

SIGNRACER Configurations

A structured reference for all SIGNRACER
3×4 carriage printhead layouts.

Use this guide to compare how each layout allocates color, white, varnish, and specialty channels before you commit to a production direction.

01

51 live configurations grouped by production objective, from starter layouts to special process modes.

02

Read each layout by rows, print heads, color rows, white mode, and active channel set.

03

Move from qualification to opacity, finish, throughput, and specialty process decisions with one consistent reference.

Every layout is a balance between color throughput, white capacity, finishing channels, and specialty process control. Read the grid first, then the facts, then the short guidance.

Rows

Single, double, and triple-row layouts define how many independent channel banks are available for color and specialty work.

Color rows

More color rows usually increase throughput, while fewer color rows leave more room for white, varnish, or other specialty channels.

Color capability

Standard CMYK, smooth-tone layouts, and expanded-gamut layouts each serve different image-quality and brand-color goals.

Print heads

Print head count shows how much carriage capacity is actively allocated in the layout, not just what the machine can theoretically accept.

White mode

Inline white keeps the layout compact. A dedicated white row gives stronger opacity capacity and supports heavier layered workflows.

Trade-offs

Every card closes with the compromises you accept when you choose that architecture over a faster or more specialized alternative.

EXAMPLE CONFIGURATION

Triple row layout with 8 print heads and 2 color rows, plus a sandwich-white middle row and light inks. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

TA+_CMYKLcLm_WWWW_CMYKLcLm

WHITE-PRODUCTION

Lc2	Lm2	K2	C2	M2	Y2		
W1	W2	W3	W4				
Lc1	Lm1	K1	C1	M1	Y1		

ROWS
Triple row

PRINT HEADS
8

COLOR ROWS
2

WHITE MODE
Dedicated white row

Triple row layout with 8 print heads and 2 color rows, plus a sandwich-white middle row and light inks. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

Single-row starter configurations

Built for fast setup and quick qualification before scaling to higher-throughput architectures.

GROUP 1

CMYK-

BALANCED

STANDARD CMYK

K

C

M

Y

ROWS

Single row

PRINT HEADS

2

COLOR ROWS

1

WHITE MODE

No white

Single row layout with 2 print heads and 1 color row focused on standard CMYK. Built for balanced daily production and straightforward application validation.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Pilot projects and fast sample validation.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Lower capacity for long high-volume runs.

GROUP 1

CMYKOZ-

BALANCED

EXPANDED GAMUT

O

Z

K

C

M

Y

ROWS

Single row

PRINT HEADS

3

COLOR ROWS

1

WHITE MODE

No white

Single row layout with 3 print heads and 1 color row, plus expanded gamut channels. Built for brand-color work and wider gamut jobs without adding specialty-channel complexity.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Color-critical branding and premium graphic work.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Needs disciplined profiling to keep color consistency.

Lower capacity for long high-volume runs.

GROUP 1

CMYKLcLm-

BALANCED

SMOOTH TONES

Lc

Lm

K

C

M

Y

ROWS

Single row

PRINT HEADS

3

COLOR ROWS

1

WHITE MODE

No white

Single row layout with 3 print heads and 1 color row, plus light inks. Built for smoother gradients, light tints, and visually refined output.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Applications with skin tones, gradients, or fine tonal detail.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Lower capacity for long high-volume runs.

Single-row starter configurations

Built for fast setup and quick qualification before scaling to higher-throughput architectures.

GROUP 1

CMYKWW-

BALANCED

STANDARD CMYK

K

C

M

Y

W1

W2

ROWS

Single row

PRINT HEADS

3

COLOR ROWS

1

WHITE MODE

Inline white

Single row layout with 3 print heads and 1 color row, plus inline white. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

- New applications still in validation.
- Short runs with frequent job changes.
- Use when print readability depends on opacity.

TRADE-OFFS

- Lower throughput ceiling than multi-row layouts.
- Lower capacity for long high-volume runs.

GROUP 1

CMYKLcLmWW-

BALANCED

SMOOTH TONES

Lc

Lm

K

C

M

Y

W1

W2

ROWS

Single row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Inline white

Single row layout with 4 print heads and 1 color row, plus inline white and light inks. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

- New applications still in validation.
- Short runs with frequent job changes.
- Use when print readability depends on opacity.

