VSOP Web Offset Printing Press

Variable size web offset printing for labels, flexible packaging and cardboard

MÜLLER MARTINI

VSOP –
Variable-Size Printing for Optimum Flexibility

Printers today are always on the look-out for new ideas and market opportunities, and Variable Sleeve Offset Printing (VSOP) technology can help you make the most of these opportunities. The Muller Martini VSOP technology enables simple and quick format changes in offset printing. Sleeve technology allows print sizes to be changed easily without having to remove entire inserts. So this process is not just quick and simple, it is also exceptionally cost-effective for print lengths that change frequently.

VSOP markets

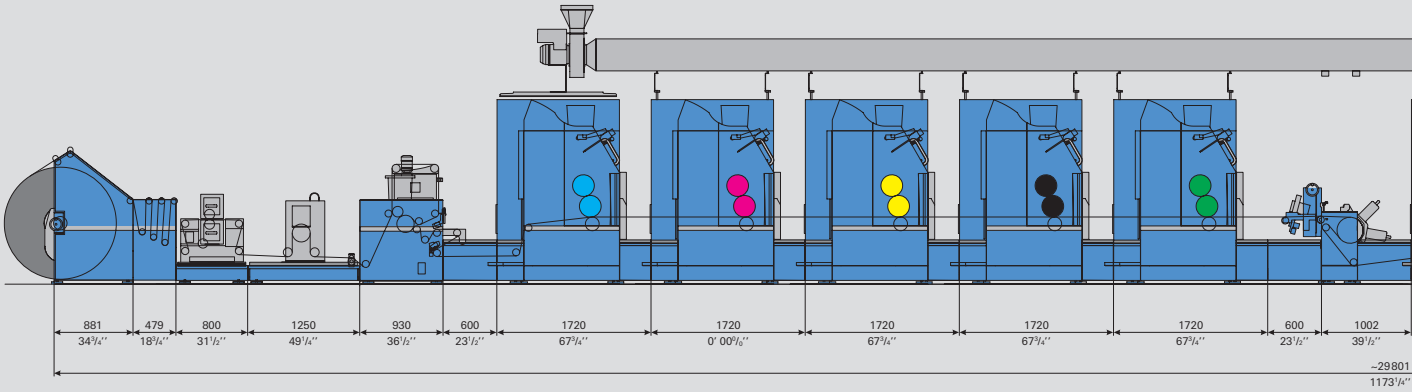
- Label printing:
  Wet-glue labels, wrap-around labels made of paper or film, self-adhesive labels, in-mold labels, shrink sleeves
- Flexible package printing:
  Films, laminates, food packaging
- Cardboard printing:
  Folding boxes, liquid packaging

Advantages of Muller Martini VSOP
The variable size print promotes great production flexibility thanks to quick and simple size and order changes, and the VSOP printing units also deliver the first-class printing quality needed to meet the tough requirements of the package printing market. The print forms are considerably cheaper and offer significantly shorter delivery times than flexo and gravure printing, meaning they are also profitable for small and medium-size runs. Two light cartridges, known as sleeves, are the only parts that need to be exchanged in order to change the print size. The minimal weight of these sleeves ensures that they are particularly ergonomic to manage.

Infinitely variable sizes
VSOP printing units are infinitely variable for all print image lengths, giving printers an incredibly flexible printing press that is suitable for an almost unlimited order spectrum. This ensures that a complete job change is possible in just a few minutes.

Excellence in package printing
VSOP offers a complete solution for a wide range of applications. When manufacturing high-quality food packaging, electron-beam curing technology (EB) or UV equipment is used to cure the printing ink to ensure that low-migration and odorless packaging is produced.

VSOP 520/850



1

Infeed unit
Depending on whether films or cardboard are being printed, one or two infeed rollers are used to guarantee stable web tension control.

2

Web cleaning and corona treatment
Before printing, the web is cleaned with or without a web contact and then treated with the corona station to improve ink adhesion.

