SIGNRACER HD

High definition UV printers with LED technology

HIGH LED PERFORMANCE

Printers

SIGNRACER HD Hybrid | Flatbed
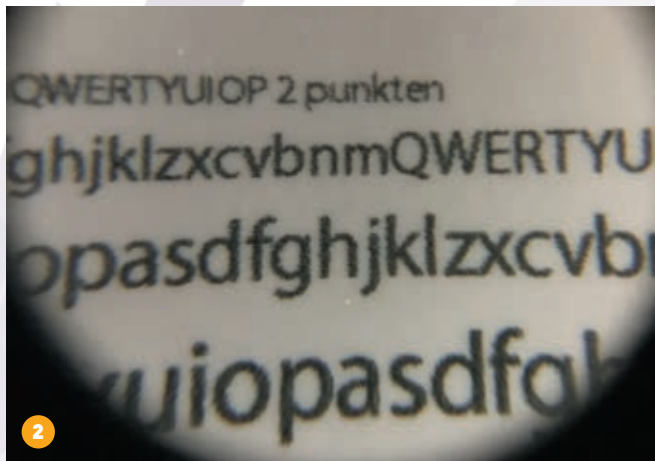SIGNRACER Hybrid | Flatbed

SIGNRACER HD

Hybrid

NEW carriage with high performance LED drying system of max. 14 W/cm²

The new carriage design was developed for the new LED system (see picture 1). SIGNRACER hybrid printers have an adjustable LED drying system with an increased performance of 2 – 14 W/cm². The LED lamps are mounted with an angle to reduce the stray light to the print heads. The major advantages of the high performance LED system are low temperature, continuous control of the intensity and the 20.000 hours life span. With LED technology it is possible to print on temperature sensitive materials. The curing intensity can be reduced with the continuous control (potentiometer) to keep the ink more flexible for machining or thermoforming after printing.

2 NEW Ricoh Gen. 5s (MH5220) print head

Signracer chose the new RICOH MH5220 as an extension to its existing OEM agreement with Ricoh. The joint development reflects broader industry demand for advanced high-resolution printing with excellent close-up detail. The small 2.5 pl native drop size of the print head allows Signracer to offer its customers even finer visual graphics, improved flesh tones and subtle pastel shades.

3 The new Ricoh Gen. 5s print heads are very robust (steel housing) and were developed for high end industrial printing with highest quality. The new low viscosity inks SIGNRACER SR-200 HD are released by Ricoh and use optimized print head settings (wave forms, temperatures and voltages).
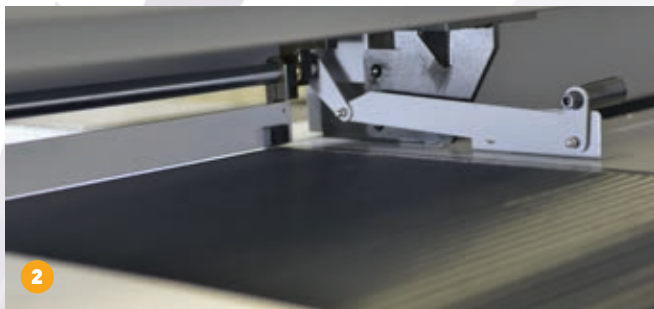
SIGNRACER HD

