New "all-in-one" printing concept launched

First impressions: very compact and extremely quiet for a printing press. The event: H.C. Moog, Miehlen, Germany, officially launched its new 1-TBR Compact gravure sheet-fed press.

Photo: ci

Moog's new 1-TBR Compact gravure sheet-fed printing press.

The original concept sounded straightforward: design a compact, versatile printing press, incorporating state-of-the-art technology for high-quality printing, which can be used as a stand-alone unit or integrated into sheet-fed processes, and which is capable of printing on different substrates and in different finishes at speeds up to 10,000 sheets per hour, at the same time allowing a rapid change of cylinders and a high degree of user comfort.

Sounds like the usual tall order issued by marketing departments to their research and development departments. The sheet-fed gravure process was selected as it provides the optimum combination of quality, a wide range of special combinations as well as favourable economics. For example, in contrast to web-based machines, there is no need to adapt cylinder diameters.

The use of photopolymer plates is also cost-efficient as it always uses the same standard plate sizes. In addition, photopolymer plates for sheet-fed gravure permit new short run editions with gravure quality. Plates are also inexpensive and have short delivery times. Compared with double-sided coaters, up to four times more ink can be transferred, leading to considerable cost savings in metallic, pearlescent, calender and other pigments. The higher process stability also leads to less waste.

The new 1-TBR Compact certainly lives up to its name. The compact dimensions of the unit allow easy integration into existing production environments. As multiple passes are possible, the 1-TBR Compact can be used as a single unit as well as a pre- or post-processing offline production step. In addition to its use as a full production unit in its own right, the multi-functionality of the 1-TBR Compact also makes it highly suitable for creative work, i.e. mock-ups, especially the enhancement aspects for high quality refinements to premium quality printing products, which are the present market trend.

One of the key components is a double-sized impression cylinder made of a high-quality casting. The unit uses the same standard cylinder sizes as the well-established multi-colour types. The advantage of the common cylinder size is the availability and common cost for all packaging sizes that can be accommodated by the maximum format of 740 x 1040 mm (29.1 x 40.9 inches). The printing substrate is positioned precisely in the preset feeder to ensure that subsequent passes are retained with high precision.

Newly-developed ink sumps ensure maximum mixing of inks (printing conformity, no sedimentation) at minimum usage. Three types of sumps are available to accommodate different amounts of ink.

According to Moog, the printing machine is suitable for conventional gravure with solid gravure cylinders and, which is new, with digital printing plates. It can be used for magazine cover printing – especially gold, silver and pearlescent pigments – as well as for continuous tone print and offers full coverage lacquering, spot lacquering and refinement.

Full and partial embossing, micro-embossing and random grain patterns with a new pressure cylinder for greater stability are also possible, also full and partial coating applications and high gloss applications with a new calendering cylinder and temperature regulation up to 150°C, with water based varnish for "green printing".

Together with its supplier, Grafix, Moog has also gone new ways with the drying concept. Frequency controlled radial blowers and heating cartridges can now be optimised for any substrate or ink film thickness via the operator panel. Immediately after the print zone, the ink is partially dried with high-speed air knives (HAK) at normal room temperature. These can be controlled for pressure and air flow.

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In essence

- **Moog has launched a new compact and versatile printing press**
- **Press features a double-sized impression cylinder and newly-developed ink sumps**
- **Machine employs new drying concept**