conventional manner. This wet on semi-dry forming concept realized higher ply bonding strength.

(3) Excellent formation and surface property

The accelerating and decelerating action to the pulp slurry through the unique ACDEFLO path of the headbox gives good fiber dispersion. This well dispersed pulp slurry is more dispersed to make fine and uniform fiber network by the pulse-forming effect of the shoe blades mounted on a curved box and then consolidated as a more uniform fiber mat. Consequently the sheet with excellent formation and surface smoothness was produced.

(4) Bulky sheet structure

The improvement of the formation by the combination of ACDEFLO and pulse forming concept made possible higher consistency forming resulting in bulky sheet structure.

(5) Cost and energy saving

The less number of unit by the increased forming capacity per unit and the compact design with the unit length of 4 m reduced the initial cost significantly. The less vacuum usage on the forming zone would give much less energy consumption in the operation.

Auto Slitter Scorer Model “57 G”

To meet a long-standing demand of the industry for improvement of the slitting quality of corrugated board, our Mihara Works has developed and begun distribution of Auto Slitter Scorer Model “57 G” that employs a single thin blade slitting method instead of the conventional shear slitting method.

As a result, production of high-quality corrugated board has been made possible by solving the problems of the existing machines, including edge crush and crow’s foot (torn liner paper). At the same time, simple construction has resulted in reduced maintenance, and improvement in working environments through removal of paper dust.

These features have been highly evaluated in the industry, and we have already received orders for 23 units. Ten units are presently in use, with high reputations, both in Japan and overseas.

An outline is shown here.

1. Main specifications

The main specifications of this slitter scorer are given in Table 1, and its appearance is shown in Fig. 1.

2. Features

(1) Production of high-quality corrugated board

The thin blade with a sharp angle rotates at high speed (several times faster than the board speed) and realizes production of high-quality corrugated board free from edge crush or crow’s foot.

Board feed miss in the finishing department is eliminated by the high-quality corrugated board.

In addition, paper dust caused by slitting is removed by the vacuum paper dust removal device, the working environments are improved, and problems of printing stains in the finishing department are also solved.

(2) Simple construction and low maintenance

In the slitting process, the corrugated board is supported by an adjustment-free brush table of simple construction, and maintenance is almost eliminated. In case of trouble, cause and countermeasure are displayed by the trouble diagnosis system, so that prompt corrective action can be taken. Being of tandem shaft arrangement, the construction is compact, and the exchange demand with the existing slitter scorer can be fulfilled easily.

(3) High positioning accuracy

The head setting system of home position operation type by carrier device equipped with a servo motor

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
Item & Unit & Specification \\
\hline
Wire width & mm & 44 000 \\
Speed & m/min & 50 to 500 \\
Basis weight & g/m²/unit & 40 to 200 \\
\hline
Headbox & & \\
Length\times Height & mm & 1 000\times 1 000 \\
Type & - & Hydraulic type \\
Flow rate & l/s/min/unit & 30 to 50 \\
Number of channels & - & 2 \\
Type of Flow sheet & - & Aceflo paper \\
Number of Flow sheet & - & 1 \\
\hline
Former & & \\
Length\times Height & mm & 2 700\times 3 000 \\
Drainage device & & Shoe blade \\
Number of shoe blades & /unit & 18 \\
Drainage capacity & l/s/min/unit & 30 to 50 \\
Vacuum in #1 forming shoe & mmH₂O & 0 to 50 \\
Vacuum in #2 forming shoe & mmH₂O & 0 to 1 000 \\
\hline
\end{tabular}
\end{table}
maintains a high dimension setting precision within ±0.5 mm, and the head setting time is 25 seconds/4 out. Moreover, use of the double carrier system (optional specification) enables the setting time to be reduced to 13 seconds, and it is flexible enough to comply with small-lot orders.

4) High-speed order change in 0.3 seconds

An endless order change system achieves a dramatic reduction of sheet loss to within one meter when slitter changes occur.

5) Flexibility

Particularly in the European and American markets, there is a requirement for diversification of scorer profile to meet the changing box shape trend. In this machine, the standard profile scorer heads and special profile scorer heads can be disposed on same shaft, so that up to three types of scorer profile are available (optional specification).

Fig. 1 Appearance of Auto Slitter Scorer Model “57G”

New Sheetfed Offset Press
Mitsubishi 1 F

Mihara Machinery Works has realized a complete model change of the Mitsubishi 1 F by upgrading both press performance and function. The new 1 F, a member of Mitsubishi’s highly reputable F-Series sheetfed presses, was introduced on the market at the International Graphic Arts Show IGAS ’93 (Harumi, Tokyo) Specifications and features of the new Mitsubishi 1 F are presented here.

1. Main specifications

Appearance of the press is shown in Fig. 1, and the main specifications are given in Table 1.

2. Features

(1) Printing unit

The optimum volume of damping solution supplied to the plate can be instantly selected based on the printing image with the newly developed multi-mode dampening system. This system is applicable not only to high screen printing but also to any high quality printing. Operation modes are shown in Fig. 2.

(2) Feeder and delivery

Basic features of the high-performance separator and feeder in Mitsubishi F 15 000-Series presses (15 000 sheets/hour) have been adopted in their entirety.

The delivery has also been designed under the same concept as the F 15 000-Series to ensure stable sheet piling during high-speed runs.

(3) Semi-automatic plate changing system (SPC)

The SPC, which has acquired an outstanding reputation since its introduction on the world market in 1988, has been improved to provide easier use and higher reliability.

(4) AI register system (automatic register control device)

The newly developed AI register system utilizes a color discriminating function operated by artificial intelligence to conduct color registration of black, cyan, magenta and yellow. The system completes registration instantly and eliminates the need for skilled press operators.

(5) Control system

A multiplex communication system is employed to control the various press functions and through the use of digitized data serves as the interface between operator and press. In comparison to conventional press control systems, the multiplex communication system is capable