TRADE-OFFS

- Lower throughput ceiling than multi-row layouts.
- Lower capacity for long high-volume runs.

GROUP 1

CMYKOZWW-

BALANCED

EXPANDED GAMUT

O

Z

K

C

M

Y

W1

W2

ROWS

Single row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Inline white

Single row layout with 4 print heads and 1 color row, plus inline white and expanded gamut channels. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

- New applications still in validation.
- Short runs with frequent job changes.
- Use when print readability depends on opacity.

TRADE-OFFS

- Lower throughput ceiling than multi-row layouts.
- Needs disciplined profiling to keep color consistency.
- Lower capacity for long high-volume runs.

Single-row starter configurations

Built for fast setup and quick qualification before scaling to higher-throughput architectures.

GROUP 1

CMYKVV-

K

C

M

Y

V1

V2

ROWS

Single row

PRINT HEADS

3

COLOR ROWS

1

WHITE MODE

No white

Single row layout with 3 print heads and 1 color row, plus varnish. Built for premium finishing and texture effects where varnish matters more than raw speed.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Use when visual/tactile finish is part of product value.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Lower capacity for long high-volume runs.

GROUP 1

CMYKLcLmVV-

Lc

Lm

K

C

M

Y

V1

V2

ROWS

Single row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

No white

Single row layout with 4 print heads and 1 color row, plus varnish and light inks. Built for smoother gradients, light tints, and visually refined output.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Use when visual/tactile finish is part of product value.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Lower capacity for long high-volume runs.

GROUP 1

CMYKOZVV-

O

Z

K

C

M

Y

V1

V2

ROWS

Single row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

No white

Single row layout with 4 print heads and 1 color row, plus varnish and expanded gamut channels. Built for brand-color work and wider gamut jobs without adding specialty-channel complexity.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Use when visual/tactile finish is part of product value.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Needs disciplined profiling to keep color consistency.

Lower capacity for long high-volume runs.

Single-row starter configurations

Built for fast setup and quick qualification before scaling to higher-throughput architectures.

GROUP 1

CMYK VW-

K

C

M

Y

V

W

ROWS

Single row

PRINT HEADS

3

COLOR ROWS

1

WHITE MODE

Inline white

Single row layout with 3 print heads and 1 color row, plus inline white and varnish. Built for mixed production that still needs opacity and tactile finishing without dedicating full rows to specialty channels.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Layered jobs that need both white control and varnish effects.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Limited simultaneous white/varnish layering.

Lower capacity for long high-volume runs.

GROUP 1

CMYK Lc Lm VW-

Lc

Lm

K

C

M

Y

V

W

ROWS

Single row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Inline white

Single row layout with 4 print heads and 1 color row, plus inline white, varnish, and light inks. Built for mixed production that still needs opacity and tactile finishing without dedicating full rows to specialty channels.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Layered jobs that need both white control and varnish effects.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Limited simultaneous white/varnish layering.

Lower capacity for long high-volume runs.

GROUP 1

CMYK OZ VW-

K

C

M

Y

O

Z

V1

W1

ROWS

Single row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Inline white

Single row layout with 4 print heads and 1 color row, plus inline white, varnish, and expanded gamut channels. Built for mixed production that still needs opacity and tactile finishing without dedicating full rows to specialty channels.

BEST FOR

New applications still in validation.

Short runs with frequent job changes.

Layered jobs that need both white control and varnish effects.

TRADE-OFFS

Lower throughput ceiling than multi-row layouts.

Limited simultaneous white/varnish layering.

Needs disciplined profiling to keep color consistency.

Underwhite double-row configurations

Built to place white first as an underwhite foundation when substrate visibility is the main risk.

GROUP 2

DA+_CMYKWW-

W1

W2

K

C

M

Y

ROWS

Double row

PRINT HEADS

3

COLOR ROWS

1

WHITE MODE

Dedicated white row

BEST FOR

Backlit and clear media jobs.

Dark substrates requiring strong underwhite coverage.

Use when print readability depends on opacity.

TRADE-OFFS

More white-ink circulation and upkeep.

Lower color throughput than color-priority layouts.

GROUP 2

DA+_CMYKWWWW-

W1

W2

W3

W4

K

C

M

Y

ROWS

Double row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Dedicated white row

BEST FOR

Backlit and clear media jobs.

