

VSOP

Variable Sleeve Offset Printing



- ▶ Label printing
- ▶ Flexible packaging printing
- ▶ Folding carton printing
- ▶ Commercial printing

all in printing



Offset print quality is now being made very attractive in completely new areas.

Variable Sleeve Offset Printing

Variable Sleeve Offset Printing is a new technology which allows you to work with variable sizes in offset. The sleeve technology lets you easily change sizes without having to completely change the unit. Not only is this easier and quicker, it is also a much cheaper way of printing different repeat lengths.

With this new technology, only two lightweight sleeves need to be changed when switching repeat lengths. The sleeve technology which has greatly contributed to the rise of flexo printing has now entered the world of offset.

Variable Sleeve Offset Printing units are fully equipped printing towers, which can be continuously set to any repeat length between 15 and 44.9 inch (381 to 1140 millimeters). This gives you, the printer, an extremely flexible printing

press, suited for a nearly unlimited range of different orders. You can completely change jobs in a few minutes.

Advantages of VSOP

Next to flexibility in repeat lengths and quick changing of jobs, the VSOP brings other huge advantages. The price of and delivery time on the image carriers is much better than it is in flexo and rotogravure printing. Furthermore, the printing-quality of the VSOP units is comparable to rotogravure printing.



VSOP markets

▶ **Label printing**

Wet glue paper • Wrap around paper • Wrap around film • Self adhesive labels • In-mould labels • Shrink sleeves

▶ **Flexible Packaging printing**

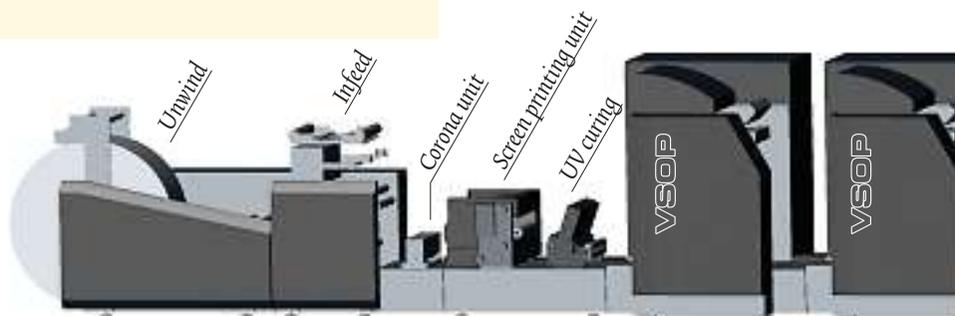
Foil • Paper bags • Laminates

▶ **Folding carton printing**

Boxes • Liquid packaging

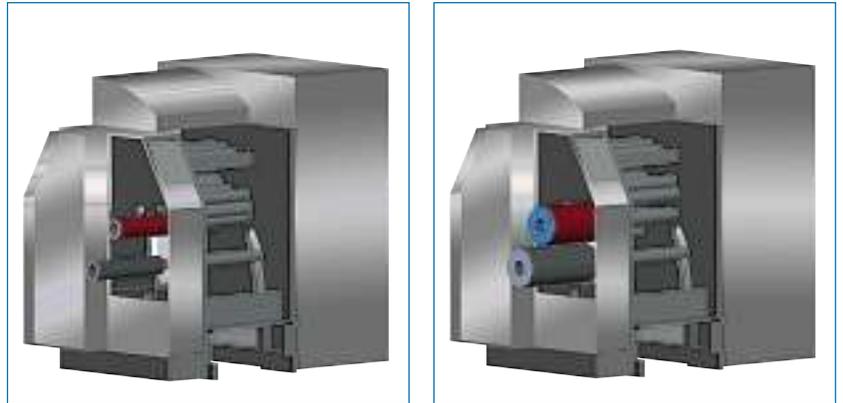
▶ **Commercial printing**

Business forms • Direct mail • Magazines, books • Pharmaceutical inserts • Security documents





Variable Size Sleeves



Sizes are changed easily

In addition, because of the low production costs and quick delivery times of the sleeves and offset plates, shorter runs are also profitable. With delivery times of two weeks for any new size, this offers huge flexibility. Extremely quick job changes combine with perfect ergonomics, as the VSOP units use lightweight sleeves.