Technical Key Features	SIGNRACER 1600 HD	SIGNRACER 2500 HD	SIGNRACER 3200 HD
Print Technology	Multi drop technology	Multi drop technology	Multi drop technology
Print Head	Ricoh Gen. 5s / 2–4 printheads	Ricoh Gen. 5s / 2–8 printheads	Ricoh Gen. 5s / 2–8 printheads
Printbed	1600 mm	2500 mm	3200 mm
Hybrid	Conveyor vacuum belt with 3 zones and startbar for media positioning	Conveyor vacuum belt with 5 zones and startbar for media positioning	Conveyor vacuum belt with 5 zones and startbar for media positioning
Dimensions (height × width × depth)	1310 × 3100 × 870 mm (without PC arm and media table)	1350 × 4850 × 1030 mm (without PC arm and media table)	1450 × 5480 × 1420 mm (without PC arm and media table)
Weight	900 kg	1300 kg	2460 kg
Power Consumption – Option	4 kw	6 kw	6 kw
Nozzles / Drop Size	1280 nozzles / 2.5–9 pl grayscale	1280 nozzles / 2.5–9 pl grayscale	1280 nozzles / 2.5–9 pl grayscale
Media Specifications			
Maximum Media Width	1600 mm	2500 mm	3200 mm
Maximum Print Width	1600 mm	2500 mm	3200 mm
Media Type	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)
Media Thickness	Maximum 50 mm	Maximum 50 mm	Maximum 50 mm
Media Drying System	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)
Printing Speeds	Single row print heads	Single | Double row print heads	Single | Double row print heads
Draft (4 pass, 600 × 1200 dpi)	20 m²/h	25 m²/h | 40 m²/h	27 m²/h | 43 m²/h
Production (6 pass, 600 × 1200 dpi)	16 m²/h	19 m²/h | 31 m²/h	20 m²/h | 33 m²/h
Quality (8 pass, 600 × 1200 dpi)	13 m²/h	14 m²/h | 25 m²/h	15 m²/h | 27 m²/h
High Quality (12 pass, 600 × 1200 dpi)	9 m²/h	10 m²/h | 18 m²/h	11 m²/h | 19 m²/h
Print Resolution	Up to 1200 dpi	Up to 1200 dpi	Up to 1200 dpi
Ink Specifications			
Ink Type (Ricoh approved)	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD
Colors	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat
Ink Consumption	7 ml/m²	7 ml/m²	7 ml/m²
Main ink tank capacity	1 l with level sensor	1 l with level sensor	1 l with level sensor

SIGNRACER

High performance LED lamps
NEW Generation – now with max. 14 W/cm²

The new LED lamps have an adjustable performance with up to 14 W/cm². To further improve the curing also the length of the LED's were extended. For one print head row the LED size is increased from 90 to 120 mm and for 2 print head rows from 150 to 180 mm (see picture 1). Both LED sizes fit in the same LED housing, which allows an easy upgrade of the printer from one to two print head rows. The new LED lamps are using an improved temperature controlled cooling system to reduce the fan noise.
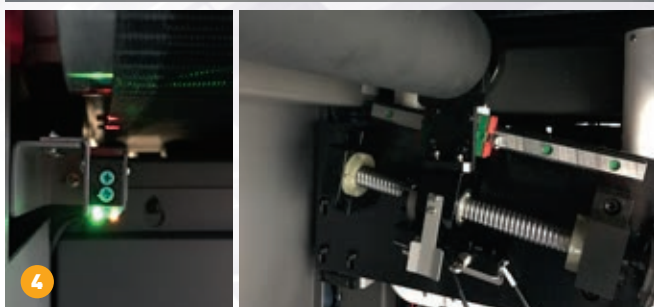

❷ Start guide

On the SIGNRACER hybrid printers a start guide is used to have a defined starting position for the print. The guide accelerates the preparation time and improves the accuracy of the printing process.

❸ Vacuum zones

The SIGNRACER 1600 has three vacuum zones, the bigger models SIGNRACER 2500 and 3200 have now five zones under the conveyor belt. There is a new middle vacuum over the whole width of the conveyor belt and an additional lever to adjust the vacuum intensity. With this large choice of vacuum zones the print media is perfectly fixed to the printer and can be printed with the highest precision. The transport belt runs smoothly even with high weight materials.

❹ Self-regulated conveyor belt with adjustable vacuum

An integrated belt-drive control and automated adjustment guarantees a safe and linear material transport. A laser recognizes the belt movement and corrects it. The safe material handling is supported by an adjustable vacuum and a regulated belt tensioning system for the material management.

