Specifications :

1	Maximum speed	70,000 c.p.h
2	Pages per web (broadsheet)	8
3	Web width	1400 mm (55.12 inches)
4	Cut off lengths	546, 560, 578 mm ($21\frac{1}{2}$, 22 & $22\frac{3}{4}$ inches)
5	Print unit modules.	H type
6	Plate lock-up.	Narrow gap, toolless.
7	Blanket lock-up.	Microgap (metal back blankets)
8	Drive	Multi-motor drive (one AC Servo Motor per two couples, folder, draw rollers etc); shaftless, electronic motor synchronization
9	Reel splicer : max. diameter	1270 mm (50 inches)
10	Folder	2:3:3 Jaw Folder - Single or double delivery
11	Data management	PLC Based
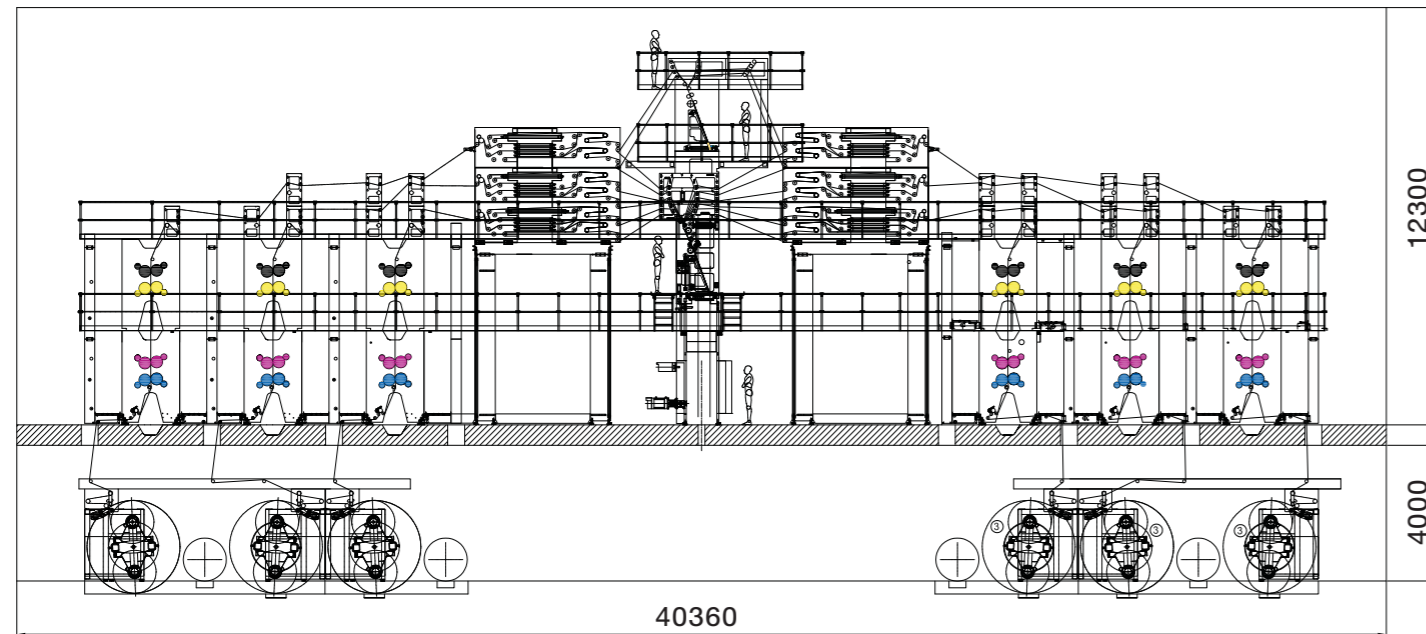
SMARTLINE

