### Variable Sleeve Offset Printing

#### Additional units
- Die-cutter
- Sheeter
- Ream cutter
- 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 systems
- Heating units with UV curing
- Hot air dryer for water based or solvent based inks and coatings
- Non-stop splicers
- Corona unit
- And many more...

#### Machine specifications

<table>
<thead>
<tr>
<th>VSOP 520</th>
<th>VSOP 850</th>
<th>VSOP 1120</th>
<th>VSOP 1250</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print direction</strong></td>
<td><strong>Max print speed</strong></td>
<td><strong>Web width</strong></td>
<td><strong>Max print width</strong></td>
</tr>
<tr>
<td>400 m/min</td>
<td>1200 ft/min</td>
<td>200 - 520 mm</td>
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</tr>
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</tr>
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</tr>
<tr>
<td>400 m/min</td>
<td>1200 ft/min</td>
<td>600 - 1250 mm</td>
<td>1240 mm</td>
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</table>

**Material range**

<table>
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<th>standard</th>
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**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 flexibility, more on one sheet run
- Many different in-line processes
- User-friendly and ergonomic operation, as back required

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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 the lightweight sleeves need to be changed when switching repeat lengths. The sleeve technology which has greatly contributed to the rise of flexo printing has been extended to the world of offset.

Variable Sleeve Offset Printing units are fully equipped printing towers which can be positioned not to any repeat length (15 and up to 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

 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 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...
With the 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, now also enters the world of offset.

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Variable Sleeve Offset Printing units are fully equipped printing towers which can be conditioned not to any repeat length (e.g., 42 cm or 1/500 in.). This gives you, the printer, an extremely flexible printing press, suited for a nearly unlimited range of repeat lengths.

Advantages of VSOP
VSOP makes it possible to repeat lengths and quick changing of jobs, the VSOP offers other huge advantages. The print and delivery time on the UV coater is much better than to it in flexo and conventional printing. Furthermore, the printing quality of the VSOP units is comparable to conventional printing.

VSOP markets
- Label print
- Shrink sleeves
- Wrap around paper
- Wrap around film
- Self-adhesive labels
- In medical labels
- Batteries
- Thermal paper
- Flexible packaging printing
- Food - Paper bags - Shrink
- Folding carton printing
- Books - laminating
- Commercial printing
- Fast printing
- Kustosz forms - Coated mail - Magazines, books - Pharmaceutical markets - Security documents

In addition, because of the low production costs and quick delivery times of the sleeves and other printing devices, it is also possible to print different sizes, even for very short runs, without noticeable effect on the print quality.

New markets
In today’s market printers are constantly looking for new applications. One revolutionary new technology can help create these opportunities. The advantages of the VSOP printing technology offers the possibility to vary the print length with a certain percentage

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. With this new technology, only two sleeves need to be changed for sleeves with the same or another diameter within a very short time. The press recognizes the sleeve size and automatically moves the printing cylinders in the corresponding position.

Serve drive
Each printing cylinder has an individual serve drive. This means that no gears need to be changed and maximum regular accuracy can be reached. As with other units in the press the sleeves have their own serve drive. This means that the press can simultaneously print different plate cylinder and blanket cylinder in register.

The individual drive of each printing cylinder offers the possibility to vary the impression cylinder speed for each successive print station in order to print difficult substrates such as aluminum, thin films or very fine or thick substrates in register.

In addition, because of the low production costs and quick delivery times of the sleeves and other printing devices, it is also possible to print different sizes, even for very short runs, without noticeable effect on the print quality.

Versatility
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 films or very fine or thick substrates in register.

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 of the press do the rest.

Offset plates
The offset plates combine high print quality with a very low cost. The press plate mounting system combines accurate plate positioning and very quick plate change with a very small non print zone.

Quick special print sizes can be done quickly and economic. Our revolutionary new technology can help create these opportunities. The advantages of the VSOP printing technology offers the possibility to vary the print length with a certain percentage

Job change
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Hybrid press
The VSOP offers an enormous flexibility and wide field of operation together with ultimate user-friendly and ergonomic operation.

In addition, because of the low production costs and quick delivery times of the sleeves and other printing devices, it is also possible to print different sizes, even for very short runs, without noticeable effect on the print quality.

Variable Size Sleeves
The press automatically puts the plate cylinder and blanket cylinder in the corresponding position. 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.

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- Wrap around film
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Serve drive
Each printing cylinder has an individual serve drive. This means that no gears need to be changed and maximum regular accuracy can be reached. As with other units in the press the sleeves have their own serve drive. This means that the press can simultaneously print different plate cylinder and blanket cylinder in register.