VSOP offers a total solution for various applications. With the development of a new UV- or EB-curing concept that produces extremely low odour, the machine is especially interesting for the top quality flexible packaging producers.

New markets

In today's market printers are continuously looking for new opportunities. Our revolutionary new technology can help create these opportunities! The different advantages bring the various printing segments closer to each other. Whether you are familiar with offset, flexo or rotogravure printing, you will quickly see the progress you can make with VSOP.





Sleeves

In the VSOP printing tower the plate cylinder and blanket cylinder are lightweight sleeves. These sleeves can manually be changed for sleeves with the same or another diameter within a very short time. The press recognises the sleeve size and automatically moves the printing cylinders to the corresponding position.

Servo drive

- ▶ Each printing cylinder has an individual servo drive. This means that no gears need to be changed and maximum register accuracy can be reached. As with other units in the press the sleeves have their own zero-point. This means that the press automatically puts the plate cylinder and blanket cylinder in register.
- ▶ The individual drive of each printing cylinder offers the possibility to vary the print length with a certain percentage without noticeable effect on the print quality.
- ▶ Another advantage of the individual servo drive is the possibility to increase the impression cylinder speed for each successive print station in order to print difficult substrates such as aluminum, thin film or even very thick substrates in register.

Offset plates

- ▶ Standard offset plates can be used. The offset plate combines high print quality with a very low cost.
- ▶ The unique plate mounting system combines accurate plate positioning and very quick plate change with a very small non printing zone.
- ▶ Normally plates with a thickness of 0,3 mm are used, but on request special plate sleeves for other plate thicknesses can be offered.

Job change

- ▶ Maximum press efficiency can be reached by preparing each print job off-press while the press is running. The quick change-over procedure and automatic presetting do the rest.
- ▶ Like any other function in the press the sleeves can be changed without the use of any tool.
- ▶ Of course, numerous press settings can be stored in the on-press database for a possible repeat job.

Hybrid press

- ▶ The VSOP offers an enormous functionality and wide field of operation together with ultimate user-friendly and ergonomic operation.
- ▶ In-line with the sleeve technology for offset a great number of other functions such as flexo print, screen print, gravure print, digital print, hotfoil stamping, laminating, die cutting and sheeting can be offered.