Dark substrates requiring strong underwhite coverage.

Use when print readability depends on opacity.

TRADE-OFFS

More white-ink circulation and upkeep.

Lower color throughput than color-priority layouts.

GROUP 2

DA+_CMYKLcLmWW-

W1

W2

Lc

Lm

K

C

M

Y

ROWS

Double row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Dedicated white row

BEST FOR

Backlit and clear media jobs.

Dark substrates requiring strong underwhite coverage.

Use when print readability depends on opacity.

TRADE-OFFS

More white-ink circulation and upkeep.

Lower color throughput than color-priority layouts.

Underwhite double-row configurations

Built to place white first as an underwhite foundation when substrate visibility is the main risk.

GROUP 2

DA+_CMYKLcLmWWWW-

W1

W2

W3

W4

Lc

Lm

K

C

M

Y

ROWS

Double row

PRINT HEADS

5

COLOR ROWS

1

WHITE MODE

Dedicated white row

SPECIALTY-FIRST

SMOOTH TONES

BEST FOR

- Backlit and clear media jobs.
- Dark substrates requiring strong underwhite coverage.
- Use when print readability depends on opacity.

TRADE-OFFS

- More white-ink circulation and upkeep.
- Lower color throughput than color-priority layouts.

Double row layout with 5 print heads and 1 color row, plus an underwhite row and light inks. Built for dark, metallic, or clear substrates where color needs a strong white foundation underneath.

GROUP 2

DA+_CMYKOZWW-

W1

W2

O

Z

K

C

M

Y

ROWS

Double row

PRINT HEADS

4

COLOR ROWS

1

WHITE MODE

Dedicated white row

SPECIALTY-FIRST

EXPANDED GAMUT

BEST FOR

- Backlit and clear media jobs.
- Dark substrates requiring strong underwhite coverage.
- Use when print readability depends on opacity.

TRADE-OFFS

- More white-ink circulation and upkeep.
- Lower color throughput than color-priority layouts.
- Needs disciplined profiling to keep color consistency.

Double row layout with 4 print heads and 1 color row, plus an underwhite row and expanded gamut channels. Built for dark, metallic, or clear substrates where color needs a strong white foundation underneath.

GROUP 2

DA+_CMYKOZWWWW-

W1

W2

W3

W4

O

Z

K

C

M

Y

ROWS

Double row

PRINT HEADS

5

COLOR ROWS

1

WHITE MODE

Dedicated white row

SPECIALTY-FIRST

EXPANDED GAMUT

BEST FOR

- Backlit and clear media jobs.
- Dark substrates requiring strong underwhite coverage.
- Use when print readability depends on opacity.

TRADE-OFFS

- More white-ink circulation and upkeep.
- Lower color throughput than color-priority layouts.
- Needs disciplined profiling to keep color consistency.

Double row layout with 5 print heads and 1 color row, plus an underwhite row and expanded gamut channels. Built for dark, metallic, or clear substrates where color needs a strong white foundation underneath.

Built to place white first as an underwhite foundation when substrate visibility is the main risk.

GROUP 2
DA+_CMYKVW_WWWW-

ROWS
Double row

PRINT HEADS
5

WHITE MODE
Dedicated white row

BEST FOR

- Backlit and clear media jobs.
- Dark substrates requiring strong underwhite coverage.
- Layered jobs that need both white control and varnish effects.

TRADE-OFFS

- More white-ink circulation and upkeep.
- Lower color throughput than color-priority layouts.

Balanced double-row production configurations

Built for day-to-day production where speed and print quality must stay balanced.

GROUP 3

DA_CMYK-

K2

C2

M2

Y2

K1

C1

M1

Y1

ROWS

Double row

PRINT HEADS

4

COLOR ROWS

2

WHITE MODE

No white

Double row layout with 4 print heads and 2 color rows focused on standard CMYK. Built for balanced daily production and straightforward application validation.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Mixed portfolios with recurring production volume.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

GROUP 3

DA_CMYKLcLm-

Lc2

Lm2

K2

C2

M2

Y2

Lc1

Lm1

K1

C1

M1

Y1

ROWS

Double row

PRINT HEADS

6

COLOR ROWS

2

WHITE MODE

No white

Double row layout with 6 print heads and 2 color rows, plus light inks. Built for smoother gradients, light tints, and visually refined output.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Applications with skin tones, gradients, or fine tonal detail.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

Higher head count increases maintenance planning requirements.

