

# Spitfire 100 Extreme Mild Solvent Printer



Extreme speed,  
Extreme quality ...



102" (260 cm) high volume mild solvent printer



i<sup>2</sup> Intelligent Interweaving breakthrough print technology incorporated



Fantastically fast, with impeccable quality at **42 m<sup>2</sup>/h**



Never turn a demanding customer away again -  
just bring them on and deliver with a smile



Top speed of 81 m<sup>2</sup>/h





## > SPITFIRE 100 EXTREME HIGH VOLUME MILD SOLVENT PRINTER

*The Spitfire 100 Extreme meets the needs of typical sign makers focusing on high volume production of outdoor prints with medium-term durability like no other machine ever did before!*

*Using mild solvent inks, the Spitfire 100 Extreme prints directly onto standard available uncoated vinyl, banner and soft signage materials with a maximum media width up to 2604 mm (102.52") and a printing width up to 2594 mm (102.13").*

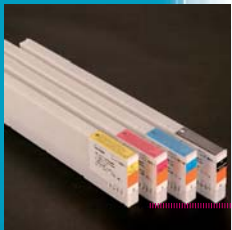
*i<sup>2</sup> Intelligent Interweaving print technology means the Spitfire 100 Extreme delivers impeccable quality at production speeds up to 42 m<sup>2</sup>/h. Impeccable quality piecework can be produced at speeds up to 16.5 m<sup>2</sup>/h.*

*Spitfire mild solvent inks have excellent drying and drop fixation characteristics to perform at high print speeds on a wide range of popular self-adhesive PVC and banner substrates.*

*It's ideal for speed-intensive sign production applications such as corporate signs, stage and window graphics, POS displays, backlit box signage, construction announcements, vehicle graphics, indoor graphics such as photo blow ups, floor graphics and much more...*



### Intelligent Interweaving inside



### High Performance Spitfire Mild Solvent Ink



### Wide Media Acceptance

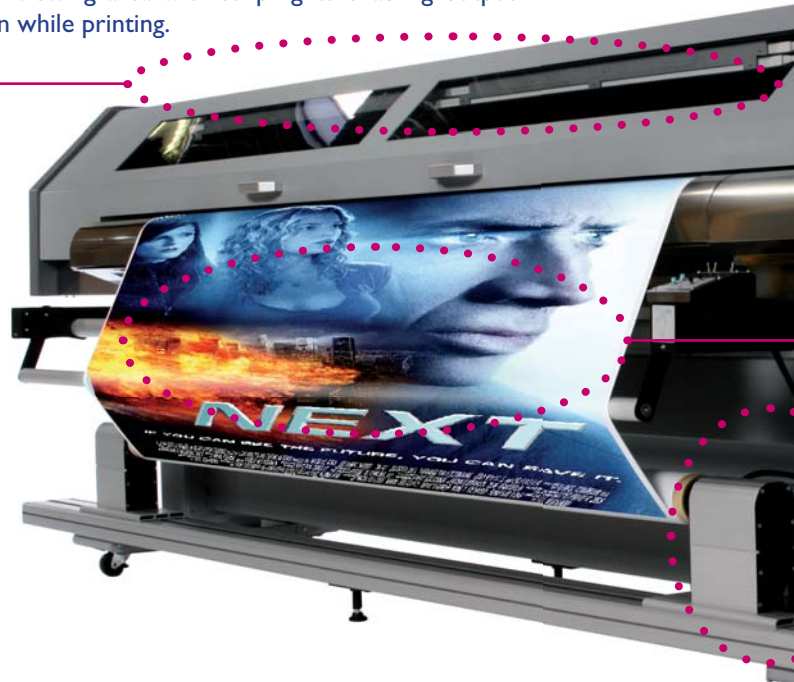


### Ready for Volume Printing

### Total New Design

The Spitfire 100 Extreme is newly designed from scratch and is not an expanded version of a current model.

