		■	■	■	■
Pressure arm / Hold down device	with antistatic device	■	■	■	■
Double rewinder	with inspection desk	–	–	■	■
Lift		–	–	✓	✓
Pressure arm / Hold down device	with antistatic device	–	–	✓	✓

Size		D1	D2	D3	D4
L x W x H		6,4 × 4,5 × 2,2 m		8,0 × 4,5 × 2,2 m	

Connected loads		D1	D2	D3	D4
Voltage	400 V / 50 Hz (optional 60 Hz)				
Connection power	3P + PE	66 kW	66 kW	78 kW	78 kW
Compressed air	7.5 - max. 10 bar, oil- and water-free	350 l/min	350 l/min	350 l/min	350 l/min
Exhaust air	exhaust air temperature max. 50 °C / ozone output during operation approx. 0.8 mg/m³	1500 m³/h	1500 m³/h	1800 m³/h	1800 m³/h
Compliance	CE, GS (UL possible)	✓	✓	✓	✓
Remote access		✓	✓	✓	✓

Following specific adaptions of the individual machine types of Labelfire are possible:

Special substrates	cardboard & tube laminate & thin foils (20–450 μm)
Full Variable Data Printing (FullVDP)	every pixel is fully variable – complete colour gamut, full resolution and up to 70 m/min
Low migration	Swiss Ordinance / Nestle Guidance / Eupia / GMP

All technical details are approximate values. Technical details depend on machine configuration, job, web width, consumable materials, substrate and other factors where applicable.
We reserve the right to make technical and other changes.

✓ Standard
■ Optional

Gallus Services

The right service package for everyone

Service is perfect when perfectly adapted to individual requirements. Gallus therefore offers three service packages, from standard maintenance to a comprehensive carefree package.

Service Support Plans

	Silver	Gold	Platinum
Remote Services			
Remote- and telephone support	✓	✓	✓
Helpdesk availability	12/5	24/5	24/6
Reaction time	6 hours	4 hours	2 hours
Preventive Services			
Preventive maintenance interventions (2 man days / intervention)	2	2	2
Preventive maintenance parts	Optional	✓	✓
Software updates (hot fix remote)	✓	✓	✓
Break Fix Services			
Spare parts supply	–	✓	✓
Packaging / shipping	–	✓	✓
Break fix interventions	–	–	✓
Ø Time onsite	–	–	24 hours

Feature Coverage Modules

	Silver	Gold	Platinum
Inkjet Head Bundling			
Inkjet print head insurance (parts)	–	4 pc.	✓
Inkjet print head replacement (labor)	–	–	✓
Pinning Bundling			
Pinning insurance (parts)	–	1 pc.	✓
Pinning replacement (labor)	–	–	✓
Software Upgrades			
Prinect software upgrade	✓	✓	✓

Details you will find in our service leaflet.

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