GROUP 3

DA_CMYK0Z-

02

Z2

K2

C2

M2

Y2

01

Z1

K1

C1

M1

Y1

ROWS

Double row

PRINT HEADS

6

COLOR ROWS

2

WHITE MODE

No white

Double row layout with 6 print heads and 2 color rows, plus expanded gamut channels. Built for brand-color work and wider gamut jobs without adding specialty-channel complexity.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Color-critical branding and premium graphic work.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

Needs disciplined profiling to keep color consistency.

Balanced double-row production configurations

Built for day-to-day production where speed and print quality must stay balanced.

GROUP 3

DA_CMYK+_WW-

BALANCED

STANDARD CMYK

K2

C2

M2

Y2

W1

W2

K1

C1

M1

Y1

ROWS

Double row

PRINT HEADS

5

COLOR ROWS

2

WHITE MODE

Inline white

Double row layout with 5 print heads and 2 color rows, plus inline white. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Use when print readability depends on opacity.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

GROUP 3

DA_CMYKLcLmLkW-

BALANCED

SMOOTH TONES

Lc2

Lm2

K2

C2

M2

Y2

Lk2

W2

Lc1

Lm1

K1

C1

M1

Y1

Lk1

W1

ROWS

Double row

PRINT HEADS

8

COLOR ROWS

2

WHITE MODE

Inline white

Double row layout with 8 print heads and 2 color rows, plus inline white and light inks. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Use when print readability depends on opacity.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

Higher head count increases maintenance planning requirements.

GROUP 3

DA_CMYKLcLmWW-

BALANCED

SMOOTH TONES

Lc2

Lm2

K2

C2

M2

Y2

W2

W4

Lc1

Lm1

K1

C1

M1

Y1

W1

W3

ROWS

Double row

PRINT HEADS

8

COLOR ROWS

2

WHITE MODE

Inline white

Double row layout with 8 print heads and 2 color rows, plus inline white and light inks. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Use when print readability depends on opacity.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

Higher head count increases maintenance planning requirements.

Balanced double-row production configurations

Built for day-to-day production where speed and print quality must stay balanced.

GROUP 3

DA_CMYKWW-

BALANCED

STANDARD CMYK

K2

C2

M2

Y2

W2

W4

K1

C1

M1

Y1

W1

W3

ROWS

Double row

PRINT HEADS

6

COLOR ROWS

2

WHITE MODE

Inline white

Double row layout with 6 print heads and 2 color rows, plus inline white. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Use when print readability depends on opacity.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

Higher head count increases maintenance planning requirements.

GROUP 3

DA_OZCMYKWW-

BALANCED

EXPANDED GAMUT

O2

Z2

K2

C2

M2

Y2

W2

W4

O1

Z1

K1

C1

M1

Y1

W1

W3

ROWS

Double row

PRINT HEADS

8

COLOR ROWS

2

WHITE MODE

Inline white

Double row layout with 8 print heads and 2 color rows, plus inline white and expanded gamut channels. Built for balanced production where white is needed without giving up too much color capacity.

BEST FOR

General industrial production lines.

Teams moving from proofing to repeatable output.

Use when print readability depends on opacity.

TRADE-OFFS

More setup variables than simpler single-row configurations.

Effect channels reduce available color/head capacity.

Needs disciplined profiling to keep color consistency.

Triple-row speed + trailing utility row

Built for high-volume color production while reserving the third row for backing white or varnish.

GROUP 4

TA+_CMYK_VVVV

BALANCED

STANDARD CMYK

K2

C2

M2

Y2

K1

C1

M1

Y1

V1

V2

V3

V4

ROWS

Triple row

PRINT HEADS

6

COLOR ROWS

2

WHITE MODE

No white

Triple row layout with 6 print heads and 2 color rows, plus a trailing varnish row. Built for premium finishing and texture effects where varnish matters more than raw speed.

BEST FOR

High-volume panel, signage, and decor lines.

Reverse-print clear media or gloss-finished runs that still need two full color rows.

Use when visual/tactile finish is part of product value.

TRADE-OFFS

Higher process and curing complexity.