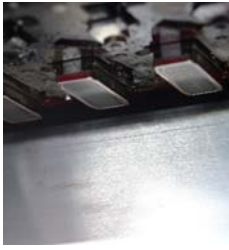
Innovative features include completely new ink supply path, new X/Y rail extrusions, new electrical pump system with one pump per head, high endurance carriage with tandem bearing, new head base, and a state-of-the-art maintenance station & vacuum system. In addition, the Spitfire 100 Extreme features a generously large illuminated viewing area with strip lights enabling output inspection while printing.



## Speed / Performance

Spitfire 100 Extreme allows a top speed of 81 m<sup>2</sup>/h.

With the i<sup>2</sup> 360 dpi mode, production work on uncoated vinyl, banner and soft signage materials is delivered at 42 m<sup>2</sup>/h. For piecework onto uncoated vinyl, banner and soft signage materials, the Spitfire 100 Extreme offers i<sup>2</sup> impeccable quality at up to 16.5 m<sup>2</sup>/h.



### Micro-Staggered High-End Piezo Print Head Technology

The Spitfire 100 Extreme printer features two head sets in a micro-staggered layout (one colour per head), allowing both speed-oriented production work at impeccable print quality as well as top quality piecework. Each of the eight incorporated drop-on-demand piezo inkjet heads has 2 x 180 nozzles. Each 180 nozzle row is delivered by an independent ink channel. Using Dynamic Variable Dot Imaging Technology, each ink droplet is individually adjusted to provide high speed and high quality with low ink consumption.

### Wide Media Acceptance

The Spitfire 100 Extreme will print on a wide array of uncoated, eco-coated and coated substrates thanks to the unique characteristics of Mutoh's Spitfire mild solvent inks, piezo print heads, four built-in digitally controllable heating elements and, last but not least, unique i<sup>2</sup> Intelligent Interweaving technology. Latest media compatibility information and free-of-charge media profiles are available at [www.mutoh.be](http://www.mutoh.be) / [www.mutoh.eu](http://www.mutoh.eu).



### Ink Delivery

Spitfire mild solvent ink can be ordered in easy-to-use 220 ml or 440 ml ink cassettes. For customers that are speed-intensive, high volume operators, the Spitfire 100 Extreme connects with Mutoh's optional professional continuous ink delivery system.

Mutoh's optional Bulk Ink System (BIS), allowing 4.3 litre ink autonomy per bottle, is a high-volume ink delivery system offering long autonomy along with minimum user intervention. The ink bottles are refillable on the fly.

### Ready for Mild Solvent

The Spitfire 100 Extreme is a mild solvent friendly printer. All parts of the ink supply path (ink supply tubings, head caps, pumps, etc.) are solvent resistant. Together with every printer, Mutoh supplies a "Good Shape Kit" (giving 6 months autonomy), with all necessary parts to perform periodical maintenance quickly and simply. All parts requiring regular inspection and/or maintenance are easily accessible via the large protective cover.

### Spitfire Mild Solvent Ink

Mutoh high performance Spitfire mild solvent ink is specifically tuned for the sign industry. The Spitfire mild solvent ink offers high saturation to give brilliant colours with a wide comfortable colour gamut. The inks have excellent drying and drop fixation characteristics that allow fast print speeds on uncoated media.

### Ready for Volume Printing

The Spitfire 100 Extreme is delivered as standard with a specially developed, fully motorised heavy-duty unwinding/winding system for media loads up to 100 kg. This allows unattended roll-to-roll printing and ensures the Spitfire 100 Extreme is immediately ready for volume production.