SIGNRACER

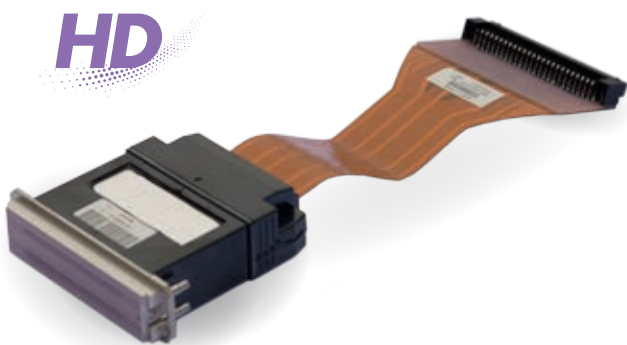| Technical Key Features	SIGNRACER 1600	SIGNRACER 2500	SIGNRACER 3200
Print Technology	Multi drop technology	Multi drop technology	Multi drop technology
Print Head	Ricoh Gen. 5 / 2–4 printheads	Ricoh Gen. 5 / 2–8 printheads	Ricoh Gen. 5 / 2–8 printheads
Printbed	1600 mm	2500 mm	3200 mm
Hybrid	Conveyor vacuum belt with 3 zones and startbar for media positioning	Conveyor vacuum belt with 5 zones and startbar for media positioning	Conveyor vacuum belt with 5 zones and startbar for media positioning
Dimensions (height × width × depth)	1310 × 3100 × 870 mm (without PC arm and media table)	1350 × 4850 × 1030 mm (without PC arm and media table)	1450 × 5480 × 1420 mm (without PC arm and media table)
Weight	900 kg	1300 kg	2460 kg
Power Consumption – Option	4 kw	6 kw	6 kw
Nozzles / Drop Size	1280 nozzles / 7–21 pl grayscale	1280 nozzles / 7–21 pl grayscale	1280 nozzles / 7–21 pl grayscale
Media Specifications			
Maximum Media Width	1600 mm	2500 mm	3200 mm
Maximum Print Width	1600 mm	2500 mm	3200 mm
Media Type	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)
Media Thickness	Maximum 50 mm	Maximum 50 mm	Maximum 50 mm
Media Drying System	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)
Printing Speeds	Single row print heads	Single | Double row print heads	Single | Double row print heads
Draft (4 pass, 600 × 600 dpi)	23 m²/h	29 m²/h | 44 m²/h	31 m²/h | 50 m²/h
Production (6 pass, 600 × 600 dpi)	18 m²/h	21 m²/h | 35 m²/h	23 m²/h | 38 m²/h
Quality (8 pass, 600 × 600 dpi)	14 m²/h	16 m²/h | 29 m²/h	17 m²/h | 31 m²/h
High Quality (9 pass, 600 × 900 dpi)	12 m²/h	14 m²/h | 25 m²/h	15 m²/h | 27 m²/h
Print Resolution	Up to 1200 dpi	Up to 1200 dpi	Up to 1200 dpi
Ink Specifications			
Ink Type (Ricoh approved)	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD
Colors	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat
Ink Consumption	10 ml/m²	10 ml/m²	10 ml/m²
Main ink tank capacity	1 l with level sensor	1 l with level sensor	1 l with level sensor

SIGNRACER HD

NEW carriage with high performance LED drying system of max. 14 W/cm²

The new carriage design was developed for the new LED system (see picture 1). SIGNRACER flatbed printers have an adjustable LED drying system with an increased performance of 2 – 14 W/cm². The LED lamps are mounted with an angle to reduce the stray light to the print heads. The major advantages of the high performance LED system are low temperature, continuous control of the intensity and the 20.000 hours life span. With LED technology it is possible to print on temperature sensitive materials. The curing intensity can be reduced with the continuous control (potentiometer) to keep the ink more flexible for machining or thermoforming after printing.

