HI-SPEED®
CHECKMATE *2* Control

Advanced SPC Tools

Closed Loop
Process Control:

- Direct PLC
  Interface
- Single Head
  or Multi-Head
  Filler Control

Single or Multiple
Checkweighers
to One Control

METTLER **TOLEDO**

Advanced Checkweigher Control

The CHECKMATE 2 Checkweigher control offers the broadest range of standard and optional functions available. Its standard features allow you to get the most out of your checkweigher system for package line control and data. It also makes your checkweigher a snap to operate and maintain over the life of the equipment.

CHECKMATE 2 offers unsurpassed checkweigher precision, along with the broadest choice of statistical process control data and closed loop process control options. It may be configured for one or multiple checkweigher inputs, multiple feedback signals to filler controls, or a seamless PLC interface to Allen-Bradley.

Standard Features Include:

- 100 product memories, including zone settings, calibration, statistics, and VS Drive settings.
- Full weight totals and counters.
- Weight and statistical screen summary.
- Multi-level security for protection of key statistics and calibration.
- PC bus for flexible hardware options and upgrades.

Advanced Noise / Vibration Rejection

Checkweigher accuracy and performance can be effected by external equipment and floor vibrations. CHECKMATE 2 includes the premier vibration rejection solution through its patented circuitry and software.
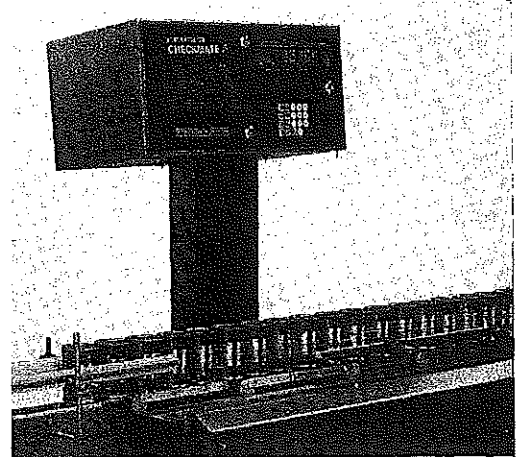
A range of analog filters is used to condition the weight signal. The right analog filter for the application is keyboard-selected in the setup menu. This signal is then used to automatically tune the filter for the calibration setting. This solution selectively filters out vibration and gives you the best possible weighing result.

Data Communications

CHECKMATE 2 produces real-time statistical data for your packaging line. It can deliver the data to you in whatever format you require. You can track weight data on an individual weight basis or as an intermittent summary of statistics and data. It offers three serial ports or one optional parallel port. Serial data may be provided in RS-232C, 4-wire RS-422, of 20 mA current loop. The optional parallel port may be fed directly into an 80 column printer for reporting.

Data formats include a simple, individual net weights output, a full bidirectional control, or the summary report output. The interface delivers the full statistics generated, and allows remote product changeovers. You can print it as you configure it on either a timed basis you select, or after the recording of every nth package weight.
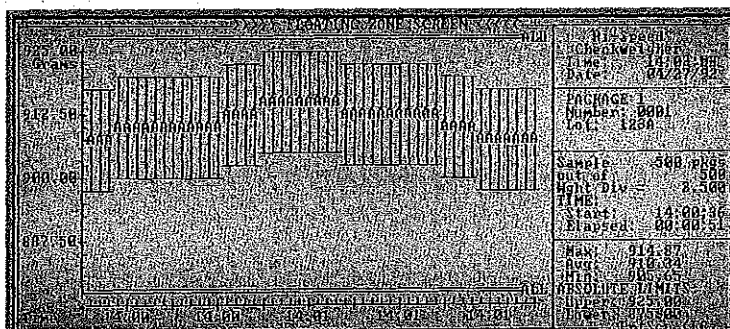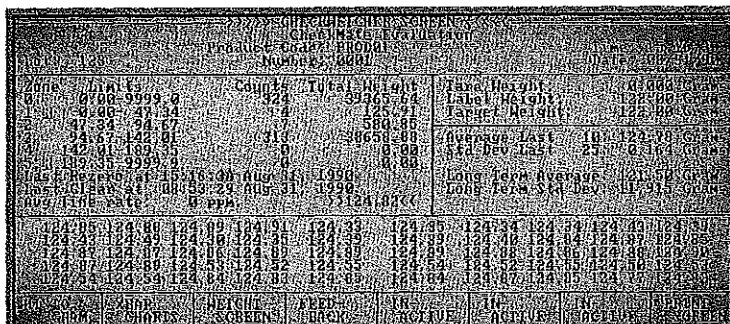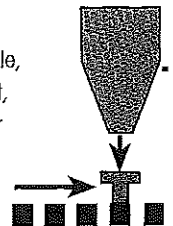
Multi-Scale Capability

CHECKMATE 2 can operate and control multiple checkweighers. It gives you the cleanest, most efficient method to control multiple checkweighers. It accepts up to six separate checkweigher inputs as if they were totally separate free-functioning checkweighers.

Real-Time Statistics

CHECKMATE 2 generates all real-time statistical data to give you 100% sampling of your packaging line. It can deliver the data in a variety of graphical or report formats. A summary of all statistics is shown on the standard summary screen. This includes the individual net weights classified by zones with running totals, short and long-term average and standard deviations, product name, tare and target values, average line rate, last rezero, and a summary of the last 50 package weights. Optional screens may be soft key selected to view:

- Short-term and cumulative histograms to graphically show the distribution of weights around the target weight.

- XBAR trending charts to show process control trends over time.

- Weight summary screen showing the last 160 package weights.