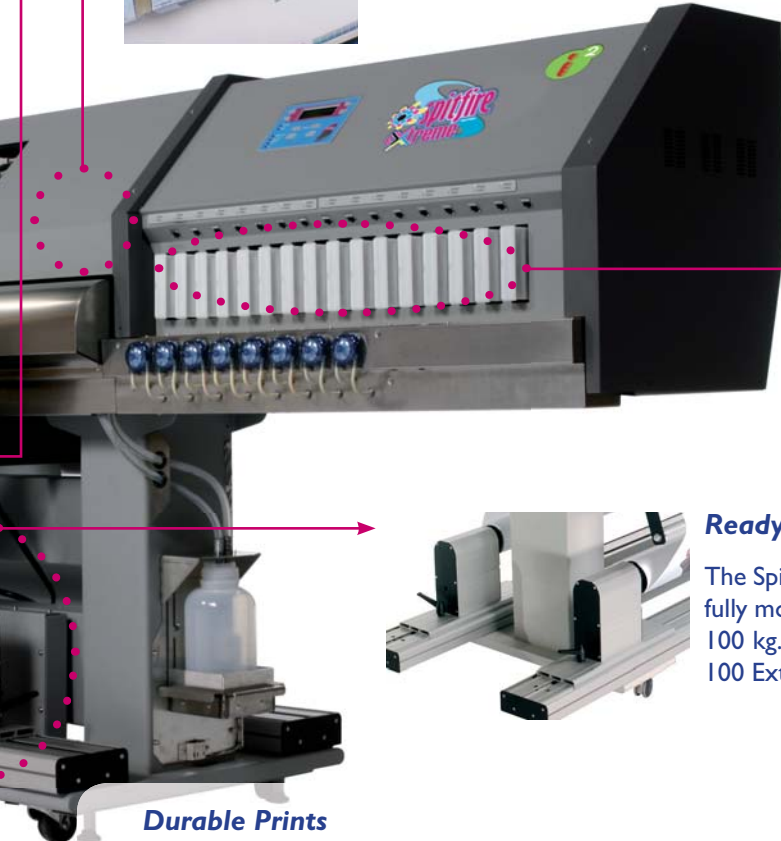
### Durable Prints

Spitfire mild solvent inks resist cleaners, detergents and commercially available degreasers as well as true solvent printer inks. Outdoor durability of prints is up to 3 years\*.

General purpose signs do not require lamination\*\*.

\* Based on accelerated weather tests. Northern European Standards.

\*\* For heavy-duty applications where mechanical stress is involved (floor & vehicle graphics), lamination is required. Stabilisation time is required prior to lamination.





Printer specifications	Spitfire 100 Extreme
Technology	Drop-on-demand Micro Piezo Inkjet Technology 8 heads – variable drop – 2 nozzle rows with 180 nozzles each / head Drop mass (ng) : 5.4, 11.5, 14, 25, 28 and 42
Maximum Media Width	2604 mm (102.52")
Maximum Print Width	2594 mm (102.13")
Media Thickness Diameter / Core Weight	Range: 0.08 mm – 1.1 mm Maximum: 300 mm / 2" or 3" Maximum load: 100 kg* * : Some media over 1.6 m wide may be wound onto a core that bends through. In that case Mutoh strongly recommends to install the standard included media core brace. Maximum roll media weight in this case is 80 kg.
Media Thickness Compensation	Automatic media thickness compensation Variable – RIP controlled – Head Height
Resolutions	360 x 360 dpi, 720 x 360 dpi, 540 x 720 dpi & 720 x 720 dpi
Intelligent Interweaving (i <sup>2</sup> )	Available for 360 x 360 dpi, 540 x 720 dpi & 720 x 720 dpi output resolutions Weave settings : Sign/Quality, Picture/Speed, Stitch, Classic & Off
Colour / Ink Setup	16 colour channels – 4 x 4 CMYK setup – One colour per head
Ink Capacity / Type	Cassettes : 220 ml & 440 ml / smart chip ink type & order sensing Bulk bottles : 1 & 5 liter
Heaters	Incorporated 4-stage heater system : Pre-heater (max. 50 °C), Fixer (max. 40 °C), Post-Fixer (max. 40 °C) and Dryer (max. 50 °C)
LCD Display	Backlight LED – 4 lines x 20 characters
Interface	Ethernet Network Card / Centronics, IEEE 1284 compatible
Graphics Command Language	RTL-PASS
Print Engine Working Environment using Mild Solvent Inks	Temperature: 18 – 27 °C Relative Humidity: 40 – 65 % RH (no condensation)
Regular Maintenance	A Spitfire mild solvent printer requires a dedicated operator trained on performing daily maintenance routines. All parts requiring regular inspection and/or maintenance are easily accessible via the large protective cover.
Air Purification Equipment	Use of mild solvent inks intrinsically requires the use of an air purification system. Spitfire 100 Extreme is equipped with exhaust holes for easy connection of forced ventilation equipment. For connection to an existing air purification system, an optional hose set with exhaust connectors is available. To ensure a clean and safe working environment, contact the local authorities to know the local acceptance levels.
External Dimensions in mm (WxDxH)	4500 x 800 x 1300 mm
Weight	520 kg
Power Consumption	3000 VA 100 VA in stand-by mode
Power Supply	AC 100 – 120V / AC 220 – 240V auto-switching
Standard	CE