Requires tighter SOP and QA discipline.

Demands stronger SOP and QA discipline.

GROUP 4

TA+_CMYK_WWWW

WHITE-PRODUCTION

STANDARD CMYK

K2

C2

M2

Y2

K1

C1

M1

Y1

W1

W2

W3

W4

ROWS

Triple row

PRINT HEADS

6

COLOR ROWS

2

WHITE MODE

Dedicated white row

Triple row layout with 6 print heads and 2 color rows, plus a backing white row. Built for reverse-print and backing-white workflows on transparent media while keeping two color rows for production speed.

BEST FOR

High-volume panel, signage, and decor lines.

Use when print readability depends on opacity.

High-volume workflows with stable process control.

TRADE-OFFS

Higher process and curing complexity.

Requires tighter SOP and QA discipline.

Demands stronger SOP and QA discipline.

GROUP 4

TA+_CMYKLcLm_VVVV

BALANCED

SMOOTH TONES

Lc2

Lm2

K2

C2

M2

Y2

Lc1

Lm1

K1

C1

M1

Y1

V1

V2

V3

V4

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

2

WHITE MODE

No white

Triple row layout with 8 print heads and 2 color rows, plus a trailing varnish row and light inks. Built for smoother gradients, light tints, and visually refined output.

BEST FOR

High-volume panel, signage, and decor lines.

Reverse-print clear media or gloss-finished runs that still need two full color rows.

Use when visual/tactile finish is part of product value.

TRADE-OFFS

Higher process and curing complexity.

Requires tighter SOP and QA discipline.

Demands stronger SOP and QA discipline.

Triple-row speed + trailing utility row

Built for high-volume color production while reserving the third row for backing white or varnish.

GROUP 4

TA+_CMYKLcLm_WWWW

WHITE-PRODUCTION

SMOOTH TONES

Lc2

Lm2

K2

C2

M2

Y2

Lc1

Lm1

K1

C1

M1

Y1

W1

W2

W3

W4

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

2

WHITE MODE

Dedicated white row

Triple row layout with 8 print heads and 2 color rows, plus a backing white row and light inks. Built for reverse-print and backing-white workflows on transparent media while keeping two color rows for production speed.

BEST FOR

- High-volume panel, signage, and decor lines.
- Use when print readability depends on opacity.
- Applications with skin tones, gradients, or fine tonal detail.

TRADE-OFFS

- Higher process and curing complexity.
- Requires tighter SOP and QA discipline.
- Demands stronger SOP and QA discipline.

Sandwich-white architectures

Built for multilayer optics where white must sit between color layers.

GROUP 5

TA+_CMYK_WW_CMYK

K2

C2

M2

Y2

W1

W2

K1

C1

M1

Y1

ROWS

Triple row

COLOR ROWS

2

WHITE-PRODUCTION

STANDARD CMYK

PRINT HEADS

5

WHITE MODE

Dedicated white row

Triple row layout with 5 print heads and 2 color rows, plus a sandwich-white middle row. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

BEST FOR

Day/night and dual-view graphics.

Transparent multilayer constructions.

Use when print readability depends on opacity.

TRADE-OFFS

Higher ink consumption and setup time.

Stricter alignment tolerance across layers.

Demands stronger SOP and QA discipline.

GROUP 5

TA+_CMYK_WWWW_CMYK

K2

C2

M2

Y2

W1

W2

W3

W4

K1

C1

M1

Y1

ROWS

Triple row

COLOR ROWS

2

WHITE-PRODUCTION

STANDARD CMYK

PRINT HEADS

6

WHITE MODE

Dedicated white row

Triple row layout with 6 print heads and 2 color rows, plus a sandwich-white middle row. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

BEST FOR

Day/night and dual-view graphics.

Transparent multilayer constructions.

Use when print readability depends on opacity.

TRADE-OFFS

Higher ink consumption and setup time.

Stricter alignment tolerance across layers.

Demands stronger SOP and QA discipline.

GROUP 5

TA+_CMYKLcLm_WW_CMYKLcLm

Lc2

Lm2

K2

C2

M2

Y2

W1

W2

Lc1

Lm1

K1

C1

M1

Y1

ROWS

Triple row

COLOR ROWS

2

WHITE-PRODUCTION

SMOOTH TONES

PRINT HEADS

7

WHITE MODE

Dedicated white row

Triple row layout with 7 print heads and 2 color rows, plus a sandwich-white middle row and light inks. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

BEST FOR

Day/night and dual-view graphics.

