Machine Overview

The Easi-Place machine has been designed to combine DVD/CD trays with their backing folders, placing up to six trays in one operation. The unit comprises of a stainless steel framework supporting the conveyor system, timed belt feeder, a 12 head hot melt gluing system, and gravity feed tray placement system and indexing delivery table.

The timed belt feeder is designed to handle up to a 7-panel carton. With the addition of change parts (included) the machine is able to run 2 streams (any combination of 7 panels), 3 streams 2 panel (optional extra).

The hot melt gluing system is kept totally separate from the main operating system for ease of maintenance and faultfinding. The glue controllers are mounted in an accessible area adjacent to the machine control panel and the glue tanks above the carton feed area. Machine to be supplied with Meler Hot melt gluing system as standard

DVD trays are fed into intermediate tray magazines mounted above the conveyor. The magazines can be adjusted utilising manual winding mechanism to suit the size of the carton tray panel. The fixed pushers on the conveyor will carry the carton from the deposit position of the feeder, past the gluing station. The pushers then push the DVD trays out of the intermediate holding position onto the pre-glued card, where they are pressed down with a roller. Completed units are then fed onto an out feed conveyor that can be set either to 'feather' or stack the product ready for packing.

The machine design incorporates as standard features, ease of set-up, quick changeover times from one job to the next, simple operating systems, thus removing the need for skilled machine operators. These design features lead to substantial cost savings in initial outlay and daily operation compared to existing machines on the market.

This machine has been specially designed by Concept Finishing Services in the UK and we believe it to be most advanced machine available.

CFS Easiplace

kohmann

Machine Specification

Timed Belt Feeder: The feeder can be operated in one, two or three lanes. The maximum width of the cards is 1000 mm (in 1-lane operation), 480 mm (in 2-lane operation), 300 mm (in 3-lane operation)

Control Monitor: Input and reading of machine and production data (incl. hot melt system) via touch screen monitor.

Squaring and Transport Toothed Belt: The transport of the cards is done by 6 tooth timing belts, fitted with carriers.

Drive Shaft

The main drive is via by the drive shaft of the squaring section.

Motor Data: Type GST06-2MUBR 090C32

Power: 2,7 kW

Speed: 142,9 rpm (87 Hz)

Max. production rate of the machine: 120 rpm (= pieces/min/lane)

Hot melt unit: For every tray (max. 6) 4 glue dots are applied to the card by 2 glue nozzles. Each pair of glue nozzles can be switched on or off separately. Operation with one (1-lane operation) or two (2-lane operation) light sensor is possible.

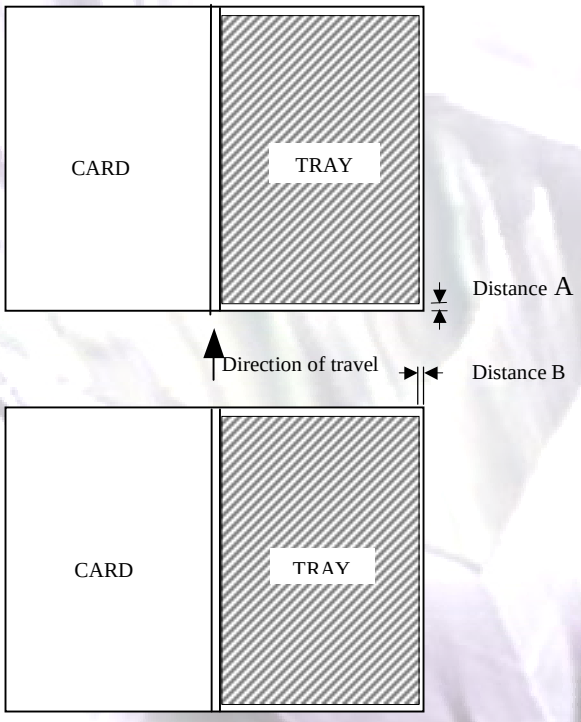
Tray-Magazines: There are 6 inclined pairs of toothed belts holding the stacks of DVD or CD plastic trays. The feeding motion of the stack is via a pneumatic cylinder, which increments the tooth belts forward via a ratchet mechanism. The level control for every magazine is via a light sensor. The length of a tray magazine is 1400 mm.

Clamping device: A pneumatically operated clamping device holds back the stack of trays when the front one is picked off. The clamping device is accurately adjustable in feeding direction to ensure that only the first one is free.

Pick-off device: The pick-off device is the limit stop for the tray stack and is fitted with two suckers to pick off the front tray from the stack.

Slide way After being picked off the tray slides to the waiting position. Spring plates stop the tray and adjust it sideways while it is transported by the carriers. The card runs closely underneath the tray while the carrier takes the tray flush with the rear edge of the card. At the end of the slide way the tray lays on the card and is fixed by a pressure roll.

Tray Position Tolerances



Distance A Max. = A + 0.25 mm
A + 0.5 mm (if A = 0)

Distance A Min. = A – 0.25 mm
At every point of the rear edge

Distance B Max. = B + 0.4 mm

Distance B Min. = B – 0.4 mm
At every point of the side edge

Delivery table: The completed unit fall on a delivery table where they are transformed to stacks of 5 to 10 units.

Controlling of the machine: The machine is fitted with a rotary encoder. One rotation of the encoder corresponds to 320mm of machine travel.

After switching on the timed belt feeder the cards will be conveyed onto the transport tooth belt.

A light sensor triggers off the glue application, if no card is present, there will be no glue application. Data input for glue application is done at the control monitor.

Signals for the pick-off process are by light sensor. If there is no card, there will be no pick-off process.

Pick-off process:

- Pick-off cylinder with limit stop and suckers move backwards (25 mm) with first tray unit, suction air is switched off, tray falls down on slide ay
- Pick-off cylinder moves forward, suction air will be switched on again
- Clamping cylinder moves upwards, clears tray stack
- Feed cylinder strokes once (backwards-forward), stack moves forward a distance of 10 mm
- Clamping cylinder moves downwards, clamps tray stack with the exception of the front one which touches the limit stop and the suckers.
- Ready for new pick-off process

If light sensor for level control of the tray-magazine indicates an empty magazine, there will be an acoustic and/or optic signal to identify empty lane to machine operator.

Machine output:

Maximum machine output :	Approximately 6000/7000 units per hour
Positional Tolerance:	0.0 + 0.5mm

Setup times between production runs is approximately 30 – 60 mins dependant on product being handled.

IP55 Controls Enclosure:
All necessary electronics and electrical components are supplied in a separate cabinet. All logic control is plc based; all other control is by programmable modules.
All wiring is numbered to assist trace ability.

Finish:
To ensure that the equipment is suitable for virtually any environment, stainless steel components are used extensively. These would normally include shafts, rollers, guards and all fasteners.

Noise Control:
The machine is designed to not produce a noise level greater than 80dB(A) at a distance of 1m

Maintenance;
There are a few greasing or oiling points and a routine preventative maintenance program is specified in the machine manual. An inexpensive service contract facility is available to help reduce unscheduled production down time.

Services Required:

Electrical:	3 phase. 32amp + neutral + earth. A clean uninterrupted supply must be provided
Air:	6 bar supply will be required

Overall Dimensions:

Machine:	4.13M Long x 2M Wide x 2.2M High
Outfeed conveyor:	1.3M Long x 2M Wide x 1.1M High
Weight:	Approx. 2 Tonnes