❷ NEW Ricoh Gen. 5s (MH5220) print head

Signracer chose the new RICOH MH5220 as an extension to its existing OEM agreement with Ricoh. The joint development reflects broader industry demand for advanced high-resolution printing with excellent close-up detail. The small 2.5pl native drop size of the print head allows Signracer to offer its customers even finer visual graphics, improved flesh tones and subtle pastel shades.

The new Ricoh Gen. 5s print heads are very robust (steel housing) and were developed for high end industrial printing with highest quality. The new low viscosity inks SIGNRACER SR-200 HD are released by Ricoh and use optimized print head settings (wave forms, temperatures and voltages).

❸ Start pins

The SIGNRACER flatbed printers have integrated start pins for perfect media positioning. They are moved up or down with a simple lever. The start pins have a print head protection, therefore the print head cannot move when the start pins are enabled.

SIGNRACER HD

Technical Key Features	SIGNRACER 1610 HD	SIGNRACER 2512 HD	SIGNRACER 3116 HD	SIGNRACER 3020 HD
Print Technology	Multi drop technology	Multi drop technology	Multi drop technology	Multi drop technology
Print Head	Ricoh Gen. 5s / 2–4 printheads	Ricoh Gen. 5s / 2–8 printheads	Ricoh Gen. 5s / 2–8 printheads	Ricoh Gen. 5s / 2–8 printheads
Printbed	1600 × 1000 mm	2500 × 1250 mm	3100 × 1600 mm	3050 x 2050 mm
Flatbed	Honeycomb 2 zones vacuum table with registration pins	Honeycomb 4 zones vacuum table with registration pins	Honeycomb 4 zones vacuum table with registration pins	Honeycomb 4 zones vacuum table with registration pins
Dimensions (height × width × depth)	1300 × 3100 × 1700 mm (without PC arm)	1320 × 4670 × 1960 mm (without PC arm)	1350 × 5230 × 2220 mm (without PC arm)	1350 × 5230 × 3200 mm (without PC arm)
Weight	760 kg	1380 kg	1610 kg	1760 kg
Power Consumption – Option	4 kw	6 kw	6 kw	6 kw
Nozzles / Drop Size	1280 nozzles / 2.5–9 pl grayscale	1280 nozzles / 2.5–9 pl grayscale	1280 nozzles / 2.5–9 pl grayscale	1280 nozzles / 2.5–9 pl grayscale
Media Specifications				
Maximum Media Width	1640 mm	2540 mm	3140 mm	3100 mm
Maximum Print Width	1600 mm	2500 mm	3100 mm	3050 mm
Media Type	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)
Media Thickness	Maximum 100 mm	Maximum 100 mm	Maximum 100 mm	Maximum 100 mm
Media Drying System	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)
Printing Speeds	Single row print heads	Single | Double row print heads	Single | Double row print heads	Single | Double row print heads
Draft (4 pass, 600 × 1200 dpi)	20 m²/h	25 m²/h | 40 m²/h	27 m²/h | 43 m²/h	27 m²/h | 43 m²/h
Production (6 pass, 600 × 1200 dpi)	16 m²/h	19 m²/h | 31 m²/h	20 m²/h | 33 m²/h	20 m²/h | 33 m²/h
Quality (8 pass, 600 × 1200 dpi)	13 m²/h	14 m²/h | 25 m²/h	15 m²/h | 27 m²/h	15 m²/h | 27 m²/h
High Quality (12 pass, 600 × 1200 dpi)	9 m²/h	10 m²/h | 18 m²/h	11 m²/h | 19 m²/h	11 m²/h | 19 m²/h
Print Resolution	Up to 1200 dpi	Up to 1200 dpi	Up to 1200 dpi	Up to 1200 dpi
Ink Specifications				
Ink Type (Ricoh approved)	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD
Colors	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat
Ink Consumption	7 ml/m²	7 ml/m²	7 ml/m²	7 ml/m²
Main ink tank capacity	1 l with level sensor	1 l with level sensor	1 l with level sensor	1 l with level sensor

High performance LED lamps
NEW Generation – now with max. 14 W/cm²

The new LED lamps have an adjustable performance with up to 14 W/cm². To further improve the curing also the length of the LED's were extended. For one print head row the LED size is increased from 90 to 120 mm and for 2 print head rows from 150 to 180 mm (see picture 1). On the flatbed printers it is now possible to print from back to front as well. Both LED sizes fit in the same LED housing, which allows an easy upgrade of the printer from one to two print head rows. The new LED lamps are using an improved temperature controlled cooling system to reduce the fan noise.