Transparent multilayer constructions.

Use when print readability depends on opacity.

TRADE-OFFS

Higher ink consumption and setup time.

Stricter alignment tolerance across layers.

Demands stronger SOP and QA discipline.

Sandwich-white architectures

Built for multilayer optics where white must sit between color layers.

GROUP 5

TA+_CMYKLcLm_WWWW_CMYKLcLm

WHITE-PRODUCTION

SMOOTH TONES

Lc2

Lm2

K2

C2

M2

Y2

W1

W2

W3

W4

Lc1

Lm1

K1

C1

M1

Y1

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

2

WHITE MODE

Dedicated white row

Triple row layout with 8 print heads and 2 color rows, plus a sandwich-white middle row and light inks. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

BEST FOR

- Day/night and dual-view graphics.
- Transparent multilayer constructions.
- Use when print readability depends on opacity.

TRADE-OFFS

- Higher ink consumption and setup time.
- Stricter alignment tolerance across layers.
- Demands stronger SOP and QA discipline.

Underwhite + varnish triple-row configurations

Built for premium workflows that use the first row for underwhite, the middle row for color, and the third row for varnish.

GROUP 6

TA+_CMYKLcLmVVVVVVWWWW-

W1

W2

W3

W4

Lc

Lm

K

C

M

Y

V1

V2

V3

V4

V5

V6

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

1

WHITE MODE

Dedicated white row

Triple row layout with 8 print heads and 1 color row, plus an underwhite row, a trailing varnish row, and light inks. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

Premium packaging and label work.

Layered output that needs underwhite plus tactile or gloss finishing.

Layered jobs that need both white control and varnish effects.

TRADE-OFFS

Varnish process tuning adds complexity.

More QA checks needed for finish consistency.

Demands stronger SOP and QA discipline.

GROUP 6

TA+_CMYKLcLmVVVVVVWWWW-

W1

W2

W3

W4

W5

W6

Lc

Lm

K

C

M

Y

V1

V2

V3

V4

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

1

WHITE MODE

Dedicated white row

Triple row layout with 8 print heads and 1 color row, plus an underwhite row, a trailing varnish row, and light inks. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

Premium packaging and label work.

Layered output that needs underwhite plus tactile or gloss finishing.

Layered jobs that need both white control and varnish effects.

TRADE-OFFS

Varnish process tuning adds complexity.

More QA checks needed for finish consistency.

Demands stronger SOP and QA discipline.

GROUP 6

TA+_CMYKLcLmVVWW-

W1

W2

Lc

Lm

K

C

M

Y

V1

V2

ROWS

Triple row

PRINT HEADS

5

COLOR ROWS

1

WHITE MODE

Dedicated white row

Triple row layout with 5 print heads and 1 color row, plus an underwhite row, a trailing varnish row, and light inks. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

Premium packaging and label work.

Layered output that needs underwhite plus tactile or gloss finishing.

Layered jobs that need both white control and varnish effects.

TRADE-OFFS

Varnish process tuning adds complexity.

More QA checks needed for finish consistency.

Demands stronger SOP and QA discipline.

Underwhite + varnish triple-row configurations

Built for premium workflows that use the first row for underwhite, the middle row for color, and the third row for varnish.

GROUP 6

TA+_CMYKLcLmVVWWWW-

SPECIALTY-FIRST

SMOOTH TONES

W1

W2

W3

W4

ROWS

Triple row

PRINT HEADS

6

Lc

Lm

K

C

M

Y

COLOR ROWS

1

WHITE MODE

Dedicated white row

V1

V2

Triple row layout with 6 print heads and 1 color row, plus an underwhite row, a trailing varnish row, and light inks. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

- Premium packaging and label work.
- Layered output that needs underwhite plus tactile or gloss finishing.
- Layered jobs that need both white control and varnish effects.

TRADE-OFFS

- Varnish process tuning adds complexity.
- More QA checks needed for finish consistency.
- Demands stronger SOP and QA discipline.