The individual drive of each printing cylinder offers the possibility to vary the impression cylinder speed for each successive print station in order to print difficult substrates such as aluminum, thin films or very fine or thick substrates in register.

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 of the press do the rest.

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

Variable Size Offset Printing
Variable Size 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 Size Offset Printing units are fully equipped printing towers, which are: Unwind, Screen printing unit, Cylinders with UV curing, and rewinding unit. This gives you, the printer, an extremely flexible printing press, suited for a nearly unlimited range of jobs.

Advantages of VSOP

VSOP units are ideally suited to repeat lengths and quick changing of jobs, the VSOP offers other huge advantages. The press at finishing and delivery time can be easily converted to a few minutes at a print quality of the VSOP units is comparable to conventional printing.

In addition, because of the low production costs and quick delivery times of the sleeves and offset plates, changes are also possible. With delivery times of two months for new sleeves, either fast or slow, immediately quick job change combos with perfect registration, or the VSOP units are lightweight sleeves.

VSOP offers a total solution for various applications: With the de-inking of a new tool in a very short time that produces extremely fast results, the equipment is easily reconfigured for the next printing project. 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.

Serve drive

Each printing cylinder has its own servo drive. This means that no gears need to be changed and maximum regular accuracy can be reached. With each other unit in the press the sleeves have their own set. This means that the press can easily switch to the plate cylinder in register.

The servo drive allows very quick plate changing. The exact diameter of the 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 succession print, and to integrate difficult substrates such as aluminum, thin film or even very thin substrates in register.

New markets

In today’s market printers are constantly looking for new opportunities. One revolutionary new technology can help create these opportunities.

The different advantages being the quick setup, registration change in each other. Whether you are familiar with offset, flexo or conjugate printing, you will quickly see the progress you can make with VSOP.

Advantages of VSOP

VSOP offers an enormous range of advantages to the press and the printing processes in the VSOP printing tower.

1. Servo drive

   Each printing cylinder has its own servo drive. This means that no gears need to be changed and maximum regular accuracy can be reached. With each other unit in the press the sleeves have their own set. This means that the press can easily switch to the plate cylinder in register.

2. Quick changeovers

   The press recognises the sleeve size and automatically moves the printing cylinders to the corresponding position.

3. Variable Size Sleeves

   Each printing cylinder has its own servo drive. This means that no gears need to be changed and maximum regular accuracy can be reached. With each other unit in the press the sleeves have their own set. This means that the press can easily switch to the plate cylinder in register.

4. White and pastel colors: In the press the sleeves can be charged without the use of any white ink.

5. Mirror, numerous press settings can be stored in the press database for a possible repeat job.

Hybrid press

The VSOP offers an enormous opportunity to work with offset, flexo and screen printing in one single press. This means that the press can easily switch to the plate cylinder in register.

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<td>400 m/min</td>
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<td>400 m/min</td>
</tr>
<tr>
<td>Web width</td>
<td>200 - 520 mm</td>
<td>425 - 850 mm</td>
<td>600 - 1120 mm</td>
</tr>
<tr>
<td>Max print speed</td>
<td>20.5”</td>
<td>33”</td>
<td>44”</td>
</tr>
<tr>
<td>Range repeat lengths</td>
<td>15 - 30”</td>
<td>15 - 30”</td>
<td>22.4 - 44.9”</td>
</tr>
<tr>
<td>Repeat change (per printing tower)</td>
<td>1 minute</td>
<td>1 minute</td>
<td>4 minutes</td>
</tr>
<tr>
<td>Print length correction</td>
<td>+/- 0.5% (depending on substrate)</td>
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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 ergonomics operation, no tools required

Additional units
- Die-cutter
- Puncher
- Sheeter
- Remote offset printing 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 systems

The range of material comprises films and foils, paper, cardboard, self-adhesive and composite materials. These materials can be processed without 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 paper, the speed, the quality of the processed material, substrate or in-deck modifications.

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</tr>
<tr>
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<tr>
<td>Many different ink types and operations, inks back required</td>
</tr>
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</table>

### Additional units

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

### Print direction

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<tr>
<td>Max print width</td>
<td>20 &quot;</td>
<td>33 &quot;</td>
<td>43.7 &quot;</td>
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### Range repeat lengths

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### Image carrier

| Offset plate: conventional or CtP, wet or dry offset, waterless offset |

### Material range

<table>
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<tr>
<th>standard</th>
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<tbody>
<tr>
<td>10 – 300 µm</td>
<td>10 – 700 µm</td>
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### 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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<tr>
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<th>500</th>
<th>840</th>
<th>1110</th>
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<tbody>
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<td>Max print speed</td>
<td>400</td>
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