

TF30

Self-adjusting, Automated Matrix Tray Feeder

1-800-3-DATAIO
www.dataio.com

Data I/O



TF30 Self-adjusting, Automated Matrix Tray Feeder option for PP and PS series Off-line Automated Programming Solutions

High Throughput

High speed and smooth tray transfer mechanism ensures tray exchange time is within the takt time of the machine.

Increased Production

Automated tray handling eliminates manual tray replenishment and reduces operator supervision, gaining over 30% in increased production.

Reduced Machine Down Time

Less operator intervention and machine stoppage means increased throughput and machine utilization.

Reliability

Both elevator and tray conveyor mechanisms are driven by microprocessor controlled DC drivers.

Repeatability

Position of matrix tray at pick point offers 3 sigma repeatability due to precise location mechanism.

Accuracy

Each feeder is calibrated for machine location using vision alignment. This means that every feeder is ready to plug and play from the packing box, with a simple tray teach.

Expandable

Automated matrix tray feeders form part of a standard machine option and are an easy machine upgrade that is available with step-by-step installation instructions.

Flexible

Tray feeders can accept a wide range of matrix trays, including JEDEC and many semiconductor manufacturers' trays without having to make any changes or adjustments.

Minimizing Operator Intervention and Maximizing Throughput

In automated programming system performance, the continuous flow of programmable devices with minimal stoppage time is critical. As throughput of off-line programming equipment exceeds 1000 devices per hour, operator interaction to replenish device matrix trays has a growing impact. Automating the tray replenishment process allows the host machine to program continuously, eliminating bottlenecks caused by tray replenishment, resulting in throughput maximization. The TF30 Self-adjusting Automated Matrix Tray Feeder further improves machine productivity and maximizes flexibility by accommodating a wide variety of sizes and variations of matrix trays from Motorola, NEC, Mitsubishi, Sharp, Hitachi, Toshiba and many other manufacturers.

Accurate and Flexible

The side-mounted TF30 Automated Tray Feeder is a unique self-adjusting, high throughput multi-tray feeder designed to integrate easily with PP and PS series automated programming systems, maximizing floor space by utilizing the existing machine footprint. The TF30's unique self-adjusting feature allows the feeder to change tray configurations in a matter of seconds without the need for operator adjustments to the machine or tray feeder, thereby eliminating operator time and error. The tray feeder accepts and feeds a wide variety of sizes and variations of matrix trays to the host machine's pick position with a high degree of accuracy and repeatability. New trays of devices can be continuously replenished without removing the feeder or stopping the programming of the host machine. As a result, electronics manufacturers can experience more than a 30% improvement in machine utilization and flexibility immediately upon installation.

Another Data I/O First

The TF30's unique Batch Plus™ process allows component replenishment to the TF30 tray feeder while the host machine continues to program and process components in and out of the loaded tray. It is the unique Batch Plus capability of the Data I/O Self-Adjusting, Automated Matrix Tray Feeder that makes true continuous operation a reality.

The TF30 Self-adjusting, Automated Matrix Tray Feeder can help you exceed your production expectations for increased throughput and reduced programming cost per device.

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SPECIFICATIONS

Fast, Easy-Loading Changeover

- TF30 is ergonomically designed to facilitate fast, easy feeder insertion and removal from host machine.
- The uniquely designed magazine guides allow easy access for loading and removal of magazines.
- Tray magazines can be loaded on or off the machine to speed up the changeover process.

High Capacity Tray Exchange

- Tray magazine elevator holds a wide variety of thin and thick matrix trays.
- High-speed tray exchange in less than:
 - 5 seconds for TSOP and QFP devices
 - 10 seconds for BGA devices

Standardization

- Semiconductor vendor thick and thin trays, i.e., Motorola, NEC, Mitsubishi, Sharp, Toshiba and Hitachi
- JEDEC thick and thin matrix tray
- IEC matrix tray

Batch Plus™ Process

- Unique product system which allows non-stop programming of host machine.

Host Communication

- Fully integrated to host machine software indicating "ready," "error" and "run" conditions.

User-friendly Controls

- Intuitive push button controls allow precise tray motion and exchange cycles.
- Status indicator lights visually guide operators through the feeder set-up process.

Machine Compatibility

- Tray feeders are compatible with all PP and PS series machines.

Tray Type

- Semiconductor trays
 - Motorola, NEC, Sharp, Toshiba, Hitachi, Mitsubishi and more
- JEDEC standard no. 95-1, IEC 60286-5

Magazine Capacity

- 20 trays (multiple sizes)

Pick Location Repeatability

- 0.125mm (0.005")

Electrical/Power Requirements

- PS Machine supply, 24VDC +/-10%, 2 amps (peak), 0.4 amps (tray exchange).

Compressed Air Usage

- PS Machine supply, 80 psi/5.5bar, 28.3 l/min (1 CFM) internally regulated to 40psi.

Regulatory Compliance

- SEMI-S2 and SEMI-S8, NFPA 70 and NFPA 79, CE conformance.

Operator Controls

- Manual elevator index (two-button control)
- Dual speed mode
- Elevator home
- Motor power energize
- Stop button

Indicators

- Green – Ready condition
- Red – Error condition
- Yellow – Stack elevator empty or full condition

Feeder Size

- Width: 206mm (8.1in)
- Length: 1124mm (44 in)
- Height: 625mm (24.5 in)

Operating temperature

- +10° to +35°C (+50° to +95°F)

Relative Humidity

- 10 to 95% R.H. non condensing

Weight

- 27kg (60lbs)

Noise level

- 60dB



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