Vacuum zones with reverse function

The SIGNRACER 1610 has two vacuum zones. The flatbed models 2512, 3116 and 3020 have four zones. With this option the print media is perfectly fixed to the printer and can be printed with the highest precision. On the SIGNRACER 2512, 3116 and 3020 there is a valve to reverse the vacuum blower. This helps the operator to move heavy media like glass, because the vacuum table will blow air through the print bed holes. Therefore the media is floating on the flatbed.

Automated media height adjustment

The SIGNRACER flatbed and hybrid printers use an automated media height adjustment. The flatbed printers can print on media up to 10 cm height, which is an advantage over most other printers in the market.
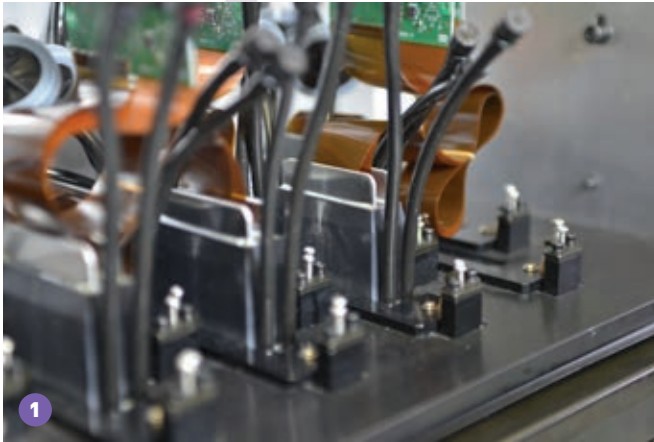
Back to front printing

With the increased length of the LED lamps it is now possible to also print from the back of the flatbed printers to the front. This option can be useful for certain applications.
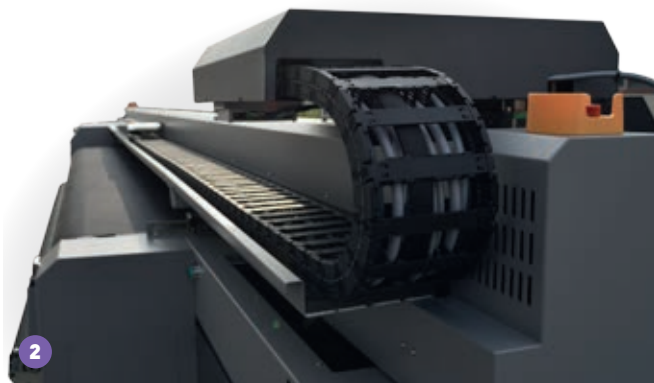
SIGNRACER