4-plate wide Single Circumference Tower Press

12300

4000

40360

MANUGRAPH
Technology in Print
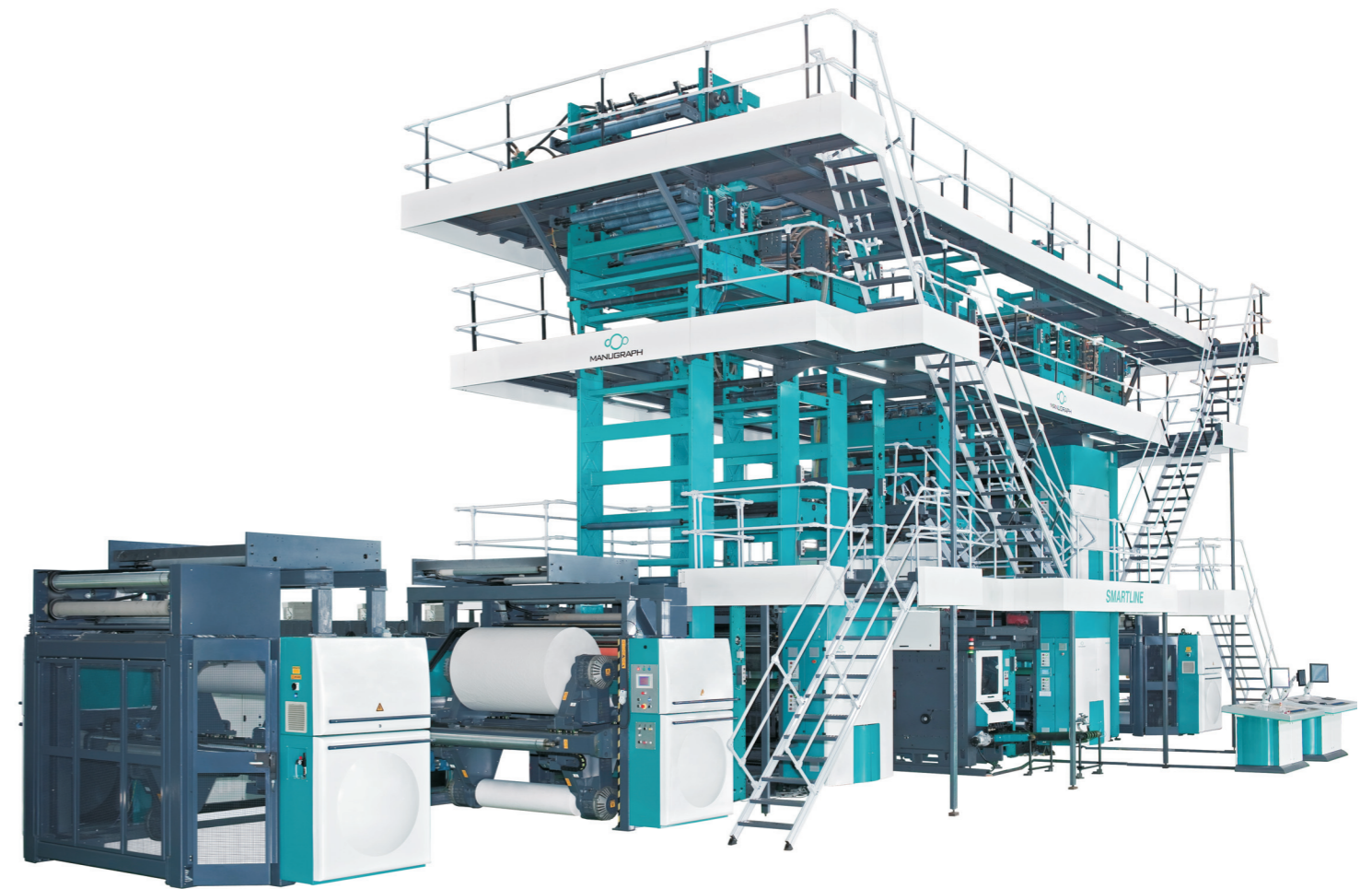
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Sidhwa House, N.A. Sawant Marg, Colaba, Mumbai - 400 005, India. Phone: 91-22-2287 4815/4788/1191/0620.
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01/11

MANUGRAPH
Technology in Print

Versatile 4 x 1 Tower Press

MANUGRAPH introduces SMARTLINE, the new 8-page Newspaper press, which promises a variety of cost effective solutions with basic focus on high productivity and improved efficiency.

