

# Anilox offset

Keyless inking for offset presses, first found on sheetfed machines, has now moved to narrow web with the launch by Codimag of its Viva 420 offset at Labelexpo Europe. **Andy Thomas** reports

**C**odimag is coming to Labelexpo Europe with a breakthrough technology development – a keyless inking system for its new Viva 420 intermittent offset press. Named by Codimag the ‘Aniflo’ system, it is claimed the first implementation of such a system in the narrow web market.

Anilox inking is already an established technology in the commercial offset market, with Heidelberg’s SM52 Speedmaster and KBA’s Genius and Karat presses utilizing the system successfully (see boxout on page 92).

Codimag’s Aniflo replaces the conventional offset inking roller chain with a short inking system based on just four equal sized cylinders— anilox, forme, plate and blanket rolls.

A chambered doctor blade supplies ink to the anilox, which is a sleeve specially engraved to break down the paste ink to a film using a cell pattern developed specially for the application.

This thin ink film is then delivered to a rubber forme roller, which transfers the ink to the plate and from there to the blanket. Forme roller and blanket cylinder are equipped with the same rubber blanket which can be easily dismantled from their respective steel cylinders.

There is no longer the need to regulate ink keys, as ink film is controlled by the anilox roll. Temperature settings on the anilox and blanket are used to modify ink viscosity to allow a density adjustment to the customer’s requirements.

An infra-red heater adjacent to the blanket cylinder allows

adjustment of the amount of ink released by the blanket – a warmer blanket releases ink more easily than a colder blanket, increasing ink density.

Pascal Duchêne, managing director at Codimag, does not believe that the loss of adjustable ink zones will have an effect on print quality. ‘You can anyway only adjust the volume of ink in the web direction and not across the web direction, so it is a limited tool to begin with.’

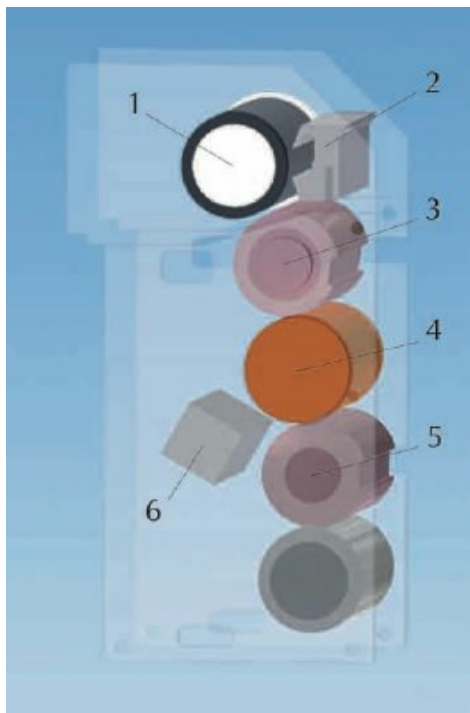
Duchêne also points out that varying the temperature affects ink viscosity within a few revolutions, since there is no inertia in the inking train. ‘On a standard offset press the operator might have to wait minutes between opening an ink key and the extra ink being released from the ink train. With the Aniflo we are waiting less than one minute to go from minimum to maximum ink viscosity and fine adjustments take just 5-10 seconds to have an effect on density.’

‘The challenge is to translate, for the printer, temperature information into density information, so the temperature control becomes a density control,’ says Duchêne.

Because the rolls are the same size, there is a 1:1 relationship between the inking train elements. In other words, the forme roller delivers exactly the same amount of ink that the blanket takes from the plate cylinder, and the image is repeated on all rolls at the same spot. This means there is no possibility of ‘ghosting’. Conventional offset presses, by contrast, use three rubber rolls to deliver ink to the plate, and



*Codimag Viva 420*



1 – Anilox roll, with temperature regulation  
 2 – Ink fountain  
 3 – Form roller, equipped with rubber blanket  
 4 – Plate cylinder  
 5 – Blanket cylinder  
 6 – Infra Red lamp to control blanket temperature

ghosting can arise if there is an imperfect overprinting at the point where the images meet.

