

Reshaping the Debate



Reinvigorating the debate about printing processes for packaging, Goss believes that changing requirements are creating the right conditions for a wider adoption of web offset for folding carton, flexible packaging and label applications.

Peter Walczak, Goss International director of product management for packaging presses



The Goss Sunday Vpak packaging press – here outputting to 18pt SUS paperboard – is available in web widths up to 1905mm

New Goss® Sunday™ Vpak™ variable sleeve presses introduce an entirely new way to exploit the inherent print quality, cost and agility advantages of web offset, according to Peter Walczak, Goss International director of product management for packaging presses.

Walczak says that, while packaging has not been directly threatened by electronic alternatives and remains a growing print sector, the pressures on packaging producers mirror those found in the other sectors. "Margins are tightening, brand owners and marketers are demanding higher print quality, and run lengths and turn-around times are coming down to achieve more dynamic, targeted and personalized packaging," he explains.

Add in emerging environmental, product safety and security issues, and it is no wonder that current print production methods are being analyzed so closely with an eye on improvement opportunities.

"With new variable sleeve press technology available in web widths up to 1905mm (75 inches) to address these requirements, the time is right to consider, or reconsider, web offset alternatives to flexo, gravure or sheetfed offset for some applications," Walczak adds.

In addition to the benefits of high productivity and comparatively low costs for imaging versus gravure and plates versus flexo, offset provides a more versatile and stable process for many

packaging requirements. Simplified and automated makeready processes not only mean fast start-ups for new or repeat jobs, but also quicker and easier adjustments during production.

High line screens and sophisticated screening techniques, such as FM or stochastic screening, can also be accommodated easily via offset, improving print quality while avoiding screen clashes, moirés and other defects. The ability to print solids and screens for a particular color from one plate on the same unit further enhances simplicity and cost-effectiveness.

"Consumers and marketers increasingly expect the print quality and vibrancy of a product's packaging to make it stand out from competitors and match the brochures, videos and other promotional materials for that product," according to Walczak. "Offset is the proven print process for the highest quality at high speed and competitive cost."

Powerful productivity complements the quality and cost advantages of web offset. The new Goss Sunday Vpak presses print at up to 457 meters (1,500 feet) per minute. The result is output capabilities up to 200 percent higher than those of a sheetfed press, along with reduced substrate costs, greater substrate range and inline converting.

Variable-sleeve Sunday Vpak models are also preferable alternatives to cassette-style web offset packaging presses that rely on cumbersome and costly cassettes to achieve repeat variations. Available in

web widths up to 1905mm (75 inches) and 1041mm (41 inches), respectively, the Sunday Vpak 3000 and Sunday Vpak 500 press models feature quick-change blanket and plate cylinder sleeve adapters, which make 'infinitely' variable repeat lengths easier and more affordable.

Proven concepts and technologies from industry-leading Goss Sunday™ commercial web presses were incorporated in the new Vpak presses. Sleeve experience and unique, proven Goss technologies to manage presetting, ink, water, web tension, register, closed-loop controls, drying and other variables in the most demanding offset environments support the advantages of the packaging presses, according to Walczak. He notes that more than 2,000 Goss Sunday printing units with sleeve technology are in operation worldwide, printing at up to 15 meters per second

(3,000 feet per minute) and on webs up to 2860mm (112 inches) wide. "We have also demonstrated that we specialize in working with customers to integrate web offset lithography within advanced and highly-customized production systems, a key for packaging."

"Innovative wide-web Sunday press technology revolutionized commercial printing over the past two decades by dramatically improving the productivity, short-run efficiency and overall cost model of web offset," concludes Walczak. "With the Sunday Vpak presses, we are presenting a similar, game-changing path forward for the packaging sector."



For flexible packaging the Vpak benefits include finer line screens and fast, easy color adjustment.

Concealed in a Sleeve – the Gapless Secret Weapon for Offset Packaging

Extensive experience with sleeves and a unique new "white light" cylinder layer give Sunday™ Vpak™ presses unique advantages.

Goss® Sunday presses with gapless sleeve blankets revolutionized commercial web printing and have been setting – and resetting – industry standards for print quality, productivity and reliability for 20 years. More than 2,000 Sunday printing units now operate worldwide at speeds of up to 15 meters per second (3,000 feet per minute) and widths of up to 2.8 meters (112 inches).

Now, with packaging print requirements moving toward the leap-off-the-shelf print quality, shorter targeted run lengths, faster turnaround times, and absolute-lowest-cost-possible requirements of commercial printing, it is only logical that Goss International would adapt its Sunday press advantages and experience for specialized packaging applications.



20 years of sleeve press experience allowed Goss engineers to quickly perfect the air pressure and cylinder registration mechanisms for fast, simple size changes.

Goss is certainly not the first to envision the potential for web offset to provide packaging printers with a preferable alternative to flexo, sheetfed offset and gravure for folding carton, flexible packaging and label applications. Solutions have come and gone, but barriers ranging from costly and cumbersome size-change systems to limited web widths to ineffective supplier support and execution have prevented web offset from making serious inroads.

A different reference point in terms of web offset technology and experience allowed Goss International to take a unique approach. One with a stronger foundation and a higher prospect for long-term success, according to Peter Walczak, product development director for the company's variable sleeve Sunday Vpak™ presses.

"We recognized, of course, that we could not simply take a commercial web press, add variable repeat, and call it a packaging press," acknowledges Walczak. "Instead, we took the proven core principles of Sunday™ technology and our experience with sleeve presses and started from the ground up to create a specialized packaging press."