Specifications are liable to changes without prior notice. All trademarks mentioned are property of their respective owners. The machines depicted on this brochure do not necessarily show a standard configuration. For some products, customised configurations are available. For further information, please contact your nearest Mutoh Authorised Reseller.

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# Spitfire 100 Extreme Performance

Below table explains you what Mutoh's i<sup>2</sup> technology will offer you, depending on the **type of image** you need to print, **the print job** as well as the **viewing distance** for compatible uncoated PVC, banner & soft-signage materials.

VIEWING DISTANCE					
Resolution / Speed m <sup>2</sup> /h	6,5	8,25	11	13	16,5
Piecework Modes *					
720 x 720	S		S	P	
540 x 720		S		S	P

VIEWING DISTANCE							
Resolution / Speed m <sup>2</sup> /h	9	11	15	13	17	18	22
Production Modes *							
720 x 720	S	P		S		P	
540 x 720		S	P		S		P
360 x 360							

VIEWING DISTANCE			
Resolution / Speed m <sup>2</sup> /h	28	42	81
Production Modes *			
720 x 720			
540 x 720			
360 x 360	S	P	HS

- = , viewing distance < 1m
- = , viewing distance > 1 m
- = , viewing distance > 3 m
- = , viewing distance > 5 m
- = applicability needs to be judged on individual basis

S = i<sup>2</sup> Sign Weave enabled. Compatible with all images.  
 P = i<sup>2</sup> Picture Weave enabled. Compatible with non-sign images  
 i.e. images not containing large solid areas or critical gradients.  
 HS = High Speed mode. Applicability needs to be judged on individual basis. Top engine speed.

\* Piecework: Top quality i<sup>2</sup>, viewing distance < 1 m  
 Production: Production quality i<sup>2</sup>, viewing distance > 1 m



## ***i<sup>2</sup> - a revolution in print technology***

- > Intelligent Interweaving, i<sup>2</sup> technology from Mutoh, provides impeccable digital printing quality for both Photo and Sign printing.
- > Quick and simple to set up, printing with i<sup>2</sup> saves time and trouble while producing outstanding results.

Mutoh has taken a totally new approach with i<sup>2</sup> technology (pronounced i squared). Ink is laid down in carefully optimised wave forms, not the straight lines used by all other wide-format inkjet printers. The result is a drastic reduction or even total elimination of the typical difficulties inherent in conventional digital inkjet printing. i<sup>2</sup> technology means the end of defects such as horizontal banding, step mismatch banding, ink mottle and bleed and the visible effects of missing or mis-firing nozzles.

## ***i<sup>2</sup> technology benefits***

- > Impeccable print quality.
- > Excellent workflow as user-friendly set up saves time even with the most challenging images.
- > Bi-directional printing of all images, even the most critical jobs, as wave sequences eliminate banding.
- > Increased ink density yield as the wave patterns super-impose thin ink layers to create an even coating with superb image definition.
- > Boosted colour gamut, compared with conventional straight-line printing. Ready-programmed, dedicated i<sup>2</sup> profiles boost the colour gamut and, with the increased ink density yield, reduce ink consumption by as much as 10%

Depending on the incorporated head technology and ink type, Mutoh is programming printer-specific optimised print weaving modes for both sign and picture applications.

*Sign/Quality:* Signage and poster applications containing big areas with solid colours, typography and critical gradients

*Picture/Speed:* Non sign images, pictures and photographs