- Multi-head statistics showing up to 60 individual filler heads, average, and standard deviation.

- Feedback screen presenting the process histogram, the adjustment limits, and the feedback adjustment status.
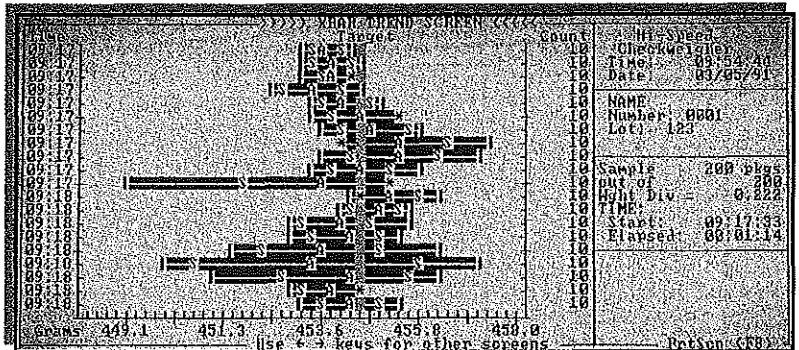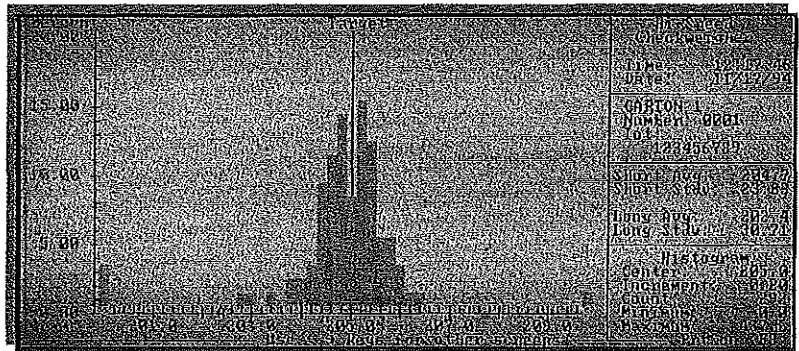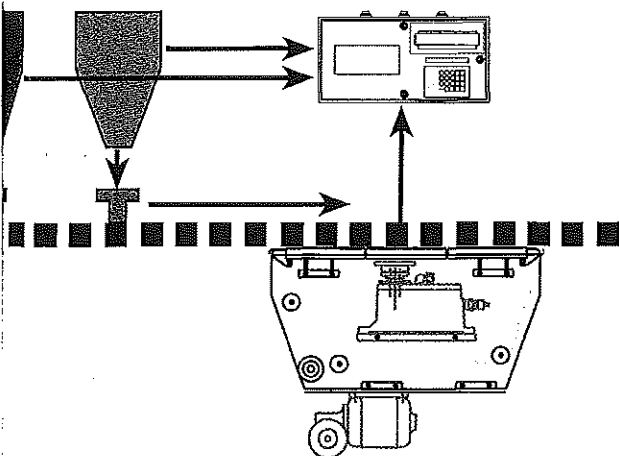
Closed Loop Control

The checkweigher's 100% sampling may be used to generate SPC data as well as closed loop control feedback to the process...typically a fine adjustment to a filling device. CHECKMATE 2 offers closed loop control to the process, either through direct feedback outputs from the control or through the PLC interface. Direct control may be provided in various ways.

Multi-Head Feedback

A single checkweigher can monitor multiple filler heads using a sync pulse that times the weights to a specific filler head. Multi-head feedback provides independent control of up to 72 heads through a serial output of 12 heads with timed or serial outputs.

Allen-Bradley PLC Interface

Programmable Logic Controllers (PLC) have become the control standard of the packaging line. HI-SPEED is licensed by Allen-Bradley to provide an optional interface from CHECKMATE 2 to an Allen-Bradley Remote I/O network. The interface provides the checkweigher's full range of statistics, individual net weights, and status alarms to the PLC programmer and user.

In addition to this PLC interface, we also provide ladder logic programs to create the communication on the PLC side. This allows the PLC user to configure the information to his specific application requirements.

CHECKMATE 2
The Advanced Checkweigher Control

Standard Benefits

- 100 product setup and memories
- 3 or 5 zone controls and lights
- Operates in excess of 1000 packages per minute
- 1 through 6 checkweigher inputs

- ACTP built-in automatic checkweigher test procedure
- User-programmable key code password
- Key switch security

- Weight display in grams, kilograms, ounces, pounds, or no units
- Single key access to display and menu functions
- Time / date calendar function, U.S. or European formats

Specifications

Enclosure
- Dimensions, 12" H x 24" W x 15" D (305 mm x 610 mm x 381 mm)
- Painted, Cold Rolled Steel (NEMA 12)
- Stainless Steel (NEMA 4X)
- Hazardous Area X-Purged available

Operating Range
- Temperature, 32°-100° F, 0°-38° C
- Humidity, 100% non-condensing
- EMI, RFI, and ESD protected

Electrical
- 115 / 230 VAC (±10%), single phase, 50 / 60 HZ (±5%)
- Fused for 1.0 amp, (50 VA power rating)
- No microcomputer regulating transformer required

Technology
- Single board microcomputer with industry standard micro-processor and coprocessor for enhanced parallel processing
- EPROM program memory

- Battery backup RAM memory for setup data and long-term accumulated data
- 3 channel serial data output RS-232C, RS-422, or 20 mA. current loop
- Bidirectional RS-422 communications link

Self-Checking Operation
- Good rezero
- Needs rezero
- Scale noise
- Package spacing error
- Control ready status