3

Offset sleeves
Replacing the handy and cost-effective plate and rubber blanket sleeves offers infinitely variable print lengths.

4

VSOP printing unit
The printing units fulfill the demanding requirements of package printing while the stable pivot arms ensure consistent conditions.

6

Register controller
The scanning heads of the register controller are positioned immediately after the printing units to ensure fast reaction times.

7

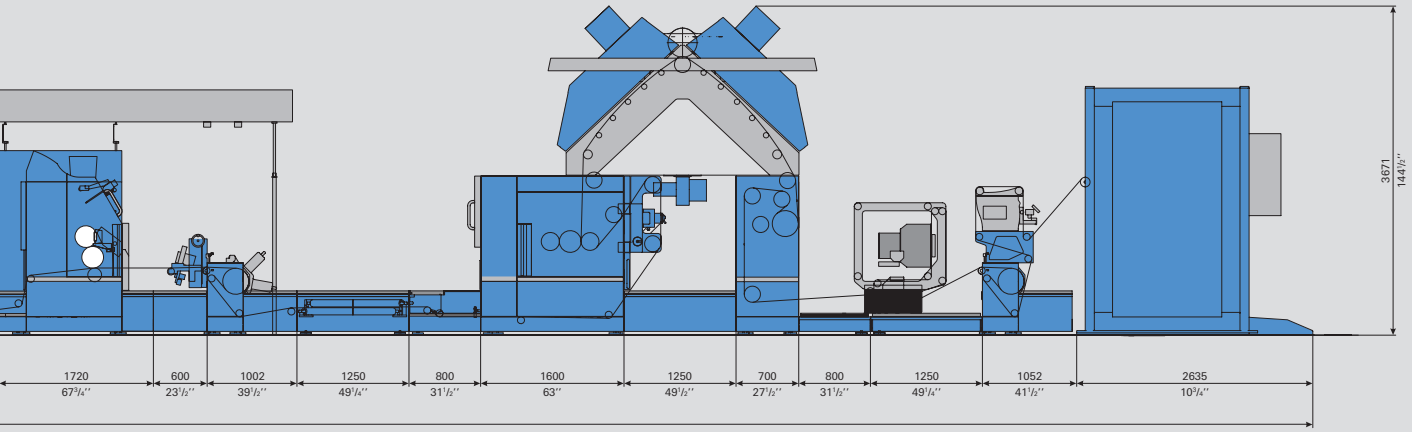
Flexo printing unit
Infinitely variable sizes including servo drives, sleeve technology and an optional hot air dryer. For solvent-based, water-based and UV inks and lacquers.

8

Web video monitoring
Analog or digital web monitoring systems or a 100% print image inspection are used as required.

9

Electron-beam curing
When manufacturing food packaging, the printing ink can be cured using electron-beam technology.



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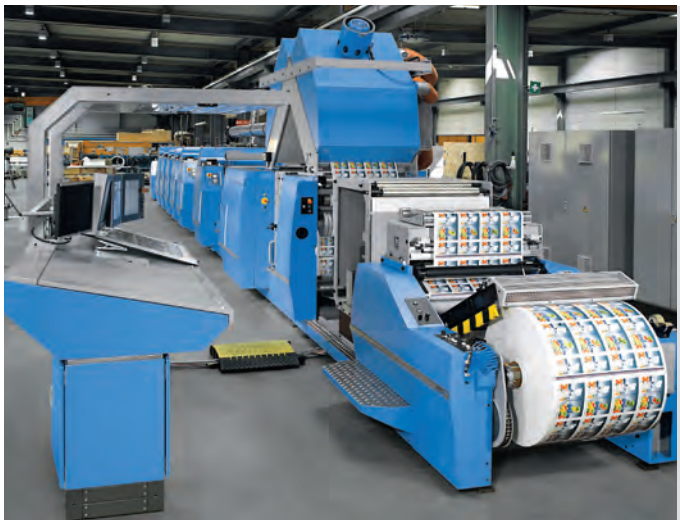
UV cooling station
A cooled cylinder is used for the UV drying of temperature-sensitive substrates such as shrink films.