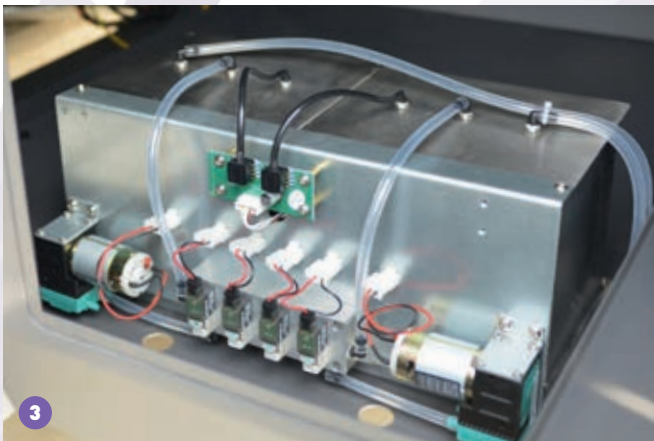| Technical Key Features	SIGNRACER 1610	SIGNRACER 2512	SIGNRACER 3116	SIGNRACER 3020
Print Technology	Multi drop technology	Multi drop technology	Multi drop technology	Multi drop technology
Print Head	Ricoh Gen. 5 / 2–4 printheads	Ricoh Gen. 5 / 2–8 printheads	Ricoh Gen. 5 / 2–8 printheads	Ricoh Gen. 5 / 2–8 printheads
Printbed	1600 × 1000 mm	2500 × 1250 mm	3100 × 1600 mm	3050 x 2050 mm
Flatbed	Honeycomb 2 zones vacuum table with registration pins	Honeycomb 4 zones vacuum table with registration pins	Honeycomb 4 zones vacuum table with registration pins	Honeycomb 4 zones vacuum table with registration pins
Dimensions (height × width × depth)	1300 × 3100 × 1700 mm (without PC arm)	1320 × 4670 × 1960 mm (without PC arm)	1350 × 5230 × 2220 mm (without PC arm)	1350 × 5230 × 3200 mm (without PC arm)
Weight	760 kg	1380 kg	1610 kg	1760 kg
Power Consumption – Option	4 kw	6 kw	6 kw	6 kw
Nozzles / Drop Size	1280 nozzles / 7–21 pl grayscale	1280 nozzles / 7–21 pl grayscale	1280 nozzles / 7–21 pl grayscale	1280 nozzles / 7–21 pl grayscale
Media Specifications				
Maximum Media Width	1640 mm	2540 mm	3140 mm	3100 mm
Maximum Print Width	1600 mm	2500 mm	3100 mm	3050 mm
Media Type	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)	Rigid and flexible (PVC Boards, Aludibond, PS, PP, Acrylat, PET-G, Glass)
Media Thickness	Maximum 100 mm	Maximum 100 mm	Maximum 100 mm	Maximum 100 mm
Media Drying System	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)	LED UV curing with variable power levels (up to 14 Watt/cm²)
Printing Speeds	Single row print heads	Single | Double row print heads	Single | Double row print heads	Single | Double row print heads
Draft (4 pass, 600 × 600 dpi)	23 m²/h	29 m²/h | 44 m²/h	31 m²/h | 50 m²/h	31 m²/h | 50 m²/h
Production (6 pass, 600 × 600 dpi)	18 m²/h	21 m²/h | 35 m²/h	23 m²/h | 38 m²/h	23 m²/h | 38 m²/h
Quality (8 pass, 600 × 600 dpi)	14 m²/h	16 m²/h | 29 m²/h	17 m²/h | 31 m²/h	17 m²/h | 31 m²/h
High Quality (9 pass, 600 × 900 dpi)	12 m²/h	14 m²/h | 25 m²/h	15 m²/h | 27 m²/h	15 m²/h | 27 m²/h
Print Resolution	Up to 1200 dpi	Up to 1200 dpi	Up to 1200 dpi	Up to 1200 dpi
Ink Specifications				
Ink Type (Ricoh approved)	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD	UV-ink SR-100, SR-150, SR-200 HD
Colors	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat	CMYK + LC + LM + White + Clear Coat
Ink Consumption	10 ml/m²	10 ml/m²	10 ml/m²	10 ml/m²
Main ink tank capacity	1 l with level sensor	1 l with level sensor	1 l with level sensor	1 l with level sensor

1 Expansion up to 8 print heads at any time

The SIGNRACER printers are set-up and prepared for a flexible quantity of print heads (max. 8). The SIGNRACER printers can be extended at any time to a second row of print heads (max. 8 print heads) to increase the printing speed. The SIGNRACER models 1610 and 1600 are equipped for only one row of print heads (max. 4 print heads). To make this up-grade to a second print head row cost efficient, Signracer has developed one housing for the LED, which allows to increase the LED length from 120 mm 180 mm.

