



Automatic gathering and sewing line

**MULTIPLEX SA**

## MULTIPLEX SA AUTOMATIC GATHERING AND SEWING LINE

The Multiplex SA is a superautomatic version of the most popular gathering and sewing line on the market - the Multiplex line. Ever since 1993 the Multiplex line sets standard among automatic sewing lines for efficiency, reliability and ease of use. The Multiplex SA line is composed of an MX gathering machine and up to three Aster book sewing machines with automatic loading. The sewing machines can be Astronic 180, Aster 2000 or Aster 220 SA, either in standard or large size. Owing to its modular build the Multiplex SA line can be tailored according to the production requirements and space availability of each customer. The line can also be extended at a later date with additional gathering units and sewing machines.



Compared to the production with freestanding machines, the Multiplex SA line offers the following advantages:

- No intermediate handling, storage and transport of gathered signatures;
- Less personnel required;
- Better organisation of the production process.



***Meccanotecnica S.p.A., a leading manufacturer of book sewing machines, has a unique experience in in-line sewing having supplied well over hundred automatic lines since 1989.***



The MX gathering machine is composed of three-station modules. Each module is controlled by its own Siemens S7 PLC. This enables sequential turning on and off of gathering stations and easy retrofit of additional modules at a later date. The extracting grippers feature signature thickness control for detection of missing or double signatures.

The speed of the gathering machine varies automatically according to the requirements of the sewing machines. The gathering machine can also be set to run faster than required in order to obtain a surplus of gathered signatures. These can be unloaded manually from the transport trays or the optional criss-cross delivery.

The MX gathering machine has centralised set-up of all hoppers according to the signature spine length.

Every two gathering modules there is a colour touch-screen control panel which displays the causes of the gathering machine stops. This helps the operator to eliminate causes of stops more efficiently. All messages are given in graphic form.



The hoppers of the MX gathering machine are equipped with the SignalLynx loading and gathering error detection system. Artificial vision technology combined with high-resolution image scanning enables the SignalLynx system to reliably recognize even text-only signatures.

The SignalLynx system requires just one book to automatically memorise the correct signature sequence.



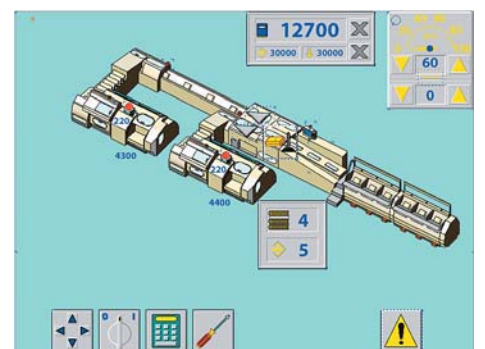
At the delivery of the gathering machine collated books are stacked and distributed among the transport channels. The stacking and distribution unit has fully automatic set-up - hence the name Multiplex SuperAutomatic. Fine adjustment of the stacker is possible via the central touch-screen control panel.

The unit has large windows for optimum visibility. The transport system of gathered signatures offers constant view of the product and easy access. Small stairs enable the operator to easily get to the opposite side of the line.

A system of blowers in the transport channels makes the signature packs slide gently on air cushions. No abrupt moves compromise stability of signature packs during transport.

Apart from pushers and trays, the transport system has practically no other moving parts - a prerequisite for reliability and durability.