Individual configuration
VSOP machines for film and folding carton printing can be configured individually. The integration of flexo or gravure printing units permits special applications such as primers, decorative inks, effect coatings, opaque white and cold seal lacquer to be used.

Coating
The flexo printing unit, especially designed for use with electron-beam curing, coats printed products without hardening the printed ink beforehand.

Rotogravure printing
For particularly thick ink layers, rotogravure printing units using sealing lacquers or brilliant metallic inks can be integrated in the printing press.

Staggered plate
Staggered plate eliminates a straight plate gap and provides an optimum usage of expensive material such as cardboard and a reduction of cut-off waste.

Innovative Technology for High-Quality Package Printing

- **High level of printing quality**
  The offset printing process ensures that the VSOP is particularly suitable for printing fine details and gradients.
- **Low-cost printing method**
  Standard offset plates can be used, which are considerably cheaper than image carriers used for flexo and gravure printing.
- **Short response times**
  Flexible order management thanks to fast and simple printing plate manufacture and short setup times.
- **Infinite size variability**
  The VSOP printing unit has plate and rubber blanket cylinders, which act as handy sleeves.
  The sleeves can be replaced manually in no time at all. Each sleeve axis has its own servo drive, which is why none of the gears needs to be changed.
- **Swift, high-quality reproduction**
  The standardization of offset printing and the high level of automation guarantee extremely short setup times while maintaining precise color reproduction – particularly important for branded products.
- **Sustainable printing processes**
  Through the integration of radiation curing procedures, significantly less energy is used in comparison to traditional printing processes with solvent ink systems. In addition, considerably smaller amounts of solvents are used for cleaning the machine parts, and storing inks and lacquers is much easier.
- **Broad range of applications**
  Thanks to individual drives, the printing length can be changed within a defined range without affecting the printing quality. The speed of the impression cylinder can be adjusted for each of the printing units, ensuring that complex materials such as aluminum, thin foils or very thick substrates can be printed on with register accuracy.
- **Fast order changes**
  To guarantee maximum productivity, each print job can be prepared offline while the machine is in operation. A quick changeover system, including automatic pre-adjustment, automatically enters the settings. All machine settings for repeat jobs can be stored in the integrated database.
- **User-friendliness**
  All stations are easily accessible to ensure fast and safe processing. Sleeves can be replaced on the operating side without using tools.
- **Hybrid applications**
  In line with offset printing technology, a range of other printing processes can be provided including flexo, screen, gravure and digital printing as well as finishing processes such as foil stamping, laminating, punching and sheeting.

Technical specifications		VSOP 520	VSOP 850
Max. printing speed		365 m/min 1200 ft/min	365 m/min 1200 ft/min
Web width		200–520 mm 8–20.5"	425–850 mm 17–33.5"
Max. printing width		510 mm 20"	840 mm 33"
Size range		381–762 mm 15–30"	381–762 mm 15–30"
Format variability		Infinitely variable	Infinitely variable
Non-printed area	coated paper and film	3 mm 0.12"	3 mm 0.12"
	uncoated paper and cardboard	4 mm 0.16"	4 mm 0.16"
Size changes per printing unit		2 min	2 min
Printing-length correction		+0.5%/– 0.2% (dependent on the substrate and required printing quality)	
Range of materials	Standard	12–300 µm	12–300 µm
	Optional	200–760 µm 8-30 pt	200–760 µm 8-30 pt

All of the specifications detailed above are maximum values. The achievable values are dependent on the type of order, the substrate and product size. Subject to technical changes.

This leaflet may include components that are not part of the standard equipment and are available as options only. In some cases, protective covers have been removed in photographs, in order to provide a more detailed view of the equipment. Subject to design and equipment changes.

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