SMARTLINE, featuring single circumference plate cylinder and double circumference blanket cylinder both in double width, offers high flexibility for page counts, with low production cost.

The press can print the same number of pages as a double circumference plate cylinder press, yet with half the number of plates. The complete tower has two operating levels for easy manoeuvarability of press operations.

Features at a Glance :

- H type construction with vertical web lead
- Bearerless plate and blanket cylinders, mounted on 3-race bearings
- Toolless plate lockup & microgap blanket lockup
- 10-roller film type Inking system
- Swing down ink fountain for faster make ready
- 3-roller spray dampening system
- Close loop register system
- Shaftless infeed and outfeed rollers in Tower
- Motorised bustle wheels to control fan out
- Even or odd number of sections with different page counts
- 2-page increments for all types of products
- 2:3:3 folder for output upto 96 pages tabloid
- PLC controlled operating system
- Field-bus pneumatic system
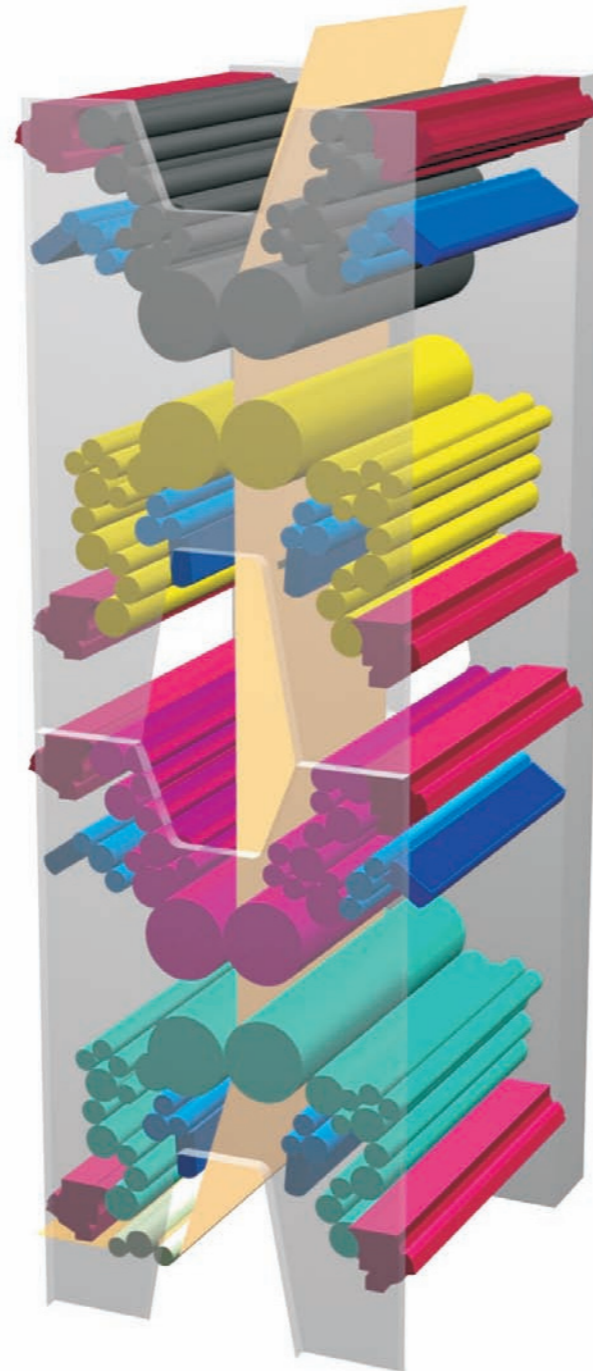
Reel splicer (OEM supply)

The fully automatic reel splicer provided is easy to operate and maintains constant web tension at all speeds.