That effort included collaboration with Flint Group / Day International, a longtime supplier of gapless Sunday press blankets, and its Rotec division. The result is a breakthrough blanket and plate cylinder concept that reduces the cost and complexity of achieving multiple repeat variations with a Sunday Vpak press significantly.

Size changes with the Sunday Vpak presses are achieved by sliding cylindrical bridging sleeves and plate and blanket sleeves of varying diameters over cantilevered mandrels. That is nothing new, and 20 years of sleeve press experience allowed Goss International engineers to quickly perfect the air pressure and cylinder registration mechanisms for fast, simple size changes.

What is new is the Goss and Flint concept of affixing a layer of lightweight material known as the "white light" layer under the blanket and plate sleeves. The thickness of this "white light" layer can vary from 0 to 0.25" (0 to 6 mm). The key benefit is a reduction in the number of blanket

Model	Max Web Width mm (in.)	Min Repeat mm (in.)	Max Repeat mm (in.)	Unit Design Speed mpm (fpm)
Sunday Vpak™ 3000	1905 (75)	850 (33.5)	1400 (55.1)	457 (1500)
	1625 (64)	700 (27.6)	1400 (55.1)	
	1400 (55)	700 (27.6)	1400 (55.1)	
	1120 (44)	700 (27.6)	1400 (55.1)	
Sunday Vpak™ 500	1051 (41)	508 (20)	812 (32)	365 (1200)
	850 (33.5)	406 (16)	812 (32)	
	520 (20.5)	406 (16)	812 (32)	

bridging sleeve adapters a Vpak press user needs to buy and manage.

"For each set of blanket bridging sleeve adapters, a printer can vary the repeat within a range of 1.57 inches (40 mm) by using a new set of blankets with a "white light" layer of an appropriate thickness," Walczak explains. "This is a far less expensive and complex alternative to buying and organizing separate sets of bridging sleeves for every single size requirement."

Surface compounds for the blankets developed for the Vpak press are available for UV and electron beam curing and heatset printing.

In parallel with the sleeve change and "white light" concepts, the Goss team designed the Sunday Vpak press cylinder stack so that ink train rollers and the plate, blanket and impression cylinders maintain a correct contact profile regardless of the diameter of the sleeves. The design work included automatic setting of the plate to blanket nip to ensure ease of operation and fast changeovers.

The result, Walczak summarizes, is a press design that merges the proven lithography, operability and productivity traits of the world's most advanced Sunday presses

with a size-change capability that is easy, reliable and cost effective. He says print testing in the Goss International R&D lab has produced excellent results on a wide range of packaging substrates, from unsupported films of 12 microns in thickness to heavyweight board.

"We're used to printing 200 lines-per-inch or stochastic screens and achieving precise web tension – a critical challenge with packaging substrates – at 3,000 feet per minute on 112-inch webs," he explains. "So it is not surprising that we have been able to do this with the new Vpak 500 and Vpak 3000 units in our lab."

"The track record of Goss International in introducing game-changing printing technology, executing large-scale integrated installations and supporting them over the long term with a solid company infrastructure should also give packaging producers confidence in the Sunday Vpak presses," he concludes.



The Goss "white layer" reduces the number of blanket bridging sleeve adapters a Vpak press user needs.

Packaging World First for Precision Press



Precision Press, an innovative U.S. packaging and label producer for the food, beverage and consumer markets, will be the first in the world to install the new Goss® Sunday™ Vpak™ web offset printing system.

Precision Press president Lee Timmerman (left) and vice president of technology Lane Gravley (right) confirm the order with Goss International sales director Tim Van Driessche (center)

The new press will be configured for flexible packaging applications, with Sunday Vpak 500 web offset printing units as well as a Goss in-line flexo and coating unit. The press will also be equipped for UV and EB curing. The system will go into operation at the company's 213,000-square-foot (19,800 m²) facility in North Mankato, Minnesota in late 2012.

High offset print quality, quick-change sleeve technology and the prospect of lower production costs were key factors in the investment decision. Goss International support resources in the United States were also important, according to Lee Timmerman, president of Precision Press. Timmerman says the Sunday Vpak 500 press will accommodate a wide variety of film substrates, product formats and high-quality lithographic requirements, supplementing the company's extensive web offset capabilities.

"We have made a deliberate decision to do something different," explains Timmerman. "There is a lot of untapped potential for web offset in the packaging arena, and we're excited about the new print quality, productivity and efficiency benefits the Goss press technology will bring to our customers."

Printing at up to 1,200 feet per minute (6.1 m/s), Goss International will equip the system at Precision Press with a closed-loop color, registration and inspection system.

"Precision Press is a well-established leader in delivering differentiating packaging and label capabilities to its customers," according to Jochen Meissner, Goss International president and CEO. "We appreciate this opportunity to support the company's ongoing commitment to cutting-edge offset technology."

Timmerman notes that Precision Press has worked closely with Goss International over the past year in development of the press configuration. "We had the chance to actually work with the high-caliber Goss engineering team as the press was being developed and tested at their U.S. headquarters," he explains. "As a result, our experience in printing on films and understanding of the challenges, as well as our vision of the capabilities that our customers will need going forward, are built into the new press technology."

Precision Press produces a comprehensive range of flexible packaging as well as in-mold, shrink sleeve, roll-fed and cut-and-stack labels to help customers throughout the United States distinguish their food, beverage and consumer products. The company is part of the Taylor Corporation, one of the top-five largest graphic communications and commercial printing groups in North America.