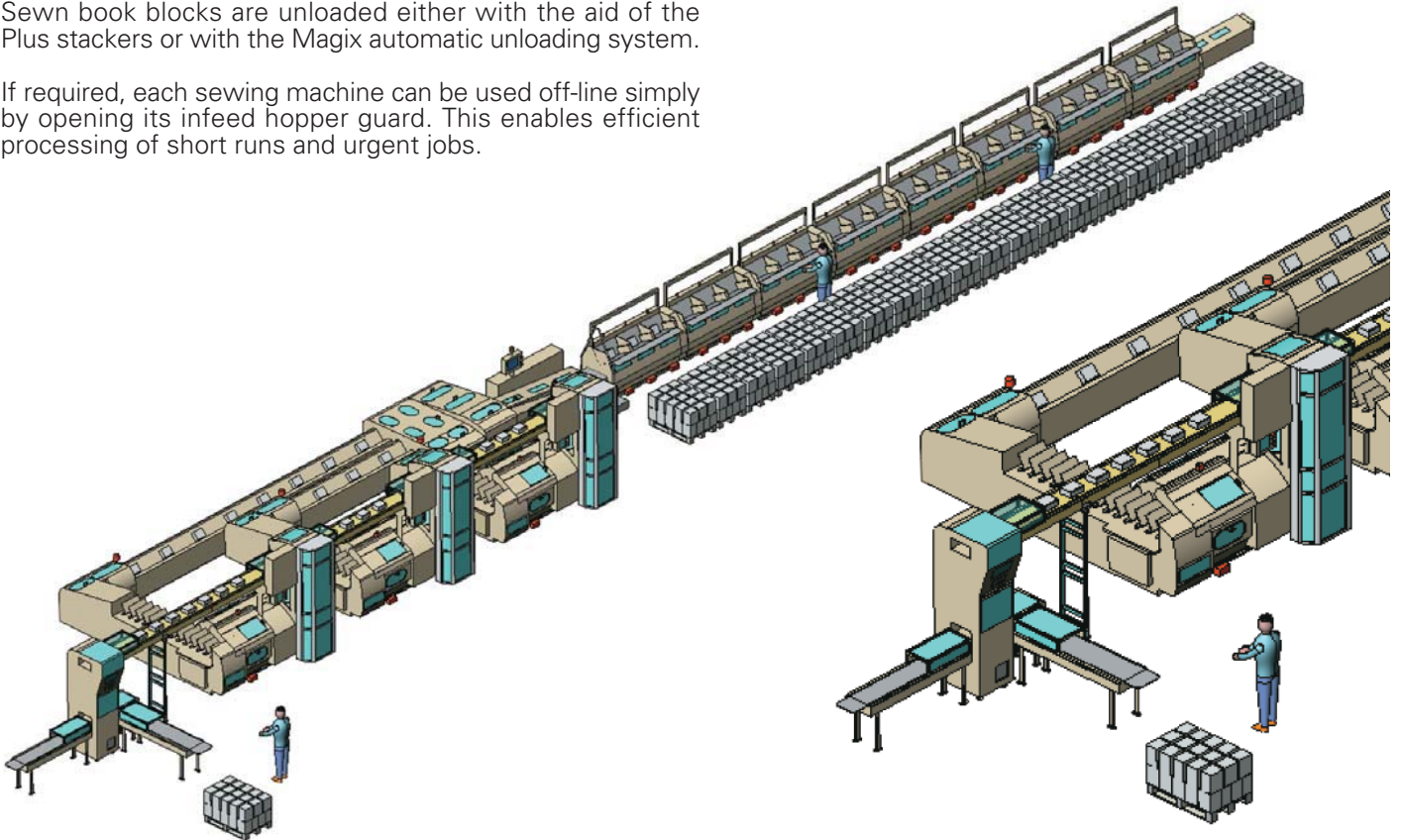
Transport trays convey signature packs to the infeed hoppers of the sewing machines. Motorised grippers pull them gently into the hoppers.



Siemens S7 PLC controls operation of the whole line. A central touch-screen panel enables easy management of each component of the line. Programs can be transferred from one sewing machine to another. This feature reduces programming effort and the chance of making a programming error.

Sewn book blocks are unloaded either with the aid of the Plus stackers or with the Magix automatic unloading system.

If required, each sewing machine can be used off-line simply by opening its infeed hopper guard. This enables efficient processing of short runs and urgent jobs.

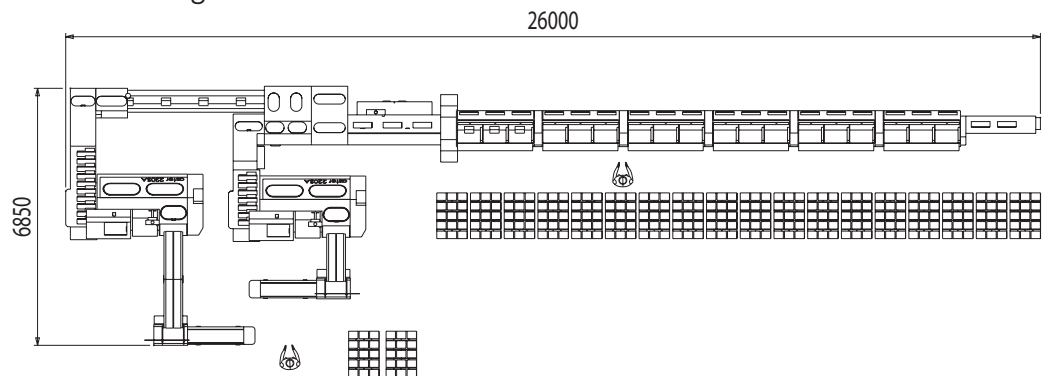


**The whole Multiplex SA line is designed and entirely manufactured by Meccanotecnica S.p.A. Utmost care is taken during assembly to guarantee maximum build quality, reliability and durability.**

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## PLAN



## TECHNICAL DATA

Number of athering stations	6 - 36	Max. mechanical speed - Astronic 180/42	180 cycles/min (180)*
Min. size	100 x 150 mm	Max. mechanical speed - Aster 2000/42	200 cycles/min (180)*
Max. size	320 x 420 mm (320 x 510 mm)*	Max. mechanical speed - Aster 220 SA	220 cycles/min (200)*
Max. mech. - MX gathering machine	100 cycles/min	Max. unloading capacity - Plus stacker	67 books/min
Max. loading pile height	100 mm	Max. pile height - Plus stacker	150 mm

\* Astronic 180/51, Aster 2000/51, Aster 220SA/51

Air and power consumption depends on the line configuration



All Meccanotecnica gathering and sewing lines bear CE and GS safety marks.