Max. splicing speed	:	14.5 m/s. (2850 fpm)
Max. web width	:	1720 mm (67.7 inches)
Max. roll dia.	:	1270 mm (50 inches)
Min. roll dia for splicing	:	450 mm (17.7 inches)
Core dia	:	76 mm (3 inches)
Max. roll weight	:	1700 Kgs.

MANUGRAPH Press Management System (MPS)

Manugraph Press Management System (MPS) is a centralized control system for prepress, press and postpress. System controls production as well as inking, dampening and register.

Features of **MPS :**

- Production configuration selection
- Web threading selection and control
- Pagination / color selection
- Ink presetting
- Log book generation as MIS data

Selected data and desired settings can be entered in **MPS** system, loaded to central console and passed on to press accordingly for production run.

Central Console

The central console has operating switches for all press drive functions, and color touch-screen operator interface from where all print units can be accessed and controlled, both in auto and manual mode.

Functions provided on touch screen are,

- Main machine menu operations i.e. Ink, water, color, web tension, machine speed, web threading etc.
- Display of selected menus and their status.
- ManuColor ink zone settings.
- Reel splicer online data.
- Registration control.
- Spray dampening control.
- Fault diagnostic / alarms and maintenance.

Double Delivery 2:3:3 Jaw Folder

The double delivery Pin type Jaw Folder for SMARTLINE is designed with cylinder ratio 2:3:3 to offer all the benefits of cylinders with equal segments. The high-speed Folder can handle 12 webs. The folding quality is enhanced due to big folding cylinder diameter. Further mechanisms like conveyor belts on folding cylinder, specially coated jaws on gripper cylinder etc. improve the folding accuracy.

Make ready time is drastically reduced due to features like :

- Central adjustment of folding jaws as per product thickness.
- On-the-run phasing of bucket wheel, cylinder diameter increment facility & fold adjustment facility.
- Motorized conveyor for setting desired copy spacing.
- Shaftless driven draw rollers, RTF & 2nd Fold, which maintain uniform tension at all speeds.

It is possible to pass webs from both formers simultaneously to their respective folders to get a double delivery, or alternatively you can have a single combined delivery by directing webs from both formers to a chosen folder.

High reliability, long service life, reduced maintenance; easy handling and high user-friendliness are the key characteristics of the Folder.

Superstructure

The superstructure on SMARTLINE combines flexibility, convenient web handling and fast make ready with easy access.