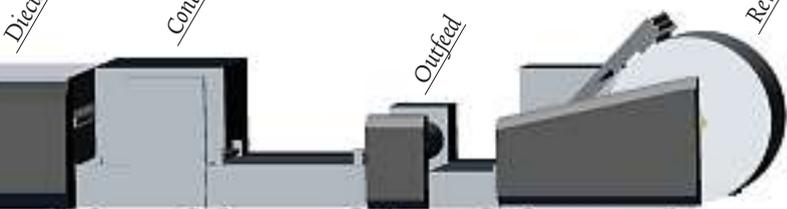
Unwind

Dicutting unit

Continuous matrix removal

Outfeed

Rewind





Flexo unit



Screen printing unit



Variable data inkjet system

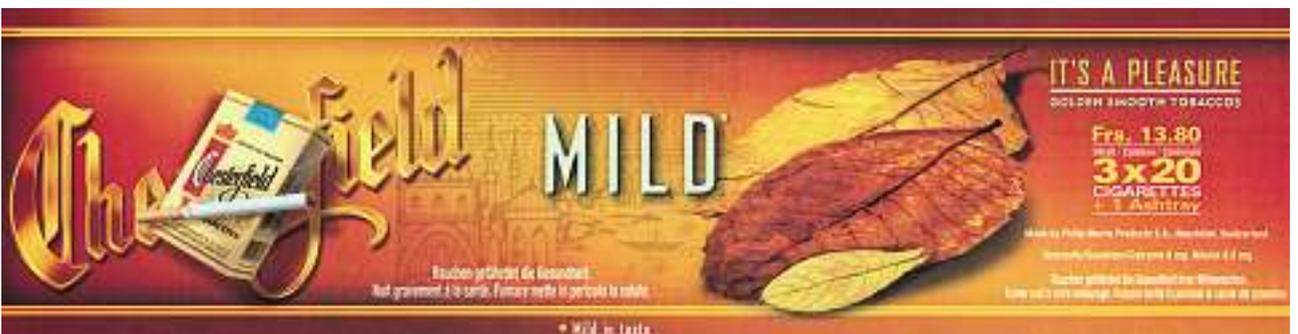


VSOP advantages

- ▶ Variable size, any repeat length
- ▶ Low size cost
- ▶ Low image cost
- ▶ Superior offset print quality
- ▶ High reactivity
- ▶ Short make ready and change over time
- ▶ High productivity
- ▶ High efficiency, even on short runs
- ▶ Many different in-line processes
- ▶ User-friendly and ergonomic operation, no tools required

Additional units

- ▶ Die-cutter
- ▶ Rewinder
- ▶ Sheeter
- ▶ Blanket washing system
- ▶ Remote ink control
- ▶ Register control
- ▶ Web video system
- ▶ UV curing system
- ▶ Flexo unit
- ▶ Screen printing unit
- ▶ Rotogravure unit
- ▶ Hot foil stamping unit
- ▶ Laminating unit
- ▶ Numbering unit
- ▶ Variable data inkjet system
- ▶ Cooling units with UV curing
- ▶ Hot air dryer for water based or solvent based inks and varnish
- ▶ Non-stop splicers
- ▶ Corona unit
- ▶ And many more...





Machine specifications	VSOP 520	VSOP 850	VSOP 1120	VSOP 1250
Print direction	▶▶▶	▶▶▶	◀◀◀	◀◀◀
Max print speed	400 m/min 1200 ft/min	400 m/min 1200 ft/min	400 m/min 1200 ft/min	400 m/min 1200 ft/min
Web width	200 - 520 mm 8 - 20.5"	425 - 850 mm 17 - 33.5"	600 - 1120 mm 24 - 44"	600 - 1250 mm 24 - 49.2"
Max print width	500 mm 20"	840 mm 33"	1110 mm 43.7"	1240 mm 48.8"
Range repeat lengths	381 - 762 mm 15 - 30"	381 - 762 mm 15 - 30"	570 - 1140 mm 22.4 - 44.9"	570 - 1140 mm 22.4 - 44.9"
Repeat steps	stepless	stepless	stepless	stepless
Non printing zone				
Coated paper and film	3 mm 0.12"	3 mm 0.12"	4 mm 0.12"	4 mm 0.12"
Uncoated paper and board	6 mm 0.24"	6 mm 0.24"	6 mm 0.24"	6 mm 0.24"
Repeat change (per printing tower)	1 minute	1 minute	4 minutes	4 minutes
Print length correction	+/- 0,5% (depending on substrate)			
Image carrier	Offset plate: conventional or CtP, wet or dry offset, waterless offset			
Material range	standard 10 - 300 µm optional 10 - 700 µm	standard 10 - 300 µm optional 10 - 700 µm	standard 10 - 300 µm optional 10 - 700 µm	standard 10 - 300 µm optional 10 - 700 µm

The range of material comprises films and foils, paper, card board, self-adhesive and compound materials. These materials can be processed within a given range of thicknesses. The printability and the process stability of the materials must be guaranteed for the techniques that are going to be used.

The above output figures are maximum values. The actual output is depending on the type of job, the size and the quality of the processed material. Subject to technical modifications.

Patents: NL 1013620, EP 1 101 611, US 6,694,877, NL 1022758, WO 2004/103707 (pending), DE 199 55 084, DE 202 19 715.8, PCT/NL2003/00904 (pending)

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