2 Cable chain

SIGNRACER is using a high performance cable chain from the German company IGUS to protect the cables properly in the chain. For the large printers a wider cable chain was introduced to keep the chain straight over the whole length of the printer.
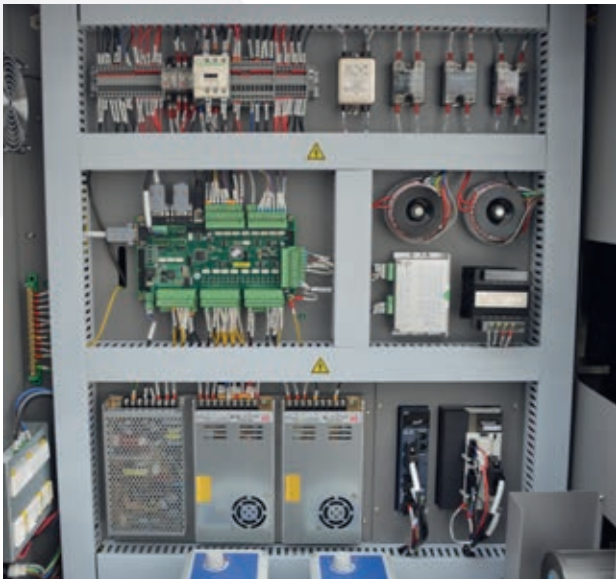

3 Central vacuum

A new central vacuum was developed to provide a more stable negative pressure to all ink channels. This is realized by a vacuum pressure container which keeps always a higher vacuum than needed.
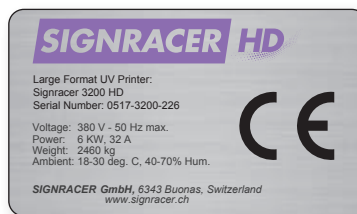

4 Common rail technologie

The exact distribution of the vacuum is performed by a common rail and very short tubes from the rail to the sub tanks.

NEW CE CERTIFICATE

Signracer has performed a CE certification with TÜV including all new components like the latest LED system and electronics. Several modifications of wiring connectors and power supplies were introduced with the CE certificate.

SIGNRACER HD

Large Format UV Printer:
Signracer 3200 HD
Serial Number: 0517-3200-226

Voltage: 380 V - 50 Hz max.
Power: 6 KW, 32 A
Weight: 2460 kg
Ambient: 18-30 deg. C, 40-70% Hum.

CE

SIGNRACER GmbH, 6343 Buonas, Switzerland
www.signracer.ch

NEW 1 LITRE RESERVOIRS

The new 1 litre reservoir was developed to exchange the ink bottle easily and to make sure that old and new inks are not mixed. This is important for small consumers to reduce an ink aging over time. Such aging could increase viscosity and require print head adjustments. The new 1 litre reservoir is equipped with a level sensor and a beep will inform the operator about an empty bottle.

NVC FREE
NVC FREE

HD

SIGNRACER SR-200 HD

SIGNRACER HD

NEW SIGNRACER SR-200 HD INKS

For the SIGNRACER HD series with Ricoh Gen. 5s print heads it was necessary to develop a low viscosity ink. The very small drops of 2.5 pl require much thinner inks to achieve the best printing result. Therefore Signracer developed the SIGNRACER SR-200 HD inks. Although the viscosity is much lower, the adhesion and flexibility of this ink meets highest industrial standards and is a benchmark in the industry.

SIGNRACER 0604 SPEEDY

- Print width up to 610 × 420 mm
- Few minutes production time with only 2 print heads
- Substrates up to 150 mm height
- Automatic Media height measurement by laser
- Up to 6 colors, CMYK + White + Clear Coat
- Increased LED lenght (120 mm) for faster curing

Minutes per printing plate (600 × 400 mm)	
Draft (6 pass)	2,53
Production (12 pass)	4,23
Quality (18 pass)	5,51