GROUP 6

TA+_CMYKVVVVWW-

SPECIALTY-FIRST

STANDARD CMYK

W1

W2

ROWS

Triple row

PRINT HEADS

5

K

C

M

Y

COLOR ROWS

1

WHITE MODE

Dedicated white row

V1

V2

V3

V4

Triple row layout with 5 print heads and 1 color row, plus an underwhite row and a trailing varnish row. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

- Premium packaging and label work.
- Layered output that needs underwhite plus tactile or gloss finishing.
- Layered jobs that need both white control and varnish effects.

TRADE-OFFS

- Varnish process tuning adds complexity.
- More QA checks needed for finish consistency.
- Demands stronger SOP and QA discipline.

GROUP 6

TA+_CMYKVVWW-

SPECIALTY-FIRST

STANDARD CMYK

W1

W2

ROWS

Triple row

PRINT HEADS

4

K

C

M

Y

COLOR ROWS

1

WHITE MODE

Dedicated white row

V1

V2

Triple row layout with 4 print heads and 1 color row, plus an underwhite row and a trailing varnish row. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

- Premium packaging and label work.
- Layered output that needs underwhite plus tactile or gloss finishing.
- Layered jobs that need both white control and varnish effects.

TRADE-OFFS

- Varnish process tuning adds complexity.
- More QA checks needed for finish consistency.
- Demands stronger SOP and QA discipline.

Underwhite + varnish triple-row configurations

Built for premium workflows that use the first row for underwhite, the middle row for color, and the third row for varnish.

GROUP 6

TA+_CMYKVWWWW-

W1

W2

W3

W4

K

C

M

Y

V1

V2

ROWS

Triple row

COLOR ROWS

1

PRINT HEADS

5

WHITE MODE

Dedicated white row

Triple row layout with 5 print heads and 1 color row, plus an underwhite row and a trailing varnish row. Built for layered output that needs an underwhite foundation together with varnish effects.

BEST FOR

- Premium packaging and label work.
- Layered output that needs underwhite plus tactile or gloss finishing.
- Layered jobs that need both white control and varnish effects.

TRADE-OFFS

- Varnish process tuning adds complexity.
- More QA checks needed for finish consistency.
- Demands stronger SOP and QA discipline.

Triple-row throughput variants

Built to prioritise colour throughput, with selected variants adding inline White inside the production rows instead of reserving a full specialty bank.

GROUP 7

TA_CMYK-

K3

C3

M3

Y3

K2

C2

M2

Y2

K1

C1

M1

Y1

ROWS

Triple row

PRINT HEADS

6

COLOR ROWS

3

WHITE MODE

No white

THROUGHPUT-FIRST

STANDARD CMYK

BEST FOR

- High-volume color production lines.
- High-volume workflows with stable process control.

TRADE-OFFS

- Demands stronger SOP and QA discipline.
- Higher head count increases maintenance planning requirements.

Triple row layout with 6 print heads and 3 color rows focused on standard CMYK. Built for color-focused production where throughput takes priority over specialty effects.

GROUP 7

TA_CMYK+_WW-

K3

C3

M3

Y3

K2

C2

M2

Y2

W1

W2

K1

C1

M1

Y1

ROWS

Triple row

PRINT HEADS

7

COLOR ROWS

3

WHITE MODE

Inline white

THROUGHPUT-FIRST

STANDARD CMYK

BEST FOR

- High-volume color production lines.
- Runs where throughput comes first and opacity is secondary.
- Use when print readability depends on opacity.

TRADE-OFFS

- Inline white cannot match the output of a dedicated white bank.
- Less suited to multilayer optical builds than underwhite or sandwich architectures.
- Demands stronger SOP and QA discipline.

Triple row layout with 7 print heads and 3 color rows, plus inline white inside the production rows. Built for color-first production where white stays available inside the production rows without taking over a dedicated bank.

GROUP 7

TA_CMYK+_WWWW-

K3

C3

M3

Y3

K2

C2

M2

Y2

W2

W4

K1

C1

M1

Y1

W1

W3

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

3

WHITE MODE

Inline white

THROUGHPUT-FIRST

STANDARD CMYK

BEST FOR

- High-volume color production lines.
- Runs where throughput comes first and opacity is secondary.
- Use when print readability depends on opacity.