The slitters on the draw rollers slit the web into ribbons and the ribbons are monitored by photo-electric sensors, while they are guided to the RTF via air blown turner bars. The turner bar positions can be preset from central console.
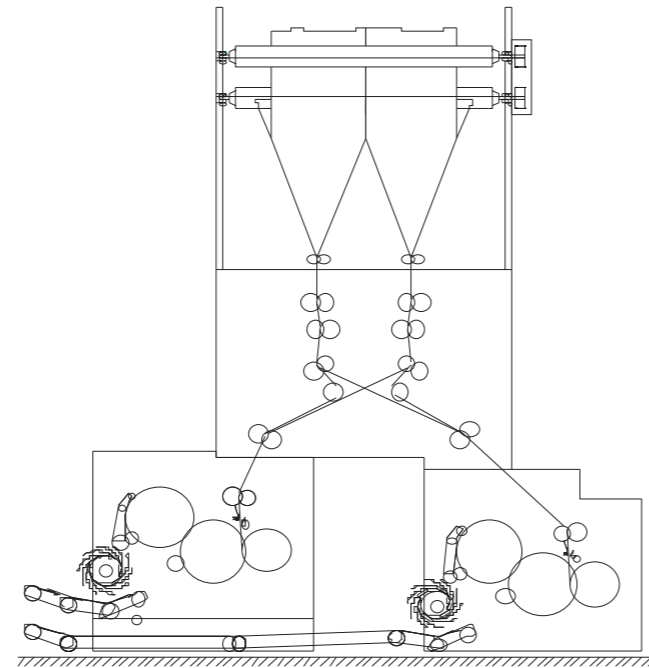
Jaw Folder 2:3:3
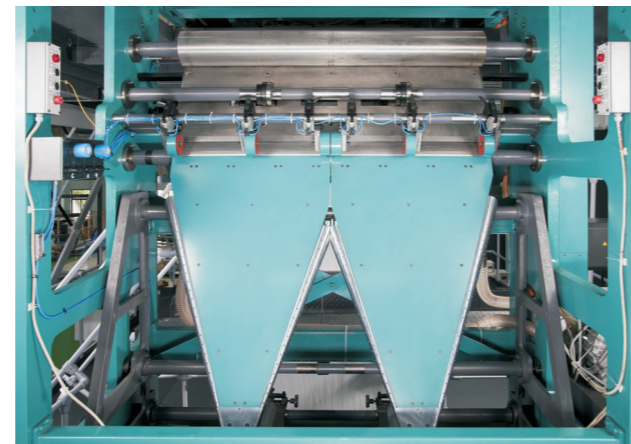
Extra accessories include bay-window, insertion decks and double decks to support an even broader choice of production options. The double deck enables the web to be guided to left or the right side over the former without repositioning the turner bar, which further reduces changeover time. The page count for the individual signature can be adjusted quickly and easily. Additional options like balloon former, third fold, cross perforation, longitudinal perforation, gluing and stitching offer more flexibility in production.

Modular unit designs

The printing units are of H type design and can be configured either as full or half tower, for printing 4/4, 2 x 2/2 or 3 x 1/1 color as per requirements.

The units are of rugged construction with box type side wall on drive side and plain side wall on operating side, made from high grade cast iron. Arch and reverse arch cylinders with two operating levels provide optimal accessibility and reduced paper path.

The high output speed is supported with cutting edge automation reducing make-ready time considerably. Automatic blanket washing units are available as an option.

Shaftless motor drive for every two print couples facilitates simultaneous plate changes at different locations. Shaftless infeed and outfeed rollers for each web aid perfect register at all speeds. All shaftless motors are synchronised through virtual master scheme.

Precision Cylinders

The double circumference blanket cylinders and single circumference plate cylinders are made of stainless steel material. Cylinders are dynamically balanced to high level of accuracy. Narrow gap plate and blanket cylinders reduce vibrations and eliminate streaks.

Plate cylinders have narrow gap toolless lock up, which facilitates fast and easy plate changes. Adjustable register wedges in plate cylinders ensure quick plate lock-up in true register. And microgap staggered-slot blanket cylinders minimise print-free margin. The press uses metal back blankets. Metal back blanket changing is simple, faster and more convenient than conventional blankets

To achieve the best printing quality at all speeds, the cylinders are mounted in play-free 3-race bearings which offer benefits like high radial rigidity, very low friction and perfect axial displacement.

Three-race bearings assure high print quality throughout the service life of the pressline. This bearing technology makes sure that the forces released by the blanket cylinder slot upon impression are optimally transmitted to the side frames and thereon to the ground.
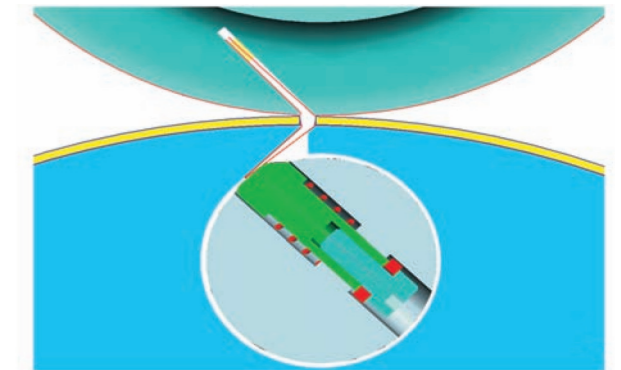
Inking System