Quick color adjustments are made possible through very low thermal inertia in the system and elimination of all intermediate kneading rollers – which are also sensitive to UV inks and solvents. Forme roller inking pressure to the plate is set with bearers, which guarantees inking precision and stability.

Although motorized control of ink rollers and ink keys is increasingly common in offset machines – one fifth of the Viva 340 offset presses sold this year have motorized ink key adjustment, for example – this adds to the complexity and cost of the press.

To handle the full range of ‘closed’ and ‘open’ substrates handled by label converters, Pascal Duchêne thinks the printer will need just two anilox sleeves. Vellum papers for wine labels, for example, require more ink than PPs, while higher density PMS colors will also need to be planned for in anilox selection.

### Labelexpo press

The Viva 420 wet offset press, which will be shown at Labelexpo, prints at 12,000

### Heidelberg trial

Heidelberg calls its anilox inking system Anicolor, and has implemented it on the Speedmaster SM52, although in an ink/water format rather than waterless. Anicolor was first trialled with Swiss commercial printer Fotorotar. Director Otto Brunner comments: ‘for runs of less than 1,000, Anicolor helps cut printing costs by around 30 percent’ due to its extremely short set-up times, significantly reduced material costs, faster job changes, consistent and even ink application and reproducible quality for repeat jobs. With no ink zone adjustment required, makeready time has been cut by 40 percent press productivity improved by 25 percent.

### Going waterless

Codimag has stayed with waterless offset technology since the launch of its Viva 340 press range in 1999. ‘With waterless offset it is possible to go further in print quality and get higher densities and finer dots and lines, in positive as well as reverse type in solid areas,’ says Duchêne ‘The elimination of damping system allows avoiding ink/water balance issues, especially at low speed’

Earlier issues with temperature control have been effectively tackled by the Technotrans system which Codimag uses, while Toray’s plate delivery is far more effective than was once the case. The plates can be imaged on any thermal CTP system operating at 830nm, then a cheap plate processor is required, making in-house CTP investment a viable proposition. A water-process plate is due to be launched soon by Toray.

All press components on the Viva 420 are standard for a waterless UV offset press, including inks, plates and pre-press.

impressions/hour. Repeat length is 8in (200mm) to 17in (432mm).

The press will be equipped with IST’s MBS-5 UV units – the first installation on an intermittent press – with linear adjustment to press speed. A cooling plate on the mounting bar substitutes for chill rollers.

The Viva 420 will be equipped with in-line converting units already developed by Codimag for its 420mm wide Viva letterpress.

The flexo varnishing station uses a 22 shore letterpress plate mounted on a magnetic cylinder, avoiding the need to use double-sided tape. The hot foil stamping station uses a 1mm magnesium plate, servo-driven distortion adjustment and foil saving. The embossing module uses male-female magnetic cylinders for quick plate mounting and incorporates Kocher & Beck’s Gapmaster system to control embossing depth.

As yet there is no Stork screen unit for this width of intermittent machine, but Duchêne is confident one will follow shortly.

It is interesting to note how Codimag is positioning this press. Its 340mm Viva machine has found niches in value-added short run sectors like the wine industry, and – typically – complementing Nilpeter MOs for short run, high quality offset work in the cosmetics sector.

‘With our 17in repeat, offset quality and a short inking train, we can now compete directly with rotary offset,’ proclaims Pascal Duchêne, who says the new Viva 420 is twice as productive as the 340. ‘We don’t need size change cassettes or tooling changes, we have much shorter set-up times and lower waste and no minimum idling speed during makeup. We are ready to print with 4x press length of waste material, which is just 40-60 meters, so we can as profitably print 50,000 labels as one million.’ ■