TRADE-OFFS

- Inline white cannot match the output of a dedicated white bank.
- Less suited to multilayer optical builds than underwhite or sandwich architectures.
- Demands stronger SOP and QA discipline.

Triple row layout with 8 print heads and 3 color rows, plus inline white across the production rows. Built for color-first production where white stays available inside the production rows without taking over a dedicated bank.

Special process configurations

Built for engineered cases where standard CMYK/white/varnish layouts are not enough.

GROUP 8

TA+_CMYK+_2x2W

W2

W4

W6

W8

W1

W3

W5

W7

K

C

M

Y

ROWS

Triple row

PRINT HEADS

6

COLOR ROWS

1

WHITE MODE

Dedicated white row

Triple row layout with 6 print heads and 1 color row, plus double white banks before color. Built for extreme opacity requirements where white capacity takes priority over color throughput.

BEST FOR

Pilot programs with custom process requirements.

Use when print readability depends on opacity.

High-volume workflows with stable process control.

TRADE-OFFS

Needs validation before rollout.

Lower universality than mainstream production configurations.

Demands stronger SOP and QA discipline.

GROUP 8

TA+_LcLmCMYK+_2x2W

W2

W4

W6

W8

W1

W3

W5

W7

Lc

Lm

K

C

M

Y

ROWS

Triple row

PRINT HEADS

7

COLOR ROWS

1

WHITE MODE

Dedicated white row

Triple row layout with 7 print heads and 1 color row, plus double white banks before color and light inks. Built for extreme opacity requirements where white capacity takes priority over color throughput.

BEST FOR

Pilot programs with custom process requirements.

Use when print readability depends on opacity.

Applications with skin tones, gradients, or fine tonal detail.

TRADE-OFFS

Needs validation before rollout.

Lower universality than mainstream production configurations.

Demands stronger SOP and QA discipline.

GROUP 8

TA+_VVVVVWWWWCMYKLcLm

V1

V2

V3

V4

V5

V6

W1

W2

W3

W4

Lc

Lm

K

C

M

Y

ROWS

Triple row

PRINT HEADS

8

COLOR ROWS

1

WHITE MODE

Dedicated white row

Triple row layout with 8 print heads and 1 color row, plus a sandwich-white middle row, a leading varnish row, and light inks. Built for day/night, dual-view, and transparent multilayer graphics where white must separate two color passes.

BEST FOR

Pilot programs with custom process requirements.

Layered jobs that need both white control and varnish effects.

Use when print readability depends on opacity.

TRADE-OFFS

Needs validation before rollout.

Lower universality than mainstream production configurations.

Demands stronger SOP and QA discipline.

Special process configurations

Built for engineered cases where standard CMYK/white/varnish layouts are not enough.

GROUP 8

TA+_CMYKPPWW

SPECIALTY-FIRST

STANDARD CMYK

P1

P2

ROWS

Triple row

PRINT HEADS

4

W1

W2

COLOR ROWS

1

WHITE MODE

Dedicated white row

K

C

M

Y

Triple row layout with 4 print heads and 1 color row, plus a sandwich-white middle row and primer. Built for adhesion-critical specialty work where process control matters more than maximum color throughput.

BEST FOR

- Challenging materials and adhesion risk projects.
- Pilot programs with custom process requirements.
- Use when print readability depends on opacity.

TRADE-OFFS

- Needs validation before rollout.
- Lower universality than mainstream production configurations.
- Requires substrate-specific validation before production rollout.

Open the interactive configurator to filter by group, row count, color rows, active channels, and print head count while reviewing the same layouts shown in this guide.

Use the live tools

CONFIGURATOR

www.signracer.ch/printers/configurations/

GLOSSARY

www.signracer.ch/glossary/

Functional capability

WHITE MODE Check whether white is inline or dedicated before you compare opacity-heavy layouts.

COLOR CAPABILITY Use smooth-tone and expanded-gamut layouts only when the application justifies the extra channel allocation.

TRADE-OFFS Read the compromises as carefully as the benefits. They explain why the faster or simpler layout may still be the better fit.



SCAN FOR THE LIVE
CONFIGURATION GUIDE
SIGNRACER GmbH

EMAIL

info@signracer.ch

PHONE

+41 41 792 01 57

WEB

www.signracer.ch

DEMO CENTER

Calendariaweg 4, CH-6405 Immensee