The 10-roller ink train of SMARTLINE has two form rollers of differing diameters, two rilsan coated oscillating distributors and a pneumatically operated swing down ink duct, besides distributor rollers.

ManuColor : ManuColor is the remote ink control system of Manugraph and is a standard feature of SMARTLINE. The ink keys can be remotely controlled from the central console of ManuColor. Alternatively, remote Ink Control Systems from auxiliary suppliers can be incorporated. Manucolor is CIP3 compatible for ink key presetting.

As the ink blade is laser-cut, most accurate zonal control of ink is ensured.

Each ink train has a pneumatically operated washing device, which saves manpower and time. Individual ink trains can be silenced pneumatically from central control console for printing 4/1 or 4/2 color. Water cooled oscillating rollers are provided optionally. Ink agitator and ink levelling systems are provided optionally, too.

Dampening System

SMARTLINE employs fast reacting 3-roller spray dampening system with spray bars made up of eight individually controlled spray nozzles, with tracking facility for optimum ink water balance.

The following facilities are offered from central console : Automatic storage of individual dampening curves for each printing unit (with manual over-riding facility), individual nozzle adjustment, password protection etc.
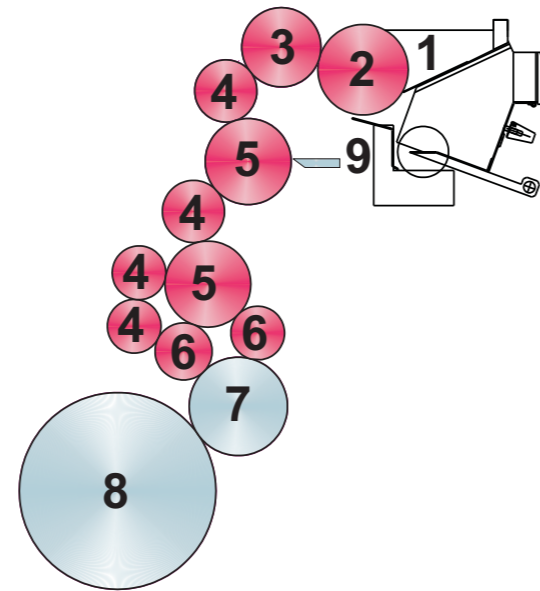
|	
1. Ink duct	2. Duct roller
3. Film roller	4. Distributor roller
5. Oscillating roller	6. Form roller
7. Plate cylinder	8. Blanket cylinder
9. Roller washing device	
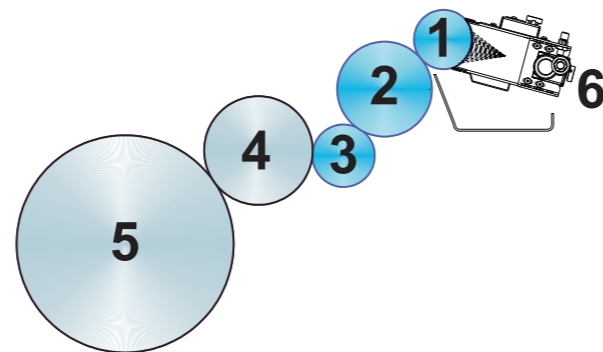
1. Dampening roller	2. Chrome oscillating roller
3. Damp. form roller	4. Plate cylinder
5. Blanket cylinder	6. Spray bar

Print Unit Modules: a world of possibilities

Arch and reverse arch cylinder geometry employed in SMARTLINE for short web paths, with remotely operated anti fanout devices, ensures perfect register. With a single web, the H-H tower configuration delivers 4-color printing on each side of the web. Alternatively, upto 3 webs can be passed for printing single color on either surface of the web. An H module could either be used for printing 2 webs with single color back to back, or a single web with 2 color back to back.

With provision of ink silencing, individual H unit or H over H tower can be used for printing 2/1, 4/1 or 4/2 color printing.
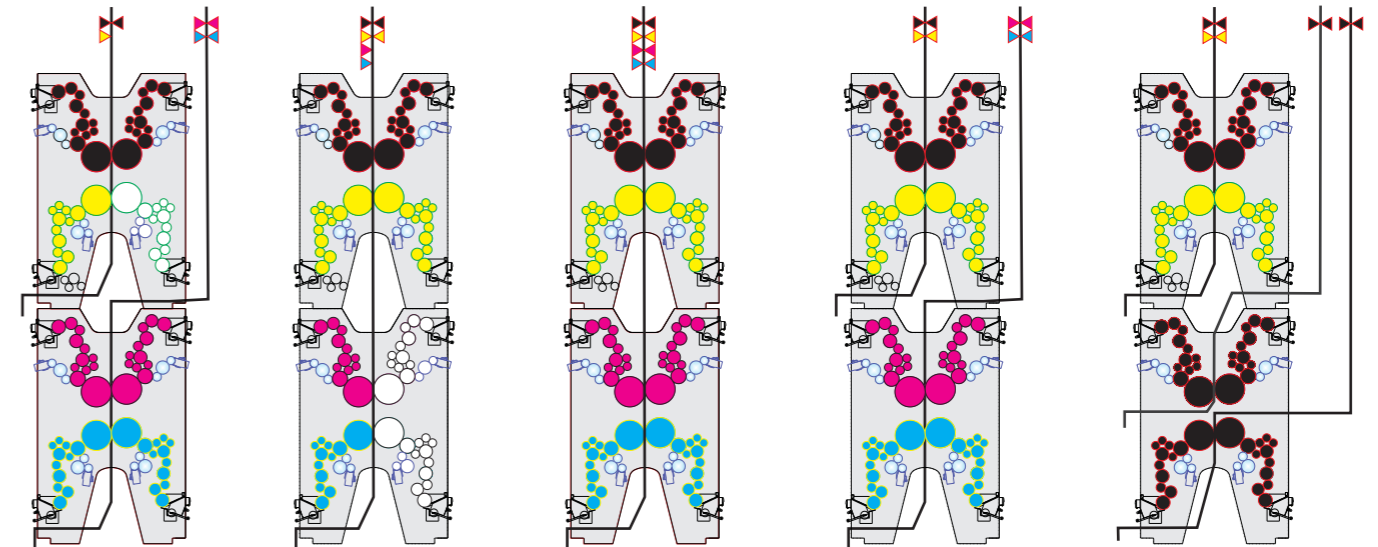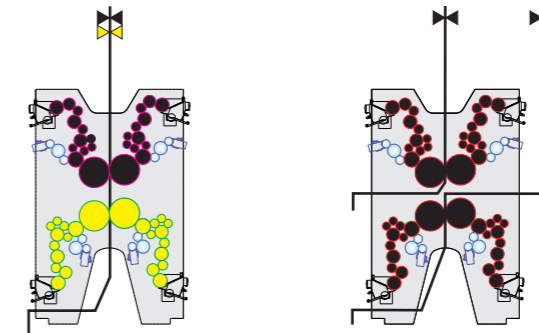
Webbing-up

A high-speed webbing-up system from paster to folder helps thread web into the press automatically. Web is held in a special magnetic foil and hooked to a snake type chain. This controls white waste and improves make ready time substantially. Preset, flexible route-change facility helps the operator while webbing up to suit   production requirements.